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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6238

Sampling Date: 05/19/23



Report to:

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Total number of pages in report: 908



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: FC6238

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC6238-1	05/19/23	10:30	NHMY05/20/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2305W3
FC6238-2	05/19/23	11:15	NHMY05/20/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2305W3
FC6238-3	05/19/23	11:40	NHMY05/20/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2305W3
FC6238-4	05/19/23	11:20	NHMY05/20/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2305W3
FC6238-5	05/19/23	13:00	NHMY05/20/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2305W3

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6238

Site: N6274223F0104 RH Fire Suppression System

Report Date: 5/30/2023 12:18:34 PM

On 05/20/2023, 4 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6238 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: OP97007

Sample(s) FC6238-3MS, FC6238-5DUP were used as the QC samples indicated.

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

Matrix Spike Recovery(s) for 3:3 Fluorotelomer carboxylate, PFMBA, PFMPA are outside control limits. Probable cause is due to matrix interference.

Sample(s) FC6238-3 have surrogates outside control limits.

FC6238-3 for Perfluorobutanoic acid: Associated ID Standard outside control limits. Confirmed by MS/MSD.

FC6238-3 for 13C4-PFBA: Outside control limits.

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

Narrative prepared by:

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

Summary of Hits

Job Number: FC6238
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/19/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC6238-1 AF-RHMW17S-WGN01LF-2305W3

Perfluorohexanoic acid	1.8 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	1.1 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	1.0 J	3.6	0.91	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.65 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.3 J	3.6	1.8	ng/l	EPA DRAFT 1633

FC6238-2 AF-RHMW17S-WQEB01-2305W3

No hits reported in this sample.

FC6238-3 AF-RHMW17D-WGN01LF-2305W3

No hits reported in this sample.

FC6238-4 AF-RHMW17D-WQFB01-2305W3

No hits reported in this sample.

FC6238-5 AF-RHMW17-WGN01LF-2305W3

Perfluoropentanoic acid	2.9 J	7.0	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.4 J	3.5	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate	8.0 J	18	7.0	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW17S-WGN01LF-2305W3		
Lab Sample ID:	FC6238-1	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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	6Q18353.D	1	05/24/23 22:26	MV	05/22/23 11:00	OP97007	S6Q276
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	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.1	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	1.0	3.6	0.91	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.65	3.6	1.8	0.45	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.3	3.6	1.8	0.49	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	
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-RHMW17S-WGN01LF-2305W3		
Lab Sample ID:	FC6238-1	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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
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	13C4-PFBA	36%		20-150%
	13C5-PFPeA	97%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	111%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	108%		20-150%
	13C6-PFDA	95%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	73%		20-150%
	13C2-PFTeDA	66%		20-150%
	13C3-PFBS	111%		20-150%
	13C3-PFHxS	112%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2305W3	
Lab Sample ID:	FC6238-1	Date Sampled: 05/19/23
Matrix:	AQ - Ground Water	Date Received: 05/20/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids: n/a
Project:	N6274223F0104 RH Fire Suppression System	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	98%		20-150%
	d3-MeFOSA	78%		20-150%
	d5-EtFOSA	82%		20-150%
	d3-MeFOSAA	108%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	78%		20-150%
	d9-EtFOSE	83%		20-150%
	13C2-4:2FTS	122%		20-180%
	13C2-6:2FTS	97%		20-180%
	13C2-8:2FTS	93%		20-180%
	13C3-HFPO-DA	99%		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-RHMW17S-WQEB01-2305W3		
Lab Sample ID:	FC6238-2	Date Sampled:	05/19/23
Matrix:	AQ - Equipment Blank	Date Received:	05/20/23
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	6Q18354.D	1	05/24/23 22:41	MV	05/22/23 11:00	OP97007	S6Q276
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-RHMW17S-WQEB01-2305W3		Date Sampled:	05/19/23
Lab Sample ID:	FC6238-2	Date Received:	05/20/23	
Matrix:	AQ - Equipment Blank	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	109%		20-150%
	13C5-PFPeA	112%		20-150%
	13C5-PFHxA	113%		20-150%
	13C4-PFHpA	112%		20-150%
	13C8-PFOA	105%		20-150%
	13C9-PFNA	107%		20-150%
	13C6-PFDA	102%		20-150%
	13C7-PFUnDA	95%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	91%		20-150%
	13C3-PFBS	106%		20-150%
	13C3-PFHxS	112%		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

4.2
4

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2305W3		Date Sampled:	05/19/23
Lab Sample ID:	FC6238-2		Date Received:	05/20/23
Matrix:	AQ - Equipment Blank		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	100%		20-150%
	13C8-FOSA	82%		20-150%
	d3-MeFOSA	82%		20-150%
	d5-EtFOSA	93%		20-150%
	d3-MeFOSAA	110%		20-150%
	d5-EtFOSAA	100%		20-150%
	d7-MeFOSE	82%		20-150%
	d9-EtFOSE	94%		20-150%
	13C2-4:2FTS	128%		20-180%
	13C2-6:2FTS	118%		20-180%
	13C2-8:2FTS	105%		20-180%
	13C3-HFPO-DA	106%		20-150%

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

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW17D-WGN01LF-2305W3		
Lab Sample ID:	FC6238-3	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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	6Q18355.D	1	05/24/23 22:55	MV	05/22/23 11:00	OP97007	S6Q276
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 ^a	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-RHMW17D-WGN01LF-2305W3		
Lab Sample ID:	FC6238-3	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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	4% b		20-150%
	13C5-PFPeA	25%		20-150%
	13C5-PFHxA	101%		20-150%
	13C4-PFHpA	116%		20-150%
	13C8-PFOA	107%		20-150%
	13C9-PFNA	113%		20-150%
	13C6-PFDA	112%		20-150%
	13C7-PFUnDA	107%		20-150%
	13C2-PFDoDA	96%		20-150%
	13C2-PFTeDA	78%		20-150%
	13C3-PFBS	101%		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

Report of Analysis

Client Sample ID: AF-RHMW17D-WGN01LF-2305W3		Date Sampled: 05/19/23
Lab Sample ID: FC6238-3		Date Received: 05/20/23
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	92%		20-150%
	13C8-FOSA	76%		20-150%
	d3-MeFOSA	80%		20-150%
	d5-EtFOSA	85%		20-150%
	d3-MeFOSAA	132%		20-150%
	d5-EtFOSAA	138%		20-150%
	d7-MeFOSE	66%		20-150%
	d9-EtFOSE	76%		20-150%
	13C2-4:2FTS	127%		20-180%
	13C2-6:2FTS	125%		20-180%
	13C2-8:2FTS	116%		20-180%
	13C3-HFPO-DA	93%		20-150%

- (a) Associated ID Standard outside control limits. Confirmed by MS/MSD.
- (b) Outside control limits.

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

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW17D-WQFB01-2305W3		
Lab Sample ID:	FC6238-4	Date Sampled:	05/19/23
Matrix:	AQ - Field Blank Water	Date Received:	05/20/23
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	6Q18357.D	1	05/24/23 23:24	MV	05/22/23 11:00	OP97007	S6Q276
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-RHMW17D-WQFB01-2305W3	
Lab Sample ID:	FC6238-4	Date Sampled: 05/19/23
Matrix:	AQ - Field Blank Water	Date Received: 05/20/23
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	3.7 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
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	13C4-PFBA	99%		20-150%
	13C5-PFPeA	98%		20-150%
	13C5-PFHxA	99%		20-150%
	13C4-PFHpA	102%		20-150%
	13C8-PFOA	97%		20-150%
	13C9-PFNA	97%		20-150%
	13C6-PFDA	106%		20-150%
	13C7-PFUnDA	88%		20-150%
	13C2-PFDoDA	82%		20-150%
	13C2-PFTeDA	79%		20-150%
	13C3-PFBS	97%		20-150%
	13C3-PFHxS	101%		20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2305W3		
Lab Sample ID:	FC6238-4	Date Sampled:	05/19/23
Matrix:	AQ - Field Blank Water	Date Received:	05/20/23
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	91%		20-150%
	13C8-FOSA	67%		20-150%
	d3-MeFOSA	66%		20-150%
	d5-EtFOSA	71%		20-150%
	d3-MeFOSAA	88%		20-150%
	d5-EtFOSAA	94%		20-150%
	d7-MeFOSE	64%		20-150%
	d9-EtFOSE	76%		20-150%
	13C2-4:2FTS	112%		20-180%
	13C2-6:2FTS	110%		20-180%
	13C2-8:2FTS	104%		20-180%
	13C3-HFPO-DA	98%		20-150%

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

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW17-WGN01LF-2305W3		
Lab Sample ID:	FC6238-5	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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	6Q18360.D	1	05/25/23 00:08	MV	05/22/23 11:00	OP97007	S6Q276
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.5 U	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.9	7.0	1.8	0.82	ng/l	J
307-24-4	Perfluorohexanoic acid	1.4	3.5	1.8	0.44	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.5	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.5	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.5	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.5	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	8.0	18	7.0	3.0	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	
PERFLUOROOCCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.5	1.8	0.59	ng/l	
31506-32-8	MeFOSA	3.5 U	7.0	3.5	0.88	ng/l	
4151-50-2	EtFOSA	3.5 U	7.0	3.5	0.88	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2305W3		
Lab Sample ID:	FC6238-5	Date Sampled:	05/19/23
Matrix:	AQ - Ground Water	Date Received:	05/20/23
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	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	18 U	35	18	3.8	ng/l	
1691-99-2	EtFOSE	18 U	35	18	6.5	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.5	1.8	0.88	ng/l	
919005-14-4	ADONA	3.5 U	7.0	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	7.0	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	7.0	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	7.0	3.5	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	7.0	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	7.0	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	7.0	1.8	0.68	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	93%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	117%		20-150%
	13C8-PFOA	107%		20-150%
	13C9-PFNA	101%		20-150%
	13C6-PFDA	114%		20-150%
	13C7-PFUnDA	108%		20-150%
	13C2-PFDoDA	90%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	111%		20-150%
	13C3-PFHxS	113%		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-RHMW17-WGN01LF-2305W3	
Lab Sample ID:	FC6238-5	Date Sampled: 05/19/23
Matrix:	AQ - Ground Water	Date Received: 05/20/23
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	104%		20-150%
	13C8-FOSA	97%		20-150%
	d3-MeFOSA	87%		20-150%
	d5-EtFOSA	87%		20-150%
	d3-MeFOSAA	142%		20-150%
	d5-EtFOSAA	148%		20-150%
	d7-MeFOSE	87%		20-150%
	d9-EtFOSE	99%		20-150%
	13C2-4:2FTS	170%		20-180%
	13C2-6:2FTS	152%		20-180%
	13C2-8:2FTS	130%		20-180%
	13C3-HFPO-DA	103%		20-150%

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

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

FC6238

COC #: 2305W3AFSG12

SGS - ORLANDO JOB #:

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Client / Reporting Information			Project Information			Analytical Information										Matrix Codes			
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System			<div style="text-align: center;"> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge 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 #			PFAS EPA Draft 1633										LAB USE ONLY			
Phone #: 303-796-4624 / 808-954-4512			Client Purchase Order #																
Sampler(s) Name(s) (Printed) Sampler 1: Kate Hosten Sampler 2: Matt Finn																			
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										PFAS EPA Draft 1633	LAB USE ONLY			
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NO/IE	HG	NO/IE	NO/IE	NO/IE	NO/IE	NO/IE			NO/IE	NO/IE	NO/IE
1	AF-RHMW17S-WGN01LF-2305W3	5/19/23	1030	NH,MY	GW	3		X											X
2	AF-RHMW17S-WQEB01-2305W3	5/19/23	1115	NH,MY	GW	3		X											X
						INITIAL ASSESSMENT													
						LABEL VERIFICATION													
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 AWR 016-27919430								
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 1 Andy Young / AECOM		Date Time: 5/19/23 1425	Received By/Affiliation 2 Ken Gam Aecom		Date Time: 5/19/23 1455	Relinquished By/Affiliation 3 Ken Gam Aecom		Date Time: 5/19/23 1455	Received By/Affiliation 4 [Signature] SGS 20MAY23		Date Time:	Received By/Affiliation							
Relinquished by/Affiliation 5		Date Time:	Received By/Affiliation 6		Date Time:	Relinquished By/Affiliation 7		Date Time:	Received By/Affiliation 8		Date Time:	Received By/Affiliation							
Lab Use Only: Cooler Temperature (s) Celsius (corrected): 3.6° REF			http://www.sgs.com/en/terms-and-conditions																

PFAS_COCS_ALL.xls Rev 031318

FC6238: Chain of Custody

Page 1 of 4



5.1
5



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

SGS - ORLANDO JOB # :

COC #: 2305W3AFSG10

PAGE 1 OF 1

Client / Reporting Information		Project Information				Analytical Information										Matrix Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System				<div style="text-align: center; font-size: 2em; opacity: 0.5;"> 5/19/23 1825 </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NOISE	PCB	INCH	INCO3	INCO4	INCO5	INCO6	INCO7	INCO8	INCO9	INCO10	INCO11	INCO12	INCO13	INCO14	INCO15	INCO16	INCO17	INCO18	INCO19	INCO20	INCO21	INCO22	INCO23	INCO24	INCO25	INCO26	INCO27	INCO28	INCO29	INCO30	INCO31	INCO32	INCO33	INCO34	INCO35	INCO36	INCO37	INCO38	INCO39	INCO40	INCO41	INCO42	INCO43	INCO44	INCO45	INCO46	INCO47	INCO48	INCO49	INCO50	INCO51	INCO52	INCO53	INCO54	INCO55	INCO56	INCO57	INCO58	INCO59	INCO60	INCO61	INCO62	INCO63	INCO64	INCO65	INCO66	INCO67	INCO68	INCO69	INCO70	INCO71	INCO72	INCO73	INCO74	INCO75	INCO76	INCO77	INCO78	INCO79	INCO80	INCO81	INCO82	INCO83	INCO84	INCO85	INCO86	INCO87	INCO88	INCO89	INCO90	INCO91	INCO92	INCO93	INCO94	INCO95	INCO96	INCO97	INCO98	INCO99	INCO100	INCO101	INCO102	INCO103	INCO104	INCO105	INCO106	INCO107	INCO108	INCO109	INCO110	INCO111	INCO112	INCO113	INCO114	INCO115	INCO116	INCO117	INCO118	INCO119	INCO120	INCO121	INCO122	INCO123	INCO124	INCO125	INCO126	INCO127	INCO128	INCO129	INCO130	INCO131	INCO132	INCO133	INCO134	INCO135	INCO136	INCO137	INCO138	INCO139	INCO140	INCO141	INCO142	INCO143	INCO144	INCO145	INCO146	INCO147	INCO148	INCO149	INCO150	INCO151	INCO152	INCO153	INCO154	INCO155	INCO156	INCO157	INCO158	INCO159	INCO160	INCO161	INCO162	INCO163	INCO164	INCO165	INCO166	INCO167	INCO168	INCO169	INCO170	INCO171	INCO172	INCO173	INCO174	INCO175	INCO176	INCO177	INCO178	INCO179	INCO180	INCO181	INCO182	INCO183	INCO184	INCO185	INCO186	INCO187	INCO188	INCO189	INCO190	INCO191	INCO192	INCO193	INCO194	INCO195	INCO196	INCO197	INCO198	INCO199	INCO200	INCO201	INCO202	INCO203	INCO204	INCO205	INCO206	INCO207	INCO208	INCO209	INCO210	INCO211	INCO212	INCO213	INCO214	INCO215	INCO216	INCO217	INCO218	INCO219	INCO220	INCO221	INCO222	INCO223	INCO224	INCO225	INCO226	INCO227	INCO228	INCO229	INCO230	INCO231	INCO232	INCO233	INCO234	INCO235	INCO236	INCO237	INCO238	INCO239	INCO240	INCO241	INCO242	INCO243	INCO244	INCO245	INCO246	INCO247	INCO248	INCO249	INCO250	INCO251	INCO252	INCO253	INCO254	INCO255	INCO256	INCO257	INCO258	INCO259	INCO260	INCO261	INCO262	INCO263	INCO264	INCO265	INCO266	INCO267	INCO268	INCO269	INCO270	INCO271	INCO272	INCO273	INCO274	INCO275	INCO276	INCO277	INCO278	INCO279	INCO280	INCO281	INCO282	INCO283	INCO284	INCO285	INCO286	INCO287	INCO288	INCO289	INCO290	INCO291	INCO292	INCO293	INCO294	INCO295	INCO296	INCO297	INCO298	INCO299	INCO300	INCO301	INCO302	INCO303	INCO304	INCO305	INCO306	INCO307	INCO308	INCO309	INCO310	INCO311	INCO312	INCO313	INCO314	INCO315	INCO316	INCO317	INCO318	INCO319	INCO320	INCO321	INCO322	INCO323	INCO324	INCO325	INCO326	INCO327	INCO328	INCO329	INCO330	INCO331	INCO332	INCO333	INCO334	INCO335	INCO336	INCO337	INCO338	INCO339	INCO340	INCO341	INCO342	INCO343	INCO344	INCO345	INCO346	INCO347	INCO348	INCO349	INCO350	INCO351	INCO352	INCO353	INCO354	INCO355	INCO356	INCO357	INCO358	INCO359	INCO360	INCO361	INCO362	INCO363	INCO364	INCO365	INCO366	INCO367	INCO368	INCO369	INCO370	INCO371	INCO372	INCO373	INCO374	INCO375	INCO376	INCO377	INCO378	INCO379	INCO380	INCO381	INCO382	INCO383	INCO384	INCO385	INCO386	INCO387	INCO388	INCO389	INCO390	INCO391	INCO392	INCO393	INCO394	INCO395	INCO396	INCO397	INCO398	INCO399	INCO400	INCO401	INCO402	INCO403	INCO404	INCO405	INCO406	INCO407	INCO408	INCO409	INCO410	INCO411	INCO412	INCO413	INCO414	INCO415	INCO416	INCO417	INCO418	INCO419	INCO420	INCO421	INCO422	INCO423	INCO424	INCO425	INCO426	INCO427	INCO428	INCO429	INCO430	INCO431	INCO432	INCO433	INCO434	INCO435	INCO436	INCO437	INCO438	INCO439	INCO440	INCO441	INCO442	INCO443	INCO444	INCO445	INCO446	INCO447	INCO448	INCO449	INCO450	INCO451	INCO452	INCO453	INCO454	INCO455	INCO456	INCO457	INCO458	INCO459	INCO460	INCO461	INCO462	INCO463	INCO464	INCO465	INCO466	INCO467	INCO468	INCO469	INCO470	INCO471	INCO472	INCO473	INCO474	INCO475	INCO476	INCO477	INCO478	INCO479	INCO480	INCO481	INCO482	INCO483	INCO484	INCO485	INCO486	INCO487	INCO488	INCO489	INCO490	INCO491	INCO492	INCO493	INCO494	INCO495	INCO496	INCO497	INCO498	INCO499	INCO500	INCO501	INCO502	INCO503	INCO504	INCO505	INCO506	INCO507	INCO508	INCO509	INCO510	INCO511	INCO512	INCO513	INCO514	INCO515	INCO516	INCO517	INCO518	INCO519	INCO520	INCO521	INCO522	INCO523	INCO524	INCO525	INCO526	INCO527	INCO528	INCO529	INCO530	INCO531	INCO532	INCO533	INCO534	INCO535	INCO536	INCO537	INCO538	INCO539	INCO540	INCO541	INCO542	INCO543	INCO544	INCO545	INCO546	INCO547	INCO548	INCO549	INCO550	INCO551	INCO552	INCO553	INCO554	INCO555	INCO556	INCO557	INCO558	INCO559	INCO560	INCO561	INCO562	INCO563	INCO564	INCO565	INCO566	INCO567	INCO568	INCO569	INCO570	INCO571	INCO572	INCO573	INCO574	INCO575	INCO576	INCO577	INCO578	INCO579	INCO580	INCO581	INCO582	INCO583	INCO584	INCO585	INCO586	INCO587	INCO588	INCO589	INCO590	INCO591	INCO592	INCO593	INCO594	INCO595	INCO596	INCO597	INCO598	INCO599	INCO600	INCO601	INCO602	INCO603	INCO604	INCO605	INCO606	INCO607	INCO608	INCO609	INCO610	INCO611	INCO612	INCO613	INCO614	INCO615	INCO616	INCO617	INCO618	INCO619	INCO620	INCO621	INCO622	INCO623	INCO624	INCO625	INCO626	INCO627	INCO628	INCO629	INCO630	INCO631	INCO632	INCO633	INCO634	INCO635	INCO636	INCO637	INCO638	INCO639	INCO640	INCO641	INCO642	INCO643	INCO644	INCO645	INCO646	INCO647	INCO648	INCO649	INCO650	INCO651	INCO652	INCO653	INCO654	INCO655	INCO656	INCO657	INCO658	INCO659	INCO660	INCO661	INCO662	INCO663	INCO664	INCO665	INCO666	INCO667	INCO668	INCO669	INCO670	INCO671	INCO672	INCO673	INCO674	INCO675	INCO676	INCO677	INCO678	INCO679	INCO680	INCO681	INCO682	INCO683	INCO684	INCO685	INCO686	INCO687	INCO688	INCO689	INCO690	INCO691	INCO692	INCO693	INCO694	INCO695	INCO696	INCO697	INCO698	INCO699	INCO700	INCO701	INCO702	INCO703	INCO704	INCO705	INCO706	INCO707	INCO708	INCO709	INCO710	INCO711	INCO712	INCO713	INCO714	INCO715	INCO716	INCO717	INCO718	INCO719	INCO720	INCO721	INCO722	INCO723	INCO724	INCO725	INCO726	INCO727	INCO728	INCO729	INCO730	INCO731	INCO732	INCO733	INCO734	INCO735	INCO736	INCO737	INCO738	INCO739	INCO740	INCO741	INCO742	INCO743	INCO744	INCO745	INCO746	INCO747	INCO748	INCO749	INCO750	INCO751	INCO752	INCO753	INCO754	INCO755	INCO756	INCO757	INCO758	INCO759	INCO760	INCO761	INCO762	INCO763	INCO764	INCO765	INCO766	INCO767	INCO768	INCO769	INCO770	INCO771	INCO772	INCO773	INCO774	INCO775	INCO776	INCO777	INCO778	INCO779	INCO780	INCO781	INCO782	INCO783	INCO784	INCO785	INCO786	INCO787	INCO788	INCO789	INCO790	INCO791	INCO792	INCO793	INCO794	INCO795	INCO796	INCO797	INCO798	INCO799	INCO800	INCO801	INCO802	INCO803	INCO804	INCO805	INCO806	INCO807	INCO808	INCO809	INCO810	INCO811	INCO812	INCO813	INCO814	INCO815	INCO816	INCO817	INCO818	INCO819	INCO820	INCO821	INCO822	INCO823	INCO824	INCO825	INCO826	INCO827	INCO828	INCO829	INCO830	INCO831	INCO832	INCO833	INCO834	INCO835	INCO836	INCO837	INCO838	INCO839	INCO840	INCO841	INCO842	INCO843	INCO844	INCO845	INCO846	INCO847	INCO848	INCO849	INCO850	INCO851	INCO852	INCO853	INCO854	INCO855	INCO856	INCO857	INCO858	INCO859	INCO860	INCO861	INCO862	INCO863	INCO864	INCO865	INCO866	INCO867	INCO868	INCO869	INCO870	INCO871	INCO872	INCO873	INCO874	INCO875	INCO876	INCO877	INCO878	INCO879	INCO880	INCO881	INCO882	INCO883	INCO884	INCO885	INCO886	INCO887	INCO888	INCO889	INCO890	INCO891	INCO892	INCO893	INCO894	INCO895	INCO896	INCO897	INCO898	INCO899	INCO900	INCO901	INCO902	INCO903	INCO904	INCO905	INCO906	INCO907	INCO908	INCO909	INCO910	INCO911	INCO912	INCO913	INCO914	INCO915	INCO916	INCO917	INCO918	INCO919	INCO920	INCO921	INCO922	INCO923	INCO924	INCO925	INCO926	INCO927	INCO928	INCO929	INCO930	INCO931	INCO932	INCO933	INCO934	INCO935	INCO936	INCO937	INCO938	INCO939	INCO940	INCO941	INCO942	INCO943	INCO944	INCO945	INCO946	INCO947	INCO948	INCO949	INCO950	INCO951	INCO952	INCO953	INCO954	INCO955	INCO956	INCO957	INCO958	INCO959	INCO960	INCO961	INCO962	INCO963	INCO964	INCO965	INCO966	INCO967	INCO968	INCO969	INCO970	INCO971	INCO972	INCO973	INCO974	INCO975	INCO976	INCO977	INCO978	INCO979	INCO980	INCO981	INCO982	INCO983	INCO984	INCO985	INCO986	INCO987	INCO988	INCO989	INCO990	INCO991	INCO992	INCO993	INCO994	INCO995	INCO996	INCO997	INCO998	INCO999	INCO1000	INCO1001	INCO1002	INCO1003	INCO1004	INCO1005	INCO1006	INCO1007	INCO1008	INCO1009	INCO1010	INCO1011	INCO1012	INCO1013	INCO1014	INCO1015	INCO1016	INCO1017	INCO1018	INCO1019	INCO1020	INCO1021	INCO1022	INCO1023	INCO1024	INCO1025	INCO1026	INCO1027	INCO1028	INCO1029	INCO1030	INCO1031	INCO1032	INCO1033	INCO1034	INCO1035	INCO1036	INCO1037	INCO1038	INCO1039	INCO1040	INCO1041

SGS Sample Receipt Summary

Job Number: FC6238

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/20/2023 2:20:00 PM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-27919430

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.5);

Cooler Information

Y or N

- | | | |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | IR Gun | |
| 5. Cooler media | Ice (Bag) | |

Sample Information

Y or N N/A

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

Trip Blank Information

Y or N N/A

- | | | | |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

W or S N/A

- | | | | |
|------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Type Of TB Received | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|------------------------|--------------------------|--------------------------|-------------------------------------|

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: TORYW

Date: 5/20/2023 2:20:00 PM

Reviewer: CD

Date: 5/22/2023

FC6238: Chain of Custody

Page 4 of 4

QC Evaluation: DOD QSM5.x Limits

Job Number: FC6238
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/19/23

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

* Sample used for QC is not from job FC6238

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18337.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18337.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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	99% 20-150%
	13C5-PFPeA	103% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	104% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	104% 20-150%
	13C3-PFHxS	106% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	97% 20-150%
	d3-MeFOSAA	113% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	113% 20-180%
	13C2-8:2FTS	108% 20-180%
	13C3-HFPO-DA	103% 20-150%

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Instrument Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18381.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-IBLK	6Q18381.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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	102% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	94% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	107% 20-150%
	13C7-PFUnDA	103% 20-150%
	13C2-PFDoDA	102% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	101% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	107% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	93% 20-150%
	d5-EtFOSA	97% 20-150%
	d3-MeFOSAA	108% 20-150%
	d5-EtFOSAA	103% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	98% 20-150%
	13C2-4:2FTS	112% 20-180%
	13C2-6:2FTS	105% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	101% 20-150%

Continuing Calibration Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18347.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18347.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4

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	99% 20-150%
	13C5-PFPeA	99% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	97% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	106% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	101% 20-150%
	13C2-PFTeDA	104% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	103% 20-150%
	13C8-FOSA	105% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	118% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	101% 20-150%
	d9-EtFOSE	105% 20-150%
	13C2-4:2FTS	117% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	99% 20-150%

Continuing Calibration Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18359.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-5

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18359.D	1	05/24/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-5

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	103% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	100% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	100% 20-150%
	13C2-PFTeDA	107% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	97% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	101% 20-150%
	d3-MeFOSA	97% 20-150%
	d5-EtFOSA	101% 20-150%
	d3-MeFOSAA	119% 20-150%
	d5-EtFOSAA	108% 20-150%
	d7-MeFOSE	101% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	109% 20-180%
	13C2-6:2FTS	107% 20-180%
	13C2-8:2FTS	101% 20-180%
	13C3-HFPO-DA	99% 20-150%

Method Blank Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MB	6Q18350.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MB	6Q18350.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

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	113% 20-150%
	13C5-PFHxA	108% 20-150%
	13C4-PFHpA	120% 20-150%
	13C8-PFOA	118% 20-150%
	13C9-PFNA	104% 20-150%
	13C6-PFDA	119% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	105% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	111% 20-150%
	13C3-PFHxS	110% 20-150%
	13C8-PFOS	112% 20-150%
	13C8-FOSA	86% 20-150%
	d3-MeFOSA	82% 20-150%
	d5-EtFOSA	90% 20-150%
	d3-MeFOSAA	126% 20-150%
	d5-EtFOSAA	110% 20-150%
	d7-MeFOSE	83% 20-150%
	d9-EtFOSE	94% 20-150%
	13C2-4:2FTS	122% 20-180%
	13C2-6:2FTS	125% 20-180%
	13C2-8:2FTS	115% 20-180%
	13C3-HFPO-DA	106% 20-150%

6.1.5
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Continuing Calibration Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18371.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q276-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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18371.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q276-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	99% 20-150%
	13C5-PFPeA	105% 20-150%
	13C5-PFHxA	112% 20-150%
	13C4-PFHpA	110% 20-150%
	13C8-PFOA	101% 20-150%
	13C9-PFNA	96% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	105% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	95% 20-150%
	13C3-PFHxS	95% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	104% 20-150%
	d3-MeFOSAA	115% 20-150%
	d5-EtFOSAA	105% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	103% 20-150%
	13C2-4:2FTS	116% 20-180%
	13C2-6:2FTS	105% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	101% 20-150%

Continuing Calibration Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18408.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q276-ICCB	6Q18408.D	1	05/25/23	MV	n/a	n/a	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97007-MS

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

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	102% 20-150%
	13C5-PFHxA	102% 20-150%
	13C4-PFHpA	106% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	100% 20-150%
	13C6-PFDA	102% 20-150%
	13C7-PFUnDA	106% 20-150%
	13C2-PFDoDA	95% 20-150%
	13C2-PFTeDA	100% 20-150%
	13C3-PFBS	100% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	104% 20-150%
	d3-MeFOSAA	115% 20-150%
	d5-EtFOSAA	109% 20-150%
	13C2-4:2FTS	115% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	111% 20-180%

6.1.7

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Blank Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-LLBS	6Q18349.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0272	91	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0137	91	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0070	93	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0068	91	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0068	91	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0068	91	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0067	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0067	89	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0068	91	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0071	95	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0069	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0061	92	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0069	98	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0060	88	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0064	90	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0061	88	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0064	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0059	82	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0065	89	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0241	86	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0251	88	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0283	98	40-150
754-91-6	PFOSA	0.0075	0.0075	100	40-150
31506-32-8	MeFOSA	0.015	0.0149	99	40-150
4151-50-2	EtFOSA	0.015	0.0141	94	40-150
2355-31-9	MeFOSAA	0.0075	0.0065	87	40-150
2991-50-6	EtFOSAA	0.0075	0.0065	87	40-150
24448-09-7	MeFOSE	0.0375	0.0338	90	40-150
1691-99-2	EtFOSE	0.0375	0.0350	93	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0140	93	40-150
919005-14-4	ADONA	0.0142	0.0135	95	40-150
377-73-1	PFMPA	0.015	0.0137	91	40-150
863090-89-5	PFMBA	0.015	0.0137	91	40-150
151772-58-6	NFDHA	0.015	0.0135	90	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0131	93	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0130	92	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-LLBS	6Q18349.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0122	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0231	62	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.149	79	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.154	82	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	106%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	111%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	110%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	99%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	105%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	112%	20-150%
	13C8-FOSA	68%	20-150%
	d3-MeFOSA	67%	20-150%
	d5-EtFOSA	73%	20-150%
	d3-MeFOSAA	121%	20-150%
	d5-EtFOSAA	120%	20-150%
	d7-MeFOSE	59%	20-150%
	d9-EtFOSE	70%	20-150%
	13C2-4:2FTS	121%	20-180%
	13C2-6:2FTS	124%	20-180%
	13C2-8:2FTS	116%	20-180%
	13C3-HFPO-DA	104%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-BS	6Q18348.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0855	86	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0433	87	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0221	88	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0210	84	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0218	87	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0204	82	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0221	88	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0219	88	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0211	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0224	90	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0202	81	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0185	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0198	84	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0181	79	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0197	83	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0198	85	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0184	77	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0195	81	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0191	79	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.0752	80	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0845	89	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0885	92	40-150
754-91-6	PFOSA	0.025	0.0244	98	40-150
31506-32-8	MeFOSA	0.05	0.0448	90	40-150
4151-50-2	EtFOSA	0.05	0.0404	81	40-150
2355-31-9	MeFOSAA	0.025	0.0200	80	40-150
2991-50-6	EtFOSAA	0.025	0.0222	89	40-150
24448-09-7	MeFOSE	0.125	0.109	87	40-150
1691-99-2	EtFOSE	0.125	0.104	83	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0425	85	40-150
919005-14-4	ADONA	0.0473	0.0410	87	40-150
377-73-1	PFMPA	0.05	0.0193	39* a	40-150
863090-89-5	PFMBA	0.05	0.0463	93	40-150
151772-58-6	NFDHA	0.05	0.0447	89	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0394	84	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0394	83	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-BS	6Q18348.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0369	83	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0389	31* a	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.509	81	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.525	84	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	26%	20-150%
	13C5-PFPeA	105%	20-150%
	13C5-PFHxA	114%	20-150%
	13C4-PFHpA	118%	20-150%
	13C8-PFOA	119%	20-150%
	13C9-PFNA	121%	20-150%
	13C6-PFDA	112%	20-150%
	13C7-PFUnDA	113%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	107%	20-150%
	13C3-PFBS	122%	20-150%
	13C3-PFHxS	123%	20-150%
	13C8-PFOS	126%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSA	93%	20-150%
	d5-EtFOSA	103%	20-150%
	d3-MeFOSAA	136%	20-150%
	d5-EtFOSAA	123%	20-150%
	d7-MeFOSE	82%	20-150%
	d9-EtFOSE	98%	20-150%
	13C2-4:2FTS	142%	20-180%
	13C2-6:2FTS	134%	20-180%
	13C2-8:2FTS	129%	20-180%
	13C3-HFPO-DA	113%	20-150%

(a) Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MS	6Q18415.D	2	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-3	6Q18355.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	FC6238-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	0.1	0.0886	89	40-150
2706-90-3	Perfluoropentanoic acid	0.0073 U	0.05	0.0485	97	40-150
307-24-4	Perfluorohexanoic acid	0.0036 U	0.025	0.0222	89	40-150
375-85-9	Perfluoroheptanoic acid	0.0036 U	0.025	0.0214	86	40-150
335-67-1	Perfluorooctanoic acid	0.0036 U	0.025	0.0250	100	40-150
375-95-1	Perfluorononanoic acid	0.0036 U	0.025	0.0227	91	40-150
335-76-2	Perfluorodecanoic acid	0.0036 U	0.025	0.0217	87	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036 U	0.025	0.0210	84	40-150
307-55-1	Perfluorododecanoic acid	0.0036 U	0.025	0.0226	90	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036 U	0.025	0.0226	90	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036 U	0.025	0.0224	90	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036 U	0.0222	0.0188	85	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U	0.0235	0.0226	96	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036 U	0.0229	0.0214	94	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U	0.0238	0.0180	76	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U	0.0232	0.0280	121	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036 U	0.0241	0.0288	120	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036 U	0.0241	0.0250	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U	0.0243	0.0179	74	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U	0.0938	0.0794	85	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U	0.095	0.0910	96	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U	0.096	0.0834	87	40-150
754-91-6	PFOSA	0.0036 U	0.025	0.0227	91	40-150
31506-32-8	MeFOSA	0.0073 U	0.05	0.0462	92	40-150
4151-50-2	EtFOSA	0.0073 U	0.05	0.0434	87	40-150
2355-31-9	MeFOSAA	0.0045 U	0.025	0.0218	87	40-150
2991-50-6	EtFOSAA	0.0045 U	0.025	0.0218	87	40-150
24448-09-7	MeFOSE	0.036 U	0.125	0.117	94	40-150
1691-99-2	EtFOSE	0.036 U	0.125	0.123	98	40-150
13252-13-6	HFPO-DA (GenX)	0.0036 U	0.05	0.0490	98	40-150
919005-14-4	ADONA	0.0073 U	0.0473	0.0582	123	40-150
377-73-1	PFMPA	0.0073 U	0.05	ND	0*	40-150
863090-89-5	PFMBA	0.0073 U	0.05	0.0759	152*	40-150
151772-58-6	NFDHA	0.0073 U	0.05	0.0396	79	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U	0.0468	0.0532	114	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U	0.0473	0.0492	104	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-MS	6Q18415.D	2	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-3	6Q18355.D	1	05/24/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	FC6238-3 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073 U	0.0445	0.0437	98	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.125	ND	0*	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	0.625	0.591	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	0.625	0.652	104	40-150

CAS No.	ID Standard Recoveries	MS	FC6238-3	Limits
	13C4-PFBA	3%*	4%* a	20-150%
	13C5-PFPeA	21%	25%	20-150%
	13C5-PFHxA	88%	101%	20-150%
	13C4-PFHpA	107%	116%	20-150%
	13C8-PFOA	99%	107%	20-150%
	13C9-PFNA	101%	113%	20-150%
	13C6-PFDA	103%	112%	20-150%
	13C7-PFUnDA	100%	107%	20-150%
	13C2-PFDoDA	88%	96%	20-150%
	13C2-PFTeDA	75%	78%	20-150%
	13C3-PFBS	85%	101%	20-150%
	13C3-PFHxS	97%	108%	20-150%
	13C8-PFOS	85%	92%	20-150%
	13C8-FOSA	92%	76%	20-150%
	d3-MeFOSA	91%	80%	20-150%
	d5-EtFOSA	99%	85%	20-150%
	d3-MeFOSAA	170%*	132%	20-150%
	d5-EtFOSAA	177%*	138%	20-150%
	d7-MeFOSE	71%	66%	20-150%
	d9-EtFOSE	80%	76%	20-150%
	13C2-4:2FTS	90%	127%	20-180%
	13C2-6:2FTS	108%	125%	20-180%
	13C2-8:2FTS	112%	116%	20-180%
	13C3-HFPO-DA	80%	93%	20-150%

(a) Outside control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-DUP	6Q18361.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-5	6Q18360.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	FC6238-5 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0029 J	0.0024	J	J	19	30
307-24-4	Perfluorohexanoic acid	0.0014 J	0.0013	J	J	7	30
375-85-9	Perfluoroheptanoic acid	0.0035 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0035 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0035 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0035 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0035 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0035 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0035 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0035 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0035 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0035 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0035 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0035 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 U		ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.018 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0080 J	0.0074	J	J	8	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		ND		nc	30
754-91-6	PFOSA	0.0035 U		ND		nc	30
31506-32-8	MeFOSA	0.0070 U		ND		nc	30
4151-50-2	EtFOSA	0.0070 U		ND		nc	30
2355-31-9	MeFOSAA	0.0044 U		ND		nc	30
2991-50-6	EtFOSAA	0.0044 U		ND		nc	30
24448-09-7	MeFOSE	0.035 U		ND		nc	30
1691-99-2	EtFOSE	0.035 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0035 U		ND		nc	30
919005-14-4	ADONA	0.0070 U		ND		nc	30
377-73-1	PFMPA	0.0070 U		ND		nc	30
863090-89-5	PFMBA	0.0070 U		ND		nc	30
151772-58-6	NFDHA	0.0070 U		ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0070 U		ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0070 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97007-DUP	6Q18361.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276
FC6238-5	6Q18360.D	1	05/25/23	MV	05/22/23	OP97007	S6Q276

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6238-1, FC6238-2, FC6238-3, FC6238-4, FC6238-5

CAS No.	Compound	FC6238-5 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7PFEESA		0.0070 U		ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U		ND		nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.088 U		ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.088 U		ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC6238-5	Limits
	13C4-PFBA	97%	93%	20-150%
	13C5-PFPeA	110%	110%	20-150%
	13C5-PFHxA	113%	111%	20-150%
	13C4-PFHpA	111%	117%	20-150%
	13C8-PFOA	104%	107%	20-150%
	13C9-PFNA	113%	101%	20-150%
	13C6-PFDA	105%	114%	20-150%
	13C7-PFUnDA	98%	108%	20-150%
	13C2-PFDoDA	85%	90%	20-150%
	13C2-PFTeDA	72%	80%	20-150%
	13C3-PFBS	113%	111%	20-150%
	13C3-PFHxS	112%	113%	20-150%
	13C8-PFOS	96%	104%	20-150%
	13C8-FOSA	89%	97%	20-150%
	d3-MeFOSA	79%	87%	20-150%
	d5-EtFOSA	82%	87%	20-150%
	d3-MeFOSAA	138%	142%	20-150%
	d5-EtFOSAA	140%	148%	20-150%
	d7-MeFOSE	77%	87%	20-150%
	d9-EtFOSE	90%	99%	20-150%
	13C2-4:2FTS	173%	170%	20-180%
	13C2-6:2FTS	155%	152%	20-180%
	13C2-8:2FTS	126%	130%	20-180%
	13C3-HFPO-DA	100%	103%	20-150%

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/24/23
Lab File ID:	6Q18346.D	Injection Time:	20:45
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	96304	2.88	79825	5.43	120841	7.04	58269	7.57	39209	8.04
Check Std ^c	97079	2.88	77890	5.43	120327	7.04	58619	7.57	39120	8.04
Upper Limit ^d	192608	3.28	159650	5.83	241682	7.44	116538	7.97	78418	8.44
Lower Limit ^e	28891	2.48	23948	5.03	36252	6.64	17481	7.17	11763	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
S6Q276-ICCB	106989	2.84	90452	5.42	137869	7.04	67896	7.56	41818	8.04	1
OP97007-BS	77401	2.88	63684	5.43	94286	7.04	44676	7.56	31678	8.04	1
OP97007-LLBS	78920	2.88	64982	5.43	95346	7.03	46740	7.56	32678	8.04	1
OP97007-MB	80357	2.88	66065	5.43	98705	7.03	51910	7.56	33921	8.04	1
ZZZZZZ	66396	2.88	63889	5.42	103488	7.04	48301	7.56	32591	8.04	1
ZZZZZZ	83202	2.88	70424	5.43	107286	7.04	52083	7.56	35526	8.04	1
FC6238-1	71363	2.88	63850	5.43	97886	7.04	47686	7.56	32577	8.04	1
FC6238-2	78179	2.88	63065	5.43	99442	7.04	46667	7.56	31965	8.04	1
FC6238-3	81669	2.88	64708	5.43	104371	7.03	49680	7.56	33457	8.04	1
FC6238-4	90028	2.88	74656	5.43	113763	7.04	54299	7.56	35579	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: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. 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
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Injection Standard Area Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/24/23
Lab File ID:	6Q18346.D	Injection Time:	20:45
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	12888	7.14	21697	8.19
Check Std ^c	13005	7.14	20425	8.19
Upper Limit ^d	25776	7.54	43394	8.59
Lower Limit ^e	3866	6.74	6509	7.79

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q276-ICCB	14526	7.14	23084	8.19	1
OP97007-BS	9817	7.14	16152	8.19	1
OP97007-LLBS	10552	7.14	17286	8.19	1
OP97007-MB	10803	7.14	18111	8.19	1
ZZZZZZ	10395	7.13	16367	8.19	1
ZZZZZZ	11355	7.14	18421	8.19	1
FC6238-1	10332	7.14	16793	8.19	1
FC6238-2	10350	7.14	17105	8.19	1
FC6238-3	11110	7.14	20501	8.19	1
FC6238-4	11783	7.14	20477	8.19	1

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. 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: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/24/23
Lab File ID:	6Q18358.D	Injection Time:	23:39
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	96304	2.88	79825	5.43	120841	7.04	58269	7.57	39209	8.04
Check Std ^c	95794	2.88	79022	5.43	119167	7.04	58519	7.56	40133	8.04
Upper Limit ^d	192608	3.28	159650	5.83	241682	7.44	116538	7.96	78418	8.44
Lower Limit ^e	28891	2.48	23948	5.03	36252	6.64	17481	7.16	11763	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
S6Q276-ICCB	107349	2.85	88182	5.43	136946	7.04	68558	7.56	43283	8.03	1
FC6238-5	76612	2.88	61158	5.43	97244	7.04	49004	7.56	31534	8.04	1
OP97007-DUP	80378	2.88	66390	5.43	108074	7.04	50041	7.56	33668	8.04	1
OP96980-BS	75396	2.85	60928	5.43	93769	7.04	44399	7.56	31874	8.04	1
OP96980-LLBS	74200	2.85	60849	5.42	94251	7.03	46195	7.56	31372	8.04	1
OP96980-MB	77300	2.85	62733	5.42	95597	7.04	46816	7.56	31478	8.04	1
ZZZZZZ	89779	2.85	74309	5.42	109910	7.04	54122	7.56	36565	8.04	1
ZZZZZZ	75081	2.86	59668	5.43	93711	7.04	46178	7.56	30596	8.04	1
ZZZZZZ	74701	2.86	58510	5.43	92893	7.04	45431	7.56	31937	8.04	1
ZZZZZZ	78021	2.86	64920	5.43	97455	7.04	45975	7.56	33113	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: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/24/23
Lab File ID:	6Q18358.D	Injection Time:	23:39
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	12888	7.14	21697	8.19
Check Std ^c	13214	7.14	21186	8.19
Upper Limit ^d	25776	7.54	43394	8.59
Lower Limit ^e	3866	6.74	6509	7.79

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q276-ICCB	15258	7.14	23539	8.19	1
FC6238-5	9934	7.14	17235	8.19	1
OP97007-DUP	10574	7.14	18363	8.19	1
OP96980-BS	10124	7.14	16713	8.19	1
OP96980-LLBS	9871	7.14	16223	8.19	1
OP96980-MB	10117	7.14	16837	8.19	1
ZZZZZZ	12013	7.14	18366	8.19	1
ZZZZZZ	9958	7.14	15641	8.19	1
ZZZZZZ	10091	7.14	15718	8.19	1
ZZZZZZ	10632	7.14	17299	8.19	1

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/25/23
Lab File ID:	6Q18407.D	Injection Time:	15:58
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	96304	2.88	79825	5.43	120841	7.04	58269	7.57	39209	8.04
Check Std ^c	86834	2.83	74735	5.42	114703	7.03	53481	7.56	36969	8.04
Upper Limit ^d	192608	3.23	159650	5.82	241682	7.43	116538	7.96	78418	8.44
Lower Limit ^e	28891	2.43	23948	5.02	36252	6.63	17481	7.16	11763	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
S6Q276-ICCB	109741	2.85	89956	5.42	142663	7.03	69269	7.56	45082	8.03	1
ZZZZZZ	72807	2.88	57461	5.42	92159	7.03	45399	7.56	29941	8.04	1
ZZZZZZ	33171	2.79	57062	5.42	88504	7.03	46158	7.56	28052	8.03	1
ZZZZZZ	81849	2.88	65249	5.42	106317	7.03	50081	7.56	32816	8.04	1
ZZZZZZ	76466	2.88	64167	5.43	95600	7.03	47317	7.56	32476	8.03	1
ZZZZZZ	76584	2.85	62028	5.42	95457	7.03	50277	7.56	33728	8.03	1
ZZZZZZ	73546	2.85	60605	5.42	91603	7.03	44633	7.56	30532	8.04	1
OP97007-MS	77340	2.88	60928	5.42	97276	7.03	47160	7.56	31354	8.03	2
ZZZZZZ	87750	2.88	71049	5.42	111720	7.03	54776	7.56	37117	8.03	1
ZZZZZZ	85260	2.86	87890	5.42	93930	7.03	50110	7.56	32880	8.03	10

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. 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.

6.5.3
6

Injection Standard Area Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q276-CC275	Injection Date:	05/25/23
Lab File ID:	6Q18407.D	Injection Time:	15:58
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	12888	7.14	21697	8.19
Check Std ^c	12231	7.14	19286	8.19
Upper Limit ^d	25776	7.54	43394	8.59
Lower Limit ^e	3866	6.74	6509	7.79

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q276-ICCB	14866	7.13	24509	8.19	1
ZZZZZZ	9847	7.13	15186	8.19	1
ZZZZZZ	9542	7.14	16052	8.19	1
ZZZZZZ	11152	7.14	17205	8.19	1
ZZZZZZ	10235	7.14	16640	8.18	1
ZZZZZZ	9892	7.14	17573	8.19	1
ZZZZZZ	10020	7.14	15863	8.19	1
OP97007-MS	10538	7.13	15740	8.18	2
ZZZZZZ	11558	7.14	17942	8.19	1
ZZZZZZ	15310	7.14	17850	8.19	10

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q275-ICC275 6Q18230A.D 05/23/23 16:55. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q275-RT	Injection Date:	05/23/23
Lab File ID:	6Q18224A.D	Injection Time:	15:28
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.191	--	--
TDCA	6.762	1.429	1.000
TCDCA	6.613	1.578	1.000
TUDCA	5.760	2.431	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
S6Q275-IC275	6Q18226A.D	05/23/23	15:57	00:29	Mass Calibration Verification
S6Q275-IC275	6Q18227A.D	05/23/23	16:11	00:43	Initial cal 1
S6Q275-IC275	6Q18228A.D	05/23/23	16:26	00:58	Initial cal 2
S6Q275-IC275	6Q18229A.D	05/23/23	16:40	01:12	Initial cal 3
S6Q275-ICC275	6Q18230A.D	05/23/23	16:55	01:27	Initial cal 4
S6Q275-IC275	6Q18231A.D	05/23/23	17:09	01:41	Initial cal 5
S6Q275-IC275	6Q18232A.D	05/23/23	17:24	01:56	Initial cal 6
S6Q275-IC275	6Q18233A.D	05/23/23	17:38	02:10	Initial cal 7
S6Q275-IC275	6Q18234A.D	05/23/23	17:53	02:25	Initial cal 8
S6Q275-IBLK	6Q18235A.D	05/23/23	18:07	02:39	Instrument Blank
S6Q275-IBLK	6Q18235A.D	05/23/23	18:07	02:39	Instrument Blank
S6Q275-ICV275	6Q18236A.D	05/23/23	18:22	02:54	Initial cal verification 4
S6Q275-ICV275	6Q18237A.D	05/23/23	18:36	03:08	Initial cal verification 20
S6Q275-CC275	6Q18238A.D	05/23/23	18:51	03:23	Continuing cal 4
S6Q275-CC275	6Q18239A.D	05/23/23	19:05	03:37	Continuing cal 1.0LL
OP97001-BS	6Q18240A.D	05/23/23	19:20	03:52	Blank Spike
OP97001-LLBS	6Q18241A.D	05/23/23	19:34	04:06	Blank Spike
OP97001-MB	6Q18242A.D	05/23/23	19:49	04:21	Method Blank
ZZZZZZ	6Q18247A.D	05/23/23	21:01	05:33	(unrelated sample)
FC5501-12	6Q18248A.D	05/23/23	21:16	05:48	(used for QC only; not part of job FC6238)
S6Q275-CC275	6Q18250A.D	05/23/23	21:45	06:17	Continuing cal 4
S6Q275-ICCB	6Q18251A.D	05/23/23	21:59	06:31	Continuing Calibration Blank
OP96958-BS	6Q18252A.D	05/23/23	22:13	06:45	Blank Spike
OP96958-LLBS	6Q18253A.D	05/23/23	22:28	07:00	Blank Spike
OP96958-MB	6Q18254A.D	05/23/23	22:42	07:14	Method Blank
ZZZZZZ	6Q18255A.D	05/23/23	22:57	07:29	(unrelated sample)
FC5649-2	6Q18256A.D	05/23/23	23:11	07:43	(used for QC only; not part of job FC6238)
OP96958-MS	6Q18257A.D	05/23/23	23:26	07:58	Matrix Spike
FC5649-3	6Q18258A.D	05/23/23	23:40	08:12	(used for QC only; not part of job FC6238)
OP96958-DUP	6Q18259A.D	05/23/23	23:55	08:27	Duplicate
ZZZZZZ	6Q18260A.D	05/24/23	00:09	08:41	(unrelated sample)
ZZZZZZ	6Q18261A.D	05/24/23	00:24	08:56	(unrelated sample)
S6Q275-CC275	6Q18262A.D	05/24/23	00:38	09:10	Continuing cal 4
S6Q275-ICCB	6Q18263A.D	05/24/23	00:53	09:25	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q275-RT	Injection Date:	05/23/23
Lab File ID:	6Q18224A.D	Injection Time:	15:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q18264A.D	05/24/23	01:07	09:39	(unrelated sample)
ZZZZZZ	6Q18265A.D	05/24/23	01:22	09:54	(unrelated sample)
ZZZZZZ	6Q18266A.D	05/24/23	01:36	10:08	(unrelated sample)
ZZZZZZ	6Q18267A.D	05/24/23	01:51	10:23	(unrelated sample)
ZZZZZZ	6Q18268A.D	05/24/23	02:05	10:37	(unrelated sample)
ZZZZZZ	6Q18269A.D	05/24/23	02:20	10:52	(unrelated sample)
ZZZZZZ	6Q18270A.D	05/24/23	02:34	11:06	(unrelated sample)
ZZZZZZ	6Q18271A.D	05/24/23	02:49	11:21	(unrelated sample)
ZZZZZZ	6Q18272A.D	05/24/23	03:03	11:35	(unrelated sample)
ZZZZZZ	6Q18273A.D	05/24/23	03:18	11:50	(unrelated sample)
S6Q275-CC275	6Q18274A.D	05/24/23	03:32	12:04	Continuing cal 4
S6Q275-ICCB	6Q18275.D	05/24/23	03:46	12:18	Continuing Calibration Blank
ZZZZZZ	6Q18276.D	05/24/23	04:01	12:33	(unrelated sample)
ZZZZZZ	6Q18277.D	05/24/23	04:15	12:47	(unrelated sample)
ZZZZZZ	6Q18278.D	05/24/23	04:30	13:02	(unrelated sample)
ZZZZZZ	6Q18279.D	05/24/23	04:44	13:16	(unrelated sample)
S6Q275-CC275	6Q18280.D	05/24/23	04:59	13:31	Continuing cal 4
S6Q275-CC275	6Q18281.D	05/24/23	05:13	13:45	Continuing cal 1.0LL
S6Q275-ICCB	6Q18282.D	05/24/23	05:28	14:00	Continuing Calibration Blank
OP96961-BS	6Q18283.D	05/24/23	05:42	14:14	Blank Spike
OP96961-LLBS	6Q18284.D	05/24/23	05:57	14:29	Blank Spike
OP96961-MB	6Q18285.D	05/24/23	06:11	14:43	Method Blank
ZZZZZZ	6Q18286.D	05/24/23	06:26	14:58	(unrelated sample)
ZZZZZZ	6Q18287.D	05/24/23	06:40	15:12	(unrelated sample)
ZZZZZZ	6Q18288.D	05/24/23	06:55	15:27	(unrelated sample)
ZZZZZZ	6Q18289.D	05/24/23	07:09	15:41	(unrelated sample)
ZZZZZZ	6Q18290.D	05/24/23	07:24	15:56	(unrelated sample)
ZZZZZZ	6Q18291.D	05/24/23	07:38	16:10	(unrelated sample)
ZZZZZZ	6Q18292.D	05/24/23	07:53	16:25	(unrelated sample)
S6Q275-CC275	6Q18293.D	05/24/23	08:07	16:39	Continuing cal 4
S6Q275-ICCB	6Q18294.D	05/24/23	08:22	16:54	Continuing Calibration Blank
ZZZZZZ	6Q18295.D	05/24/23	08:36	17:08	(unrelated sample)
FC5721-9	6Q18296.D	05/24/23	08:51	17:23	(used for QC only; not part of job FC6238)
OP96961-MS	6Q18297.D	05/24/23	09:05	17:37	Matrix Spike
FC5721-10	6Q18298.D	05/24/23	09:20	17:52	(used for QC only; not part of job FC6238)
OP96961-DUP	6Q18299.D	05/24/23	09:34	18:06	Duplicate
ZZZZZZ	6Q18300.D	05/24/23	09:49	18:21	(unrelated sample)
ZZZZZZ	6Q18301.D	05/24/23	10:03	18:35	(unrelated sample)
ZZZZZZ	6Q18302.D	05/24/23	10:18	18:50	(unrelated sample)
ZZZZZZ	6Q18303.D	05/24/23	10:32	19:04	(unrelated sample)
S6Q275-CC275	6Q18305.D	05/24/23	11:01	19:33	Continuing cal 4
S6Q275-ICCB	6Q18306.D	05/24/23	11:15	19:47	Continuing Calibration Blank
S6Q275-ICCB	6Q18306.D	05/24/23	11:15	19:47	Continuing Calibration Blank
ZZZZZZ	6Q18307.D	05/24/23	11:30	20:02	(unrelated sample)

6.6.1

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TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q275-RT	Injection Date:	05/23/23
Lab File ID:	6Q18224A.D	Injection Time:	15:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q18308.D	05/24/23	11:44	20:16	(unrelated sample)
OP96956-BS	6Q18309.D	05/24/23	11:59	20:31	Blank Spike
OP96956A-BS	6Q18309.D	05/24/23	11:59	20:31	Blank Spike
OP96956A-LLBS	6Q18310.D	05/24/23	12:13	20:45	Blank Spike
OP96956-LLBS	6Q18310.D	05/24/23	12:13	20:45	Blank Spike
OP96956-MB	6Q18311.D	05/24/23	12:28	21:00	Method Blank
OP96956A-MB	6Q18311.D	05/24/23	12:28	21:00	Method Blank
ZZZZZZ	6Q18312.D	05/24/23	12:42	21:14	(unrelated sample)
ZZZZZZ	6Q18313.D	05/24/23	12:57	21:29	(unrelated sample)
ZZZZZZ	6Q18314.D	05/24/23	13:11	21:43	(unrelated sample)
ZZZZZZ	6Q18316.D	05/24/23	13:40	22:12	(unrelated sample)
S6Q275-CC275	6Q18317.D	05/24/23	13:55	22:27	Continuing cal 4
S6Q275-ICCB	6Q18318.D	05/24/23	14:09	22:41	Continuing Calibration Blank
S6Q275-ICCB	6Q18318.D	05/24/23	14:09	22:41	Continuing Calibration Blank
ZZZZZZ	6Q18319.D	05/24/23	14:24	22:56	(unrelated sample)
ZZZZZZ	6Q18320.D	05/24/23	14:38	23:10	(unrelated sample)
JD65541-7	6Q18321.D	05/24/23	14:53	23:25	(used for QC only; not part of job FC6238)
OP96956-MS	6Q18322.D	05/24/23	15:07	23:39	Matrix Spike
OP96956-MSD	6Q18323.D	05/24/23	15:22	23:54	Matrix Spike Duplicate
ZZZZZZ	6Q18324.D	05/24/23	15:36	24:08	(unrelated sample)
S6Q275-ECC275	6Q18325.D	05/24/23	15:51	24:23	Ending cal 4
S6Q275-ICCB	6Q18326.D	05/24/23	16:05	24:37	Continuing Calibration Blank
S6Q275-ICCB	6Q18326.D	05/24/23	16:05	24:37	Continuing Calibration Blank

6.6.1

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TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q276-RT	Injection Date:	05/24/23
Lab File ID:	6Q18334.D	Injection Time:	17:51
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.191	--	--
TDCA	6.762	1.429	1.000
TCDCA	6.613	1.578	1.000
TUDCA	5.748	2.443	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
S6Q276-IBLK	6Q18337.D	05/24/23	18:35	00:44	Instrument Blank
S6Q276-IBLK	6Q18337.D	05/24/23	18:35	00:44	Instrument Blank
S6Q276-CC275	6Q18338.D	05/24/23	18:49	00:58	Continuing cal 4
S6Q276-CC275	6Q18339.D	05/24/23	19:04	01:13	Continuing cal 1.0LL
OP97028-BS	6Q18340.D	05/24/23	19:18	01:27	Blank Spike
OP97028-LLBS	6Q18341.D	05/24/23	19:33	01:42	Blank Spike
OP97028-MB	6Q18342.D	05/24/23	19:47	01:56	Method Blank
ZZZZZZ	6Q18343.D	05/24/23	20:02	02:11	(unrelated sample)
ZZZZZZ	6Q18344.D	05/24/23	20:16	02:25	(unrelated sample)
ZZZZZZ	6Q18345.D	05/24/23	20:30	02:39	(unrelated sample)
S6Q276-CC275	6Q18346.D	05/24/23	20:45	02:54	Continuing cal 4
S6Q276-ICCB	6Q18347.D	05/24/23	20:59	03:08	Continuing Calibration Blank
OP97007-BS	6Q18348.D	05/24/23	21:14	03:23	Blank Spike
OP97007-LLBS	6Q18349.D	05/24/23	21:28	03:37	Blank Spike
OP97007-MB	6Q18350.D	05/24/23	21:43	03:52	Method Blank
ZZZZZZ	6Q18351.D	05/24/23	21:57	04:06	(unrelated sample)
ZZZZZZ	6Q18352.D	05/24/23	22:12	04:21	(unrelated sample)
FC6238-1	6Q18353.D	05/24/23	22:26	04:35	AF-RHMW17S-WGN01LF-2305W3
FC6238-2	6Q18354.D	05/24/23	22:41	04:50	AF-RHMW17S-WQEB01-2305W3
FC6238-3	6Q18355.D	05/24/23	22:55	05:04	AF-RHMW17D-WGN01LF-2305W3
FC6238-4	6Q18357.D	05/24/23	23:24	05:33	AF-RHMW17D-WQFB01-2305W3
S6Q276-CC275	6Q18358.D	05/24/23	23:39	05:48	Continuing cal 4
S6Q276-ICCB	6Q18359.D	05/24/23	23:53	06:02	Continuing Calibration Blank
FC6238-5	6Q18360.D	05/25/23	00:08	06:17	AF-RHMW17-WGN01LF-2305W3
OP97007-DUP	6Q18361.D	05/25/23	00:22	06:31	Duplicate
OP96980-BS	6Q18362.D	05/25/23	00:37	06:46	Blank Spike
OP96980-LLBS	6Q18363.D	05/25/23	00:51	07:00	Blank Spike
OP96980-MB	6Q18364.D	05/25/23	01:06	07:15	Method Blank
ZZZZZZ	6Q18365.D	05/25/23	01:20	07:29	(unrelated sample)
ZZZZZZ	6Q18366.D	05/25/23	01:35	07:44	(unrelated sample)
ZZZZZZ	6Q18367.D	05/25/23	01:49	07:58	(unrelated sample)
ZZZZZZ	6Q18368.D	05/25/23	02:04	08:13	(unrelated sample)
S6Q276-CC275	6Q18369.D	05/25/23	02:18	08:27	Continuing cal 4
S6Q276-CC275	6Q18370.D	05/25/23	02:33	08:42	Continuing cal 1.0LL

TDCA Retention Time Check

Job Number: FC6238
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-RT	Injection Date: 05/24/23
Lab File ID: 6Q18334.D	Injection Time: 17:51
Instrument ID: GCMS6Q	

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q276-ICCB	6Q18371.D	05/25/23	02:47	08:56	Continuing Calibration Blank

6.6.2

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TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q276-RT	Injection Date:	05/25/23
Lab File ID:	6Q18378.D	Injection Time:	08:27
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.228	--	--
TDCA	6.762	1.466	1.000
TCDCA	6.625	1.603	1.000
TUDCA	5.772	2.456	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
S6Q276-IBLK	6Q18381.D	05/25/23	09:11	00:44	Instrument Blank
S6Q276-IBLK	6Q18381.D	05/25/23	09:11	00:44	Instrument Blank
S6Q276-CC275	6Q18382.D	05/25/23	09:26	00:59	Continuing cal 4
S6Q276-CC275	6Q18383.D	05/25/23	09:40	01:13	Continuing cal 1.0LL
S6Q276-ICCB	6Q18384.D	05/25/23	09:54	01:27	Continuing Calibration Blank
FC5885-2	6Q18385.D	05/25/23	10:09	01:42	(used for QC only; not part of job FC6238)
OP96980-MS	6Q18386.D	05/25/23	10:23	01:56	Matrix Spike
OP96980-MSD	6Q18387.D	05/25/23	10:38	02:11	Matrix Spike Duplicate
ZZZZZZ	6Q18388.D	05/25/23	10:52	02:25	(unrelated sample)
ZZZZZZ	6Q18389.D	05/25/23	11:07	02:40	(unrelated sample)
ZZZZZZ	6Q18391.D	05/25/23	11:36	03:09	(unrelated sample)
ZZZZZZ	6Q18392.D	05/25/23	11:50	03:23	(unrelated sample)
ZZZZZZ	6Q18393.D	05/25/23	12:05	03:38	(unrelated sample)
ZZZZZZ	6Q18394.D	05/25/23	12:19	03:52	(unrelated sample)
S6Q276-CC275	6Q18395.D	05/25/23	12:34	04:07	Continuing cal 4
S6Q276-ICCB	6Q18396.D	05/25/23	12:48	04:21	Continuing Calibration Blank
ZZZZZZ	6Q18397.D	05/25/23	13:03	04:36	(unrelated sample)
OP96978-BS	6Q18398.D	05/25/23	13:17	04:50	Blank Spike
OP96978-LLBS	6Q18399.D	05/25/23	13:32	05:05	Blank Spike
OP96978-MB	6Q18400.D	05/25/23	13:46	05:19	Method Blank
FC5808-1	6Q18401.D	05/25/23	14:01	05:34	(used for QC only; not part of job FC6238)
OP96978-MS	6Q18402.D	05/25/23	14:15	05:48	Matrix Spike
ZZZZZZ	6Q18403.D	05/25/23	14:30	06:03	(unrelated sample)
FC5808-3	6Q18404.D	05/25/23	14:44	06:17	(used for QC only; not part of job FC6238)
OP96978-DUP	6Q18405.D	05/25/23	14:59	06:32	Duplicate
ZZZZZZ	6Q18406.D	05/25/23	15:13	06:46	(unrelated sample)
S6Q276-CC275	6Q18407.D	05/25/23	15:58	07:31	Continuing cal 4
S6Q276-ICCB	6Q18408.D	05/25/23	16:12	07:45	Continuing Calibration Blank
ZZZZZZ	6Q18409.D	05/25/23	16:26	07:59	(unrelated sample)
ZZZZZZ	6Q18410.D	05/25/23	16:41	08:14	(unrelated sample)
ZZZZZZ	6Q18411.D	05/25/23	16:55	08:28	(unrelated sample)
ZZZZZZ	6Q18412.D	05/25/23	17:10	08:43	(unrelated sample)
ZZZZZZ	6Q18413.D	05/25/23	17:24	08:57	(unrelated sample)
ZZZZZZ	6Q18414.D	05/25/23	17:39	09:12	(unrelated sample)

TDCA Retention Time Check

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q276-RT	Injection Date:	05/25/23
Lab File ID:	6Q18378.D	Injection Time:	08:27
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP97007-MS	6Q18415.D	05/25/23	17:53	09:26	Matrix Spike
ZZZZZZ	6Q18416.D	05/25/23	18:08	09:41	(unrelated sample)
ZZZZZZ	6Q18417.D	05/25/23	18:22	09:55	(unrelated sample)
S6Q276-CC275	6Q18418.D	05/25/23	18:37	10:10	Continuing cal 1.0LL
S6Q276-CC275	6Q18419.D	05/25/23	18:51	10:24	Continuing cal 4
S6Q276-ICCB	6Q18420.D	05/25/23	19:06	10:39	Continuing Calibration Blank
OP96957-BS	6Q18421.D	05/25/23	19:20	10:53	Blank Spike
OP96957-LLBS	6Q18422.D	05/25/23	19:35	11:08	Blank Spike
OP96957-MB	6Q18423.D	05/25/23	19:49	11:22	Method Blank
ZZZZZZ	6Q18424.D	05/25/23	20:04	11:37	(unrelated sample)
ZZZZZZ	6Q18425.D	05/25/23	20:18	11:51	(unrelated sample)
ZZZZZZ	6Q18426.D	05/25/23	20:33	12:06	(unrelated sample)
FC6114-3	6Q18427.D	05/25/23	20:47	12:20	(used for QC only; not part of job FC6238)
OP96957-MS	6Q18428.D	05/25/23	21:02	12:35	Matrix Spike
OP96957-MSD	6Q18429.D	05/25/23	21:16	12:49	Matrix Spike Duplicate
S6Q276-ECC275	6Q18430.D	05/25/23	21:31	13:04	Ending cal 4
S6Q276-ICCB	6Q18431.D	05/25/23	21:45	13:18	Continuing Calibration Blank

6.6.3
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Ion Ratio Summary

Job Number: FC6238
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q276 Method: EPA DRAFT 1633

Lab Sample ID	Lab File ID	Ion Ratios						
		PFPeA	PFHxA	PFHpA	PFOA	PFBS	PFOS	6:2FTS
S6Q275-ICC275	6Q18230A.D	0	5	16.7	18.2	38.7	48	32
FC6238-1	6Q18353.D		3.9	17.9	19.7	36.7	37	
FC6238-2	6Q18354.D							
FC6238-3	6Q18355.D							
FC6238-4	6Q18357.D							
FC6238-5	6Q18360.D	0	6.3					34.1

6.7.1

6

Isotope Dilution Standard Recovery Summary

Job Number: FC6238
 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
FC6238-1	6Q18353.D	36	97	111	111	115	108	95	90
FC6238-2	6Q18354.D	109	112	113	112	105	107	102	95
FC6238-3	6Q18355.D	4* a	25	101	116	107	113	112	107
FC6238-4	6Q18357.D	99	98	99	102	97	97	106	88
FC6238-5	6Q18360.D	93	110	111	117	107	101	114	108
OP97007-BS	6Q18348.D	26	105	114	118	119	121	112	113
OP97007-DUP	6Q18361.D	97	110	113	111	104	113	105	98
OP97007-LLBS	6Q18349.D	106	107	107	107	111	109	110	106
OP97007-MB	6Q18350.D	112	113	108	120	118	104	119	106
OP97007-MS	6Q18415.D	3*	21	88	107	99	101	103	100
S6Q276-IBLK	6Q18337.D	99	103	103	105	104	99	98	106
S6Q276-IBLK	6Q18381.D	100	102	102	100	94	99	107	103
S6Q276-ICCB	6Q18347.D	99	99	102	100	97	96	106	102
S6Q276-ICCB	6Q18359.D	100	103	102	102	100	96	104	106
S6Q276-ICCB	6Q18371.D	99	105	112	110	101	96	104	105
S6Q276-ICCB	6Q18408.D	100	102	102	106	96	100	102	106

Isotope Dilution Standards **Recovery Limits**

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

(a) Outside control limits.

6.8.1
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Isotope Dilution Standard Recovery Summary

Job Number: FC6238
 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
FC6238-1	6Q18353.D	73	66	111	112	106	98	78	82
FC6238-2	6Q18354.D	90	91	106	112	100	82	82	93
FC6238-3	6Q18355.D	96	78	101	108	92	76	80	85
FC6238-4	6Q18357.D	82	79	97	101	91	67	66	71
FC6238-5	6Q18360.D	90	80	111	113	104	97	87	87
OP97007-BS	6Q18348.D	107	107	122	123	126	95	93	103
OP97007-DUP	6Q18361.D	85	72	113	112	96	89	79	82
OP97007-LLBS	6Q18349.D	99	98	105	108	112	68	67	73
OP97007-MB	6Q18350.D	105	103	111	110	112	86	82	90
OP97007-MS	6Q18415.D	88	75	85	97	85	92	91	99
S6Q276-IBLK	6Q18337.D	97	103	104	106	103	102	97	97
S6Q276-IBLK	6Q18381.D	102	103	101	101	107	99	93	97
S6Q276-ICCB	6Q18347.D	101	104	98	101	103	105	97	103
S6Q276-ICCB	6Q18359.D	100	107	95	97	102	101	97	101
S6Q276-ICCB	6Q18371.D	97	103	95	95	104	103	96	104
S6Q276-ICCB	6Q18408.D	95	100	100	101	104	104		

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

Isotope Dilution Standard Recovery Summary

Job Number: FC6238
 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
FC6238-1	6Q18353.D	108	105	78	83	122	97	93	99
FC6238-2	6Q18354.D	110	100	82	94	128	118	105	106
FC6238-3	6Q18355.D	132	138	66	76	127	125	116	93
FC6238-4	6Q18357.D	88	94	64	76	112	110	104	98
FC6238-5	6Q18360.D	142	148	87	99	170	152	130	103
OP97007-BS	6Q18348.D	136	123	82	98	142	134	129	113
OP97007-DUP	6Q18361.D	138	140	77	90	173	155	126	100
OP97007-LLBS	6Q18349.D	121	120	59	70	121	124	116	104
OP97007-MB	6Q18350.D	126	110	83	94	122	125	115	106
OP97007-MS	6Q18415.D	170*	177*	71	80	90	108	112	80
S6Q276-IBLK	6Q18337.D	113	107	98	104	117	113	108	103
S6Q276-IBLK	6Q18381.D	108	103	98	98	112	105	104	101
S6Q276-ICCB	6Q18347.D	118	107	101	105	117	110	104	99
S6Q276-ICCB	6Q18359.D	119	108	101	104	109	107	101	99
S6Q276-ICCB	6Q18371.D	115	105	98	103	116	105	104	101
S6Q276-ICCB	6Q18408.D	115	109			115	110	111	

Isotope Dilution Standards **Recovery Limits**

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

6.8.1

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Initial Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICC275
 Lab FileID: 6Q18230A.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods	Level Name	Calibration Files	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
Method File	D:\MassHunter\Methods	1	D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d	Avg RF	0.3679	0.3710	0.3787	0.3736	0.4160	0.4112	0.4081	0.3925	0.3899	5.040
Batch Name	D:\MassHunter\Data\052323_1633_S6Q275\quantmethod.xml	2	D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d	Avg RF	0.6907	0.6964	0.7167	0.6874	0.7619	0.7573	0.7576	0.7319	0.7250	4.357
Last Calib Update	5/24/2023 11:32:28 AM	3	D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d	Avg RF	0.0917	0.0961	0.0952	0.0903	0.1010	0.1023	0.1016	0.0998	0.0973	4.736
		4	D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d	Avg RF	1.2716	1.2887	1.3368	1.2861	1.4324	1.4177	1.4078	1.3449	1.3482	4.764
		5	D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d	Avg RF	0.9043	0.9071	0.9422	0.9069	1.0123	1.0006	0.9899	0.9602	0.9529	4.679
		6	D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d	Avg RF	0.1132	0.1195	0.1207	0.1111	0.1267	0.1284	0.1243	0.1152	0.1199	5.292
		7	D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d	Avg RF	0.9888	0.9396	0.9267	0.8890	1.0464	1.0137	1.0343	0.9246	0.9704	5.988
		8	D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d	Avg RF	1.2058	1.2308	1.2879	1.2397	1.3875	1.3376	1.4388	1.3105	1.3048	6.191
Compound				Avg RF	0.1845	0.1783	0.1748	0.1648	0.1856	0.1825	0.1804	0.1753	0.1783	3.785
I M4-PFBA				Avg RF	0.1163	0.1089	0.1165	0.1096	0.1194	0.1183	0.1188	0.1139	0.1152	3.534
T PFBA				Avg RF	1.2200	1.2784	1.2309	1.2251	1.4385	1.3381	1.2733	1.3079	1.2890	5.694
I M5-PFPeA				Avg RF	1.0761	1.1677	1.1662	1.1179	1.2350	1.1469	1.2089	1.2330	1.1690	4.773
T PFMPA				Avg RF	0.9224	1.0079	0.9801	1.0356	1.1162	1.0711	1.0959	1.0269	1.0320	6.132
T 3:3FTCA				Avg RF	1.6474	1.5724	1.6302	1.6612	1.7721	1.7960	1.7589	1.7908	1.7036	5.033
T PFPeA				Avg RF	0.7401	0.9008	0.9048	0.8834	0.9775	0.9427	0.9274	0.8712	0.8935	7.908
T PFMB A				Avg RF										
I M5-PFHxA				Avg RF										
T NFDHA				Avg RF										
T PFHxA				Avg RF										
T PFEEA				Avg RF										
T 5:3FTCA				Avg RF										
T 7:3FTCA				Avg RF										
I M4-PFHpA				Avg RF										
T PFHpA				Avg RF										
I M8-PFOA				Avg RF										
T PFOA				Avg RF										
I M9-PFNA				Avg RF										
T PFNA				Avg RF										
I M6-PFDA				Avg RF										
T PFDA				Avg RF										
I M7-PFUnDA				Avg RF										
T PFUnDA				Avg RF										
I M2-PFDaDA				Avg RF										

Initial Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICC275
 Lab FileID: 6Q18230A.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	1.0935	1.0062	1.0056	0.9608	1.0484	1.0452	0.9779	0.9032	0.9926	6.921
T PFTIDA	Avg RF	0.9623	0.9542	0.9258	0.9668	1.0537	1.0449	0.9879	0.8467	0.9678	6.808
I M2-PFTeDA	Avg RF	1.4816	1.4406	1.3493	1.4590	1.5563	1.4746	1.5147	1.4046	1.4601	4.381
T PFTeDA	Avg RF										
I M8-FOSA	Avg RF	0.9004	0.9595	0.9575	0.9315	1.0225	1.0336	0.9948	0.9748	0.9718	4.603
T FOSA	Avg RF										
I M3-PFBS	Avg RF	0.9333	0.9769	0.9285	0.8810	1.0028	0.9698	1.0268	0.9404	0.9575	4.827
T PFBS	Avg RF										
I M3-PFHxS	Avg RF	1.2632	1.2392	1.3594	1.2390	1.3610	1.3628	1.4188	1.3874	1.3288	5.327
T PFPeS	Avg RF	1.3673	1.3678	1.3282	1.2708	1.3824	1.3525	1.3664	1.3984	1.3542	2.914
T PFHxS	Avg RF										
I M8-PFOS	Avg RF	1.2610	1.2520	1.4033	1.3796	1.4581	1.3771	1.3620	1.4075	1.3626	5.251
T PFHpS	Avg RF	1.1857	1.3178	1.3876	1.3302	1.3534	1.3883	1.2816	1.3694	1.3268	5.099
T PFOs	Avg RF	1.0944	1.1037	1.1565	1.1067	1.2712	1.2296	1.1861	1.2605	1.1761	6.119
T PFNS	Avg RF	0.6632	0.7194	0.7059	0.6451	0.7415	0.7402	0.6777	0.7218	0.7018	5.128
T PFDS	Avg RF	0.2673	0.3090	0.2953	0.2763	0.3197	0.3043	0.2915	0.3155	0.2974	6.226
T PFDoDS	Avg RF										
I M2-4:2FTS	Avg RF	8.6764	8.7100	9.0340	9.1660	9.8382	9.6800	9.3525	8.8182	9.1594	4.771
T 4:2FTS	Avg RF										
I M2-6:2FTS	Avg RF	5.5301	5.7725	5.3553	5.6217	6.3645	6.0245	5.6713	4.8745	5.6518	7.826
T 6:2FTS	Avg RF										
I M2-8:2FTS	Avg RF	2.9674	3.3984	3.0265	2.8041	3.3129	3.1800	3.0290	2.3569	3.0094	10.825
T 8:2FTS	Avg RF										
I M3-MeFOSAA	Avg RF	1.0645	1.1118	1.2916	1.2382	1.2876	1.2647	1.2553	1.2010	1.2143	6.908
T MeFOSAA	Avg RF										
I M3-HFO-DA	Avg RF	0.9446	0.9784	0.9474	0.9383	1.0797	1.0238	1.0027	0.9348	0.9812	5.233
T HFO-DA	Avg RF	14.37	14.21	14.73	14.29	16.52	14.60	14.84	14.39	14.74	5.095
T ADONA	Avg RF	6.7294	6.2188	6.0602	6.1373	7.1753	6.4263	6.4332	6.1619	6.4178	5.839
T 9Cl-PF3ONS	Avg RF	3.7705	3.9346	3.6220	3.8276	4.2661	3.9308	3.8527	3.5433	3.8434	5.729
T 11Cl-PF3OUds	Avg RF										
I M5-EFOSAA	Avg RF	0.7249	0.6878	0.7491	0.7076	0.8670	0.8059	0.8007	0.7573	0.7625	7.757
T EFOSAA	Avg RF										
I M7-MeFOSE	Avg RF	0.9968	1.0772	1.0990	1.0616	1.2122	1.1616	1.1262	1.1507	1.1107	6.027
T MeFOSE	Avg RF										
I M9-EFOSE	Avg RF	1.1156	1.1715	1.1889	1.1337	1.2961	1.3048	1.2893	1.2028	1.2128	6.182
T EFOSE	Avg RF										

Generated at 11:32 AM on 5/24/2023

Page 2 of 4

Initial Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICC275
 Lab FileID: 6Q18230A.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-EFOSA											
T EFOSA	Avg RF	1.1422	1.2497	1.2317	1.1942	1.3315	1.3566	1.2893	1.2386	1.2542	5.605
I M3-MeFOSA											
T MeFOSA	Avg RF	1.1104	1.0330	1.0743	1.0551	1.0790	1.0883	1.1040	0.9416	1.0607	5.115
I 13C4-PFOS											
S d3-MeFOSAA	Linear	0.7793	0.7495	0.7068	0.7368	0.7417	0.7621	0.7406	0.7294	0.7433	2.908
S 13C8-PFOS	Linear	0.7946	0.7320	0.7155	0.8166	0.7375	0.7922	0.8241	0.7773	0.7737	5.266
S d5-EFOSAA	Linear	0.7376	0.6909	0.6797	0.7476	0.6328	0.7069	0.6664	0.7279	0.6987	5.581
S 13C8-FOSA	Linear	1.9297	1.7580	1.7369	1.8546	1.7330	1.7676	1.8054	1.8013	1.7983	3.706
S d7-MeFOSE	Linear	0.6431	0.5958	0.6072	0.6348	0.5800	0.6173	0.6065	0.5885	0.6092	3.588
S d3-MeFOSA	Linear	0.7617	0.7485	0.7389	0.7773	0.7820	0.7958	0.7839	0.8808	0.7836	5.574
S d9-EFOSE	Linear	0.8060	0.7750	0.7531	0.7979	0.7297	0.7488	0.7305	0.7221	0.7579	4.215
S d5-EFOSA	Linear	0.7895	0.7379	0.7556	0.7840	0.7183	0.7460	0.7728	0.7862	0.7613	3.412
I 13C3-PFBA											
S 13C4-PFBA	Linear	1.1920	1.2003	1.1879	1.1936	1.1884	1.1886	1.1902	1.1767	1.1897	0.556
I 1802-PFHxS											
S 13C2-4:2FTS	Linear	0.1562	0.1604	0.1541	0.1581	0.1536	0.1449	0.1447	0.1288	0.1501	6.865
S 13C3-PFBS	Linear	2.3041	2.2807	2.3573	2.4202	2.3421	2.3113	2.3319	2.2660	2.3267	2.086
S 13C2-6:2FTS	Linear	0.2460	0.2290	0.2479	0.2385	0.2283	0.2157	0.2219	0.2105	0.2297	5.943
S 13C3-PFHxS	Linear	1.3273	1.3582	1.3794	1.4300	1.3971	1.3658	1.3665	1.3147	1.3686	2.576
S 13C2-8:2FTS	Linear	0.2194	0.2217	0.2450	0.2530	0.2289	0.2265	0.2333	0.2383	0.2333	4.981
I 13C4-PFOA											
S 13C8-PFOA	Linear	0.9984	0.9649	0.9347	0.9827	0.9677	0.9984	0.9455	0.9609	0.9692	2.381
I 13C2-PFDA											
S 13C6-PFDA	Linear	0.8058	0.7338	0.7917	0.7638	0.7470	0.7159	0.7791	0.6912	0.7535	5.185
S 13C7-PFUDA	Linear	1.0327	0.9336	0.9927	0.9635	0.9322	0.9339	1.0442	0.8863	0.9649	5.656
S 13C2-PFDODA	Linear	0.8872	0.8449	0.9337	0.8800	0.8641	0.8451	0.9576	0.8926	0.8881	4.523
S 13C2-PFTeDA	Linear	0.4746	0.4265	0.4972	0.4306	0.4445	0.4475	0.4758	0.4382	0.4544	5.548
I 13C5-PFNA											
S 13C9-PFNA	Linear	0.8653	0.8068	0.8384	0.7990	0.8388	0.8565	0.7571	0.8373	0.8249	4.286
I 13C2-PFHxA											
S 13C5-PPeA	Linear	0.4801	0.4666	0.4700	0.4762	0.4968	0.4775	0.4581	0.4828	0.4760	2.440
S 13C5-PFHxA	Linear	1.0298	0.9931	0.9998	1.0236	1.0499	1.0305	0.9644	1.0446	1.0170	2.848
S 13C3-HPOD-A	Linear	0.1623	0.1614	0.1671	0.1609	0.1669	0.1729	0.1689	0.1795	0.1675	3.810
S 13C4-PFHpA	Linear	0.9565	0.9298	0.9519	0.9478	0.9744	0.9746	0.9617	0.9680	0.9581	1.577

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

Initial Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICC275
 Lab FileID: 6Q18230A.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 = 1.189725 * x	
S 13C5-PFPeA	Linear	y = 0.475996 * x	
S 13C2-4:2FTS	Linear	y = 0.150100 * x	
S 13C3-PFBS	Linear	y = 2.326692 * x	
S 13C5-PFHxA	Linear	y = 1.016979 * x	
S 13C3-HFPO-DA	Linear	y = 0.167494 * x	
S 13C4-PFHpA	Linear	y = 0.958093 * x	
S 13C8-PFOA	Linear	y = 0.229731 * x	
S 13C3-PFHxS	Linear	y = 0.969151 * x	
S 13C9-PFNA	Linear	y = 1.368630 * x	
S 13C2-8:2FTS	Linear	y = 0.824915 * x	
S 13C6-PEDA	Linear	y = 0.233268 * x	
S d3-MeFOSAA	Linear	y = 0.753540 * x	
S 13C8-PFOS	Linear	y = 0.743262 * x	
S d5-EFOSAA	Linear	y = 0.773717 * x	
S 13C7-PFUInDA	Linear	y = 0.698735 * x	
S 13C2-PFDODA	Linear	y = 0.964885 * x	
S 13C8-FOSA	Linear	y = 0.888124 * x	
S 13C2-PFTeDA	Linear	y = 1.798305 * x	
S d7-MeFOSE	Linear	y = 0.454372 * x	
S d3-MeFOSA	Linear	y = 0.609152 * x	
S d9-EFOSE	Linear	y = 0.783630 * x	
S d5-EFOSA	Linear	y = 0.757867 * x	
S d5-EFOSA	Linear	y = 0.761281 * x	

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

Initial Calibration Verification

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICV275
 Lab FileID: 6Q18236A.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q275.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18236a
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.258	5.2	105.2
13C2-6:2FTS	5.000	4.978	-0.4	99.6
13C2-8:2FTS	5.000	5.068	1.4	101.4
13C2-PFDoDA	1.250	1.252	0.2	100.2
13C2-PFTeDA	1.250	1.301	4.1	104.1
13C3-PFBS	2.500	2.488	-0.5	99.5
13C3-PFHxS	2.500	2.472	-1.1	98.9
13C4-PFBA	10.000	10.062	0.6	100.6
13C4-PFHpA	2.500	2.599	4.0	104.0
13C5-PFHxA	2.500	2.550	2.0	102.0
13C5-PFPeA	5.000	5.098	2.0	102.0
13C6-PFDA	1.250	1.334	6.8	106.8
13C7-PFUnDA	1.250	1.261	0.9	100.9
13C8-FOSA	2.500	2.659	6.4	106.4
13C8-PFOA	2.500	2.550	2.0	102.0
13C8-PFOS	2.500	2.627	5.1	105.1
13C9-PFNA	1.250	1.225	-2.0	98.0
4:2FTS	9.375	8.233	-12.2	87.8
6:2FTS	9.500	8.739	-8.0	92.0
8:2FTS	9.600	8.169	-14.9	85.1
d3-MeFOSAA	5.000	5.207	4.1	104.1
EtFOSAA	2.500	2.156	-13.8	86.2
FOSA	2.500	2.163	-13.5	86.5
MeFOSAA	2.500	2.312	-7.5	92.5
PFBA	10.000	8.800	-12.0	88.0
PFBS	2.218	1.851	-16.5	83.5
PFDA	2.500	2.062	-17.5	82.5
PFDoDA	2.500	2.204	-11.8	88.2
PFDS	2.413	2.096	-13.2	86.8
PFHpA	2.500	2.150	-14.0	86.0
PFHpS	2.383	2.011	-15.6	84.4
PFHxA	2.500	2.097	-16.1	83.9
PFHxS	2.285	1.953	-14.5	85.5
PFNA	2.500	2.024	-19.1	80.9
PFNS	2.405	2.125	-11.6	88.4
PFOA	2.500	2.259	-9.6	90.4
PFOS	2.320	2.081	-10.3	89.7

Initial Calibration Verification

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICV275
 Lab FileID: 6Q18236A.D

PFPeA	5.000	4.346	-13.1	86.9
PFPeS	2.353	2.122	-9.8	90.2
PFTeDA	2.500	2.027	-18.9	81.1
PFTTrDA	2.500	2.241	-10.4	89.6
PFUnDA	2.500	2.357	-5.7	94.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.188	-11.4	88.6
13C3-HFPO-DA	10.000	10.034	0.3	100.3
9C1-PF3ONS	4.675	4.398	-5.9	94.1
ADONA	4.725	4.074	-13.8	86.2
HFPO-DA	5.000	4.242	-15.2	84.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	10.301	-17.5	82.5
5:3FTCA	62.400	54.802	-12.2	87.8
7:3FTCA	62.400	57.140	-8.4	91.6
d3-MeFOSA	2.500	2.602	4.1	104.1
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.350	-13.0	87.0
EtFOSE	12.500	11.338	-9.3	90.7
MeFOSA	5.000	4.330	-13.4	86.6
MeFOSE	12.500	10.678	-14.6	85.4
PFDoDS	2.425	2.145	-11.5	88.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.191	3.8	103.8
d7-MeFOSE	25.000	25.957	3.8	103.8
d9-EtFOSE	25.000	25.500	2.0	102.0
d5-EtFOSA	2.500	2.610	4.4	104.4
NFDHA	5.000	4.003	-19.9	80.1
PFMBA	5.000	4.184	-16.3	83.7
PFMPA	5.000	4.149	-17.0	83.0
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	3.738	-16.0	84.0

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICV275
 Lab FileID: 6Q18237A.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q275.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18237a
 Type : QC
 Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.028	0.6	100.6
13C2-6:2FTS	5.000	4.987	-0.3	99.7
13C2-8:2FTS	5.000	4.978	-0.4	99.6
13C2-PFDoDA	1.250	1.251	0.1	100.1
13C2-PFTeDA	1.250	1.165	-6.8	93.2
13C3-PFBS	2.500	2.333	-6.7	93.3
13C3-PFHxS	2.500	2.512	0.5	100.5
13C4-PFBA	10.000	10.043	0.4	100.4
13C4-PFHpA	2.500	2.447	-2.1	97.9
13C5-PFHxA	2.500	2.465	-1.4	98.6
13C5-PFPeA	5.000	5.002	0.0	100.0
13C6-PFDA	1.250	1.231	-1.5	98.5
13C7-PFUnDA	1.250	1.223	-2.2	97.8
13C8-FOSA	2.500	2.526	1.0	101.0
13C8-PFOA	2.500	2.447	-2.1	97.9
13C8-PFOS	2.500	2.397	-4.1	95.9
13C9-PFNA	1.250	1.350	8.0	108.0
4:2FTS	20.000	22.174	10.9	110.9
6:2FTS	20.000	21.918	9.6	109.6
8:2FTS	20.000	21.280	6.4	106.4
d3-MeFOSAA	5.000	5.188	3.8	103.8
EtFOSAA	20.000	22.105	10.5	110.5
FOSA	20.000	23.176	15.9	115.9
MeFOSAA	20.000	22.167	10.8	110.8
PFBA	20.000	21.139	5.7	105.7
PFBS	20.000	23.448	17.2	117.2
PFDA	20.000	22.012	10.1	110.1
PFDoDA	20.000	18.526	-7.4	92.6
PFDS	20.000	23.929	19.6	119.6
PFHpA	20.000	21.145	5.7	105.7
PFHpS	20.000	23.277	16.4	116.4
PFHxA	20.000	22.199	11.0	111.0
PFHxS	20.000	22.283	11.4	111.4
PFNA	20.000	23.484	17.4	117.4
PFNS	20.000	24.503	22.5	122.5
PFOA	20.000	22.283	11.4	111.4
PFOS	20.000	20.095	0.5	100.5

Initial Calibration Verification

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q275-ICV275
 Lab FileID: 6Q18237A.D

PFPeA	20.000	23.106	15.5	115.5
PFPeS	20.000	22.142	10.7	110.7
PFTeDA	20.000	22.922	14.6	114.6
PFTTrDA	20.000	19.060	-4.7	95.3
PFUnDA	20.000	21.099	5.5	105.5
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	20.000	21.955	9.8	109.8
13C3-HFPO-DA	10.000	10.129	1.3	101.3
9C1-PF3ONS	20.000	20.593	3.0	103.0
ADONA	20.000	20.849	4.2	104.2
HFPO-DA	20.000	19.661	-1.7	98.3
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	20.787	3.9	103.9
5:3FTCA	20.000	22.772	13.9	113.9
7:3FTCA	20.000	21.228	6.1	106.1
d3-MeFOSA	2.500	2.583	3.3	103.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	20.460	2.3	102.3
EtFOSE	100.000	116.968	17.0	117.0
MeFOSA	20.000	19.812	-0.9	99.1
MeFOSE	100.000	108.764	8.8	108.8
PFDODS	20.000	21.448	7.2	107.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.101	2.0	102.0
d7-MeFOSE	25.000	24.846	-0.6	99.4
d9-EtFOSE	25.000	25.984	3.9	103.9
d5-EtFOSA	2.500	2.587	3.5	103.5
NFDHA	20.000	21.745	8.7	108.7
PFMBA	20.000	21.586	7.9	107.9
PFMPA	20.000	21.762	8.8	108.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	18.763	-6.2	93.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18339.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18339
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.597	11.9	111.9
13C2-6:2FTS	5.000	5.626	12.5	112.5
13C2-8:2FTS	5.000	5.183	3.7	103.7
13C2-PFDoDA	1.250	1.208	-3.4	96.6
13C2-PFTeDA	1.250	1.305	4.4	104.4
13C3-PFBS	2.500	2.373	-5.1	94.9
13C3-PFHxS	2.500	2.428	-2.9	97.1
13C4-PFBA	10.000	9.986	-0.1	99.9
13C4-PFHpA	2.500	2.680	7.2	107.2
13C5-PFHxA	2.500	2.527	1.1	101.1
13C5-PFPeA	5.000	5.151	3.0	103.0
13C6-PFDA	1.250	1.288	3.0	103.0
13C7-PFUnDA	1.250	1.309	4.7	104.7
13C8-FOSA	2.500	2.499	0.0	100.0
13C8-PFOA	2.500	2.492	-0.3	99.7
13C8-PFOS	2.500	2.490	-0.4	99.6
13C9-PFNA	1.250	1.251	0.1	100.1
4:2FTS	0.750	0.647	-13.7	86.3
6:2FTS	0.760	0.673	-11.5	88.5
8:2FTS	0.768	0.782	1.9	101.9
d3-MeFOSAA	5.000	5.429	8.6	108.6
EtFOSAA	0.200	0.223	11.6	111.6
FOSA	0.200	0.190	-5.1	94.9
MeFOSAA	0.200	0.199	-0.4	99.6
PFBA	0.800	0.723	-9.6	90.4
PFBS	0.177	0.164	-7.4	92.6
PFDA	0.200	0.204	2.0	102.0
PFDoDA	0.200	0.227	13.3	113.3
PFDS	0.193	0.175	-9.3	90.7
PFHpA	0.200	0.182	-8.9	91.1
PFHpS	0.191	0.179	-6.2	93.8
PFHxA	0.200	0.181	-9.6	90.4
PFHxS	0.183	0.175	-4.2	95.8
PFNA	0.200	0.171	-14.6	85.4
PFNS	0.192	0.179	-6.9	93.1
PFOA	0.200	0.244	22.1	122.1
PFOS	0.186	0.183	-1.6	98.4

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18339.D

PFPeA	0.400	0.358	-10.5	89.5
PFPeS	0.188	0.182	-3.3	96.7
PFTeDA	0.200	0.174	-13.1	86.9
PFTTrDA	0.200	0.181	-9.3	90.7
PFUnDA	0.200	0.163	-18.6	81.4
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	0.378	0.353	-6.7	93.3
13C3-HFPO-DA	10.000	10.036	0.4	100.4
9C1-PF3ONS	0.367	0.347	-5.6	94.4
ADONA	0.378	0.352	-6.8	93.2
HFPO-DA	0.400	0.377	-5.8	94.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.875	-12.4	87.6
5:3FTCA	4.992	4.834	-3.2	96.8
7:3FTCA	4.992	4.829	-3.3	96.7
d3-MeFOSA	2.500	2.214	-11.4	88.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.398	-0.4	99.6
EtFOSE	1.000	0.966	-3.4	96.6
MeFOSA	0.400	0.395	-1.2	98.8
MeFOSE	1.000	0.947	-5.3	94.7
PFDODS	0.194	0.179	-7.9	92.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.948	-1.0	99.0
d7-MeFOSE	25.000	23.803	-4.8	95.2
d9-EtFOSE	25.000	23.875	-4.5	95.5
d5-EtFOSA	2.500	2.341	-6.4	93.6
NFDHA	0.400	0.378	-5.5	94.5
PFMBA	0.400	0.348	-13.0	87.0
PFMPA	0.400	0.352	-12.1	87.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.329	-7.5	92.5

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18346.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18346
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.712	14.2	114.2
13C2-6:2FTS	5.000	5.494	9.9	109.9
13C2-8:2FTS	5.000	5.532	10.6	110.6
13C2-PFDoDA	1.250	1.210	-3.2	96.8
13C2-PFTeDA	1.250	1.284	2.7	102.7
13C3-PFBS	2.500	2.511	0.4	100.4
13C3-PFHxS	2.500	2.413	-3.5	96.5
13C4-PFBA	10.000	9.946	-0.5	99.5
13C4-PFHpA	2.500	2.618	4.7	104.7
13C5-PFHxA	2.500	2.546	1.8	101.8
13C5-PFPeA	5.000	5.117	2.3	102.3
13C6-PFDA	1.250	1.230	-1.6	98.4
13C7-PFUnDA	1.250	1.273	1.8	101.8
13C8-FOSA	2.500	2.653	6.1	106.1
13C8-PFOA	2.500	2.557	2.3	102.3
13C8-PFOS	2.500	2.651	6.1	106.1
13C9-PFNA	1.250	1.200	-4.0	96.0
4:2FTS	9.375	8.440	-10.0	90.0
6:2FTS	9.500	9.226	-2.9	97.1
8:2FTS	9.600	9.410	-2.0	98.0
d3-MeFOSAA	5.000	5.596	11.9	111.9
EtFOSAA	2.500	2.435	-2.6	97.4
FOSA	2.500	2.397	-4.1	95.9
MeFOSAA	2.500	2.342	-6.3	93.7
PFBA	10.000	9.642	-3.6	96.4
PFBS	2.218	2.022	-8.8	91.2
PFDA	2.500	2.328	-6.9	93.1
PFDoDA	2.500	2.514	0.6	100.6
PFDS	2.413	2.265	-6.1	93.9
PFHpA	2.500	2.231	-10.8	89.2
PFHpS	2.383	2.284	-4.2	95.8
PFHxA	2.500	2.375	-5.0	95.0
PFHxS	2.285	2.228	-2.5	97.5
PFNA	2.500	2.408	-3.7	96.3
PFNS	2.405	2.206	-8.3	91.7
PFOA	2.500	2.393	-4.3	95.7
PFOS	2.320	2.229	-3.9	96.1

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18346.D

PFPeA	5.000	4.830	-3.4	96.6
PFPeS	2.353	2.295	-2.5	97.5
PFTeDA	2.500	2.236	-10.6	89.4
PFTrDA	2.500	2.538	1.5	101.5
PFUnDA	2.500	2.468	-1.3	98.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.843	2.5	102.5
13C3-HFPO-DA	10.000	9.778	-2.2	97.8
9C1-PF3ONS	4.675	4.960	6.1	106.1
ADONA	4.725	4.724	0.0	100.0
HFPO-DA	5.000	5.046	0.9	100.9
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.376	-8.8	91.2
5:3FTCA	62.400	57.706	-7.5	92.5
7:3FTCA	62.400	60.936	-2.3	97.7
d3-MeFOSA	2.500	2.472	-1.1	98.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.541	-9.2	90.8
EtFOSE	12.500	12.692	1.5	101.5
MeFOSA	5.000	4.763	-4.7	95.3
MeFOSE	12.500	12.358	-1.1	98.9
PFDoDS	2.425	2.370	-2.3	97.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.700	14.0	114.0
d7-MeFOSE	25.000	25.111	0.4	100.4
d9-EtFOSE	25.000	25.598	2.4	102.4
d5-EtFOSA	2.500	2.664	6.6	106.6
NFDHA	5.000	4.891	-2.2	97.8
PFMBA	5.000	4.754	-4.9	95.1
PFMPA	5.000	4.766	-4.7	95.3
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.145	-6.9	93.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18358.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18358
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.298	6.0	106.0
13C2-6:2FTS	5.000	5.110	2.2	102.2
13C2-8:2FTS	5.000	5.105	2.1	102.1
13C2-PFDoDA	1.250	1.178	-5.8	94.2
13C2-PFTeDA	1.250	1.207	-3.5	96.5
13C3-PFBS	2.500	2.305	-7.8	92.2
13C3-PFHxS	2.500	2.329	-6.8	93.2
13C4-PFBA	10.000	9.865	-1.4	98.6
13C4-PFHpA	2.500	2.517	0.7	100.7
13C5-PFHxA	2.500	2.557	2.3	102.3
13C5-PFPeA	5.000	4.988	-0.2	99.8
13C6-PFDA	1.250	1.194	-4.5	95.5
13C7-PFUnDA	1.250	1.201	-3.9	96.1
13C8-FOSA	2.500	2.557	2.3	102.3
13C8-PFOA	2.500	2.460	-1.6	98.4
13C8-PFOS	2.500	2.657	6.3	106.3
13C9-PFNA	1.250	1.214	-2.9	97.1
4:2FTS	9.375	9.019	-3.8	96.2
6:2FTS	9.500	9.617	1.2	101.2
8:2FTS	9.600	9.884	3.0	103.0
d3-MeFOSAA	5.000	5.108	2.2	102.2
EtFOSAA	2.500	2.514	0.6	100.6
FOSA	2.500	2.329	-6.8	93.2
MeFOSAA	2.500	2.435	-2.6	97.4
PFBA	10.000	9.621	-3.8	96.2
PFBS	2.218	2.187	-1.4	98.6
PFDA	2.500	2.439	-2.5	97.5
PFDoDA	2.500	2.496	-0.1	99.9
PFDS	2.413	2.193	-9.1	90.9
PFHpA	2.500	2.303	-7.9	92.1
PFHpS	2.383	2.134	-10.5	89.5
PFHxA	2.500	2.307	-7.7	92.3
PFHxS	2.285	2.170	-5.0	95.0
PFNA	2.500	2.398	-4.1	95.9
PFNS	2.405	2.090	-13.1	86.9
PFOA	2.500	2.535	1.4	101.4
PFOS	2.320	2.162	-6.8	93.2

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18358.D

PFPeA	5.000	4.823	-3.5	96.5
PFPeS	2.353	2.303	-2.1	97.9
PFTeDA	2.500	2.403	-3.9	96.1
PFTTrDA	2.500	2.498	-0.1	99.9
PFUnDA	2.500	2.605	4.2	104.2
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.681	-0.9	99.1
13C3-HFPO-DA	10.000	9.727	-2.7	97.3
9C1-PF3ONS	4.675	4.618	-1.2	98.8
ADONA	4.725	4.638	-1.8	98.2
HFPO-DA	5.000	4.742	-5.2	94.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.226	-10.0	90.0
5:3FTCA	62.400	56.745	-9.1	90.9
7:3FTCA	62.400	58.310	-6.6	93.4
d3-MeFOSA	2.500	2.313	-7.5	92.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.749	-5.0	95.0
EtFOSE	12.500	12.046	-3.6	96.4
MeFOSA	5.000	4.989	-0.2	99.8
MeFOSE	12.500	12.211	-2.3	97.7
PFDODS	2.425	2.344	-3.4	96.6
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.951	-1.0	99.0
d7-MeFOSE	25.000	24.697	-1.2	98.8
d9-EtFOSE	25.000	24.829	-0.7	99.3
d5-EtFOSA	2.500	2.483	-0.7	99.3
NFDHA	5.000	4.698	-6.0	94.0
PFMBA	5.000	4.723	-5.5	94.5
PFMPA	5.000	4.725	-5.5	94.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.083	-8.3	91.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18369.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18369
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.557	11.1	111.1
13C2-6:2FTS	5.000	5.435	8.7	108.7
13C2-8:2FTS	5.000	5.392	7.8	107.8
13C2-PFDoDA	1.250	1.163	-6.9	93.1
13C2-PFTeDA	1.250	1.251	0.1	100.1
13C3-PFBS	2.500	2.523	0.9	100.9
13C3-PFHxS	2.500	2.656	6.3	106.3
13C4-PFBA	10.000	9.903	-1.0	99.0
13C4-PFHpA	2.500	2.563	2.5	102.5
13C5-PFHxA	2.500	2.533	1.3	101.3
13C5-PFPeA	5.000	5.134	2.7	102.7
13C6-PFDA	1.250	1.263	1.0	101.0
13C7-PFUnDA	1.250	1.323	5.9	105.9
13C8-FOSA	2.500	2.489	-0.4	99.6
13C8-PFOA	2.500	2.581	3.2	103.2
13C8-PFOS	2.500	2.437	-2.5	97.5
13C9-PFNA	1.250	1.285	2.8	102.8
4:2FTS	9.375	8.941	-4.6	95.4
6:2FTS	9.500	9.790	3.0	103.0
8:2FTS	9.600	10.590	10.3	110.3
d3-MeFOSAA	5.000	5.665	13.3	113.3
EtFOSAA	2.500	2.401	-3.9	96.1
FOSA	2.500	2.441	-2.3	97.7
MeFOSAA	2.500	2.124	-15.0	85.0
PFBA	10.000	9.718	-2.8	97.2
PFBS	2.218	2.152	-3.0	97.0
PFDA	2.500	2.303	-7.9	92.1
PFDoDA	2.500	2.483	-0.7	99.3
PFDS	2.413	2.428	0.6	100.6
PFHpA	2.500	2.267	-9.3	90.7
PFHpS	2.383	2.280	-4.3	95.7
PFHxA	2.500	2.389	-4.4	95.6
PFHxS	2.285	2.159	-5.5	94.5
PFNA	2.500	2.187	-12.5	87.5
PFNS	2.405	2.345	-2.5	97.5
PFOA	2.500	2.333	-6.7	93.3
PFOS	2.320	2.316	-0.2	99.8

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18369.D

PFPeA	5.000	4.755	-4.9	95.1
PFPeS	2.353	2.270	-3.5	96.5
PFTeDA	2.500	2.228	-10.9	89.1
PFTTrDA	2.500	2.535	1.4	101.4
PFUnDA	2.500	2.250	-10.0	90.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.628	-2.0	98.0
13C3-HFPO-DA	10.000	10.006	0.1	100.1
9C1-PF3ONS	4.675	4.765	1.9	101.9
ADONA	4.725	4.612	-2.4	97.6
HFPO-DA	5.000	4.742	-5.2	94.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.219	-10.1	89.9
5:3FTCA	62.400	59.279	-5.0	95.0
7:3FTCA	62.400	62.964	0.9	100.9
d3-MeFOSA	2.500	2.399	-4.0	96.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.012	0.2	100.2
EtFOSE	12.500	12.619	1.0	101.0
MeFOSA	5.000	4.885	-2.3	97.7
MeFOSE	12.500	12.150	-2.8	97.2
PFDODS	2.425	2.424	0.0	100.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.154	3.1	103.1
d7-MeFOSE	25.000	24.881	-0.5	99.5
d9-EtFOSE	25.000	23.909	-4.4	95.6
d5-EtFOSA	2.500	2.400	-4.0	96.0
NFDHA	5.000	4.868	-2.6	97.4
PFMBA	5.000	4.730	-5.4	94.6
PFMPA	5.000	4.680	-6.4	93.6
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.167	-6.4	93.6

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18370.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18370
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.813	16.3	116.3
13C2-6:2FTS	5.000	5.559	11.2	111.2
13C2-8:2FTS	5.000	5.247	4.9	104.9
13C2-PFDoDA	1.250	1.278	2.2	102.2
13C2-PFTeDA	1.250	1.308	4.6	104.6
13C3-PFBS	2.500	2.494	-0.2	99.8
13C3-PFHxS	2.500	2.588	3.5	103.5
13C4-PFBA	10.000	9.959	-0.4	99.6
13C4-PFHpA	2.500	2.546	1.8	101.8
13C5-PFHxA	2.500	2.331	-6.8	93.2
13C5-PFPeA	5.000	4.895	-2.1	97.9
13C6-PFDA	1.250	1.331	6.4	106.4
13C7-PFUnDA	1.250	1.313	5.1	105.1
13C8-FOSA	2.500	2.615	4.6	104.6
13C8-PFOA	2.500	2.483	-0.7	99.3
13C8-PFOS	2.500	2.781	11.2	111.2
13C9-PFNA	1.250	1.179	-5.7	94.3
4:2FTS	0.750	0.646	-13.9	86.1
6:2FTS	0.760	0.674	-11.3	88.7
8:2FTS	0.768	0.711	-7.4	92.6
d3-MeFOSAA	5.000	5.781	15.6	115.6
EtFOSAA	0.200	0.205	2.6	102.6
FOSA	0.200	0.183	-8.5	91.5
MeFOSAA	0.200	0.175	-12.7	87.3
PFBA	0.800	0.706	-11.7	88.3
PFBS	0.177	0.154	-12.9	87.1
PFDA	0.200	0.179	-10.3	89.7
PFDoDA	0.200	0.186	-6.9	93.1
PFDS	0.193	0.167	-13.5	86.5
PFHpA	0.200	0.172	-14.0	86.0
PFHpS	0.191	0.155	-19.1	80.9
PFHxA	0.200	0.191	-4.3	95.7
PFHxS	0.183	0.151	-17.4	82.6
PFNA	0.200	0.184	-8.1	91.9
PFNS	0.192	0.156	-18.9	81.1
PFOA	0.200	0.185	-7.5	92.5
PFOS	0.186	0.165	-11.1	88.9

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18370.D

PFPeA	0.400	0.370	-7.5	92.5
PFPeS	0.188	0.159	-15.4	84.6
PFTeDA	0.200	0.203	1.3	101.3
PFTTrDA	0.200	0.190	-4.8	95.2
PFUnDA	0.200	0.187	-6.4	93.6
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	0.363	-4.0	96.0
13C3-HFPO-DA	10.000	9.348	-6.5	93.5
9C1-PF3ONS	0.367	0.347	-5.6	94.4
ADONA	0.378	0.354	-6.2	93.8
HFPO-DA	0.400	0.379	-5.2	94.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.859	-14.0	86.0
5:3FTCA	4.992	4.958	-0.7	99.3
7:3FTCA	4.992	4.875	-2.3	97.7
d3-MeFOSA	2.500	2.414	-3.5	96.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.352	-12.0	88.0
EtFOSE	1.000	0.935	-6.5	93.5
MeFOSA	0.400	0.388	-3.1	96.9
MeFOSE	1.000	0.915	-8.5	91.5
PFDoDS	0.194	0.189	-2.5	97.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.640	12.8	112.8
d7-MeFOSE	25.000	24.865	-0.5	99.5
d9-EtFOSE	25.000	25.753	3.0	103.0
d5-EtFOSA	2.500	2.510	0.4	100.4
NFDHA	0.400	0.376	-6.1	93.9
PFMBA	0.400	0.353	-11.7	88.3
PFMPA	0.400	0.355	-11.2	88.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.318	-10.6	89.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18382.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18382
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.571	11.4	111.4
13C2-6:2FTS	5.000	5.224	4.5	104.5
13C2-8:2FTS	5.000	4.964	-0.7	99.3
13C2-PFDoDA	1.250	1.195	-4.4	95.6
13C2-PFTeDA	1.250	1.249	-0.1	99.9
13C3-PFBS	2.500	2.426	-2.9	97.1
13C3-PFHxS	2.500	2.588	3.5	103.5
13C4-PFBA	10.000	9.904	-1.0	99.0
13C4-PFHpA	2.500	2.536	1.4	101.4
13C5-PFHxA	2.500	2.537	1.5	101.5
13C5-PFPeA	5.000	5.021	0.4	100.4
13C6-PFDA	1.250	1.229	-1.7	98.3
13C7-PFUnDA	1.250	1.282	2.6	102.6
13C8-FOSA	2.500	2.654	6.2	106.2
13C8-PFOA	2.500	2.501	0.0	100.0
13C8-PFOS	2.500	2.530	1.2	101.2
13C9-PFNA	1.250	1.277	2.2	102.2
4:2FTS	9.375	8.401	-10.4	89.6
6:2FTS	9.500	9.743	2.6	102.6
8:2FTS	9.600	9.989	4.1	104.1
d3-MeFOSAA	5.000	5.154	3.1	103.1
EtFOSAA	2.500	2.431	-2.8	97.2
FOSA	2.500	2.328	-6.9	93.1
MeFOSAA	2.500	2.735	9.4	109.4
PFBA	10.000	9.555	-4.5	95.5
PFBS	2.218	2.110	-4.9	95.1
PFDA	2.500	2.376	-5.0	95.0
PFDoDA	2.500	2.433	-2.7	97.3
PFDS	2.413	2.338	-3.1	96.9
PFHpA	2.500	2.394	-4.2	95.8
PFHpS	2.383	2.244	-5.8	94.2
PFHxA	2.500	2.360	-5.6	94.4
PFHxS	2.285	2.060	-9.8	90.2
PFNA	2.500	2.413	-3.5	96.5
PFNS	2.405	2.361	-1.8	98.2
PFOA	2.500	2.438	-2.5	97.5
PFOS	2.320	2.168	-6.6	93.4

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18382.D

PFPeA	5.000	4.852	-3.0	97.0
PFPeS	2.353	2.161	-8.2	91.8
PFTeDA	2.500	2.266	-9.3	90.7
PFTrDA	2.500	2.577	3.1	103.1
PFUnDA	2.500	2.395	-4.2	95.8
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	4.440	-6.0	94.0
13C3-HFPO-DA	10.000	10.088	0.9	100.9
9C1-PF3ONS	4.675	4.425	-5.3	94.7
ADONA	4.725	4.557	-3.6	96.4
HFPO-DA	5.000	4.788	-4.2	95.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.451	-8.2	91.8
5:3FTCA	62.400	57.911	-7.2	92.8
7:3FTCA	62.400	58.235	-6.7	93.3
d3-MeFOSA	2.500	2.462	-1.5	98.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.864	-2.7	97.3
EtFOSE	12.500	12.383	-0.9	99.1
MeFOSA	5.000	4.796	-4.1	95.9
MeFOSE	12.500	11.994	-4.0	96.0
PFDoDS	2.425	2.495	2.9	102.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.323	6.5	106.5
d7-MeFOSE	25.000	26.262	5.0	105.0
d9-EtFOSE	25.000	26.278	5.1	105.1
d5-EtFOSA	2.500	2.528	1.1	101.1
NFDHA	5.000	4.939	-1.2	98.8
PFMBA	5.000	4.798	-4.0	96.0
PFMPA	5.000	4.820	-3.6	96.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.140	-7.0	93.0

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18383.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18383
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	6.234	24.7	124.7
13C2-6:2FTS	5.000	5.711	14.2	114.2
13C2-8:2FTS	5.000	5.395	7.9	107.9
13C2-PFDoDA	1.250	1.178	-5.7	94.3
13C2-PFTeDA	1.250	1.318	5.4	105.4
13C3-PFBS	2.500	2.465	-1.4	98.6
13C3-PFHxS	2.500	2.550	2.0	102.0
13C4-PFBA	10.000	9.881	-1.2	98.8
13C4-PFHpA	2.500	2.567	2.7	102.7
13C5-PFHxA	2.500	2.581	3.2	103.2
13C5-PFPeA	5.000	5.142	2.8	102.8
13C6-PFDA	1.250	1.220	-2.4	97.6
13C7-PFUnDA	1.250	1.294	3.5	103.5
13C8-FOSA	2.500	2.559	2.3	102.3
13C8-PFOA	2.500	2.485	-0.6	99.4
13C8-PFOS	2.500	2.578	3.1	103.1
13C9-PFNA	1.250	1.201	-3.9	96.1
4:2FTS	0.750	0.600	-20.0	80.0
6:2FTS	0.760	0.641	-15.7	84.3
8:2FTS	0.768	0.721	-6.1	93.9
d3-MeFOSAA	5.000	5.640	12.8	112.8
EtFOSAA	0.200	0.182	-9.0	91.0
FOSA	0.200	0.176	-12.2	87.8
MeFOSAA	0.200	0.174	-13.1	86.9
PFBA	0.800	0.700	-12.4	87.6
PFBS	0.177	0.154	-13.1	86.9
PFDA	0.200	0.194	-3.0	97.0
PFDoDA	0.200	0.198	-1.1	98.9
PFDS	0.193	0.173	-10.1	89.9
PFHpA	0.200	0.184	-7.9	92.1
PFHpS	0.191	0.201	5.0	105.0
PFHxA	0.200	0.173	-13.6	86.4
PFHxS	0.183	0.169	-7.6	92.4
PFNA	0.200	0.191	-4.4	95.6
PFNS	0.192	0.168	-12.5	87.5
PFOA	0.200	0.174	-12.9	87.1
PFOS	0.186	0.169	-9.2	90.8

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18383.D

PFPeA	0.400	0.378	-5.6	94.4
PFPeS	0.188	0.176	-6.3	93.7
PFTeDA	0.200	0.168	-15.9	84.1
PFTrDA	0.200	0.211	5.3	105.3
PFUnDA	0.200	0.184	-8.0	92.0
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	0.378	0.339	-10.3	89.7
13C3-HFPO-DA	10.000	10.029	0.3	100.3
9C1-PF3ONS	0.367	0.353	-3.9	96.1
ADONA	0.378	0.351	-7.2	92.8
HFPO-DA	0.400	0.378	-5.5	94.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.882	-11.6	88.4
5:3FTCA	4.992	4.616	-7.5	92.5
7:3FTCA	4.992	4.520	-9.4	90.6
d3-MeFOSA	2.500	2.459	-1.6	98.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.365	-8.9	91.1
EtFOSE	1.000	0.994	-0.6	99.4
MeFOSA	0.400	0.370	-7.5	92.5
MeFOSE	1.000	0.983	-1.7	98.3
PFDoDS	0.194	0.166	-14.3	85.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.516	10.3	110.3
d7-MeFOSE	25.000	24.463	-2.1	97.9
d9-EtFOSE	25.000	25.546	2.2	102.2
d5-EtFOSA	2.500	2.565	2.6	102.6
NFDHA	0.400	0.377	-5.9	94.1
PFMBA	0.400	0.350	-12.5	87.5
PFMPA	0.400	0.356	-10.9	89.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.299	-16.1	83.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18395.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18395
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.464	9.3	109.3
13C2-6:2FTS	5.000	5.664	13.3	113.3
13C2-8:2FTS	5.000	5.419	8.4	108.4
13C2-PFDoDA	1.250	1.239	-0.9	99.1
13C2-PFTeDA	1.250	1.227	-1.8	98.2
13C3-PFBS	2.500	2.516	0.6	100.6
13C3-PFHxS	2.500	2.617	4.7	104.7
13C4-PFBA	10.000	9.897	-1.0	99.0
13C4-PFHpA	2.500	2.554	2.2	102.2
13C5-PFHxA	2.500	2.544	1.8	101.8
13C5-PFPeA	5.000	4.975	-0.5	99.5
13C6-PFDA	1.250	1.247	-0.3	99.7
13C7-PFUnDA	1.250	1.297	3.8	103.8
13C8-FOSA	2.500	2.588	3.5	103.5
13C8-PFOA	2.500	2.431	-2.8	97.2
13C8-PFOS	2.500	2.576	3.0	103.0
13C9-PFNA	1.250	1.191	-4.8	95.2
4:2FTS	9.375	9.364	-0.1	99.9
6:2FTS	9.500	8.862	-6.7	93.3
8:2FTS	9.600	9.687	0.9	100.9
d3-MeFOSAA	5.000	5.740	14.8	114.8
EtFOSAA	2.500	2.604	4.1	104.1
FOSA	2.500	2.328	-6.9	93.1
MeFOSAA	2.500	2.316	-7.3	92.7
PFBA	10.000	9.699	-3.0	97.0
PFBS	2.218	2.158	-2.7	97.3
PFDA	2.500	2.345	-6.2	93.8
PFDoDA	2.500	2.317	-7.3	92.7
PFDS	2.413	2.316	-4.0	96.0
PFHpA	2.500	2.324	-7.1	92.9
PFHpS	2.383	2.326	-2.4	97.6
PFHxA	2.500	2.289	-8.4	91.6
PFHxS	2.285	2.064	-9.7	90.3
PFNA	2.500	2.485	-0.6	99.4
PFNS	2.405	2.359	-1.9	98.1
PFOA	2.500	2.605	4.2	104.2
PFOS	2.320	2.323	0.1	100.1

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18395.D

PFPeA	5.000	4.892	-2.2	97.8
PFPeS	2.353	2.211	-6.0	94.0
PFTeDA	2.500	2.460	-1.6	98.4
PFTTrDA	2.500	2.416	-3.3	96.7
PFUnDA	2.500	2.419	-3.2	96.8
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	4.626	-2.1	97.9
13C3-HFPO-DA	10.000	9.989	-0.1	99.9
9C1-PF3ONS	4.675	4.470	-4.4	95.6
ADONA	4.725	4.526	-4.2	95.8
HFPO-DA	5.000	4.771	-4.6	95.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.522	-7.7	92.3
5:3FTCA	62.400	55.012	-11.8	88.2
7:3FTCA	62.400	59.782	-4.2	95.8
d3-MeFOSA	2.500	2.360	-5.6	94.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.866	-2.7	97.3
EtFOSE	12.500	12.369	-1.0	99.0
MeFOSA	5.000	4.917	-1.7	98.3
MeFOSE	12.500	12.132	-2.9	97.1
PFDoDS	2.425	2.379	-1.9	98.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.239	4.8	104.8
d7-MeFOSE	25.000	25.010	0.0	100.0
d9-EtFOSE	25.000	24.738	-1.0	99.0
d5-EtFOSA	2.500	2.454	-1.9	98.1
NFDHA	5.000	4.723	-5.5	94.5
PFMBA	5.000	4.853	-2.9	97.1
PFMPA	5.000	4.863	-2.7	97.3
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.230	-4.9	95.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18407.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18407
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.442	8.8	108.8
13C2-6:2FTS	5.000	5.293	5.9	105.9
13C2-8:2FTS	5.000	4.988	-0.2	99.8
13C2-PFDoDA	1.250	1.182	-5.5	94.5
13C2-PFTeDA	1.250	1.227	-1.9	98.1
13C3-PFBS	2.500	2.440	-2.4	97.6
13C3-PFHxS	2.500	2.498	-0.1	99.9
13C4-PFBA	10.000	9.988	-0.1	99.9
13C4-PFHpA	2.500	2.496	-0.2	99.8
13C5-PFHxA	2.500	2.483	-0.7	99.3
13C5-PFPeA	5.000	4.885	-2.3	97.7
13C6-PFDA	1.250	1.283	2.7	102.7
13C7-PFUnDA	1.250	1.261	0.9	100.9
13C8-FOSA	2.500	2.536	1.4	101.4
13C8-PFOA	2.500	2.358	-5.7	94.3
13C8-PFOS	2.500	2.556	2.2	102.2
13C9-PFNA	1.250	1.194	-4.5	95.5
4:2FTS	9.375	8.504	-9.3	90.7
6:2FTS	9.500	8.862	-6.7	93.3
8:2FTS	9.600	9.703	1.1	101.1
d3-MeFOSAA	5.000	5.638	12.8	112.8
EtFOSAA	2.500	2.450	-2.0	98.0
FOSA	2.500	2.369	-5.2	94.8
MeFOSAA	2.500	2.248	-10.1	89.9
PFBA	10.000	9.092	-9.1	90.9
PFBS	2.218	1.947	-12.2	87.8
PFDA	2.500	2.109	-15.6	84.4
PFDoDA	2.500	2.325	-7.0	93.0
PFDS	2.413	2.206	-8.6	91.4
PFHpA	2.500	2.167	-13.3	86.7
PFHpS	2.383	2.115	-11.3	88.7
PFHxA	2.500	2.150	-14.0	86.0
PFHxS	2.285	1.951	-14.6	85.4
PFNA	2.500	2.365	-5.4	94.6
PFNS	2.405	2.128	-11.5	88.5
PFOA	2.500	2.434	-2.6	97.4
PFOS	2.320	2.220	-4.3	95.7

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18407.D

PFPeA	5.000	4.593	-8.1	91.9
PFPeS	2.353	1.982	-15.8	84.2
PFTeDA	2.500	2.232	-10.7	89.3
PFTTrDA	2.500	2.282	-8.7	91.3
PFUnDA	2.500	2.283	-8.7	91.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.517	-4.4	95.6
13C3-HFPO-DA	10.000	9.791	-2.1	97.9
9C1-PF3ONS	4.675	4.476	-4.2	95.8
ADONA	4.725	4.476	-5.3	94.7
HFPO-DA	5.000	4.577	-8.5	91.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	10.573	-15.3	84.7
5:3FTCA	62.400	55.235	-11.5	88.5
7:3FTCA	62.400	55.653	-10.8	89.2
d3-MeFOSA	2.500	2.533	1.3	101.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.521	-9.6	90.4
EtFOSE	12.500	11.478	-8.2	91.8
MeFOSA	5.000	4.450	-11.0	89.0
MeFOSE	12.500	12.290	-1.7	98.3
PFDoDS	2.425	2.211	-8.8	91.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.432	8.6	108.6
d7-MeFOSE	25.000	24.280	-2.9	97.1
d9-EtFOSE	25.000	25.860	3.4	103.4
d5-EtFOSA	2.500	2.593	3.7	103.7
NFDHA	5.000	4.513	-9.7	90.3
PFMBA	5.000	4.476	-10.5	89.5
PFMPA	5.000	4.509	-9.8	90.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	3.944	-11.4	88.6

CC Criteria: +/- 30%

6.9.12
6

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18418.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18418
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.910	18.2	118.2
13C2-6:2FTS	5.000	5.604	12.1	112.1
13C2-8:2FTS	5.000	5.551	11.0	111.0
13C2-PFDoDA	1.250	1.197	-4.2	95.8
13C2-PFTeDA	1.250	1.287	3.0	103.0
13C3-PFBS	2.500	2.464	-1.4	98.6
13C3-PFHxS	2.500	2.589	3.6	103.6
13C4-PFBA	10.000	9.966	-0.3	99.7
13C4-PFHpA	2.500	2.474	-1.0	99.0
13C5-PFHxA	2.500	2.479	-0.8	99.2
13C5-PFPeA	5.000	4.886	-2.3	97.7
13C6-PFDA	1.250	1.349	7.9	107.9
13C7-PFUnDA	1.250	1.342	7.4	107.4
13C8-FOSA	2.500	2.577	3.1	103.1
13C8-PFOA	2.500	2.424	-3.1	96.9
13C8-PFOS	2.500	2.515	0.6	100.6
13C9-PFNA	1.250	1.212	-3.1	96.9
4:2FTS	0.750	0.631	-15.8	84.2
6:2FTS	0.760	0.701	-7.8	92.2
8:2FTS	0.768	0.656	-14.6	85.4
d3-MeFOSAA	5.000	6.012	20.2	120.2
EtFOSAA	0.200	0.180	-10.1	89.9
FOSA	0.200	0.183	-8.5	91.5
MeFOSAA	0.200	0.168	-15.8	84.2
PFBA	0.800	0.701	-12.3	87.7
PFBS	0.177	0.149	-16.1	83.9
PFDA	0.200	0.169	-15.5	84.5
PFDoDA	0.200	0.187	-6.7	93.3
PFDS	0.193	0.196	1.6	101.6
PFHpA	0.200	0.188	-6.2	93.8
PFHpS	0.191	0.186	-2.8	97.2
PFHxA	0.200	0.186	-7.1	92.9
PFHxS	0.183	0.155	-15.1	84.9
PFNA	0.200	0.196	-2.2	97.8
PFNS	0.192	0.152	-20.8	79.2
PFOA	0.200	0.146	-27.2	72.8
PFOS	0.186	0.190	2.2	102.2

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18418.D

PFPeA	0.400	0.361	-9.8	90.2
PFPeS	0.188	0.157	-16.3	83.7
PFTeDA	0.200	0.200	-0.2	99.8
PFTTrDA	0.200	0.205	2.4	102.4
PFUnDA	0.200	0.165	-17.5	82.5
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	0.378	0.342	-9.6	90.4
13C3-HFPO-DA	10.000	9.805	-2.0	98.0
9C1-PF3ONS	0.367	0.343	-6.7	93.3
ADONA	0.378	0.339	-10.4	89.6
HFPO-DA	0.400	0.387	-3.2	96.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.839	-15.9	84.1
5:3FTCA	4.992	4.574	-8.4	91.6
7:3FTCA	4.992	4.721	-5.4	94.6
d3-MeFOSA	2.500	2.333	-6.7	93.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.367	-8.3	91.7
EtFOSE	1.000	0.891	-10.9	89.1
MeFOSA	0.400	0.286	-28.4	71.6
MeFOSE	1.000	0.953	-4.7	95.3
PFDODS	0.194	0.194	0.2	100.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.580	11.6	111.6
d7-MeFOSE	25.000	23.614	-5.5	94.5
d9-EtFOSE	25.000	26.589	6.4	106.4
d5-EtFOSA	2.500	2.528	1.1	101.1
NFDHA	0.400	0.335	-16.4	83.6
PFMBA	0.400	0.348	-13.0	87.0
PFMPA	0.400	0.354	-11.6	88.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.313	-12.2	87.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18419.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\052323_1633_S6Q275\s6q276.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\052323_1633_S6Q275\6Q18227a.d
 2:D:\MassHunter\Data\052323_1633_S6Q275\6Q18228a.d
 3:D:\MassHunter\Data\052323_1633_S6Q275\6Q18229a.d
 4:D:\MassHunter\Data\052323_1633_S6Q275\6Q18230a.d
 5:D:\MassHunter\Data\052323_1633_S6Q275\6Q18231a.d
 6:D:\MassHunter\Data\052323_1633_S6Q275\6Q18232a.d
 7:D:\MassHunter\Data\052323_1633_S6Q275\6Q18233a.d
 8:D:\MassHunter\Data\052323_1633_S6Q275\6Q18234a.d

Data File: 6Q18419
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.805	16.1	116.1
13C2-6:2FTS	5.000	5.327	6.5	106.5
13C2-8:2FTS	5.000	5.318	6.4	106.4
13C2-PFDoDA	1.250	1.146	-8.4	91.6
13C2-PFTeDA	1.250	1.306	4.5	104.5
13C3-PFBS	2.500	2.321	-7.2	92.8
13C3-PFHxS	2.500	2.402	-3.9	96.1
13C4-PFBA	10.000	9.972	-0.3	99.7
13C4-PFHpA	2.500	2.629	5.2	105.2
13C5-PFHxA	2.500	2.563	2.5	102.5
13C5-PFPeA	5.000	5.112	2.2	102.2
13C6-PFDA	1.250	1.253	0.3	100.3
13C7-PFUnDA	1.250	1.256	0.5	100.5
13C8-FOSA	2.500	2.660	6.4	106.4
13C8-PFOA	2.500	2.530	1.2	101.2
13C8-PFOS	2.500	2.590	3.6	103.6
13C9-PFNA	1.250	1.242	-0.7	99.3
4:2FTS	9.375	7.496	-20.0	80.0
6:2FTS	9.500	8.960	-5.7	94.3
8:2FTS	9.600	8.941	-6.9	93.1
d3-MeFOSAA	5.000	5.645	12.9	112.9
EtFOSAA	2.500	2.251	-10.0	90.0
FOSA	2.500	2.193	-12.3	87.7
MeFOSAA	2.500	2.150	-14.0	86.0
PFBA	10.000	8.985	-10.1	89.9
PFBS	2.218	2.053	-7.5	92.5
PFDA	2.500	2.102	-15.9	84.1
PFDoDA	2.500	2.276	-9.0	91.0
PFDS	2.413	2.144	-11.1	88.9
PFHpA	2.500	2.142	-14.3	85.7
PFHpS	2.383	2.082	-12.6	87.4
PFHxA	2.500	2.260	-9.6	90.4
PFHxS	2.285	1.906	-16.6	83.4
PFNA	2.500	2.236	-10.6	89.4
PFNS	2.405	2.235	-7.1	92.9
PFOA	2.500	2.300	-8.0	92.0
PFOS	2.320	2.082	-10.2	89.8

Continuing Calibration Summary

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q276-CC275
 Lab FileID: 6Q18419.D

PFPeA	5.000	4.536	-9.3	90.7
PFPeS	2.353	2.108	-10.4	89.6
PFTeDA	2.500	2.144	-14.3	85.7
PFTTrDA	2.500	2.423	-3.1	96.9
PFUnDA	2.500	2.351	-6.0	94.0
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	4.377	-7.4	92.6
13C3-HFPO-DA	10.000	10.062	0.6	100.6
9C1-PF3ONS	4.675	4.548	-2.7	97.3
ADONA	4.725	4.455	-5.7	94.3
HFPO-DA	5.000	4.580	-8.4	91.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	10.401	-16.7	83.3
5:3FTCA	62.400	55.493	-11.1	88.9
7:3FTCA	62.400	55.914	-10.4	89.6
d3-MeFOSA	2.500	2.505	0.2	100.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.658	-6.8	93.2
EtFOSE	12.500	11.256	-9.9	90.1
MeFOSA	5.000	4.598	-8.0	92.0
MeFOSE	12.500	12.041	-3.7	96.3
PFDoDS	2.425	2.339	-3.5	96.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.548	11.0	111.0
d7-MeFOSE	25.000	23.858	-4.6	95.4
d9-EtFOSE	25.000	25.611	2.4	102.4
d5-EtFOSA	2.500	2.556	2.2	102.2
NFDHA	5.000	4.588	-8.2	91.8
PFMBA	5.000	4.392	-12.2	87.8
PFMPA	5.000	4.474	-10.5	89.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	3.841	-13.7	86.3

CC Criteria: +/- 30%

6.9.14
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Run Sequence Report

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q275	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
S6Q275-RT	6Q18224A.D	05/23/23 15:28	n/a	Retention Time Marker
S6Q275-RT	6Q18225A.D	05/23/23 15:42	n/a	Retention Time Marker
S6Q275-IC275	6Q18226A.D	05/23/23 15:57	n/a	Mass Calibration Verification
S6Q275-IC275	6Q18227A.D	05/23/23 16:11	n/a	Initial cal 1
S6Q275-IC275	6Q18228A.D	05/23/23 16:26	n/a	Initial cal 2
S6Q275-IC275	6Q18229A.D	05/23/23 16:40	n/a	Initial cal 3
S6Q275-ICC275	6Q18230A.D	05/23/23 16:55	n/a	Initial cal 4
S6Q275-IC275	6Q18231A.D	05/23/23 17:09	n/a	Initial cal 5
S6Q275-IC275	6Q18232A.D	05/23/23 17:24	n/a	Initial cal 6
S6Q275-IC275	6Q18233A.D	05/23/23 17:38	n/a	Initial cal 7
S6Q275-IC275	6Q18234A.D	05/23/23 17:53	n/a	Initial cal 8
S6Q275-IBLK	6Q18235A.D	05/23/23 18:07	n/a	Instrument Blank
S6Q275-IBLK	6Q18235A.D	05/23/23 18:07	n/a	Instrument Blank
S6Q275-ICV275	6Q18236A.D	05/23/23 18:22	n/a	Initial cal verification 4
S6Q275-ICV275	6Q18237A.D	05/23/23 18:36	n/a	Initial cal verification 20
S6Q275-CC275	6Q18238A.D	05/23/23 18:51	n/a	Continuing cal 4
S6Q275-CC275	6Q18239A.D	05/23/23 19:05	n/a	Continuing cal 1.0LL
OP97001-BS	6Q18240A.D	05/23/23 19:20	OP97001	Blank Spike
OP97001-LLBS	6Q18241A.D	05/23/23 19:34	OP97001	Blank Spike
OP97001-MB	6Q18242A.D	05/23/23 19:49	OP97001	Method Blank
ZZZZZZ	6Q18247A.D	05/23/23 21:01	OP96984	(unrelated sample)
FC5501-12	6Q18248A.D	05/23/23 21:16	OP96916	(used for QC only; not part of job FC6238)
S6Q275-CC275	6Q18250A.D	05/23/23 21:45	n/a	Continuing cal 4
S6Q275-ICCB	6Q18251A.D	05/23/23 21:59	n/a	Continuing Calibration Blank
OP96958-BS	6Q18252A.D	05/23/23 22:13	OP96958	Blank Spike
OP96958-LLBS	6Q18253A.D	05/23/23 22:28	OP96958	Blank Spike
OP96958-MB	6Q18254A.D	05/23/23 22:42	OP96958	Method Blank
ZZZZZZ	6Q18255A.D	05/23/23 22:57	OP96958	(unrelated sample)
FC5649-2	6Q18256A.D	05/23/23 23:11	OP96958	(used for QC only; not part of job FC6238)
OP96958-MS	6Q18257A.D	05/23/23 23:26	OP96958	Matrix Spike
FC5649-3	6Q18258A.D	05/23/23 23:40	OP96958	(used for QC only; not part of job FC6238)
OP96958-DUP	6Q18259A.D	05/23/23 23:55	OP96958	Duplicate
ZZZZZZ	6Q18260A.D	05/24/23 00:09	OP96958	(unrelated sample)
ZZZZZZ	6Q18261A.D	05/24/23 00:24	OP96958	(unrelated sample)
S6Q275-CC275	6Q18262A.D	05/24/23 00:38	n/a	Continuing cal 4
S6Q275-ICCB	6Q18263A.D	05/24/23 00:53	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18264A.D	05/24/23 01:07	OP96958	(unrelated sample)
ZZZZZZ	6Q18265A.D	05/24/23 01:22	OP96958	(unrelated sample)
ZZZZZZ	6Q18266A.D	05/24/23 01:36	OP96958	(unrelated sample)
ZZZZZZ	6Q18267A.D	05/24/23 01:51	OP96958	(unrelated sample)
ZZZZZZ	6Q18268A.D	05/24/23 02:05	OP96958	(unrelated sample)
ZZZZZZ	6Q18269A.D	05/24/23 02:20	OP96958	(unrelated sample)
ZZZZZZ	6Q18270A.D	05/24/23 02:34	OP96958	(unrelated sample)
ZZZZZZ	6Q18271A.D	05/24/23 02:49	OP96958	(unrelated sample)
ZZZZZZ	6Q18272A.D	05/24/23 03:03	OP96958	(unrelated sample)
ZZZZZZ	6Q18273A.D	05/24/23 03:18	OP96958	(unrelated sample)

Run Sequence Report

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q275	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
S6Q275-CC275	6Q18274A.D	05/24/23 03:32	n/a	Continuing cal 4
S6Q275-ICCB	6Q18275.D	05/24/23 03:46	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18276.D	05/24/23 04:01	OP96958	(unrelated sample)
ZZZZZZ	6Q18277.D	05/24/23 04:15	OP96958	(unrelated sample)
ZZZZZZ	6Q18278.D	05/24/23 04:30	OP96958	(unrelated sample)
ZZZZZZ	6Q18279.D	05/24/23 04:44	OP96940	(unrelated sample)
S6Q275-CC275	6Q18280.D	05/24/23 04:59	n/a	Continuing cal 4
S6Q275-CC275	6Q18281.D	05/24/23 05:13	n/a	Continuing cal 1.0LL
S6Q275-ICCB	6Q18282.D	05/24/23 05:28	n/a	Continuing Calibration Blank
OP96961-BS	6Q18283.D	05/24/23 05:42	OP96961	Blank Spike
OP96961-LLBS	6Q18284.D	05/24/23 05:57	OP96961	Blank Spike
OP96961-MB	6Q18285.D	05/24/23 06:11	OP96961	Method Blank
ZZZZZZ	6Q18286.D	05/24/23 06:26	OP96961	(unrelated sample)
ZZZZZZ	6Q18287.D	05/24/23 06:40	OP96961	(unrelated sample)
ZZZZZZ	6Q18288.D	05/24/23 06:55	OP96961	(unrelated sample)
ZZZZZZ	6Q18289.D	05/24/23 07:09	OP96961	(unrelated sample)
ZZZZZZ	6Q18290.D	05/24/23 07:24	OP96961	(unrelated sample)
ZZZZZZ	6Q18291.D	05/24/23 07:38	OP96961	(unrelated sample)
ZZZZZZ	6Q18292.D	05/24/23 07:53	OP96961	(unrelated sample)
S6Q275-CC275	6Q18293.D	05/24/23 08:07	n/a	Continuing cal 4
S6Q275-ICCB	6Q18294.D	05/24/23 08:22	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18295.D	05/24/23 08:36	OP96961	(unrelated sample)
FC5721-9	6Q18296.D	05/24/23 08:51	OP96961	(used for QC only; not part of job FC6238)
OP96961-MS	6Q18297.D	05/24/23 09:05	OP96961	Matrix Spike
FC5721-10	6Q18298.D	05/24/23 09:20	OP96961	(used for QC only; not part of job FC6238)
OP96961-DUP	6Q18299.D	05/24/23 09:34	OP96961	Duplicate
ZZZZZZ	6Q18300.D	05/24/23 09:49	OP96961	(unrelated sample)
ZZZZZZ	6Q18301.D	05/24/23 10:03	OP96961	(unrelated sample)
ZZZZZZ	6Q18302.D	05/24/23 10:18	OP96961	(unrelated sample)
ZZZZZZ	6Q18303.D	05/24/23 10:32	OP96961	(unrelated sample)
S6Q275-CC275	6Q18305.D	05/24/23 11:01	n/a	Continuing cal 4
S6Q275-ICCB	6Q18306.D	05/24/23 11:15	n/a	Continuing Calibration Blank
S6Q275-ICCB	6Q18306.D	05/24/23 11:15	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18307.D	05/24/23 11:30	OP96961	(unrelated sample)
ZZZZZZ	6Q18308.D	05/24/23 11:44	OP96961	(unrelated sample)
OP96956-BS	6Q18309.D	05/24/23 11:59	OP96956	Blank Spike
OP96956A-BS	6Q18309.D	05/24/23 11:59	OP96956A	Blank Spike
OP96956-LLBS	6Q18310.D	05/24/23 12:13	OP96956	Blank Spike
OP96956A-LLBS	6Q18310.D	05/24/23 12:13	OP96956A	Blank Spike
OP96956-MB	6Q18311.D	05/24/23 12:28	OP96956	Method Blank
OP96956A-MB	6Q18311.D	05/24/23 12:28	OP96956A	Method Blank
ZZZZZZ	6Q18312.D	05/24/23 12:42	OP96956A	(unrelated sample)
ZZZZZZ	6Q18313.D	05/24/23 12:57	OP96956	(unrelated sample)
ZZZZZZ	6Q18314.D	05/24/23 13:11	OP96956	(unrelated sample)
ZZZZZZ	6Q18316.D	05/24/23 13:40	OP96956	(unrelated sample)
S6Q275-CC275	6Q18317.D	05/24/23 13:55	n/a	Continuing cal 4

Run Sequence Report

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q275	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
S6Q275-ICCB	6Q18318.D	05/24/23 14:09	n/a	Continuing Calibration Blank
S6Q275-ICCB	6Q18318.D	05/24/23 14:09	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18319.D	05/24/23 14:24	OP96956	(unrelated sample)
ZZZZZZ	6Q18320.D	05/24/23 14:38	OP96956	(unrelated sample)
JD65541-7	6Q18321.D	05/24/23 14:53	OP96956	(used for QC only; not part of job FC6238)
OP96956-MS	6Q18322.D	05/24/23 15:07	OP96956	Matrix Spike
OP96956-MSD	6Q18323.D	05/24/23 15:22	OP96956	Matrix Spike Duplicate
ZZZZZZ	6Q18324.D	05/24/23 15:36	OP96961	(unrelated sample)
S6Q275-ECC275	6Q18325.D	05/24/23 15:51	n/a	Ending cal 4
S6Q275-ICCB	6Q18326.D	05/24/23 16:05	n/a	Continuing Calibration Blank
S6Q275-ICCB	6Q18326.D	05/24/23 16:05	n/a	Continuing Calibration Blank

6.10.1

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Run Sequence Report

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q276	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
S6Q276-RT	6Q18334.D	05/24/23 17:51	n/a	Retention Time Marker
S6Q276-RT	6Q18335.D	05/24/23 18:06	n/a	Retention Time Marker
S6Q276-IBLK	6Q18337.D	05/24/23 18:35	n/a	Instrument Blank
S6Q276-IBLK	6Q18337.D	05/24/23 18:35	n/a	Instrument Blank
S6Q276-CC275	6Q18338.D	05/24/23 18:49	n/a	Continuing cal 4
S6Q276-CC275	6Q18339.D	05/24/23 19:04	n/a	Continuing cal 1.0LL
OP97028-BS	6Q18340.D	05/24/23 19:18	OP97028	Blank Spike
OP97028-LLBS	6Q18341.D	05/24/23 19:33	OP97028	Blank Spike
OP97028-MB	6Q18342.D	05/24/23 19:47	OP97028	Method Blank
ZZZZZZ	6Q18343.D	05/24/23 20:02	OP97028	(unrelated sample)
ZZZZZZ	6Q18344.D	05/24/23 20:16	OP97028	(unrelated sample)
ZZZZZZ	6Q18345.D	05/24/23 20:30	OP97028	(unrelated sample)
S6Q276-CC275	6Q18346.D	05/24/23 20:45	n/a	Continuing cal 4
S6Q276-ICCB	6Q18347.D	05/24/23 20:59	n/a	Continuing Calibration Blank
OP97007-BS	6Q18348.D	05/24/23 21:14	OP97007	Blank Spike
OP97007-LLBS	6Q18349.D	05/24/23 21:28	OP97007	Blank Spike
OP97007-MB	6Q18350.D	05/24/23 21:43	OP97007	Method Blank
ZZZZZZ	6Q18351.D	05/24/23 21:57	OP97007	(unrelated sample)
ZZZZZZ	6Q18352.D	05/24/23 22:12	OP97007	(unrelated sample)
FC6238-1	6Q18353.D	05/24/23 22:26	OP97007	AF-RHMW17S-WGN01LF-2305W3
FC6238-2	6Q18354.D	05/24/23 22:41	OP97007	AF-RHMW17S-WQEB01-2305W3
FC6238-3	6Q18355.D	05/24/23 22:55	OP97007	AF-RHMW17D-WGN01LF-2305W3
FC6238-4	6Q18357.D	05/24/23 23:24	OP97007	AF-RHMW17D-WQFB01-2305W3
S6Q276-CC275	6Q18358.D	05/24/23 23:39	n/a	Continuing cal 4
S6Q276-ICCB	6Q18359.D	05/24/23 23:53	n/a	Continuing Calibration Blank
FC6238-5	6Q18360.D	05/25/23 00:08	OP97007	AF-RHMW17-WGN01LF-2305W3
OP97007-DUP	6Q18361.D	05/25/23 00:22	OP97007	Duplicate
OP96980-BS	6Q18362.D	05/25/23 00:37	OP96980	Blank Spike
OP96980-LLBS	6Q18363.D	05/25/23 00:51	OP96980	Blank Spike
OP96980-MB	6Q18364.D	05/25/23 01:06	OP96980	Method Blank
ZZZZZZ	6Q18365.D	05/25/23 01:20	OP96980	(unrelated sample)
ZZZZZZ	6Q18366.D	05/25/23 01:35	OP96980	(unrelated sample)
ZZZZZZ	6Q18367.D	05/25/23 01:49	OP96980	(unrelated sample)
ZZZZZZ	6Q18368.D	05/25/23 02:04	OP96980	(unrelated sample)
S6Q276-CC275	6Q18369.D	05/25/23 02:18	n/a	Continuing cal 4
S6Q276-CC275	6Q18370.D	05/25/23 02:33	n/a	Continuing cal 1.0LL
S6Q276-ICCB	6Q18371.D	05/25/23 02:47	n/a	Continuing Calibration Blank
S6Q276-RT	6Q18378.D	05/25/23 08:27	n/a	Retention Time Marker
S6Q276-RT	6Q18379.D	05/25/23 08:42	n/a	Retention Time Marker
S6Q276-IBLK	6Q18381.D	05/25/23 09:11	n/a	Instrument Blank
S6Q276-IBLK	6Q18381.D	05/25/23 09:11	n/a	Instrument Blank
S6Q276-CC275	6Q18382.D	05/25/23 09:26	n/a	Continuing cal 4
S6Q276-CC275	6Q18383.D	05/25/23 09:40	n/a	Continuing cal 1.0LL
S6Q276-ICCB	6Q18384.D	05/25/23 09:54	n/a	Continuing Calibration Blank
FC5885-2	6Q18385.D	05/25/23 10:09	OP96980	(used for QC only; not part of job FC6238)
OP96980-MS	6Q18386.D	05/25/23 10:23	OP96980	Matrix Spike

Run Sequence Report

Job Number: FC6238
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q276	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
OP96980-MSD	6Q18387.D	05/25/23 10:38	OP96980	Matrix Spike Duplicate
ZZZZZZ	6Q18388.D	05/25/23 10:52	OP96980	(unrelated sample)
ZZZZZZ	6Q18389.D	05/25/23 11:07	OP96980	(unrelated sample)
ZZZZZZ	6Q18391.D	05/25/23 11:36	OP96980	(unrelated sample)
ZZZZZZ	6Q18392.D	05/25/23 11:50	OP96980	(unrelated sample)
ZZZZZZ	6Q18393.D	05/25/23 12:05	OP96980	(unrelated sample)
ZZZZZZ	6Q18394.D	05/25/23 12:19	OP96980	(unrelated sample)
S6Q276-CC275	6Q18395.D	05/25/23 12:34	n/a	Continuing cal 4
S6Q276-ICCB	6Q18396.D	05/25/23 12:48	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18397.D	05/25/23 13:03	OP96980	(unrelated sample)
OP96978-BS	6Q18398.D	05/25/23 13:17	OP96978	Blank Spike
OP96978-LLBS	6Q18399.D	05/25/23 13:32	OP96978	Blank Spike
OP96978-MB	6Q18400.D	05/25/23 13:46	OP96978	Method Blank
FC5808-1	6Q18401.D	05/25/23 14:01	OP96978	(used for QC only; not part of job FC6238)
OP96978-MS	6Q18402.D	05/25/23 14:15	OP96978	Matrix Spike
ZZZZZZ	6Q18403.D	05/25/23 14:30	OP96978	(unrelated sample)
FC5808-3	6Q18404.D	05/25/23 14:44	OP96978	(used for QC only; not part of job FC6238)
OP96978-DUP	6Q18405.D	05/25/23 14:59	OP96978	Duplicate
ZZZZZZ	6Q18406.D	05/25/23 15:13	OP96978	(unrelated sample)
S6Q276-CC275	6Q18407.D	05/25/23 15:58	n/a	Continuing cal 4
S6Q276-ICCB	6Q18408.D	05/25/23 16:12	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18409.D	05/25/23 16:26	OP96978	(unrelated sample)
ZZZZZZ	6Q18410.D	05/25/23 16:41	OP96978	(unrelated sample)
ZZZZZZ	6Q18411.D	05/25/23 16:55	OP96978	(unrelated sample)
ZZZZZZ	6Q18412.D	05/25/23 17:10	OP96978	(unrelated sample)
ZZZZZZ	6Q18413.D	05/25/23 17:24	OP96978	(unrelated sample)
ZZZZZZ	6Q18414.D	05/25/23 17:39	OP96978	(unrelated sample)
OP97007-MS	6Q18415.D	05/25/23 17:53	OP97007	Matrix Spike
ZZZZZZ	6Q18416.D	05/25/23 18:08	OP96980	(unrelated sample)
ZZZZZZ	6Q18417.D	05/25/23 18:22	OP96980	(unrelated sample)
S6Q276-CC275	6Q18418.D	05/25/23 18:37	n/a	Continuing cal 1.0LL
S6Q276-CC275	6Q18419.D	05/25/23 18:51	n/a	Continuing cal 4
S6Q276-ICCB	6Q18420.D	05/25/23 19:06	n/a	Continuing Calibration Blank
OP96957-BS	6Q18421.D	05/25/23 19:20	OP96957	Blank Spike
OP96957-LLBS	6Q18422.D	05/25/23 19:35	OP96957	Blank Spike
OP96957-MB	6Q18423.D	05/25/23 19:49	OP96957	Method Blank
ZZZZZZ	6Q18424.D	05/25/23 20:04	OP96957	(unrelated sample)
ZZZZZZ	6Q18425.D	05/25/23 20:18	OP96957	(unrelated sample)
ZZZZZZ	6Q18426.D	05/25/23 20:33	OP96957	(unrelated sample)
FC6114-3	6Q18427.D	05/25/23 20:47	OP96957	(used for QC only; not part of job FC6238)
OP96957-MS	6Q18428.D	05/25/23 21:02	OP96957	Matrix Spike
OP96957-MSD	6Q18429.D	05/25/23 21:16	OP96957	Matrix Spike Duplicate
S6Q276-ECC275	6Q18430.D	05/25/23 21:31	n/a	Ending cal 4
S6Q276-ICCB	6Q18431.D	05/25/23 21:45	n/a	Continuing Calibration Blank

6.10.2
6

MS Semi-volatiles

Raw Data

Manual Integrations
APPROVED
 (compounds with "m" flag)
 Norman Farmer
 05/25/23 13:06

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18353.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 10:26:51 PM
 Sample Name : FC6238-1
 Vial : P4-B3
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	60645	10.00 µg/L	0.000
M5-PFPeA	4.222	268.3 -> 223.0	59196	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	72011	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	68104	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	108862	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	42579	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	23284	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	28151	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	21123	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	9741	1.25 µg/L	-0.012
M8-FOSA	9.611	506.1 -> 77.8	29453	2.50 µg/L	0.012
M3-PFBS	5.347	302.1 -> 79.9	26630	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	15840	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13739	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3774	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	4608	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	4493	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	26979	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	42555	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24696	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	79864	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	106056	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	10473	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	10217	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	16793	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	71363	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	10332	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	97886	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	32577	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	47686	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	63850	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3774	6.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 121.7%		
13C2-6:2FTS	6.813	429.1 -> 80.9	4608	4.85 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	4493	4.66 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	21123	0.91 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 73.0%		
13C2-PFTeDA	9.639	715.2 -> 670.0	9741	0.82 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 65.8%		
13C3-PFBS	5.347	302.1 -> 79.9	26630	2.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 110.8%		
13C3-PFHxS	7.142	402.1 -> 79.9	15840	2.80 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 = 112.0%		
13C4-PFBA	2.876	216.8 -> 171.9	60645	3.57 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 35.7%		
13C4-PFHpA	6.382	367.1 -> 322.0	68104	2.78 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 111.3%		
13C5-PFHxA	5.417	318.0 -> 273.0	72011	2.77 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C5-PFPeA	4.222	268.3 -> 223.0	59196	4.87 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C6-PFDA	8.039	519.1 -> 474.1	23284	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C7-PFUnDA	8.480	570.0 -> 525.1	28151	1.12 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.6%		
13C8-FOSA	9.611	506.1 -> 77.8	29453	2.44 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C8-PFOA	7.038	421.1 -> 376.0	108862	2.87 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 114.8%		
13C8-PFOS	8.189	507.1 -> 79.9	13739	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.7%		
13C9-PFNA	7.557	472.1 -> 427.0	42579	1.35 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.2%		
d3-MeFOSAA	8.096	573.2 -> 419.0	26979	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.1%		
13C3-HFPO-DA	5.794	286.9 -> 168.9	42555	9.95 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 99.5%		
d3-MeFOSA	10.739	515.0 -> 219.0	10217	1.94 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 77.6%		
d5-EtFOSAA	8.292	589.2 -> 419.0	24696	5.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.2%		
d7-MeFOSE	10.660	623.2 -> 58.9	79864	19.52 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 78.1%		
d9-EtFOSE	10.907	639.2 -> 58.9	106056	20.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 83.3%		
d5-EtFOSA	10.972	531.1 -> 219.0	10473	2.05 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 81.9%		

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	6.813	427.1 -> 407.0 427.1 -> 80.9	1441 470	0.28 µg/L	98
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	3.007	212.8 -> 168.9	0	µg/L	m 1
PFBS	5.360	298.7 -> 79.9 298.7 -> 98.8	728 267	0.07 µg/L	99
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	6.382	599.0 -> 98.8					
		363.1 -> 319.0	4153	0.12	µg/L	93	
PFHpS	-	363.1 -> 169.0	742				
		449.0 -> 79.9	-	N.D.			
PFHxA	5.420	449.0 -> 98.9					
		313.0 -> 269.0	5435	0.19	µg/L	98	
PFHxS	-	313.0 -> 118.9	210				
		398.7 -> 79.9	-	N.D.			
PFNA	-	398.7 -> 98.9					
		463.0 -> 419.0	-	N.D.			
PFNS	-	463.0 -> 219.0					
		548.8 -> 79.9	-	N.D.			
PFOA	7.040	548.8 -> 98.9					
		413.0 -> 369.0	5807	0.11	µg/L	94	
PFOS	8.191	413.0 -> 169.0	1144				
		498.9 -> 79.9	1064	0.15	µg/L	m	77
PFPeA	4.703	498.9 -> 98.8	394				
		263.0 -> 219.0	0		µg/L	m	1
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	3.609	241.0 -> 177.0	0		µg/L	m	1
		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	-	N.D.			
MeFOSA	-	511.9 -> 169.0					
		616.1 -> 58.9	-	N.D.			
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	-	N.D.			
PFMBA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

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

7.1.1
7

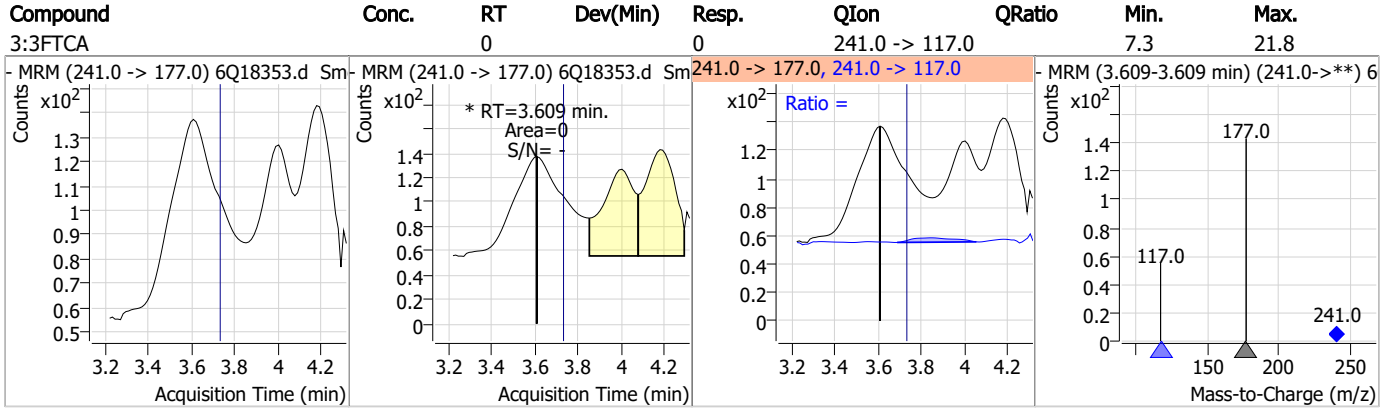
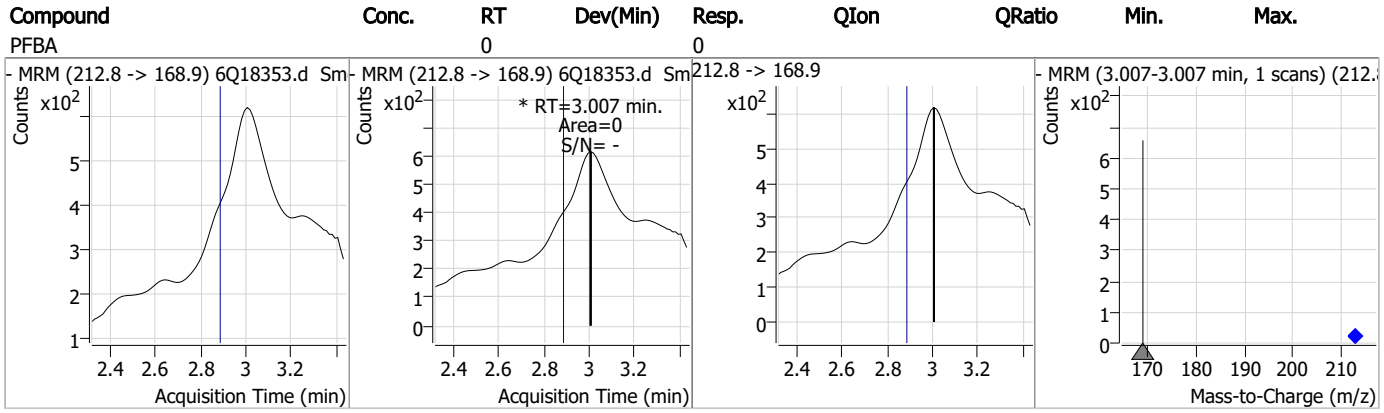
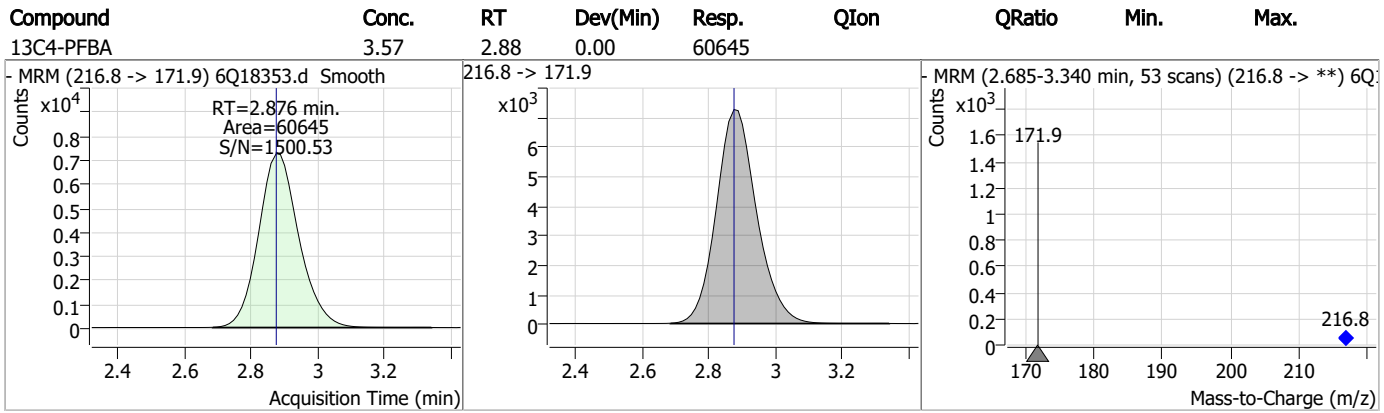
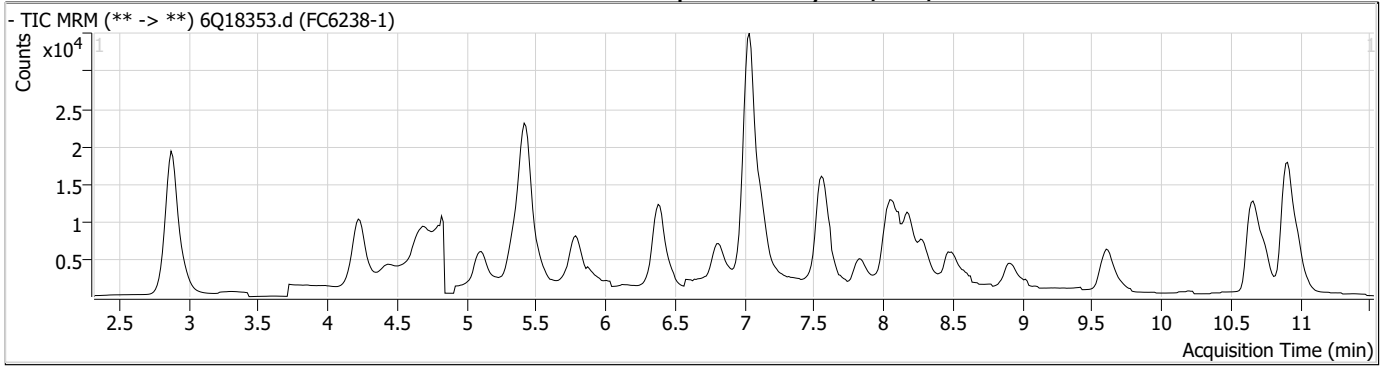
Perfluorinated Compounds by LC/MS/MS

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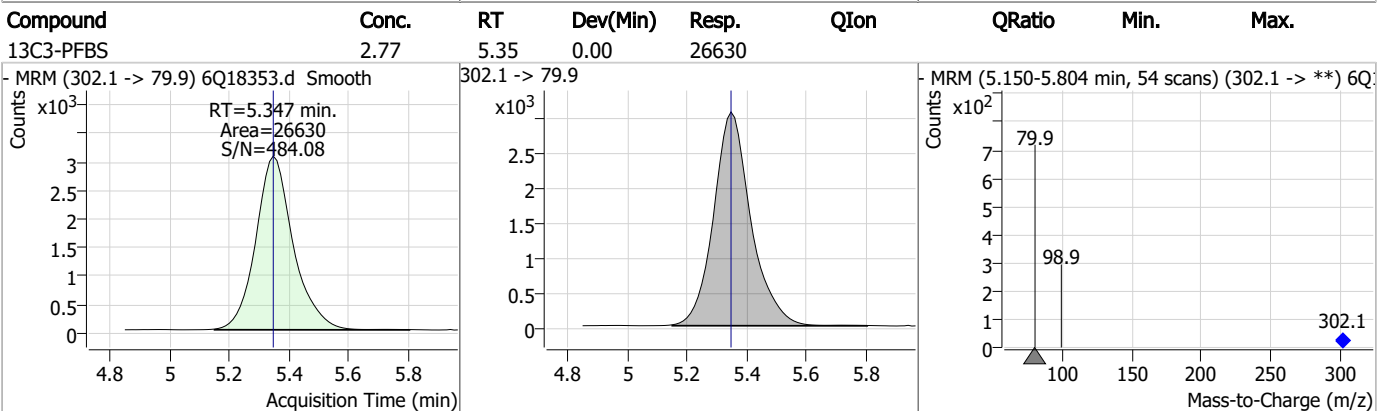
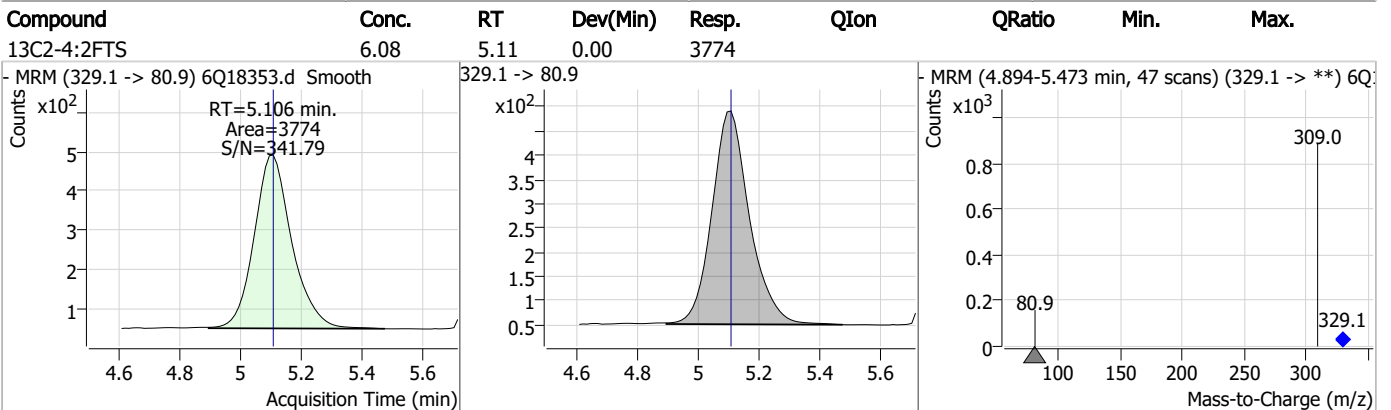
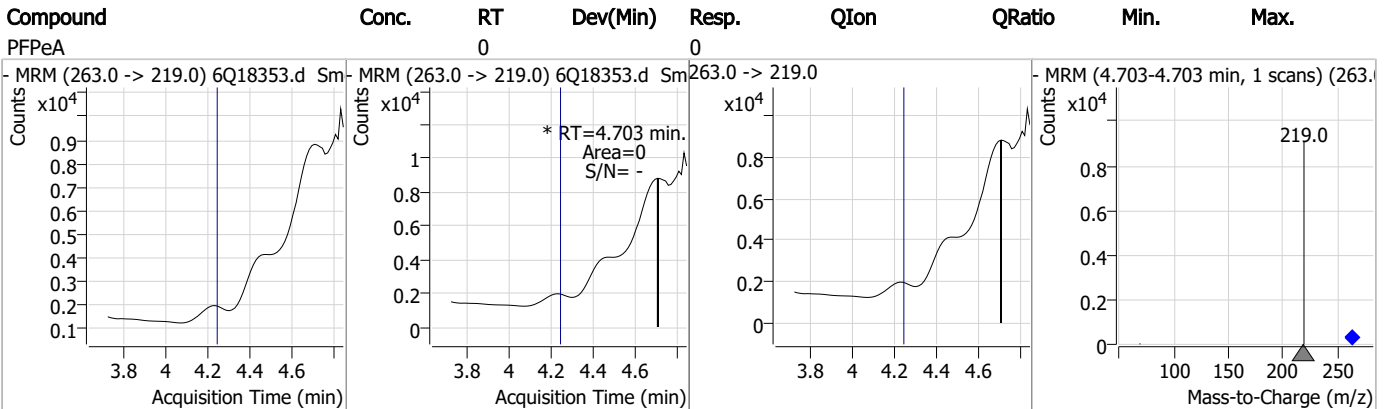
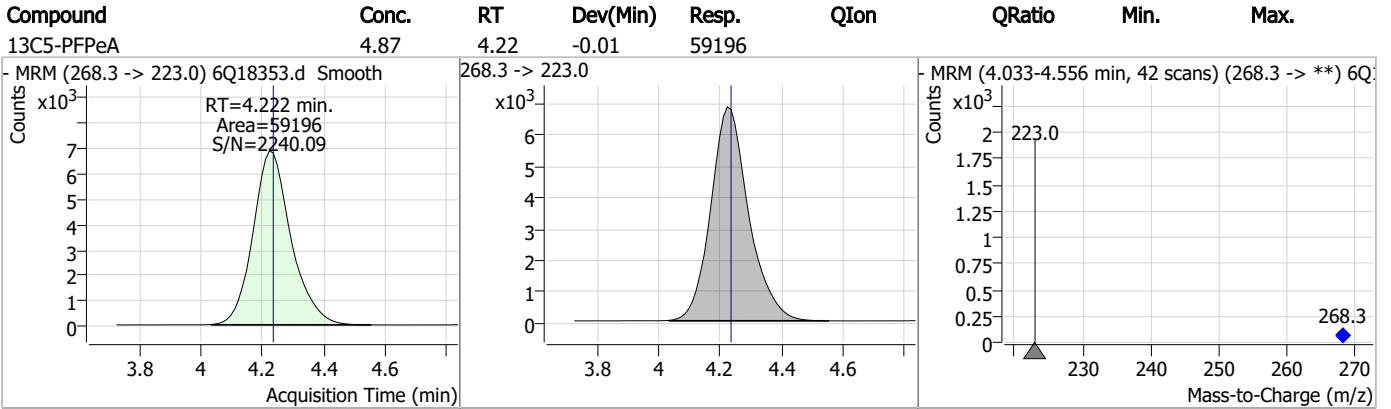
7.1.1

7

Perfluorinated Compounds by LC/MS/MS

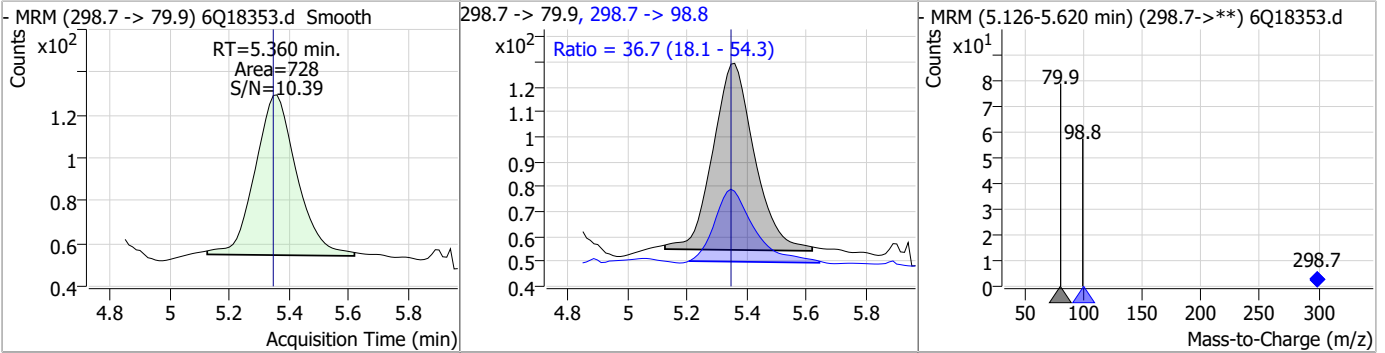


Perfluorinated Compounds by LC/MS/MS

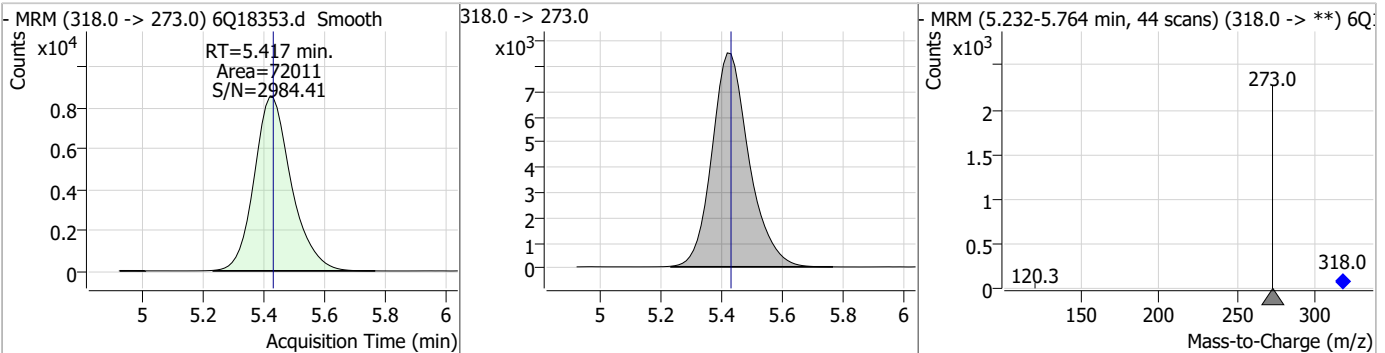


Perfluorinated Compounds by LC/MS/MS

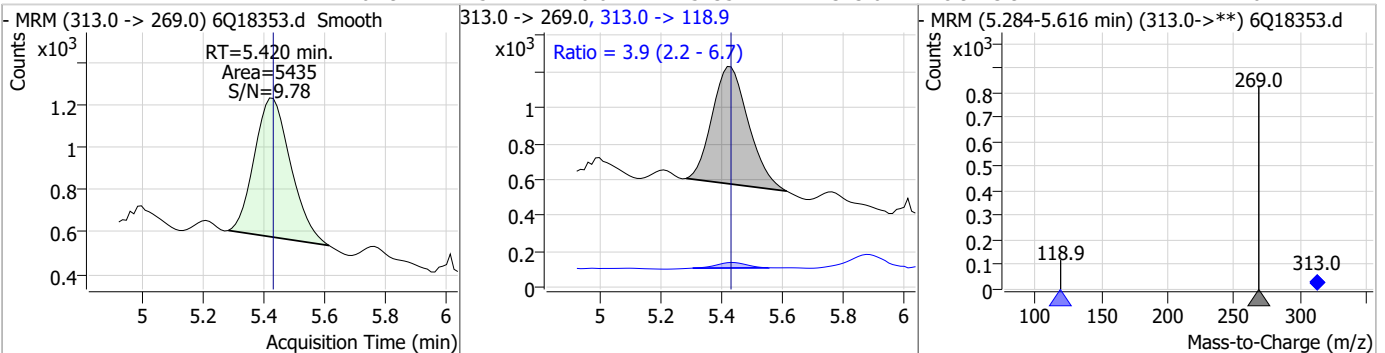
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.07	5.36	0.01	728	298.7 -> 98.8	36.7	18.1	54.3



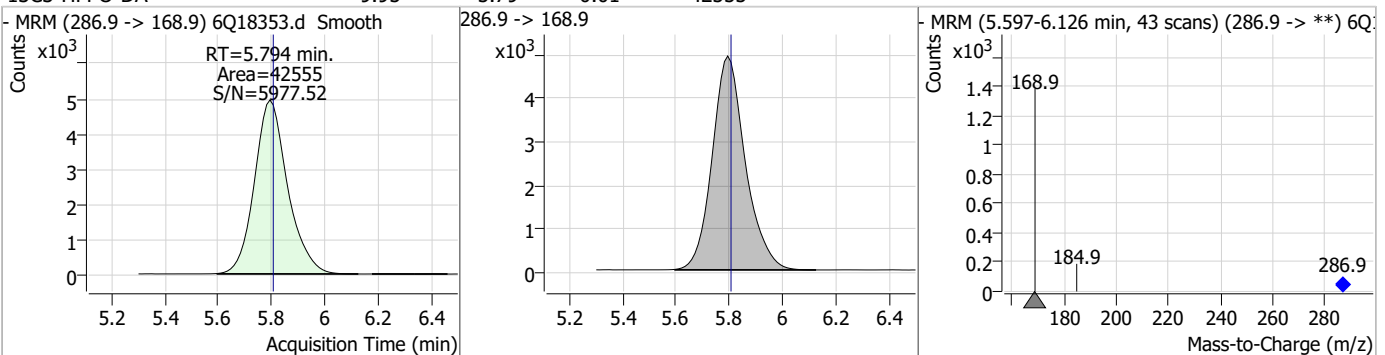
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.77	5.42	-0.01	72011				



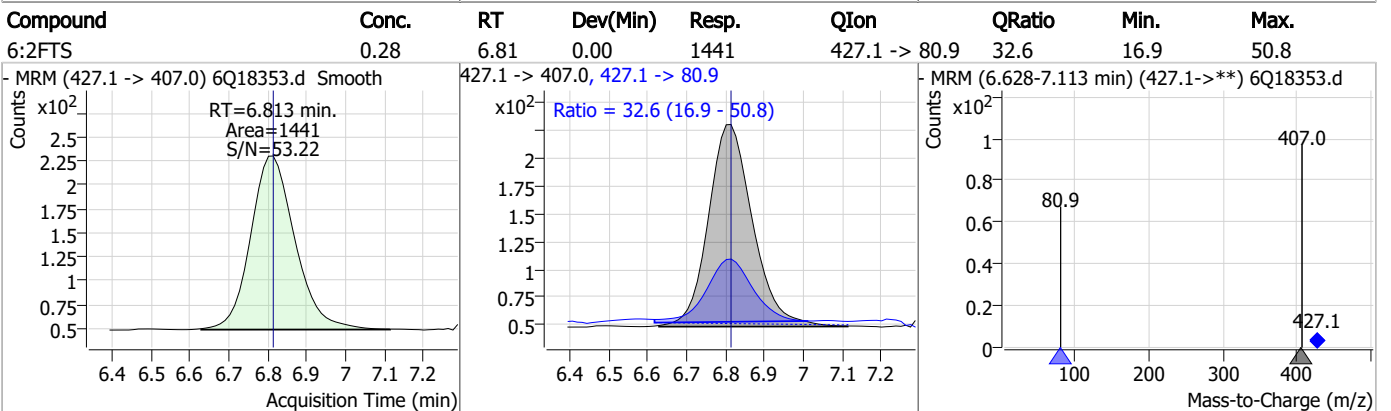
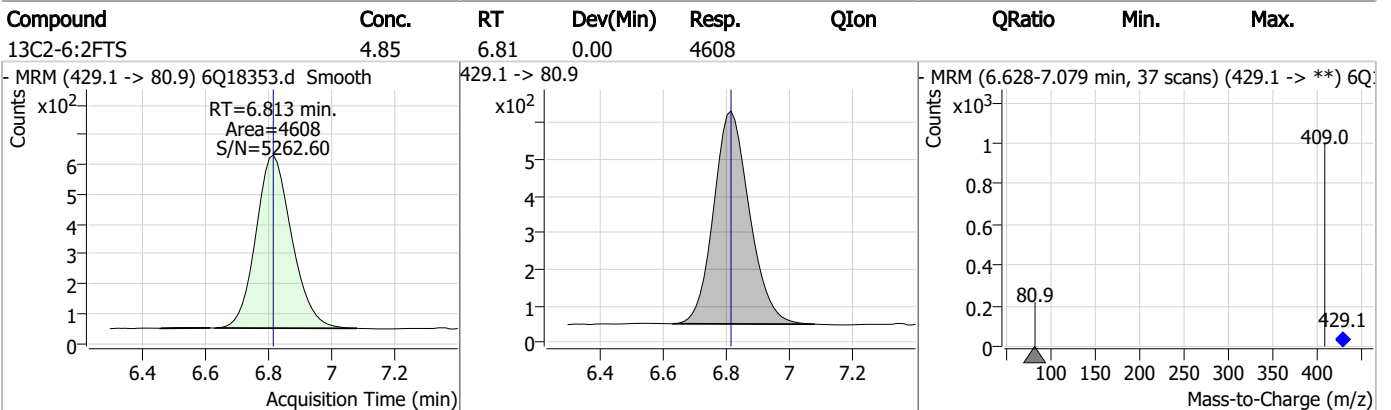
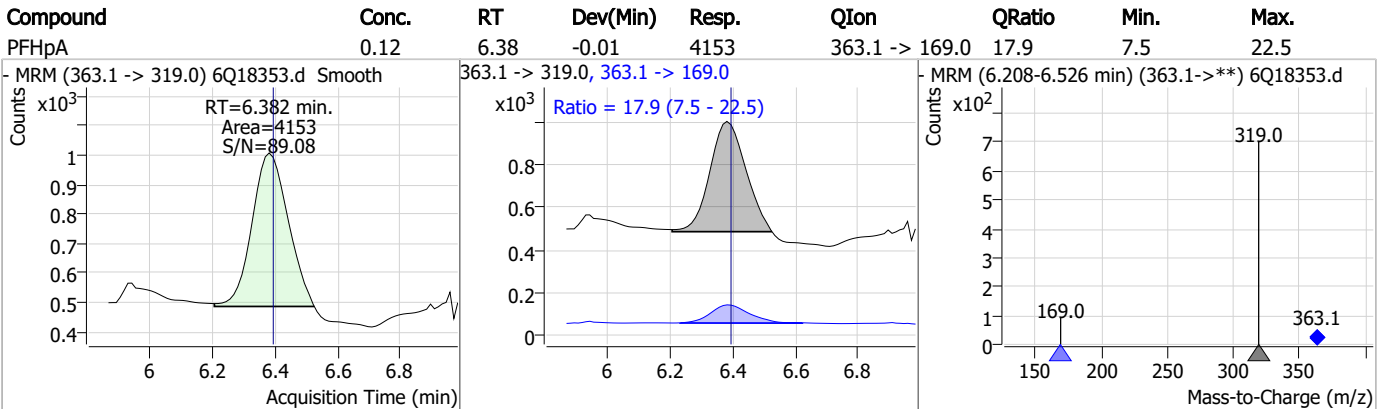
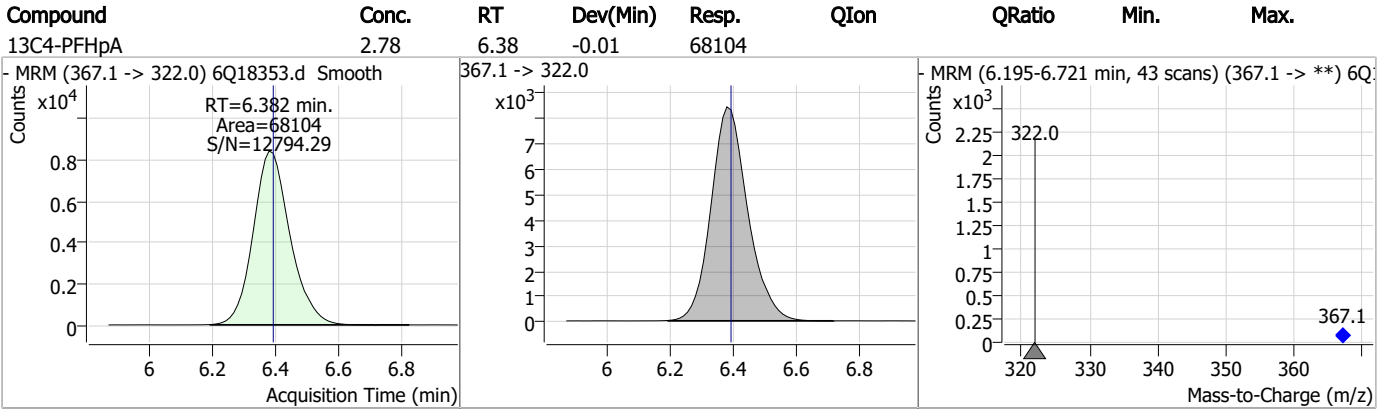
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.19	5.42	-0.01	5435	313.0 -> 118.9	3.9	2.2	6.7



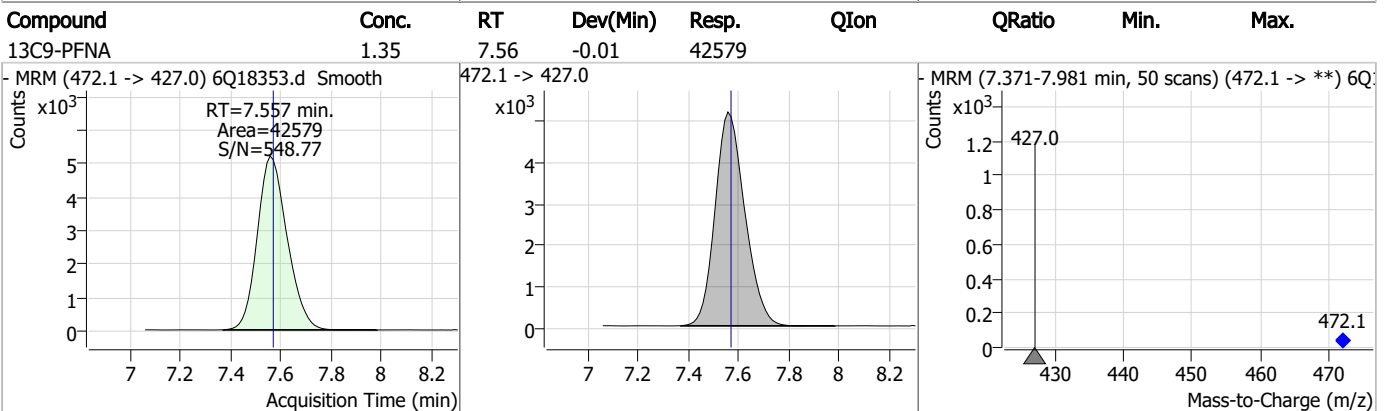
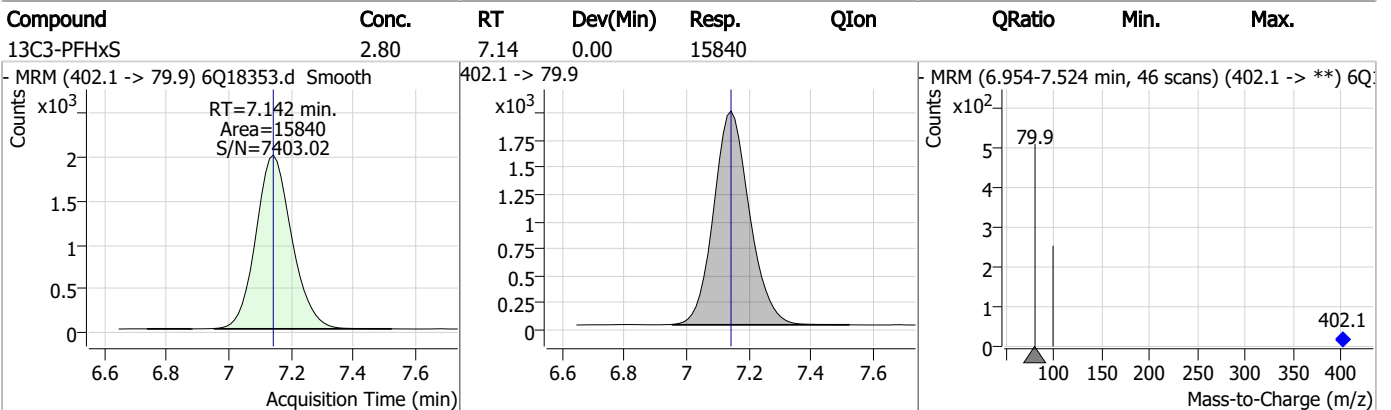
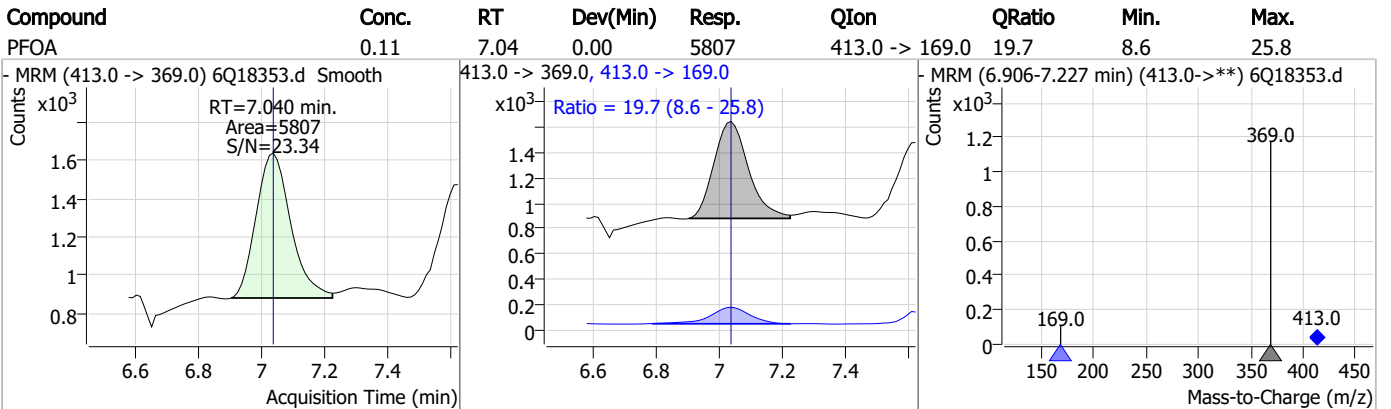
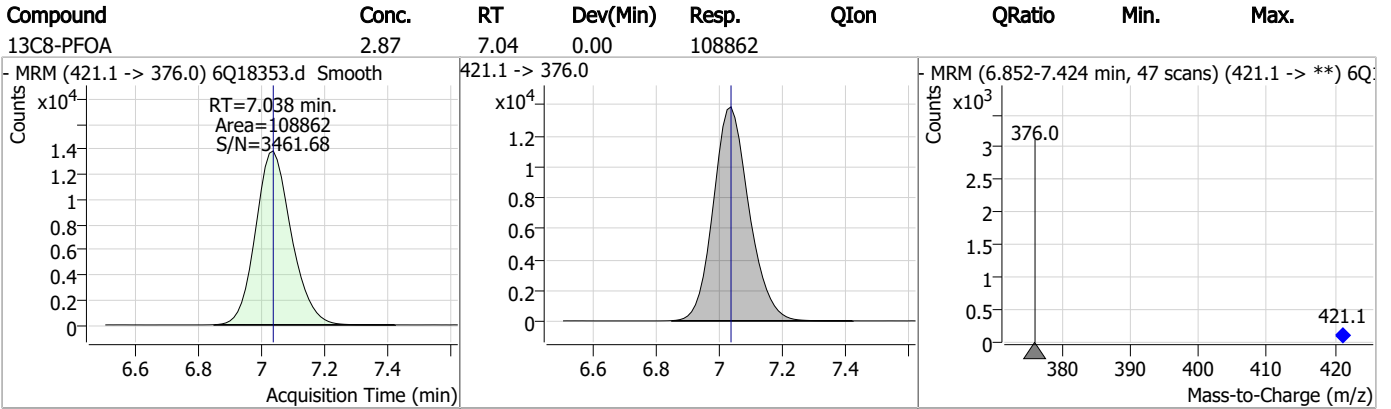
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.95	5.79	-0.01	42555				



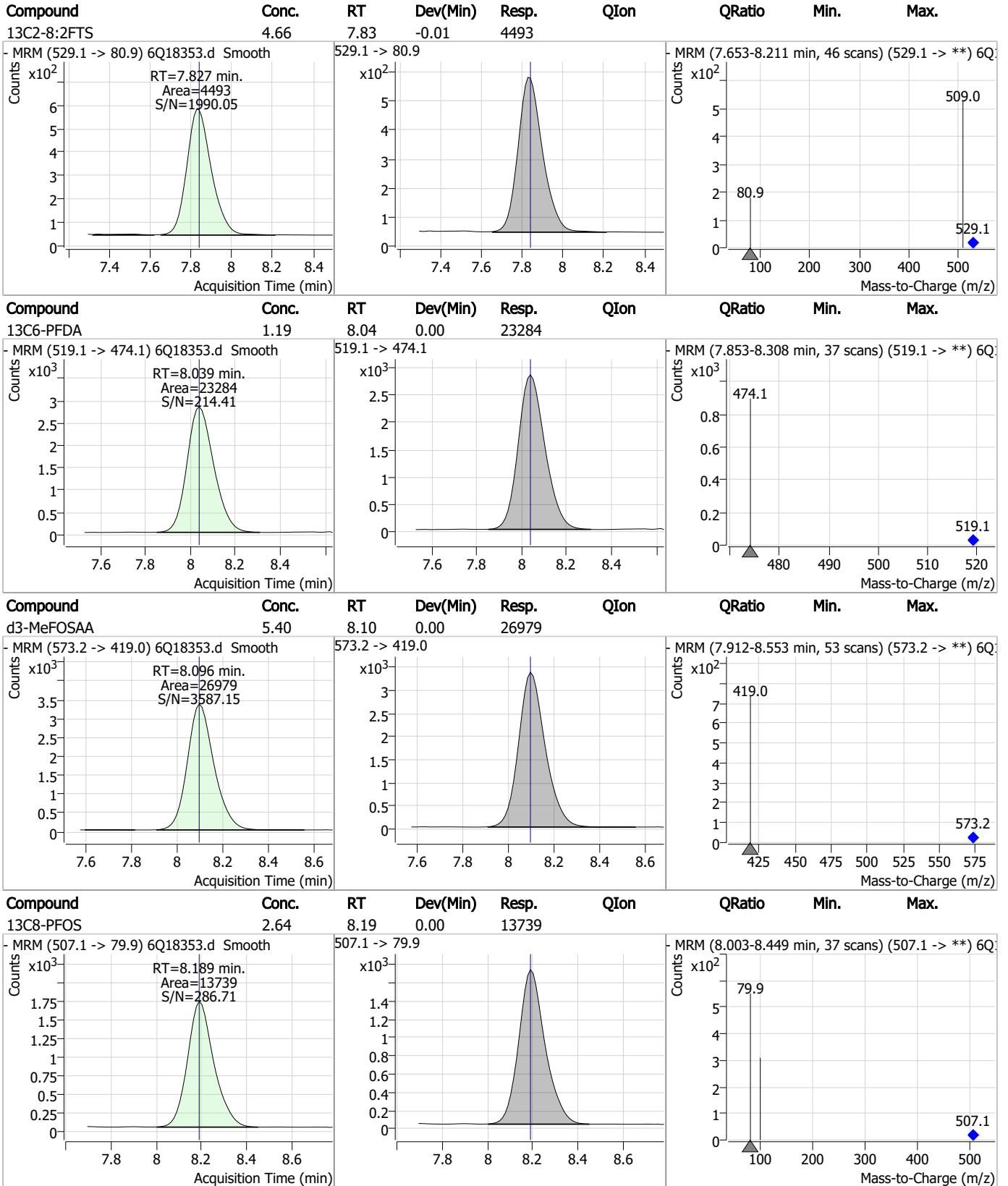
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



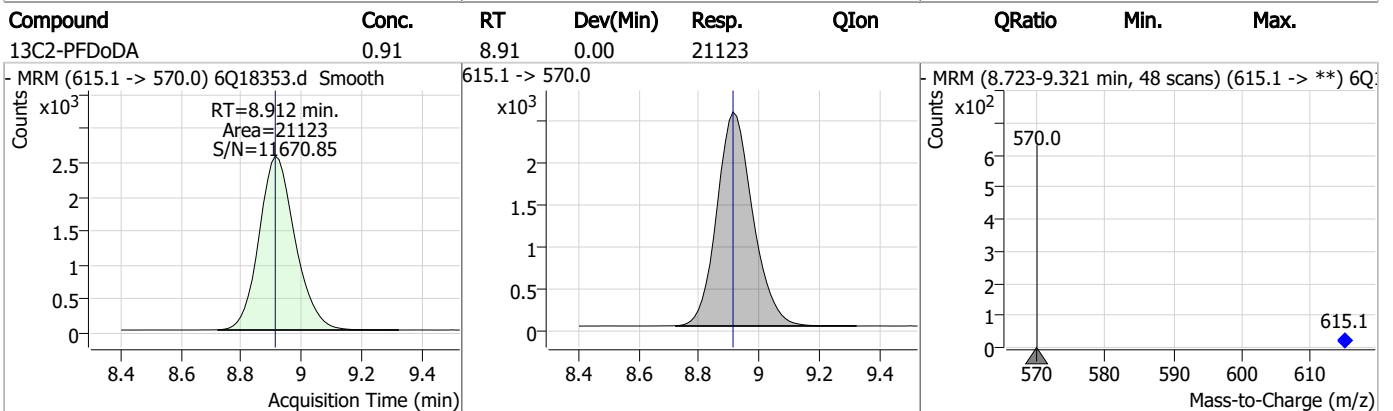
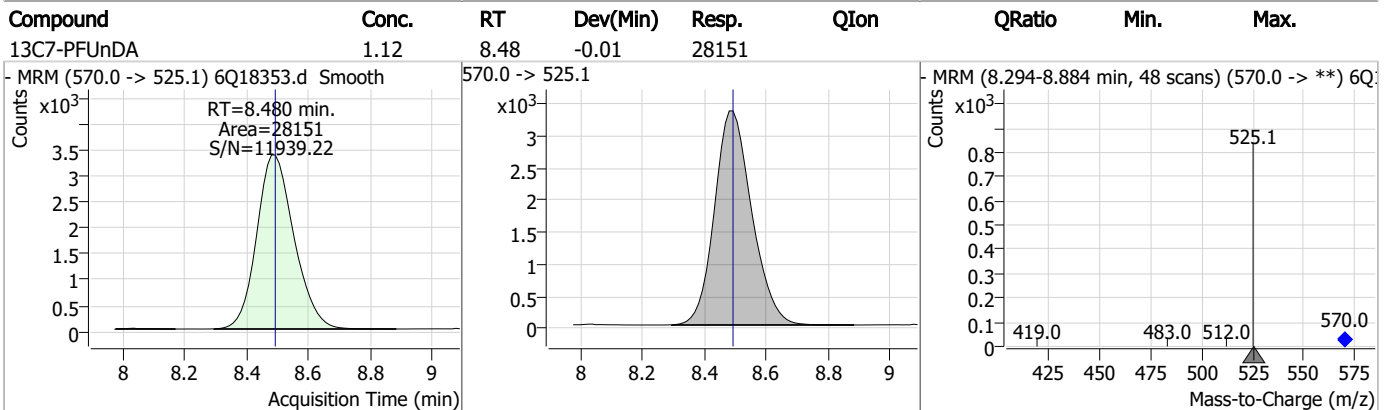
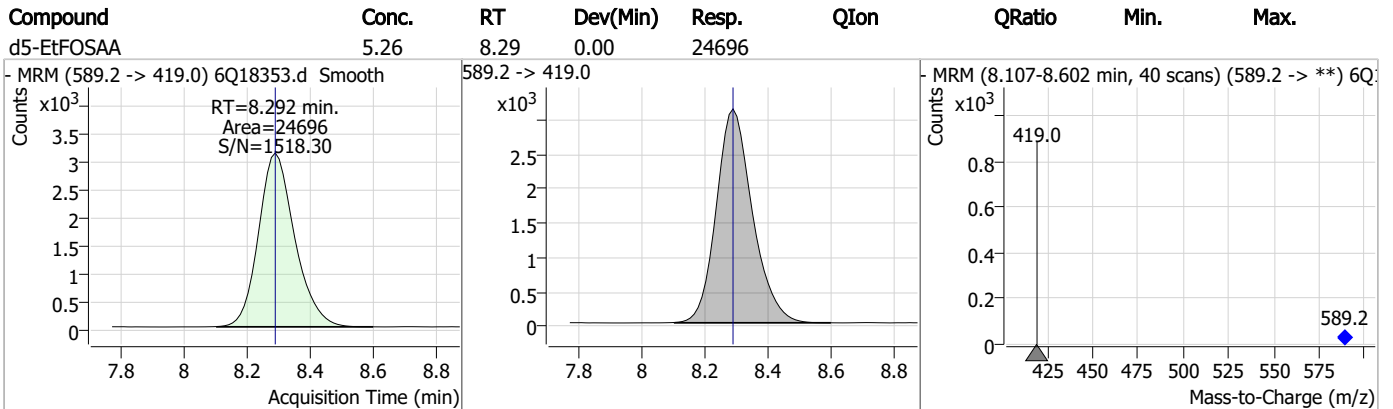
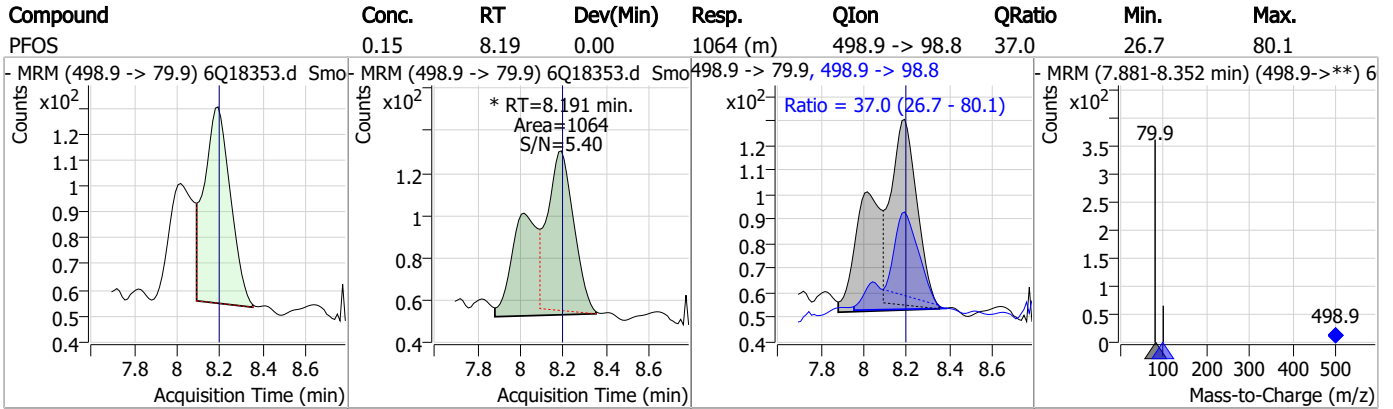
Perfluorinated Compounds by LC/MS/MS



7.1.1

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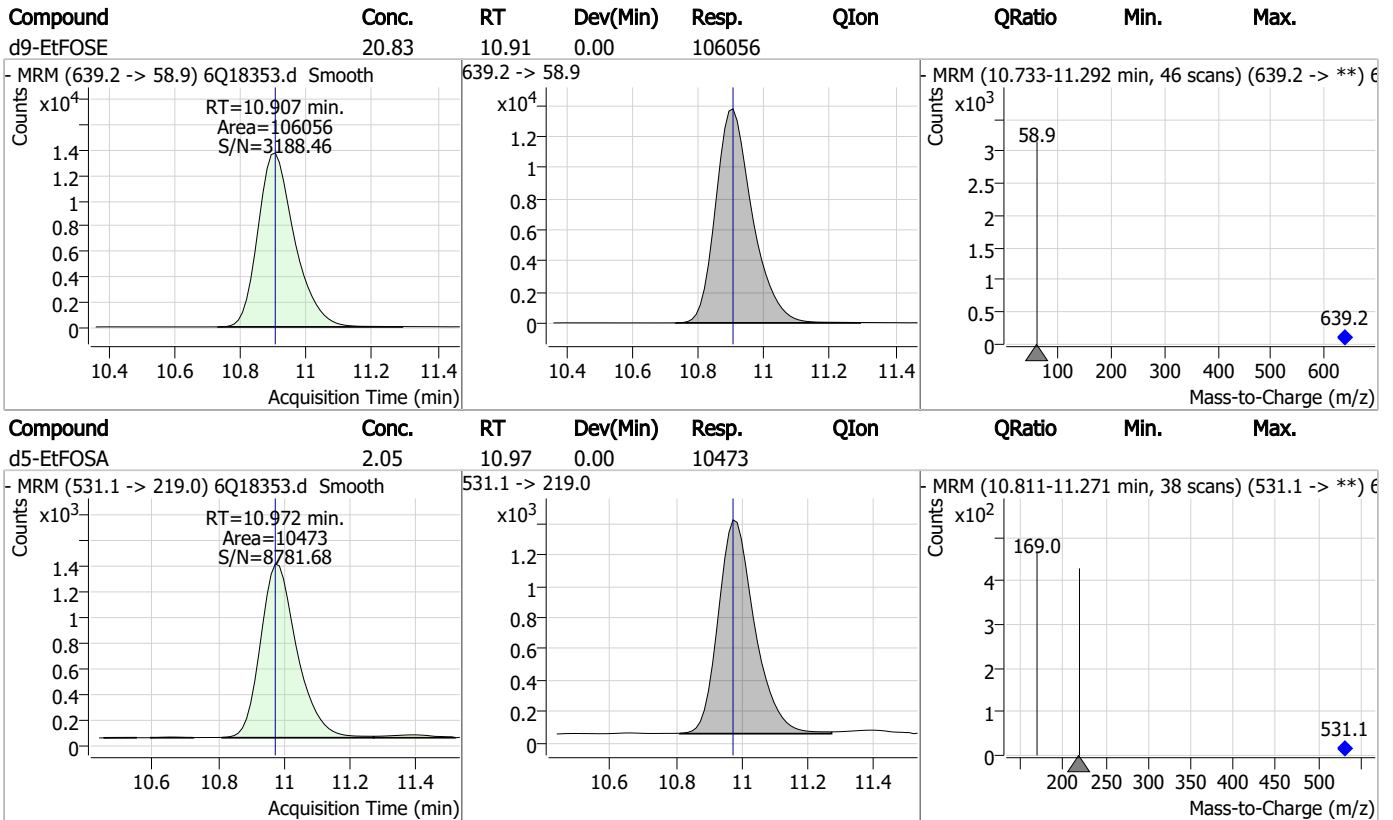
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.44	9.61	0.01	29453				
- MRM (506.1 -> 77.8) 6Q18353.d Smooth			506.1 -> 77.8			- MRM (9.426-9.993 min, 47 scans) (506.1 -> **) 6Q18353.d Smooth		
13C2-PFTeDA	0.82	9.64	-0.01	9741				
- MRM (715.2 -> 670.0) 6Q18353.d Smooth			715.2 -> 670.0			- MRM (9.466-9.908 min, 36 scans) (715.2 -> **) 6Q18353.d Smooth		
d7-MeFOSE	19.52	10.66	0.00	79864				
- MRM (623.2 -> 58.9) 6Q18353.d Smooth			623.2 -> 58.9			- MRM (10.486-11.045 min, 46 scans) (623.2 -> **) 6Q18353.d Smooth		
d3-MeFOSA	1.94	10.74	0.00	10217				
- MRM (515.0 -> 219.0) 6Q18353.d Smooth			515.0 -> 219.0			- MRM (10.566-11.188 min, 51 scans) (515.0 -> **) 6Q18353.d Smooth		

Perfluorinated Compounds by LC/MS/MS



7.1.1
7

Manual Integration Approval Summary

Sample Number: FC6238-1 Method: EPA DRAFT 1633
Lab FileID: 6Q18353.D Analyst approved: 05/25/23 10:58 Martha Valls
Injection Time: 05/24/23 22:26 Supervisor approved: 05/25/23 13:06 Norman Farmer

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

7.1.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18354.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 10:41:20 PM
 Sample Name : FC6238-2
 Vial : P4-B4
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	203284	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	67082	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	72158	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	67905	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	101281	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	41194	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	24467	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	29433	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	25598	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	13281	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	25308	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	25528	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	15893	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13296	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3992	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5612	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5060	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	28036	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	44812	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	23859	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	85826	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	122254	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	12148	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	11030	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17105	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	78179	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	10350	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	99442	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31965	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	46667	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	63065	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3992	6.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.5%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5612	5.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.0%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5060	5.24 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25598	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 90.2%		
13C2-PFTeDA	9.639	715.2 -> 670.0	13281	1.14 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 91.4%		
13C3-PFBS	5.347	302.1 -> 79.9	25528	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C3-PFHxS	7.142	402.1 -> 79.9	15893	2.80 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 = 112.2%	
13C4-PFBA	2.876	216.8 -> 171.9	203284	10.93 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C4-PFHpA	6.382	367.1 -> 322.0	67905	2.81 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.4%	
13C5-PFHxA	5.429	318.0 -> 273.0	72158	2.81 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C5-PFPeA	4.235	268.3 -> 223.0	67082	5.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C6-PFDA	8.039	519.1 -> 474.1	24467	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C7-PFUnDA	8.480	570.0 -> 525.1	29433	1.19 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C8-FOSA	9.598	506.1 -> 77.8	25308	2.06 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.3%	
13C8-PFOA	7.038	421.1 -> 376.0	101281	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C8-PFOS	8.189	507.1 -> 79.9	13296	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C9-PFNA	7.557	472.1 -> 427.0	41194	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28036	5.51 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	44812	10.61 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.1%	
d3-MeFOSA	10.739	515.0 -> 219.0	11030	2.06 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	23859	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	85826	20.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	122254	23.58 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	12148	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	

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.	

Perfluorinated Compounds by LC/MS/MS

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

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

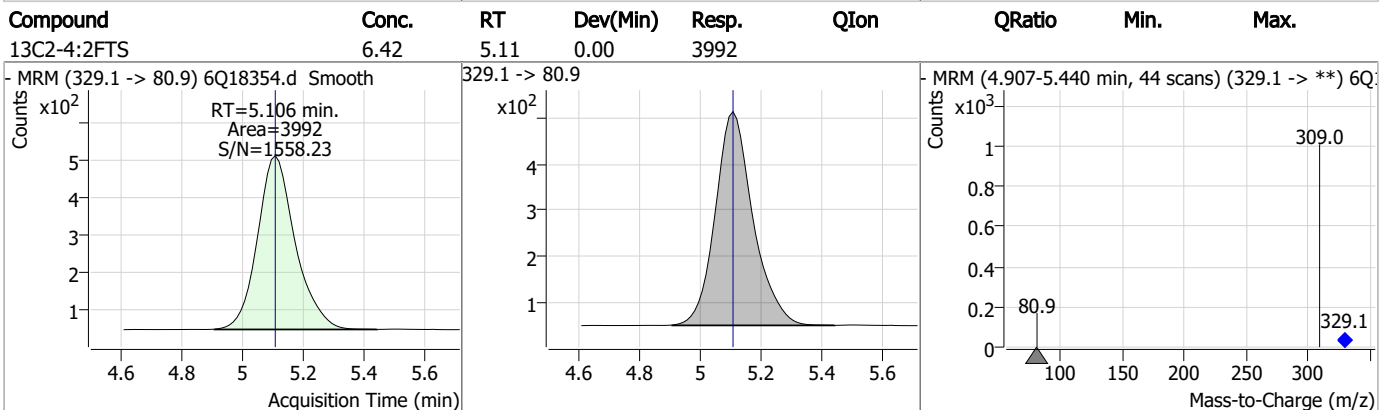
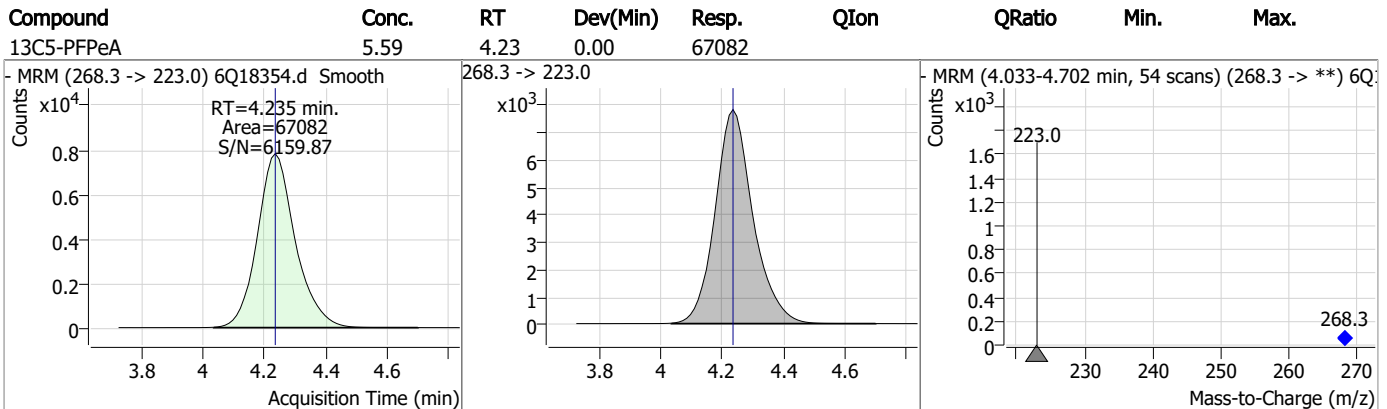
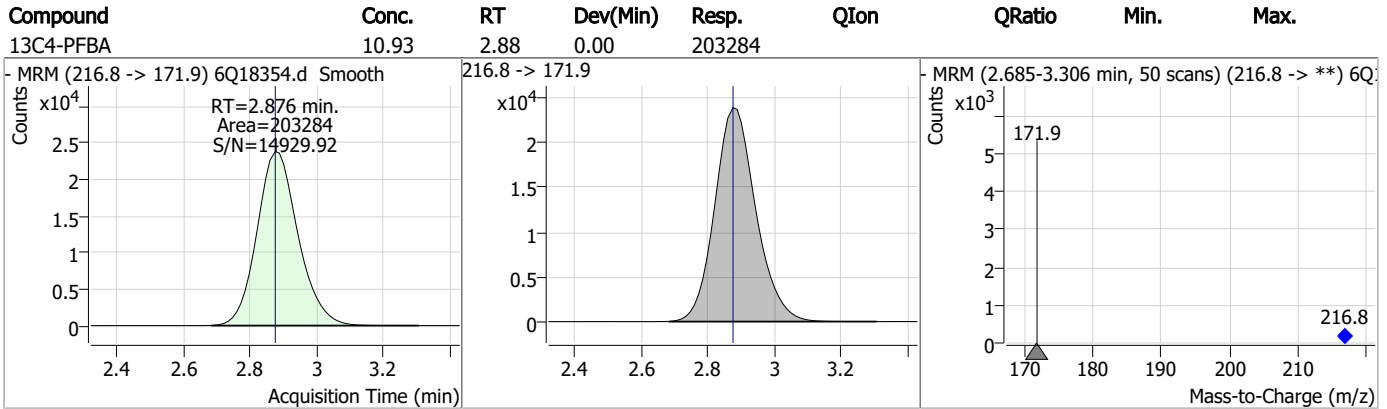
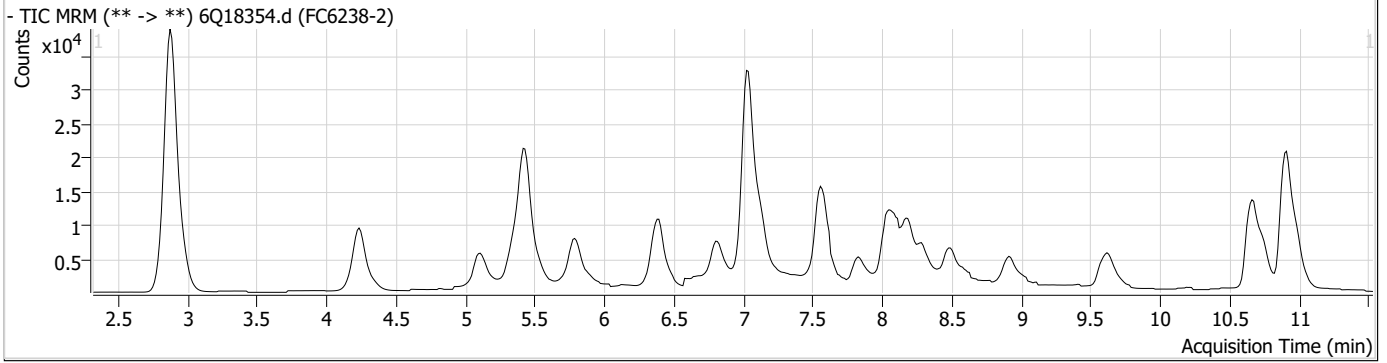
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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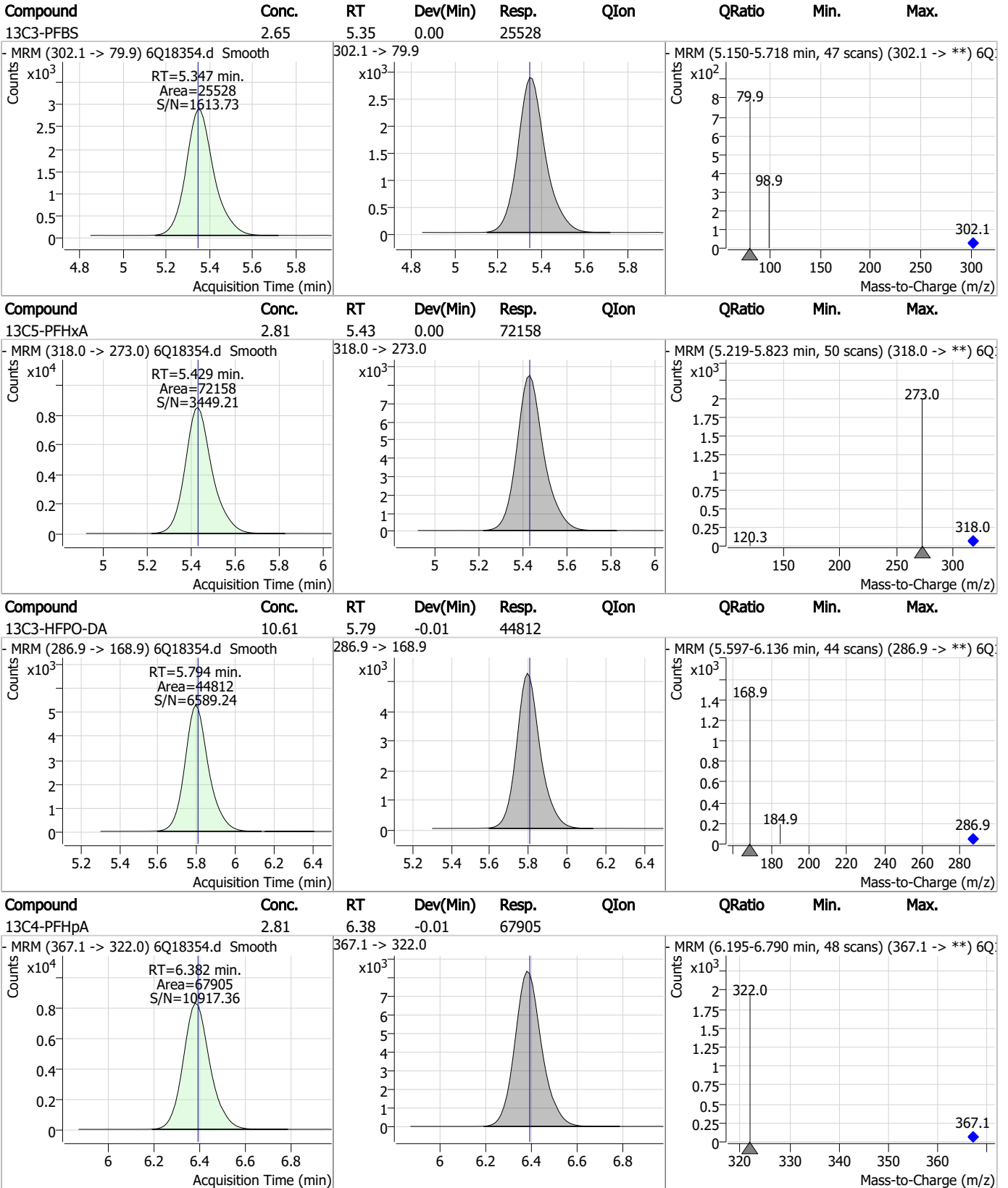
7.1.2
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Perfluorinated Compounds by LC/MS/MS



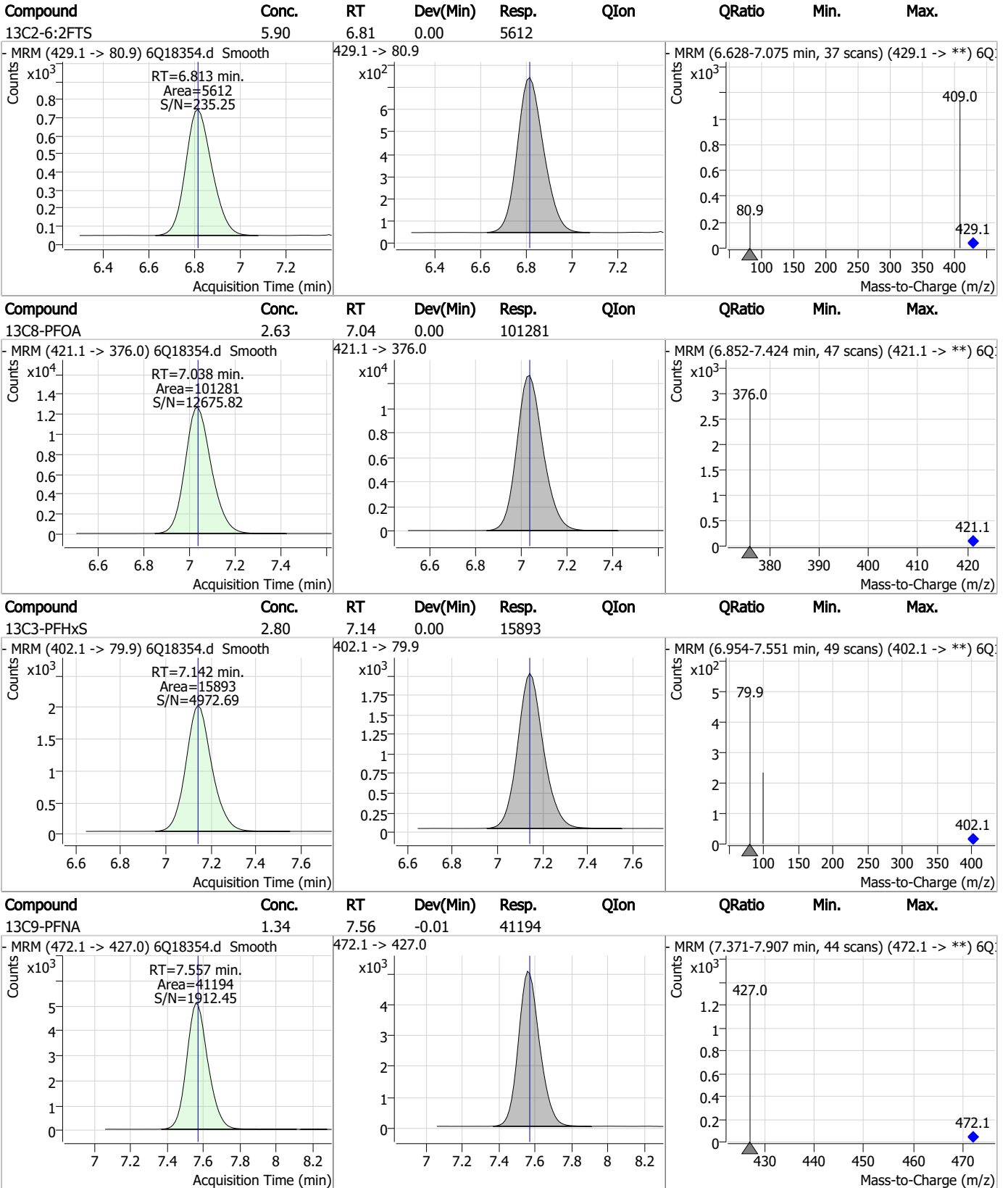
Perfluorinated Compounds by LC/MS/MS



7.1.2

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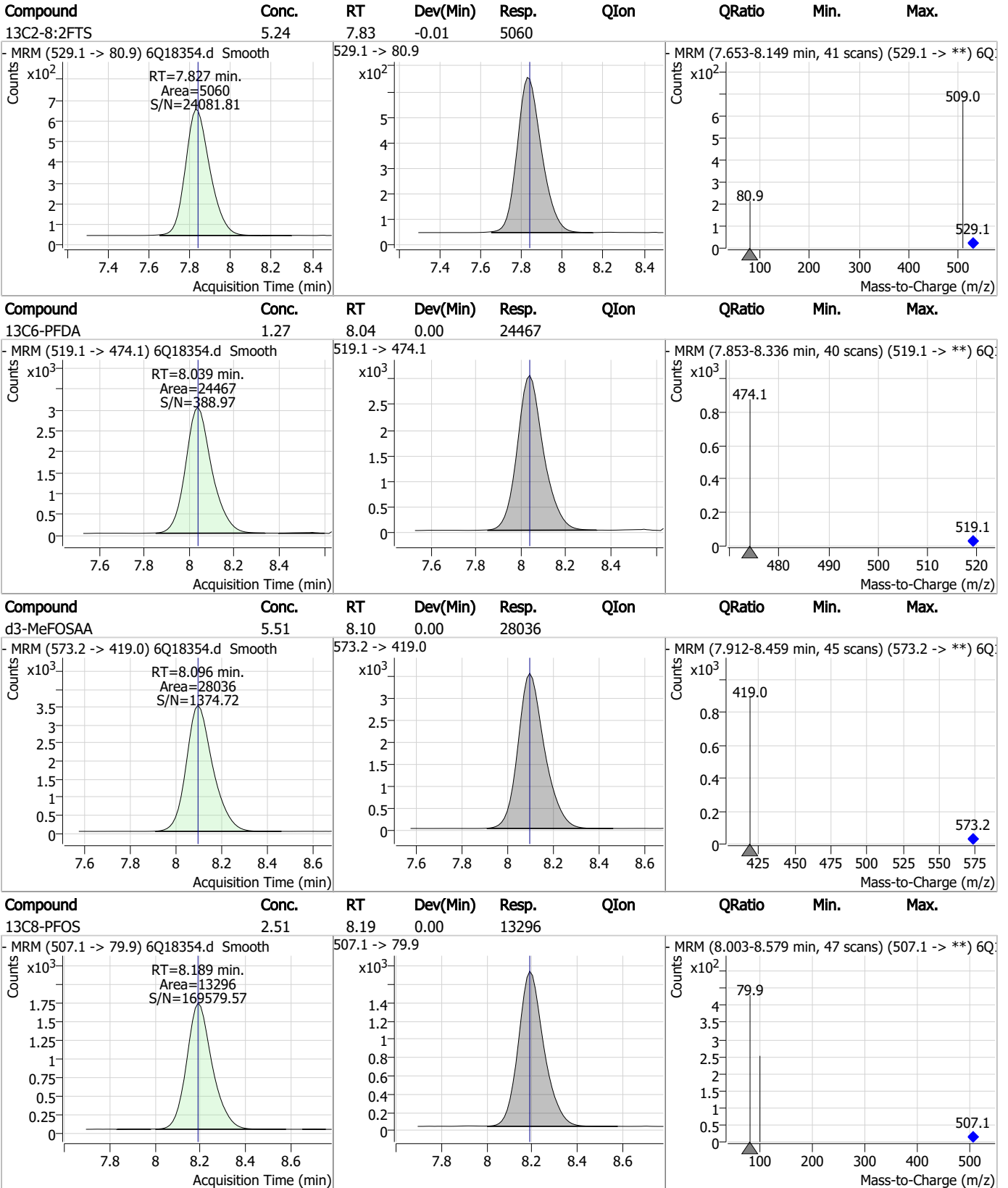
Perfluorinated Compounds by LC/MS/MS



7.1.2

7

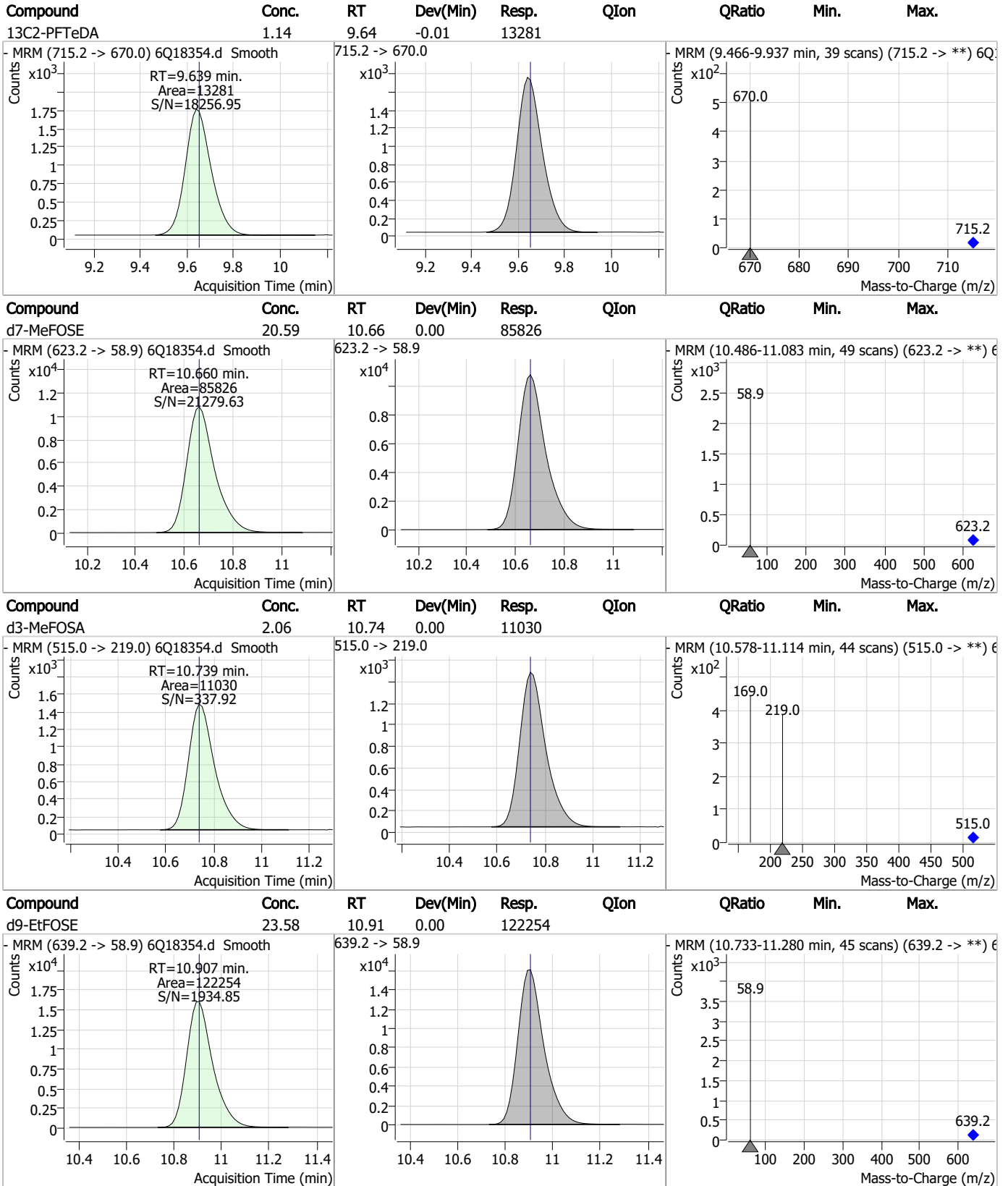
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

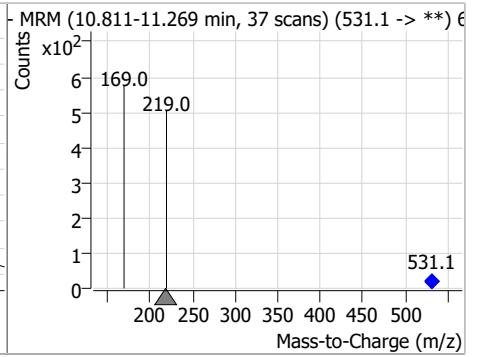
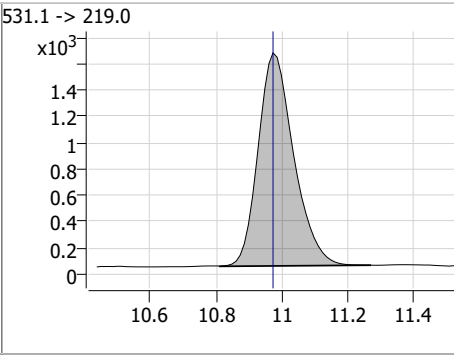
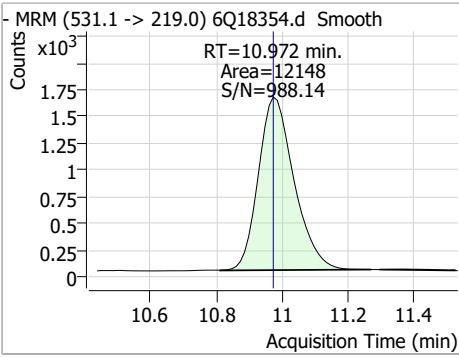
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.99	8.29	0.00	23859				
13C7-PFUnDA	1.19	8.48	-0.01	29433				
13C2-PFDoDA	1.13	8.91	0.00	25598				
13C8-FOSA	2.06	9.60	0.00	25308				

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.33	10.97	0.00	12148				



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18355.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 10:55:48 PM
 Sample Name : FC6238-3
 Vial : P4-B5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	6858	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	15236	5.00 µg/L	0.000
M5-PFHxA	5.417	318.0 -> 273.0	66789	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	71613	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	107824	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	46356	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28143	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34667	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	28444	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	11931	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	28026	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	26035	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16372	2.50 µg/L	0.000
M8-PFOS	8.177	507.1 -> 79.9	14667	2.50 µg/L	-0.012
M2-4:2FTS	5.106	329.1 -> 80.9	4228	5.00 µg/L	0.000
M2-6:2FTS	6.801	429.1 -> 80.9	6357	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	6038	5.00 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	40316	5.00 µg/L	-0.012
M3-HFPO-DA	5.794	286.9 -> 168.9	40392	10.00 µg/L	-0.012
M5-EtFOSAA	8.279	589.2 -> 419.0	39450	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	82079	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	117623	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	13266	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	12879	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20501	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	81669	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	11110	2.50 µg/L	0.000
13C4-PFOA	7.027	417.1 -> 372.0	104371	2.50 µg/L	-0.012
13C2-PFDA	8.039	515.1 -> 470.1	33457	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	49680	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	64708	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4228	6.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 126.8%		
13C2-6:2FTS	6.801	429.1 -> 80.9	6357	6.23 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.5%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6038	5.82 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.5%		
13C2-PFDoDA	8.912	615.1 -> 570.0	28444	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C2-PFTeDA	9.639	715.2 -> 670.0	11931	0.98 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 78.5%		
13C3-PFBS	5.347	302.1 -> 79.9	26035	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C3-PFHxS	7.142	402.1 -> 79.9	16372	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	2.876	216.8 -> 171.9	6858	0.35 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 3.5%		
13C4-PFHpA	6.382	367.1 -> 322.0	71613	2.89 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 115.5%		
13C5-PFHxA	5.417	318.0 -> 273.0	66789	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C5-PFPeA	4.235	268.3 -> 223.0	15236	1.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 24.7%		
13C6-PFDA	8.039	519.1 -> 474.1	28143	1.40 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 111.6%		
13C7-PFUnDA	8.480	570.0 -> 525.1	34667	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 107.4%		
13C8-FOSA	9.598	506.1 -> 77.8	28026	1.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 76.0%		
13C8-PFOA	7.026	421.1 -> 376.0	107824	2.66 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C8-PFOS	8.177	507.1 -> 79.9	14667	2.31 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.5%		
13C9-PFNA	7.557	472.1 -> 427.0	46356	1.41 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 113.1%		
d3-MeFOSAA	8.084	573.2 -> 419.0	40316	6.61 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 132.3%		
13C3-HFPO-DA	5.794	286.9 -> 168.9	40392	9.32 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 93.2%		
d3-MeFOSA	10.739	515.0 -> 219.0	12879	2.00 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 80.2%		
d5-EtFOSAA	8.279	589.2 -> 419.0	39450	6.88 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 137.7%		
d7-MeFOSE	10.660	623.2 -> 58.9	82079	16.43 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 65.7%		
d9-EtFOSE	10.907	639.2 -> 58.9	117623	18.93 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 75.7%		
d5-EtFOSA	10.972	531.1 -> 219.0	13266	2.12 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 85.0%		

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	6.813	427.1 -> 407.0 427.1 -> 80.9	1780 622	0.25 µg/L	98
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	8.620	512.9 -> 469.0 512.9 -> 219.0	0 0	µg/L m	1
PFDODA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	9.026	599.0 -> 79.9	0	µg/L m	1

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	0			
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	8.131	449.0 -> 79.9	0	µg/L	m	1
		449.0 -> 98.9	0			
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	9.004	548.8 -> 79.9	0	µg/L	m	1
		548.8 -> 98.9	0			
PFOA	7.028	413.0 -> 369.0	0	µg/L	m	1
		413.0 -> 169.0	0			
PFOS	7.869	498.9 -> 79.9	0	µg/L	m	1
		498.9 -> 98.8	0			
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	9.170	713.1 -> 669.0	0	µg/L	m	1
		713.1 -> 168.9	0			
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

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



7.1.3
7

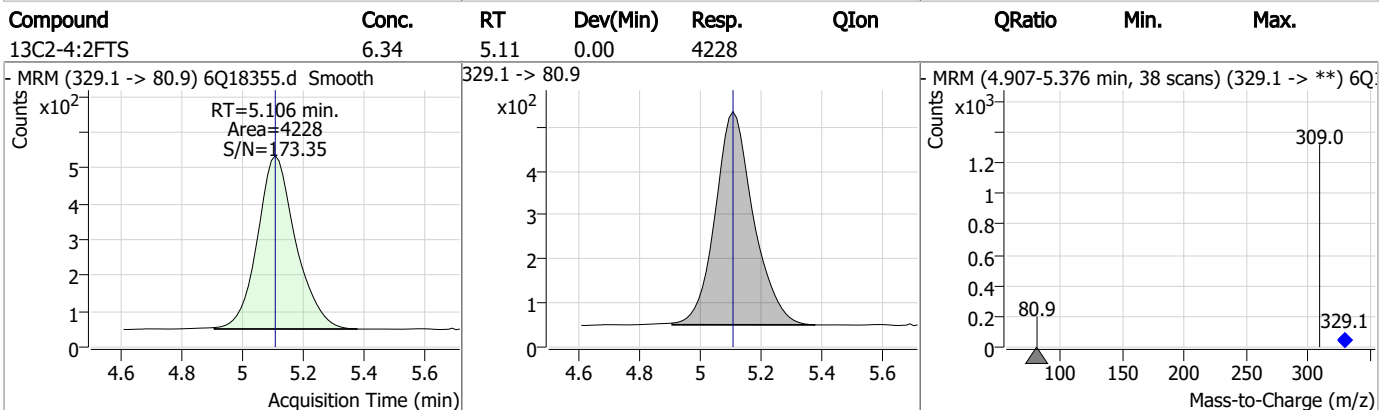
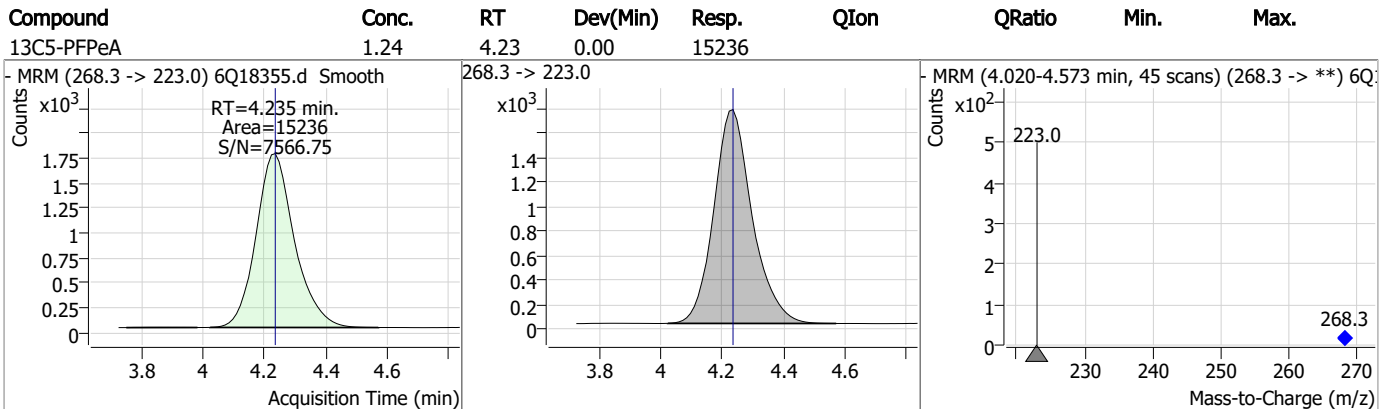
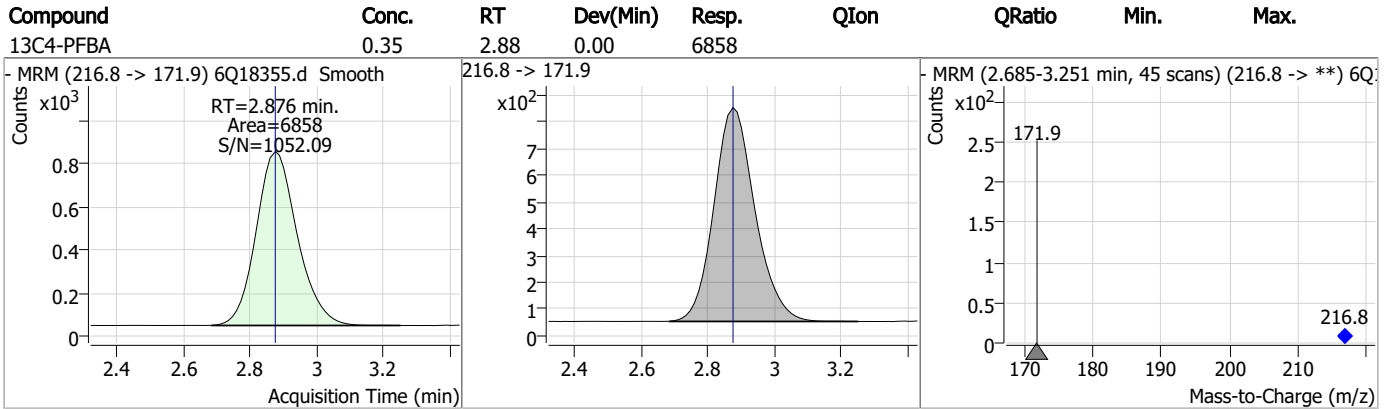
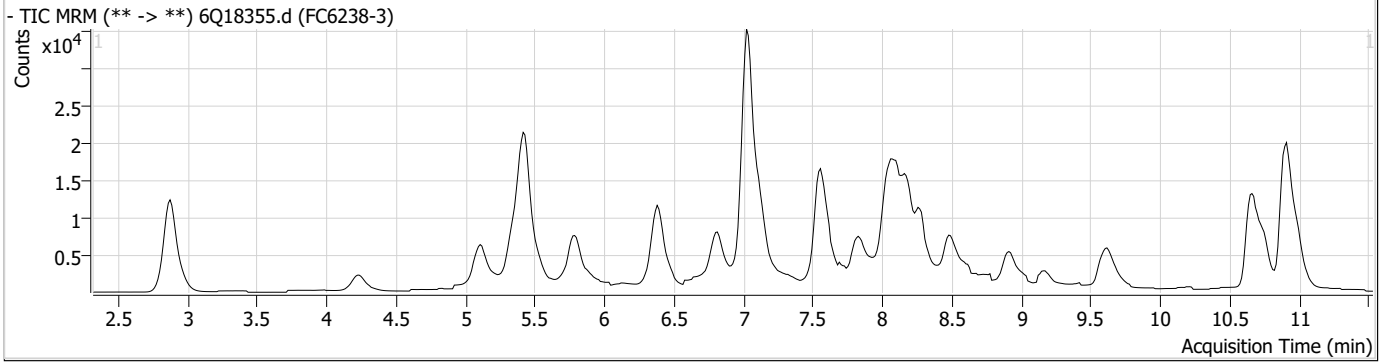
Perfluorinated Compounds by LC/MS/MS

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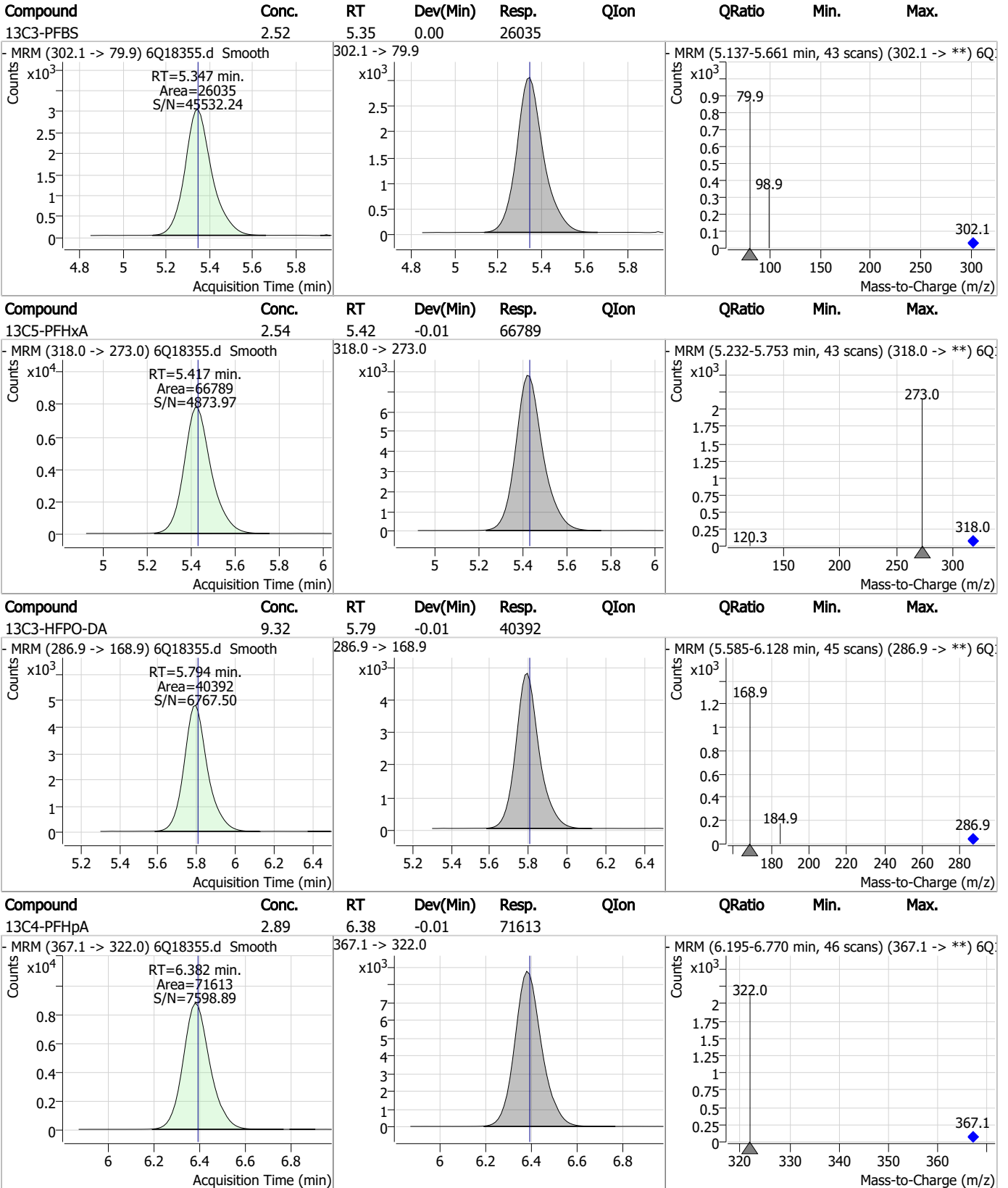
7.1.3
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

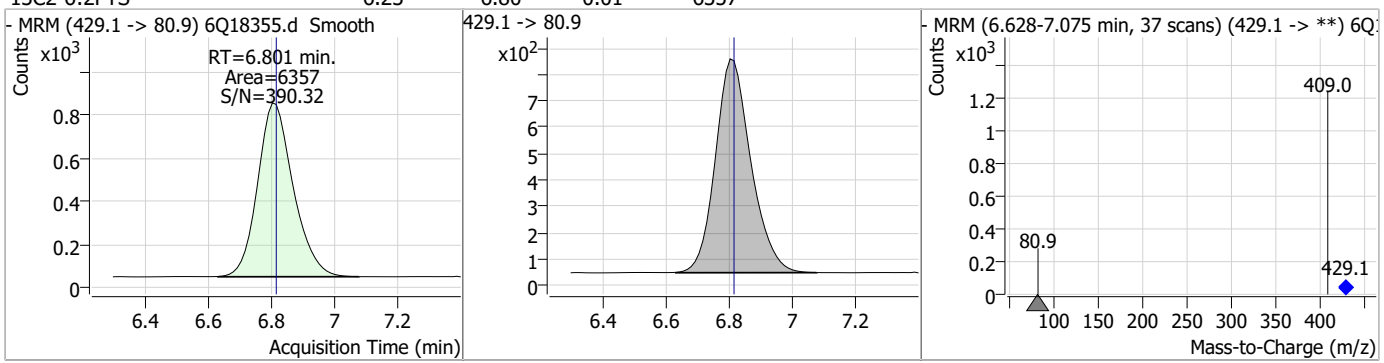


7.1.3

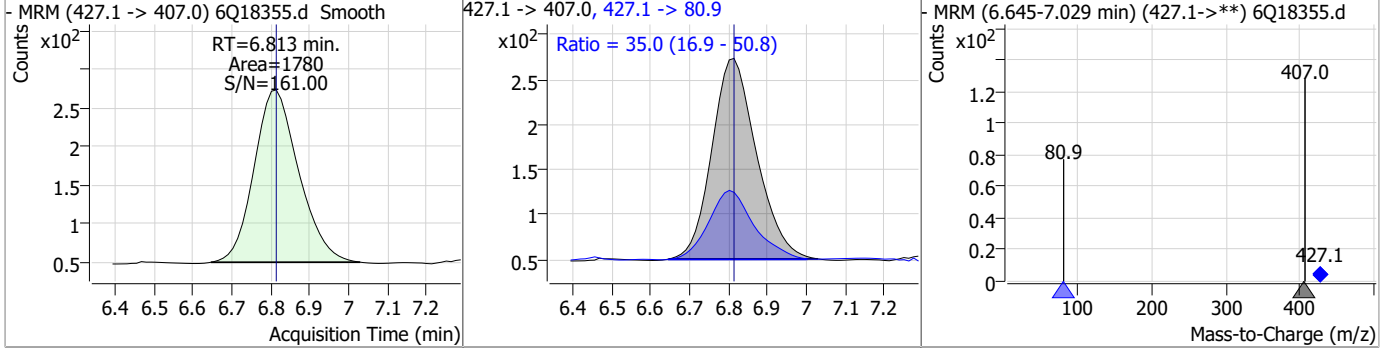
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Perfluorinated Compounds by LC/MS/MS

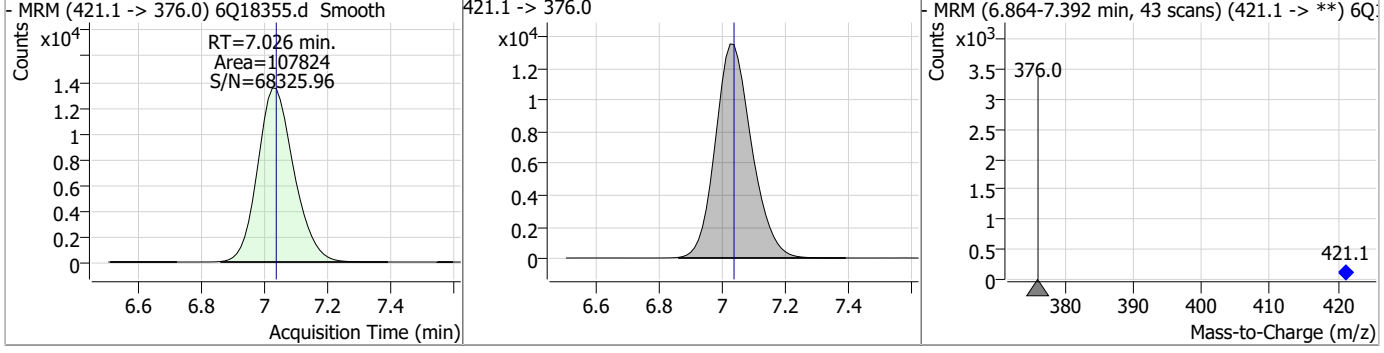
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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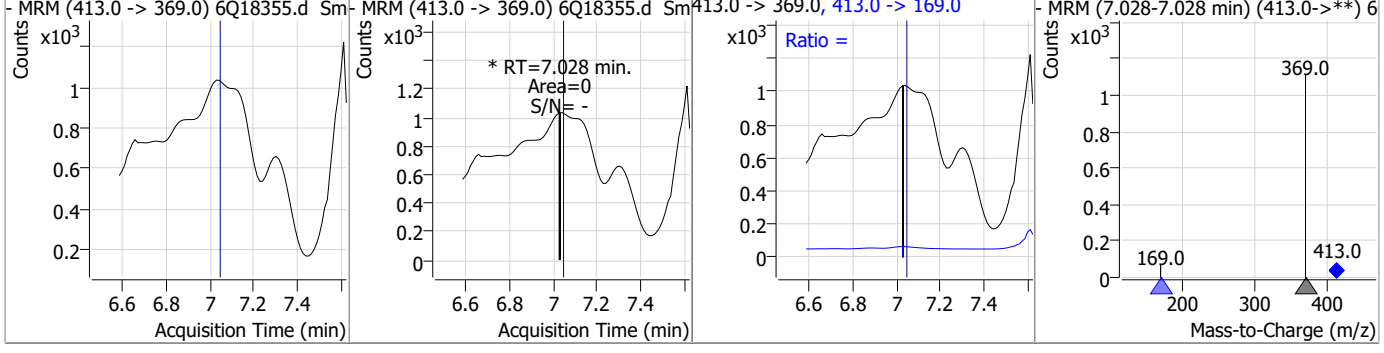
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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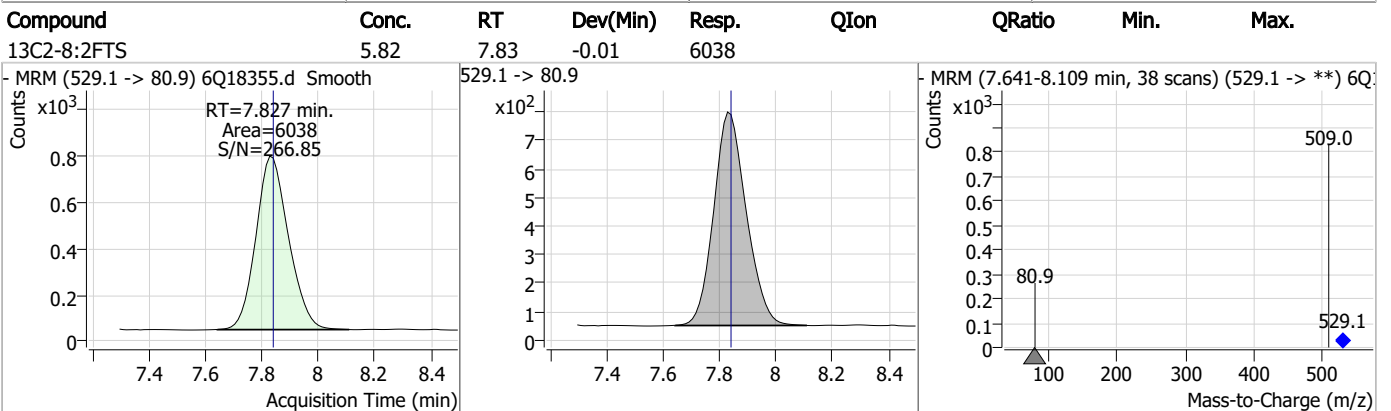
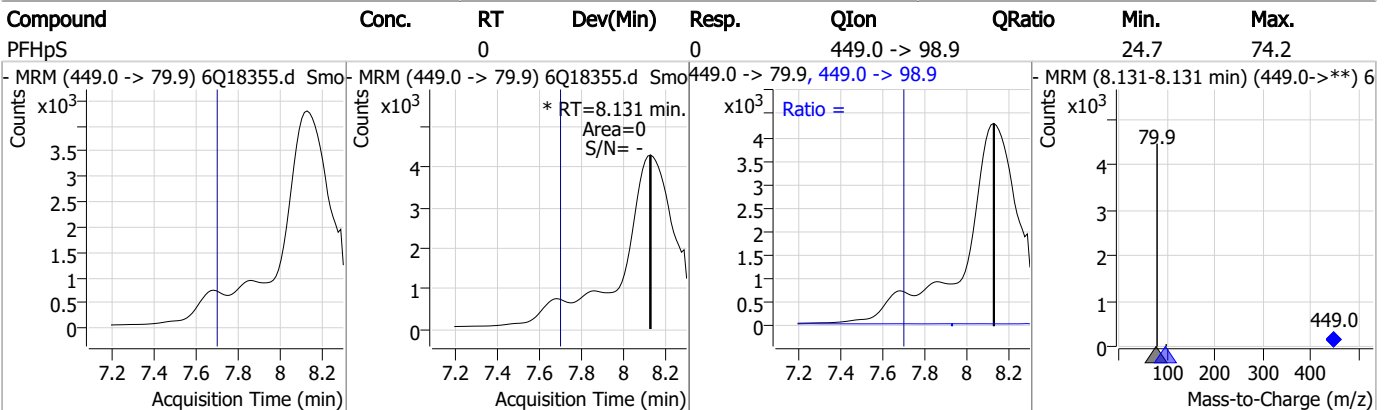
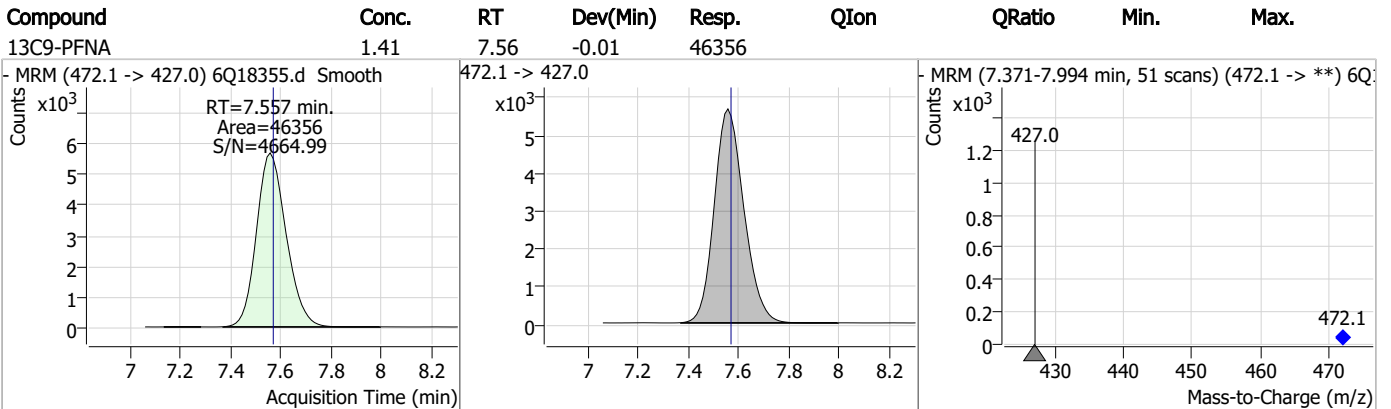
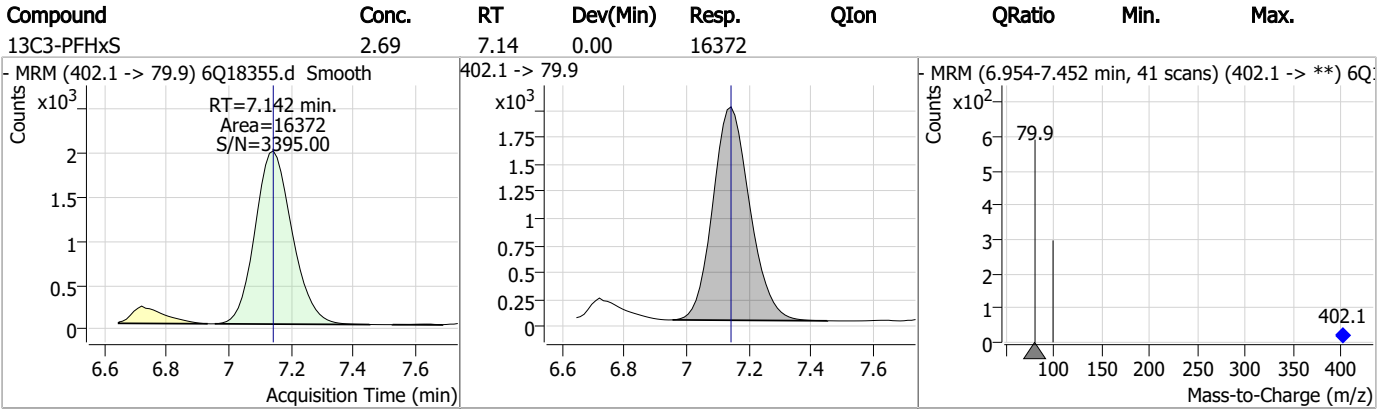


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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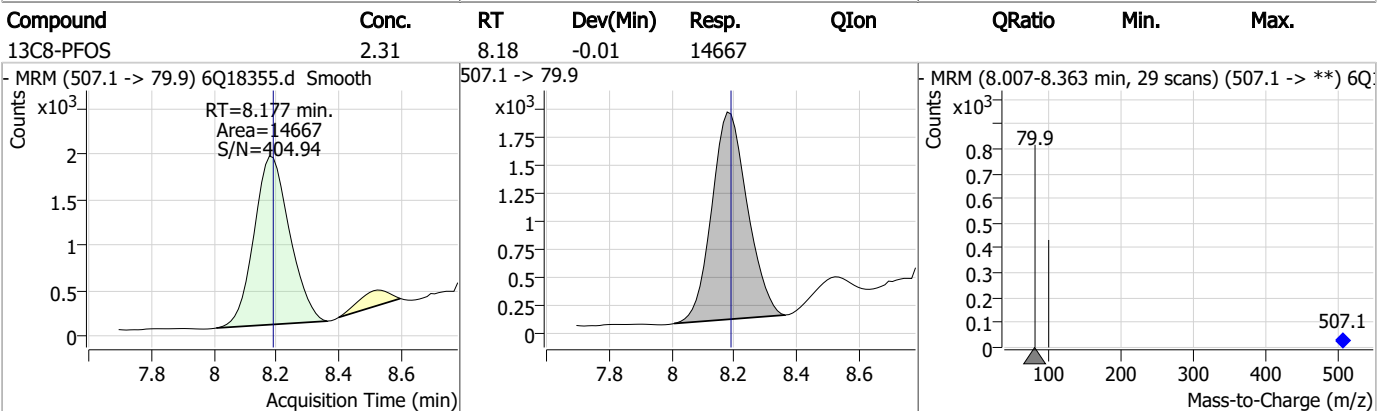
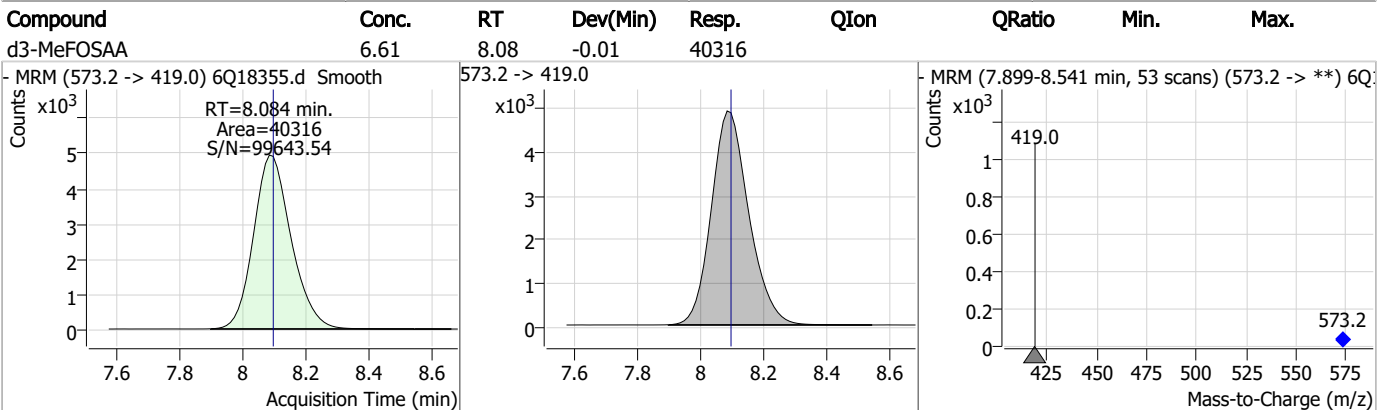
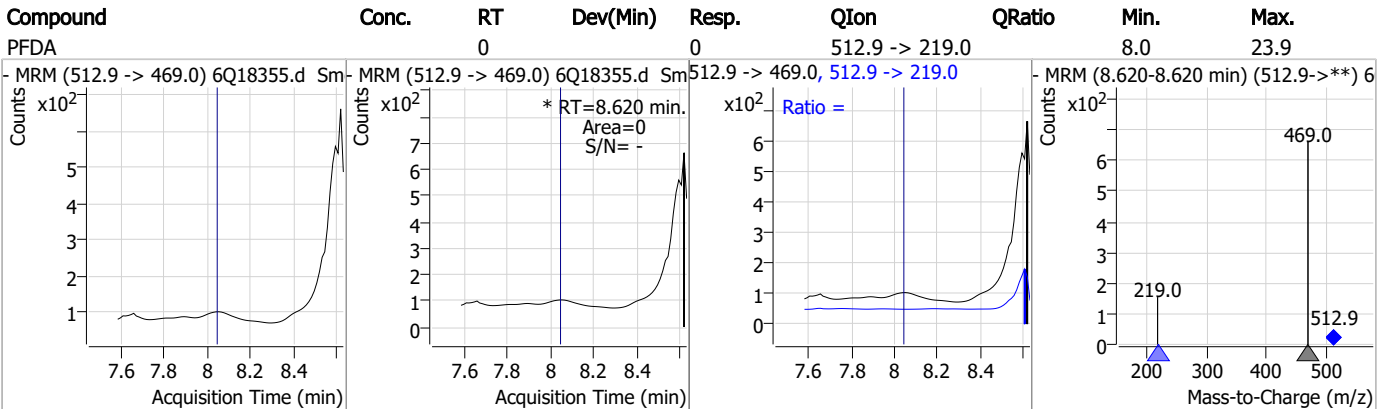
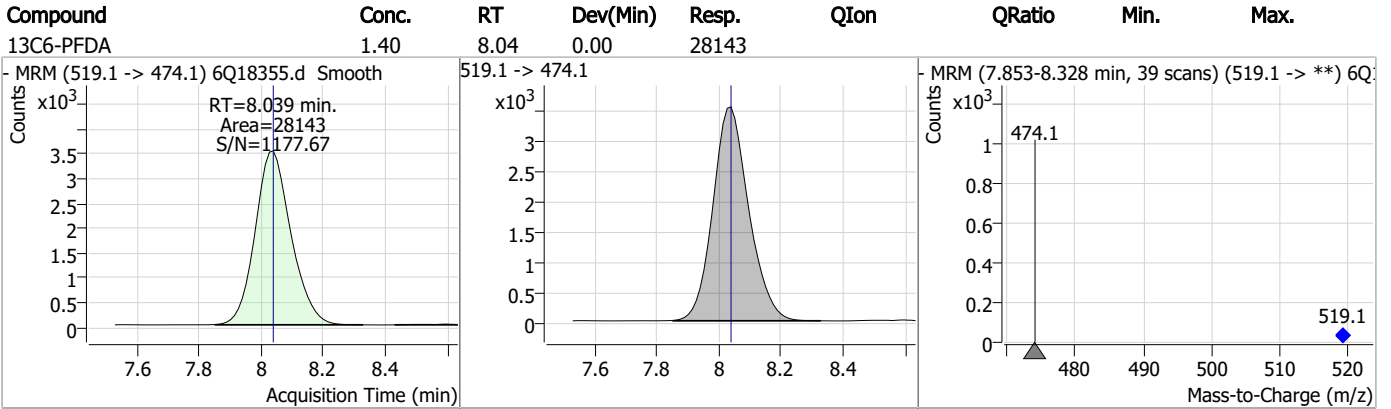


7.1.3
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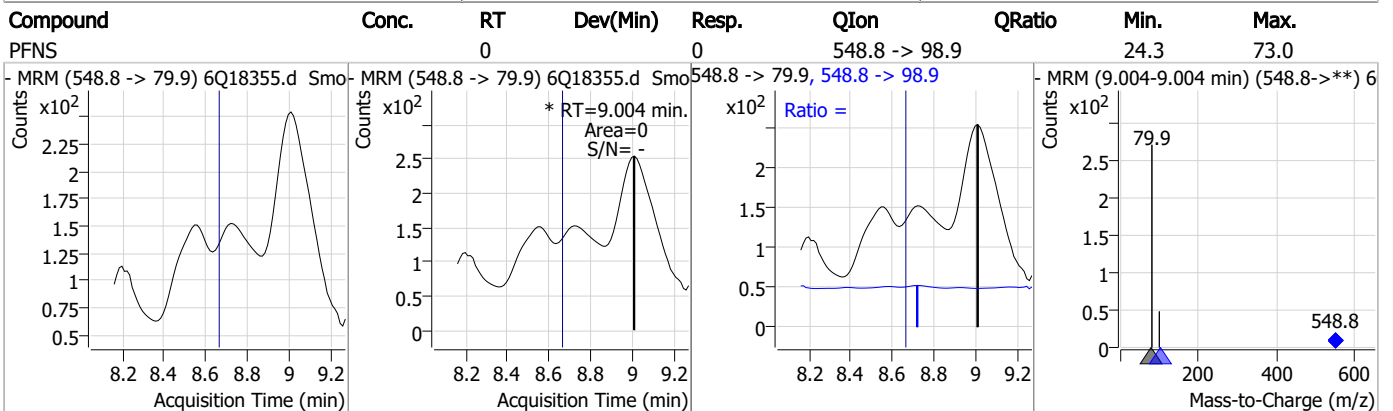
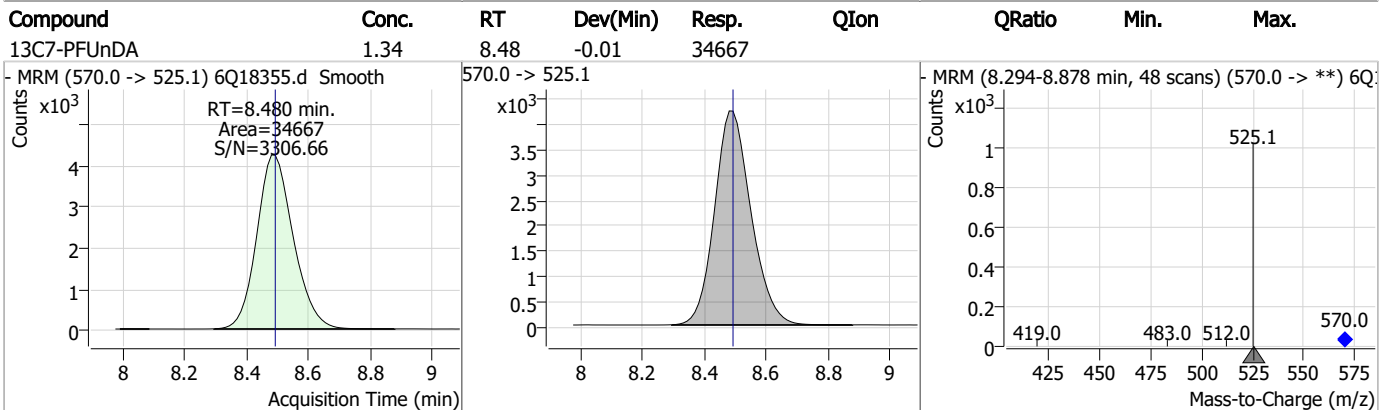
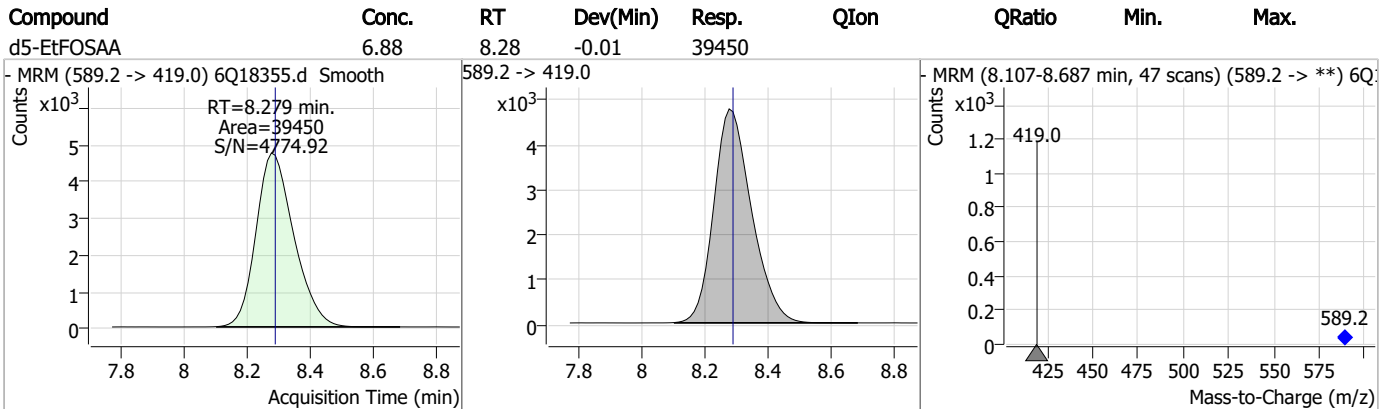
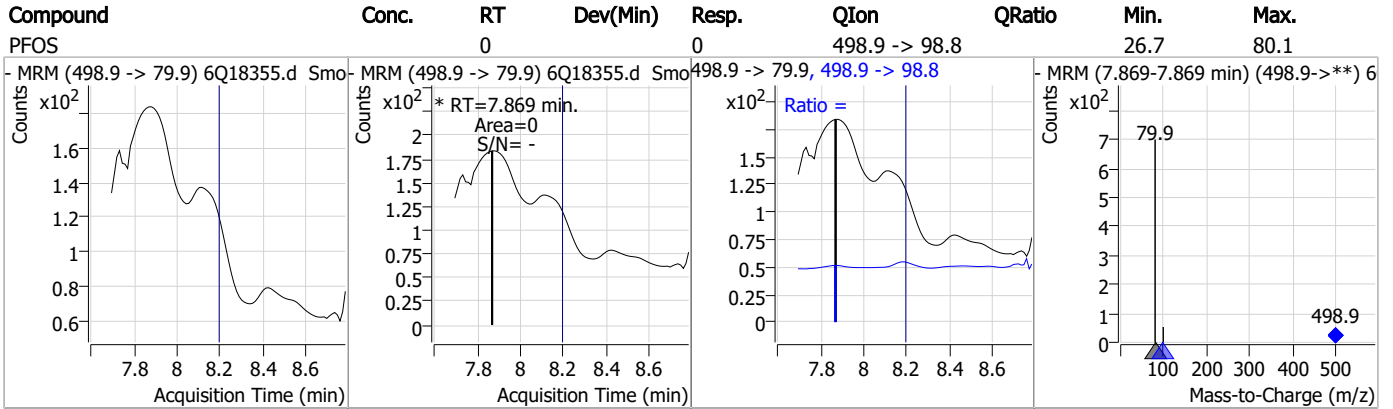
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

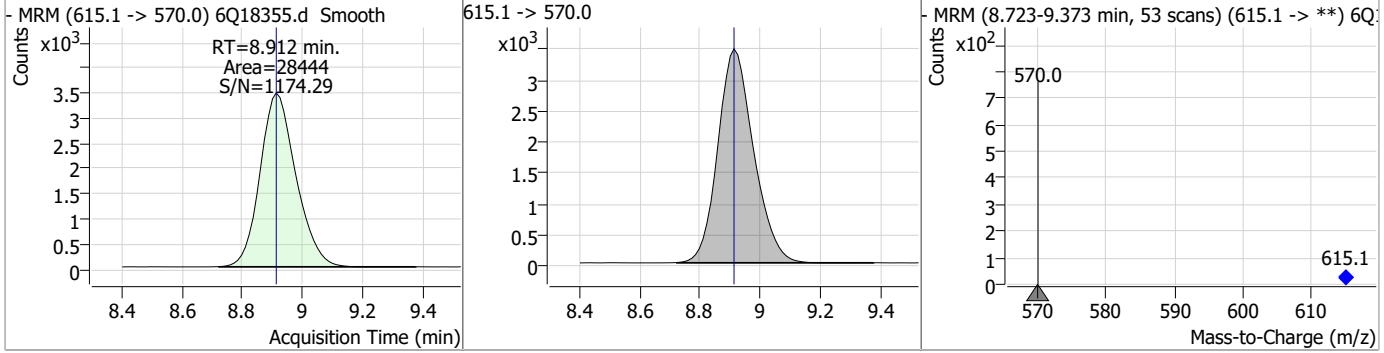


Perfluorinated Compounds by LC/MS/MS

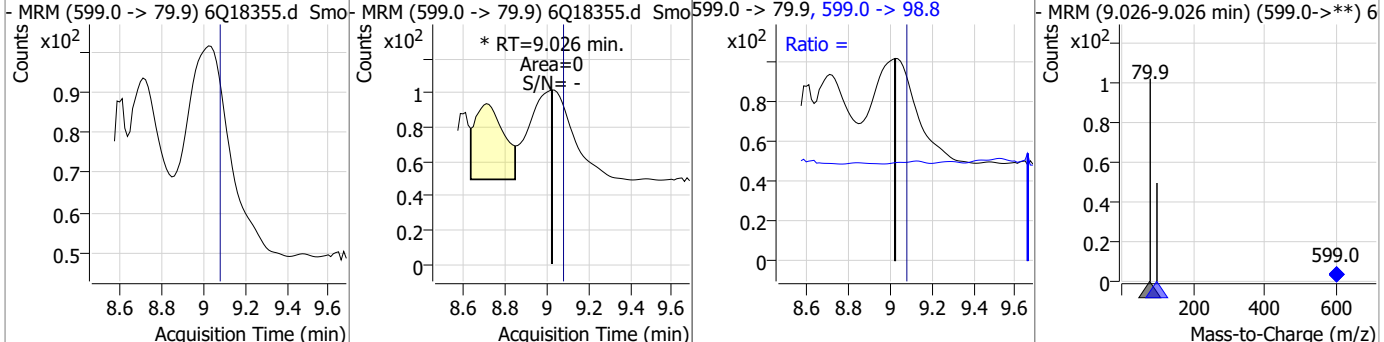


Perfluorinated Compounds by LC/MS/MS

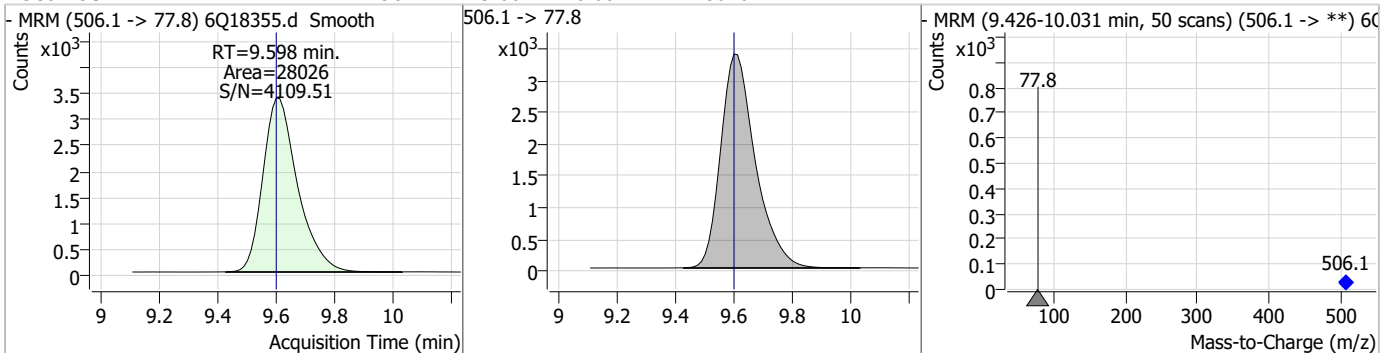
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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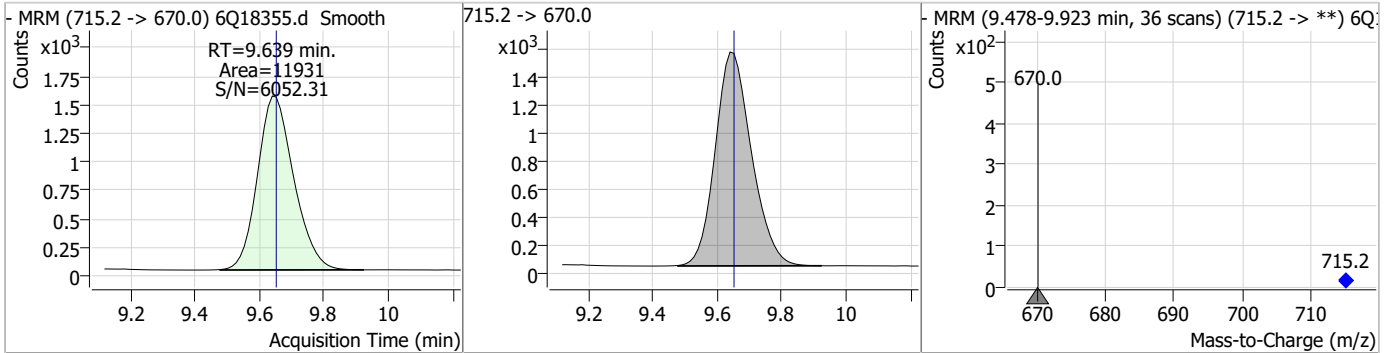
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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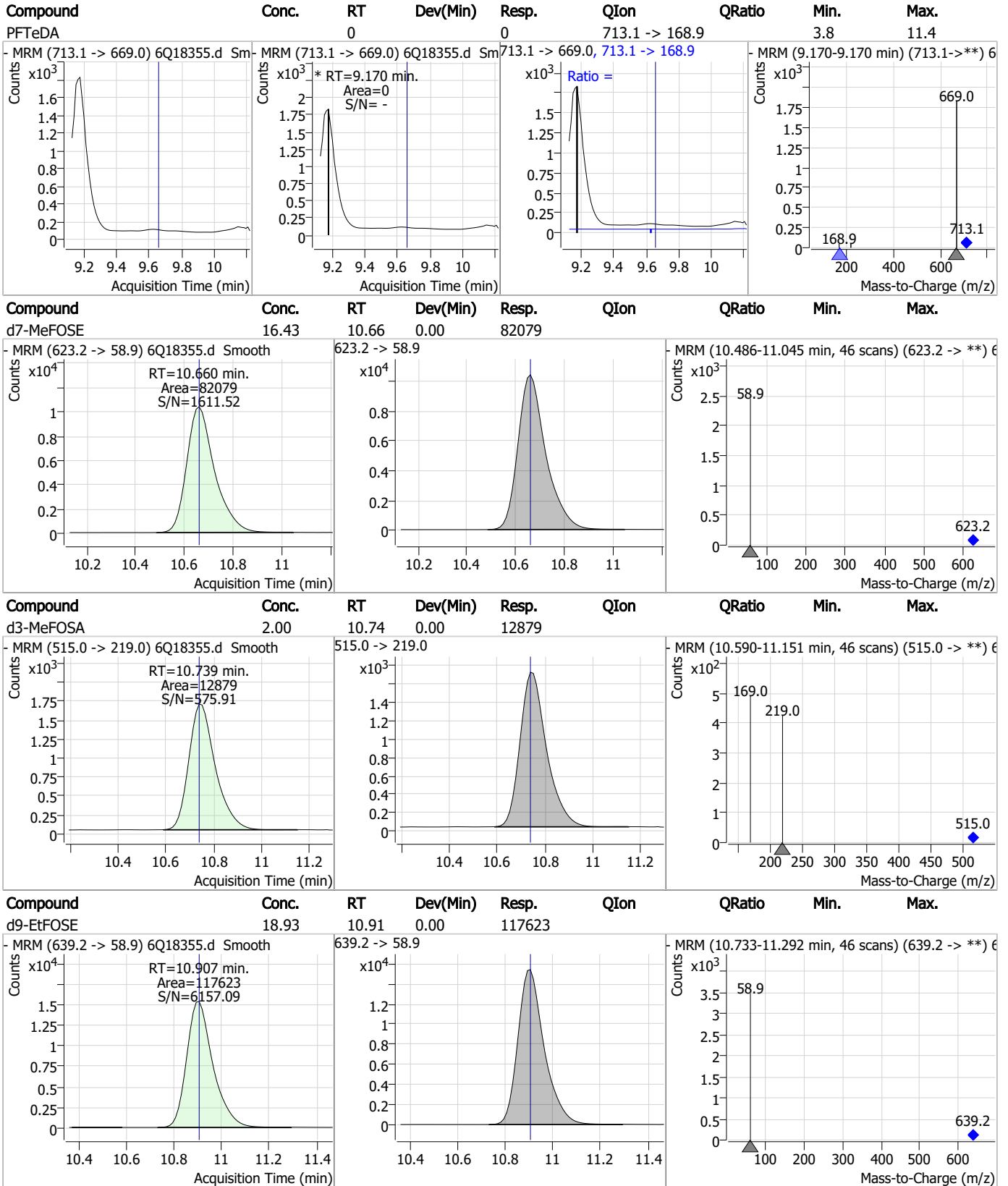


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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7.1.3
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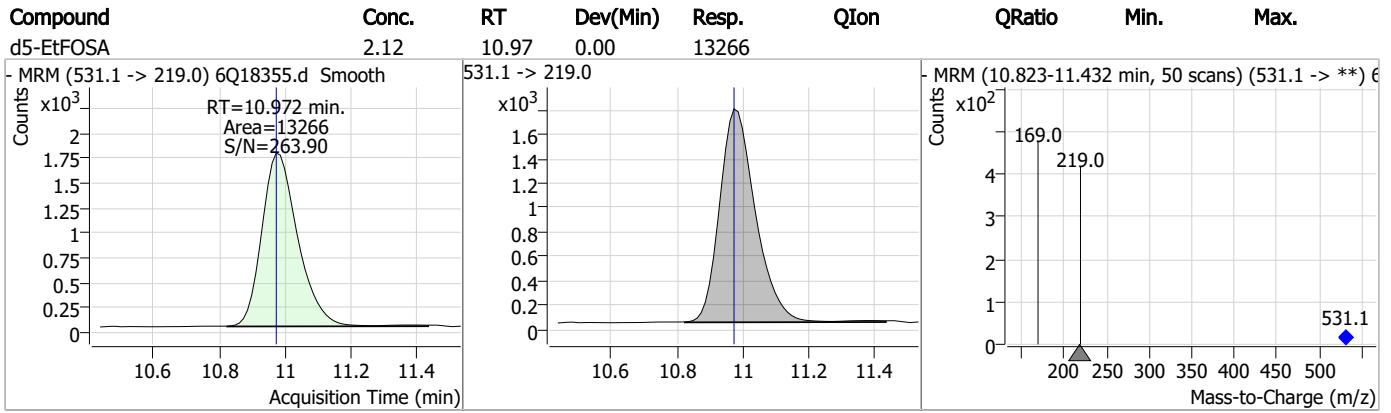
Perfluorinated Compounds by LC/MS/MS



7.1.3

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Perfluorinated Compounds by LC/MS/MS



7.1.3
7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18357.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 11:24:45 PM
 Sample Name : FC6238-4
 Vial : P4-B7
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,540,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	211184	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	69891	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	74929	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	72637	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	107044	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	43602	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28443	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	30075	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	25837	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	12846	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	24694	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	26623	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16258	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14490	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3970	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5979	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5733	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	26704	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	48834	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	26847	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	79449	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	117624	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	11130	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	10618	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20477	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	90028	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	11783	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	113763	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35579	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	54299	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	74656	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3970	5.61 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.2%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5979	5.52 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.4%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5733	5.21 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.3%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25837	1.02 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 81.8%		
13C2-PFTeDA	9.639	715.2 -> 670.0	12846	0.99 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 79.5%		
13C3-PFBS	5.347	302.1 -> 79.9	26623	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C3-PFHxS	7.142	402.1 -> 79.9	16258	2.52 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFBA	2.876	216.8 -> 171.9	211184	9.86 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C4-PFHpA	6.382	367.1 -> 322.0	72637	2.54 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C5-PFHxA	5.429	318.0 -> 273.0	74929	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C5-PFPeA	4.235	268.3 -> 223.0	69891	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C6-PFDA	8.039	519.1 -> 474.1	28443	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	30075	1.10 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.6%	
13C8-FOSA	9.598	506.1 -> 77.8	24694	1.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 67.1%	
13C8-PFOA	7.038	421.1 -> 376.0	107044	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C8-PFOS	8.189	507.1 -> 79.9	14490	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%	
13C9-PFNA	7.557	472.1 -> 427.0	43602	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	26704	4.39 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.7%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	48834	9.76 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	10618	1.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 66.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	26847	4.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	79449	15.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 63.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	117624	18.95 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 75.8%	
d5-EtFOSA	10.972	531.1 -> 219.0	11130	1.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.4%	

Target Compounds

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

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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

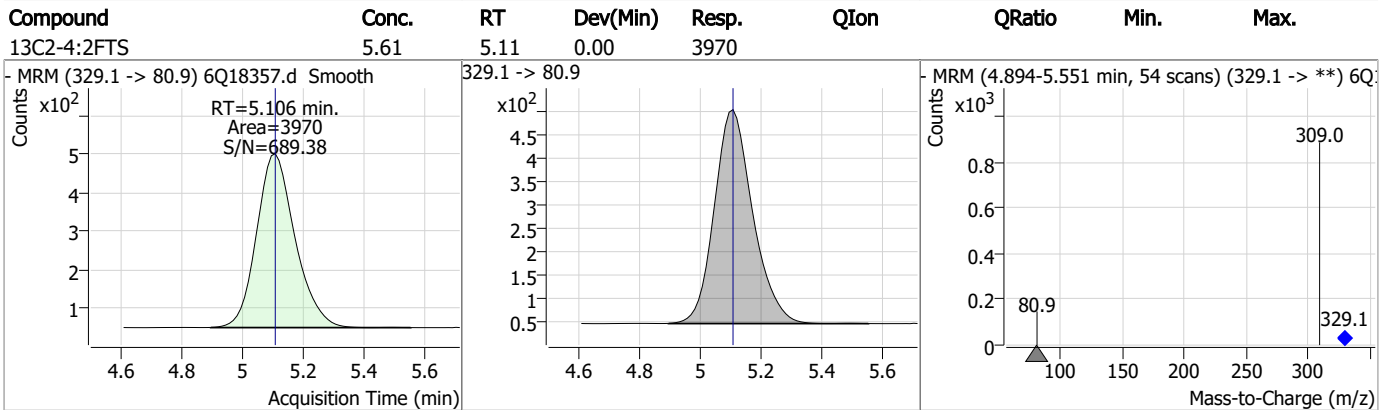
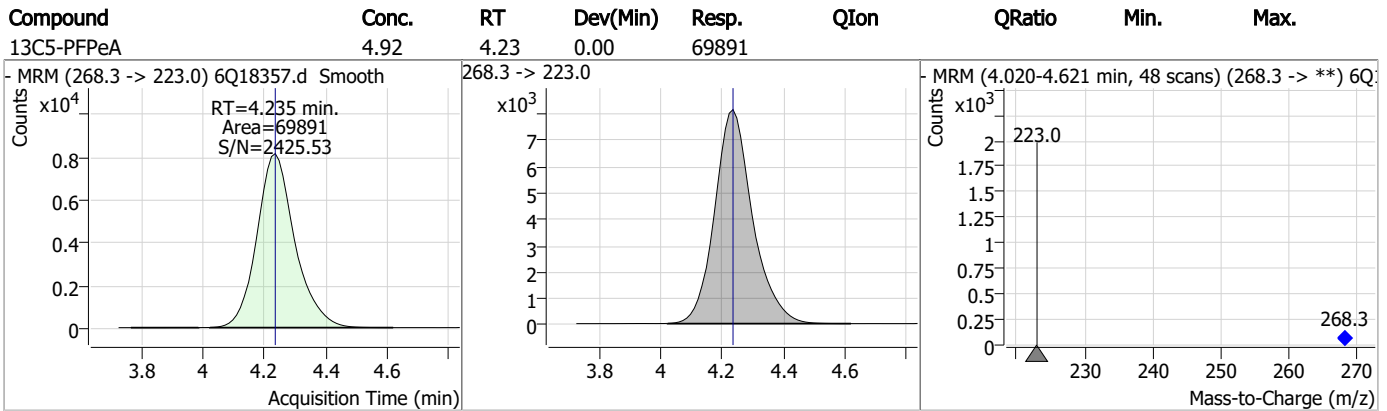
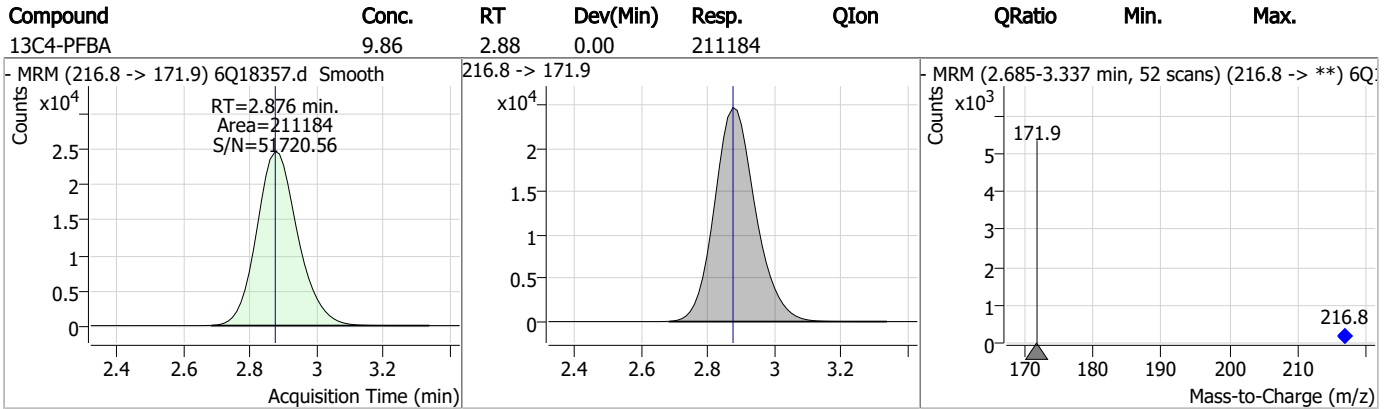
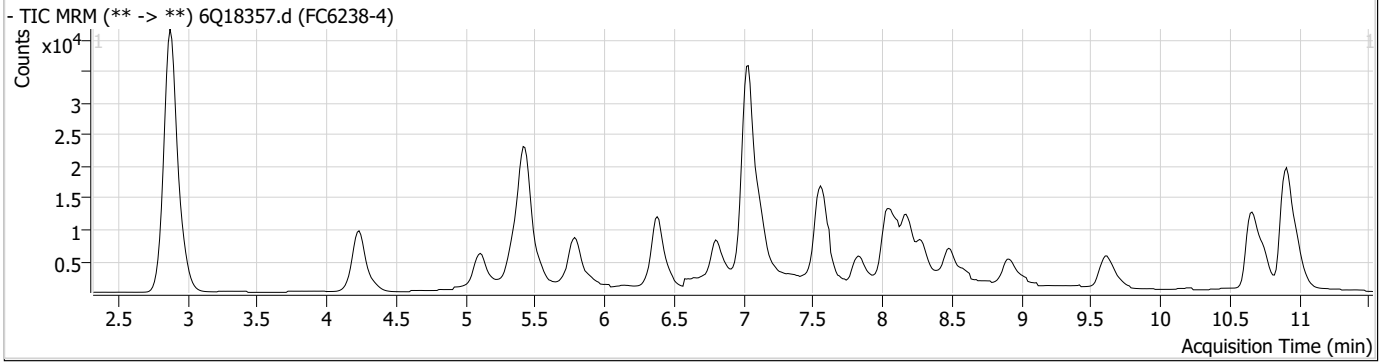
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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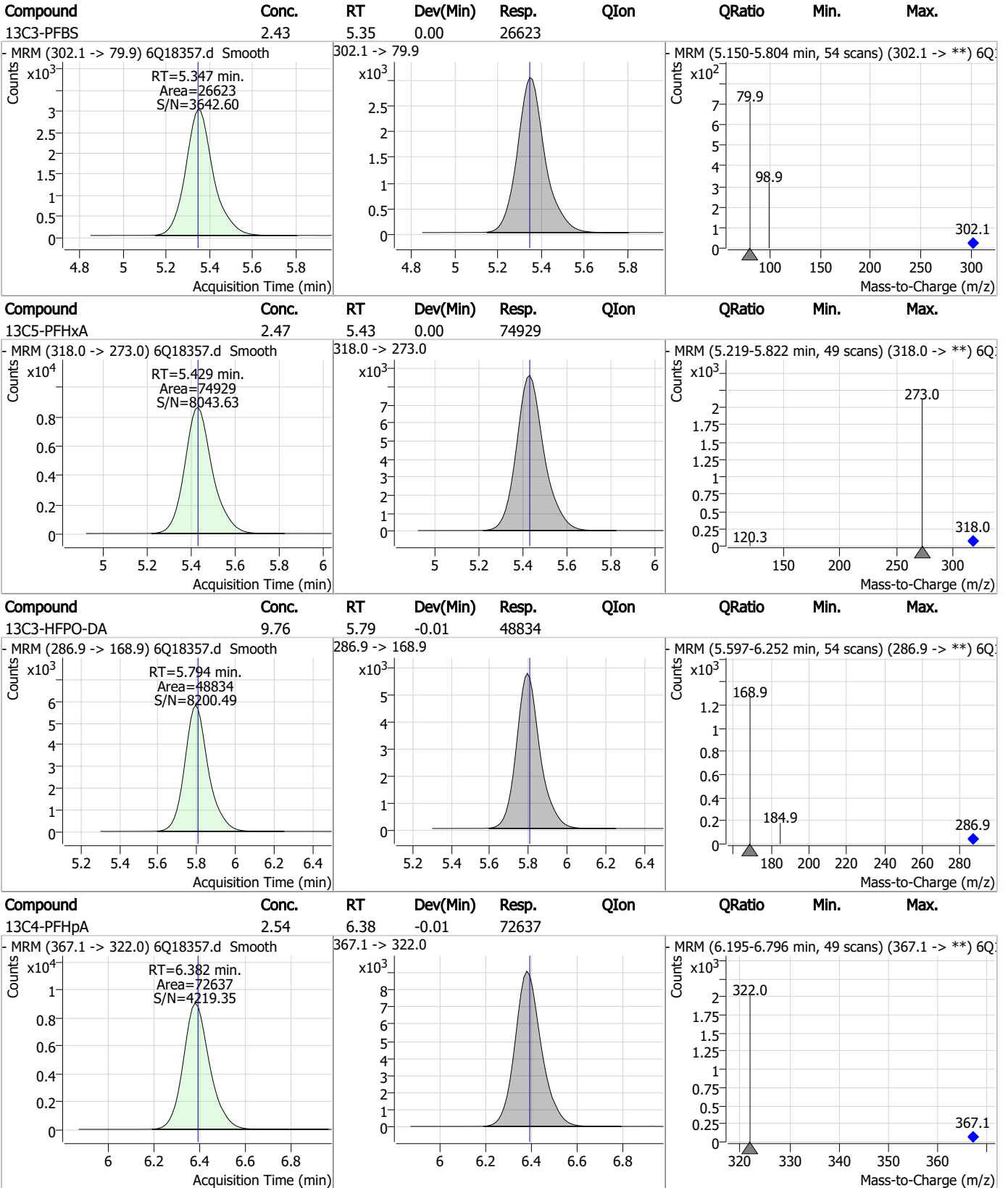
7.1.4
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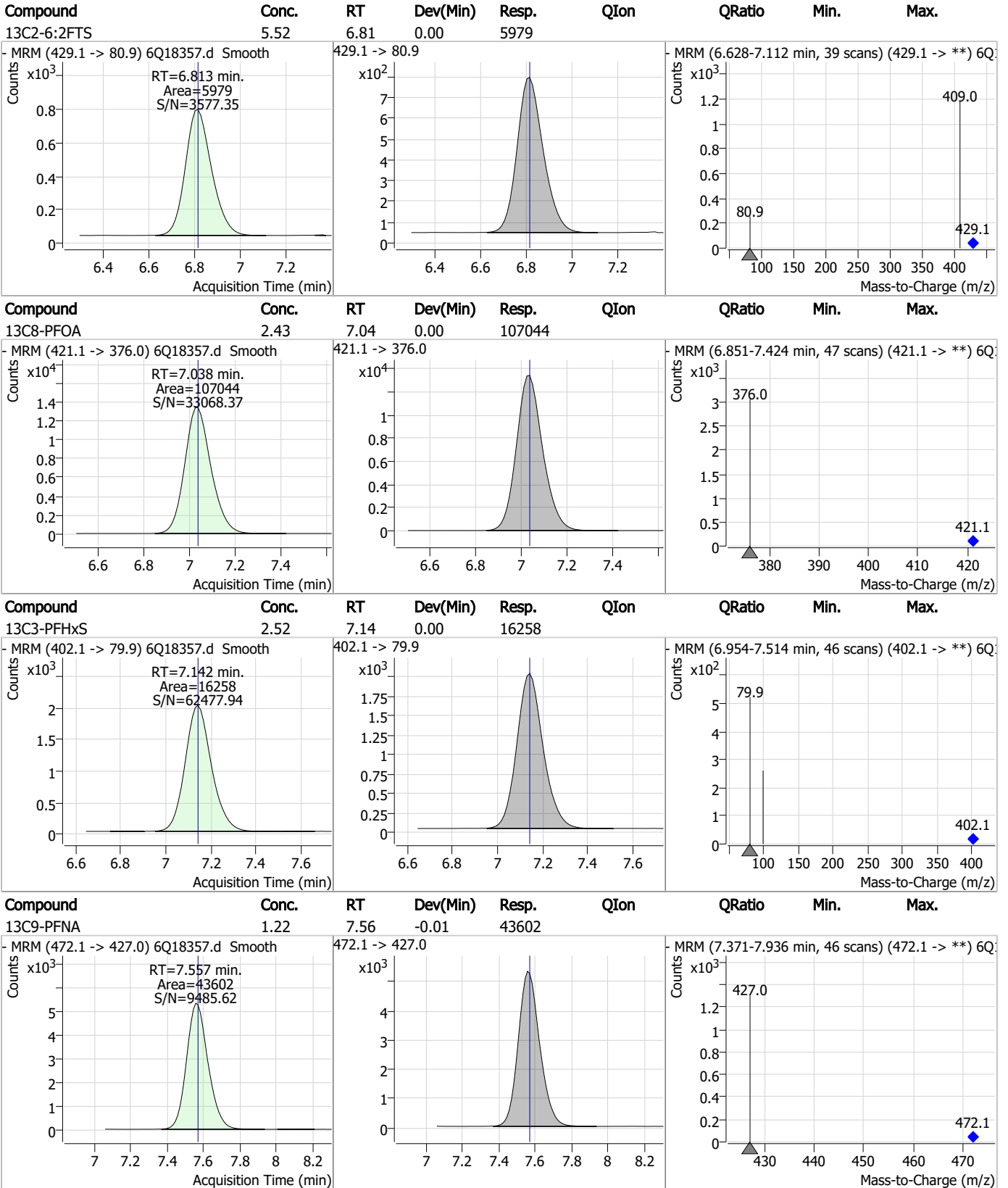
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



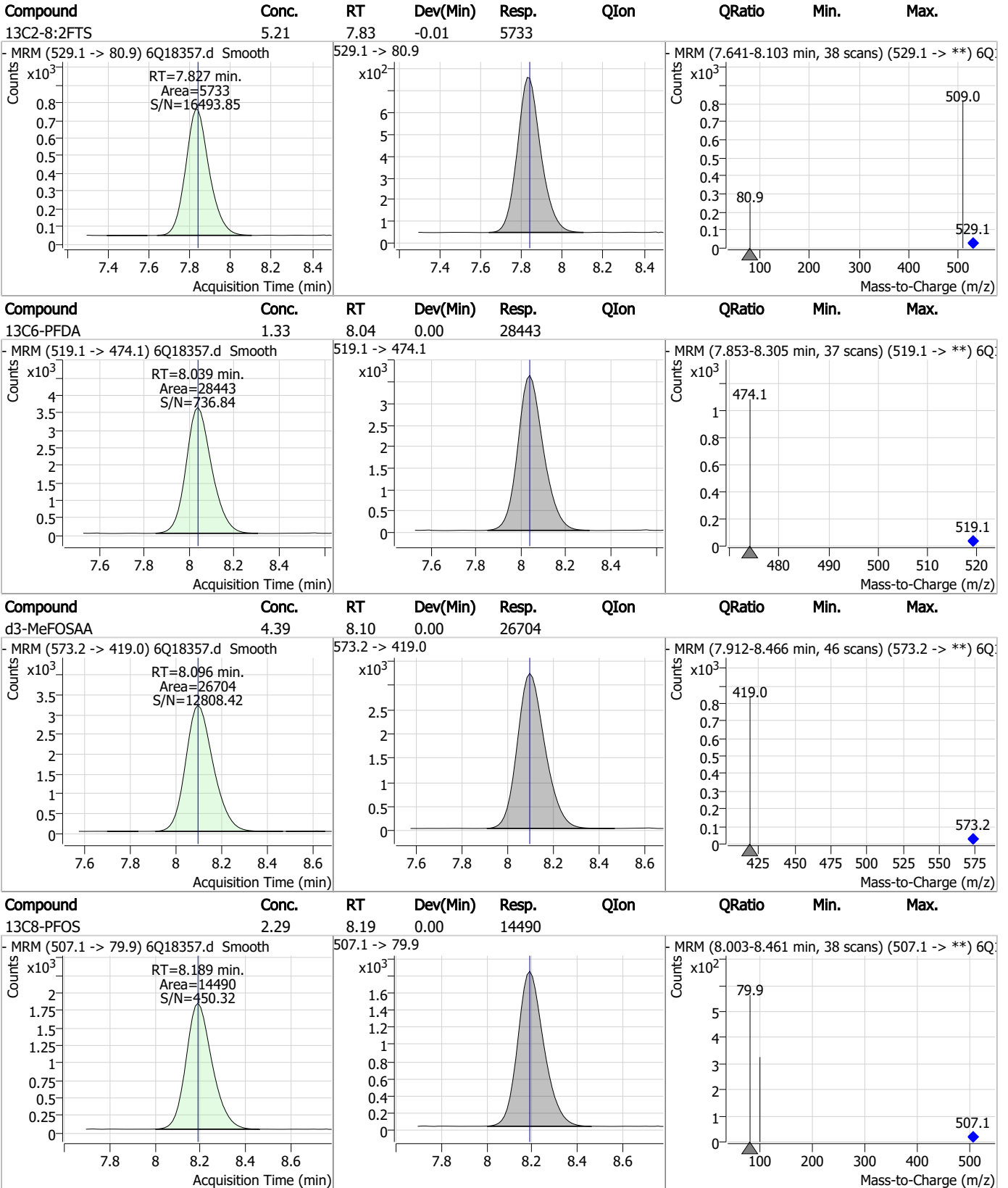
Perfluorinated Compounds by LC/MS/MS



7.1.4

7

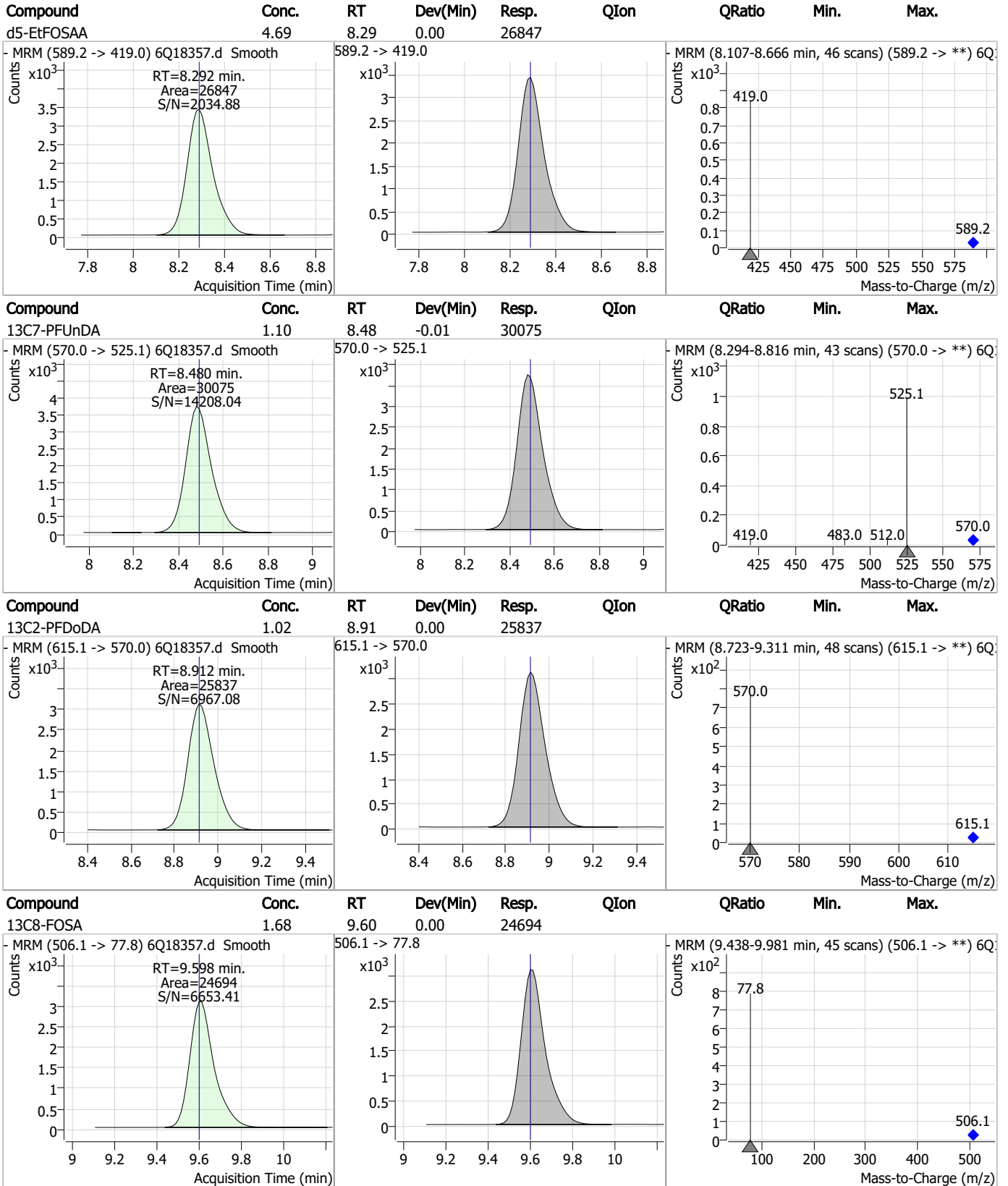
Perfluorinated Compounds by LC/MS/MS



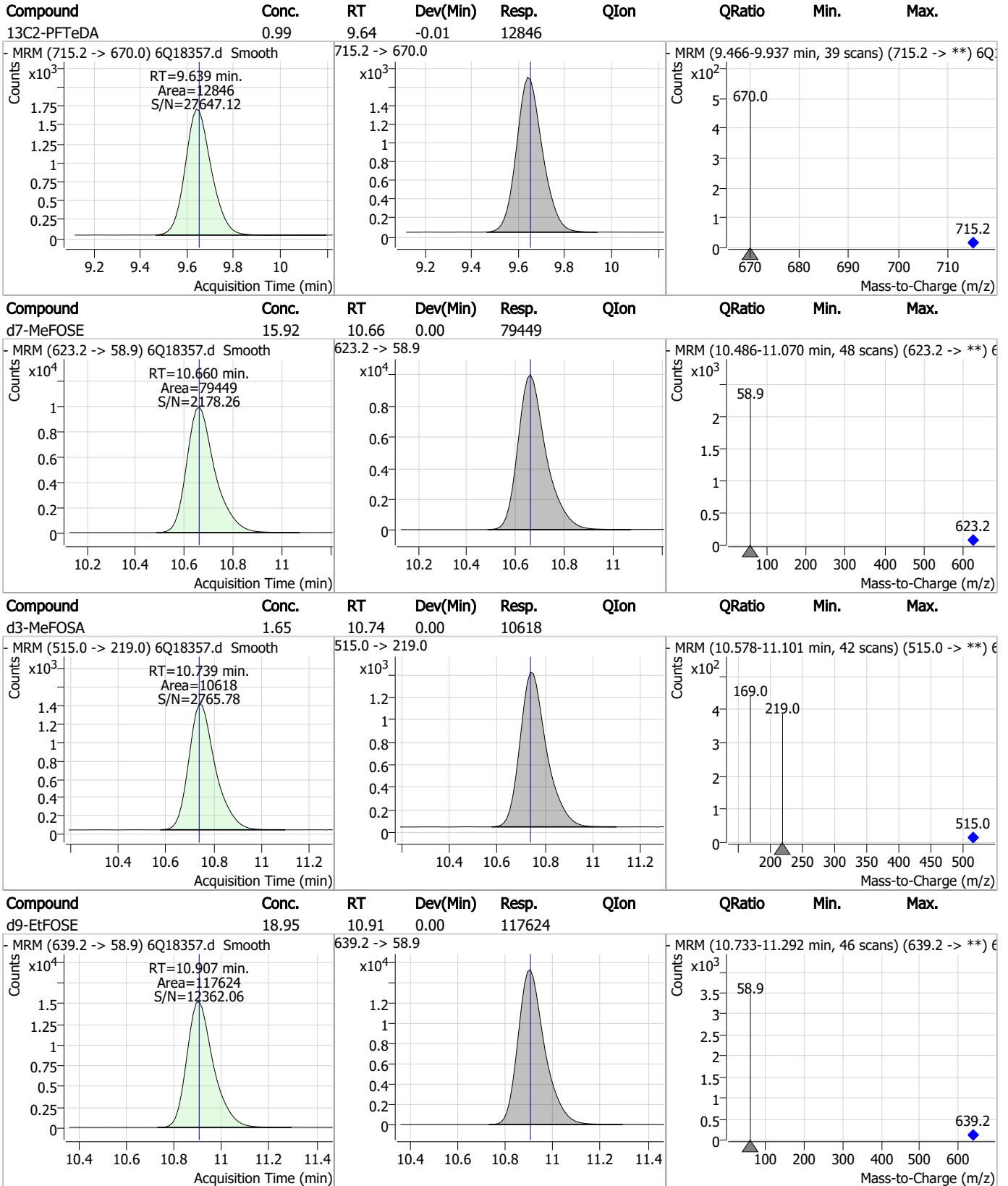
7.1.4

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



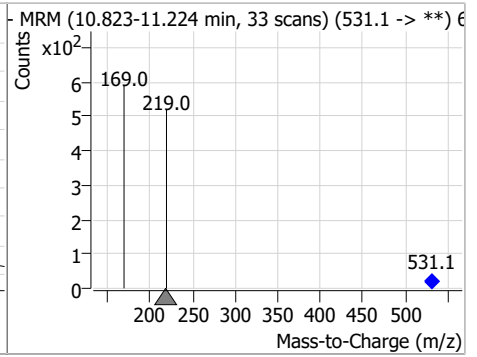
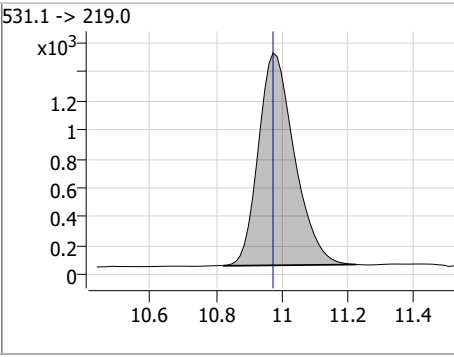
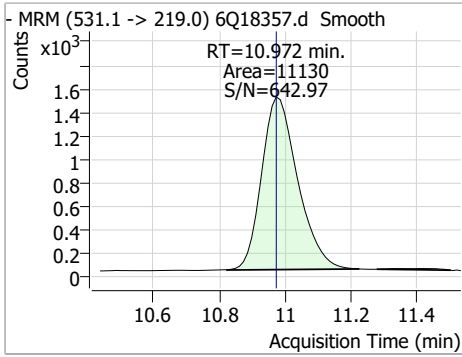
7.1.4

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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.78	10.97	0.00	11130				



7.1.4
7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18360.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 12:08:14 AM
 Sample Name : FC6238-5
 Vial : P4-B8
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,570,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	170277	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	63915	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	69013	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	68300	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	101070	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	41027	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	27165	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33012	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	25285	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	11530	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	30209	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	25735	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	15334	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13923	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	5069	5.00 µg/L	0.000
M2-6:2FTS	6.800	429.1 -> 80.9	6921	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	6024	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	36308	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	42374	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35633	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	91490	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	128696	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	11367	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	11764	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17235	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	76612	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	9934	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	97244	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31534	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	49004	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	61158	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	5069	8.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 170.0%		
13C2-6:2FTS	6.800	429.1 -> 80.9	6921	7.58 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 151.6%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6024	6.50 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 130.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25285	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 90.3%		
13C2-PFTeDA	9.639	715.2 -> 670.0	11530	1.01 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 80.5%		
13C3-PFBS	5.347	302.1 -> 79.9	25735	2.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 111.3%		
13C3-PFHxS	7.142	402.1 -> 79.9	15334	2.82 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 = 112.8%	
13C4-PFBA	2.876	216.8 -> 171.9	170277	9.34 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 93.4%	
13C4-PFHpA	6.382	367.1 -> 322.0	68300	2.91 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.6%	
13C5-PFHxA	5.429	318.0 -> 273.0	69013	2.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.0%	
13C5-PFPeA	4.235	268.3 -> 223.0	63915	5.49 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C6-PFDA	8.039	519.1 -> 474.1	27165	1.43 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33012	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C8-FOSA	9.598	506.1 -> 77.8	30209	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C8-PFOA	7.038	421.1 -> 376.0	101070	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C8-PFOS	8.189	507.1 -> 79.9	13923	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C9-PFNA	7.557	472.1 -> 427.0	41027	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	36308	7.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 141.7%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	42374	10.34 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
d3-MeFOSA	10.739	515.0 -> 219.0	11764	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.1%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35633	7.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 147.9%	
d7-MeFOSE	10.660	623.2 -> 58.9	91490	21.79 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	128696	24.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d5-EtFOSA	10.972	531.1 -> 219.0	11367	2.17 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.6%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	6.813	427.1 -> 407.0 427.1 -> 80.9	7143 2436	0.91 µg/L	100
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.	



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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	5.432	449.0 -> 98.9	4185	0.16	µg/L	95
		313.0 -> 269.0				
PFHxS	-	313.0 -> 118.9	262	N.D.		
		398.7 -> 79.9				
PFNA	7.810	398.7 -> 98.9	0	µg/L	m	1
		463.0 -> 419.0				
PFNS	-	463.0 -> 219.0	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	4.237	498.9 -> 98.8	5768	0.33	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

7.1.5
7



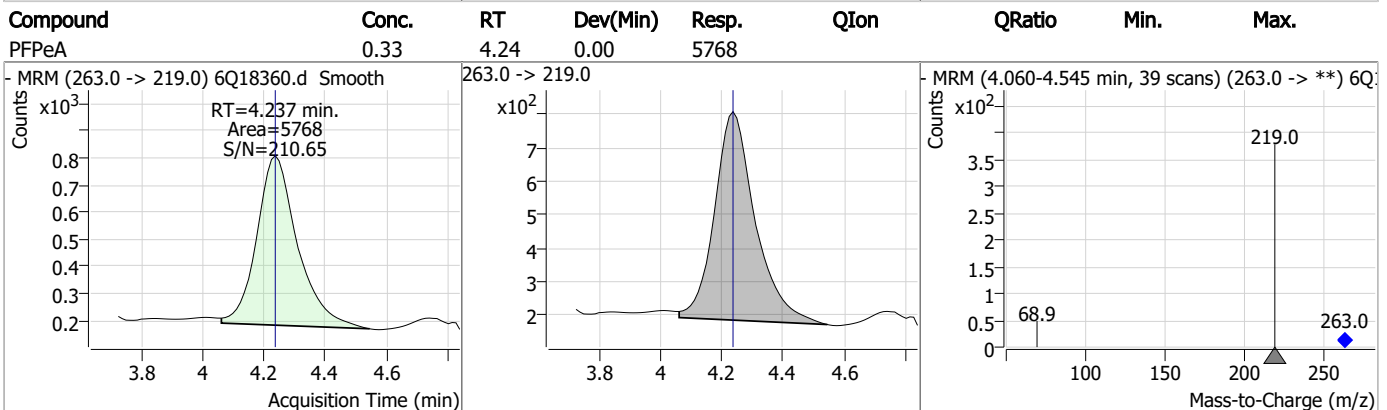
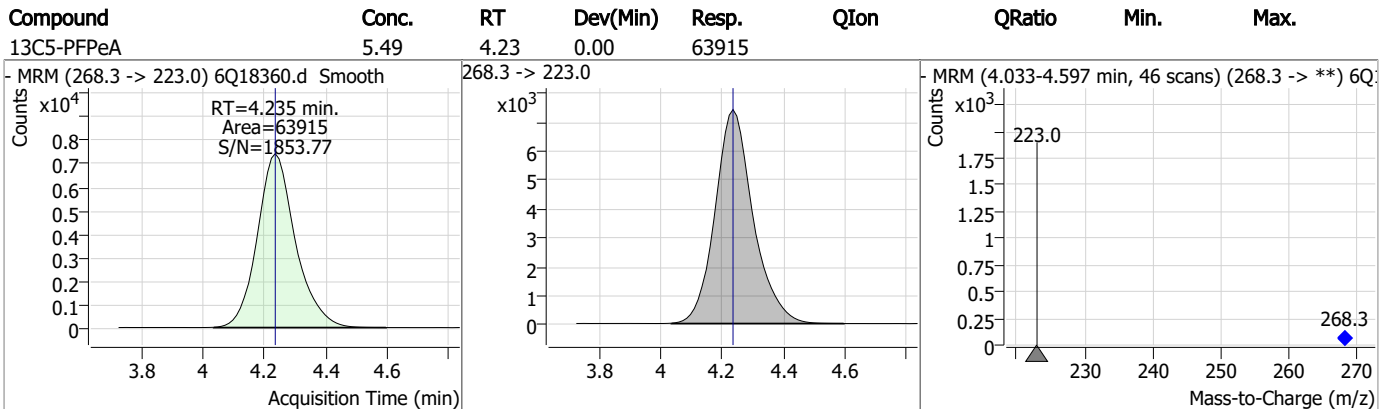
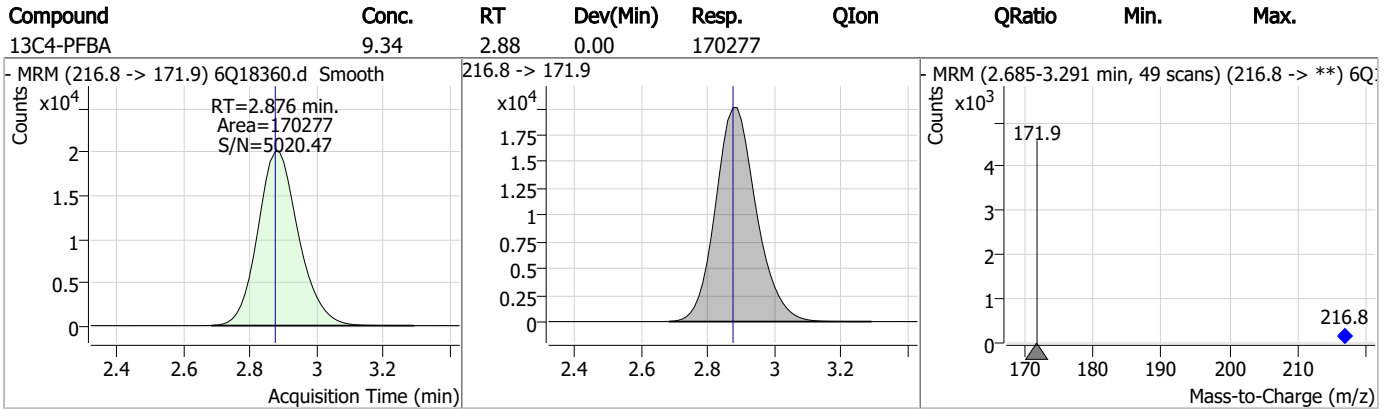
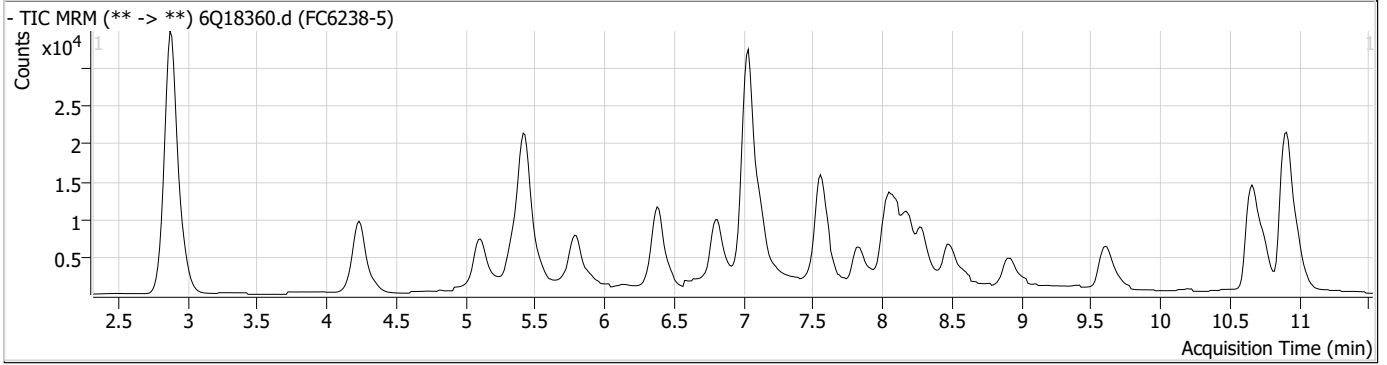
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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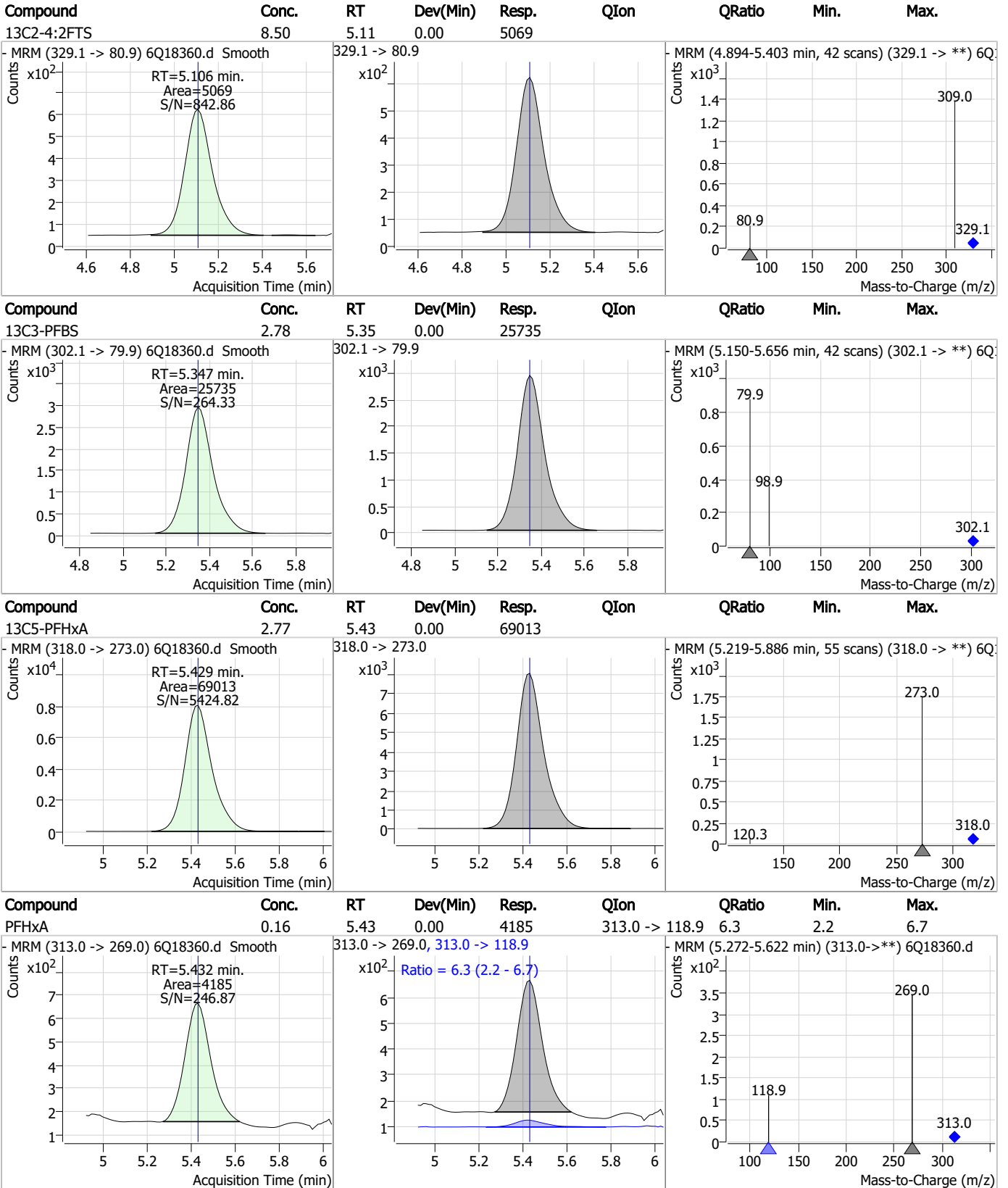
7.1.5
7



Perfluorinated Compounds by LC/MS/MS



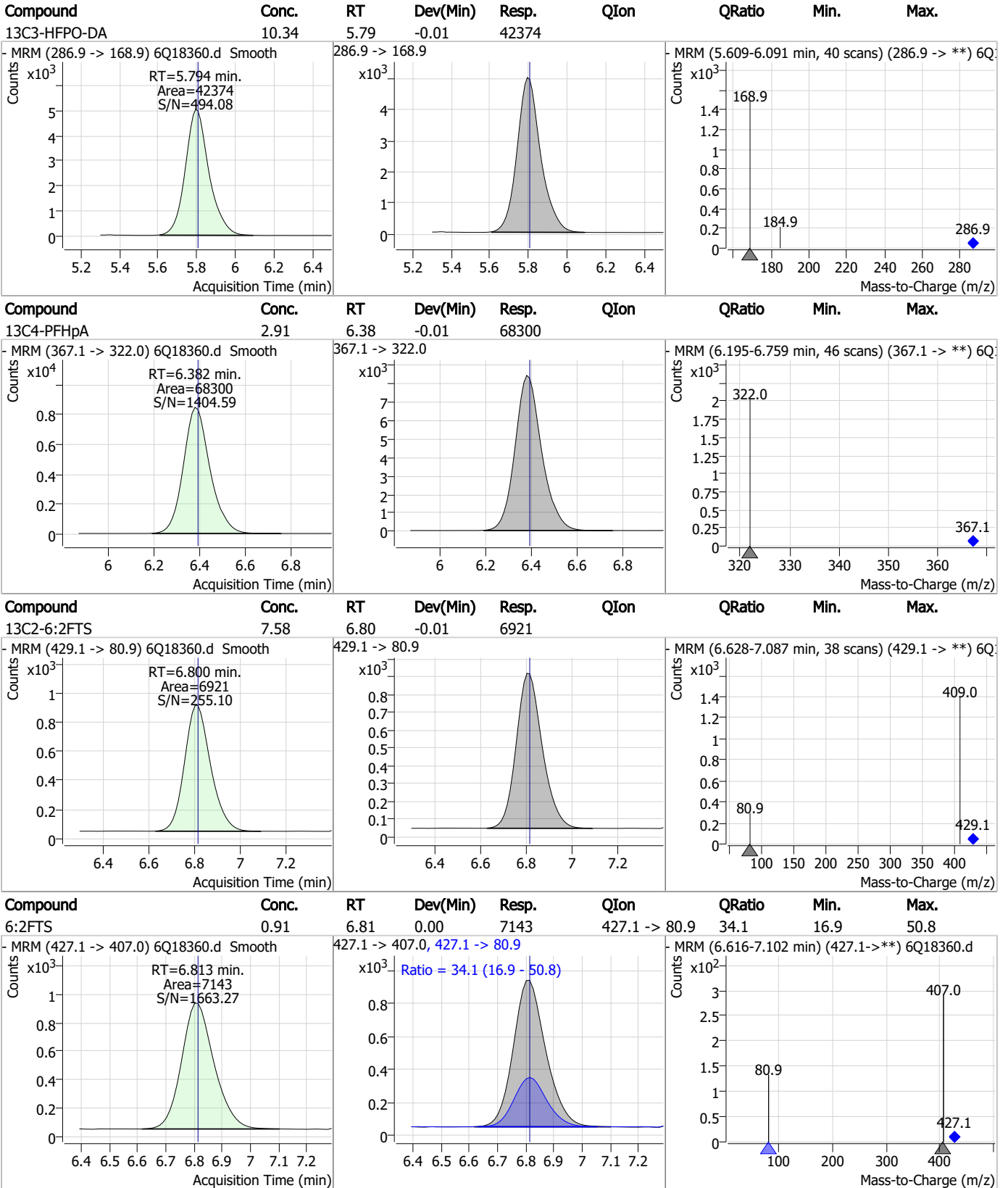
Perfluorinated Compounds by LC/MS/MS



7.1.5

7

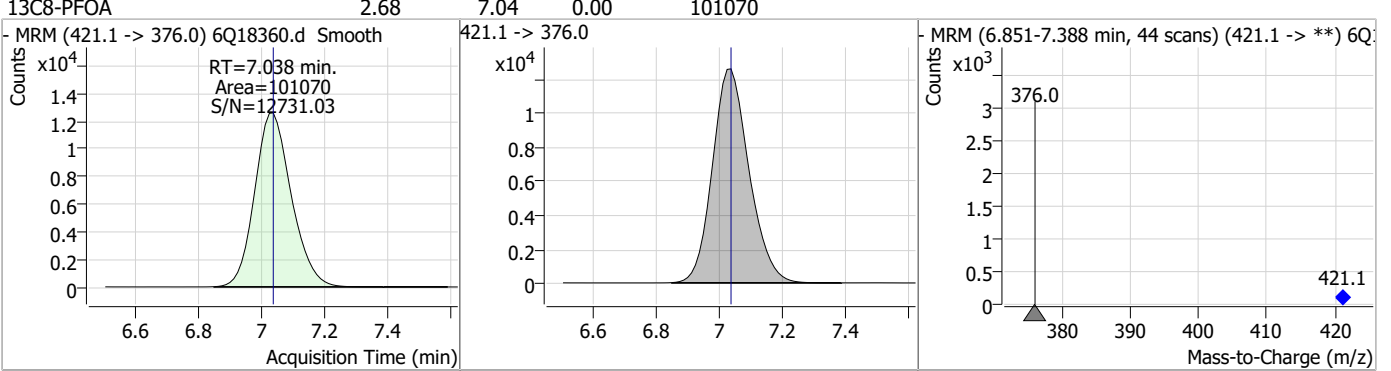
Perfluorinated Compounds by LC/MS/MS



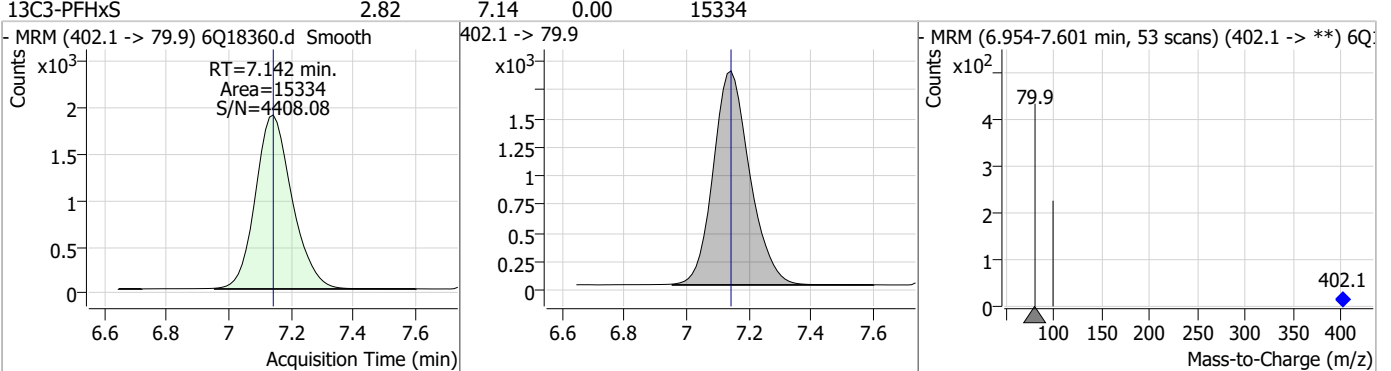
7.15
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Perfluorinated Compounds by LC/MS/MS

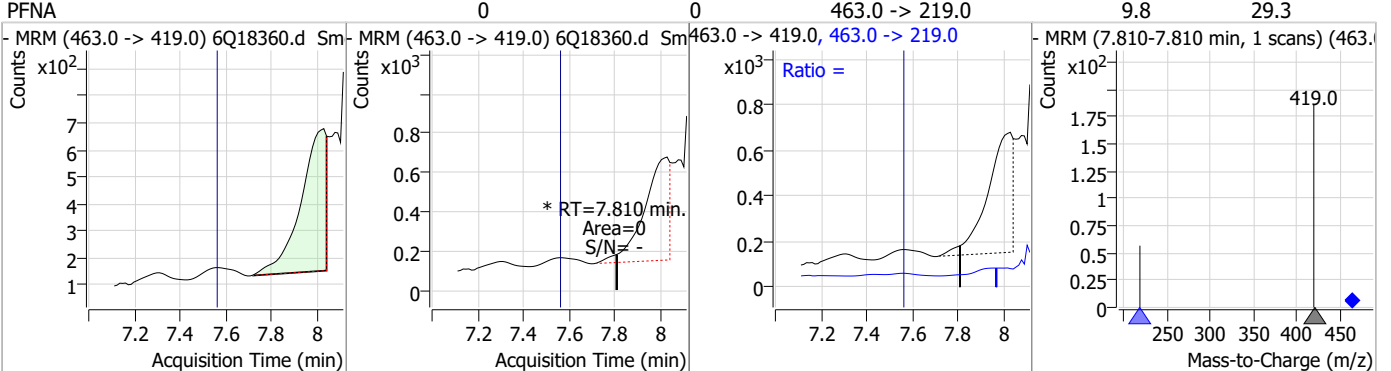
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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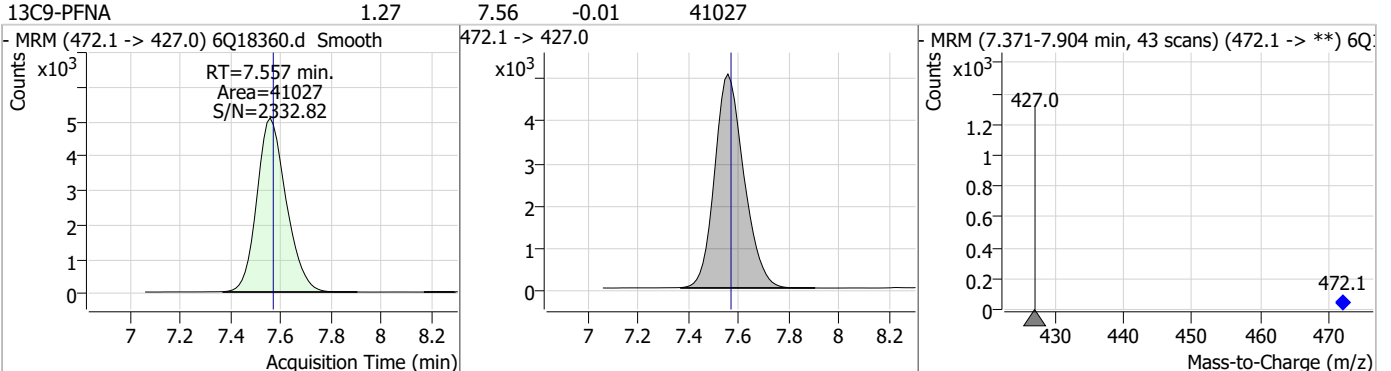
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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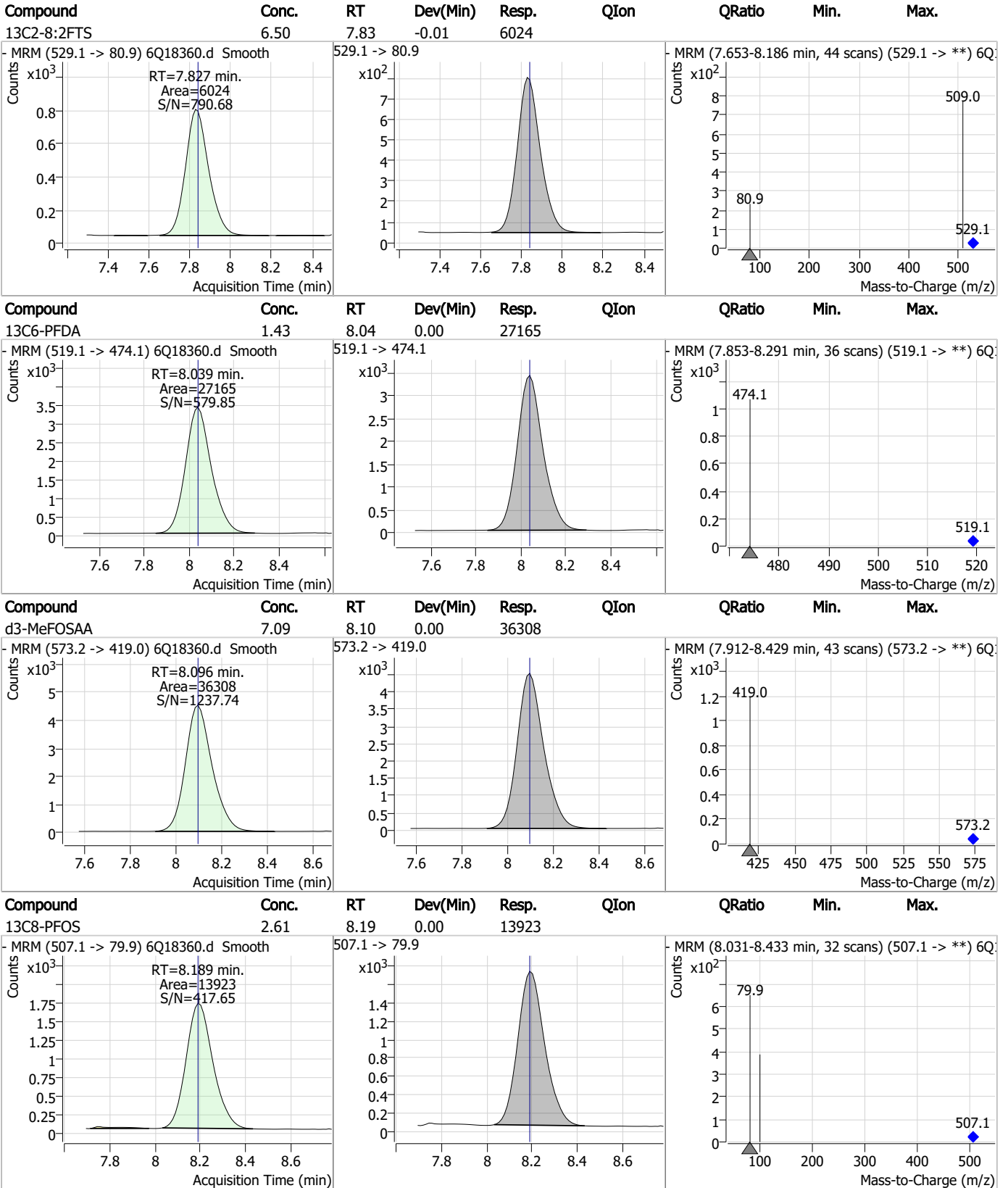
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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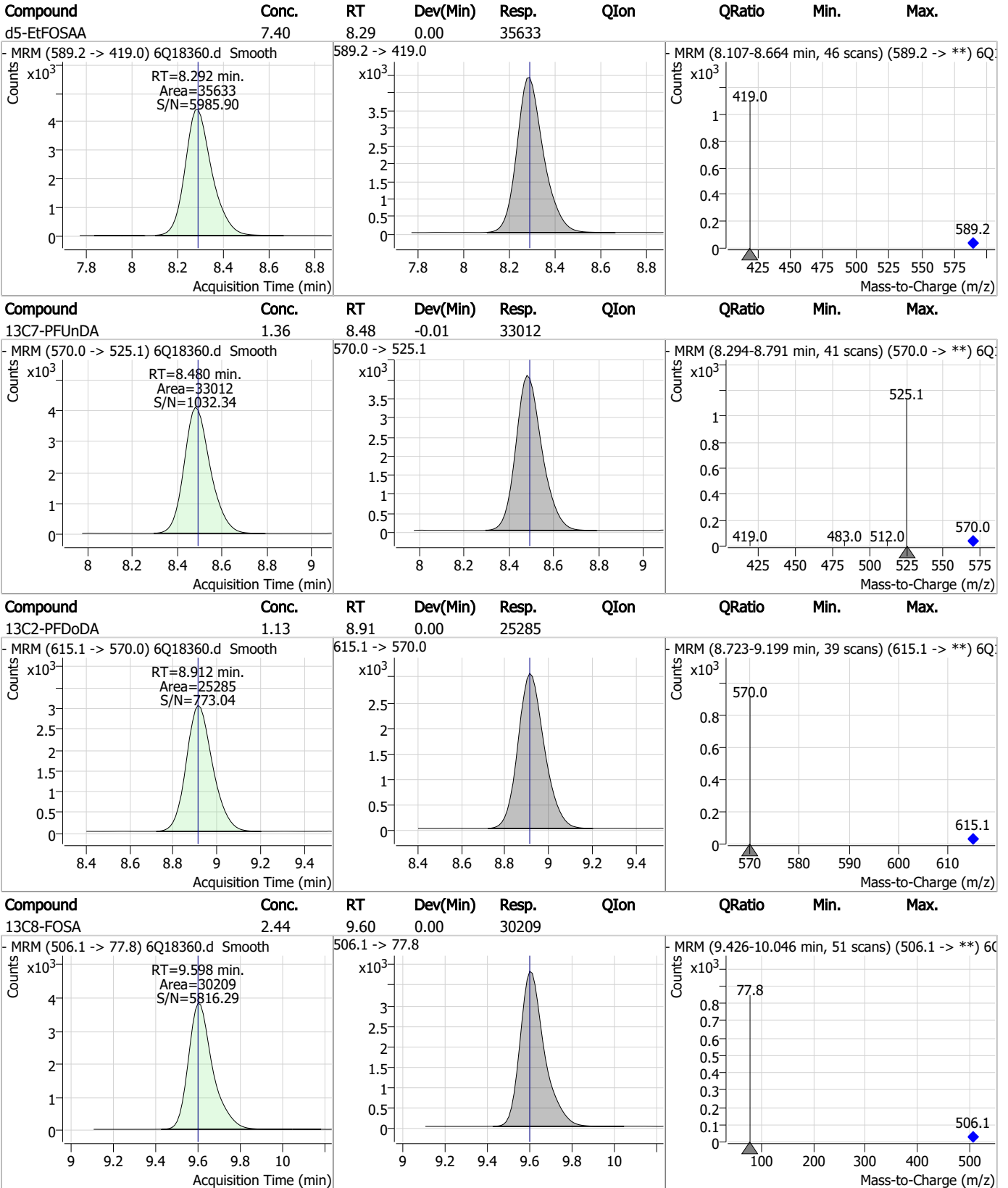
Perfluorinated Compounds by LC/MS/MS



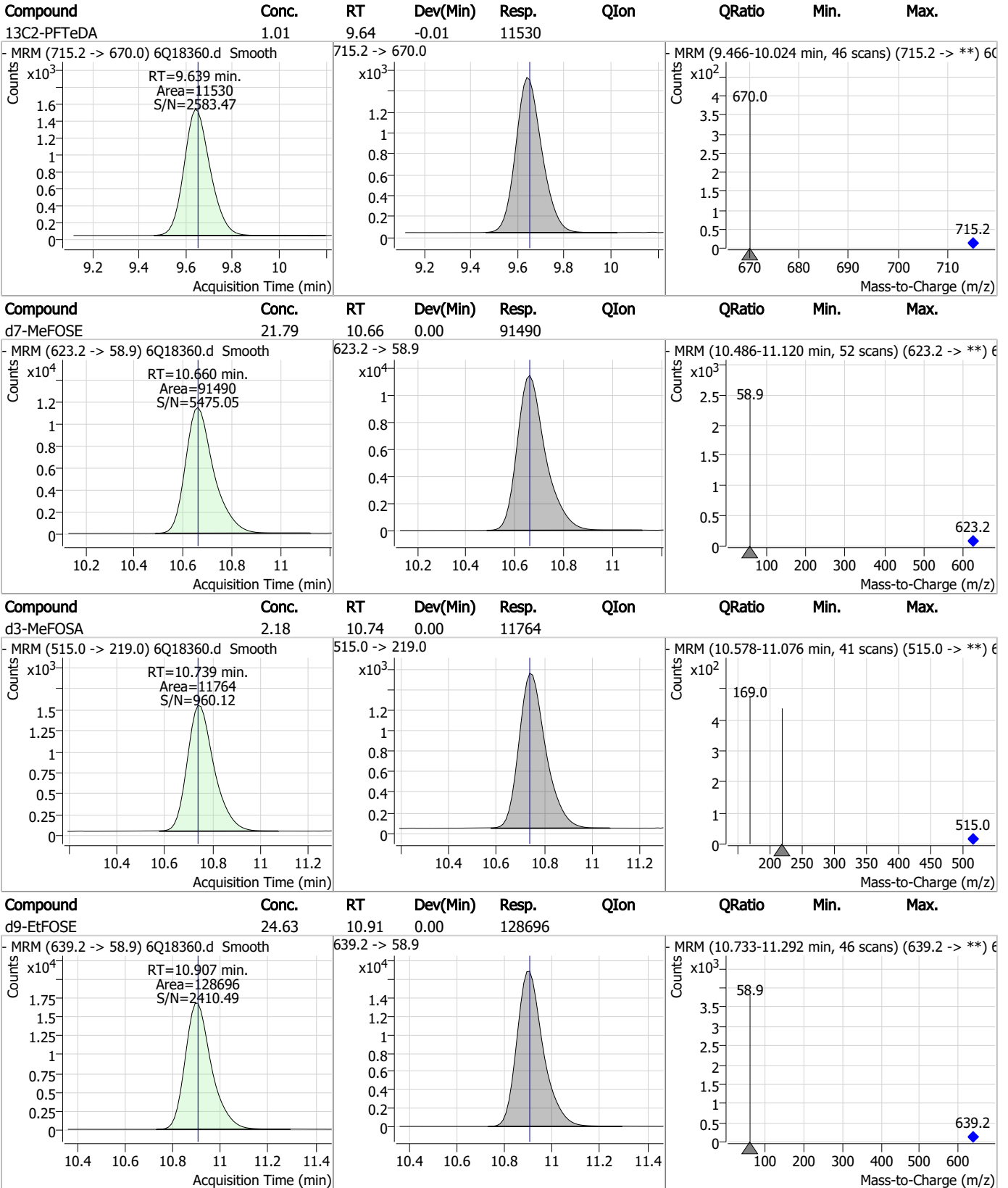
7.1.5

7

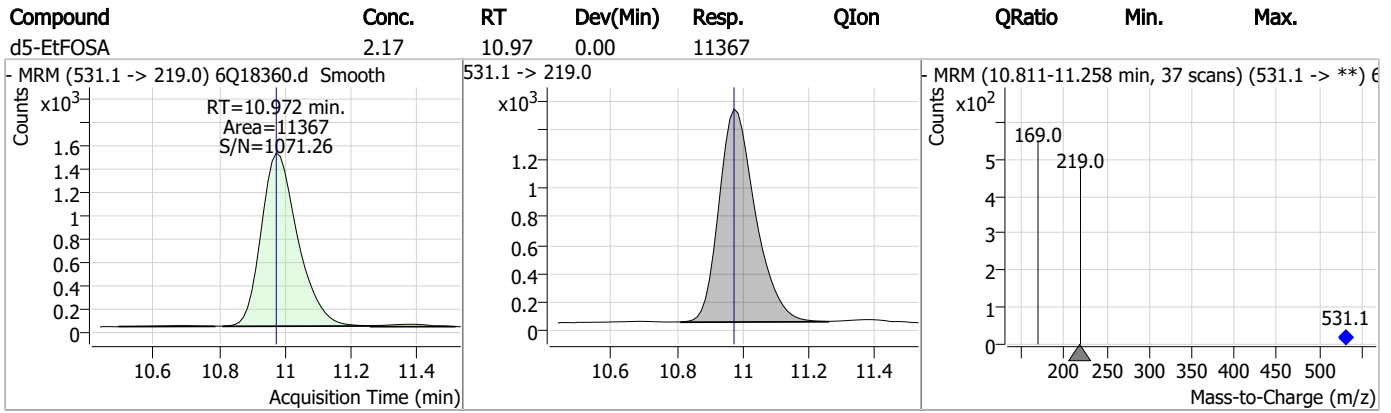
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.1.5
7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18350.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 9:43:26 PM
 Sample Name : op97007-mb
 Vial : P4-A9
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	213871	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	70785	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	72812	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	75671	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	112522	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	44356	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	30293	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34636	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	31548	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	15873	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	28135	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	27882	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16267	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15684	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3966	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6187	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5804	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	33833	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	46783	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27790	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	91774	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	129028	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	12435	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	11664	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18111	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	80357	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	10803	2.50 µg/L	0.000
13C4-PFOA	7.027	417.1 -> 372.0	98705	2.50 µg/L	-0.012
13C2-PFDA	8.039	515.1 -> 470.1	33921	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	51910	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	66065	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3966	6.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 122.3%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6187	6.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.6%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5804	5.76 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	31548	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C2-PFTeDA	9.639	715.2 -> 670.0	15873	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C3-PFBS	5.347	302.1 -> 79.9	27882	2.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C3-PFHxS	7.142	402.1 -> 79.9	16267	2.75 µg/L	0.000

7.2.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.0%	
13C4-PFBA	2.876	216.8 -> 171.9	213871	11.19 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	75671	2.99 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.6%	
13C5-PFHxA	5.429	318.0 -> 273.0	72812	2.71 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C5-PFPeA	4.235	268.3 -> 223.0	70785	5.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C6-PFDA	8.039	519.1 -> 474.1	30293	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	34636	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C8-FOSA	9.598	506.1 -> 77.8	28135	2.16 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.4%	
13C8-PFOA	7.038	421.1 -> 376.0	112522	2.94 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.6%	
13C8-PFOS	8.189	507.1 -> 79.9	15684	2.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C9-PFNA	7.557	472.1 -> 427.0	44356	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33833	6.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 125.7%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	46783	10.57 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
d3-MeFOSA	10.739	515.0 -> 219.0	11664	2.05 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27790	5.49 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	91774	20.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	129028	23.50 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
d5-EtFOSA	10.972	531.1 -> 219.0	12435	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.2%	

Target Compounds

QValue

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

7.2.1
7

Perfluorinated Compounds by LC/MS/MS

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

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

7.2.1
7

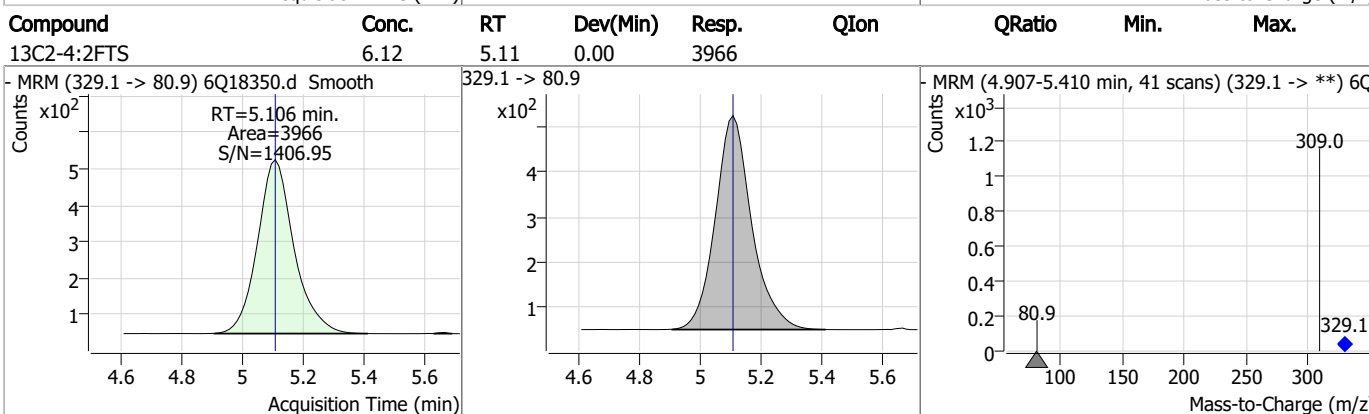
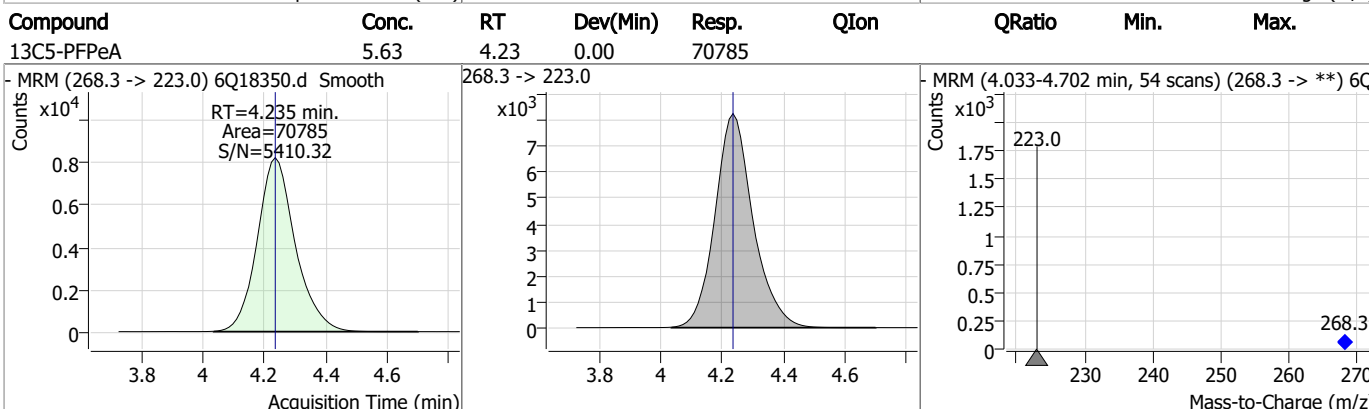
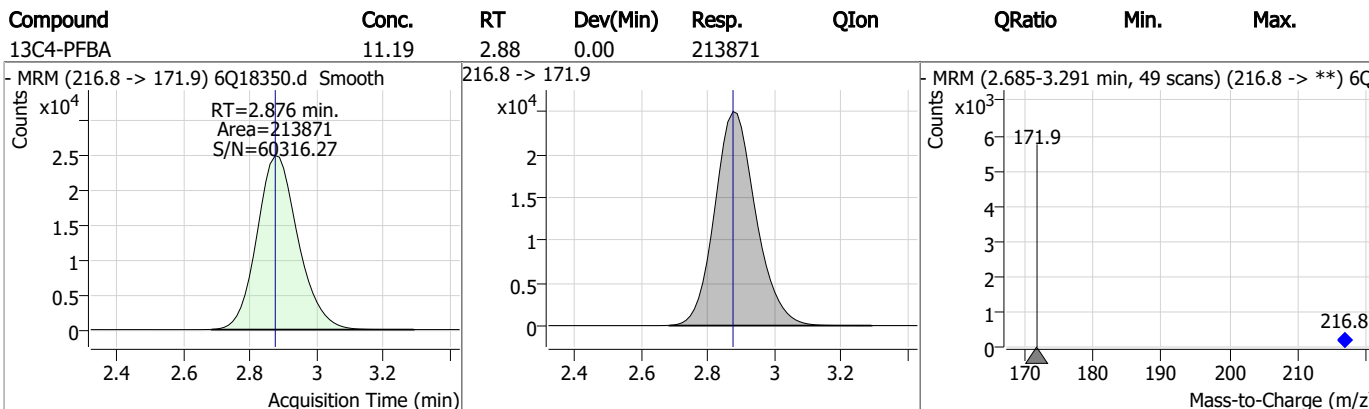
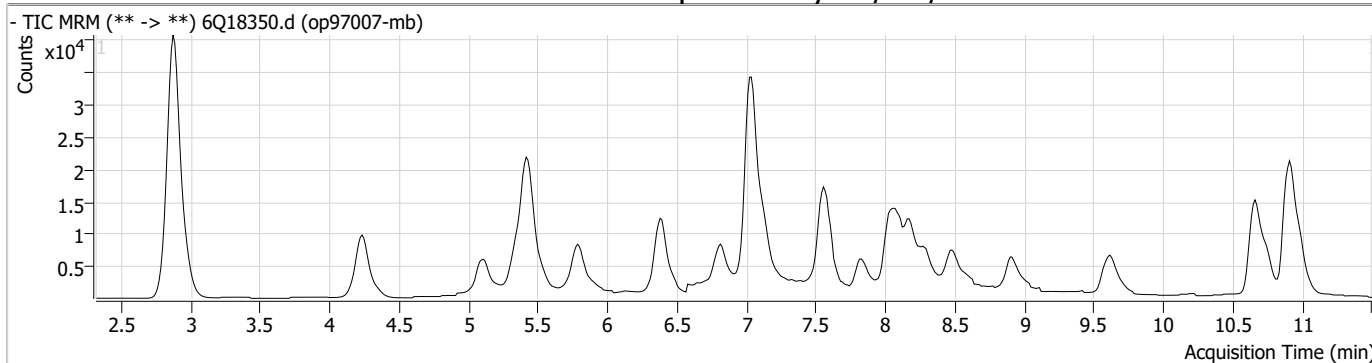
Perfluorinated Compounds by LC/MS/MS

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

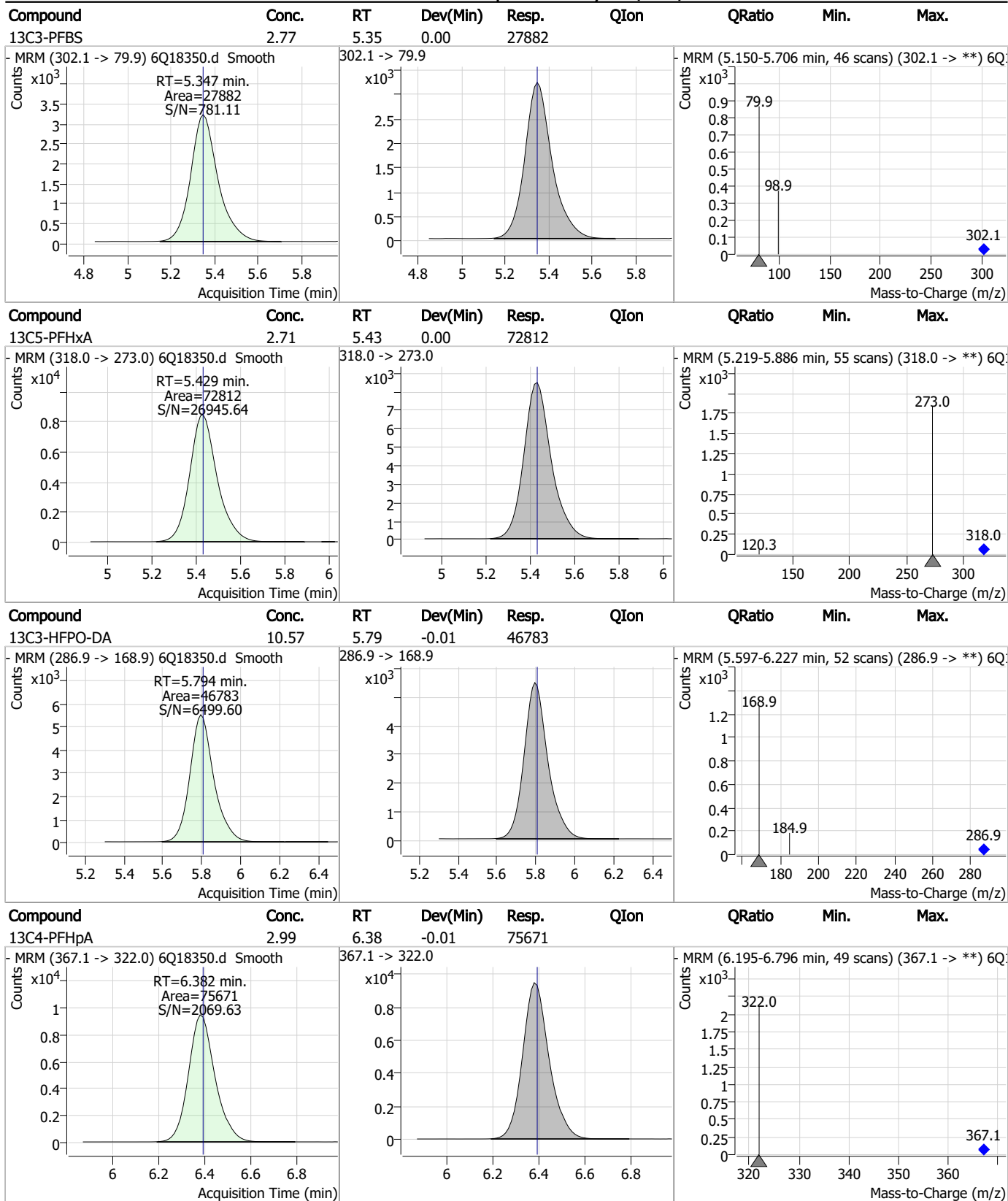
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Perfluorinated Compounds by LC/MS/MS



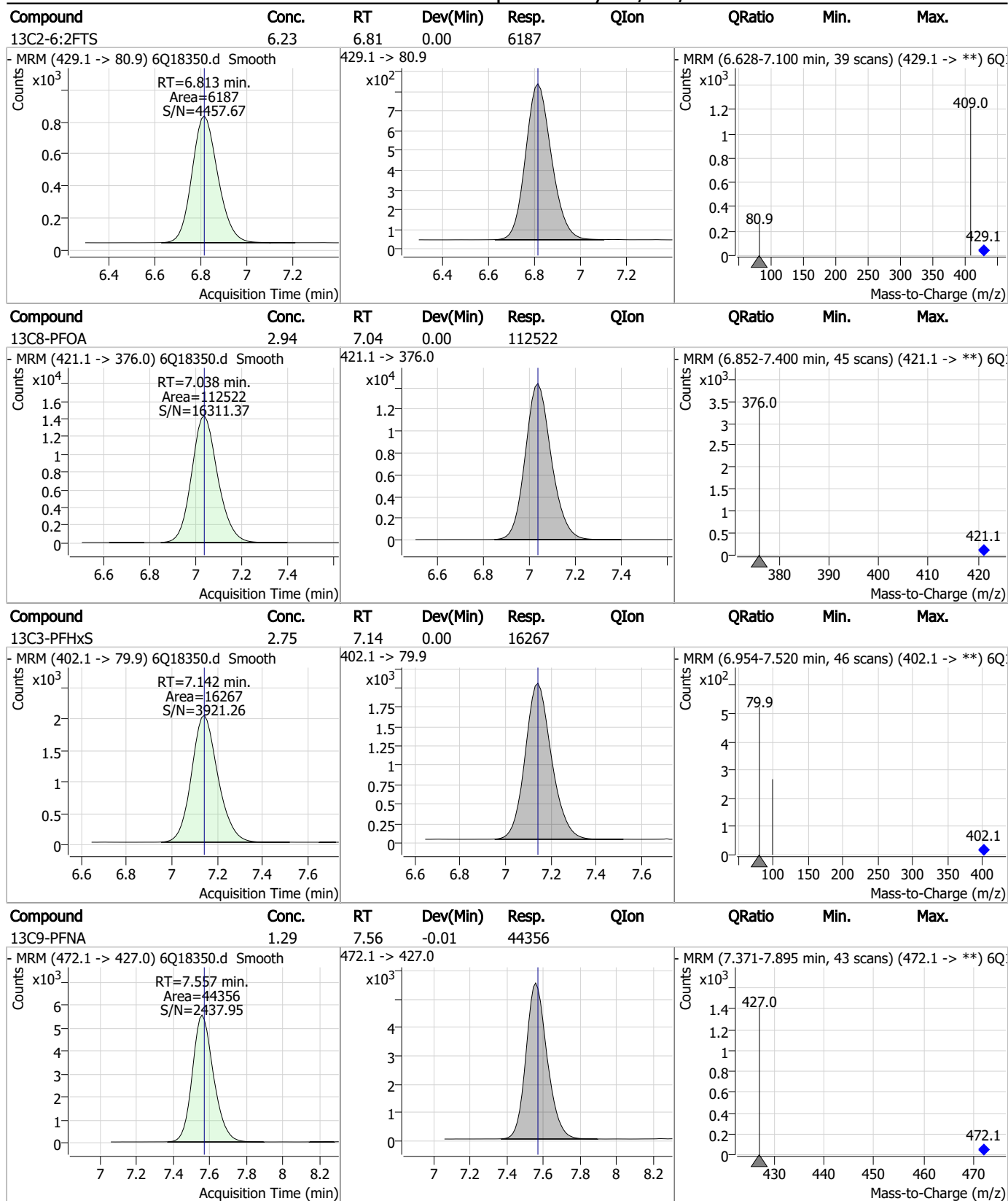
7.2.1
7

Perfluorinated Compounds by LC/MS/MS



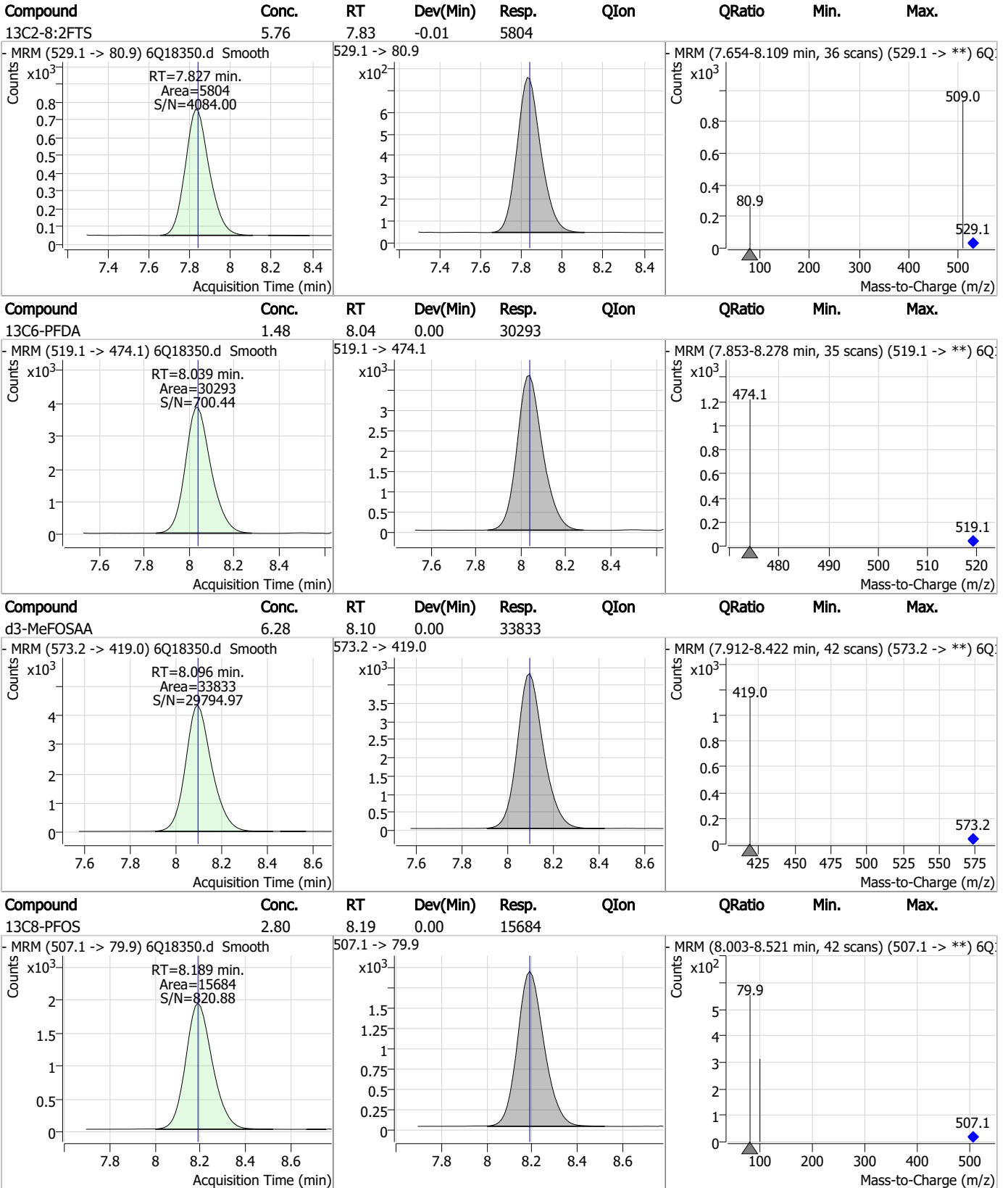
7.2.1
7

Perfluorinated Compounds by LC/MS/MS



7.2.1
7

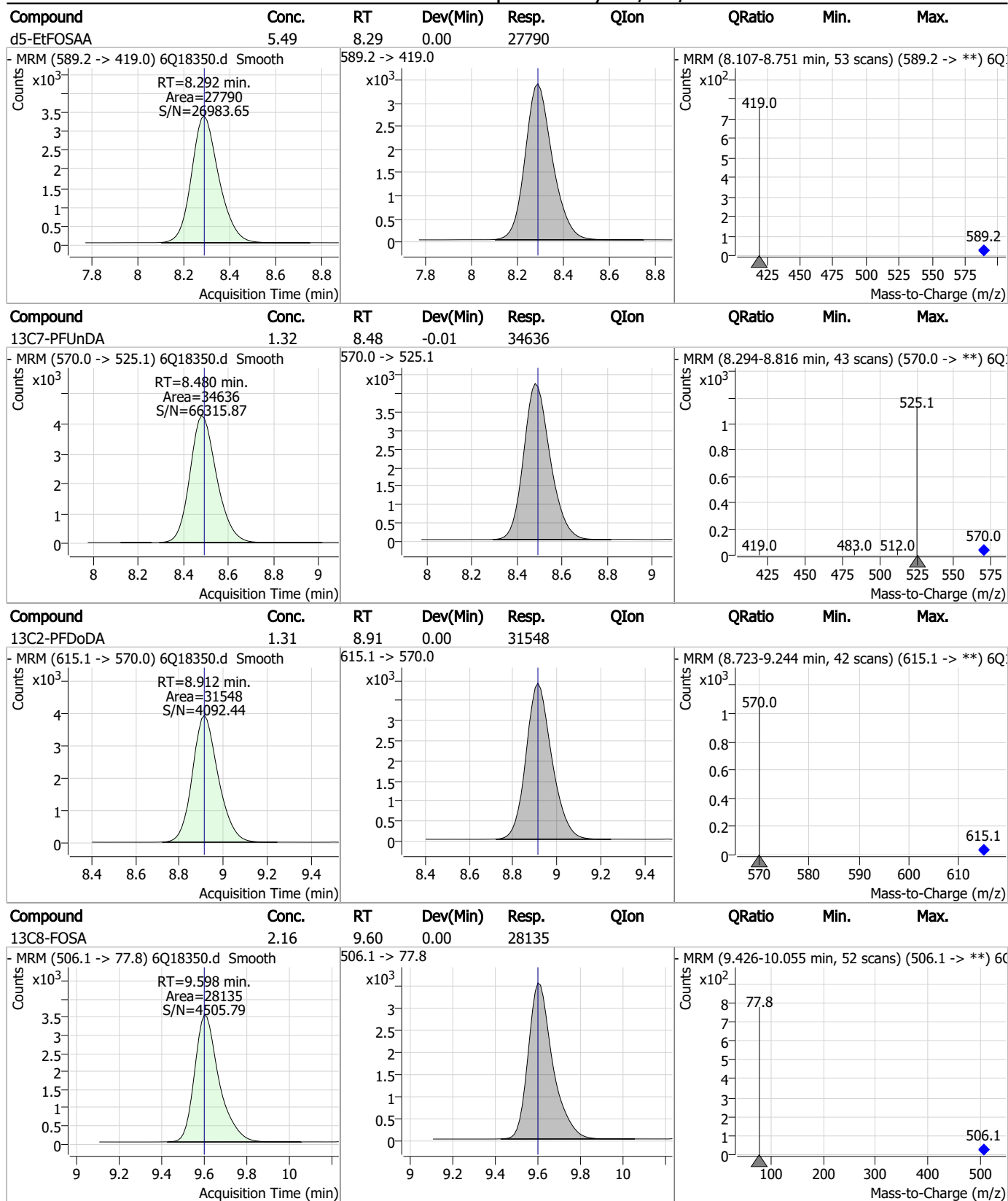
Perfluorinated Compounds by LC/MS/MS



7.2.1

7

Perfluorinated Compounds by LC/MS/MS



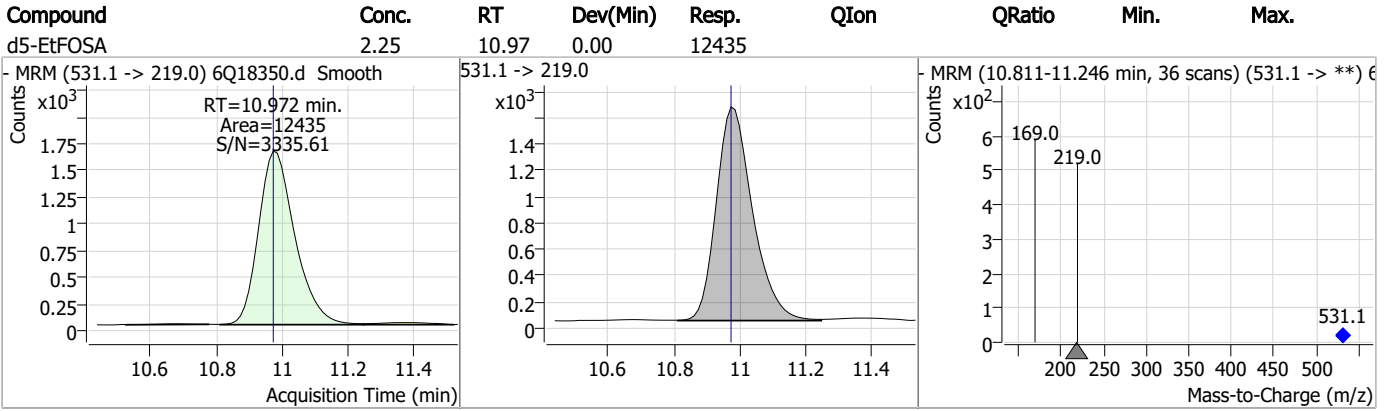
7.2.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.64	-0.01	15873				
<p>MRM (715.2 -> 670.0) 6Q18350.d Smooth RT=9.639 min. Area=15873 S/N=2816.99</p>			<p>715.2 -> 670.0</p>			<p>MRM (9.466-9.933 min, 38 scans) (715.2 -> **) 6Q18350.d Smooth</p>		
d7-MeFOSE	20.80	10.66	0.00	91774				
<p>MRM (623.2 -> 58.9) 6Q18350.d Smooth RT=10.660 min. Area=91774 S/N=2841.84</p>			<p>623.2 -> 58.9</p>			<p>MRM (10.486-10.970 min, 40 scans) (623.2 -> **) 6Q18350.d Smooth</p>		
d3-MeFOSA	2.05	10.74	0.00	11664				
<p>MRM (515.0 -> 219.0) 6Q18350.d Smooth RT=10.739 min. Area=11664 S/N=2846.80</p>			<p>515.0 -> 219.0</p>			<p>MRM (10.578-11.176 min, 49 scans) (515.0 -> **) 6Q18350.d Smooth</p>		
d9-EtFOSE	23.50	10.91	0.00	129028				
<p>MRM (639.2 -> 58.9) 6Q18350.d Smooth RT=10.907 min. Area=129028 S/N=50457.99</p>			<p>639.2 -> 58.9</p>			<p>MRM (10.733-11.292 min, 46 scans) (639.2 -> **) 6Q18350.d Smooth</p>		

7.2.1
7

Perfluorinated Compounds by LC/MS/MS



7.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18337.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 6:35:05 PM
 Sample Name : iblk
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	249177	10.00 µg/L	-0.028
M5-PFPeA	4.222	268.3 -> 223.0	84772	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	90958	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	87087	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	130952	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	54050	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	32102	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	44334	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	37376	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	20451	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	43593	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	33997	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	20378	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	18935	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4935	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	7253	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7092	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	39928	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	59711	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35395	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	141727	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	187158	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	17587	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	18048	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23778	2.50 µg/L	0.000
13C3-PFBA	2.839	216.0 -> 172.0	105520	5.00 µg/L	-0.040
18O2-PFHxS	7.141	403.0 -> 83.9	14020	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	129750	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	43492	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	65968	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	86704	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4935	5.86 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.2%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7253	5.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.6%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7092	5.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	37376	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.8%		
13C2-PFTeDA	9.639	715.2 -> 670.0	20451	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C3-PFBS	5.334	302.1 -> 79.9	33997	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	20378	2.65 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 = 106.2%	
13C4-PFBA	2.847	216.8 -> 171.9	249177	9.92 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C4-PFHpA	6.382	367.1 -> 322.0	87087	2.62 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C5-PFHxA	5.417	318.0 -> 273.0	90958	2.58 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C5-PFPeA	4.222	268.3 -> 223.0	84772	5.14 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C6-PFDA	8.039	519.1 -> 474.1	32102	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C7-PFUnDA	8.492	570.0 -> 525.1	44334	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C8-FOSA	9.598	506.1 -> 77.8	43593	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C8-PFOA	7.038	421.1 -> 376.0	130952	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C8-PFOS	8.189	507.1 -> 79.9	18935	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C9-PFNA	7.557	472.1 -> 427.0	54050	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39928	5.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.0%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	59711	10.28 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
d3-MeFOSA	10.739	515.0 -> 219.0	18048	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	35395	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	141727	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	187158	25.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d5-EtFOSA	10.972	531.1 -> 219.0	17587	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	

Target Compounds

QValue

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

7.22
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Perfluorinated Compounds by LC/MS/MS

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

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

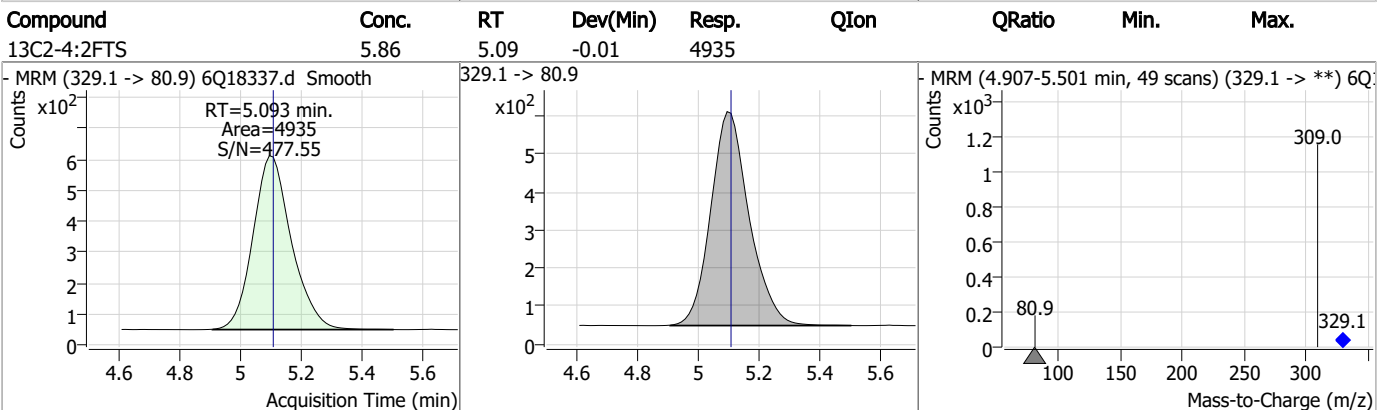
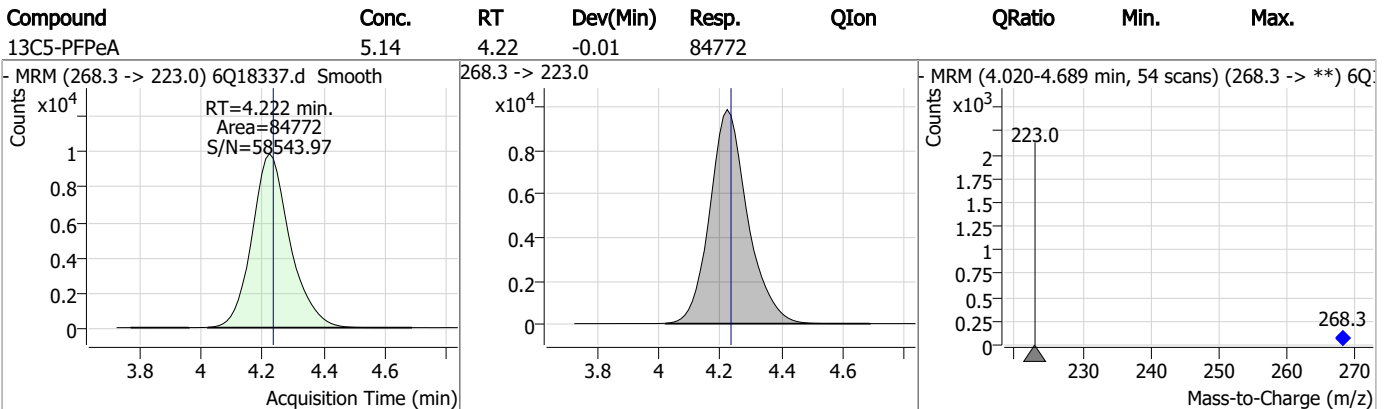
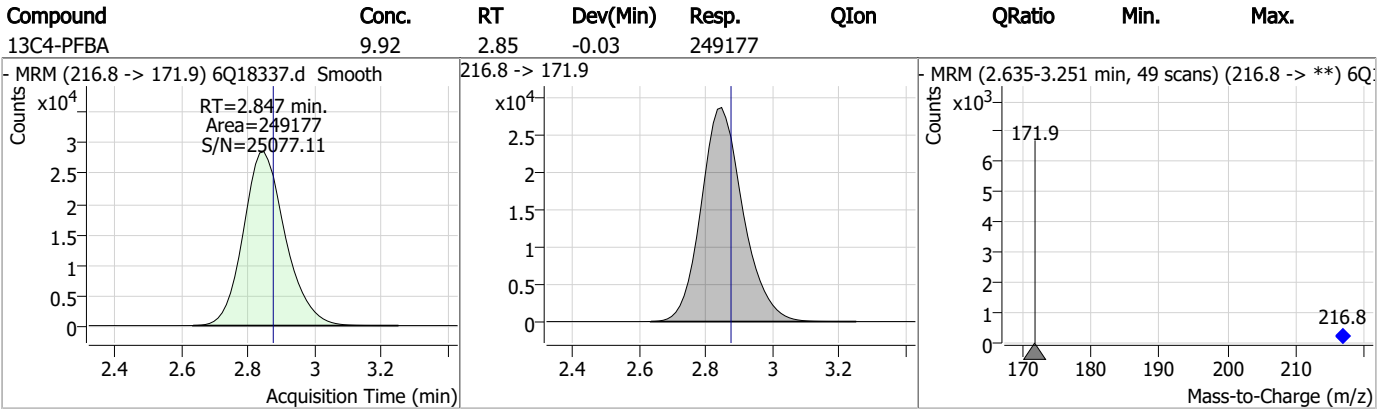
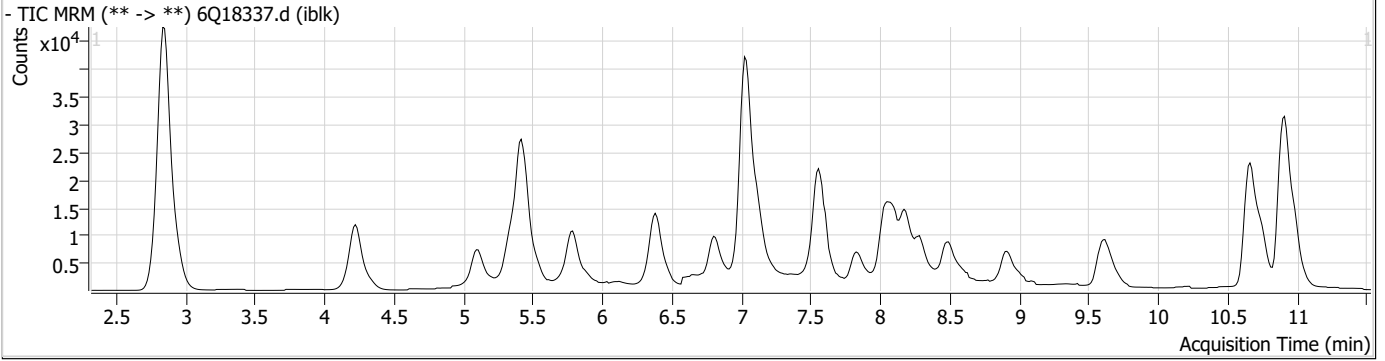
Perfluorinated Compounds by LC/MS/MS

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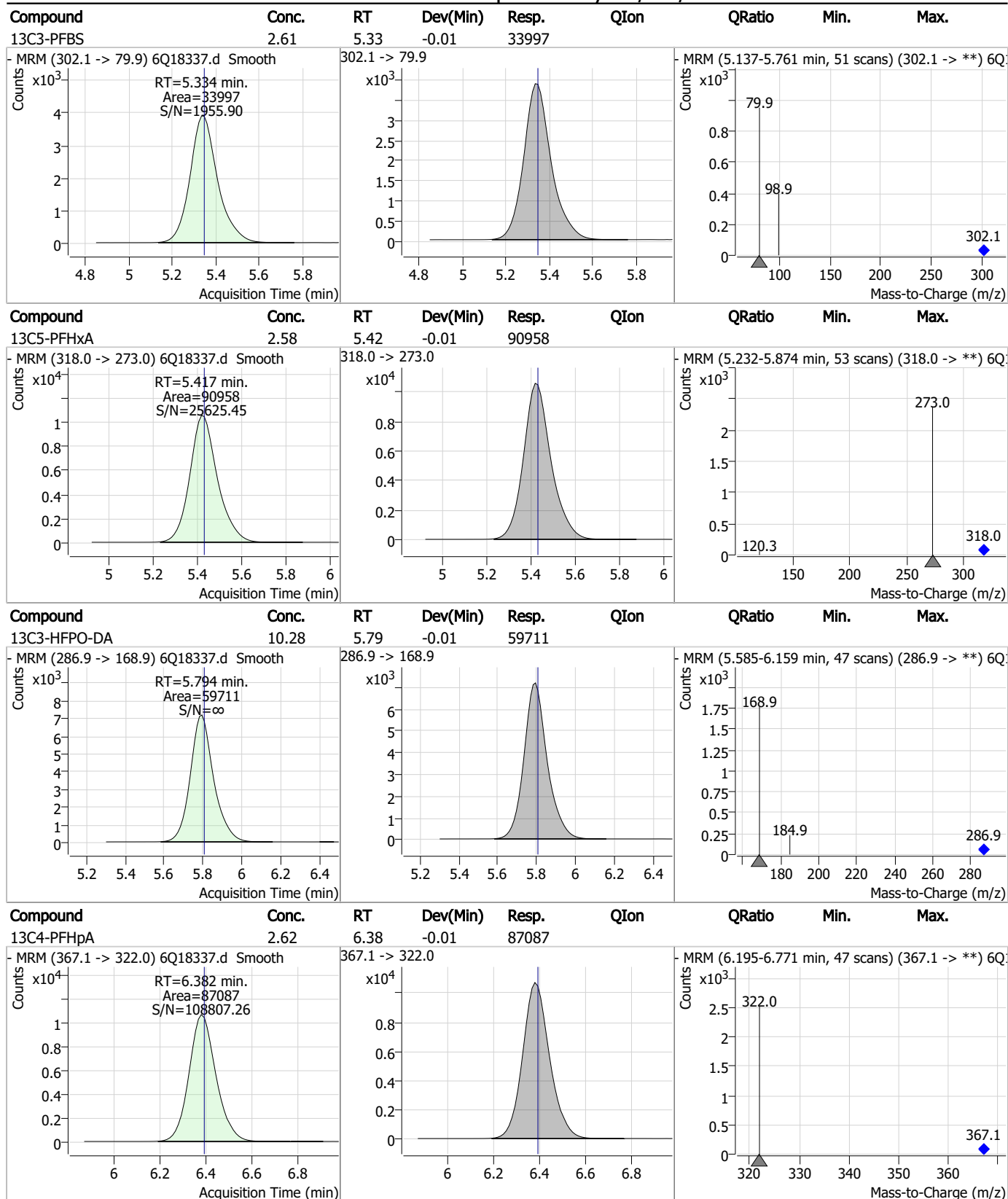
7.2.2

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Perfluorinated Compounds by LC/MS/MS

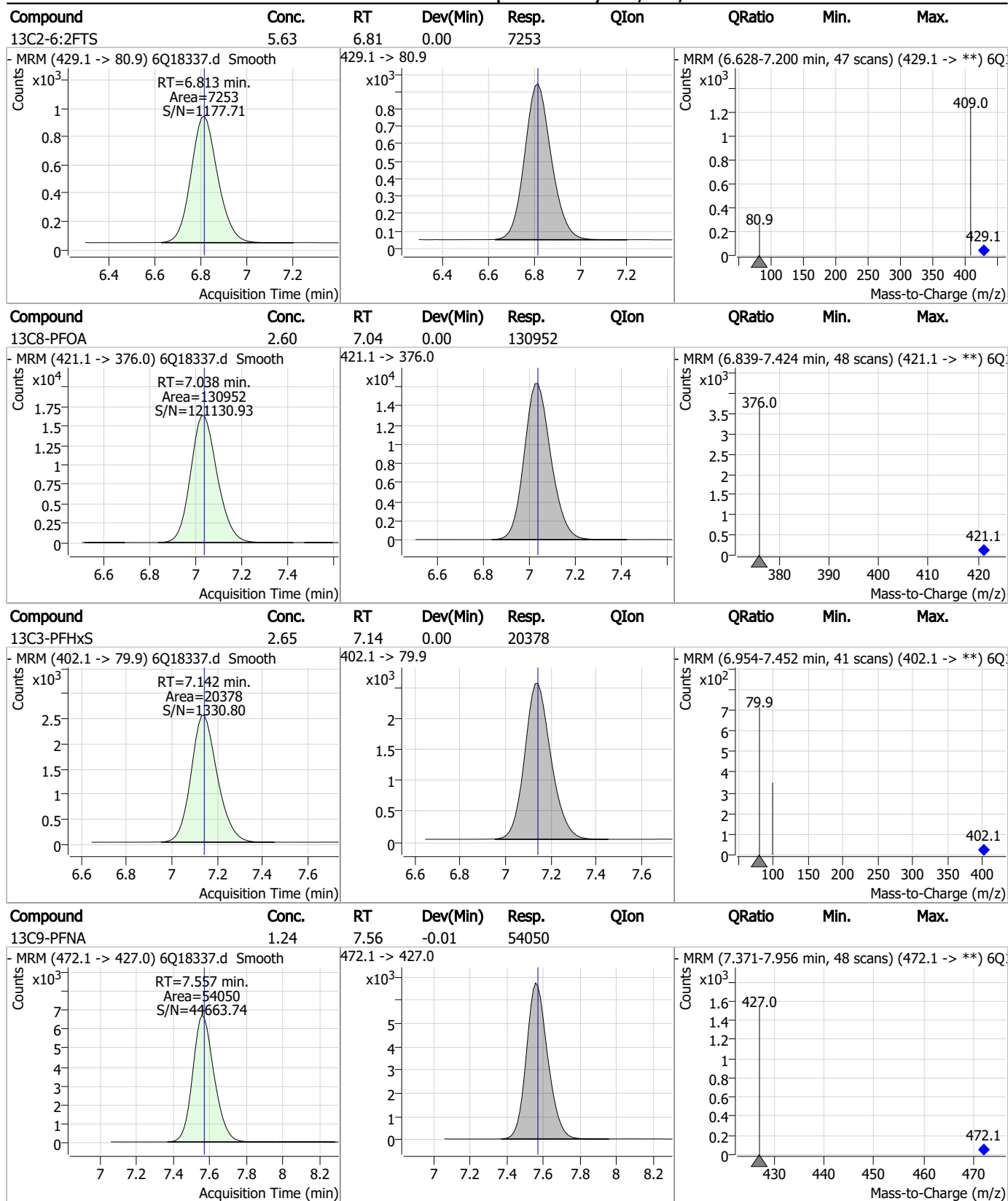


Perfluorinated Compounds by LC/MS/MS



7.2.2
7

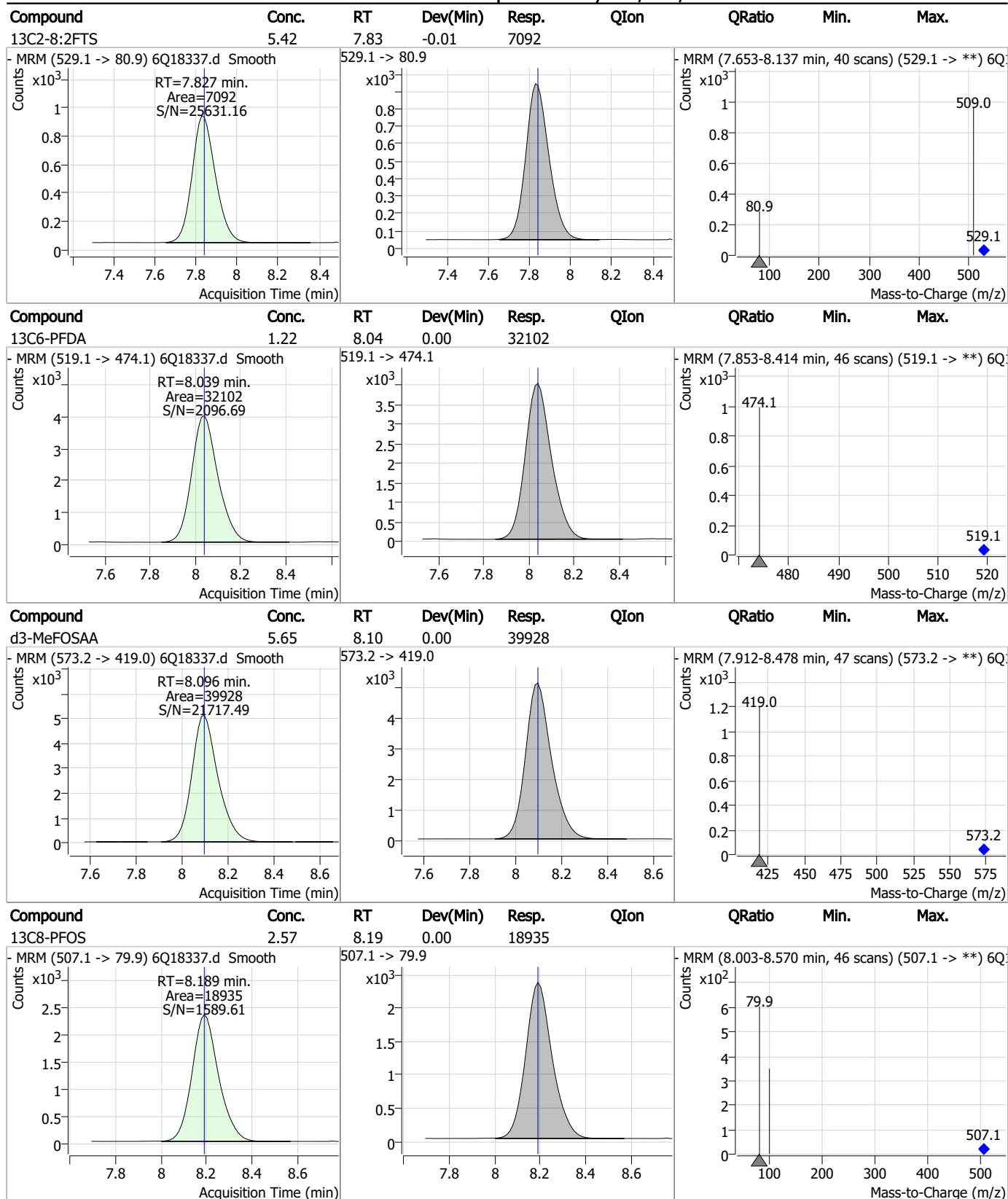
Perfluorinated Compounds by LC/MS/MS



7.2.2
7

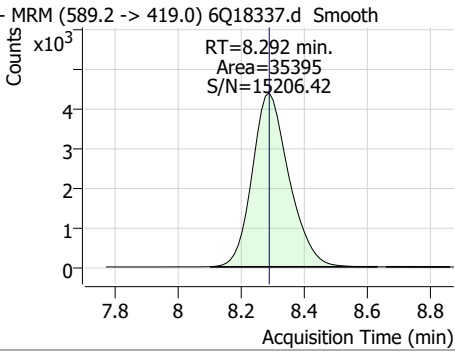
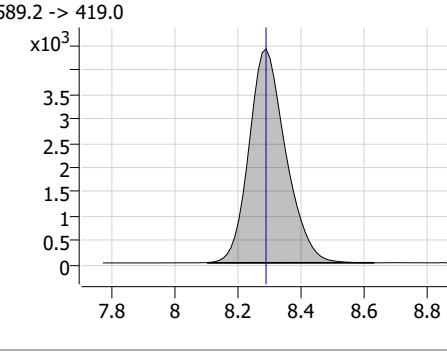
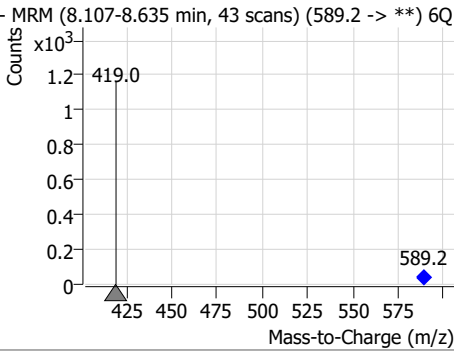
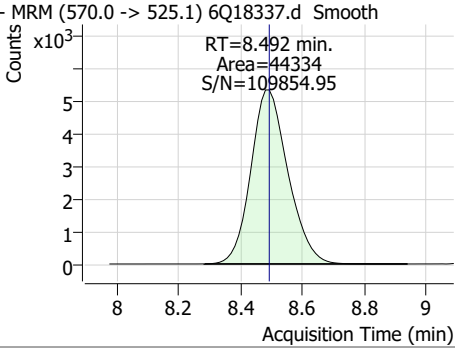
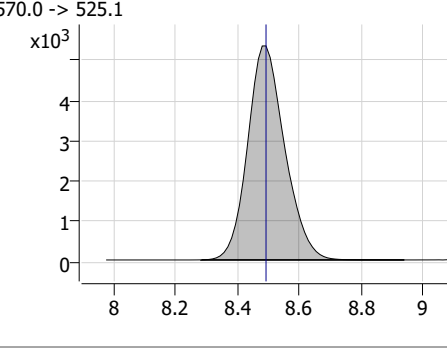
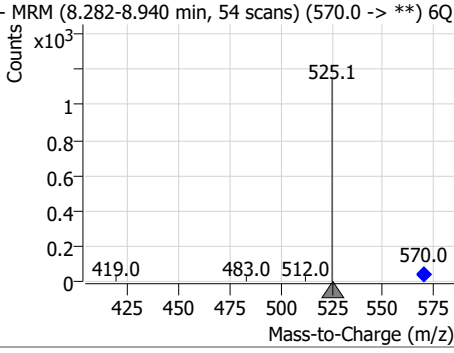
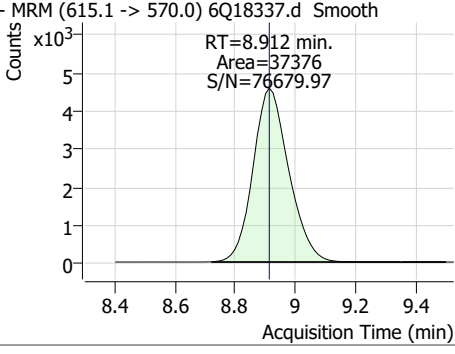
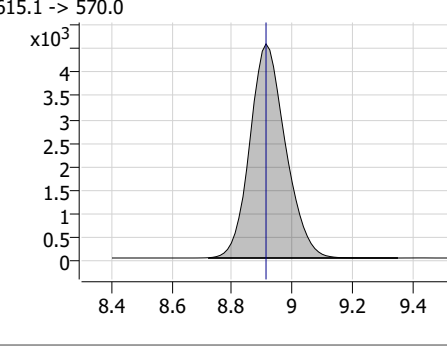
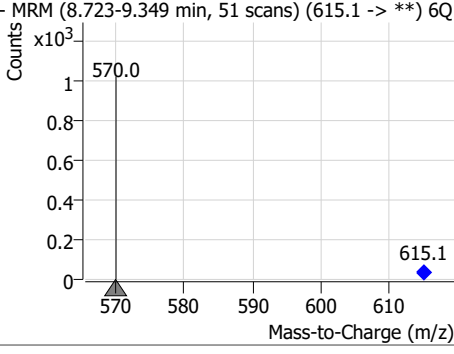
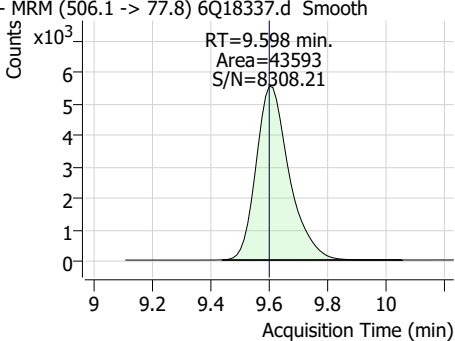
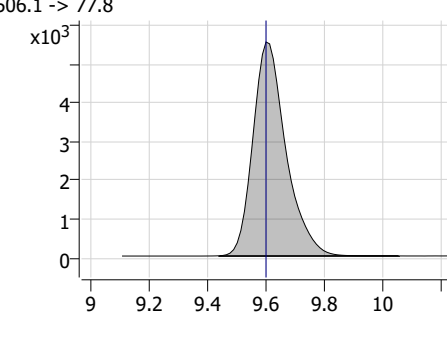
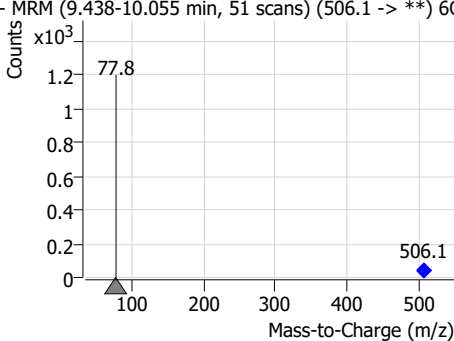


Perfluorinated Compounds by LC/MS/MS



7.2.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.33	8.29	0.00	35395				
- MRM (589.2 -> 419.0) 6Q18337.d Smooth 			589.2 -> 419.0 			- MRM (8.107-8.635 min, 43 scans) (589.2 -> **) 6Q18337.d 		
13C7-PFUnDA	1.32	8.49	0.00	44334				
- MRM (570.0 -> 525.1) 6Q18337.d Smooth 			570.0 -> 525.1 			- MRM (8.282-8.940 min, 54 scans) (570.0 -> **) 6Q18337.d 		
13C2-PFDoDA	1.21	8.91	0.00	37376				
- MRM (615.1 -> 570.0) 6Q18337.d Smooth 			615.1 -> 570.0 			- MRM (8.723-9.349 min, 51 scans) (615.1 -> **) 6Q18337.d 		
13C8-FOSA	2.55	9.60	0.00	43593				
- MRM (506.1 -> 77.8) 6Q18337.d Smooth 			506.1 -> 77.8 			- MRM (9.438-10.055 min, 51 scans) (506.1 -> **) 6Q18337.d 		

7.2.2
7

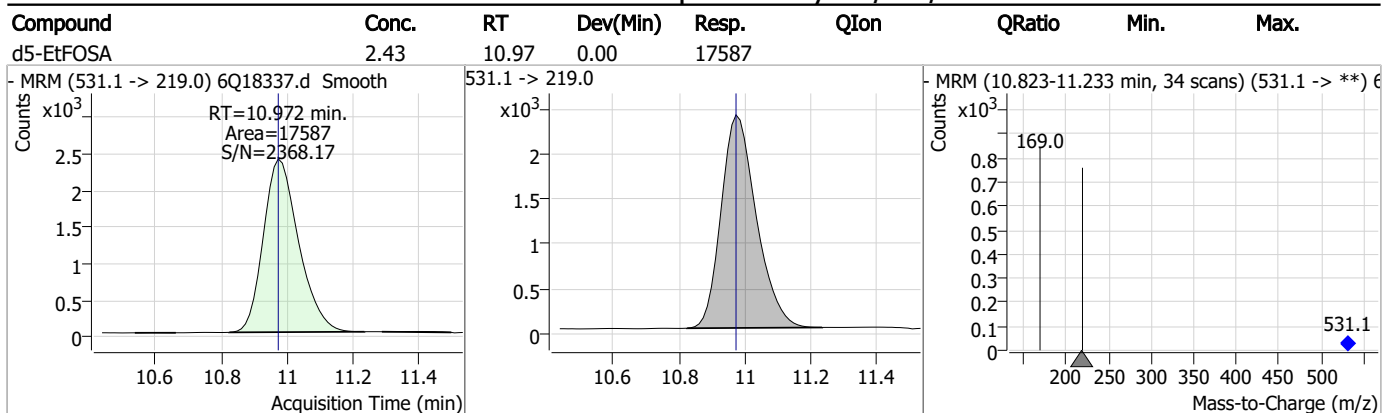
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.64	-0.01	20451				
<p>MRM (715.2 -> 670.0) 6Q18337.d Smooth RT=9.639 min. Area=20451 S/N=25073.22</p>			<p>715.2 -> 670.0</p>			<p>MRM (9.466-9.999 min, 44 scans) (715.2 -> **) 6Q18337.d Smooth</p>		
d7-MeFOSE	24.46	10.66	0.00	141727				
<p>MRM (623.2 -> 58.9) 6Q18337.d Smooth RT=10.660 min. Area=141727 S/N=21130.35</p>			<p>623.2 -> 58.9</p>			<p>MRM (10.486-11.045 min, 46 scans) (623.2 -> **) 6Q18337.d Smooth</p>		
d3-MeFOSA	2.42	10.74	0.00	18048				
<p>MRM (515.0 -> 219.0) 6Q18337.d Smooth RT=10.739 min. Area=18048 S/N=10929.71</p>			<p>515.0 -> 219.0</p>			<p>MRM (10.578-11.187 min, 49 scans) (515.0 -> **) 6Q18337.d Smooth</p>		
d9-EtFOSE	25.96	10.91	0.00	187158				
<p>MRM (639.2 -> 58.9) 6Q18337.d Smooth RT=10.907 min. Area=187158 S/N=11223.35</p>			<p>639.2 -> 58.9</p>			<p>MRM (10.733-11.292 min, 46 scans) (639.2 -> **) 6Q18337.d Smooth</p>		

7.2.2

7

Perfluorinated Compounds by LC/MS/MS



7.2.2
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18347.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 8:59:57 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	252657	10.00 µg/L	-0.028
M5-PFPeA	4.222	268.3 -> 223.0	85219	5.00 µg/L	-0.012
M5-PFHxA	5.429	318.0 -> 273.0	93448	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	86514	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	129753	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	53754	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	33426	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	41321	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	37350	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	19825	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	43394	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	33198	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	20005	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	18480	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	5090	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	7372	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7055	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40416	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	60195	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34635	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	141399	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	182857	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	18061	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	17594	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23084	2.50 µg/L	0.000
13C3-PFBA	2.839	216.0 -> 172.0	106989	5.00 µg/L	-0.040
18O2-PFHxS	7.141	403.0 -> 83.9	14526	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	137869	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	41818	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	67896	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	90452	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	5090	5.84 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.7%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7372	5.52 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7055	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C2-PFDoDA	8.912	615.1 -> 570.0	37350	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	19825	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.3%		
13C3-PFBS	5.347	302.1 -> 79.9	33198	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	20005	2.52 µg/L	0.000

7.2.3
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFBA	2.847	216.8 -> 171.9	252657	9.92 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C4-PFHpA	6.382	367.1 -> 322.0	86514	2.50 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFHxA	5.429	318.0 -> 273.0	93448	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C5-PFPeA	4.222	268.3 -> 223.0	85219	4.95 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C6-PFDA	8.039	519.1 -> 474.1	33426	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C7-PFUnDA	8.492	570.0 -> 525.1	41321	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-FOSA	9.598	506.1 -> 77.8	43394	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.5%	
13C8-PFOA	7.038	421.1 -> 376.0	129753	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
13C8-PFOS	8.189	507.1 -> 79.9	18480	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C9-PFNA	7.557	472.1 -> 427.0	53754	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40416	5.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	60195	9.93 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSA	10.739	515.0 -> 219.0	17594	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34635	5.37 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.4%	
d7-MeFOSE	10.660	623.2 -> 58.9	141399	25.14 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	182857	26.13 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
d5-EtFOSA	10.972	531.1 -> 219.0	18061	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	

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.	

Perfluorinated Compounds by LC/MS/MS

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

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

7.2.3
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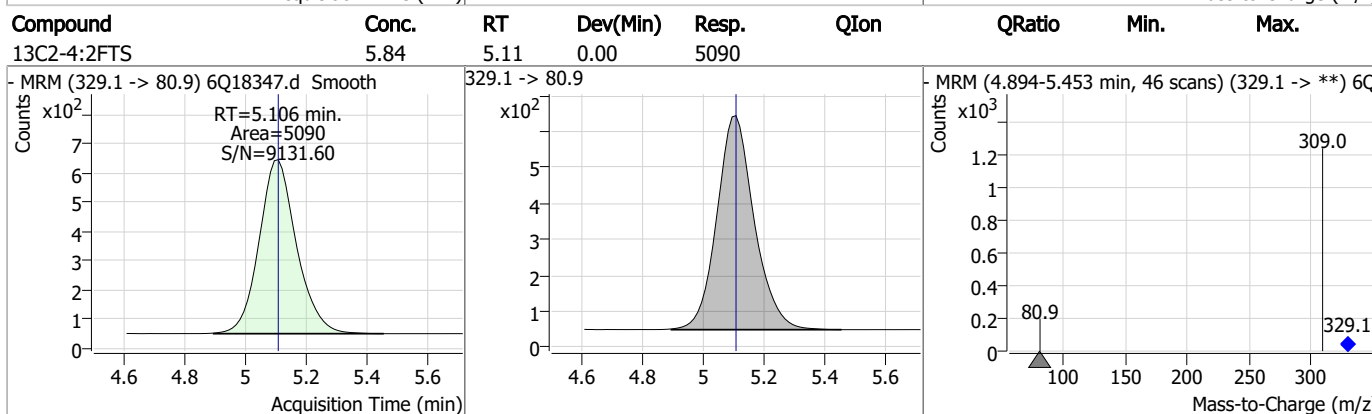
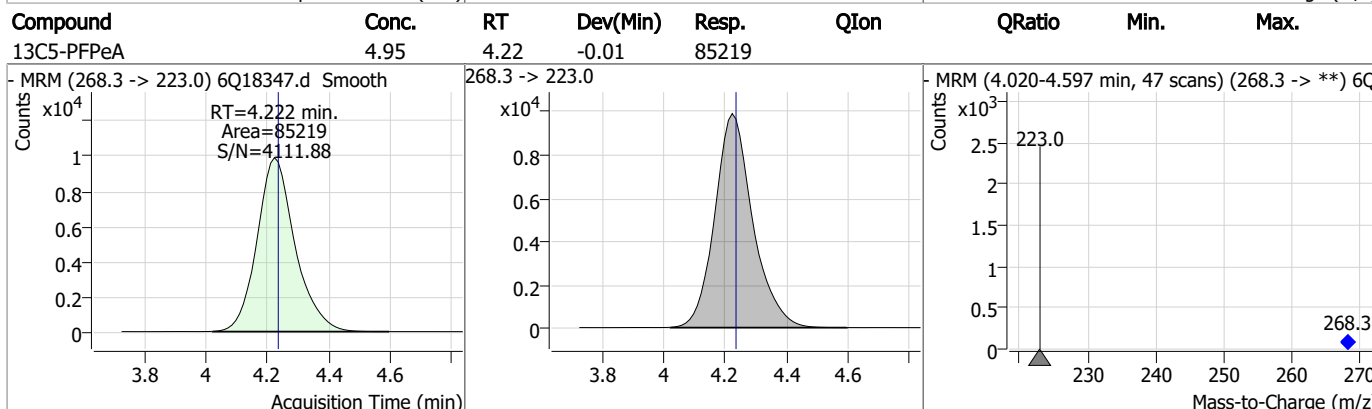
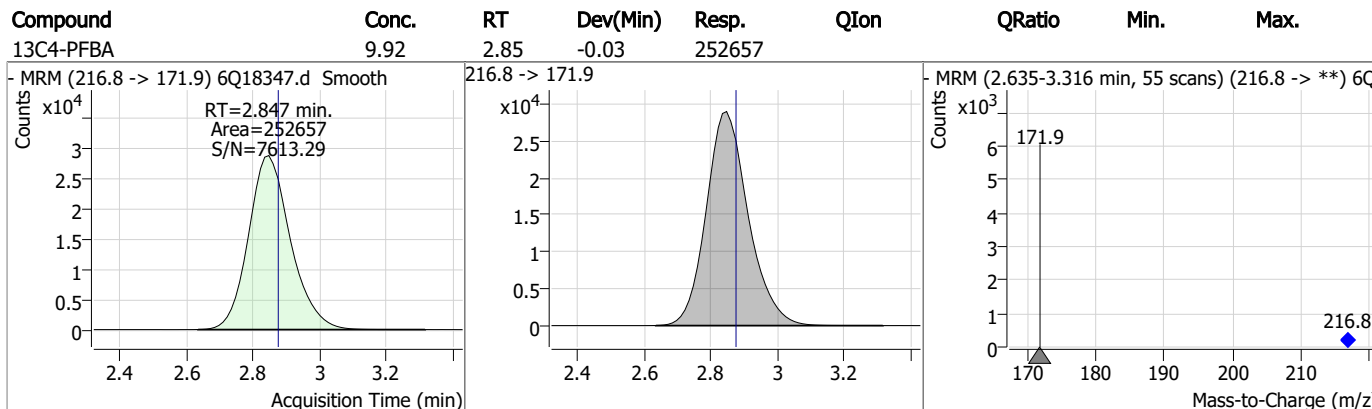
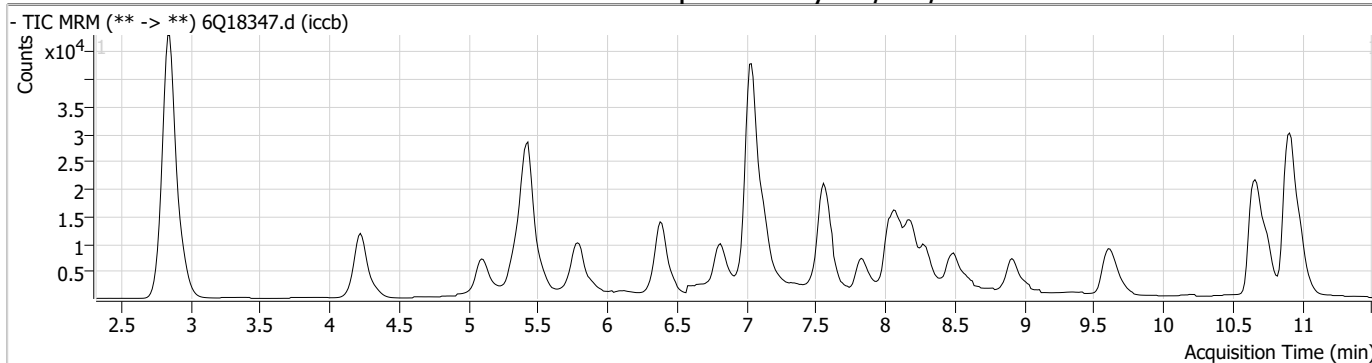
Perfluorinated Compounds by LC/MS/MS

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

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Perfluorinated Compounds by LC/MS/MS



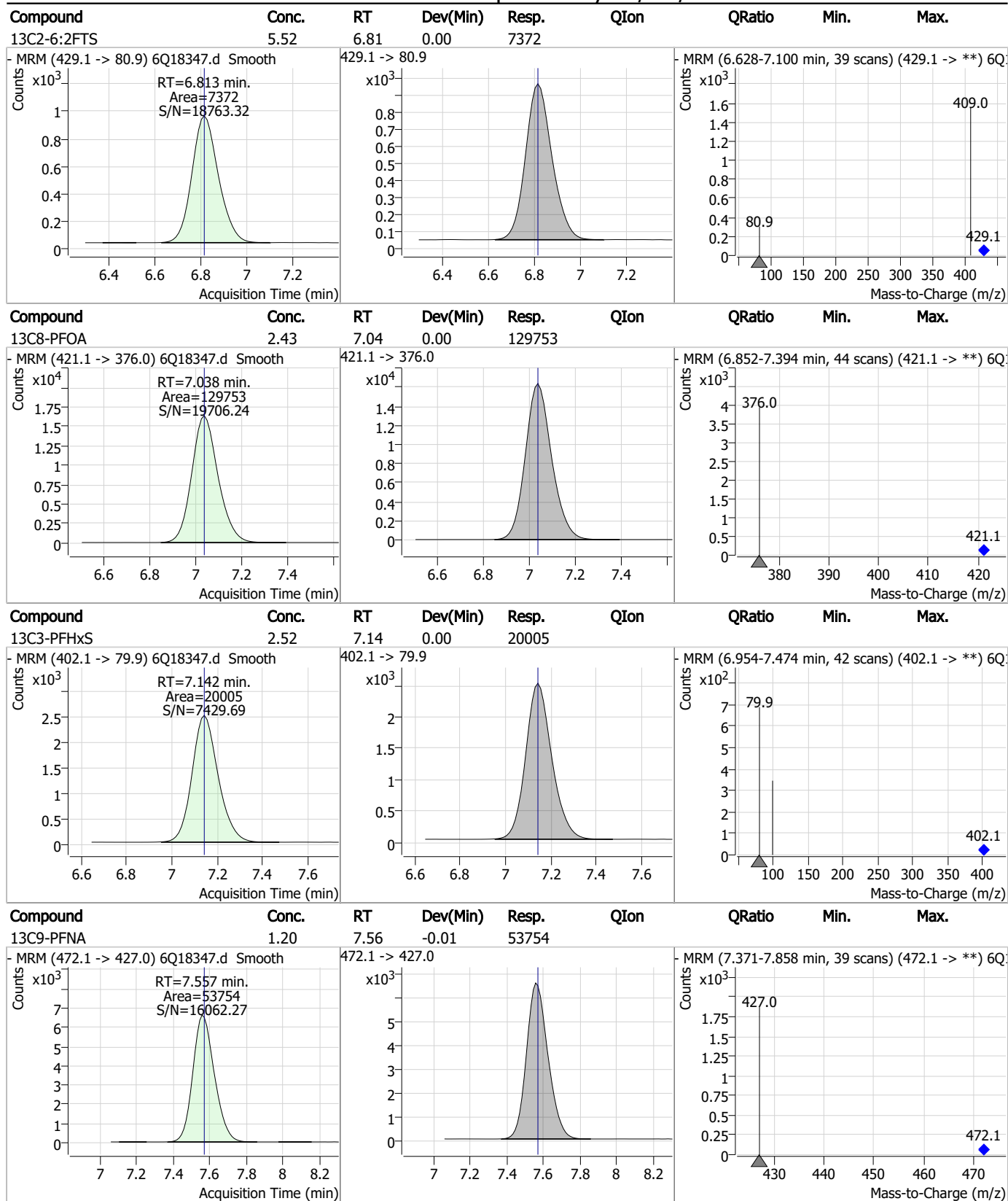
7.2.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.46	5.35	0.00	33198				
13C5-PFHxA	2.54	5.43	0.00	93448				
13C3-HFPO-DA	9.93	5.79	-0.01	60195				
13C4-PFHpA	2.50	6.38	-0.01	86514				

7.2.3
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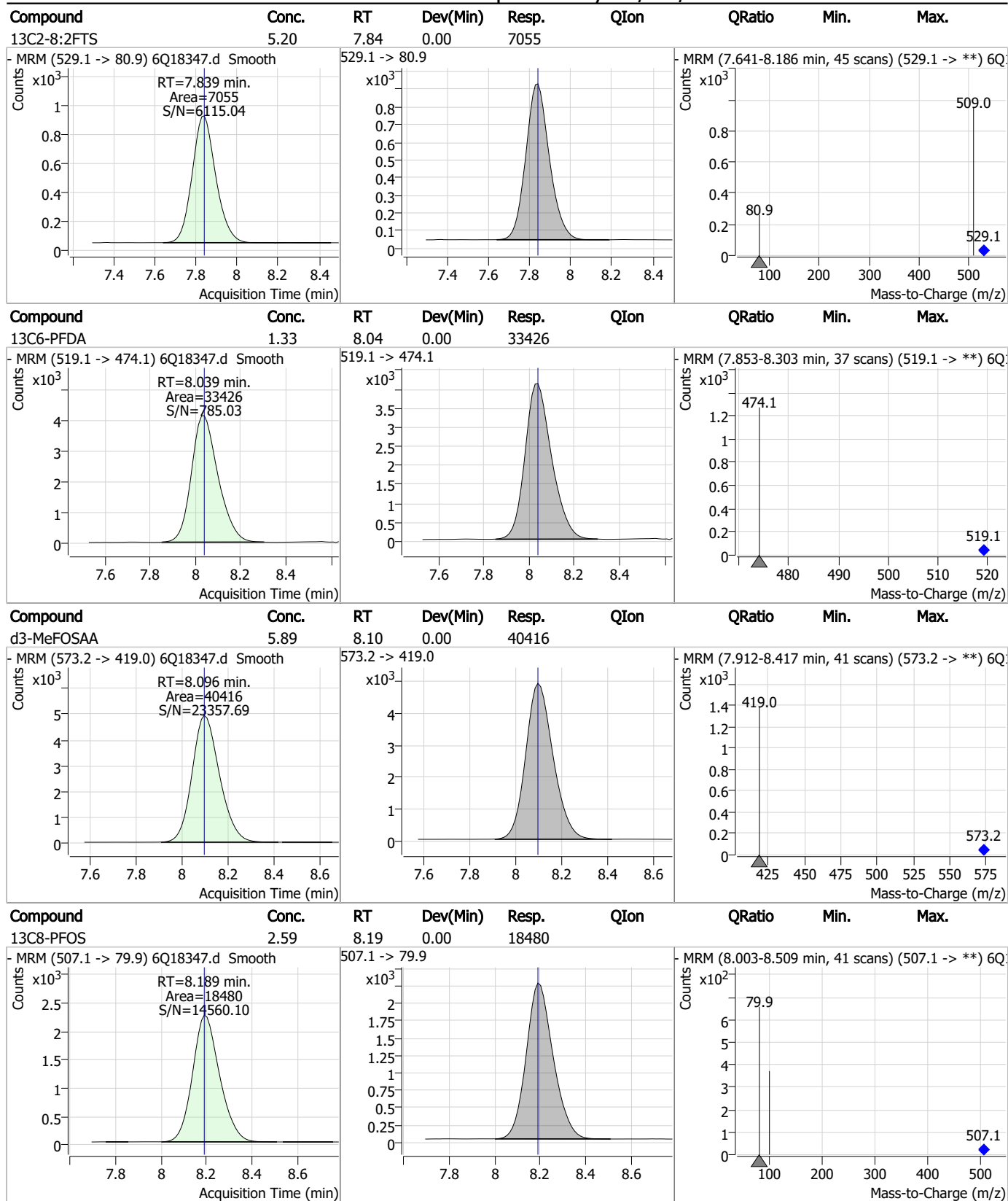
Perfluorinated Compounds by LC/MS/MS



7.2.3
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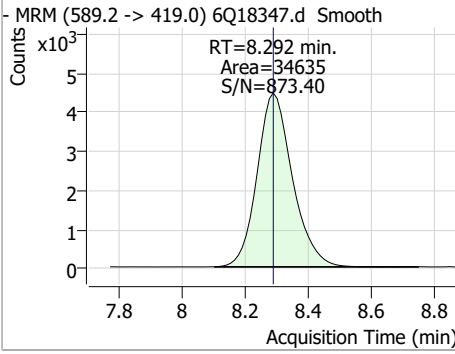
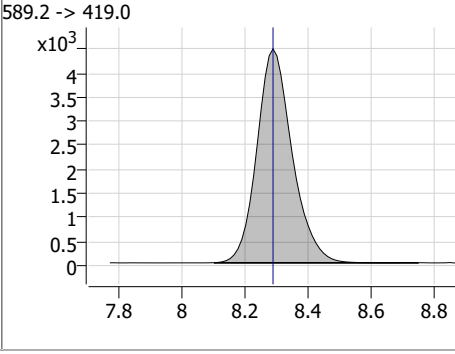
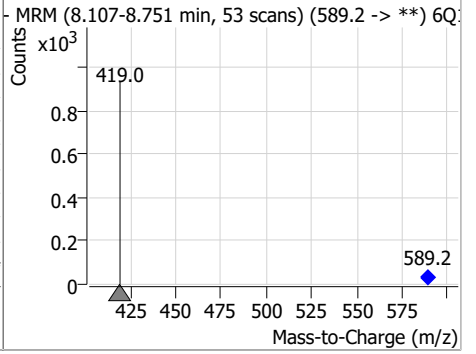
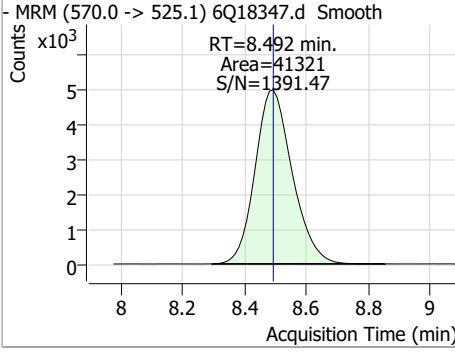
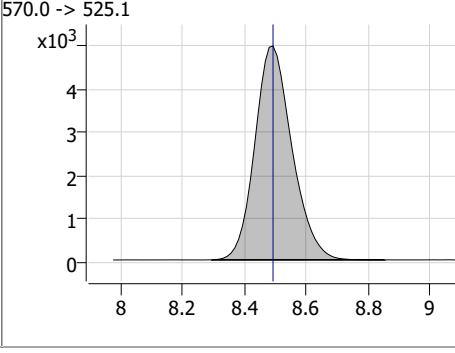
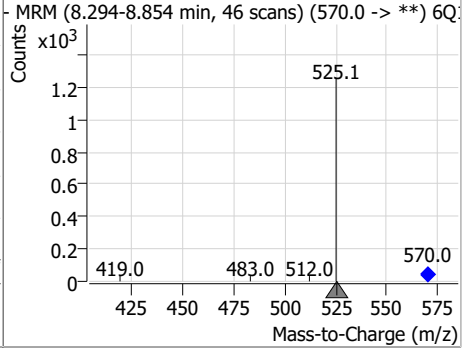
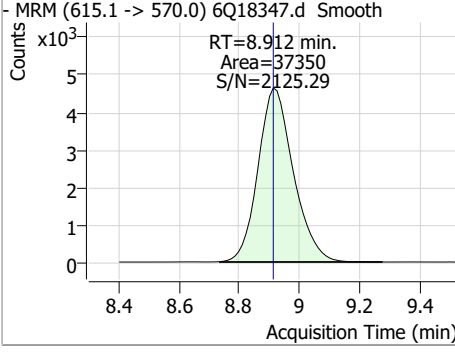
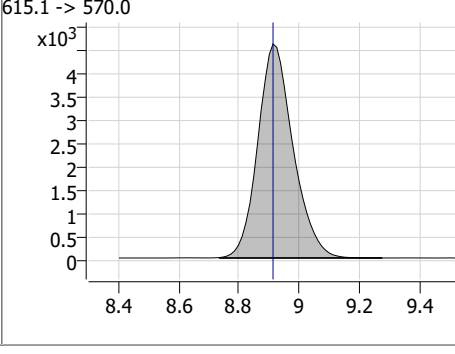
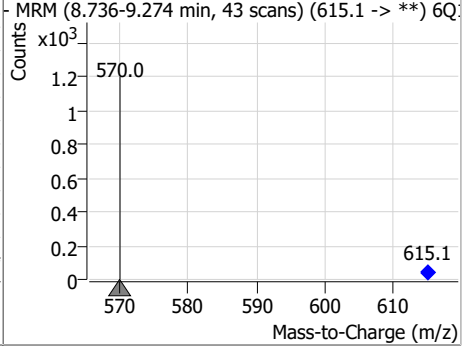
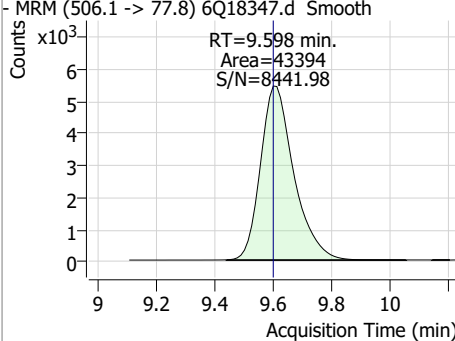
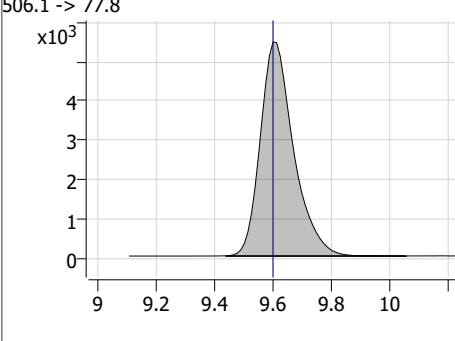
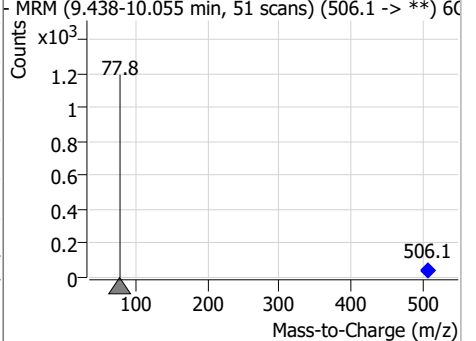
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

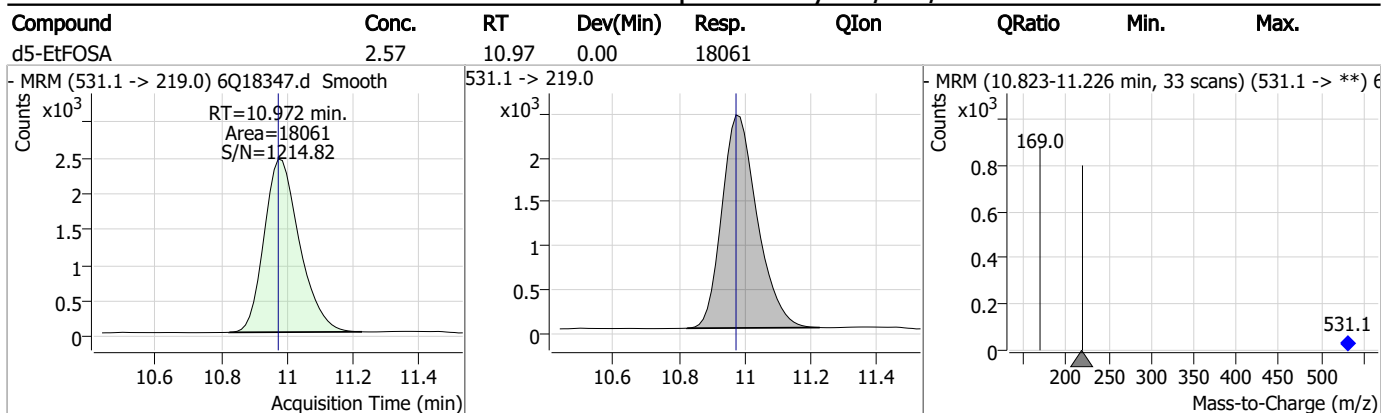
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.37	8.29	0.00	34635				
- MRM (589.2 -> 419.0) 6Q18347.d Smooth 			589.2 -> 419.0 			- MRM (8.107-8.751 min, 53 scans) (589.2 -> **) 6Q 		
13C7-PFUnDA	1.28	8.49	0.00	41321				
- MRM (570.0 -> 525.1) 6Q18347.d Smooth 			570.0 -> 525.1 			- MRM (8.294-8.854 min, 46 scans) (570.0 -> **) 6Q 		
13C2-PFDoDA	1.26	8.91	0.00	37350				
- MRM (615.1 -> 570.0) 6Q18347.d Smooth 			615.1 -> 570.0 			- MRM (8.736-9.274 min, 43 scans) (615.1 -> **) 6Q 		
13C8-FOSA	2.61	9.60	0.00	43394				
- MRM (506.1 -> 77.8) 6Q18347.d Smooth 			506.1 -> 77.8 			- MRM (9.438-10.055 min, 51 scans) (506.1 -> **) 6Q 		

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.30	9.64	-0.01	19825				
d7-MeFOSE	25.14	10.66	0.00	141399				
d3-MeFOSA	2.43	10.74	0.00	17594				
d9-EtFOSE	26.13	10.91	0.00	182857				

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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18359.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 11:53:45 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	254681	10.00 µg/L	-0.028
M5-PFPeA	4.222	268.3 -> 223.0	86272	5.00 µg/L	-0.012
M5-PFHxA	5.429	318.0 -> 273.0	91496	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	86446	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	133374	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	54154	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	34049	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	44134	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	38298	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	20983	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	42799	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	33721	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	20245	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	18599	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4991	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	7486	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7200	5.00 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	41783	5.00 µg/L	-0.012
M3-HFPO-DA	5.794	286.9 -> 168.9	58698	10.00 µg/L	-0.012
M5-EtFOSAA	8.279	589.2 -> 419.0	35428	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	144505	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	185760	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	18108	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	17944	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23539	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	107349	5.00 µg/L	-0.027
18O2-PFHxS	7.141	403.0 -> 83.9	15258	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	136946	2.50 µg/L	0.000
13C2-PFDA	8.027	515.1 -> 470.1	43283	1.25 µg/L	-0.012
13C5-PFNA	7.557	468.0 -> 423.0	68558	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	88182	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4991	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7486	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.8%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7200	5.06 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	38298	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	20983	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.7%		
13C3-PFBS	5.347	302.1 -> 79.9	33721	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.0%		
13C3-PFHxS	7.142	402.1 -> 79.9	20245	2.42 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 = 96.9%	
13C4-PFBA	2.847	216.8 -> 171.9	254681	9.97 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.382	367.1 -> 322.0	86446	2.56 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C5-PFHxA	5.429	318.0 -> 273.0	91496	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C5-PFPeA	4.222	268.3 -> 223.0	86272	5.14 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C6-PFDA	8.039	519.1 -> 474.1	34049	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	44134	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C8-FOSA	9.598	506.1 -> 77.8	42799	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-PFOA	7.038	421.1 -> 376.0	133374	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-PFOS	8.189	507.1 -> 79.9	18599	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C9-PFNA	7.557	472.1 -> 427.0	54154	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.8%	
d3-MeFOSAA	8.084	573.2 -> 419.0	41783	5.97 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.4%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	58698	9.94 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
d3-MeFOSA	10.739	515.0 -> 219.0	17944	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
d5-EtFOSAA	8.279	589.2 -> 419.0	35428	5.38 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
d7-MeFOSE	10.660	623.2 -> 58.9	144505	25.19 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	185760	26.03 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.1%	
d5-EtFOSA	10.972	531.1 -> 219.0	18108	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	

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	-	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.	

7.2.4
7

Perfluorinated Compounds by LC/MS/MS

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

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

7.2.4
7

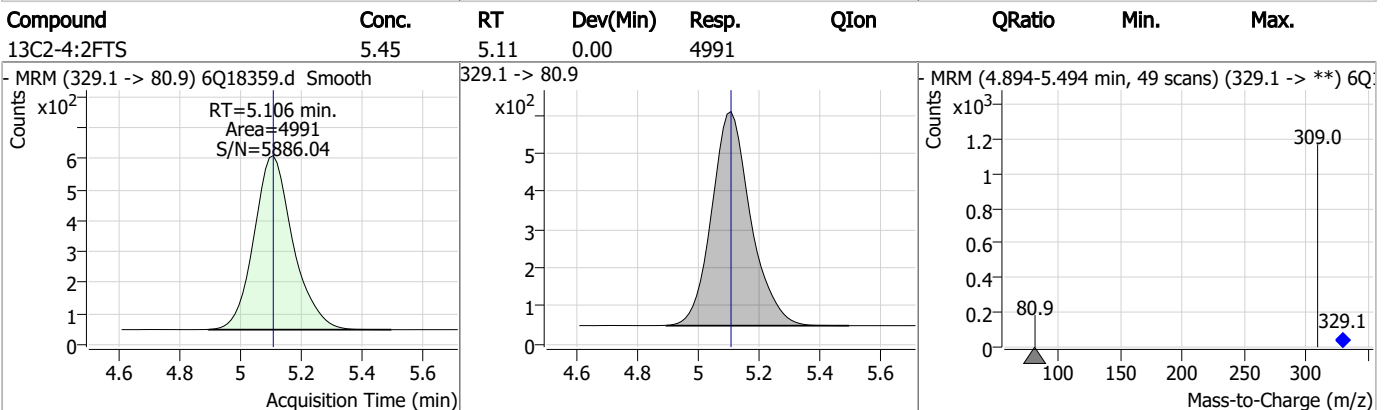
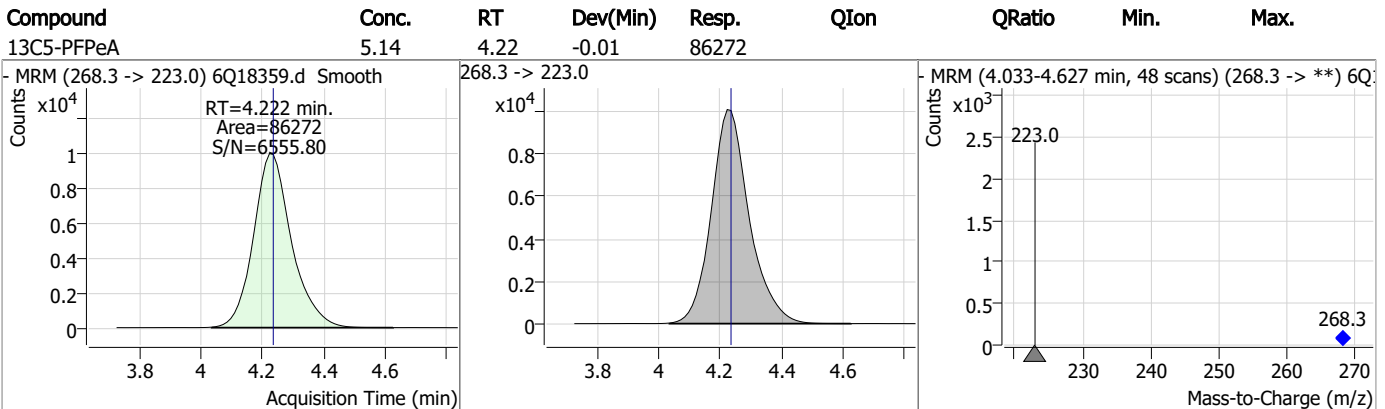
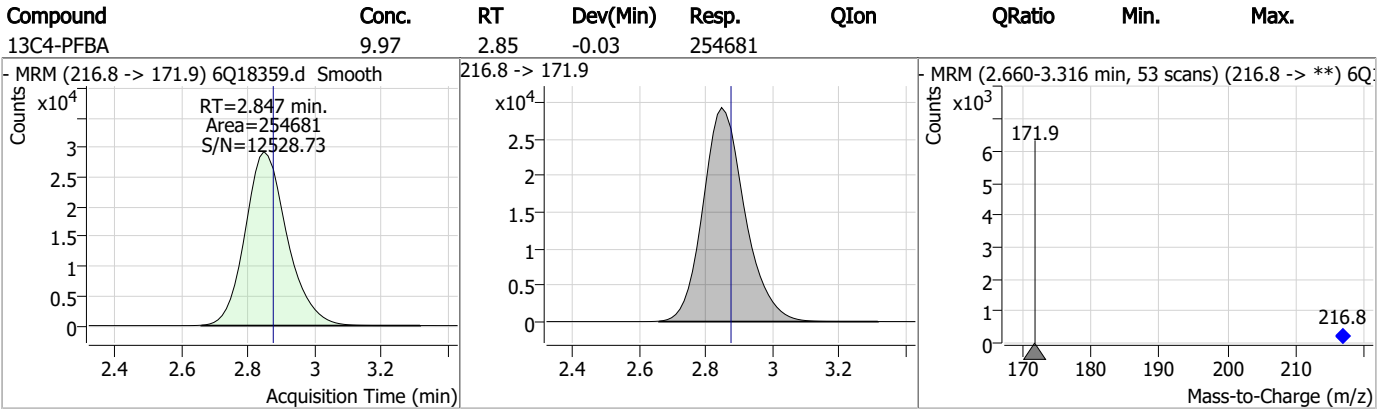
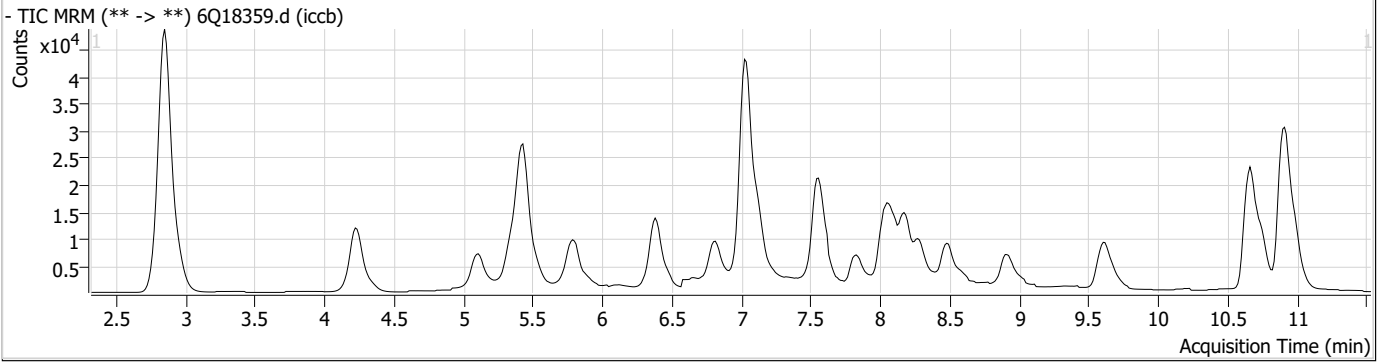
Perfluorinated Compounds by LC/MS/MS

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

7

Perfluorinated Compounds by LC/MS/MS

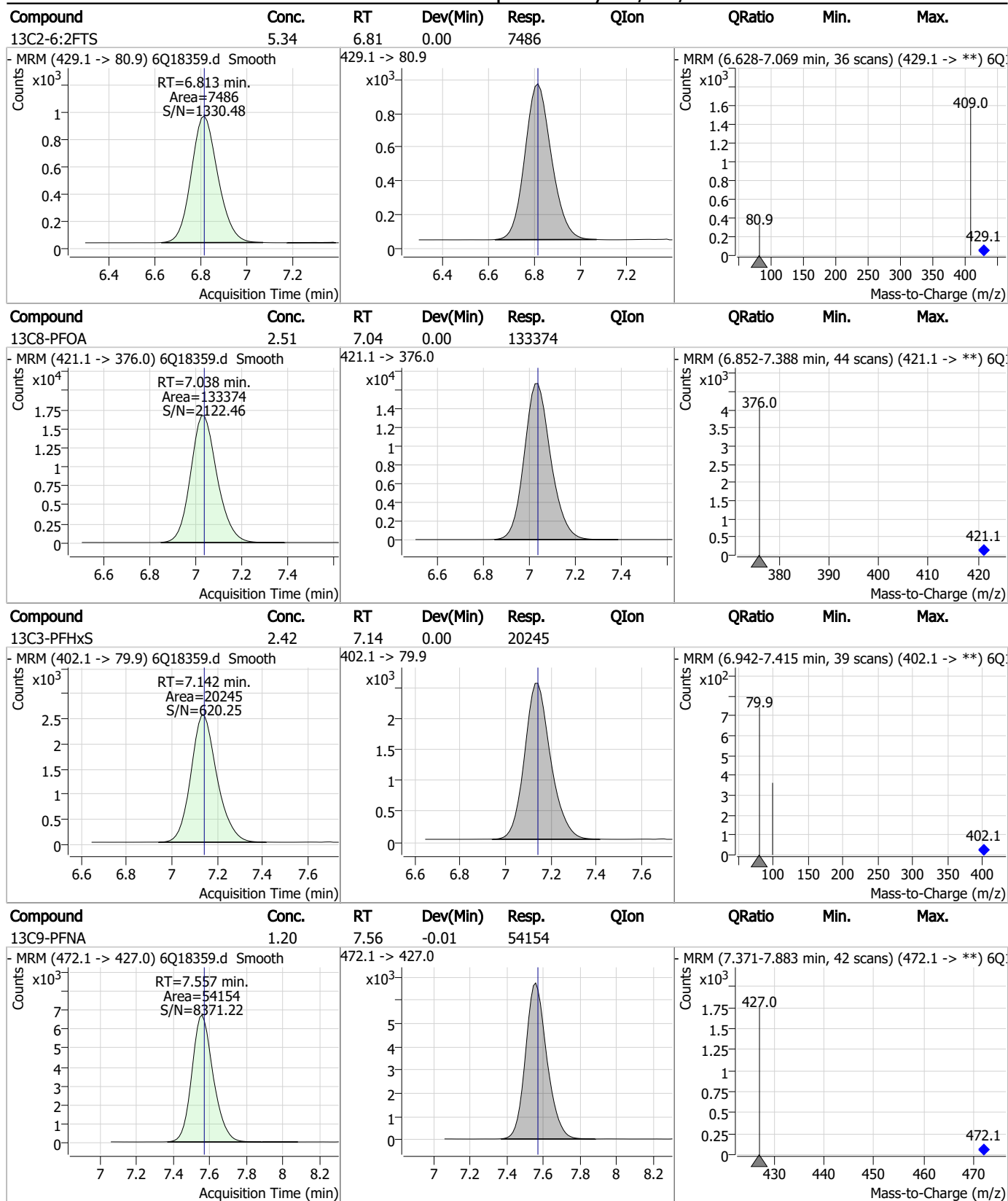


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.37	5.35	0.00	33721				
13C5-PFHxA	2.55	5.43	0.00	91496				
13C3-HFPO-DA	9.94	5.79	-0.01	58698				
13C4-PFHpA	2.56	6.38	-0.01	86446				

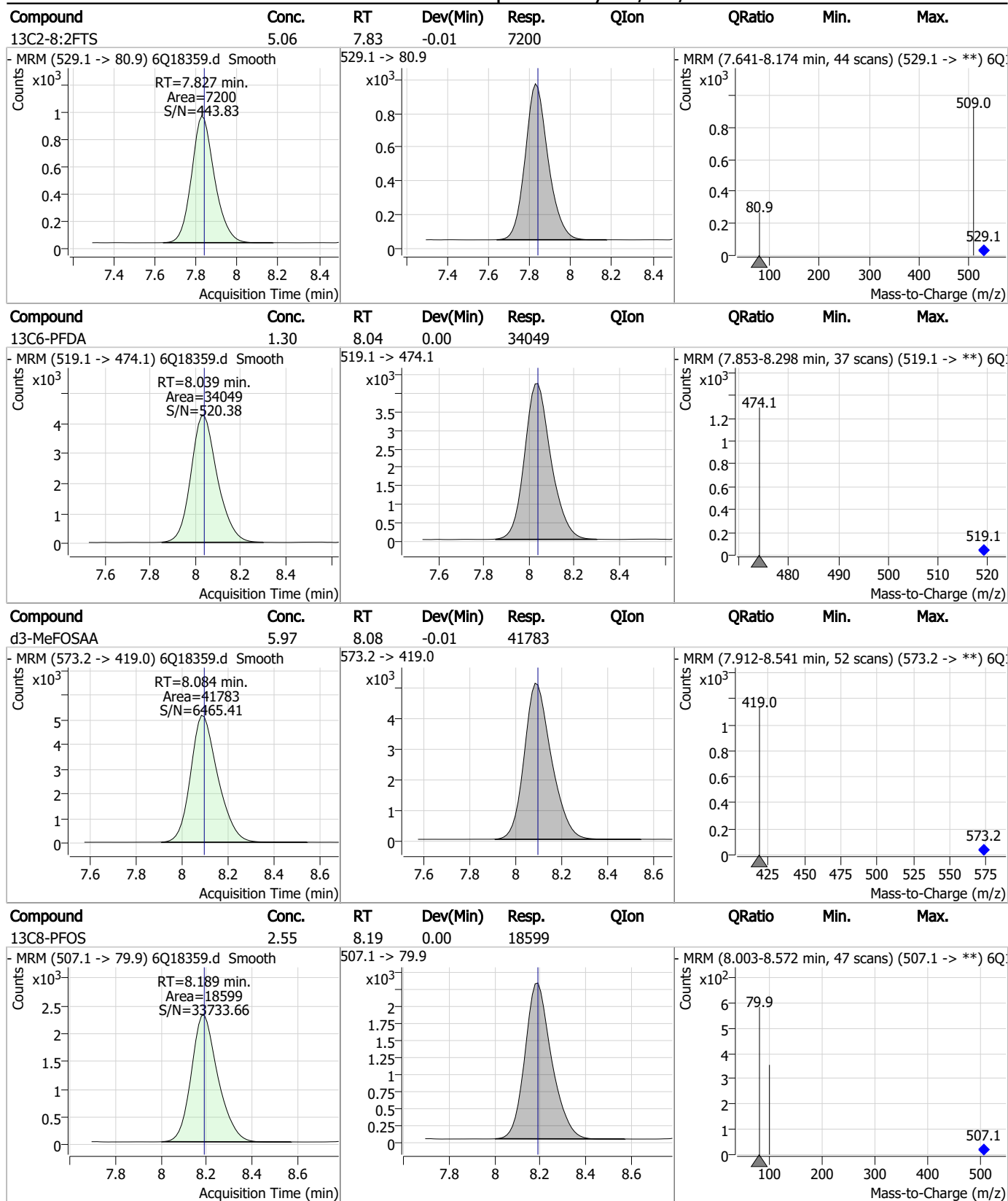
7.2.4
7

Perfluorinated Compounds by LC/MS/MS



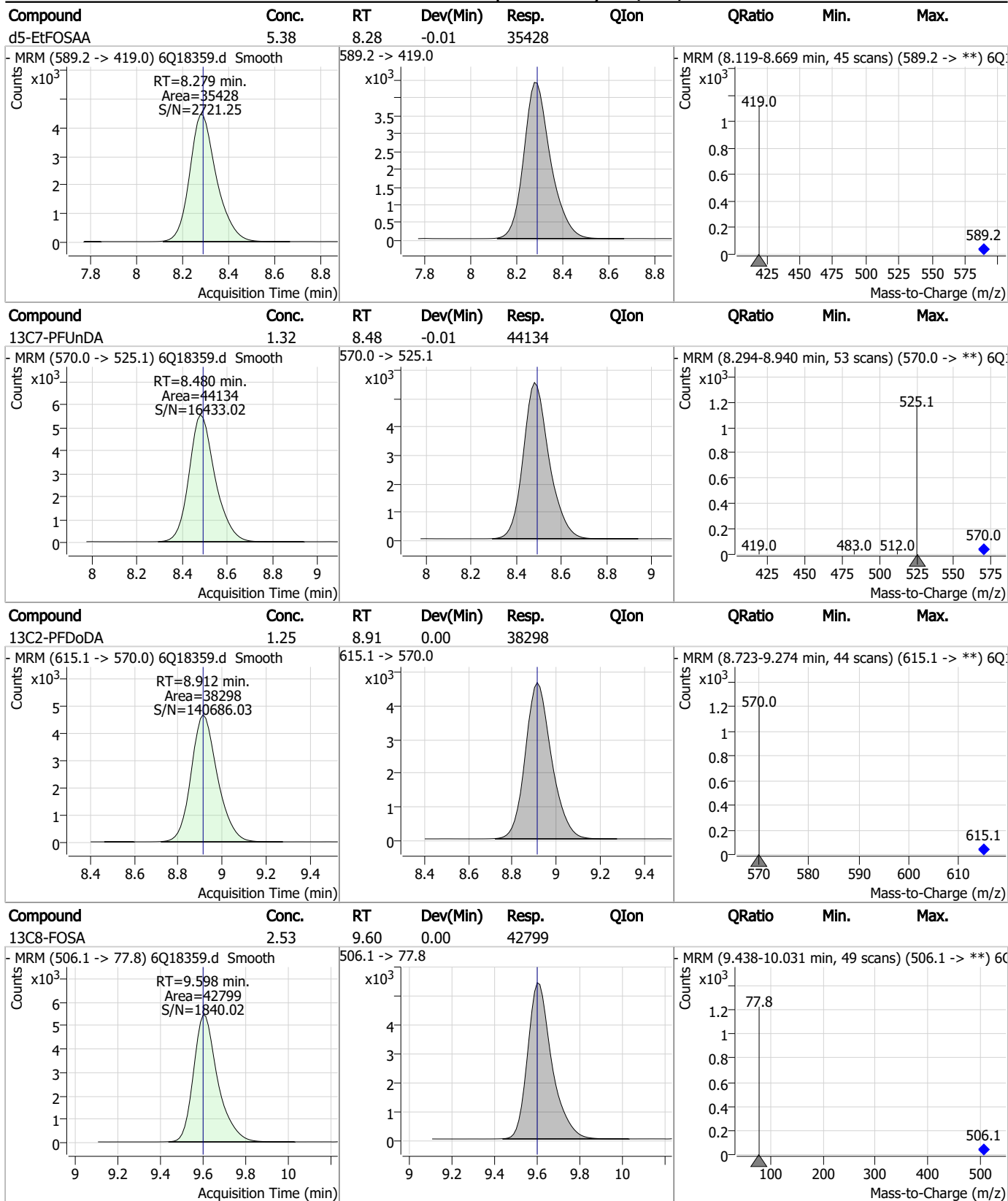
7.2.4
7

Perfluorinated Compounds by LC/MS/MS



7.2.4
7

Perfluorinated Compounds by LC/MS/MS



7.24
7

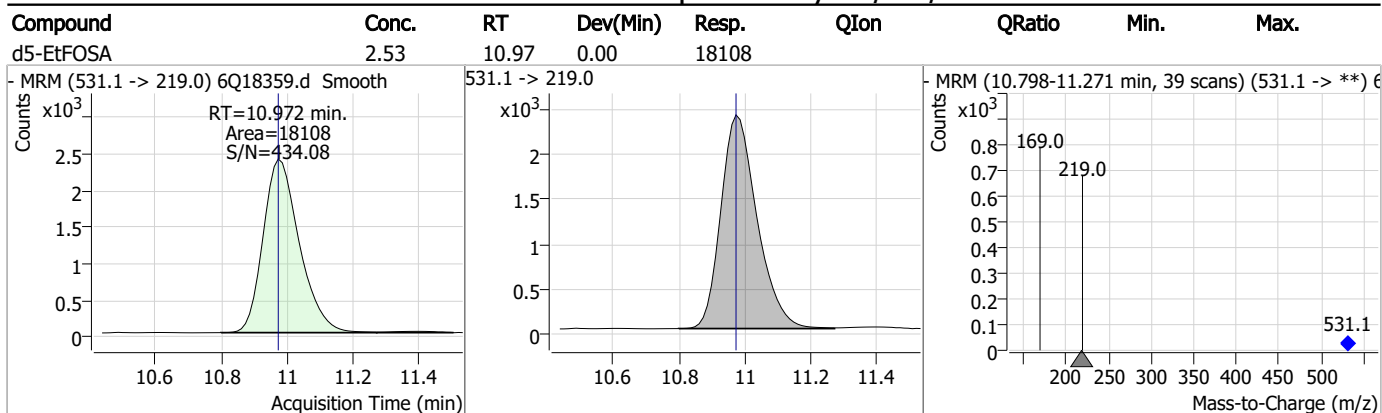
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.33	9.64	-0.01	20983				
d7-MeFOSE	25.19	10.66	0.00	144505				
d3-MeFOSA	2.43	10.74	0.00	17944				
d9-EtFOSE	26.03	10.91	0.00	185760				

7.2.4

7

Perfluorinated Compounds by LC/MS/MS



7.2.4

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18381.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 9:11:32 AM
 Sample Name : iblk
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	253400	10.00 µg/L	-0.028
M5-PFPeA	4.235	268.3 -> 223.0	85713	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	90853	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	84123	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	128521	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	55103	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	34861	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	42870	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	38965	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	20306	1.25 µg/L	-0.012
M8-FOSA	9.611	506.1 -> 77.8	43128	2.50 µg/L	0.012
M3-PFBS	5.347	302.1 -> 79.9	34014	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	20032	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	20058	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4904	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	7029	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7068	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	38887	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	59582	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34706	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	143916	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	179800	25.00 µg/L	0.000
M5-EtFOSA	10.985	531.1 -> 219.0	17844	2.50 µg/L	0.012
M3-MeFOSA	10.739	515.0 -> 219.0	17702	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	24192	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	106712	5.00 µg/L	-0.027
18O2-PFHxS	7.141	403.0 -> 83.9	14533	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	140638	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	43213	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	67154	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	87940	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4904	5.62 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.4%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7029	5.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.3%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7068	5.21 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	38965	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.5%		
13C2-PFTeDA	9.639	715.2 -> 670.0	20306	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.4%		
13C3-PFBS	5.347	302.1 -> 79.9	34014	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C3-PFHxS	7.142	402.1 -> 79.9	20032	2.52 µg/L	0.000

7.2.5
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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 = 100.7%	
13C4-PFBA	2.847	216.8 -> 171.9	253400	9.98 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFHpA	6.382	367.1 -> 322.0	84123	2.50 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFHxA	5.429	318.0 -> 273.0	90853	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C5-PFPeA	4.235	268.3 -> 223.0	85713	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C6-PFDA	8.039	519.1 -> 474.1	34861	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	42870	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C8-FOSA	9.611	506.1 -> 77.8	43128	2.48 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C8-PFOA	7.038	421.1 -> 376.0	128521	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
13C8-PFOS	8.189	507.1 -> 79.9	20058	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C9-PFNA	7.557	472.1 -> 427.0	55103	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	38887	5.41 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	59582	10.11 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
d3-MeFOSA	10.739	515.0 -> 219.0	17702	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34706	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
d7-MeFOSE	10.660	623.2 -> 58.9	143916	24.41 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	179800	24.52 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
d5-EtFOSA	10.985	531.1 -> 219.0	17844	2.42 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	

7.25
7

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

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

7.2.5
7

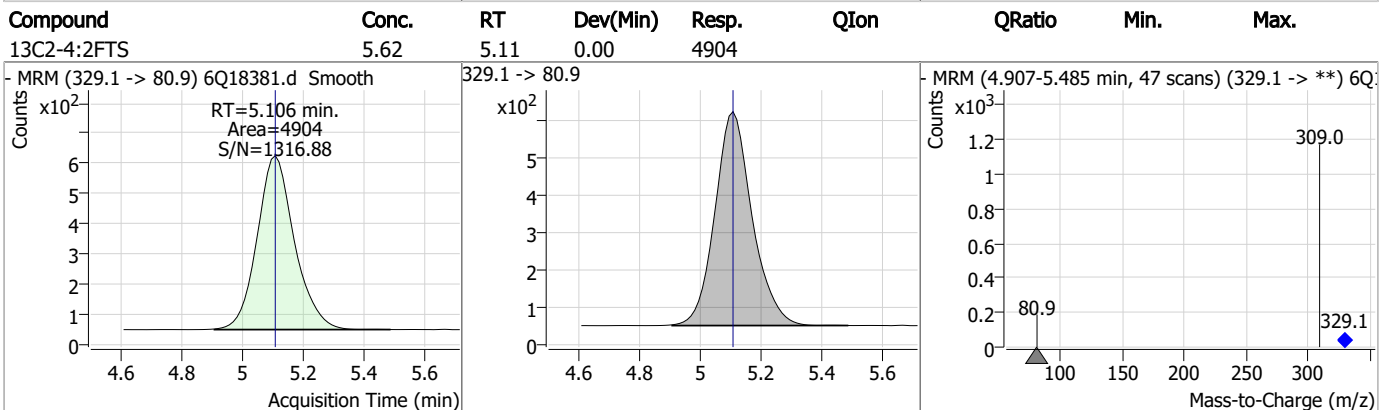
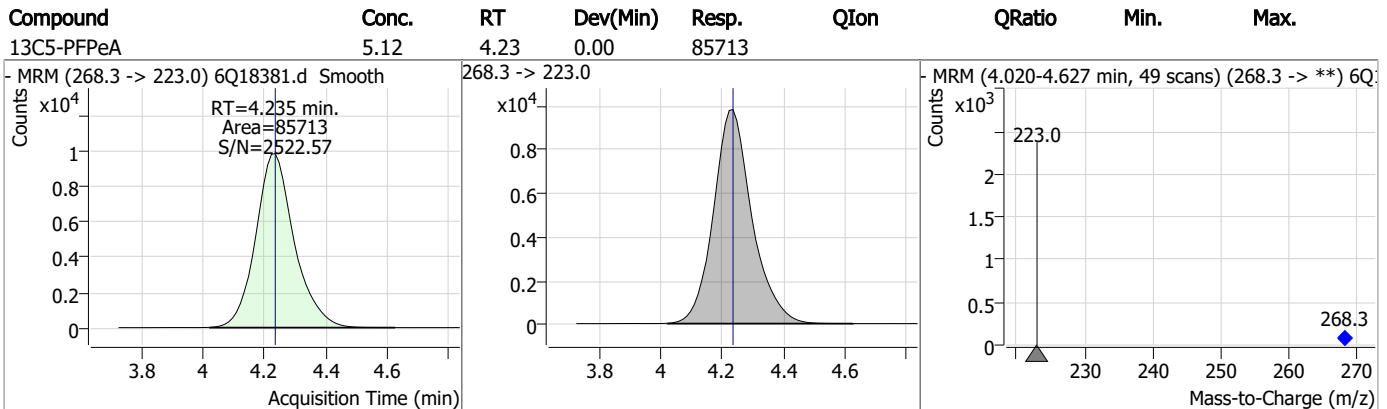
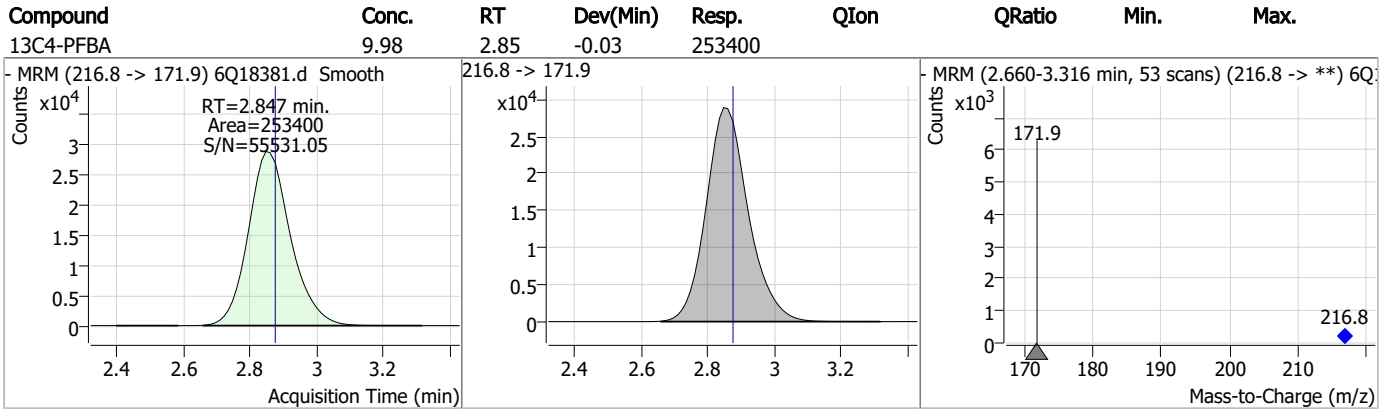
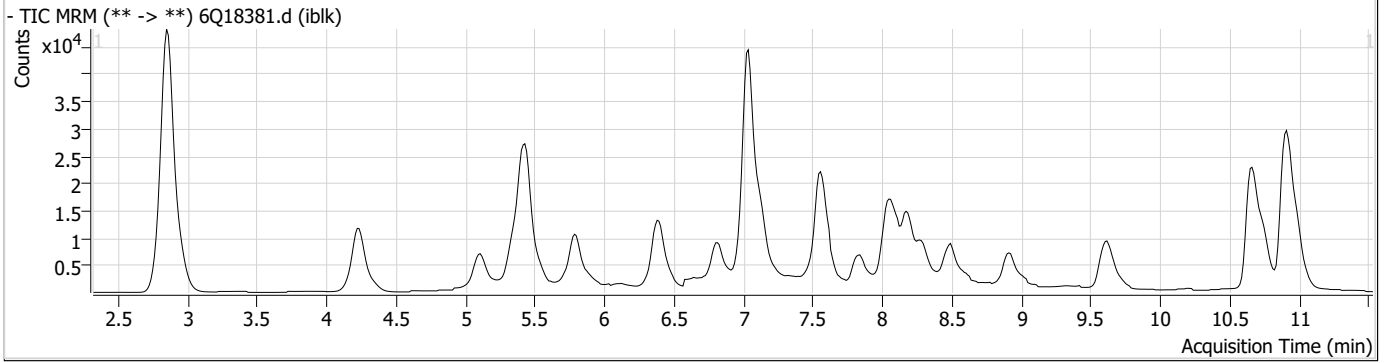
Perfluorinated Compounds by LC/MS/MS

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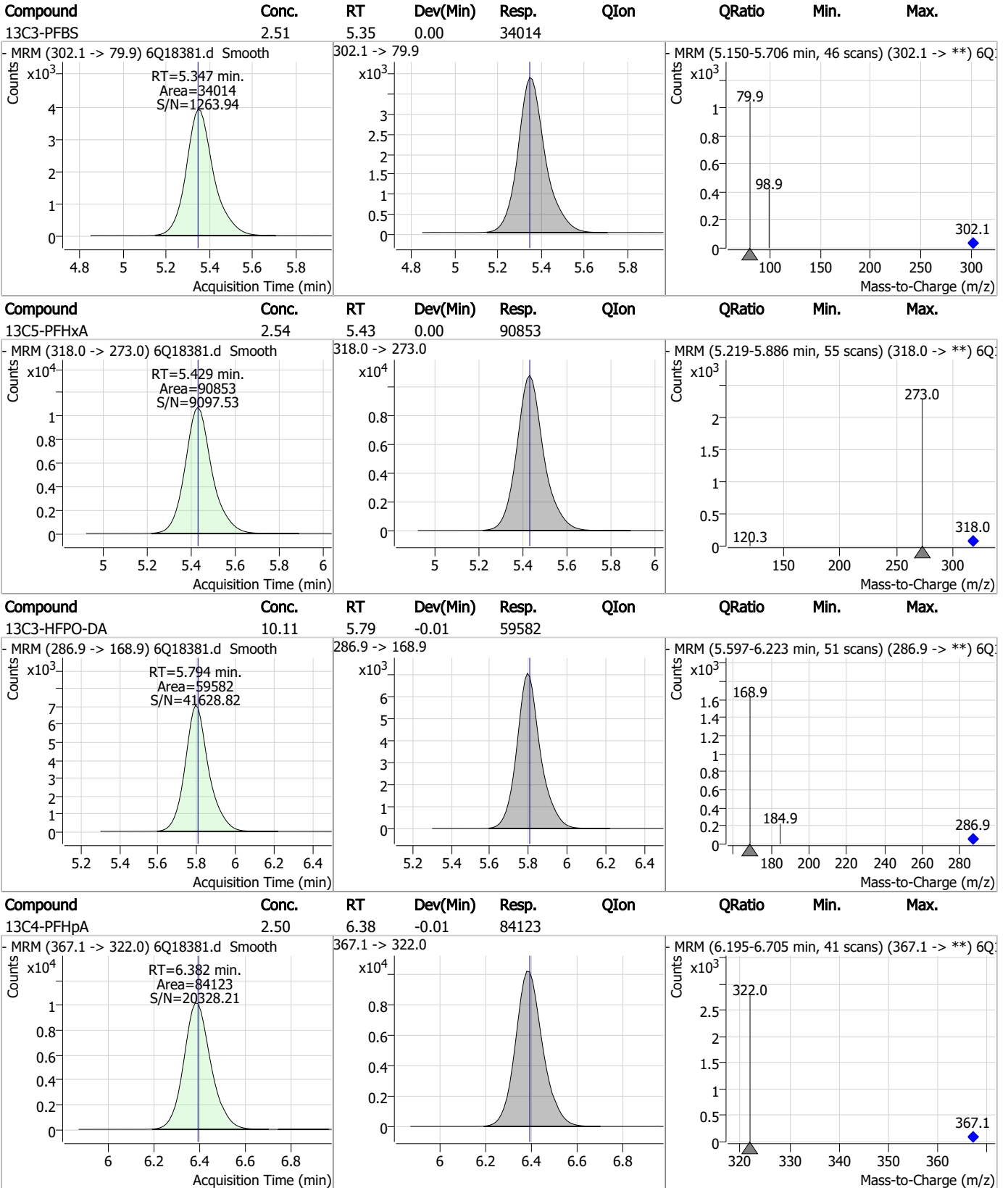
7.2.5

7

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

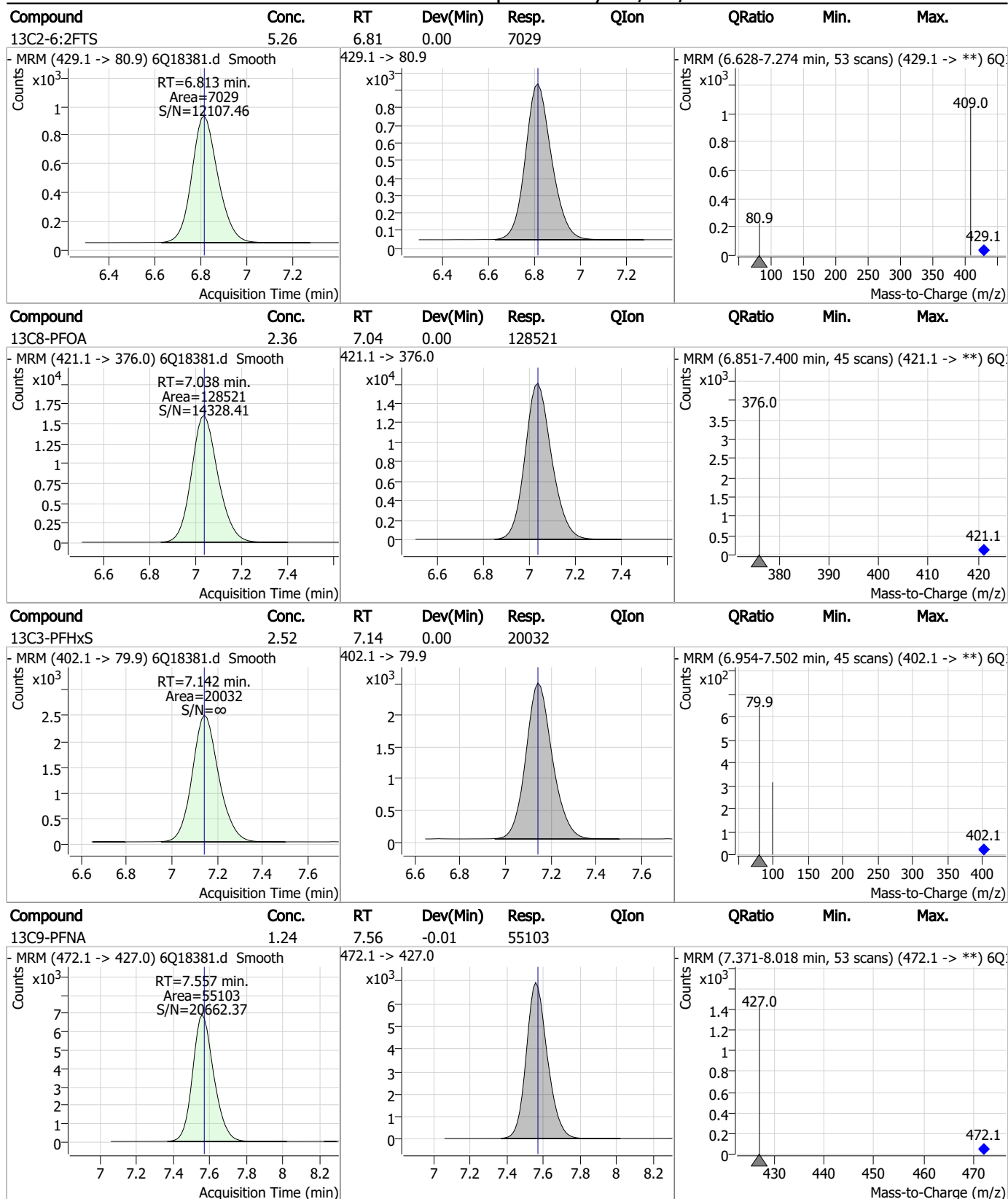


7.2.5

7



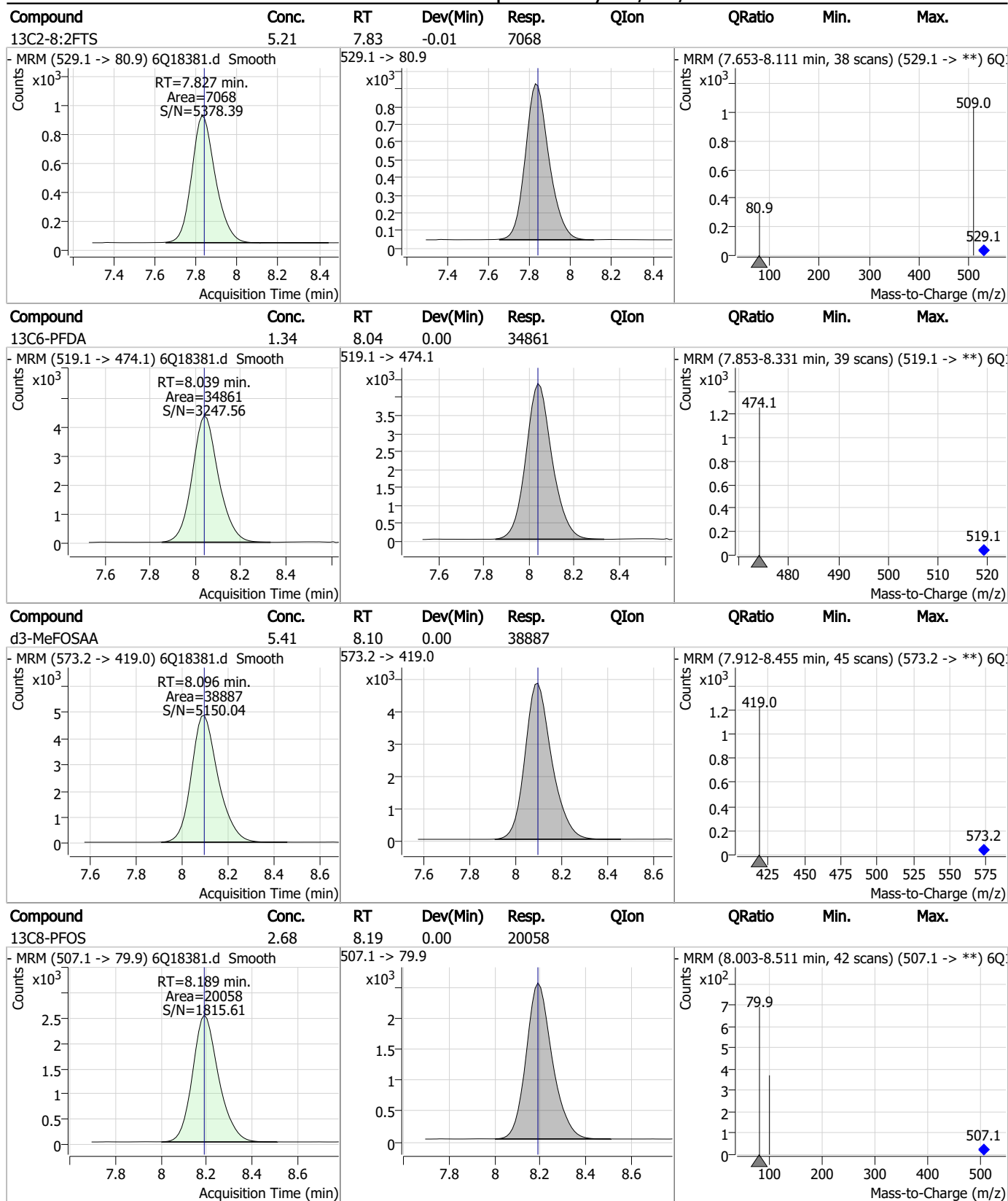
Perfluorinated Compounds by LC/MS/MS



7.25
7

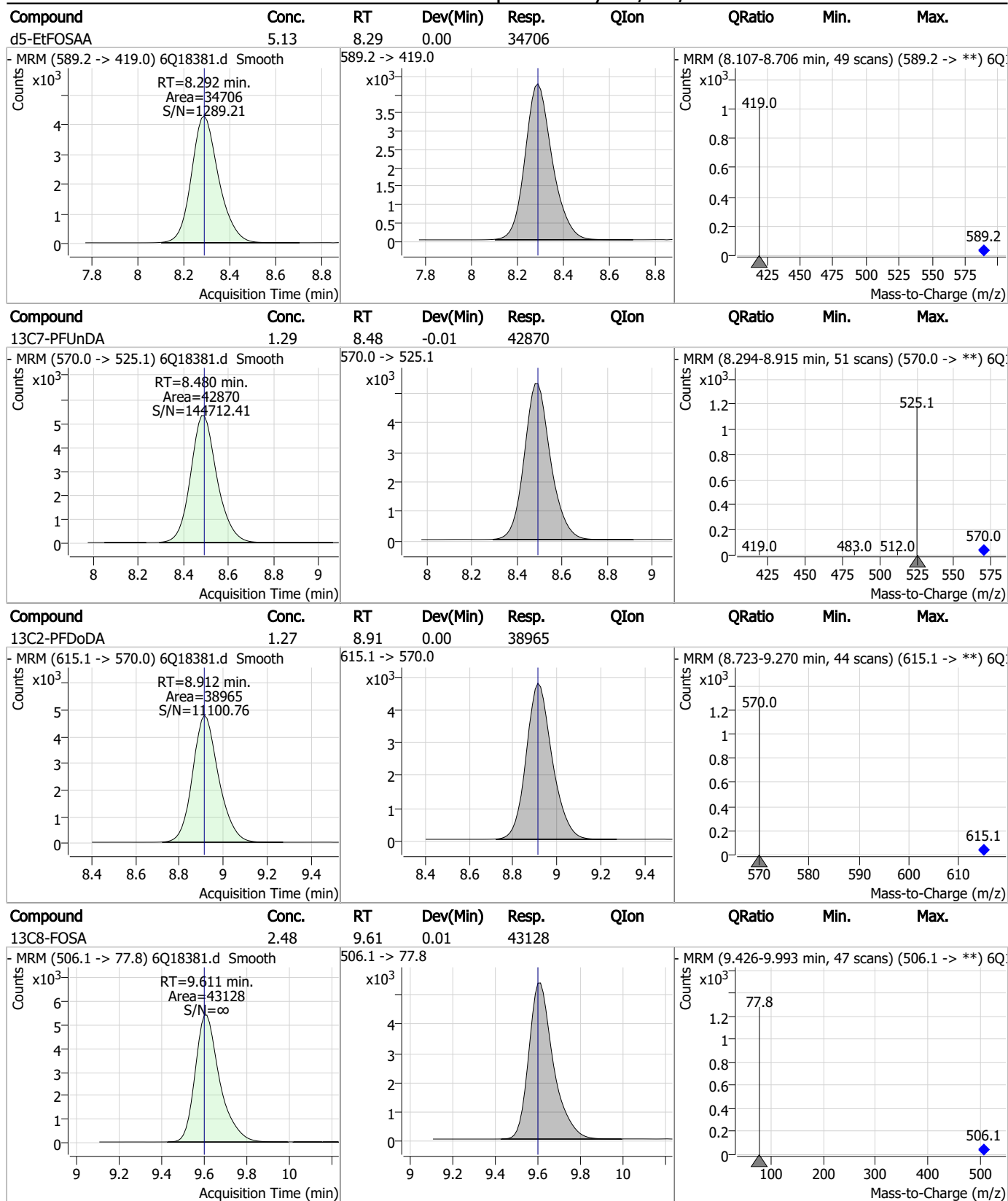


Perfluorinated Compounds by LC/MS/MS



7.2.5
7

Perfluorinated Compounds by LC/MS/MS



7.2.5
7

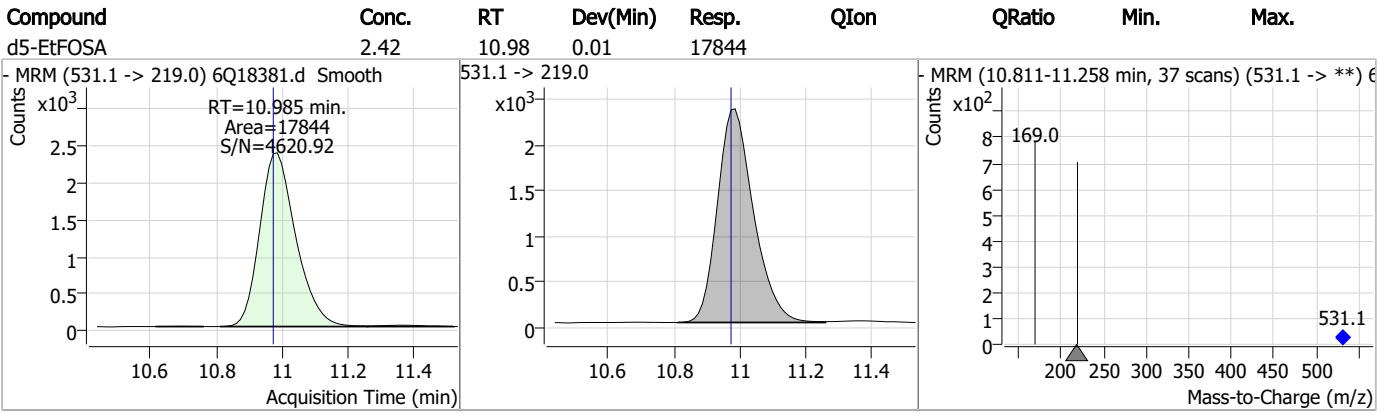
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.64	-0.01	20306				
d7-MeFOSE	24.41	10.66	0.00	143916				
d3-MeFOSA	2.33	10.74	0.00	17702				
d9-EtFOSE	24.52	10.91	0.00	179800				

7.2.5

7

Perfluorinated Compounds by LC/MS/MS



7.2.5
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18371.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 2:47:30 AM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	258253	10.00 µg/L	-0.028
M5-PFPeA	4.222	268.3 -> 223.0	86605	5.00 µg/L	-0.012
M5-PFHxA	5.429	318.0 -> 273.0	98849	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	91751	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	134633	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	54323	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	34296	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	44299	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	37722	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	20504	1.25 µg/L	-0.012
M8-FOSA	9.611	506.1 -> 77.8	44170	2.50 µg/L	0.012
M3-PFBS	5.347	302.1 -> 79.9	33893	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	19916	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	19198	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	5327	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	7371	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7430	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	40881	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	58590	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35124	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	142912	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	186811	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	18892	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	18009	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23870	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	109093	5.00 µg/L	-0.027
18O2-PFHxS	7.141	403.0 -> 83.9	15307	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	137010	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	43830	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	68271	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	86902	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	5327	5.80 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.9%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7371	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7430	5.20 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	37722	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.9%		
13C2-PFTeDA	9.639	715.2 -> 670.0	20504	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C3-PFBS	5.347	302.1 -> 79.9	33893	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	19916	2.38 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 = 95.1%	
13C4-PFBA	2.847	216.8 -> 171.9	258253	9.95 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C4-PFHpA	6.382	367.1 -> 322.0	91751	2.75 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.2%	
13C5-PFHxA	5.429	318.0 -> 273.0	98849	2.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.8%	
13C5-PFPeA	4.222	268.3 -> 223.0	86605	5.23 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C6-PFDA	8.039	519.1 -> 474.1	34296	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	44299	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C8-FOSA	9.611	506.1 -> 77.8	44170	2.57 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOA	7.038	421.1 -> 376.0	134633	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C8-PFOS	8.189	507.1 -> 79.9	19198	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C9-PFNA	7.557	472.1 -> 427.0	54323	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40881	5.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	58590	10.06 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	18009	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35124	5.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.3%	
d7-MeFOSE	10.660	623.2 -> 58.9	142912	24.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	186811	25.82 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	18892	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.0%	

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	-	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
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

7.2.6
7

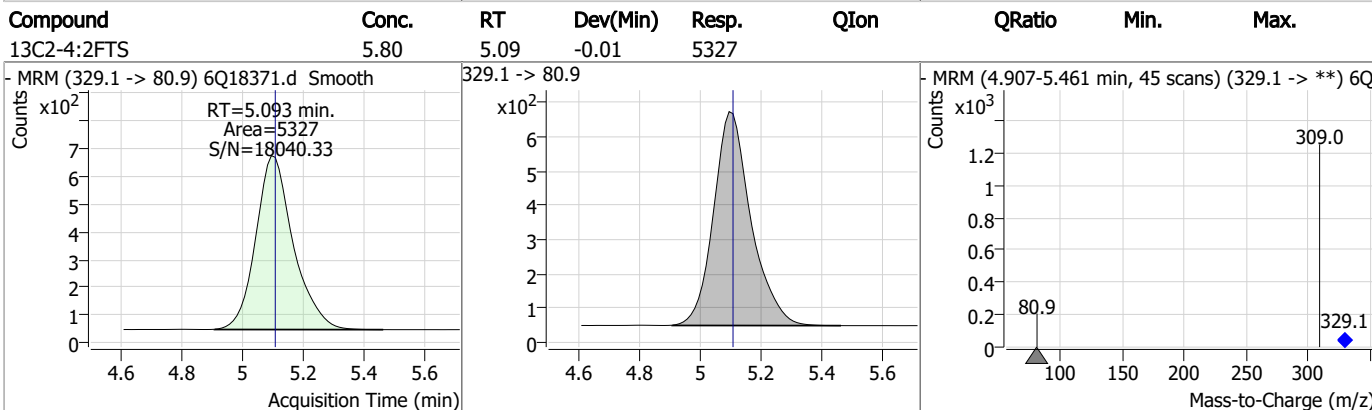
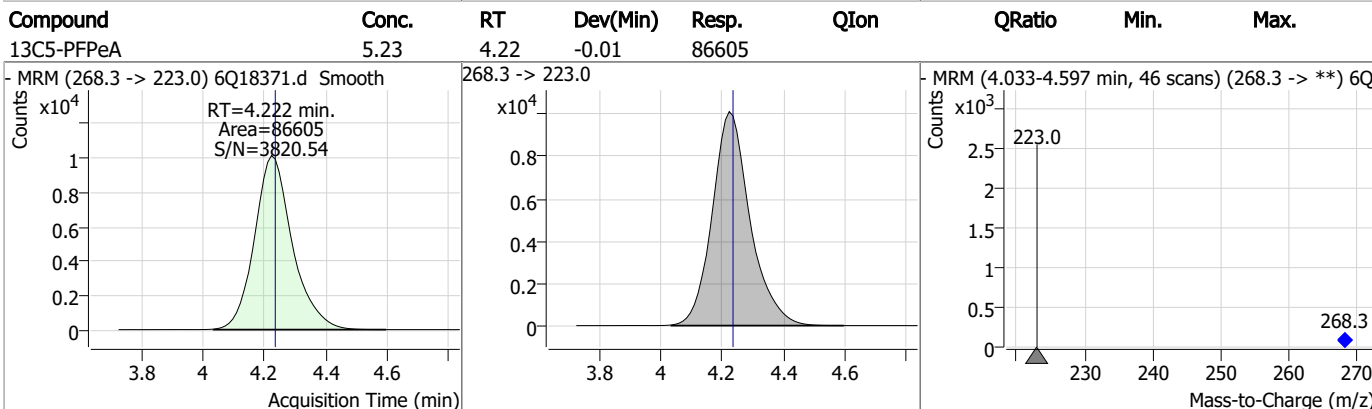
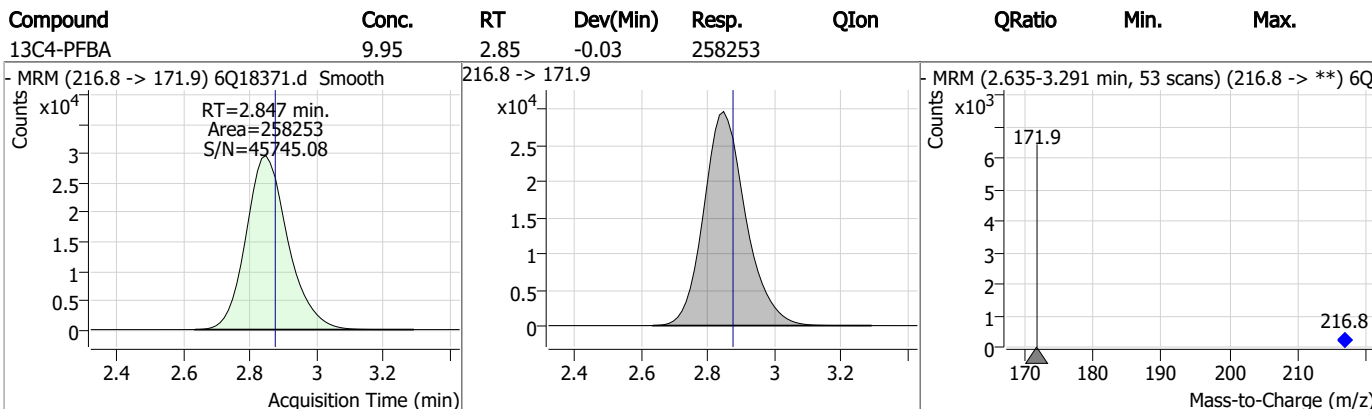
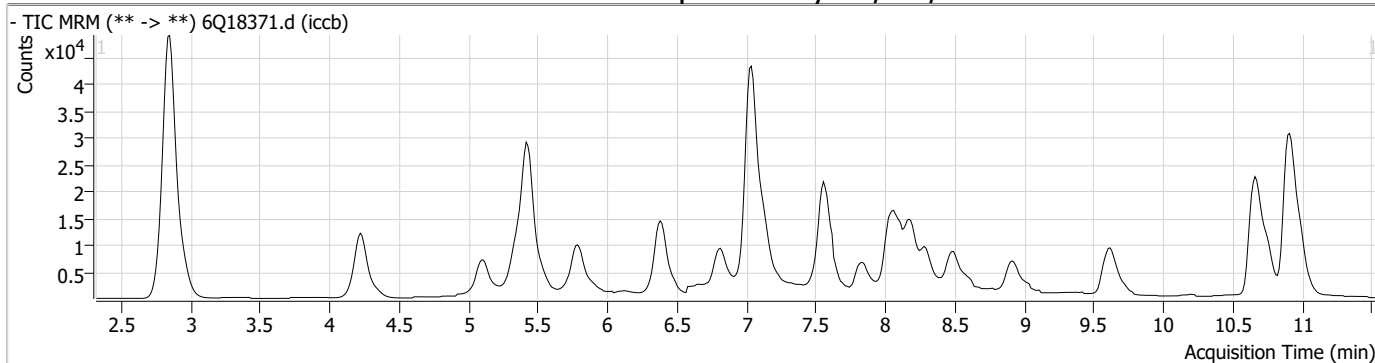
Perfluorinated Compounds by LC/MS/MS

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

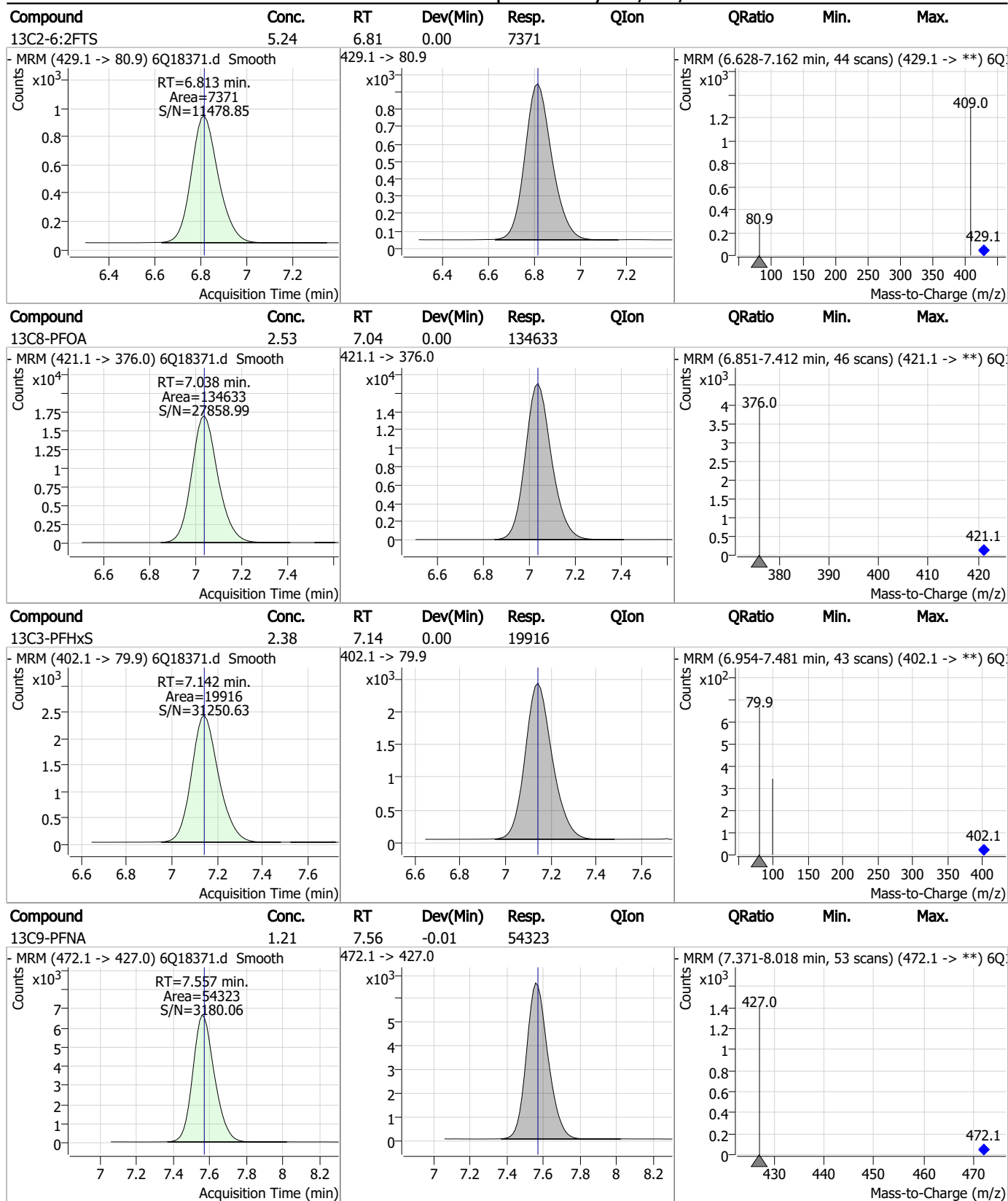


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.38	5.35	0.00	33893				
13C5-PFHxA	2.80	5.43	0.00	98849				
13C3-HFPO-DA	10.06	5.79	-0.01	58590				
13C4-PFHpA	2.75	6.38	-0.01	91751				

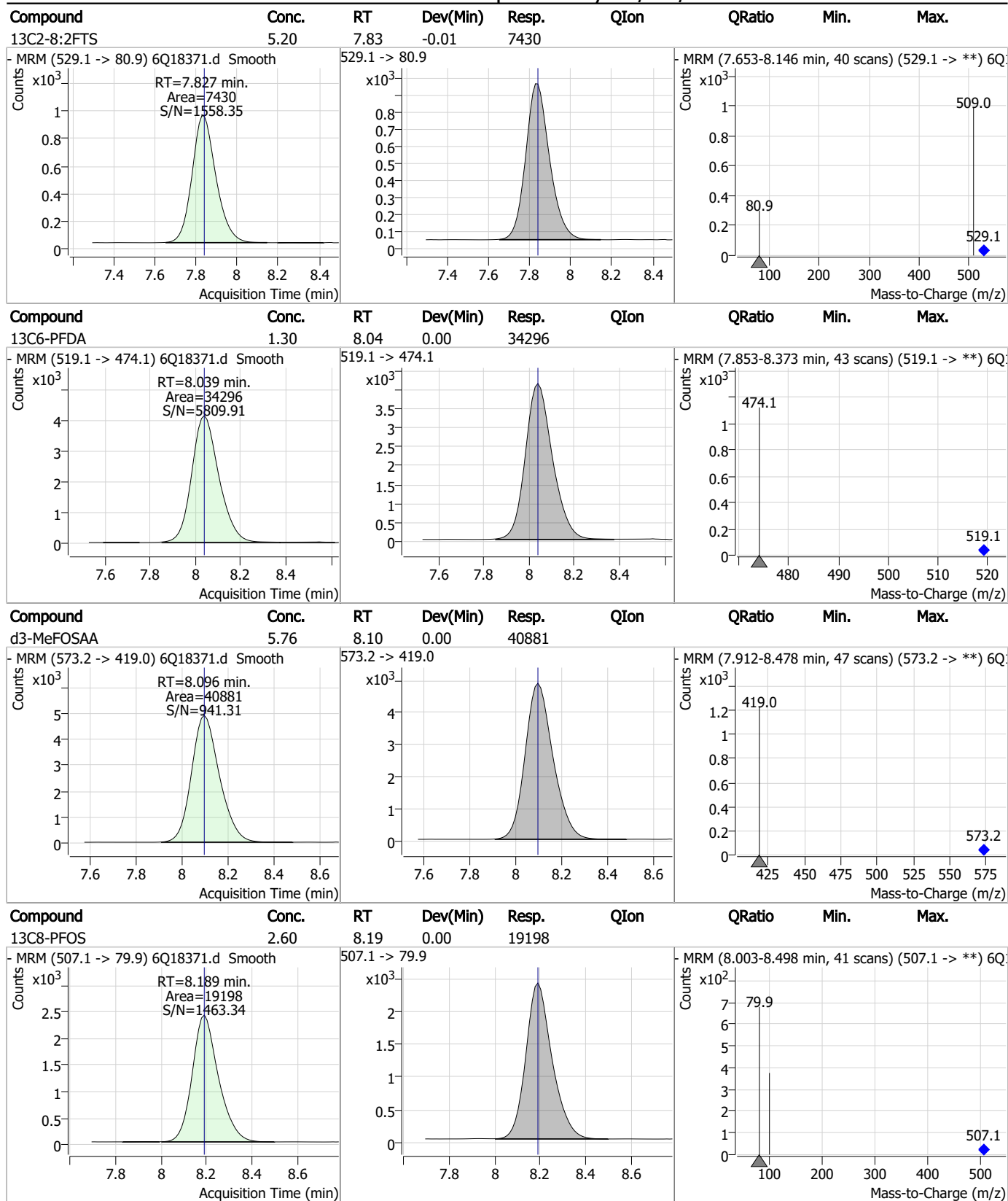
7.2.6
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Perfluorinated Compounds by LC/MS/MS



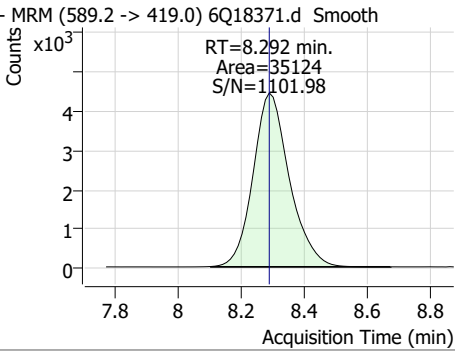
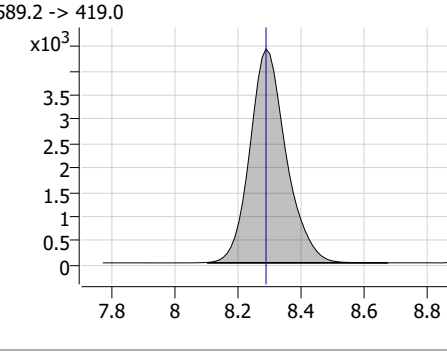
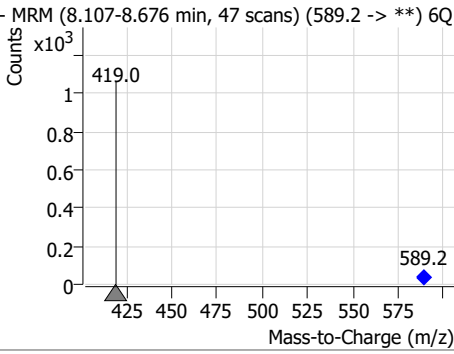
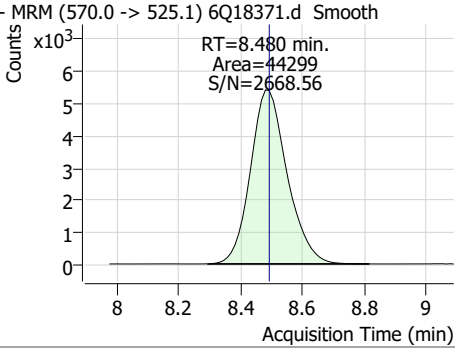
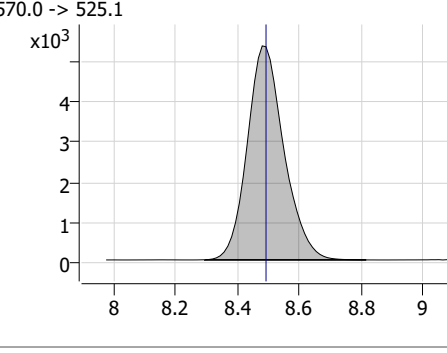
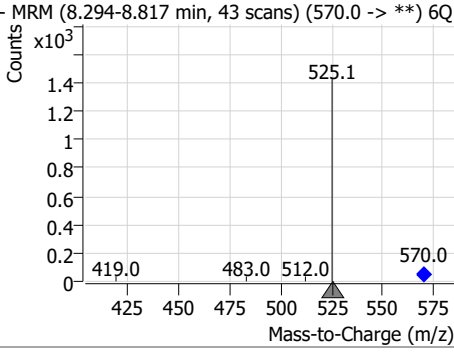
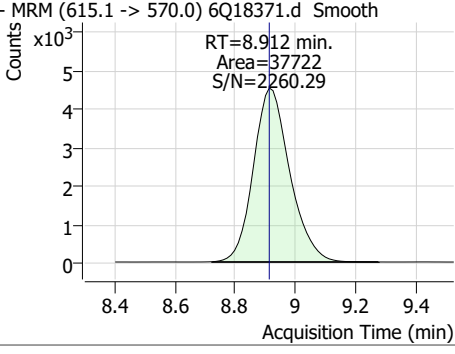
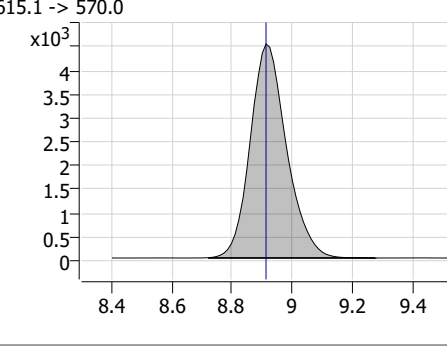
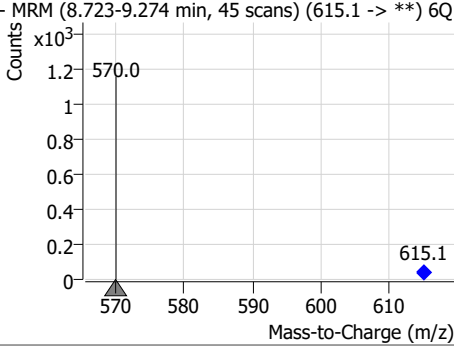
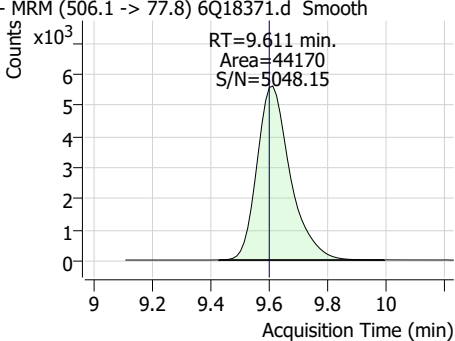
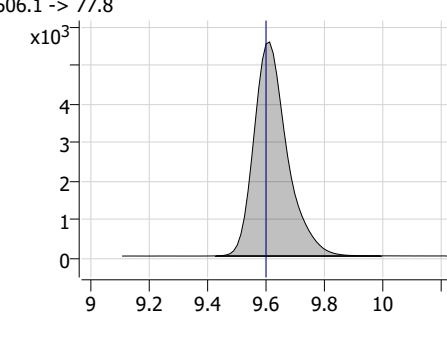
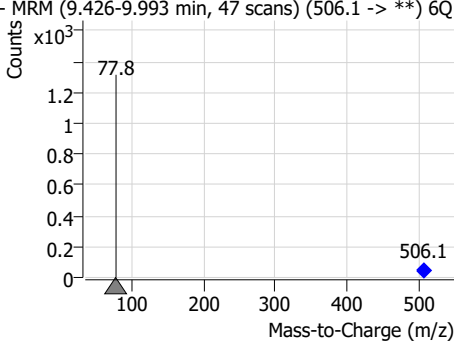
7.2.6
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Perfluorinated Compounds by LC/MS/MS



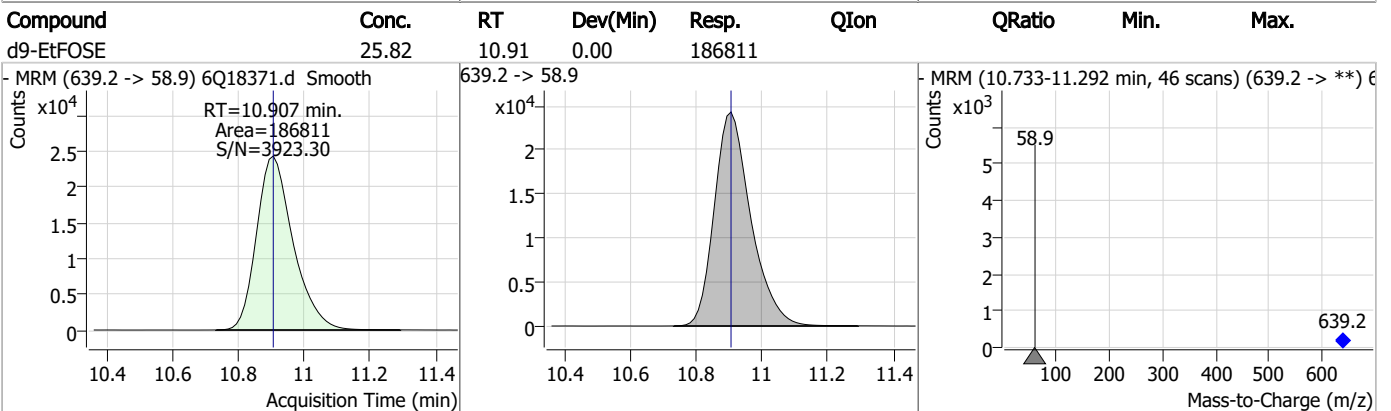
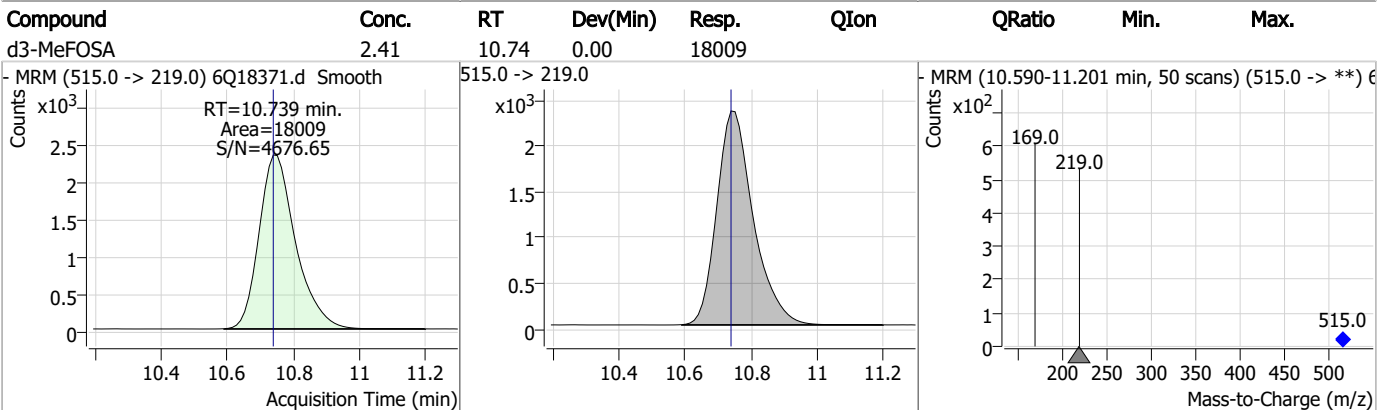
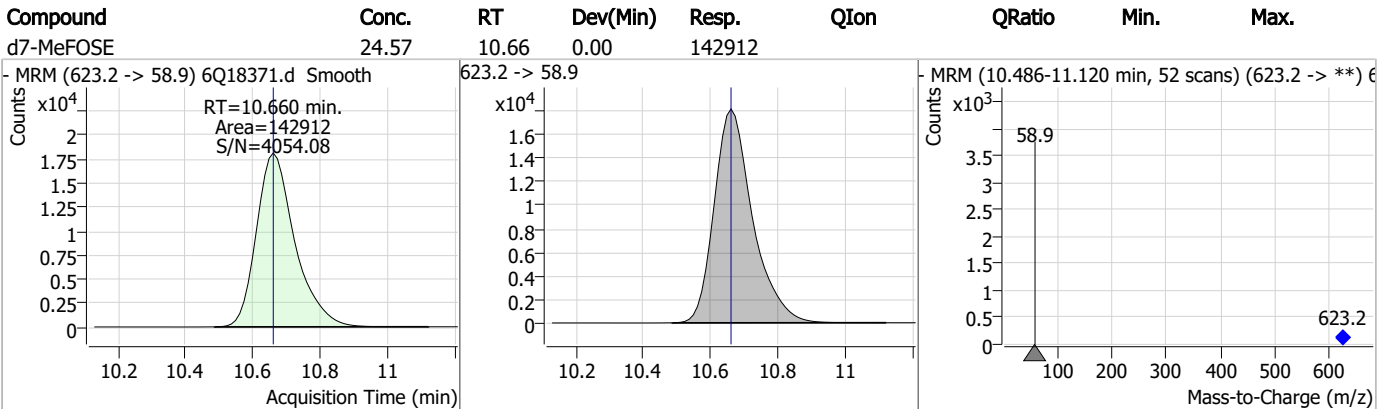
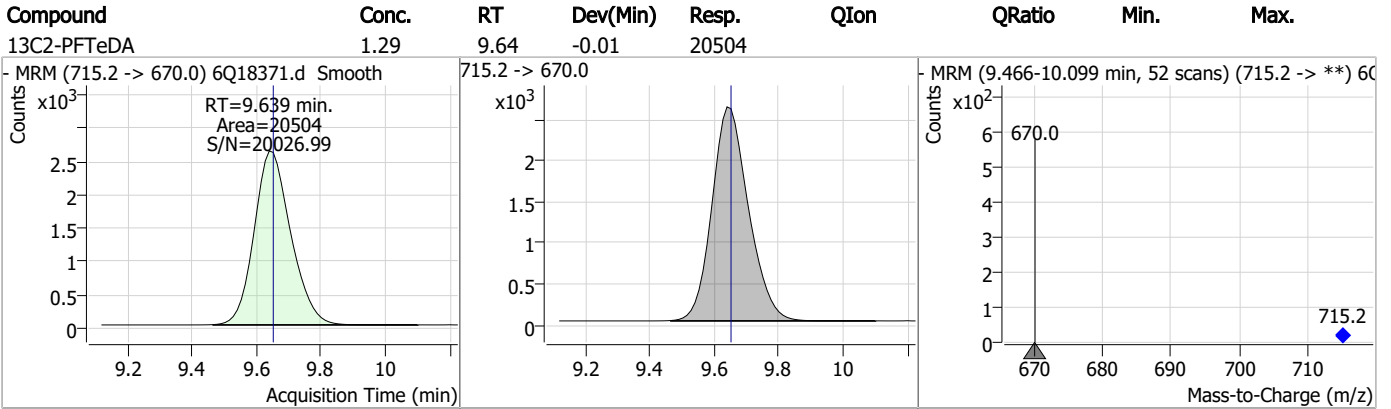
7.2.6
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.26	8.29	0.00	35124				
- MRM (589.2 -> 419.0) 6Q18371.d Smooth 			589.2 -> 419.0 			- MRM (8.107-8.676 min, 47 scans) (589.2 -> **) 6Q 		
13C7-PFUnDA	1.31	8.48	-0.01	44299				
- MRM (570.0 -> 525.1) 6Q18371.d Smooth 			570.0 -> 525.1 			- MRM (8.294-8.817 min, 43 scans) (570.0 -> **) 6Q 		
13C2-PFDoDA	1.21	8.91	0.00	37722				
- MRM (615.1 -> 570.0) 6Q18371.d Smooth 			615.1 -> 570.0 			- MRM (8.723-9.274 min, 45 scans) (615.1 -> **) 6Q 		
13C8-FOSA	2.57	9.61	0.01	44170				
- MRM (506.1 -> 77.8) 6Q18371.d Smooth 			506.1 -> 77.8 			- MRM (9.426-9.993 min, 47 scans) (506.1 -> **) 6Q 		

7.2.6
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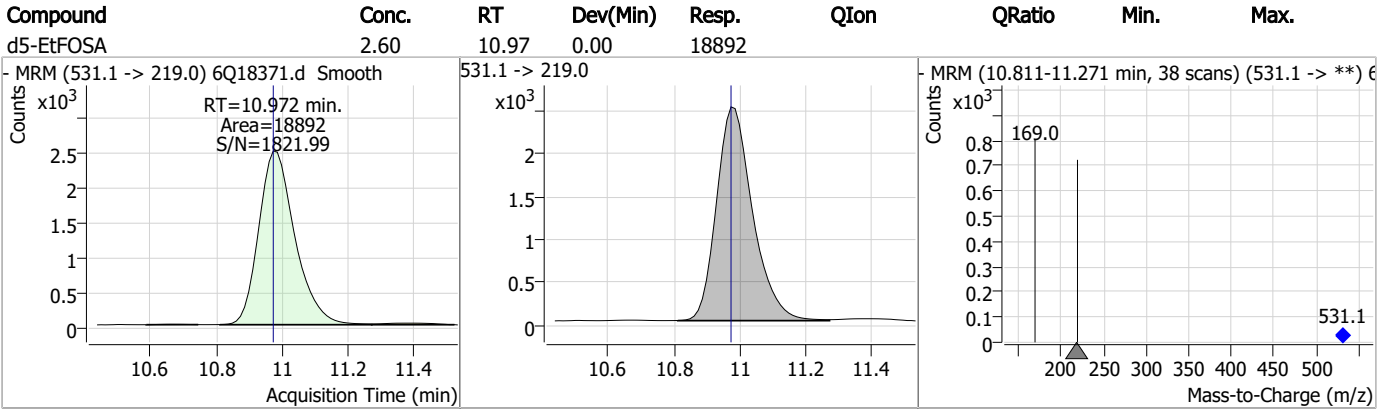
Perfluorinated Compounds by LC/MS/MS



7.2.6

7

Perfluorinated Compounds by LC/MS/MS



7.2.6

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18408.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 4:12:30 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.847	216.8 -> 171.9	260146	10.00 µg/L	-0.028
M5-PFPeA	4.222	268.3 -> 223.0	87669	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	93415	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	91715	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	133179	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	57206	1.25 µg/L	-0.012
M6-PFDA	8.027	519.1 -> 474.1	34596	1.25 µg/L	-0.012
M7-PFUnDA	8.480	570.0 -> 525.1	45950	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	37921	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	20515	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	46020	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	34539	2.50 µg/L	-0.012
M3-PFHxS	7.130	402.1 -> 79.9	20447	2.50 µg/L	-0.012
M8-PFOS	8.189	507.1 -> 79.9	19732	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	5152	5.00 µg/L	-0.013
M2-6:2FTS	6.800	429.1 -> 80.9	7483	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	7701	5.00 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	41976	5.00 µg/L	-0.012
M3-HFPO-DA	5.782	286.9 -> 168.9	60841	10.00 µg/L	-0.025
M5-EtFOSAA	8.292	589.2 -> 419.0	37337	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	144652	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	195918	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	18396	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	18039	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	24509	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	109741	5.00 µg/L	-0.027
18O2-PFHxS	7.129	403.0 -> 83.9	14866	2.50 µg/L	-0.012
13C4-PFOA	7.026	417.1 -> 372.0	142663	2.50 µg/L	-0.012
13C2-PFDA	8.027	515.1 -> 470.1	45082	1.25 µg/L	-0.012
13C5-PFNA	7.557	468.0 -> 423.0	69269	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	89956	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	5152	5.77 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.4%		
13C2-6:2FTS	6.800	429.1 -> 80.9	7483	5.48 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.6%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7701	5.55 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	37921	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.7%		
13C2-PFTeDA	9.639	715.2 -> 670.0	20515	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C3-PFBS	5.334	302.1 -> 79.9	34539	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C3-PFHxS	7.130	402.1 -> 79.9	20447	2.51 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFBA	2.847	216.8 -> 171.9	260146	9.96 µg/L	-0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.382	367.1 -> 322.0	91715	2.66 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C5-PFHxA	5.417	318.0 -> 273.0	93415	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C5-PFPeA	4.222	268.3 -> 223.0	87669	5.12 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C6-PFDA	8.027	519.1 -> 474.1	34596	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	45950	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C8-FOSA	9.598	506.1 -> 77.8	46020	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C8-PFOA	7.026	421.1 -> 376.0	133179	2.41 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C8-PFOS	8.189	507.1 -> 79.9	19732	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C9-PFNA	7.557	472.1 -> 427.0	57206	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSAA	8.084	573.2 -> 419.0	41976	5.76 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C3-HFPO-DA	5.782	286.9 -> 168.9	60841	10.09 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	18039	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	37337	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	144652	24.22 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.9%	
d9-EtFOSE	10.907	639.2 -> 58.9	195918	26.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
d5-EtFOSA	10.972	531.1 -> 219.0	18396	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	

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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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



7.27
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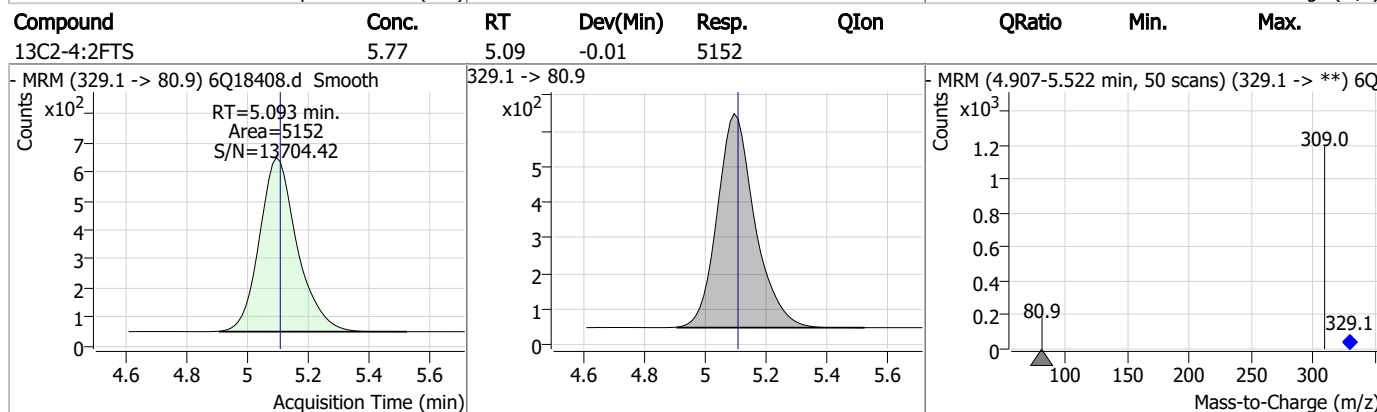
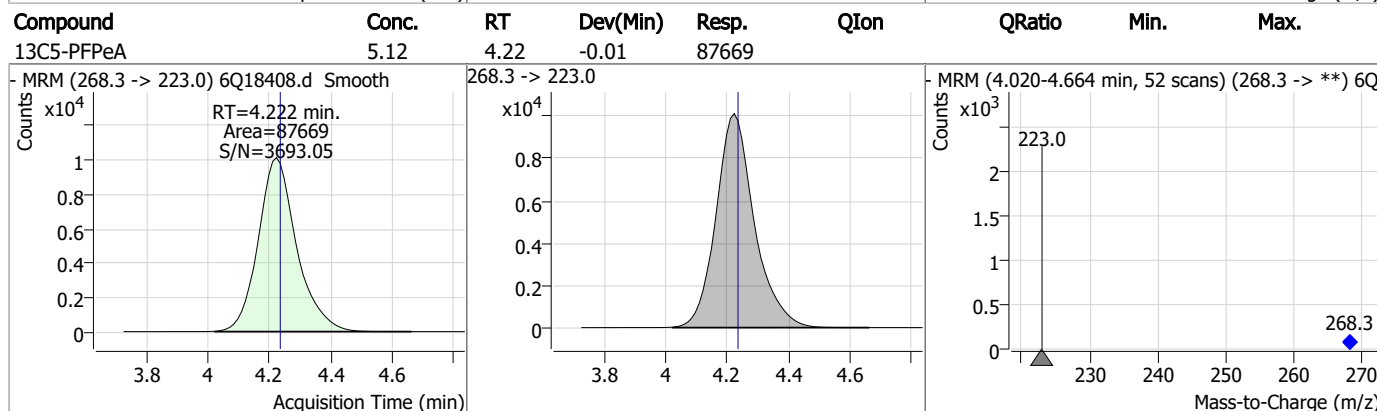
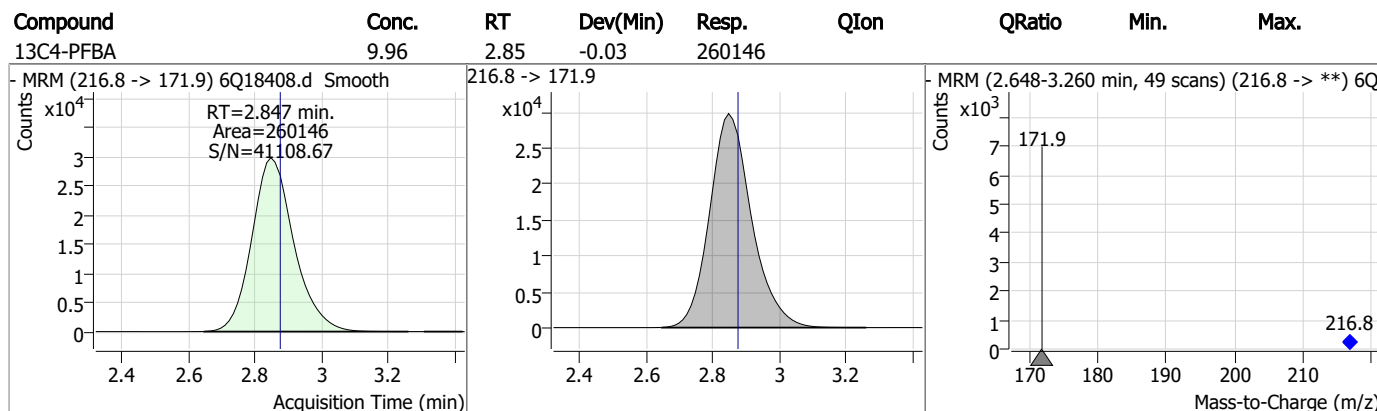
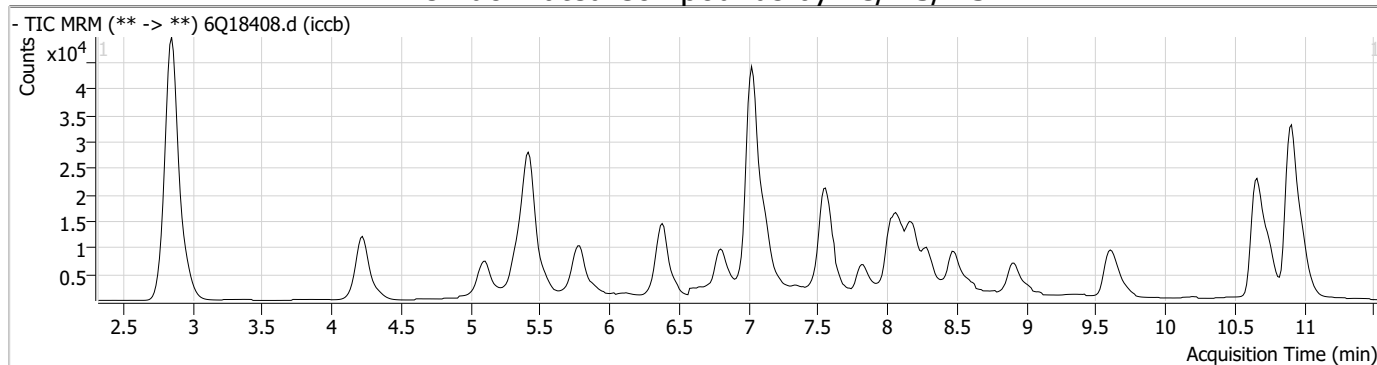
Perfluorinated Compounds by LC/MS/MS

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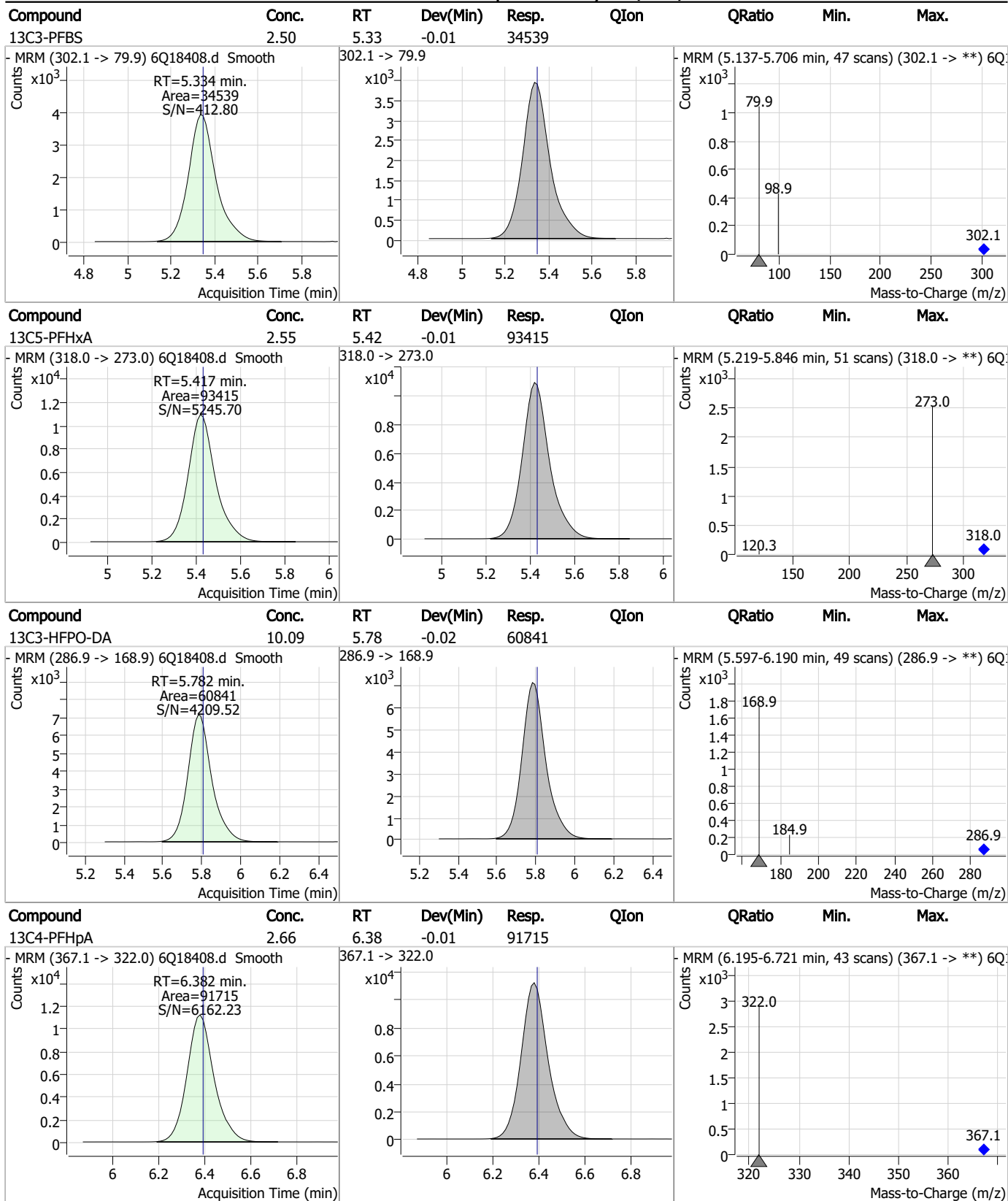
7.2.7

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Perfluorinated Compounds by LC/MS/MS

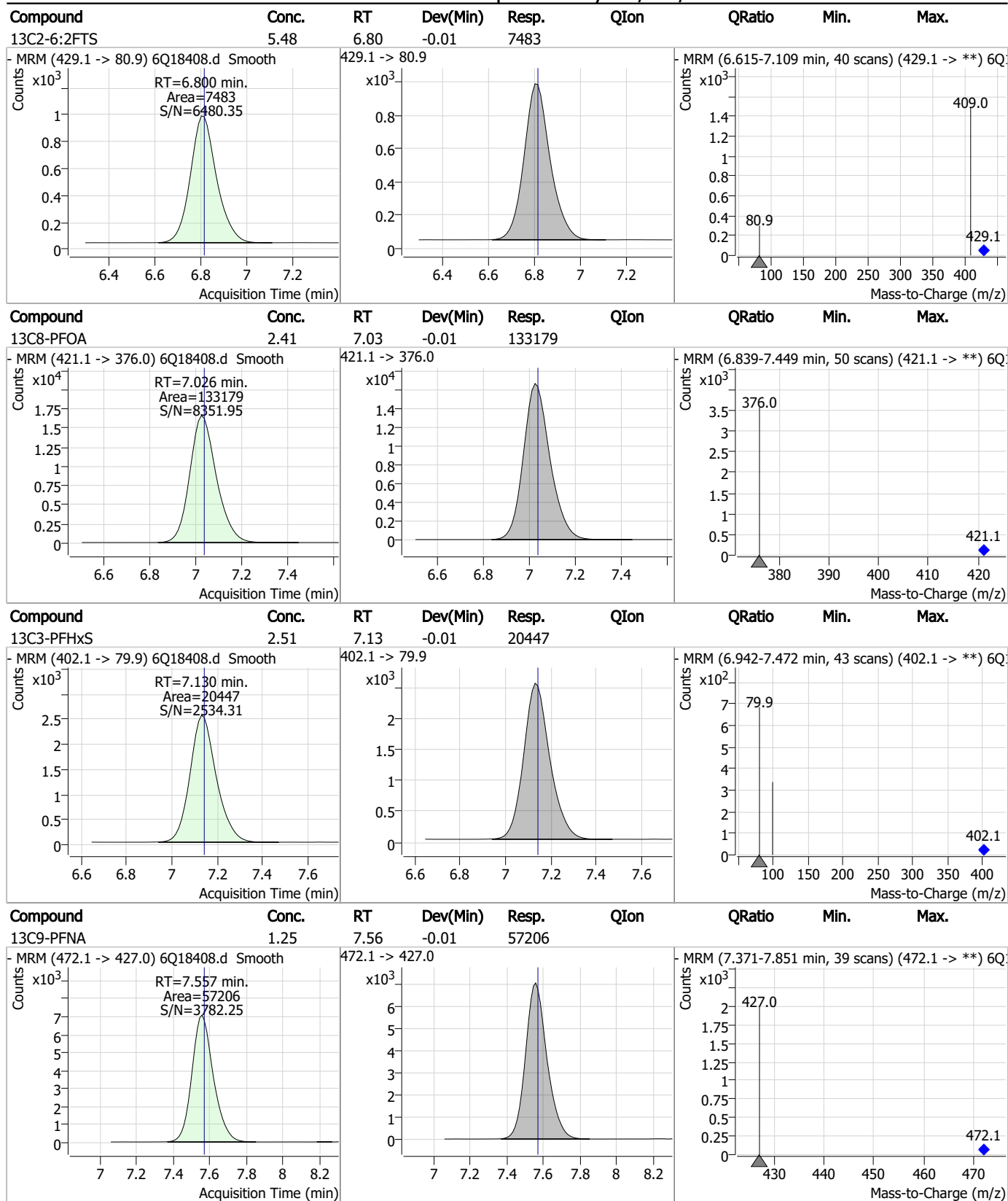


Perfluorinated Compounds by LC/MS/MS



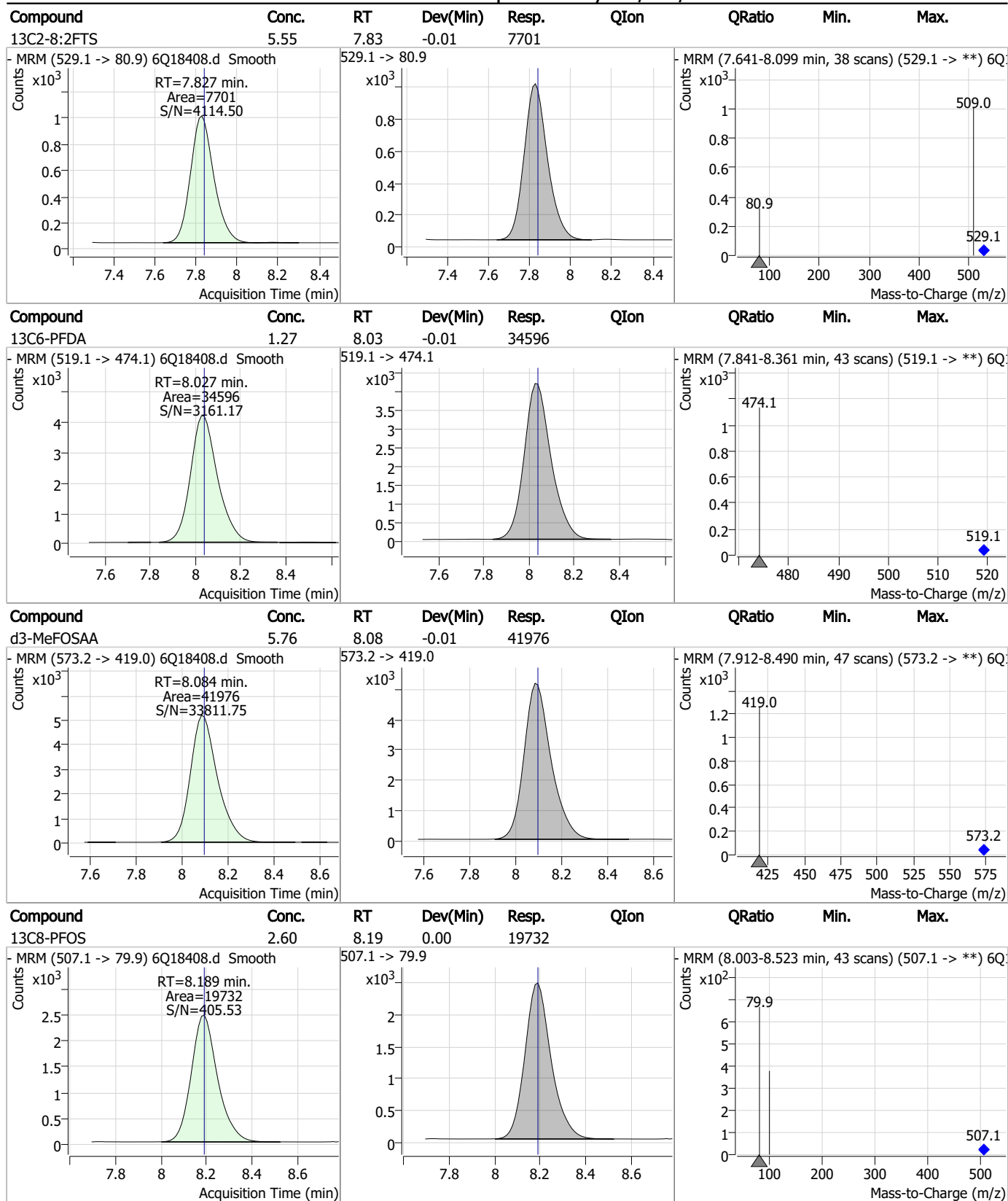
7.2.7

Perfluorinated Compounds by LC/MS/MS



7.27
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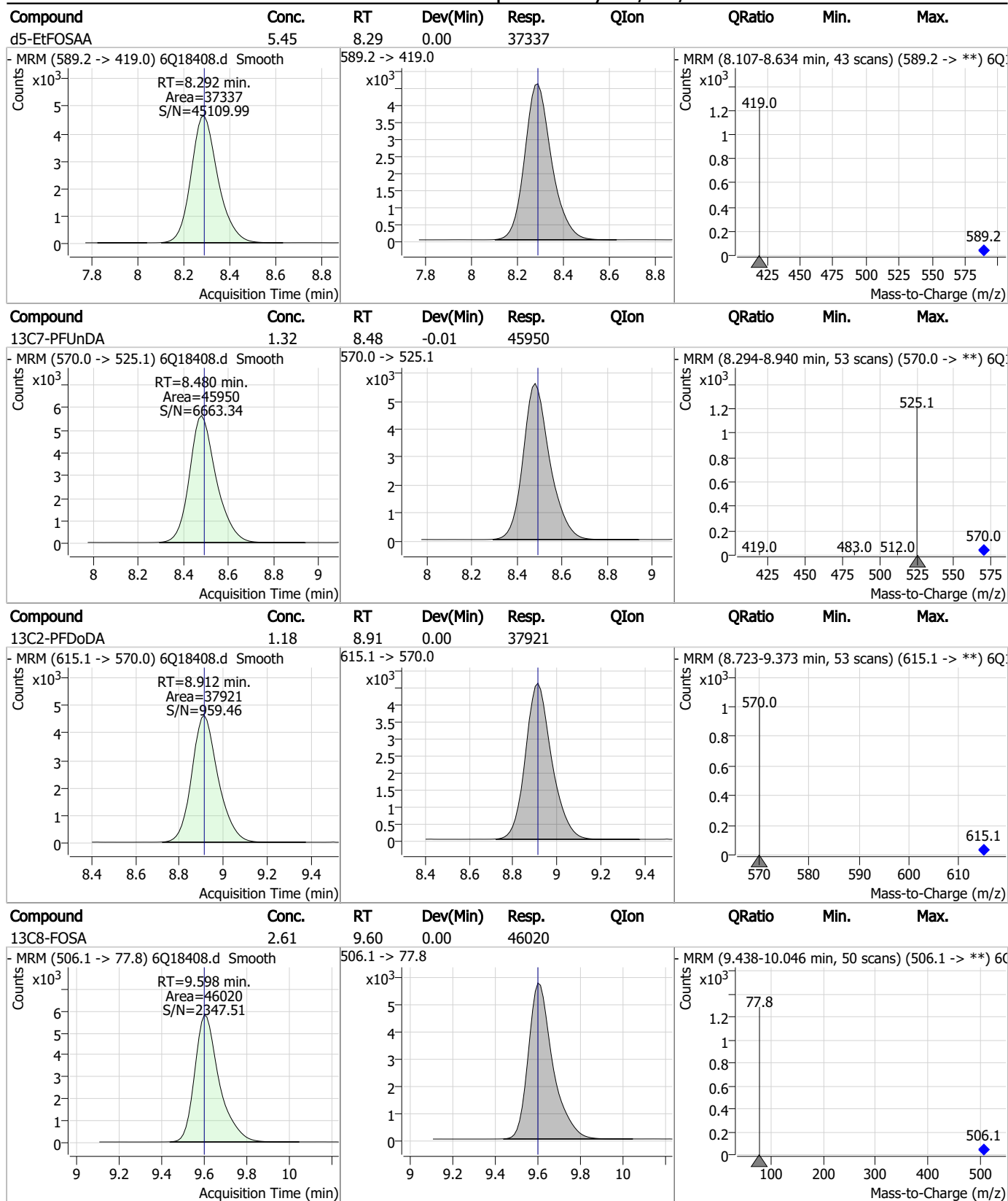
Perfluorinated Compounds by LC/MS/MS



7.2.7
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Perfluorinated Compounds by LC/MS/MS



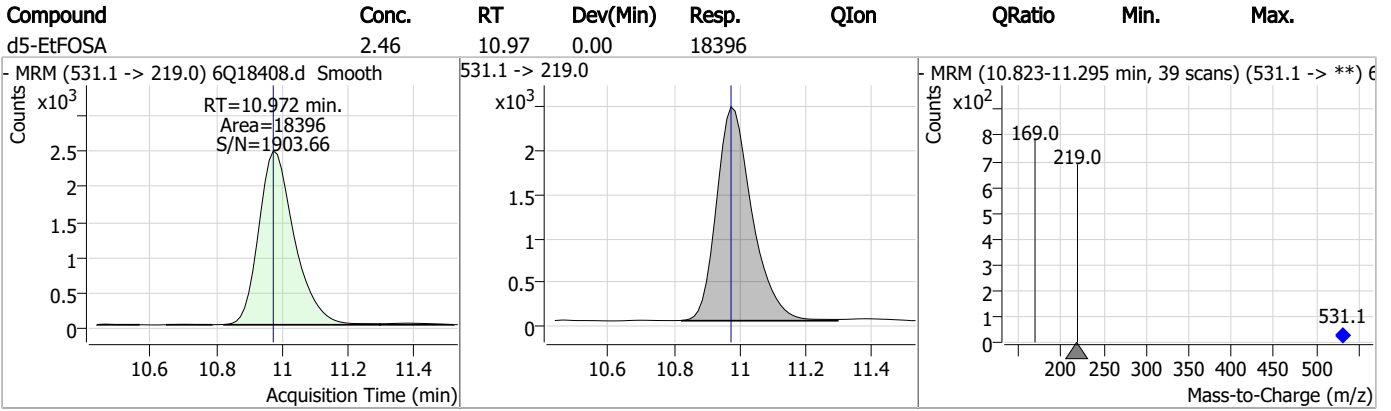
7.27
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	9.64	-0.01	20515				
d7-MeFOSE	24.22	10.66	0.00	144652				
d3-MeFOSA	2.35	10.74	0.00	18039				
d9-EtFOSE	26.37	10.91	0.00	195918				

7.2.7

Perfluorinated Compounds by LC/MS/MS



7.2.7
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18348.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 9:14:25 PM
 Sample Name : op97007-bs
 Vial : P4-A7
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	47639	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	63383	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	73555	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	72083	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	108326	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	44637	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	26627	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34615	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	30040	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	15473	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	27662	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	27829	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16489	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15700	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4177	5.00 µg/L	-0.013
M2-6:2FTS	6.800	429.1 -> 80.9	6062	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	5907	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	32764	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	48180	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27773	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	81166	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	119708	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	12722	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	11809	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	16152	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	77401	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	9817	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	94286	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31678	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	44676	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	63684	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4177	7.09 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 141.7%		
13C2-6:2FTS	6.800	429.1 -> 80.9	6062	6.72 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 134.4%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5907	6.45 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 129.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	30040	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.8%		
13C2-PFTeDA	9.639	715.2 -> 670.0	15473	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C3-PFBS	5.347	302.1 -> 79.9	27829	3.05 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 121.8%		
13C3-PFHxS	7.142	402.1 -> 79.9	16489	3.07 µg/L	0.000

7.3.1
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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 = 122.7%	
13C4-PFBA	2.876	216.8 -> 171.9	47639	2.59 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 25.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	72083	2.95 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.1%	
13C5-PFHxA	5.429	318.0 -> 273.0	73555	2.84 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.6%	
13C5-PFPeA	4.235	268.3 -> 223.0	63383	5.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
13C6-PFDA	8.039	519.1 -> 474.1	26627	1.39 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34615	1.42 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.2%	
13C8-FOSA	9.598	506.1 -> 77.8	27662	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C8-PFOA	7.026	421.1 -> 376.0	108326	2.96 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.5%	
13C8-PFOS	8.189	507.1 -> 79.9	15700	3.14 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 125.6%	
13C9-PFNA	7.557	472.1 -> 427.0	44637	1.51 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 121.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32764	6.82 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 136.5%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	48180	11.29 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	11809	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27773	6.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	81166	20.62 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	119708	24.45 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d5-EtFOSA	10.972	531.1 -> 219.0	12722	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0 327.1 -> 80.9	57538 21443	7.52 µg/L	96
6:2FTS	6.813	427.1 -> 407.0 427.1 -> 80.9	57900 19026	8.45 µg/L	98
8:2FTS	7.828	527.1 -> 507.0 527.1 -> 80.8	31452 12529	8.85 µg/L	96
EtFOSAA	8.293	584.2 -> 419.1 584.2 -> 526.0	9391 5217	2.22 µg/L	98
FOSA	9.602	498.1 -> 77.9 498.1 -> 478.0	26241 761	2.44 µg/L	100
MeFOSAA	8.097	570.1 -> 419.0 570.1 -> 483.0	15928 2855	2.00 µg/L	97
PFBA	2.882	212.8 -> 168.9	15880	8.55 µg/L	100
PFBS	5.348	298.7 -> 79.9 298.7 -> 98.8	19757 7329	1.85 µg/L	98
PFDA	8.040	512.9 -> 469.0 512.9 -> 219.0	80045 13660	2.21 µg/L	97
PFDoDA	8.913	613.1 -> 569.0 613.1 -> 319.0	50232 7965	2.11 µg/L	95
PFDS	9.076	599.0 -> 79.9	8598	1.95 µg/L	94

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	4527			
PFHpA	6.382	363.1 -> 319.0	78199	2.10	µg/L	97
		363.1 -> 169.0	12767			
PFHpS	7.698	449.0 -> 79.9	16868	1.97	µg/L	97
		449.0 -> 98.9	8658			
PFHxA	5.432	313.0 -> 269.0	63130	2.21	µg/L	98
		313.0 -> 118.9	3260			
PFHxS	7.143	398.7 -> 79.9	16129	1.81	µg/L	m 97
		398.7 -> 98.9	7941			
PFNA	7.558	463.0 -> 419.0	75169	2.04	µg/L	98
		463.0 -> 219.0	15250			
PFNS	8.657	548.8 -> 79.9	13577	1.84	µg/L	90
		548.8 -> 98.9	7525			
PFOA	7.040	413.0 -> 369.0	110482	2.18	µg/L	99
		413.0 -> 169.0	19688			
PFOS	8.191	498.9 -> 79.9	16496	1.98	µg/L	94
		498.9 -> 98.8	8116			
PFPeA	4.237	263.0 -> 219.0	73990	4.33	µg/L	100
PFPeS	6.434	349.1 -> 79.9	17316	1.98	µg/L	99
		349.1 -> 98.9	8121			
PFTeDA	9.640	713.1 -> 669.0	36585	2.02	µg/L	96
		713.1 -> 168.9	3273			
PFTrDA	9.309	663.0 -> 619.0	52131	2.24	µg/L	96
		663.0 -> 168.9	5567			
PFUnDA	8.480	563.1 -> 519.0	54171	2.19	µg/L	94
		563.1 -> 269.1	9546			
11CI-PF3OUdS	9.348	630.9 -> 450.9	72981	3.94	µg/L	99
		632.9 -> 452.9	22264			
9CI-PF3ONS	8.520	530.8 -> 351.0	121896	3.94	µg/L	97
		532.8 -> 353.0	38243			
ADONA	6.646	376.9 -> 250.9	291145	4.10	µg/L	100
		376.9 -> 84.8	78522			
HFPO-DA	5.795	284.9 -> 168.9	20090	4.25	µg/L	95
		284.9 -> 184.9	2333			
3:3FTCA	3.727	241.0 -> 177.0	4799	3.89	µg/L	100
		241.0 -> 117.0	696			
5:3FTCA	6.099	341.0 -> 237.1	267019	50.91	µg/L	98
		341.0 -> 217.0	194198			
7:3FTCA	7.523	441.0 -> 316.9	177907	52.48	µg/L	96
		441.0 -> 336.9	380327			
EtFOSA	10.974	526.0 -> 219.0	25798	4.04	µg/L	91
		526.0 -> 169.0	34487			
EtFOSE	10.920	630.0 -> 58.9	60275	10.38	µg/L	100
MeFOSA	10.741	511.9 -> 219.0	22437	4.48	µg/L	93
		511.9 -> 169.0	31483			
MeFOSE	10.673	616.1 -> 58.9	39333	10.91	µg/L	100
PFDoDS	9.767	699.1 -> 79.9	3562	1.91	µg/L	99
		699.1 -> 98.8	1883			
NFDHA	5.299	295.0 -> 201.0	15774	4.47	µg/L	94
		295.0 -> 84.9	3824			
PFMBA	4.638	279.0 -> 85.1	55880	4.63	µg/L	100
PFMPA	3.401	229.0 -> 84.9	17770	1.93	µg/L	100
PFEESA	5.888	314.8 -> 134.9	141656	3.69	µg/L	99
		314.8 -> 82.9	5113			

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

7.3.1
7

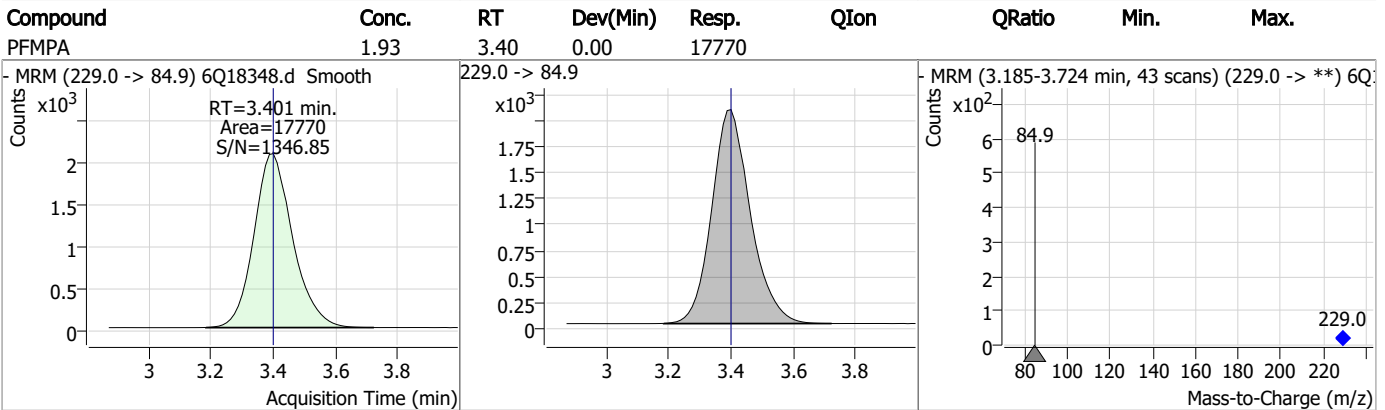
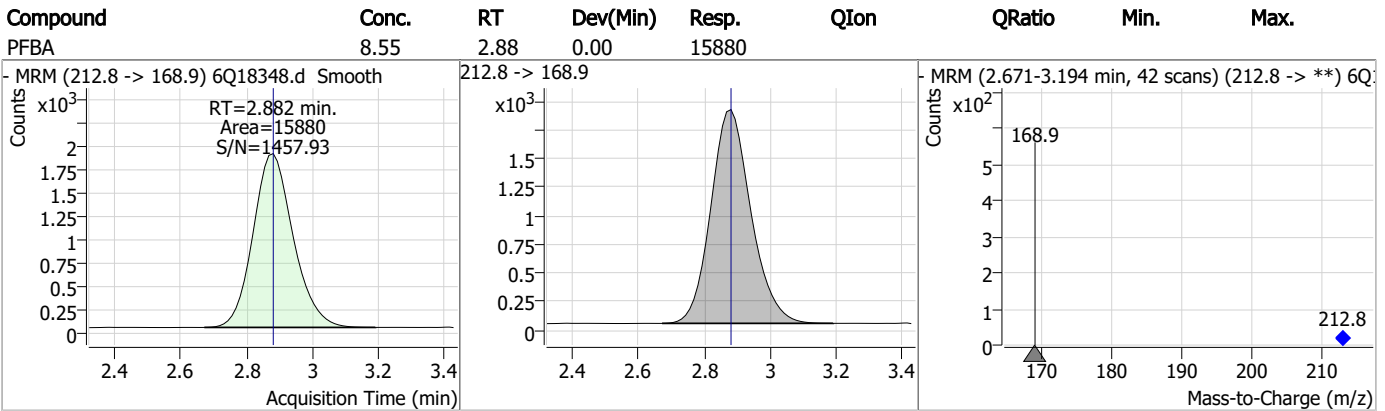
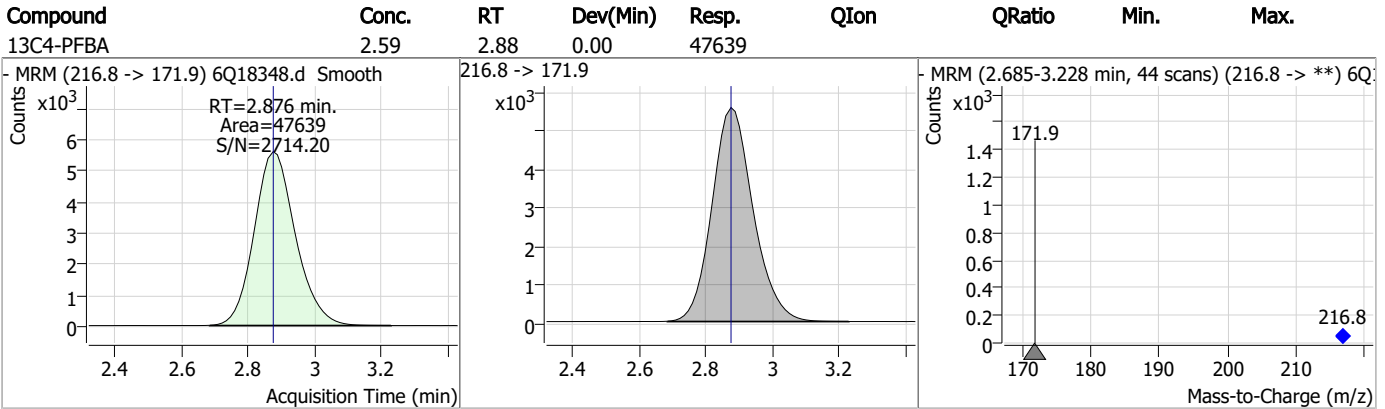
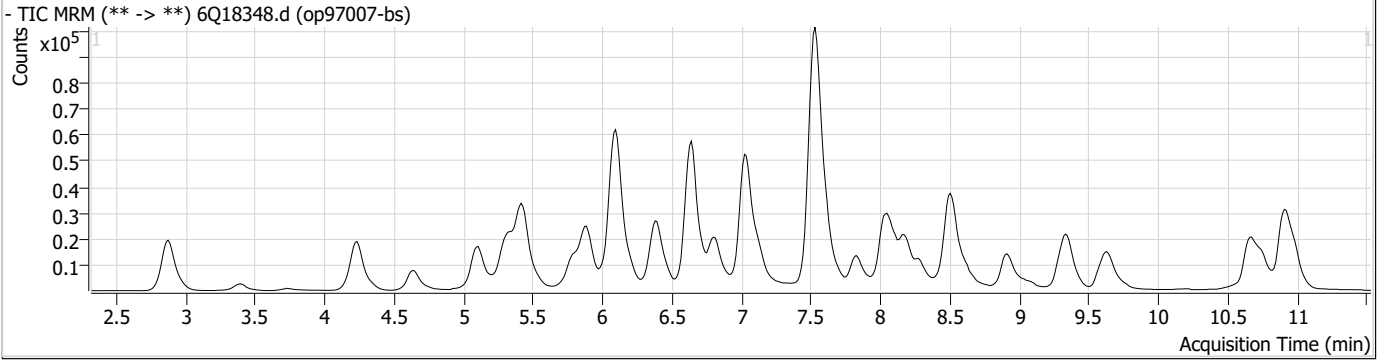
Perfluorinated Compounds by LC/MS/MS

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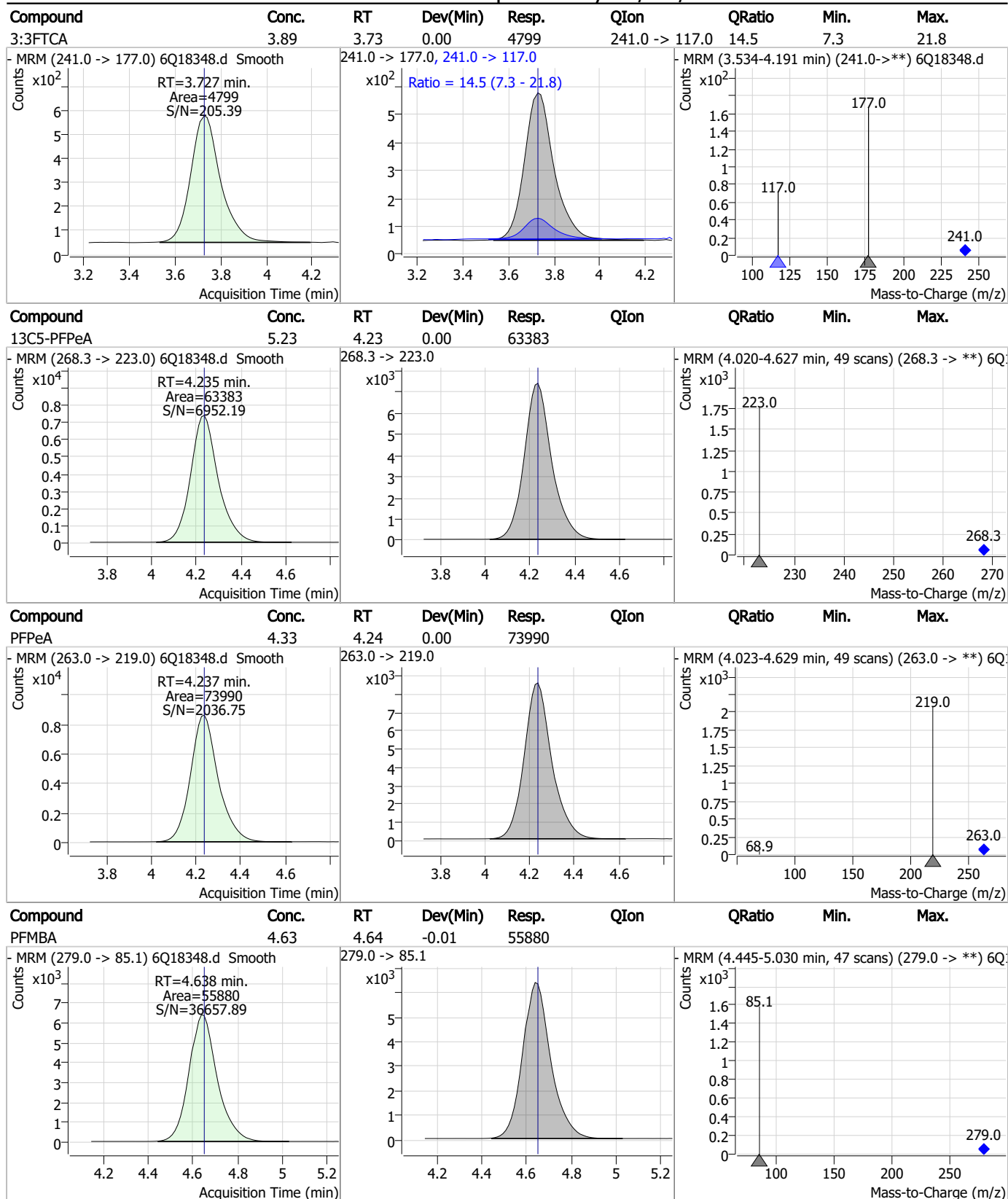
7.3.1

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Perfluorinated Compounds by LC/MS/MS

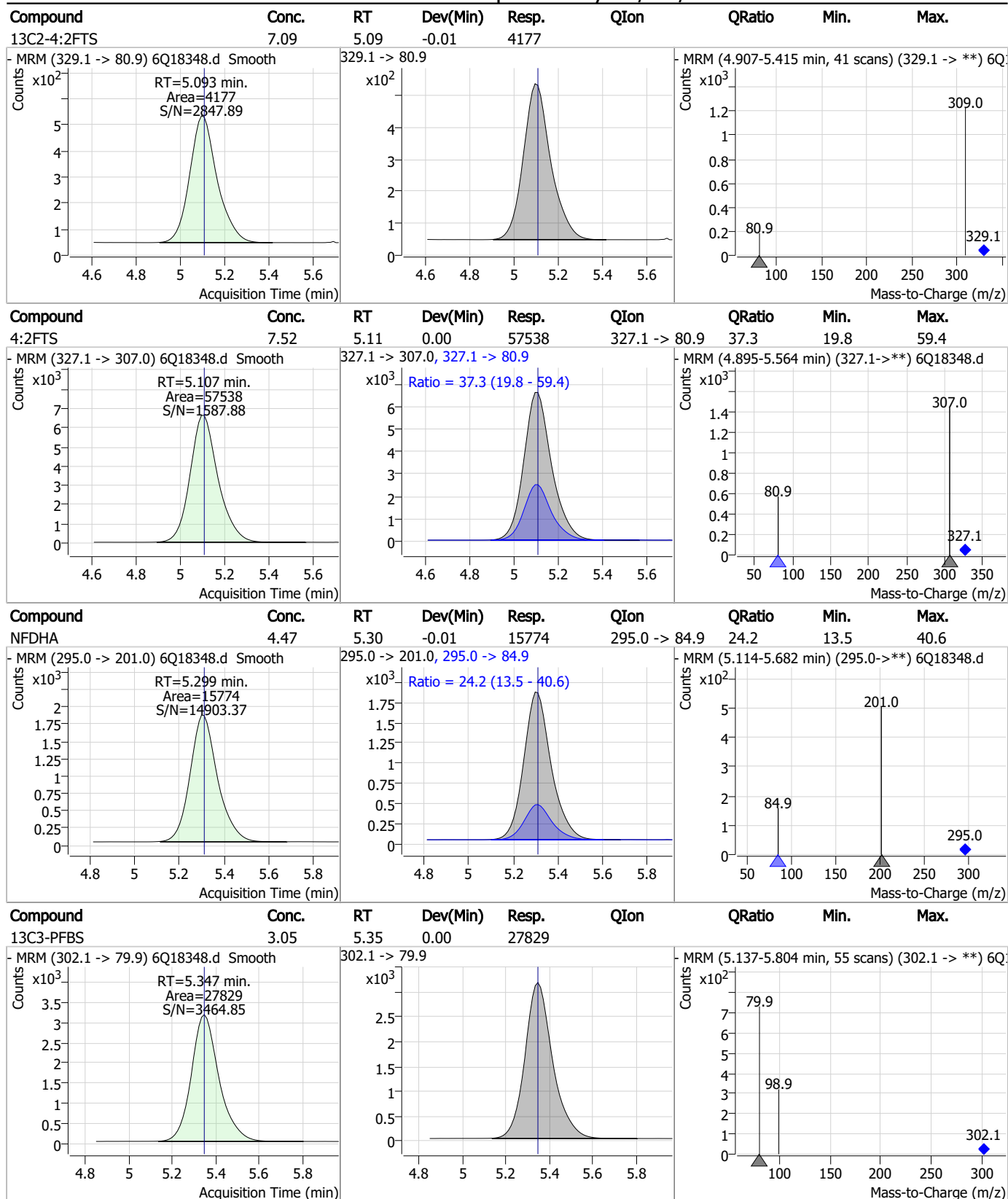


Perfluorinated Compounds by LC/MS/MS



7.3.1
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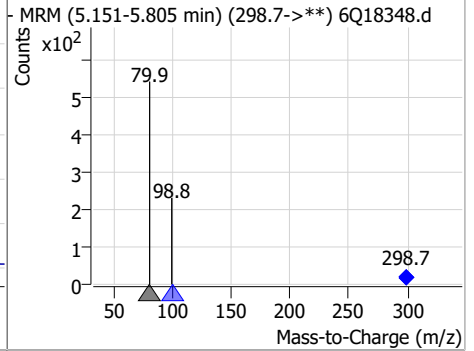
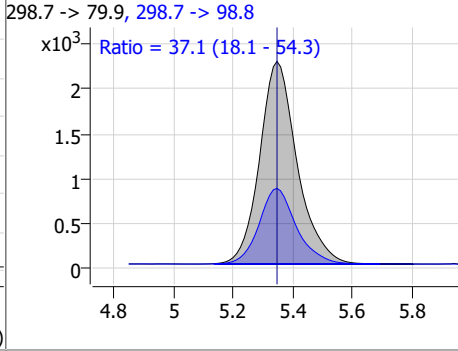
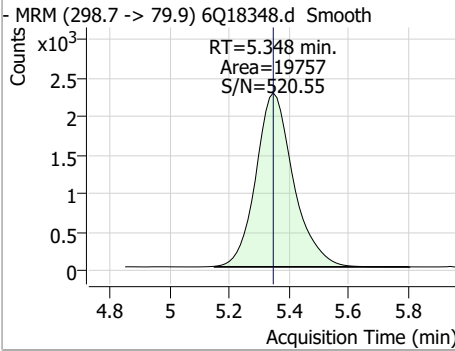
Perfluorinated Compounds by LC/MS/MS



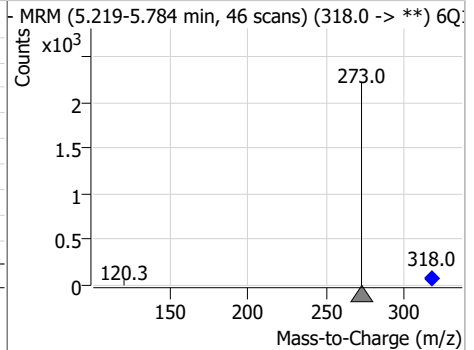
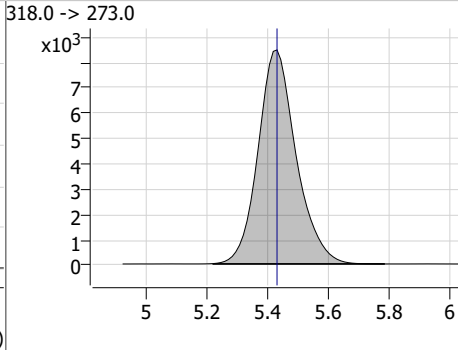
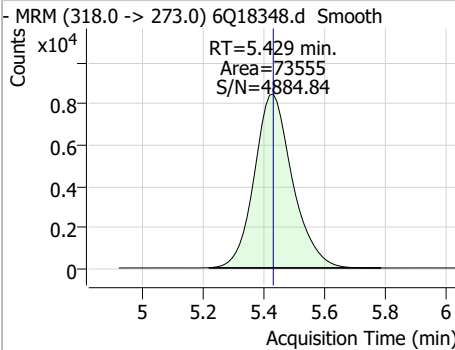
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Perfluorinated Compounds by LC/MS/MS

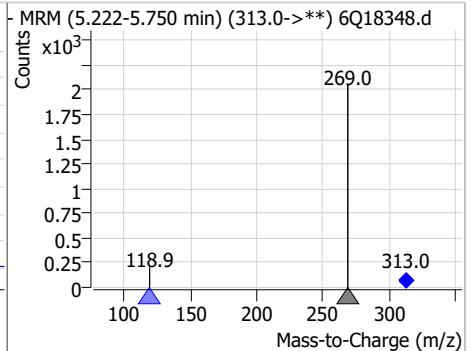
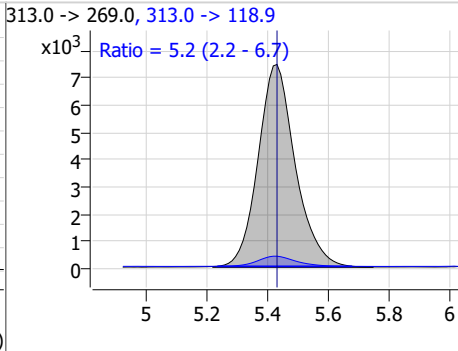
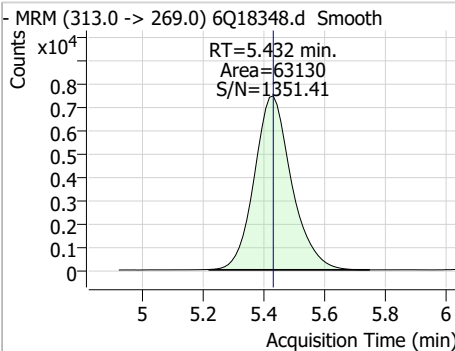
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.85	5.35	0.00	19757	298.7 -> 98.8	37.1	18.1	54.3



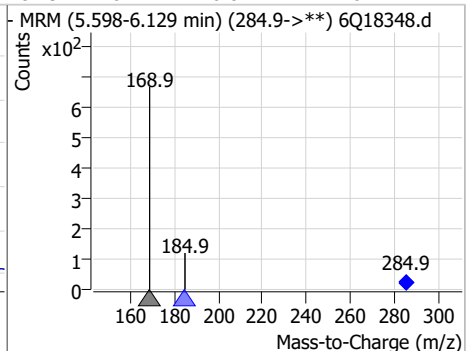
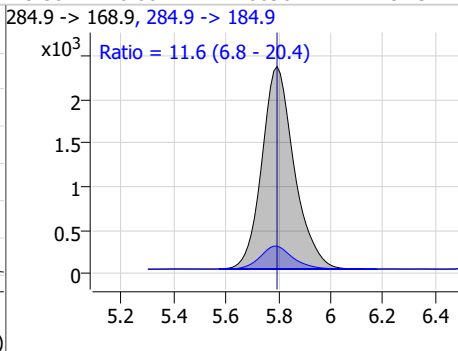
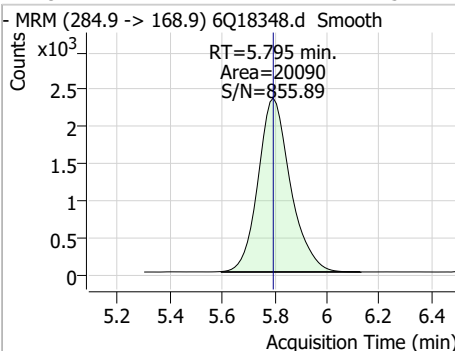
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.84	5.43	0.00	73555	318.0 -> 273.0	5.2	2.2	6.7



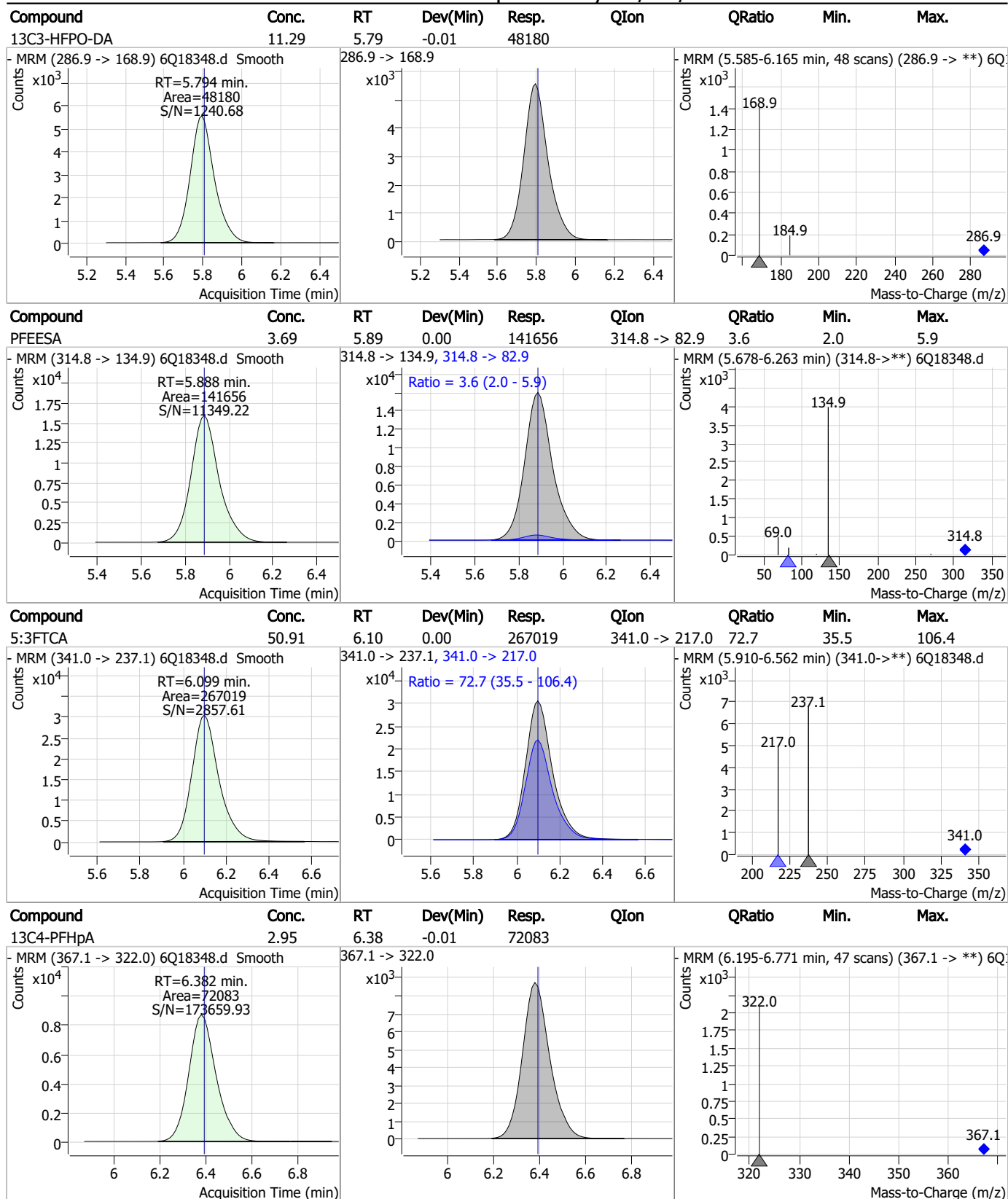
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.21	5.43	0.00	63130	313.0 -> 118.9	5.2	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.25	5.80	0.00	20090	284.9 -> 184.9	11.6	6.8	20.4

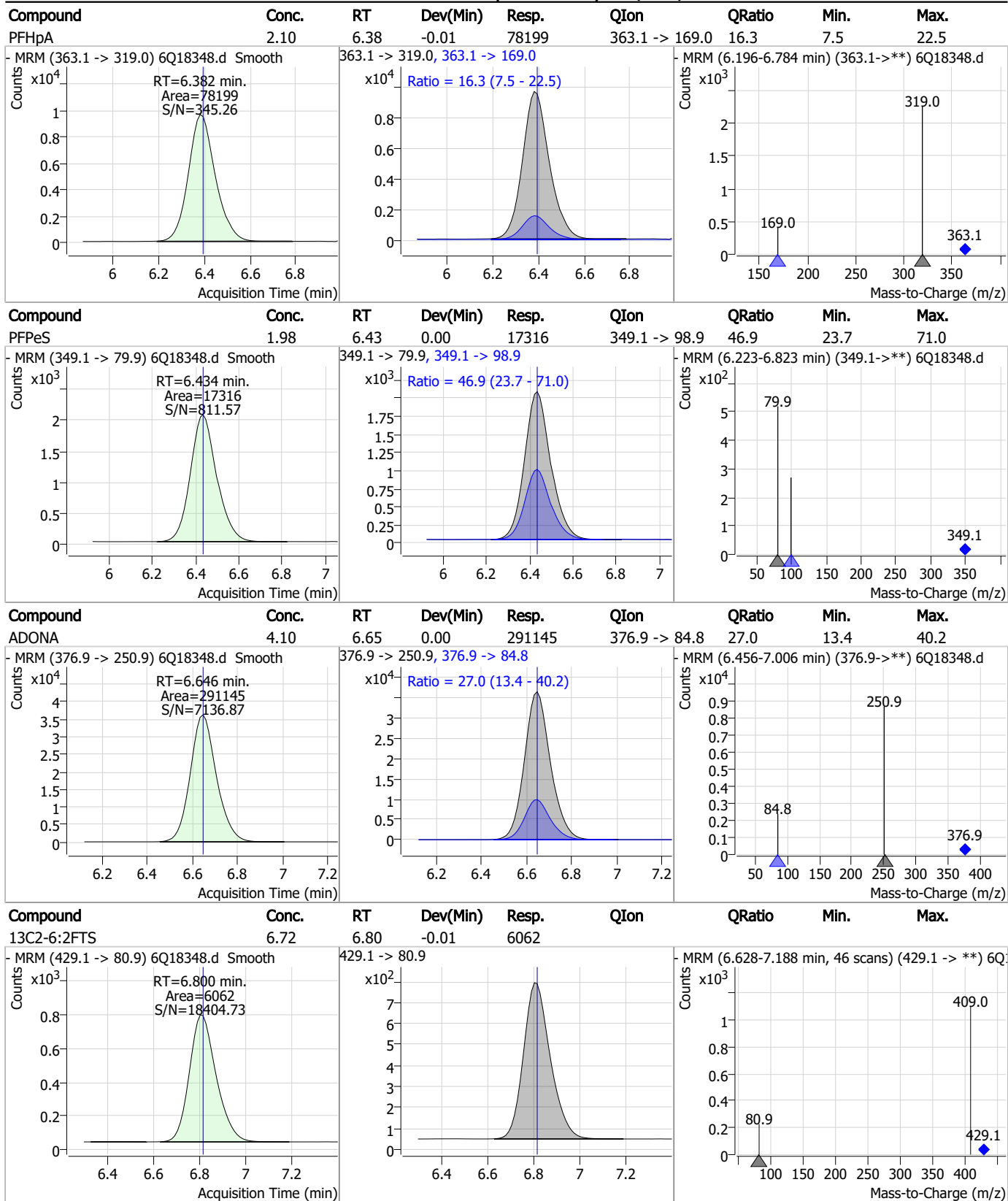


Perfluorinated Compounds by LC/MS/MS



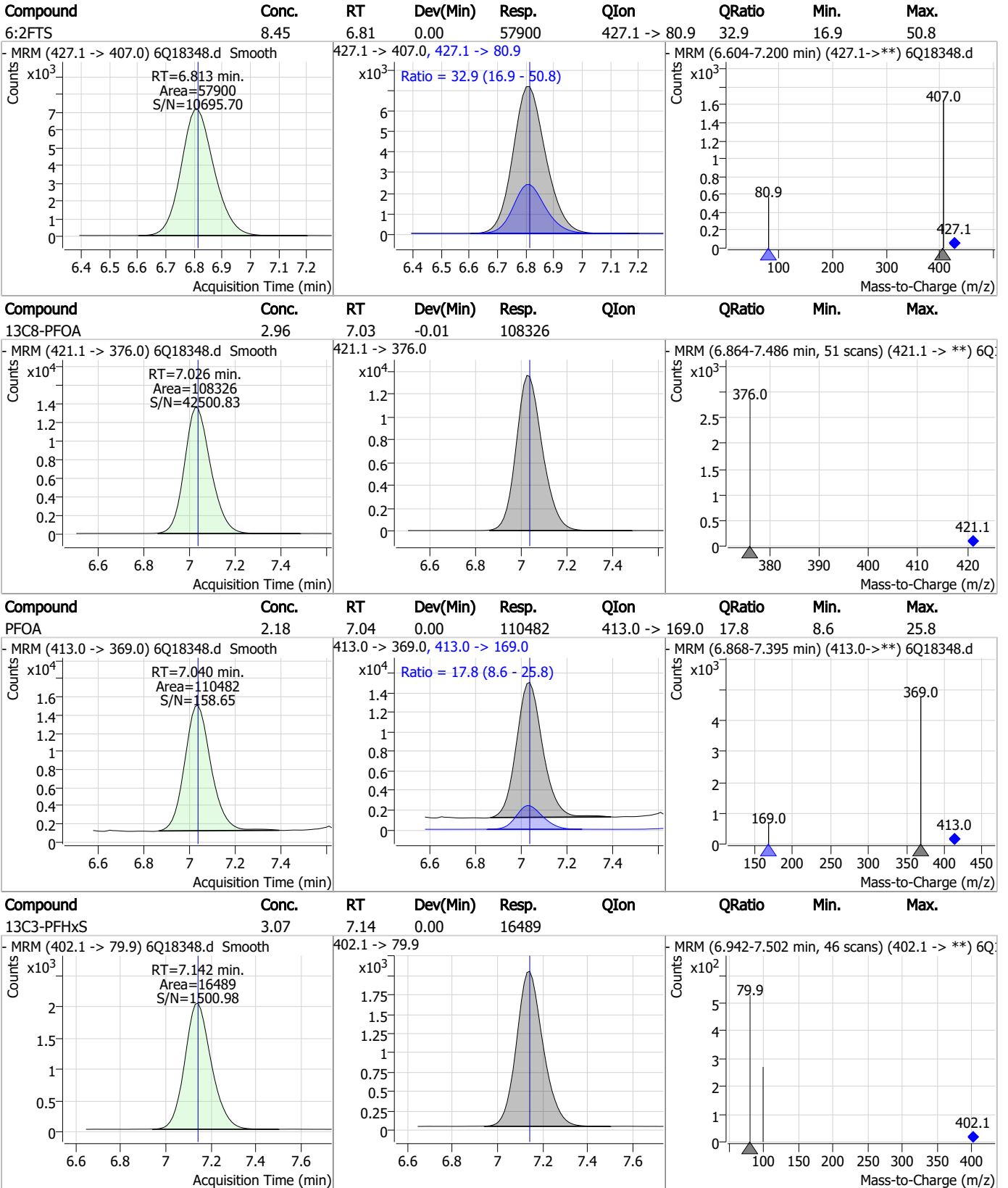
7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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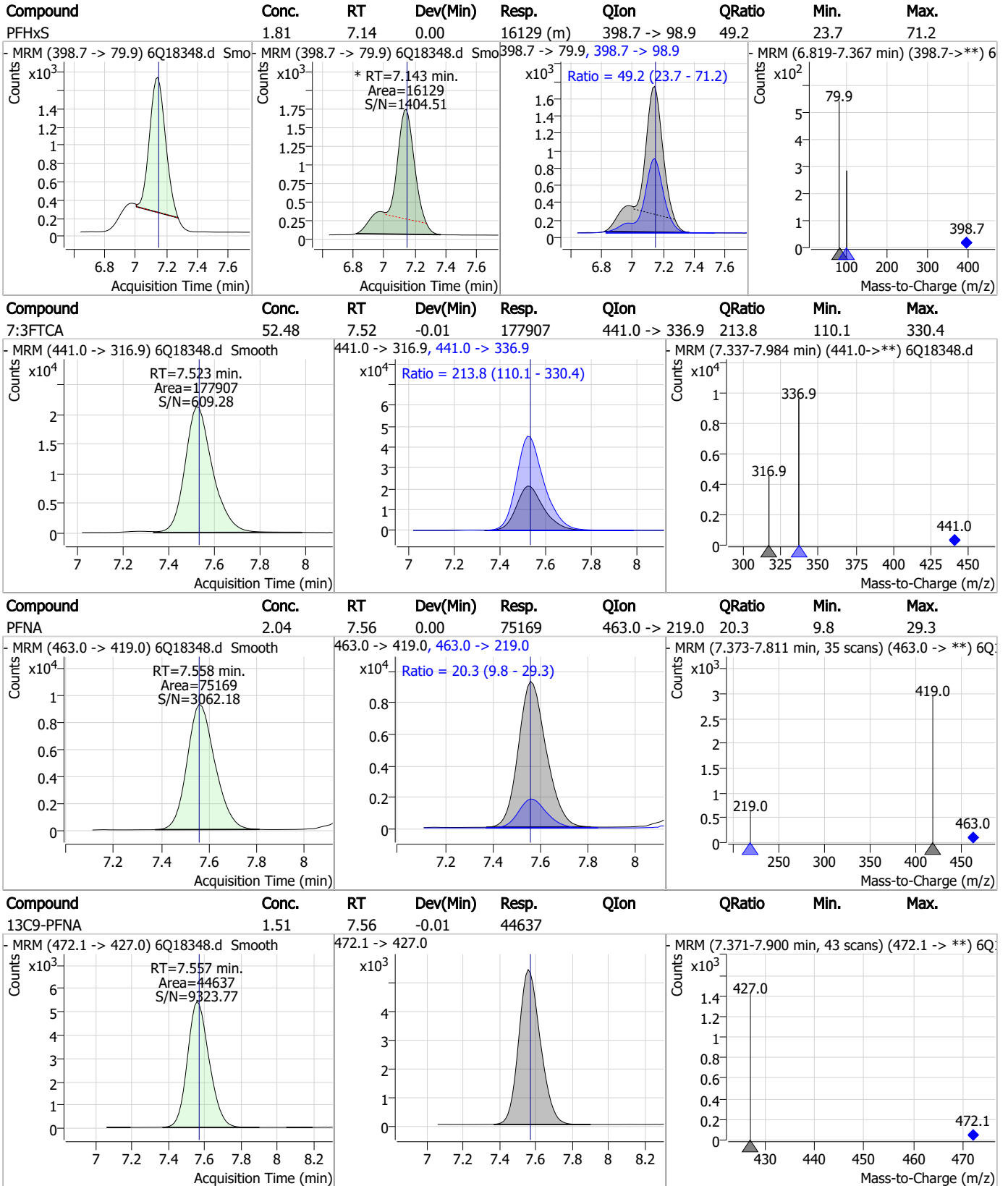
Perfluorinated Compounds by LC/MS/MS



7.3.1

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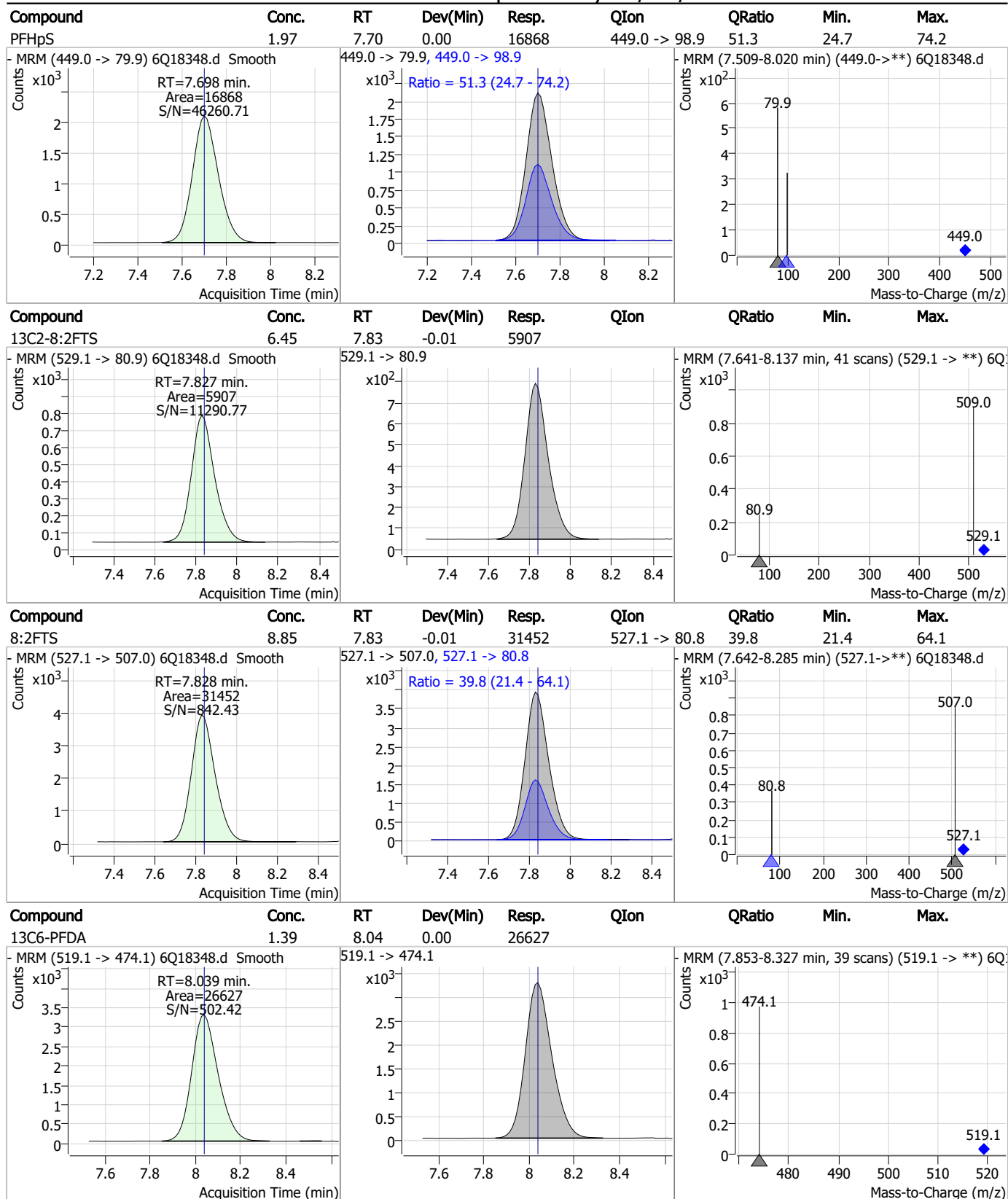
Perfluorinated Compounds by LC/MS/MS



7.3.1

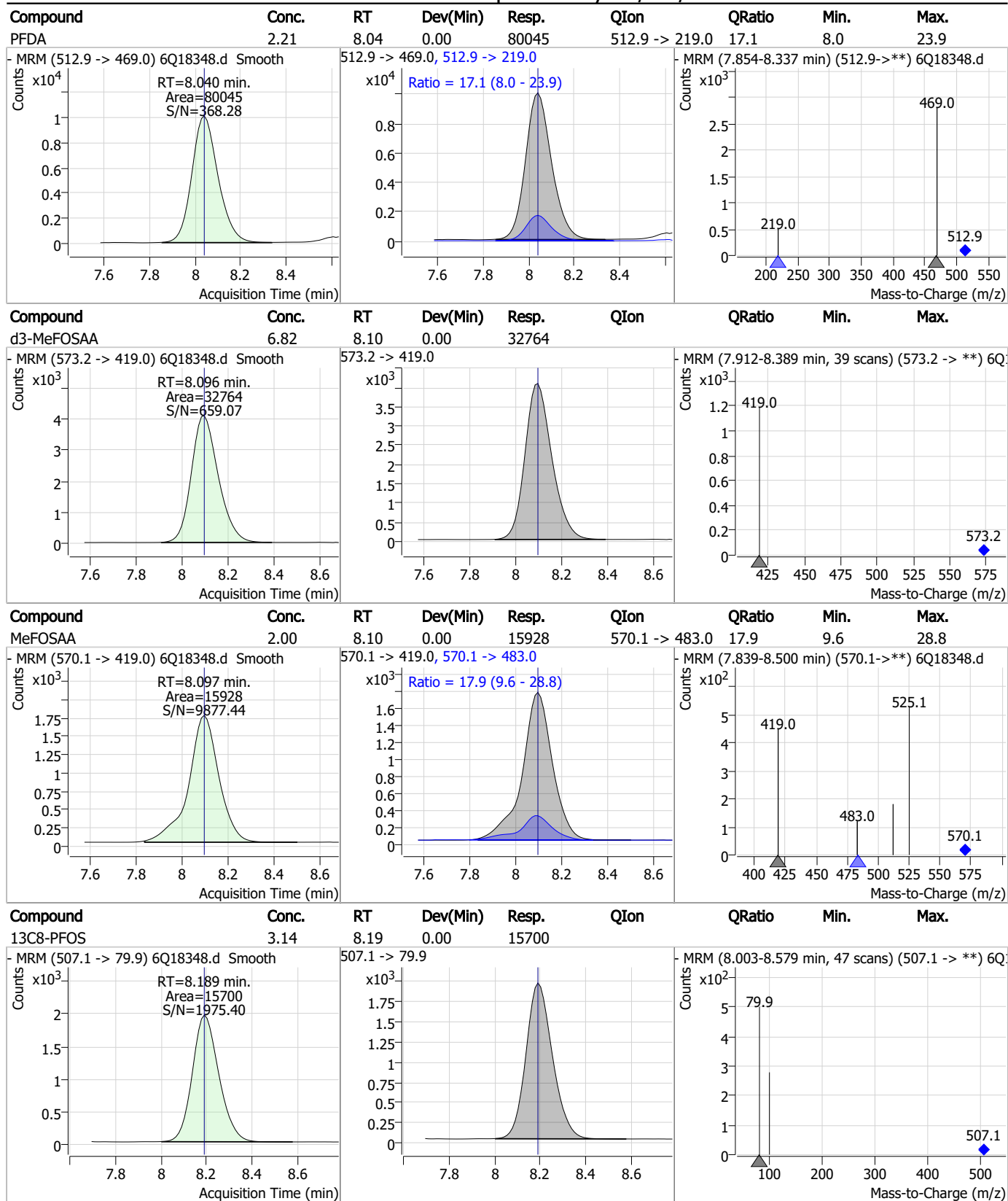
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Perfluorinated Compounds by LC/MS/MS



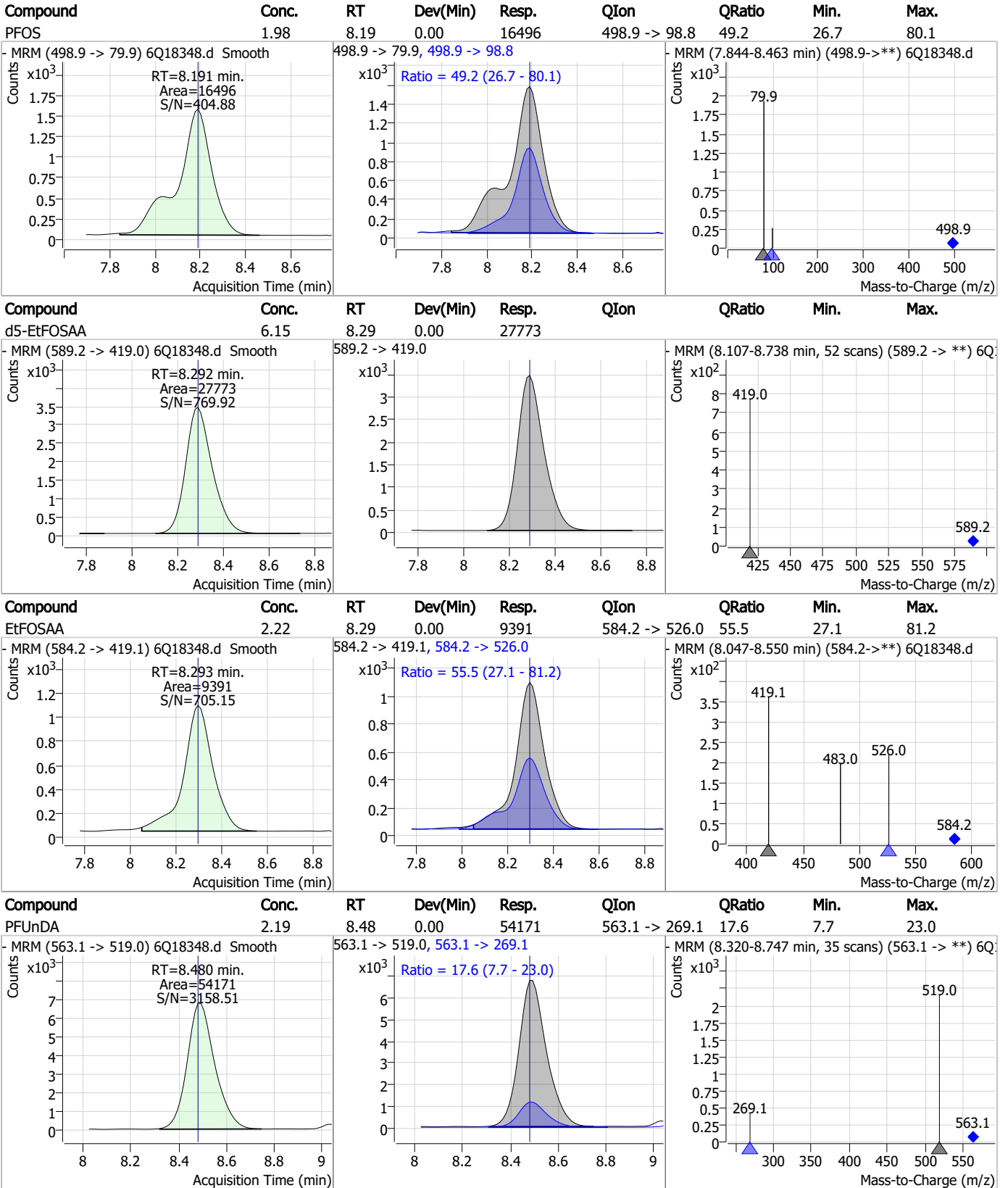
7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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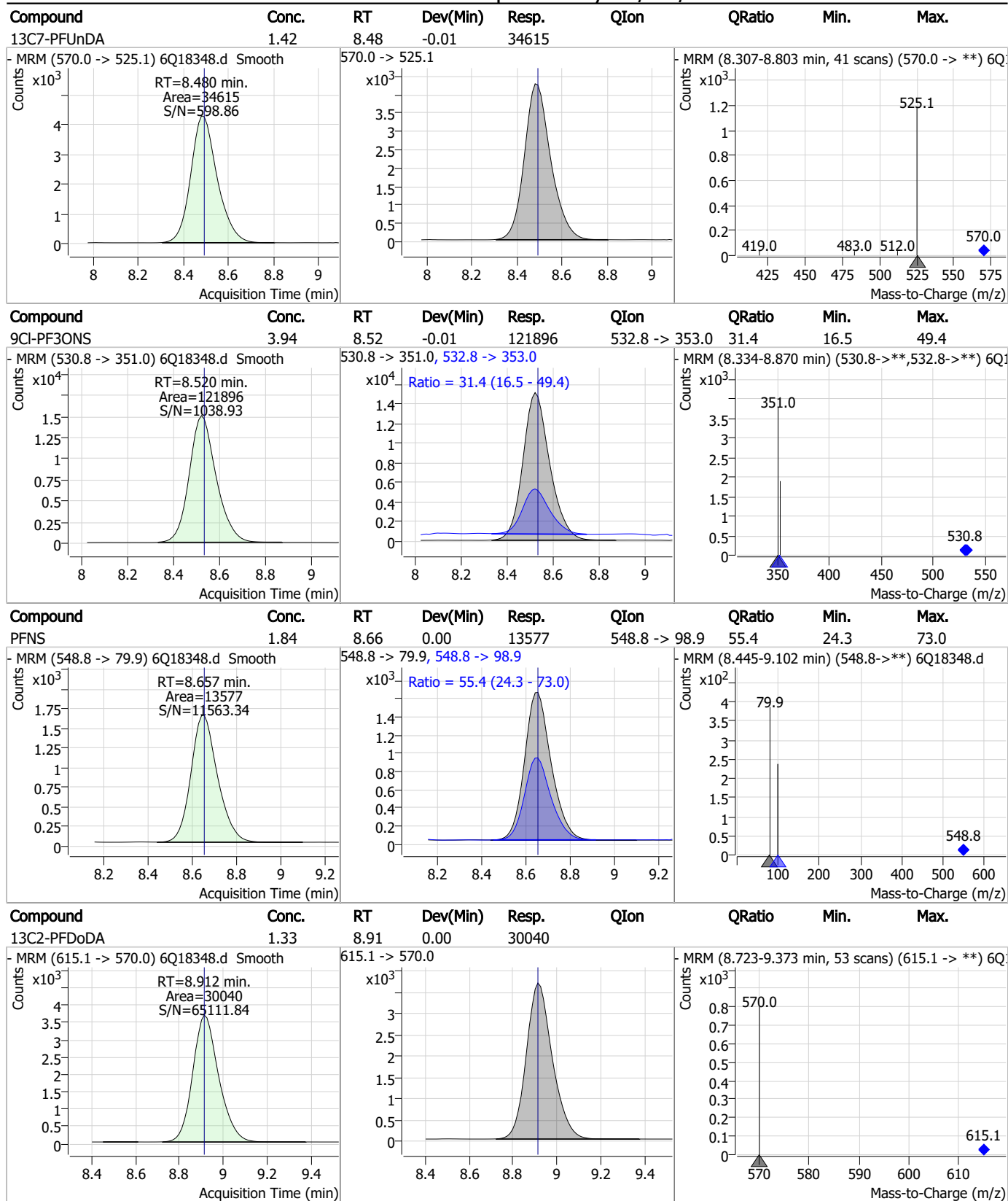
Perfluorinated Compounds by LC/MS/MS



7.3.1

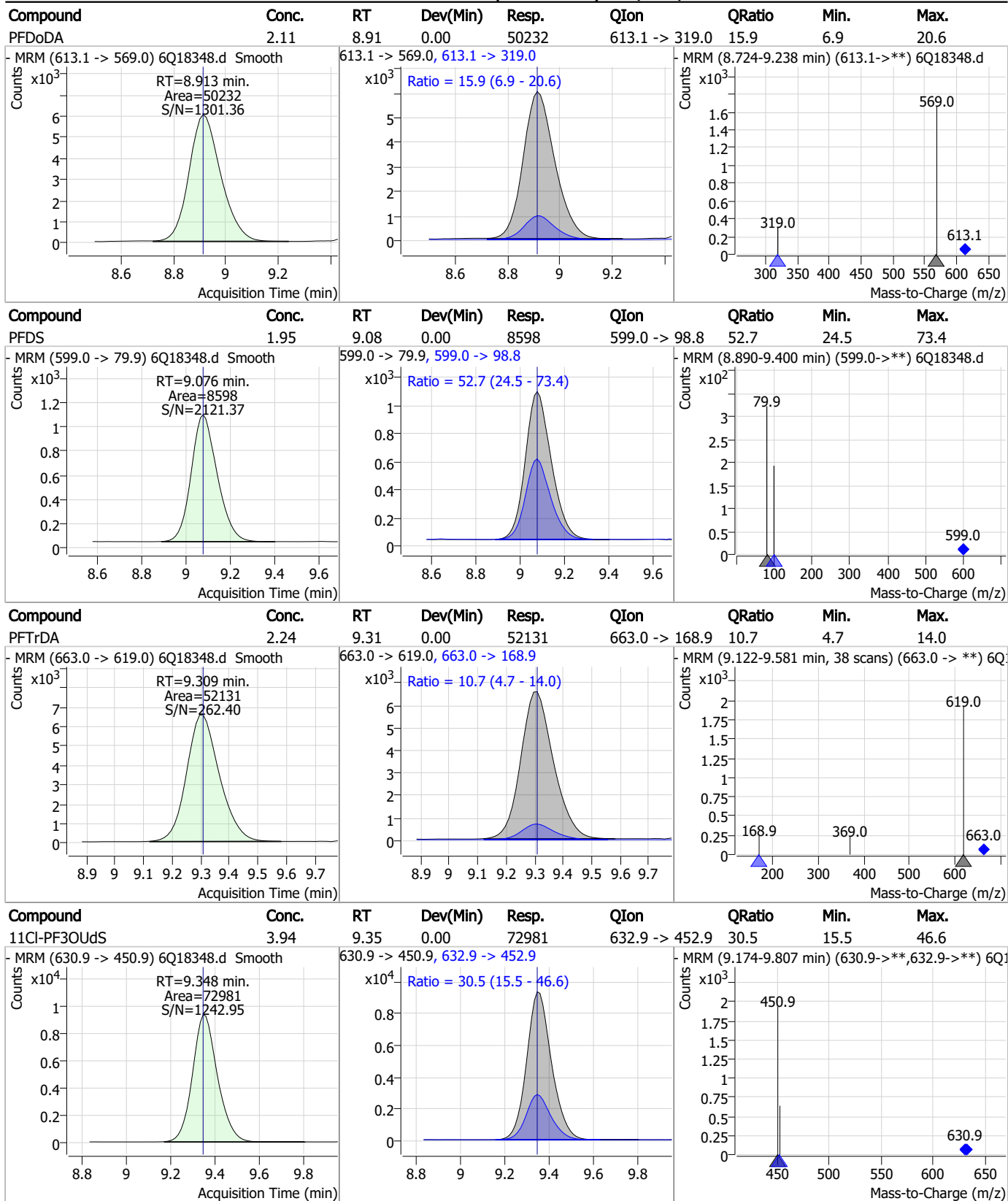
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Perfluorinated Compounds by LC/MS/MS



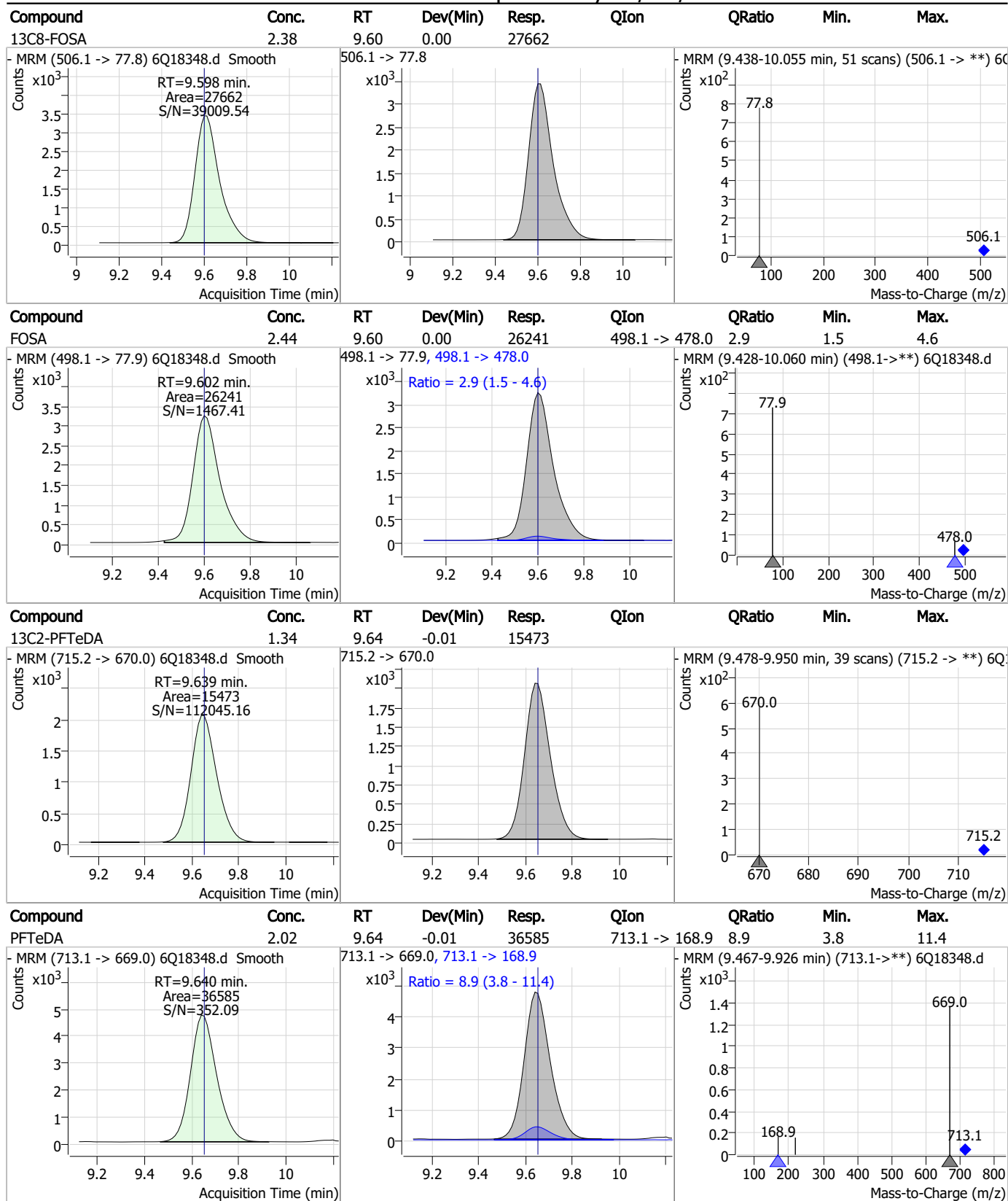
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Perfluorinated Compounds by LC/MS/MS



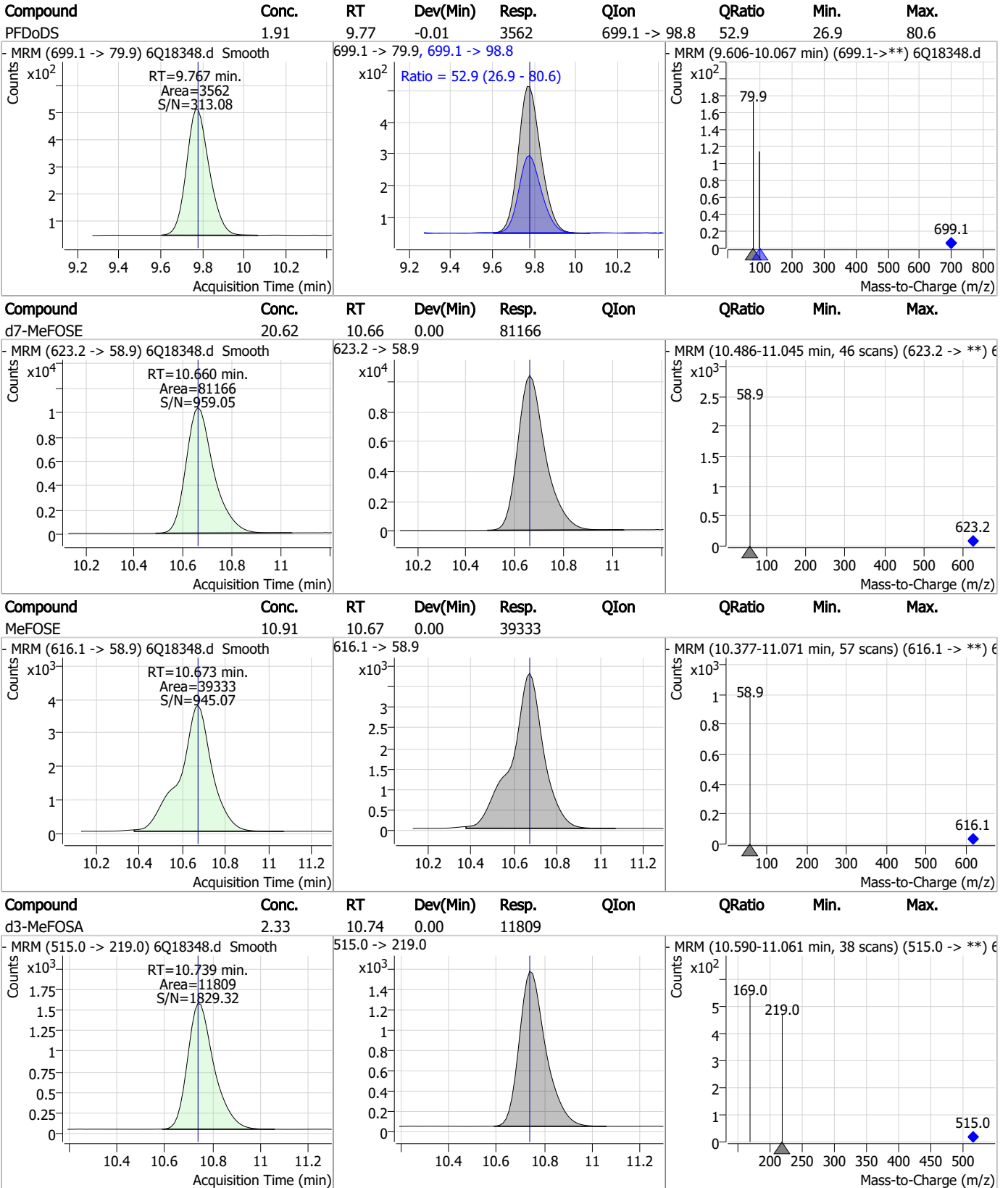
7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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Perfluorinated Compounds by LC/MS/MS

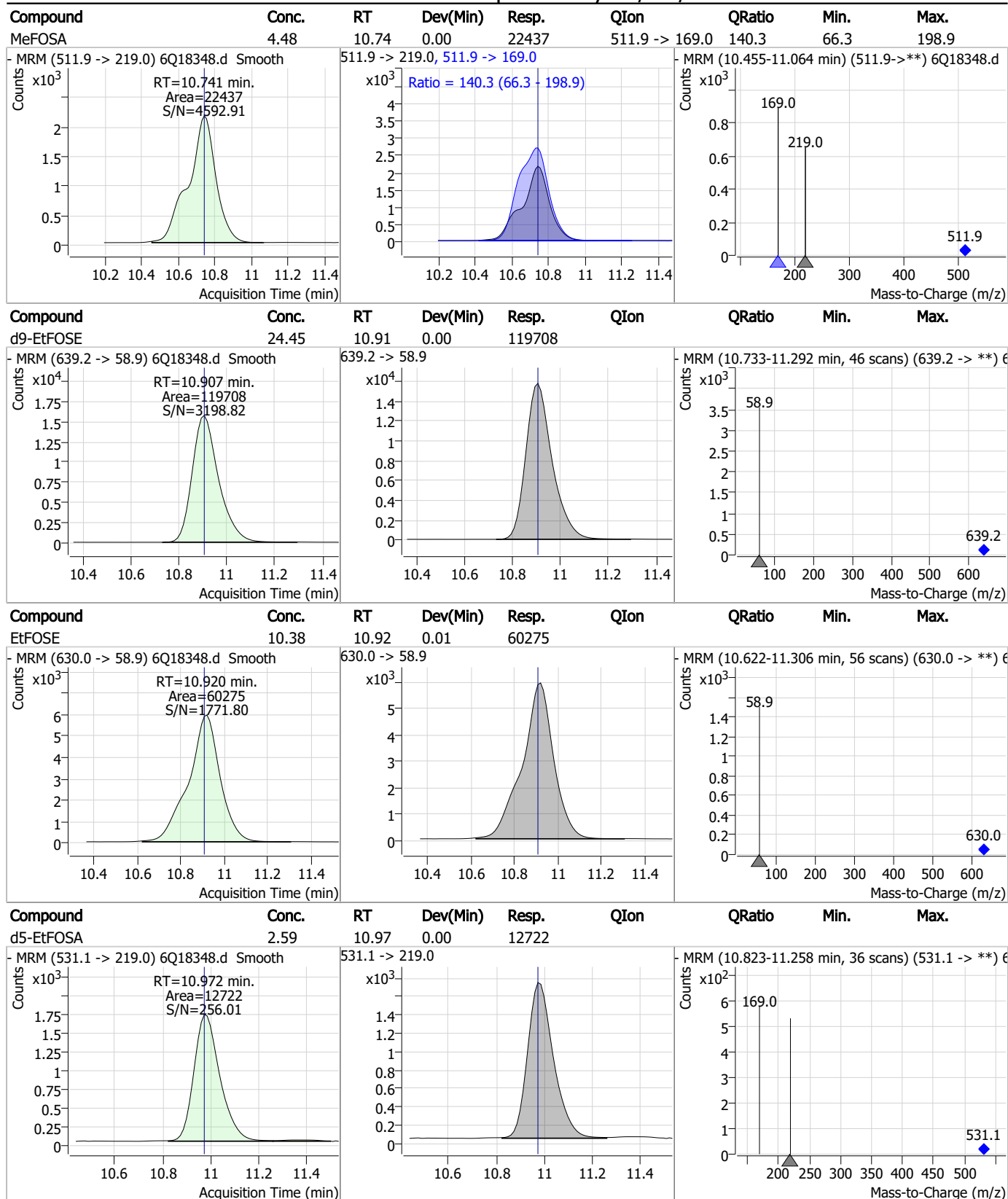


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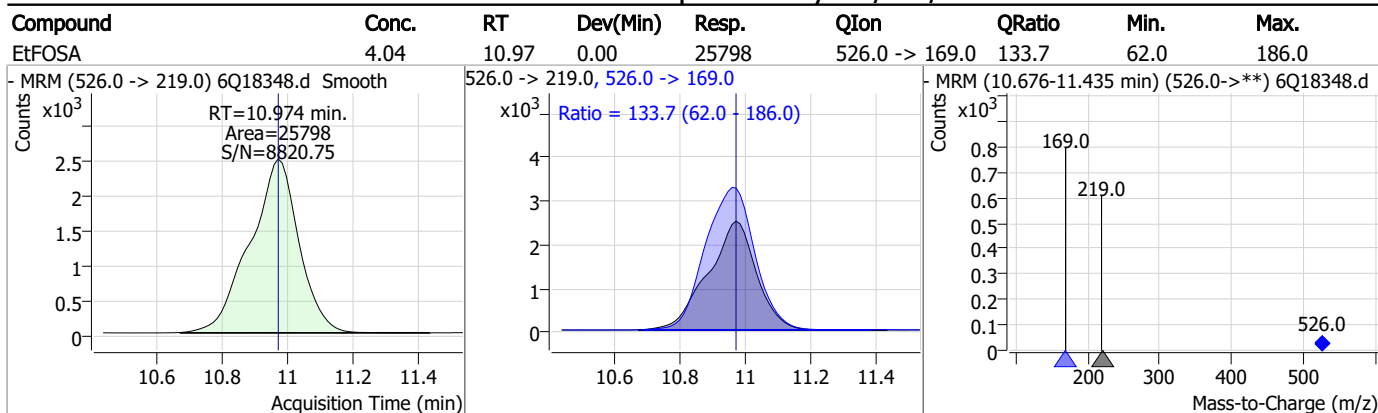


Perfluorinated Compounds by LC/MS/MS



7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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Manual Integration Approval Summary

Sample Number: OP97007-BS Method: EPA DRAFT 1633
Lab FileID: 6Q18348.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 21:14 Supervisor approved: 05/25/23 13:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.3.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18349.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 9:28:56 PM
 Sample Name : op97007-llbs:3
 Vial : P4-A8
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	199416	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	66397	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	71031	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	66784	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	102585	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	42202	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	27038	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33404	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	28870	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	14591	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	21151	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	25689	2.50 µg/L	0.000
M3-PFHxS	7.130	402.1 -> 79.9	15536	2.50 µg/L	-0.012
M8-PFOS	8.189	507.1 -> 79.9	15041	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3839	5.00 µg/L	0.000
M2-6:2FTS	6.800	429.1 -> 80.9	5995	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	5731	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	30992	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	45258	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	28983	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	62236	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	91357	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	9613	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9074	2.50 µg/L	0.012
13C4-PFOS	8.190	502.8 -> 79.9	17286	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	78920	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	10552	2.50 µg/L	0.000
13C4-PFOA	7.026	417.1 -> 372.0	95346	2.50 µg/L	-0.012
13C2-PFDA	8.039	515.1 -> 470.1	32678	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	46740	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	64982	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3839	6.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 121.2%		
13C2-6:2FTS	6.800	429.1 -> 80.9	5995	6.18 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 123.7%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5731	5.82 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	28870	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.5%		
13C2-PFTeDA	9.639	715.2 -> 670.0	14591	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.3%		
13C3-PFBS	5.347	302.1 -> 79.9	25689	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C3-PFHxS	7.130	402.1 -> 79.9	15536	2.69 µg/L	-0.012

7.32
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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 = 107.6%	
13C4-PFBA	2.876	216.8 -> 171.9	199416	10.62 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C4-PFHpA	6.382	367.1 -> 322.0	66784	2.68 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C5-PFHxA	5.429	318.0 -> 273.0	71031	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C5-PFPeA	4.235	268.3 -> 223.0	66397	5.37 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C6-PFDA	8.039	519.1 -> 474.1	27038	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33404	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C8-FOSA	9.598	506.1 -> 77.8	21151	1.70 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.0%	
13C8-PFOA	7.026	421.1 -> 376.0	102585	2.78 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.0%	
13C8-PFOS	8.189	507.1 -> 79.9	15041	2.81 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C9-PFNA	7.557	472.1 -> 427.0	42202	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30992	6.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.6%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	45258	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	9074	1.67 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 67.0%	
d5-EtFOSAA	8.292	589.2 -> 419.0	28983	6.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	62236	14.78 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 59.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	91357	17.43 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 69.7%	
d5-EtFOSA	10.972	531.1 -> 219.0	9613	1.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.1%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	16975	2.41 µg/L	97
		327.1 -> 80.9	6361		
6:2FTS	6.801	427.1 -> 407.0	16980	2.51 µg/L	97
		427.1 -> 80.9	6051		
8:2FTS	7.828	527.1 -> 507.0	9770	2.83 µg/L	95
		527.1 -> 80.8	3851		
EtFOSAA	8.293	584.2 -> 419.1	2891	0.65 µg/L	100
		584.2 -> 526.0	1558		
FOSA	9.602	498.1 -> 77.9	6129	0.75 µg/L	100
		498.1 -> 478.0	174		
MeFOSAA	8.097	570.1 -> 419.0	4881	0.65 µg/L	99
		570.1 -> 483.0	904		
PFBA	2.882	212.8 -> 168.9	21138	2.72 µg/L	100
PFBS	5.348	298.7 -> 79.9	6004	0.61 µg/L	94
		298.7 -> 98.8	2382		
PFDA	8.040	512.9 -> 469.0	24643	0.67 µg/L	99
		512.9 -> 219.0	3886		
PFDODA	8.913	613.1 -> 569.0	15481	0.68 µg/L	93
		613.1 -> 319.0	2550		
PFDS	9.076	599.0 -> 79.9	2475	0.59 µg/L	92

7.3.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	1352	0.68 µg/L	96
		363.1 -> 319.0	23483		
PFHpS	7.698	363.1 -> 169.0	3866	0.64 µg/L	99
		449.0 -> 79.9	5215		
PFHxA	5.432	449.0 -> 98.9	2599	0.70 µg/L	98
		313.0 -> 269.0	19362		
PFHxS	7.131	313.0 -> 118.9	1003	0.60 µg/L	95
		398.7 -> 79.9	5048		
PFNA	7.558	398.7 -> 98.9	2583	0.68 µg/L	100
		463.0 -> 419.0	23708		
PFNS	8.644	463.0 -> 219.0	4575	0.64 µg/L	97
		548.8 -> 79.9	4508		
PFOA	7.028	548.8 -> 98.9	2288	0.68 µg/L	95
		413.0 -> 369.0	32532		
PFOS	8.191	413.0 -> 169.0	6252	0.61 µg/L	95
		498.9 -> 79.9	4877		
PFPeA	4.237	498.9 -> 98.8	2442	1.37 µg/L	100
		263.0 -> 219.0	24563		
PFPeS	6.434	349.1 -> 79.9	5660	0.69 µg/L	94
		349.1 -> 98.9	2467		
PFTeDA	9.640	713.1 -> 669.0	11704	0.69 µg/L	95
		713.1 -> 168.9	1093		
PFTrDA	9.296	663.0 -> 619.0	15894	0.71 µg/L	97
		663.0 -> 168.9	1667		
PFUnDA	8.480	563.1 -> 519.0	16076	0.67 µg/L	93
		563.1 -> 269.1	2912		
11CI-PF3OUdS	9.348	630.9 -> 450.9	22606	1.30 µg/L	100
		632.9 -> 452.9	7064		
9CI-PF3ONS	8.520	530.8 -> 351.0	38008	1.31 µg/L	96
		532.8 -> 353.0	13342		
ADONA	6.646	376.9 -> 250.9	89984	1.35 µg/L	99
		376.9 -> 84.8	23821		
HFPO-DA	5.795	284.9 -> 168.9	6198	1.40 µg/L	94
		284.9 -> 184.9	690		
3:3FTCA	3.727	241.0 -> 177.0	2989	2.31 µg/L	94
		241.0 -> 117.0	364		
5:3FTCA	6.099	341.0 -> 237.1	75283	14.86 µg/L	94
		341.0 -> 217.0	56910		
7:3FTCA	7.523	441.0 -> 316.9	50346	15.38 µg/L	95
		441.0 -> 336.9	107249		
EtFOSA	10.974	526.0 -> 219.0	6817	1.41 µg/L	97
		526.0 -> 169.0	8658		
EtFOSE	10.920	630.0 -> 58.9	15490	3.50 µg/L	100
		511.9 -> 219.0	5737		
MeFOSA	10.741	511.9 -> 169.0	7510	1.49 µg/L	99
		616.1 -> 58.9	9352		
MeFOSE	10.673	699.1 -> 79.9	1158	3.38 µg/L	100
		699.1 -> 98.8	640		
PFDoDS	9.779	295.0 -> 201.0	4612	0.65 µg/L	98
		295.0 -> 84.9	1211		
NFDHA	5.311	279.0 -> 85.1	17381	1.35 µg/L	98
		229.0 -> 84.9	13144		
PFMBA	4.650	314.8 -> 134.9	45173	1.37 µg/L	100
		314.8 -> 82.9	1571		
PFMPA	3.401			1.37 µg/L	100
PFEESA	5.888			1.22 µg/L	99

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

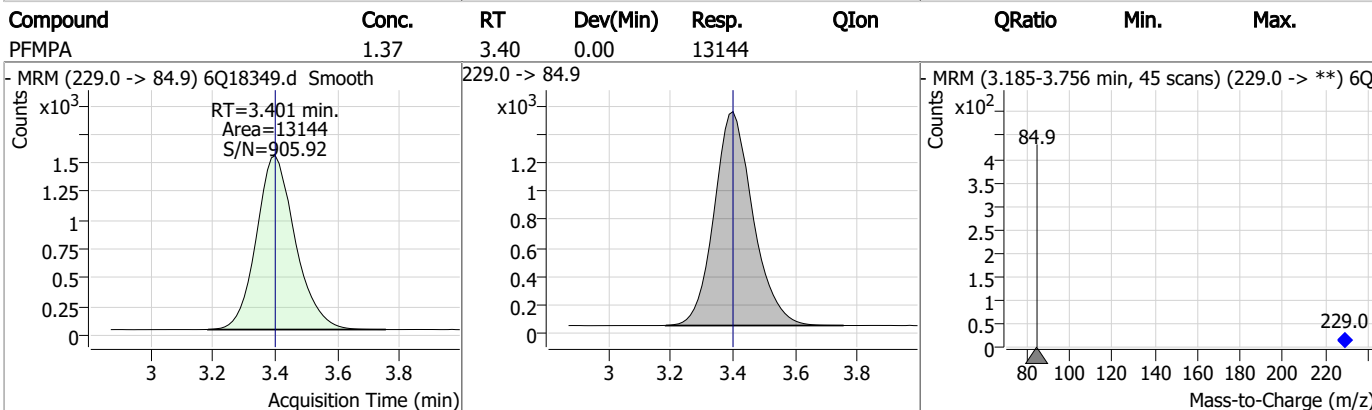
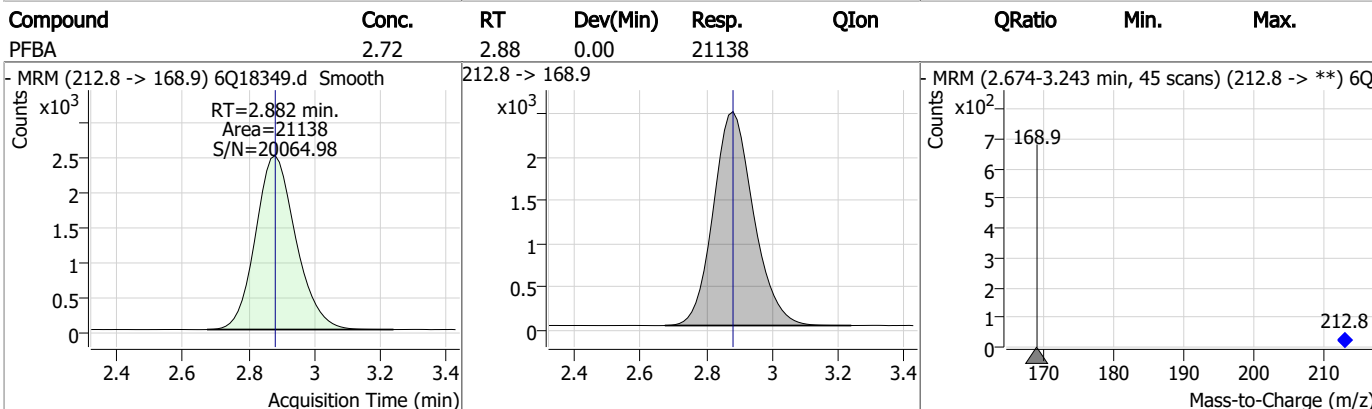
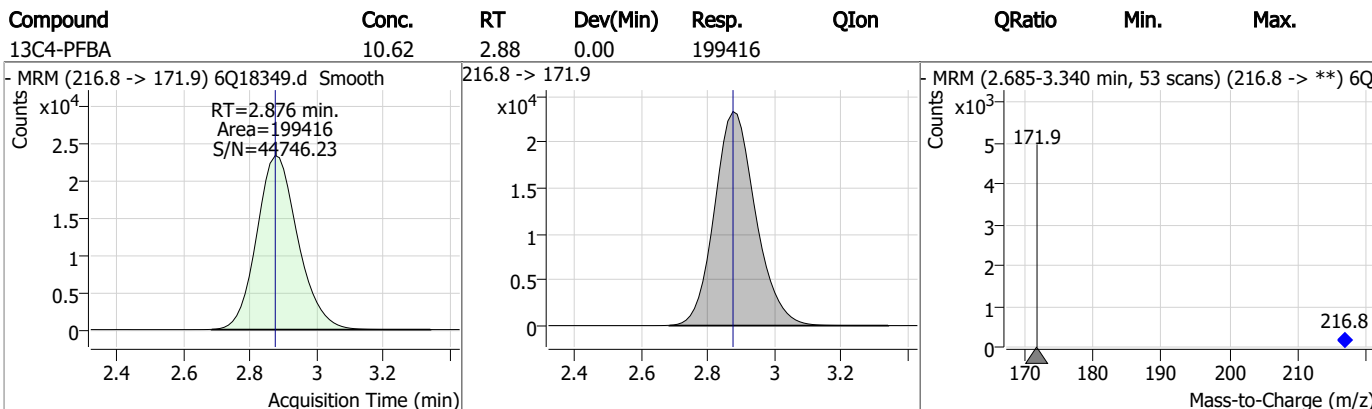
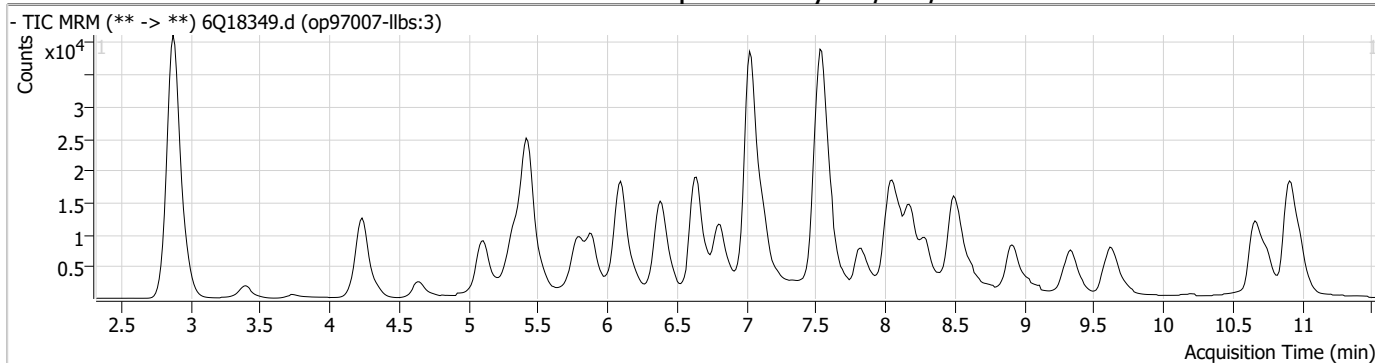
Perfluorinated Compounds by LC/MS/MS

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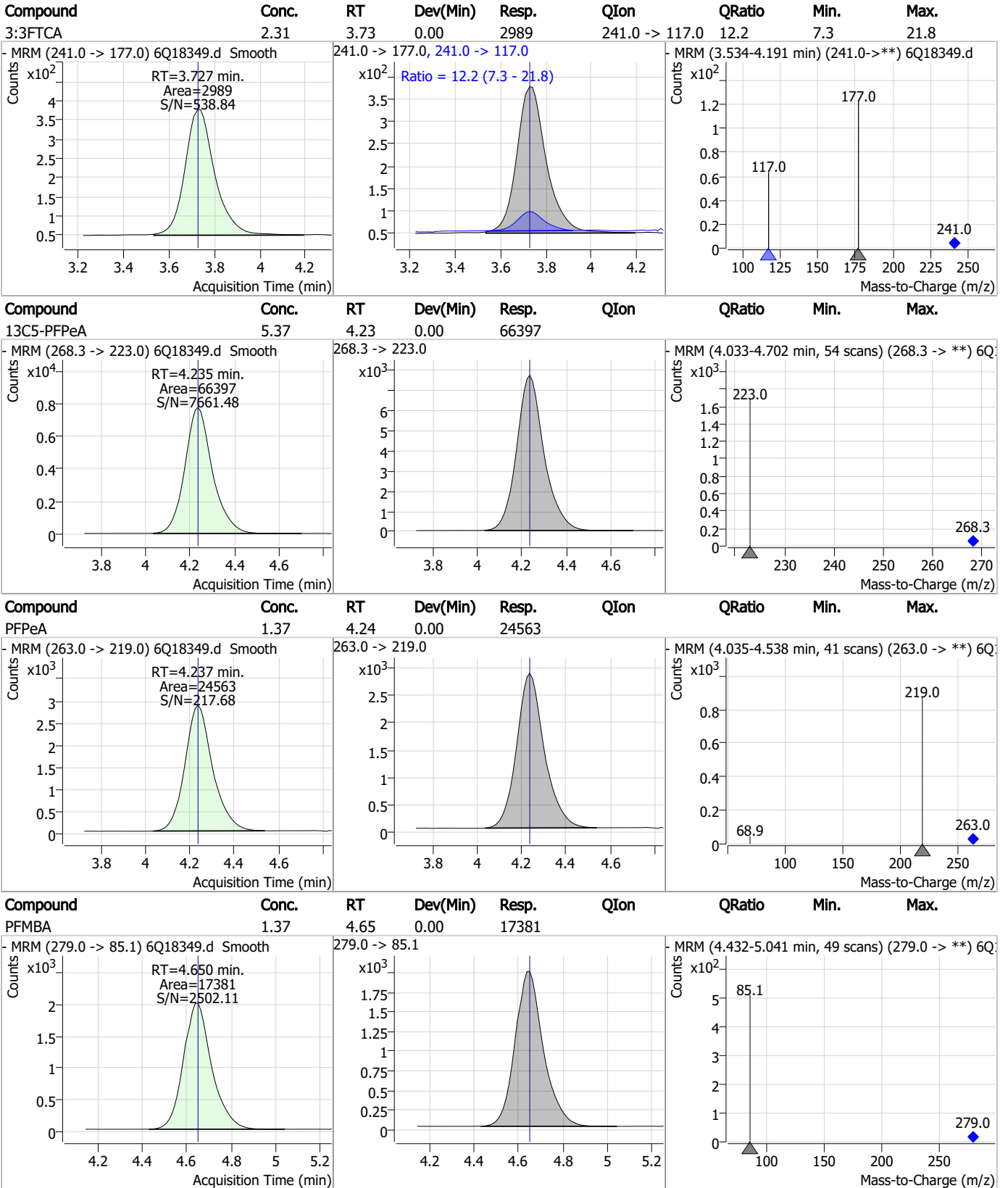
7.3.2

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Perfluorinated Compounds by LC/MS/MS



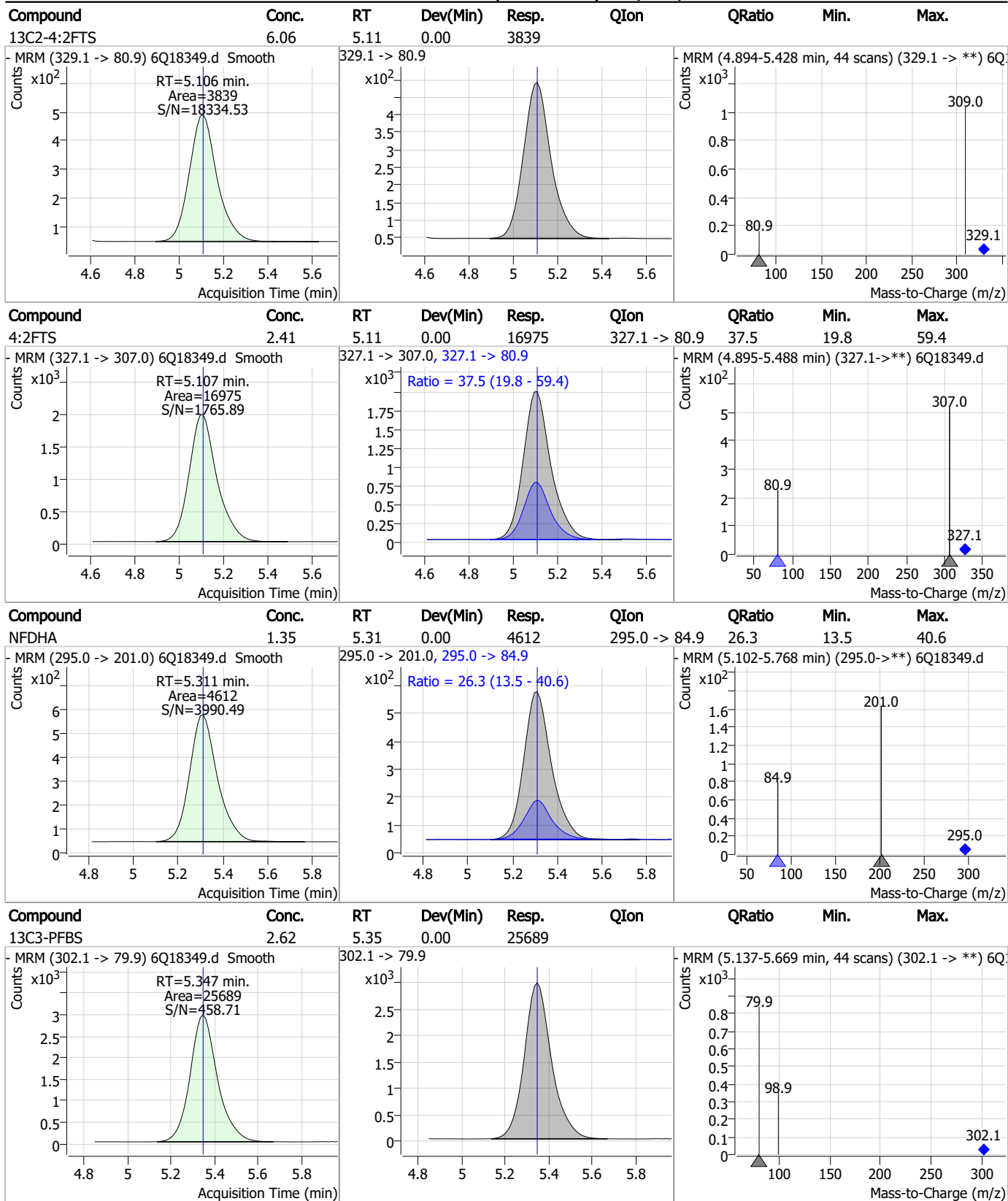
Perfluorinated Compounds by LC/MS/MS



7.3.2

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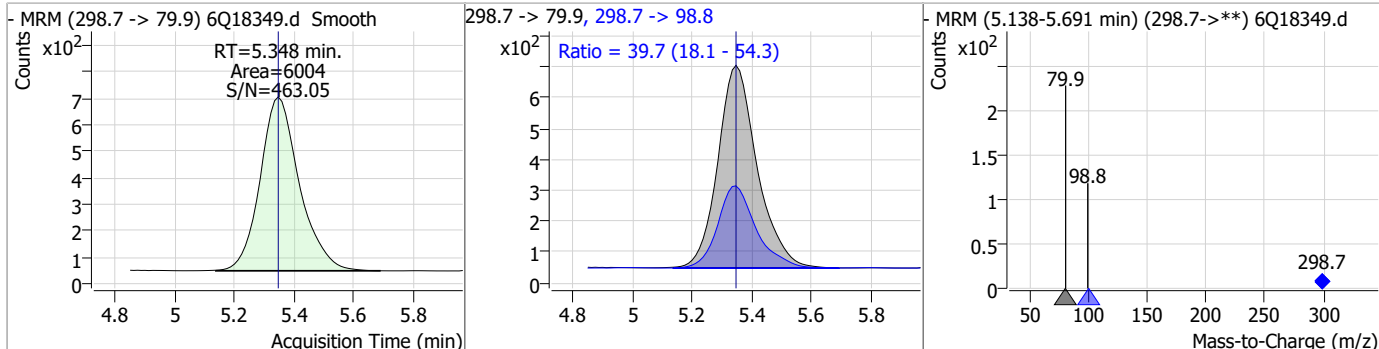
Perfluorinated Compounds by LC/MS/MS



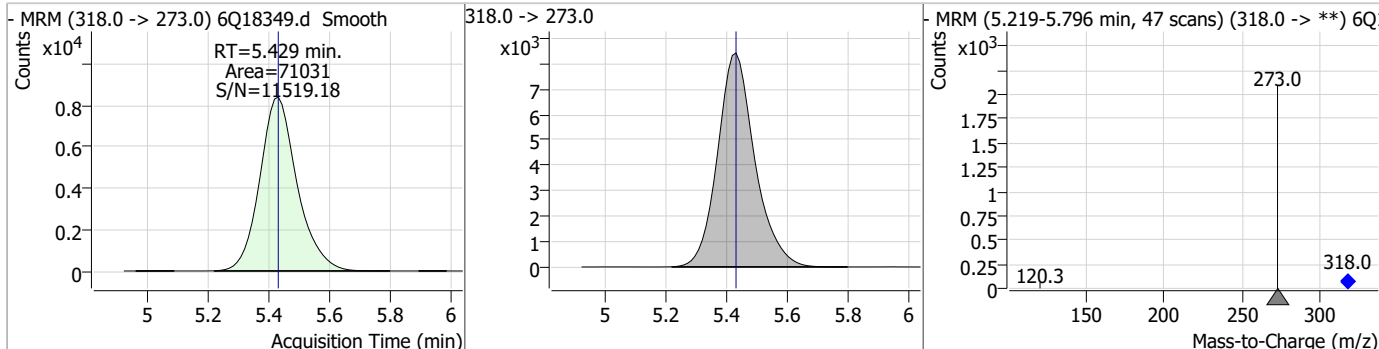
7.3.2
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Perfluorinated Compounds by LC/MS/MS

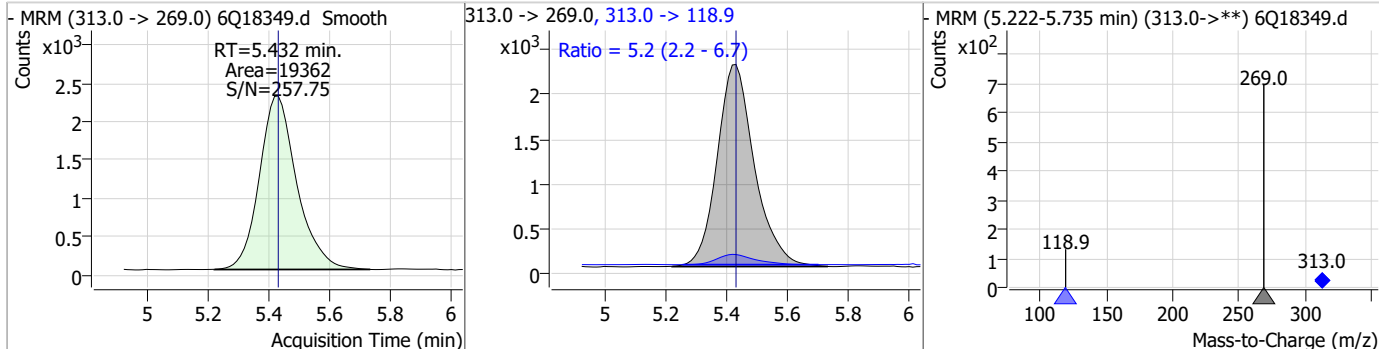
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.61	5.35	0.00	6004	298.7 -> 98.8	39.7	18.1	54.3



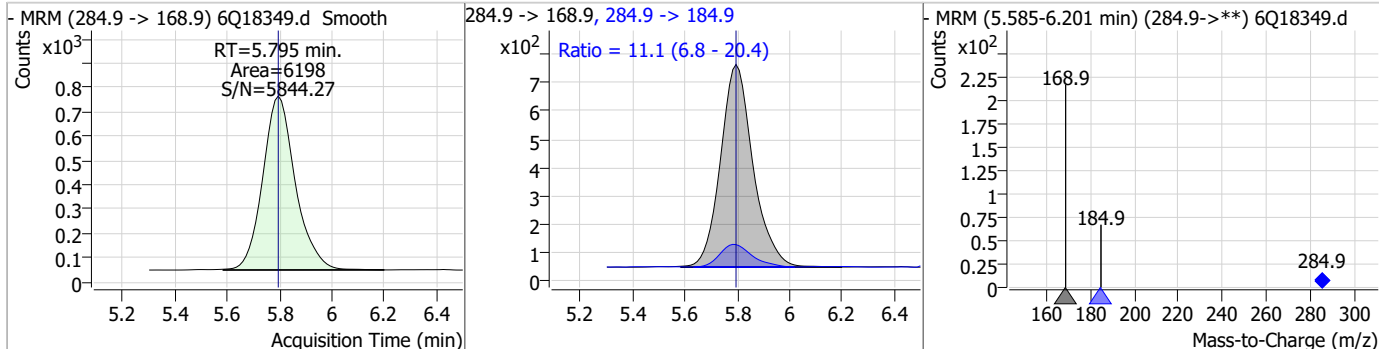
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.69	5.43	0.00	71031				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.70	5.43	0.00	19362	313.0 -> 118.9	5.2	2.2	6.7

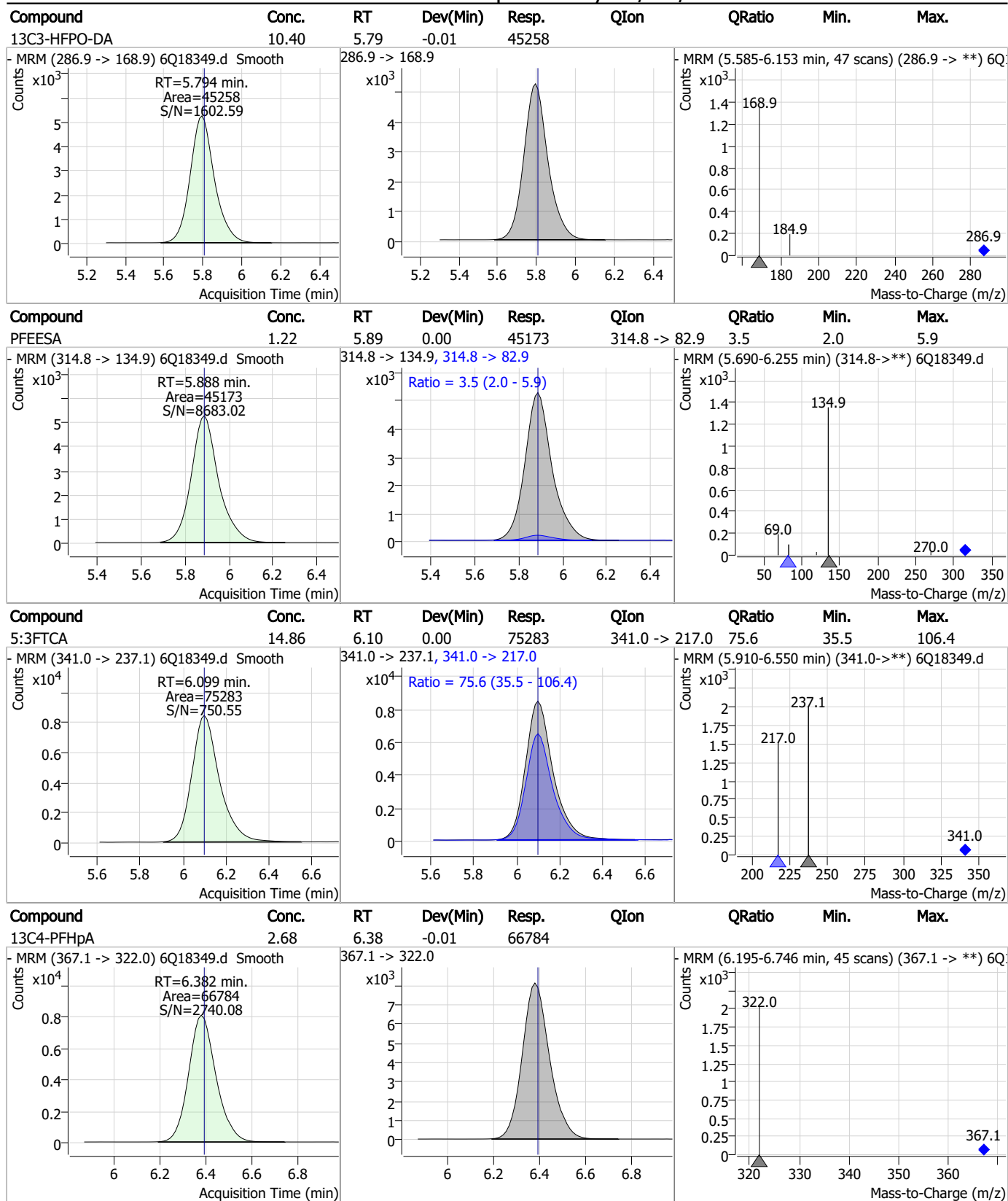


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.40	5.80	0.00	6198	284.9 -> 184.9	11.1	6.8	20.4



7.3.2
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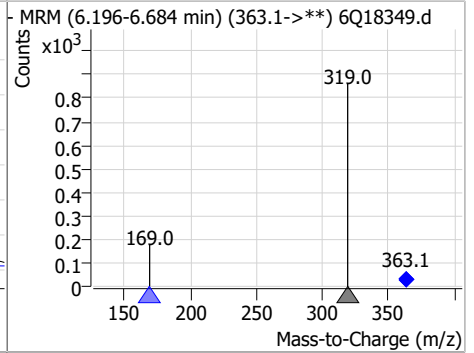
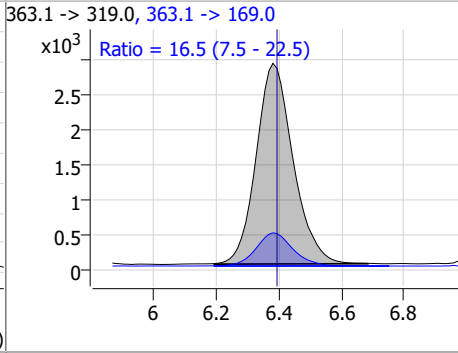
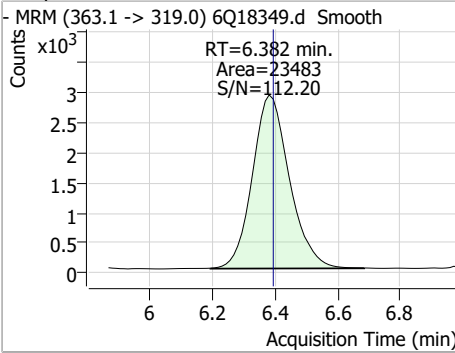
Perfluorinated Compounds by LC/MS/MS



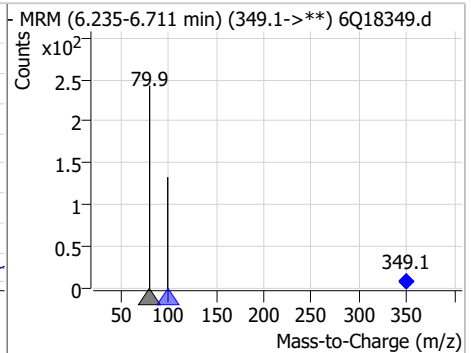
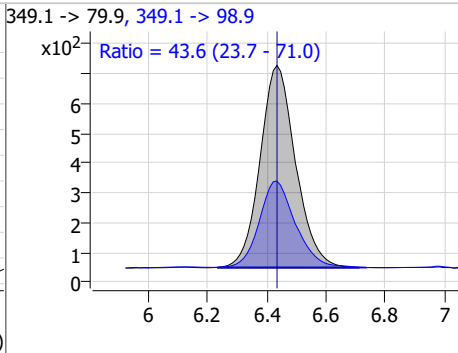
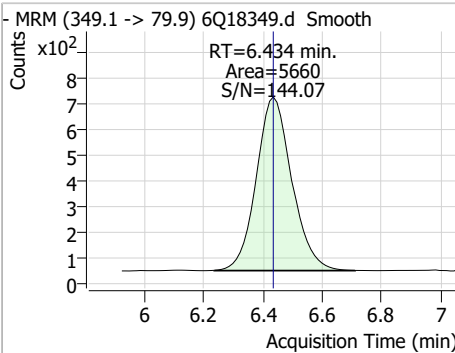
7.3.2
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Perfluorinated Compounds by LC/MS/MS

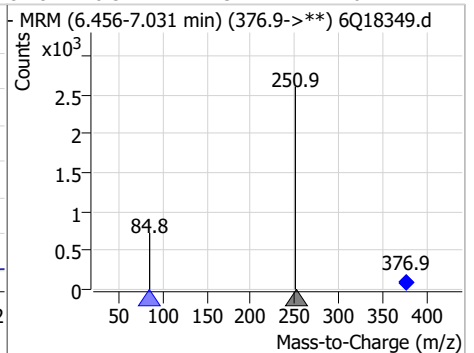
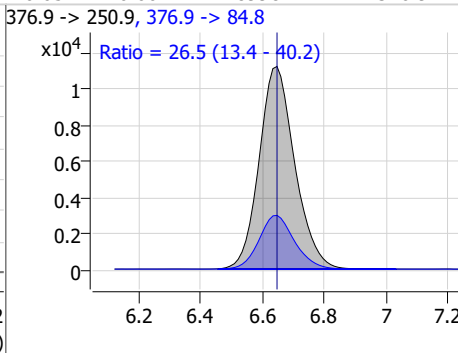
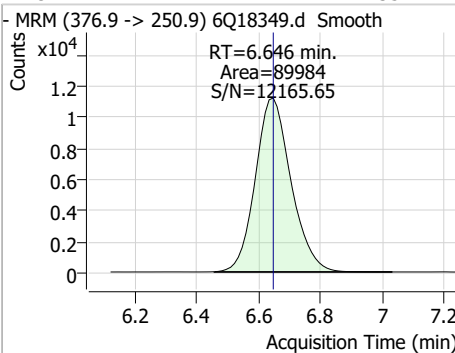
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.68	6.38	-0.01	23483	363.1 -> 169.0	16.5	7.5	22.5



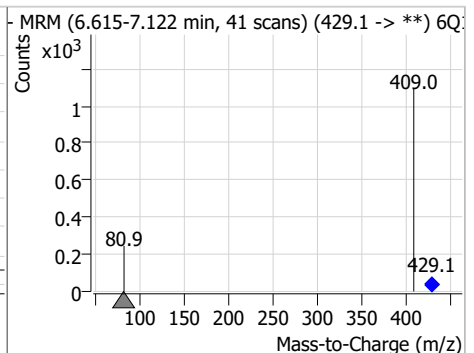
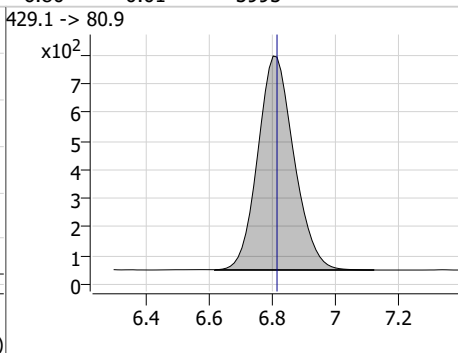
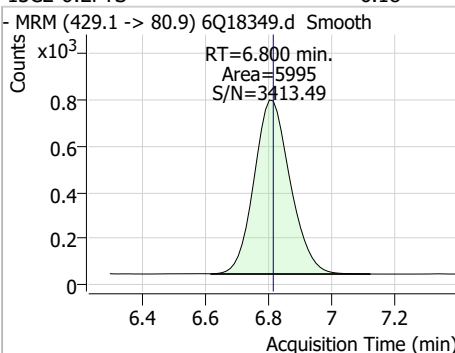
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.69	6.43	0.00	5660	349.1 -> 98.9	43.6	23.7	71.0



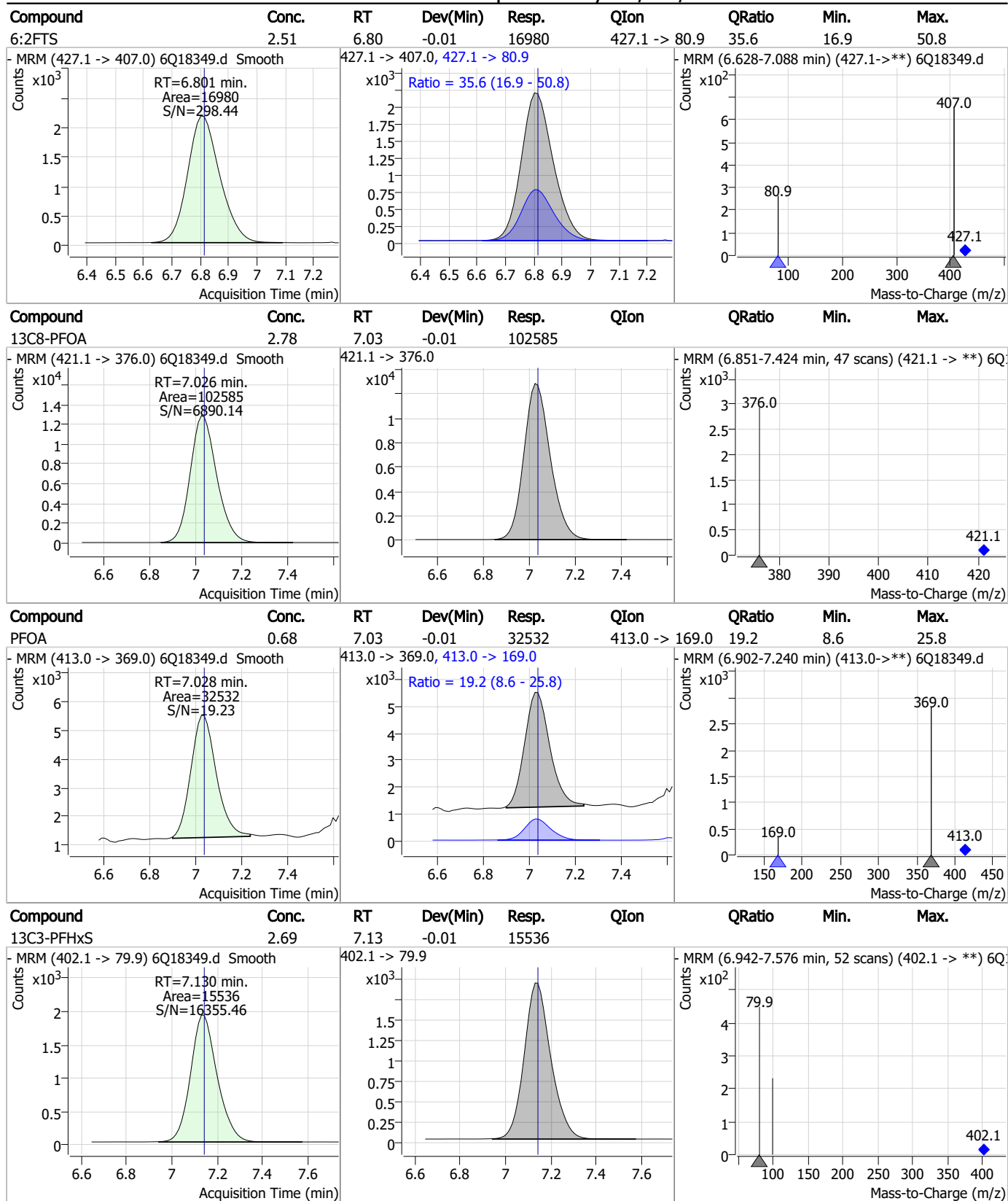
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	1.35	6.65	0.00	89984	376.9 -> 84.8	26.5	13.4	40.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.18	6.80	-0.01	5995	429.1 -> 80.9			

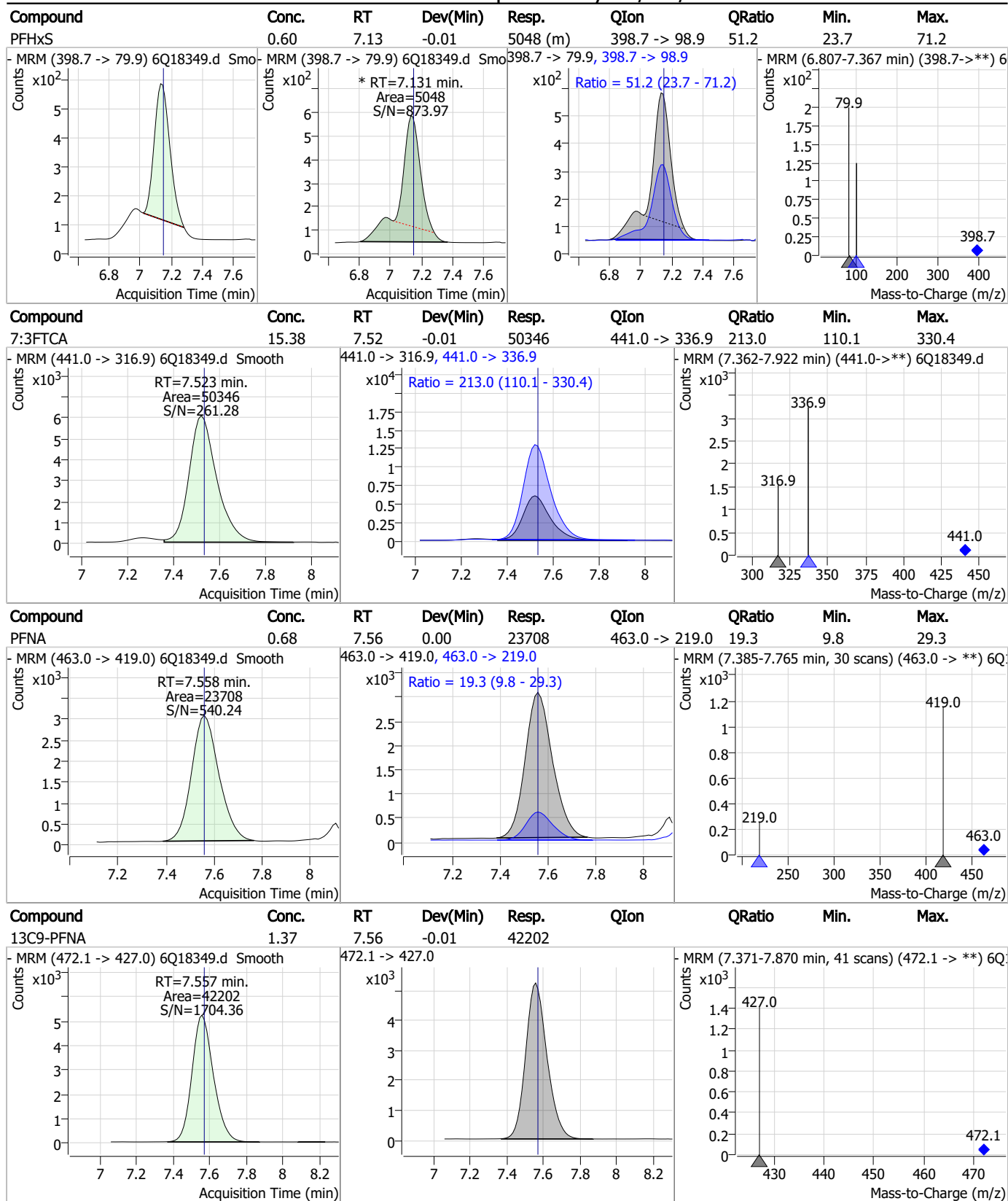


Perfluorinated Compounds by LC/MS/MS



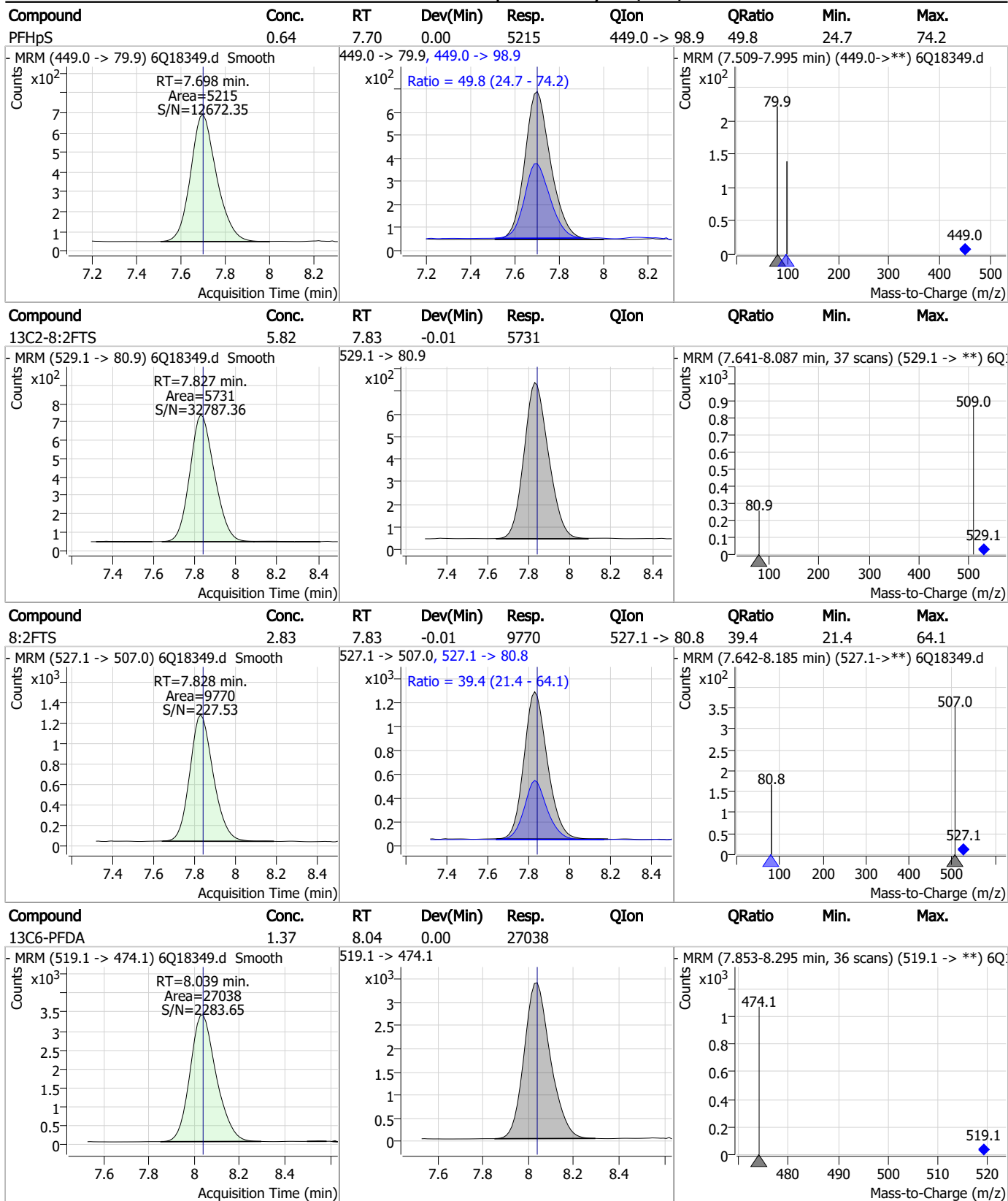
7.3.2
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Perfluorinated Compounds by LC/MS/MS



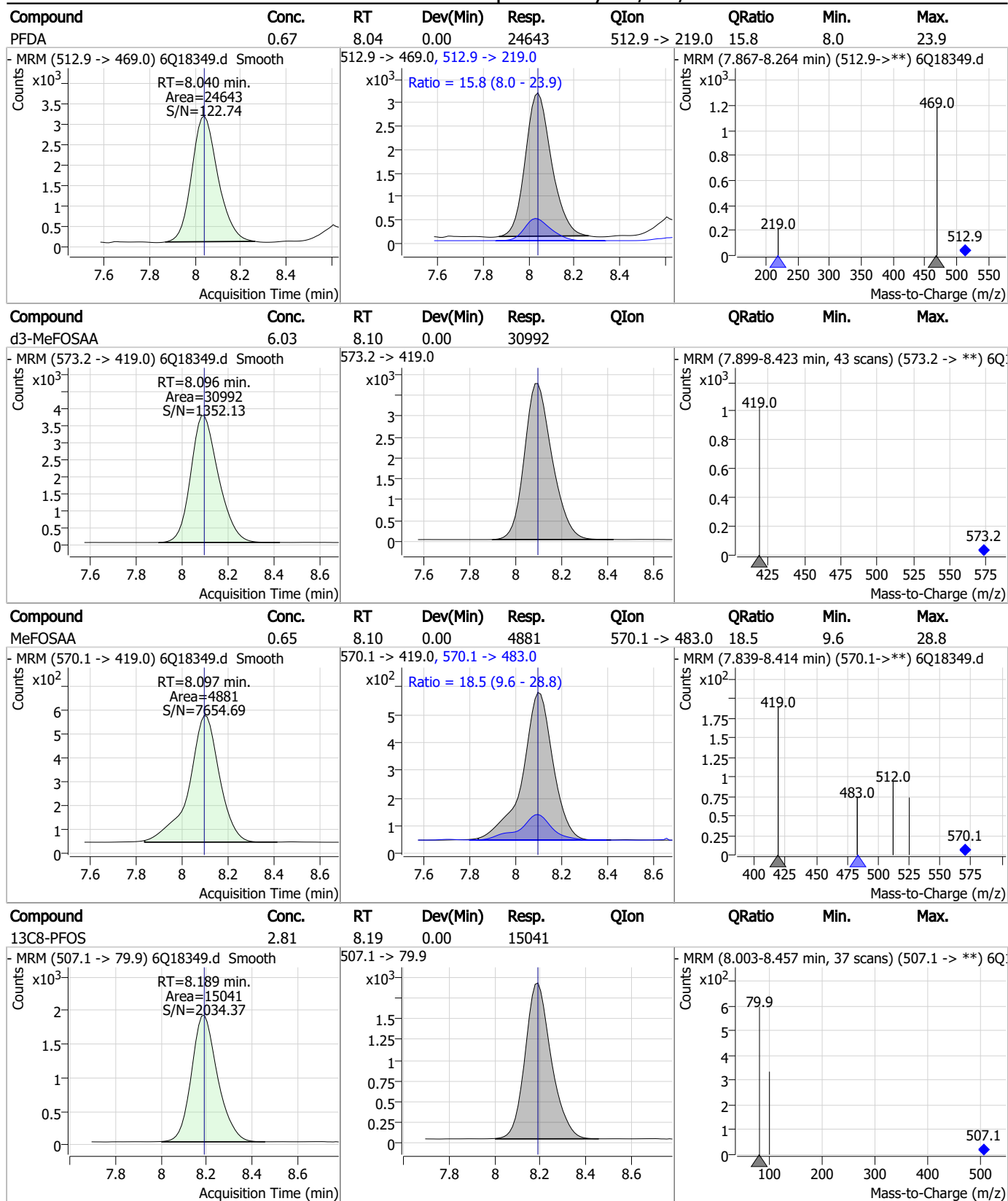
7.3.2
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Perfluorinated Compounds by LC/MS/MS



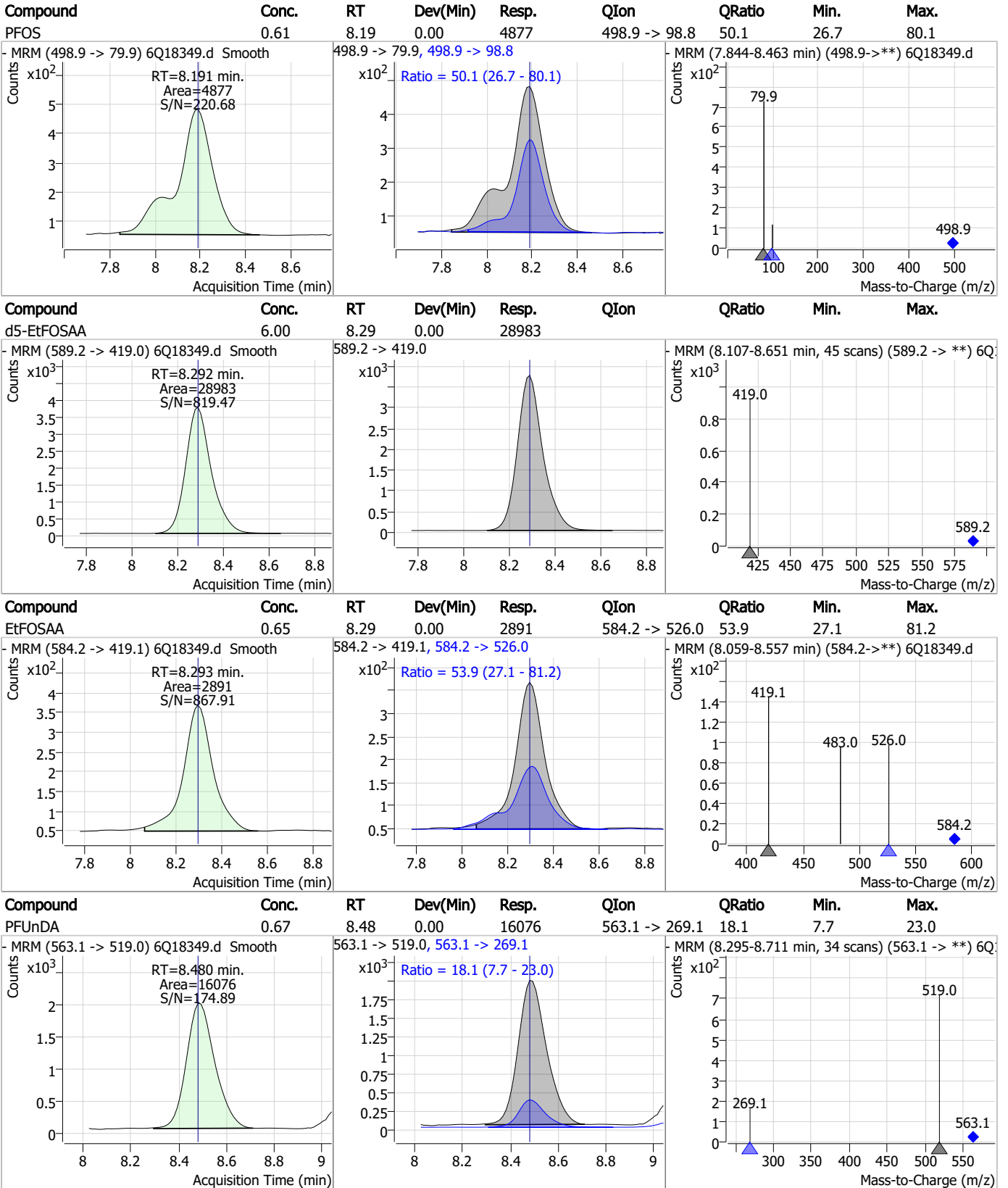
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
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Perfluorinated Compounds by LC/MS/MS

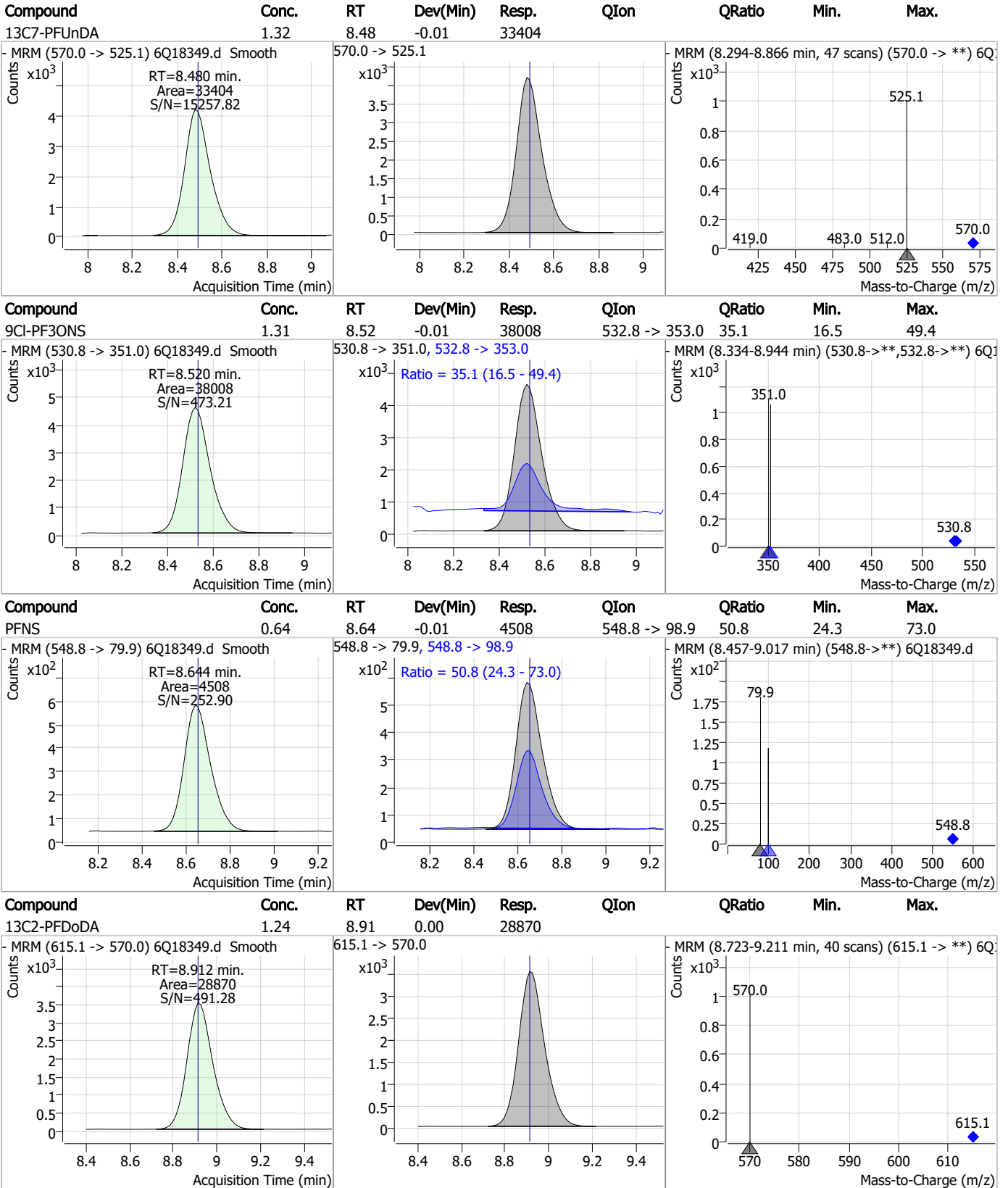


7.3.2

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Perfluorinated Compounds by LC/MS/MS

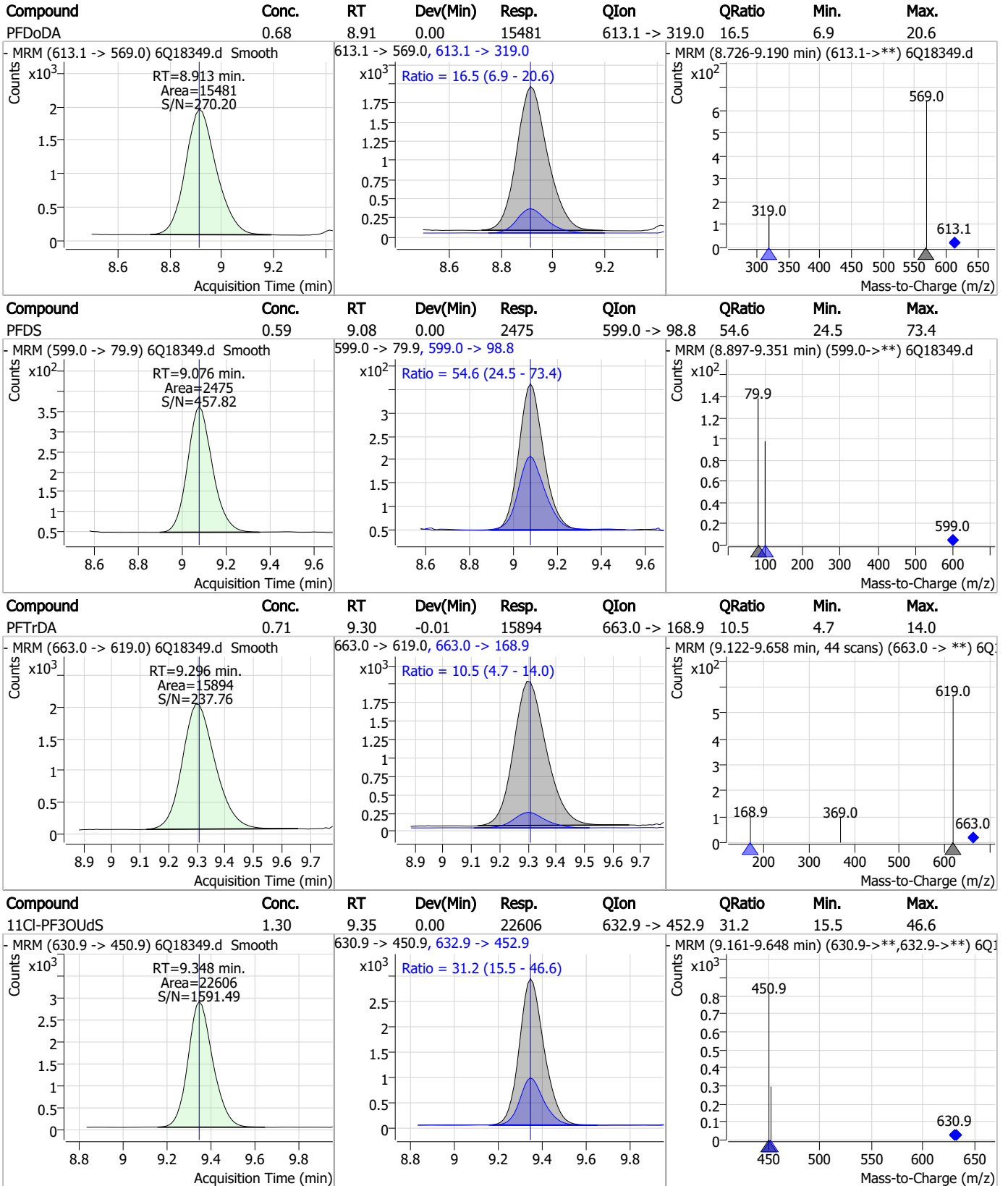


7.3.2

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Perfluorinated Compounds by LC/MS/MS

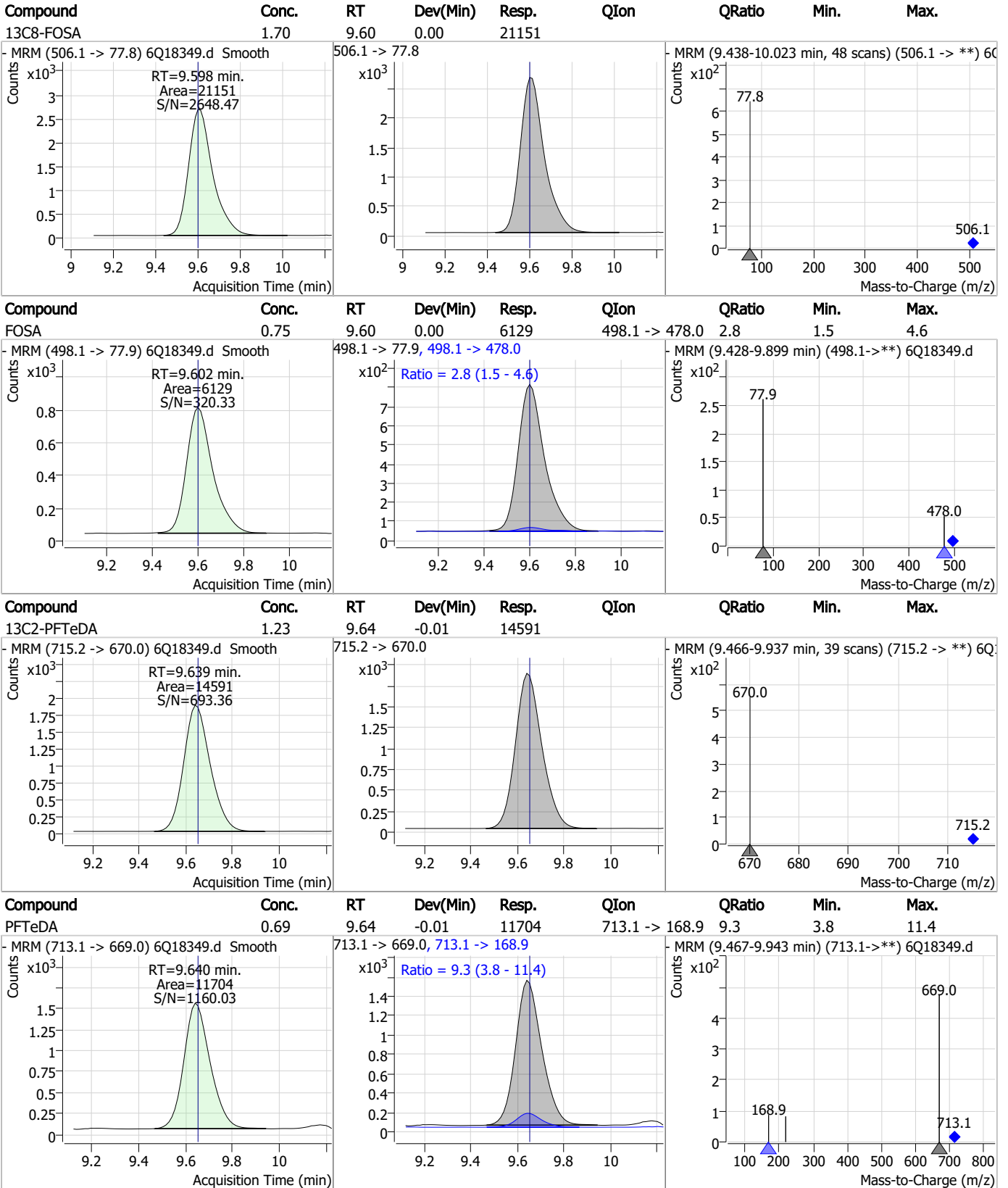


7.3.2

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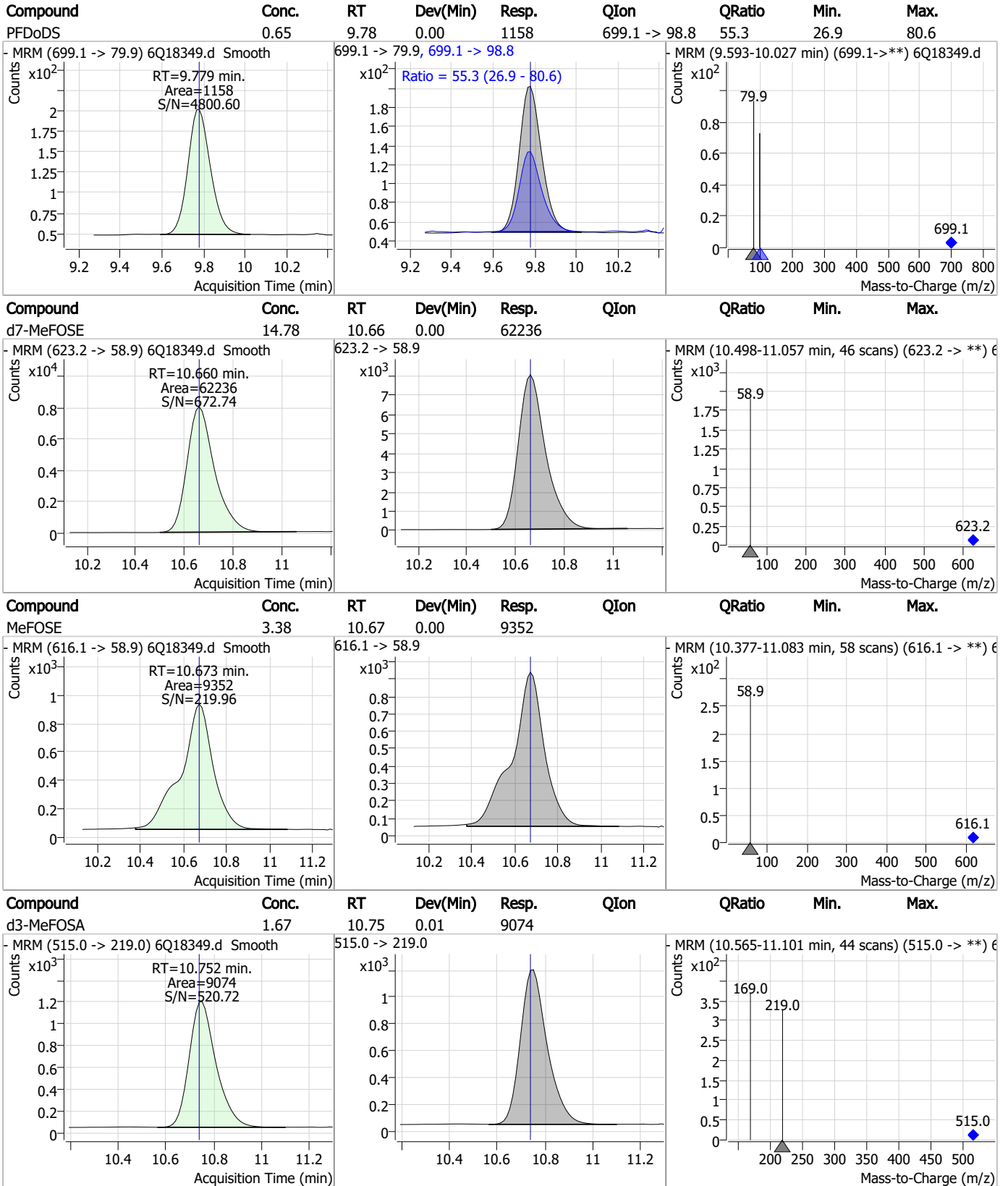
Perfluorinated Compounds by LC/MS/MS



7.3.2

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Perfluorinated Compounds by LC/MS/MS

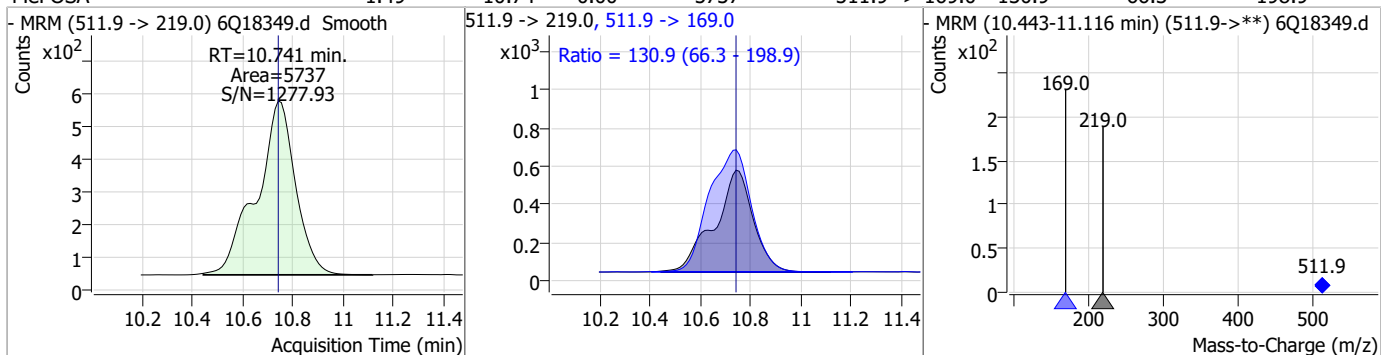


7.3.2

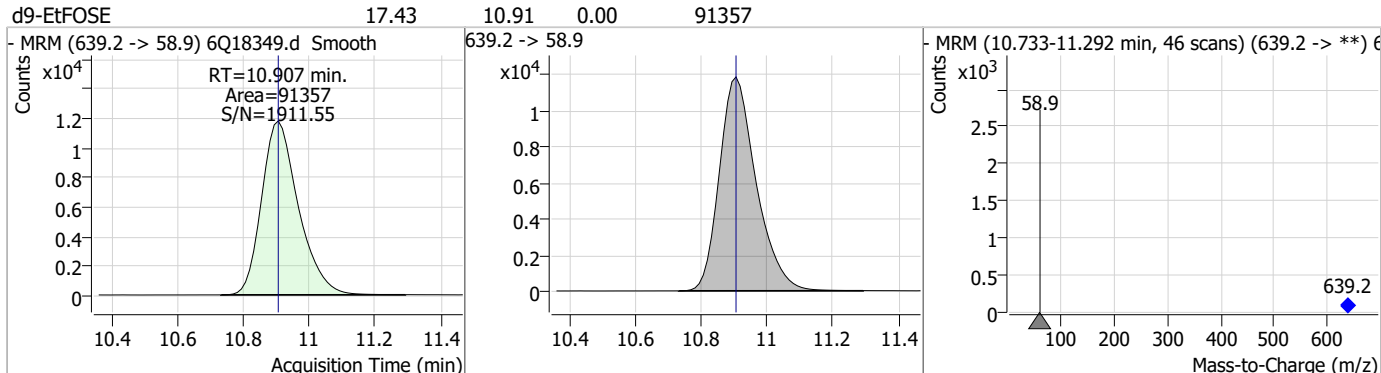
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Perfluorinated Compounds by LC/MS/MS

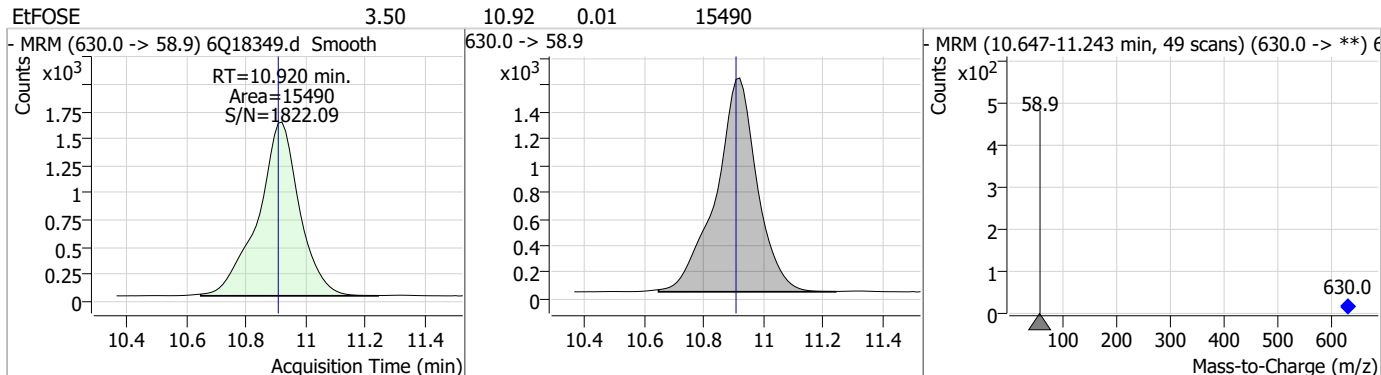
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	1.49	10.74	0.00	5737	511.9 -> 169.0	130.9	66.3	198.9



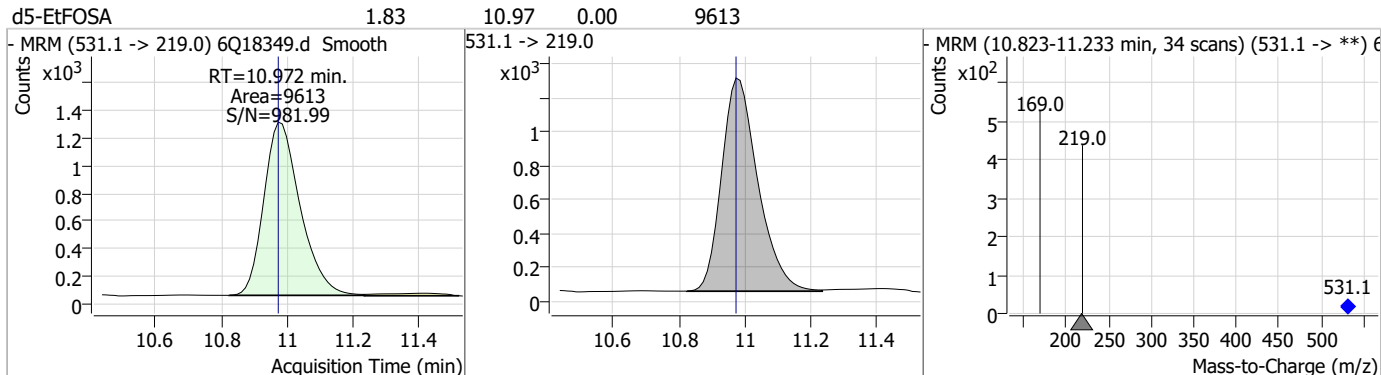
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	17.43	10.91	0.00	91357				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	3.50	10.92	0.01	15490				

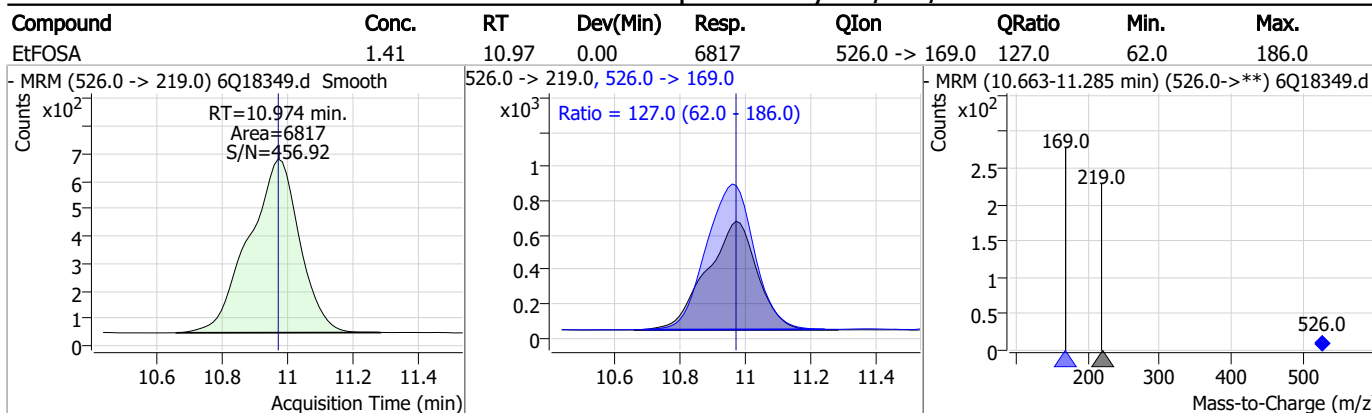


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.83	10.97	0.00	9613				



7.3.2
7

Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Manual Integration Approval Summary

Sample Number: OP97007-LLBS Method: EPA DRAFT 1633
Lab FileID: 6Q18349.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 21:28 Supervisor approved: 05/25/23 13:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.13	Split peak

7.3.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18415.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 5:53:50 PM
 Sample Name : op97007-ms
 Vial : P4-F7
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,500,,,5.0,2,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	3096	5.00 µg/L	0.000
M5-PFPeA	4.222	268.3 -> 223.0	6146	2.50 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	27304	1.25 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	31130	1.25 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	46873	1.25 µg/L	-0.012
M9-PFNA	7.545	472.1 -> 427.0	19578	0.63 µg/L	-0.025
M6-PFDA	8.027	519.1 -> 474.1	12153	0.63 µg/L	-0.012
M7-PFUnDA	8.480	570.0 -> 525.1	15077	0.63 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	12222	0.63 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	5330	0.63 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	13027	1.25 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	10433	1.25 µg/L	0.000
M3-PFHxS	7.130	402.1 -> 79.9	6966	1.25 µg/L	-0.012
M8-PFOS	8.177	507.1 -> 79.9	5829	1.25 µg/L	m -0.012
M2-4:2FTS	5.093	329.1 -> 80.9	1418	2.50 µg/L	-0.013
M2-6:2FTS	6.801	429.1 -> 80.9	2603	2.50 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	2751	2.50 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	19844	2.50 µg/L	-0.012
M3-HFPO-DA	5.782	286.9 -> 168.9	16406	5.00 µg/L	-0.025
M5-EtFOSAA	8.279	589.2 -> 419.0	19457	2.50 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	34183	12.50 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	47921	12.50 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	5907	1.25 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	5626	1.25 µg/L	0.000
13C4-PFOS	8.178	502.8 -> 79.9	7870	1.25 µg/L	-0.012
13C3-PFBA	2.879	216.0 -> 172.0	38670	2.50 µg/L	0.000
18O2-PFHxS	7.129	403.0 -> 83.9	5269	1.25 µg/L	-0.012
13C4-PFOA	7.027	417.1 -> 372.0	48638	1.25 µg/L	-0.012
13C2-PFDA	8.027	515.1 -> 470.1	15677	0.63 µg/L	-0.012
13C5-PFNA	7.557	468.0 -> 423.0	23580	0.63 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	30464	1.25 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	1418	2.24 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 44.8%		
13C2-6:2FTS	6.801	429.1 -> 80.9	2603	2.69 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 53.8%		
13C2-8:2FTS	7.827	529.1 -> 80.9	2751	2.80 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 56.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	12222	0.55 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 43.9%		
13C2-PFTeDA	9.639	715.2 -> 670.0	5330	0.47 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 37.4%		
13C3-PFBS	5.347	302.1 -> 79.9	10433	1.06 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 42.6%		
13C3-PFHxS	7.130	402.1 -> 79.9	6966	1.21 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 = 48.3%	
13C4-PFBA	2.876	216.8 -> 171.9	3096	0.17 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 1.7%	
13C4-PFHpA	6.382	367.1 -> 322.0	31130	1.33 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 53.3%	
13C5-PFHxA	5.417	318.0 -> 273.0	27304	1.10 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 44.1%	
13C5-PFPeA	4.222	268.3 -> 223.0	6146	0.53 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 10.6%	
13C6-PFDA	8.027	519.1 -> 474.1	12153	0.64 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 51.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	15077	0.62 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 49.8%	
13C8-FOSA	9.598	506.1 -> 77.8	13027	1.15 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 46.0%	
13C8-PFOA	7.026	421.1 -> 376.0	46873	1.24 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 49.7%	
13C8-PFOS	8.177	507.1 -> 79.9	5171	1.06 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 42.5%	
13C9-PFNA	7.545	472.1 -> 427.0	19578	0.63 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 50.3%	
d3-MeFOSAA	8.084	573.2 -> 419.0	19844	4.24 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 84.8%	
13C3-HFPO-DA	5.782	286.9 -> 168.9	16406	4.02 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 40.2%	
d3-MeFOSA	10.739	515.0 -> 219.0	5626	1.14 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 45.6%	
d5-EtFOSAA	8.279	589.2 -> 419.0	19457	4.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	34183	8.91 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 35.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	47921	10.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 40.2%	
d5-EtFOSA	10.972	531.1 -> 219.0	5907	1.23 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 49.3%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	20612	3.97 µg/L	96
		327.1 -> 80.9	7709		
6:2FTS	6.801	427.1 -> 407.0	26777	4.55 µg/L	100
		427.1 -> 80.9	9059		
8:2FTS	7.828	527.1 -> 507.0	13812	4.17 µg/L	98
		527.1 -> 80.8	6072		
EtFOSAA	8.293	584.2 -> 419.1	6481	1.09 µg/L	98
		584.2 -> 526.0	3610		
FOSA	9.602	498.1 -> 77.9	11491	1.13 µg/L	100
		498.1 -> 478.0	362		
MeFOSAA	8.085	570.1 -> 419.0	10495	1.09 µg/L	94
		570.1 -> 483.0	1730		
PFBA	2.868	212.8 -> 168.9	1070	4.43 µg/L	100
PFBS	5.335	298.7 -> 79.9	7524	0.94 µg/L	91
		298.7 -> 98.8	3130		
PFDA	8.027	512.9 -> 469.0	36018	1.09 µg/L	100
		512.9 -> 219.0	5721		
PFDODA	8.913	613.1 -> 569.0	21958	1.13 µg/L	97
		613.1 -> 319.0	3286		
PFDS	9.064	599.0 -> 79.9	4087	1.25 µg/L	90

7.4.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	1733		
PFHpA	6.382	363.1 -> 319.0	34401	1.07 µg/L	95
		363.1 -> 169.0	5877		
PFHpS	7.685	449.0 -> 79.9	5725	0.90 µg/L	71
		449.0 -> 98.9	3950		
PFHxA	5.420	313.0 -> 269.0	23486	1.11 µg/L	99
		313.0 -> 118.9	1170		
PFHxS	7.131	398.7 -> 79.9	8093	1.07 µg/L	97
		398.7 -> 98.9	3694		
PFNA	7.558	463.0 -> 419.0	36638	1.13 µg/L	99
		463.0 -> 219.0	7056		
PFNS	8.644	548.8 -> 79.9	7889	1.44 µg/L	96
		548.8 -> 98.9	3651		
PFOA	7.028	413.0 -> 369.0	54733	1.25 µg/L	99
		413.0 -> 169.0	9766		
PFOS	8.178	498.9 -> 79.9	8652	1.40 µg/L	85
		498.9 -> 98.8	3698		
PFPeA	4.224	263.0 -> 219.0	8030	2.42 µg/L	100
PFPeS	6.422	349.1 -> 79.9	8361	1.13 µg/L	97
		349.1 -> 98.9	3803		
PFTeDA	9.640	713.1 -> 669.0	13973	1.12 µg/L	95
		713.1 -> 168.9	1285		
PFTrDA	9.296	663.0 -> 619.0	21427	1.13 µg/L	97
		663.0 -> 168.9	2265		
PFUnDA	8.480	563.1 -> 519.0	22577	1.05 µg/L	89
		563.1 -> 269.1	4457		
11CI-PF3OUdS	9.348	630.9 -> 450.9	31019	2.46 µg/L	95
		632.9 -> 452.9	10476		
9CI-PF3ONS	8.508	530.8 -> 351.0	55995	2.66 µg/L	77
		532.8 -> 353.0	25601		
ADONA	6.632	376.9 -> 250.9	140756	2.91 µg/L	97
		376.9 -> 84.8	35209		
HFPO-DA	5.783	284.9 -> 168.9	7882	2.45 µg/L	99
		284.9 -> 184.9	1027		
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	6.099	341.0 -> 237.1	115091	29.56 µg/L	98
		341.0 -> 217.0	83891		
7:3FTCA	7.523	441.0 -> 316.9	82099	32.62 µg/L	99
		441.0 -> 336.9	178967		
EtFOSA	10.974	526.0 -> 219.0	12864	2.17 µg/L	94
		526.0 -> 169.0	16880		
EtFOSE	10.907	630.0 -> 58.9	28598	6.15 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	11031	2.31 µg/L	96
		511.9 -> 169.0	15211		
MeFOSE	10.673	616.1 -> 58.9	17711	5.83 µg/L	100
PFDoDS	9.767	699.1 -> 79.9	1241	0.90 µg/L	98
		699.1 -> 98.8	686		
NFDHA	5.299	295.0 -> 201.0	5188	1.98 µg/L	95
		295.0 -> 84.9	1270		
PFMBA	4.638	279.0 -> 85.1	8890	3.79 µg/L	100
PFMPA	-	229.0 -> 84.9	-	N.D.	
PFEESA	5.875	314.8 -> 134.9	62278	2.19 µg/L	99
		314.8 -> 82.9	2203		

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

7.4.1
7

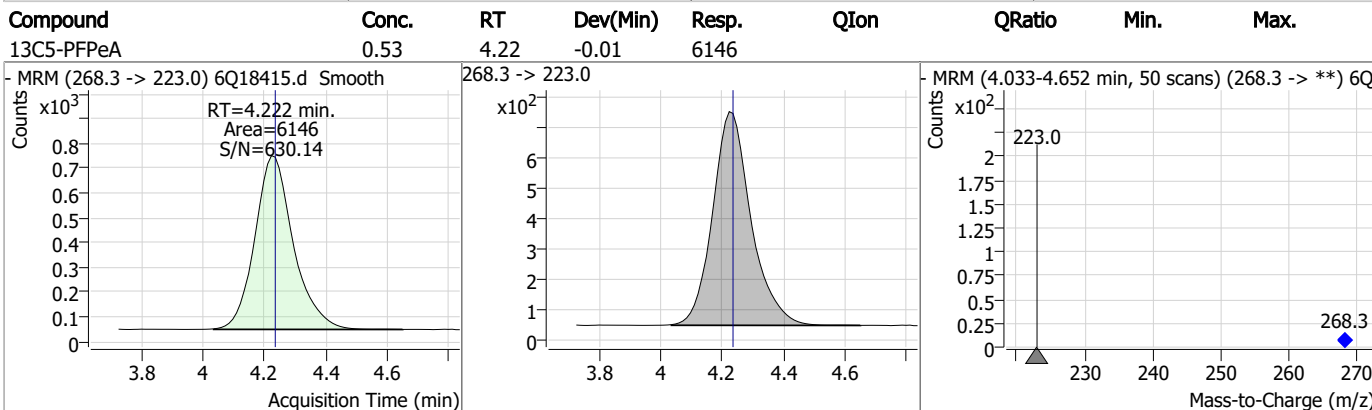
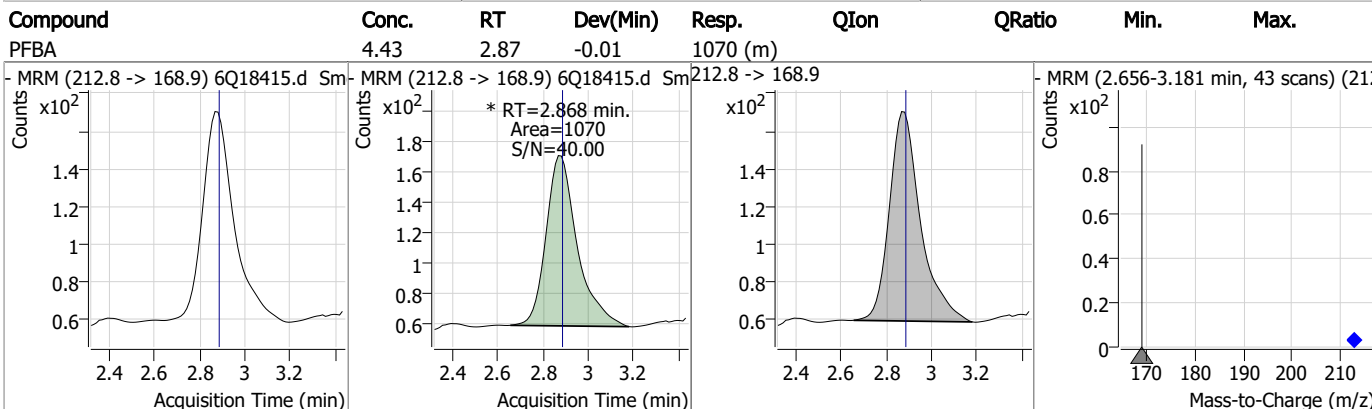
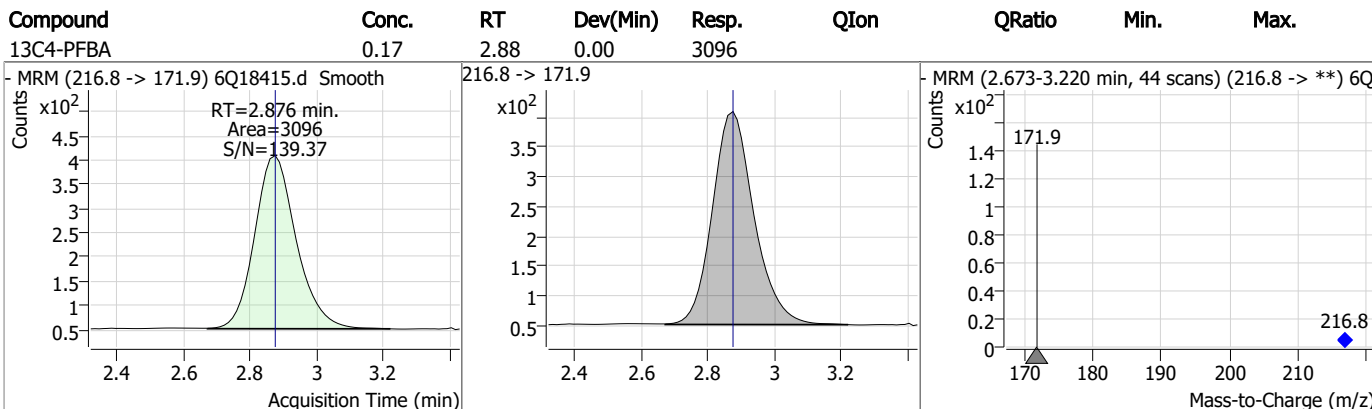
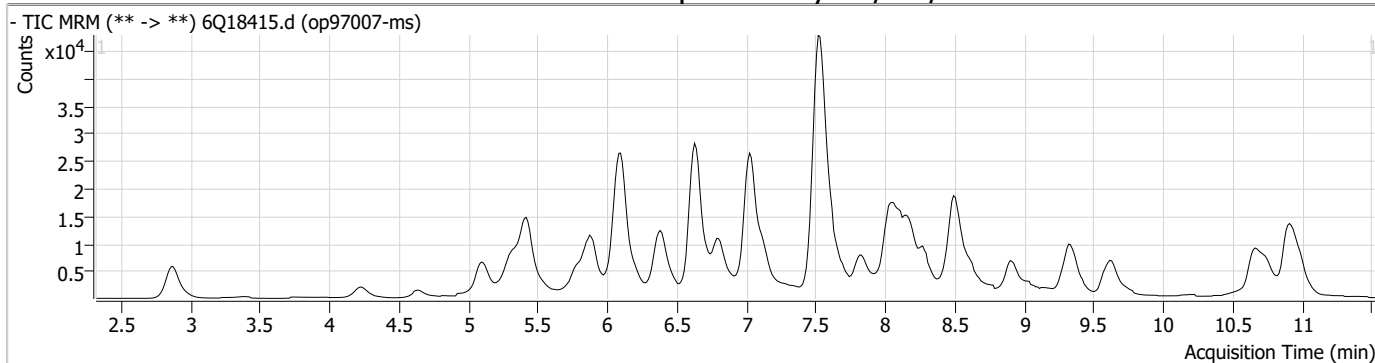
Perfluorinated Compounds by LC/MS/MS

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

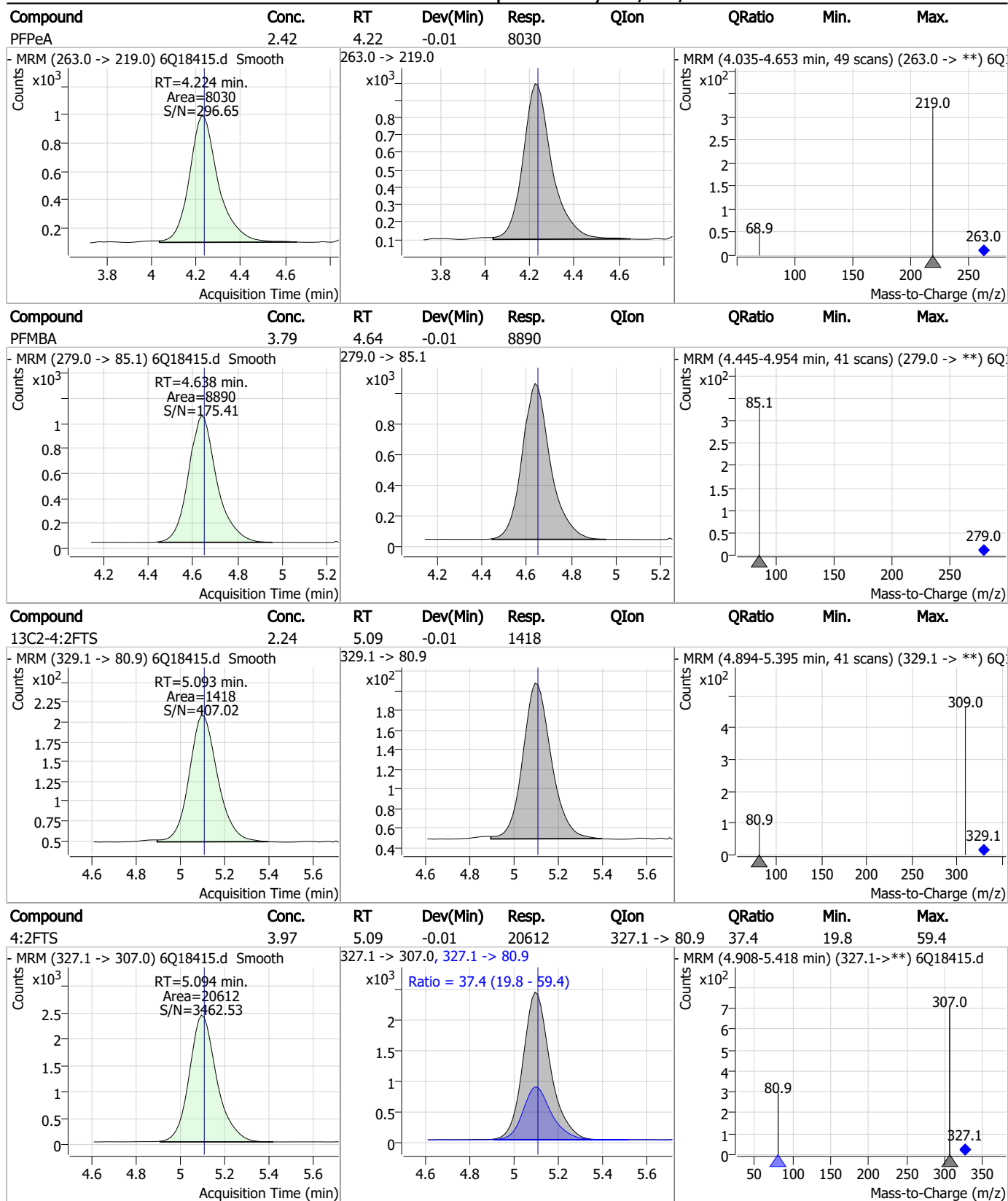
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Perfluorinated Compounds by LC/MS/MS



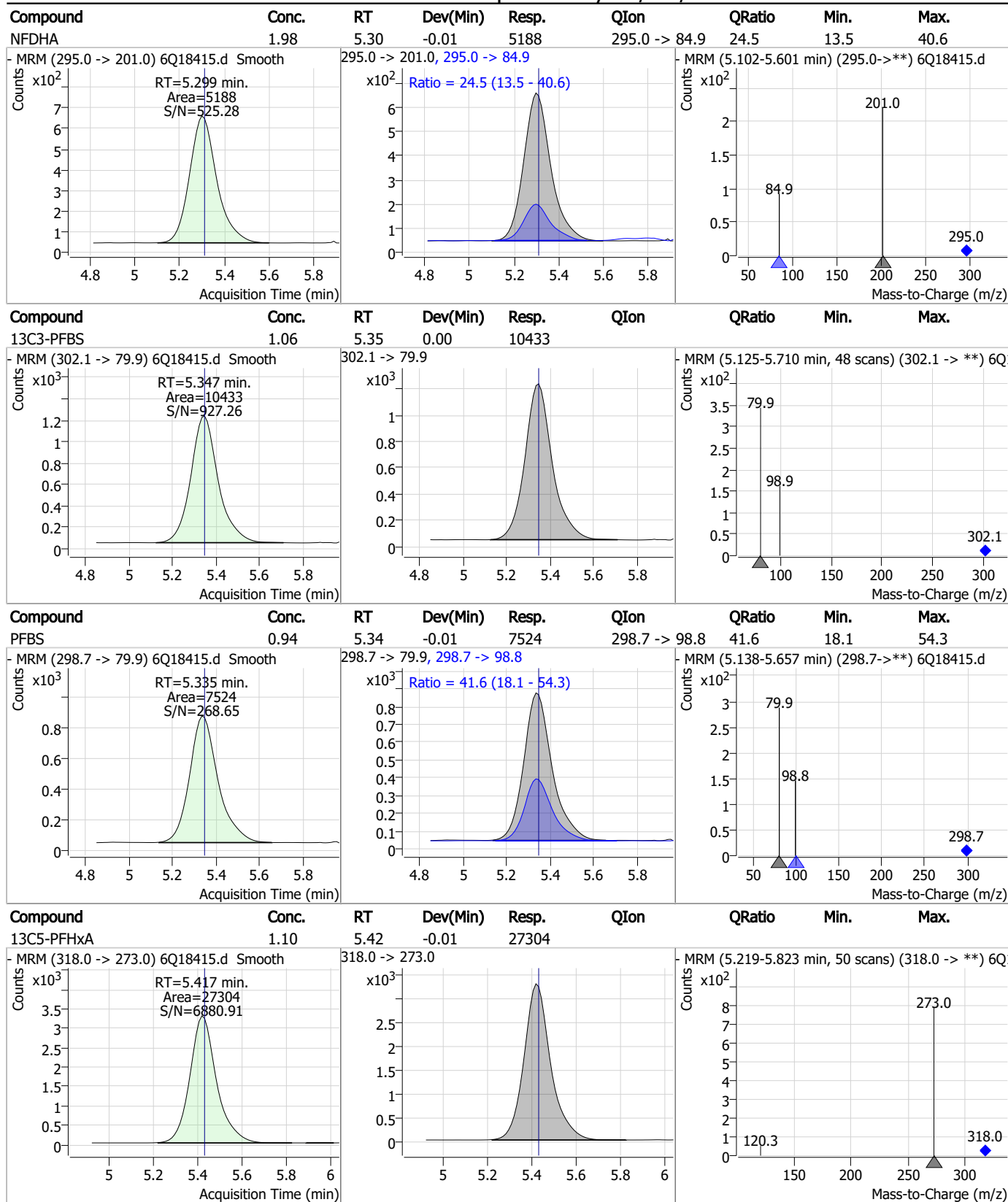
7.4.1
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Perfluorinated Compounds by LC/MS/MS



7.4.1
7

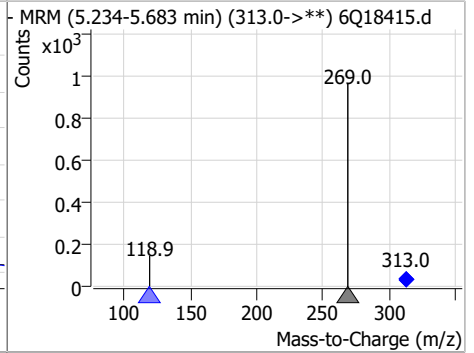
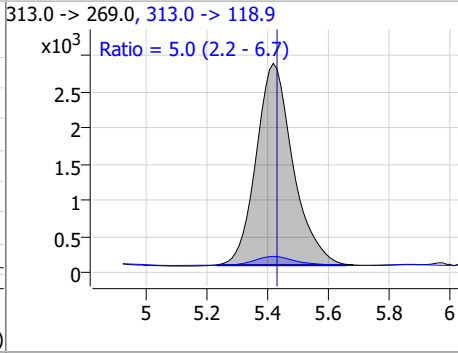
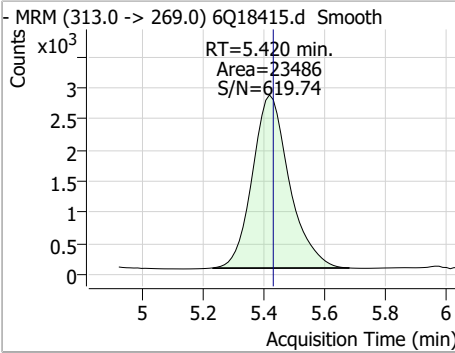
Perfluorinated Compounds by LC/MS/MS



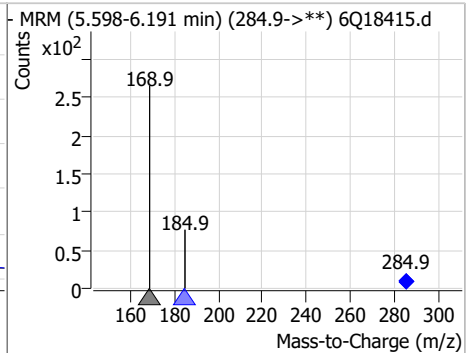
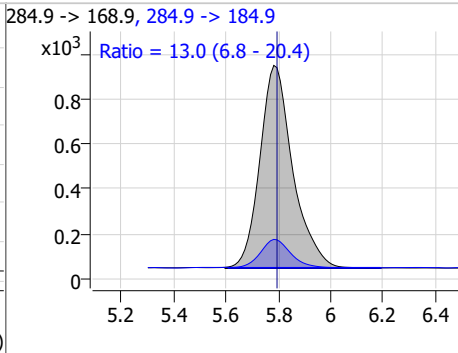
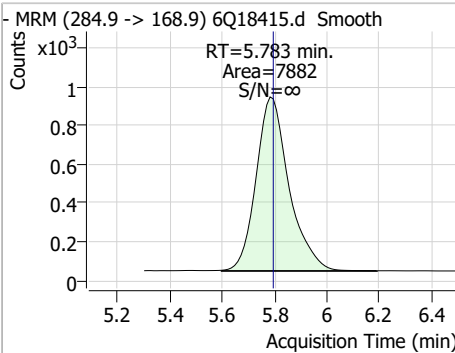
7.4.1
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Perfluorinated Compounds by LC/MS/MS

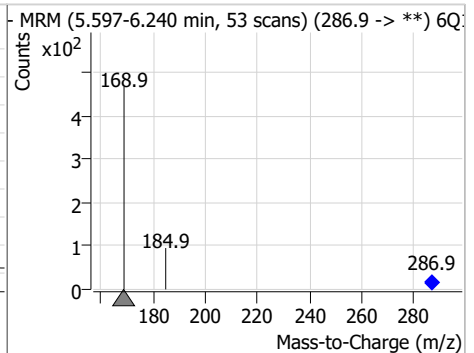
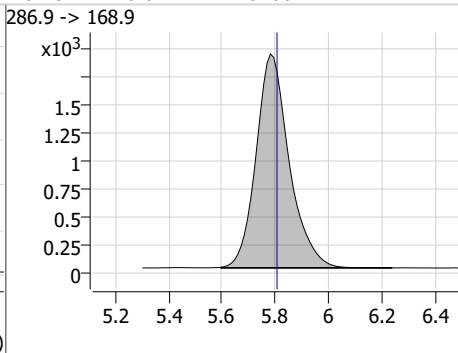
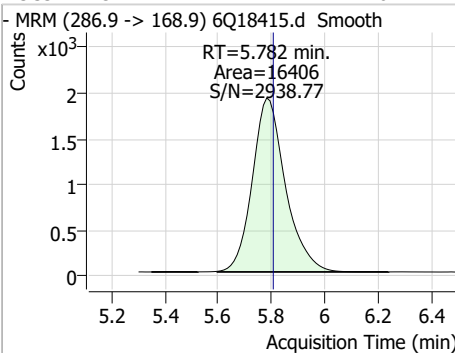
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.11	5.42	-0.01	23486	313.0 ->	118.9 5.0	2.2	6.7



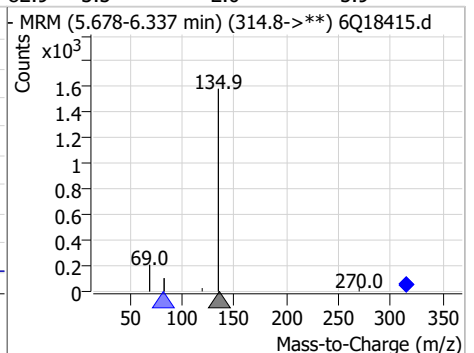
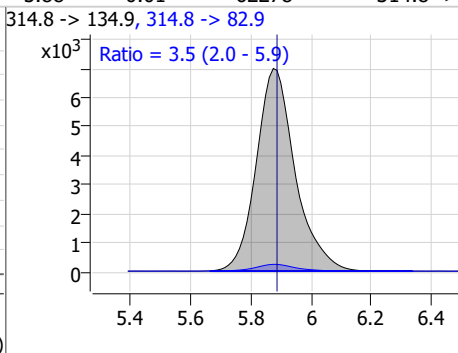
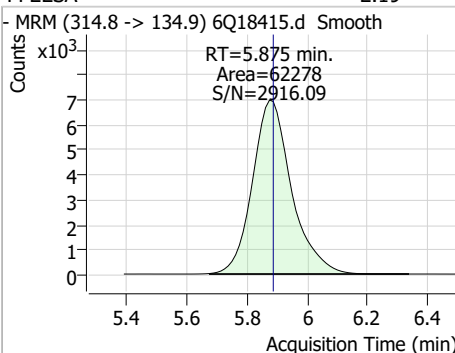
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.45	5.78	-0.01	7882	284.9 ->	184.9 13.0	6.8	20.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	4.02	5.78	-0.02	16406				

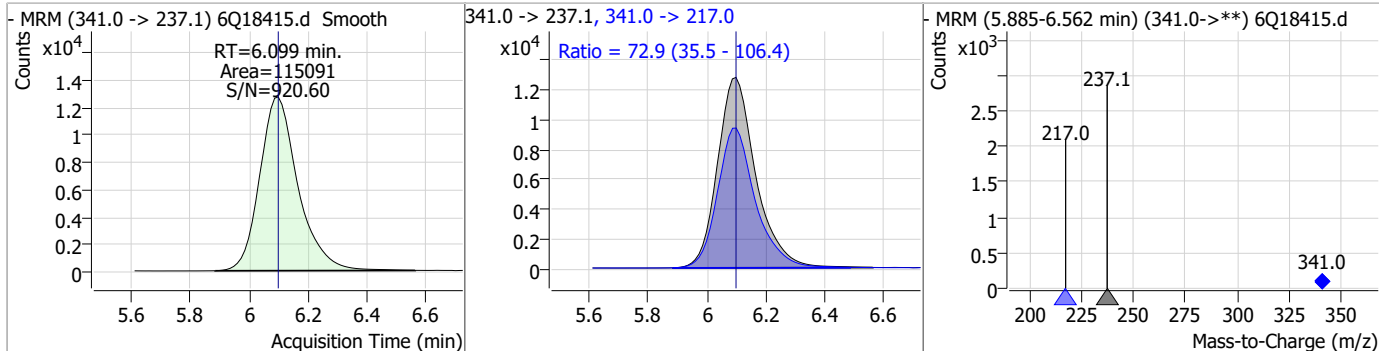


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	2.19	5.88	-0.01	62278	314.8 ->	82.9 3.5	2.0	5.9

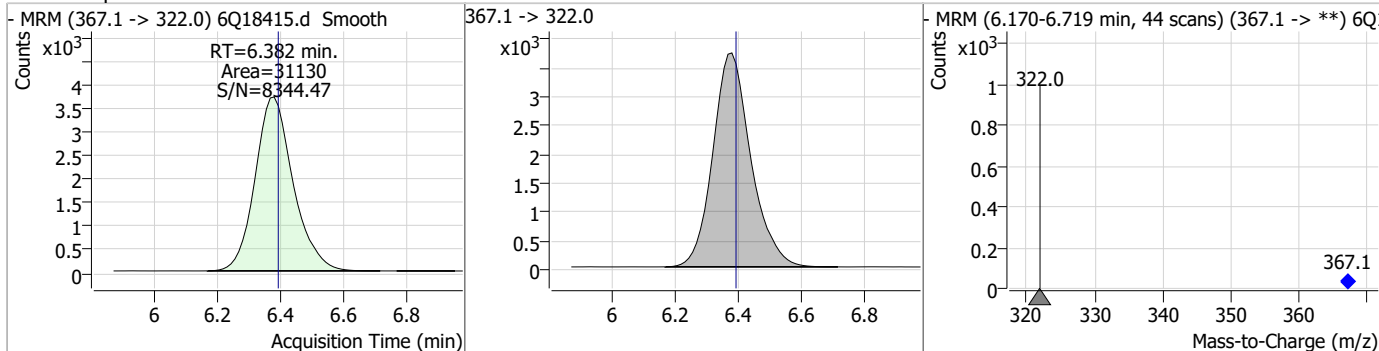


Perfluorinated Compounds by LC/MS/MS

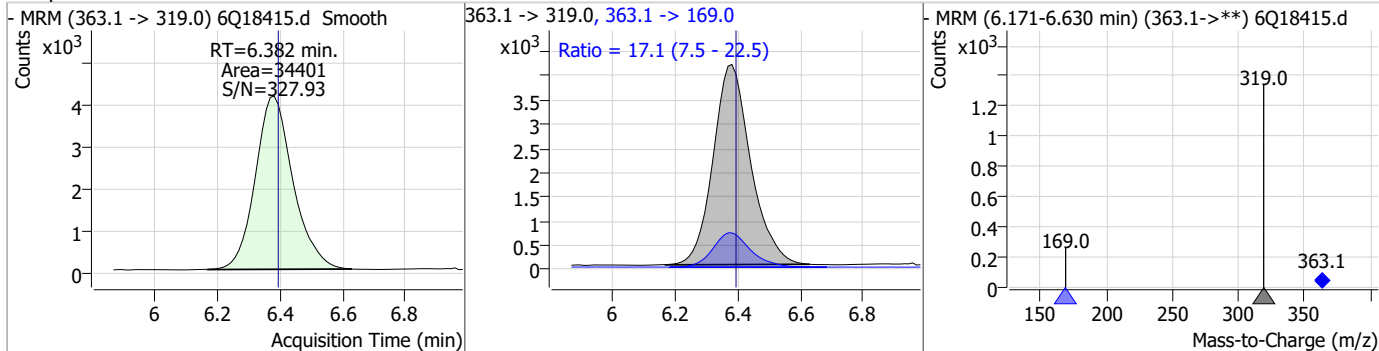
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	29.56	6.10	0.00	115091	341.0 -> 217.0	72.9	35.5	106.4



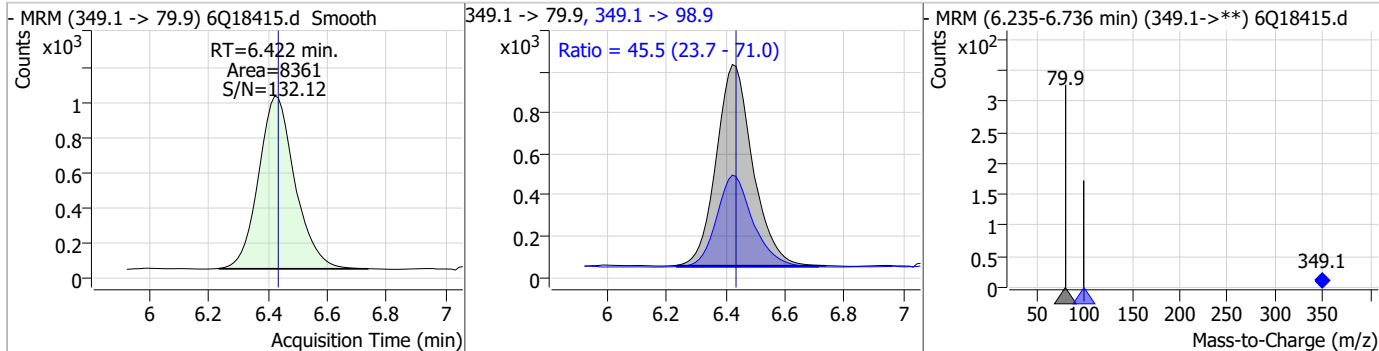
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	1.33	6.38	-0.01	31130				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.07	6.38	-0.01	34401	363.1 -> 169.0	17.1	7.5	22.5

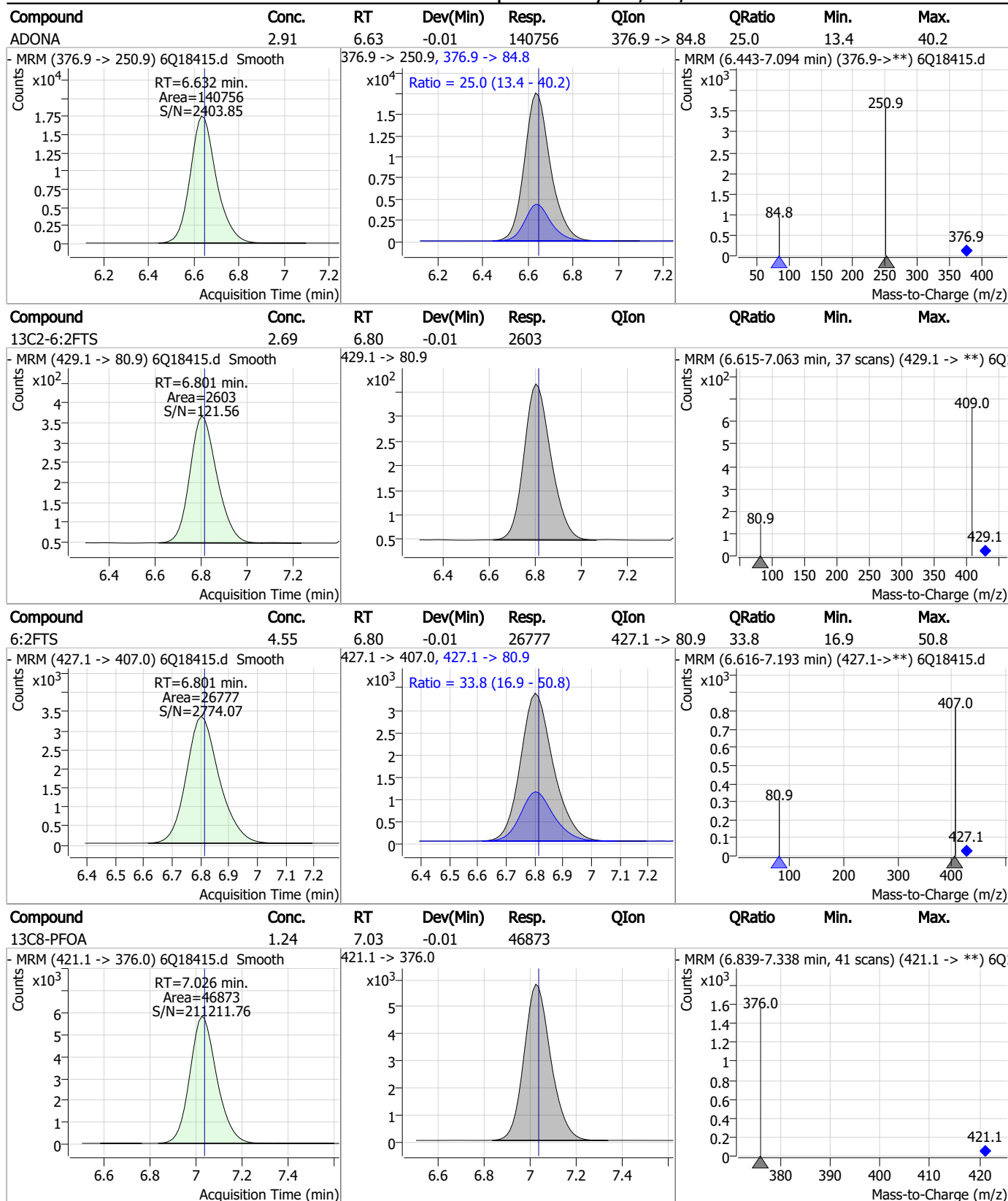


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.13	6.42	-0.01	8361	349.1 -> 98.9	45.5	23.7	71.0



7.4.1
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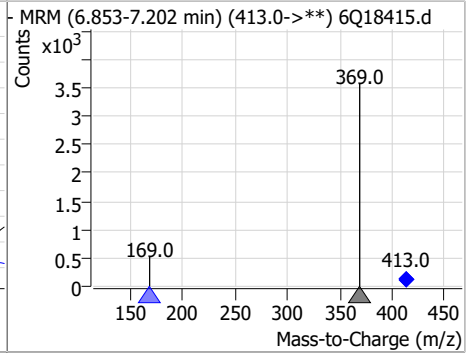
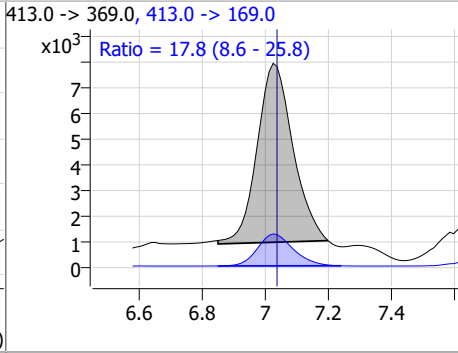
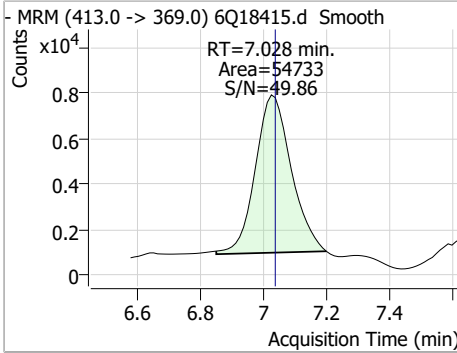
Perfluorinated Compounds by LC/MS/MS



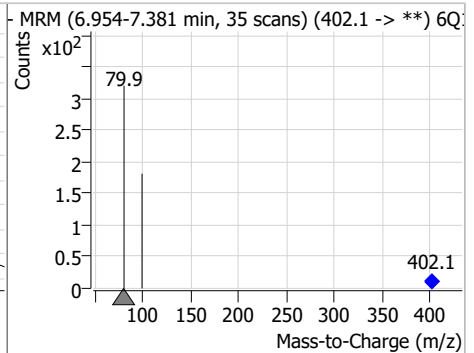
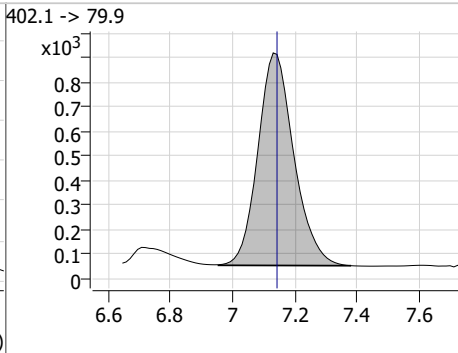
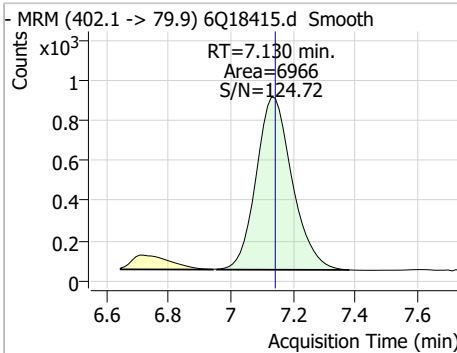
7.4.1
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Perfluorinated Compounds by LC/MS/MS

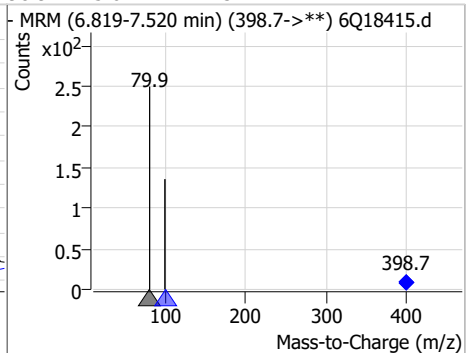
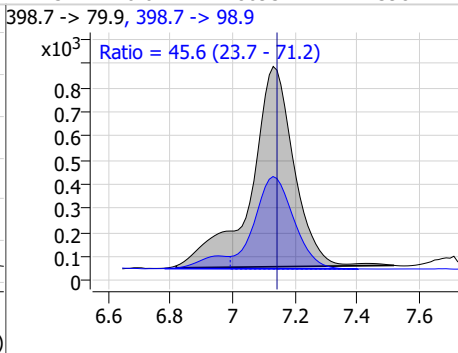
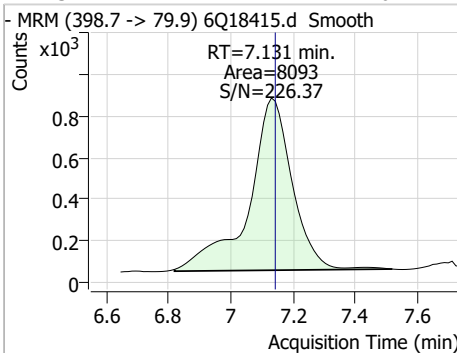
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.25	7.03	-0.01	54733	413.0 -> 169.0	17.8	8.6	25.8



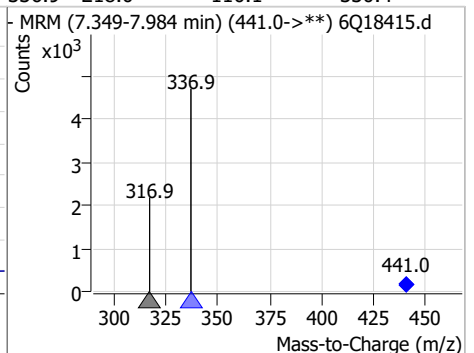
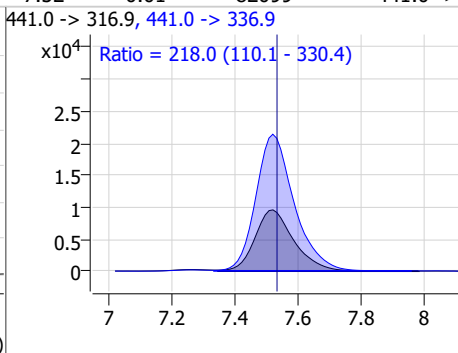
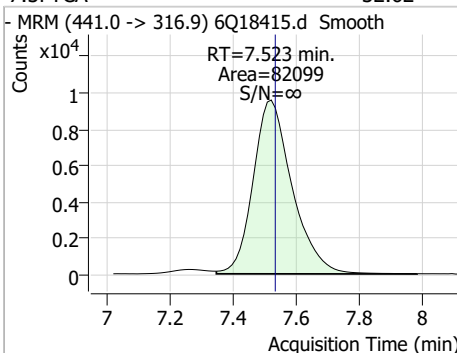
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	1.21	7.13	-0.01	6966				



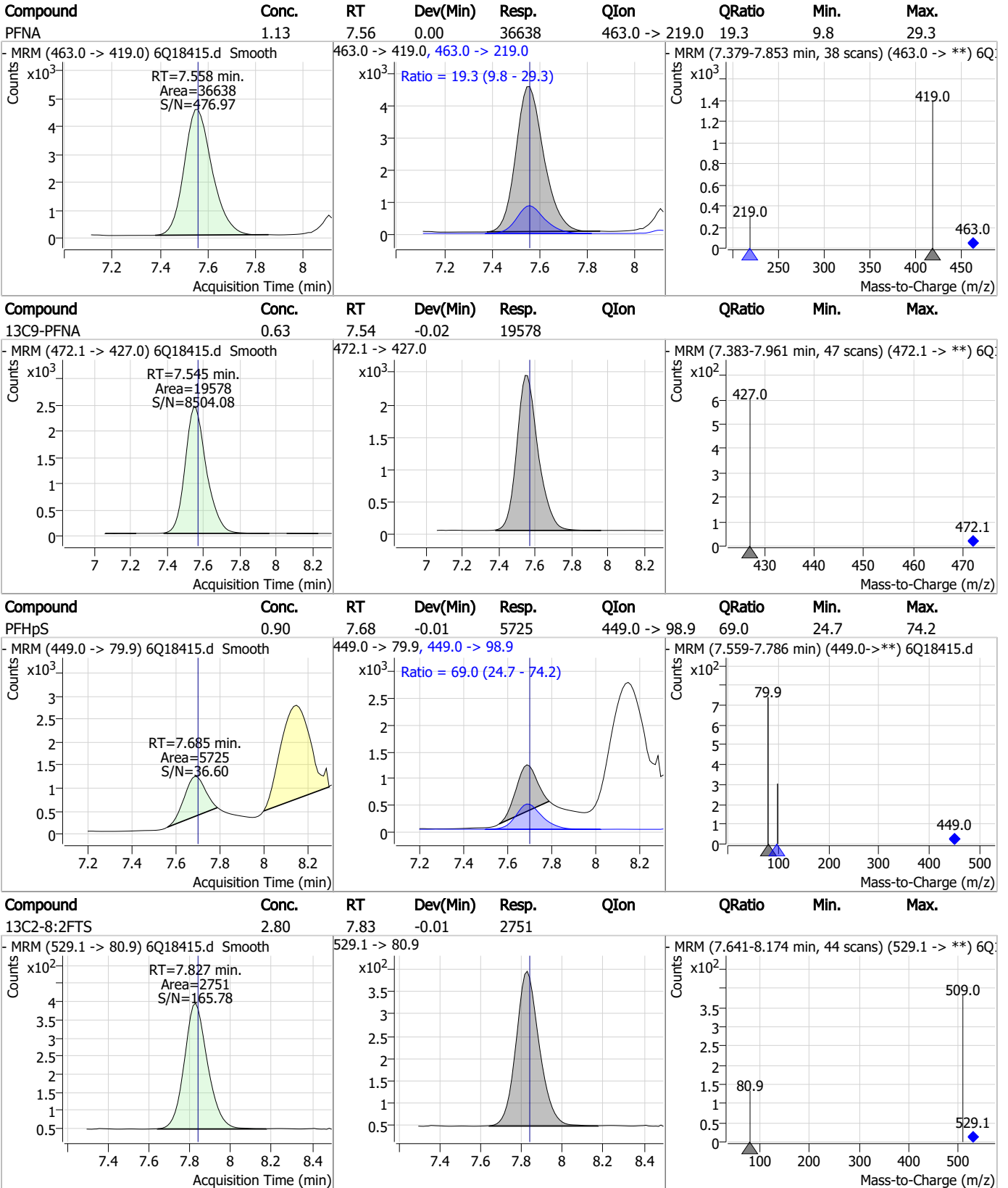
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.07	7.13	-0.01	8093	398.7 -> 98.9	45.6	23.7	71.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	32.62	7.52	-0.01	82099	441.0 -> 336.9	218.0	110.1	330.4



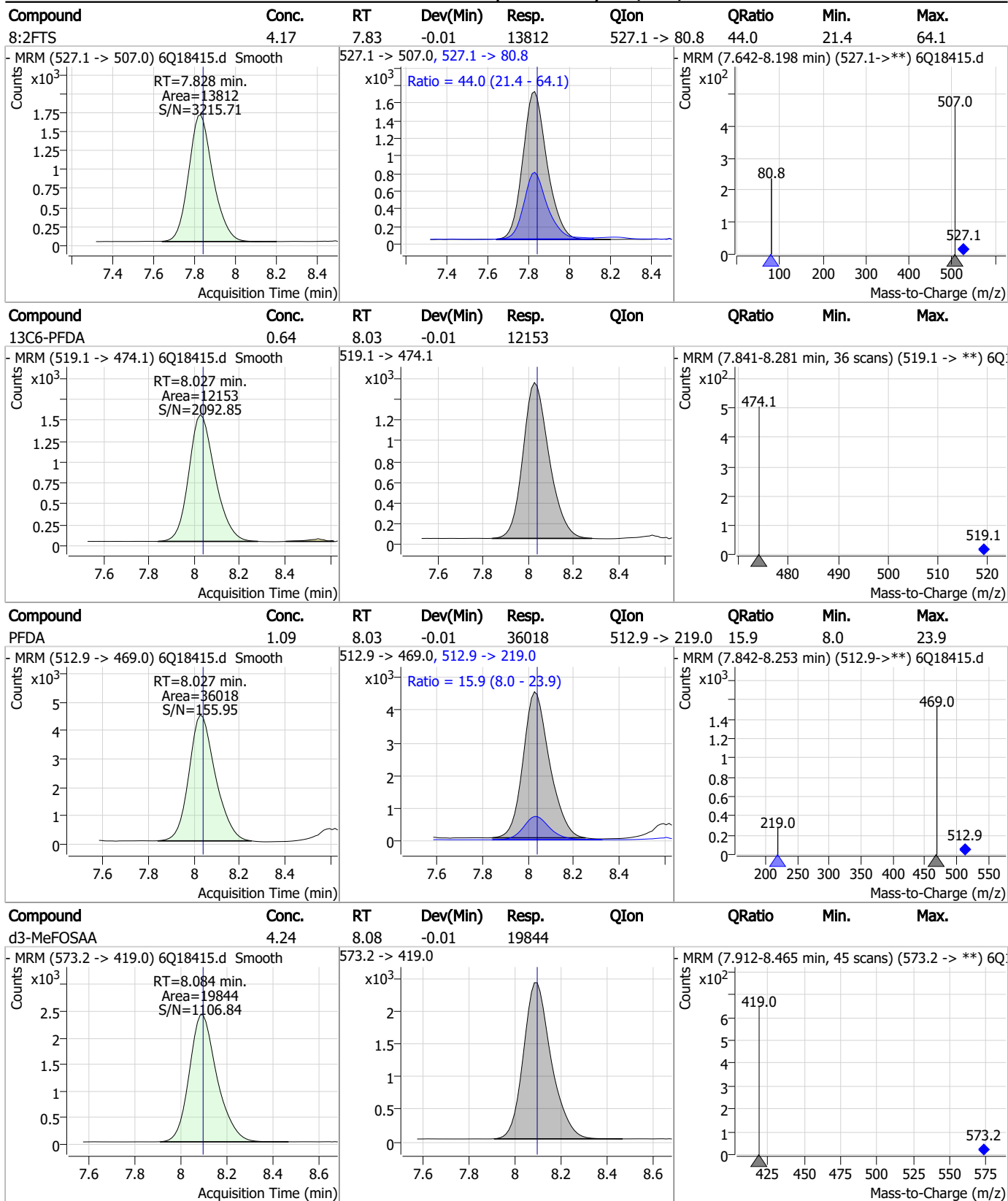
Perfluorinated Compounds by LC/MS/MS



7.4.1

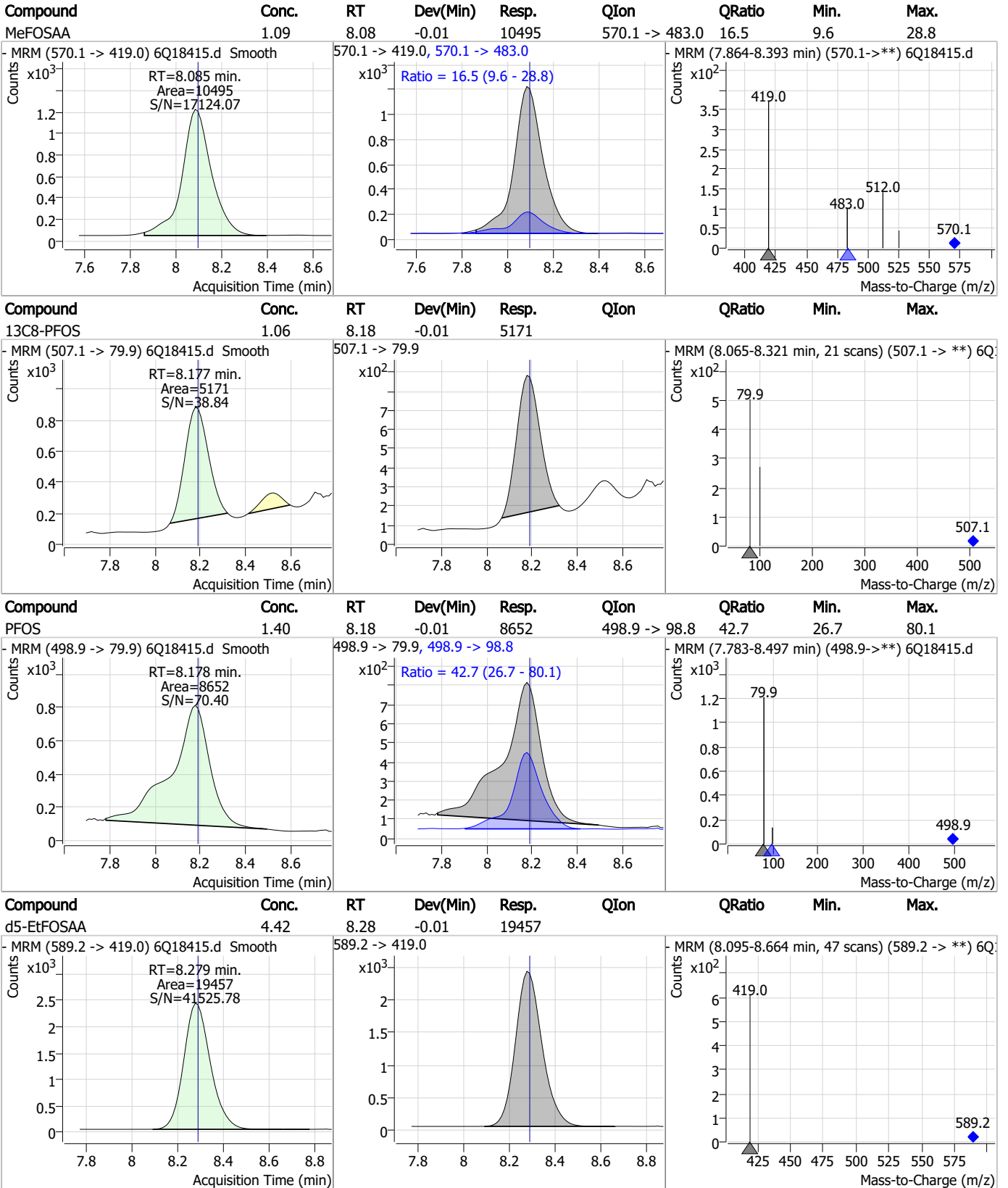
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Perfluorinated Compounds by LC/MS/MS



7.4.1
7

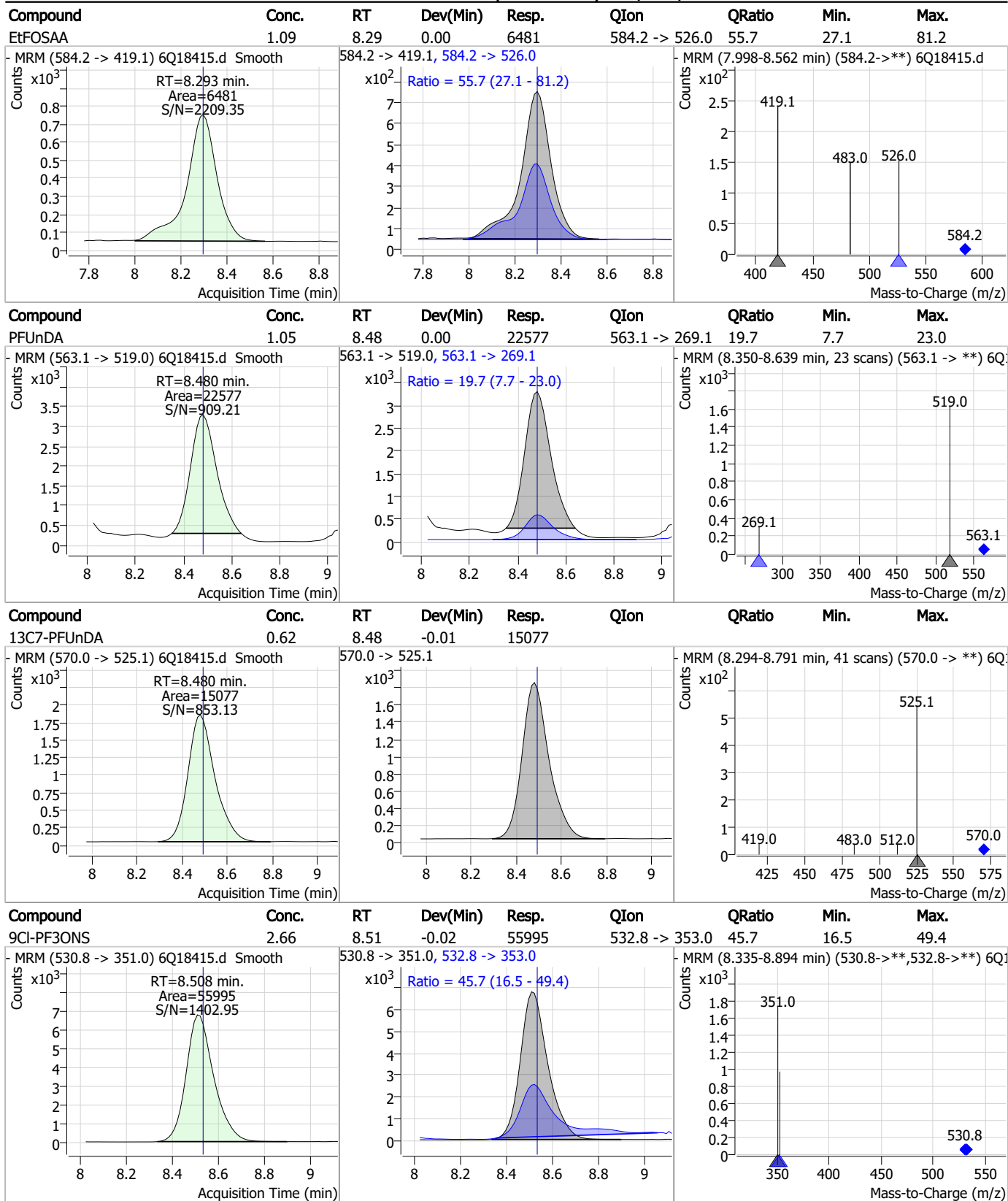
Perfluorinated Compounds by LC/MS/MS



7.4.1

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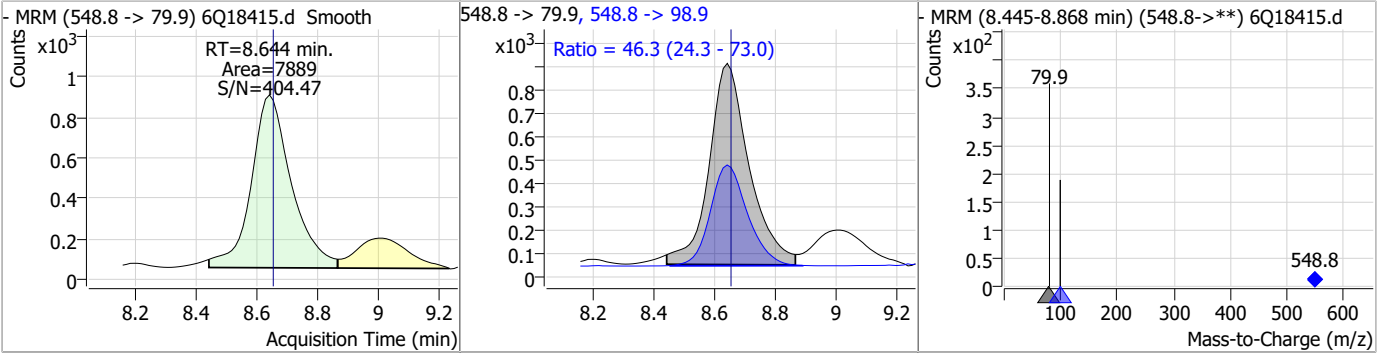
Perfluorinated Compounds by LC/MS/MS



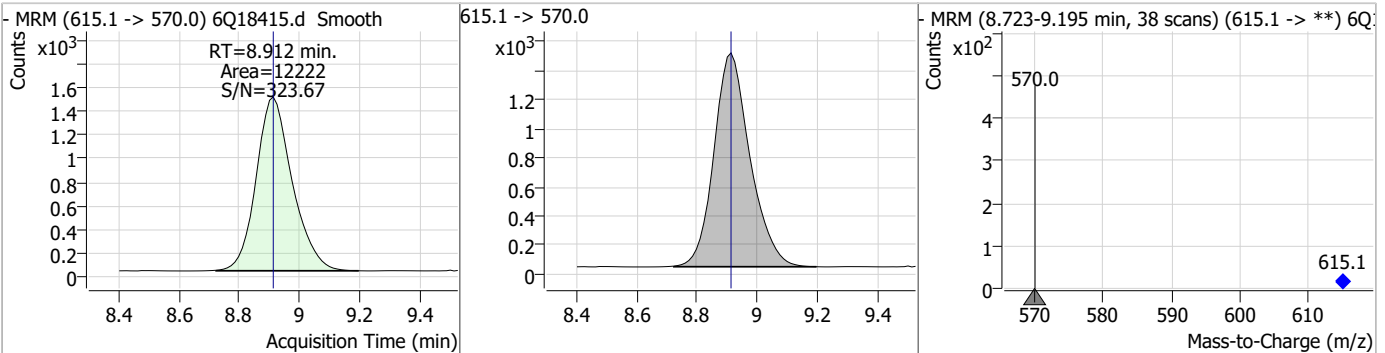
7.4.1
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Perfluorinated Compounds by LC/MS/MS

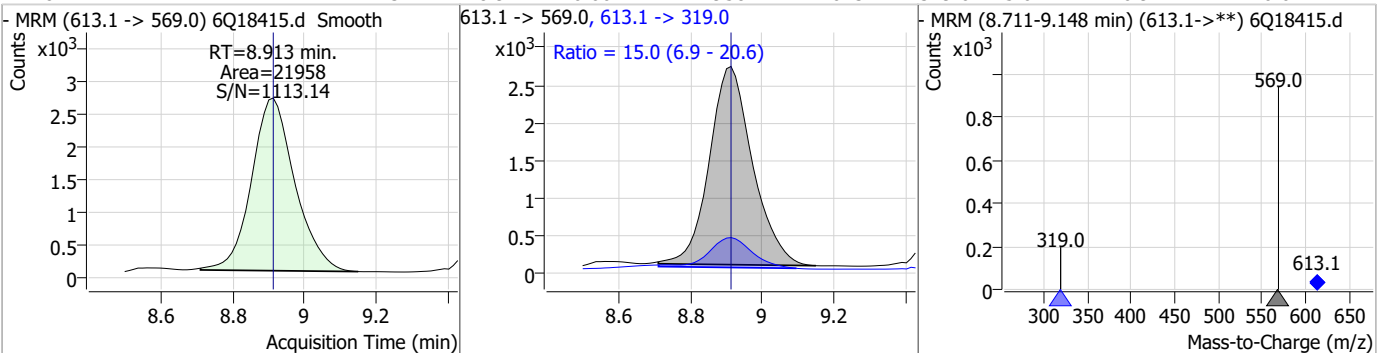
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.44	8.64	-0.01	7889	548.8 -> 98.9	46.3	24.3	73.0



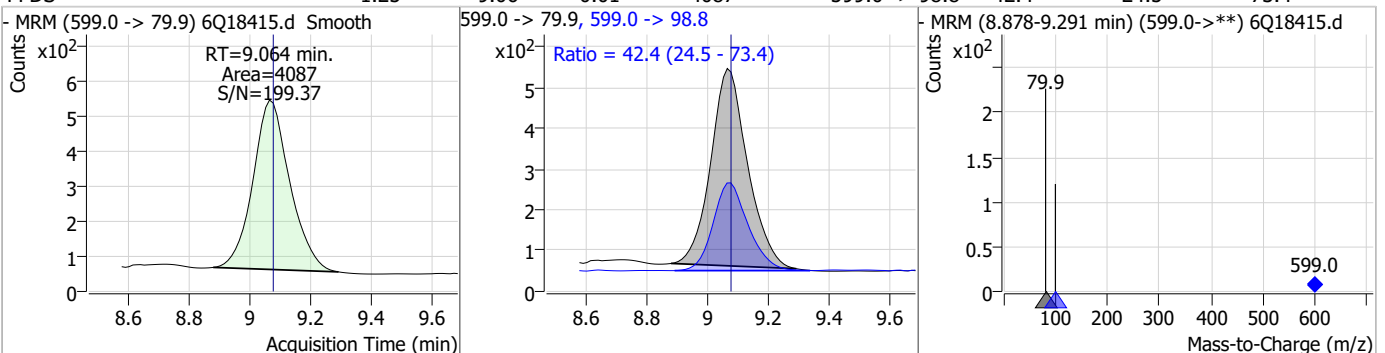
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	0.55	8.91	0.00	12222				



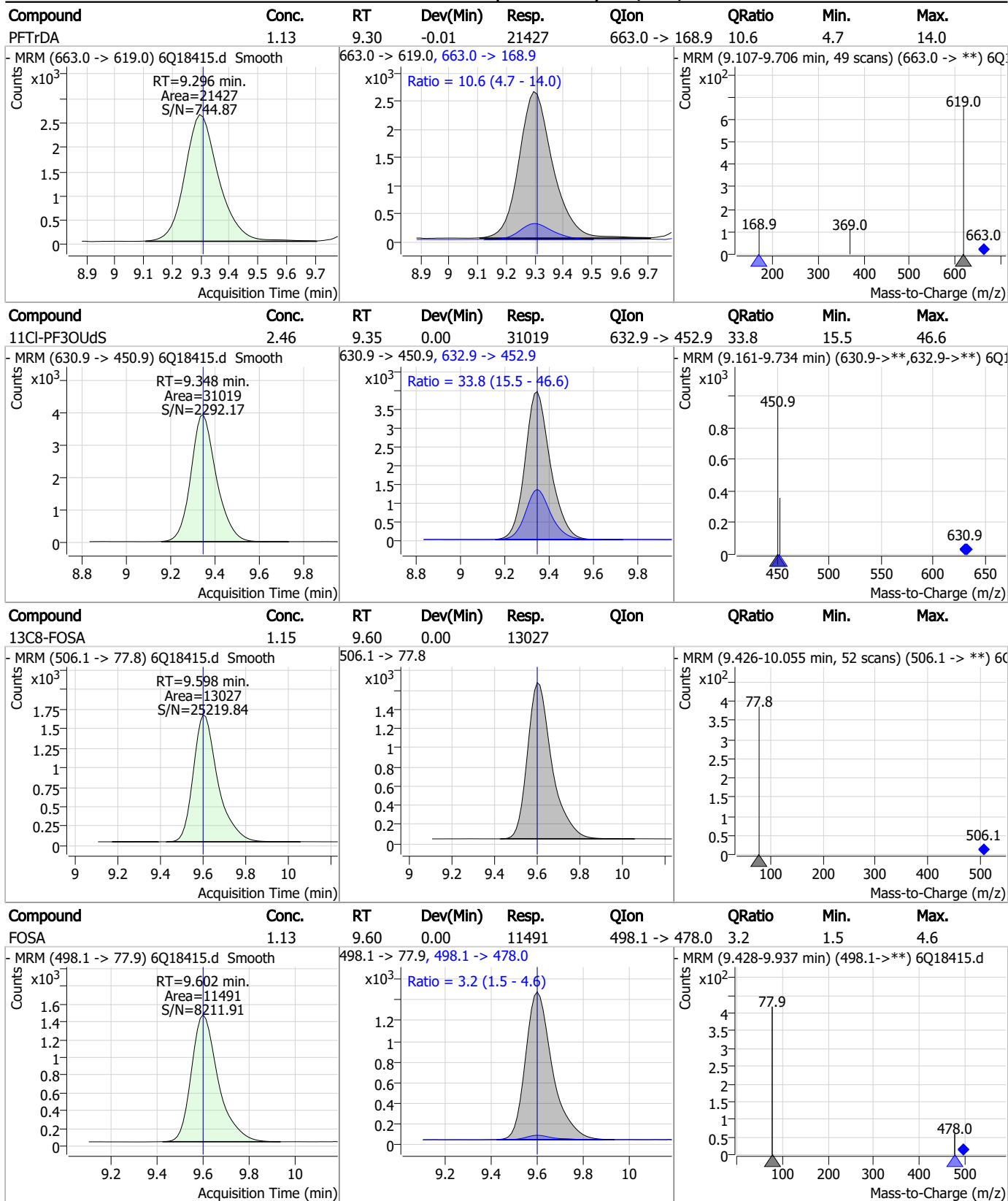
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.13	8.91	0.00	21958	613.1 -> 319.0	15.0	6.9	20.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.25	9.06	-0.01	4087	599.0 -> 98.8	42.4	24.5	73.4

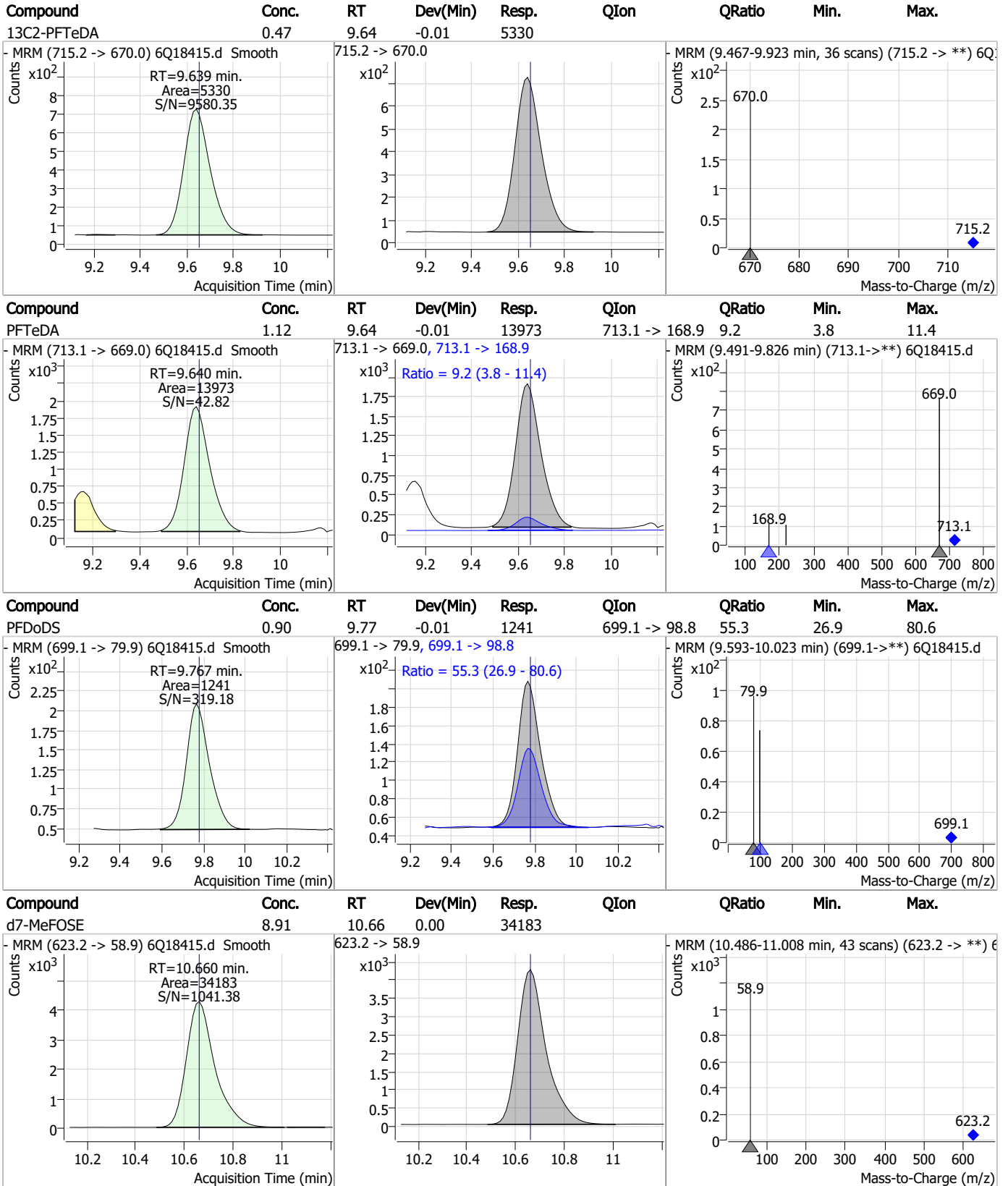


Perfluorinated Compounds by LC/MS/MS



7.4.1
7

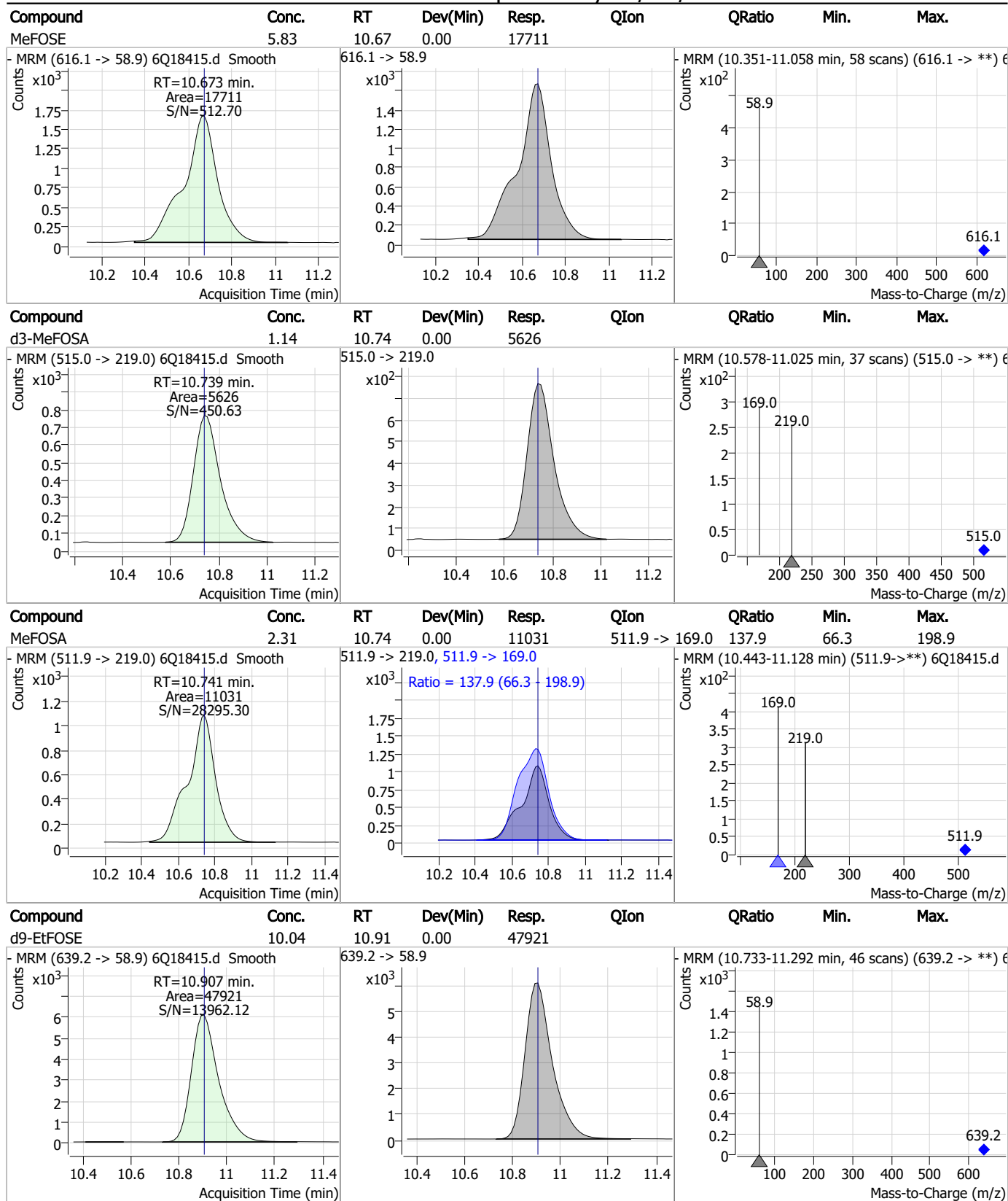
Perfluorinated Compounds by LC/MS/MS



7.4.1

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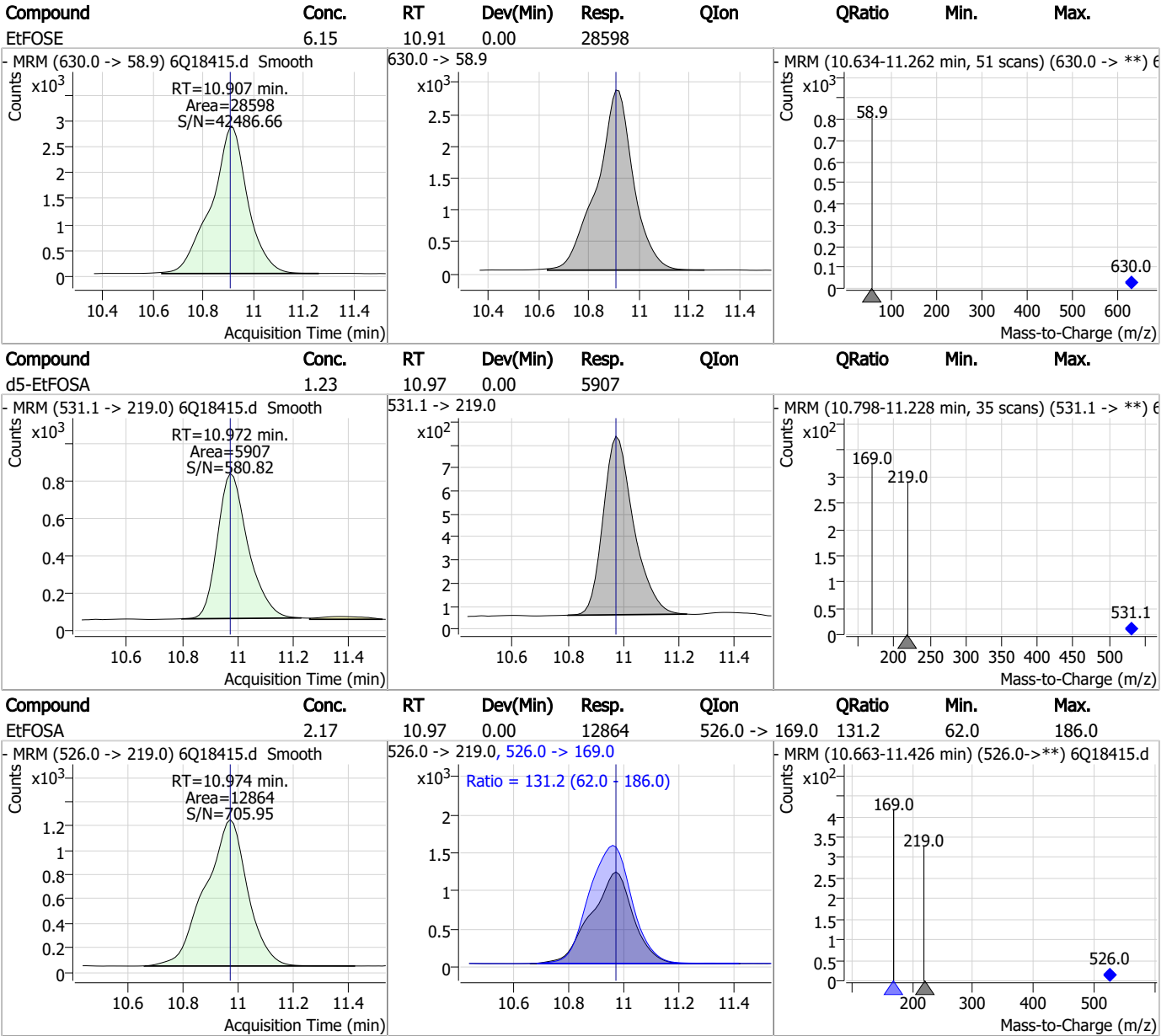
Perfluorinated Compounds by LC/MS/MS



7.4.1

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Perfluorinated Compounds by LC/MS/MS



7.4.1

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Manual Integration Approval Summary

Sample Number: OP97007-MS Method: EPA DRAFT 1633
Lab FileID: 6Q18415.D Analyst approved: 05/26/23 13:41 Mike Eger
Injection Time: 05/25/23 17:53 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		2.87	Poor instrument integration

7.4.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18361.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 12:22:42 AM
 Sample Name : op97007-dup
 Vial : P4-B9
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97007,S6Q276,540,,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	185268	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	69370	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	76000	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	70628	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	109297	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	46693	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	26698	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	31979	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	25398	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	11063	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	29382	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	27829	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16271	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13613	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	5496	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	7517	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6192	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	37552	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	44297	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35876	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	86668	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	125420	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	11489	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	11343	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18363	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	80378	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	10574	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	108074	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	33668	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	50041	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	66390	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	5496	8.66 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 173.1%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7517	7.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 154.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6192	6.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.5%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25398	1.06 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 84.9%		
13C2-PFTeDA	9.639	715.2 -> 670.0	11063	0.90 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 72.3%		
13C3-PFBS	5.347	302.1 -> 79.9	27829	2.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 113.1%		
13C3-PFHxS	7.142	402.1 -> 79.9	16271	2.81 µg/L	0.000

7.5.1
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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 = 112.4%	
13C4-PFBA	2.876	216.8 -> 171.9	185268	9.69 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	70628	2.78 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.0%	
13C5-PFHxA	5.429	318.0 -> 273.0	76000	2.81 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.6%	
13C5-PFPeA	4.235	268.3 -> 223.0	69370	5.49 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C6-PFDA	8.039	519.1 -> 474.1	26698	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C7-PFUnDA	8.492	570.0 -> 525.1	31979	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C8-FOSA	9.598	506.1 -> 77.8	29382	2.22 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.0%	
13C8-PFOA	7.038	421.1 -> 376.0	109297	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	13613	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C9-PFNA	7.557	472.1 -> 427.0	46693	1.41 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	37552	6.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 137.6%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	44297	9.96 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	11343	1.97 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35876	6.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 139.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	86668	19.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	125420	22.53 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.1%	
d5-EtFOSA	10.972	531.1 -> 219.0	11489	2.05 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.2%	

7.5.1
7

Target Compounds	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	6.813	427.1 -> 407.0	6758	0.80 µg/L	96
		427.1 -> 80.9	2151		
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8			
PFHpA	-	363.1 -> 319.0	-	N.D.	
		363.1 -> 169.0			
PFHpS	-	449.0 -> 79.9	-	N.D.	
		449.0 -> 98.9			
PFHxA	5.420	313.0 -> 269.0	4154	0.14 µg/L	94
		313.0 -> 118.9	268		
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	4.237	263.0 -> 219.0	4892	0.26 µg/L	100
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
		663.0 -> 168.9			
PFUnDA	-	563.1 -> 519.0	-	N.D.	
		563.1 -> 269.1			
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.	
		632.9 -> 452.9			
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.	
		532.8 -> 353.0			
ADONA	-	376.9 -> 250.9	-	N.D.	
		376.9 -> 84.8			
HFPO-DA	-	284.9 -> 168.9	-	N.D.	
		284.9 -> 184.9			
3:3FTCA	-	241.0 -> 177.0	-	N.D.	
		241.0 -> 117.0			
5:3FTCA	-	341.0 -> 237.1	-	N.D.	
		341.0 -> 217.0			
7:3FTCA	-	441.0 -> 316.9	-	N.D.	
		441.0 -> 336.9			
EtFOSA	-	526.0 -> 219.0	-	N.D.	
		526.0 -> 169.0			
EtFOSE	-	630.0 -> 58.9	-	N.D.	
MeFOSA	-	511.9 -> 219.0	-	N.D.	
		511.9 -> 169.0			
MeFOSE	-	616.1 -> 58.9	-	N.D.	
PFDoDS	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
NFDHA	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
PFMBA	-	279.0 -> 85.1	-	N.D.	
PFMPA	-	229.0 -> 84.9	-	N.D.	
PFEESA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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

7.5.1
7

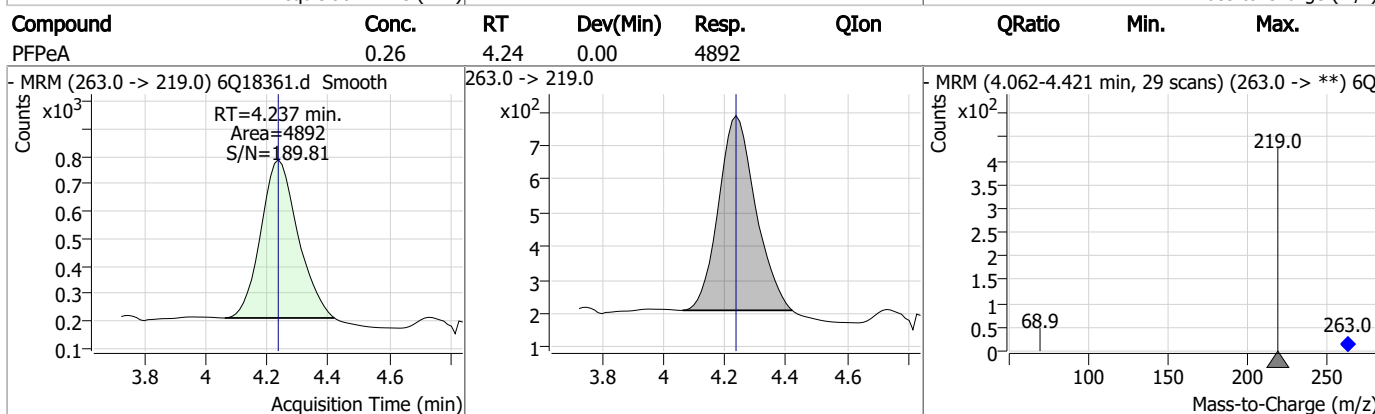
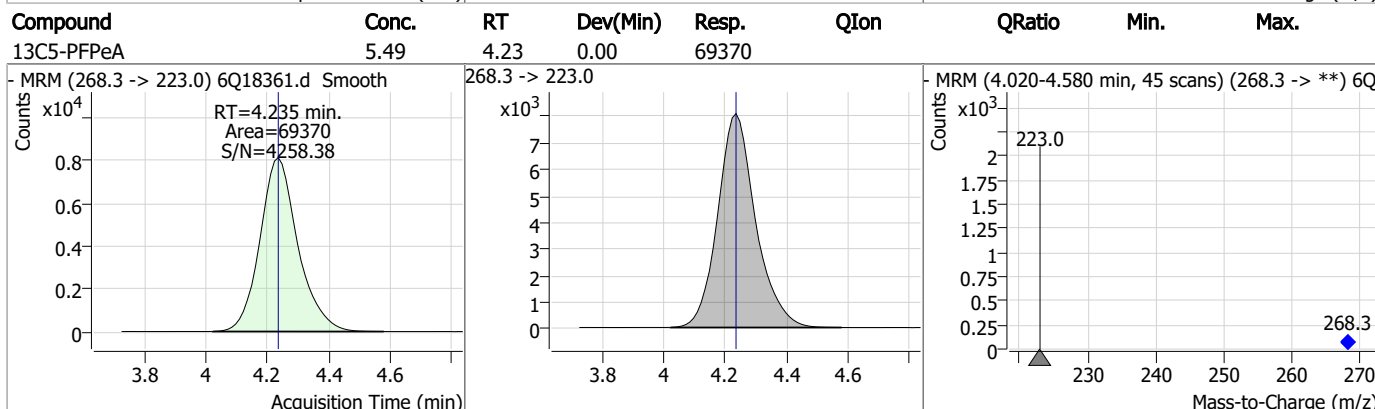
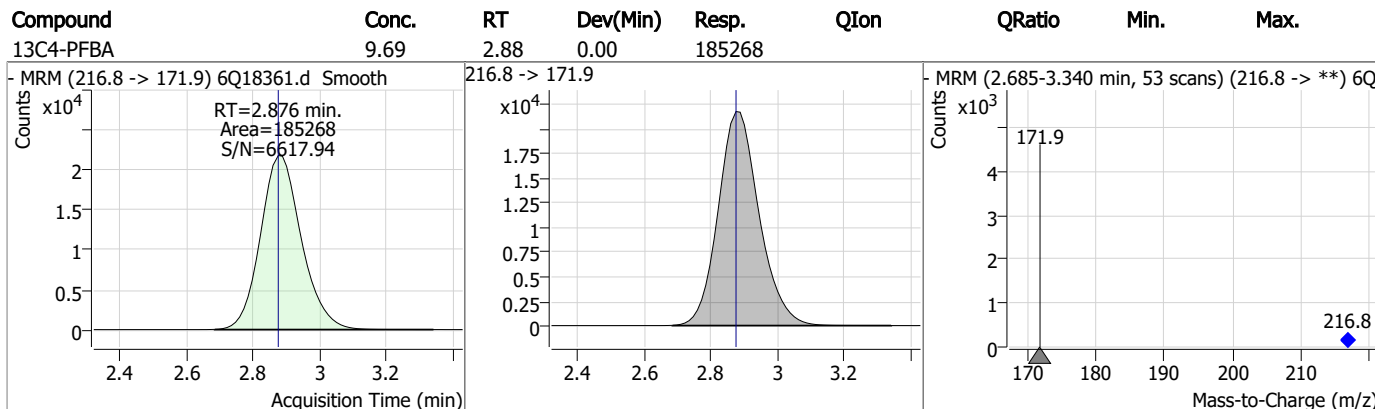
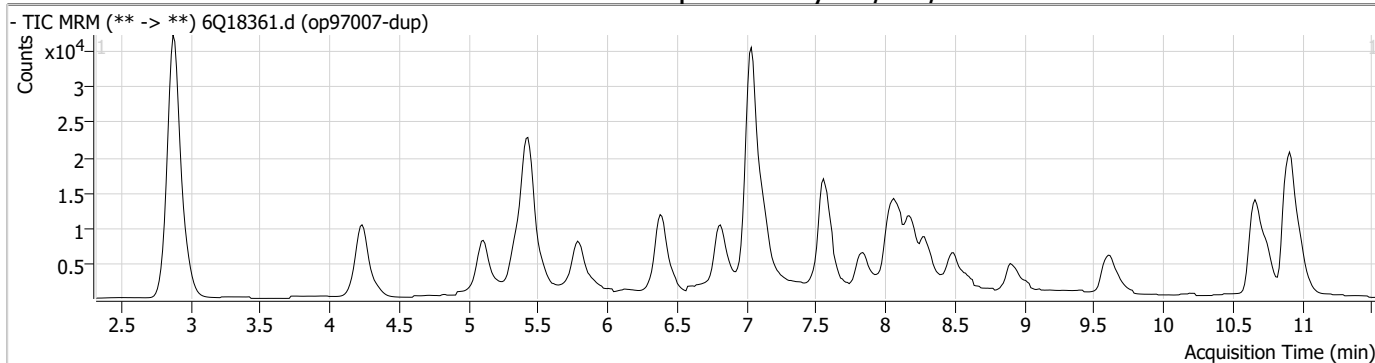
Perfluorinated Compounds by LC/MS/MS

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

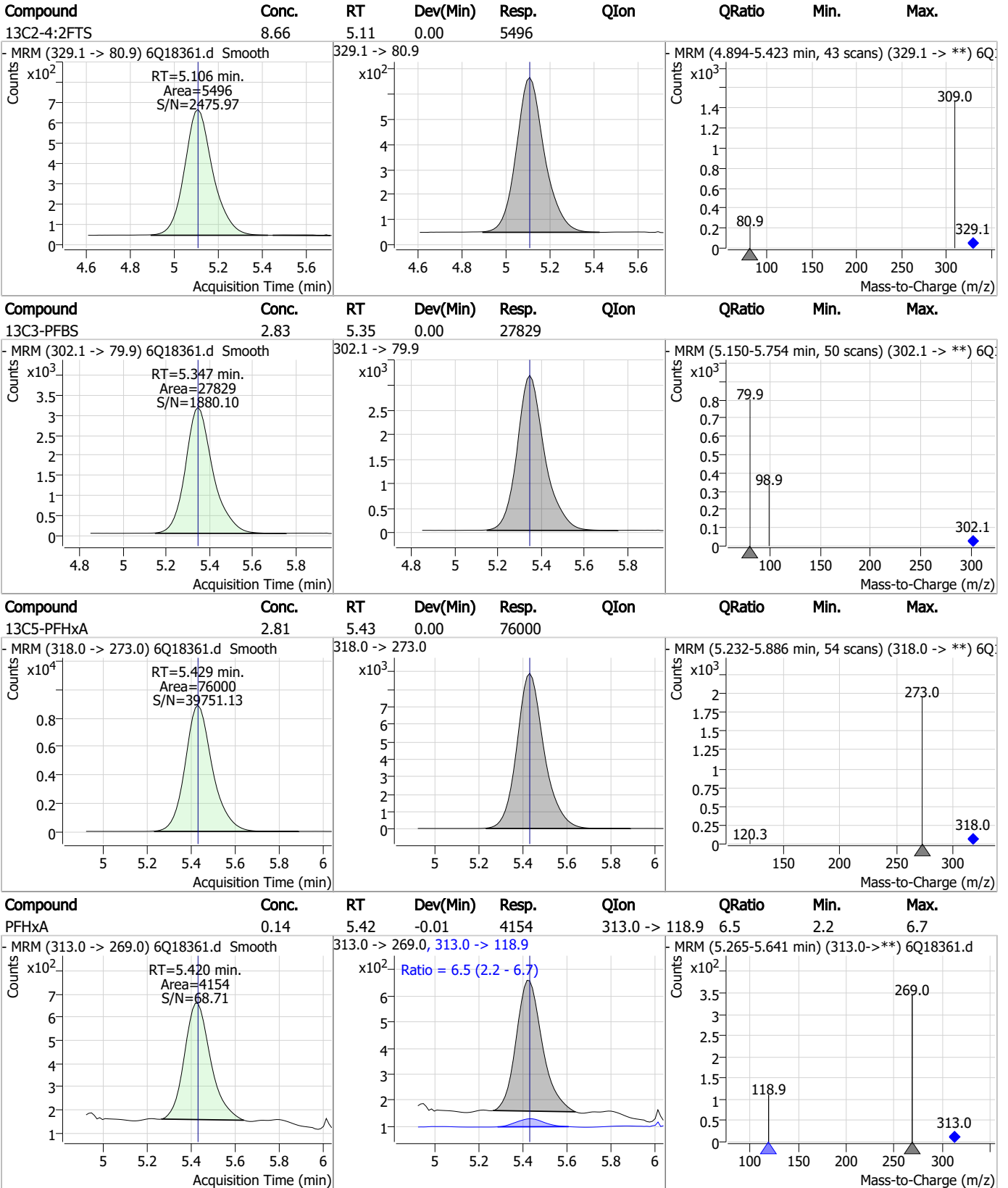
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Perfluorinated Compounds by LC/MS/MS



7.5.1
7

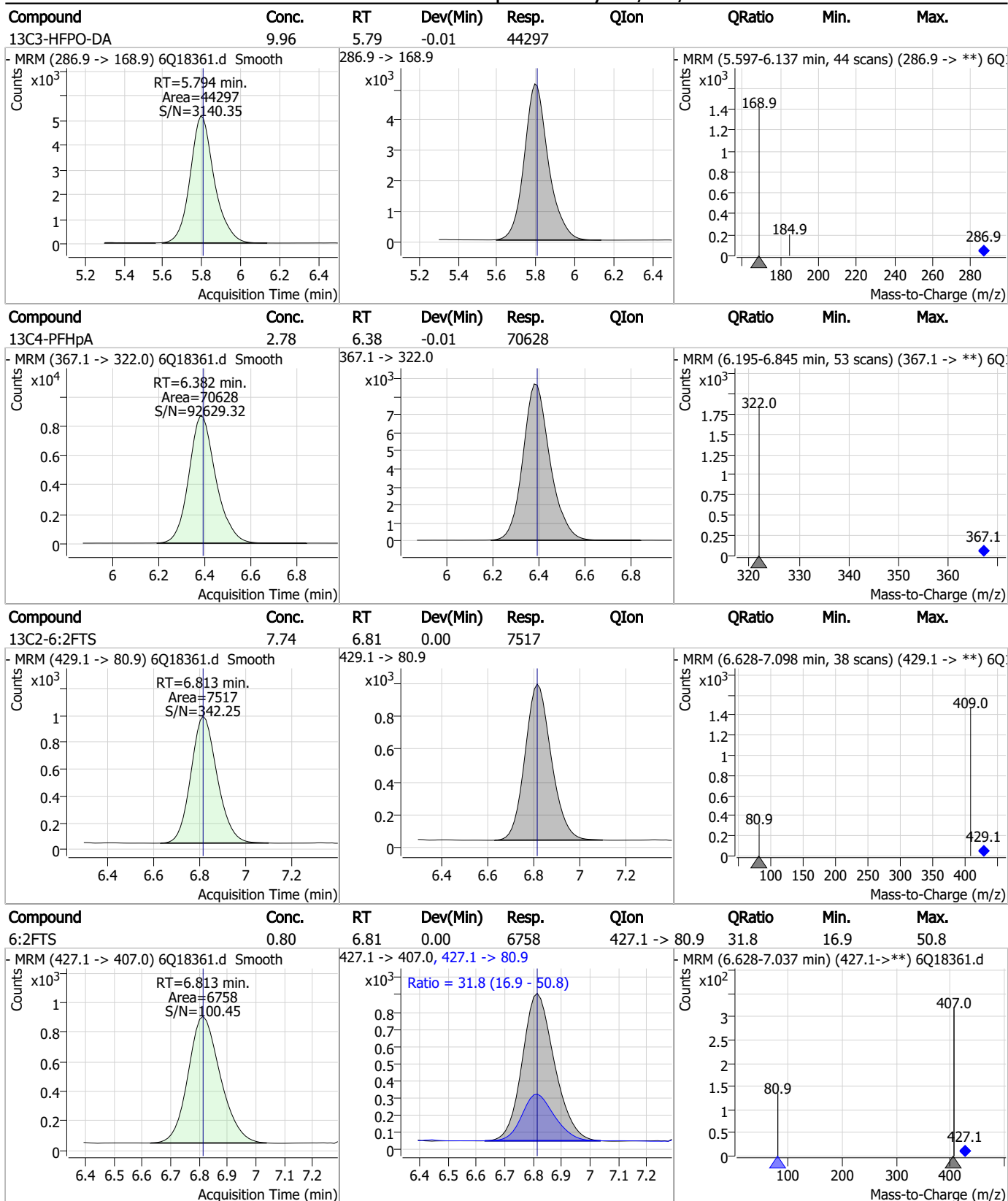
Perfluorinated Compounds by LC/MS/MS



7.5.1

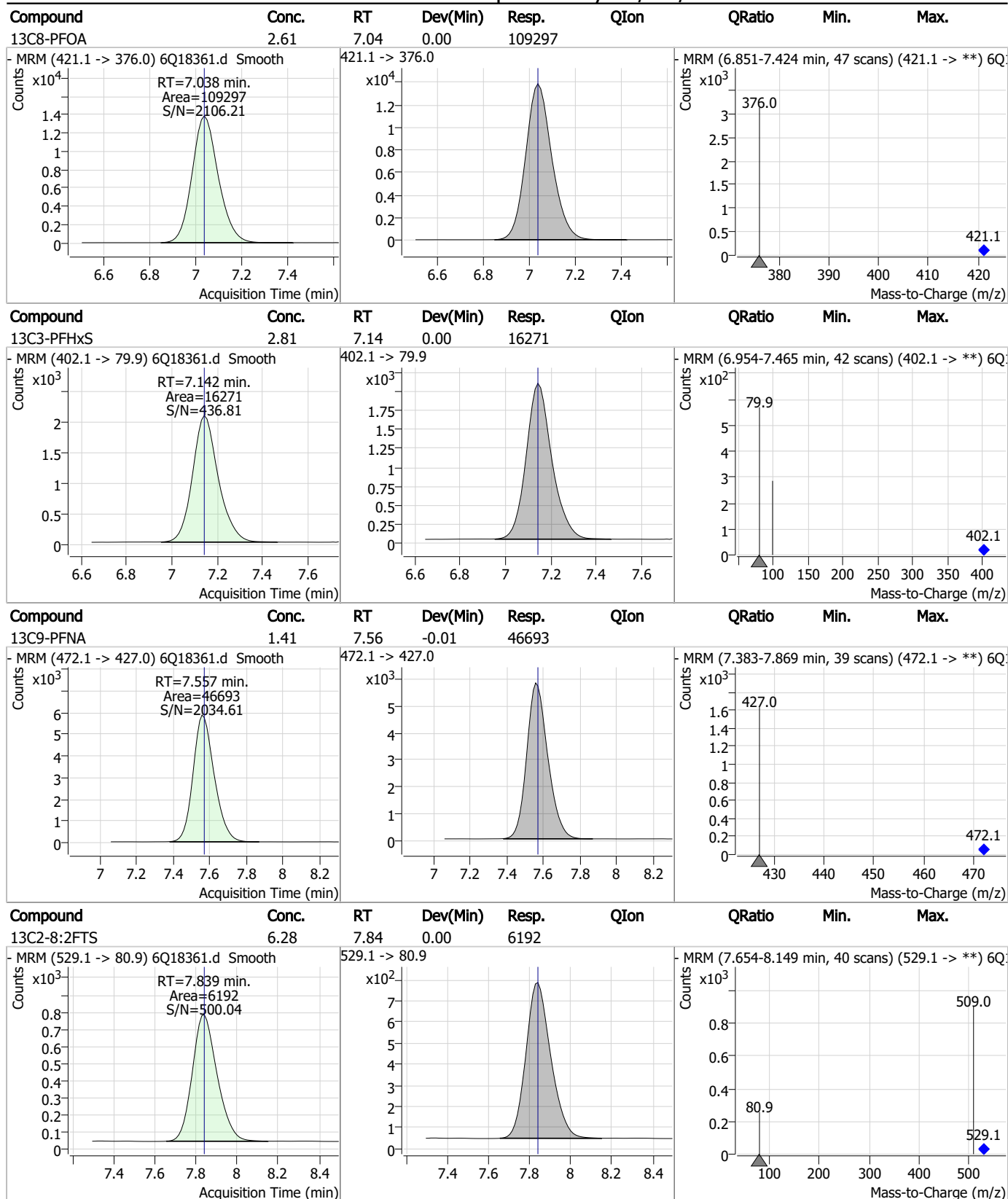
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Perfluorinated Compounds by LC/MS/MS



7.5.1
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Perfluorinated Compounds by LC/MS/MS



7.5.1
7

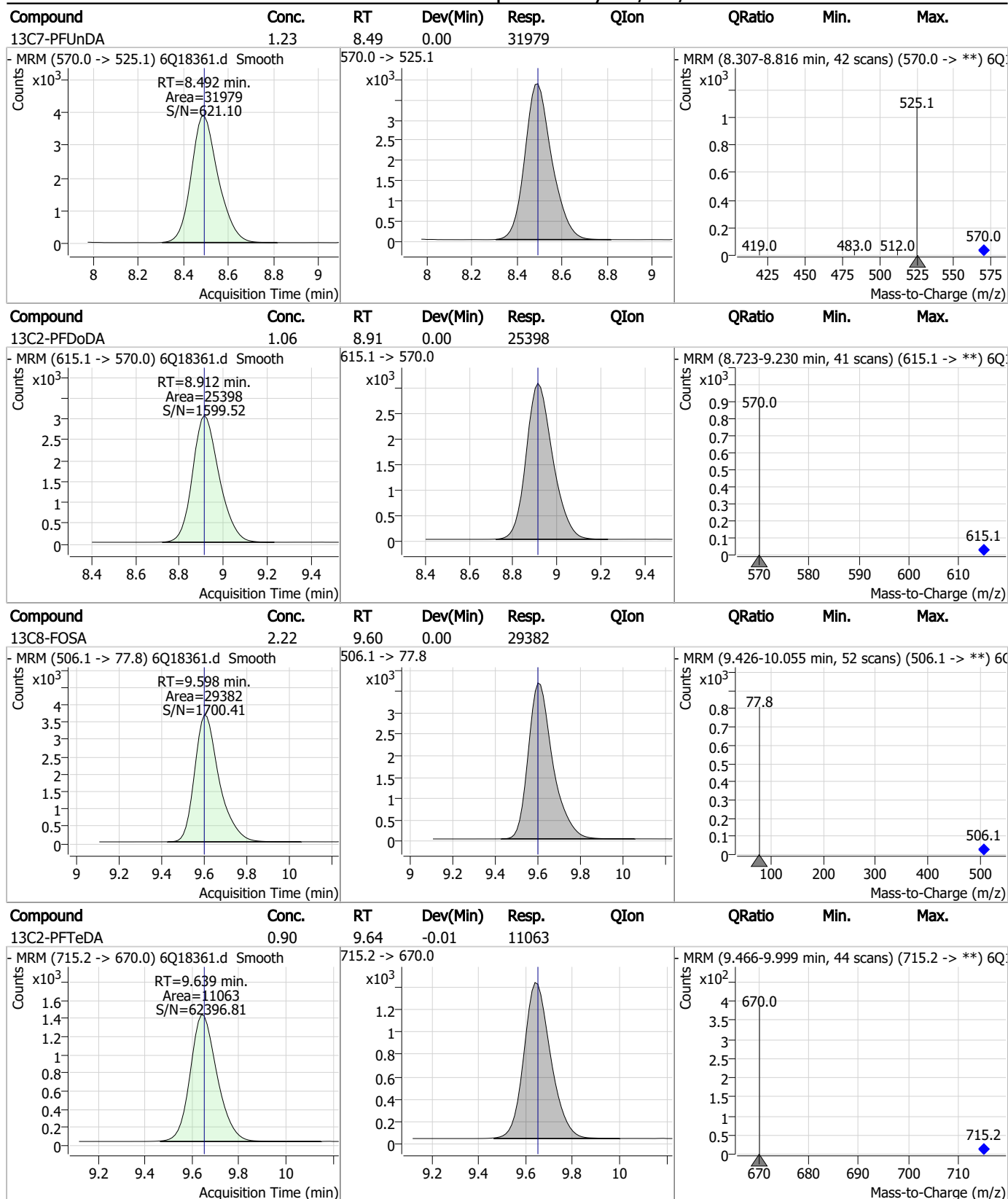
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.32	8.04	0.00	26698				
- MRM (519.1 -> 474.1) 6Q18361.d Smooth Counts x10 ³ RT=8.039 min. Area=26698 S/N=426.59 Acquisition Time (min)			519.1 -> 474.1 Counts x10 ³ Acquisition Time (min)			- MRM (7.853-8.423 min, 47 scans) (519.1 -> **) 6Q Counts x10 ³ 474.1 519.1 Mass-to-Charge (m/z)		
d3-MeFOSAA	6.88	8.10	0.00	37552				
- MRM (573.2 -> 419.0) 6Q18361.d Smooth Counts x10 ³ RT=8.096 min. Area=37552 S/N=646.49 Acquisition Time (min)			573.2 -> 419.0 Counts x10 ³ Acquisition Time (min)			- MRM (7.912-8.429 min, 42 scans) (573.2 -> **) 6Q Counts x10 ³ 419.0 573.2 Mass-to-Charge (m/z)		
13C8-PFOS	2.40	8.19	0.00	13613				
- MRM (507.1 -> 79.9) 6Q18361.d Smooth Counts x10 ³ RT=8.189 min. Area=13613 S/N=432.49 Acquisition Time (min)			507.1 -> 79.9 Counts x10 ³ Acquisition Time (min)			- MRM (8.003-8.446 min, 36 scans) (507.1 -> **) 6Q Counts x10 ² 79.9 507.1 Mass-to-Charge (m/z)		
d5-EtFOSAA	6.99	8.29	0.00	35876				
- MRM (589.2 -> 419.0) 6Q18361.d Smooth Counts x10 ³ RT=8.292 min. Area=35876 S/N=9416.47 Acquisition Time (min)			589.2 -> 419.0 Counts x10 ³ Acquisition Time (min)			- MRM (8.107-8.750 min, 52 scans) (589.2 -> **) 6Q Counts x10 ³ 419.0 589.2 Mass-to-Charge (m/z)		

7.5.1
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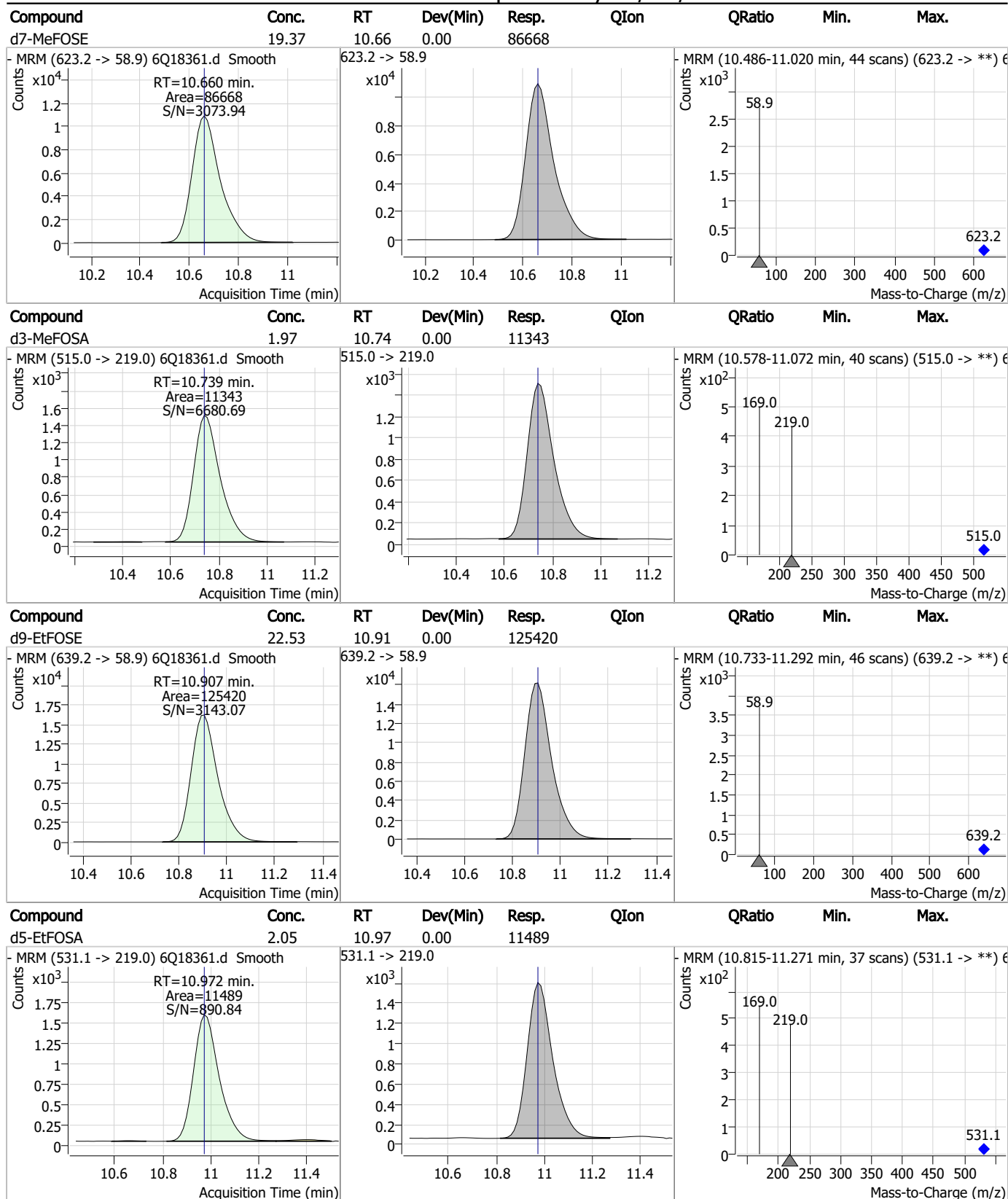


Perfluorinated Compounds by LC/MS/MS



7.5.1
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Perfluorinated Compounds by LC/MS/MS



7.5.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18224a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 3:28:13 PM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q275_TDCA.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

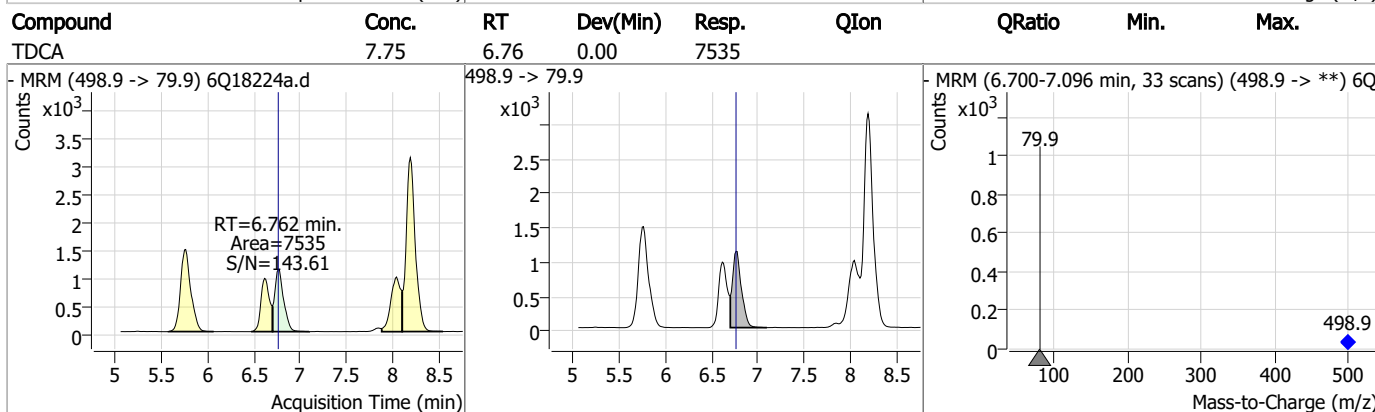
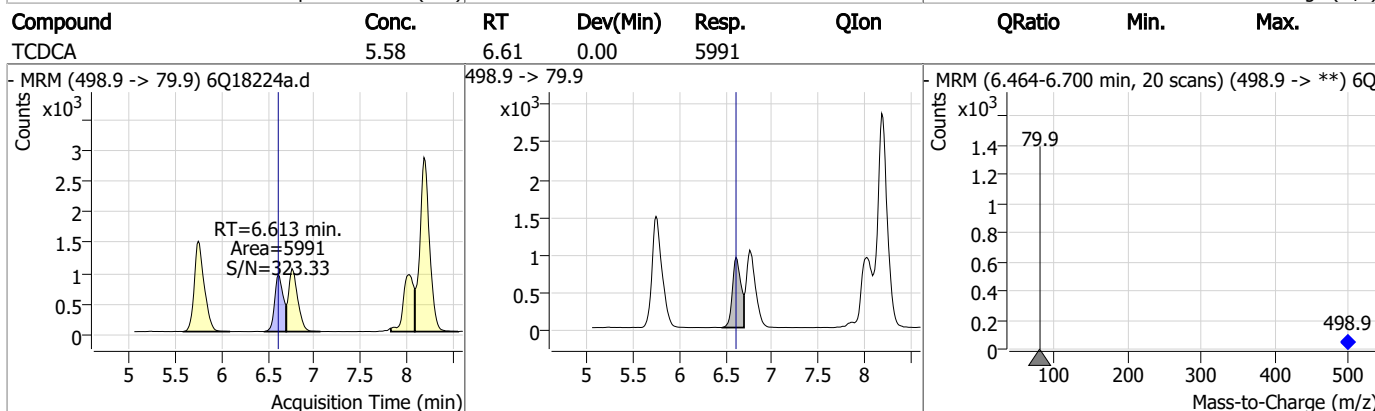
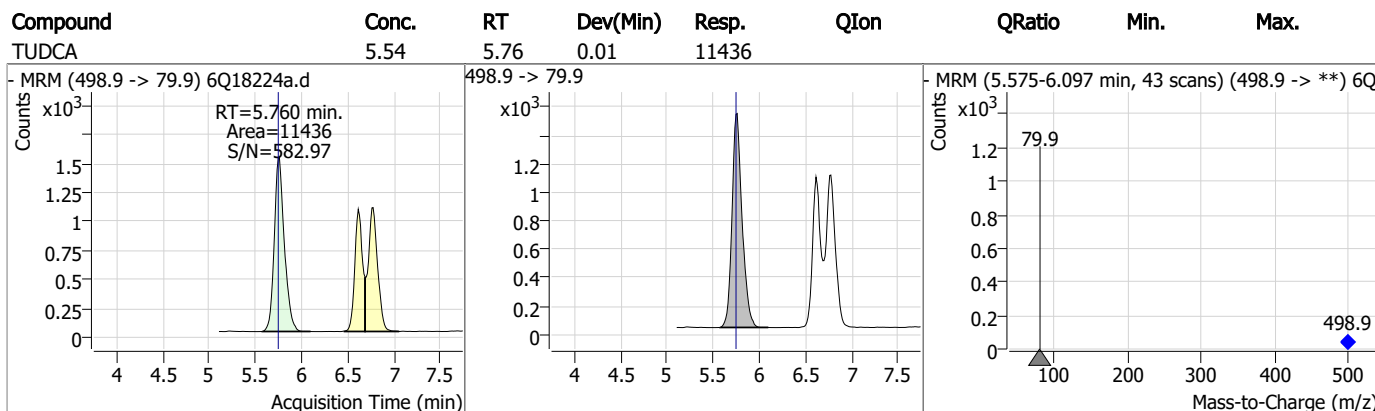
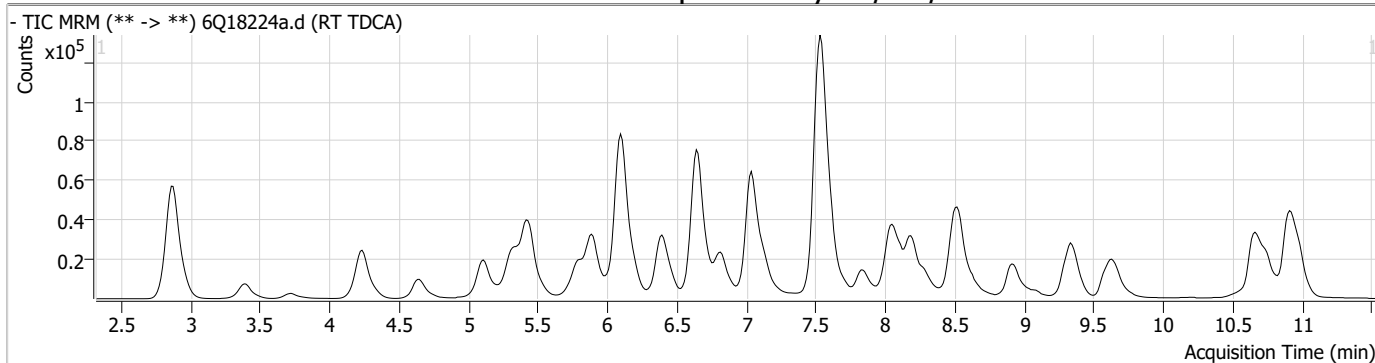
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M8-PFOS	8.202	507.1 -> 79.9	23282	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	30227	2.50 µg/L	0.000
System Monitoring Compounds					
13C8-PFOS	8.202	507.1 -> 79.9	23282	1.95 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 78.1%		
Target Compounds					
PFOS	8.191	498.9 -> 79.9	28329	3.56 µg/L	76
		498.9 -> 98.8	13223		
TCDCa	6.613	498.9 -> 79.9	5991	5.58 ng/ml	100
TDCA	6.762	498.9 -> 79.9	7535	7.75 ng/ml	100
TUDCA	5.760	498.9 -> 79.9	11436	5.54 ng/ml	100

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

7.6.1

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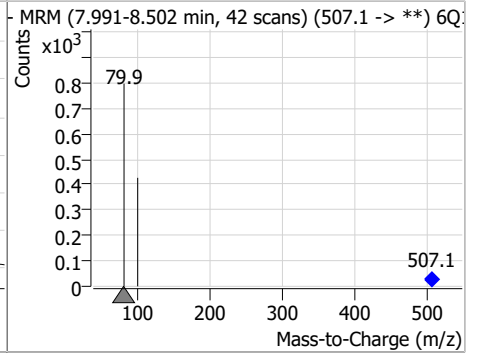
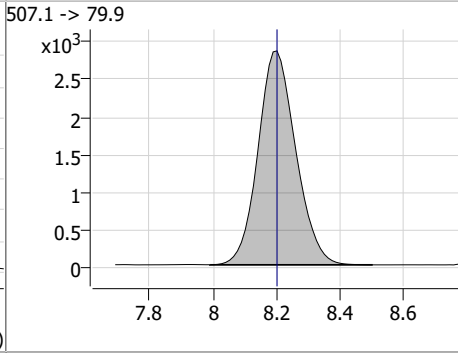
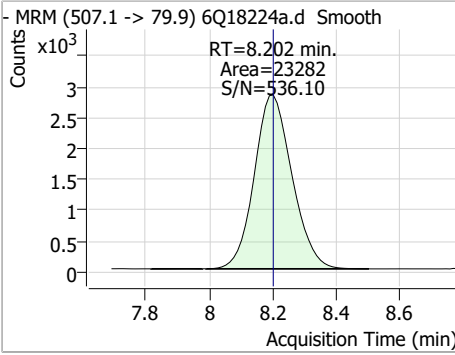
Perfluorinated Compounds by LC/MS/MS



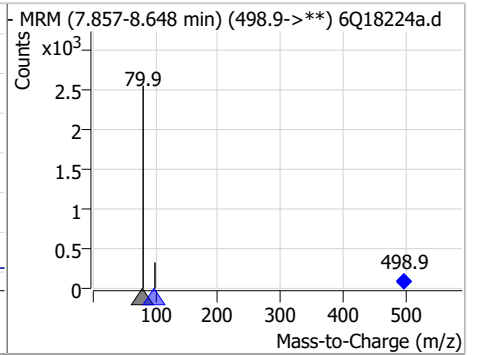
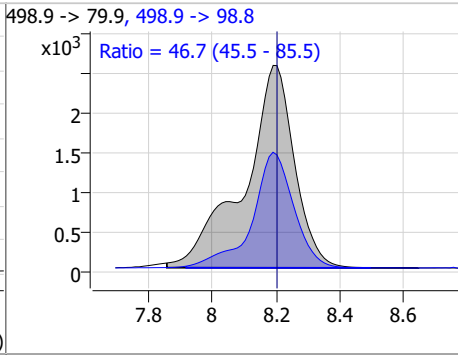
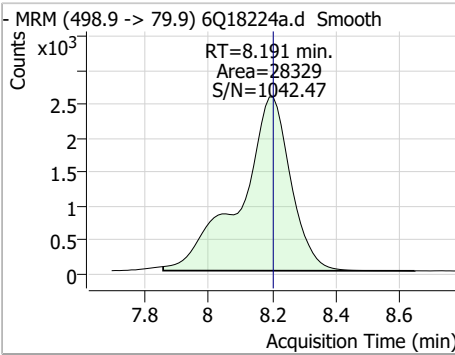
7.6.1
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.95	8.20	0.00	23282				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.56	8.19	-0.01	28329	498.9 -> 98.8	46.7	45.5	85.5



7.6.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18225a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 3:42:41 PM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	231050	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	76345	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	82485	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	76032	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	113555	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47064	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29054	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	41445	1.25 µg/L	0.000
M2-PFDoDA	8.925	615.1 -> 570.0	35360	1.25 µg/L	0.012
M2-PFTeDA	9.652	715.2 -> 670.0	18476	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	38704	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	30006	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	18328	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16733	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4034	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5565	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5970	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32941	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	53919	10.00 µg/L	-0.012
M5-EtFOSAA	8.304	589.2 -> 419.0	30286	5.00 µg/L	0.012
M7-MeFOSE	10.660	623.2 -> 58.9	127068	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	160898	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16211	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16458	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	22148	2.50 µg/L	0.012
13C3-PFBA	2.879	216.0 -> 172.0	97624	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	12811	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	120093	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38392	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56074	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	81628	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4034	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5565	4.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5970	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-PFDoDA	8.925	615.1 -> 570.0	35360	1.30 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFTeDA	9.652	715.2 -> 670.0	18476	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C3-PFBS	5.347	302.1 -> 79.9	30006	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C3-PFHxS	7.142	402.1 -> 79.9	18328	2.61 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 = 104.5%	
13C4-PFBA	2.876	216.8 -> 171.9	231050	9.95 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C4-PFHpA	6.395	367.1 -> 322.0	76032	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C5-PFHxA	5.429	318.0 -> 273.0	82485	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFPeA	4.235	268.3 -> 223.0	76345	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	29054	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C7-PFUnDA	8.492	570.0 -> 525.1	41445	1.40 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C8-FOSA	9.598	506.1 -> 77.8	38704	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C8-PFOA	7.038	421.1 -> 376.0	113555	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	16733	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C9-PFNA	7.569	472.1 -> 427.0	47064	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32941	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	53919	9.86 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	16458	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%	
d5-EtFOSAA	8.304	589.2 -> 419.0	30286	4.89 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d7-MeFOSE	10.660	623.2 -> 58.9	127068	23.55 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	160898	23.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
d5-EtFOSA	10.972	531.1 -> 219.0	16211	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	316817	42.87 µg/L	94
		327.1 -> 80.9	112934		
6:2FTS	6.813	427.1 -> 407.0	304619	48.43 µg/L	99
		427.1 -> 80.9	102323		
8:2FTS	7.840	527.1 -> 507.0	161220	44.87 µg/L	99
		527.1 -> 80.8	67722		
EtFOSAA	8.305	584.2 -> 419.1	56856	12.31 µg/L	96
		584.2 -> 526.0	29321		
FOSA	9.602	498.1 -> 77.9	431689	28.69 µg/L	100
		498.1 -> 478.0	12706		
MeFOSAA	8.097	570.1 -> 419.0	97767	12.22 µg/L	99
		570.1 -> 483.0	18231		
PFBA	2.868	212.8 -> 168.9	443107	49.19 µg/L	100
PFBS	5.348	298.7 -> 79.9	120835	10.51 µg/L	94
		298.7 -> 98.8	47691		
PFDA	8.040	512.9 -> 469.0	484950	12.25 µg/L	96
		512.9 -> 219.0	86125		
PFDoDA	8.913	613.1 -> 569.0	322455	11.48 µg/L	92
		613.1 -> 319.0	54679		
PFDS	9.076	599.0 -> 79.9	53707	11.43 µg/L	99

7.6.2

7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	26606	12.09	µg/L	95
		363.1 -> 319.0	473819			
PFHpS	7.698	363.1 -> 169.0	80002	11.80	µg/L	98
		449.0 -> 79.9	107591			
PFHxA	5.432	449.0 -> 98.9	52000	12.04	µg/L	99
		313.0 -> 269.0	385629			
PFHxS	7.143	313.0 -> 118.9	18624	10.32	µg/L	98
		398.7 -> 79.9	102420			
PFNA	7.434	398.7 -> 98.9	49906	28.53	µg/L	97
		463.0 -> 419.0	1108642			
PFNS	8.657	463.0 -> 219.0	229290	11.51	µg/L	90
		548.8 -> 79.9	90644			
PFOA	7.040	548.8 -> 98.9	50215	26.69	µg/L	96
		413.0 -> 369.0	1417149			
PFOS	8.191	413.0 -> 169.0	270848	11.90	µg/L	89
		498.9 -> 79.9	105712			
PFPeA	4.237	498.9 -> 98.8	47832	24.59	µg/L	100
		263.0 -> 219.0	506286			
PFPeS	6.434	349.1 -> 79.9	109366	11.23	µg/L	96
		349.1 -> 98.9	48929			
PFTeDA	9.652	713.1 -> 669.0	245915	11.40	µg/L	96
		713.1 -> 168.9	22281			
PFTrDA	9.309	663.0 -> 619.0	329517	12.04	µg/L	94
		663.0 -> 168.9	37643			
PFUnDA	8.493	563.1 -> 519.0	332085	11.21	µg/L	94
		563.1 -> 269.1	59661			
11CI-PF3OUdS	9.360	630.9 -> 450.9	483179	23.32	µg/L	97
		632.9 -> 452.9	141996			
9CI-PF3ONS	8.520	530.8 -> 351.0	769356	22.23	µg/L	99
		532.8 -> 353.0	246924			
ADONA	6.646	376.9 -> 250.9	1789723	22.51	µg/L	98
		376.9 -> 84.8	465286			
HFPO-DA	5.795	284.9 -> 168.9	131878	24.93	µg/L	93
		284.9 -> 184.9	14039			
3:3FTCA	3.727	241.0 -> 177.0	89126	60.01	µg/L	95
		241.0 -> 117.0	11155			
5:3FTCA	6.099	341.0 -> 237.1	1725903	293.44	µg/L	94
		341.0 -> 217.0	1305807			
7:3FTCA	7.523	441.0 -> 316.9	1142439	300.49	µg/L	99
		441.0 -> 336.9	2537639			
EtFOSA	10.974	526.0 -> 219.0	348282	42.82	µg/L	94
		526.0 -> 169.0	455265			
EtFOSE	10.907	630.0 -> 58.9	608672	77.98	µg/L	100
		511.9 -> 219.0	297535			
MeFOSA	10.741	511.9 -> 169.0	412775	42.61	µg/L	95
		616.1 -> 58.9	464528			
MeFOSE	10.673	699.1 -> 79.9	23735	82.29	µg/L	100
		699.1 -> 98.8	13194			
PFDoDS	9.779	295.0 -> 201.0	94648	11.92	µg/L	97
		295.0 -> 84.9	24270			
NFDHA	5.311	279.0 -> 85.1	352868	23.93	µg/L	97
		229.0 -> 84.9	270152			
PFMBA	4.650	314.8 -> 134.9	948902	24.25	µg/L	100
		314.8 -> 82.9	29960			
PFMPA	3.388			24.40	µg/L	100
PFEESA	5.888			22.04	µg/L	98

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

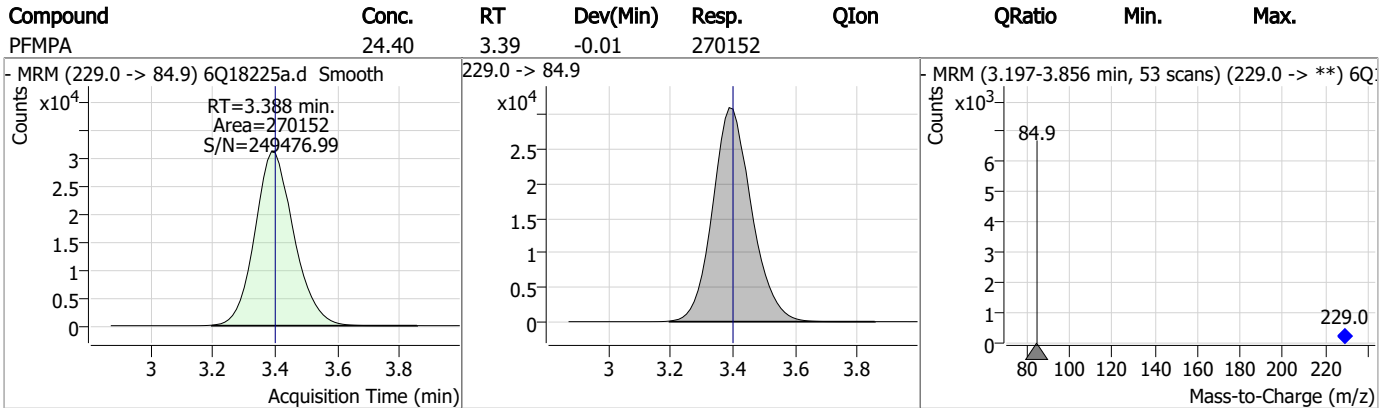
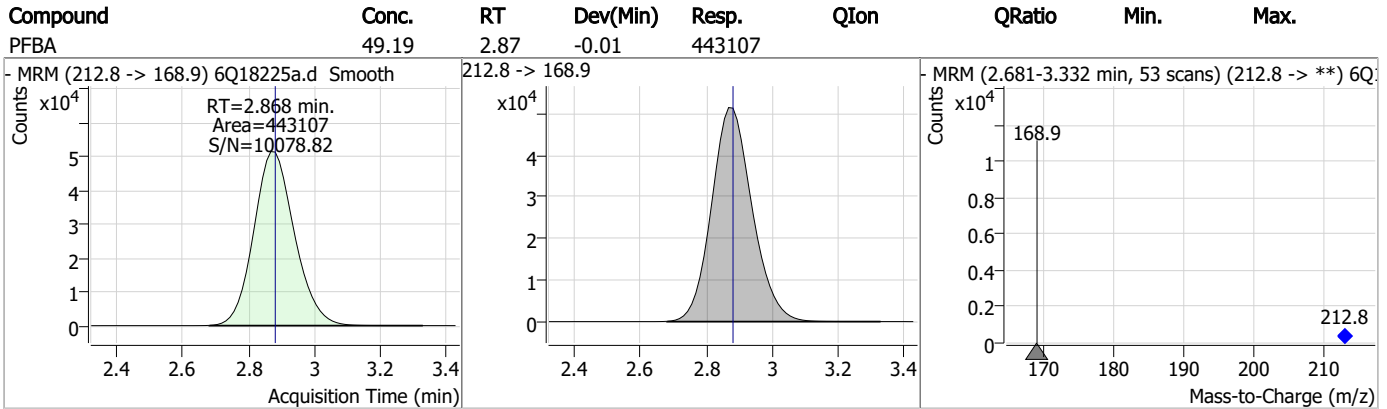
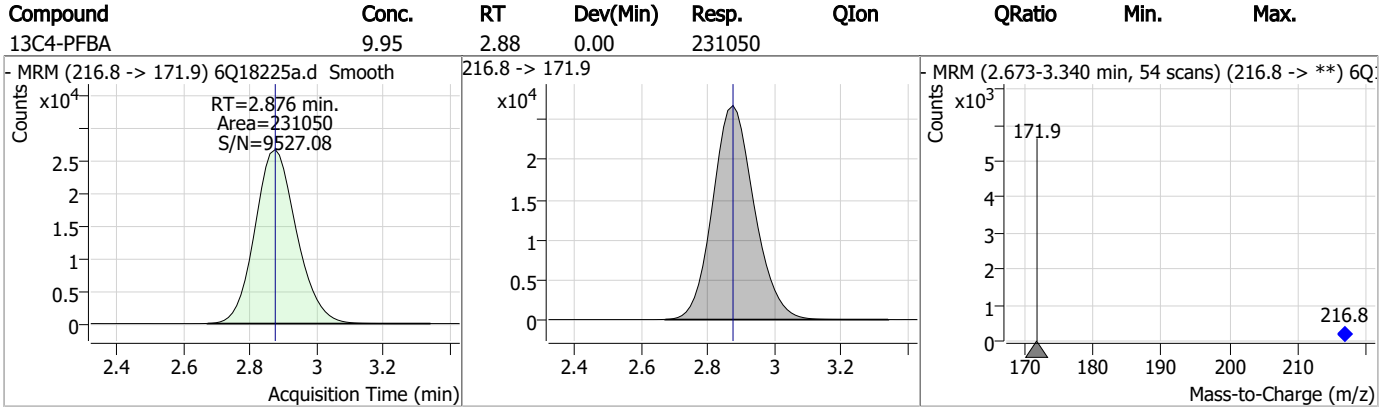
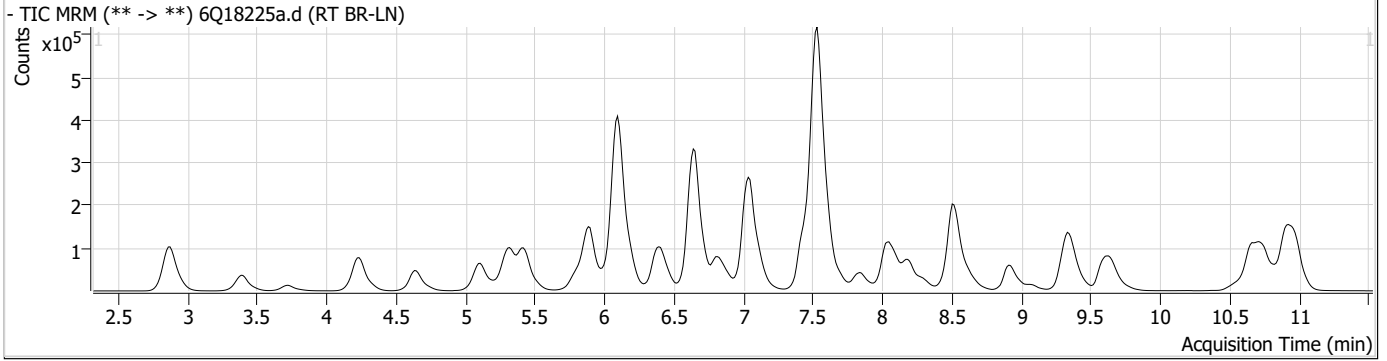
Perfluorinated Compounds by LC/MS/MS

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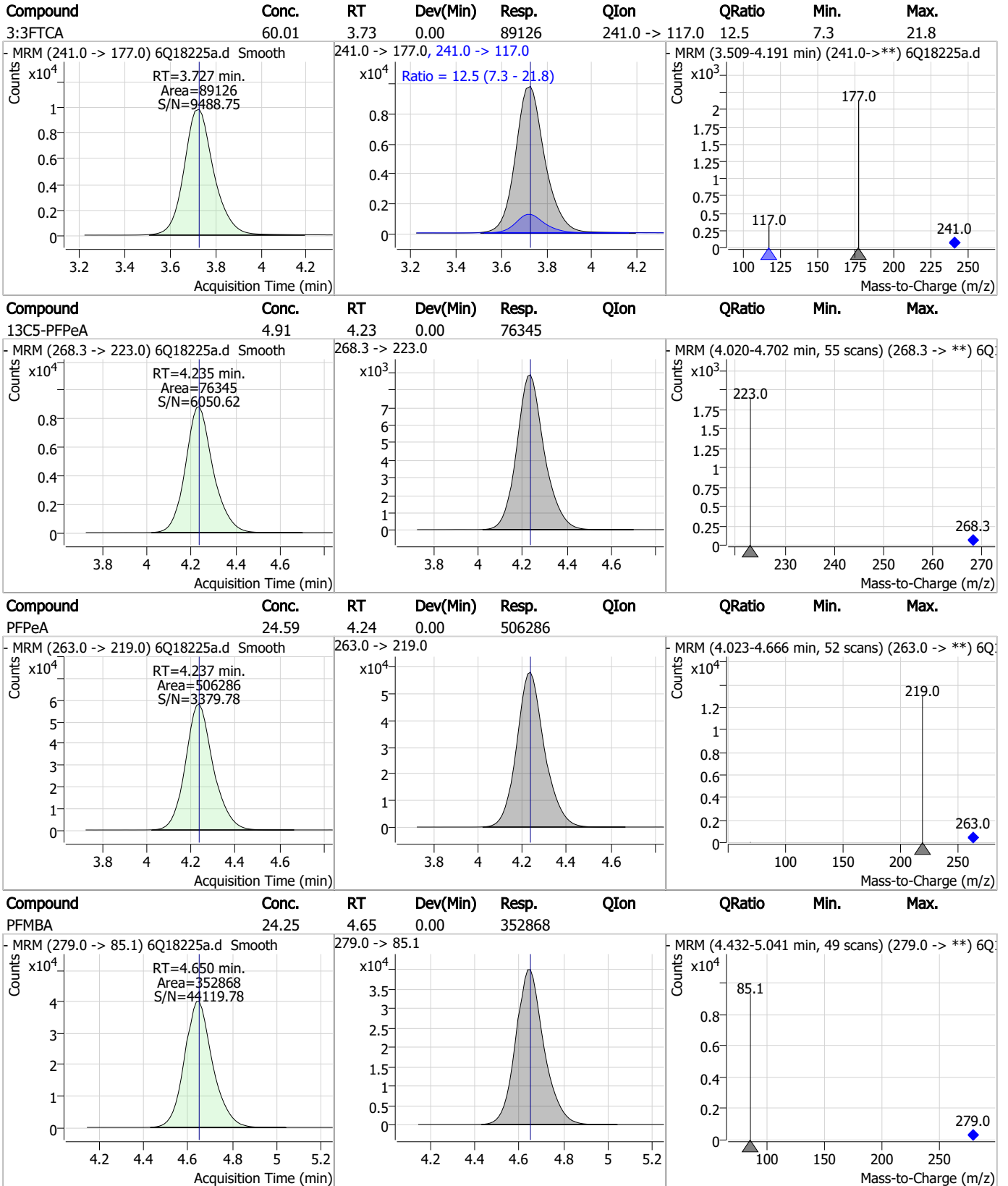
7.6.2

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

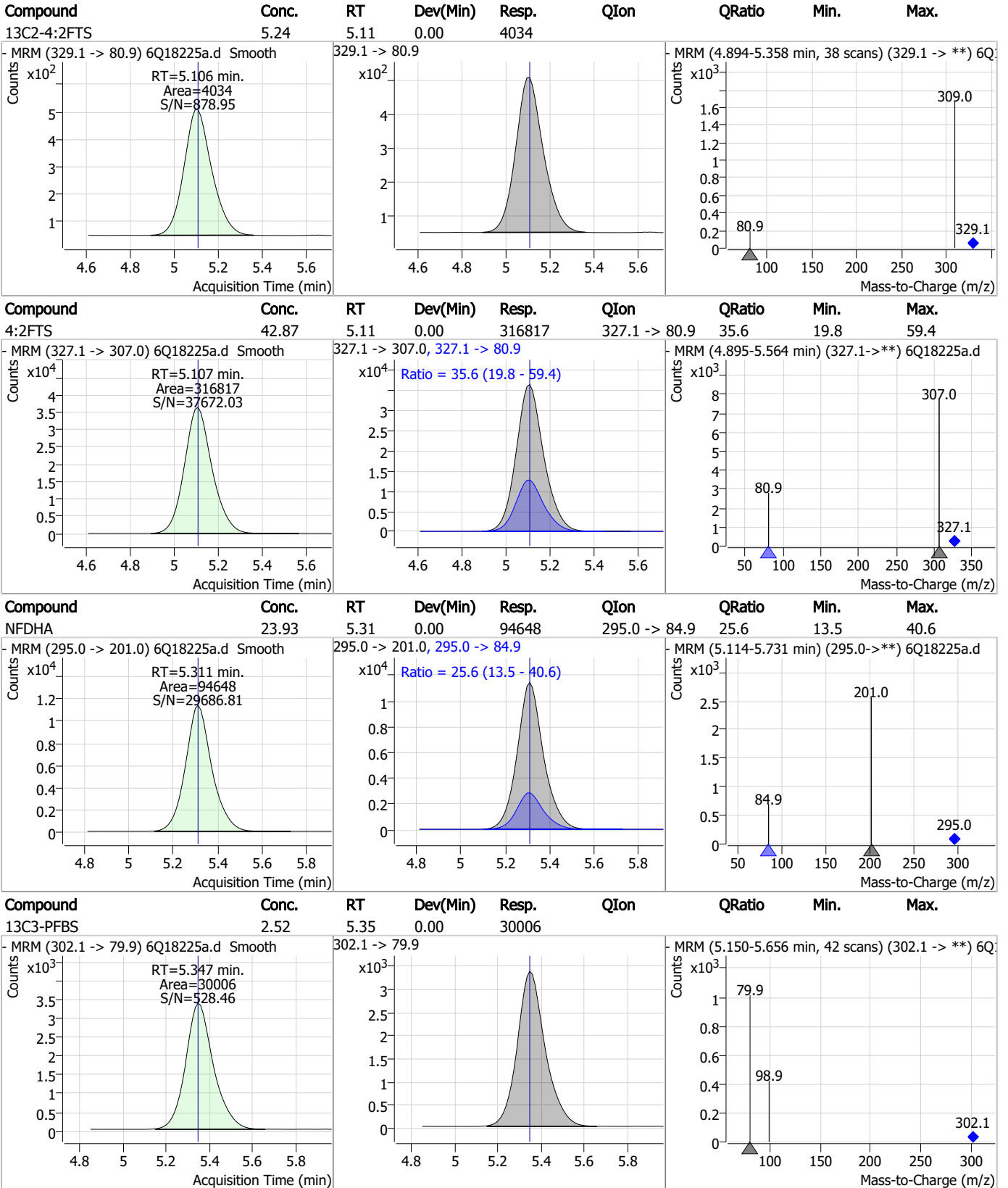


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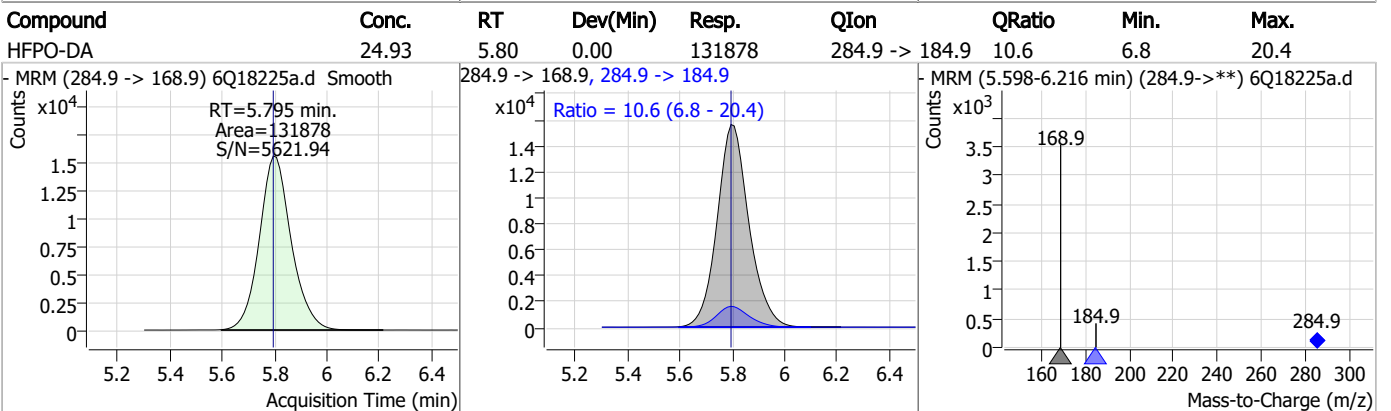
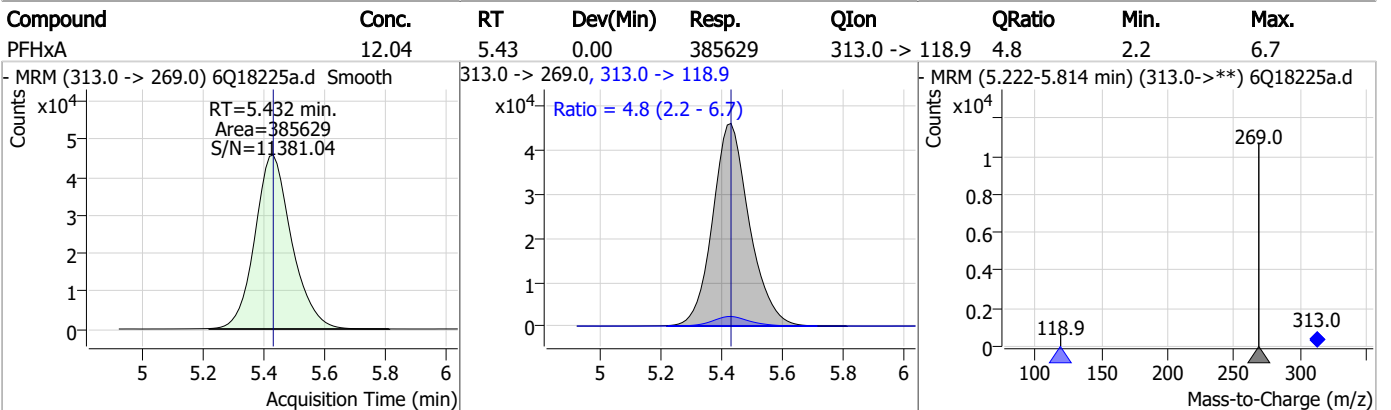
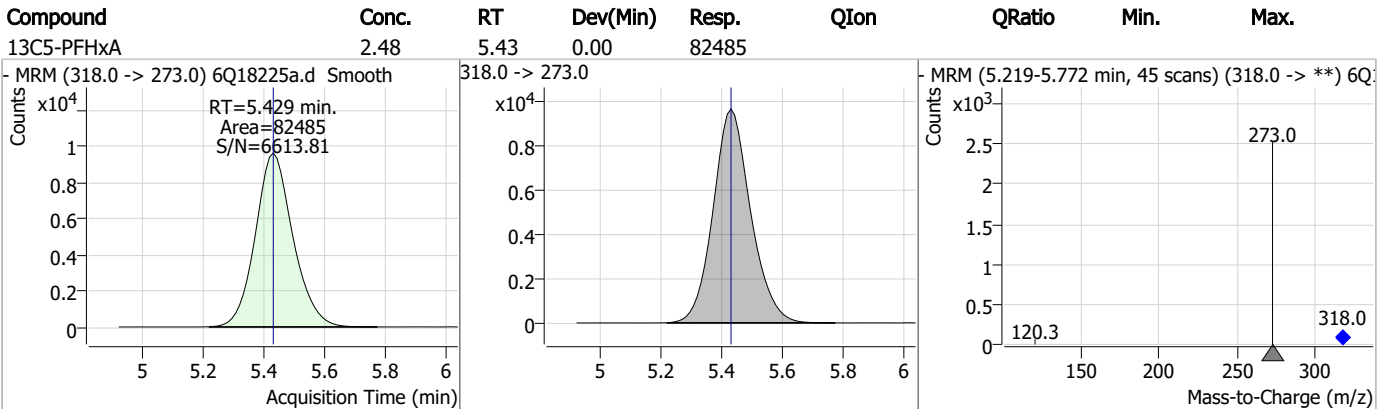
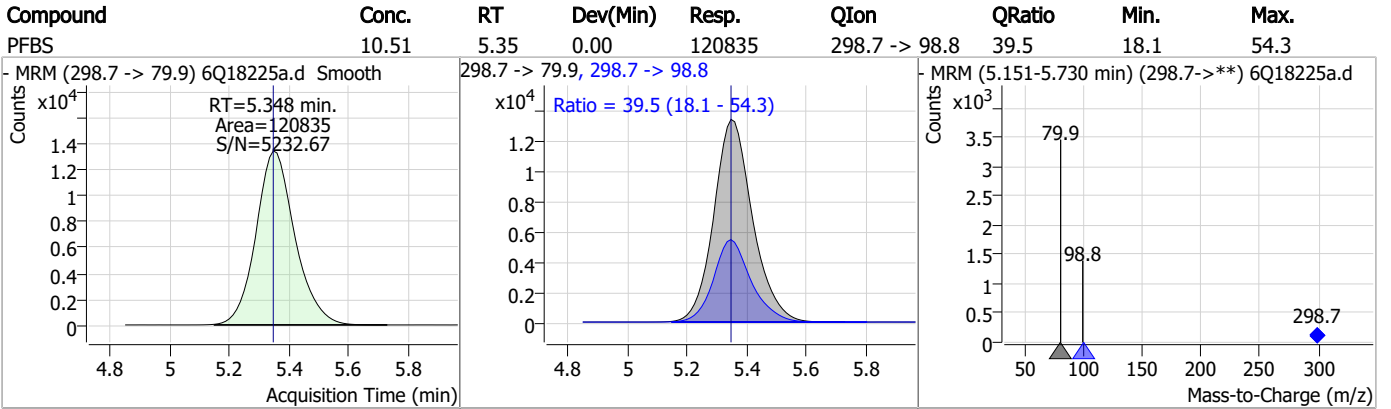
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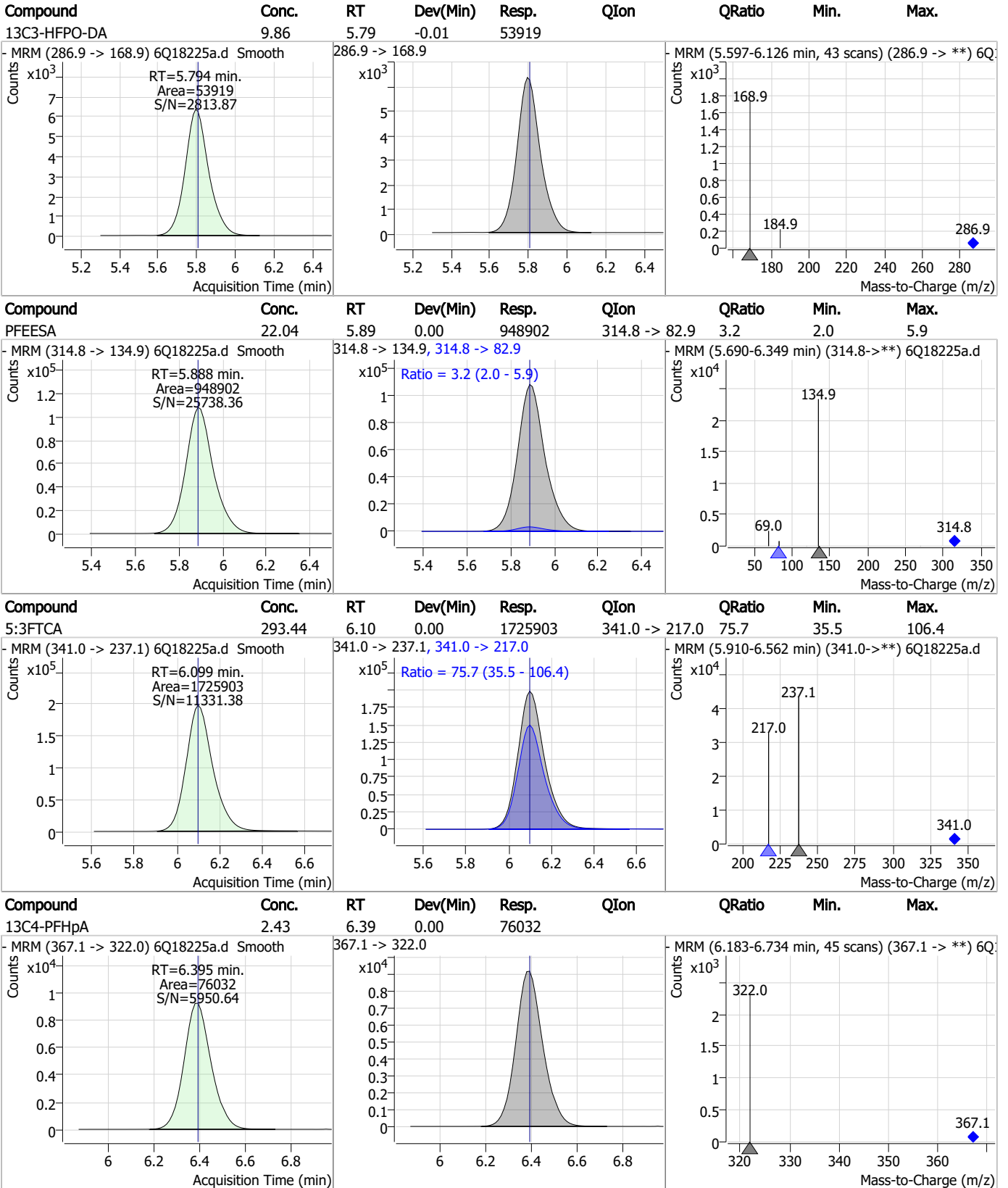
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



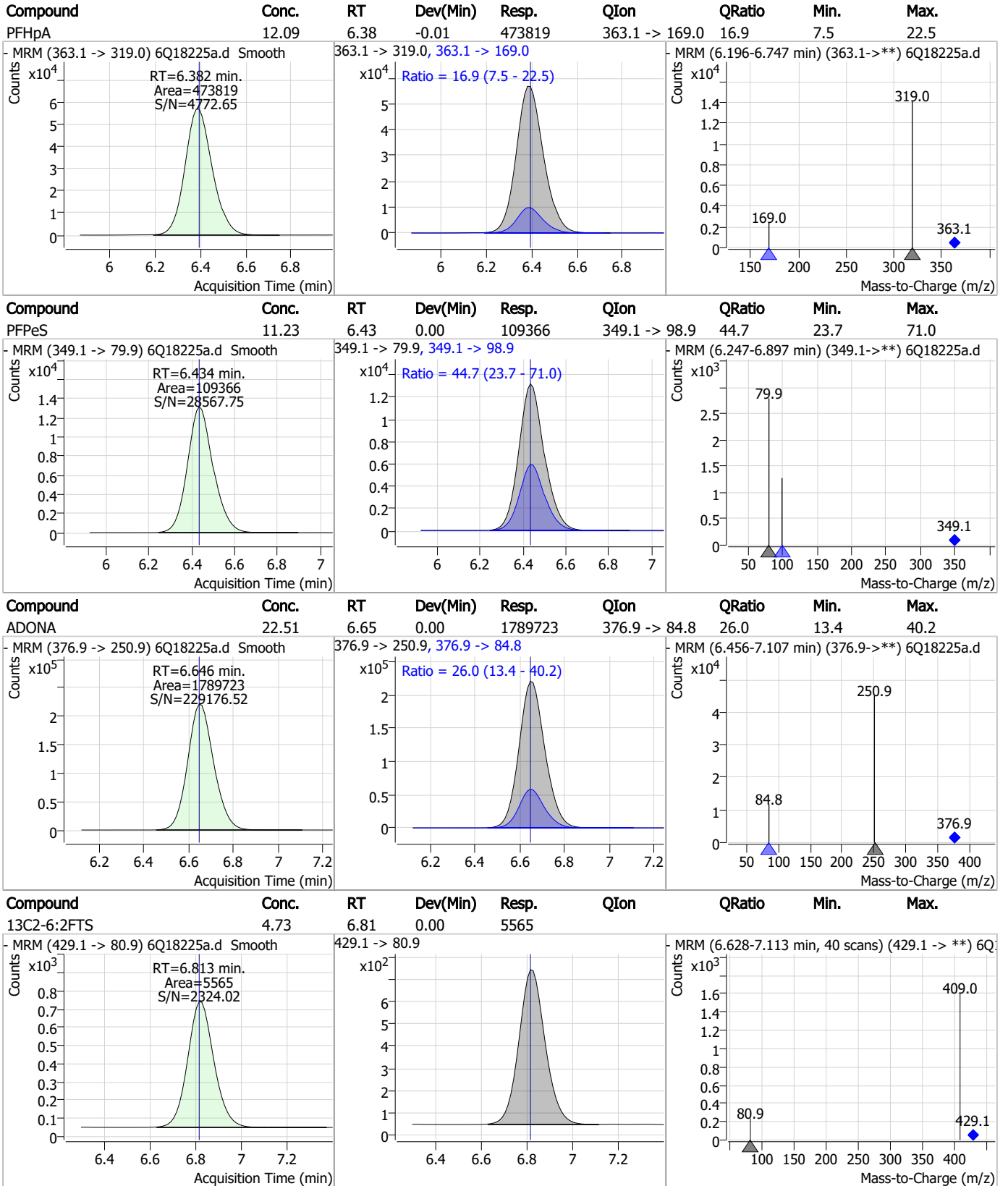
Perfluorinated Compounds by LC/MS/MS



7.6.2

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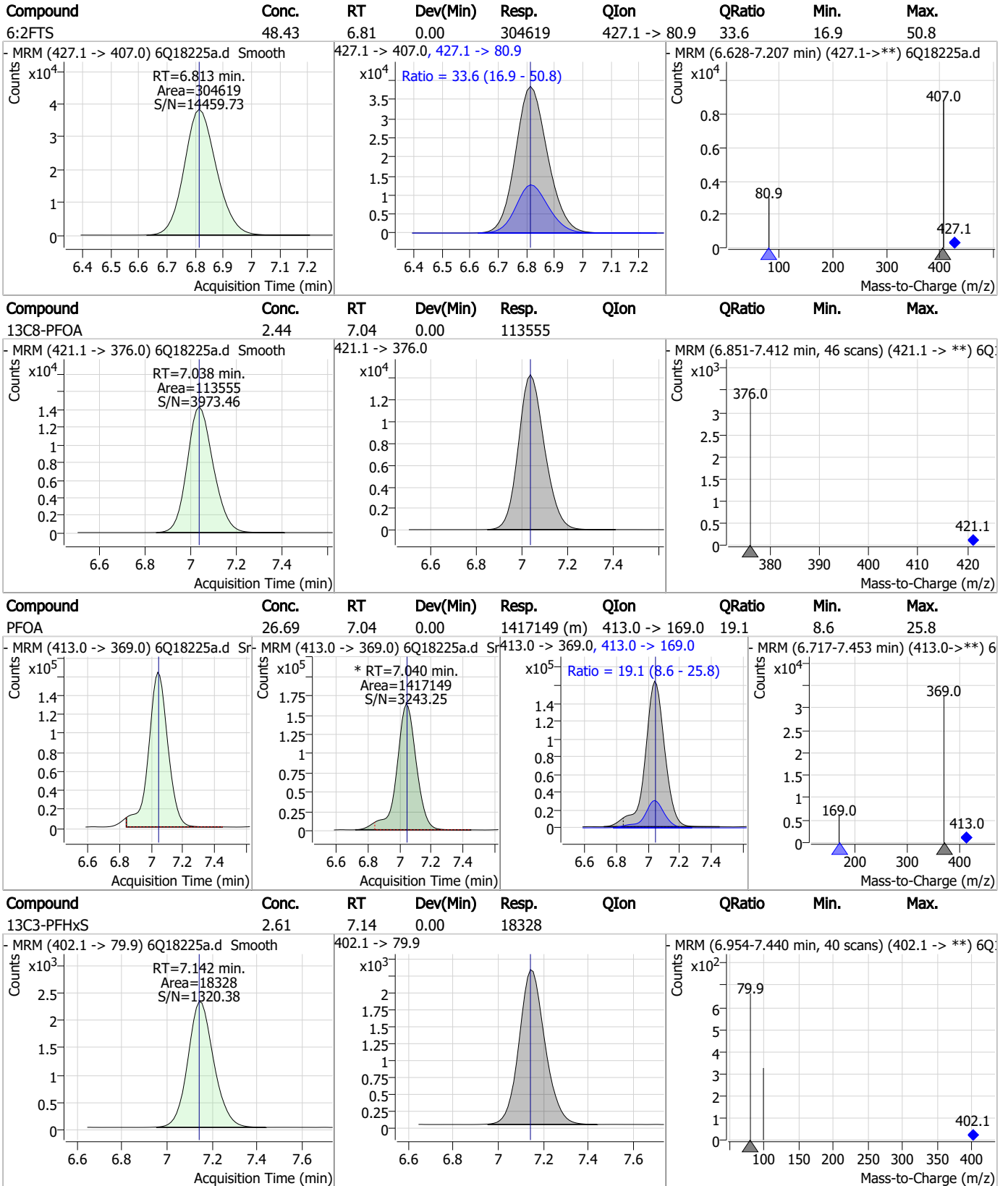
Perfluorinated Compounds by LC/MS/MS



7.6.2

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Perfluorinated Compounds by LC/MS/MS

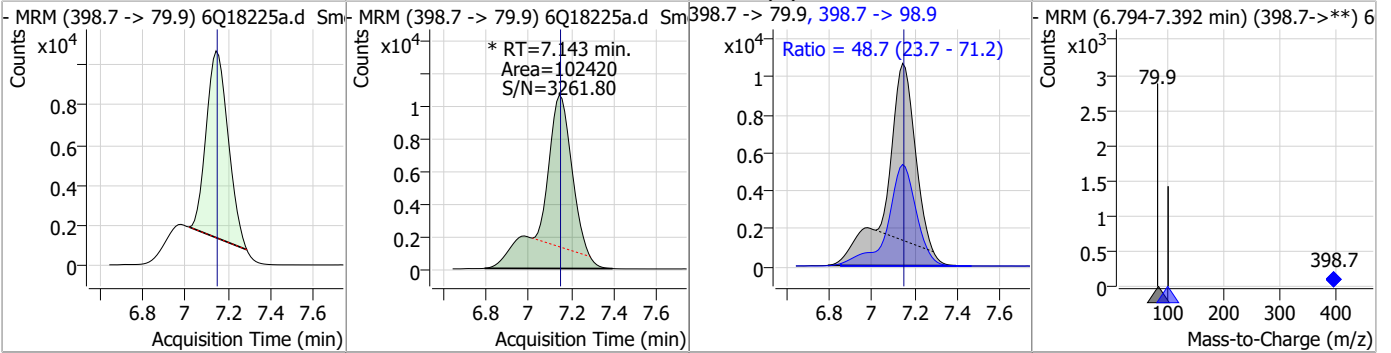


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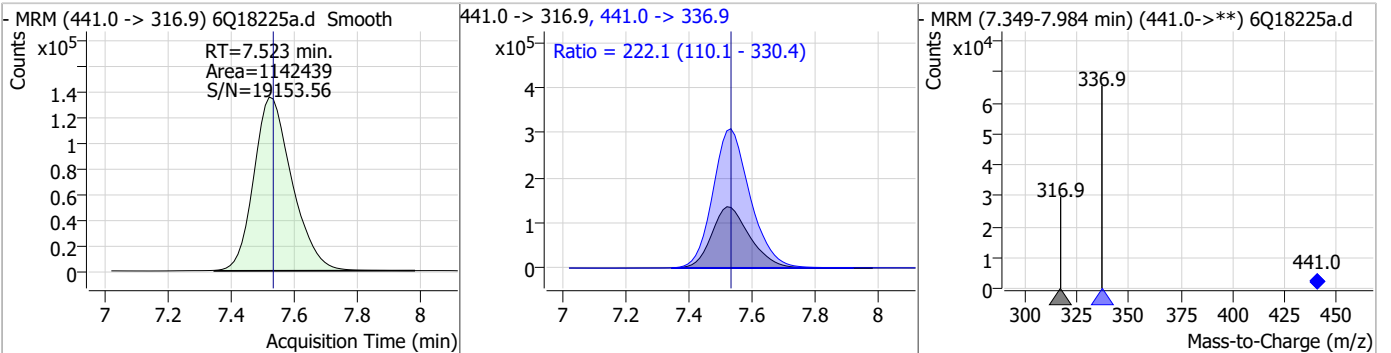
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Perfluorinated Compounds by LC/MS/MS

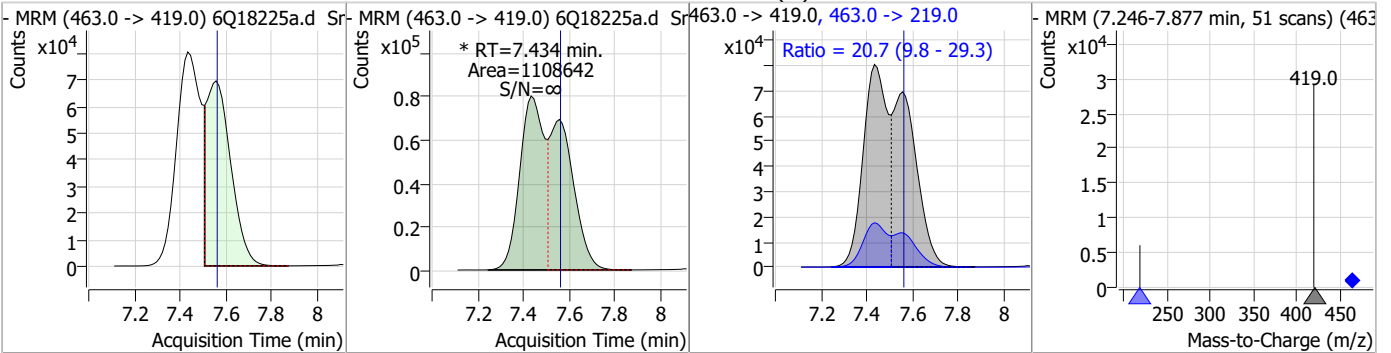
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	10.32	7.14	0.00	102420 (m)	398.7 -> 98.9	48.7	23.7	71.2



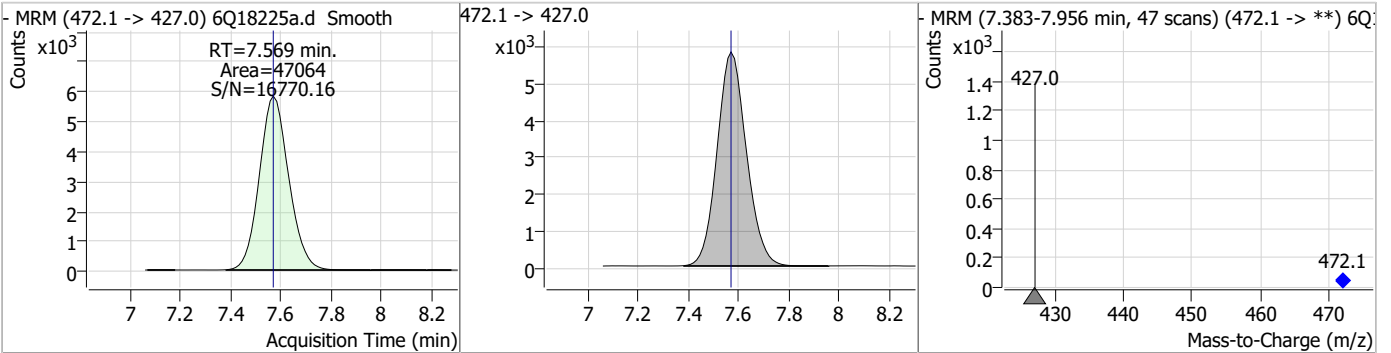
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	300.49	7.52	-0.01	1142439	441.0 -> 336.9	222.1	110.1	330.4



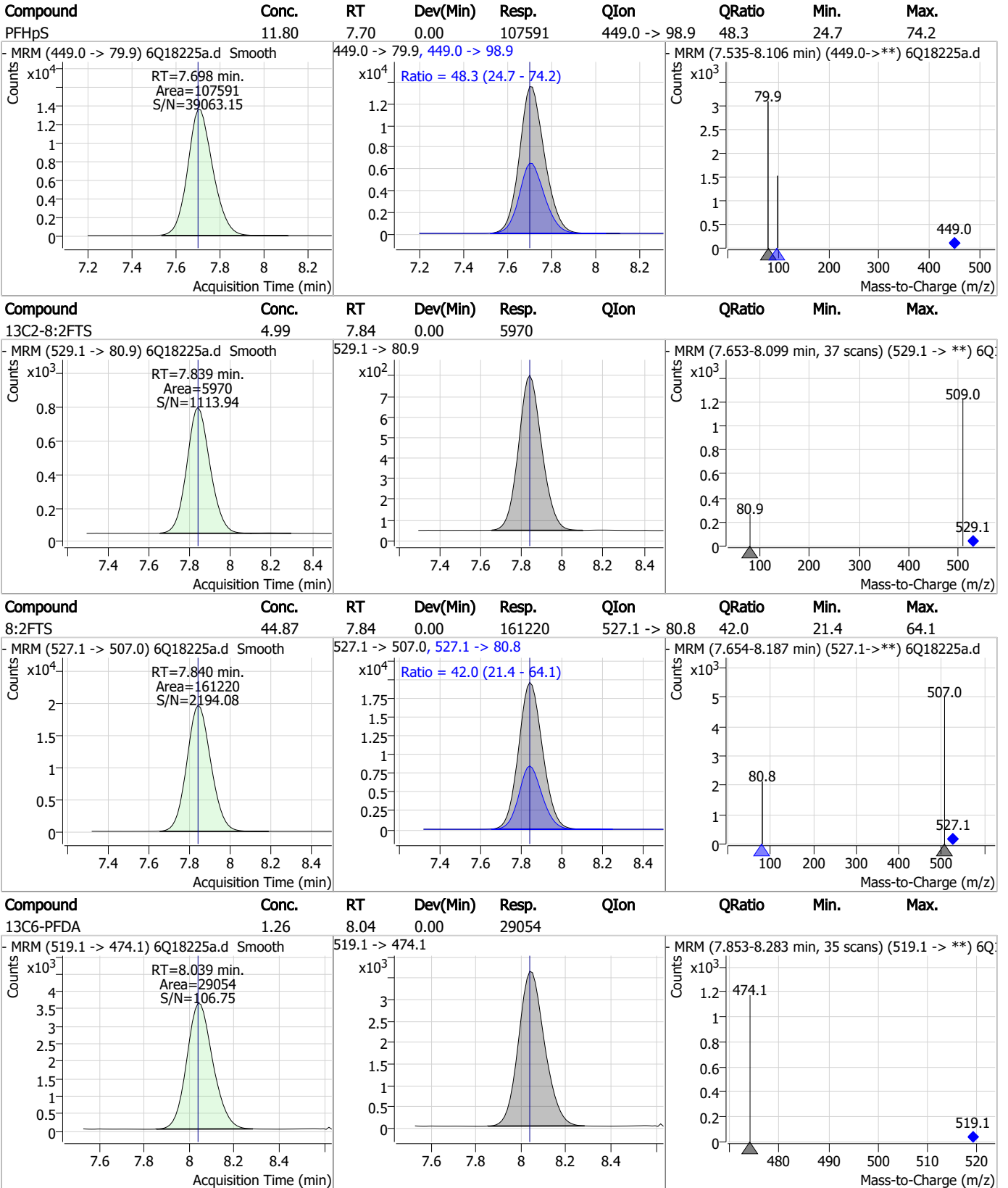
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	28.53	7.43	-0.12	1108642 (m)	463.0 -> 219.0	20.7	9.8	29.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.57	0.00	47064	472.1 -> 427.0			



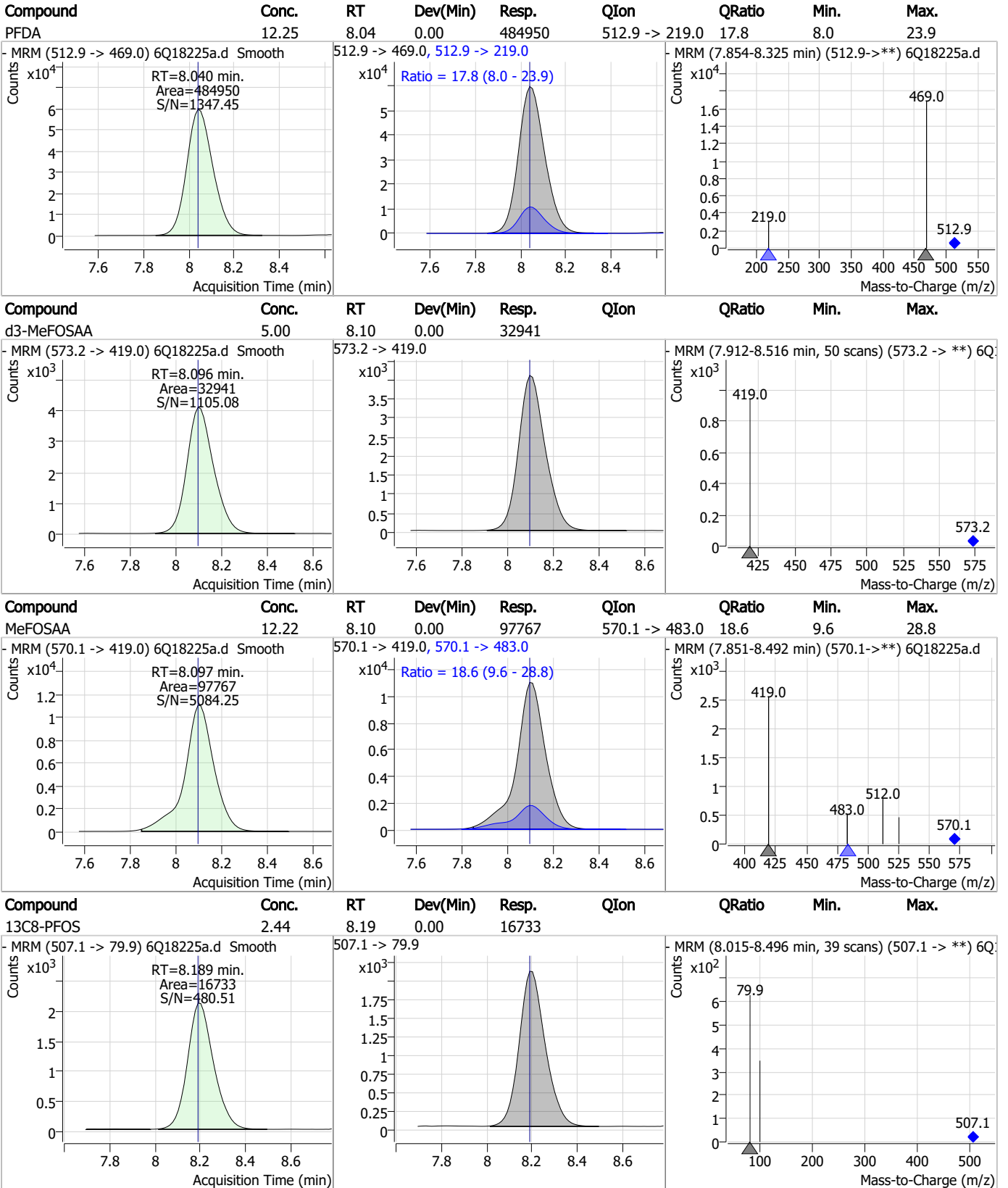
Perfluorinated Compounds by LC/MS/MS



7.6.2

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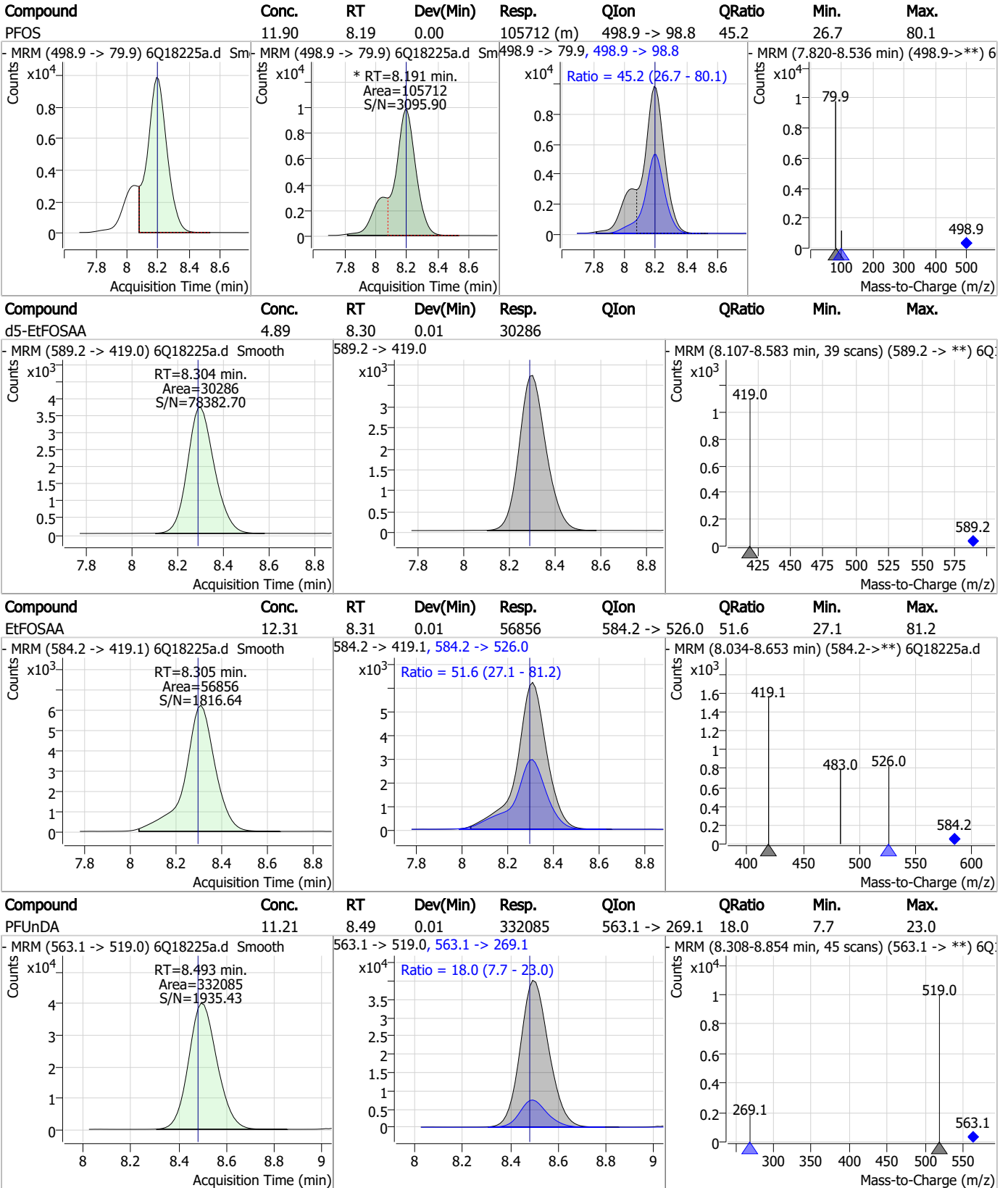
Perfluorinated Compounds by LC/MS/MS



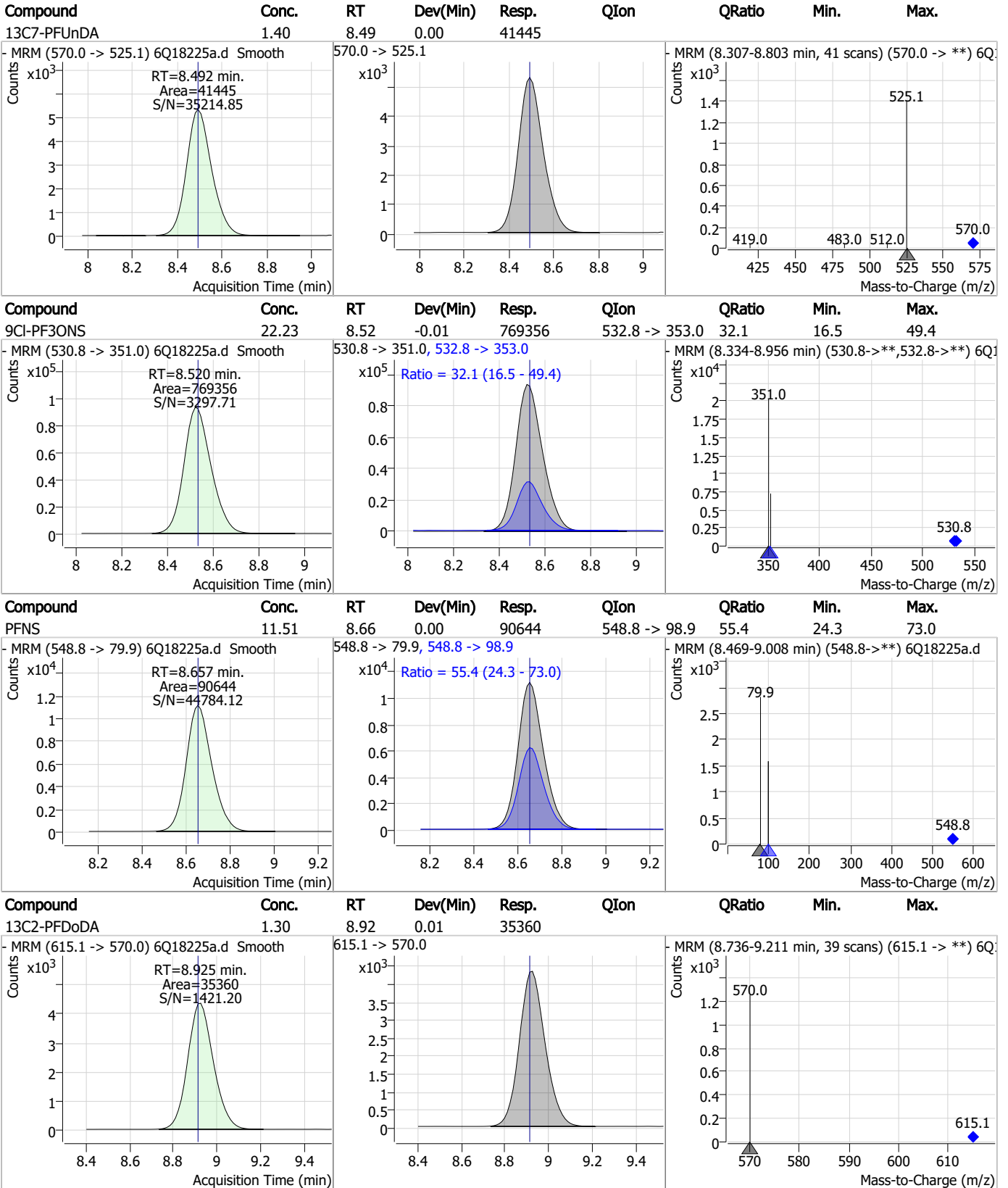
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

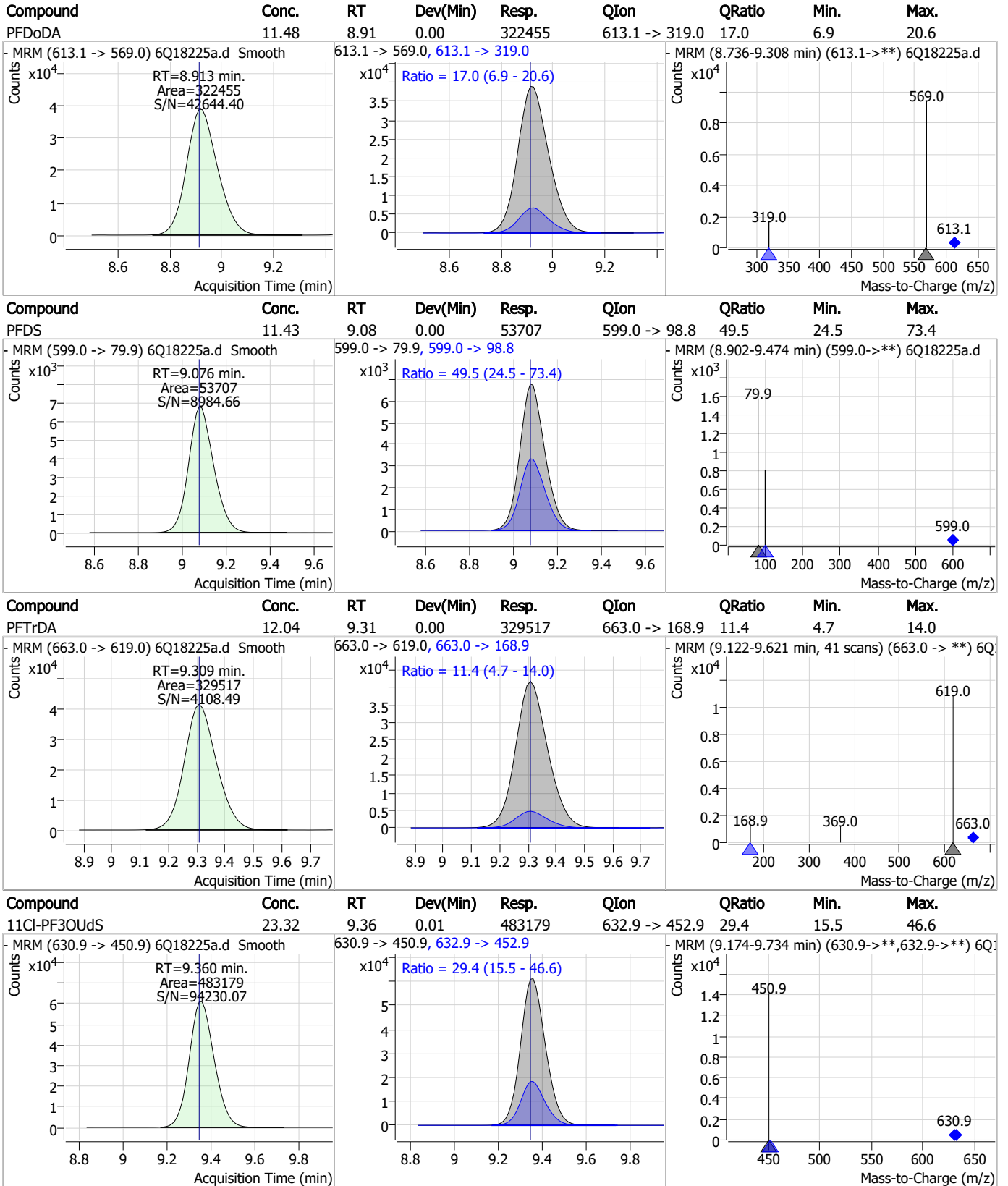


7.6.2

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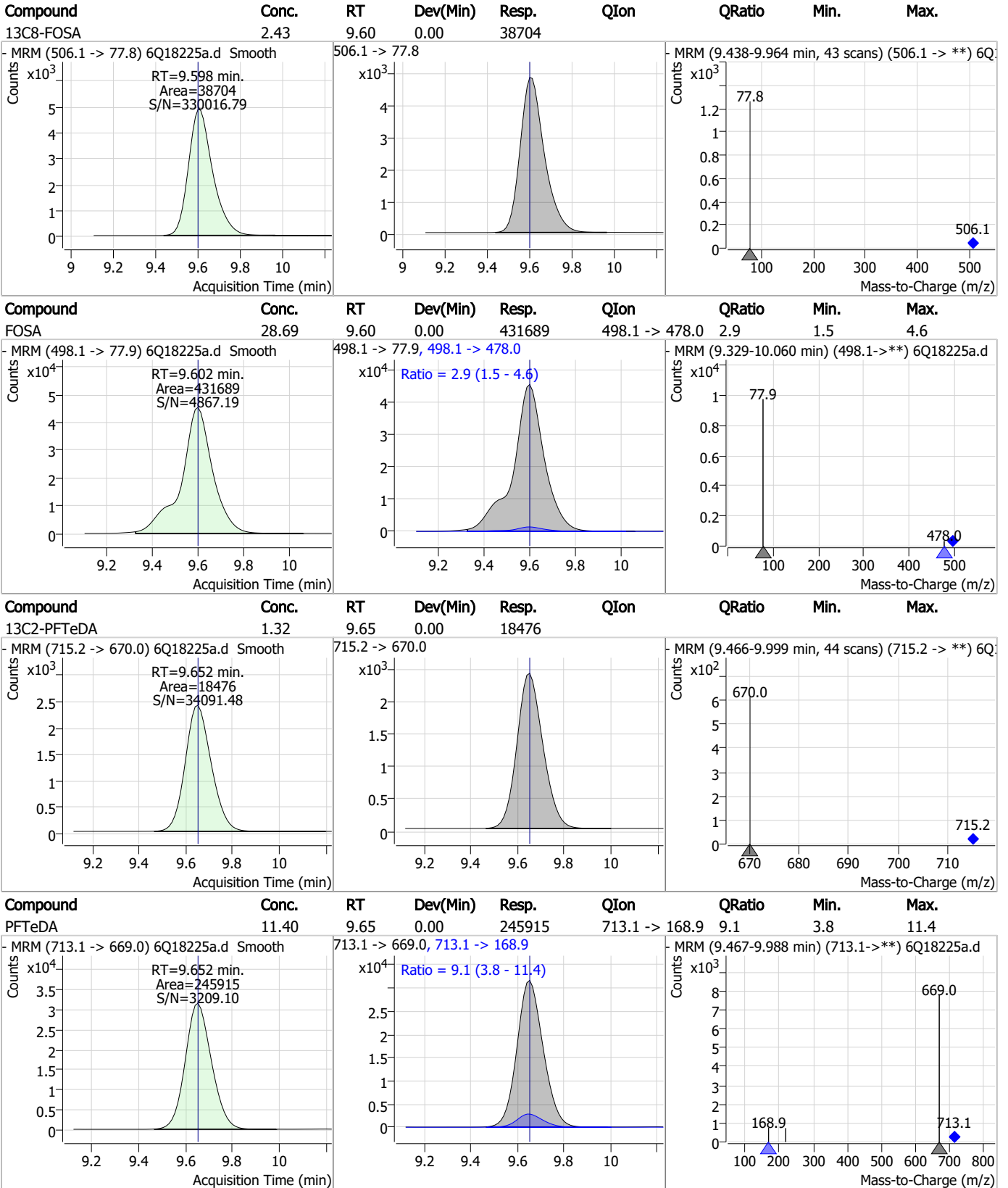
Perfluorinated Compounds by LC/MS/MS



7.6.2

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Perfluorinated Compounds by LC/MS/MS

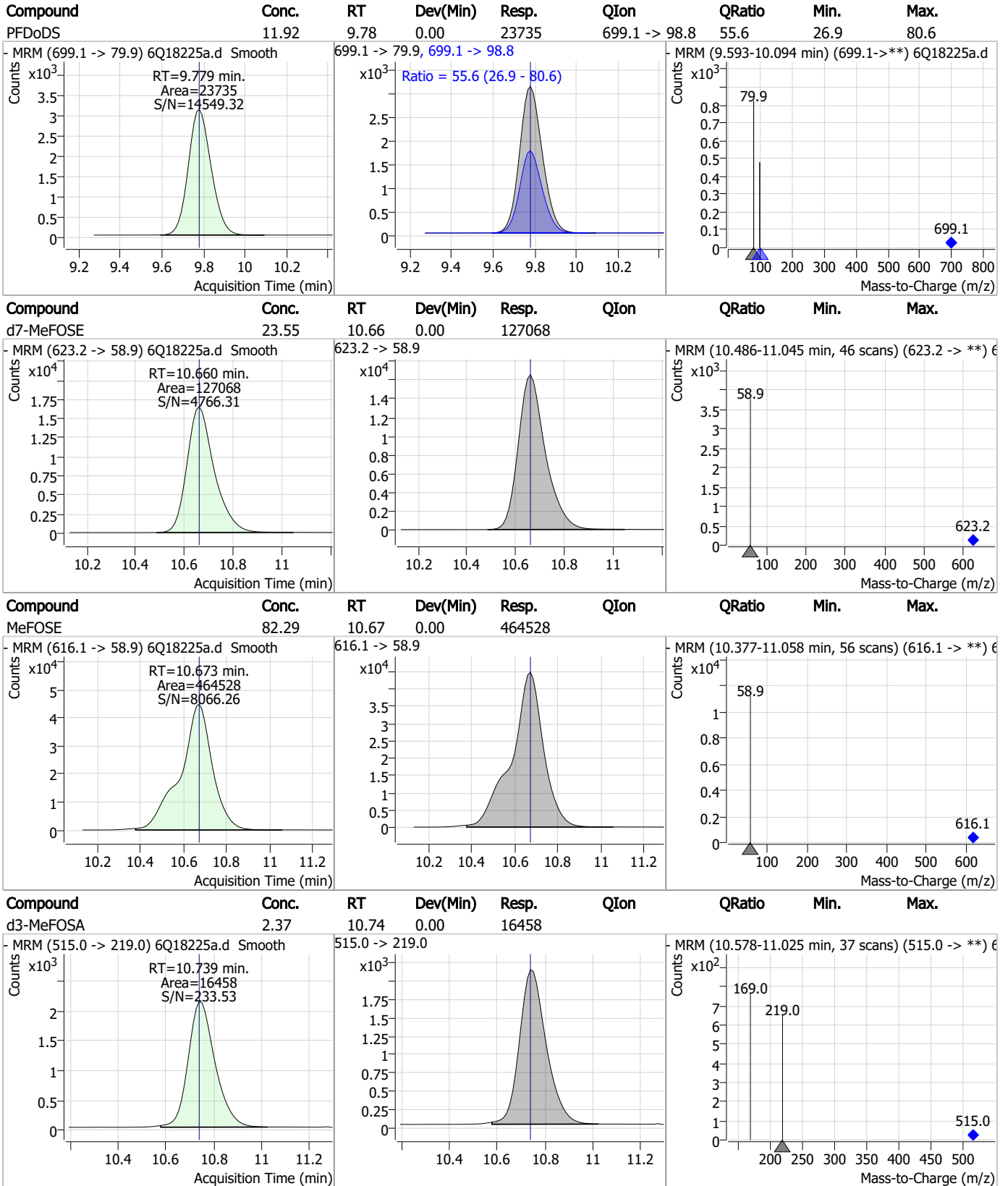


7.6.2

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Perfluorinated Compounds by LC/MS/MS



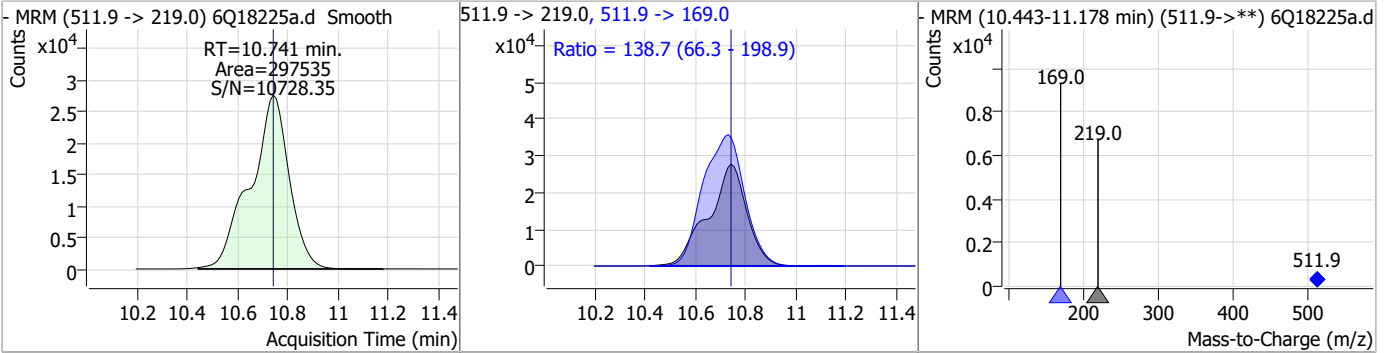
7.6.2

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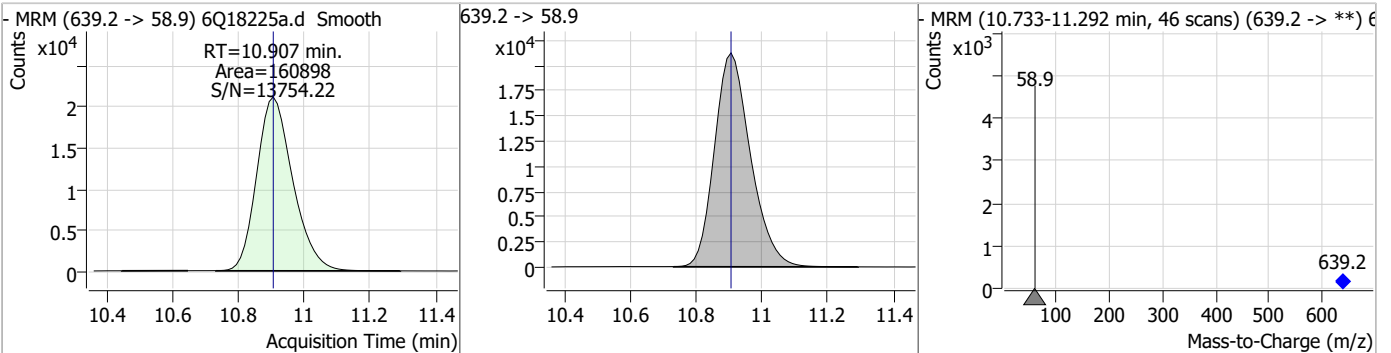


Perfluorinated Compounds by LC/MS/MS

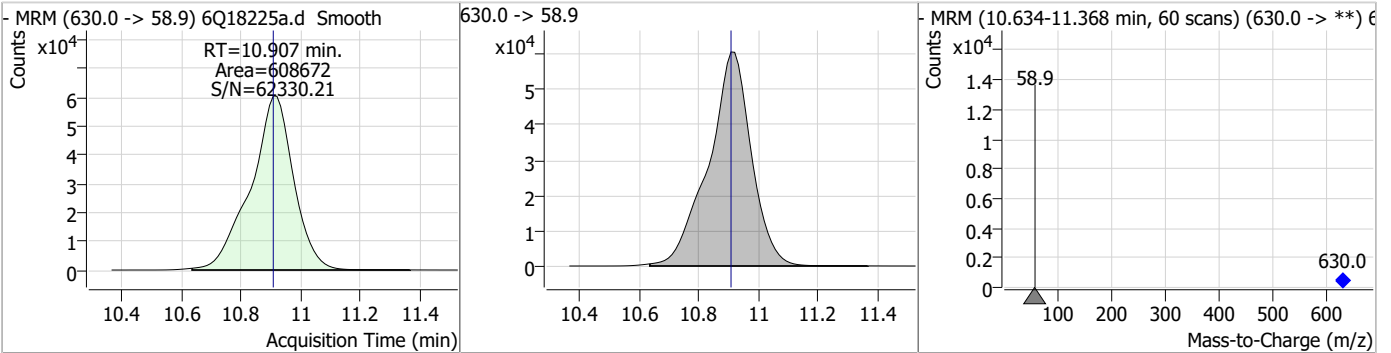
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	42.61	10.74	0.00	297535	511.9 -> 169.0	138.7	66.3	198.9



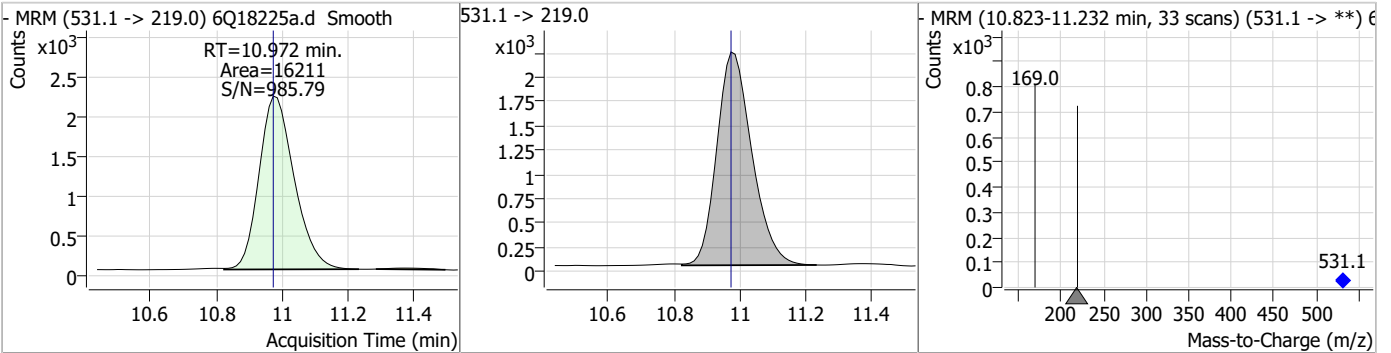
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.96	10.91	0.00	160898				



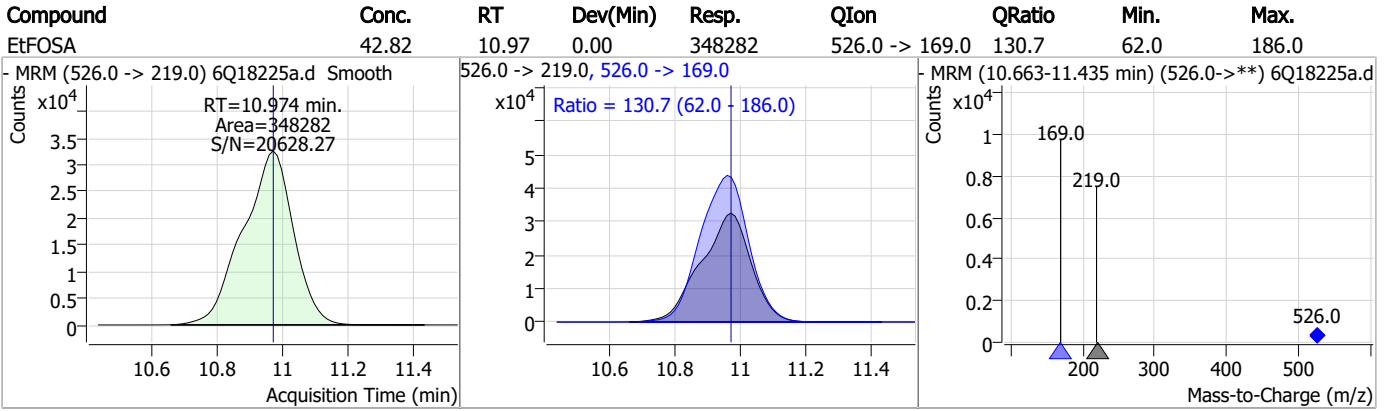
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	77.98	10.91	0.00	608672				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.40	10.97	0.00	16211				



Perfluorinated Compounds by LC/MS/MS



7.6.2

7

Manual Integration Approval Summary

Sample Number: S6Q275-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18225A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 15:42 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.04	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorononanoic acid	375-95-1		7.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.6.2.1
7

Manual Integrations
APPROVED
 (compounds with "m" flag)
 Norman Farmer
 05/25/23 13:01

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18334.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 5:51:38 PM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q276 TDCA.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

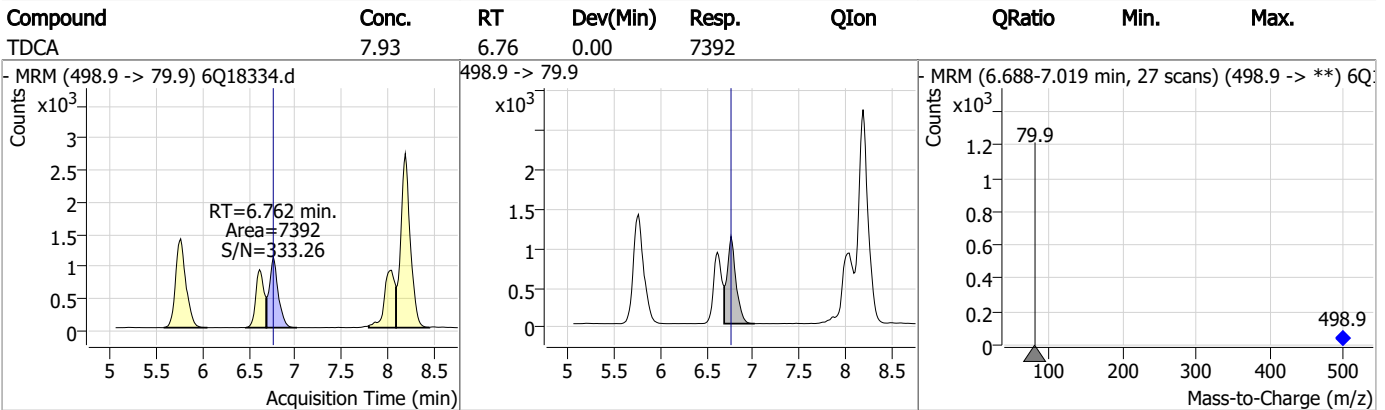
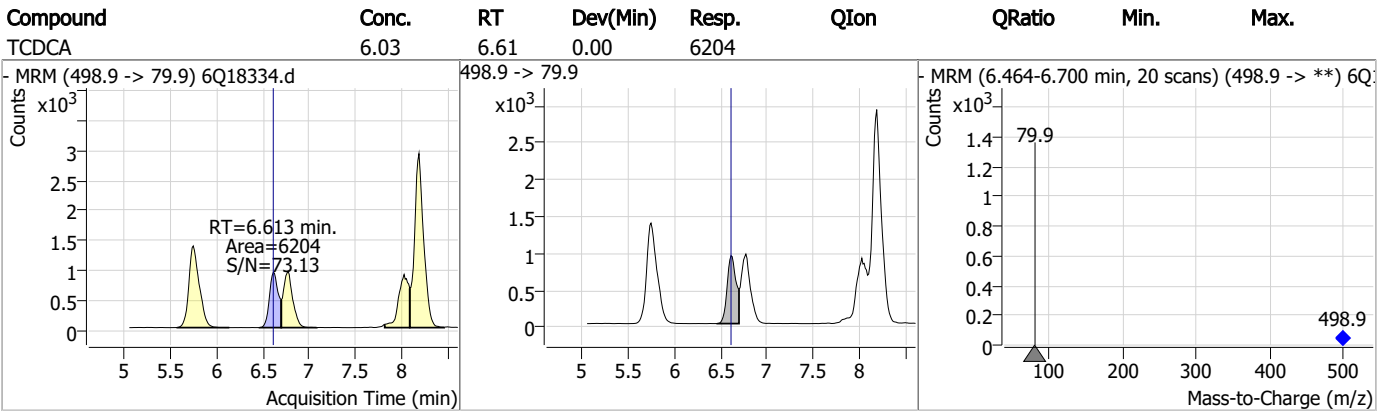
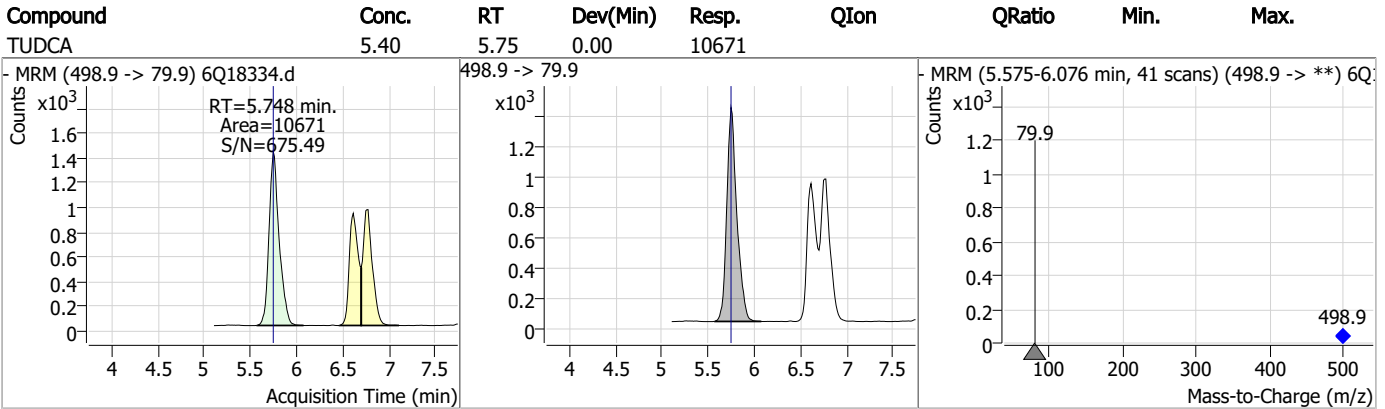
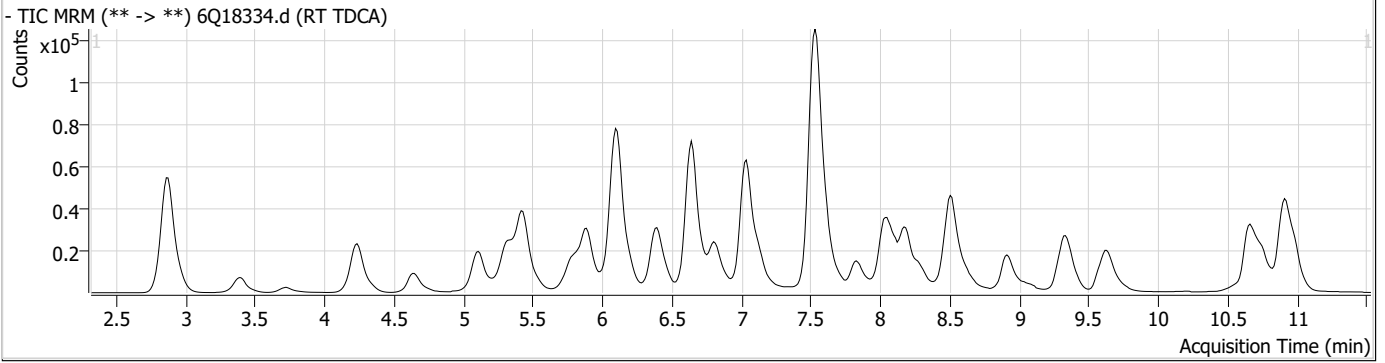
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
Internal Standards							
M8-PFOS	8.189	507.1 -> 79.9	22298	2.50	µg/L	-0.012	
13C4-PFOS	8.190	502.8 -> 79.9	29282	2.50	µg/L	-0.012	
System Monitoring Compounds							
13C8-PFOS	8.189	507.1 -> 79.9	22298	1.93	µg/L	-0.012	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 77.3%				
Target Compounds							
PFOS	8.191	498.9 -> 79.9 498.9 -> 98.8	27294 12990	3.58	µg/L m		77
TCDCa	6.613	498.9 -> 79.9	6204	6.03	ng/ml		100
TDCA	6.762	498.9 -> 79.9	7392	7.93	ng/ml		100
TUDCA	5.748	498.9 -> 79.9	10671	5.40	ng/ml		100

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

7.6.3

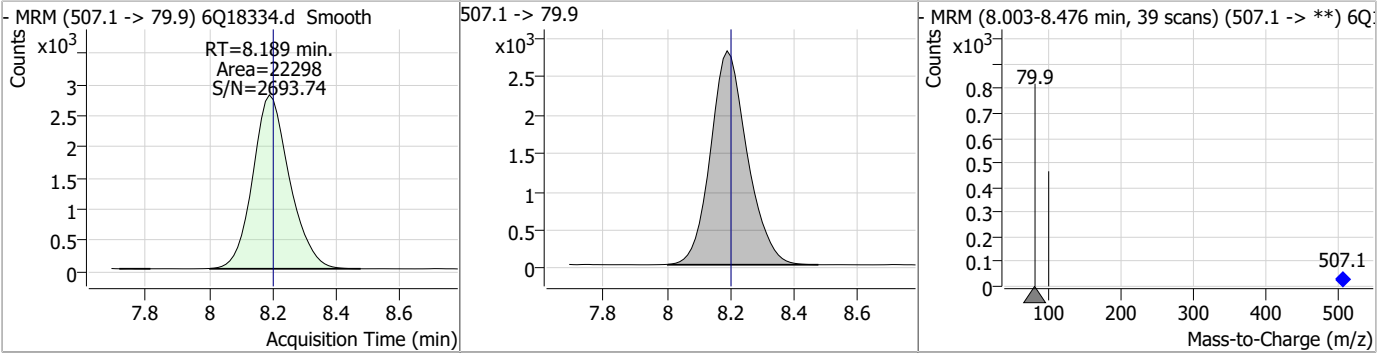
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Perfluorinated Compounds by LC/MS/MS

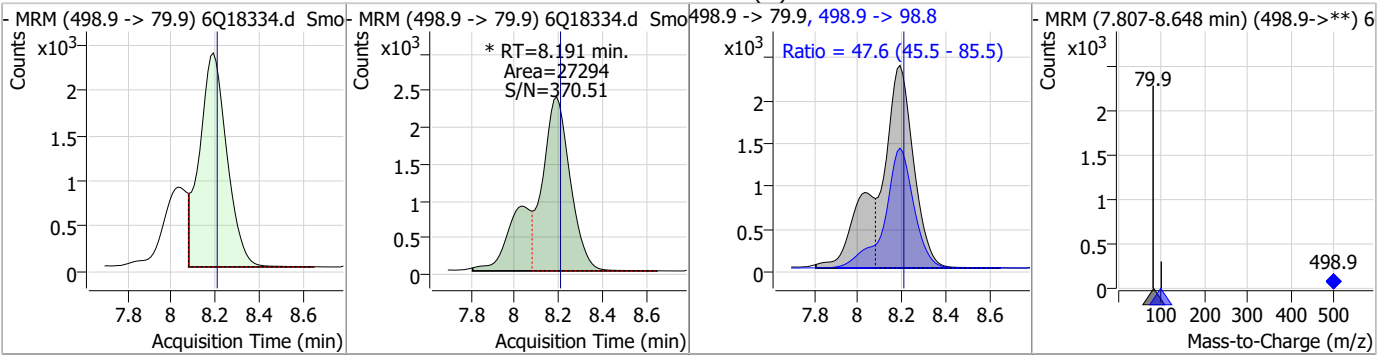


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.93	8.19	-0.01	22298				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.58	8.19	-0.01	27294 (m)	498.9 -> 98.8	47.6	45.5	85.5



7.6.3

7

Manual Integration Approval Summary

Sample Number: S6Q276-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18334.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 17:51 Supervisor approved: 05/25/23 13:01 Norman Farmer

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 : 6Q18335.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 6:06:07 PM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	220378	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	73866	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	79718	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	75920	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	112093	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45823	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29668	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	40149	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	34758	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	17517	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	37747	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	28815	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17386	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16797	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4166	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6047	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6174	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34211	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	52396	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	32666	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	125346	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	154241	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16208	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16703	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20688	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	93963	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	12738	2.50 µg/L	0.012
13C4-PFOA	7.039	417.1 -> 372.0	119405	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38910	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	59543	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	76784	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4166	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.9%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6047	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.3%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6174	5.19 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C2-PFDoDA	8.912	615.1 -> 570.0	34758	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	17517	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C3-PFBS	5.347	302.1 -> 79.9	28815	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	17386	2.49 µg/L	0.000

7.6.4
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFBA	2.876	216.8 -> 171.9	220378	9.86 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C4-PFHpA	6.395	367.1 -> 322.0	75920	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C5-PFHxA	5.429	318.0 -> 273.0	79718	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C5-PFPeA	4.235	268.3 -> 223.0	73866	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	29668	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C7-PFUnDA	8.480	570.0 -> 525.1	40149	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C8-FOSA	9.598	506.1 -> 77.8	37747	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-PFOA	7.038	421.1 -> 376.0	112093	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOS	8.189	507.1 -> 79.9	16797	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	45823	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34211	5.56 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.2%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	52396	10.19 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	16703	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
d5-EtFOSAA	8.292	589.2 -> 419.0	32666	5.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	125346	24.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	154241	24.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	16208	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	327021	42.85 µg/L	95
		327.1 -> 80.9	119107		
6:2FTS	6.813	427.1 -> 407.0	317944	46.51 µg/L	96
		427.1 -> 80.9	100077		
8:2FTS	7.840	527.1 -> 507.0	176167	47.41 µg/L	92
		527.1 -> 80.8	66653		
EtFOSAA	8.293	584.2 -> 419.1	55575	11.16 µg/L	99
		584.2 -> 526.0	30710		
FOSA	9.602	498.1 -> 77.9	438084	29.86 µg/L	100
		498.1 -> 478.0	12751		
MeFOSAA	8.097	570.1 -> 419.0	98630	11.87 µg/L	96
		570.1 -> 483.0	17059		
PFBA	2.882	212.8 -> 168.9	423786	49.33 µg/L	100
PFBS	5.348	298.7 -> 79.9	113977	10.33 µg/L	94
		298.7 -> 98.8	45166		
PFDA	8.040	512.9 -> 469.0	535162	13.24 µg/L	95
		512.9 -> 219.0	73392		
PFDoDA	8.913	613.1 -> 569.0	325025	11.78 µg/L	96
		613.1 -> 319.0	49776		
PFDS	9.076	599.0 -> 79.9	53689	11.39 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.395	599.0 -> 98.8	26613	12.24	µg/L	99
		363.1 -> 319.0	478971			
PFHpS	7.698	363.1 -> 169.0	74753	11.29	µg/L	97
		449.0 -> 79.9	103319			
PFHxA	5.432	449.0 -> 98.9	53220	12.07	µg/L	100
		313.0 -> 269.0	373336			
PFHxS	7.143	313.0 -> 118.9	17330	11.06	µg/L	96
		398.7 -> 79.9	104208			
PFNA	7.558	398.7 -> 98.9	46636	12.70	µg/L	95
		463.0 -> 419.0	480360			
PFNS	8.644	463.0 -> 219.0	105187	11.33	µg/L	95
		548.8 -> 79.9	89559			
PFOA	7.040	548.8 -> 98.9	46435	26.80	µg/L	96
		413.0 -> 369.0	1404793			
PFOS	8.191	413.0 -> 169.0	263871	10.84	µg/L	93
		498.9 -> 79.9	96667			
PFPeA	4.237	498.9 -> 98.8	46904	24.22	µg/L	100
		263.0 -> 219.0	482400			
PFPeS	6.434	349.1 -> 79.9	104571	11.32	µg/L	96
		349.1 -> 98.9	46499			
PFTeDA	9.640	713.1 -> 669.0	236623	11.56	µg/L	95
		713.1 -> 168.9	22065			
PFTrDA	9.296	663.0 -> 619.0	336554	12.51	µg/L	97
		663.0 -> 168.9	35486			
PFUnDA	8.493	563.1 -> 519.0	339954	11.85	µg/L	98
		563.1 -> 269.1	55389			
11Cl-PF3OUdS	9.348	630.9 -> 450.9	475586	23.62	µg/L	98
		632.9 -> 452.9	143470			
9Cl-PF3ONS	8.520	530.8 -> 351.0	747678	22.23	µg/L	99
		532.8 -> 353.0	240370			
ADONA	6.646	376.9 -> 250.9	1810397	23.43	µg/L	97
		376.9 -> 84.8	458355			
HFPO-DA	5.807	284.9 -> 168.9	126462	24.60	µg/L	94
		284.9 -> 184.9	14004			
3:3FTCA	3.727	241.0 -> 177.0	83058	57.80	µg/L	96
		241.0 -> 117.0	10552			
5:3FTCA	6.099	341.0 -> 237.1	1595760	280.73	µg/L	95
		341.0 -> 217.0	1201406			
7:3FTCA	7.535	441.0 -> 316.9	1097288	298.63	µg/L	90
		441.0 -> 336.9	2248726			
EtFOSA	10.974	526.0 -> 219.0	341491	42.00	µg/L	95
		526.0 -> 169.0	444474			
EtFOSE	10.920	630.0 -> 58.9	609428	81.44	µg/L	100
		511.9 -> 219.0	286025			
MeFOSA	10.741	511.9 -> 169.0	394678	40.36	µg/L	95
		616.1 -> 58.9	440248			
MeFOSE	10.673	699.1 -> 79.9	23783	79.06	µg/L	100
		699.1 -> 98.8	12718			
PFDoDS	9.767	295.0 -> 201.0	92582	11.90	µg/L	100
		295.0 -> 84.9	23093			
NFDHA	5.311	279.0 -> 85.1	340728	24.22	µg/L	96
		229.0 -> 84.9	259311			
PFMBA	4.650	314.8 -> 134.9	870232	24.21	µg/L	100
		314.8 -> 82.9	28645			
PFMPA	3.401			20.92	µg/L	98
PFEESA	5.888					

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

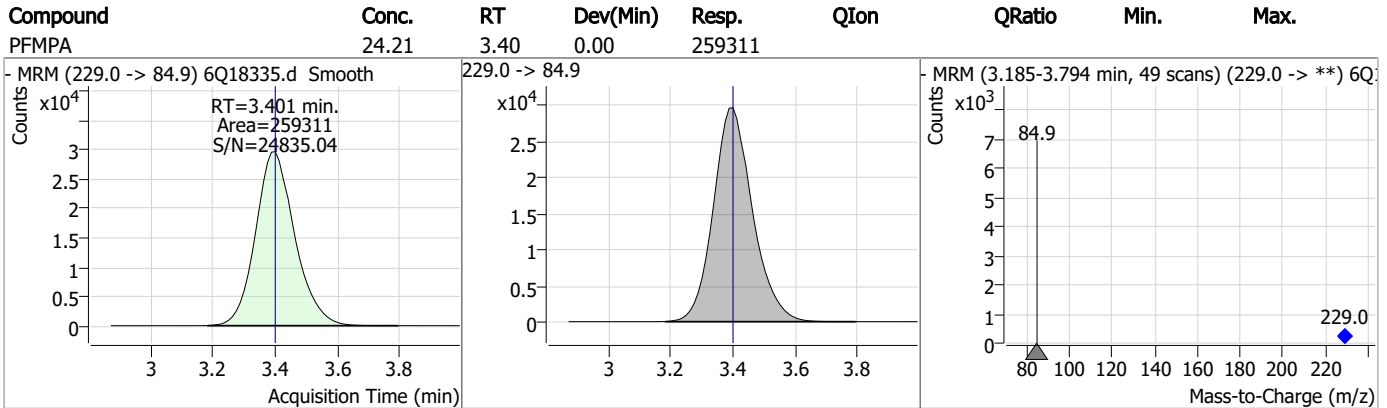
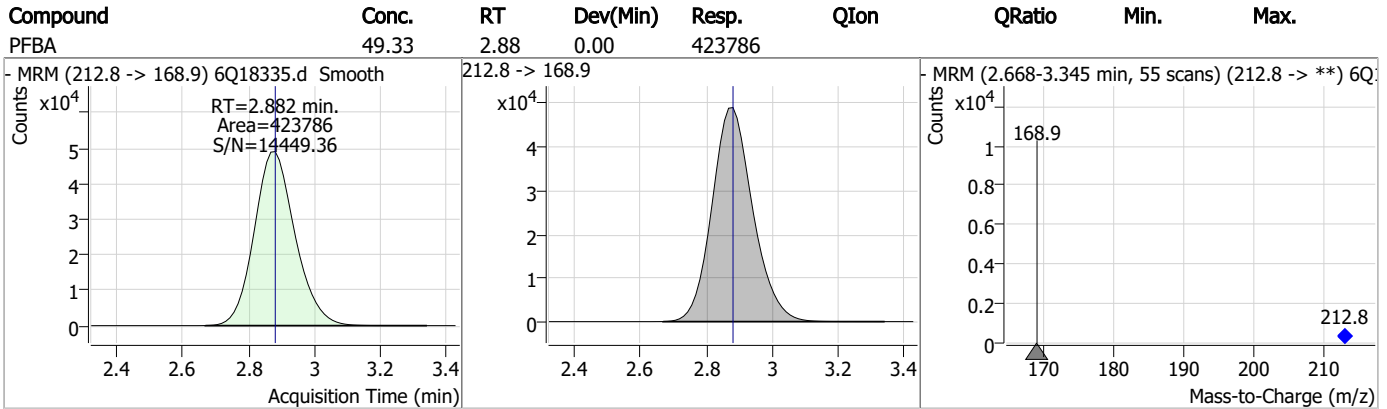
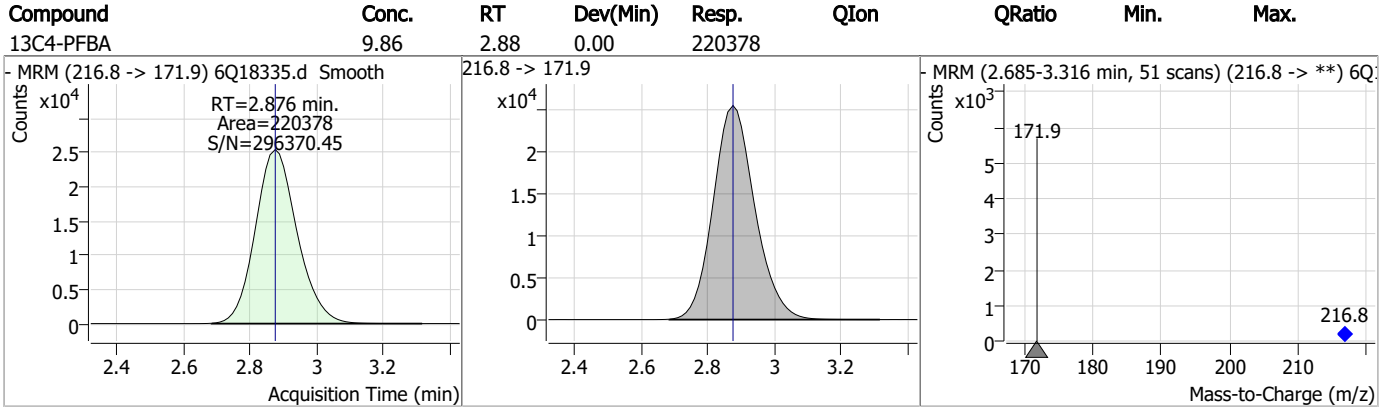
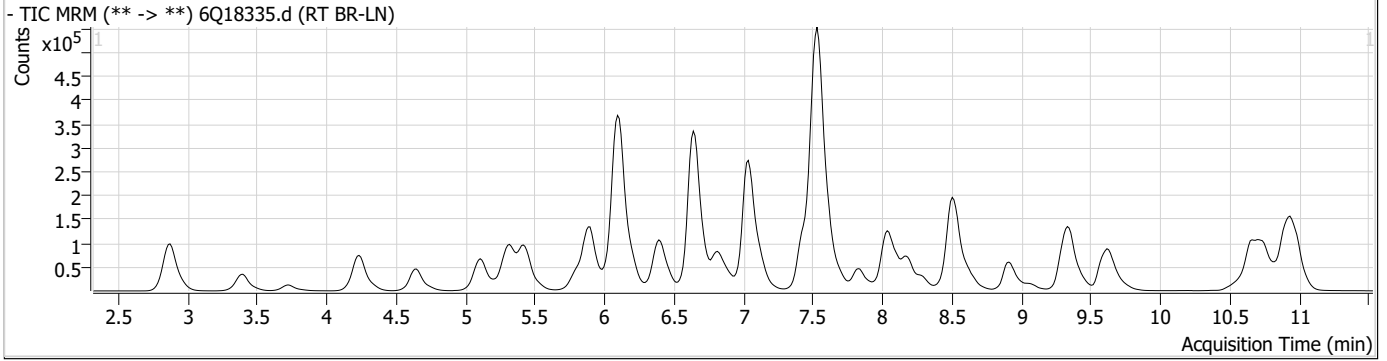
Perfluorinated Compounds by LC/MS/MS

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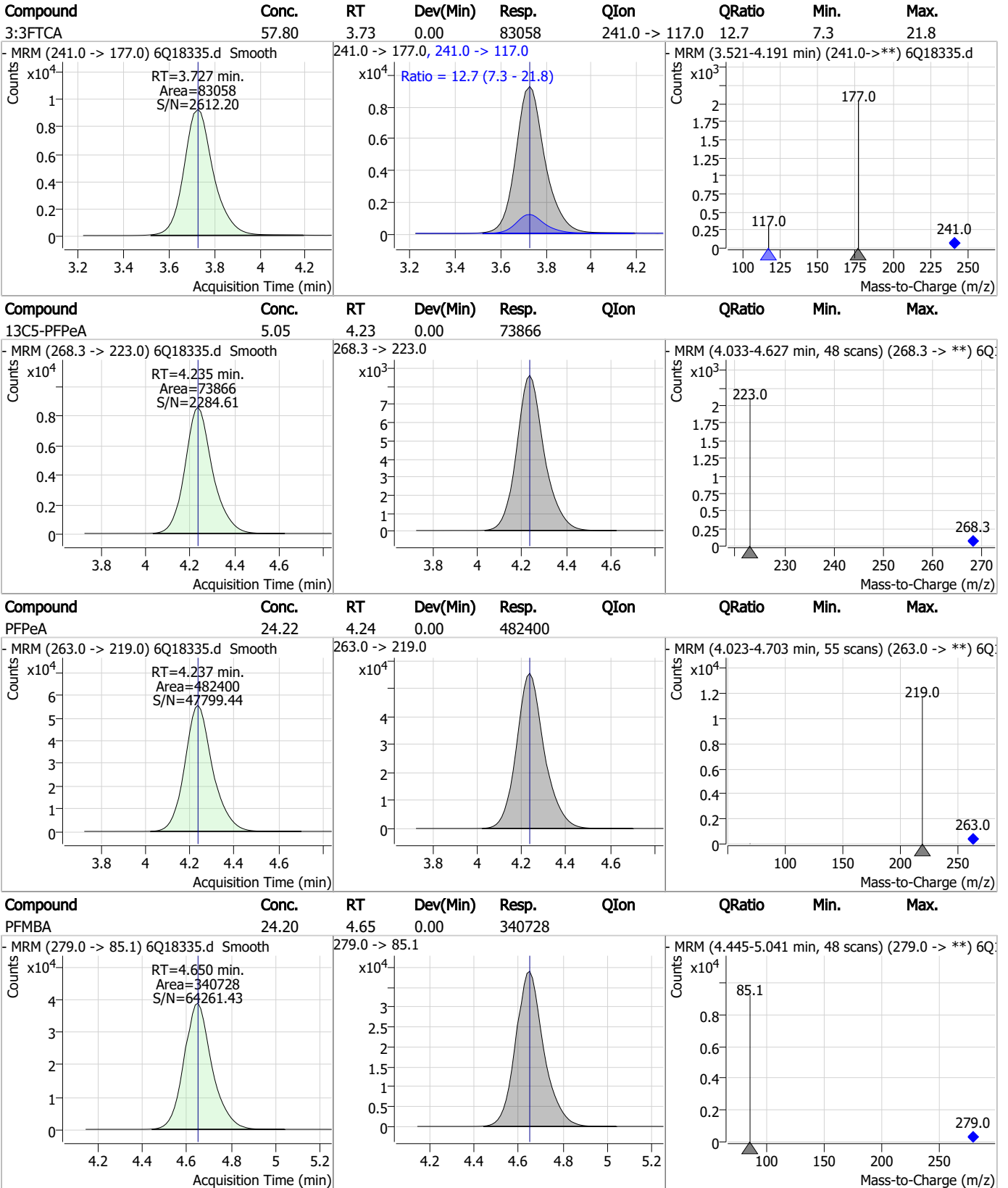
7.6.4

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Perfluorinated Compounds by LC/MS/MS



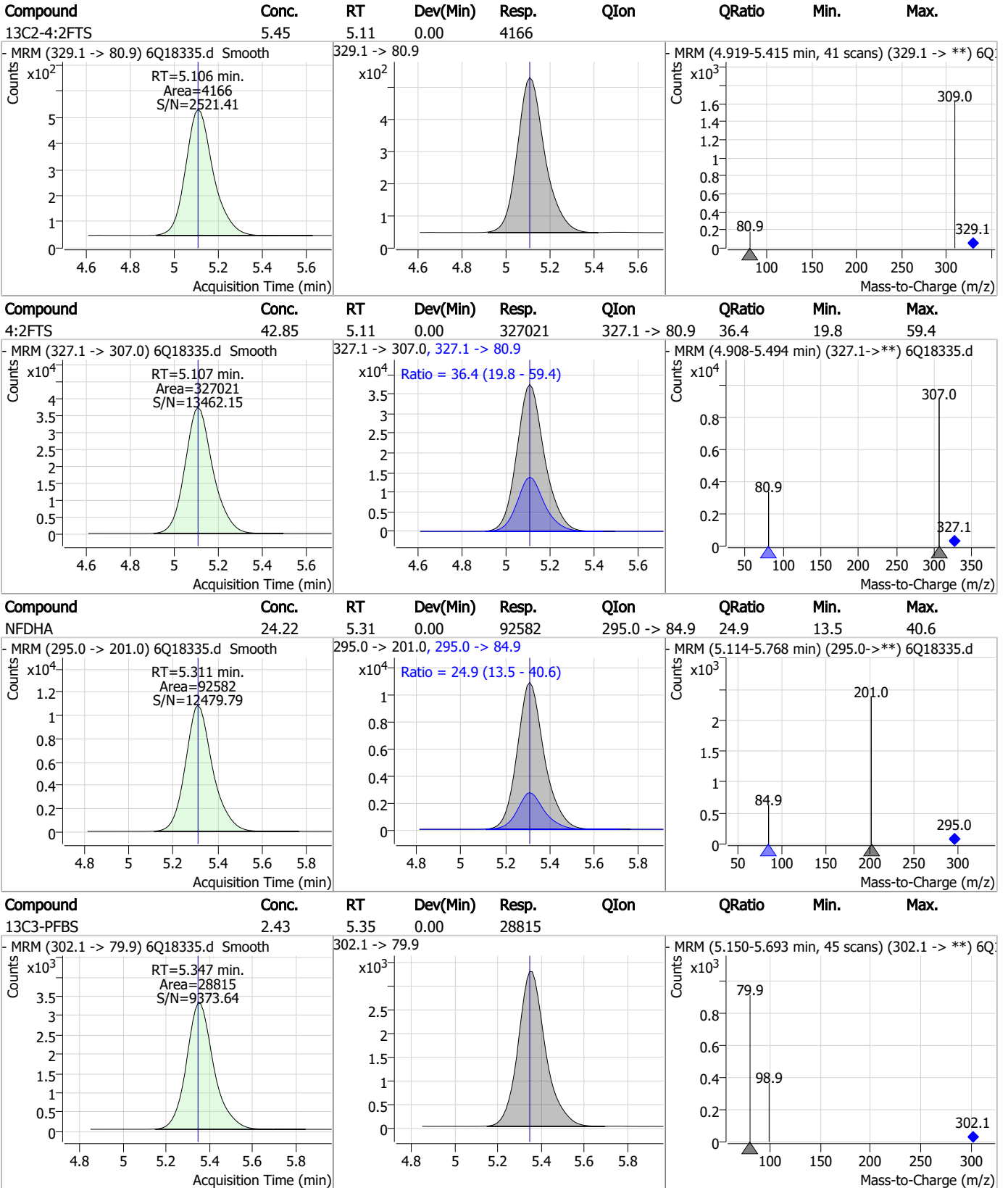
Perfluorinated Compounds by LC/MS/MS



7.6.4

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Perfluorinated Compounds by LC/MS/MS



7.6.4

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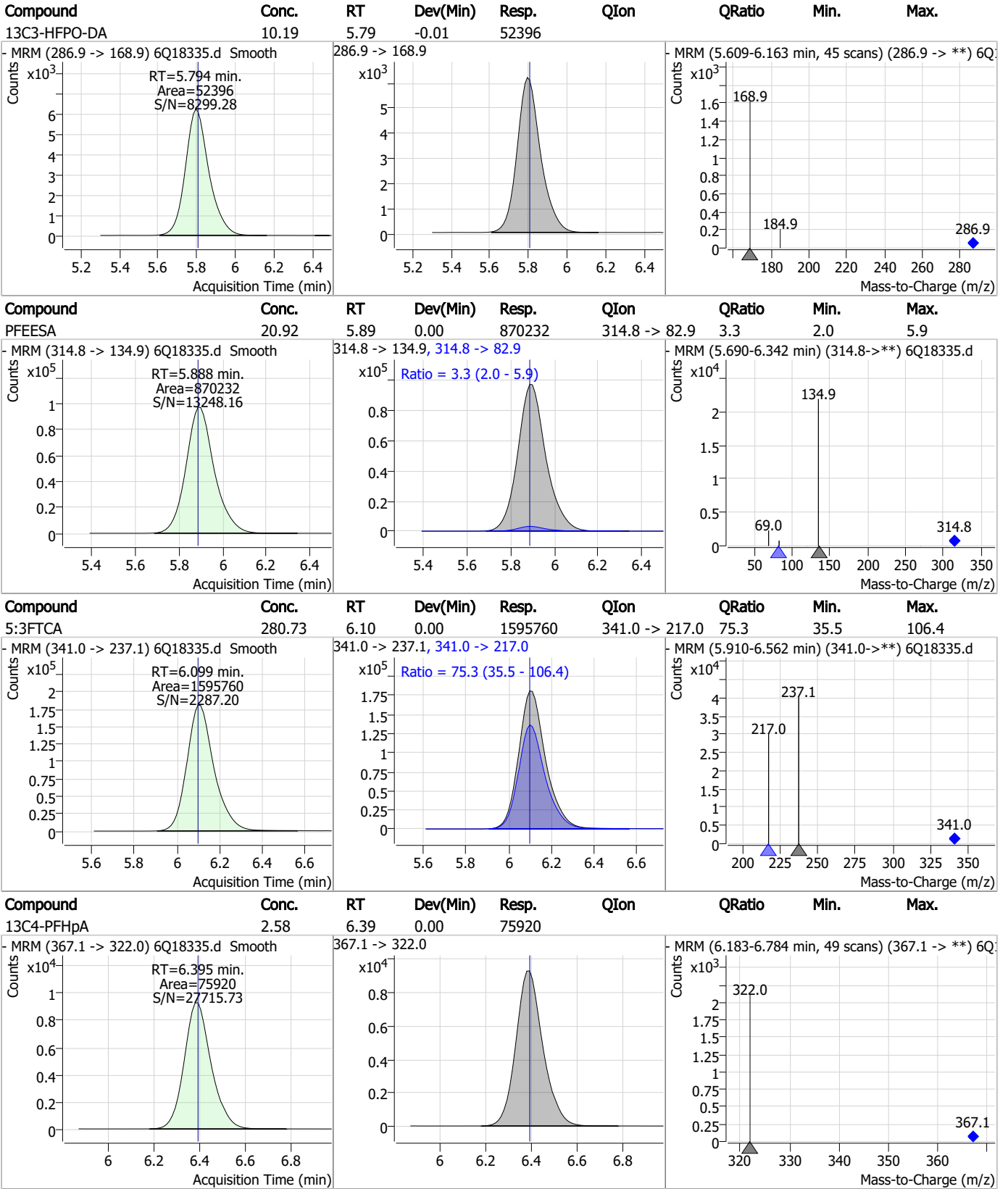
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	10.33	5.35	0.00	113977	298.7 -> 98.8	39.6	18.1	54.3
13C5-PFHxA	2.55	5.43	0.00	79718				
PFHxA	12.07	5.43	0.00	373336	313.0 -> 118.9	4.6	2.2	6.7
HFPO-DA	24.60	5.81	0.01	126462	284.9 -> 184.9	11.1	6.8	20.4

7.6.4

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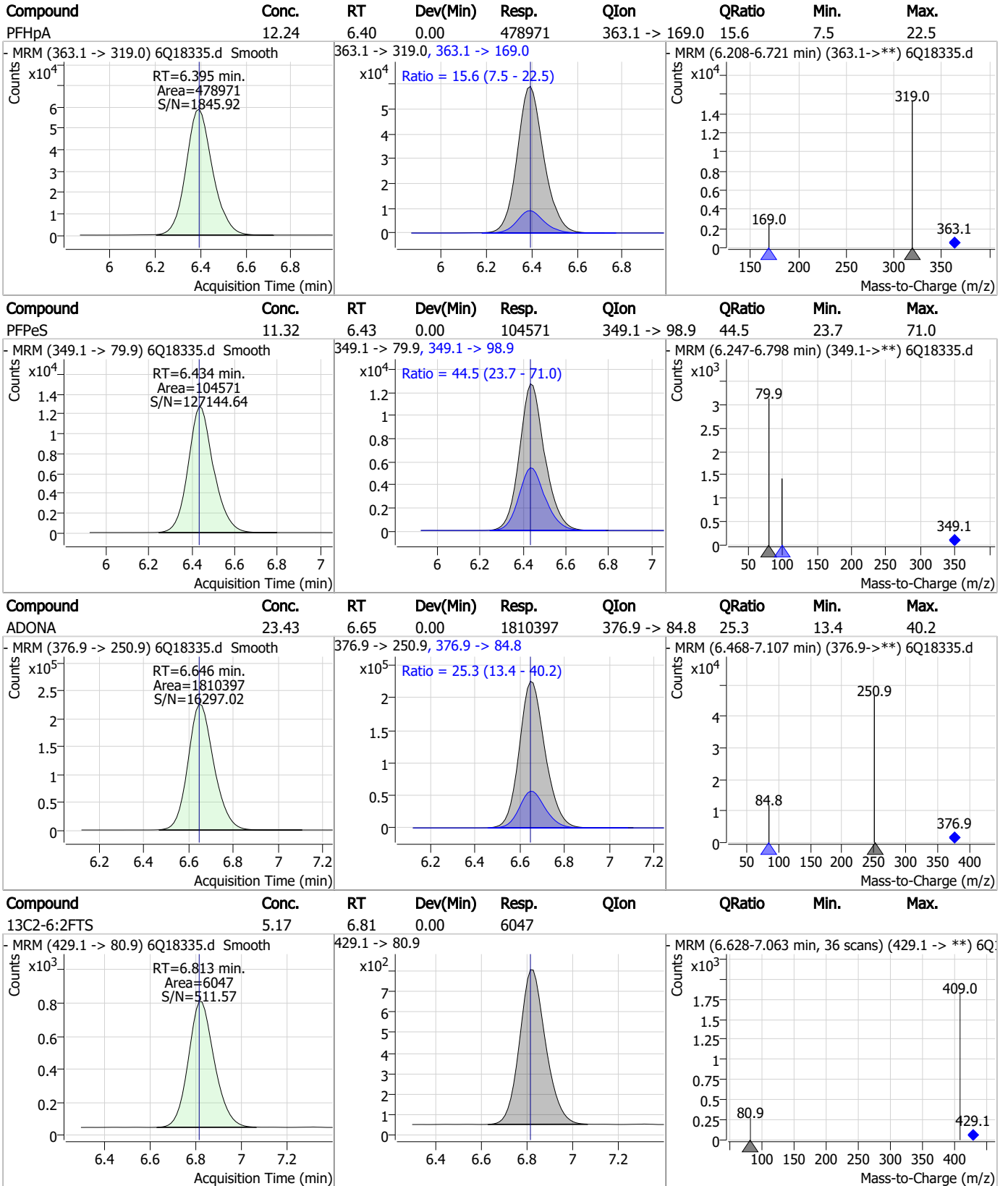
Perfluorinated Compounds by LC/MS/MS



7.6.4

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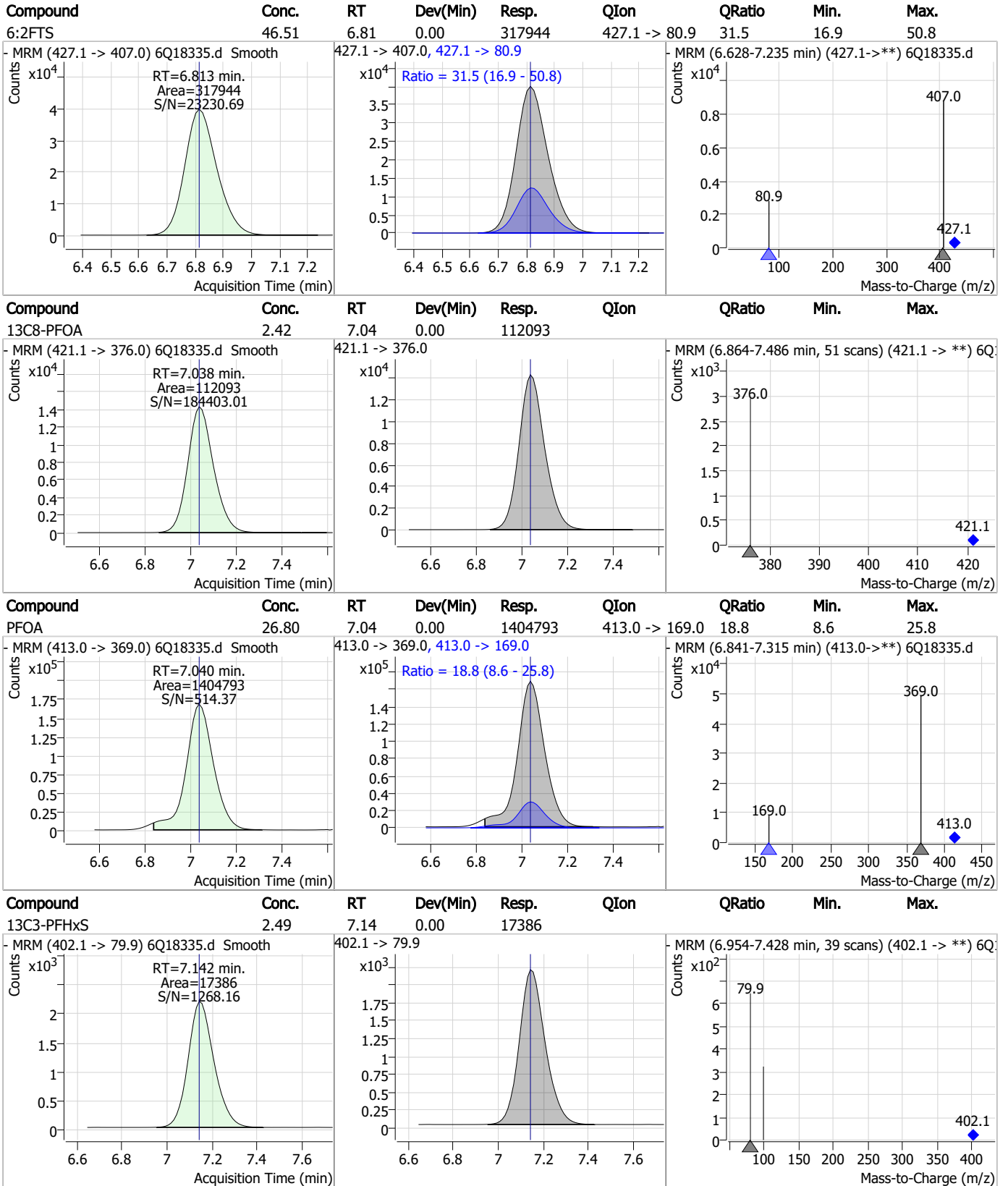
Perfluorinated Compounds by LC/MS/MS



7.6.4

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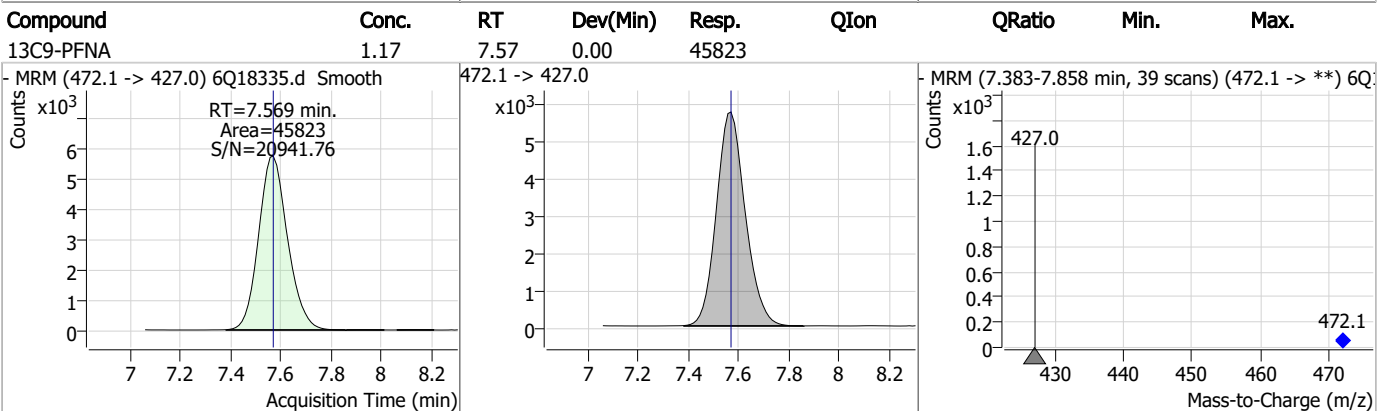
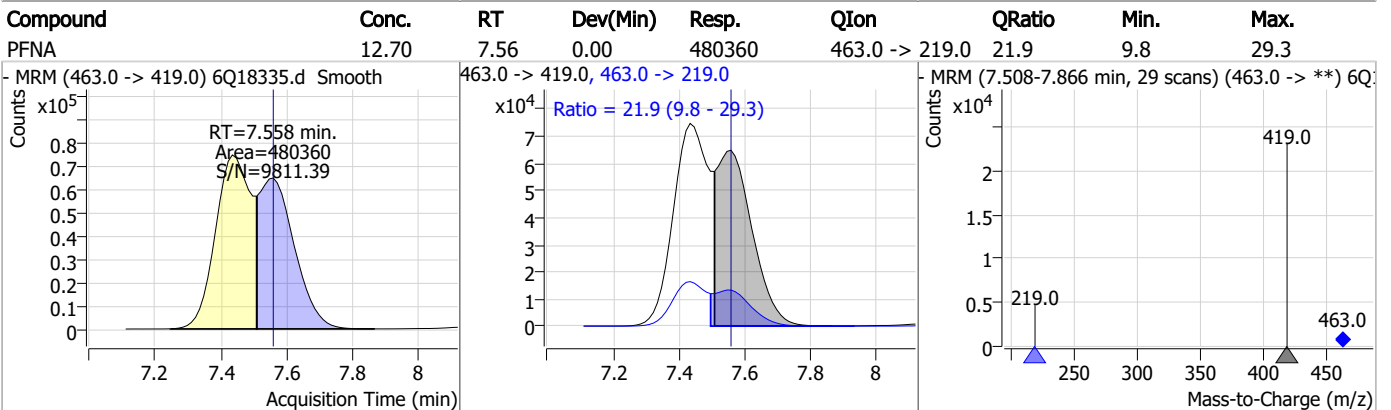
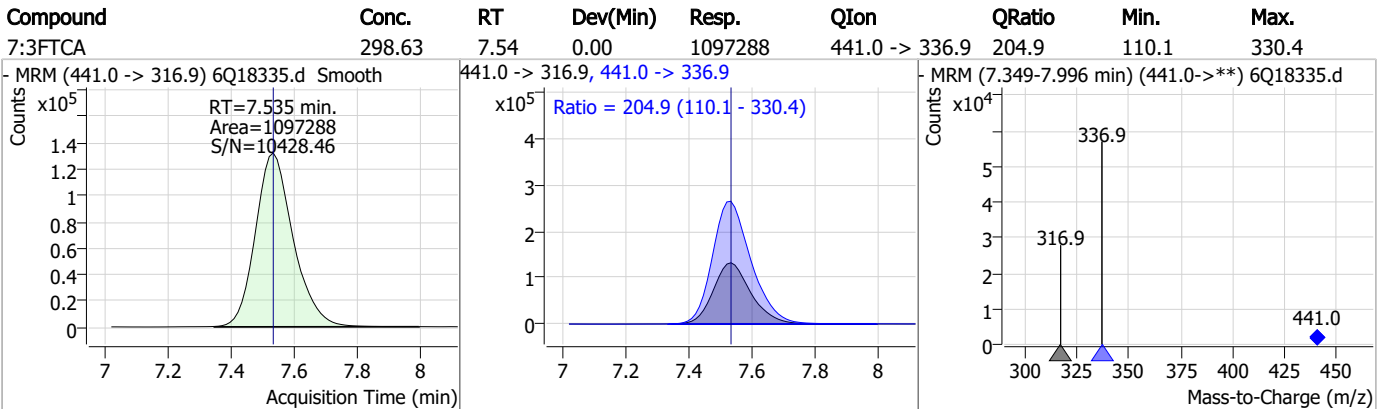
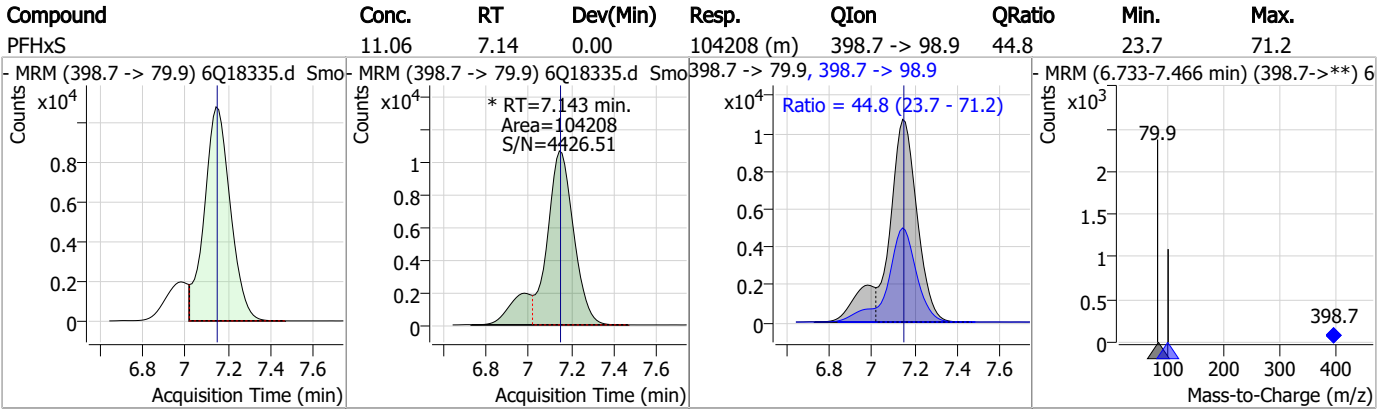
Perfluorinated Compounds by LC/MS/MS



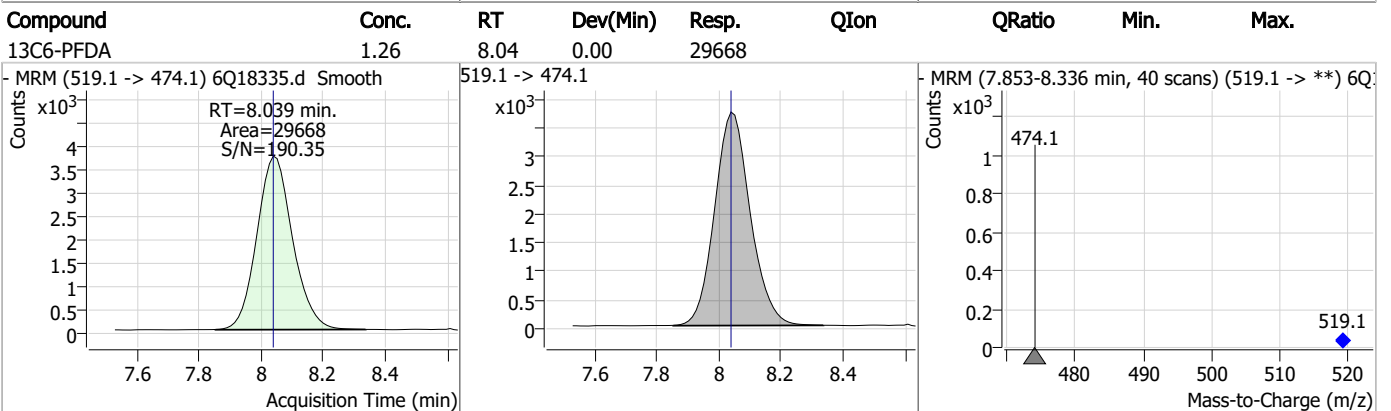
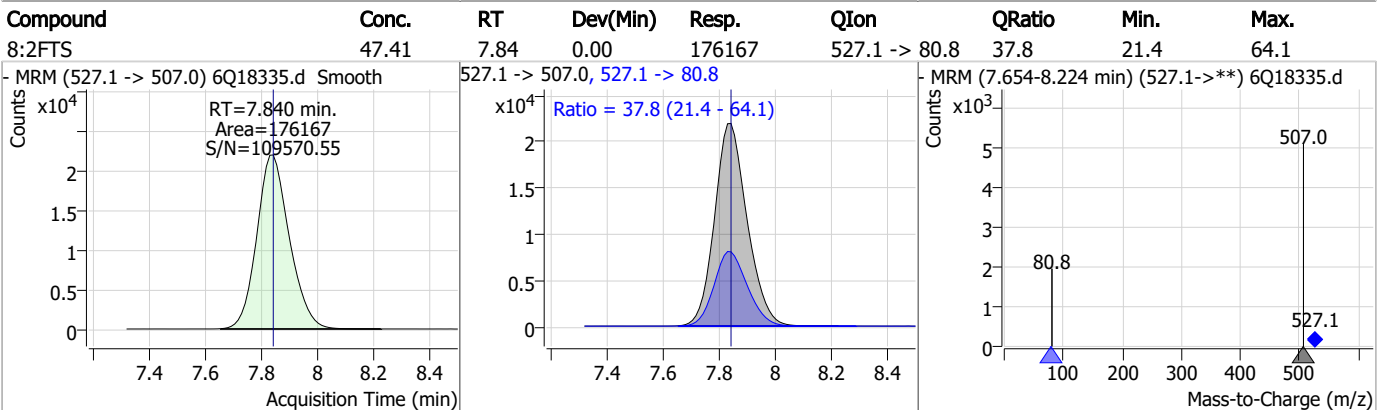
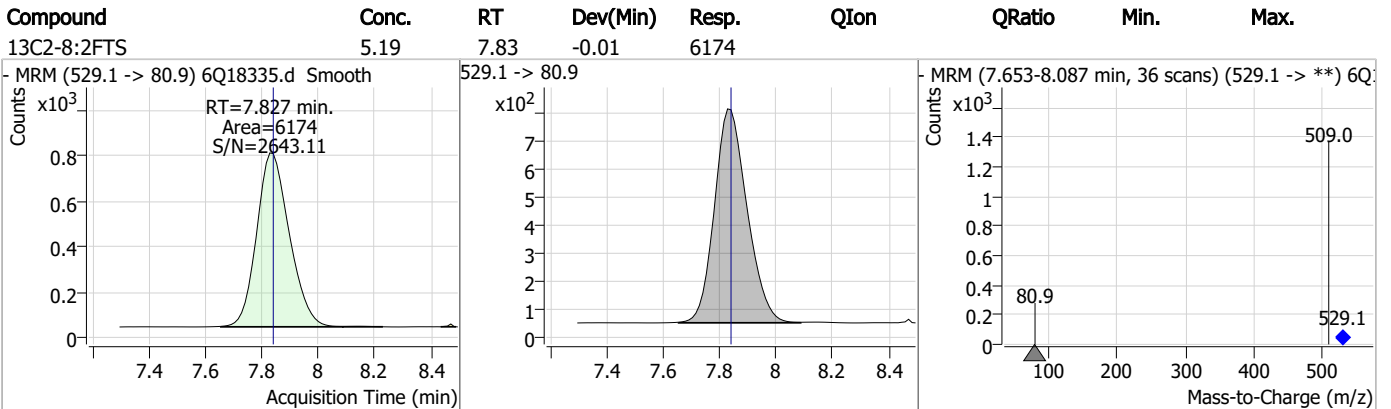
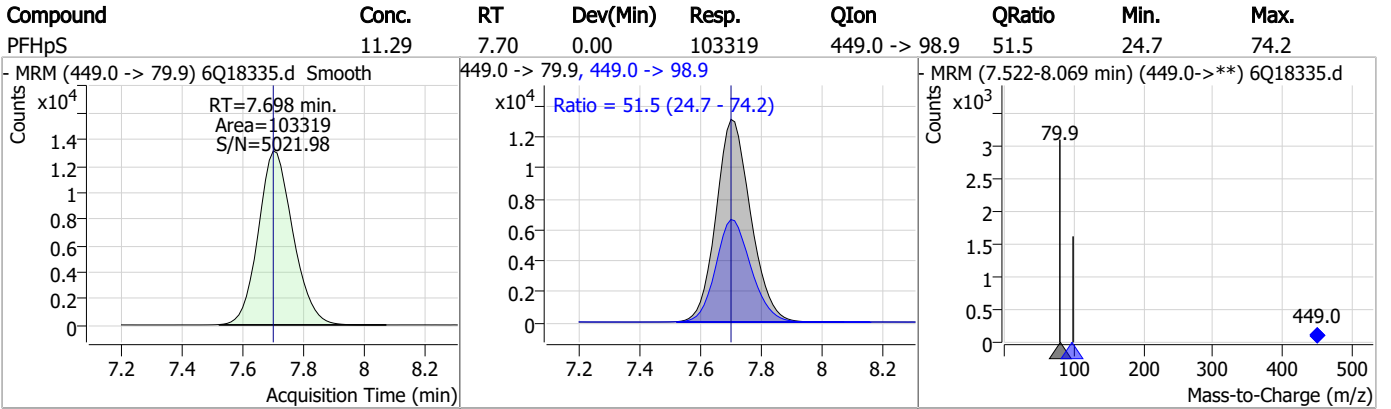
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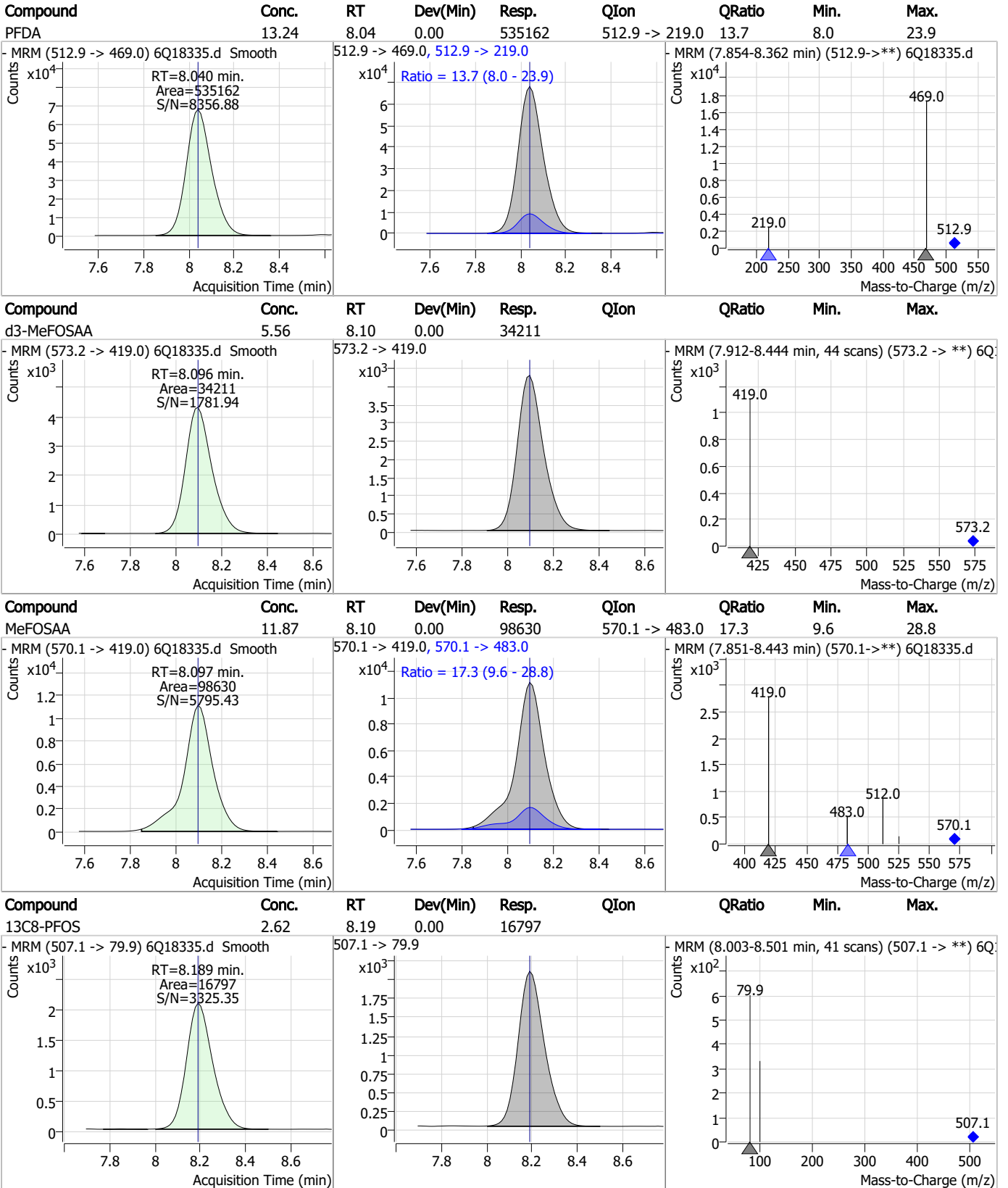
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



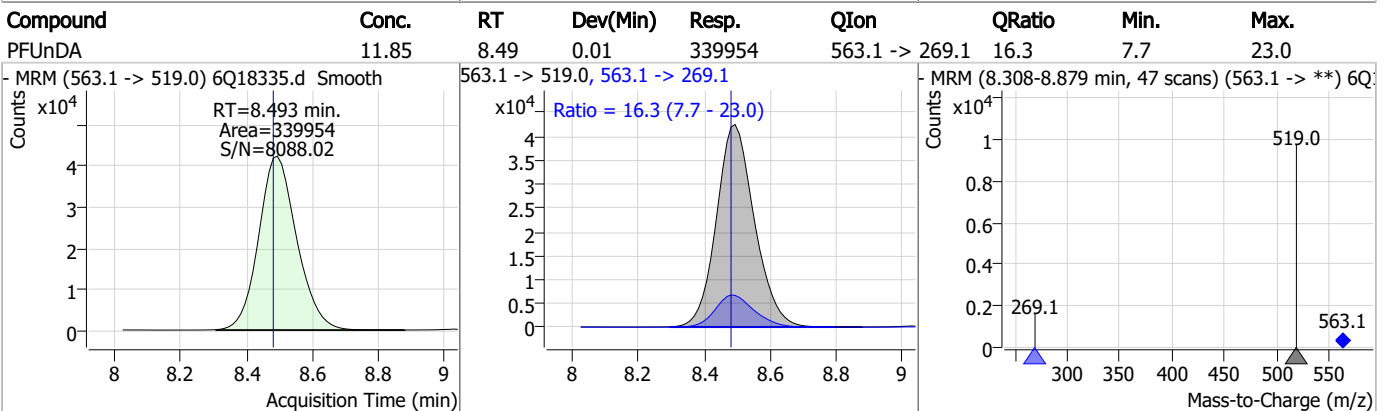
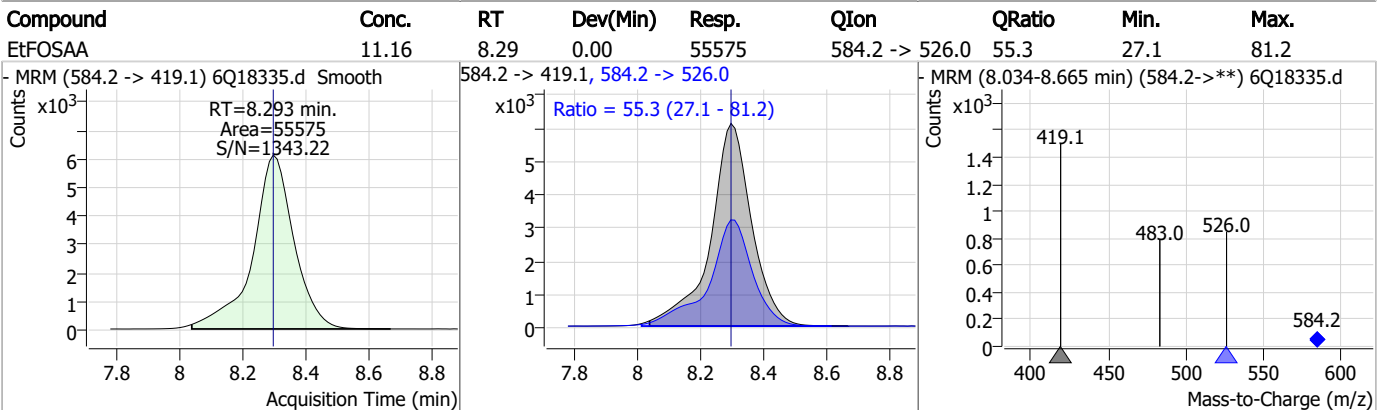
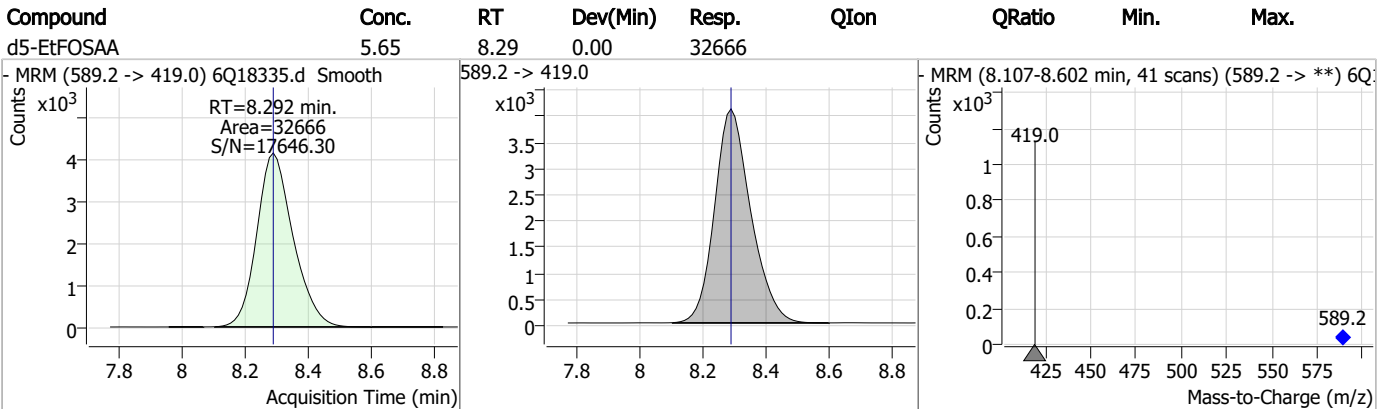
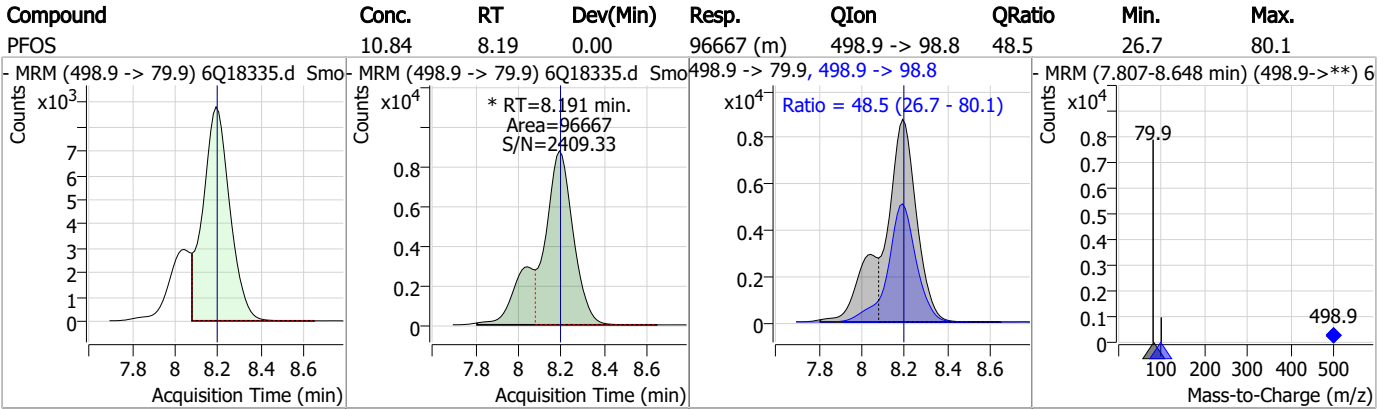
Perfluorinated Compounds by LC/MS/MS



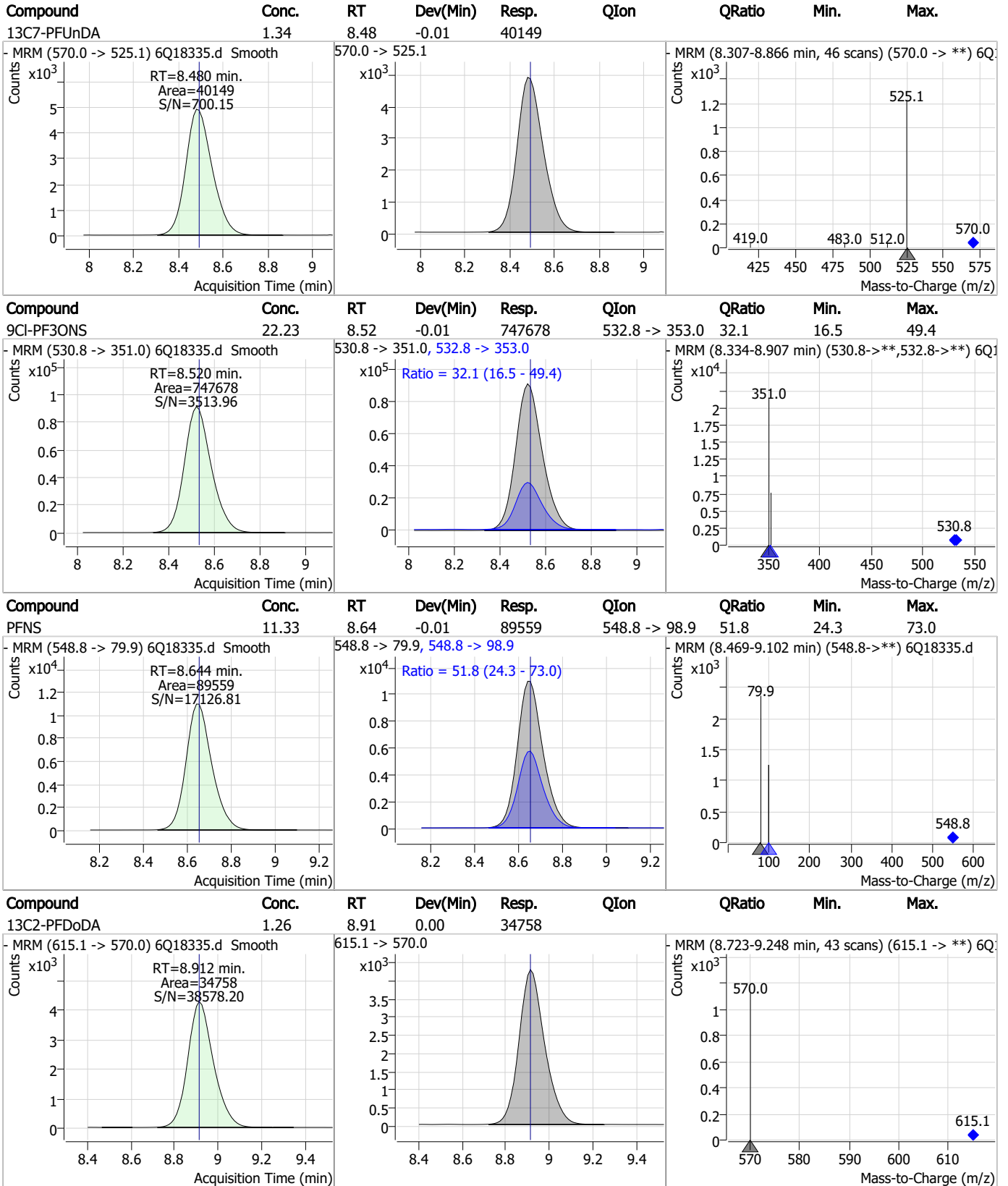
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Perfluorinated Compounds by LC/MS/MS



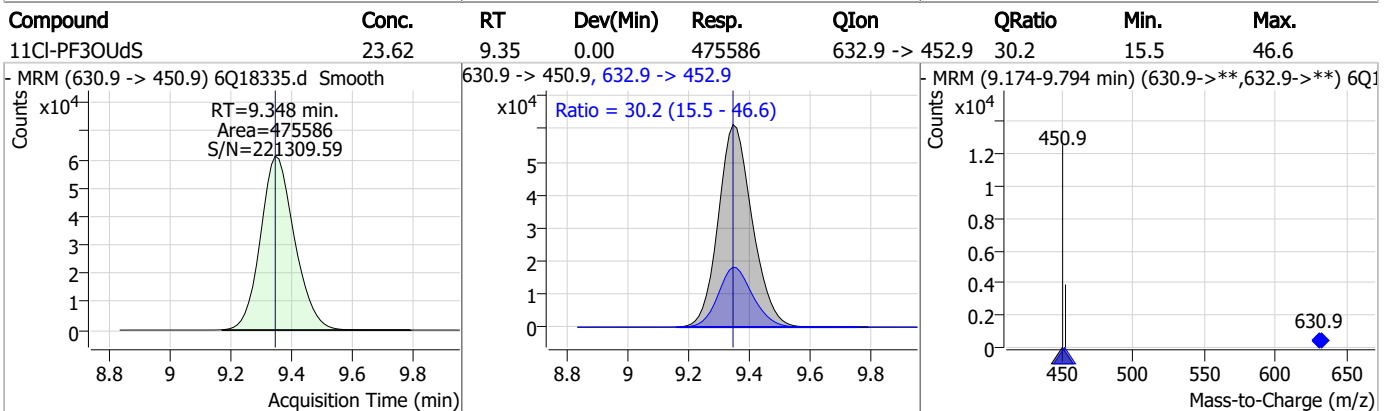
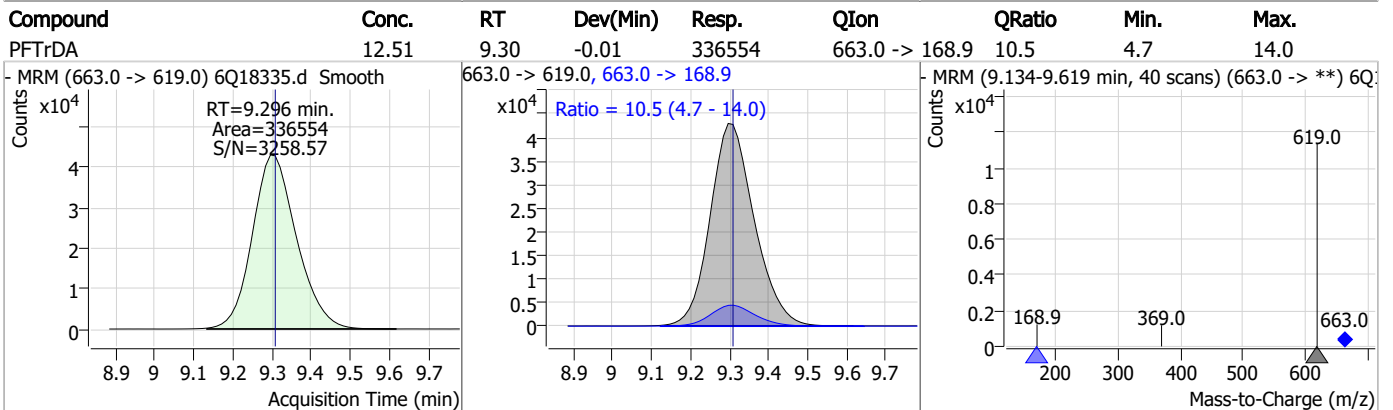
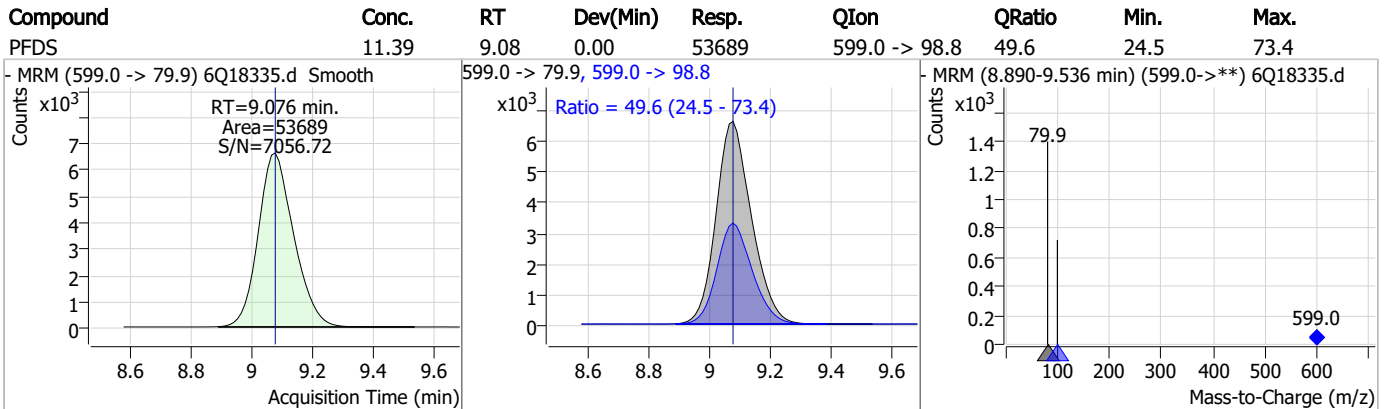
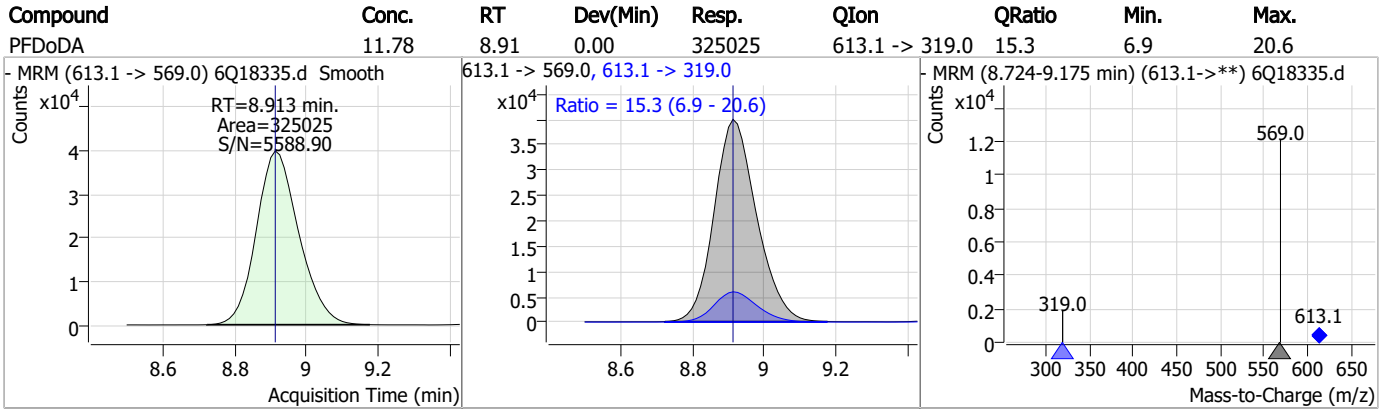
Perfluorinated Compounds by LC/MS/MS



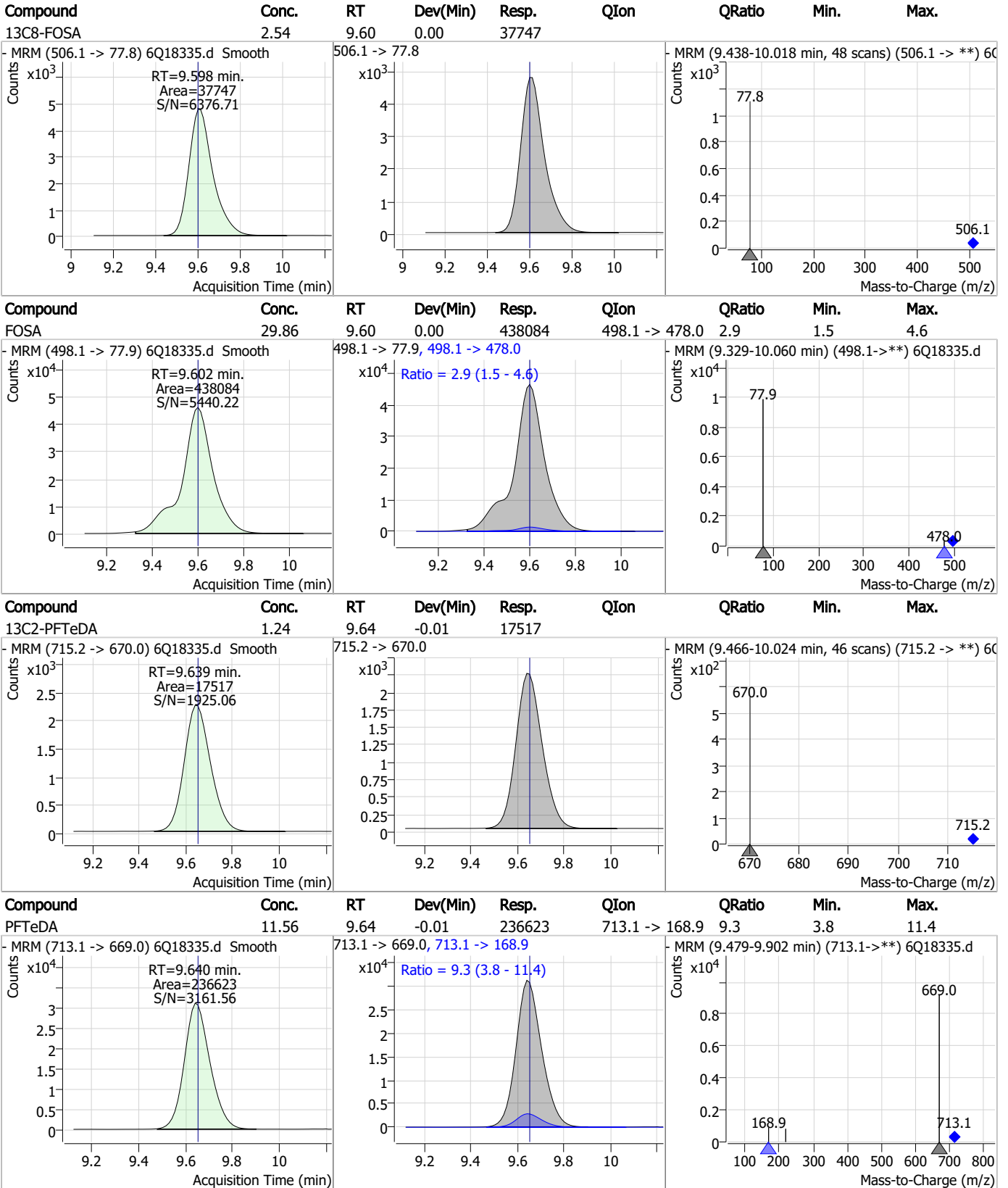
7.6.4

7

Perfluorinated Compounds by LC/MS/MS



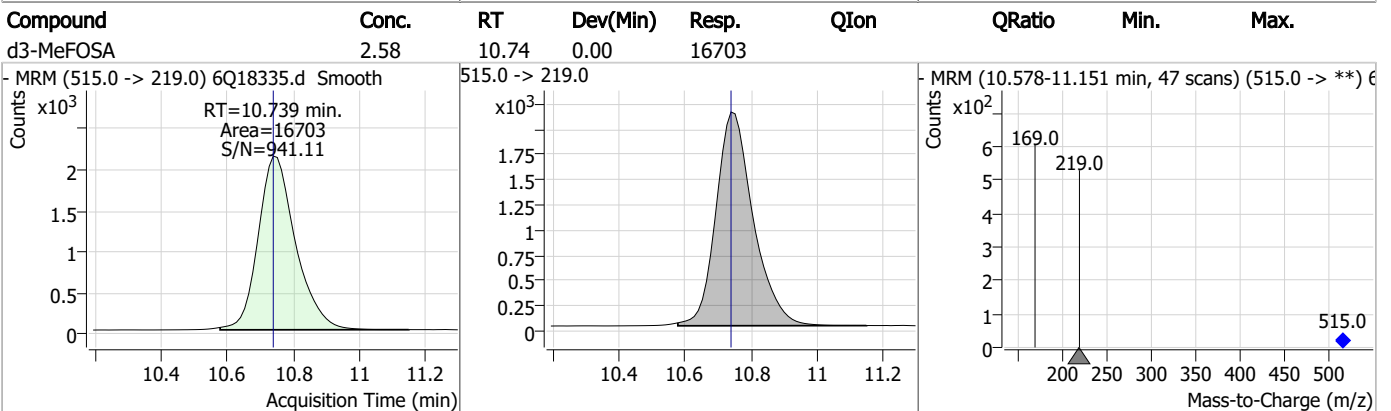
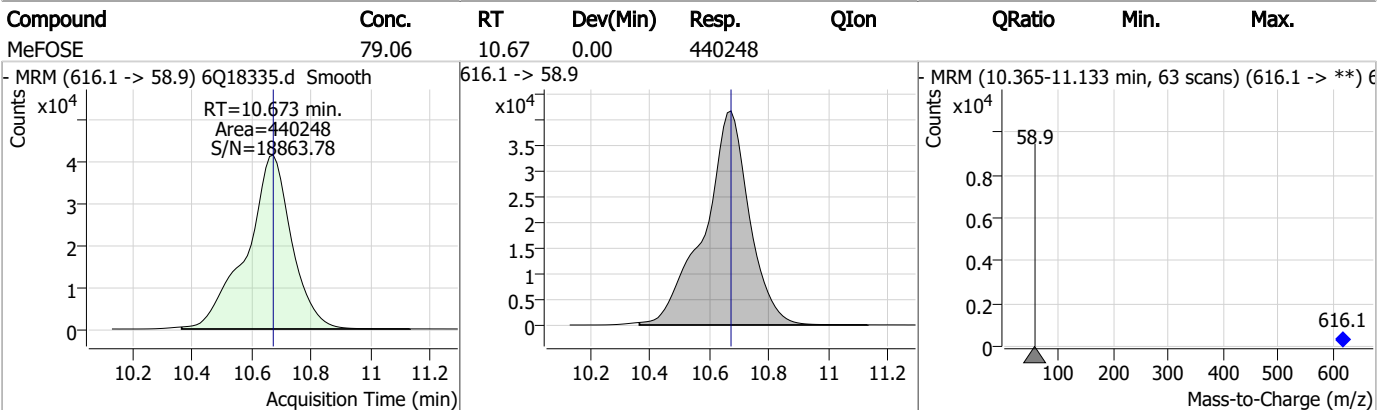
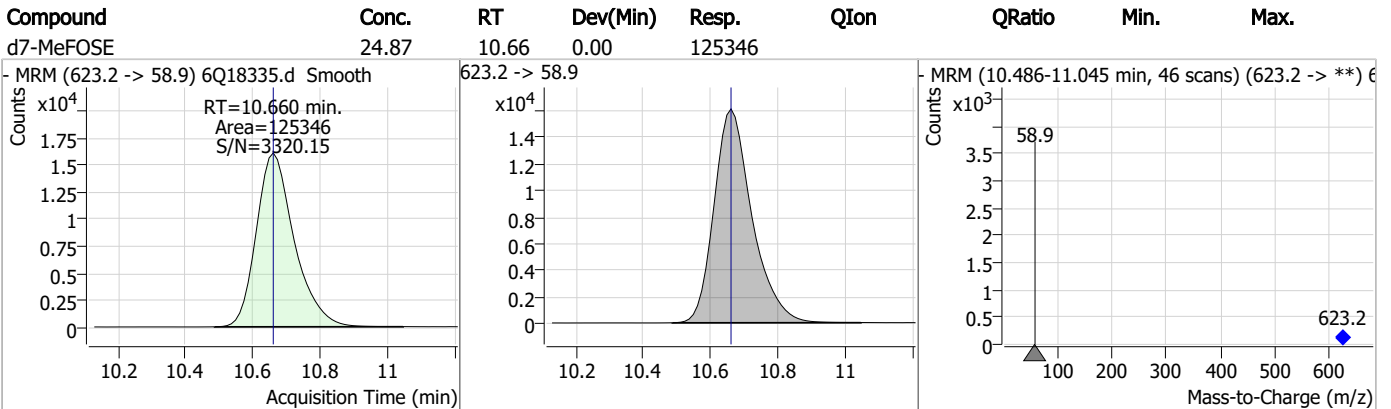
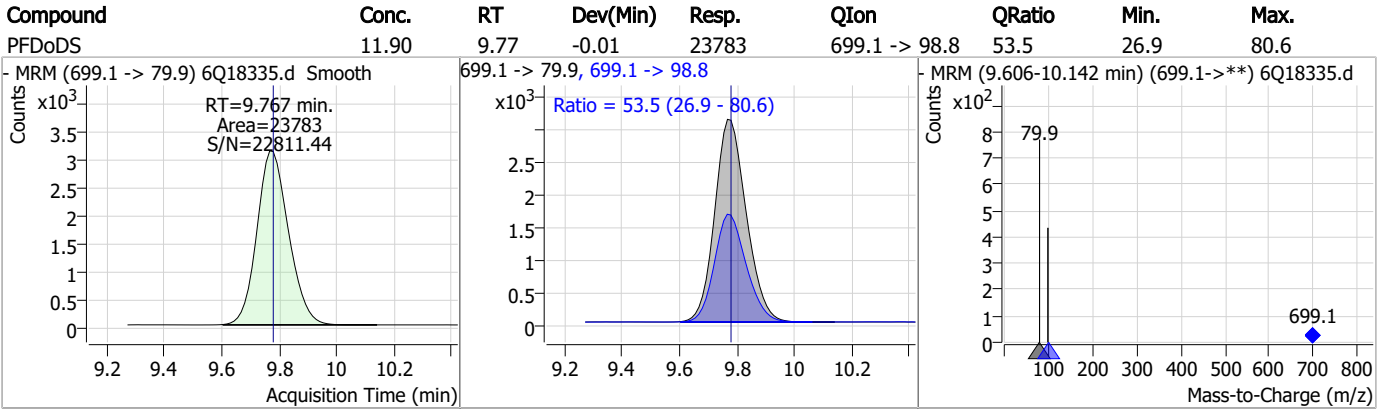
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS



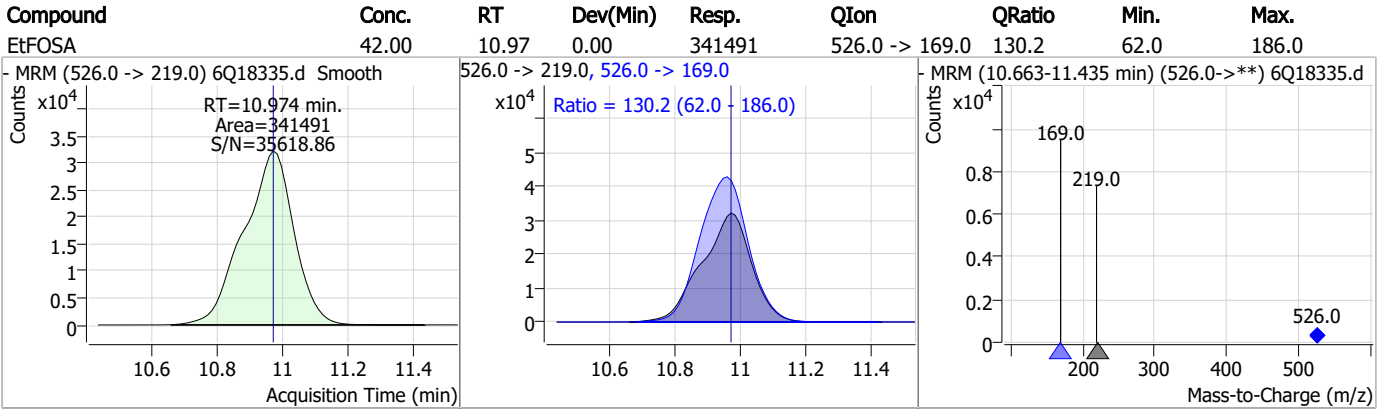
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	40.36	10.74	0.00	286025	511.9 -> 169.0	138.0	66.3	198.9
- MRM (511.9 -> 219.0) 6Q18335.d Smooth			511.9 -> 219.0, 511.9 -> 169.0			- MRM (10.430-11.203 min) (511.9->**) 6Q18335.d		
d9-EtFOSE	24.59	10.91	0.00	154241				
- MRM (639.2 -> 58.9) 6Q18335.d Smooth			639.2 -> 58.9			- MRM (10.733-11.292 min, 46 scans) (639.2 -> **) 6Q18335.d		
EtFOSE	81.44	10.92	0.01	609428				
- MRM (630.0 -> 58.9) 6Q18335.d Smooth			630.0 -> 58.9			- MRM (10.622-11.306 min, 56 scans) (630.0 -> **) 6Q18335.d		
d5-EtFOSA	2.57	10.97	0.00	16208				
- MRM (531.1 -> 219.0) 6Q18335.d Smooth			531.1 -> 219.0			- MRM (10.811-11.258 min, 37 scans) (531.1 -> **) 6Q18335.d		

7.6.4

7

Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Manual Integration Approval Summary

Sample Number: S6Q276-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18335.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 18:06 Supervisor approved: 05/25/23 13:01 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.6.4.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18378.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 8:27:56 AM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q276 TDCA.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

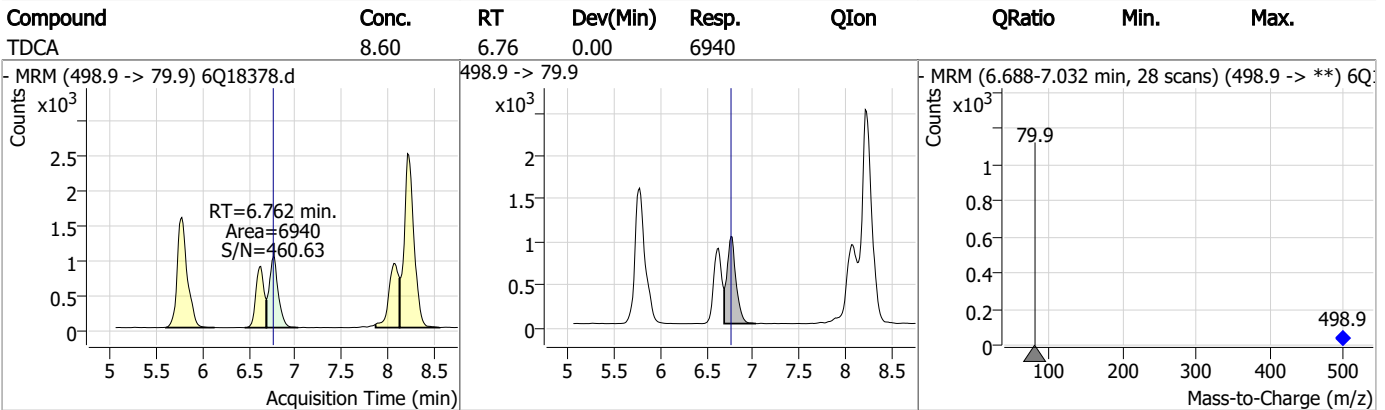
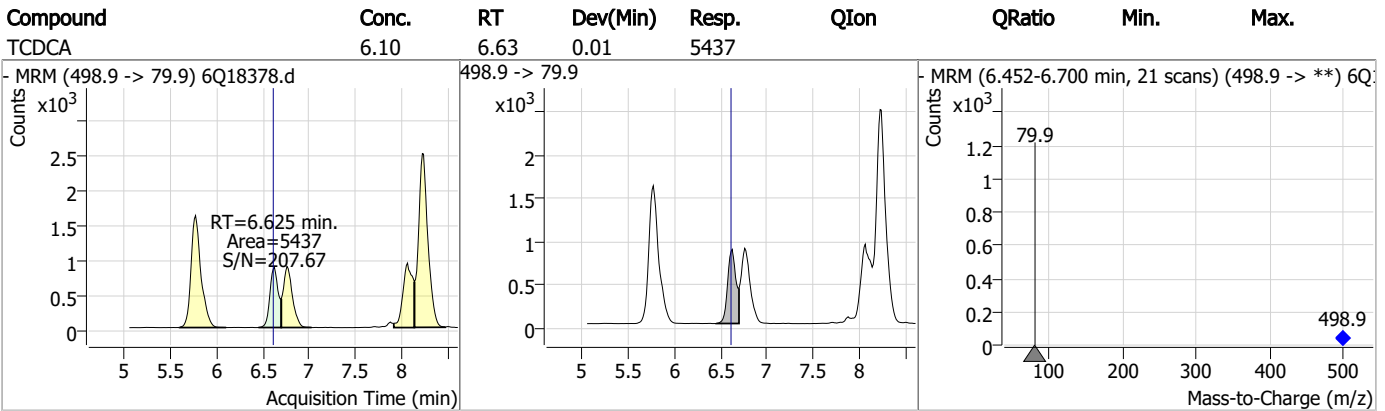
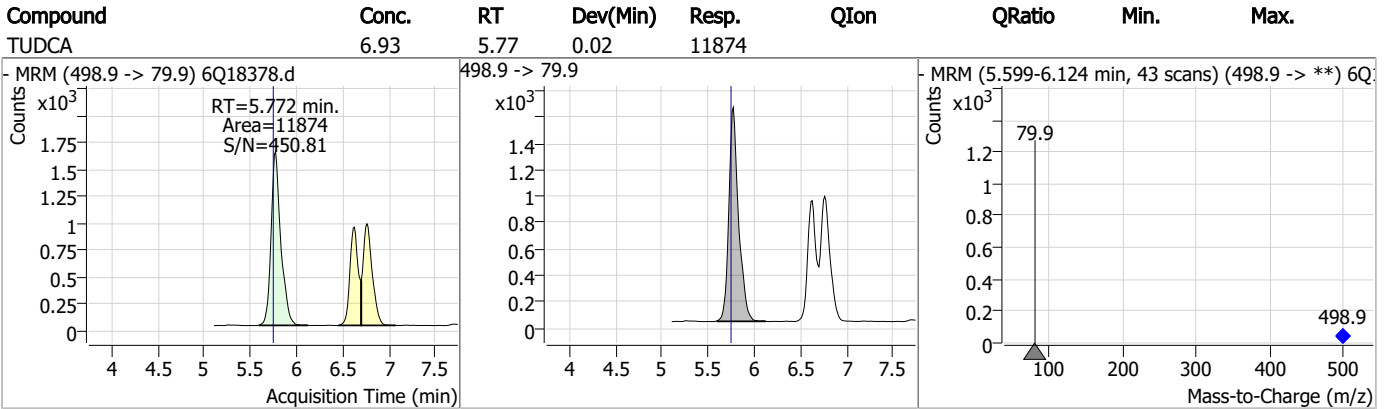
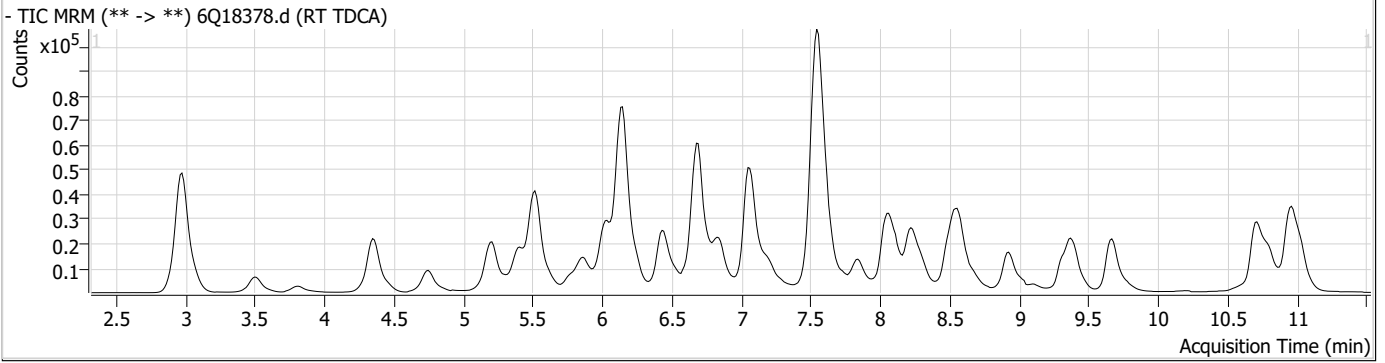
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
Internal Standards							
M8-PFOS	8.226	507.1 -> 79.9	19312	2.50	µg/L	0.025	
13C4-PFOS	8.227	502.8 -> 79.9	26708	2.50	µg/L	0.025	
System Monitoring Compounds							
13C8-PFOS	8.226	507.1 -> 79.9	19312	1.83	µg/L	0.025	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 73.4%				
Target Compounds							
PFOS	8.228	498.9 -> 79.9 498.9 -> 98.8	24412 11553	3.70	µg/L	m	77
TCDCa	6.625	498.9 -> 79.9	5437	6.10	ng/ml		100
TDCA	6.762	498.9 -> 79.9	6940	8.60	ng/ml		100
TUDCA	5.772	498.9 -> 79.9	11874	6.93	ng/ml		100

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

7.6.5

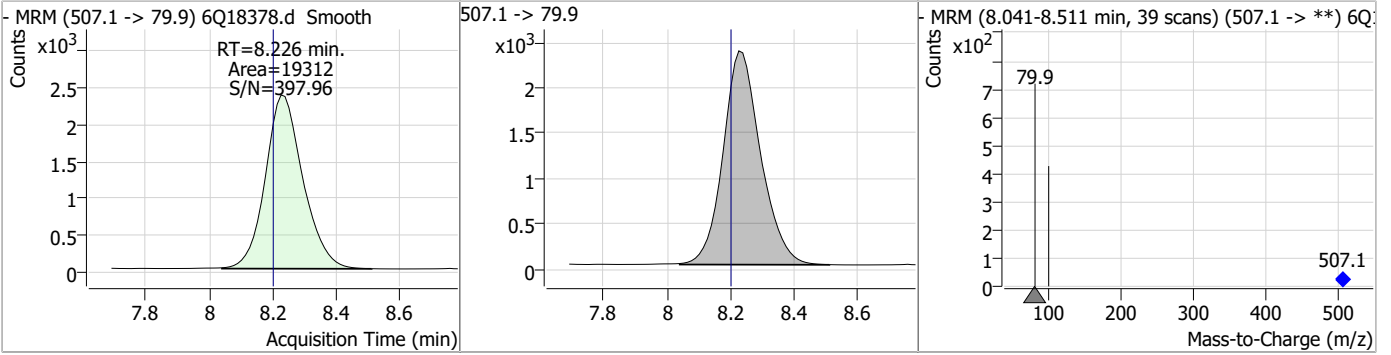
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Perfluorinated Compounds by LC/MS/MS

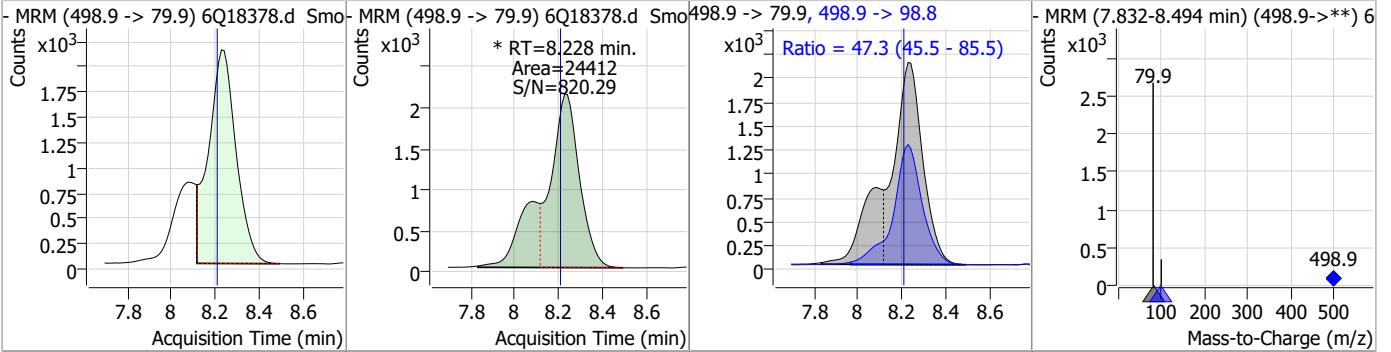


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.83	8.23	0.02	19312				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.70	8.23	0.02	24412 (m)	498.9 -> 98.8	47.3	45.5	85.5



7.6.5

7



Manual Integration Approval Summary

Sample Number: S6Q276-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18378.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/25/23 08:27 Supervisor approved: 05/25/23 13:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.23	Split peak

7.6.5.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18379.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 8:42:35 AM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	209443	10.00 µg/L	0.012
M5-PFPeA	4.259	268.3 -> 223.0	71591	5.00 µg/L	0.025
M5-PFHxA	5.441	318.0 -> 273.0	75501	2.50 µg/L	0.012
M4-PFHpA	6.395	367.1 -> 322.0	70801	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	107368	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	44938	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28578	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35620	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	31967	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	16248	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	35692	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	27511	2.50 µg/L	0.037
M3-PFHxS	7.155	402.1 -> 79.9	16647	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	16267	2.50 µg/L	0.000
M2-4:2FTS	5.119	329.1 -> 80.9	3782	5.00 µg/L	0.012
M2-6:2FTS	6.813	429.1 -> 80.9	5192	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5810	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	28678	5.00 µg/L	0.000
M3-HFPO-DA	5.807	286.9 -> 168.9	50458	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	26911	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	117257	25.00 µg/L	0.012
M9-EtFOSE	10.919	639.2 -> 58.9	143228	25.00 µg/L	0.012
M5-EtFOSA	10.985	531.1 -> 219.0	14247	2.50 µg/L	0.012
M3-MeFOSA	10.752	515.0 -> 219.0	16031	2.50 µg/L	0.012
13C4-PFOS	8.190	502.8 -> 79.9	20767	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	90345	5.00 µg/L	0.012
18O2-PFHxS	7.154	403.0 -> 83.9	11589	2.50 µg/L	0.012
13C4-PFOA	7.039	417.1 -> 372.0	111188	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35893	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	53512	1.25 µg/L	-0.012
13C2-PFHxA	5.442	315.1 -> 270.0	71886	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.119	329.1 -> 80.9	3782	5.43 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5192	4.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5810	5.37 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-PFDoDA	8.912	615.1 -> 570.0	31967	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C2-PFTeDA	9.652	715.2 -> 670.0	16248	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C3-PFBS	5.384	302.1 -> 79.9	27511	2.55 µg/L	0.037
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.0%		
13C3-PFHxS	7.155	402.1 -> 79.9	16647	2.62 µg/L	0.012

7.6.6
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 = 105.0%	
13C4-PFBA	2.888	216.8 -> 171.9	209443	9.74 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C4-PFHpA	6.395	367.1 -> 322.0	70801	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C5-PFHxA	5.441	318.0 -> 273.0	75501	2.58 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
13C5-PFPeA	4.259	268.3 -> 223.0	71591	5.23 µg/L	0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C6-PFDA	8.039	519.1 -> 474.1	28578	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	35620	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-FOSA	9.611	506.1 -> 77.8	35692	2.39 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C8-PFOA	7.038	421.1 -> 376.0	107368	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	16267	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C9-PFNA	7.557	472.1 -> 427.0	44938	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28678	4.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C3-HFPO-DA	5.807	286.9 -> 168.9	50458	10.48 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	16031	2.46 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	26911	4.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.7%	
d7-MeFOSE	10.672	623.2 -> 58.9	117257	23.17 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.7%	
d9-EtFOSE	10.919	639.2 -> 58.9	143228	22.75 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.0%	
d5-EtFOSA	10.985	531.1 -> 219.0	14247	2.25 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.1%	
Target Compounds					QValue
4:2FTS	5.119	327.1 -> 307.0	299551	43.24 µg/L	94
		327.1 -> 80.9	106704		
6:2FTS	6.813	427.1 -> 407.0	292558	49.85 µg/L	98
		427.1 -> 80.9	95517		
8:2FTS	7.828	527.1 -> 507.0	160093	45.78 µg/L	93
		527.1 -> 80.8	61145		
EtFOSAA	8.293	584.2 -> 419.1	51298	12.50 µg/L	94
		584.2 -> 526.0	25768		
FOSA	9.614	498.1 -> 77.9	412063	29.70 µg/L	100
		498.1 -> 478.0	12319		
MeFOSAA	8.097	570.1 -> 419.0	88370	12.69 µg/L	99
		570.1 -> 483.0	16659		
PFBA	2.894	212.8 -> 168.9	396312	48.54 µg/L	100
PFBS	5.385	298.7 -> 79.9	109430	10.39 µg/L	96
		298.7 -> 98.8	42160		
PFDA	8.040	512.9 -> 469.0	441404	11.33 µg/L	98
		512.9 -> 219.0	75084		
PFDoDA	8.913	613.1 -> 569.0	295114	11.63 µg/L	94
		613.1 -> 319.0	47884		
PFDS	9.076	599.0 -> 79.9	51044	11.18 µg/L	97

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	24057	11.95	µg/L	96
		363.1 -> 319.0	436273			
PFHpS	7.698	363.1 -> 169.0	71947	10.95	µg/L	96
		449.0 -> 79.9	97089			
PFHxA	5.444	449.0 -> 98.9	50486	12.20	µg/L	99
		313.0 -> 269.0	357675			
PFHxS	7.156	313.0 -> 118.9	17582	10.32	µg/L	m
		398.7 -> 79.9	93053			
PFNA	7.434	398.7 -> 98.9	45856	26.90	µg/L	m
		463.0 -> 419.0	997982			
PFNS	8.657	463.0 -> 219.0	207905	10.91	µg/L	96
		548.8 -> 79.9	83528			
PFOA	7.040	548.8 -> 98.9	42971	26.60	µg/L	m
		413.0 -> 369.0	1335280			
PFOS	8.191	413.0 -> 169.0	251761	10.62	µg/L	92
		498.9 -> 79.9	91722			
PFPeA	4.249	498.9 -> 98.8	44040	24.61	µg/L	100
		263.0 -> 219.0	475052			
PFPeS	6.447	349.1 -> 79.9	102060	11.53	µg/L	96
		349.1 -> 98.9	45612			
PFTeDA	9.652	713.1 -> 669.0	223486	11.78	µg/L	96
		713.1 -> 168.9	19904			
PFTrDA	9.309	663.0 -> 619.0	302414	12.22	µg/L	95
		663.0 -> 168.9	33763			
PFUnDA	8.480	563.1 -> 519.0	304850	11.97	µg/L	95
		563.1 -> 269.1	53197			
11CI-PF3OUdS	9.360	630.9 -> 450.9	440090	22.69	µg/L	99
		632.9 -> 452.9	138641			
9CI-PF3ONS	8.520	530.8 -> 351.0	714030	22.05	µg/L	97
		532.8 -> 353.0	224075			
ADONA	6.646	376.9 -> 250.9	1615705	21.72	µg/L	99
		376.9 -> 84.8	428153			
HFPO-DA	5.807	284.9 -> 168.9	124473	25.14	µg/L	94
		284.9 -> 184.9	13905			
3:3FTCA	3.727	241.0 -> 177.0	82961	59.57	µg/L	95
		241.0 -> 117.0	10252			
5:3FTCA	6.099	341.0 -> 237.1	1580592	293.59	µg/L	96
		341.0 -> 217.0	1179152			
7:3FTCA	7.523	441.0 -> 316.9	1015859	291.91	µg/L	95
		441.0 -> 336.9	2316468			
EtFOSA	10.986	526.0 -> 219.0	314263	43.97	µg/L	97
		526.0 -> 169.0	399045			
EtFOSE	10.920	630.0 -> 58.9	559752	80.56	µg/L	100
		511.9 -> 219.0	265981			
MeFOSA	10.753	511.9 -> 169.0	375088	39.11	µg/L	93
		616.1 -> 58.9	411728			
MeFOSE	10.686	699.1 -> 79.9	22010	79.04	µg/L	100
		699.1 -> 98.8	11938			
PFDoDS	9.779	295.0 -> 201.0	100597	11.37	µg/L	99
		295.0 -> 84.9	24884			
NFDHA	5.324	279.0 -> 85.1	332202	27.78	µg/L	95
		229.0 -> 84.9	249402			
PFMBA	4.663	314.8 -> 134.9	832467	24.35	µg/L	100
		314.8 -> 82.9	26761			
PFMPA	3.413			24.03	µg/L	100
PFEESA	5.912			21.13	µg/L	98

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

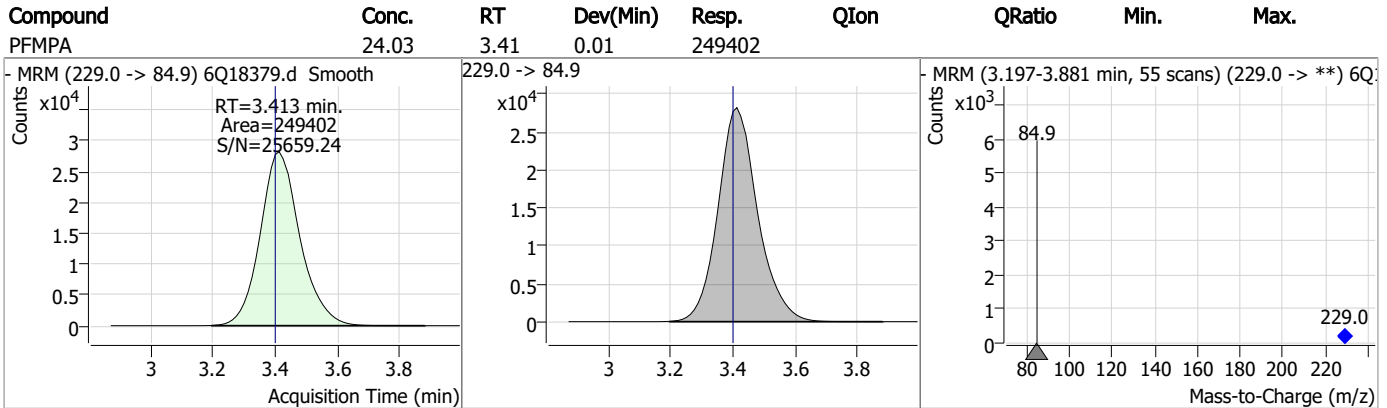
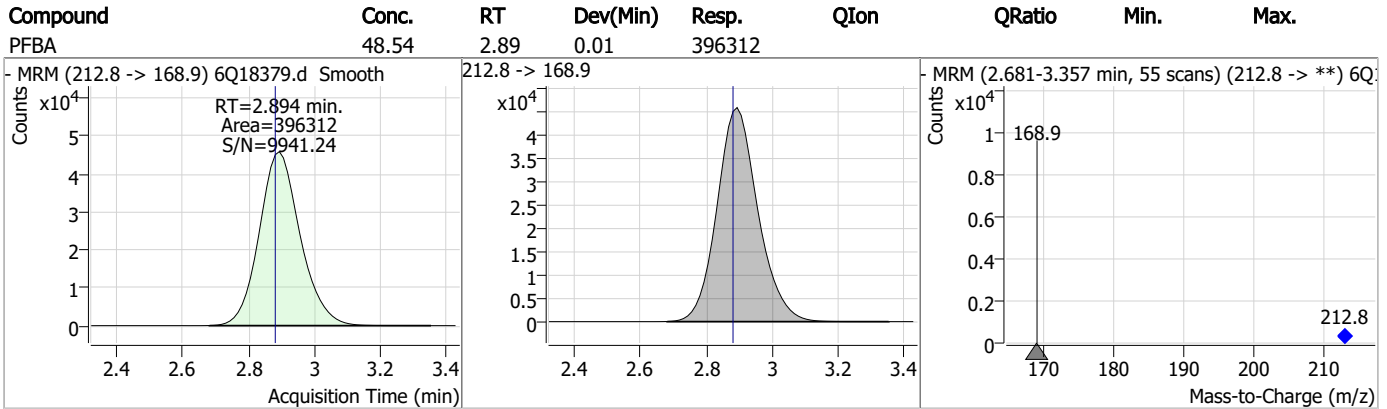
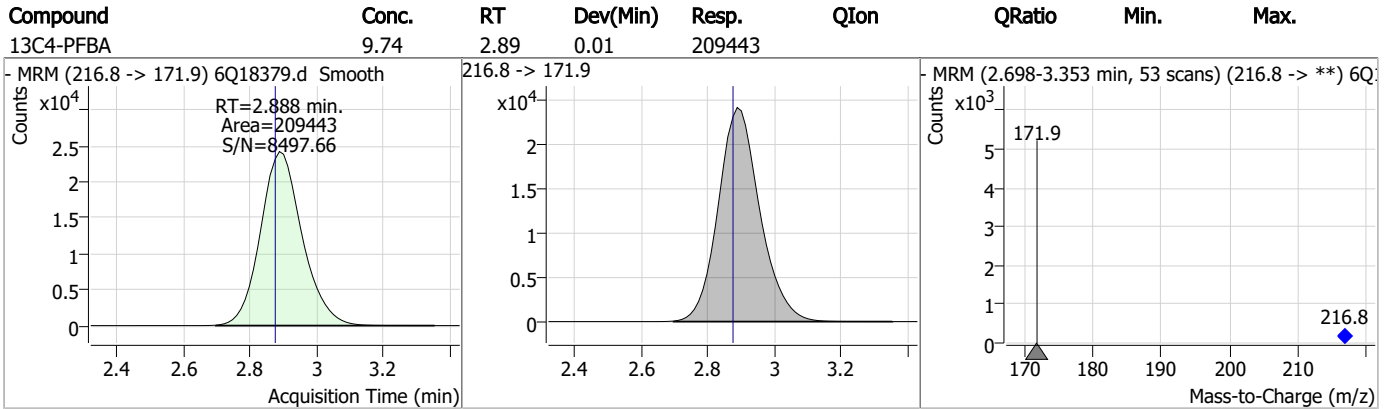
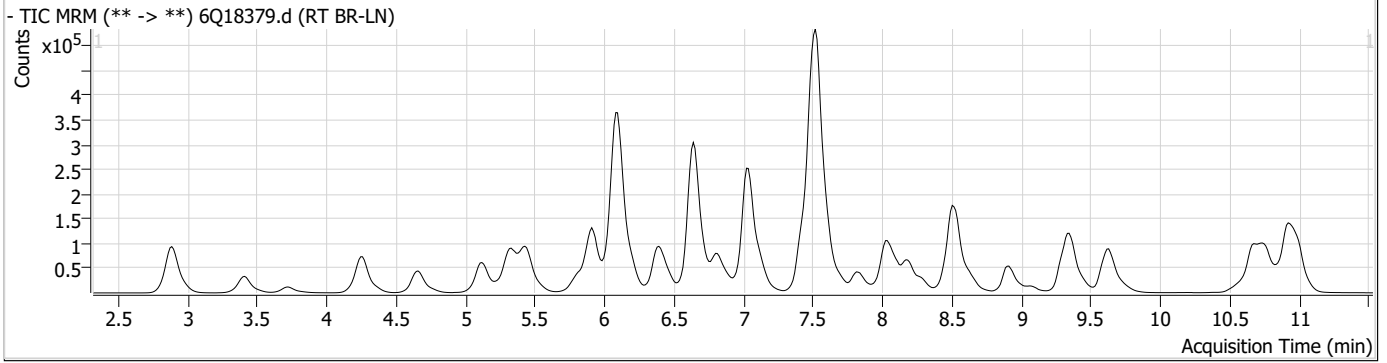
Perfluorinated Compounds by LC/MS/MS

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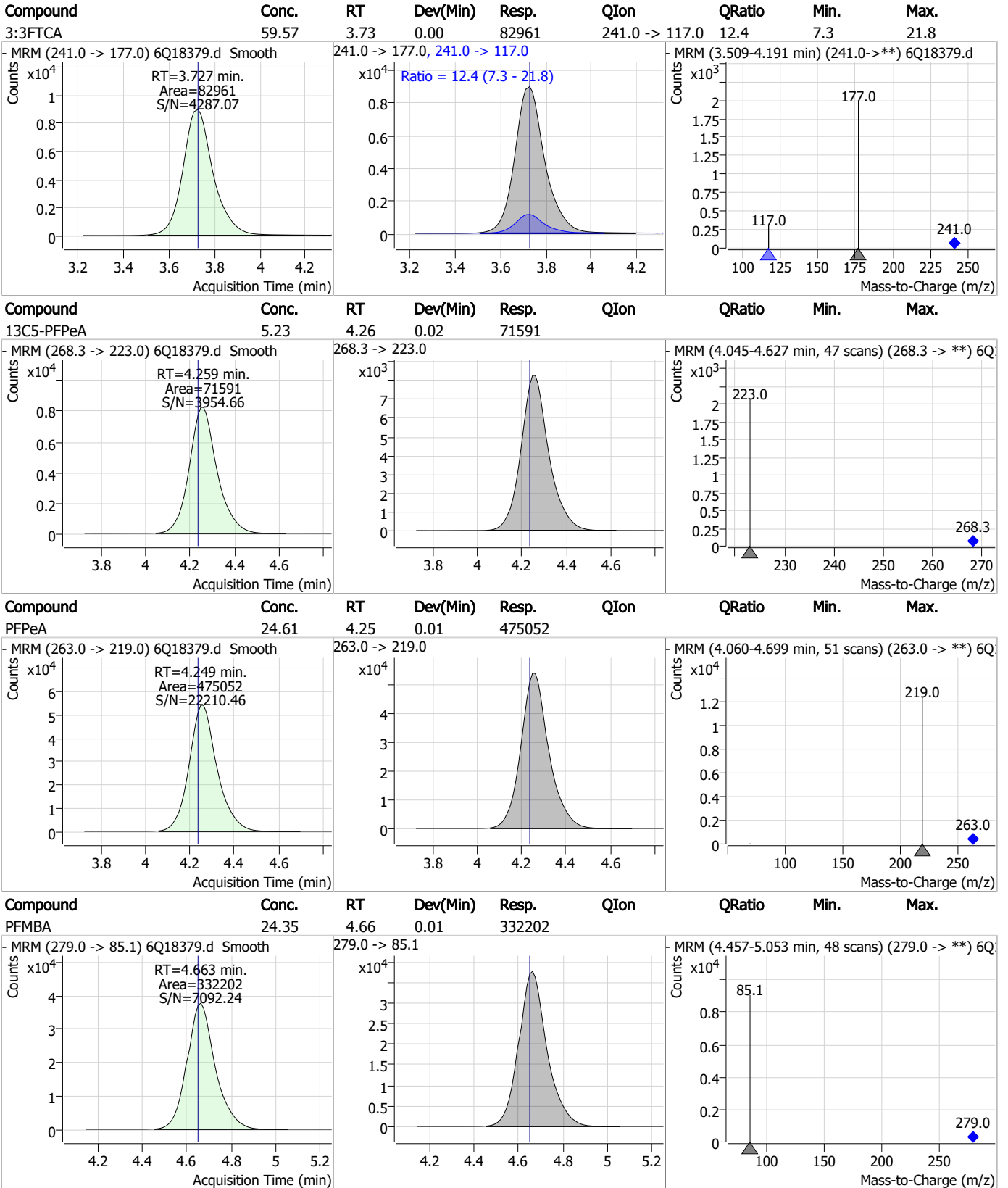
7.6.6

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Perfluorinated Compounds by LC/MS/MS



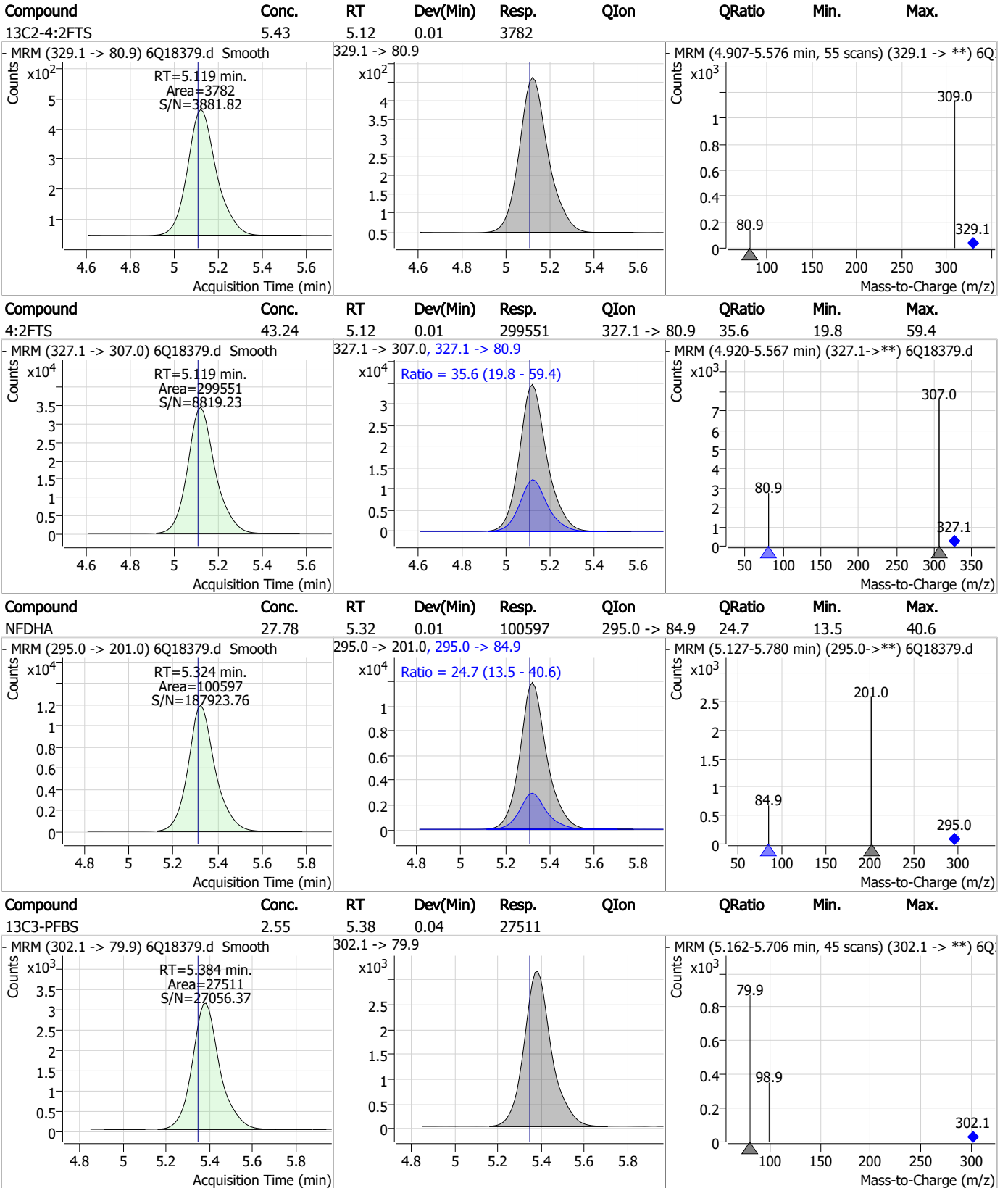
Perfluorinated Compounds by LC/MS/MS



7.6.6

7

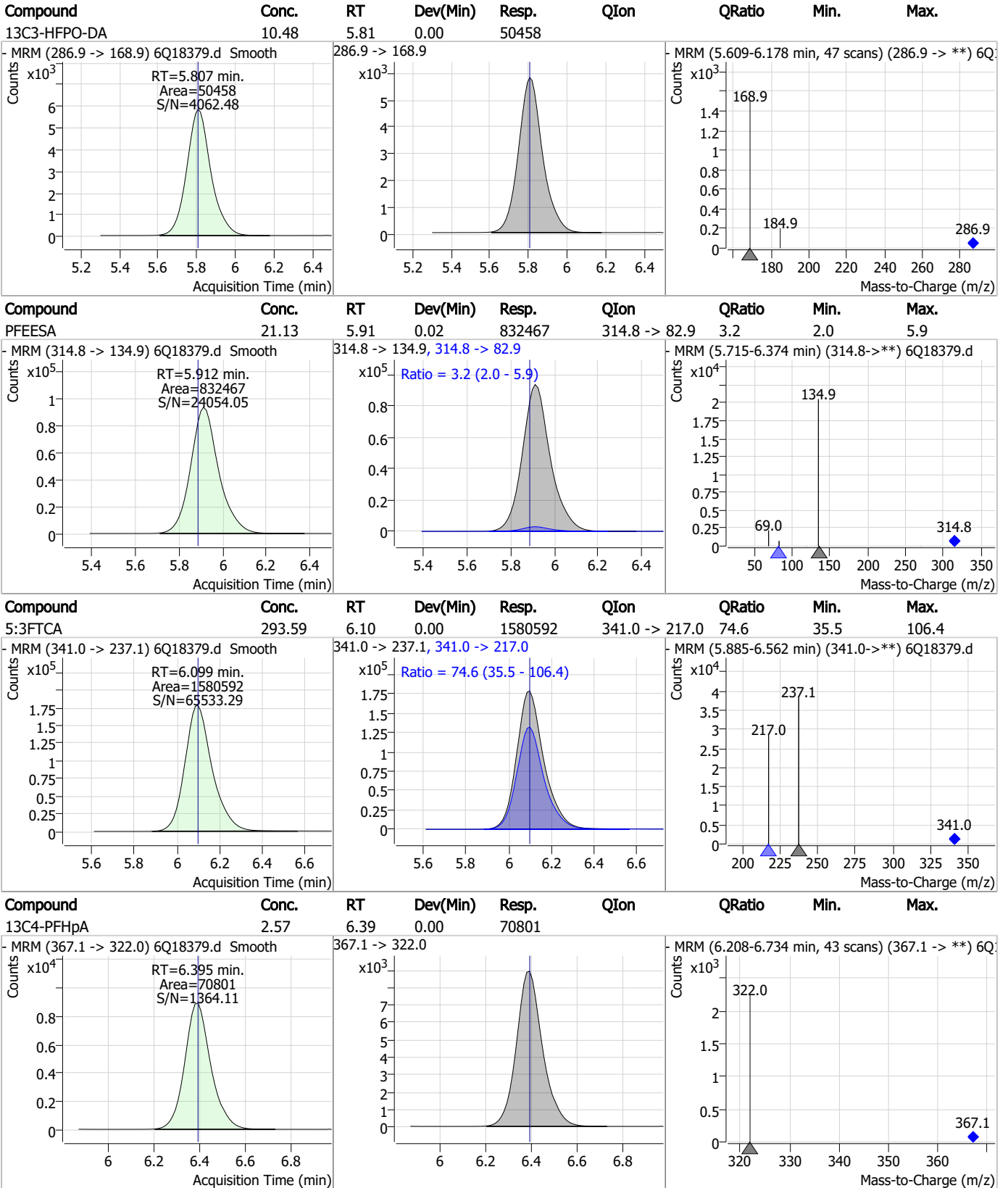
Perfluorinated Compounds by LC/MS/MS



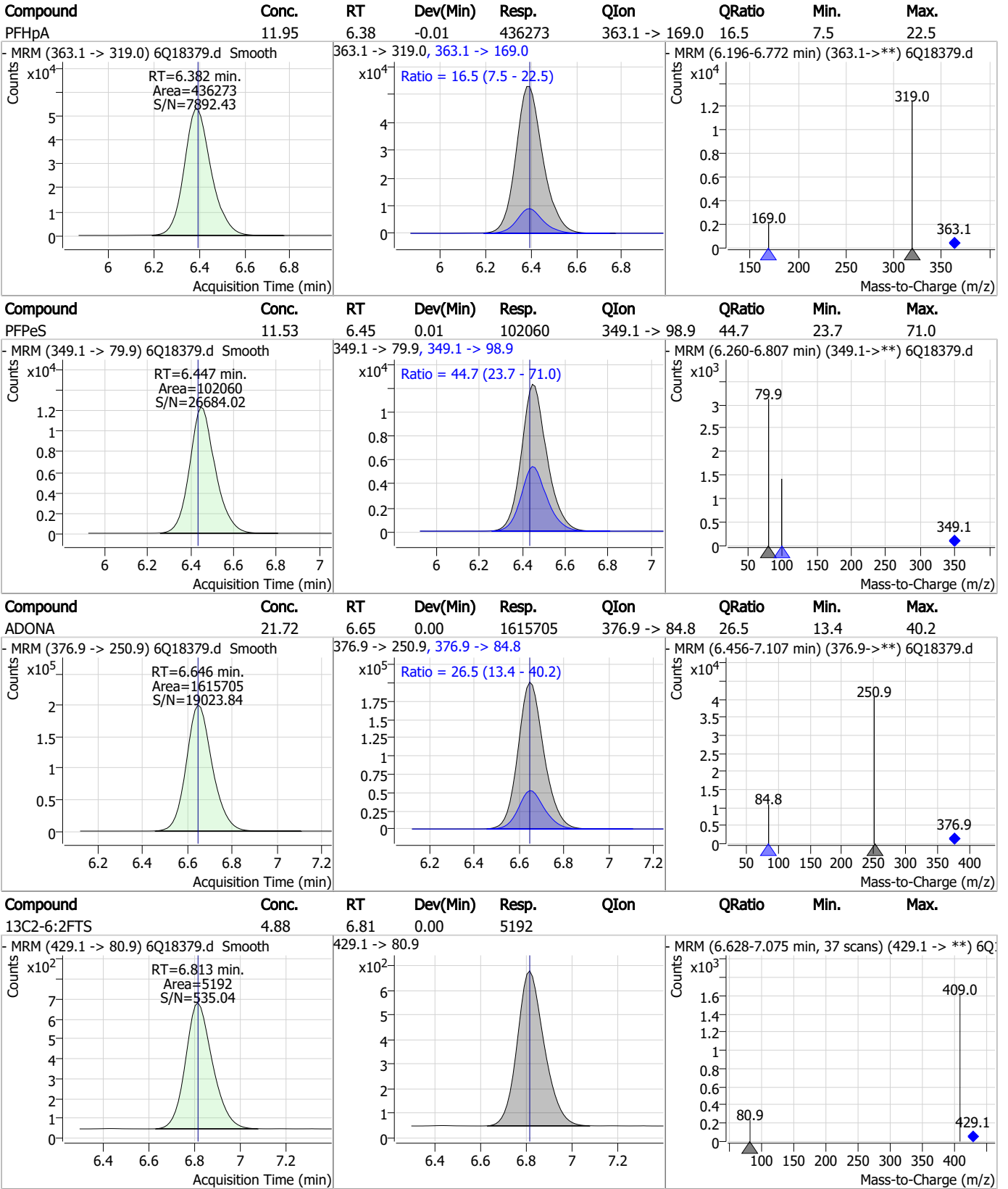
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	10.39	5.38	0.04	109430	298.7 -> 98.8	38.5	18.1	54.3
13C5-PFHxA	2.58	5.44	0.01	75501	318.0 -> 273.0			
PFHxA	12.20	5.44	0.01	357675	313.0 -> 118.9	4.9	2.2	6.7
HFPO-DA	25.14	5.81	0.01	124473	284.9 -> 184.9	11.2	6.8	20.4

Perfluorinated Compounds by LC/MS/MS



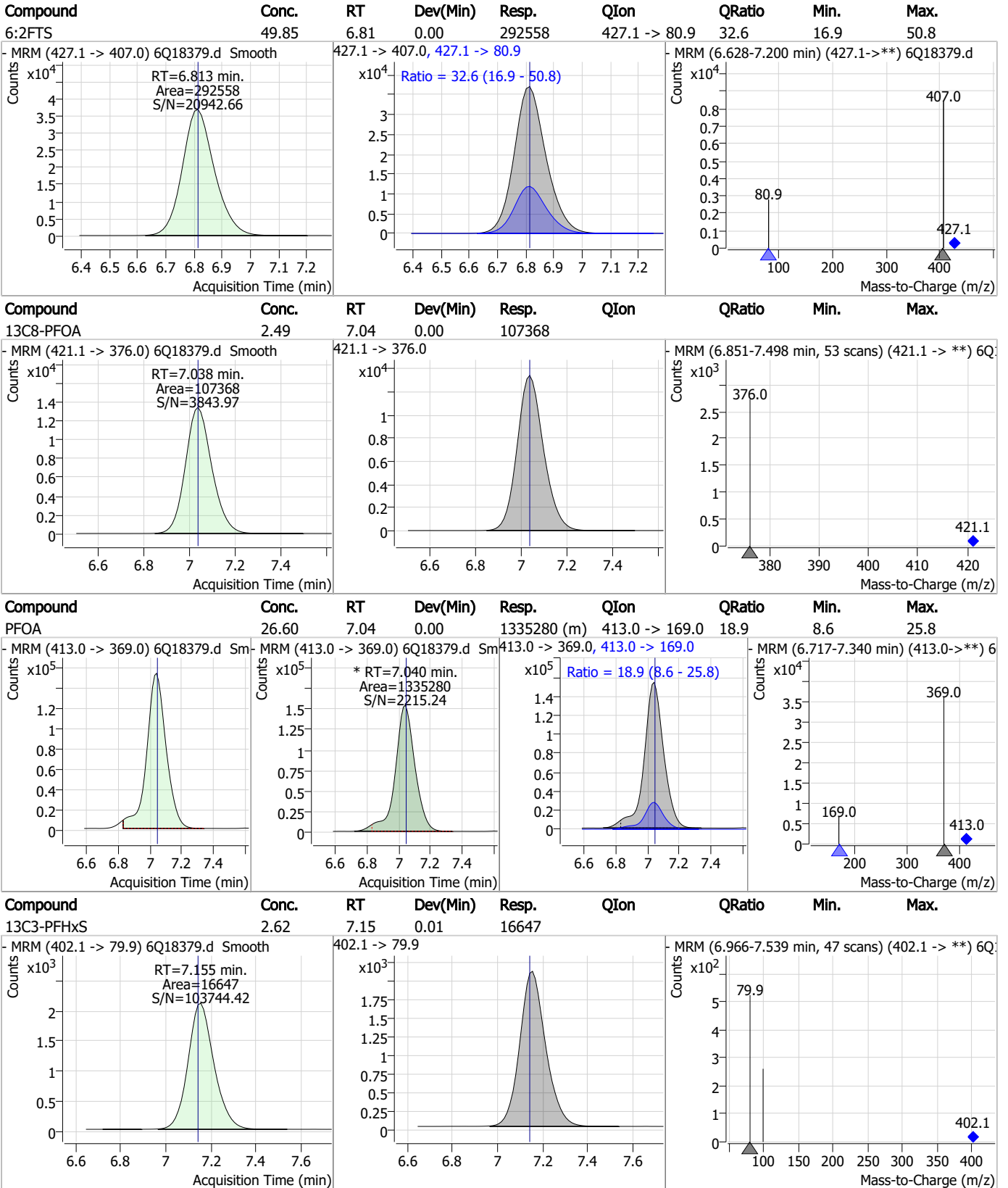
Perfluorinated Compounds by LC/MS/MS



7.6.6
7



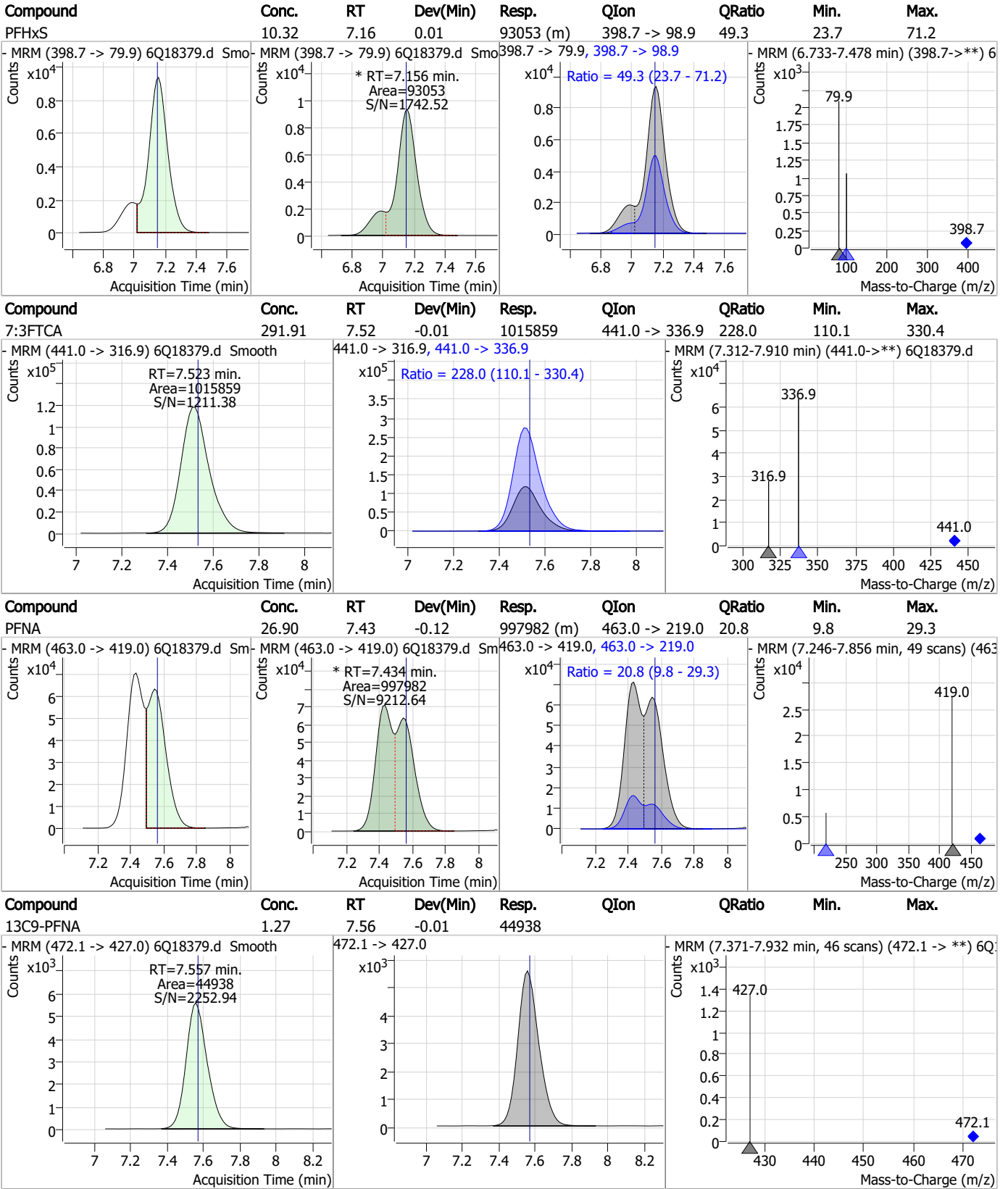
Perfluorinated Compounds by LC/MS/MS



7.6.6

7

Perfluorinated Compounds by LC/MS/MS

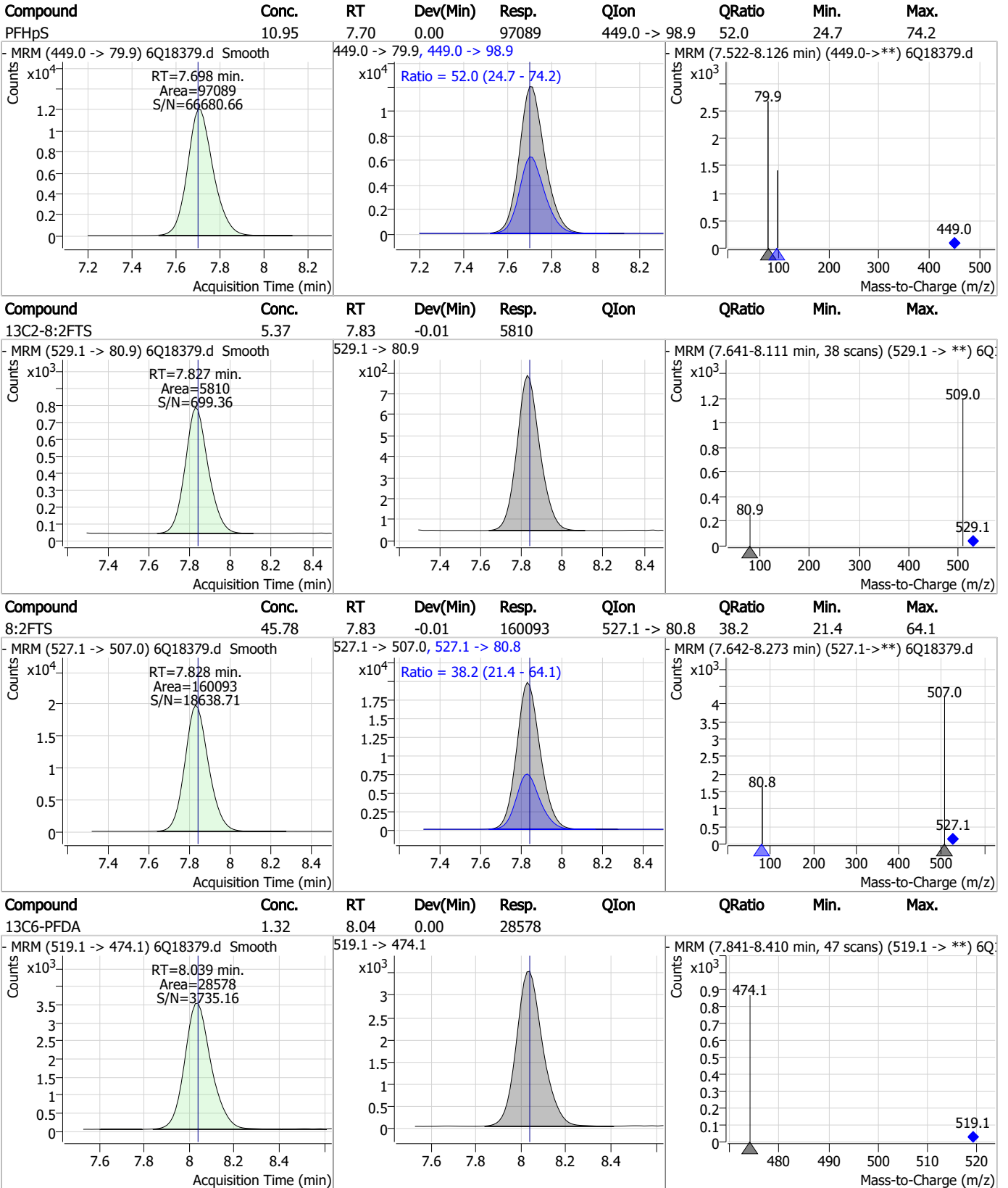


7.6.6

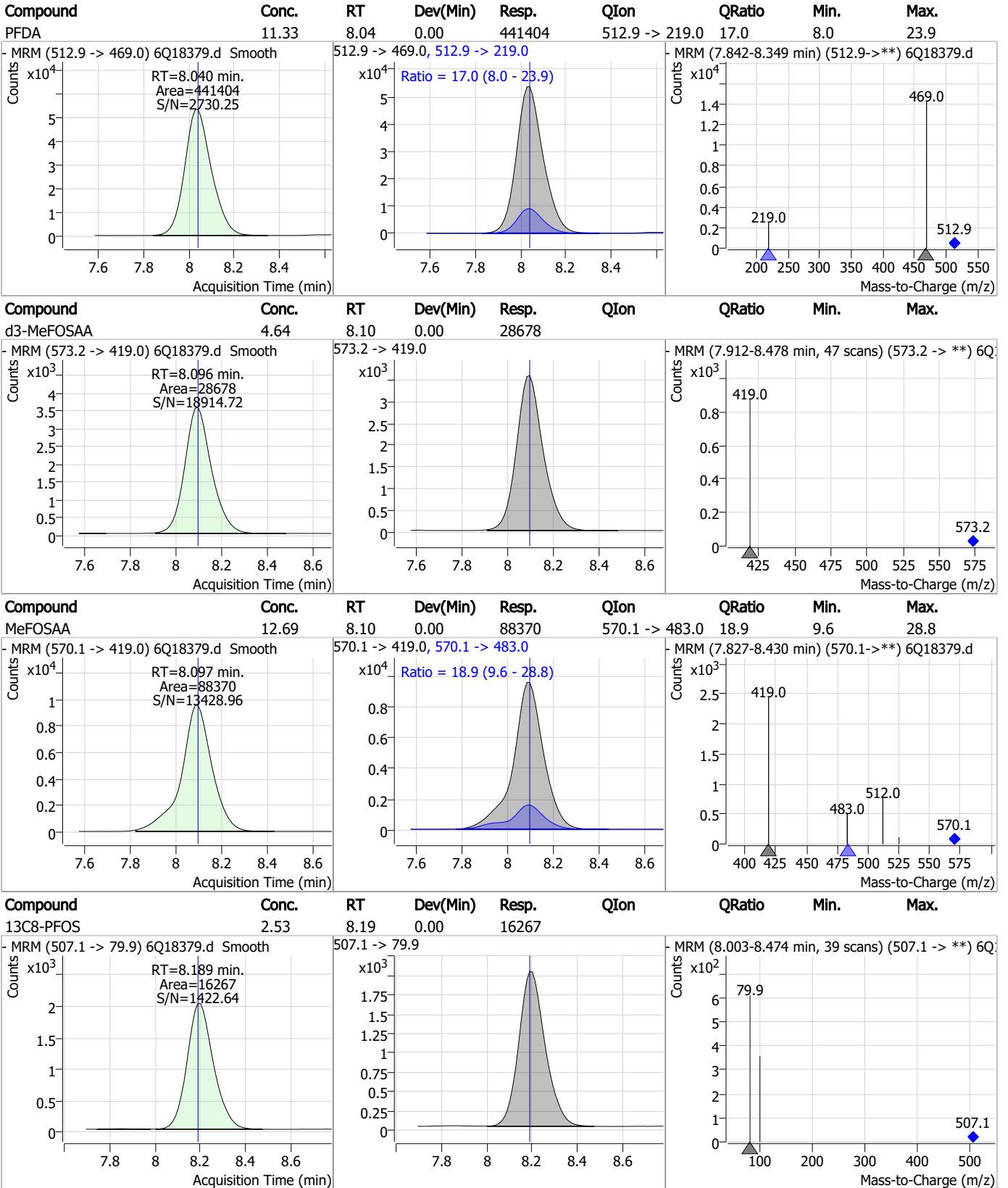
7



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

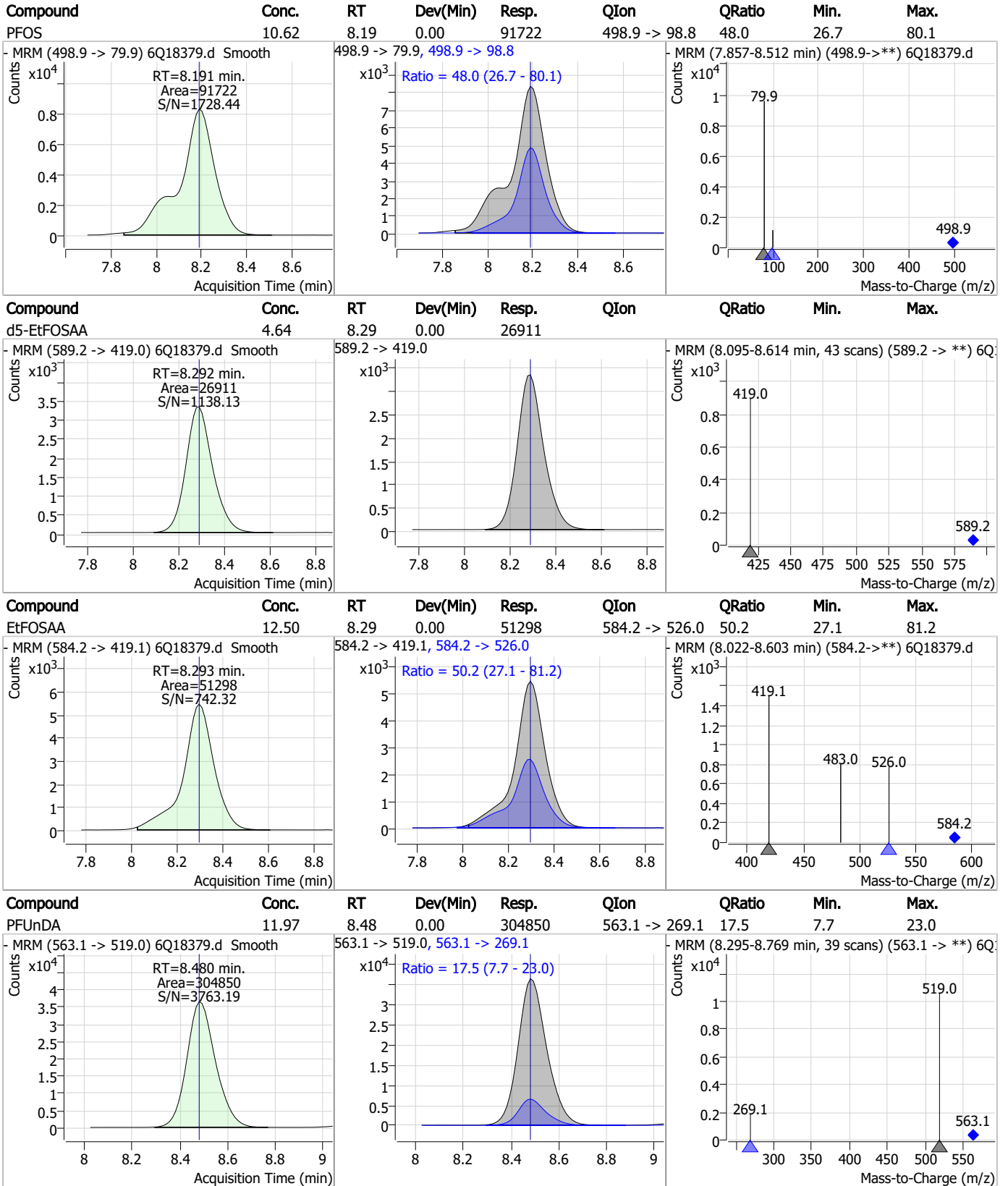


7.6.6

7



Perfluorinated Compounds by LC/MS/MS

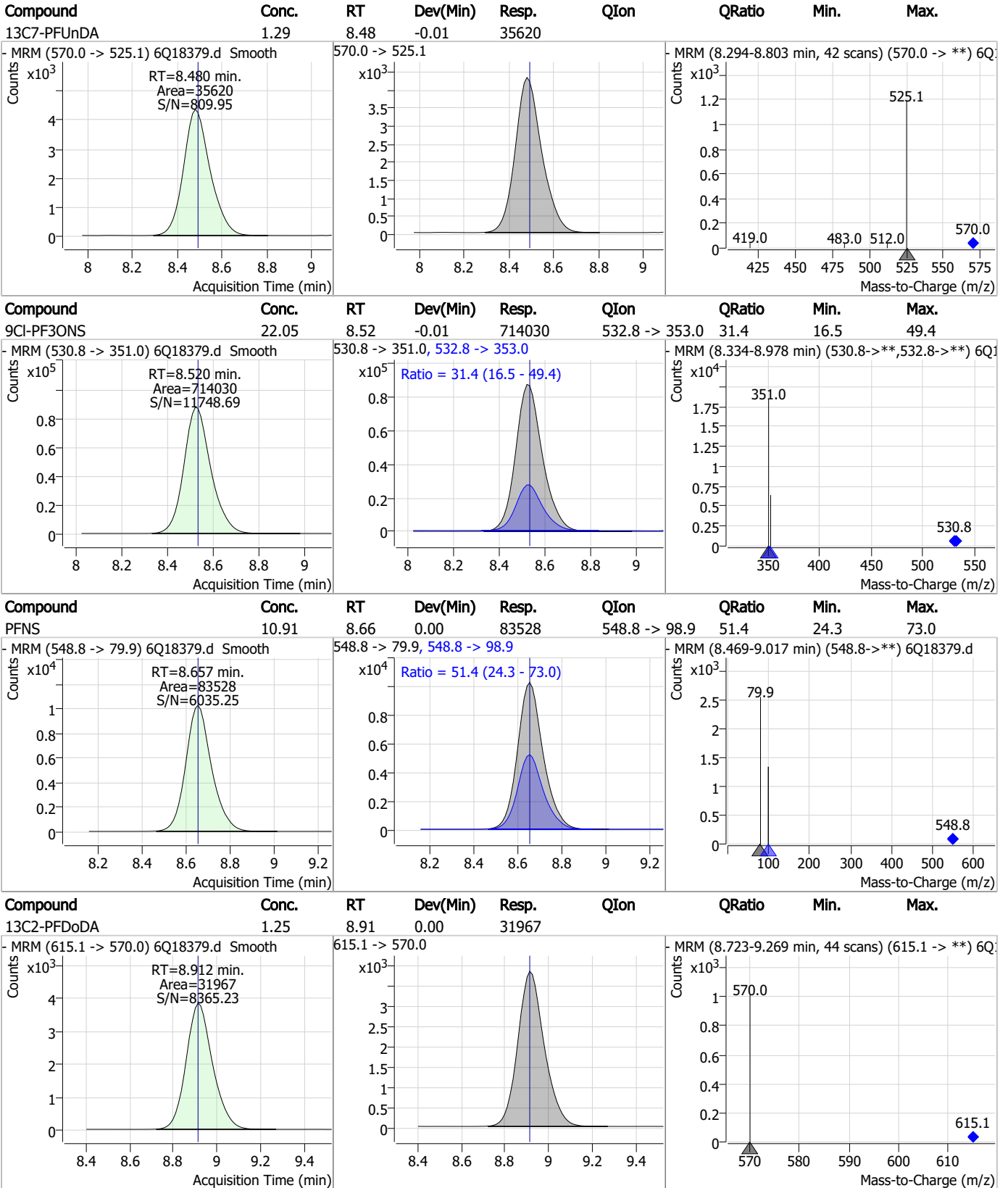


7.6.6

7



Perfluorinated Compounds by LC/MS/MS

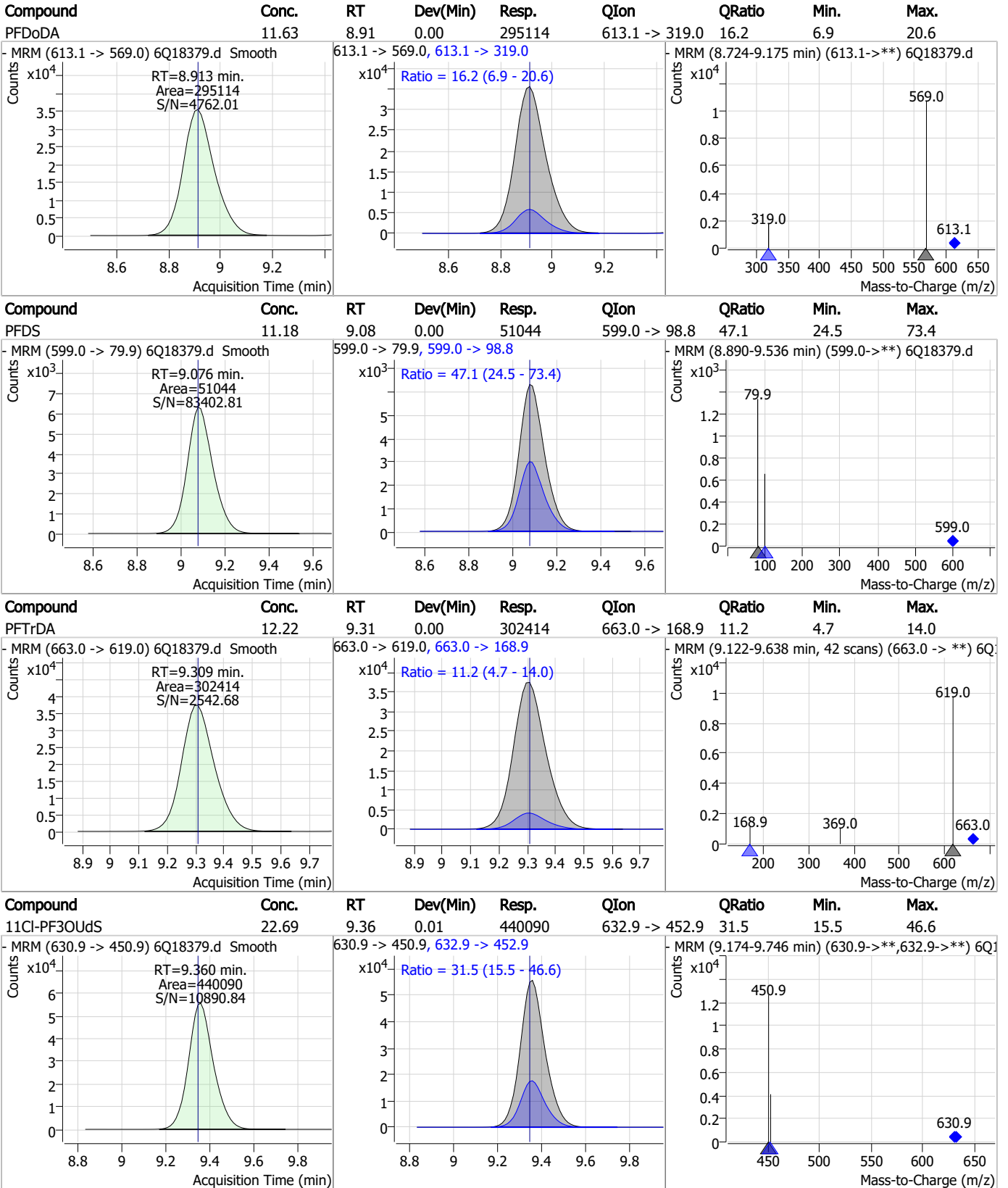


7.6.6

7



Perfluorinated Compounds by LC/MS/MS

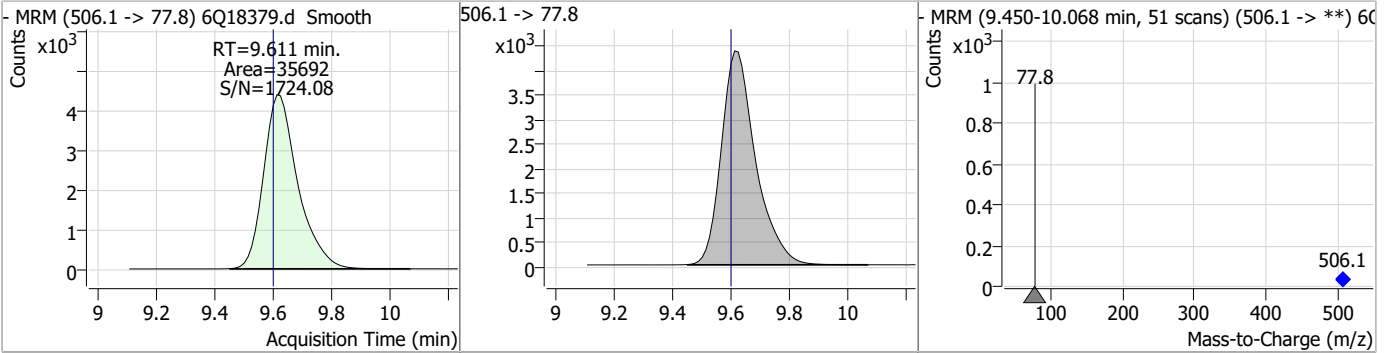


7.6.6

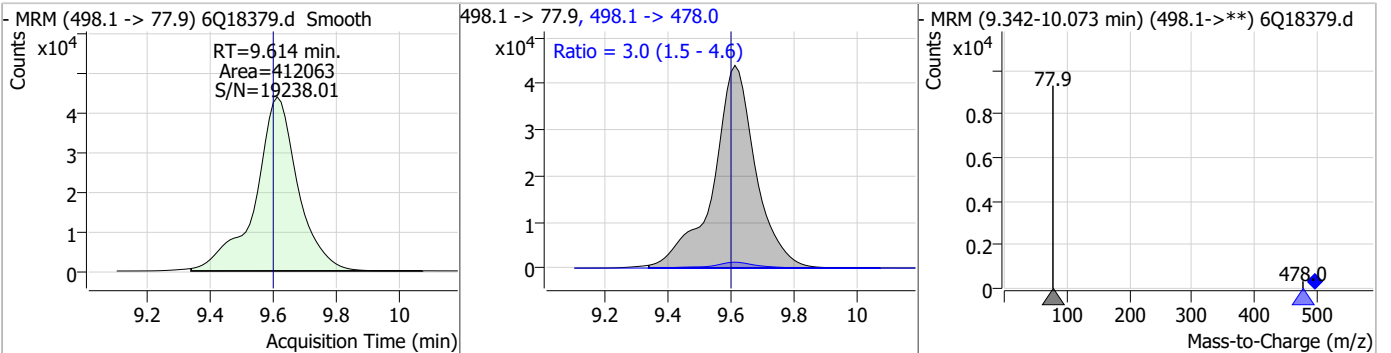
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Perfluorinated Compounds by LC/MS/MS

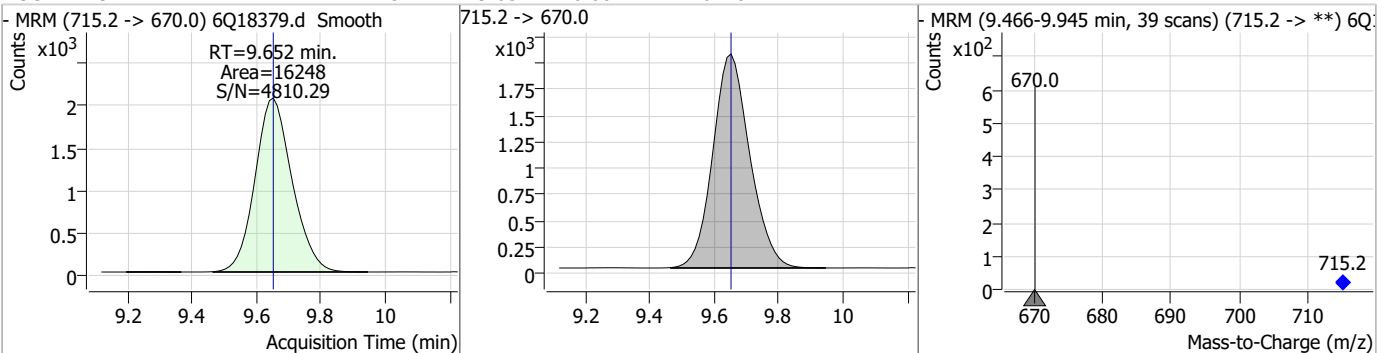
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.39	9.61	0.01	35692				



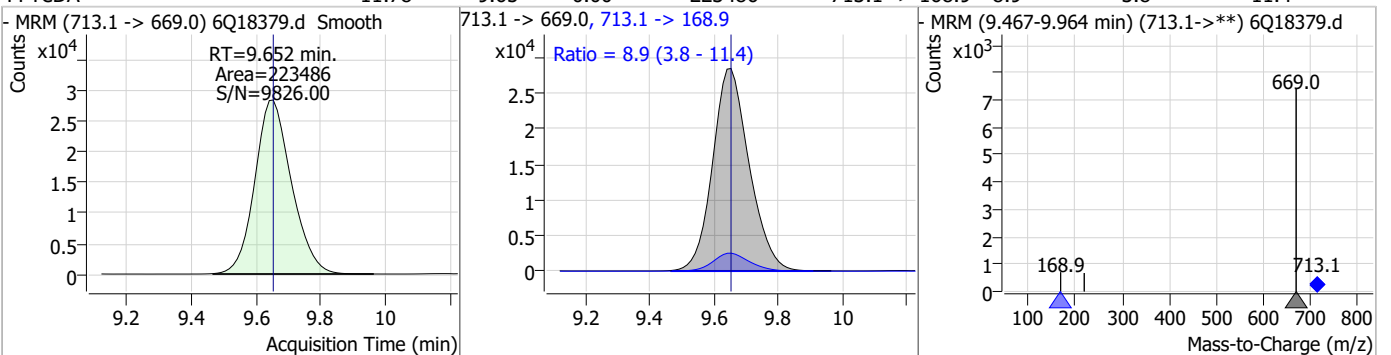
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	29.70	9.61	0.01	412063	498.1 -> 478.0	3.0	1.5	4.6



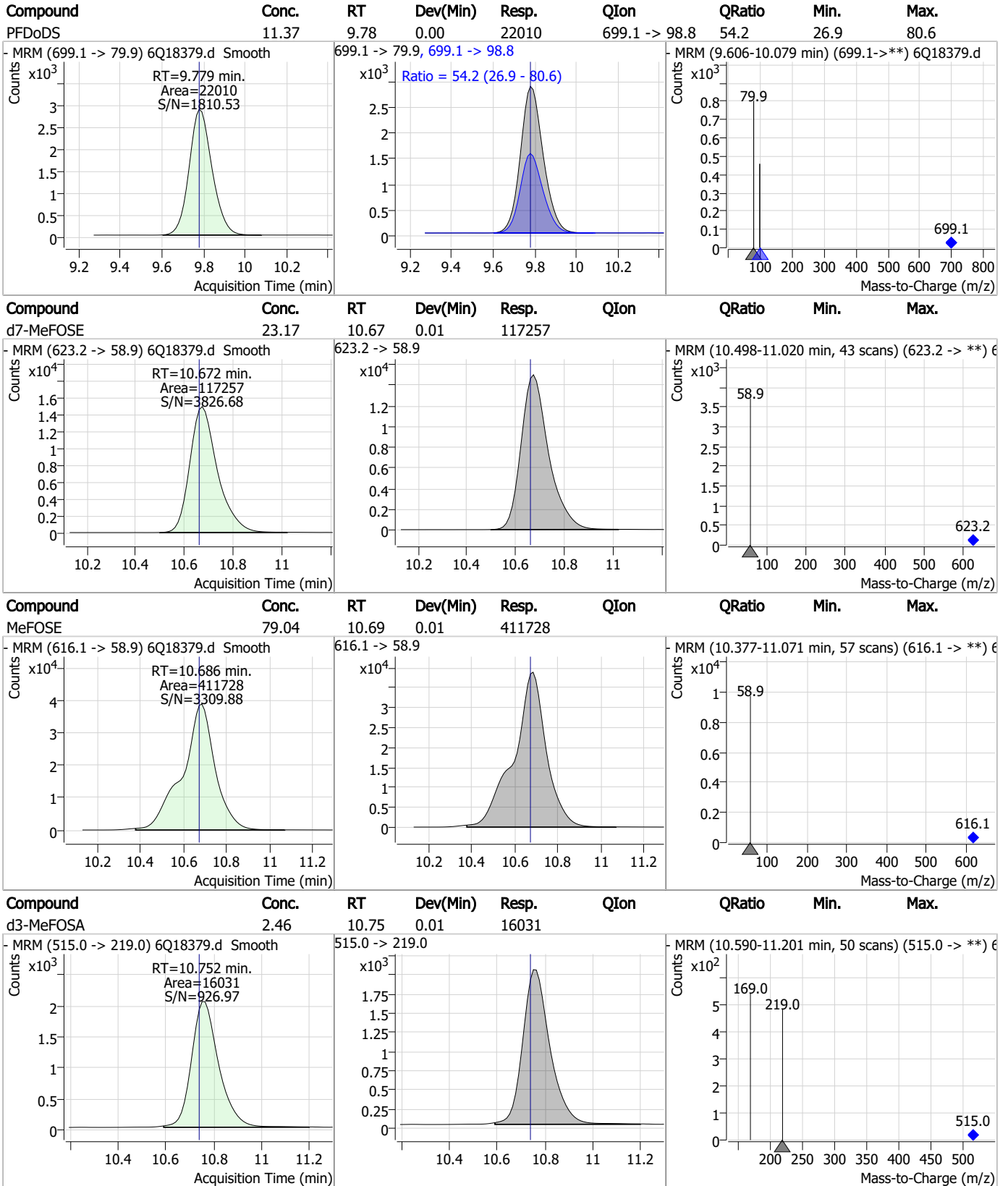
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	9.65	0.00	16248				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	11.78	9.65	0.00	223486	713.1 -> 168.9	8.9	3.8	11.4



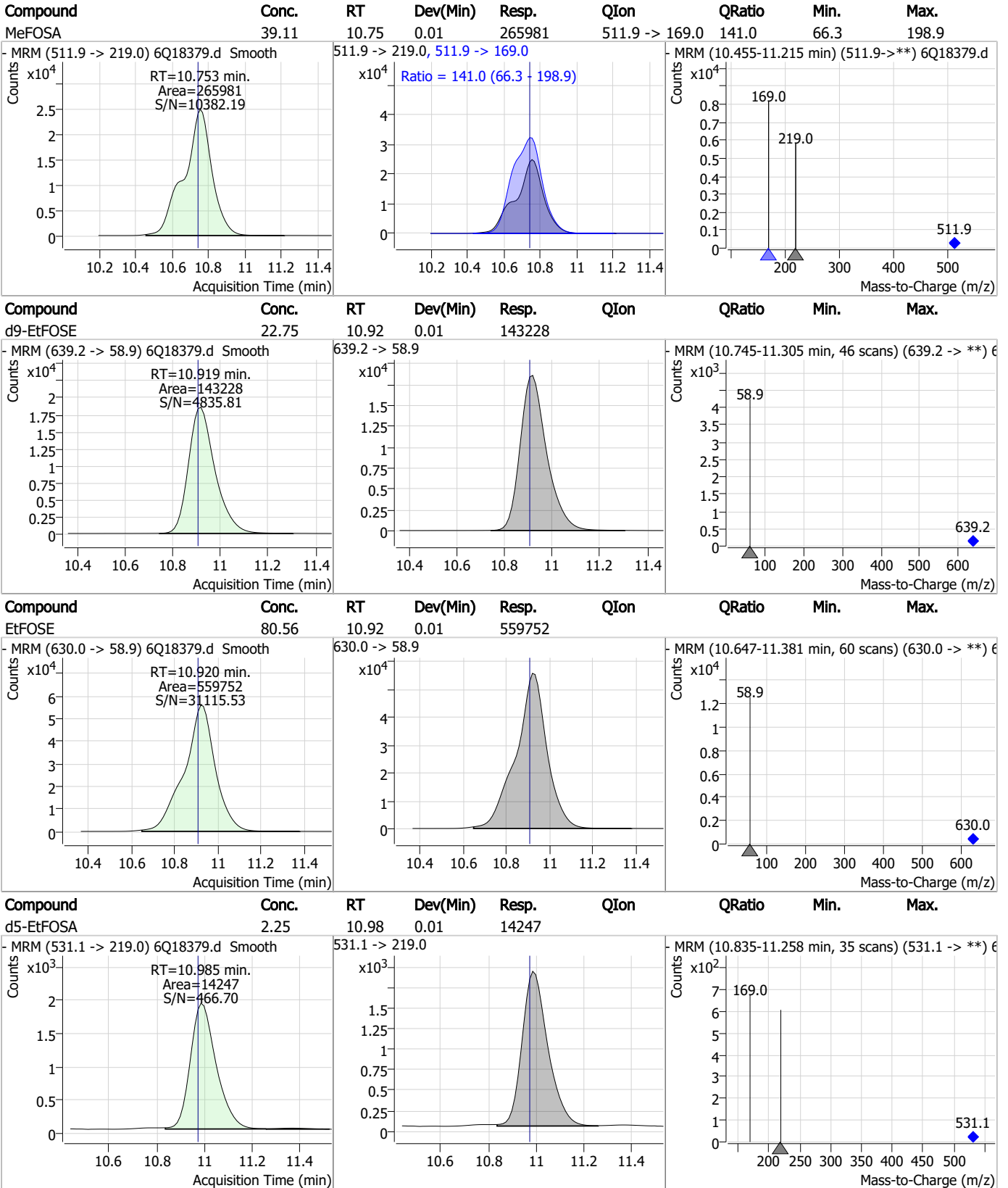
Perfluorinated Compounds by LC/MS/MS



7.6.6

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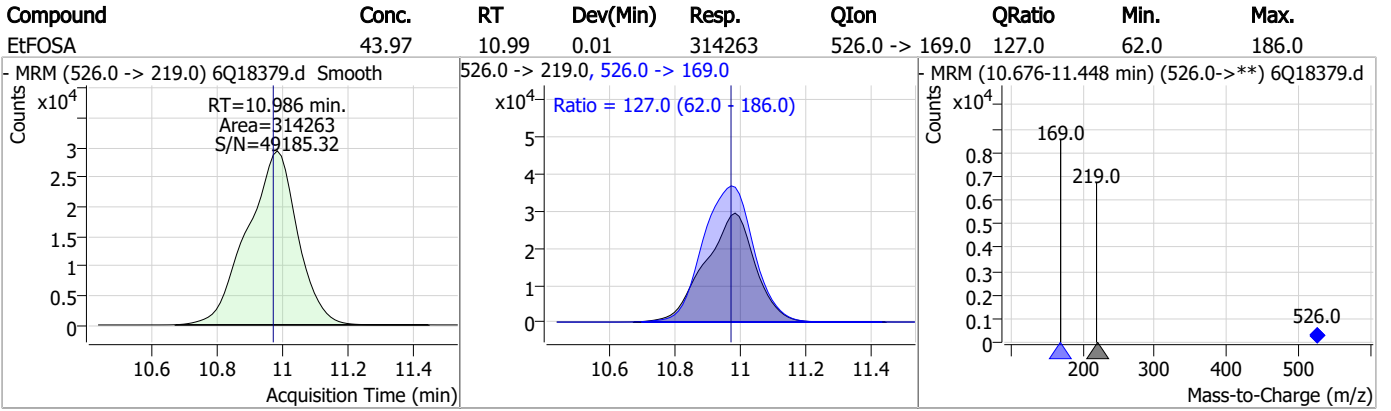
Perfluorinated Compounds by LC/MS/MS



7.6.6

7

Perfluorinated Compounds by LC/MS/MS



7.6.6

7

Manual Integration Approval Summary

Sample Number: S6Q276-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18379.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/25/23 08:42 Supervisor approved: 05/25/23 13:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.04	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak
Perfluorononanoic acid	375-95-1		7.43	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 22 May 2023 19:41:05
File Path D:\MassHunter\Tune\QQQ\G6495B\atunes.TUNE.XML
Ion Source AJS ESI
Ionization Mode AJS ESI
Tuned Resolution All
Vacuum Pressure 1.78E+0 [R] (Torr); 2.96E-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	651968
302.00	301.99	-0.01	Pass	0.70	0.73	0.03	Pass	1605051
601.98	601.94	-0.04	Pass	0.70	0.64	-0.06	Pass	2452925
1033.99	1033.90	-0.09	Pass	0.70	0.67	-0.03	Pass	1607696
1633.95	1633.80	-0.15	Pass	0.70	0.70	0.00	Pass	1290512
2233.91	2233.59	-0.32	Adjust	0.70	0.74	0.04	Pass	568230

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.06	0.06	Pass	0.70	0.69	-0.01	Pass	183855
112.99	113.02	0.03	Pass	0.70	0.72	0.02	Pass	713641
302.00	302.04	0.04	Pass	0.70	0.62	-0.08	Pass	1714955
601.98	601.96	-0.02	Pass	0.70	0.61	-0.09	Pass	2469073
1033.99	1033.88	-0.11	Pass	0.70	0.63	-0.07	Pass	1458970
1633.95	1633.81	-0.14	Pass	0.70	0.70	0.00	Pass	1101150
2233.91	2233.70	-0.21	Pass	0.70	0.75	0.05	Pass	632869

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.95	-0.04	Pass	1.20	1.20	0.00	Pass	743493
302.00	301.97	-0.03	Pass	1.20	1.30	0.10	Pass	2282551
601.98	601.92	-0.06	Pass	1.20	1.49	0.29	Pass	3155170
1033.99	1033.87	-0.12	Pass	1.20	1.49	0.29	Pass	3152539
1633.95	1633.74	-0.21	Pass	1.20	1.38	0.18	Pass	2473616
2233.91	2233.66	-0.25	Pass	1.20	1.40	0.20	Pass	1165409

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.04	0.04	Pass	1.20	1.02	-0.18	Pass	241604
112.99	112.95	-0.04	Pass	1.20	1.07	-0.13	Pass	983514
302.00	301.96	-0.04	Pass	1.20	1.30	0.10	Pass	2443347
601.98	601.85	-0.13	Pass	1.20	1.29	0.09	Pass	3269819
1033.99	1033.84	-0.15	Pass	1.20	1.28	0.08	Pass	2556597
1633.95	1633.74	-0.21	Pass	1.20	1.31	0.11	Pass	2509097
2233.91	2233.64	-0.27	Pass	1.20	1.22	0.02	Pass	1532067

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.94	-0.05	Pass	2.50	2.42	-0.08	Pass	756147
302.00	301.81	-0.19	Pass	2.50	2.52	0.02	Pass	2481181
601.98	601.86	-0.12	Pass	2.50	2.67	0.17	Pass	4047777
1033.99	1033.84	-0.15	Pass	2.50	2.64	0.14	Pass	4269906
1633.95	1633.72	-0.23	Pass	2.50	2.30	-0.20	Pass	4486103
2233.91	2233.61	-0.30	Pass	2.50	2.25	-0.25	Pass	2666953

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	2.53	0.03	Pass	288761
112.99	112.94	-0.05	Pass	2.50	2.58	0.08	Pass	1199729
302.00	301.95	-0.05	Pass	2.50	2.61	0.11	Pass	2954274
601.98	601.88	-0.10	Pass	2.50	2.67	0.17	Pass	4851762
1033.99	1033.94	-0.05	Pass	2.50	2.64	0.14	Pass	4313099
1633.95	1633.67	-0.28	Pass	2.50	2.47	-0.03	Pass	4825198
2233.91	2233.71	-0.20	Pass	2.50	2.31	-0.19	Pass	3730702

7.7.1
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18227a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 4:11:38 PM
 Sample Name : ic275-1
 Vial : P1-A2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	243673	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	80217	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	86024	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	79898	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	126006	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	52204	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	31827	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	40788	1.25 µg/L	0.000
M2-PFDoDA	8.925	615.1 -> 570.0	35040	1.25 µg/L	0.012
M2-PFTeDA	9.652	715.2 -> 670.0	18743	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	42866	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	31783	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	18447	2.50 µg/L	0.000
M8-PFOS	8.202	507.1 -> 79.9	17651	2.50 µg/L	0.012
M2-4:2FTS	5.106	329.1 -> 80.9	4309	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6788	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6053	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34623	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	54241	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	32772	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	142862	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	179034	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	17537	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	16921	2.50 µg/L	0.012
13C4-PFOS	8.190	502.8 -> 79.9	22214	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	102213	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13794	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	126210	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39496	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	60332	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	83534	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4309	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6788	5.36 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6053	4.70 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.1%		
13C2-PFDoDA	8.925	615.1 -> 570.0	35040	1.25 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C2-PFTeDA	9.652	715.2 -> 670.0	18743	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C3-PFBS	5.347	302.1 -> 79.9	31783	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C3-PFHxS	7.142	402.1 -> 79.9	18447	2.44 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.7%		
13C4-PFBA	2.876	216.8 -> 171.9	243673	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C4-PFHpA	6.382	367.1 -> 322.0	79898	2.50 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.8%		
13C5-PFHxA	5.429	318.0 -> 273.0	86024	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C5-PFPeA	4.235	268.3 -> 223.0	80217	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	31827	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C7-PFUnDA	8.492	570.0 -> 525.1	40788	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 107.0%		
13C8-FOSA	9.598	506.1 -> 77.8	42866	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C8-PFOA	7.038	421.1 -> 376.0	126006	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C8-PFOS	8.202	507.1 -> 79.9	17651	2.57 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C9-PFNA	7.557	472.1 -> 427.0	52204	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.9%		
d3-MeFOSAA	8.096	573.2 -> 419.0	34623	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C3-HFPO-DA	5.794	286.9 -> 168.9	54241	9.69 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 96.9%		
d3-MeFOSA	10.752	515.0 -> 219.0	16921	2.43 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.2%		
d5-EtFOSAA	8.292	589.2 -> 419.0	32772	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.6%		
d7-MeFOSE	10.660	623.2 -> 58.9	142862	26.39 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 105.6%		
d9-EtFOSE	10.907	639.2 -> 58.9	179034	26.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 106.3%		
d5-EtFOSA	10.972	531.1 -> 219.0	17537	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.7%		
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	5607	0.71 µg/L	91
		327.1 -> 80.9	1909		
6:2FTS	6.813	427.1 -> 407.0	5706	0.74 µg/L	96
		427.1 -> 80.9	1792		
8:2FTS	7.828	527.1 -> 507.0	2759	0.76 µg/L	99
		527.1 -> 80.8	1190		
EtFOSAA	8.305	584.2 -> 419.1	950	0.19 µg/L	91
		584.2 -> 526.0	453		
FOSA	9.602	498.1 -> 77.9	3088	0.19 µg/L	100
		498.1 -> 478.0	96		
MeFOSAA	8.109	570.1 -> 419.0	1474	0.18 µg/L	92
		570.1 -> 483.0	337		
PFBA	2.882	212.8 -> 168.9	7171	0.75 µg/L	100
PFBS	5.348	298.7 -> 79.9	2100	0.17 µg/L	98
		298.7 -> 98.8	739		
PFDA	8.040	512.9 -> 469.0	8389	0.19 µg/L	98
		512.9 -> 219.0	1270		
PFDODA	8.913	613.1 -> 569.0	6131	0.22 µg/L	99
		613.1 -> 319.0	867		
PFDS	9.076	599.0 -> 79.9	904	0.18 µg/L	92

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	489		
PFHpA	6.382	363.1 -> 319.0	7798	0.19 µg/L	95
		363.1 -> 169.0	1347		
PFHpS	7.698	449.0 -> 79.9	1701	0.18 µg/L	100
		449.0 -> 98.9	839		
PFHxA	5.432	313.0 -> 269.0	6805	0.20 µg/L	99
		313.0 -> 118.9	291		
PFHxS	7.143	398.7 -> 79.9	1846	0.18 µg/L	99
		398.7 -> 98.9	885		
PFNA	7.570	463.0 -> 419.0	7704	0.18 µg/L	91
		463.0 -> 219.0	1804		
PFNS	8.656	548.8 -> 79.9	1484	0.18 µg/L	85
		548.8 -> 98.9	877		
PFOA	7.040	413.0 -> 369.0	10847	0.18 µg/L	95
		413.0 -> 169.0	2085		
PFOS	8.191	498.9 -> 79.9	1557	0.17 µg/L	93
		498.9 -> 98.8	905		
PFPeA	4.237	263.0 -> 219.0	8160	0.38 µg/L	100
PFPeS	6.434	349.1 -> 79.9	1752	0.18 µg/L	93
		349.1 -> 98.9	907		
PFTeDA	9.652	713.1 -> 669.0	4443	0.20 µg/L	96
		713.1 -> 168.9	394		
PFTrDA	9.309	663.0 -> 619.0	5395	0.20 µg/L	96
		663.0 -> 168.9	588		
PFUnDA	8.493	563.1 -> 519.0	4830	0.17 µg/L	90
		563.1 -> 269.1	945		
11CI-PF3OUdS	9.360	630.9 -> 450.9	7731	0.37 µg/L	99
		632.9 -> 452.9	2451		
9CI-PF3ONS	8.533	530.8 -> 351.0	13411	0.39 µg/L	83
		532.8 -> 353.0	3100		
ADONA	6.646	376.9 -> 250.9	29463	0.37 µg/L	100
		376.9 -> 84.8	7821		
HFPO-DA	5.795	284.9 -> 168.9	2050	0.39 µg/L	94
		284.9 -> 184.9	226		
3:3FTCA	3.727	241.0 -> 177.0	1470	0.94 µg/L	98
		241.0 -> 117.0	200		
5:3FTCA	6.099	341.0 -> 237.1	31691	5.17 µg/L	96
		341.0 -> 217.0	23425		
7:3FTCA	7.523	441.0 -> 316.9	19980	5.04 µg/L	90
		441.0 -> 336.9	40823		
EtFOSA	10.974	526.0 -> 219.0	3205	0.36 µg/L	90
		526.0 -> 169.0	4328		
EtFOSE	10.920	630.0 -> 58.9	7989	0.92 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	3006	0.42 µg/L	99
		511.9 -> 169.0	4030		
MeFOSE	10.673	616.1 -> 58.9	5696	0.90 µg/L	100
PFDoDS	9.793	699.1 -> 79.9	366	0.17 µg/L	94
		699.1 -> 98.8	181		
NFDHA	5.311	295.0 -> 201.0	1558	0.38 µg/L	93
		295.0 -> 84.9	367		
PFMBA	4.650	279.0 -> 85.1	5803	0.38 µg/L	100
PFMPA	3.401	229.0 -> 84.9	4433	0.38 µg/L	100
PFEESA	5.888	314.8 -> 134.9	14771	0.33 µg/L	99
		314.8 -> 82.9	505		

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

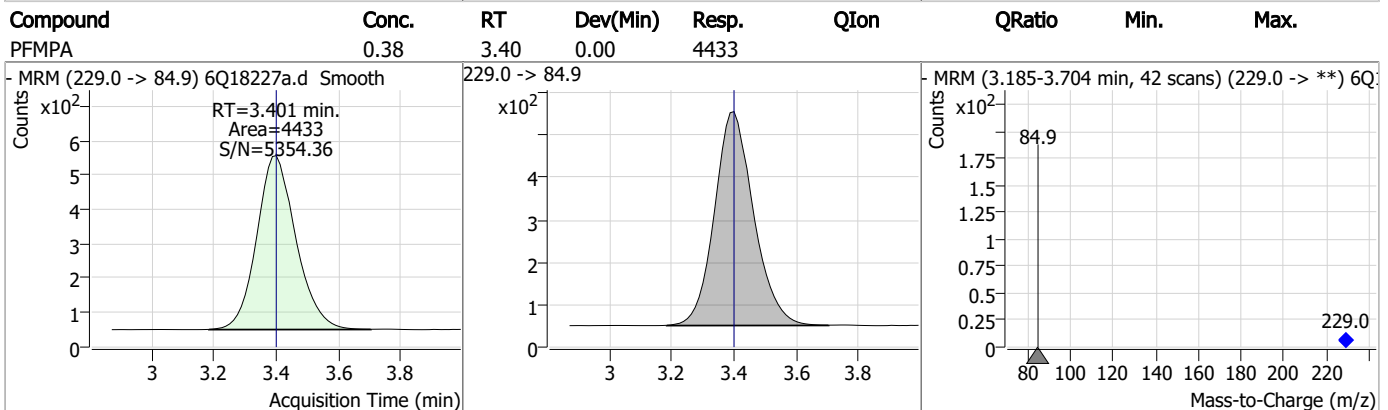
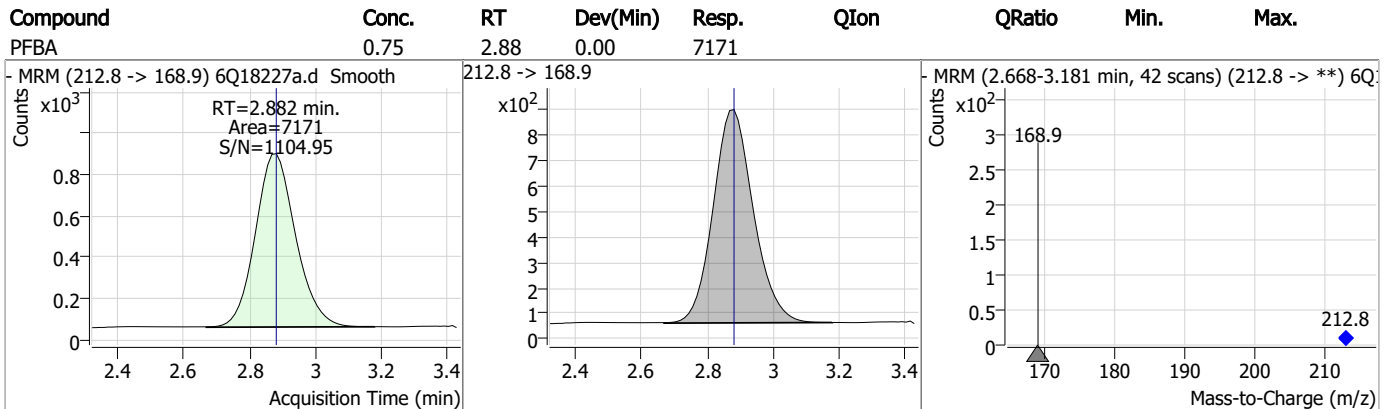
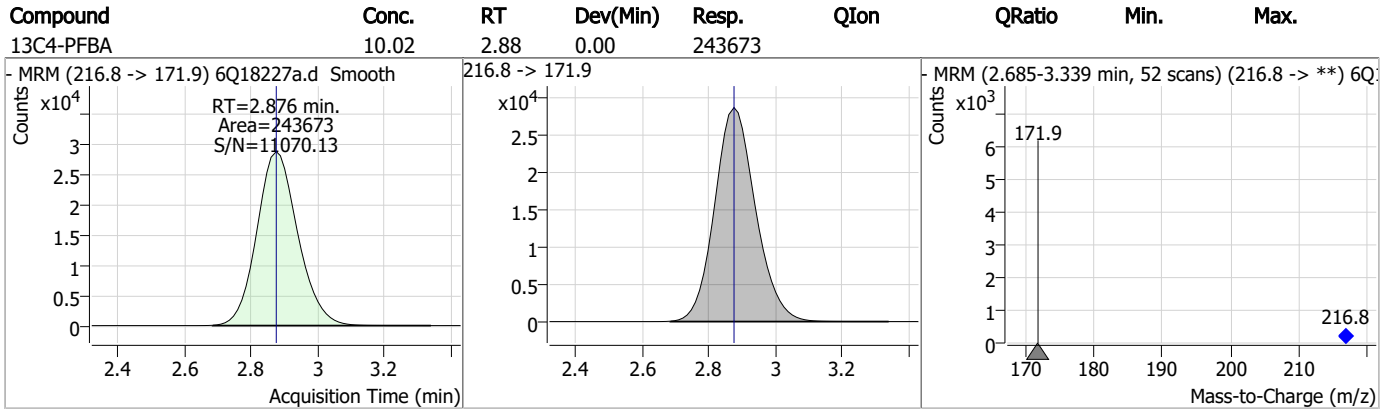
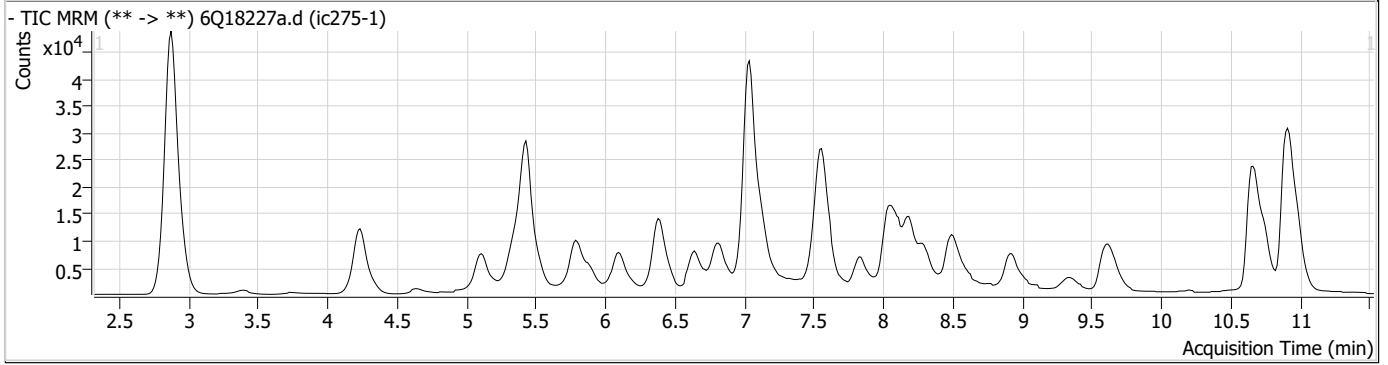
Perfluorinated Compounds by LC/MS/MS

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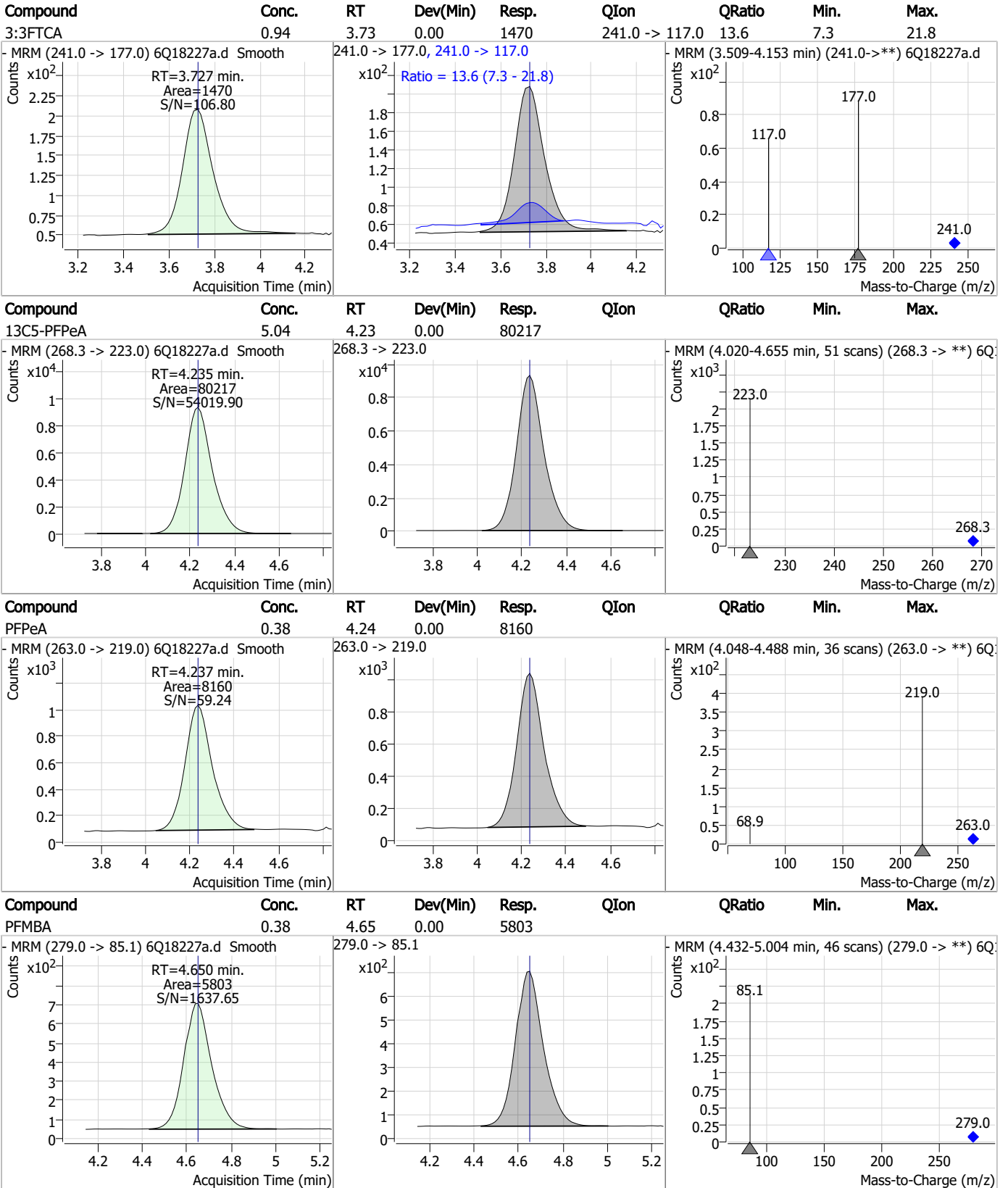
7.7.2
7



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

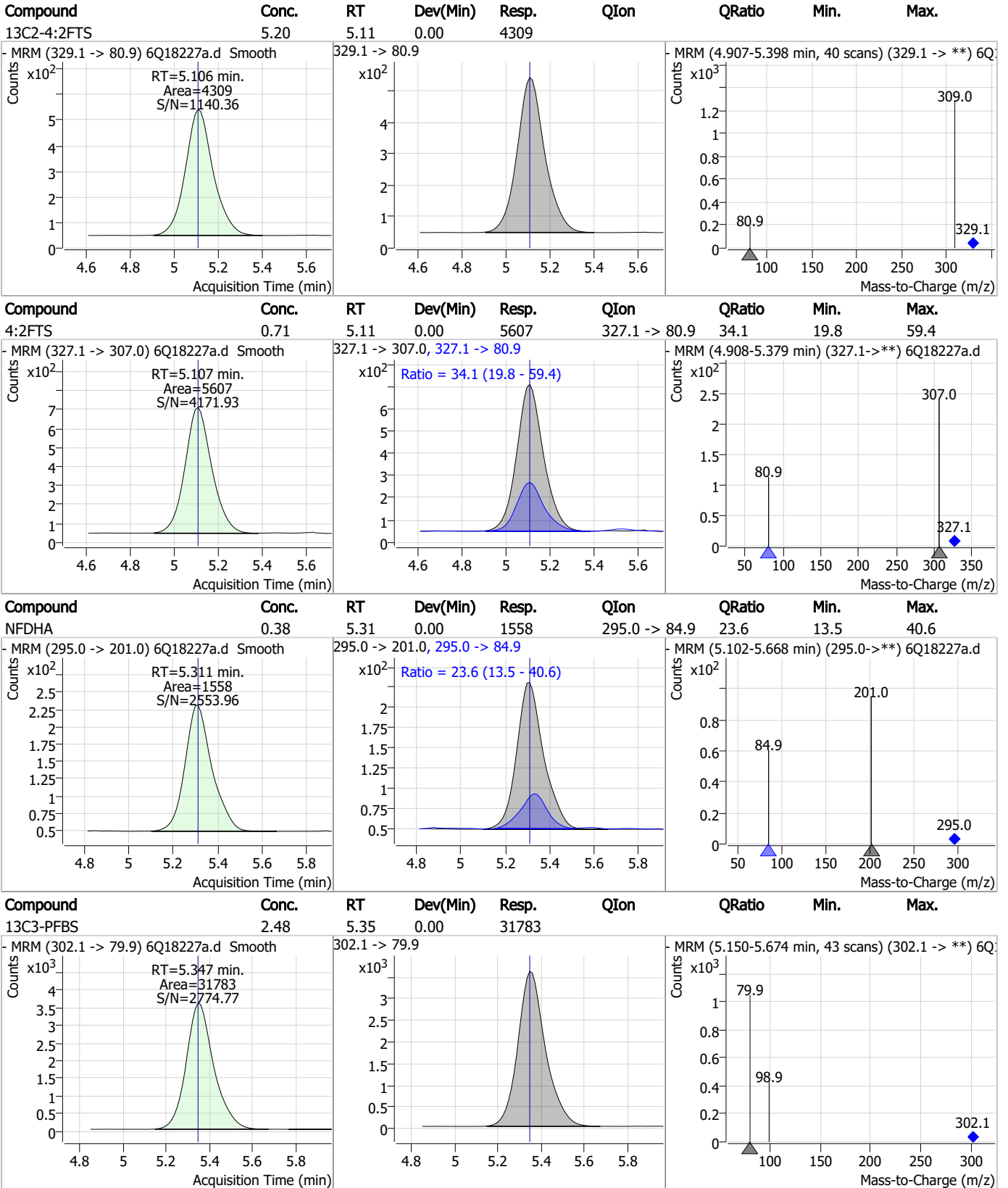


7.7.2

7

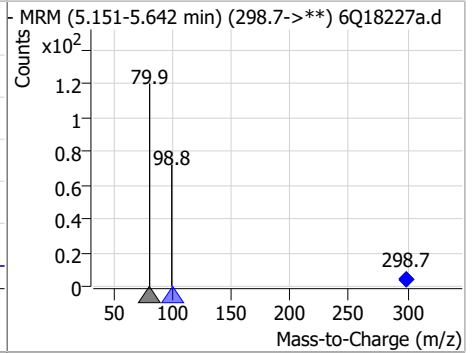
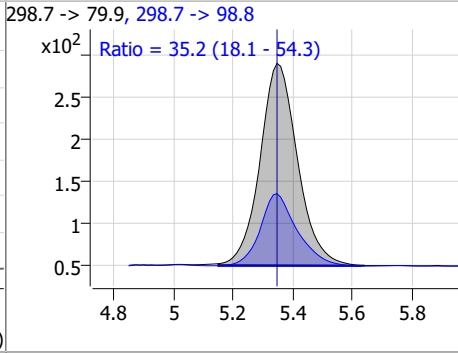
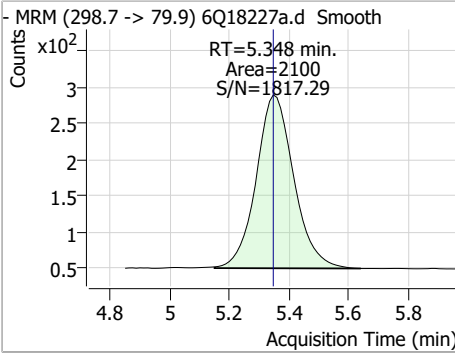


Perfluorinated Compounds by LC/MS/MS

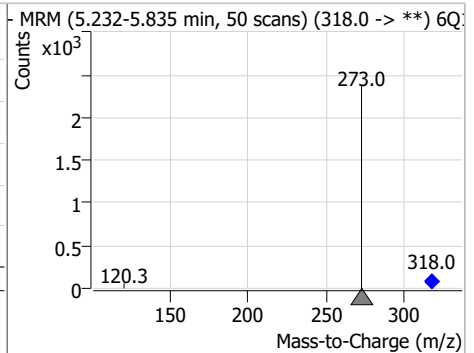
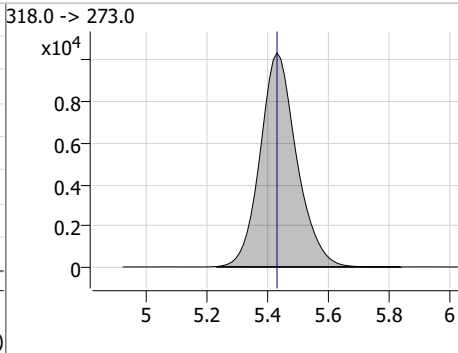
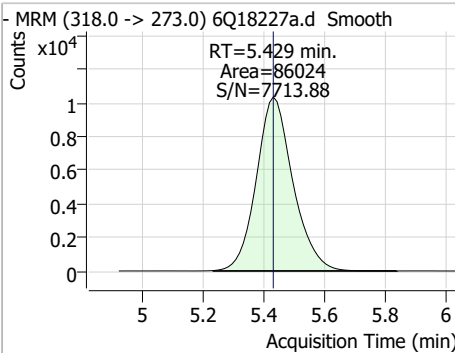


Perfluorinated Compounds by LC/MS/MS

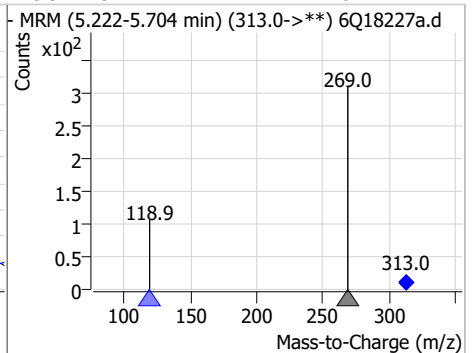
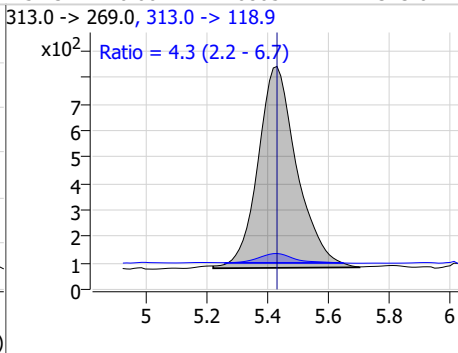
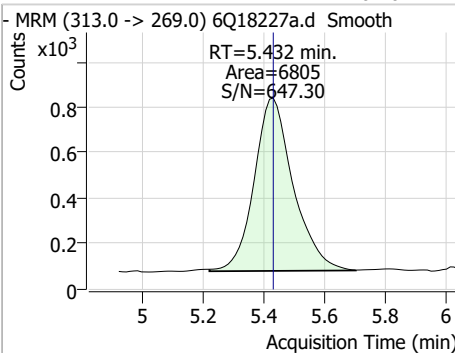
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.17	5.35	0.00	2100	298.7 -> 98.8	35.2	18.1	54.3



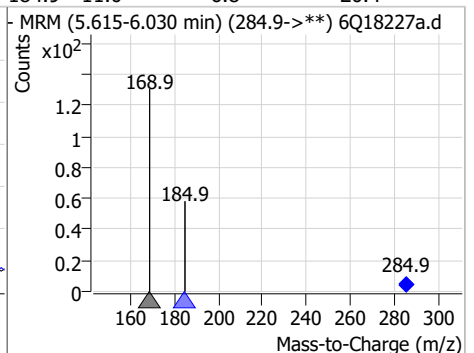
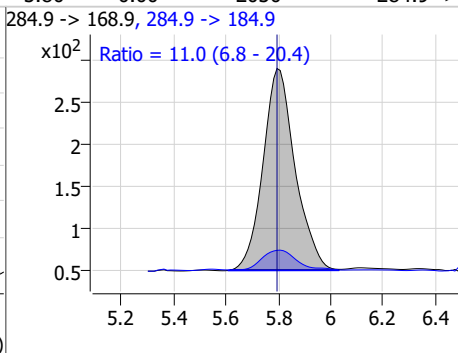
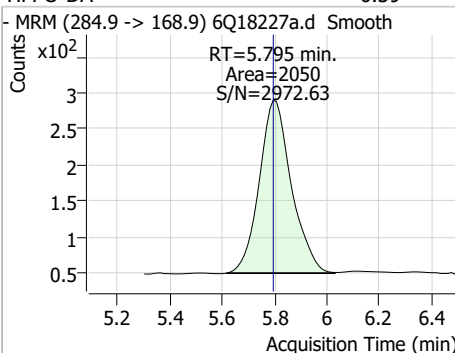
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.43	0.00	86024				



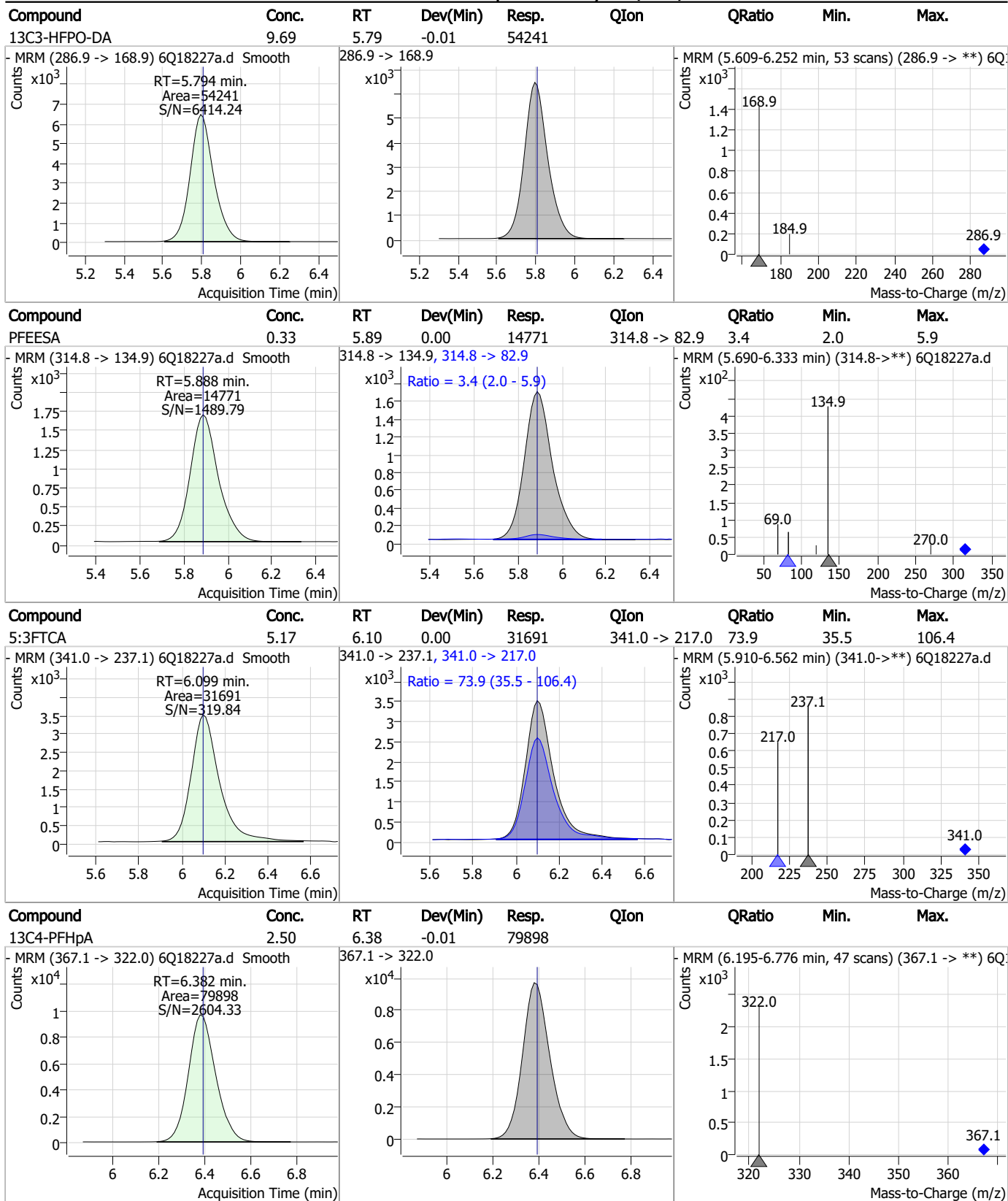
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.20	5.43	0.00	6805	313.0 -> 118.9	4.3	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.39	5.80	0.00	2050	284.9 -> 184.9	11.0	6.8	20.4

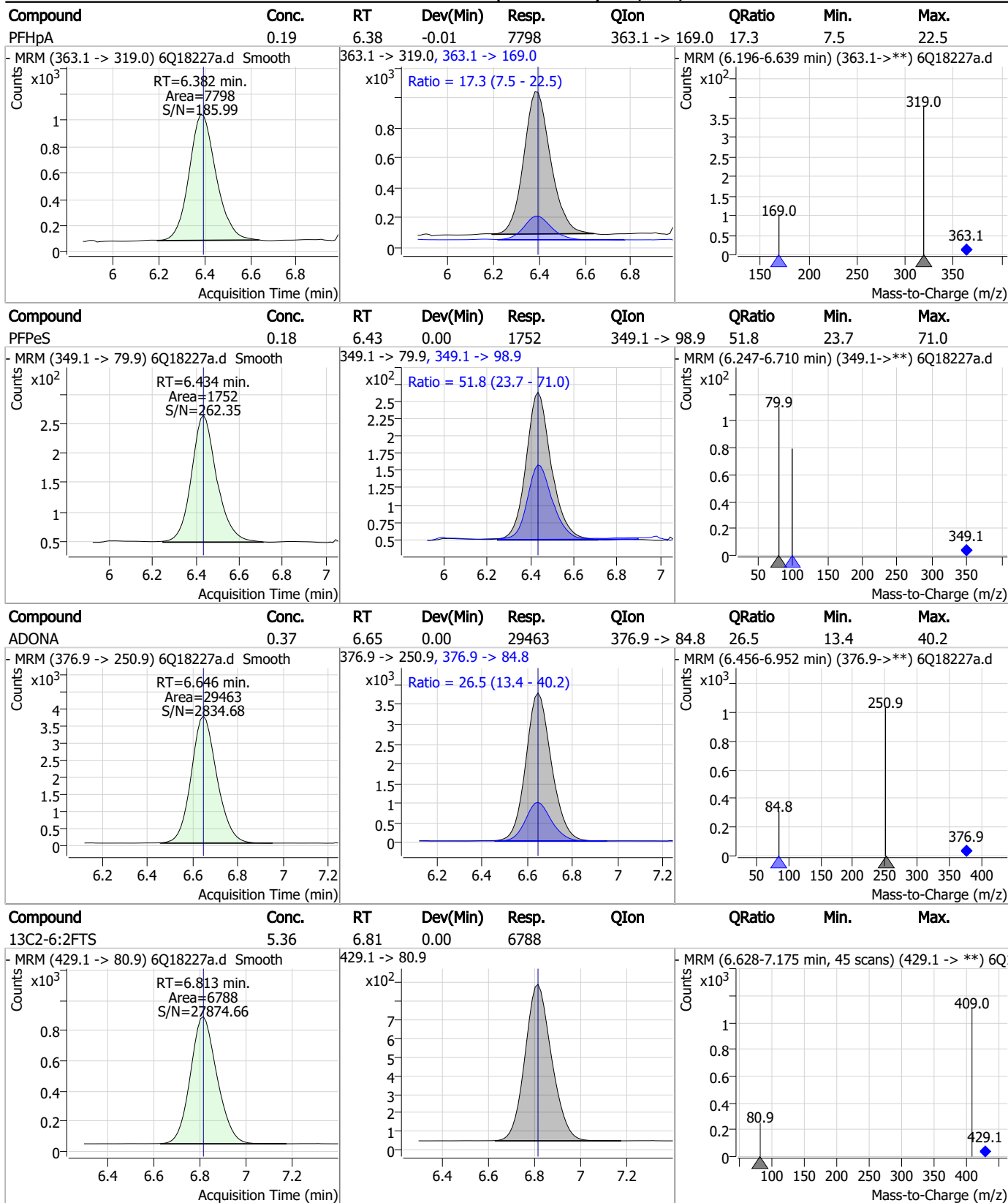


Perfluorinated Compounds by LC/MS/MS



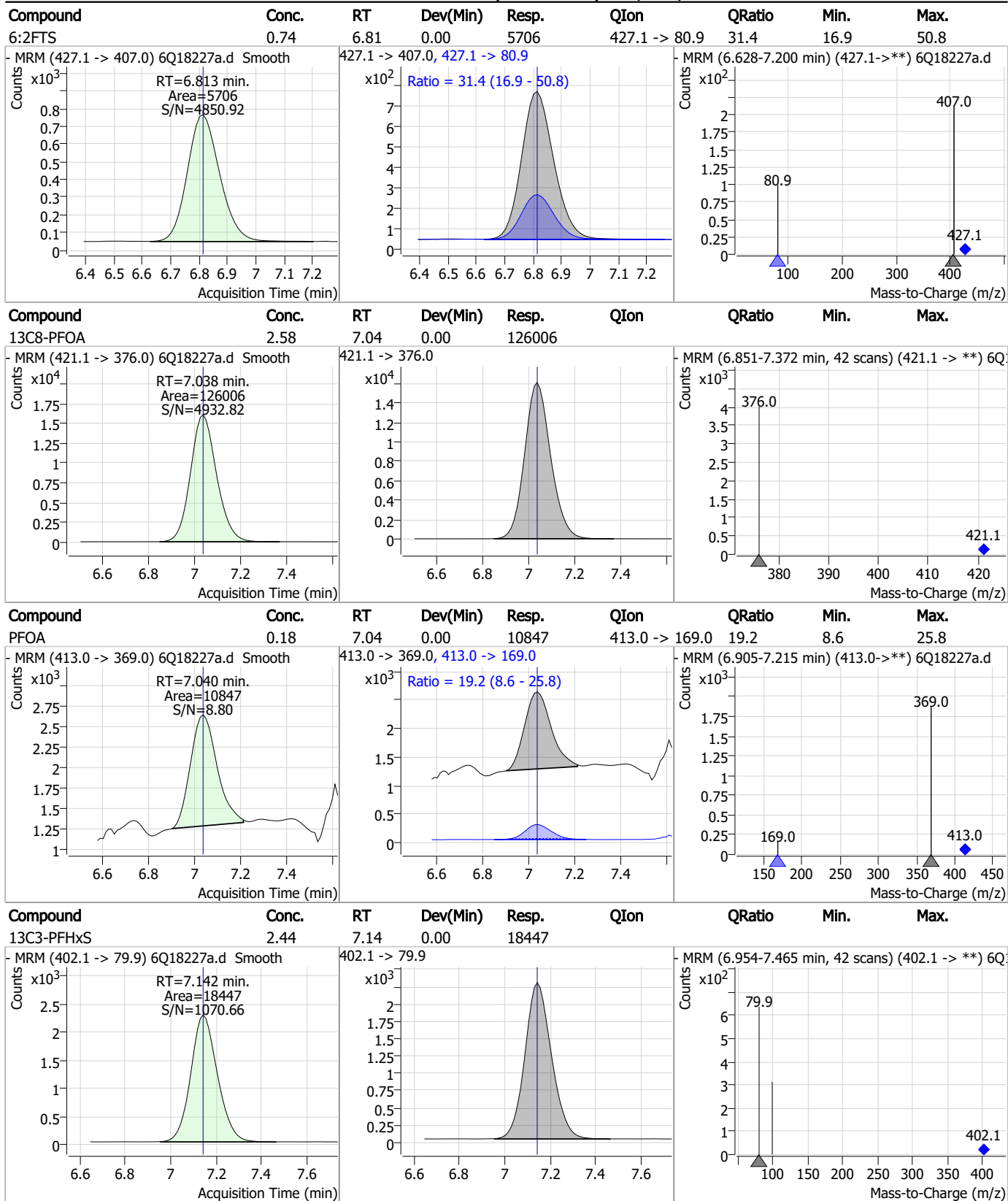
7.7.2
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Perfluorinated Compounds by LC/MS/MS



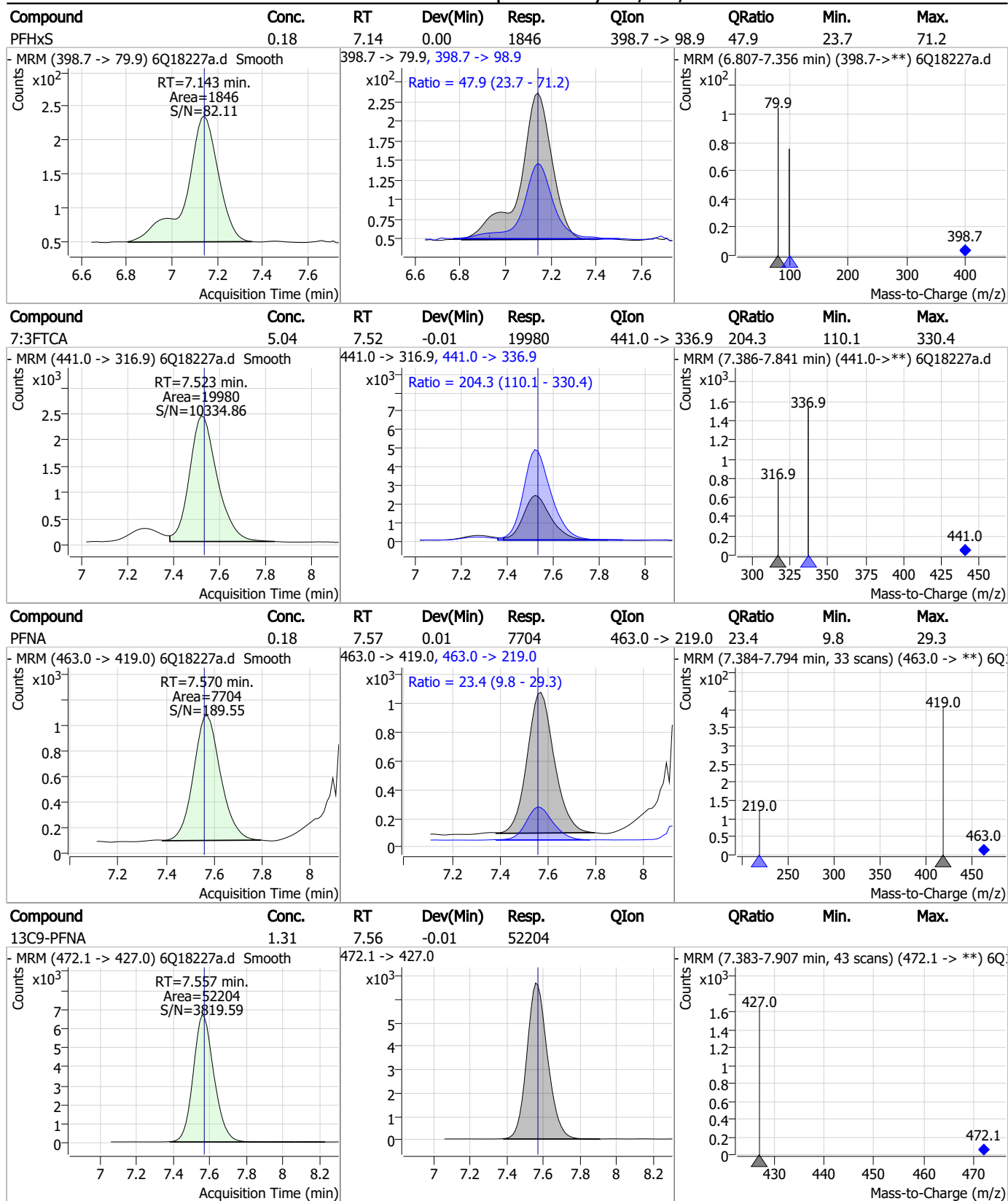
7.7.2
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Perfluorinated Compounds by LC/MS/MS



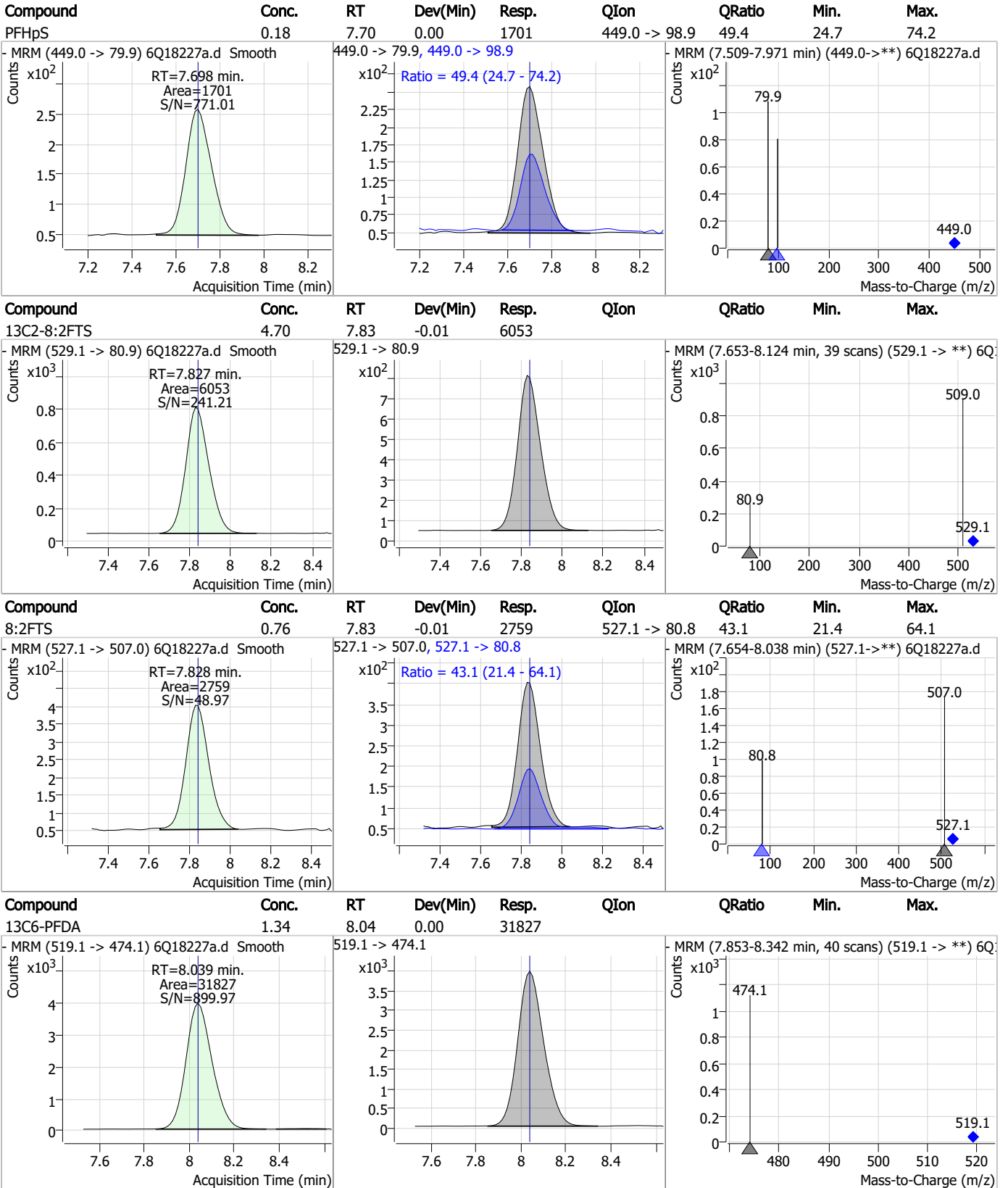
7.7.2
7

Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS

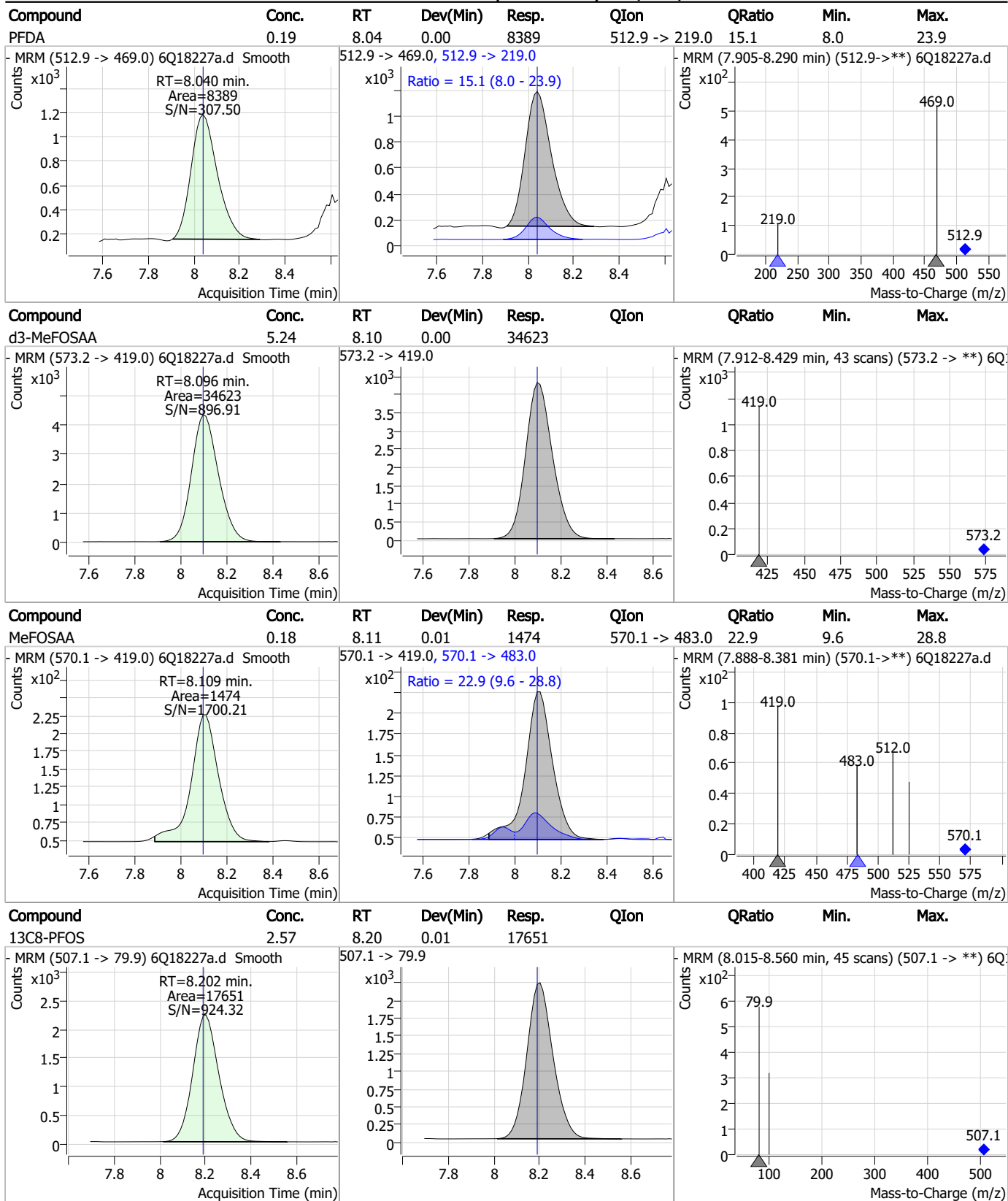


7.7.2

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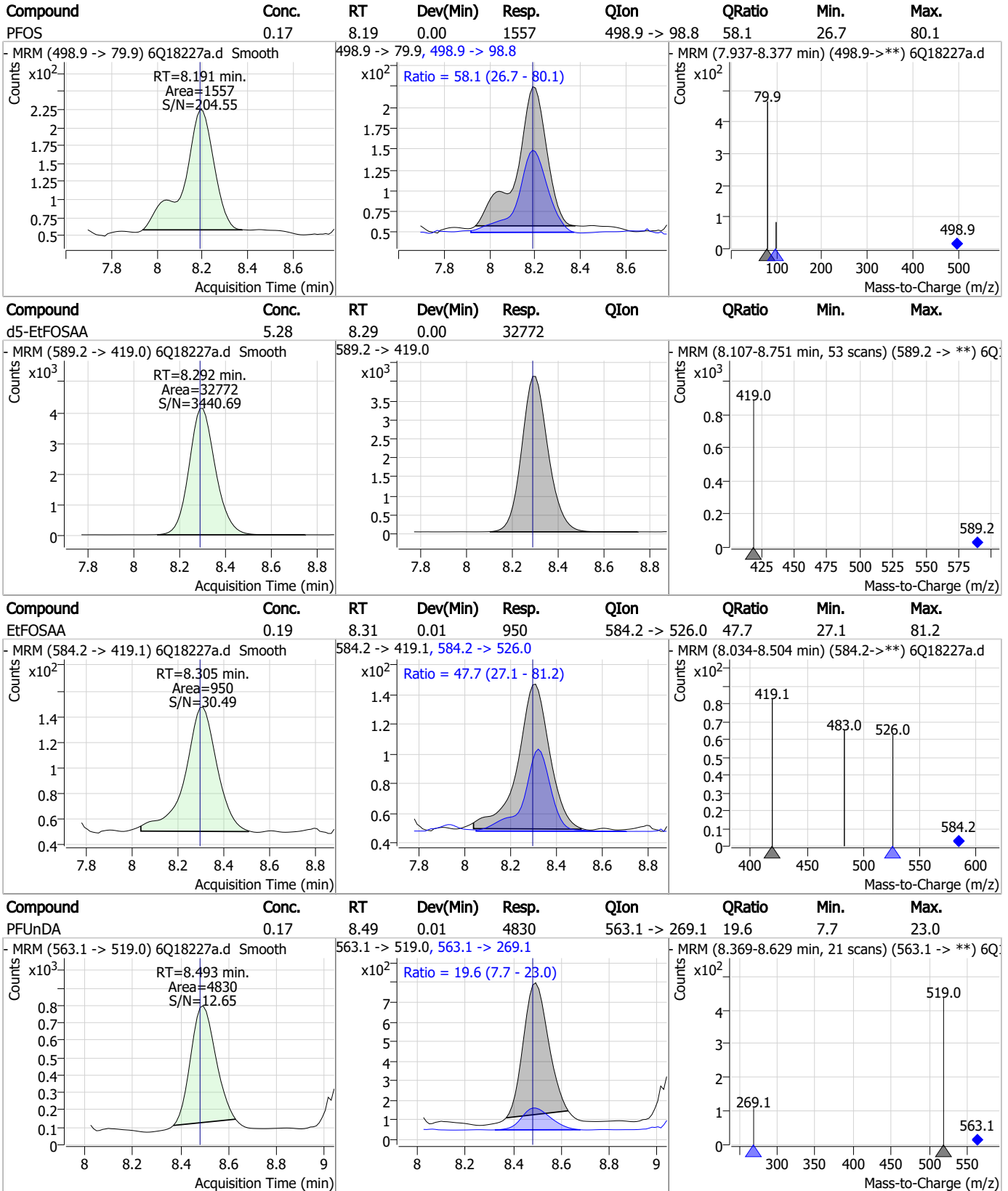


Perfluorinated Compounds by LC/MS/MS

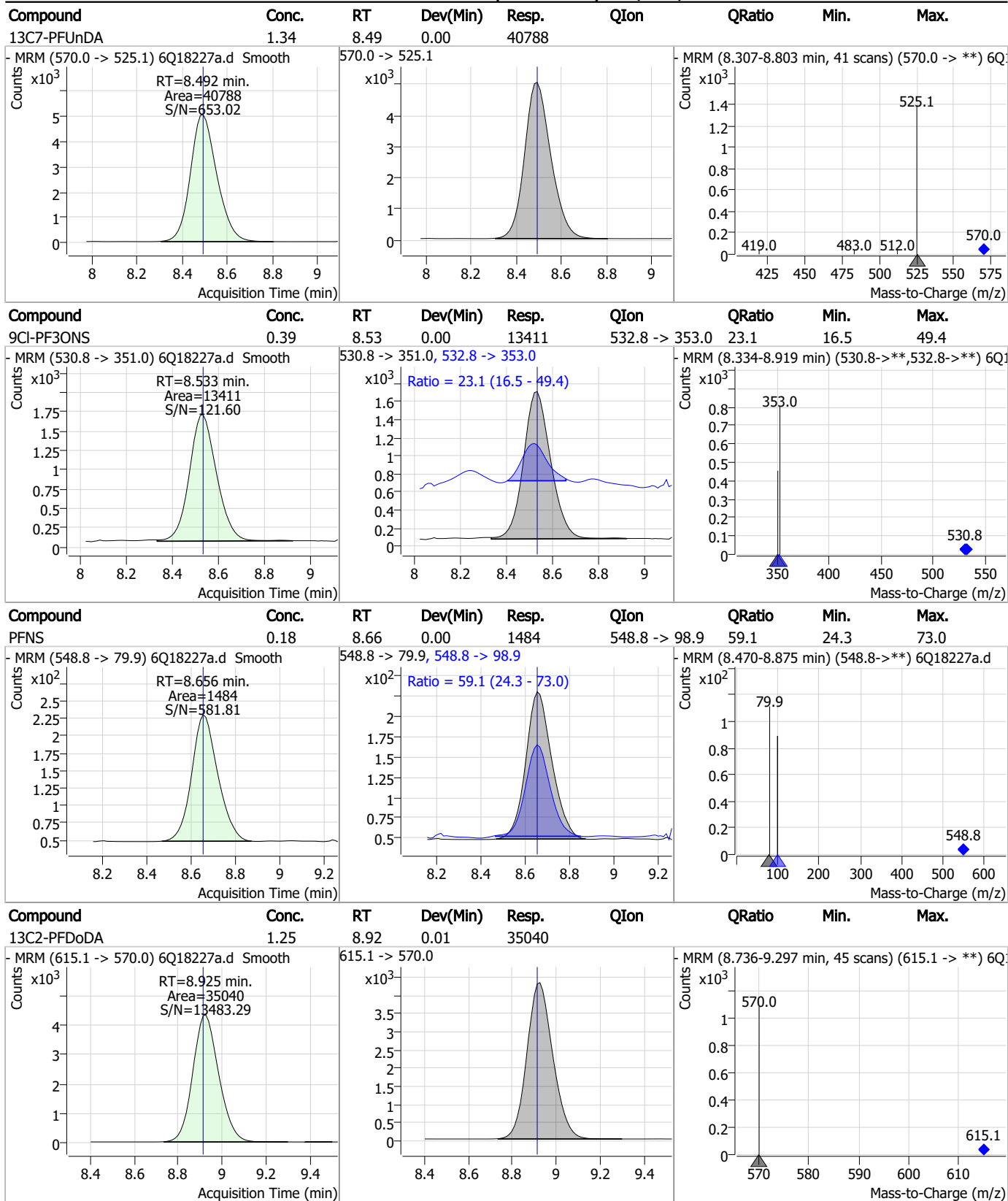


7.7.2
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Perfluorinated Compounds by LC/MS/MS

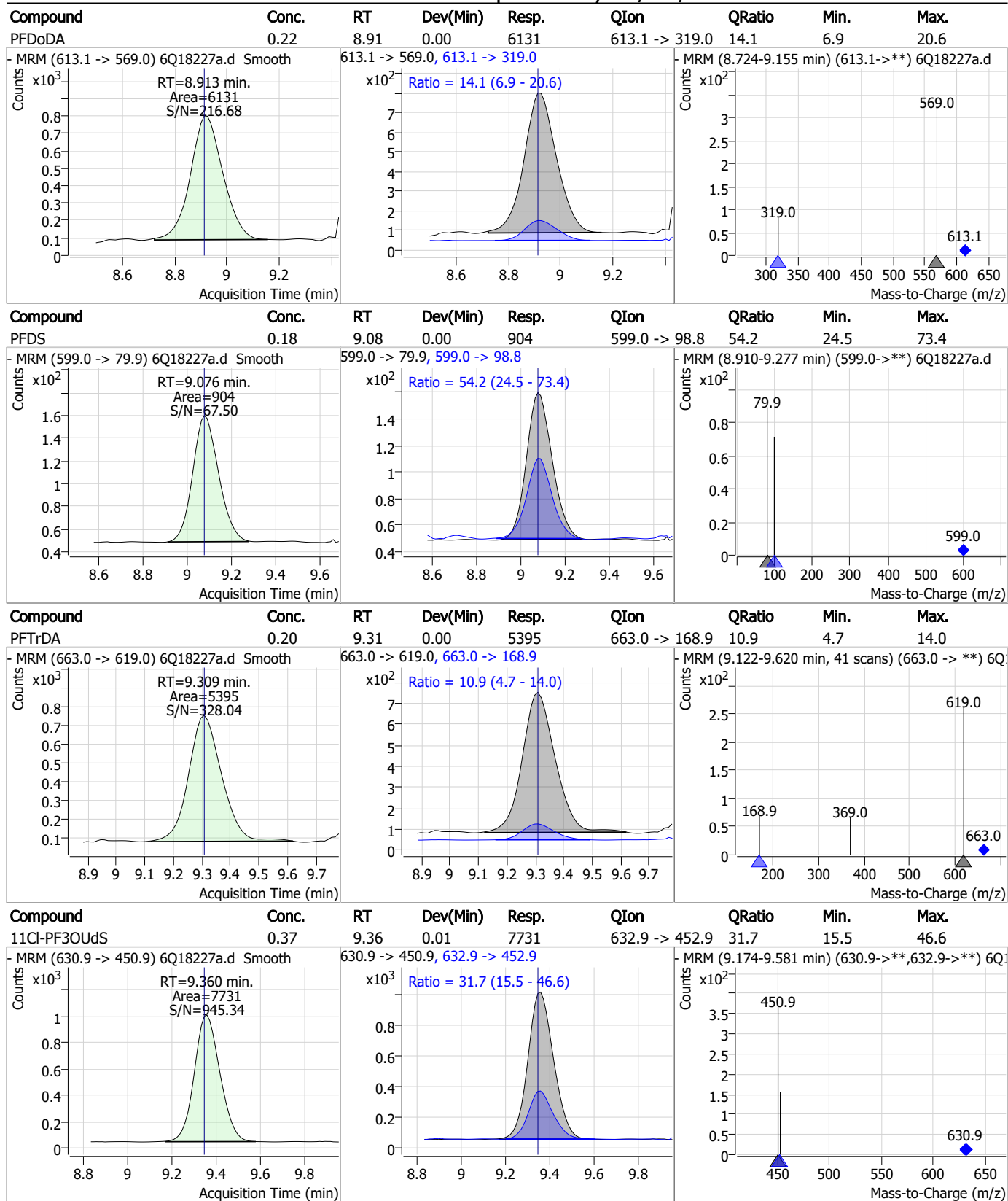


Perfluorinated Compounds by LC/MS/MS



7.7.2
7

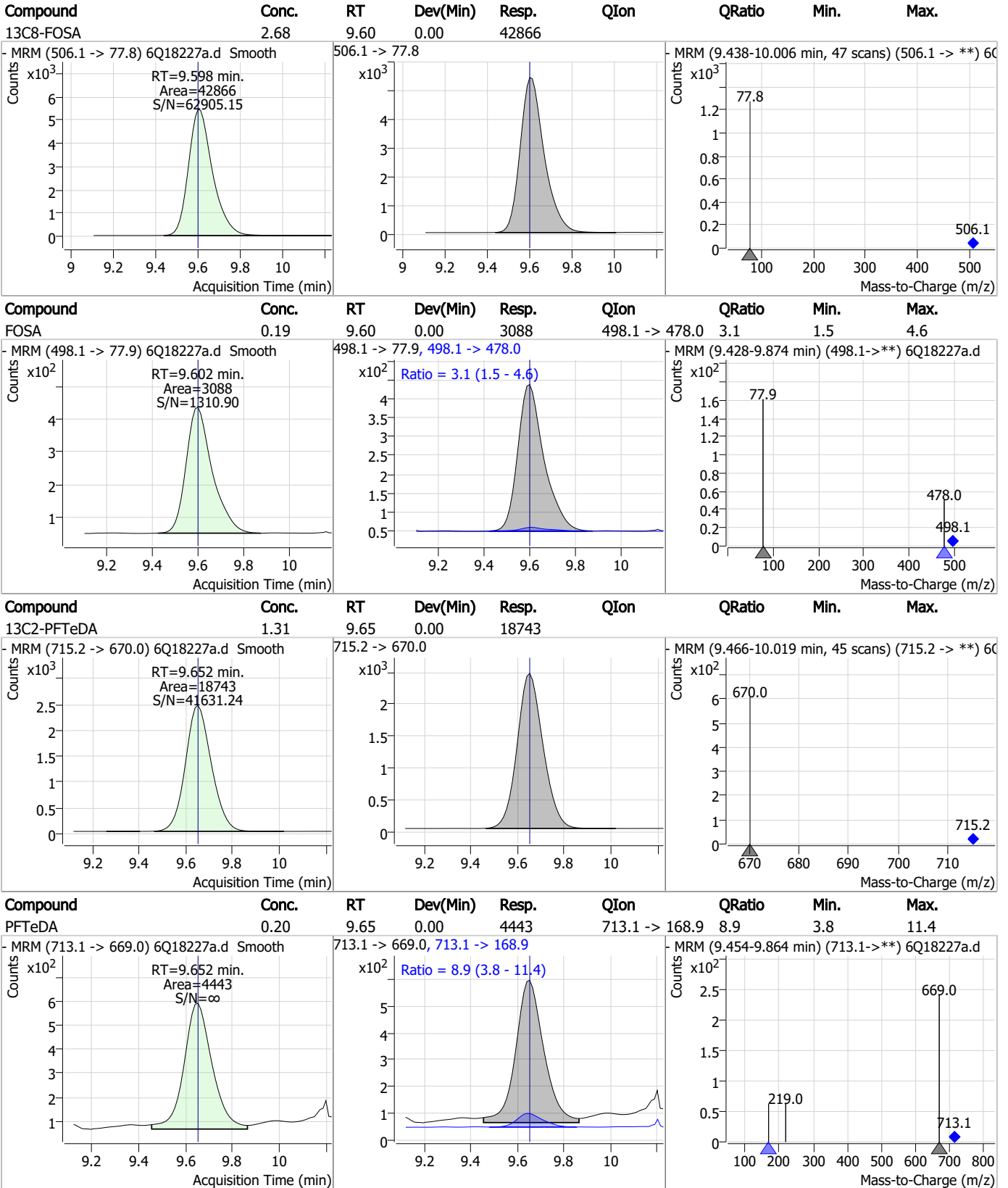
Perfluorinated Compounds by LC/MS/MS



7.7.2
7



Perfluorinated Compounds by LC/MS/MS

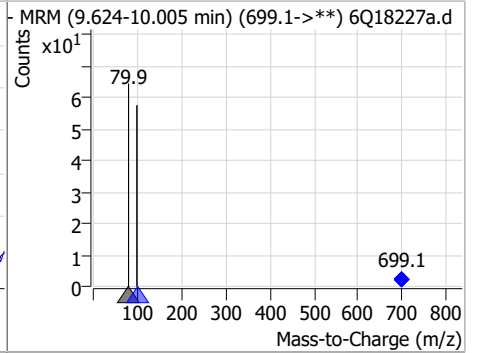
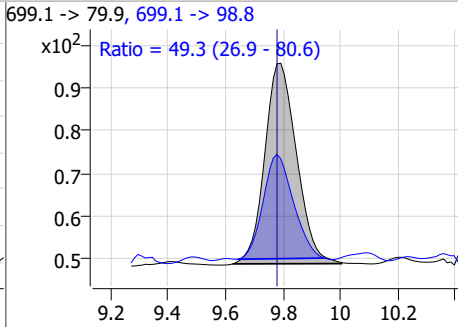
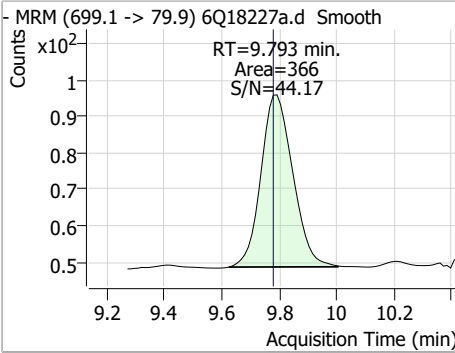


7.7.2

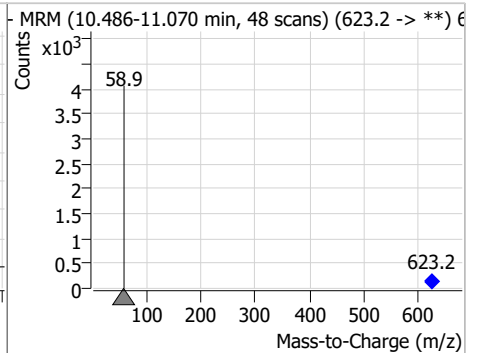
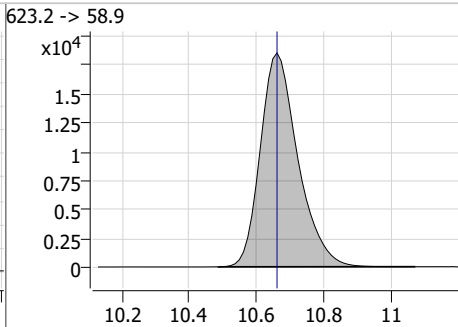
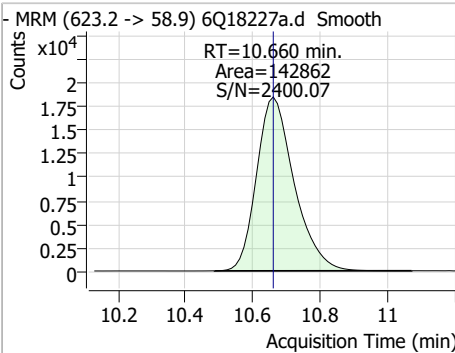
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Perfluorinated Compounds by LC/MS/MS

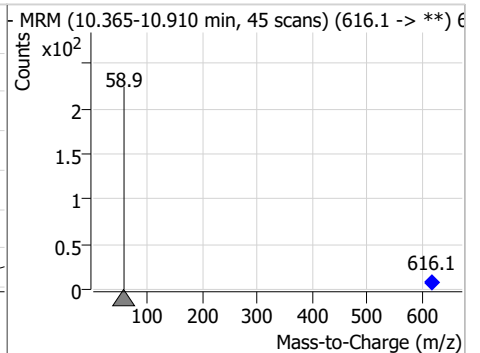
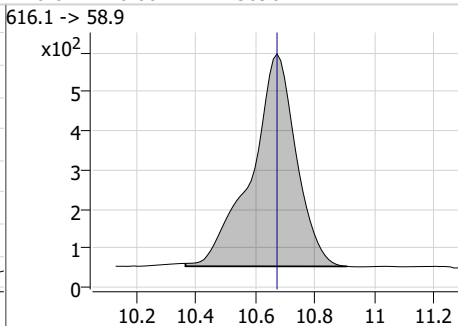
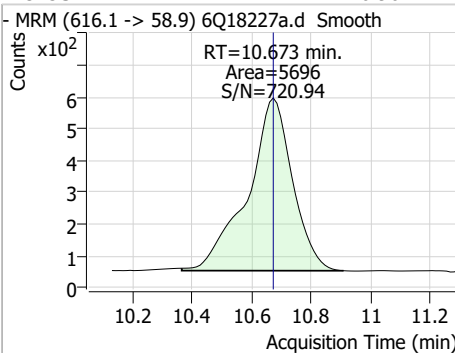
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.17	9.79	0.01	366	699.1 -> 98.8	49.3	26.9	80.6



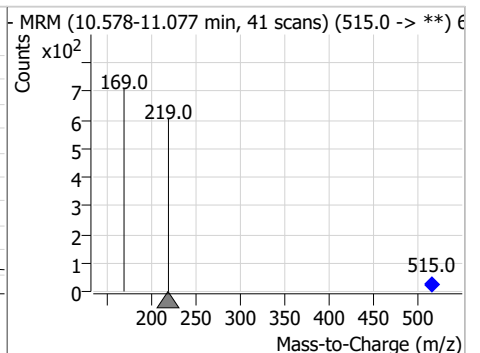
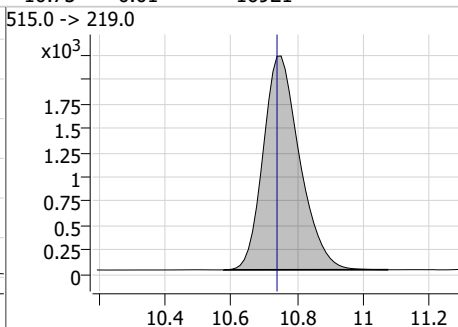
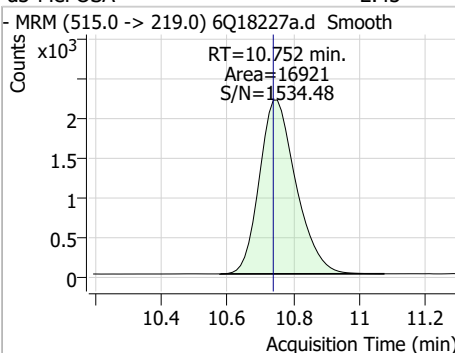
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.39	10.66	0.00	142862				



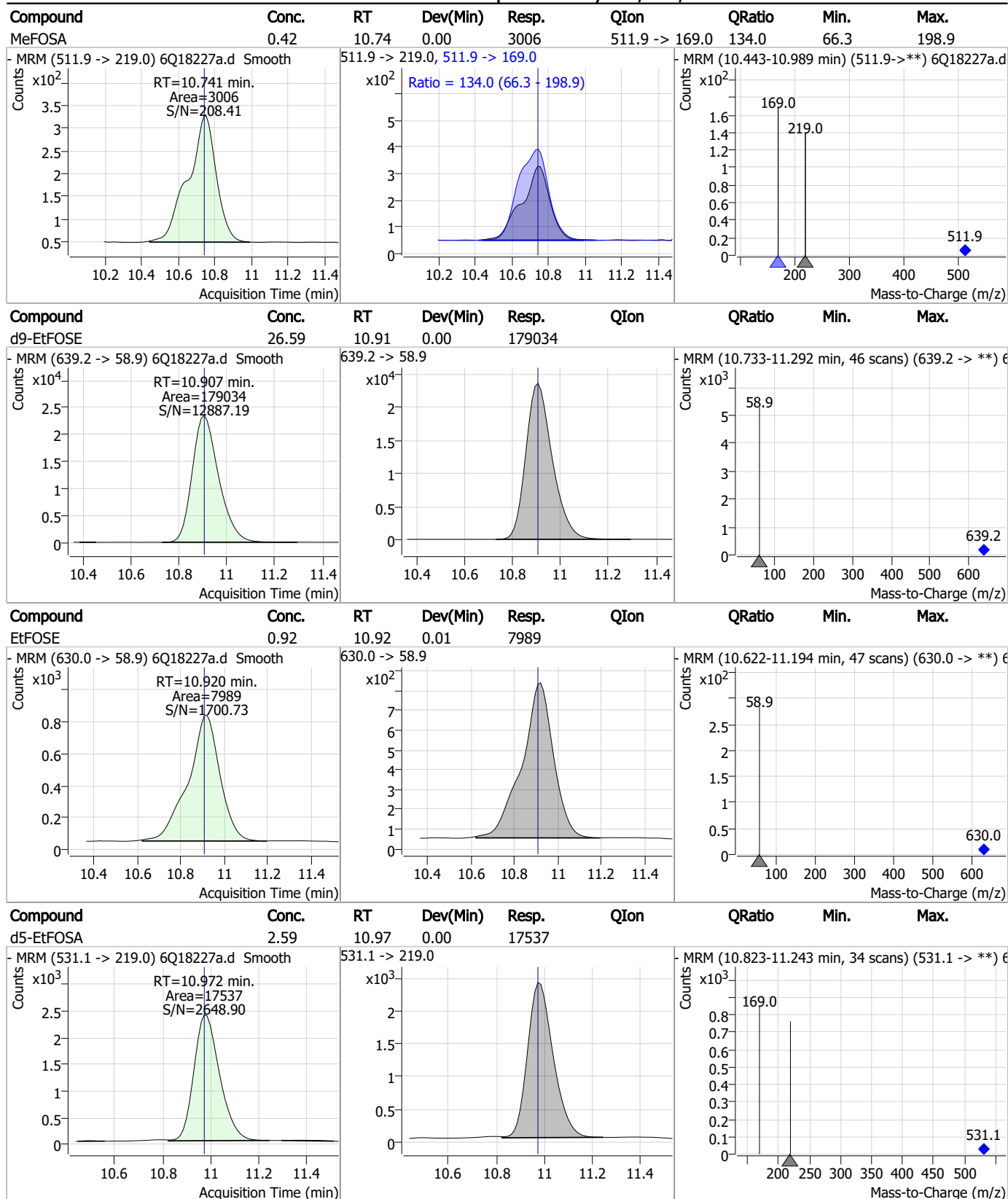
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.90	10.67	0.00	5696				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.75	0.01	16921				

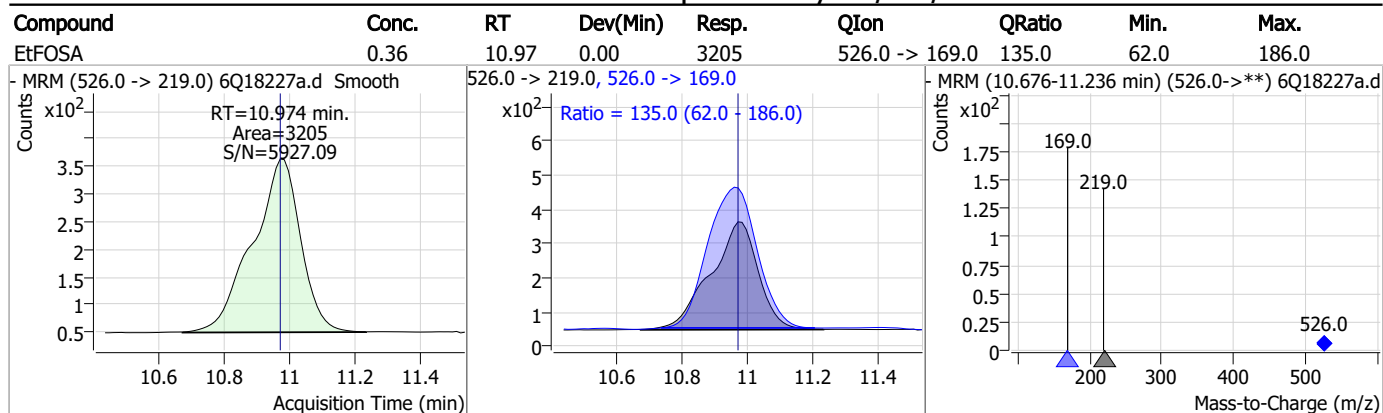


Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18228a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 4:26:09 PM
 Sample Name : ic275-2
 Vial : P1-A3
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	240417	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	78603	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	83656	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	78320	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	121291	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	50528	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	31195	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	39687	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	35916	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	18132	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	40627	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	30523	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	18178	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16916	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4293	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6130	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5935	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	34642	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	54368	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	31932	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	137682	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	179104	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	17053	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	17297	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23110	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	100150	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13384	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	125701	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	42510	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	62626	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	84234	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4293	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6130	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5935	4.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.1%		
13C2-PFDoDA	8.912	615.1 -> 570.0	35916	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.1%		
13C2-PFTeDA	9.652	715.2 -> 670.0	18132	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C3-PFBS	5.347	302.1 -> 79.9	30523	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C3-PFHxS	7.142	402.1 -> 79.9	18178	2.48 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C4-PFBA	2.876	216.8 -> 171.9	240417	10.09 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C4-PFHpA	6.382	367.1 -> 322.0	78320	2.43 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.0%		
13C5-PFHxA	5.429	318.0 -> 273.0	83656	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.7%		
13C5-PFPeA	4.235	268.3 -> 223.0	78603	4.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C6-PFDA	8.039	519.1 -> 474.1	31195	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C7-PFUnDA	8.480	570.0 -> 525.1	39687	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.8%		
13C8-FOSA	9.598	506.1 -> 77.8	40627	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.8%		
13C8-PFOA	7.038	421.1 -> 376.0	121291	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	16916	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C9-PFNA	7.569	472.1 -> 427.0	50528	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.8%		
d3-MeFOSAA	8.096	573.2 -> 419.0	34642	5.04 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C3-HFPO-DA	5.794	286.9 -> 168.9	54368	9.63 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 96.3%		
d3-MeFOSA	10.739	515.0 -> 219.0	17297	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 95.5%		
d5-EtFOSAA	8.292	589.2 -> 419.0	31932	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.9%		
d7-MeFOSE	10.660	623.2 -> 58.9	137682	24.45 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 97.8%		
d9-EtFOSE	10.907	639.2 -> 58.9	179104	25.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 102.3%		
d5-EtFOSA	10.972	531.1 -> 219.0	17053	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.9%		
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	11219	1.43 µg/L	92
		327.1 -> 80.9	3904		
6:2FTS	6.813	427.1 -> 407.0	10757	1.55 µg/L	96
		427.1 -> 80.9	3876		
8:2FTS	7.828	527.1 -> 507.0	6196	1.73 µg/L	97
		527.1 -> 80.8	2512		
EtFOSAA	8.293	584.2 -> 419.1	1757	0.36 µg/L	93
		584.2 -> 526.0	1037		
FOSA	9.602	498.1 -> 77.9	6237	0.39 µg/L	98
		498.1 -> 478.0	220		
MeFOSAA	8.097	570.1 -> 419.0	3081	0.37 µg/L	92
		570.1 -> 483.0	706		
PFBA	2.882	212.8 -> 168.9	14270	1.52 µg/L	100
PFBS	5.348	298.7 -> 79.9	4234	0.36 µg/L	96
		298.7 -> 98.8	1634		
PFDA	8.040	512.9 -> 469.0	15697	0.37 µg/L	94
		512.9 -> 219.0	2109		
PFDODA	8.913	613.1 -> 569.0	11565	0.41 µg/L	95
		613.1 -> 319.0	1796		
PFDS	9.076	599.0 -> 79.9	1879	0.40 µg/L	97

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	956		
PFHpA	6.382	363.1 -> 319.0	16020	0.40 µg/L	97
		363.1 -> 169.0	2582		
PFHpS	7.698	449.0 -> 79.9	3228	0.35 µg/L	91
		449.0 -> 98.9	1793		
PFHxA	5.432	313.0 -> 269.0	12576	0.39 µg/L	96
		313.0 -> 118.9	727		
PFHxS	7.143	398.7 -> 79.9	3640	0.37 µg/L	97
		398.7 -> 98.9	1668		
PFNA	7.558	463.0 -> 419.0	16297	0.39 µg/L	100
		463.0 -> 219.0	3208		
PFNS	8.657	548.8 -> 79.9	2875	0.36 µg/L	85
		548.8 -> 98.9	1684		
PFOA	7.040	413.0 -> 369.0	22661	0.40 µg/L	96
		413.0 -> 169.0	4277		
PFOS	8.191	498.9 -> 79.9	3308	0.37 µg/L	99
		498.9 -> 98.8	1798		
PFPeA	4.237	263.0 -> 219.0	16207	0.76 µg/L	100
PFPeS	6.434	349.1 -> 79.9	3388	0.35 µg/L	99
		349.1 -> 98.9	1570		
PFTeDA	9.652	713.1 -> 669.0	8358	0.39 µg/L	95
		713.1 -> 168.9	779		
PFTrDA	9.309	663.0 -> 619.0	10967	0.39 µg/L	95
		663.0 -> 168.9	1215		
PFUnDA	8.493	563.1 -> 519.0	11439	0.40 µg/L	98
		563.1 -> 269.1	1841		
11CI-PF3OUdS	9.348	630.9 -> 450.9	16172	0.77 µg/L	99
		632.9 -> 452.9	4955		
9CI-PF3ONS	8.520	530.8 -> 351.0	25290	0.72 µg/L	96
		532.8 -> 353.0	8944		
ADONA	6.646	376.9 -> 250.9	58422	0.73 µg/L	100
		376.9 -> 84.8	15714		
HFPO-DA	5.795	284.9 -> 168.9	4256	0.80 µg/L	99
		284.9 -> 184.9	570		
3:3FTCA	3.727	241.0 -> 177.0	3019	1.97 µg/L	96
		241.0 -> 117.0	394		
5:3FTCA	6.099	341.0 -> 237.1	59183	9.92 µg/L	95
		341.0 -> 217.0	44609		
7:3FTCA	7.523	441.0 -> 316.9	36154	9.38 µg/L	93
		441.0 -> 336.9	83456		
EtFOSA	10.974	526.0 -> 219.0	6820	0.80 µg/L	94
		526.0 -> 169.0	8953		
EtFOSE	10.920	630.0 -> 58.9	16786	1.93 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	5718	0.78 µg/L	95
		511.9 -> 169.0	7917		
MeFOSE	10.673	616.1 -> 58.9	11865	1.94 µg/L	100
PFDoDS	9.779	699.1 -> 79.9	811	0.40 µg/L	99
		699.1 -> 98.8	429		
NFDHA	5.311	295.0 -> 201.0	3200	0.80 µg/L	99
		295.0 -> 84.9	856		
PFMBA	4.650	279.0 -> 85.1	11408	0.76 µg/L	100
PFMPA	3.401	229.0 -> 84.9	8758	0.77 µg/L	100
PFEESA	5.888	314.8 -> 134.9	29325	0.67 µg/L	99
		314.8 -> 82.9	1047		

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

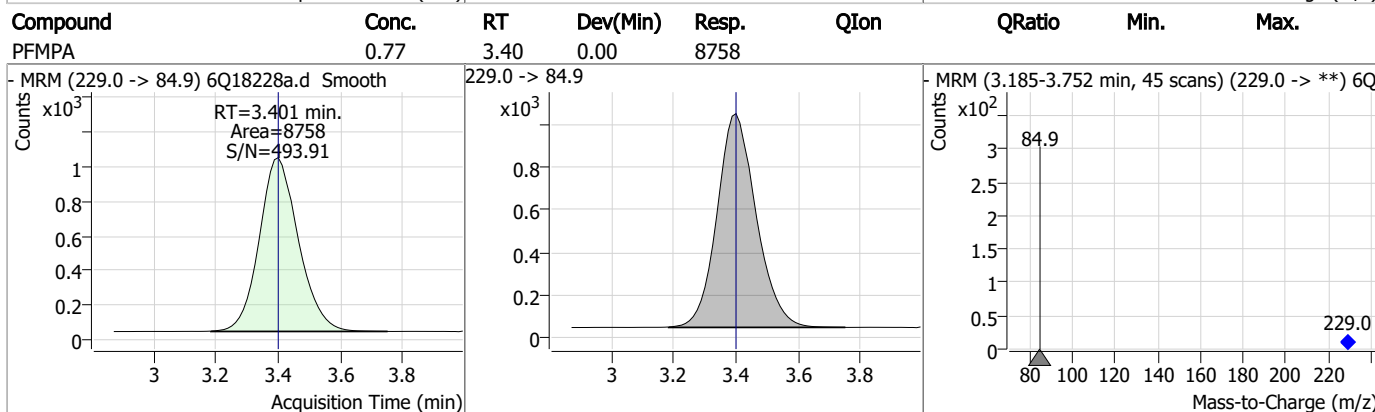
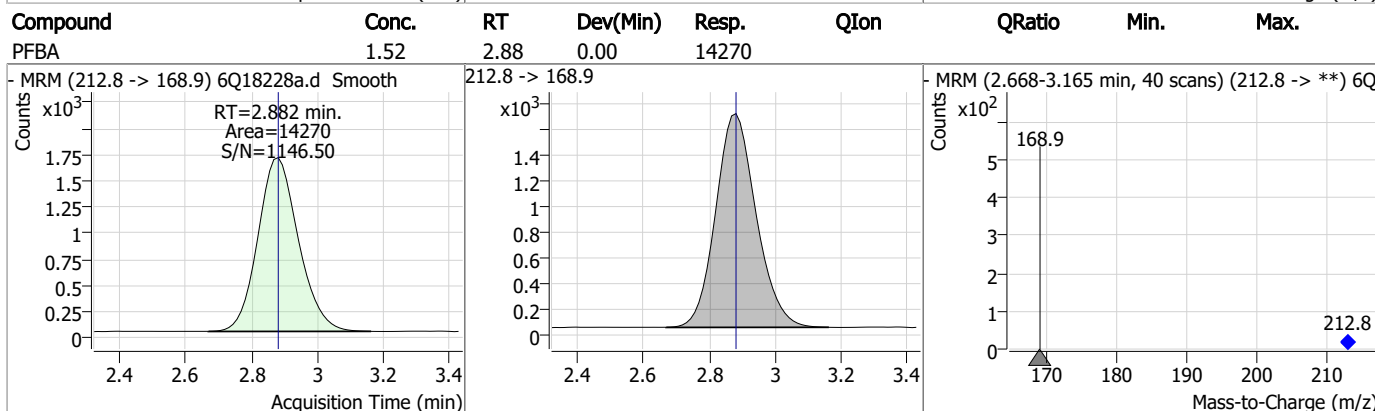
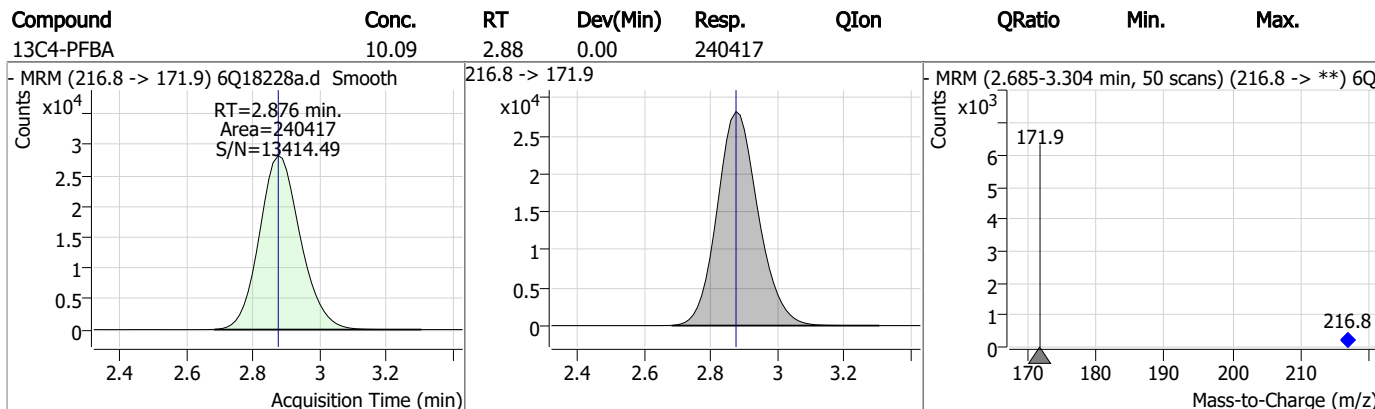
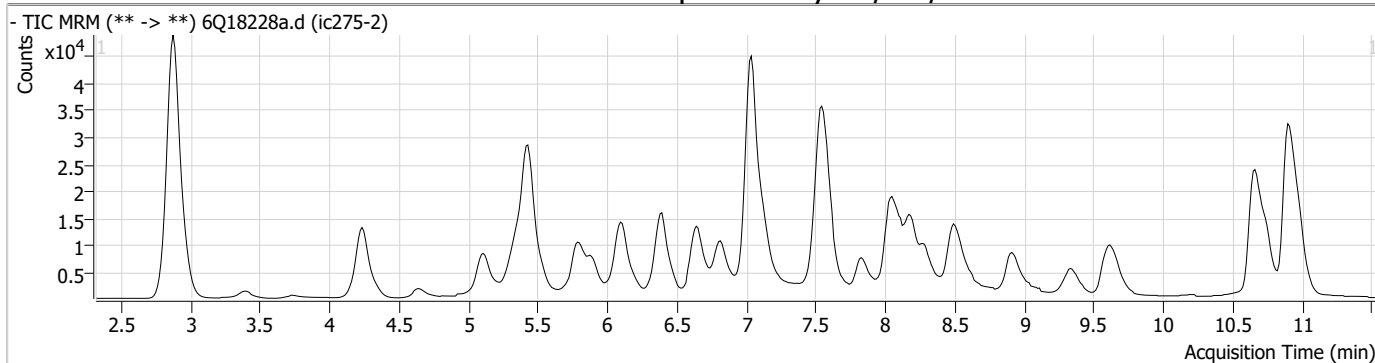
Perfluorinated Compounds by LC/MS/MS

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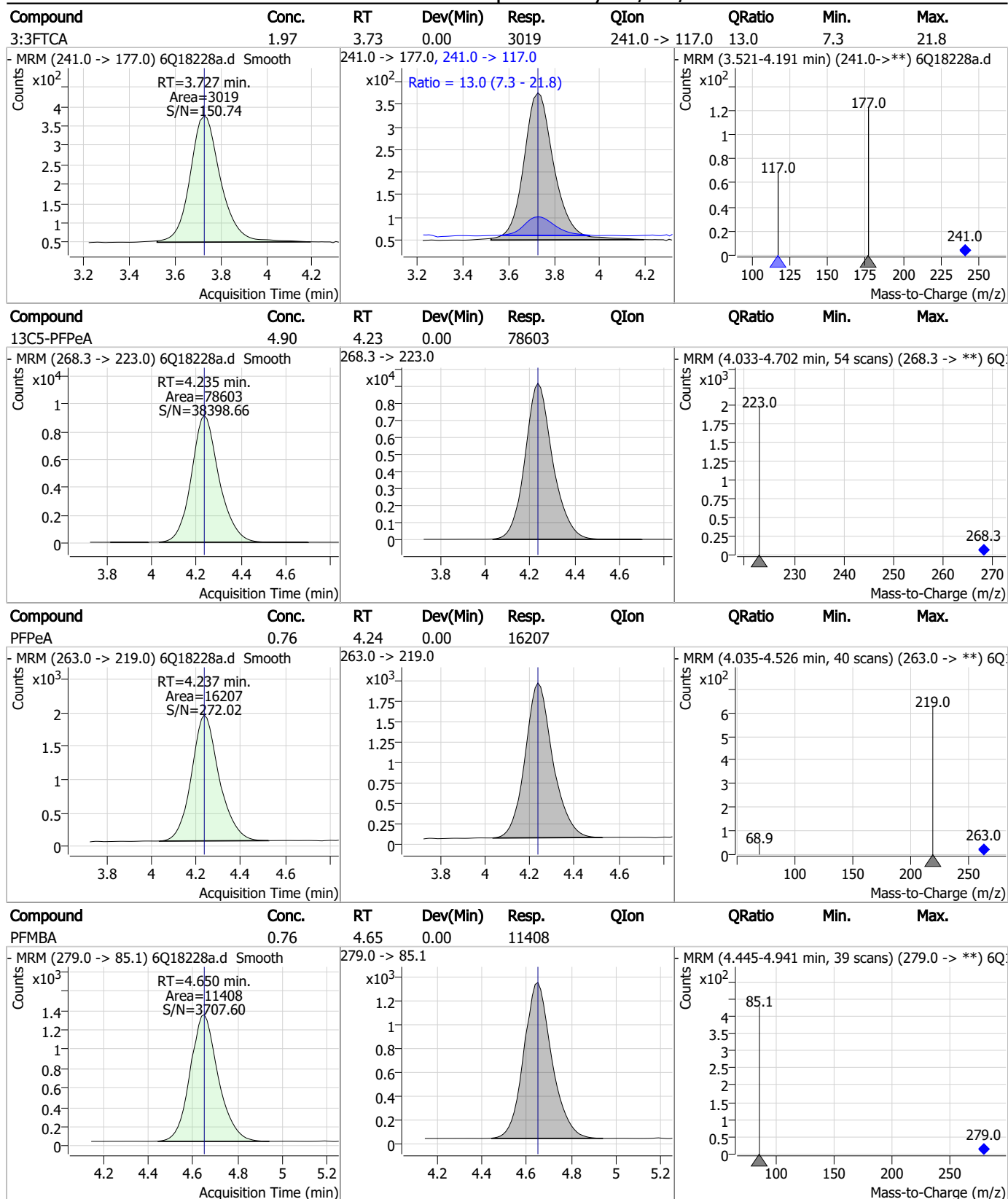
7.7.3

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Perfluorinated Compounds by LC/MS/MS

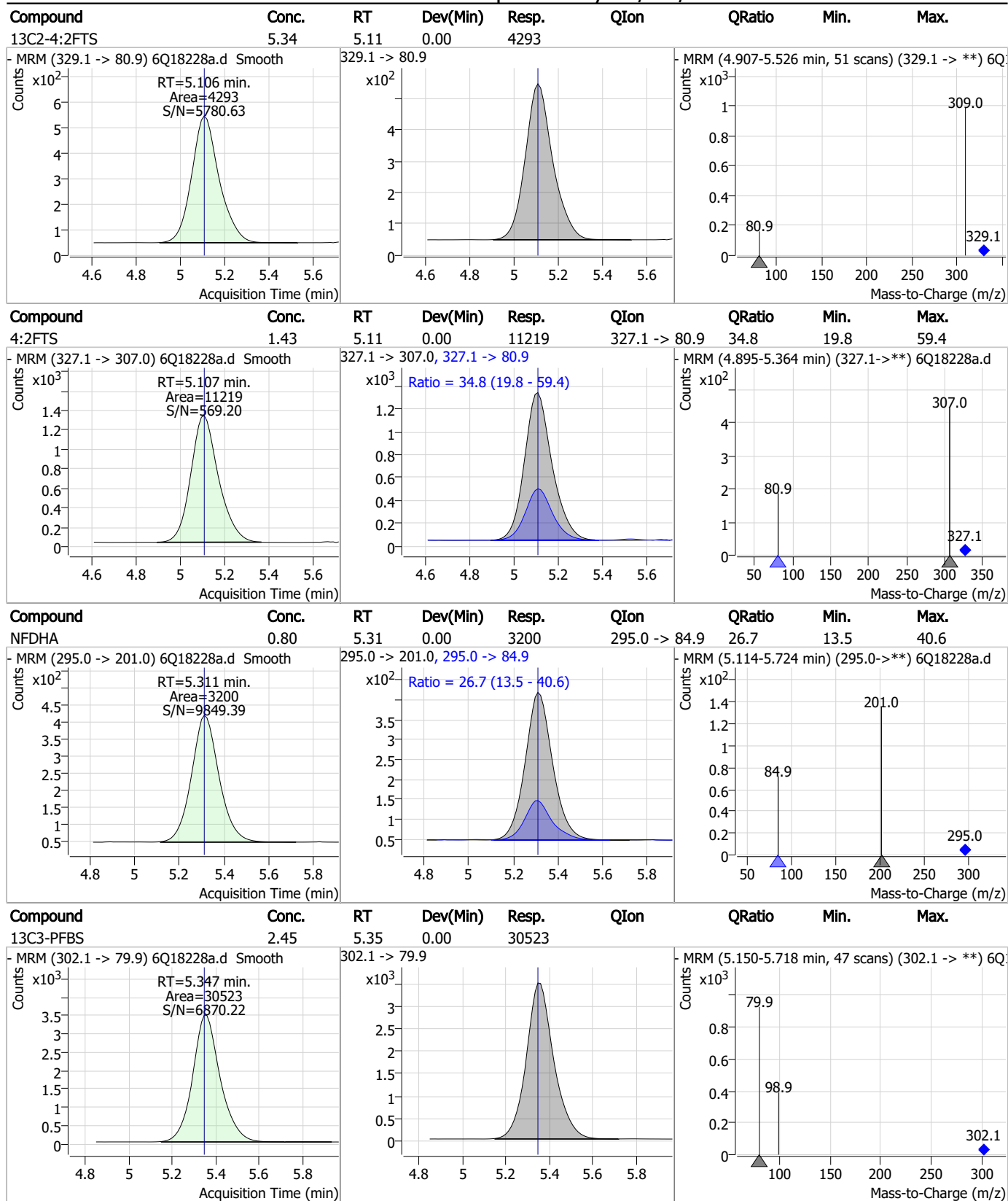


Perfluorinated Compounds by LC/MS/MS



7.7.3
7

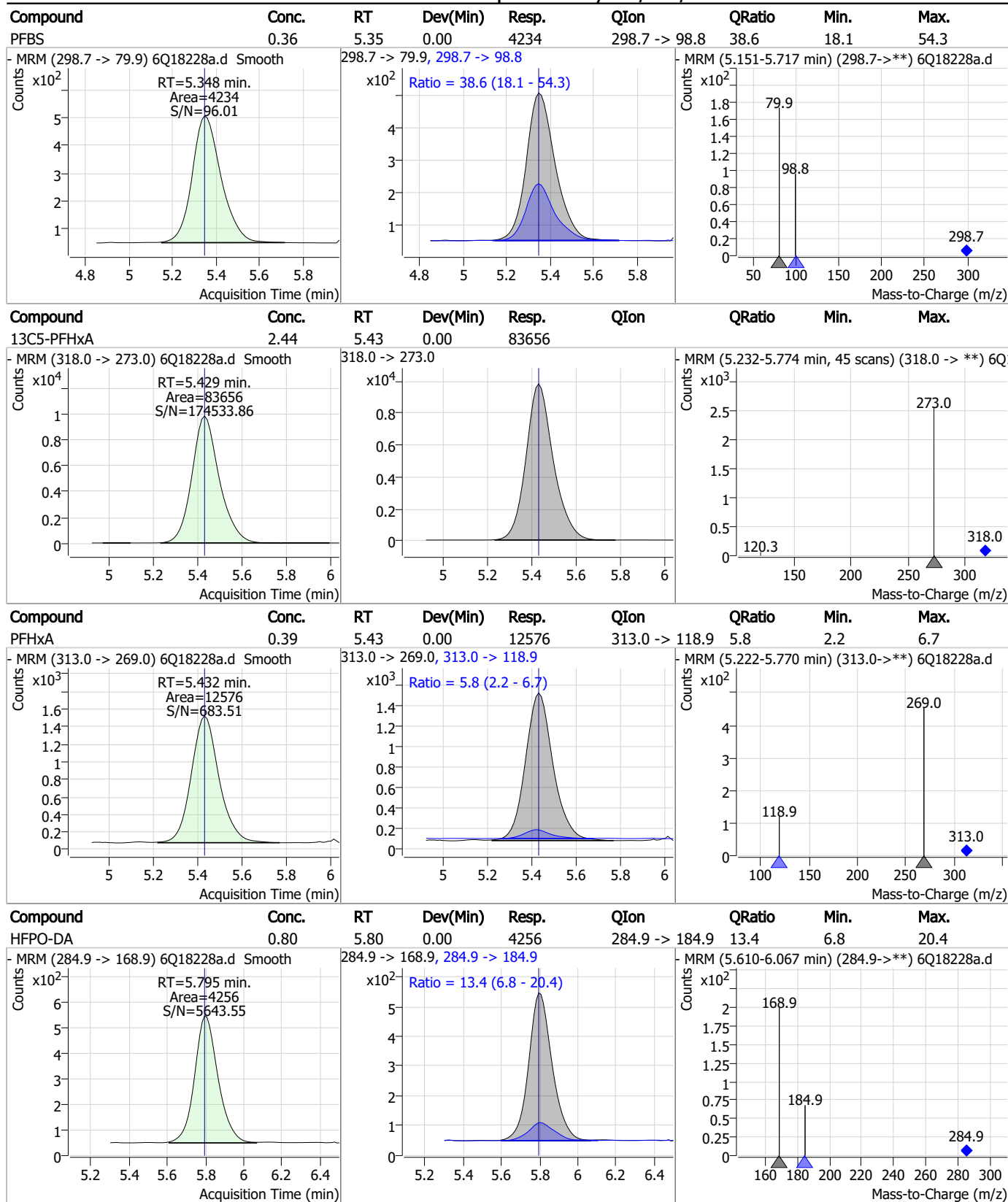
Perfluorinated Compounds by LC/MS/MS



7.7.3

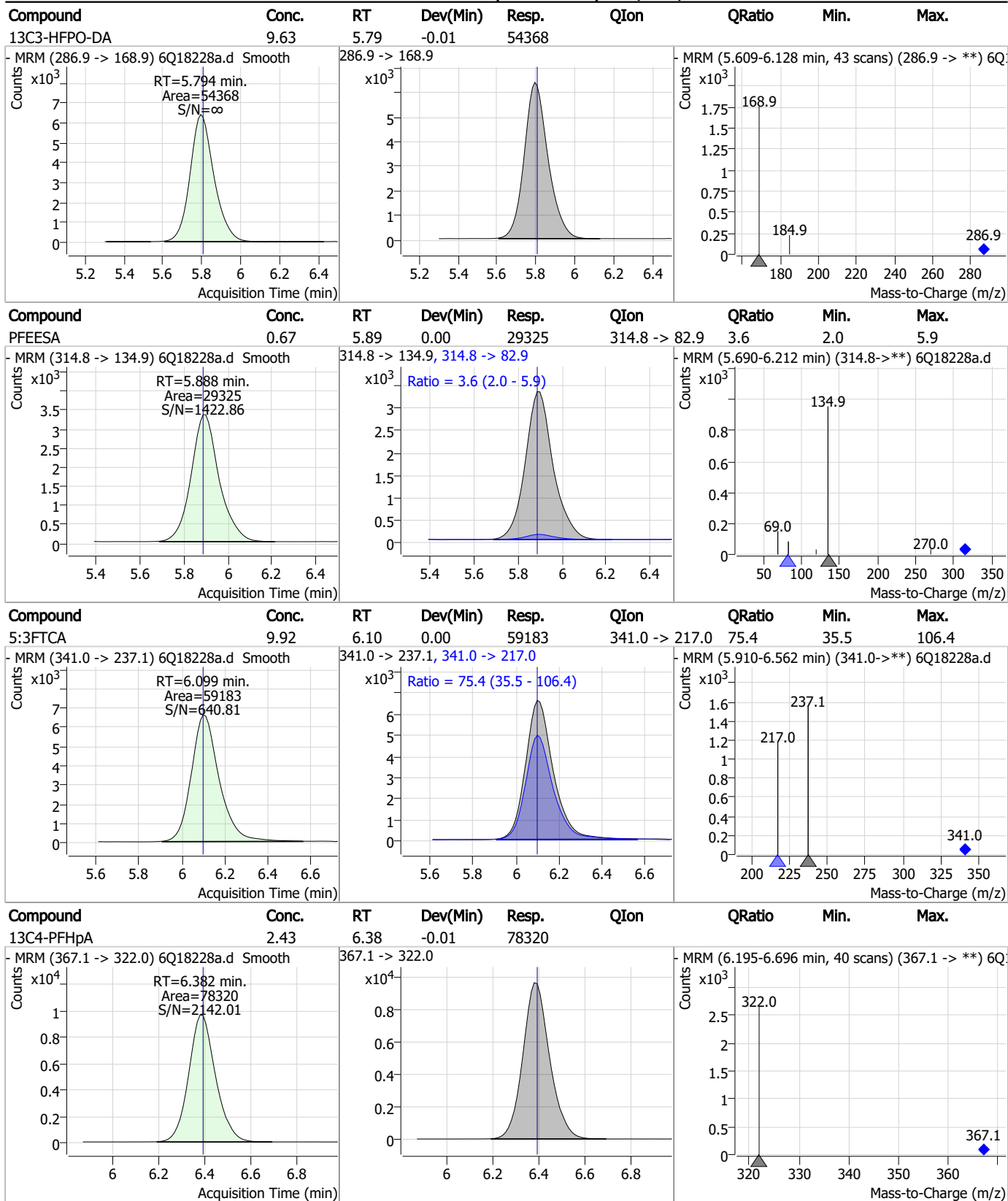
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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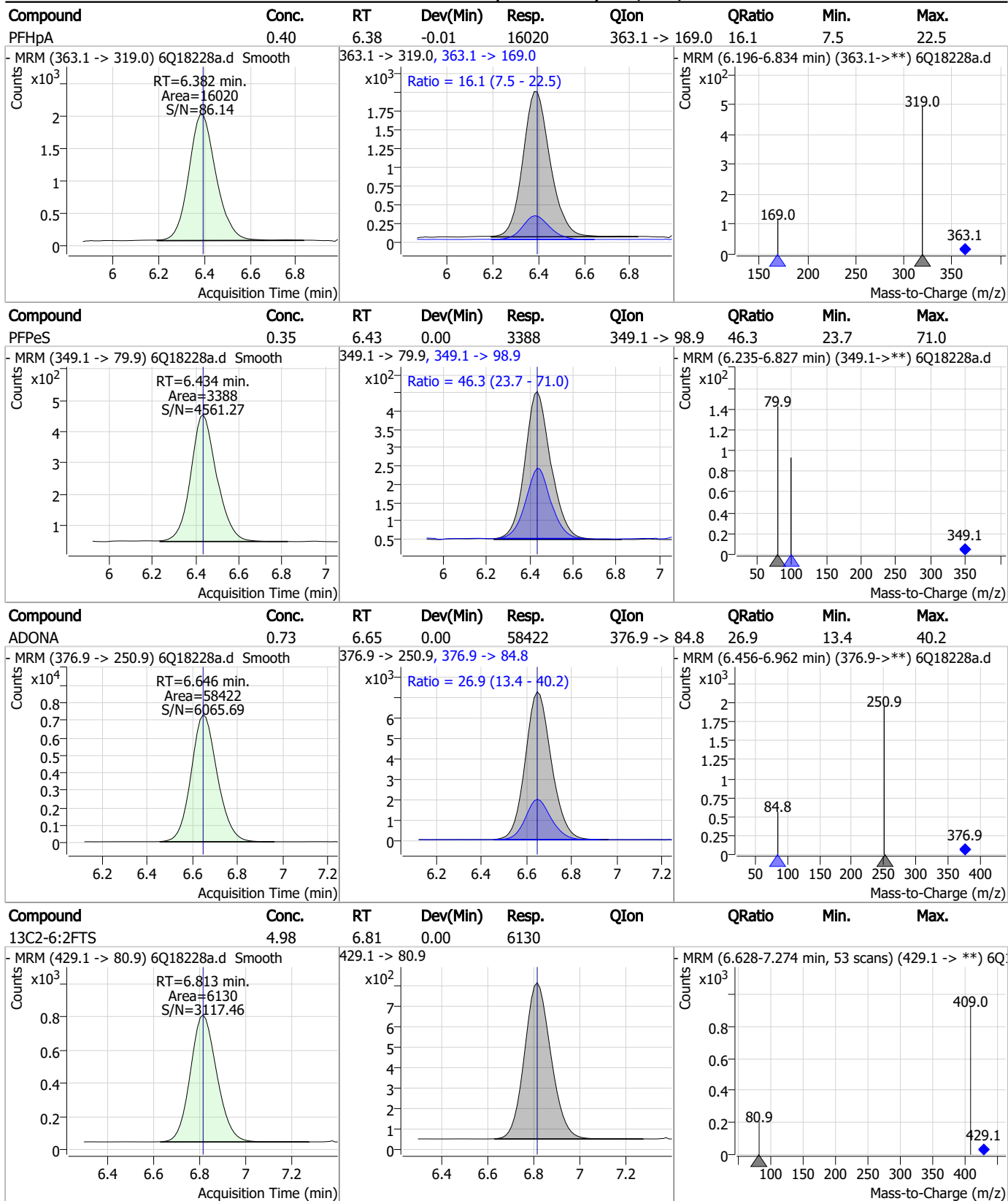
Perfluorinated Compounds by LC/MS/MS



7.7.3
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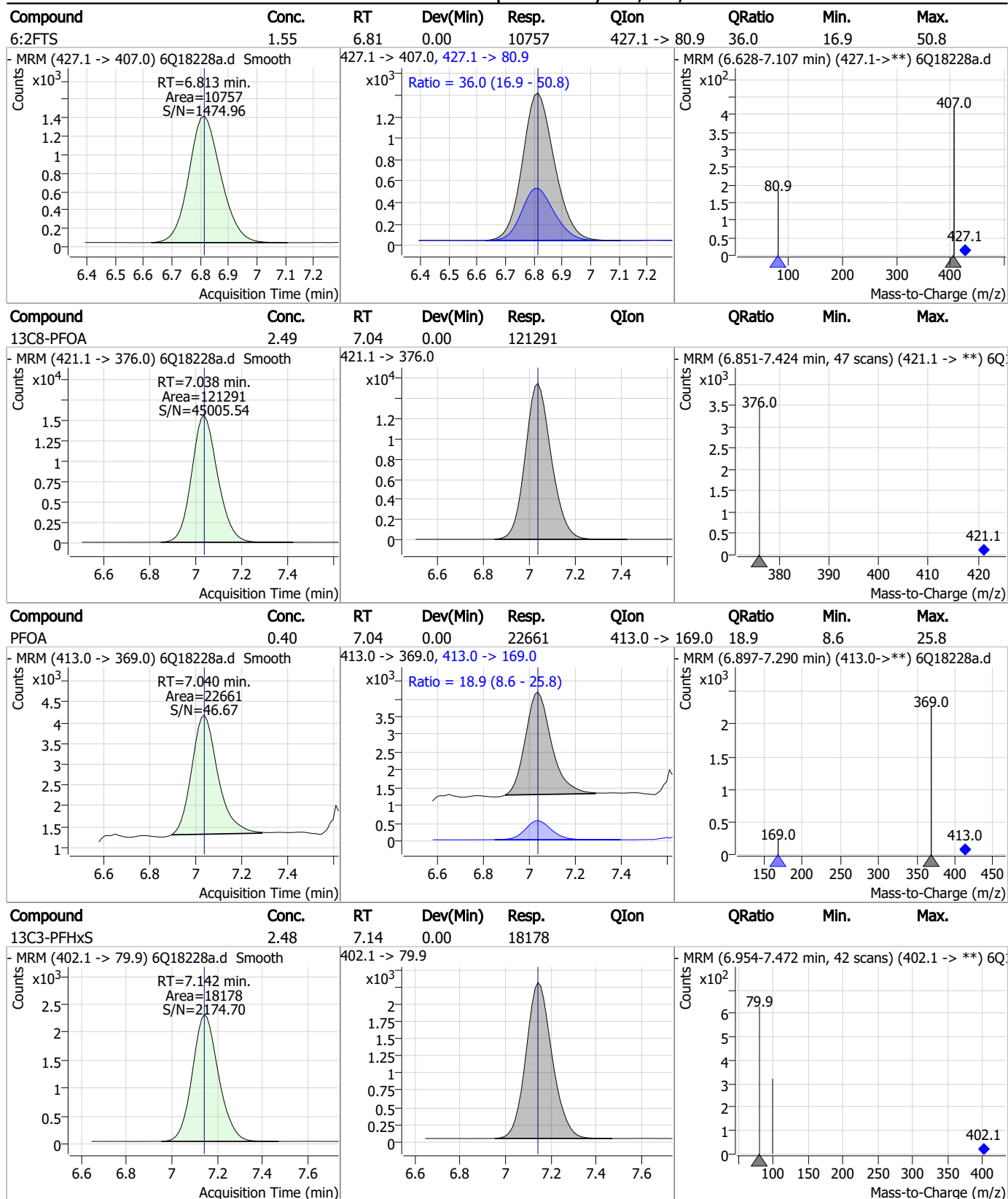


Perfluorinated Compounds by LC/MS/MS



7.7.3
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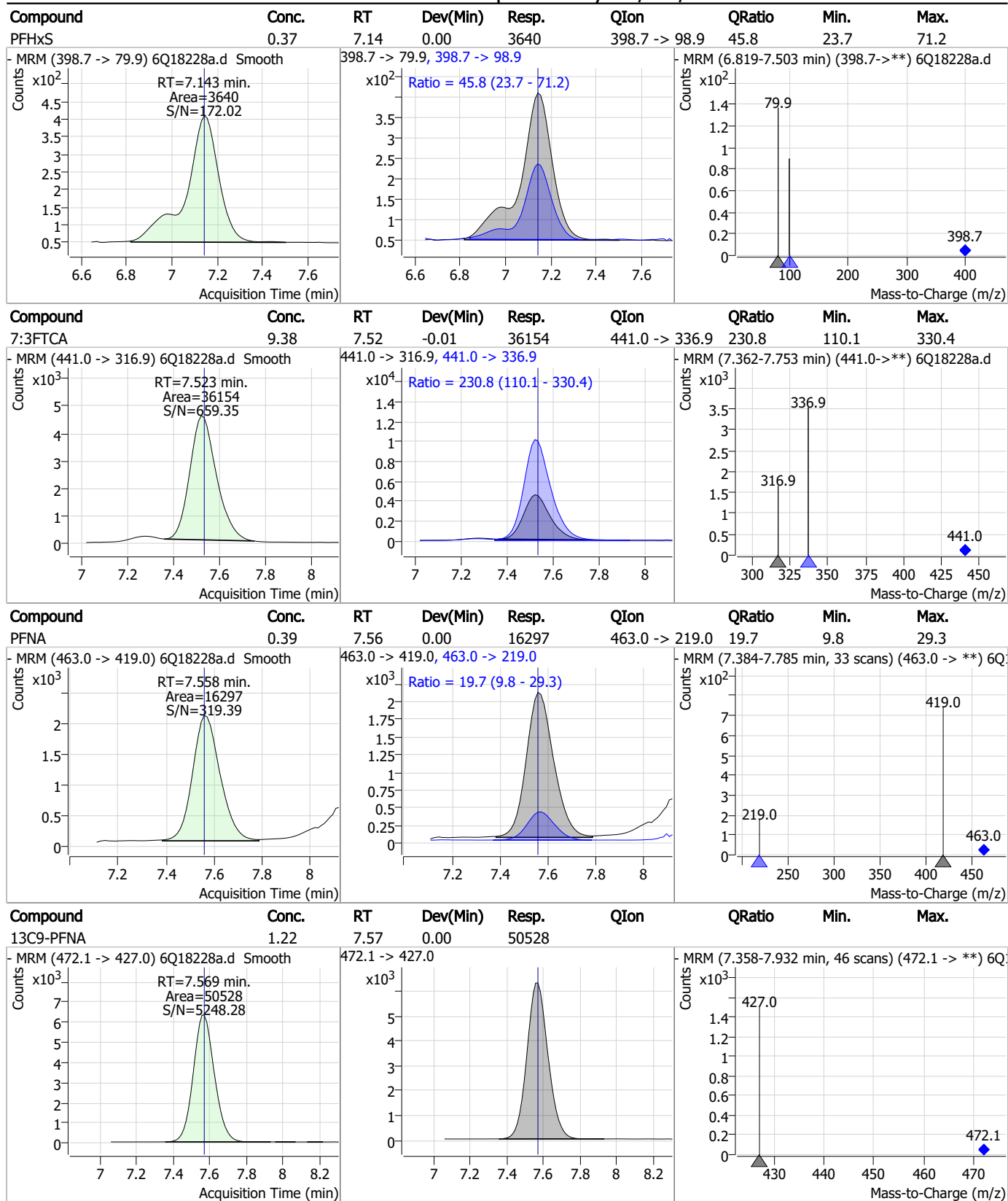
Perfluorinated Compounds by LC/MS/MS



7.7.3

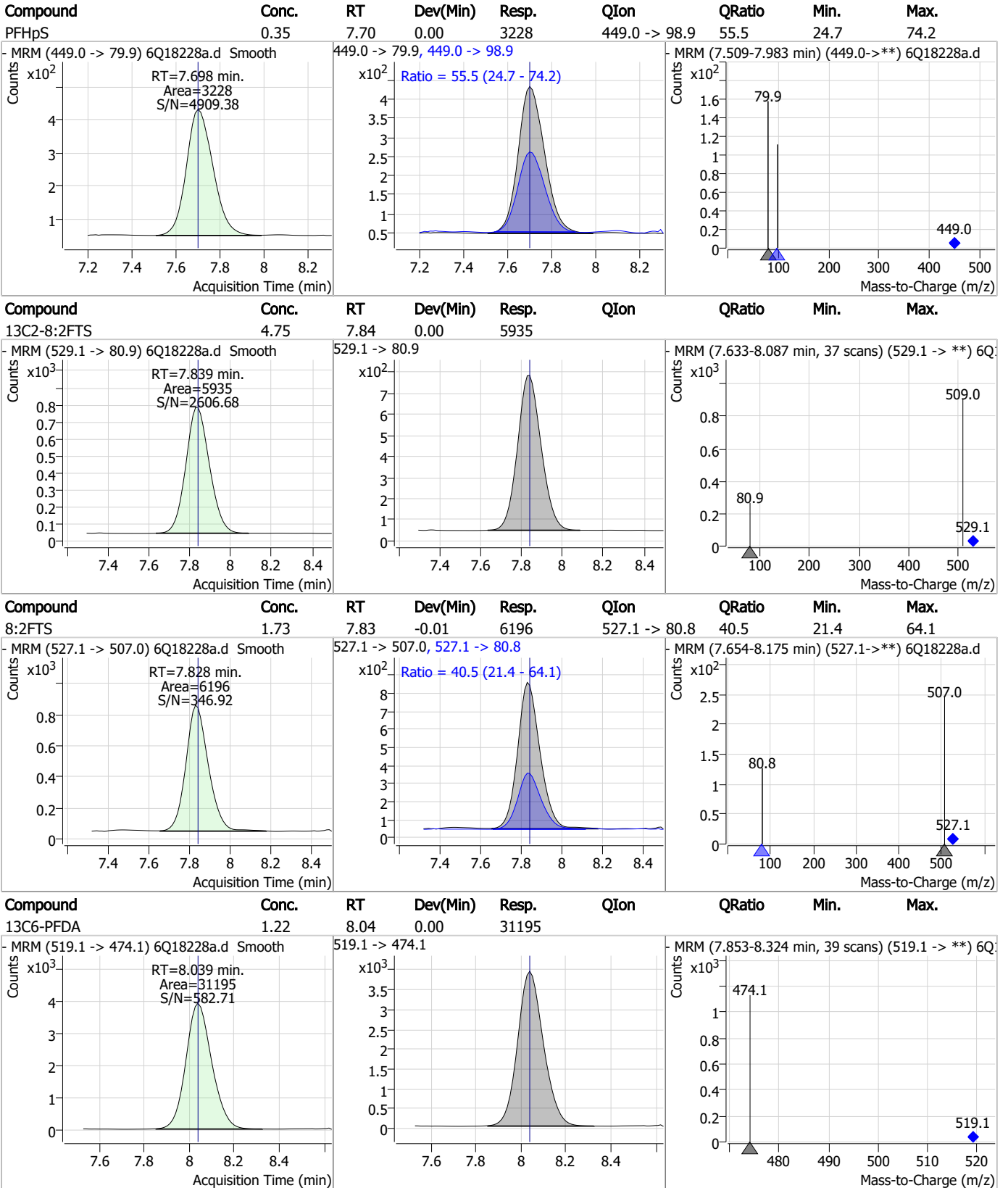
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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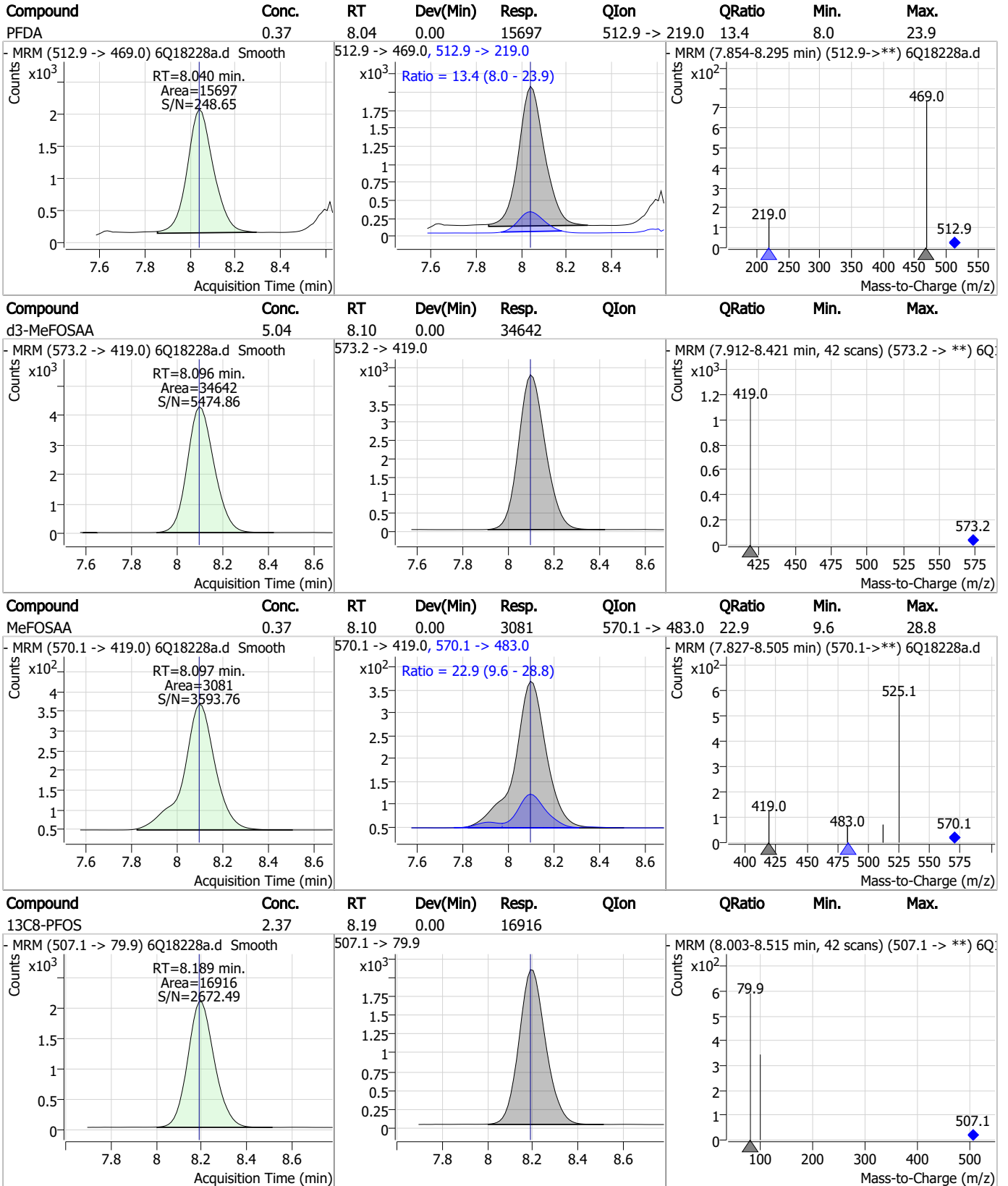
Perfluorinated Compounds by LC/MS/MS



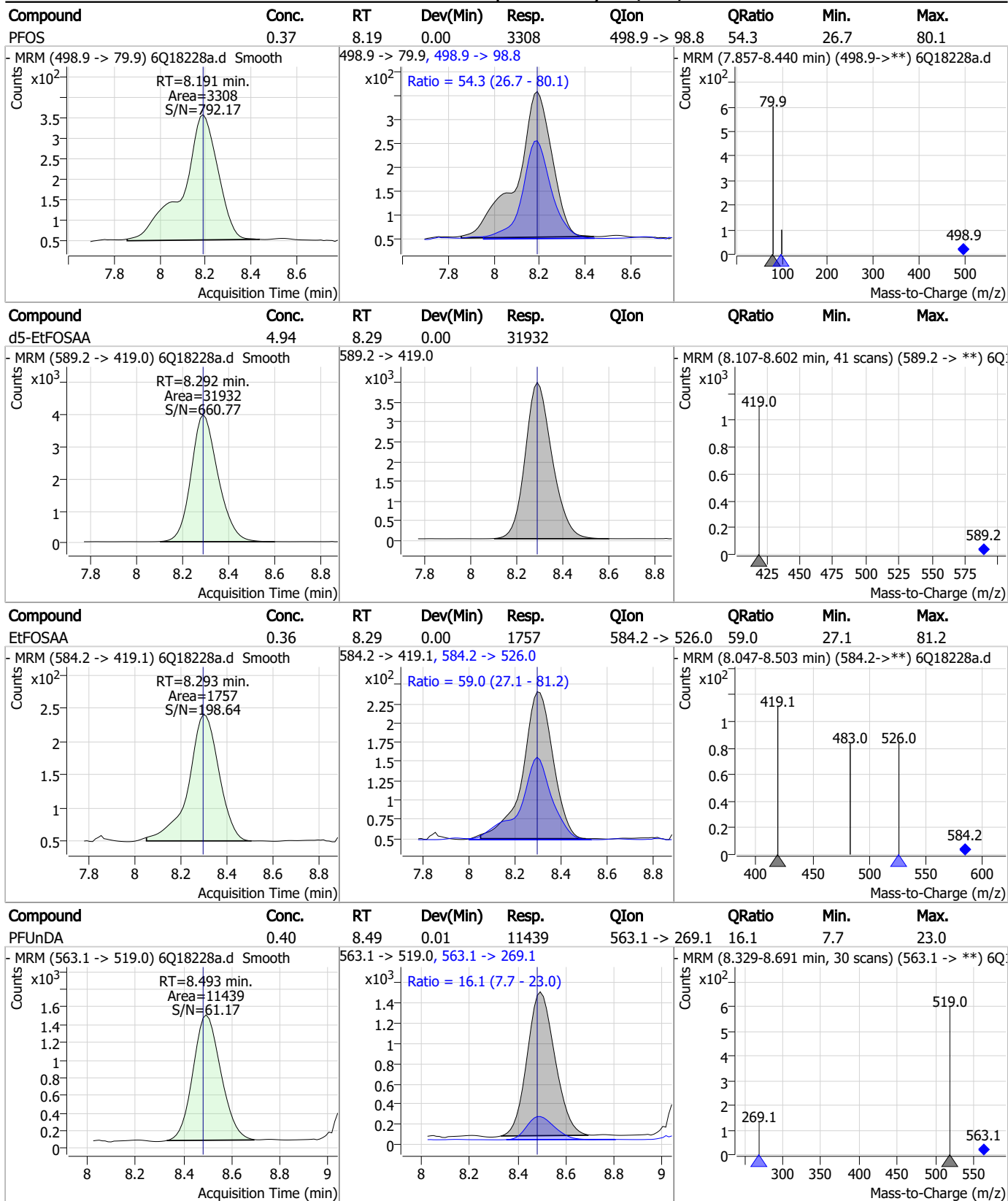
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Perfluorinated Compounds by LC/MS/MS

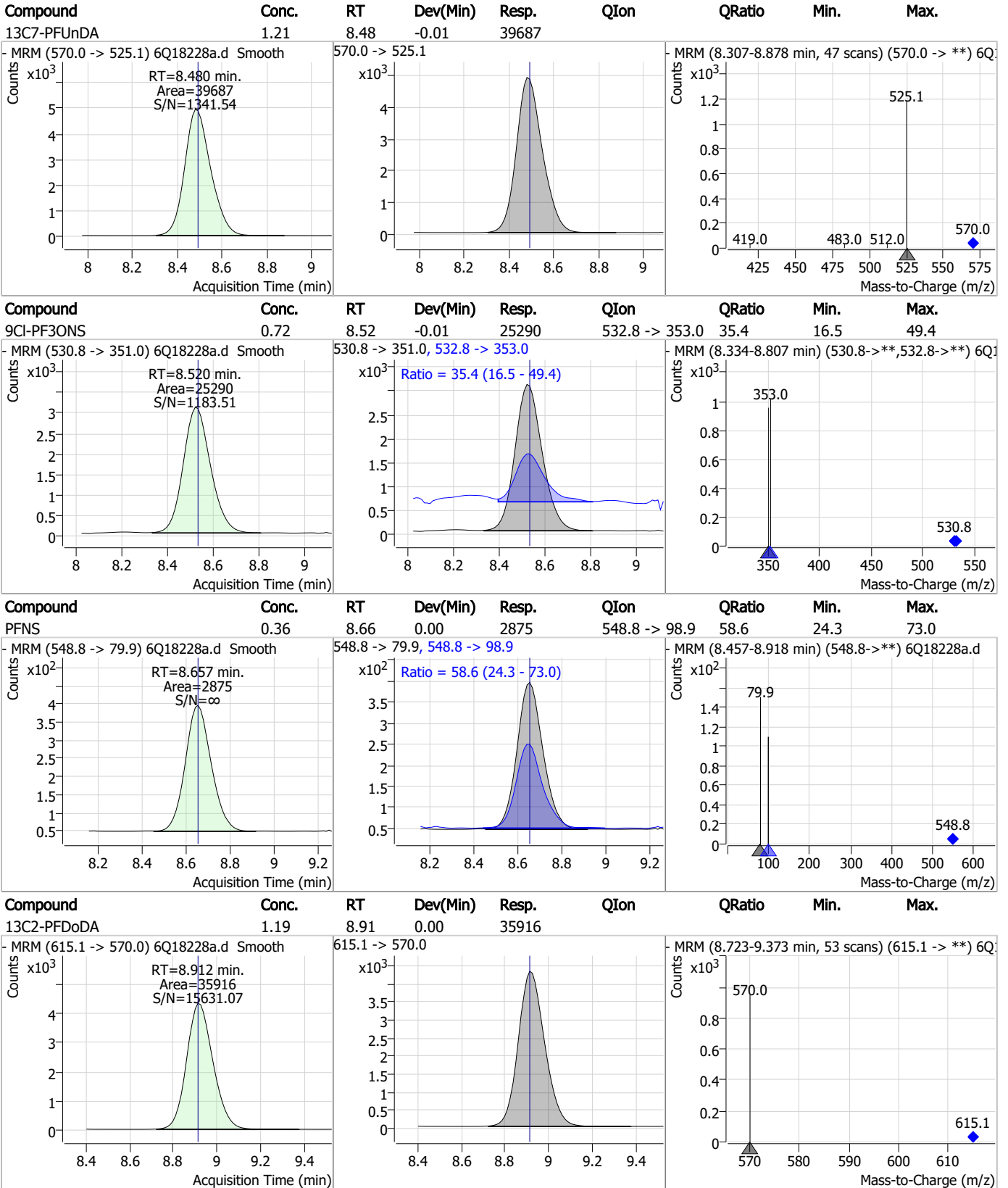


Perfluorinated Compounds by LC/MS/MS



7.7.3
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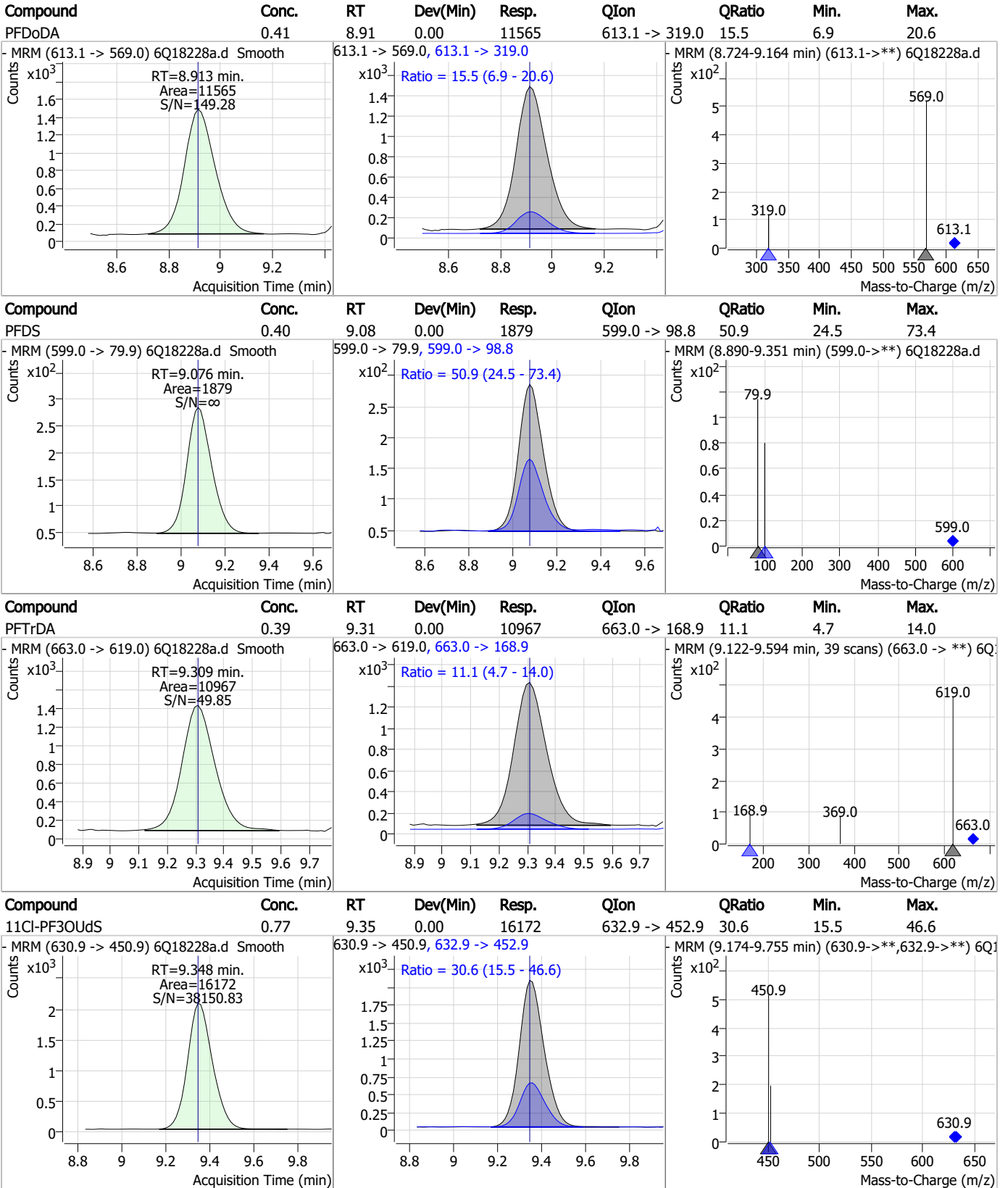
Perfluorinated Compounds by LC/MS/MS



7.7.3

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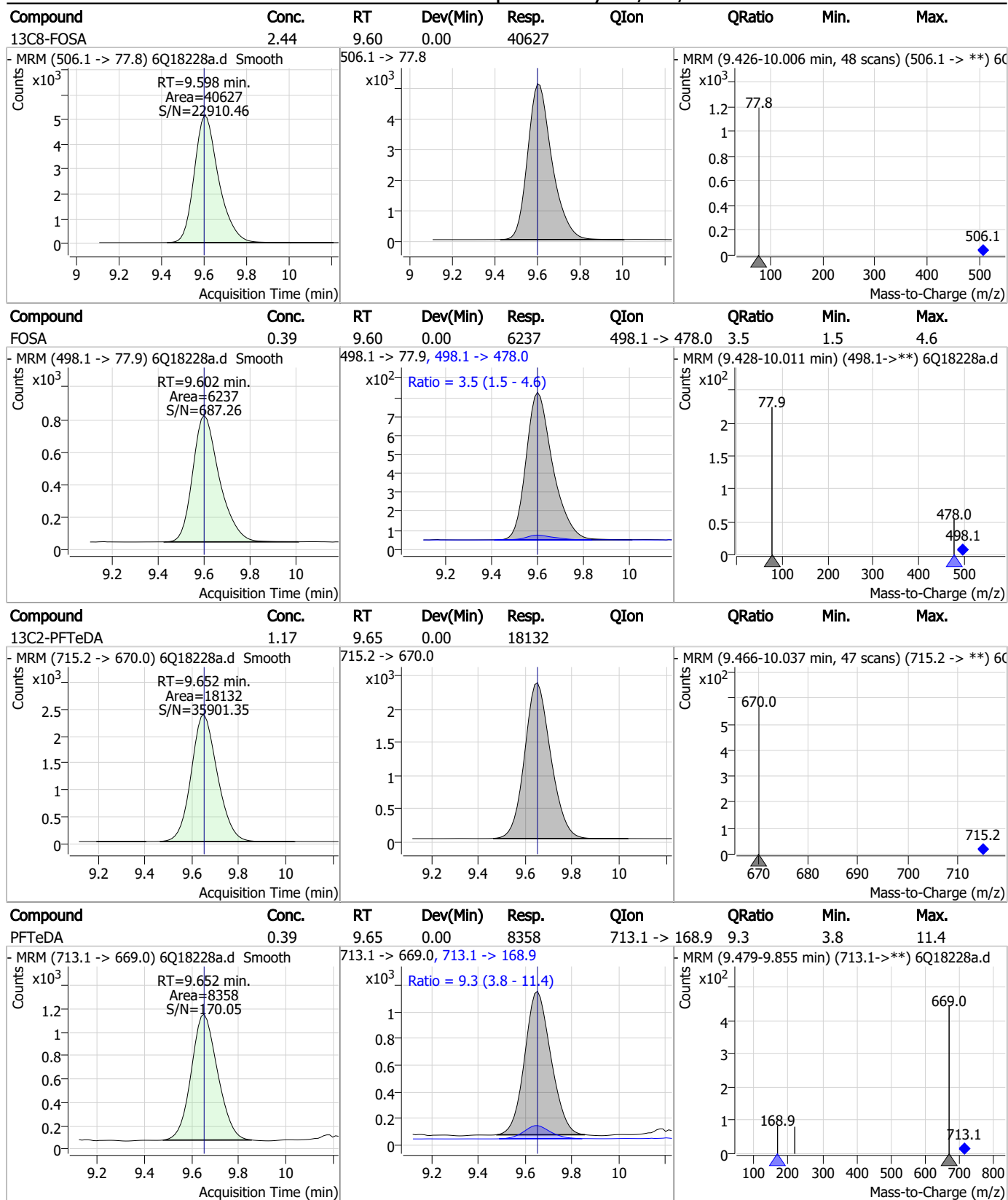
Perfluorinated Compounds by LC/MS/MS



7.7.3

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Perfluorinated Compounds by LC/MS/MS



7.7.3

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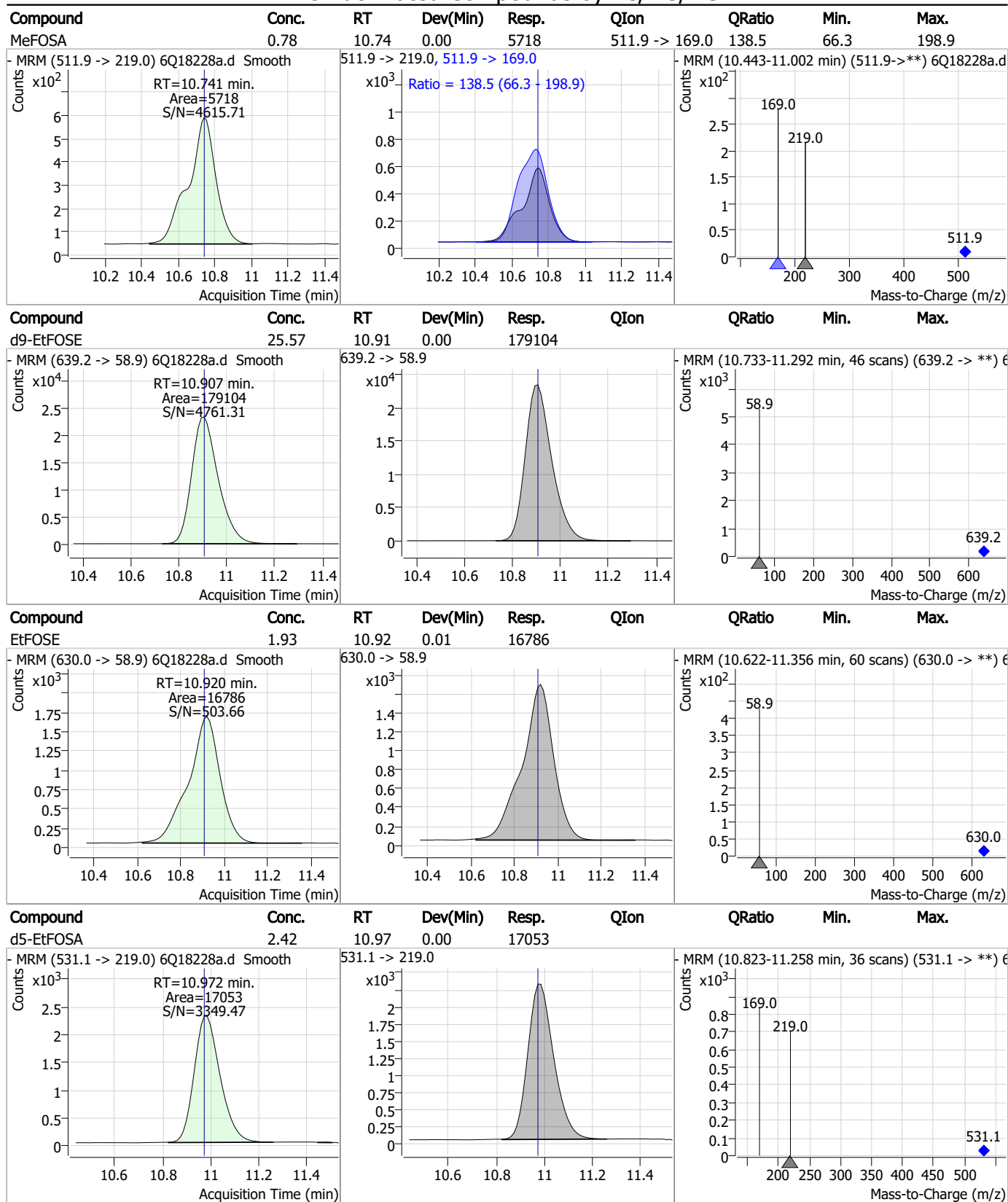
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.40	9.78	0.00	811	699.1 -> 98.8	52.9	26.9	80.6
- MRM (699.1 -> 79.9) 6Q18228a.d Smooth			699.1 -> 79.9, 699.1 -> 98.8		- MRM (9.593-9.989 min) (699.1->**) 6Q18228a.d			
d7-MeFOSE	24.45	10.66	0.00	137682				
- MRM (623.2 -> 58.9) 6Q18228a.d Smooth			623.2 -> 58.9		- MRM (10.486-11.120 min, 52 scans) (623.2 -> **) 6Q18228a.d			
MeFOSE	1.94	10.67	0.00	11865				
- MRM (616.1 -> 58.9) 6Q18228a.d Smooth			616.1 -> 58.9		- MRM (10.365-10.975 min, 50 scans) (616.1 -> **) 6Q18228a.d			
d3-MeFOSA	2.39	10.74	0.00	17297				
- MRM (515.0 -> 219.0) 6Q18228a.d Smooth			515.0 -> 219.0		- MRM (10.578-11.201 min, 51 scans) (515.0 -> **) 6Q18228a.d			

7.7.3

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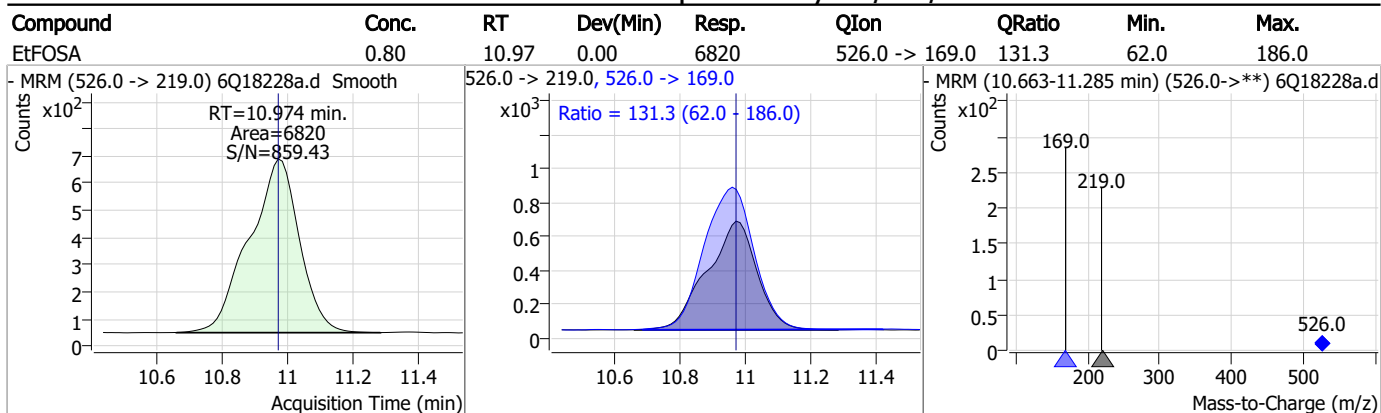
Perfluorinated Compounds by LC/MS/MS



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

Data File : 6Q18229a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 4:40:38 PM
 Sample Name : ic275-3
 Vial : P1-A4
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	249044	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	80792	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	85937	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	81817	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	124356	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	52110	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	32027	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	40157	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	37770	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	20115	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	41226	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	31909	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	18672	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16982	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4171	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6711	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6633	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	33550	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	57454	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	32266	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	144126	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	178755	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	17934	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	17539	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23735	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	104825	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13536	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	133039	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	40453	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	62152	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	85952	2.50 µg/L	0.000

System Monitoring Compounds

13C2-4:2FTS	5.106	329.1 -> 80.9	4171	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6711	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6633	5.25 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	37770	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.1%		
13C2-PFTeDA	9.652	715.2 -> 670.0	20115	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 109.4%		
13C3-PFBS	5.347	302.1 -> 79.9	31909	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C3-PFHxS	7.142	402.1 -> 79.9	18672	2.52 µg/L	0.000

7.7.4
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFBA	2.876	216.8 -> 171.9	249044	9.98 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFHpA	6.395	367.1 -> 322.0	81817	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFHxA	5.429	318.0 -> 273.0	85937	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C5-PFPeA	4.235	268.3 -> 223.0	80792	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C6-PFDA	8.039	519.1 -> 474.1	32027	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C7-PFUnDA	8.492	570.0 -> 525.1	40157	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-FOSA	9.598	506.1 -> 77.8	41226	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C8-PFOA	7.038	421.1 -> 376.0	124356	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%	
13C8-PFOS	8.189	507.1 -> 79.9	16982	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.5%	
13C9-PFNA	7.569	472.1 -> 427.0	52110	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33550	4.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	57454	9.98 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
d3-MeFOSA	10.739	515.0 -> 219.0	17539	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	32266	4.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
d7-MeFOSE	10.660	623.2 -> 58.9	144126	24.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	178755	24.84 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	17934	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	35332	4.62 µg/L	94
		327.1 -> 80.9	12650		
6:2FTS	6.813	427.1 -> 407.0	34143	4.50 µg/L	99
		427.1 -> 80.9	11458		
8:2FTS	7.840	527.1 -> 507.0	19272	4.83 µg/L	95
		527.1 -> 80.8	7610		
EtFOSAA	8.305	584.2 -> 419.1	6042	1.23 µg/L	100
		584.2 -> 526.0	3266		
FOSA	9.602	498.1 -> 77.9	19738	1.23 µg/L	100
		498.1 -> 478.0	599		
MeFOSAA	8.097	570.1 -> 419.0	10833	1.33 µg/L	99
		570.1 -> 483.0	2053		
PFBA	2.882	212.8 -> 168.9	47160	4.86 µg/L	100
PFBS	5.348	298.7 -> 79.9	13143	1.08 µg/L	94
		298.7 -> 98.8	5196		
PFDA	8.040	512.9 -> 469.0	52210	1.20 µg/L	98
		512.9 -> 219.0	7980		
PFDODA	8.925	613.1 -> 569.0	34205	1.14 µg/L	95
		613.1 -> 319.0	5336		
PFDS	9.076	599.0 -> 79.9	5783	1.21 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	2778			
PFHpA	6.395	363.1 -> 319.0	50355	1.19	µg/L	94
		363.1 -> 169.0	8890			
PFHpS	7.698	449.0 -> 79.9	11353	1.23	µg/L	93
		449.0 -> 98.9	6160			
PFHxA	5.432	313.0 -> 269.0	39820	1.19	µg/L	98
		313.0 -> 118.9	1993			
PFHxS	7.143	398.7 -> 79.9	11338	1.12	µg/L	m 96
		398.7 -> 98.9	5697			
PFNA	7.570	463.0 -> 419.0	51076	1.19	µg/L	98
		463.0 -> 219.0	10368			
PFNS	8.656	548.8 -> 79.9	9451	1.18	µg/L	92
		548.8 -> 98.9	5131			
PFOA	7.040	413.0 -> 369.0	72512	1.25	µg/L	97
		413.0 -> 169.0	13392			
PFOS	8.191	498.9 -> 79.9	10934	1.21	µg/L	93
		498.9 -> 98.8	5304			
PFPeA	4.237	263.0 -> 219.0	54001	2.48	µg/L	100
PFPeS	6.434	349.1 -> 79.9	11941	1.20	µg/L	93
		349.1 -> 98.9	5127			
PFTeDA	9.640	713.1 -> 669.0	27141	1.16	µg/L	97
		713.1 -> 168.9	2340			
PFTrDA	9.309	663.0 -> 619.0	34967	1.20	µg/L	93
		663.0 -> 168.9	4131			
PFUnDA	8.493	563.1 -> 519.0	36333	1.27	µg/L	97
		563.1 -> 269.1	5998			
11CI-PF3OUdS	9.348	630.9 -> 450.9	49164	2.23	µg/L	98
		632.9 -> 452.9	15755			
9CI-PF3ONS	8.520	530.8 -> 351.0	81388	2.21	µg/L	99
		532.8 -> 353.0	27145			
ADONA	6.646	376.9 -> 250.9	199885	2.36	µg/L	97
		376.9 -> 84.8	50713			
HFPO-DA	5.795	284.9 -> 168.9	13609	2.41	µg/L	93
		284.9 -> 184.9	1482			
3:3FTCA	3.727	241.0 -> 177.0	9600	6.11	µg/L	97
		241.0 -> 117.0	1278			
5:3FTCA	6.099	341.0 -> 237.1	187425	30.59	µg/L	96
		341.0 -> 217.0	138539			
7:3FTCA	7.535	441.0 -> 316.9	124994	31.56	µg/L	94
		441.0 -> 336.9	262416			
EtFOSA	10.974	526.0 -> 219.0	22088	2.46	µg/L	96
		526.0 -> 169.0	28379			
EtFOSE	10.920	630.0 -> 58.9	53132	6.13	µg/L	100
MeFOSA	10.741	511.9 -> 219.0	18842	2.53	µg/L	93
		511.9 -> 169.0	26566			
MeFOSE	10.673	616.1 -> 58.9	39599	6.18	µg/L	100
PFDoDS	9.779	699.1 -> 79.9	2434	1.20	µg/L	96
		699.1 -> 98.8	1370			
NFDHA	5.311	295.0 -> 201.0	10373	2.52	µg/L	97
		295.0 -> 84.9	2657			
PFMBA	4.650	279.0 -> 85.1	38062	2.47	µg/L	100
PFMPA	3.401	229.0 -> 84.9	28953	2.47	µg/L	100
PFEESA	5.888	314.8 -> 134.9	98505	2.20	µg/L	98
		314.8 -> 82.9	3260			

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

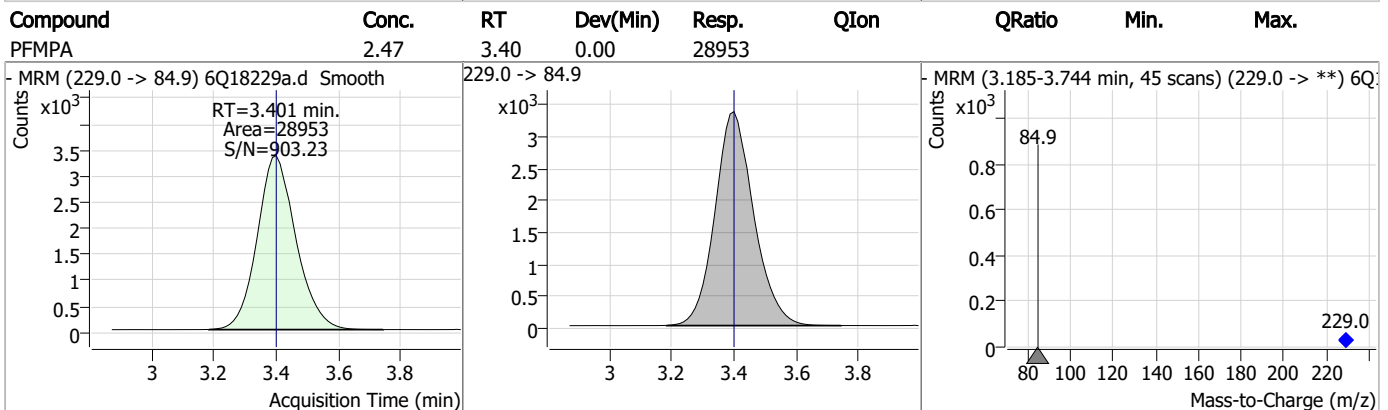
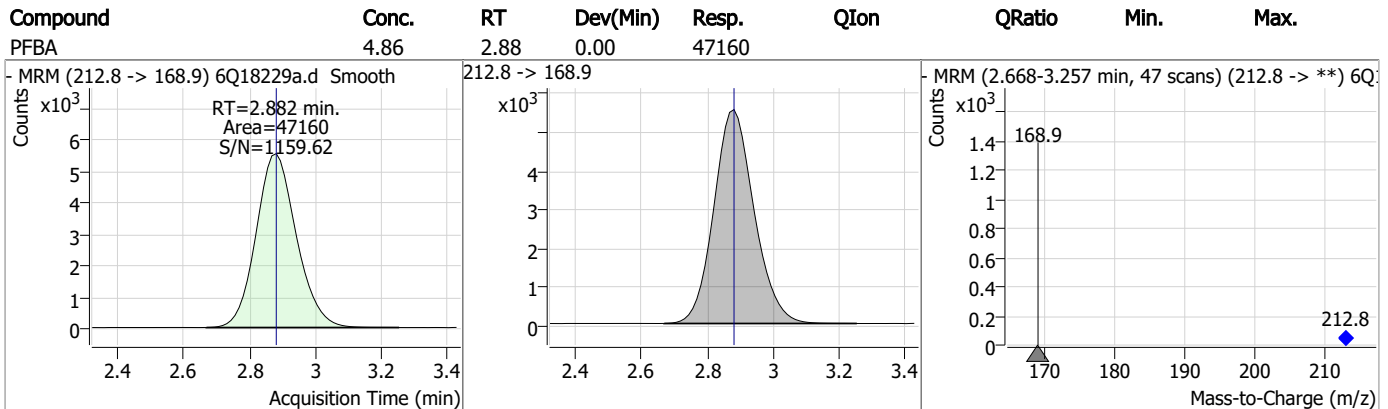
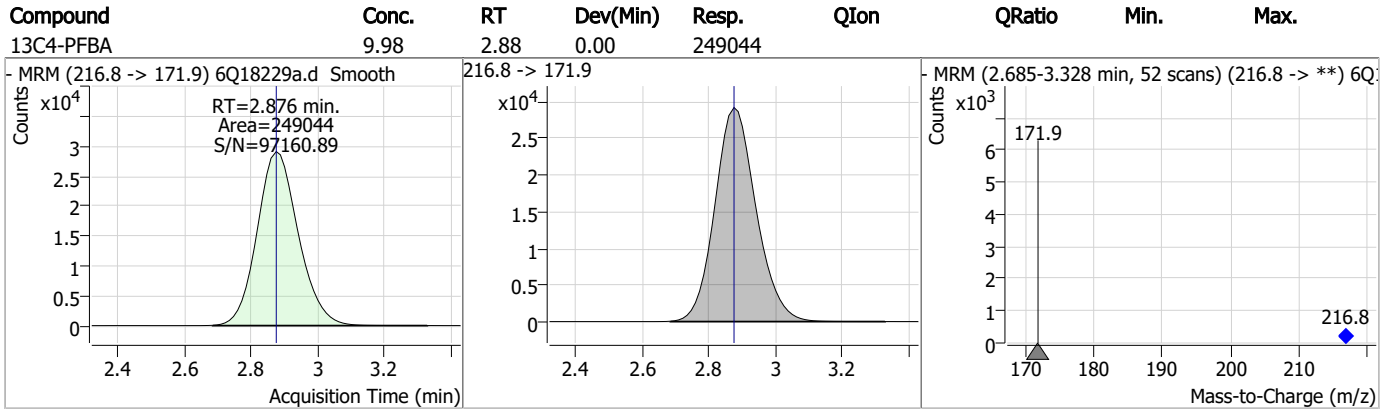
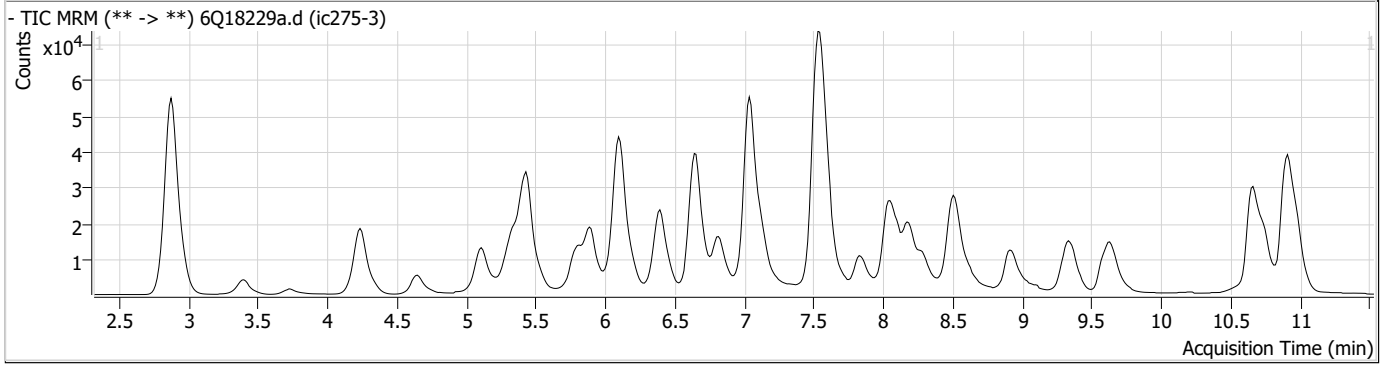
Perfluorinated Compounds by LC/MS/MS

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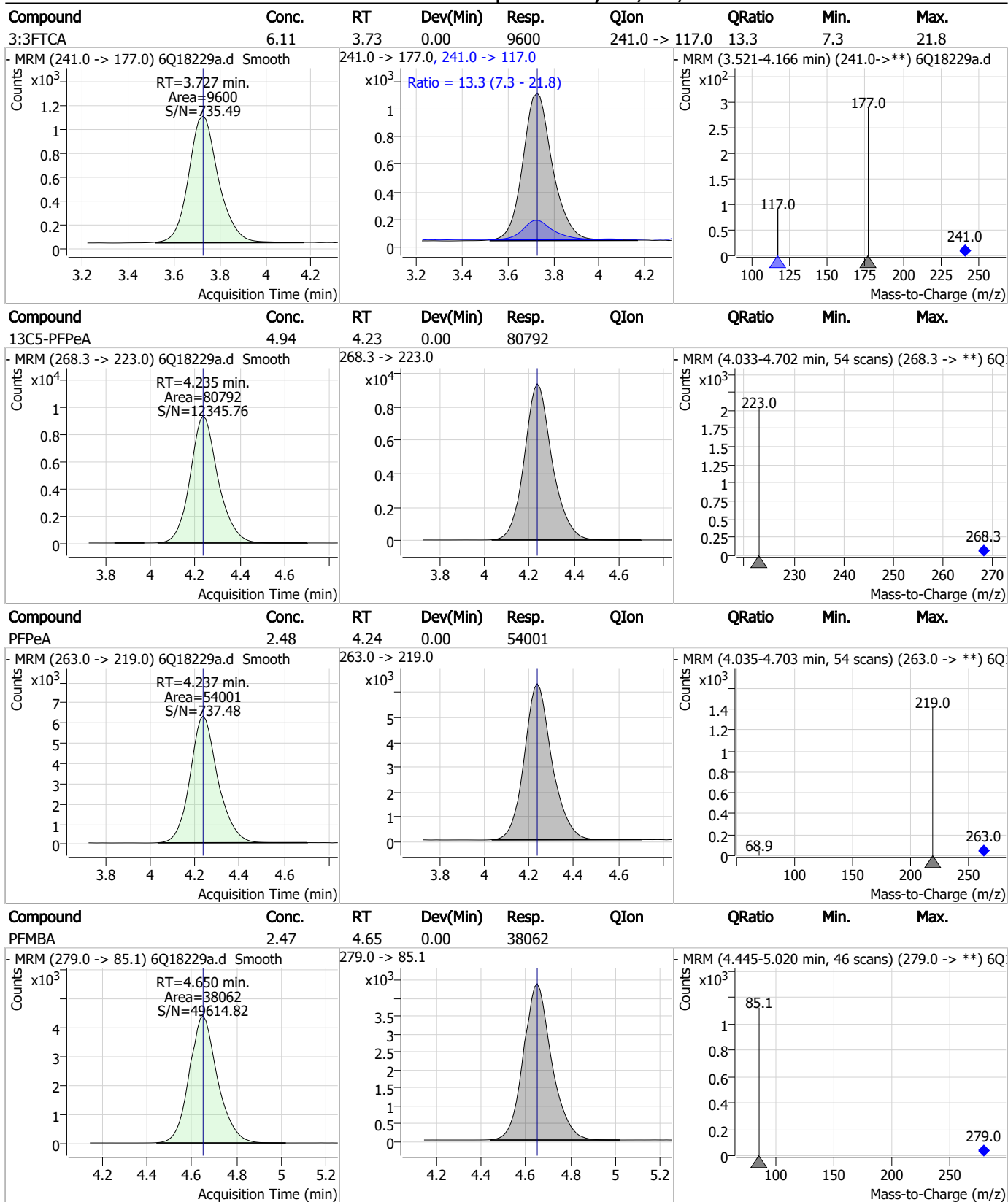
7.7.4

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Perfluorinated Compounds by LC/MS/MS

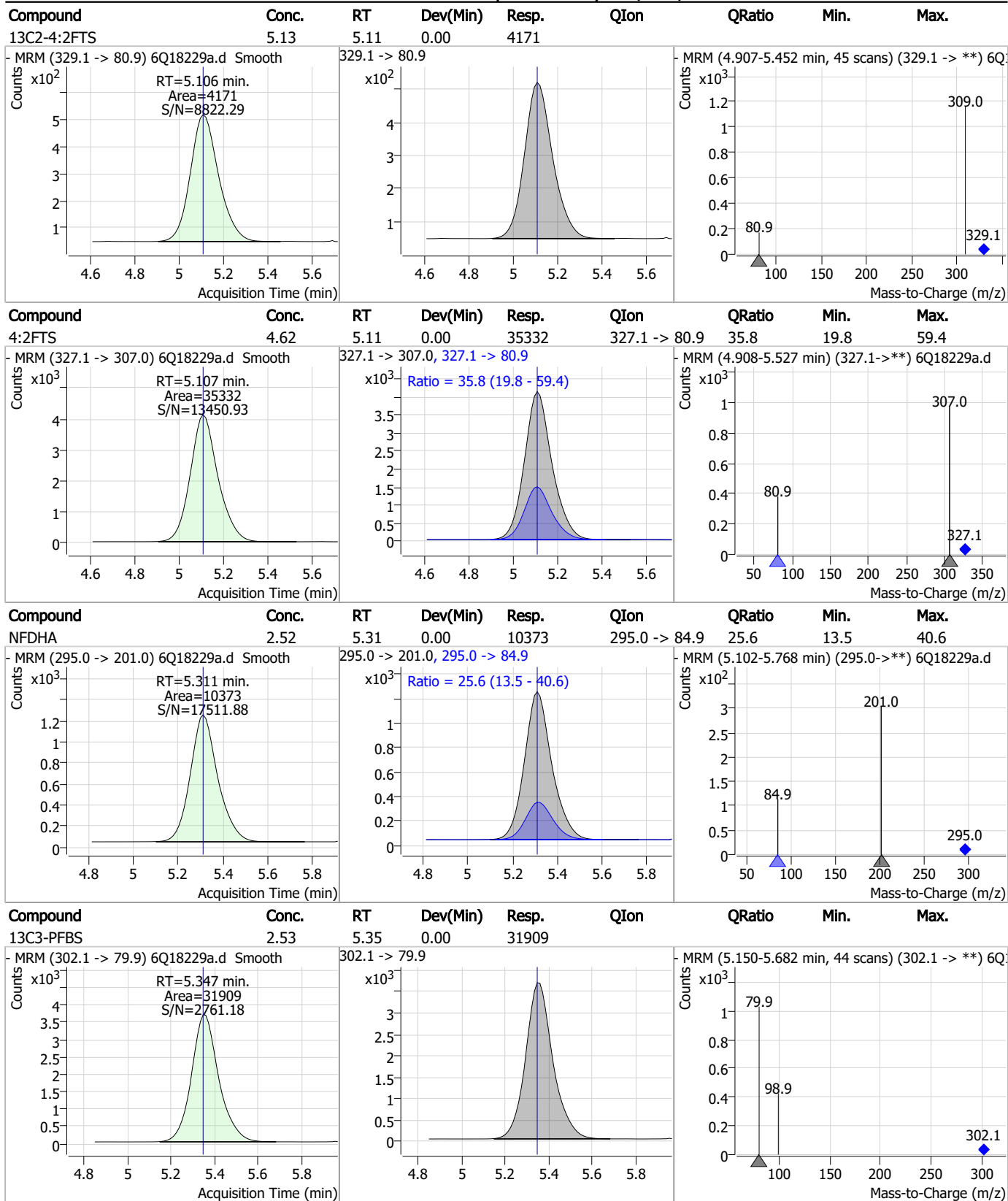


Perfluorinated Compounds by LC/MS/MS



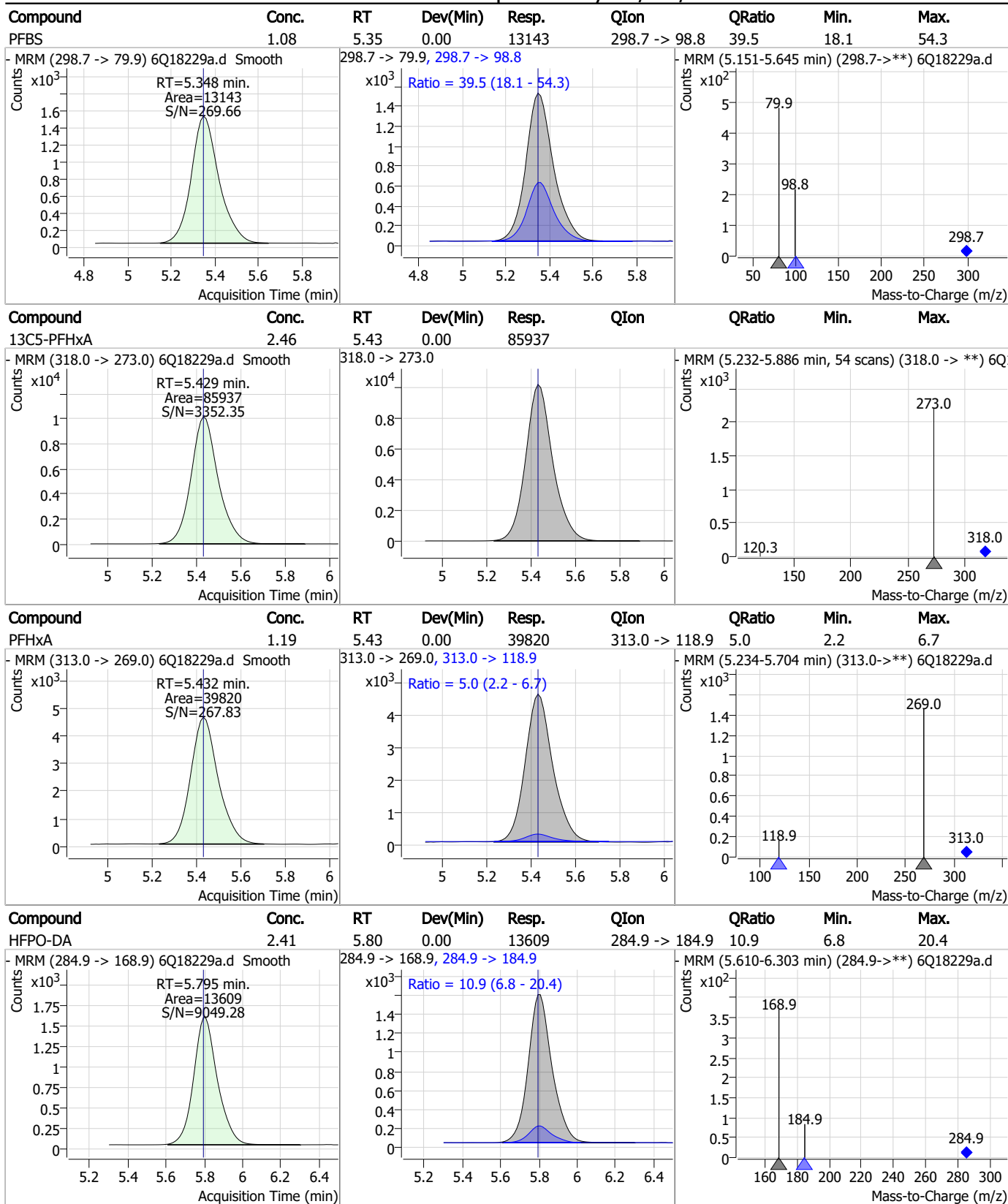
7.7.4
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Perfluorinated Compounds by LC/MS/MS



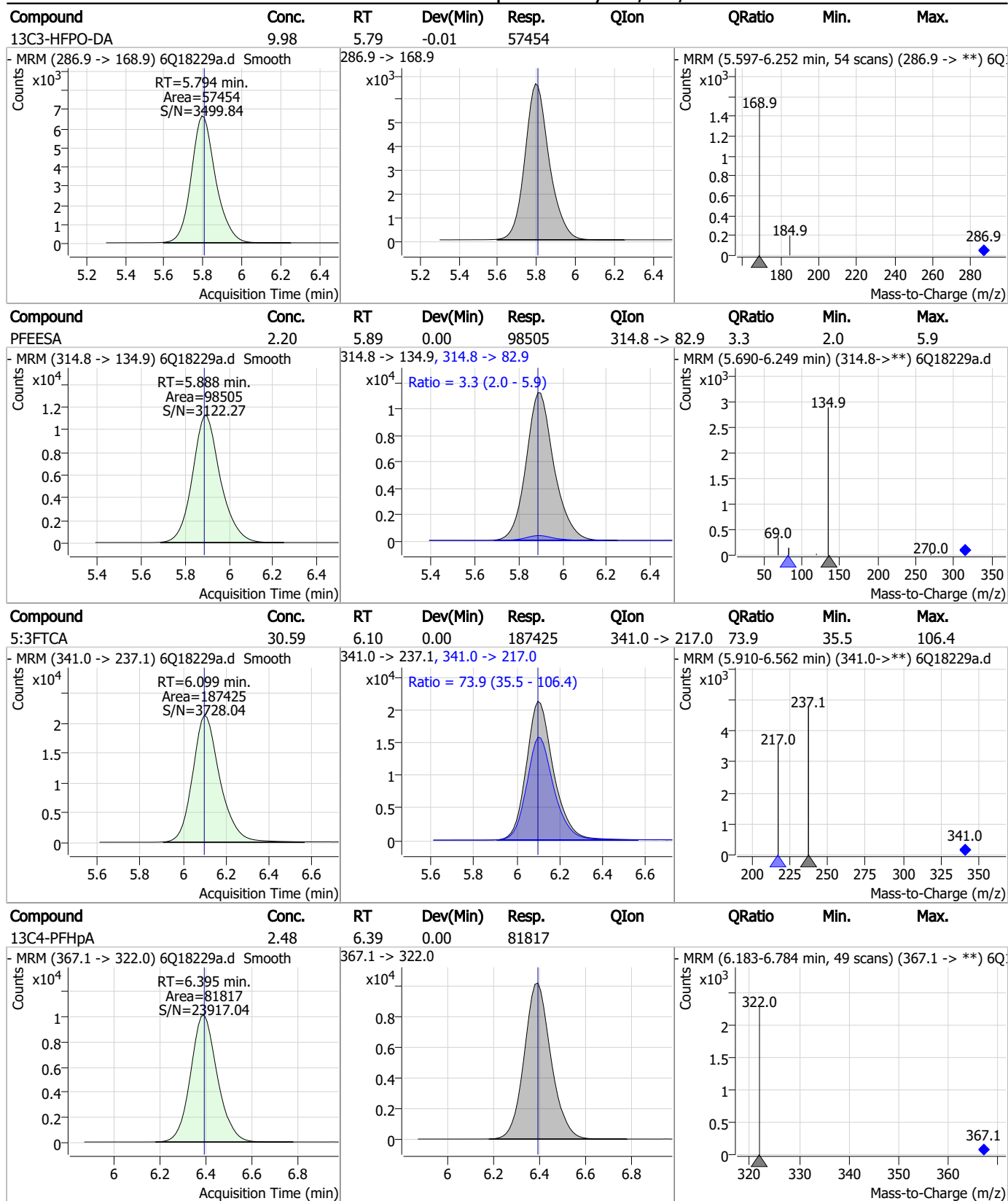
7.7.4
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Perfluorinated Compounds by LC/MS/MS



7.7.4
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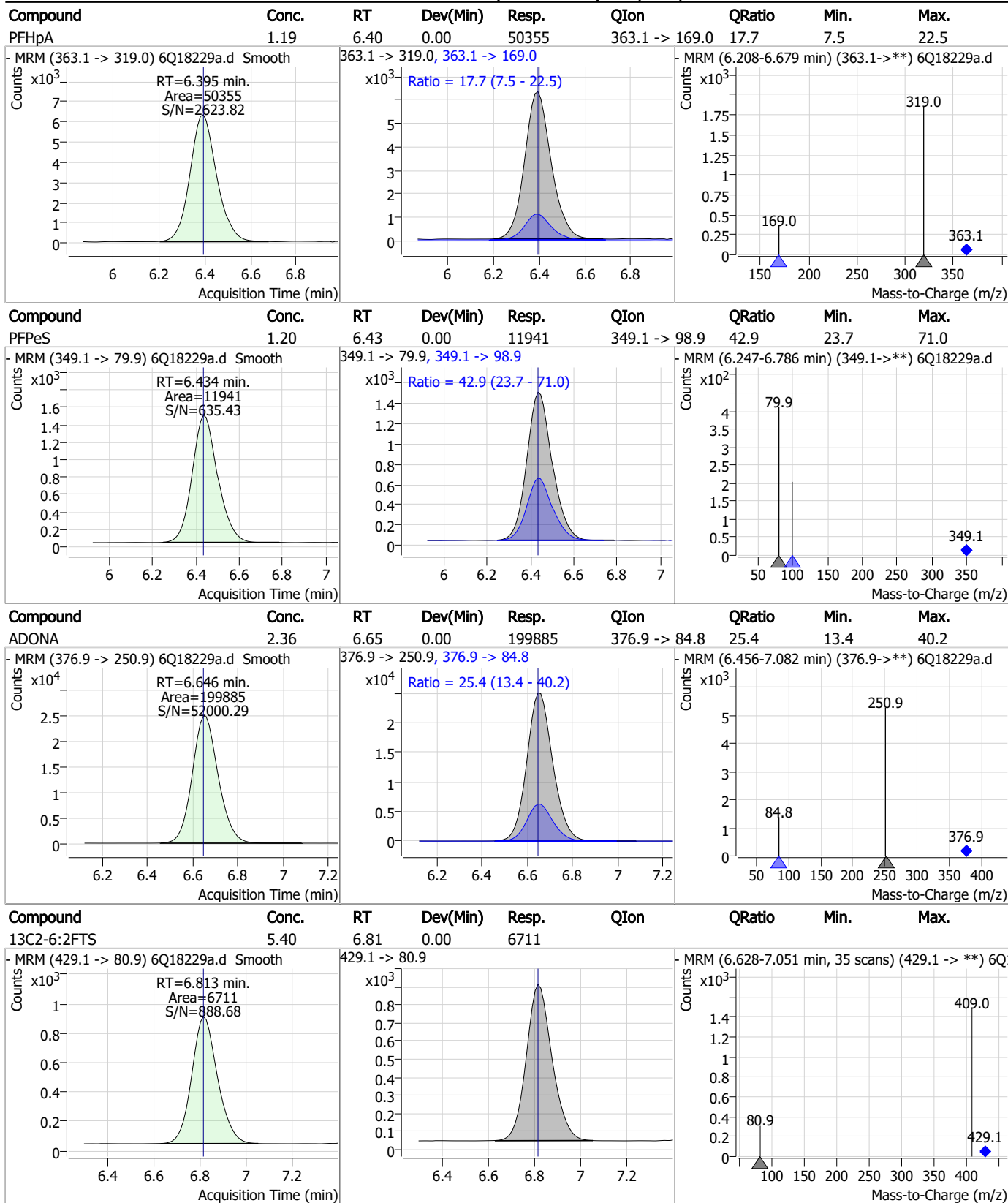
Perfluorinated Compounds by LC/MS/MS



7.7.4

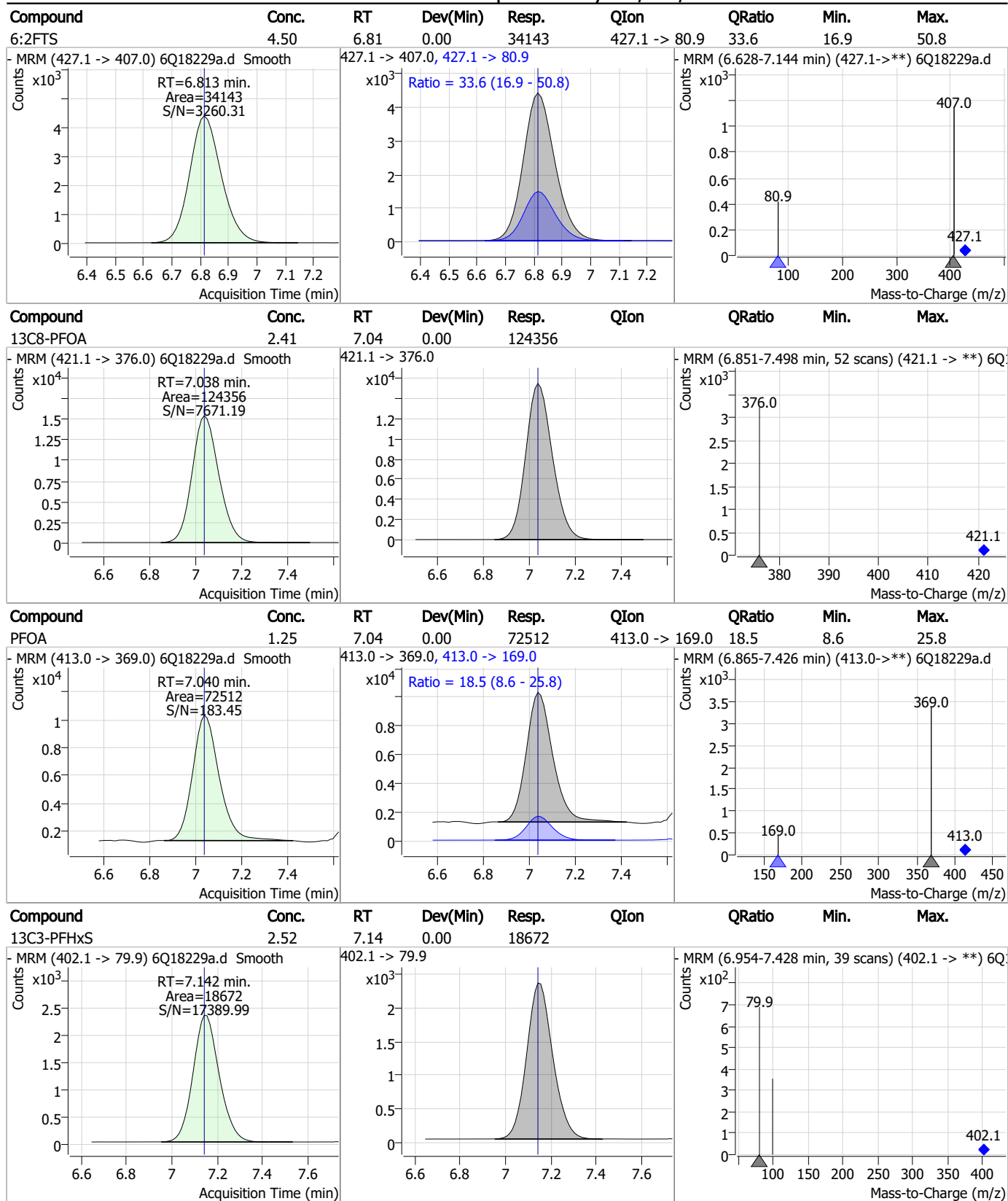
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Perfluorinated Compounds by LC/MS/MS



7.7.4
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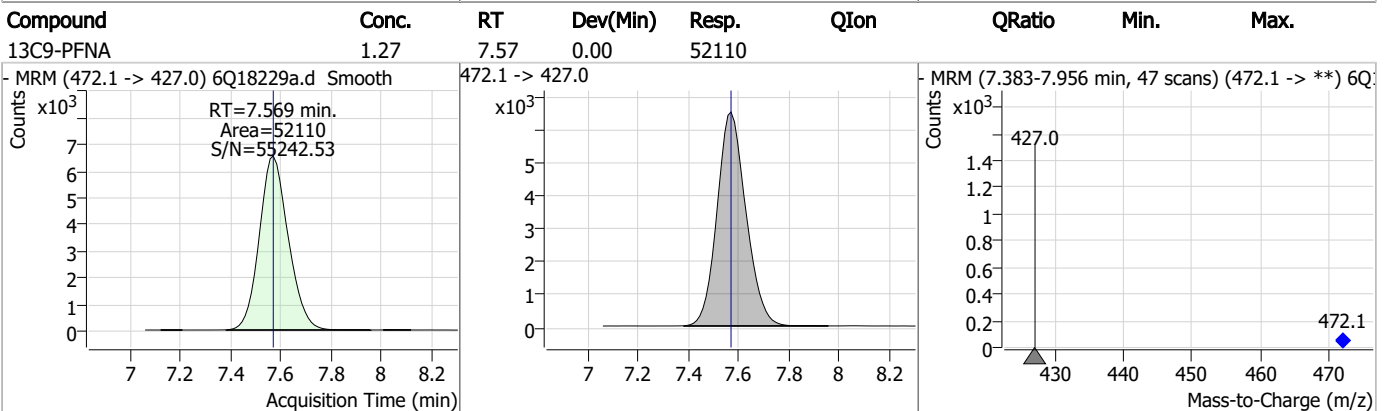
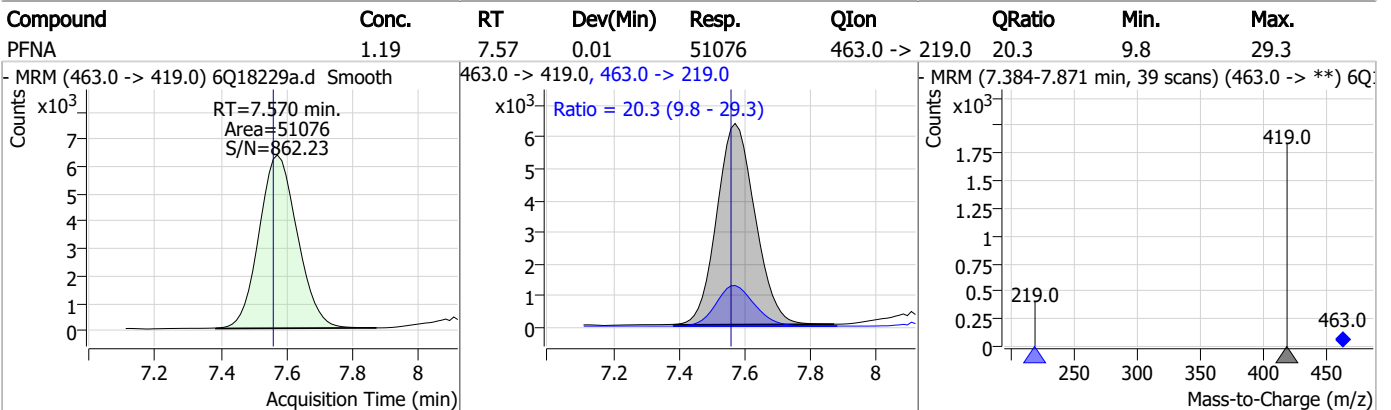
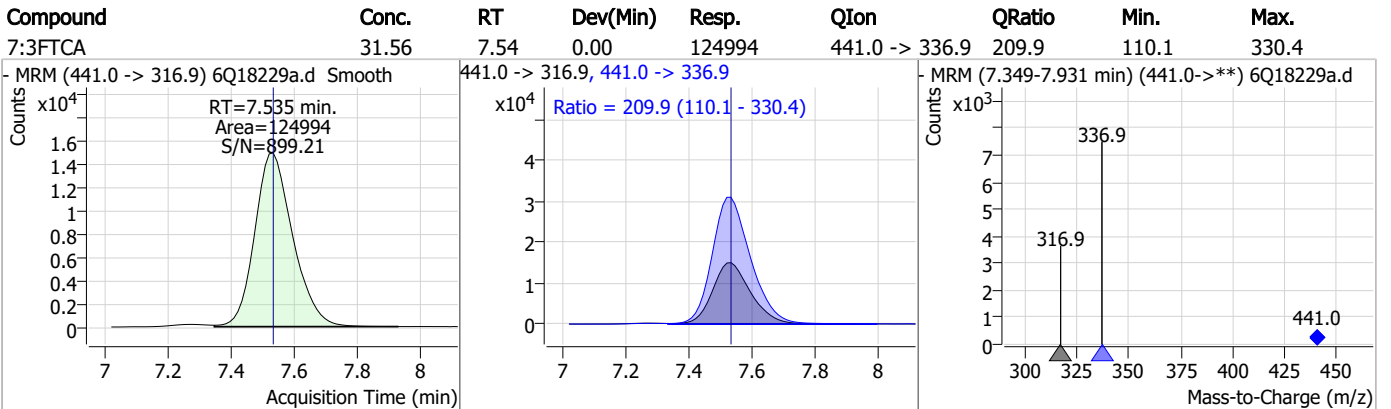
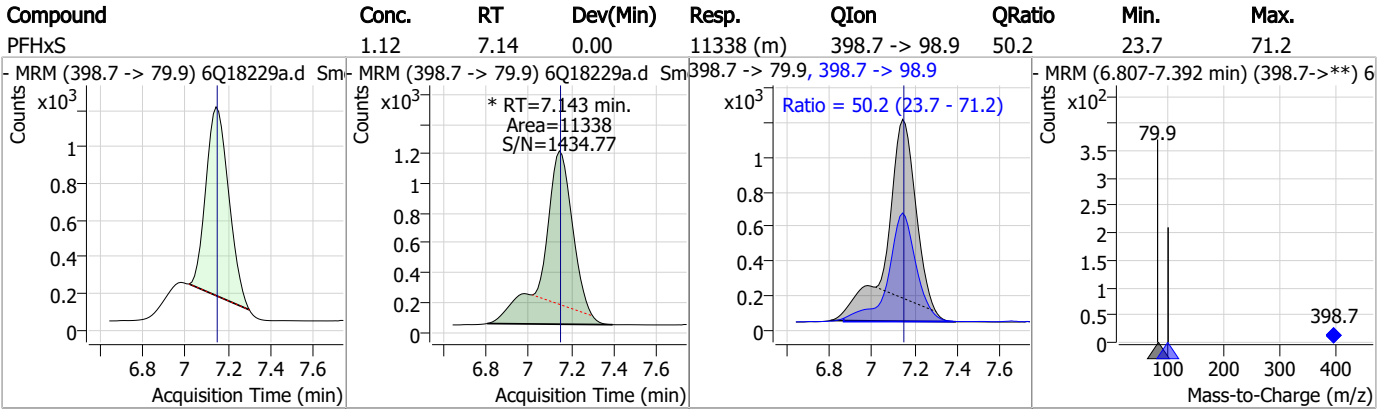
Perfluorinated Compounds by LC/MS/MS



7.7.4

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Perfluorinated Compounds by LC/MS/MS

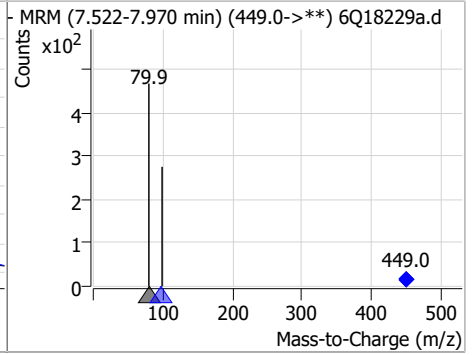
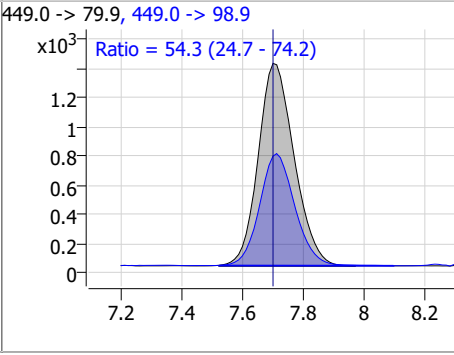
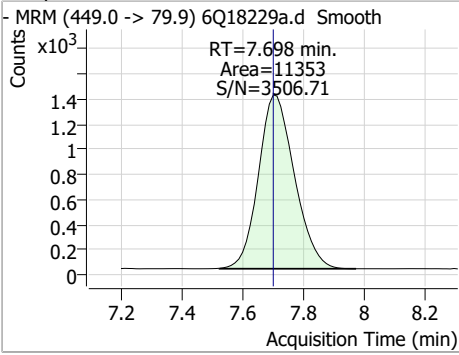


7.7.4

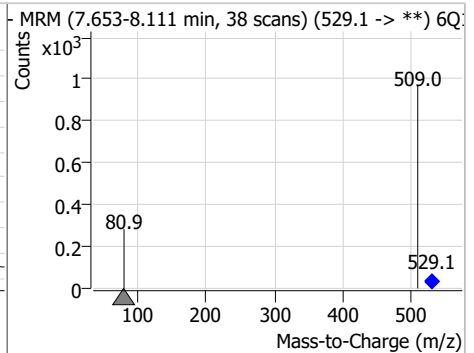
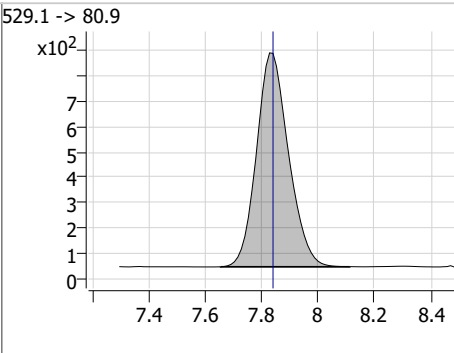
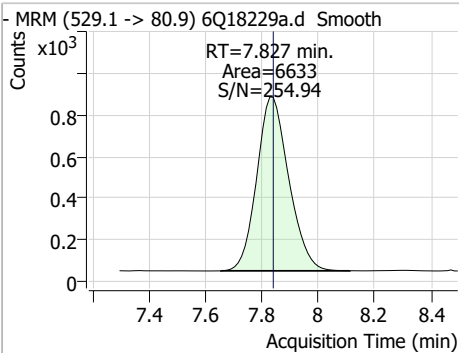
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Perfluorinated Compounds by LC/MS/MS

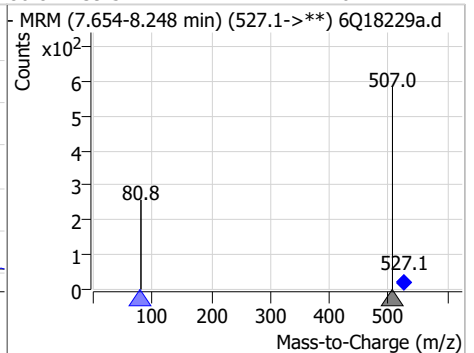
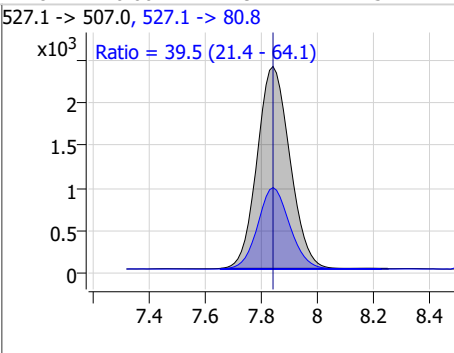
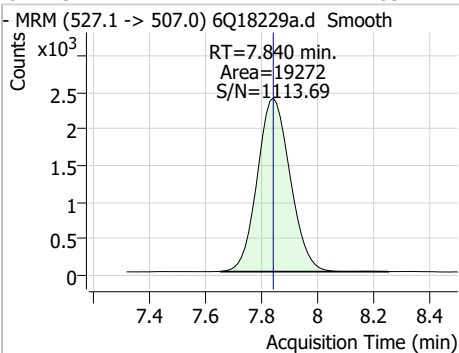
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.23	7.70	0.00	11353	449.0 -> 98.9	54.3	24.7	74.2



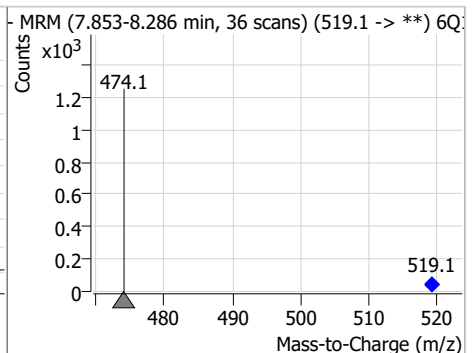
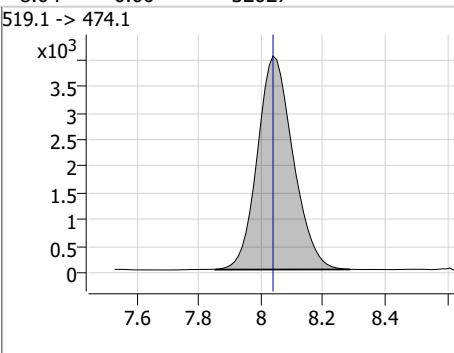
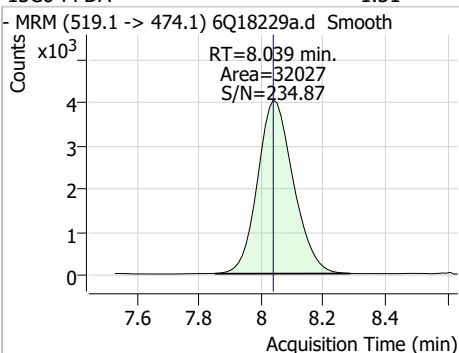
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.25	7.83	-0.01	6633	529.1 -> 80.9			



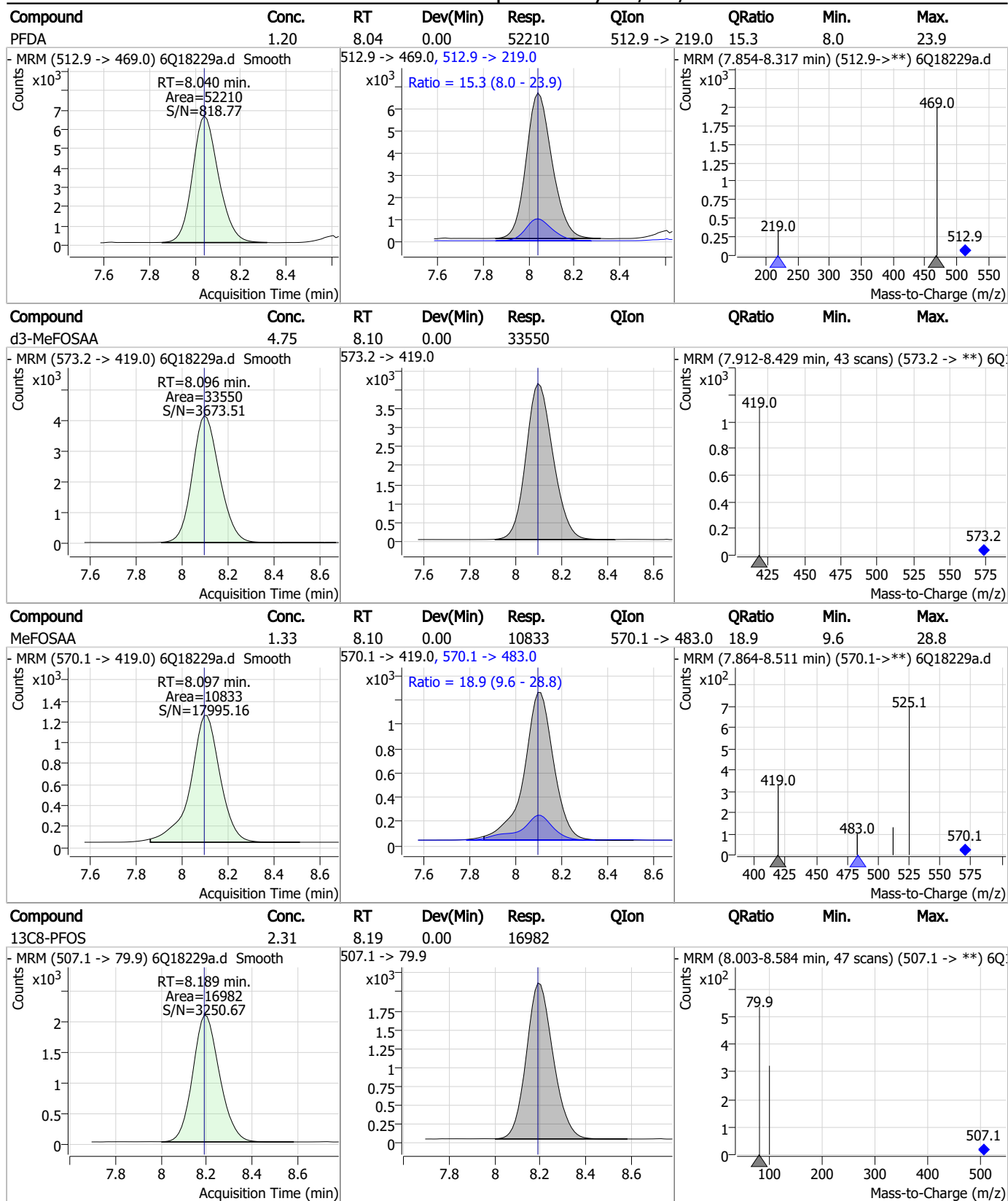
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	4.83	7.84	0.00	19272	527.1 -> 80.8	39.5	21.4	64.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.04	0.00	32027	519.1 -> 474.1			



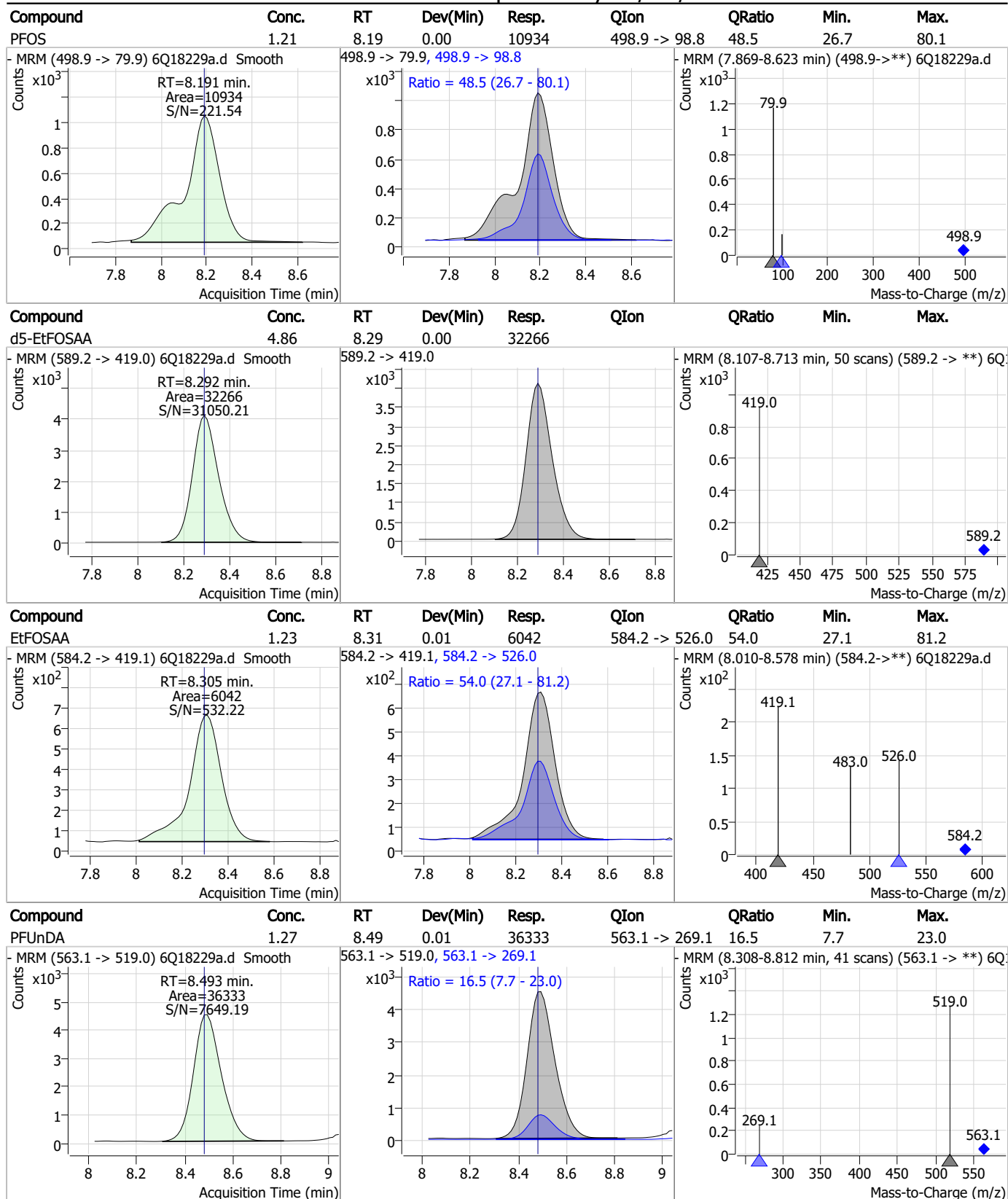
Perfluorinated Compounds by LC/MS/MS



7.7.4

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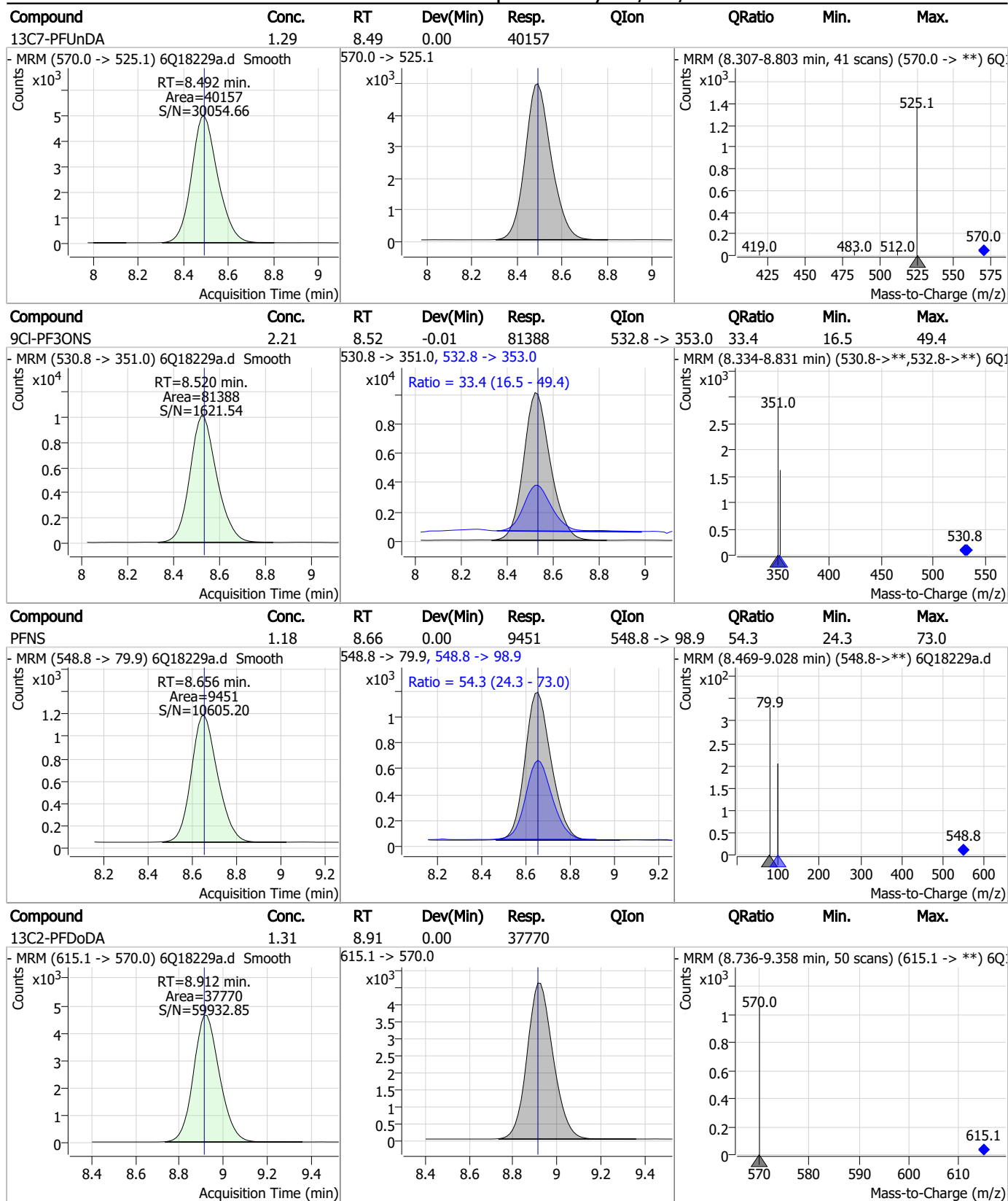
Perfluorinated Compounds by LC/MS/MS



7.7.4

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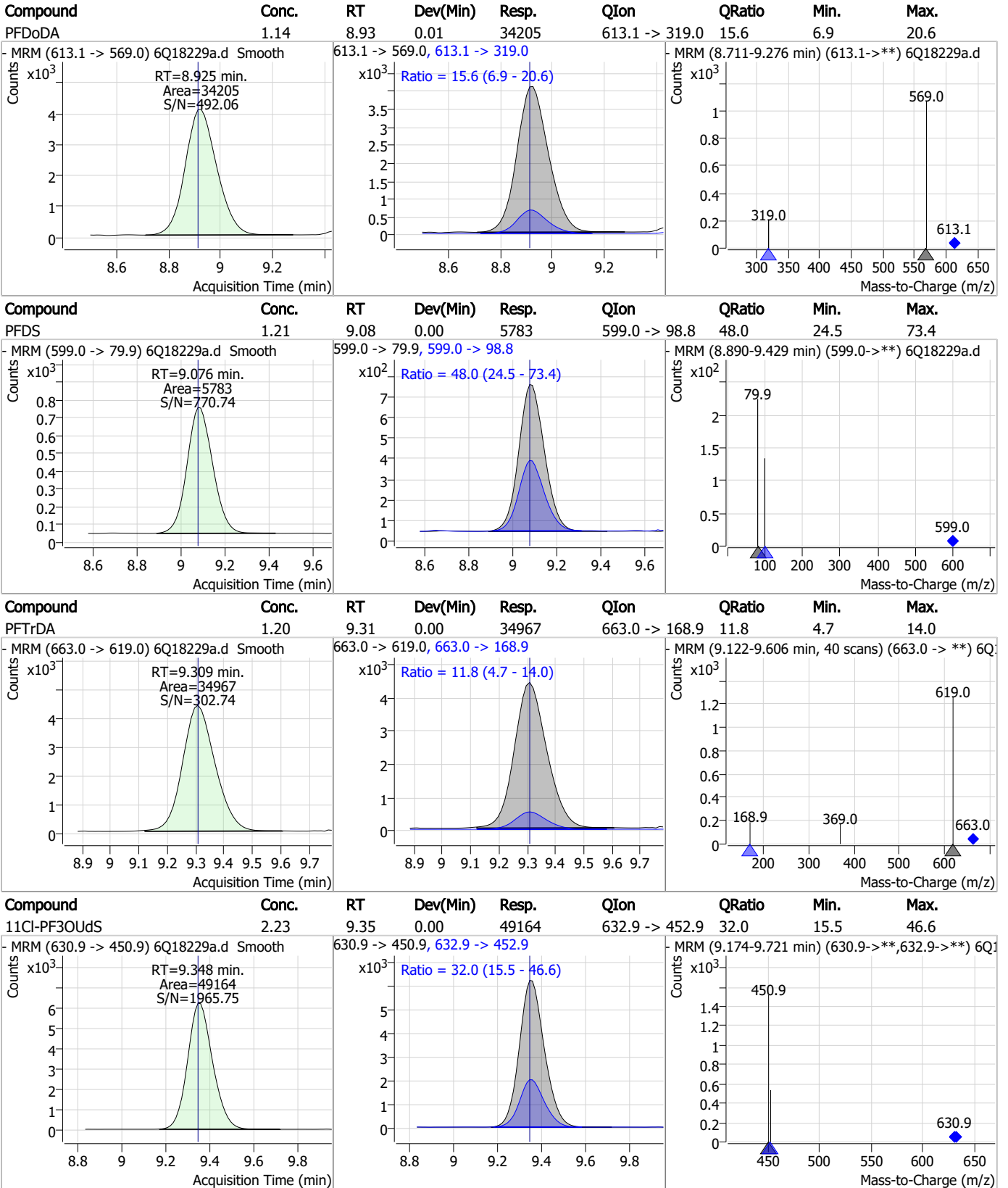
Perfluorinated Compounds by LC/MS/MS



7.7.4
7



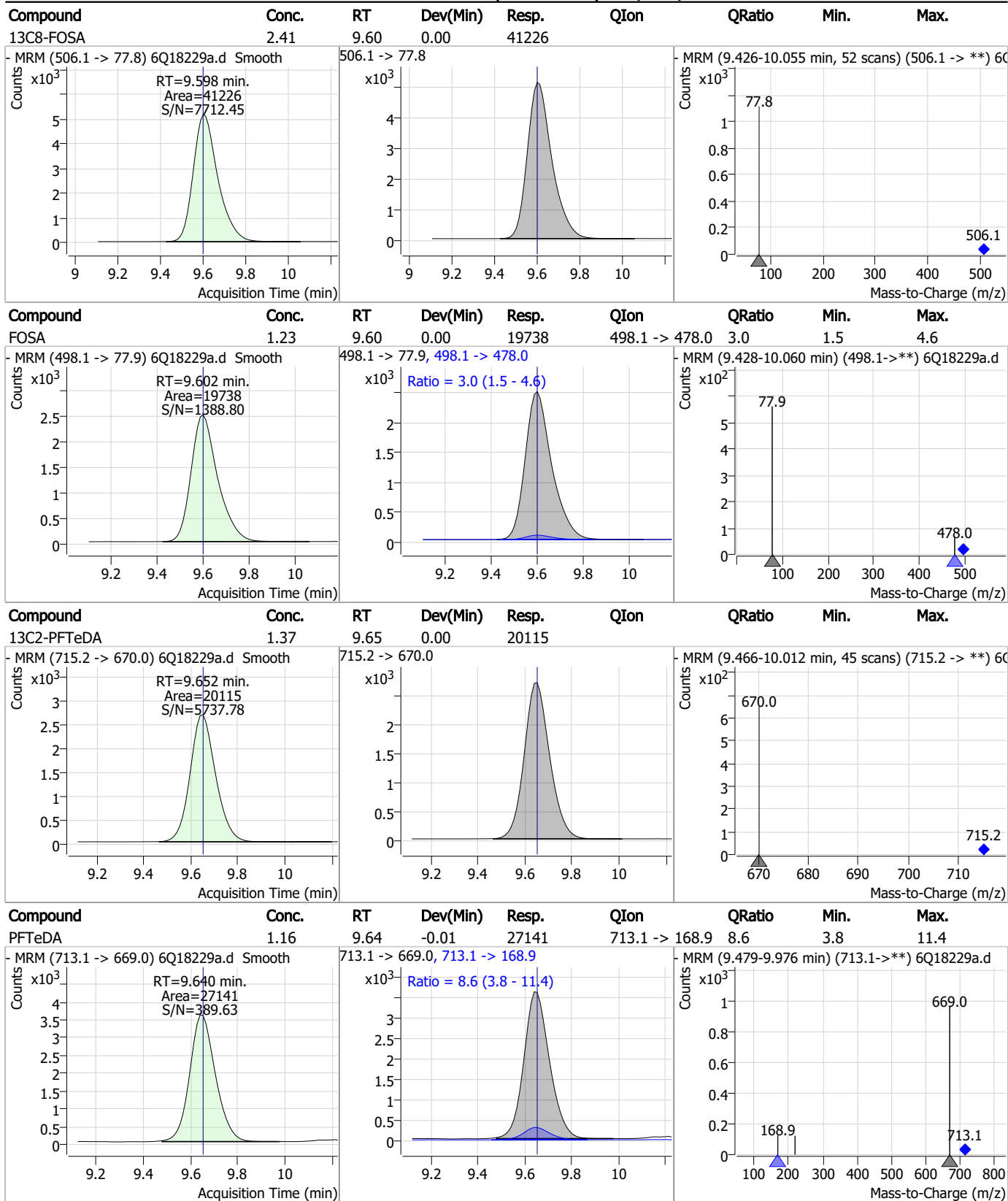
Perfluorinated Compounds by LC/MS/MS



7.7.4

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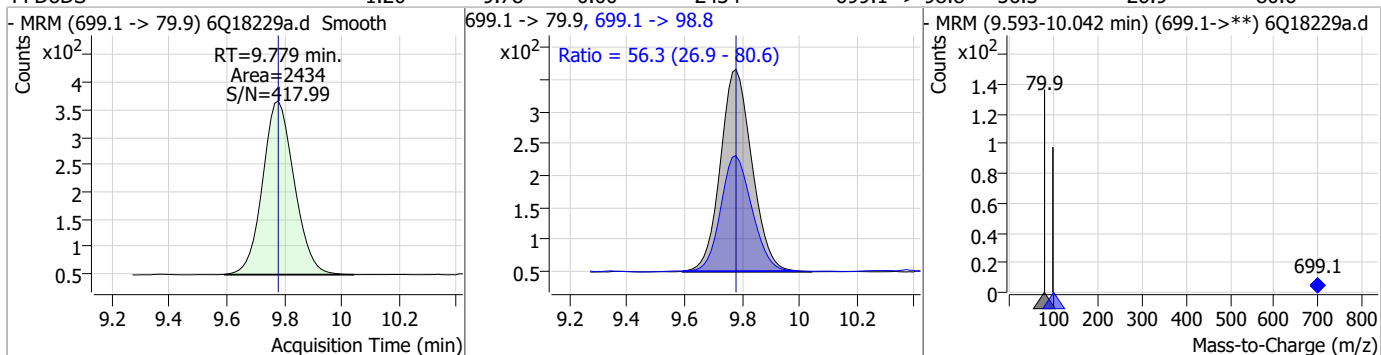
Perfluorinated Compounds by LC/MS/MS



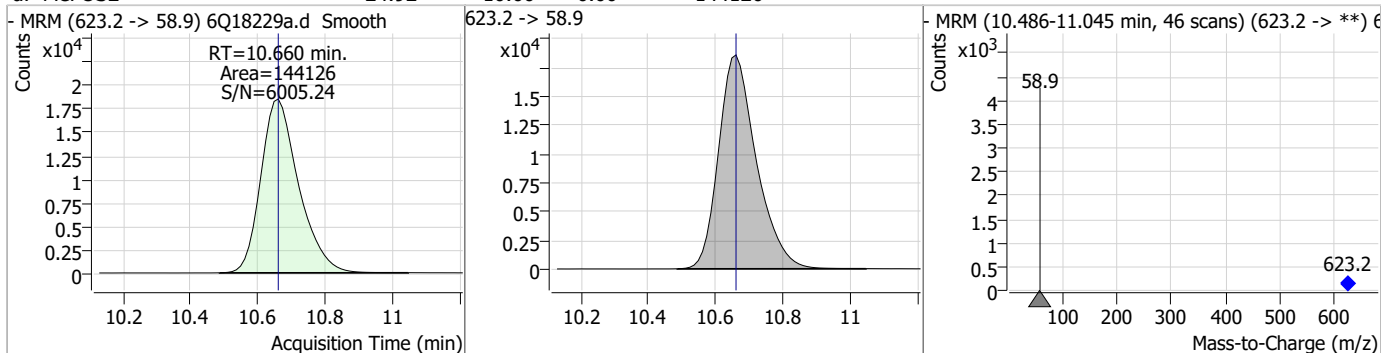
7.7.4
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Perfluorinated Compounds by LC/MS/MS

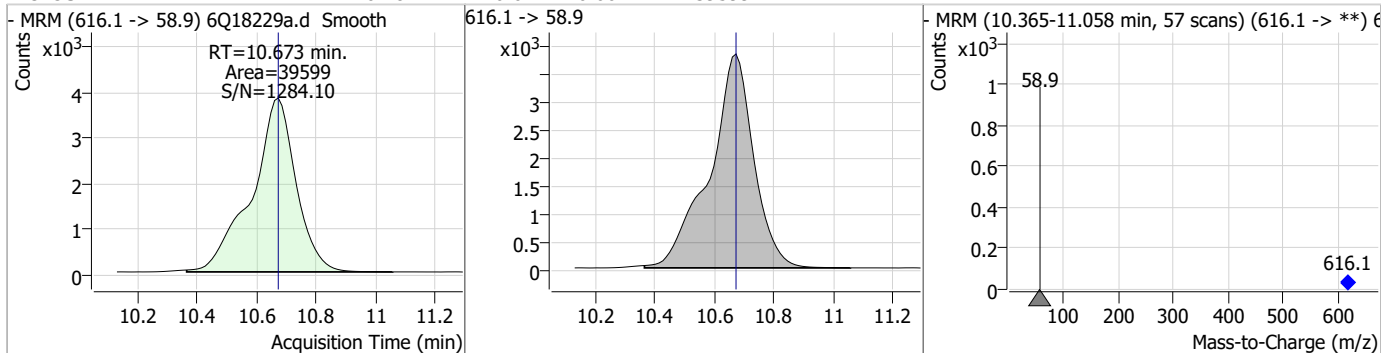
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.20	9.78	0.00	2434	699.1 -> 98.8	56.3	26.9	80.6



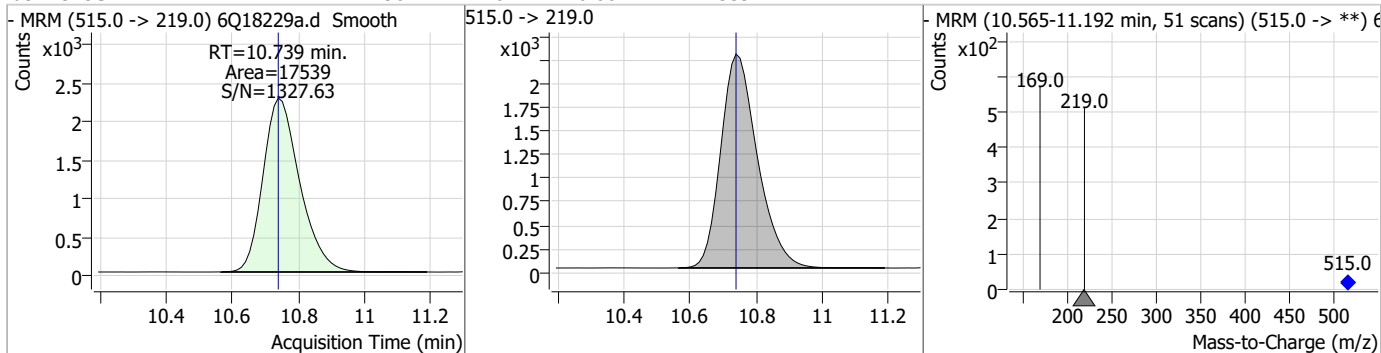
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.92	10.66	0.00	144126				



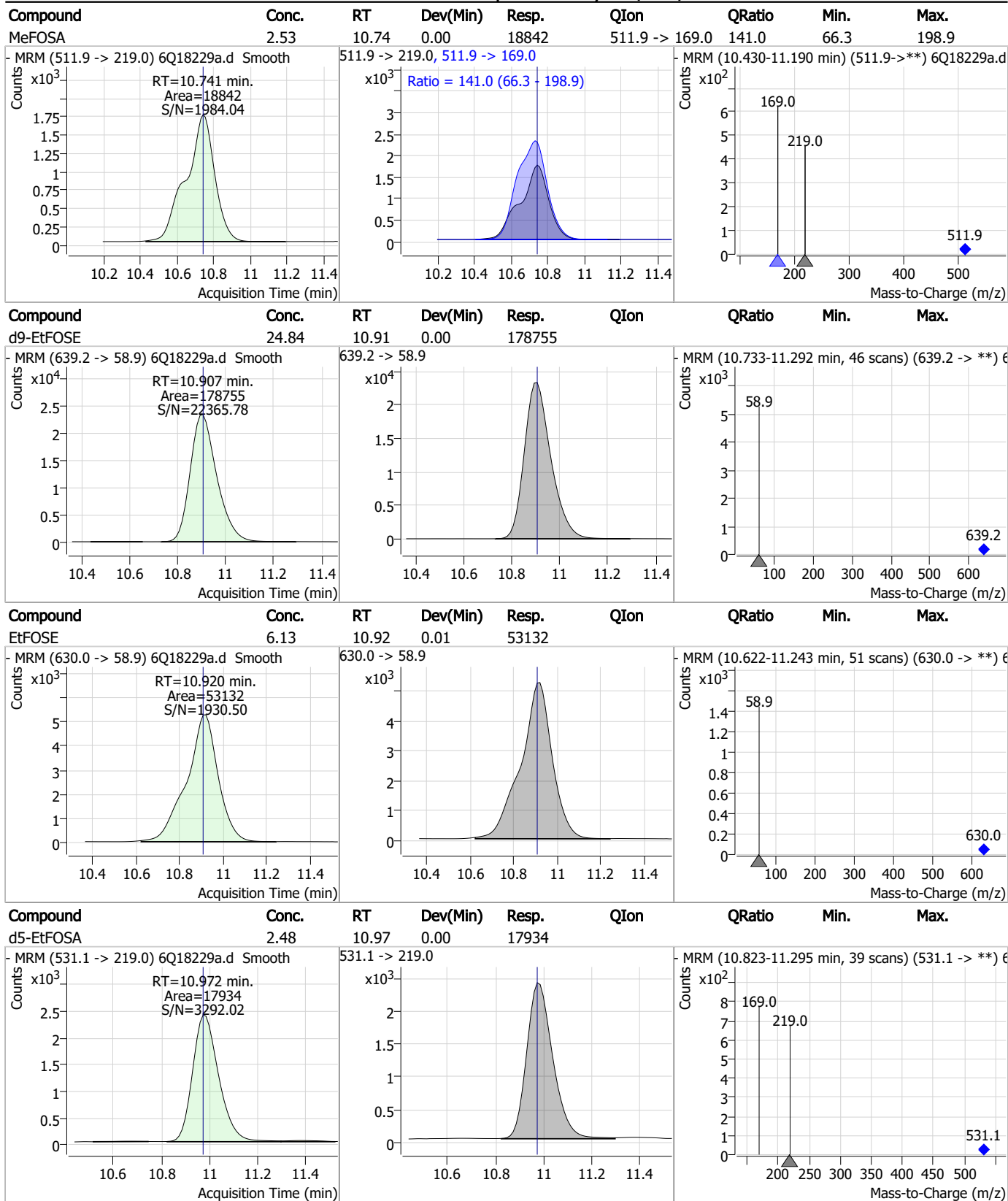
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.18	10.67	0.00	39599				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.36	10.74	0.00	17539				



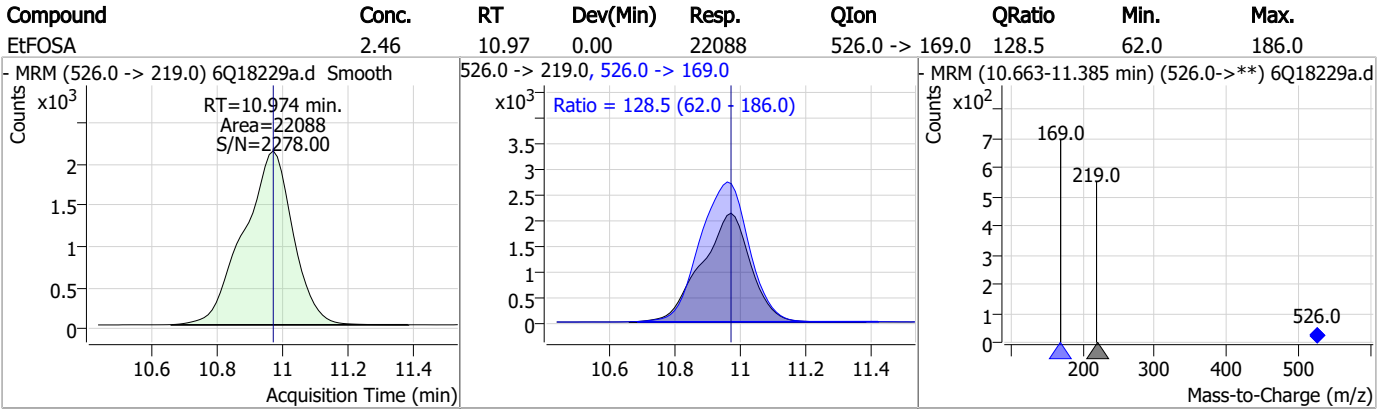
Perfluorinated Compounds by LC/MS/MS



7.7.4

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Perfluorinated Compounds by LC/MS/MS



7.7.4

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Manual Integration Approval Summary

Sample Number: S6Q275-IC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18229A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 16:40 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.4.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18230a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 4:55:06 PM
 Sample Name : icc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	241576	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	80001	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	85985	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	79621	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	121932	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	49322	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	30910	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	38994	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	35612	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	17427	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	40499	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	32015	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	18916	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	17832	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4183	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6310	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6694	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32178	5.00 µg/L	0.000
M3-HFPO-DA	5.807	286.9 -> 168.9	54067	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	32653	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	138622	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	174242	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	17121	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16975	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21838	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	101194	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13228	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	124076	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	40469	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	61727	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	84002	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4183	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.3%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6310	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6694	5.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.5%		
13C2-PFDoDA	8.912	615.1 -> 570.0	35612	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C2-PFTeDA	9.652	715.2 -> 670.0	17427	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.8%		
13C3-PFBS	5.347	302.1 -> 79.9	32015	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C3-PFHxS	7.142	402.1 -> 79.9	18916	2.61 µg/L	0.000

7.7.5
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 = 104.5%	
13C4-PFBA	2.876	216.8 -> 171.9	241576	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.395	367.1 -> 322.0	79621	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C5-PFHxA	5.429	318.0 -> 273.0	85985	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFPeA	4.235	268.3 -> 223.0	80001	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C6-PFDA	8.039	519.1 -> 474.1	30910	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C7-PFUnDA	8.492	570.0 -> 525.1	38994	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C8-FOSA	9.598	506.1 -> 77.8	40499	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-PFOA	7.038	421.1 -> 376.0	121932	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C8-PFOS	8.189	507.1 -> 79.9	17832	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C9-PFNA	7.569	472.1 -> 427.0	49322	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32178	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C3-HFPO-DA	5.807	286.9 -> 168.9	54067	9.61 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d3-MeFOSA	10.739	515.0 -> 219.0	16975	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	32653	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	138622	26.05 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	174242	26.32 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	17121	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	71888	9.38 µg/L	90
		327.1 -> 80.9	24176		
6:2FTS	6.813	427.1 -> 407.0	67395	9.45 µg/L	97
		427.1 -> 80.9	21556		
8:2FTS	7.840	527.1 -> 507.0	36040	8.94 µg/L	96
		527.1 -> 80.8	14413		
EtFOSAA	8.293	584.2 -> 419.1	11553	2.32 µg/L	100
		584.2 -> 526.0	6247		
FOSA	9.602	498.1 -> 77.9	37727	2.40 µg/L	100
		498.1 -> 478.0	1107		
MeFOSAA	8.097	570.1 -> 419.0	19922	2.55 µg/L	99
		570.1 -> 483.0	3757		
PFBA	2.882	212.8 -> 168.9	90248	9.58 µg/L	100
PFBS	5.348	298.7 -> 79.9	25024	2.04 µg/L	96
		298.7 -> 98.8	9692		
PFDA	8.040	512.9 -> 469.0	102692	2.44 µg/L	98
		512.9 -> 219.0	15547		
PFDoDA	8.913	613.1 -> 569.0	68435	2.42 µg/L	96
		613.1 -> 319.0	10461		
PFDS	9.076	599.0 -> 79.9	11103	2.22 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	5491		
PFHpA	6.396	363.1 -> 319.0	97543	2.38 µg/L	96
		363.1 -> 169.0	16267		
PFHpS	7.698	449.0 -> 79.9	23449	2.41 µg/L	94
		449.0 -> 98.9	10554		
PFHxA	5.432	313.0 -> 269.0	76442	2.29 µg/L	98
		313.0 -> 118.9	3833		
PFHxS	7.143	398.7 -> 79.9	21971	2.14 µg/L	99
		398.7 -> 98.9	10551		
PFNA	7.558	463.0 -> 419.0	102160	2.51 µg/L	100
		463.0 -> 219.0	19870		
PFNS	8.657	548.8 -> 79.9	18985	2.26 µg/L	93
		548.8 -> 98.9	10155		
PFOA	7.040	413.0 -> 369.0	136309	2.39 µg/L	98
		413.0 -> 169.0	24753		
PFOS	8.191	498.9 -> 79.9	22013	2.33 µg/L	92
		498.9 -> 98.8	10556		
PFPeA	4.237	263.0 -> 219.0	102886	4.77 µg/L	100
PFPeS	6.434	349.1 -> 79.9	22059	2.19 µg/L	99
		349.1 -> 98.9	10276		
PFTeDA	9.652	713.1 -> 669.0	50852	2.50 µg/L	96
		713.1 -> 168.9	4564		
PFTrDA	9.309	663.0 -> 619.0	68857	2.50 µg/L	95
		663.0 -> 168.9	7588		
PFUnDA	8.480	563.1 -> 519.0	68899	2.47 µg/L	94
		563.1 -> 269.1	12380		
11CI-PF3OUdS	9.348	630.9 -> 450.9	97784	4.71 µg/L	98
		632.9 -> 452.9	29432		
9CI-PF3ONS	8.533	530.8 -> 351.0	155128	4.47 µg/L	100
		532.8 -> 353.0	51054		
ADONA	6.646	376.9 -> 250.9	364997	4.58 µg/L	100
		376.9 -> 84.8	97454		
HFPO-DA	5.795	284.9 -> 168.9	25366	4.78 µg/L	98
		284.9 -> 184.9	3213		
3:3FTCA	3.727	241.0 -> 177.0	18036	11.59 µg/L	96
		241.0 -> 117.0	2319		
5:3FTCA	6.099	341.0 -> 237.1	353638	57.68 µg/L	93
		341.0 -> 217.0	270435		
7:3FTCA	7.535	441.0 -> 316.9	235199	59.35 µg/L	98
		441.0 -> 336.9	523925		
EtFOSA	10.974	526.0 -> 219.0	40892	4.76 µg/L	94
		526.0 -> 169.0	53583		
EtFOSE	10.907	630.0 -> 58.9	98768	11.68 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	35821	4.97 µg/L	97
		511.9 -> 169.0	48632		
MeFOSE	10.673	616.1 -> 58.9	73579	11.95 µg/L	100
PFDoDS	9.779	699.1 -> 79.9	4780	2.25 µg/L	96
		699.1 -> 98.8	2688		
NFDHA	5.311	295.0 -> 201.0	19108	4.63 µg/L	99
		295.0 -> 84.9	5039		
PFMBA	4.650	279.0 -> 85.1	72554	4.76 µg/L	100
PFMPA	3.401	229.0 -> 84.9	54997	4.74 µg/L	100
PFEESA	5.888	314.8 -> 134.9	189734	4.23 µg/L	99
		314.8 -> 82.9	6695		

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

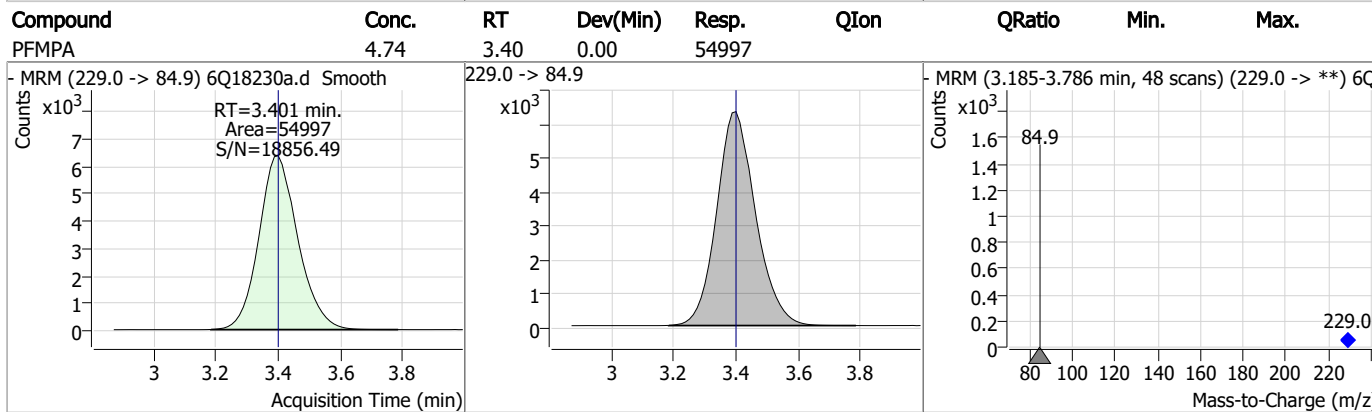
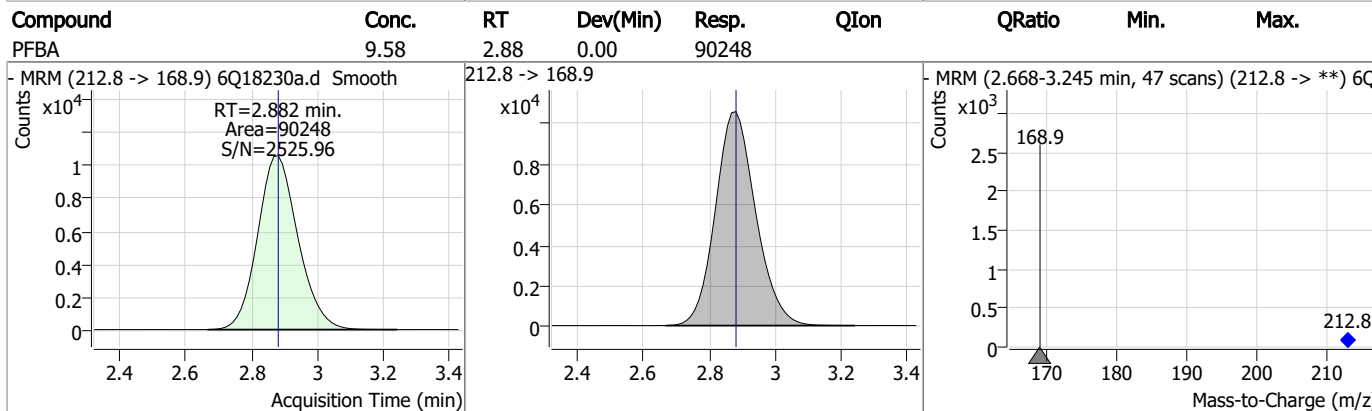
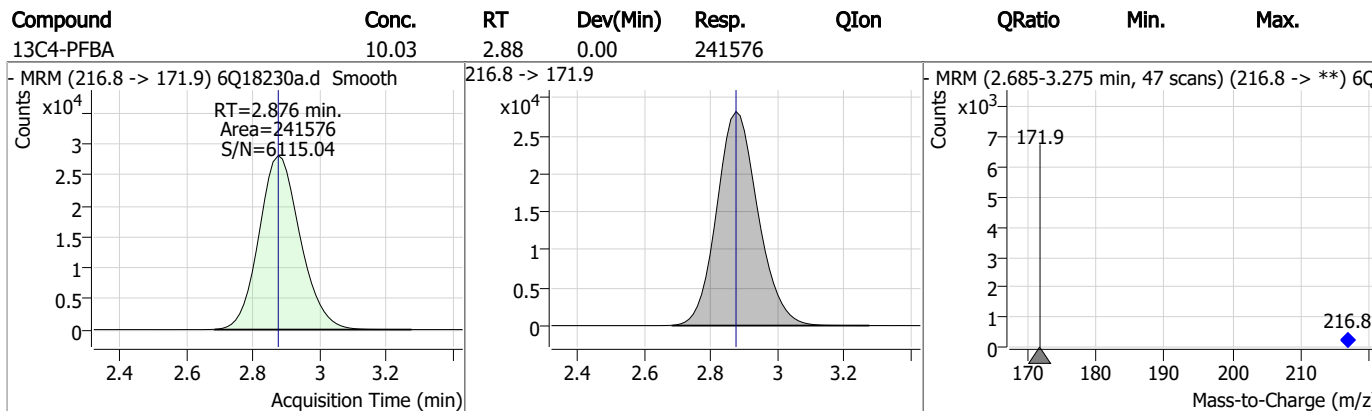
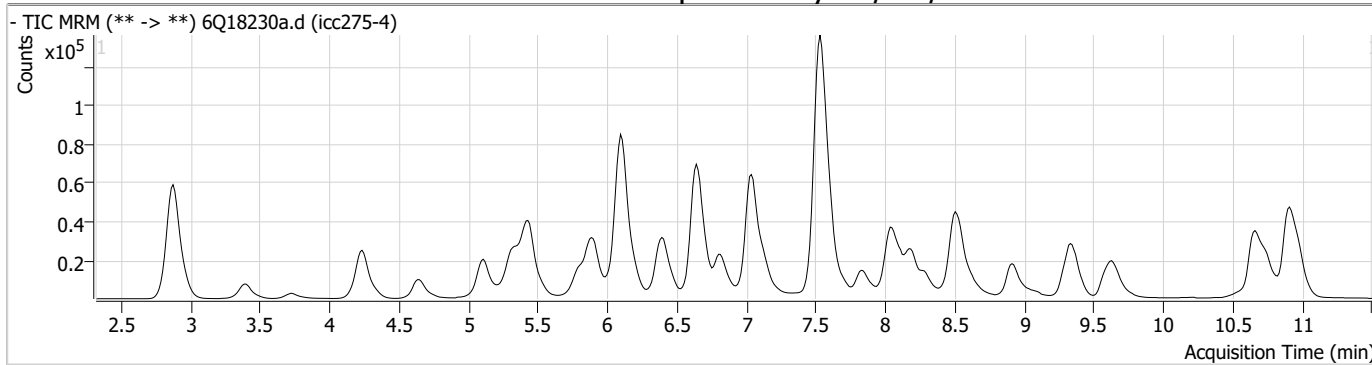
Perfluorinated Compounds by LC/MS/MS

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

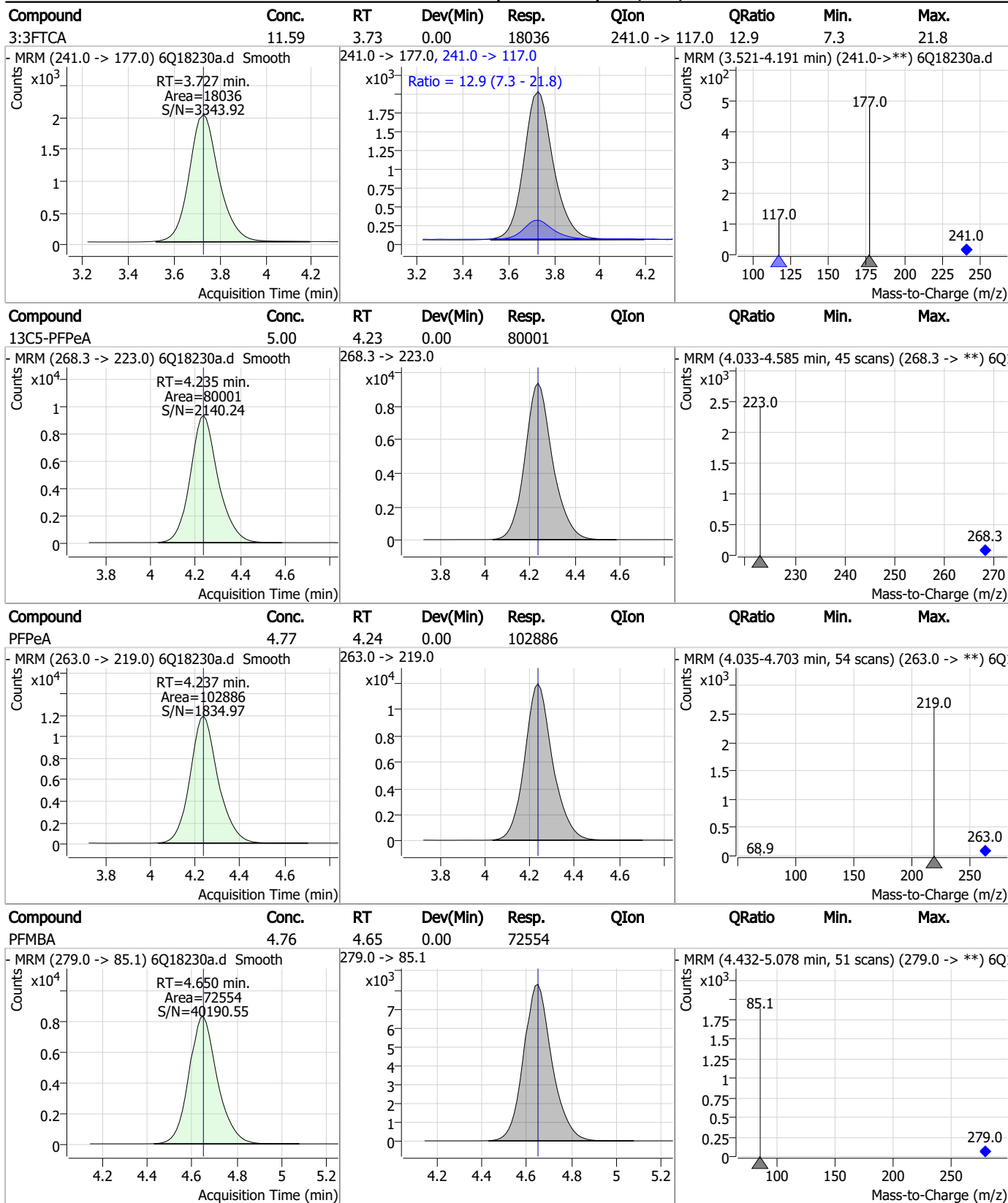
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Perfluorinated Compounds by LC/MS/MS



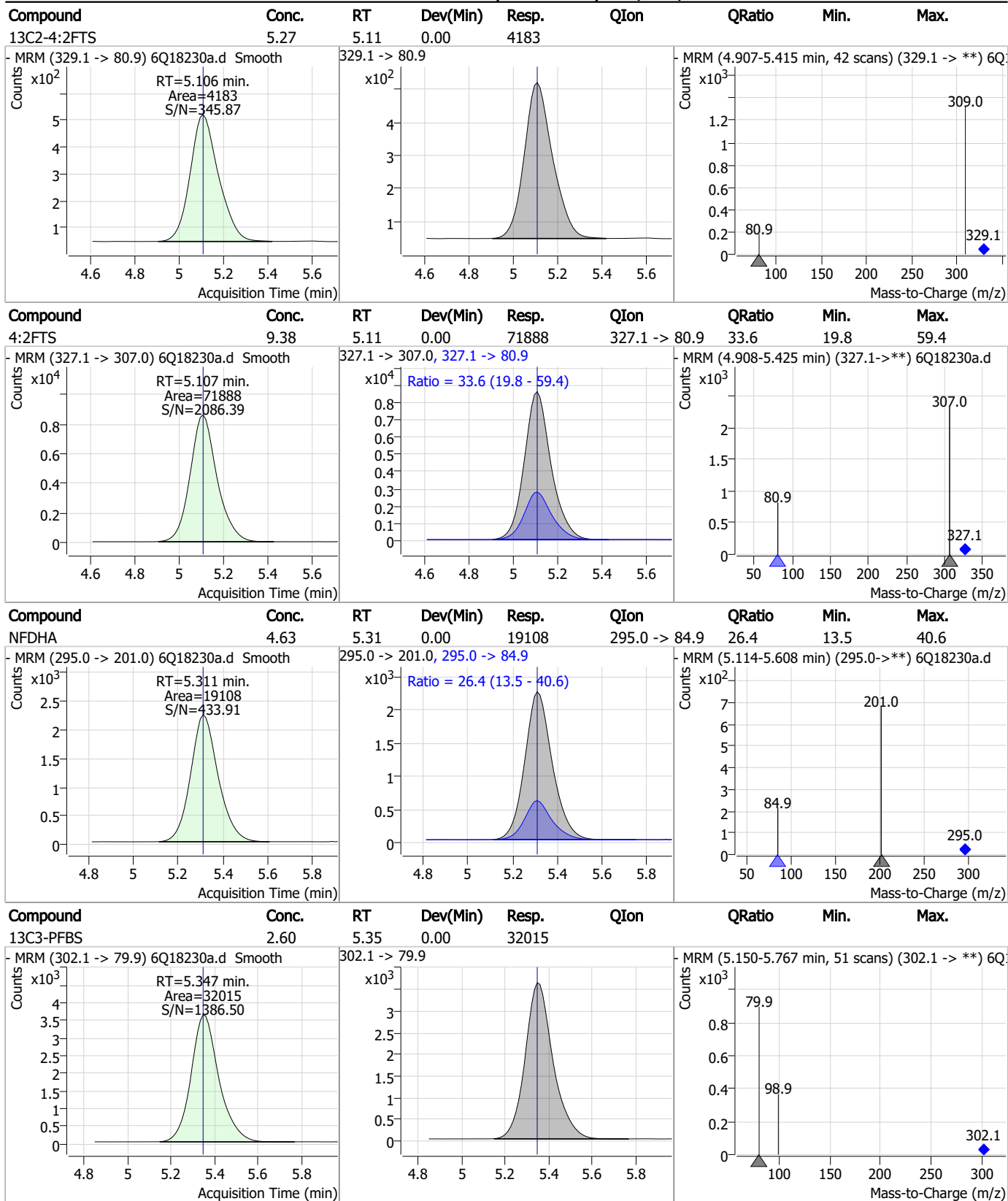
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Perfluorinated Compounds by LC/MS/MS



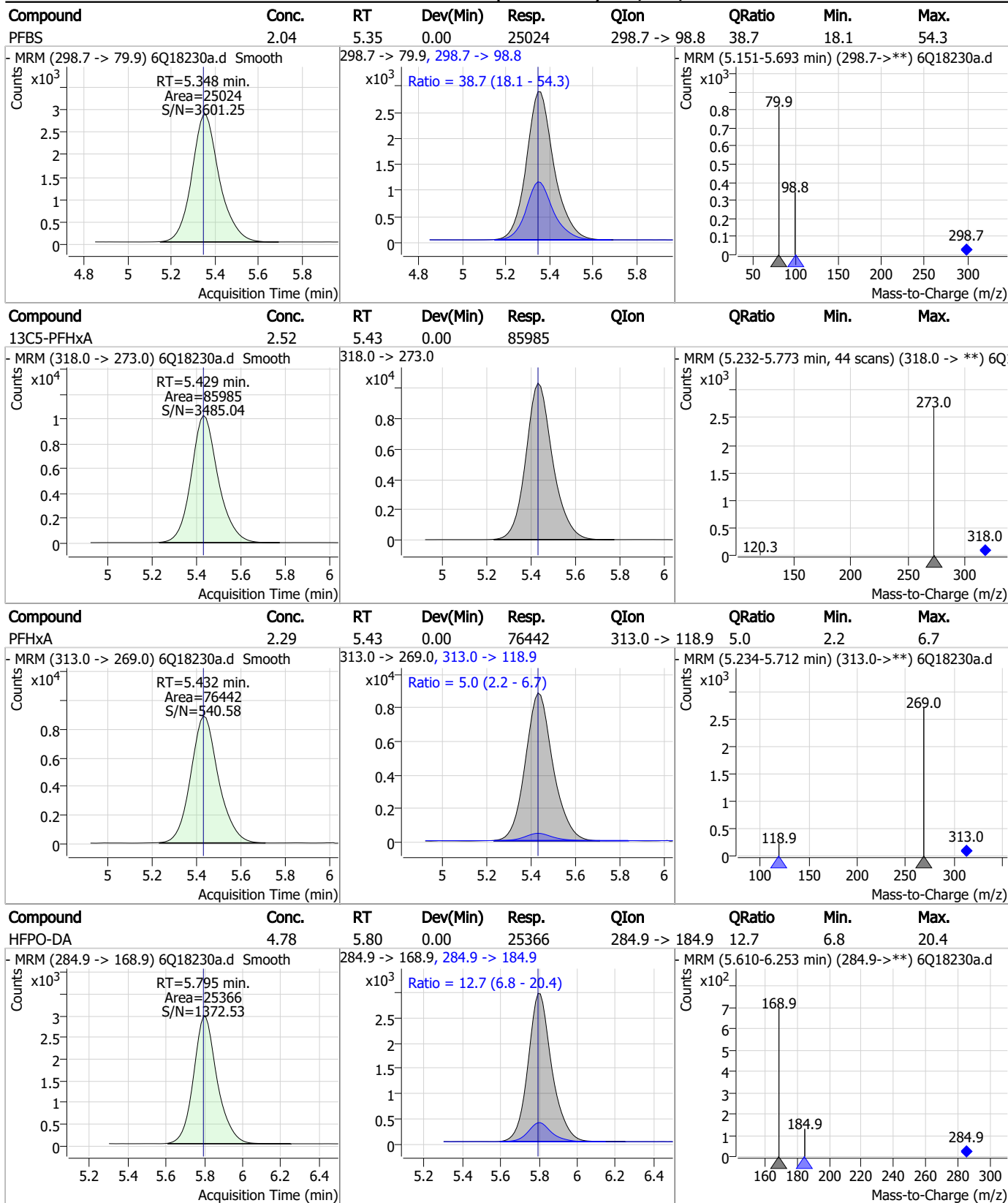
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Perfluorinated Compounds by LC/MS/MS



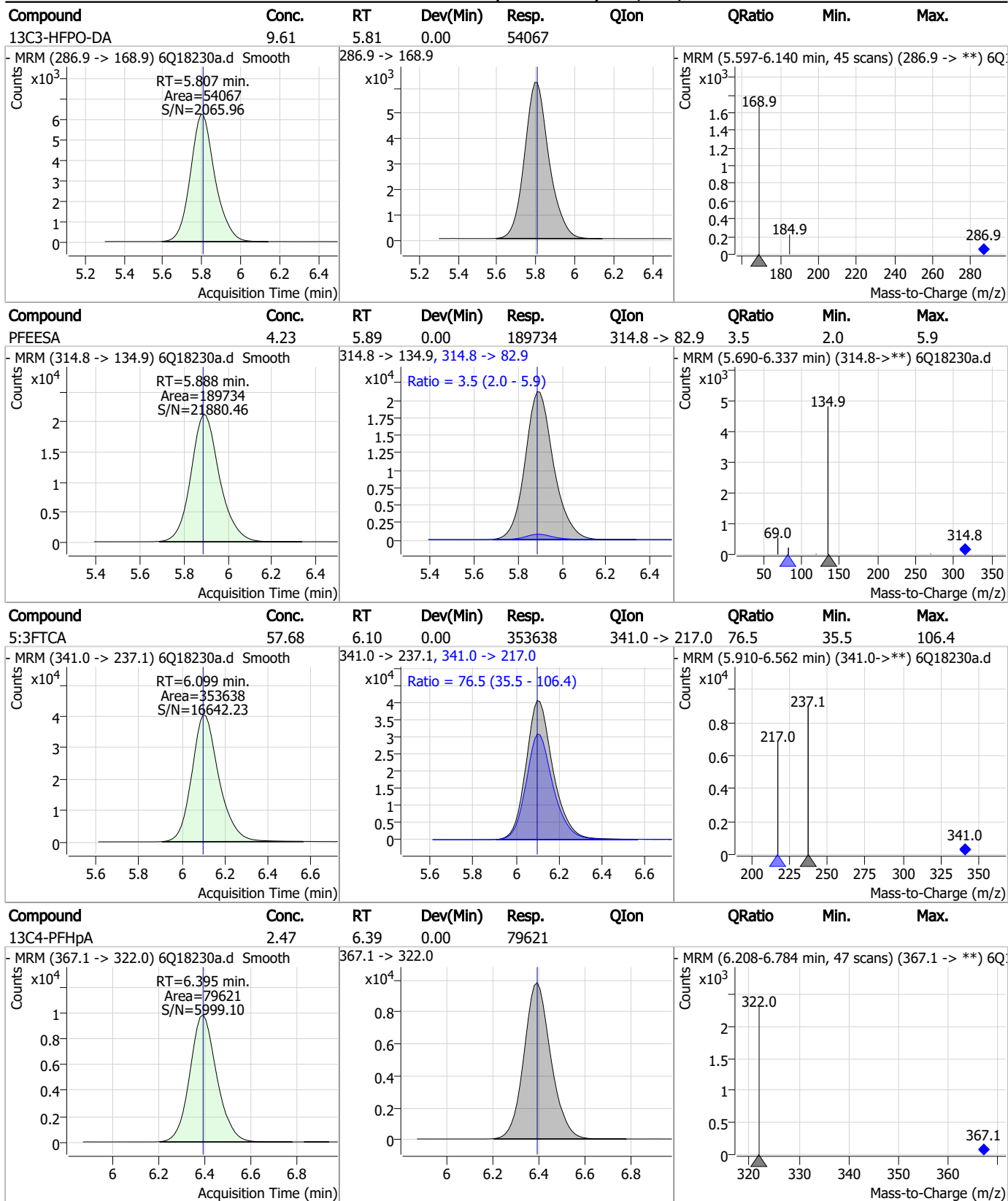
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Perfluorinated Compounds by LC/MS/MS



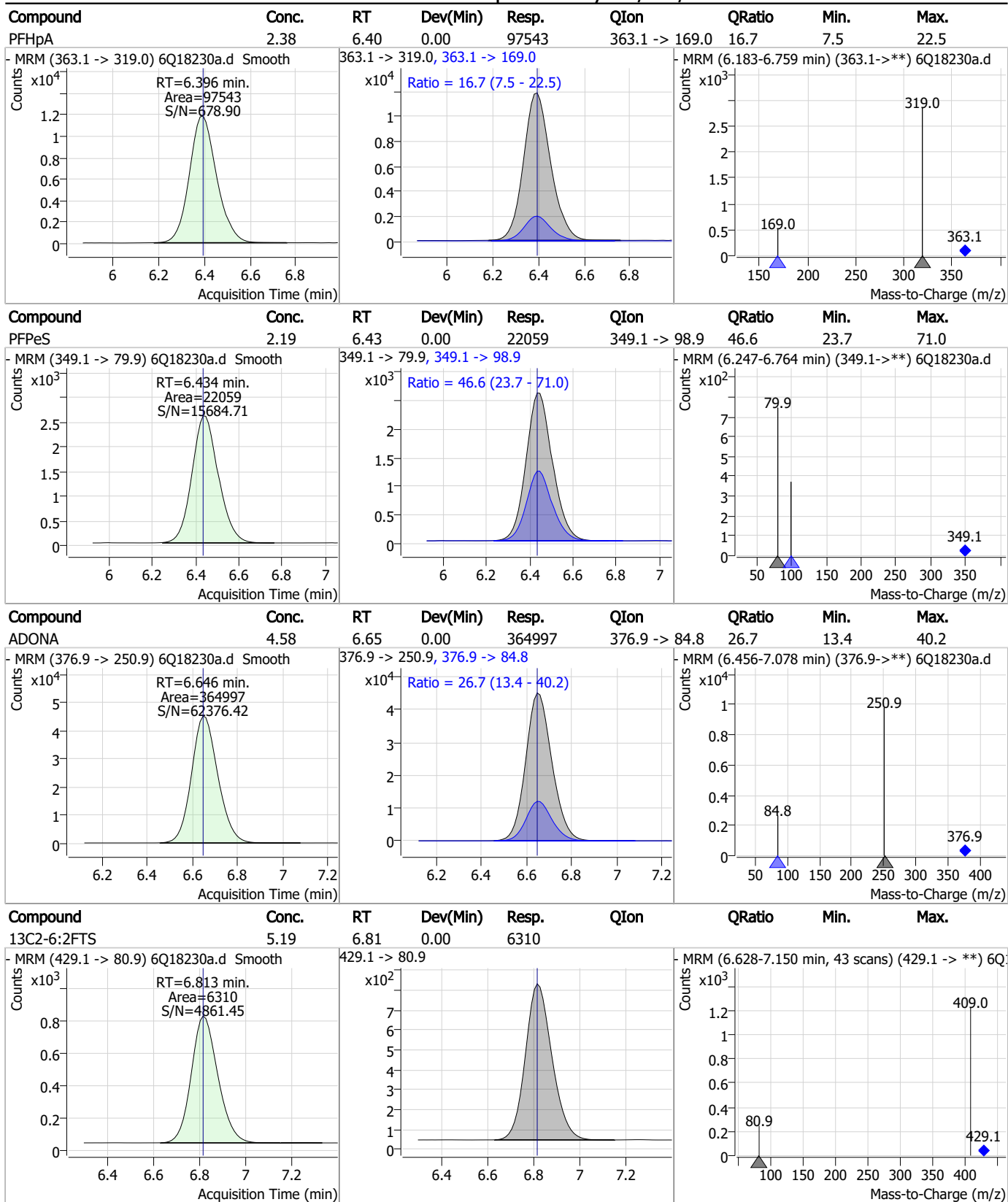
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Perfluorinated Compounds by LC/MS/MS



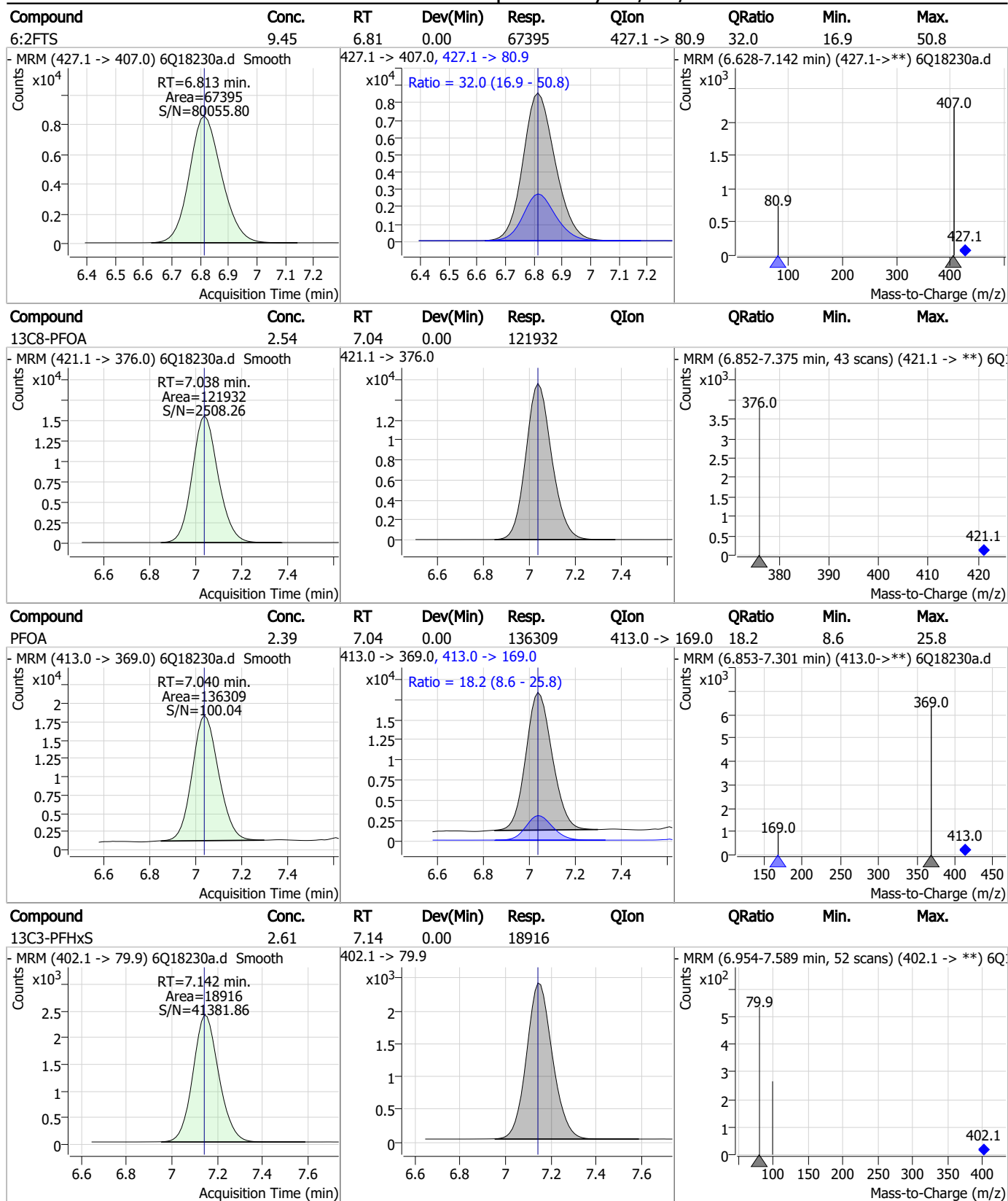
7.7.5
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Perfluorinated Compounds by LC/MS/MS



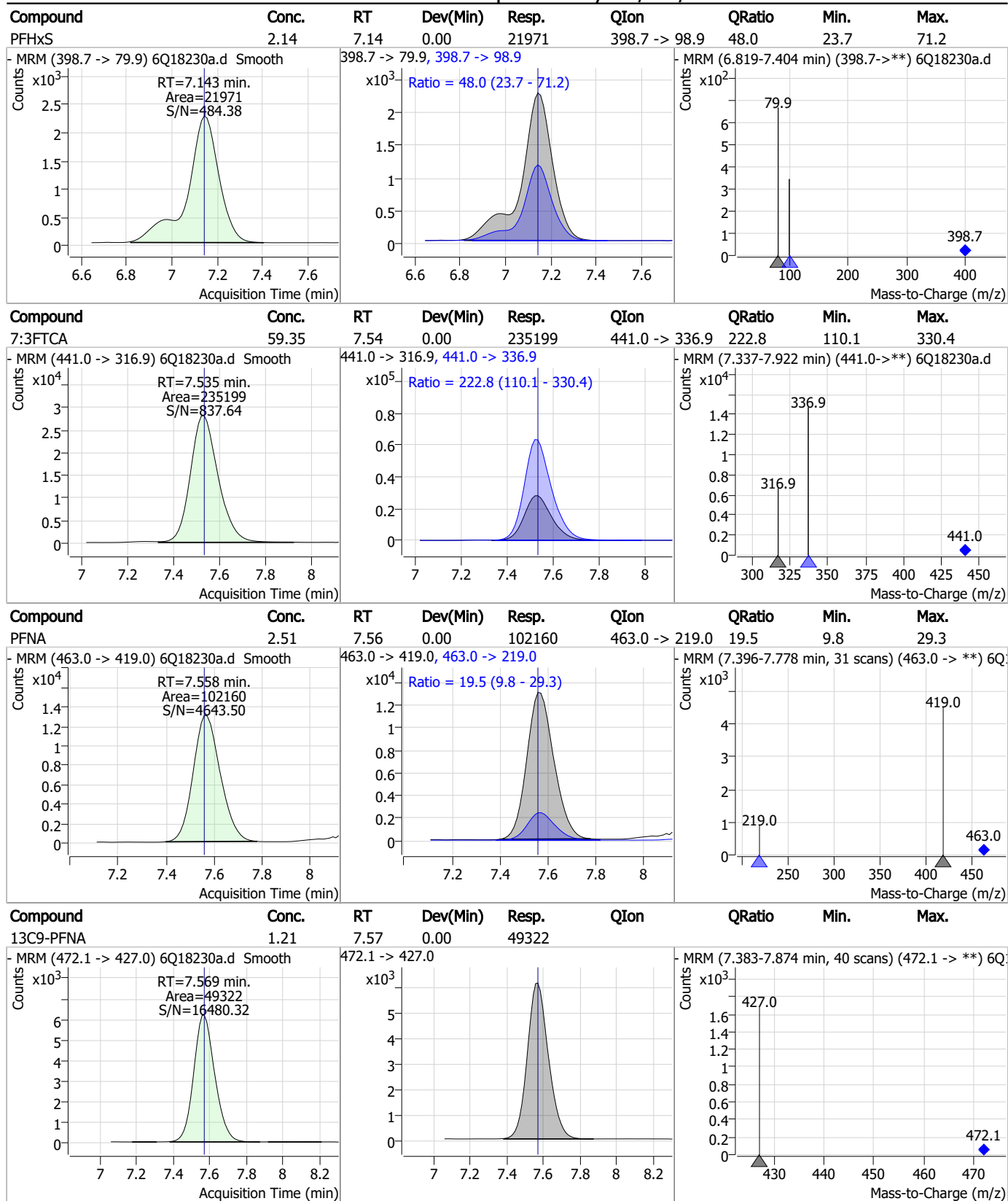
7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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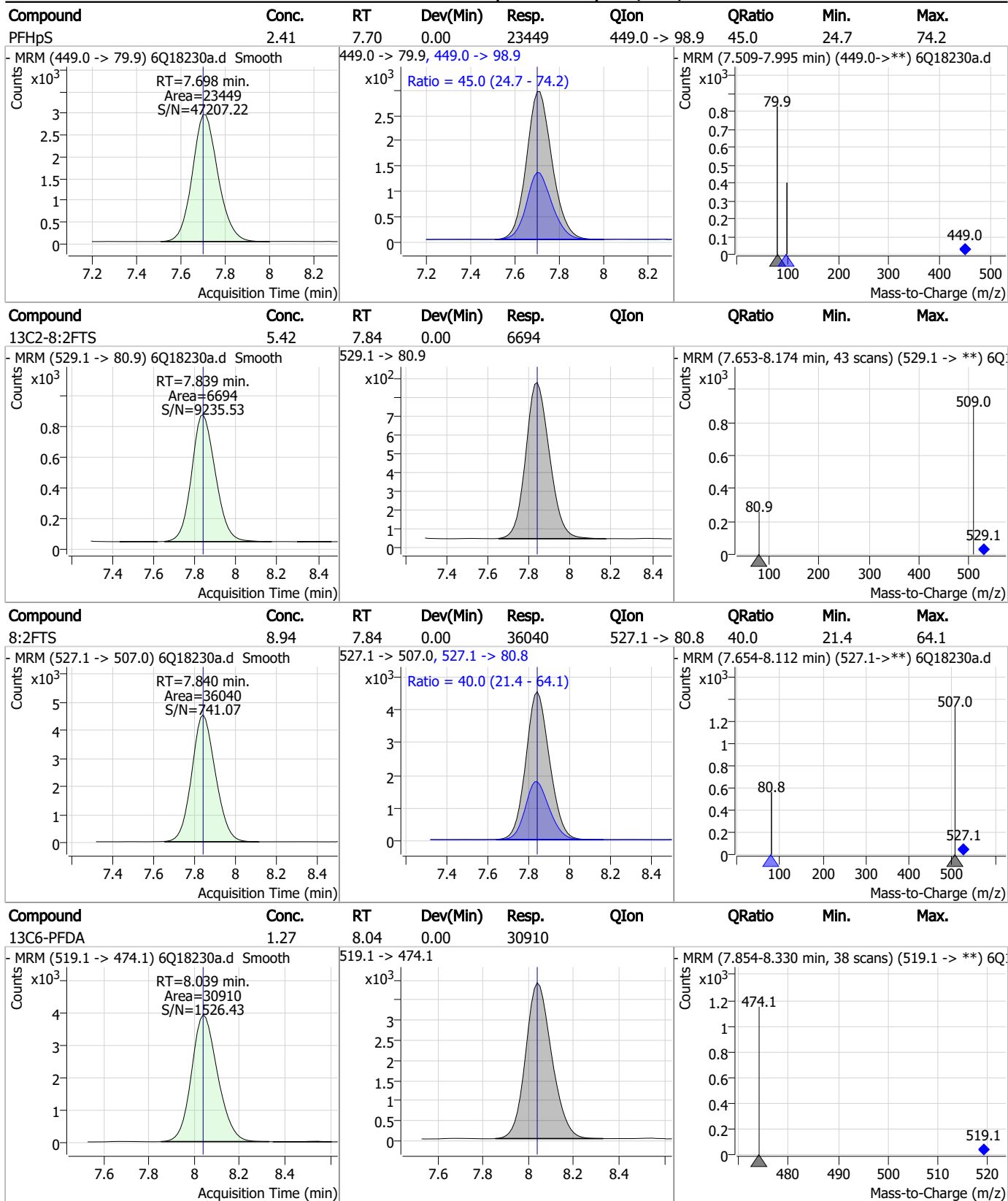
Perfluorinated Compounds by LC/MS/MS



7.7.5
7

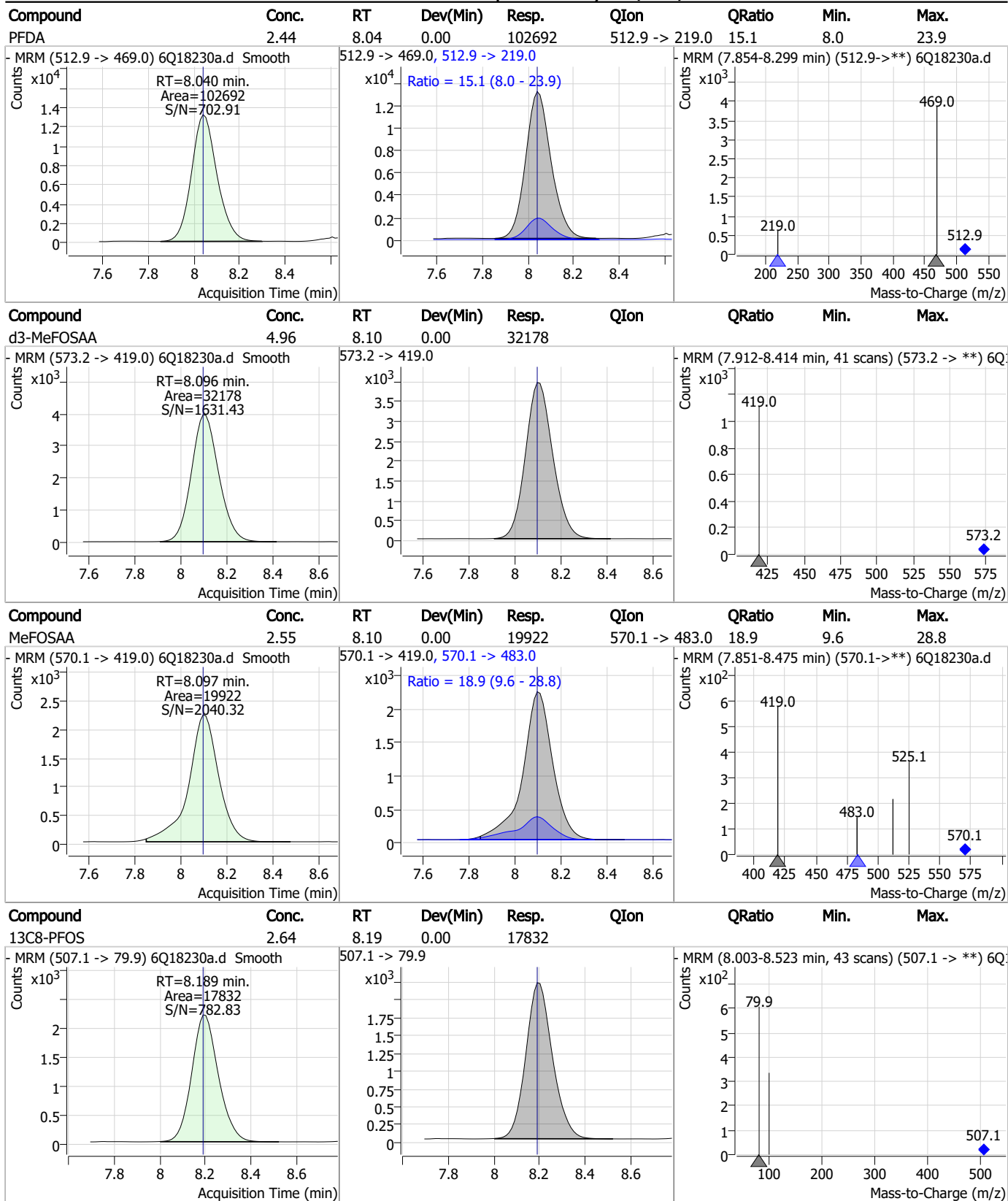


Perfluorinated Compounds by LC/MS/MS



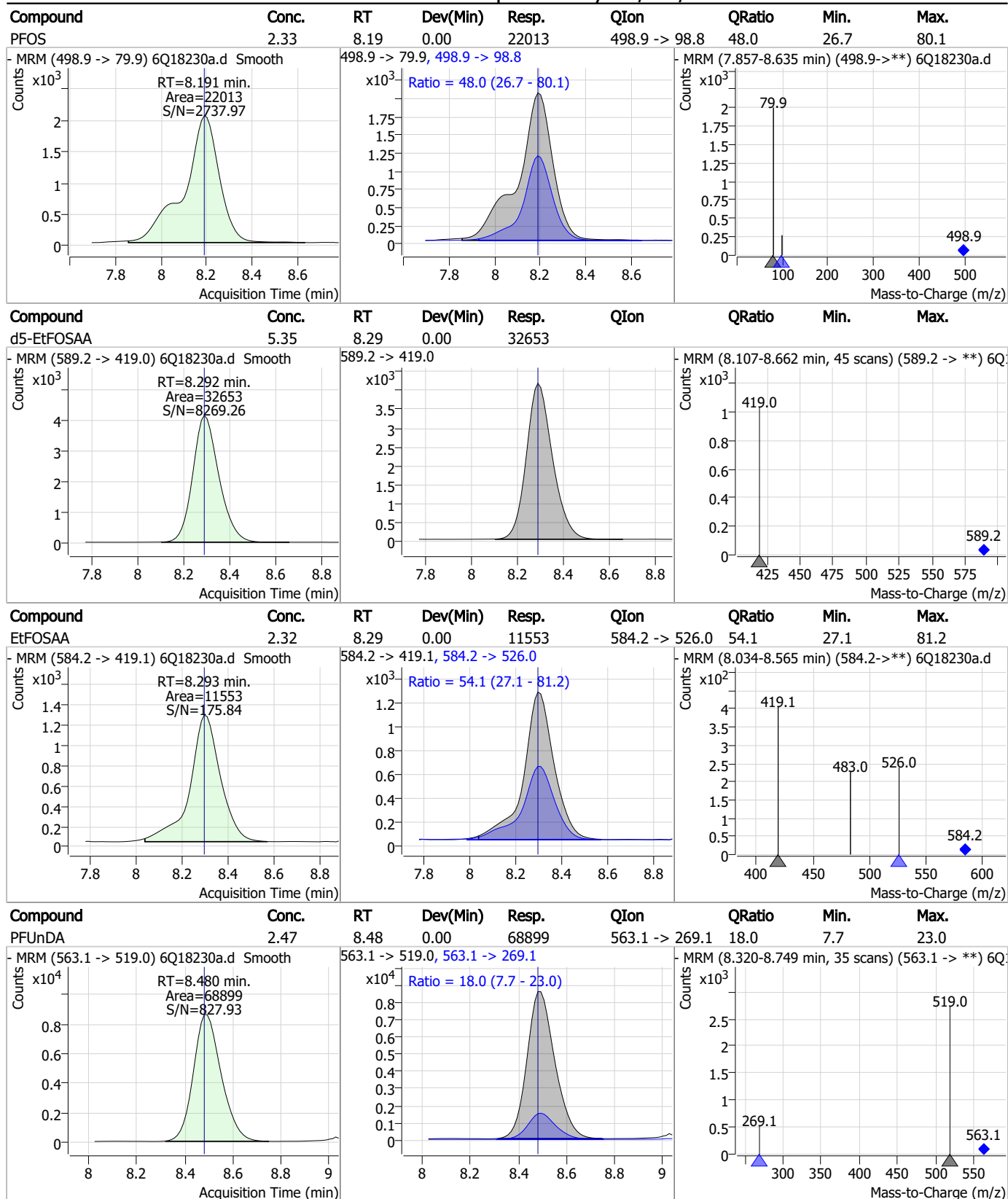
7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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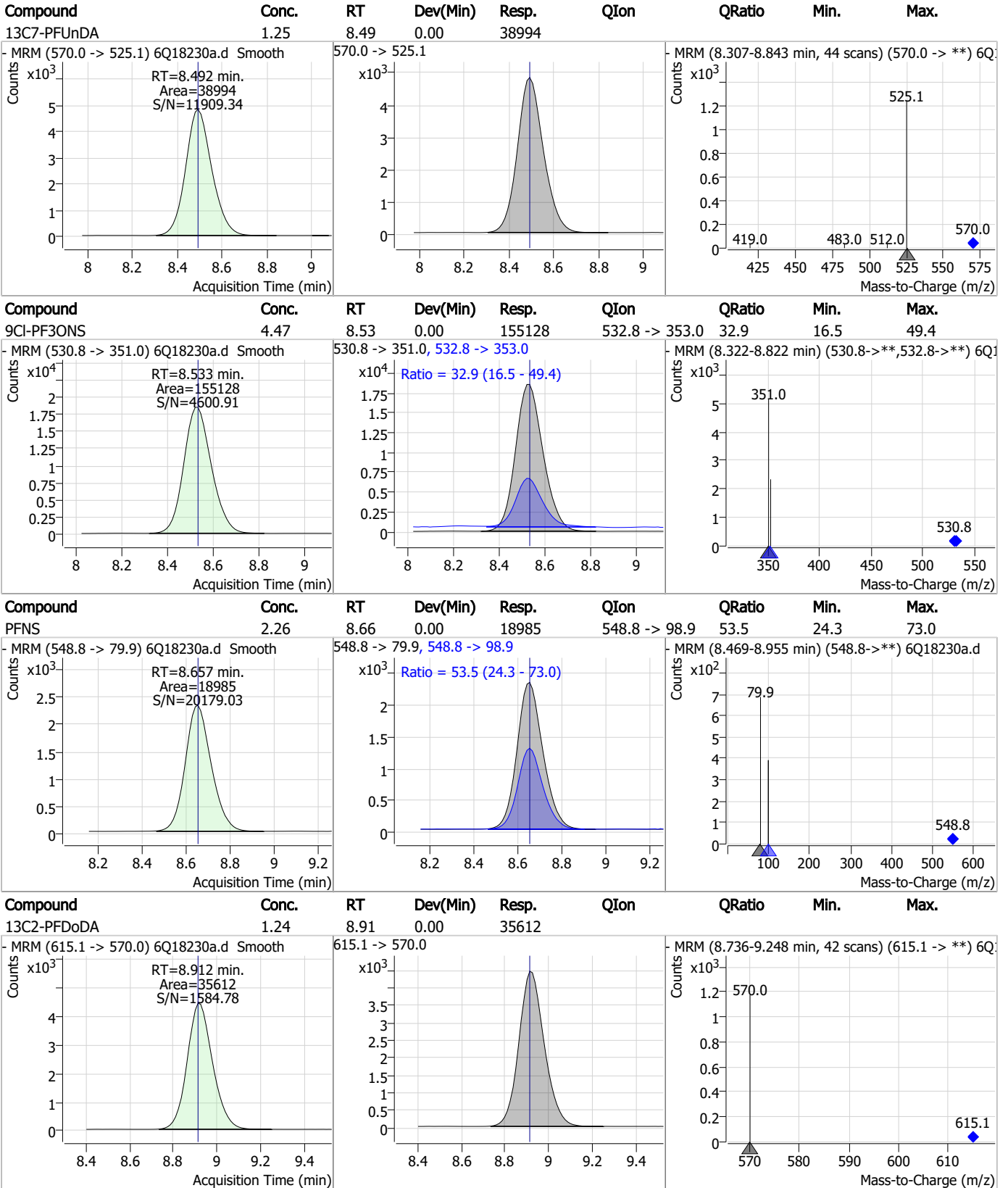
Perfluorinated Compounds by LC/MS/MS



7.7.5

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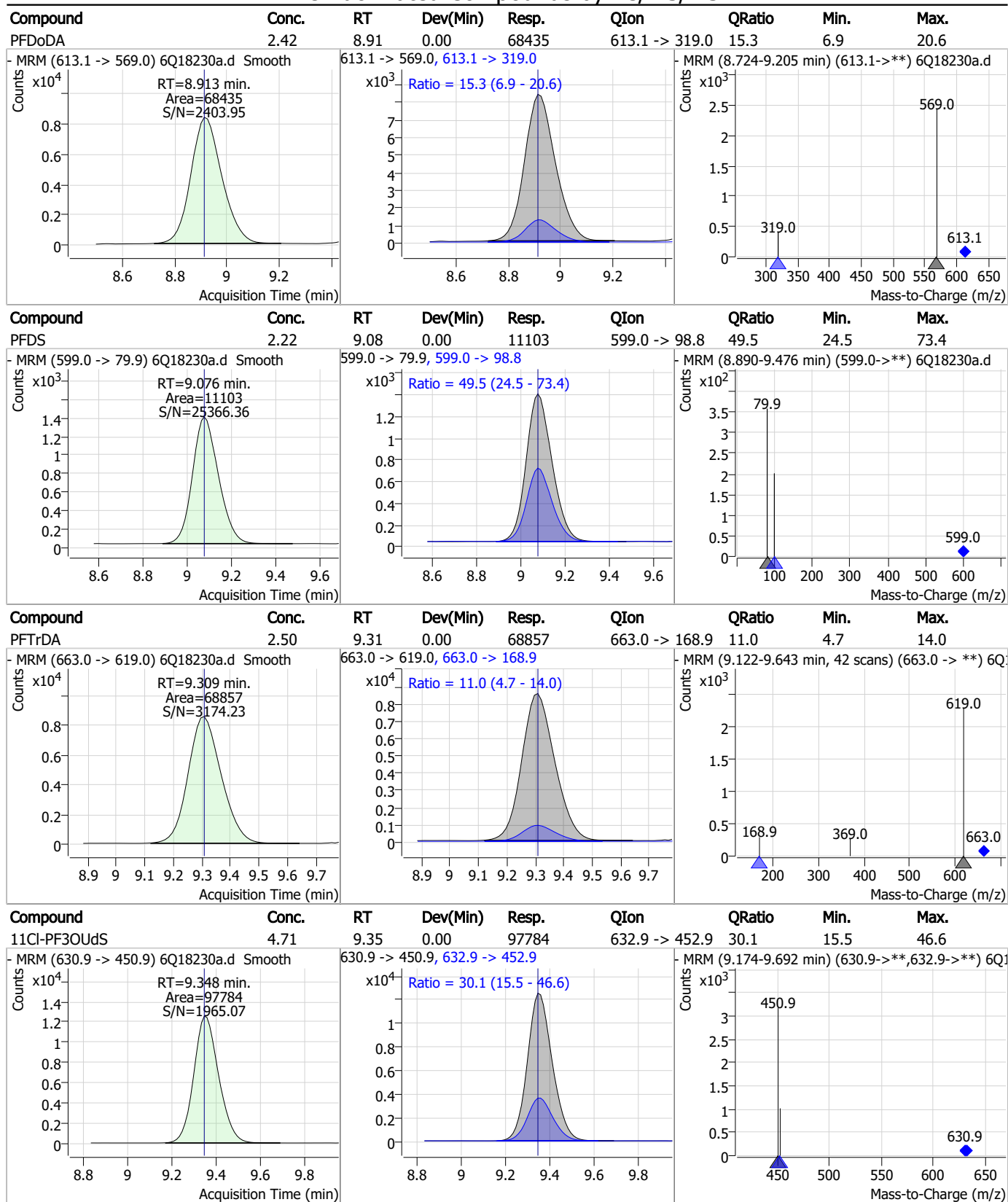
Perfluorinated Compounds by LC/MS/MS



7.7.5

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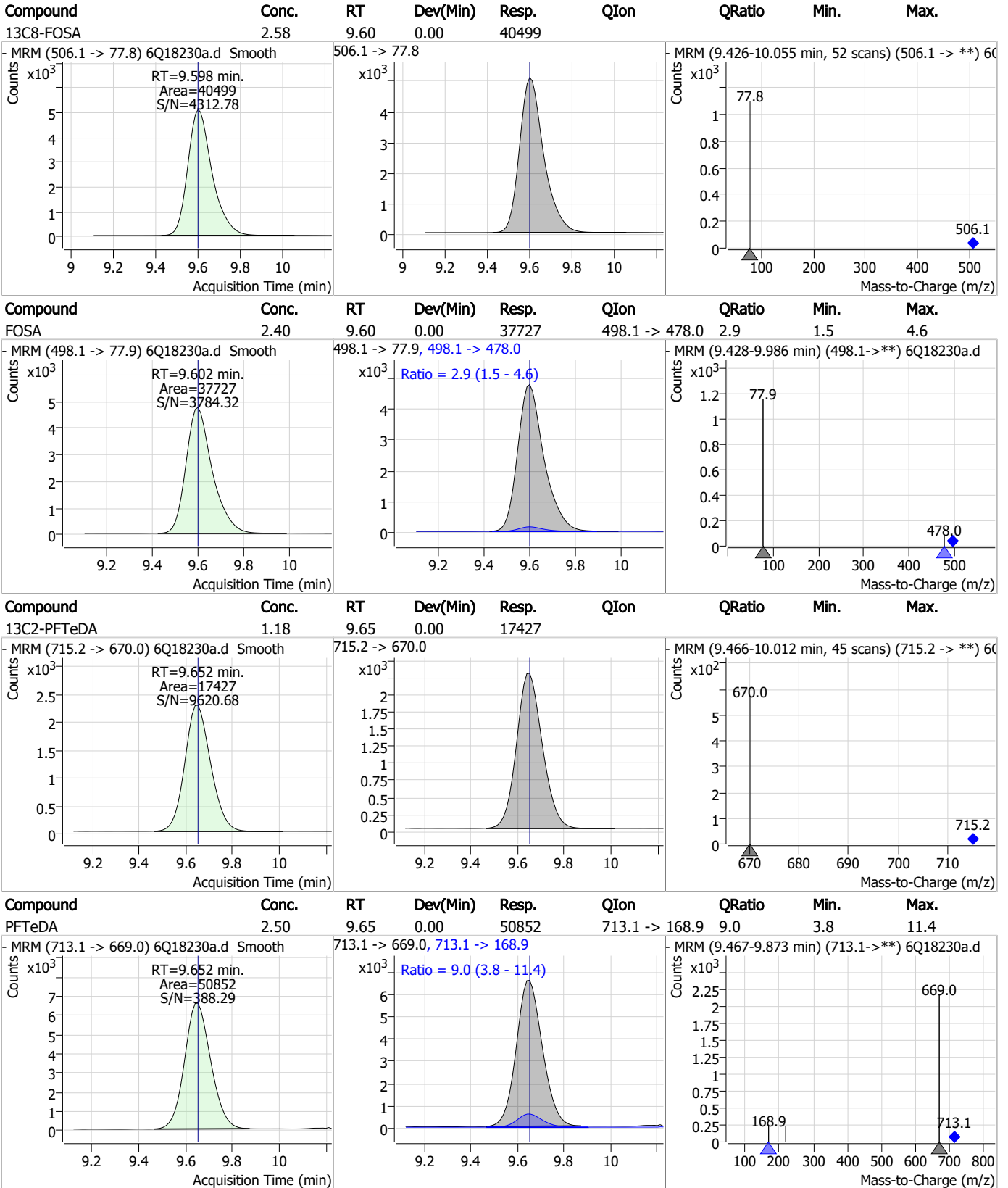
Perfluorinated Compounds by LC/MS/MS



7.7.5

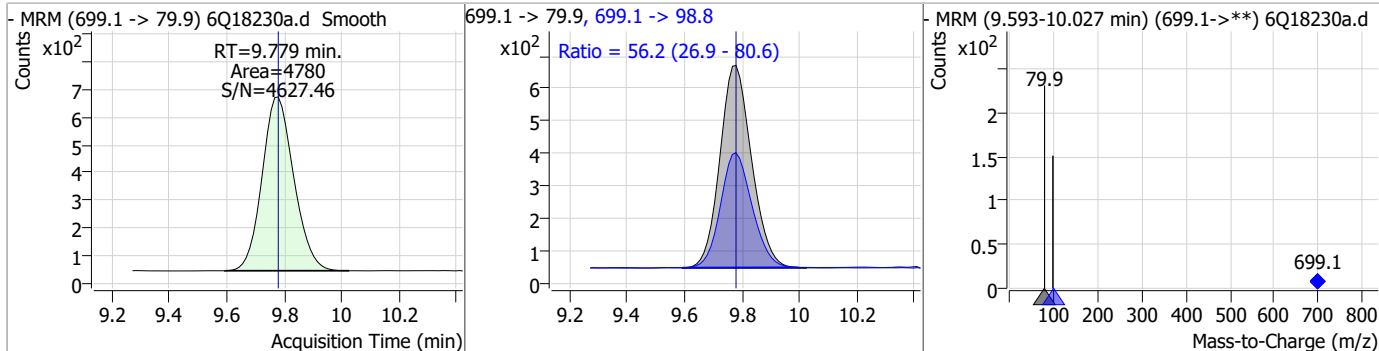
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Perfluorinated Compounds by LC/MS/MS

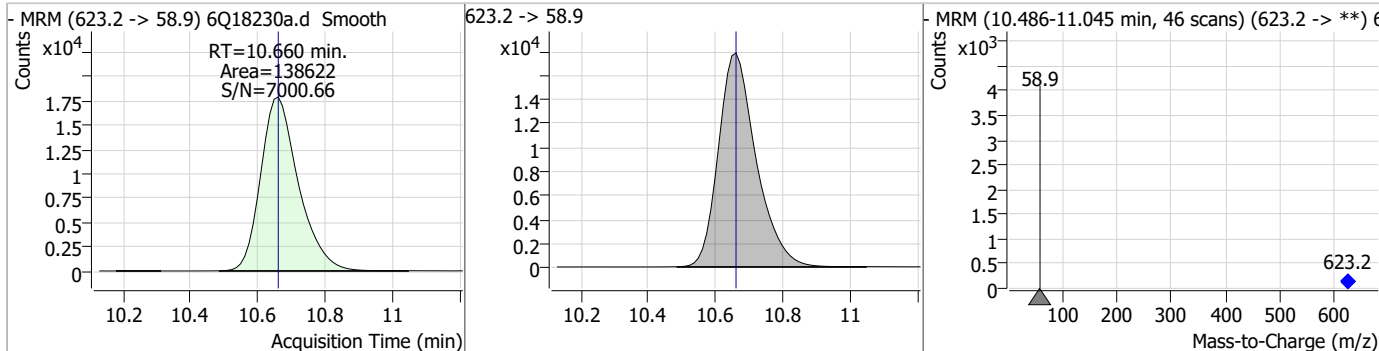


Perfluorinated Compounds by LC/MS/MS

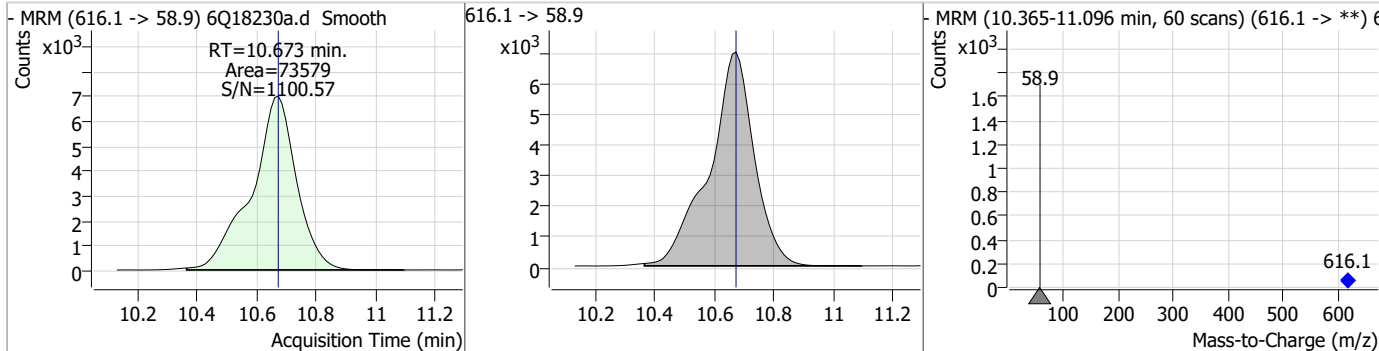
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.25	9.78	0.00	4780	699.1 -> 98.8	56.2	26.9	80.6



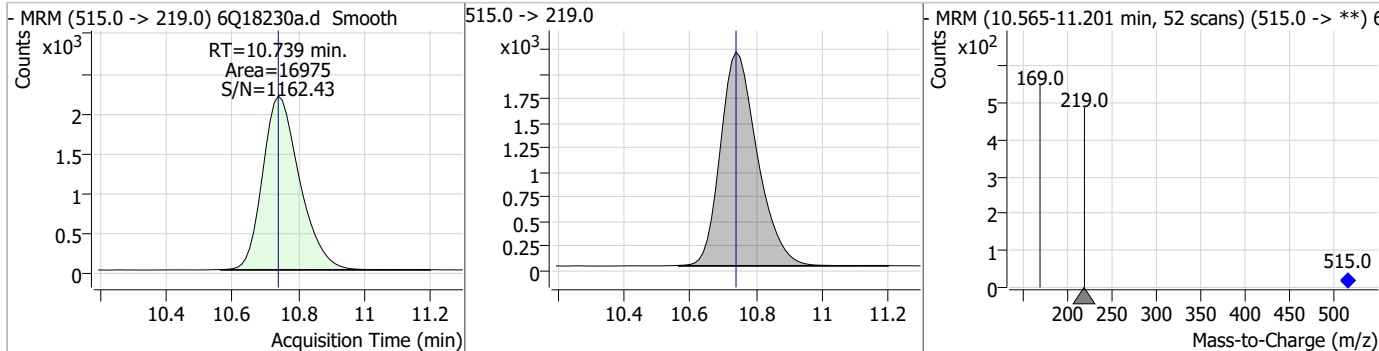
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.05	10.66	0.00	138622				



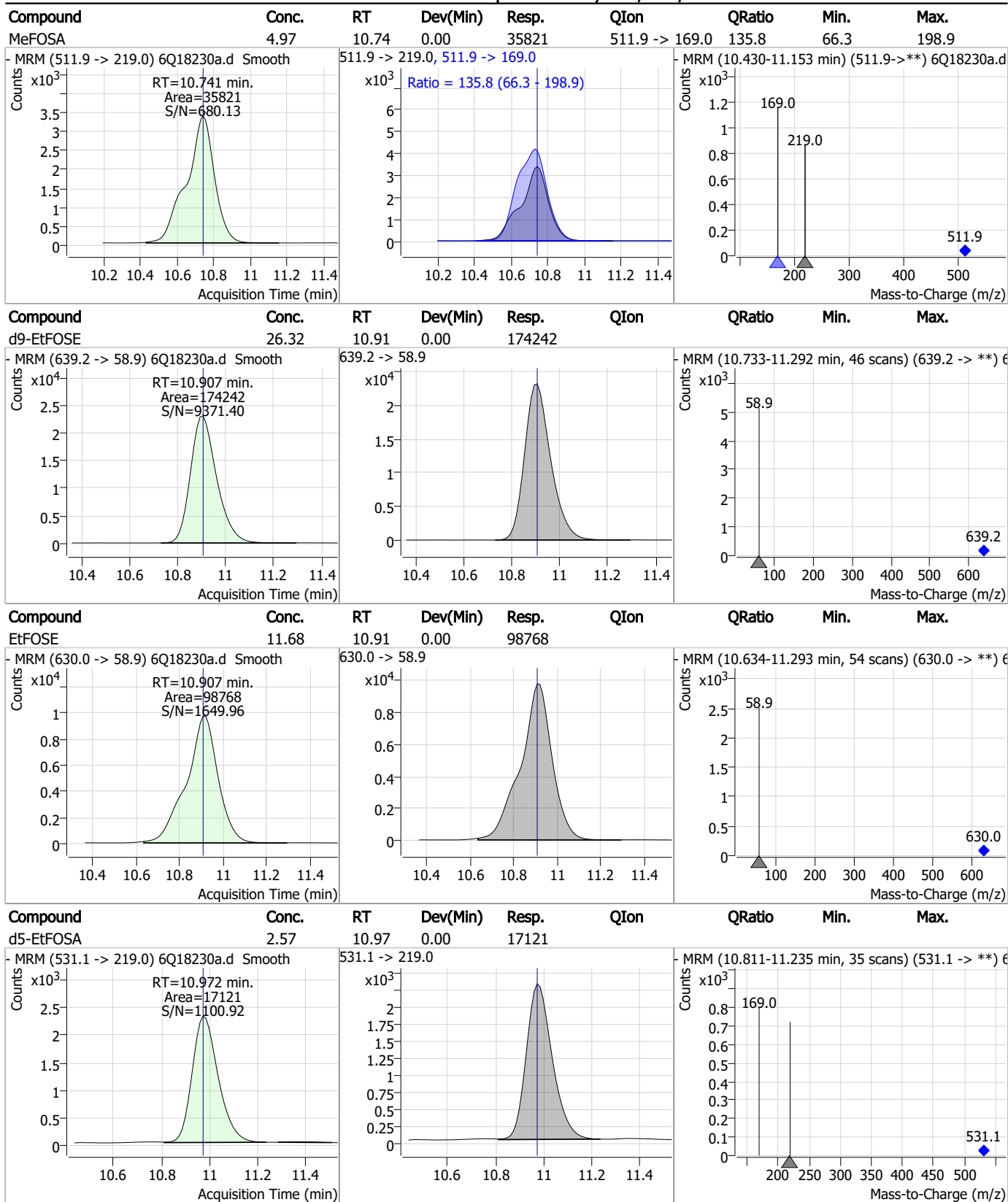
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.95	10.67	0.00	73579				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.48	10.74	0.00	16975				



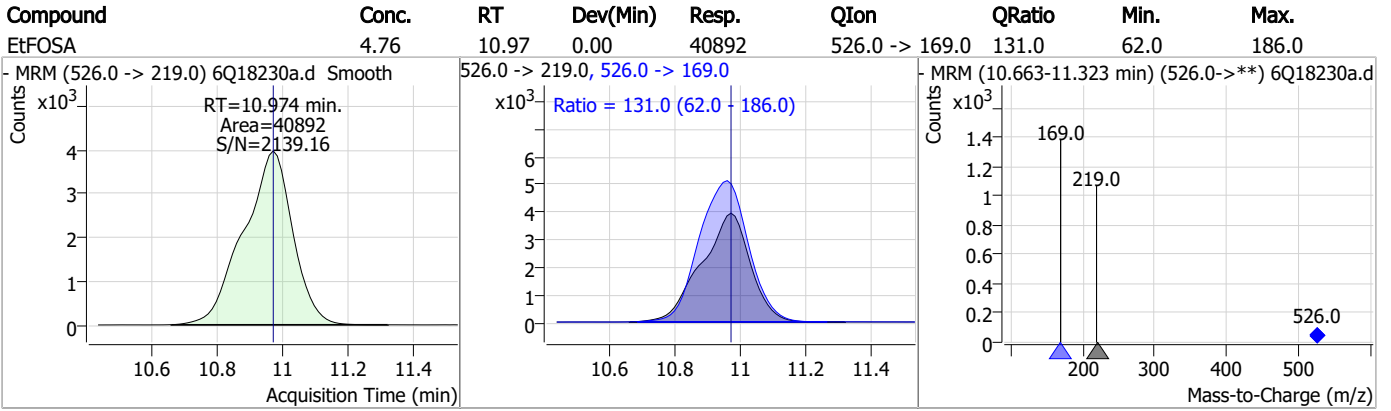
Perfluorinated Compounds by LC/MS/MS



7.7.5

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Perfluorinated Compounds by LC/MS/MS



7.7.5

7

Manual Integrations
APPROVED
 (compounds with "m" flag)
Norman Farmer
 05/24/23 16:04

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18231a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 5:09:35 PM
 Sample Name : ic275-5
 Vial : P1-A6
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	231204	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	76053	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	80366	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	74584	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	115947	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	47184	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	29557	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36888	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	34191	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	17591	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	38845	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	30041	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17920	2.50 µg/L	0.000
M8-PFOS	8.202	507.1 -> 79.9	16531	2.50 µg/L	0.012
M2-4:2FTS	5.106	329.1 -> 80.9	3940	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5858	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5872	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	33249	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	51089	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	28368	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	130001	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	163555	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16101	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	17529	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	22415	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	97274	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	12827	2.50 µg/L	0.012
13C4-PFOA	7.039	417.1 -> 372.0	119823	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39570	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	56254	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	76545	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3940	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.3%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5858	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5872	4.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C2-PFDoDA	8.912	615.1 -> 570.0	34191	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.3%		
13C2-PFTeDA	9.652	715.2 -> 670.0	17591	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.8%		
13C3-PFBS	5.347	302.1 -> 79.9	30041	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C3-PFHxS	7.142	402.1 -> 79.9	17920	2.55 µg/L	0.000

7.7.6
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 = 102.1%	
13C4-PFBA	2.876	216.8 -> 171.9	231204	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.395	367.1 -> 322.0	74584	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C5-PFHxA	5.429	318.0 -> 273.0	80366	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C5-PFPeA	4.235	268.3 -> 223.0	76053	5.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C6-PFDA	8.039	519.1 -> 474.1	29557	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	36888	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C8-FOSA	9.598	506.1 -> 77.8	38845	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%	
13C8-PFOA	7.038	421.1 -> 376.0	115947	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C8-PFOS	8.202	507.1 -> 79.9	16531	2.38 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C9-PFNA	7.557	472.1 -> 427.0	47184	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33249	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	51089	9.96 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	17529	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	28368	4.53 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	130001	23.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	163555	24.07 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	16101	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	145354	20.14 µg/L	93
		327.1 -> 80.9	51437		
6:2FTS	6.813	427.1 -> 407.0	141670	21.40 µg/L	96
		427.1 -> 80.9	44428		
8:2FTS	7.840	527.1 -> 507.0	74696	21.14 µg/L	99
		527.1 -> 80.8	31356		
EtFOSAA	8.293	584.2 -> 419.1	24596	5.69 µg/L	95
		584.2 -> 526.0	12468		
FOSA	9.602	498.1 -> 77.9	79439	5.26 µg/L	100
		498.1 -> 478.0	2420		
MeFOSAA	8.097	570.1 -> 419.0	42811	5.30 µg/L	99
		570.1 -> 483.0	8011		
PFBA	2.882	212.8 -> 168.9	192339	21.34 µg/L	100
PFBS	5.348	298.7 -> 79.9	53442	4.65 µg/L	97
		298.7 -> 98.8	20418		
PFDA	8.040	512.9 -> 469.0	209512	5.20 µg/L	99
		512.9 -> 219.0	34657		
PFDoDA	8.913	613.1 -> 569.0	143384	5.28 µg/L	95
		613.1 -> 319.0	22277		
PFDS	9.076	599.0 -> 79.9	23659	5.10 µg/L	97

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	11987			
PFHpA	6.395	363.1 -> 319.0	214580	5.58	µg/L	97
		363.1 -> 169.0	34824			
PFHpS	7.698	449.0 -> 79.9	45944	5.10	µg/L	100
		449.0 -> 98.9	22660			
PFHxA	5.432	313.0 -> 269.0	168183	5.39	µg/L	99
		313.0 -> 118.9	8129			
PFHxS	7.143	398.7 -> 79.9	45285	4.67	µg/L	m 94
		398.7 -> 98.9	23200			
PFNA	7.570	463.0 -> 419.0	210672	5.41	µg/L	99
		463.0 -> 219.0	40535			
PFNS	8.657	548.8 -> 79.9	40433	5.20	µg/L	98
		548.8 -> 98.9	20354			
PFOA	7.040	413.0 -> 369.0	286399	5.28	µg/L	97
		413.0 -> 169.0	52838			
PFOS	8.191	498.9 -> 79.9	41527	4.73	µg/L	m 98
		498.9 -> 98.8	21705			
PFPeA	4.237	263.0 -> 219.0	217879	10.62	µg/L	100
PFPeS	6.434	349.1 -> 79.9	45900	4.82	µg/L	97
		349.1 -> 98.9	20696			
PFTeDA	9.652	713.1 -> 669.0	109504	5.33	µg/L	96
		713.1 -> 168.9	9984			
PFTrDA	9.309	663.0 -> 619.0	144114	5.44	µg/L	95
		663.0 -> 168.9	15966			
PFUnDA	8.493	563.1 -> 519.0	144228	5.47	µg/L	95
		563.1 -> 269.1	25174			
11CI-PF3OUdS	9.360	630.9 -> 450.9	205965	10.49	µg/L	99
		632.9 -> 452.9	62549			
9CI-PF3ONS	8.520	530.8 -> 351.0	342751	10.45	µg/L	93
		532.8 -> 353.0	99694			
ADONA	6.646	376.9 -> 250.9	797731	10.59	µg/L	98
		376.9 -> 84.8	205428			
HFPO-DA	5.795	284.9 -> 168.9	55161	11.00	µg/L	93
		284.9 -> 184.9	5894			
3:3FTCA	3.727	241.0 -> 177.0	38359	25.93	µg/L	95
		241.0 -> 117.0	4722			
5:3FTCA	6.099	341.0 -> 237.1	744719	129.96	µg/L	96
		341.0 -> 217.0	555343			
7:3FTCA	7.523	441.0 -> 316.9	479098	129.34	µg/L	98
		441.0 -> 336.9	1068561			
EtFOSA	10.974	526.0 -> 219.0	85756	10.62	µg/L	92
		526.0 -> 169.0	114247			
EtFOSE	10.920	630.0 -> 58.9	211984	26.72	µg/L	100
MeFOSA	10.741	511.9 -> 219.0	75652	10.17	µg/L	96
		511.9 -> 169.0	103714			
MeFOSE	10.673	616.1 -> 58.9	157581	27.28	µg/L	100
PFDoS	9.779	699.1 -> 79.9	10253	5.21	µg/L	100
		699.1 -> 98.8	5534			
NFDHA	5.311	295.0 -> 201.0	40721	10.56	µg/L	97
		295.0 -> 84.9	10426			
PFMBA	4.650	279.0 -> 85.1	153971	10.62	µg/L	100
PFMPA	3.401	229.0 -> 84.9	115887	10.51	µg/L	100
PFEESA	5.888	314.8 -> 134.9	396969	9.46	µg/L	98
		314.8 -> 82.9	12956			

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

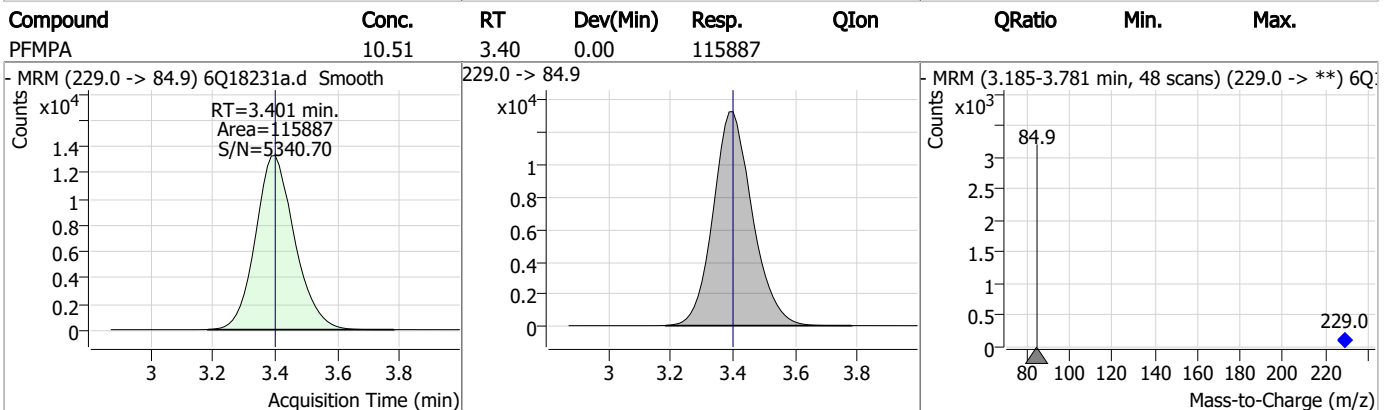
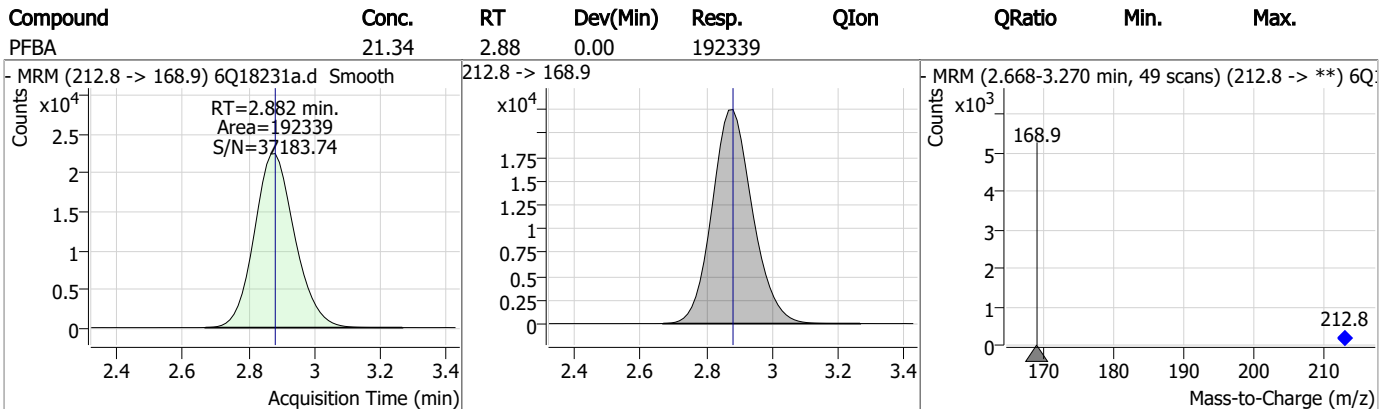
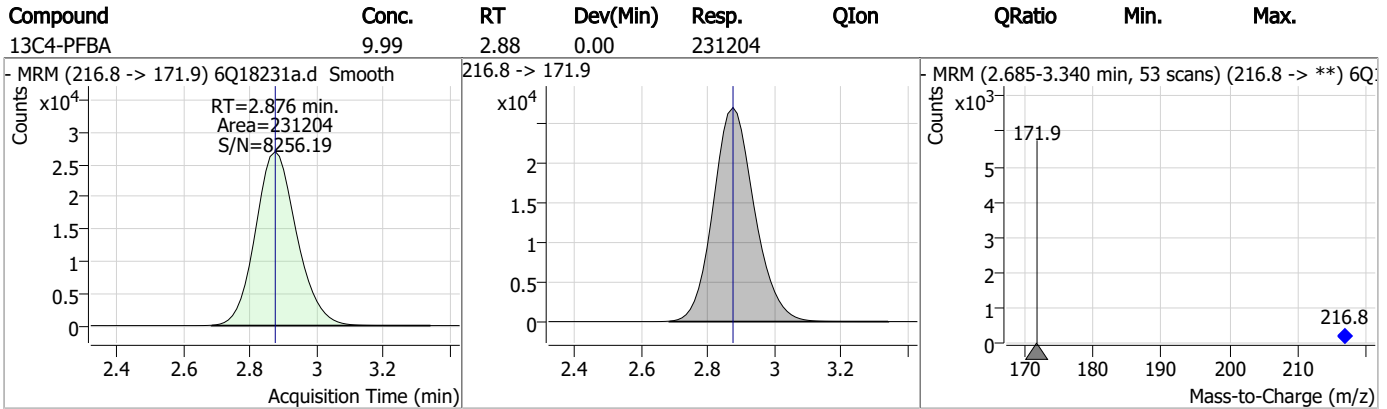
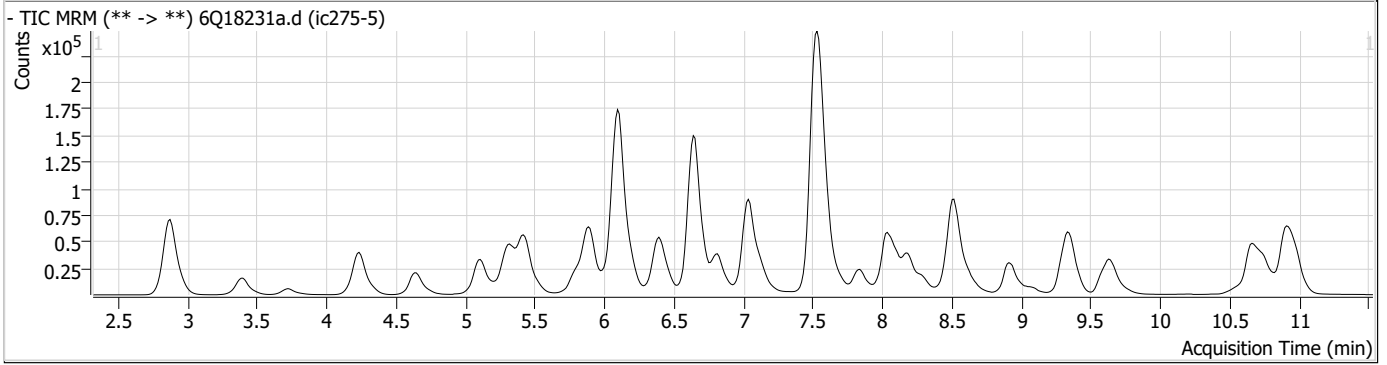
Perfluorinated Compounds by LC/MS/MS

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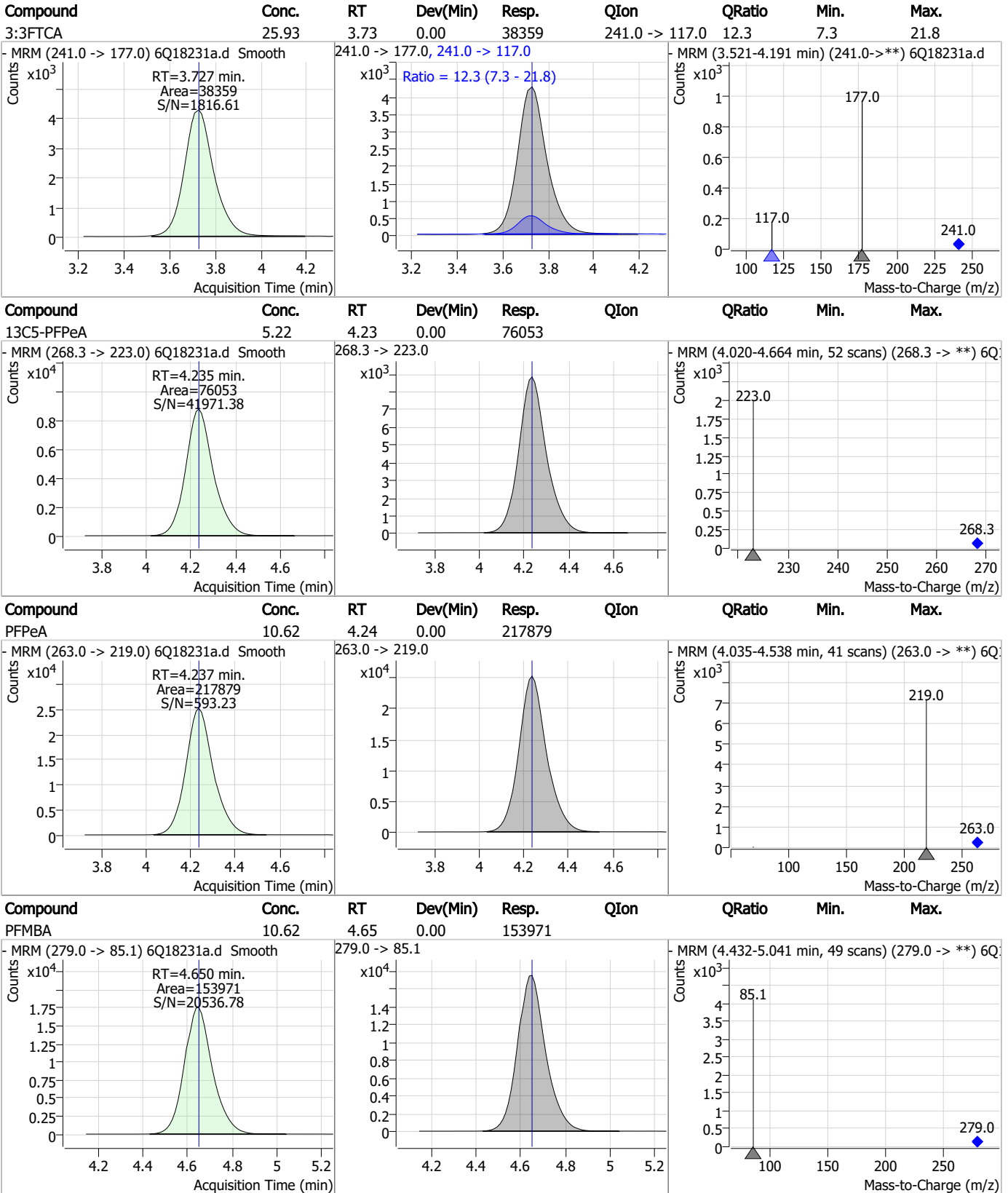
7.7.6

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

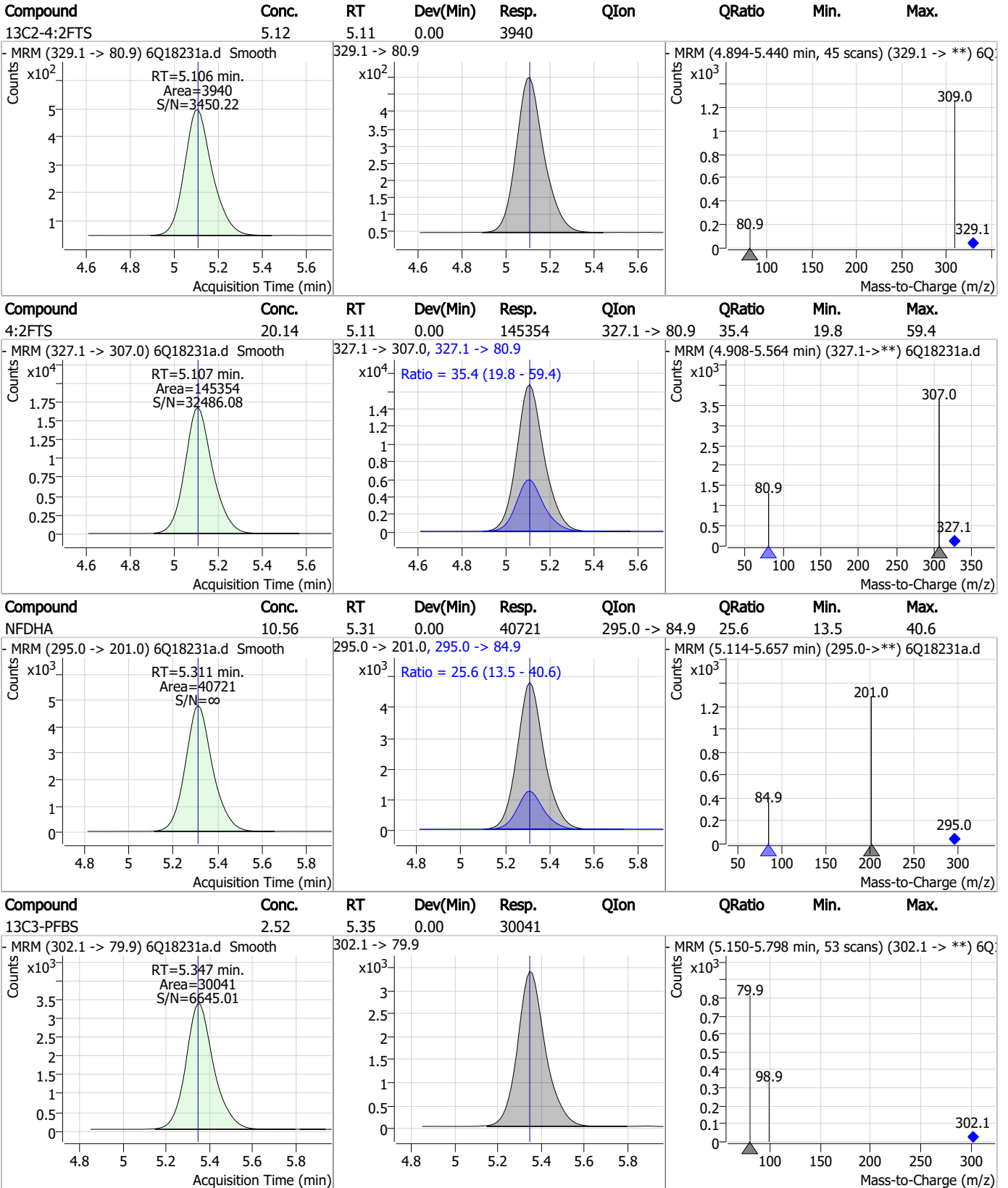


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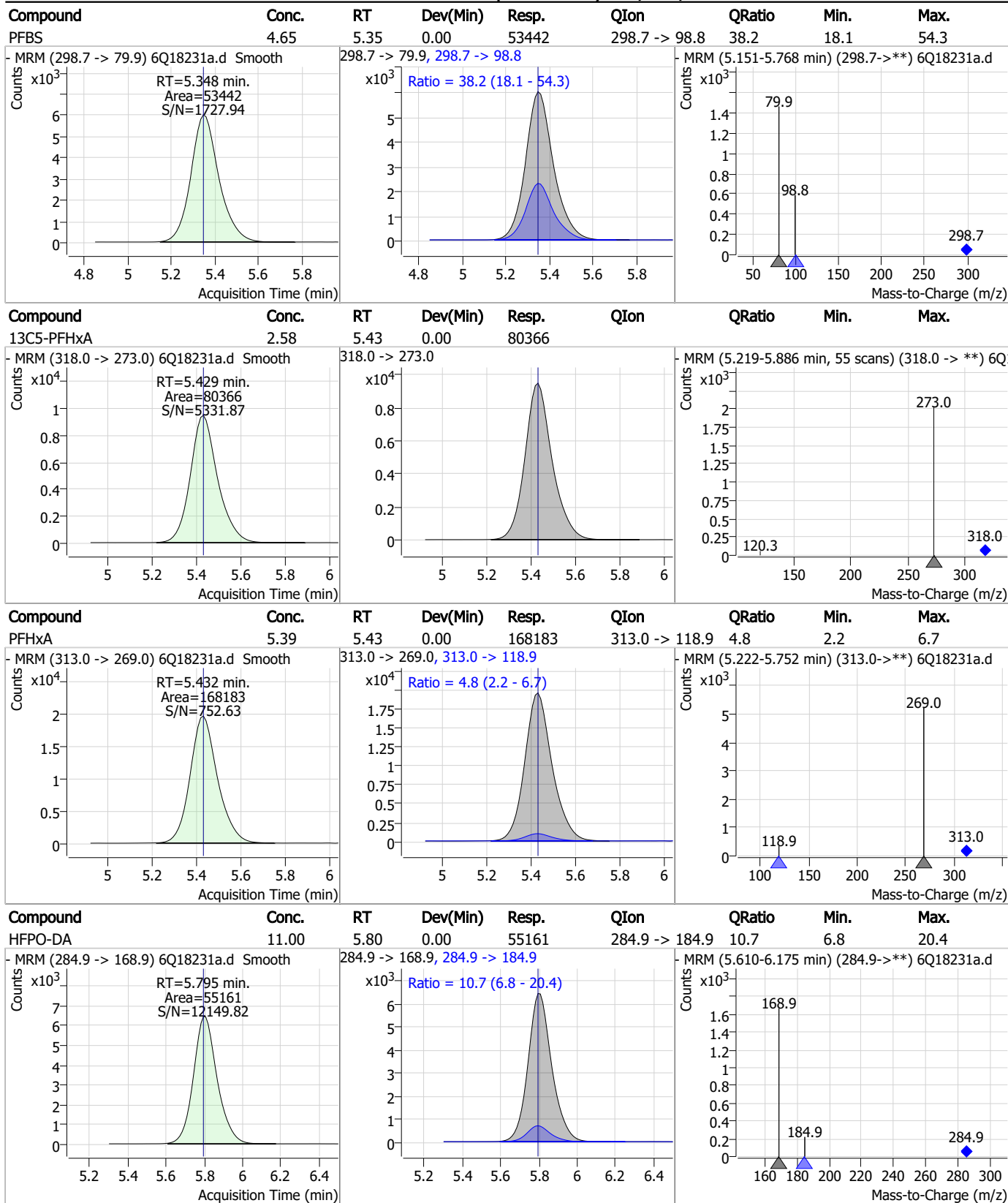
Perfluorinated Compounds by LC/MS/MS



7.7.6

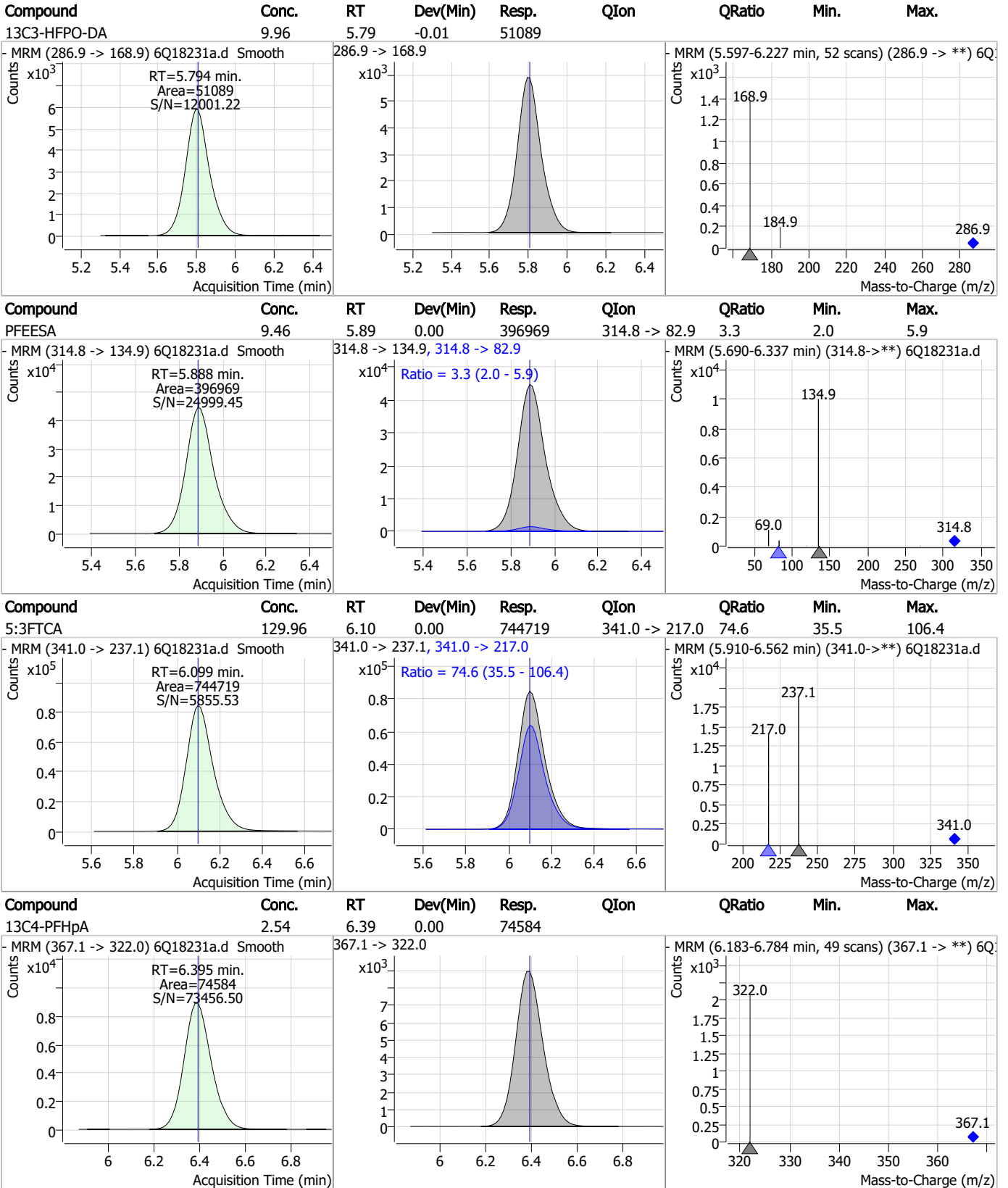
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Perfluorinated Compounds by LC/MS/MS



7.7.6
7

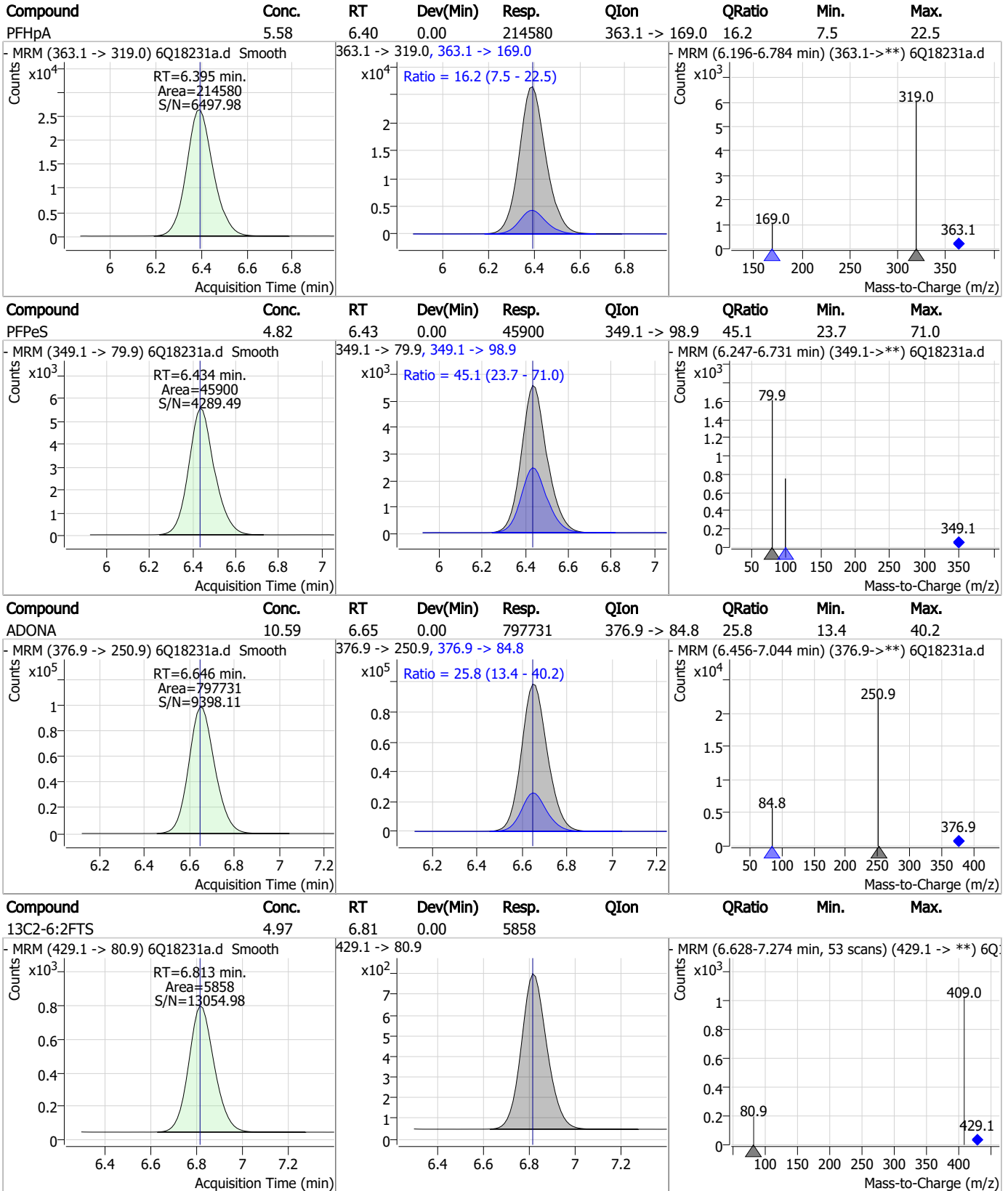
Perfluorinated Compounds by LC/MS/MS



7.7.6

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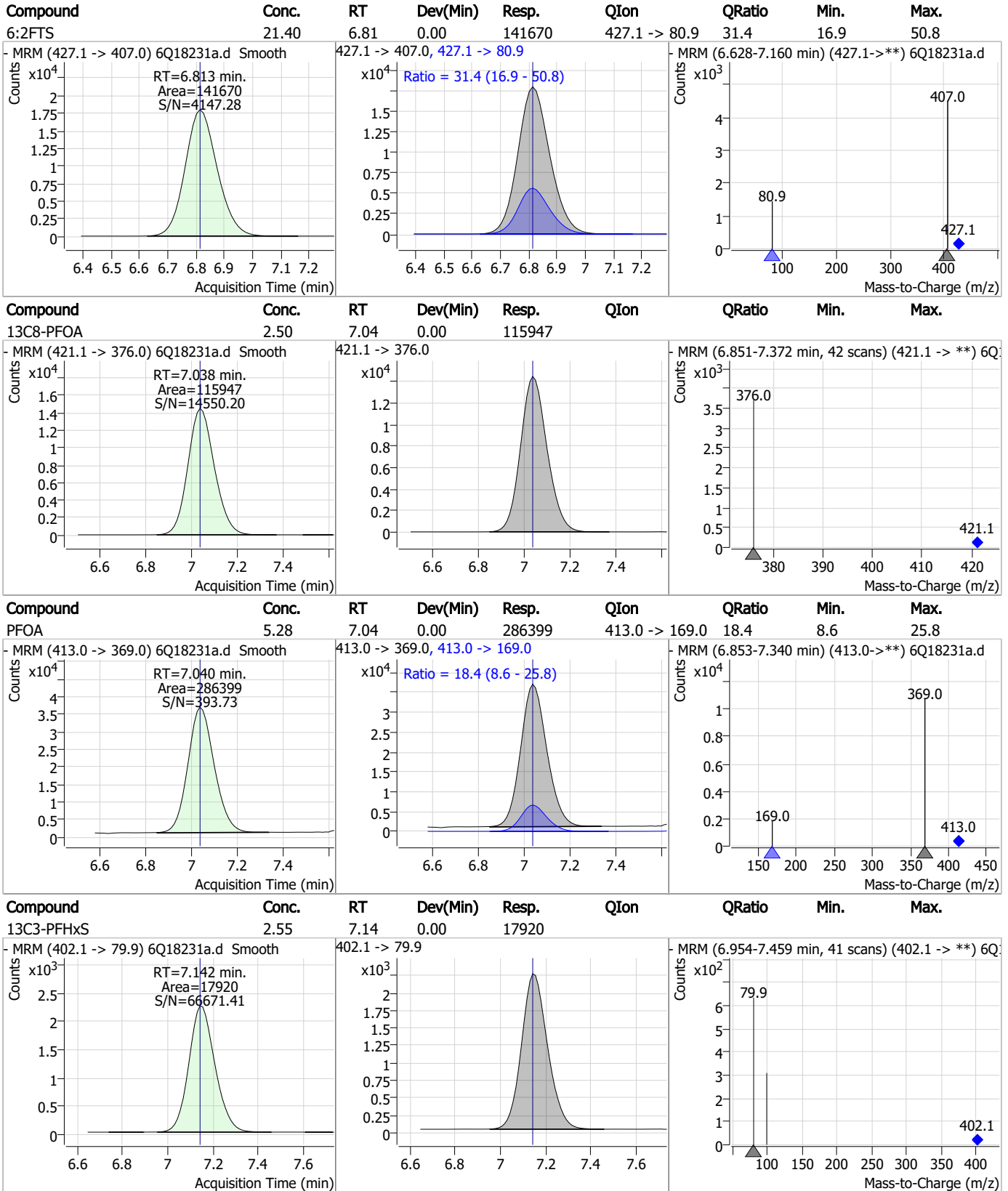
Perfluorinated Compounds by LC/MS/MS



7.7.6

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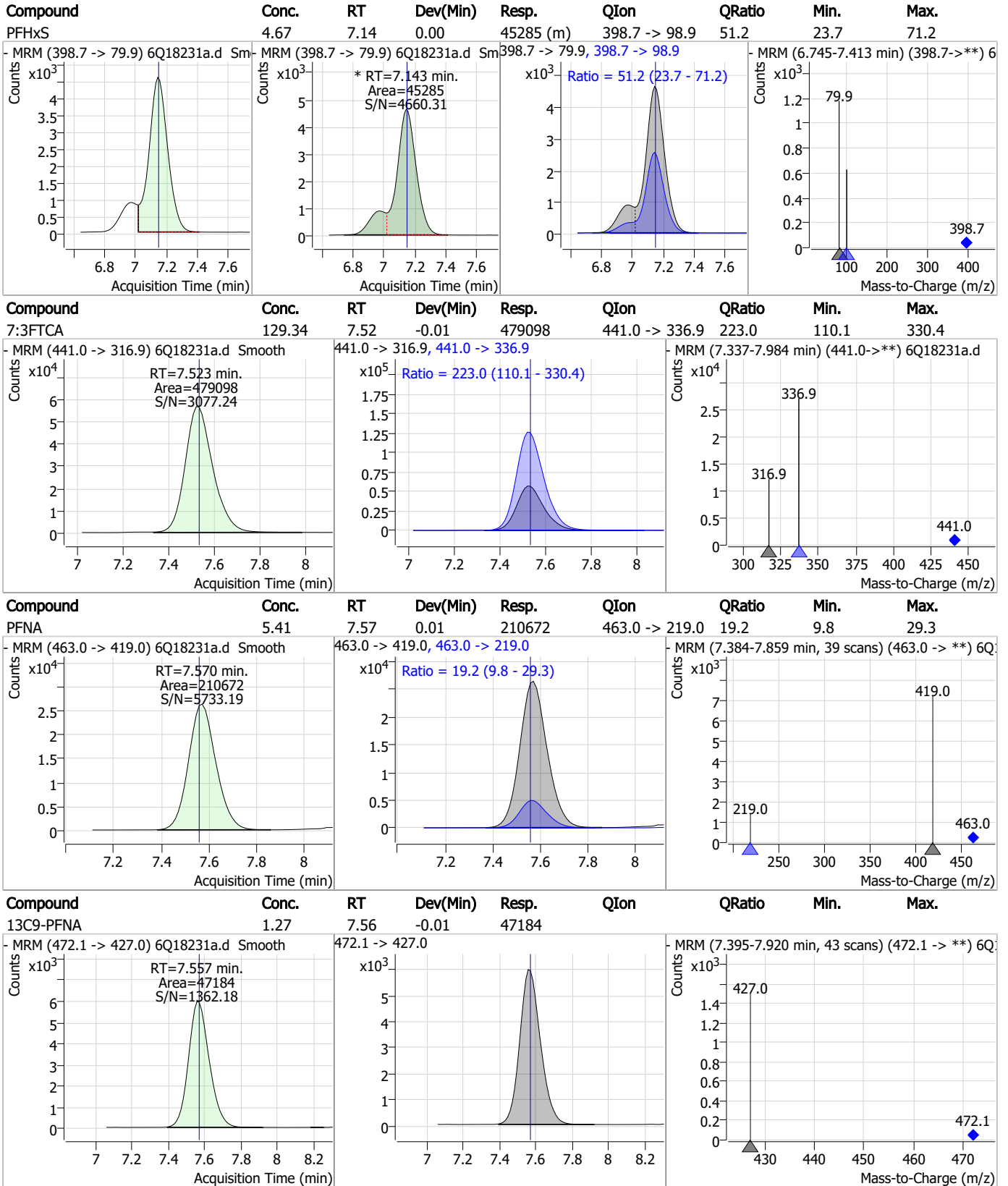
Perfluorinated Compounds by LC/MS/MS



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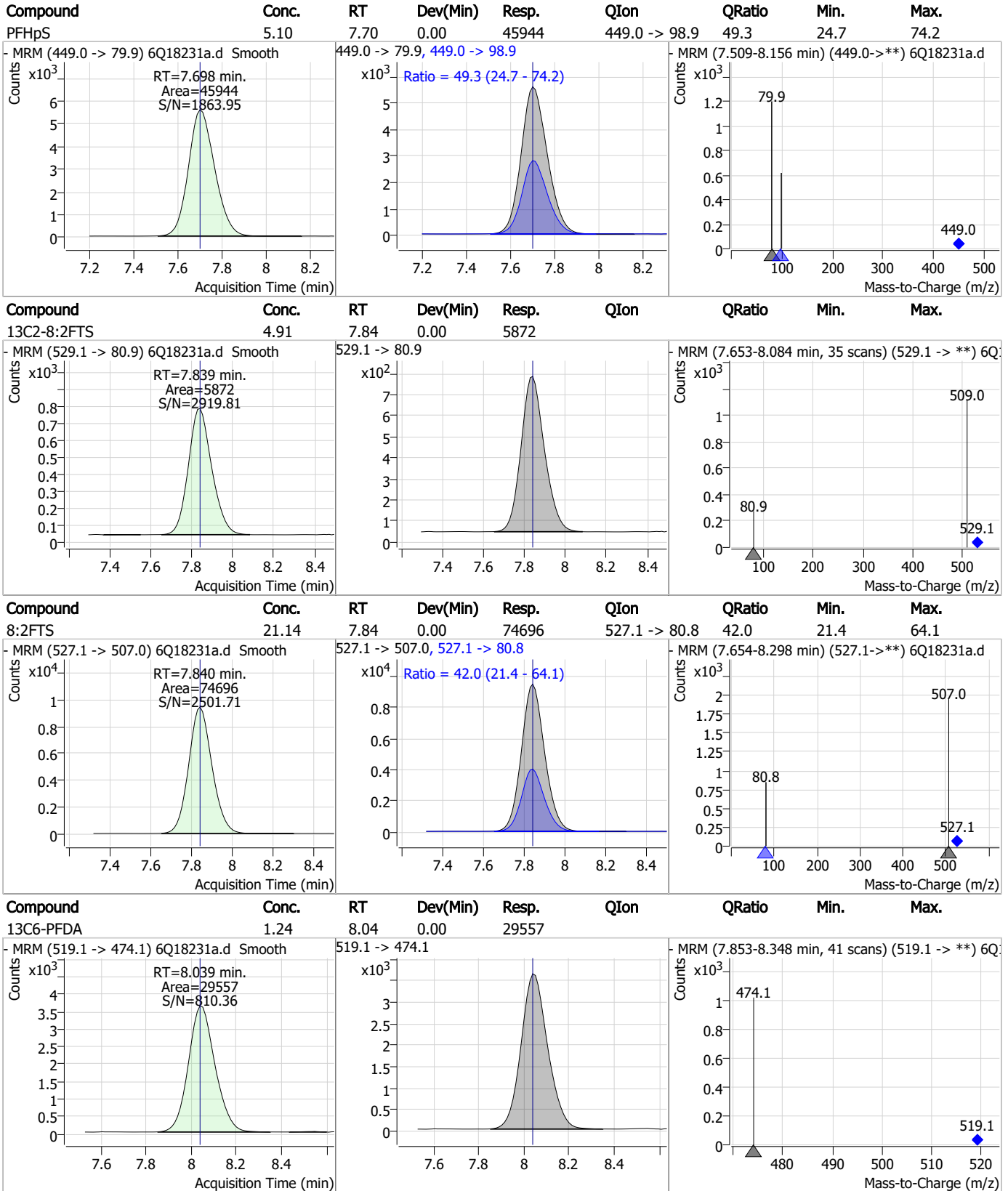
Perfluorinated Compounds by LC/MS/MS



7.7.6

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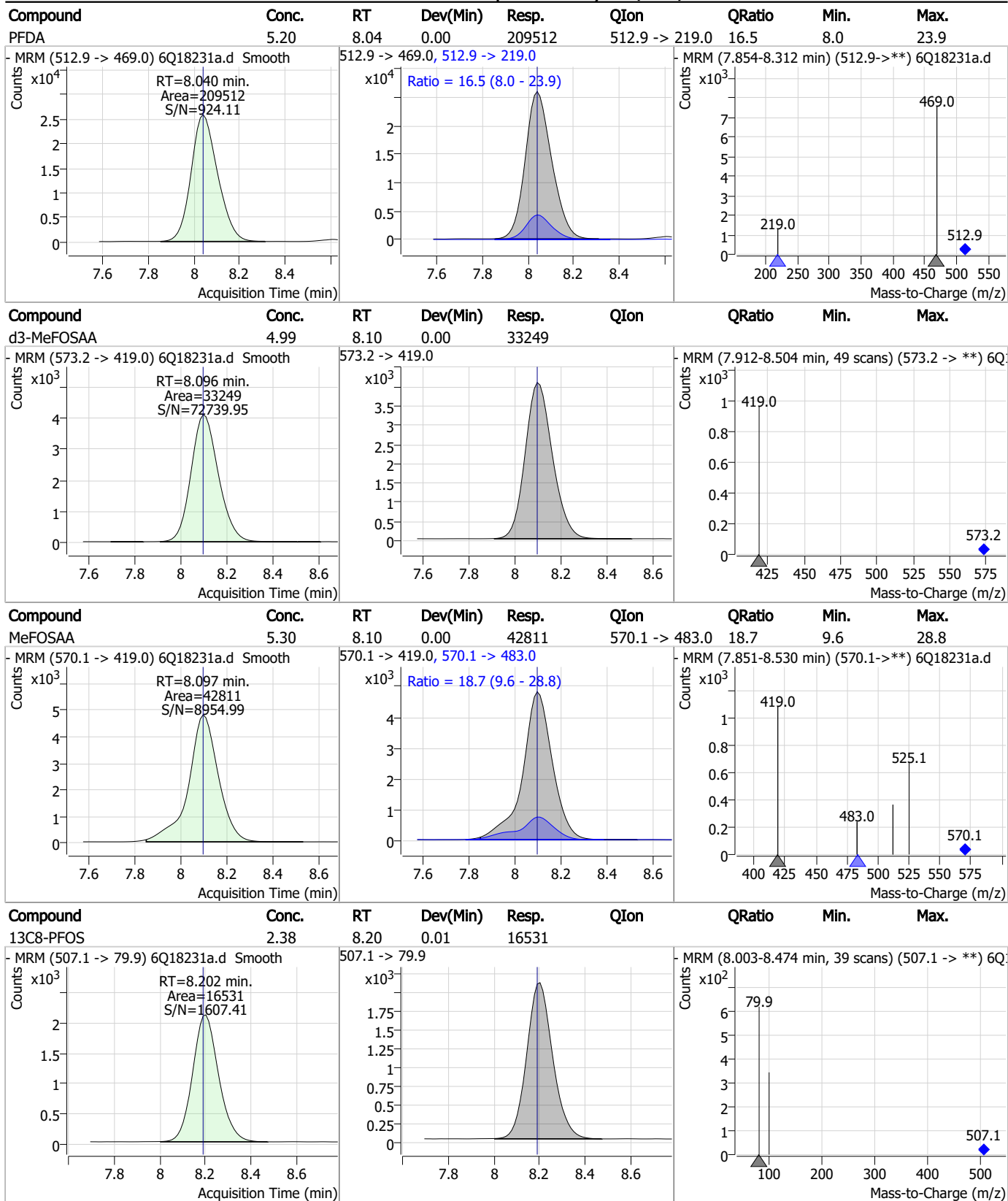
Perfluorinated Compounds by LC/MS/MS



7.7.6

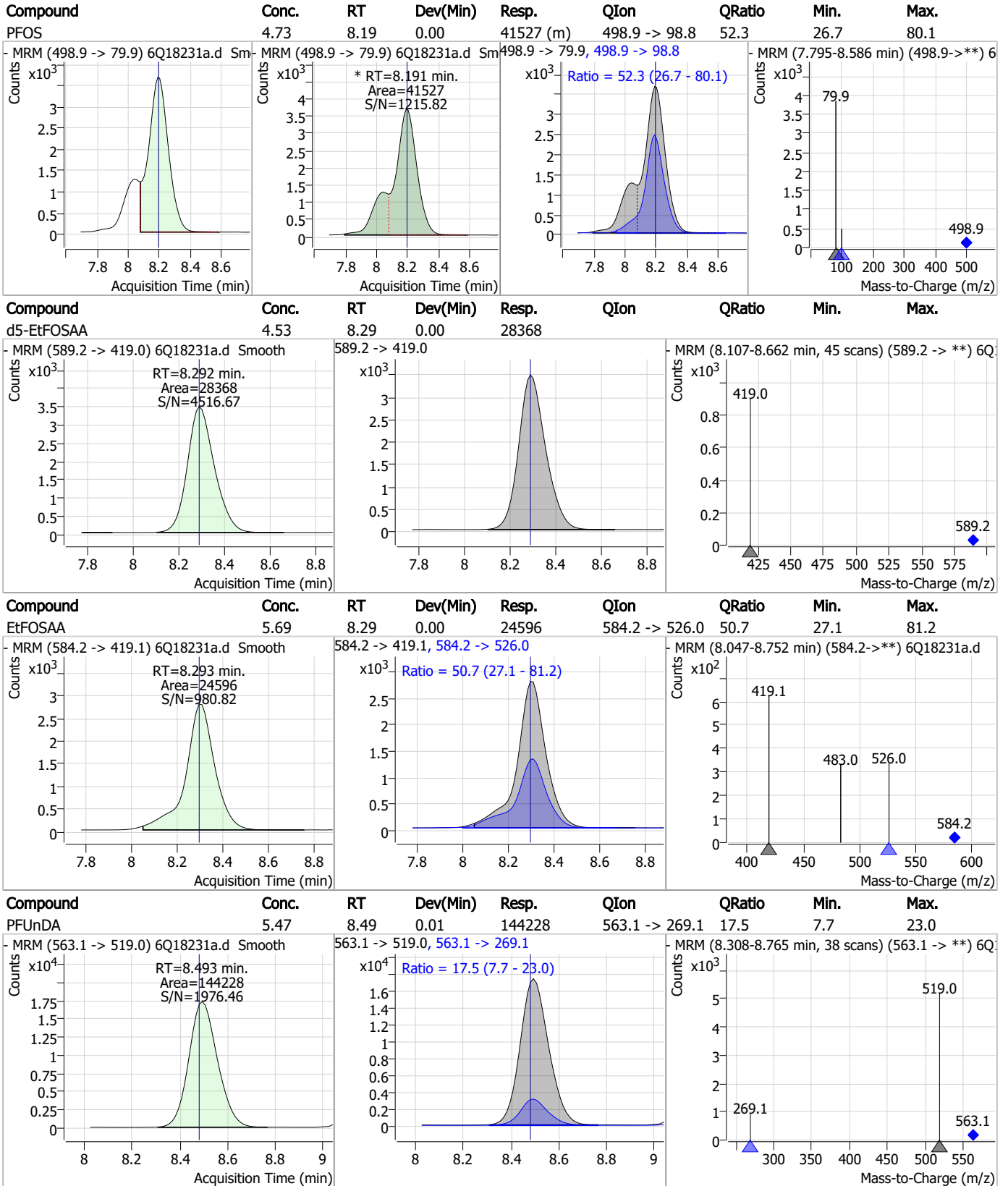
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Perfluorinated Compounds by LC/MS/MS



7.7.6
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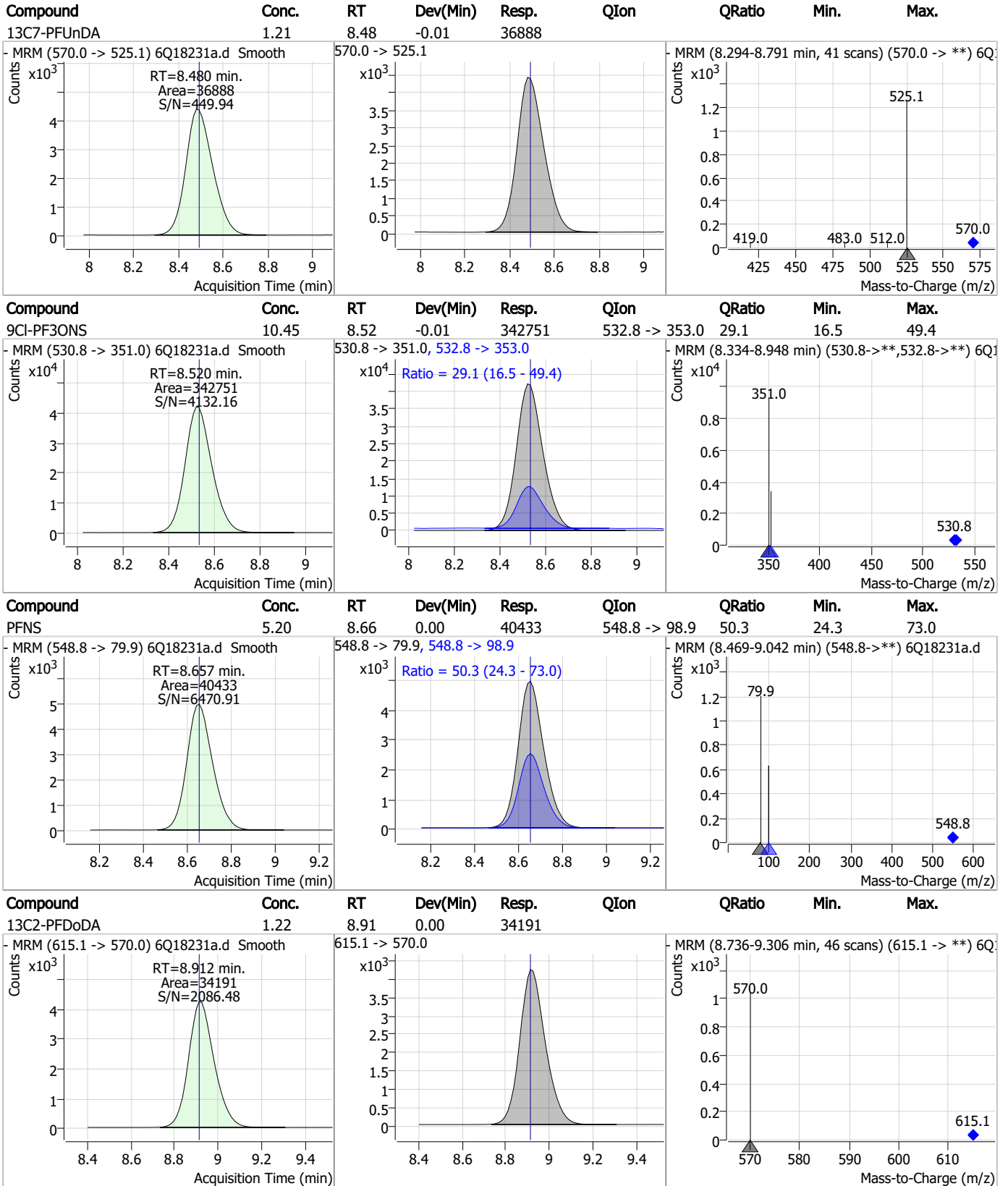
Perfluorinated Compounds by LC/MS/MS



7.7.6

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Perfluorinated Compounds by LC/MS/MS

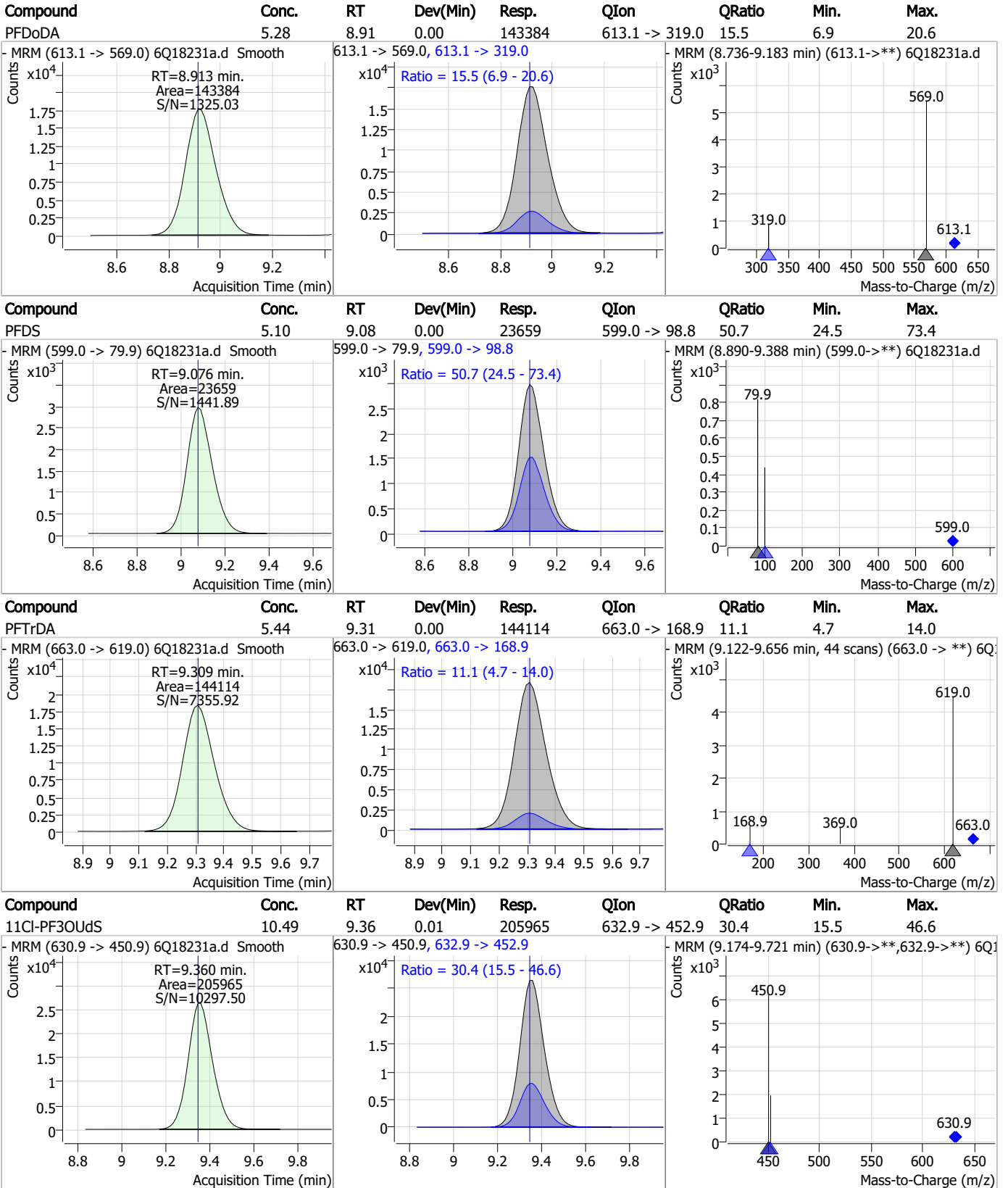


7.7.6

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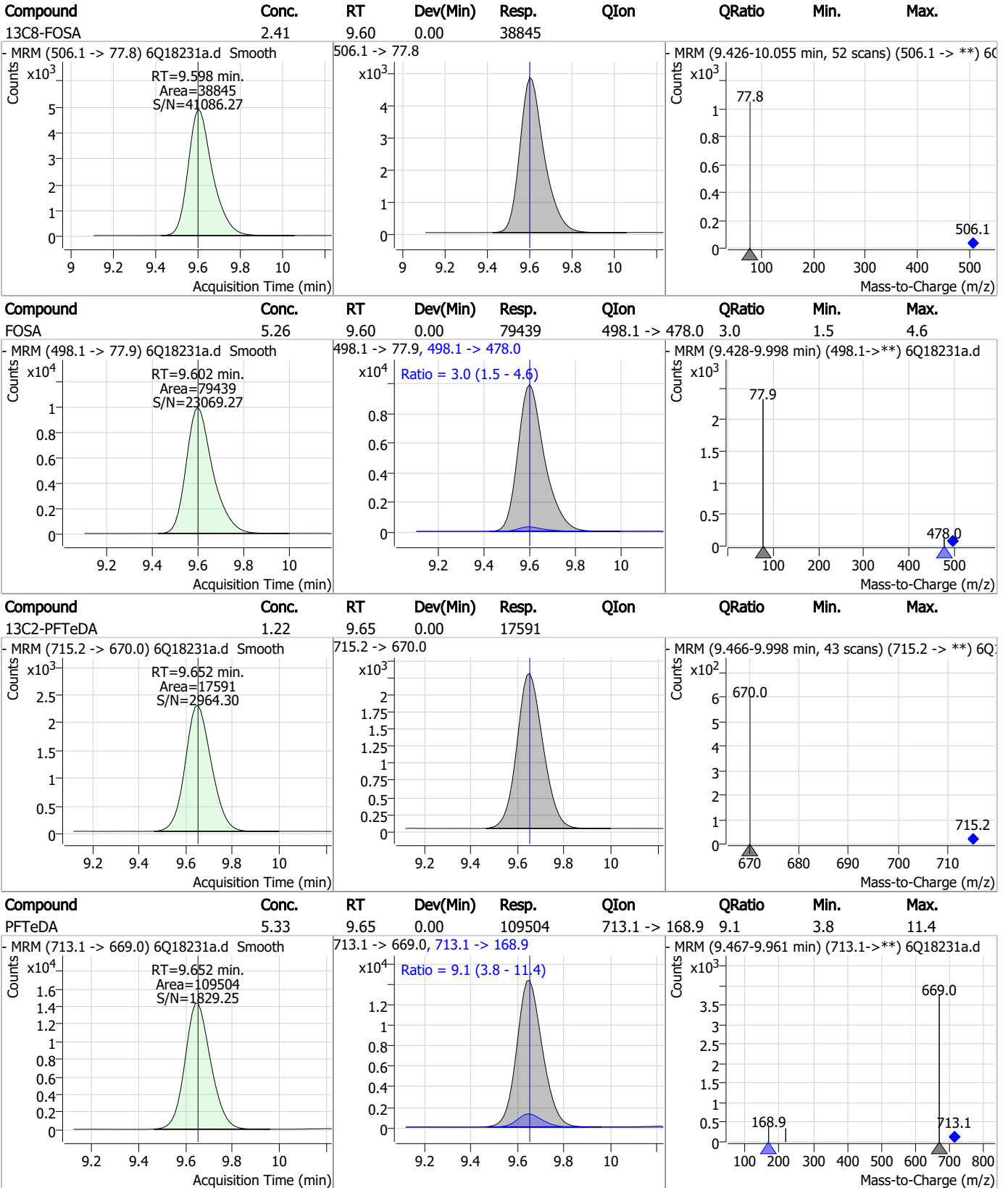
Perfluorinated Compounds by LC/MS/MS



7.7.6

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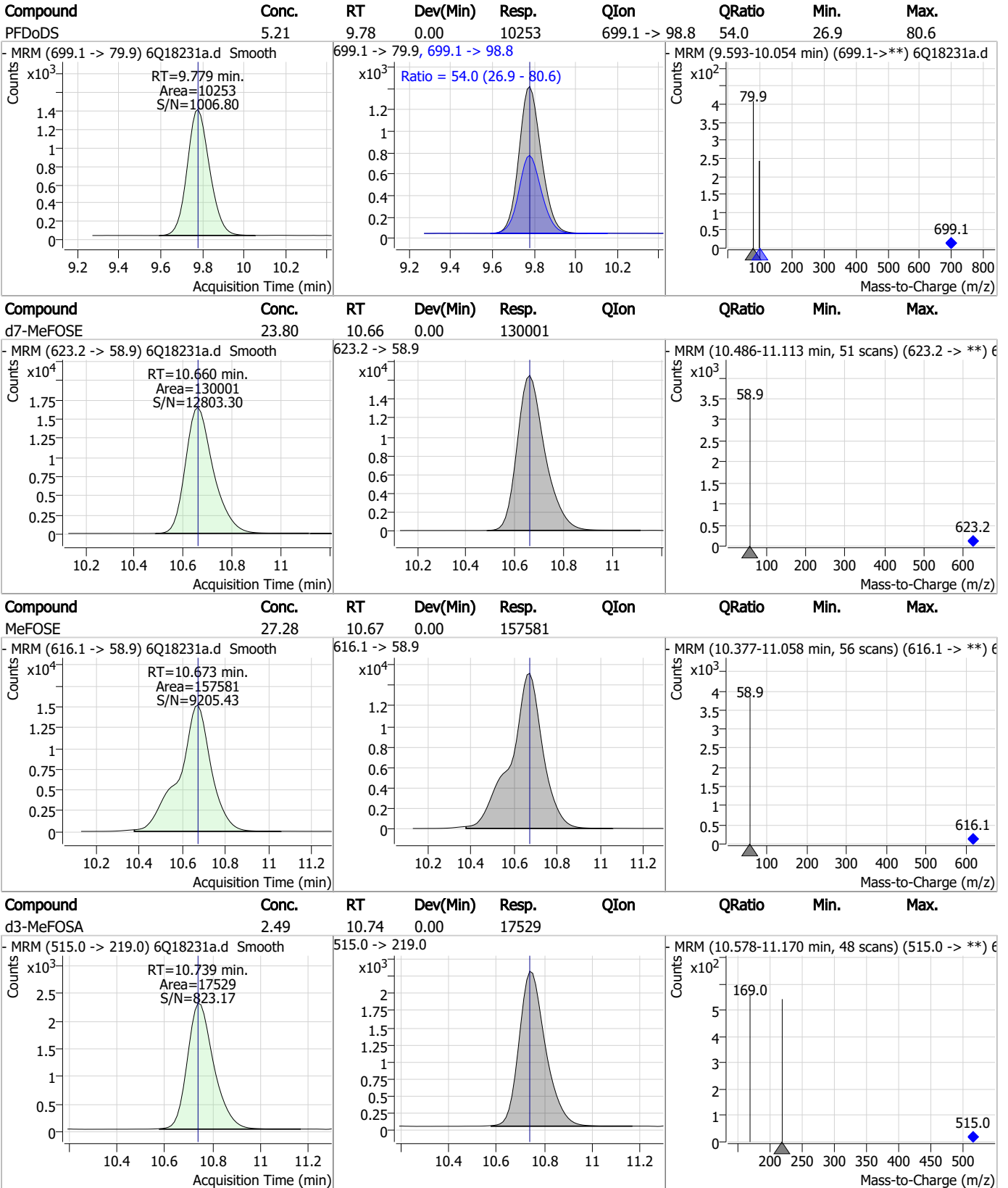
Perfluorinated Compounds by LC/MS/MS



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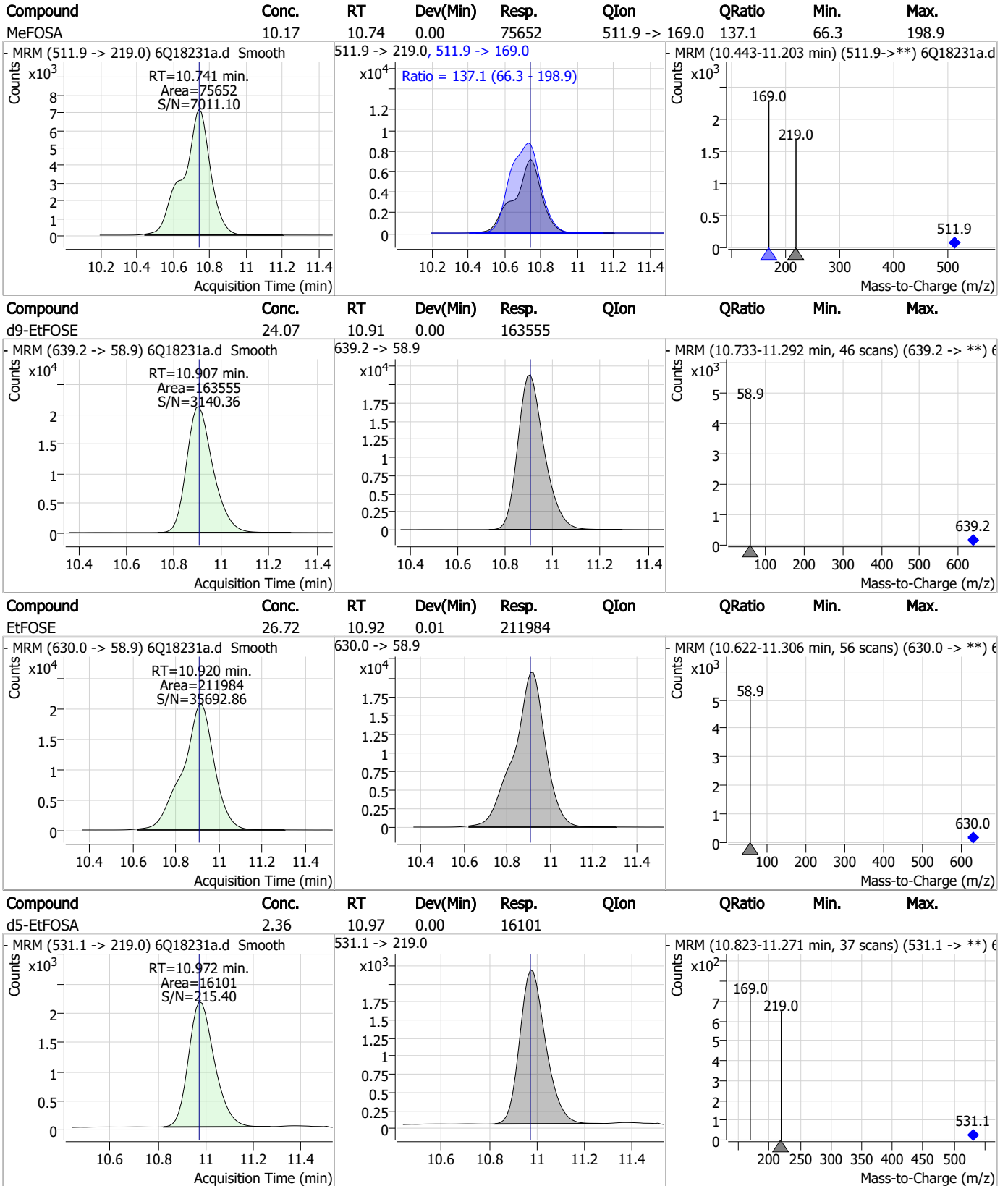
Perfluorinated Compounds by LC/MS/MS



7.7.6

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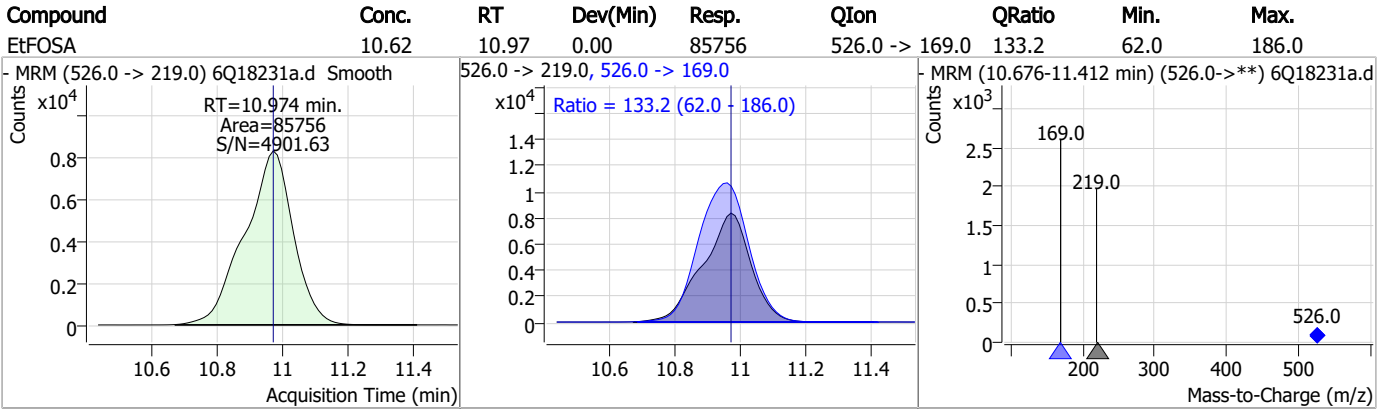
Perfluorinated Compounds by LC/MS/MS



7.7.6

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Perfluorinated Compounds by LC/MS/MS



7.7.6

7

Manual Integration Approval Summary

Sample Number: S6Q275-IC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18231A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 17:09 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.7.6.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18232a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 5:24:06 PM
 Sample Name : ic275-6
 Vial : P1-A7
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	221233	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	72728	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	78485	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	74226	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	115271	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47212	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27818	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	36285	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	32834	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	17386	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	36785	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	29107	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17200	2.50 µg/L	0.000
M8-PFOS	8.202	507.1 -> 79.9	16486	2.50 µg/L	0.012
M2-4:2FTS	5.106	329.1 -> 80.9	3650	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5434	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5704	5.00 µg/L	0.000
M3-MeFOSAA	8.108	573.2 -> 419.0	31719	5.00 µg/L	0.012
M3-HFPO-DA	5.794	286.9 -> 168.9	52681	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29422	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	128463	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	155823	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15525	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16561	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20810	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	93064	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	12593	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	115454	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38854	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55119	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	76159	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3650	4.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.5%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5434	4.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5704	4.85 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C2-PFDoDA	8.912	615.1 -> 570.0	32834	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C2-PFTeDA	9.652	715.2 -> 670.0	17386	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C3-PFBS	5.347	302.1 -> 79.9	29107	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C3-PFHxS	7.142	402.1 -> 79.9	17200	2.49 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFBA	2.876	216.8 -> 171.9	221233	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.395	367.1 -> 322.0	74226	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C5-PFHxA	5.429	318.0 -> 273.0	78485	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C5-PFPeA	4.235	268.3 -> 223.0	72728	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C6-PFDA	8.039	519.1 -> 474.1	27818	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.0%	
13C7-PFUnDA	8.492	570.0 -> 525.1	36285	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C8-FOSA	9.598	506.1 -> 77.8	36785	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C8-PFOA	7.038	421.1 -> 376.0	115271	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C8-PFOS	8.202	507.1 -> 79.9	16486	2.56 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C9-PFNA	7.569	472.1 -> 427.0	47212	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%	
d3-MeFOSAA	8.108	573.2 -> 419.0	31719	5.13 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	52681	10.32 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
d3-MeFOSA	10.739	515.0 -> 219.0	16561	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29422	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
d7-MeFOSE	10.660	623.2 -> 58.9	128463	25.34 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	155823	24.70 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d5-EtFOSA	10.972	531.1 -> 219.0	15525	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	331235	49.54 µg/L	93
		327.1 -> 80.9	116186		
6:2FTS	6.813	427.1 -> 407.0	310976	50.63 µg/L	98
		427.1 -> 80.9	102089		
8:2FTS	7.840	527.1 -> 507.0	174127	50.72 µg/L	97
		527.1 -> 80.8	71135		
EtFOSAA	8.305	584.2 -> 419.1	59277	13.21 µg/L	96
		584.2 -> 526.0	30481		
FOSA	9.602	498.1 -> 77.9	190101	13.29 µg/L	100
		498.1 -> 478.0	5724		
MeFOSAA	8.109	570.1 -> 419.0	100285	13.02 µg/L	98
		570.1 -> 483.0	18473		
PFBA	2.882	212.8 -> 168.9	454841	52.74 µg/L	100
PFBS	5.348	298.7 -> 79.9	125197	11.23 µg/L	98
		298.7 -> 98.8	47114		
PFDA	8.040	512.9 -> 469.0	499617	13.18 µg/L	98
		512.9 -> 219.0	83333		
PFDoDA	8.925	613.1 -> 569.0	343195	13.16 µg/L	95
		613.1 -> 319.0	53715		
PFDS	9.076	599.0 -> 79.9	58878	12.72 µg/L	95

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	26919			
PFHpA	6.382	363.1 -> 319.0	496614	12.98	µg/L	97
		363.1 -> 169.0	80086			
PFHpS	7.710	449.0 -> 79.9	108186	12.04	µg/L	98
		449.0 -> 98.9	54833			
PFHxA	5.432	313.0 -> 269.0	397780	13.06	µg/L	99
		313.0 -> 118.9	19339			
PFHxS	7.143	398.7 -> 79.9	106309	11.41	µg/L	m 99
		398.7 -> 98.9	51443			
PFNA	7.570	463.0 -> 419.0	505703	12.97	µg/L	97
		463.0 -> 219.0	92246			
PFNS	8.657	548.8 -> 79.9	97503	12.57	µg/L	95
		548.8 -> 98.9	50543			
PFOA	7.040	413.0 -> 369.0	661019	12.26	µg/L	96
		413.0 -> 169.0	124521			
PFOS	8.191	498.9 -> 79.9	106197	12.14	µg/L	88
		498.9 -> 98.8	47680			
PFPeA	4.237	263.0 -> 219.0	515545	26.29	µg/L	100
PFPeS	6.434	349.1 -> 79.9	110289	12.06	µg/L	99
		349.1 -> 98.9	51289			
PFTeDA	9.652	713.1 -> 669.0	256374	12.62	µg/L	96
		713.1 -> 168.9	23113			
PFTrDA	9.309	663.0 -> 619.0	343094	13.50	µg/L	94
		663.0 -> 168.9	39390			
PFUnDA	8.493	563.1 -> 519.0	342060	13.19	µg/L	96
		563.1 -> 269.1	58470			
11CI-PF3OUdS	9.348	630.9 -> 450.9	489224	24.16	µg/L	98
		632.9 -> 452.9	156641			
9CI-PF3ONS	8.533	530.8 -> 351.0	791355	23.41	µg/L	96
		532.8 -> 353.0	241545			
ADONA	6.646	376.9 -> 250.9	1817596	23.40	µg/L	99
		376.9 -> 84.8	493036			
HFPO-DA	5.795	284.9 -> 168.9	134835	26.08	µg/L	93
		284.9 -> 184.9	14629			
3:3FTCA	3.727	241.0 -> 177.0	92829	65.62	µg/L	95
		241.0 -> 117.0	11404			
5:3FTCA	6.099	341.0 -> 237.1	1787583	319.42	µg/L	97
		341.0 -> 217.0	1306506			
7:3FTCA	7.535	441.0 -> 316.9	1158683	320.30	µg/L	100
		441.0 -> 336.9	2555430			
EtFOSA	10.974	526.0 -> 219.0	210607	27.04	µg/L	96
		526.0 -> 169.0	270985			
EtFOSE	10.920	630.0 -> 58.9	508310	67.24	µg/L	100
MeFOSA	10.741	511.9 -> 219.0	180232	25.65	µg/L	94
		511.9 -> 169.0	251213			
MeFOSE	10.673	616.1 -> 58.9	373056	65.37	µg/L	100
PFDoS	9.779	699.1 -> 79.9	24334	12.41	µg/L	99
		699.1 -> 98.8	13303			
NFDHA	5.311	295.0 -> 201.0	100776	26.77	µg/L	95
		295.0 -> 84.9	24533			
PFMBA	4.650	279.0 -> 85.1	363874	26.25	µg/L	100
PFMPA	3.388	229.0 -> 84.9	275387	26.11	µg/L	100
PFEESA	5.888	314.8 -> 134.9	934302	22.81	µg/L	98
		314.8 -> 82.9	31549			

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

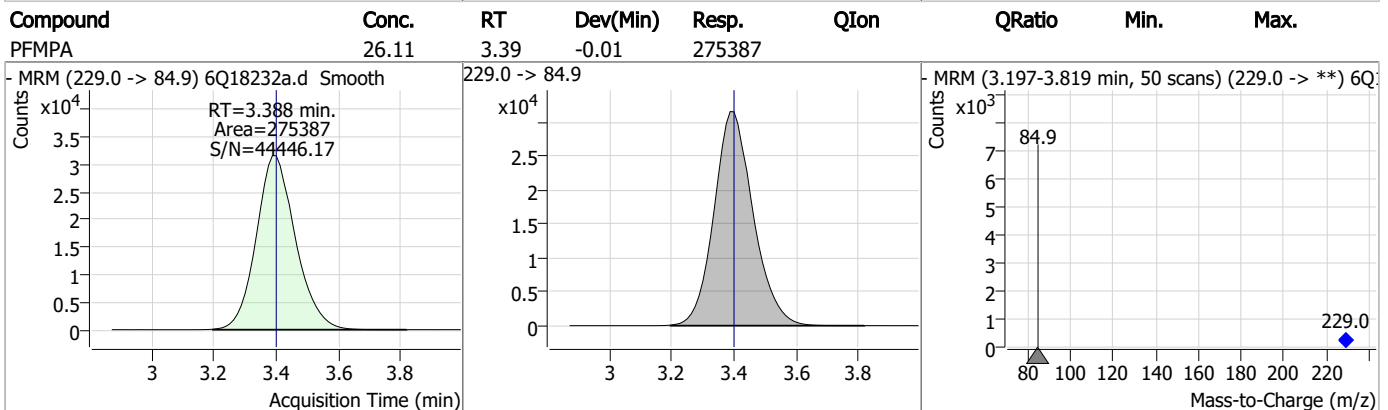
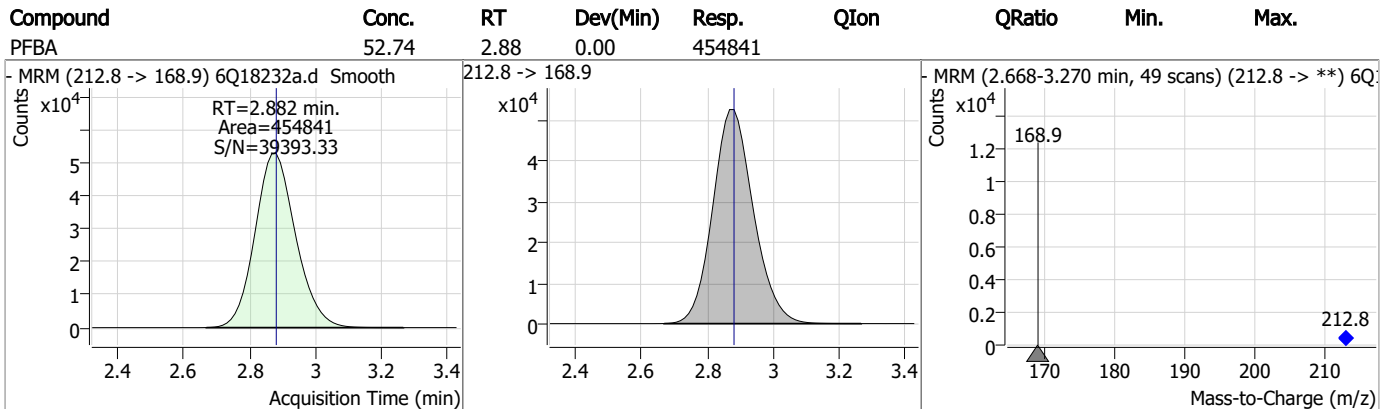
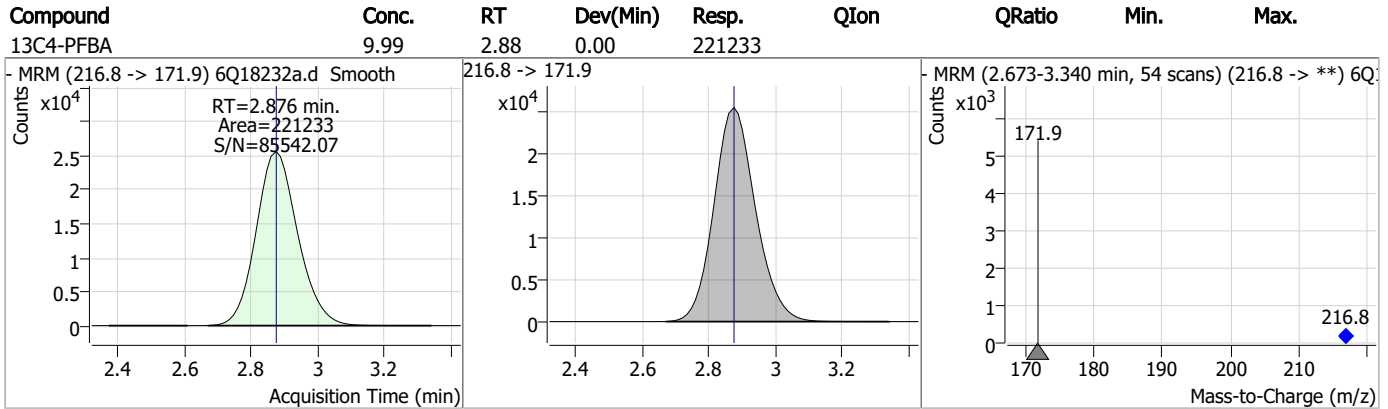
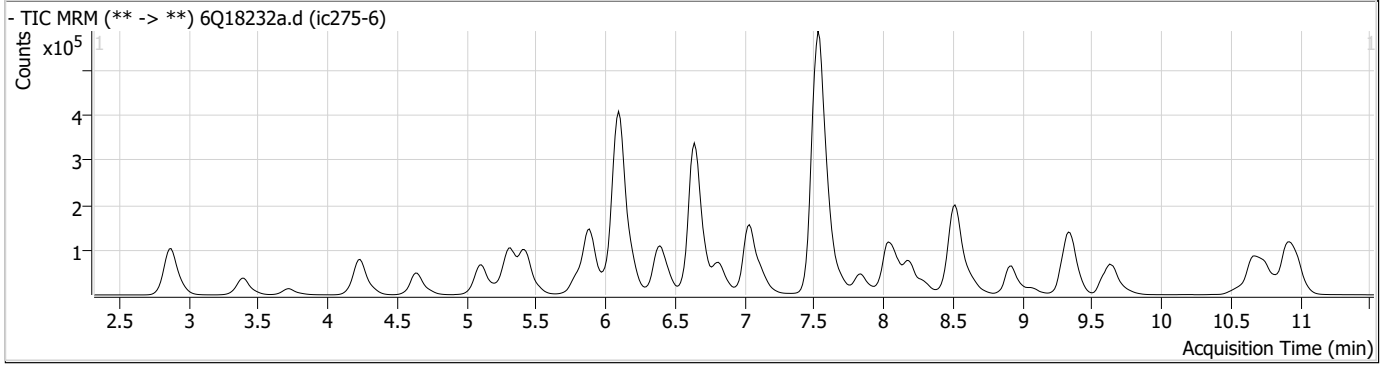
Perfluorinated Compounds by LC/MS/MS

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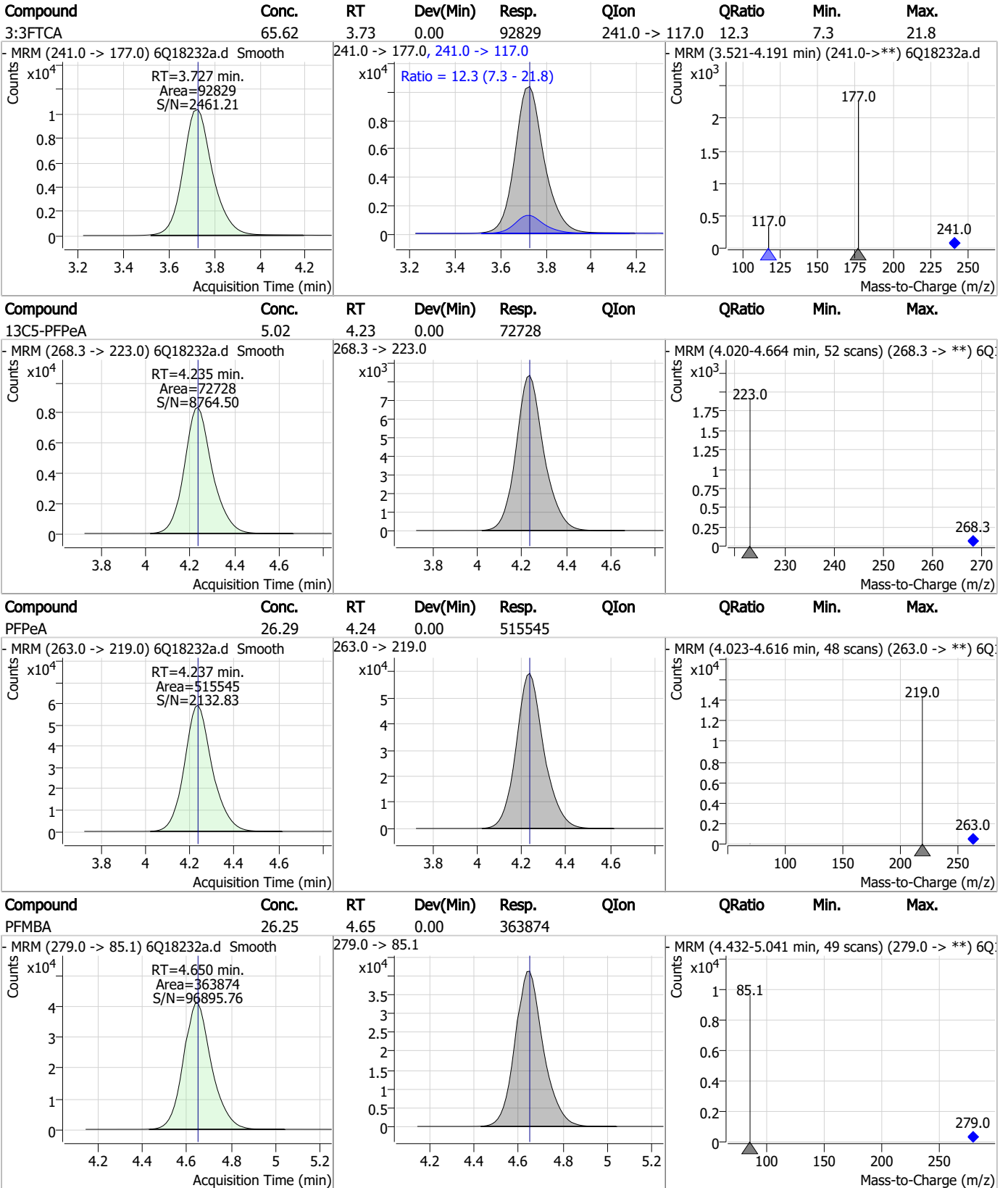
7.7.7
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Perfluorinated Compounds by LC/MS/MS



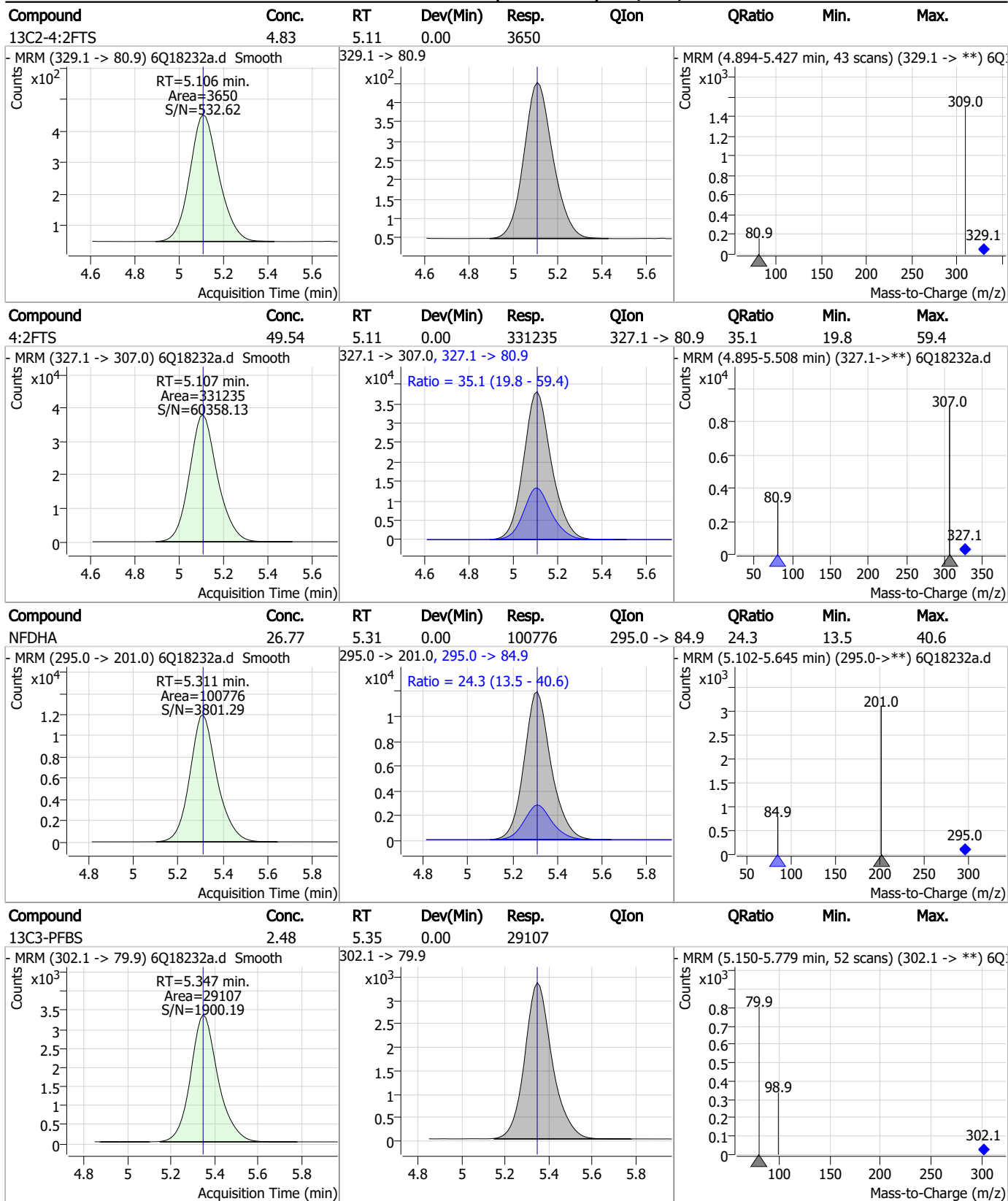
Perfluorinated Compounds by LC/MS/MS



7.7.7

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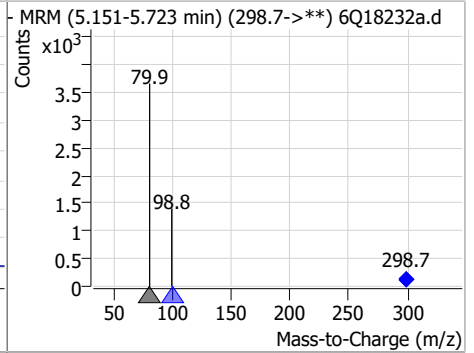
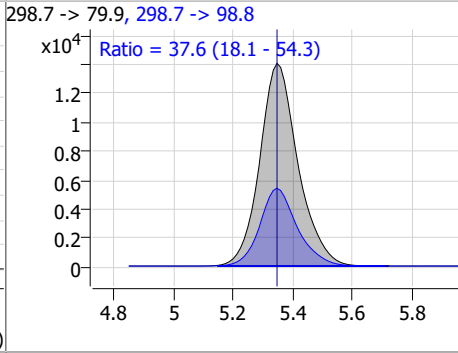
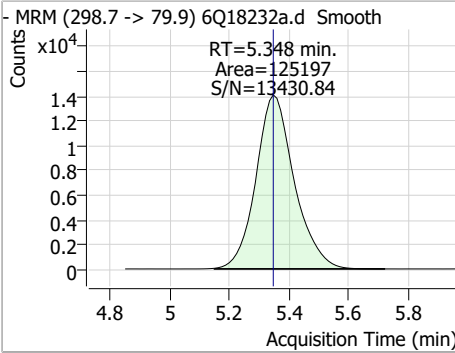
Perfluorinated Compounds by LC/MS/MS



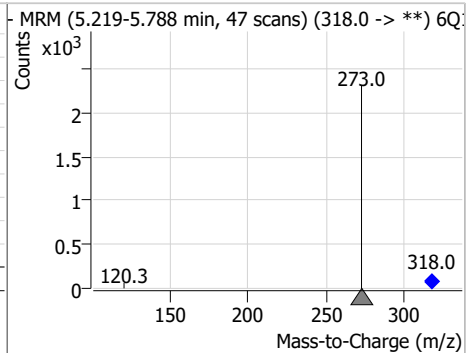
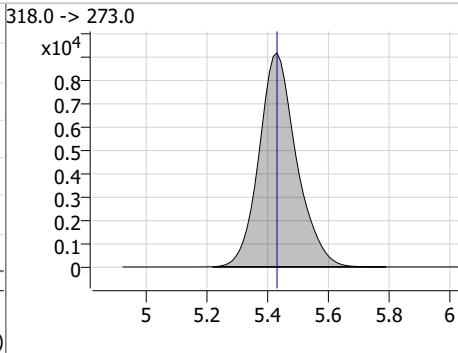
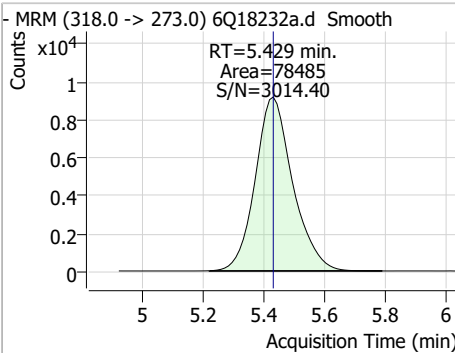
7.7.7
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Perfluorinated Compounds by LC/MS/MS

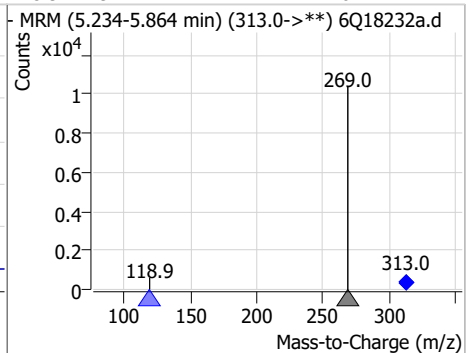
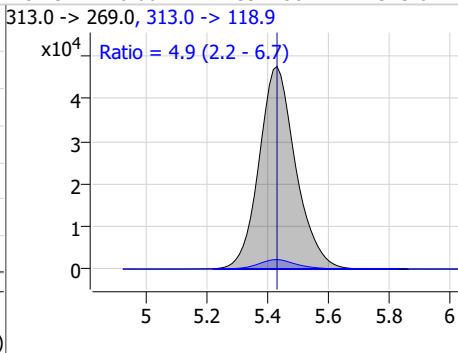
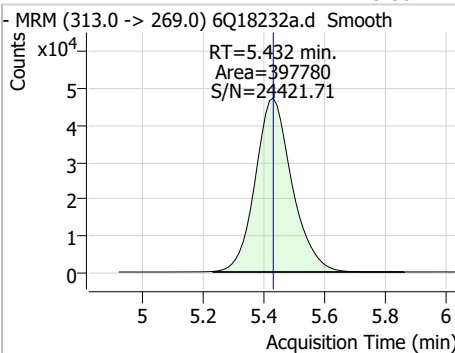
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.23	5.35	0.00	125197	298.7 -> 98.8	37.6	18.1	54.3



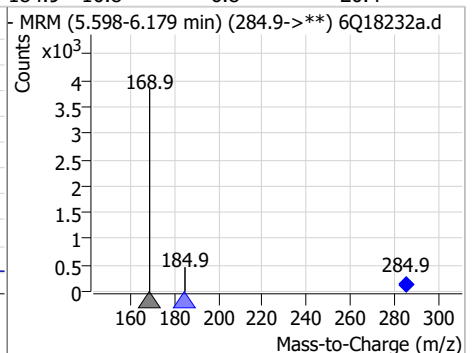
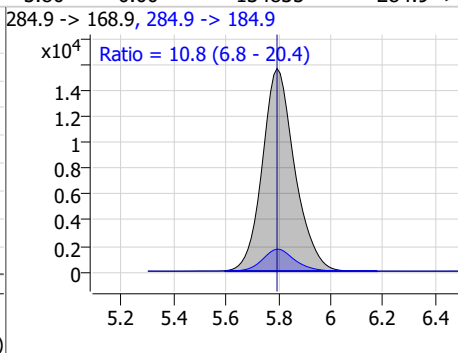
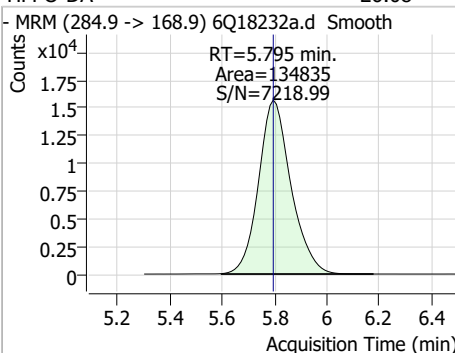
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.43	0.00	78485				



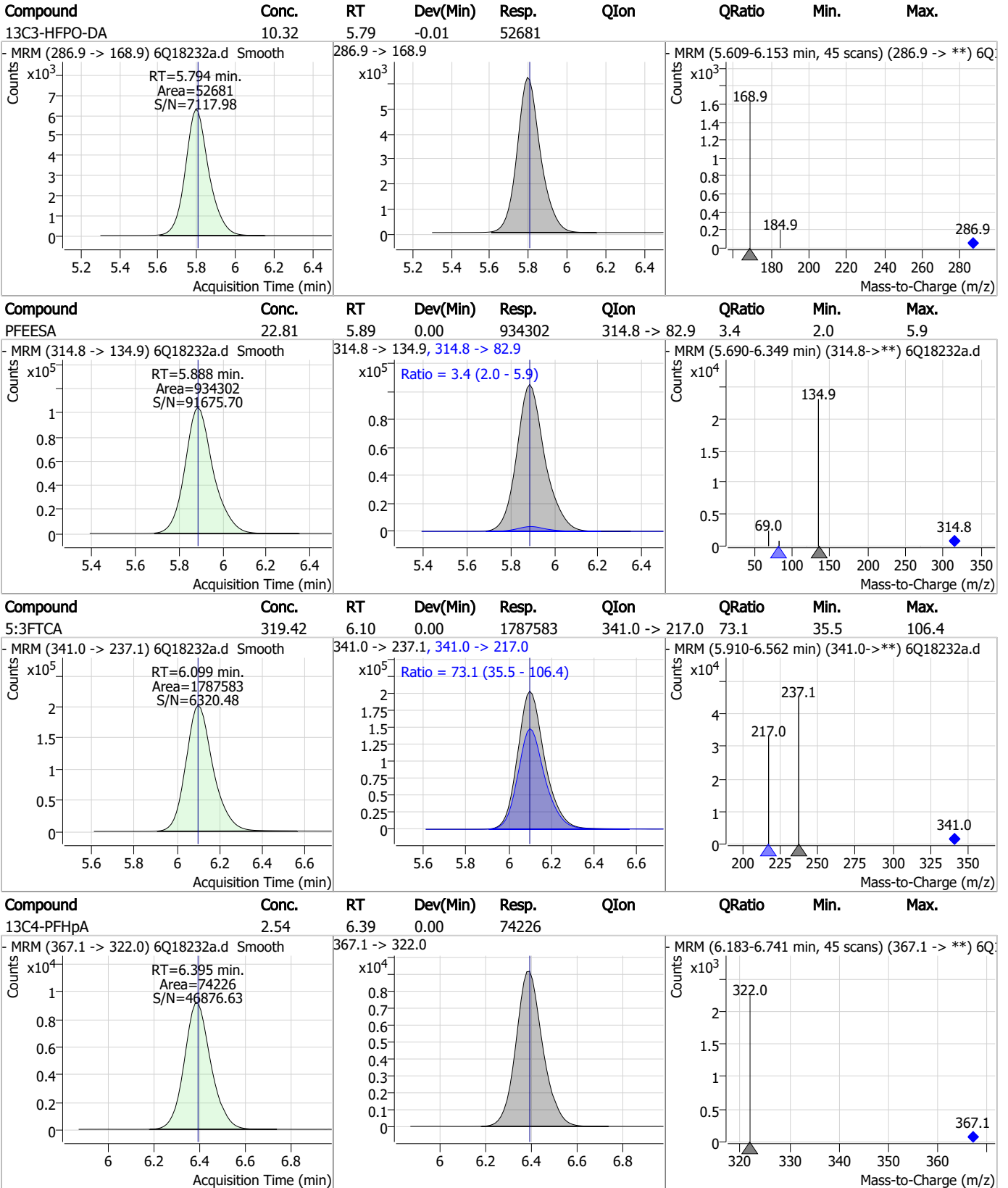
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	13.06	5.43	0.00	397780	313.0 -> 118.9	4.9	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	26.08	5.80	0.00	134835	284.9 -> 184.9	10.8	6.8	20.4



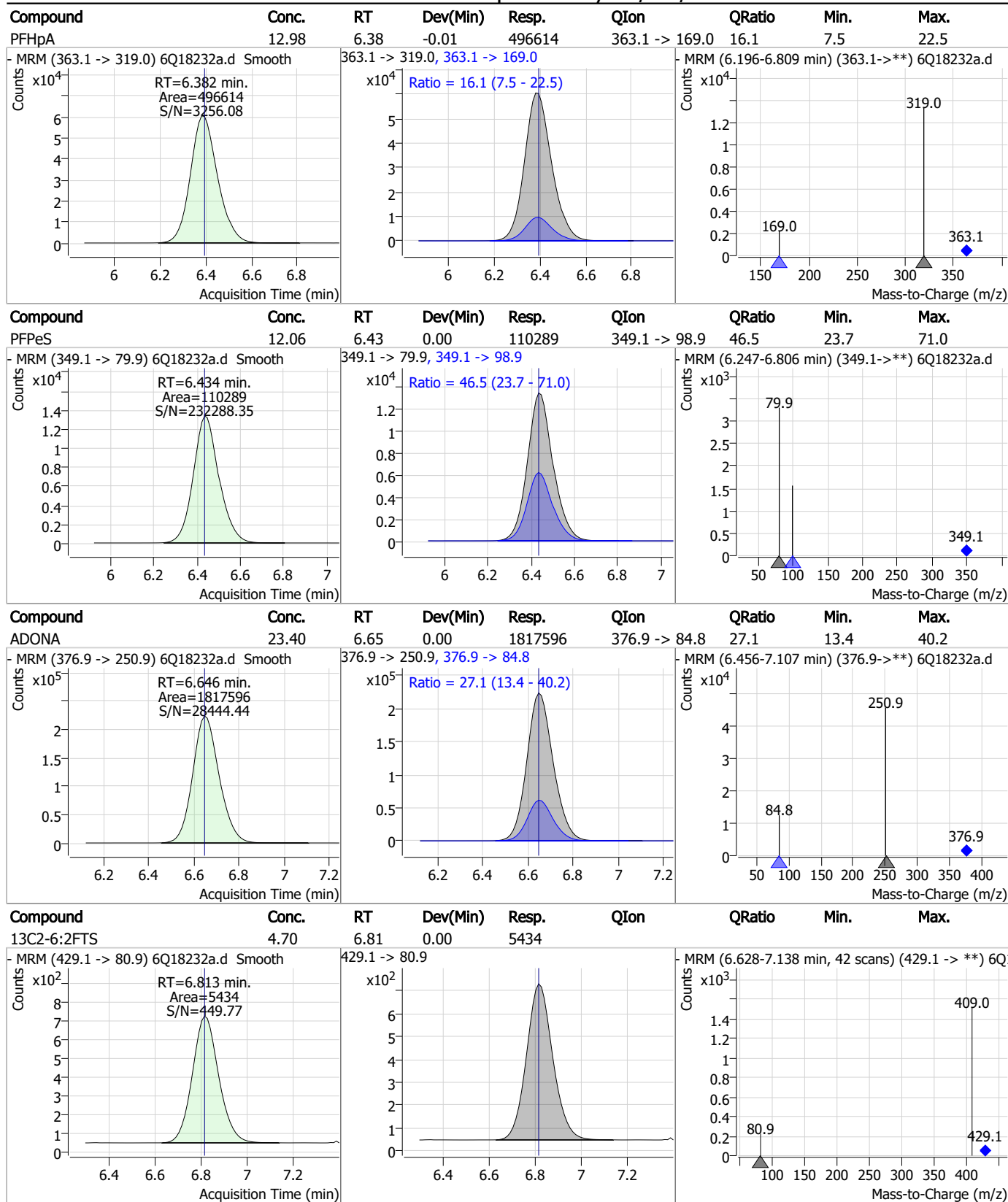
Perfluorinated Compounds by LC/MS/MS



7.7.7

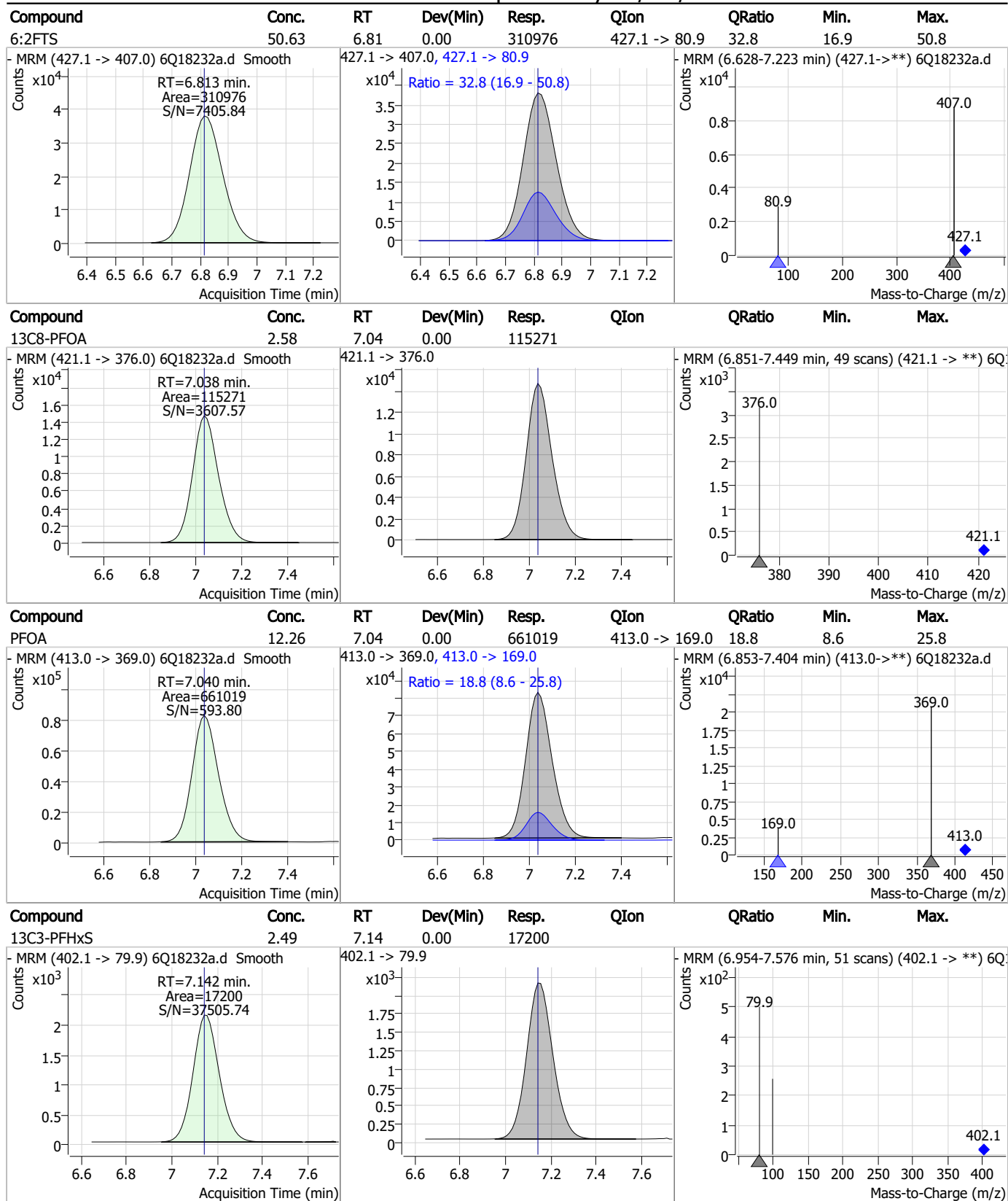
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Perfluorinated Compounds by LC/MS/MS



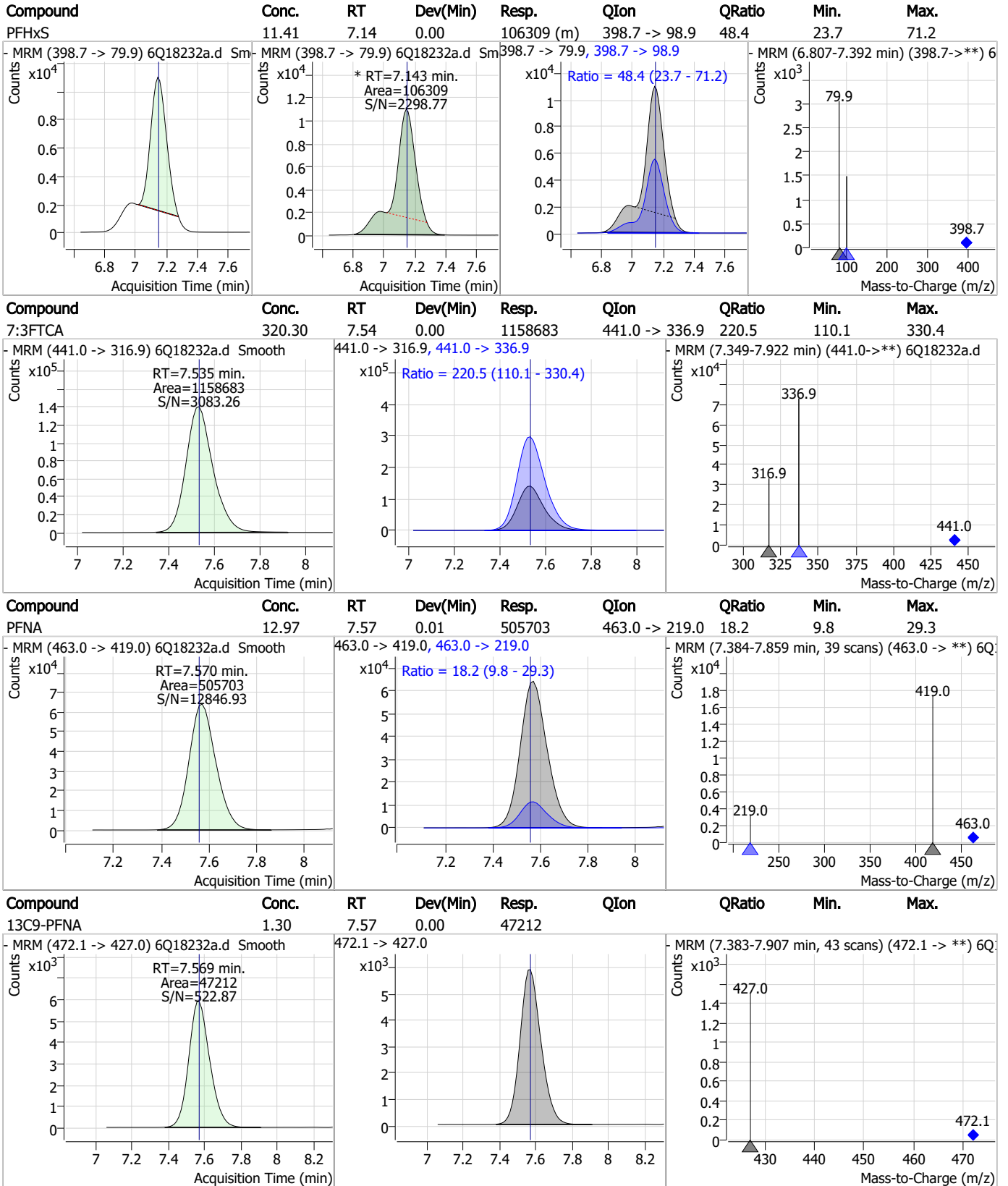
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Perfluorinated Compounds by LC/MS/MS



7.7.7
7

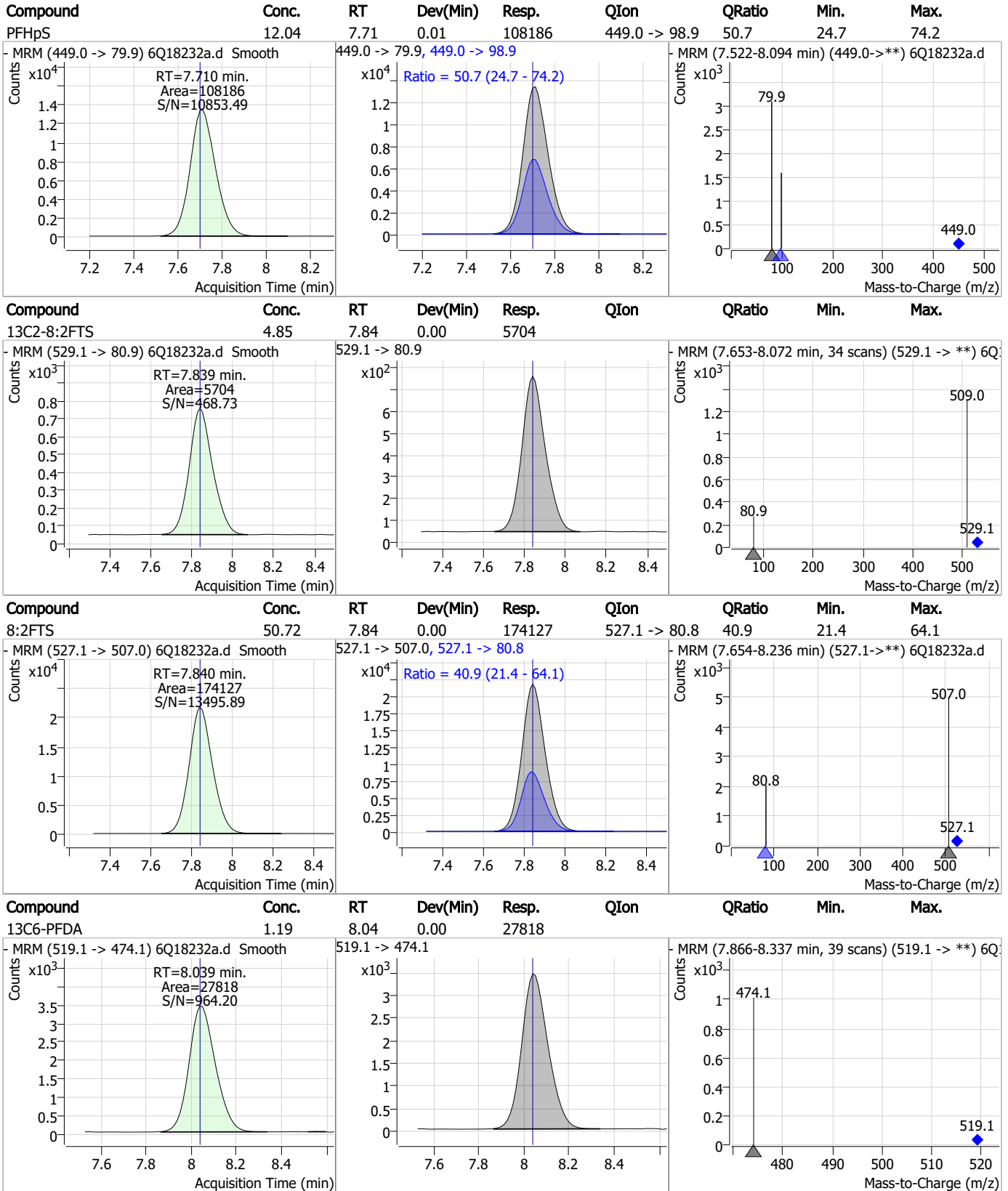
Perfluorinated Compounds by LC/MS/MS



7.7.7

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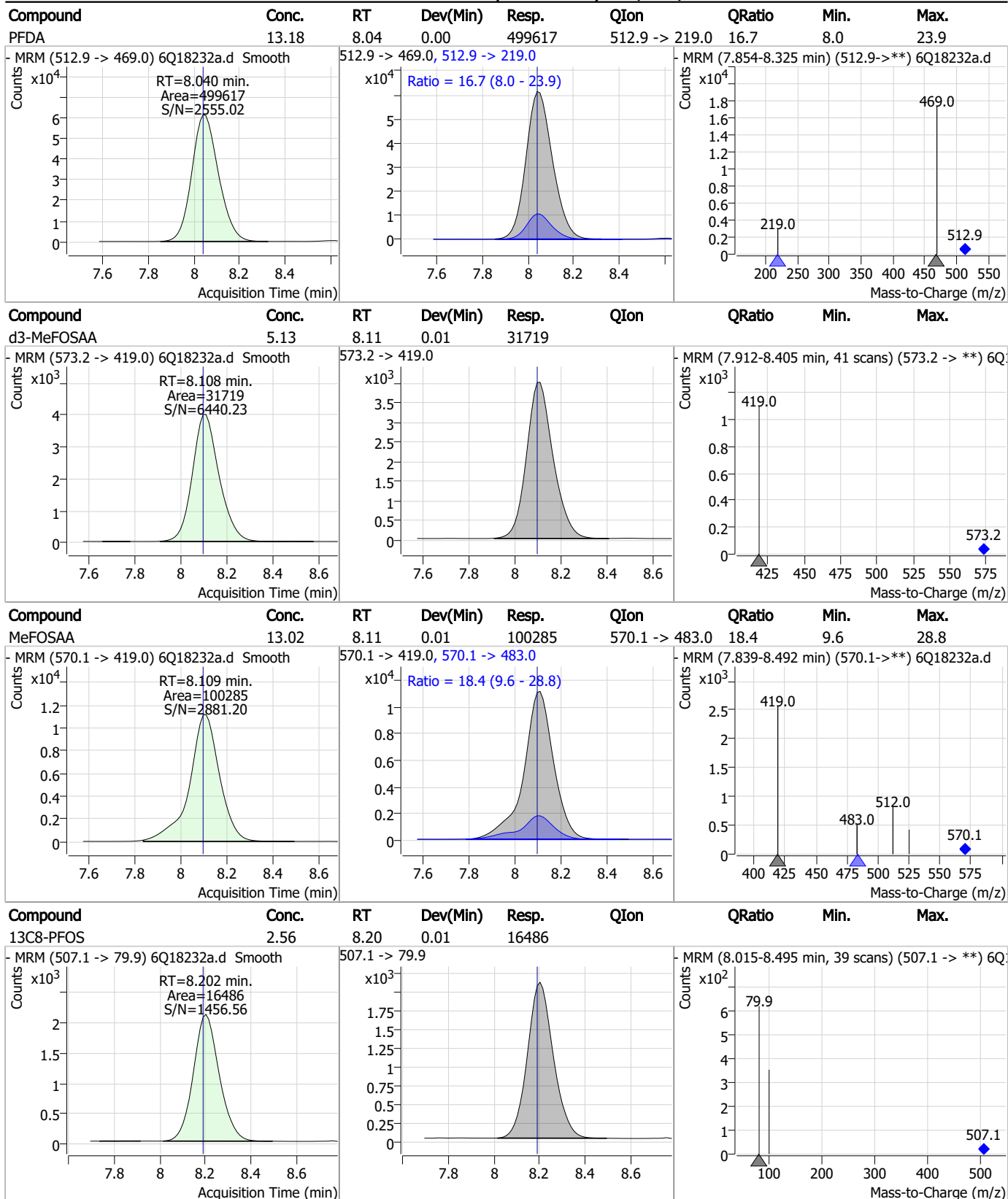
Perfluorinated Compounds by LC/MS/MS



7.7.7

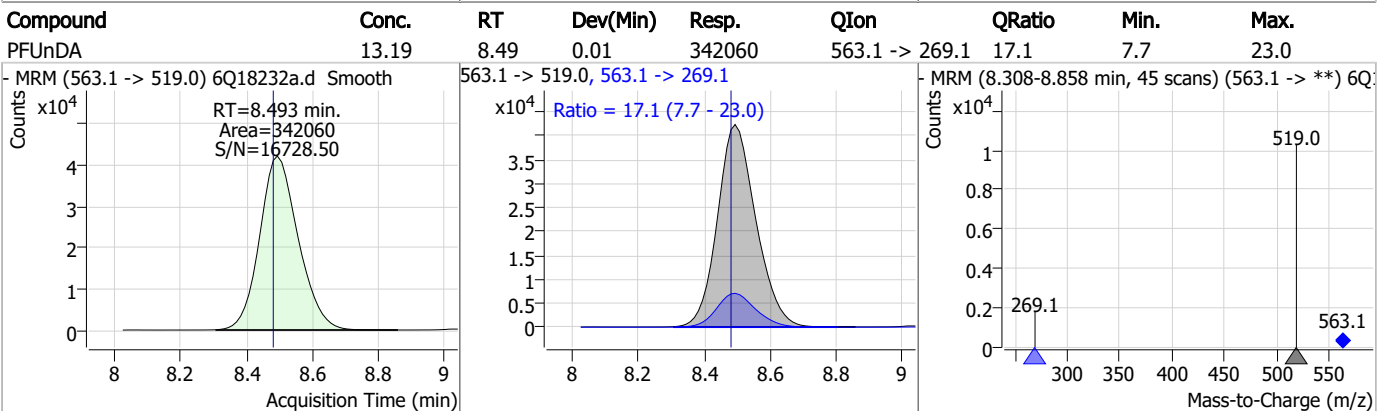
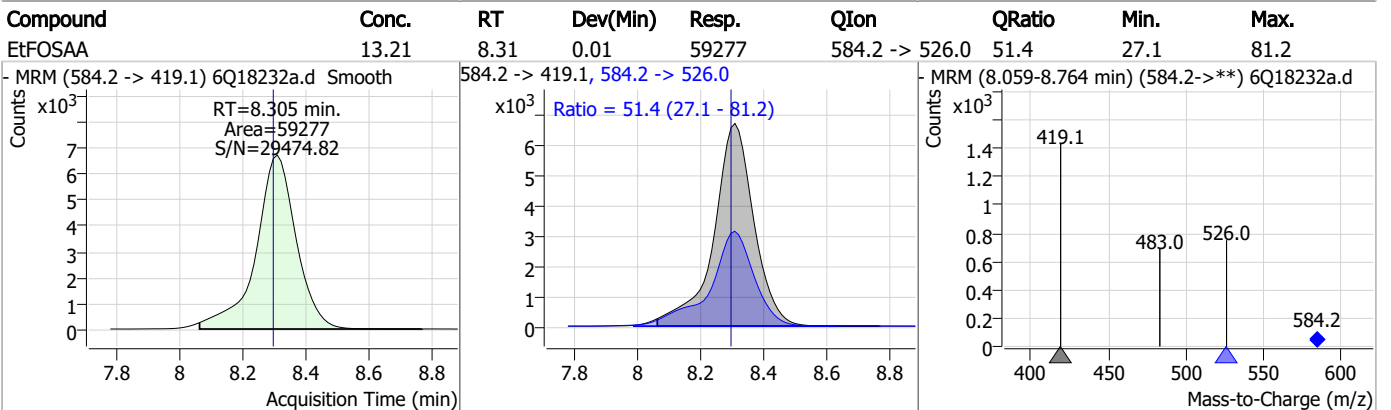
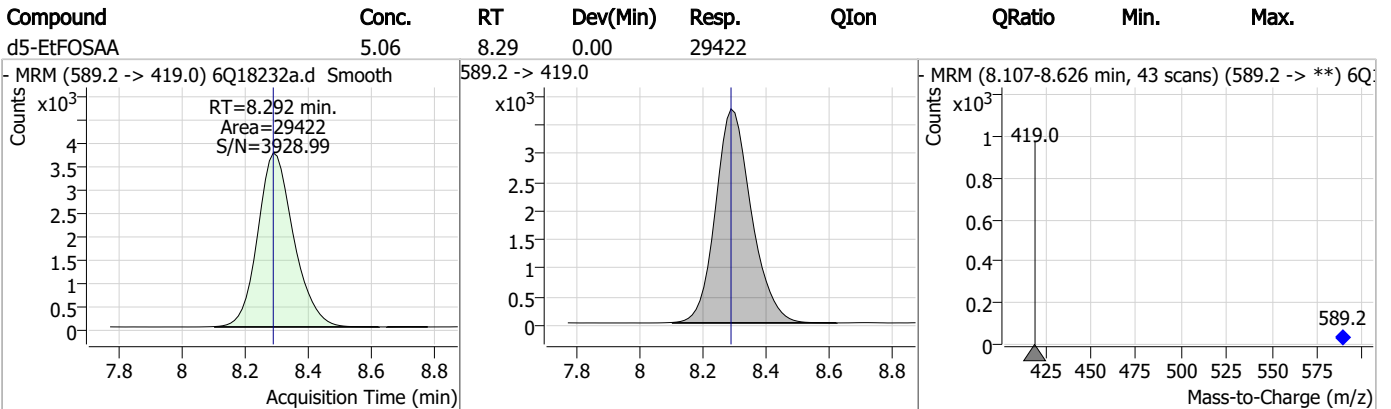
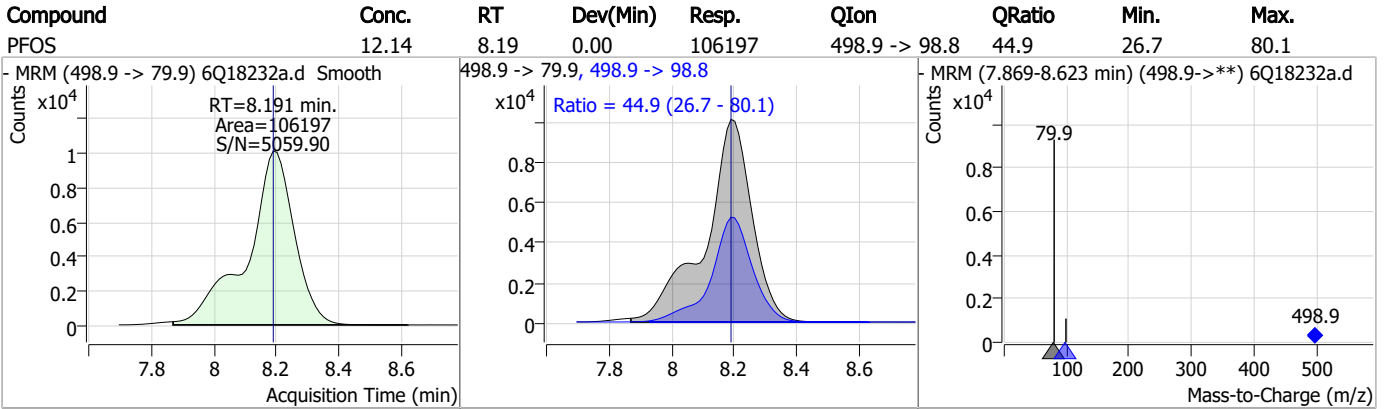
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Perfluorinated Compounds by LC/MS/MS



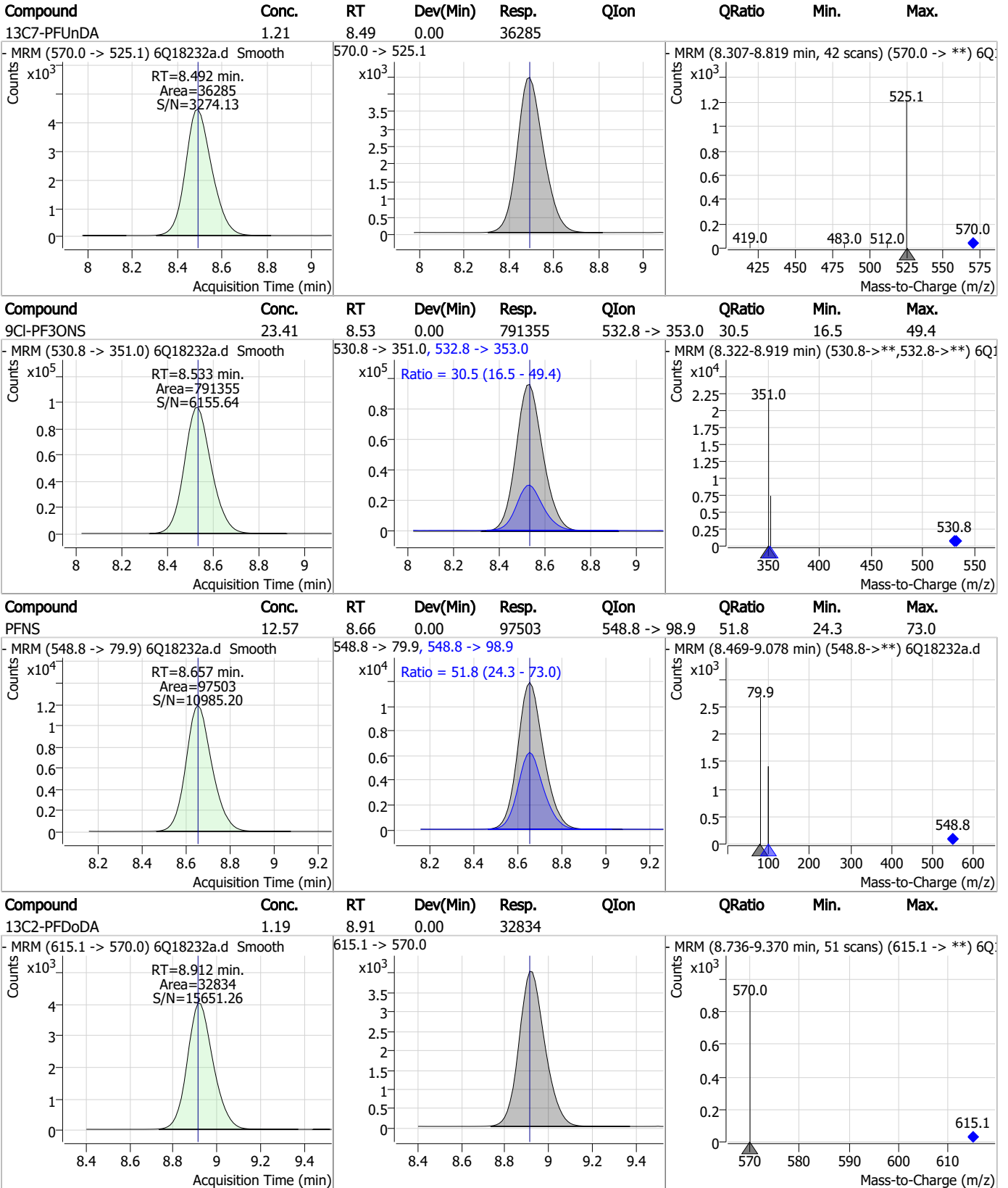
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Perfluorinated Compounds by LC/MS/MS



7.7.7
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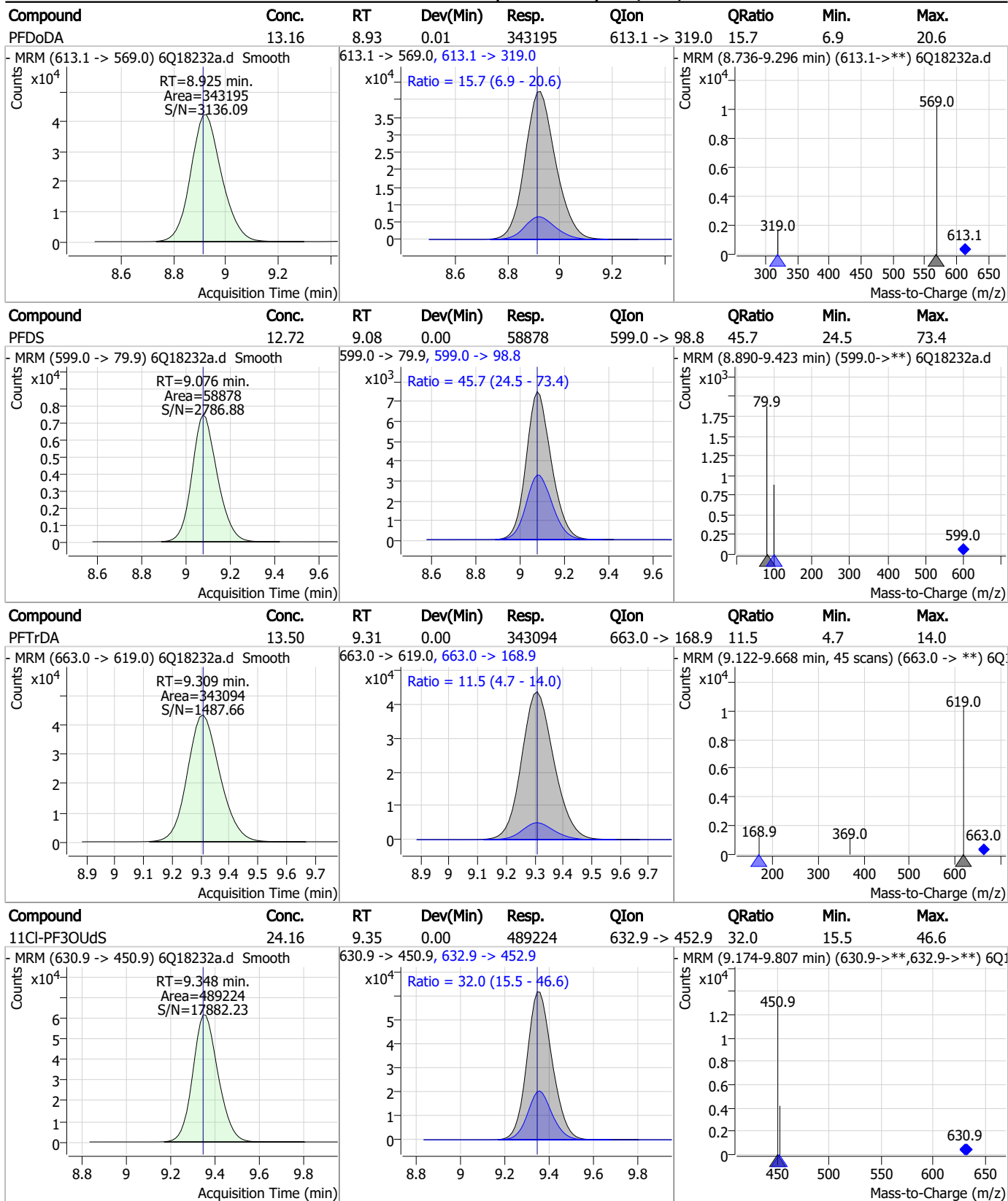
Perfluorinated Compounds by LC/MS/MS



7.7.7

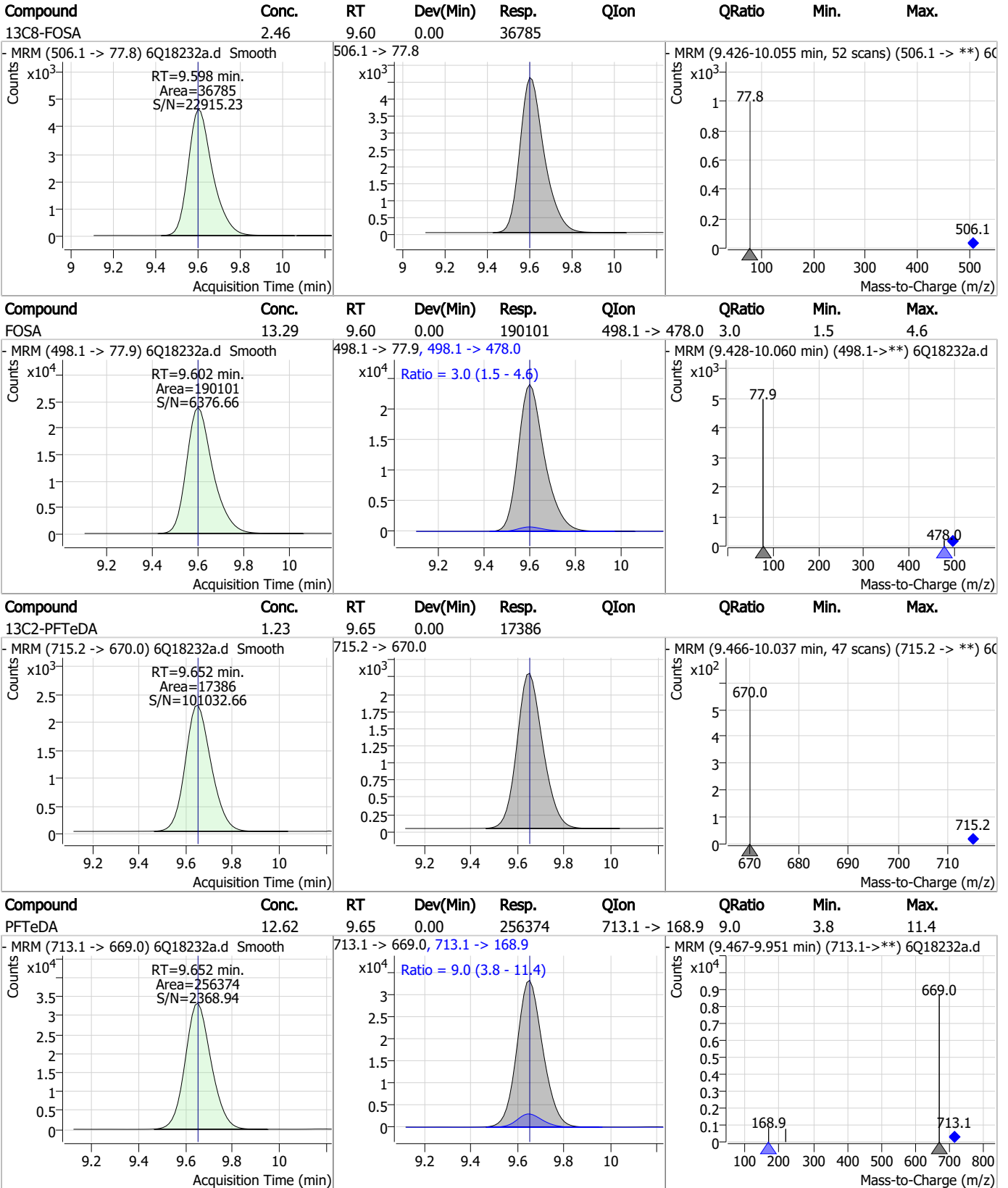
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Perfluorinated Compounds by LC/MS/MS



7.7.7
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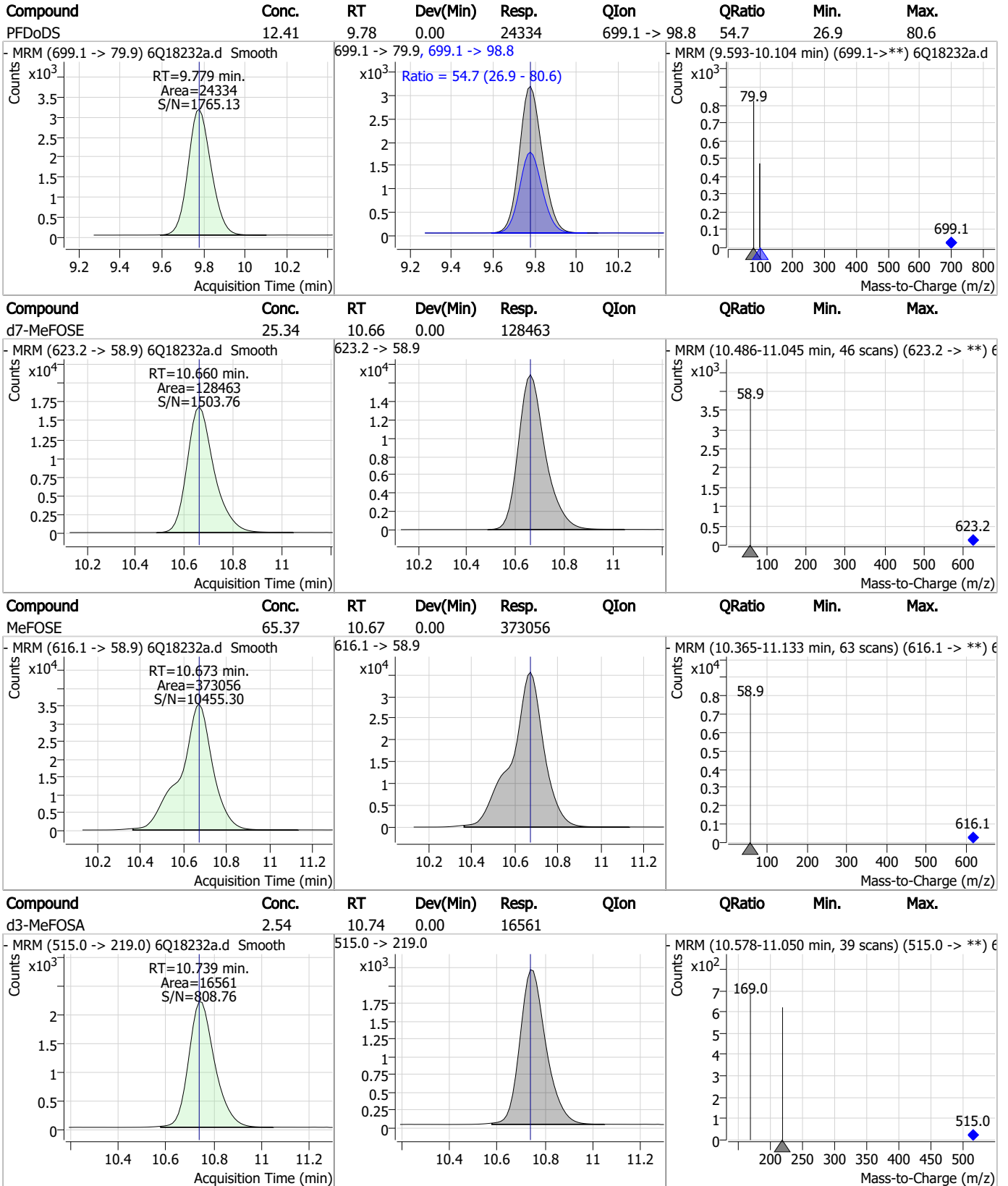
Perfluorinated Compounds by LC/MS/MS



7.7.7

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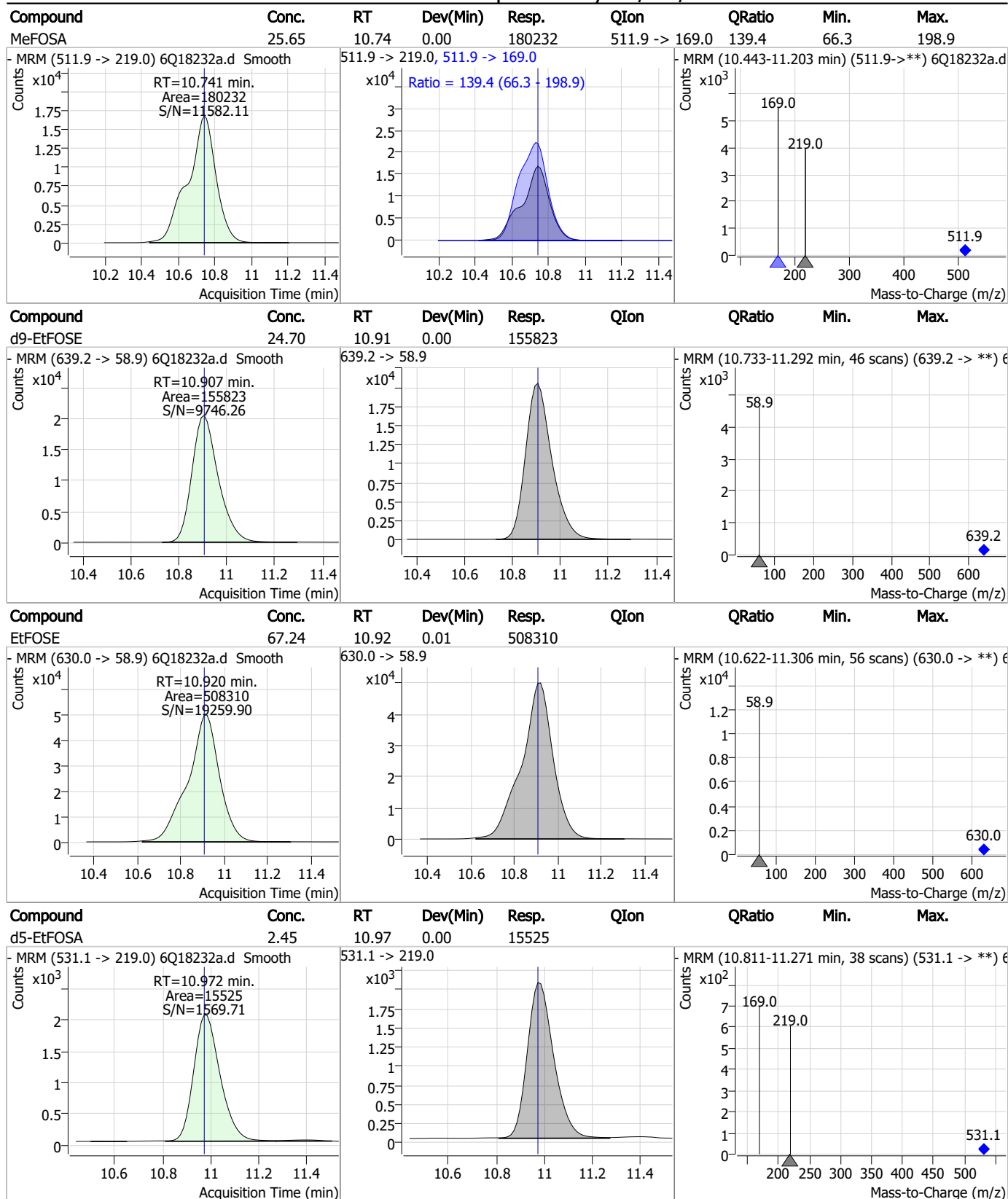
Perfluorinated Compounds by LC/MS/MS



7.7.7

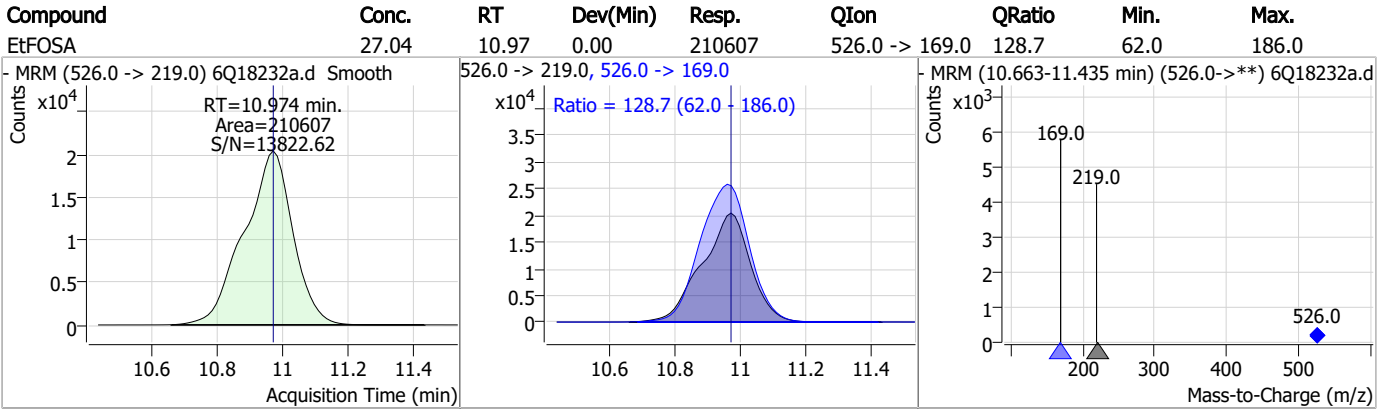
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Perfluorinated Compounds by LC/MS/MS



7.7.7
7

Perfluorinated Compounds by LC/MS/MS



7.7.7

7

Manual Integration Approval Summary

Sample Number: S6Q275-IC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18232A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 17:24 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.7.1

7

Manual Integrations
APPROVED
 (compounds with "m" flag)

Norman Farmer
 05/24/23 16:04

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18233a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 5:38:35 PM
 Sample Name : ic275-7
 Vial : P1-A8
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	211798	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	70545	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	74262	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	74057	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	108906	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	42638	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	27125	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	36354	1.25 µg/L	0.000
M2-PFDoDA	8.925	615.1 -> 570.0	33341	1.25 µg/L	0.012
M2-PFTeDA	9.652	715.2 -> 670.0	16566	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	36567	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	27938	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16372	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16692	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3467	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5316	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5590	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	30002	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	52024	10.00 µg/L	-0.012
M5-EtFOSAA	8.304	589.2 -> 419.0	26995	5.00 µg/L	0.012
M7-MeFOSE	10.660	623.2 -> 58.9	122849	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	147953	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15653	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15878	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	20255	2.50 µg/L	0.012
13C3-PFBA	2.879	216.0 -> 172.0	88973	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	11981	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	115189	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	34816	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56315	1.25 µg/L	0.000
13C2-PFHxA	5.417	315.1 -> 270.0	77005	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3467	4.82 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.4%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5316	4.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5590	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.0%		
13C2-PFDoDA	8.925	615.1 -> 570.0	33341	1.35 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 107.8%		
13C2-PFTeDA	9.652	715.2 -> 670.0	16566	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C3-PFBS	5.347	302.1 -> 79.9	27938	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	16372	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	2.876	216.8 -> 171.9	211798	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.382	367.1 -> 322.0	74057	2.51 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFHxA	5.429	318.0 -> 273.0	74262	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%	
13C5-PFPeA	4.235	268.3 -> 223.0	70545	4.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.2%	
13C6-PFDA	8.039	519.1 -> 474.1	27125	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C7-PFUnDA	8.492	570.0 -> 525.1	36354	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C8-FOSA	9.598	506.1 -> 77.8	36567	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C8-PFOA	7.038	421.1 -> 376.0	108906	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	16692	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.5%	
13C9-PFNA	7.557	472.1 -> 427.0	42638	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30002	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	52024	10.08 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d3-MeFOSA	10.739	515.0 -> 219.0	15878	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
d5-EtFOSAA	8.304	589.2 -> 419.0	26995	4.77 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
d7-MeFOSE	10.660	623.2 -> 58.9	122849	24.89 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	147953	24.10 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	15653	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	608060	95.73 µg/L	92
		327.1 -> 80.9	209245		
6:2FTS	6.813	427.1 -> 407.0	572867	95.33 µg/L	96
		427.1 -> 80.9	181583		
8:2FTS	7.840	527.1 -> 507.0	325119	96.63 µg/L	94
		527.1 -> 80.8	127359		
EtFOSAA	8.305	584.2 -> 419.1	108072	26.25 µg/L	99
		584.2 -> 526.0	58149		
FOSA	9.602	498.1 -> 77.9	363771	25.59 µg/L	100
		498.1 -> 478.0	10749		
MeFOSAA	8.097	570.1 -> 419.0	188308	25.84 µg/L	99
		570.1 -> 483.0	35096		
PFBA	2.868	212.8 -> 168.9	864249	104.67 µg/L	100
PFBS	5.348	298.7 -> 79.9	254460	23.78 µg/L	100
		298.7 -> 98.8	92533		
PFDA	8.040	512.9 -> 469.0	954230	25.81 µg/L	99
		512.9 -> 219.0	154819		
PFDoDA	8.925	613.1 -> 569.0	652074	24.63 µg/L	93
		613.1 -> 319.0	107196		
PFDS	9.089	599.0 -> 79.9	109159	23.29 µg/L	98

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	51948			
PFHpA	6.382	363.1 -> 319.0	942934	24.69	µg/L	95
		363.1 -> 169.0	160391			
PFHpS	7.698	449.0 -> 79.9	216661	23.81	µg/L	96
		449.0 -> 98.9	101784			
PFHxA	5.420	313.0 -> 269.0	768057	26.65	µg/L	99
		313.0 -> 118.9	37929			
PFHxS	7.143	398.7 -> 79.9	204468	23.06	µg/L	m 97
		398.7 -> 98.9	101914			
PFNA	7.570	463.0 -> 419.0	934505	26.55	µg/L	98
		463.0 -> 219.0	192548			
PFNS	8.657	548.8 -> 79.9	190463	24.25	µg/L	98
		548.8 -> 98.9	95146			
PFOA	7.040	413.0 -> 369.0	1316527	25.85	µg/L	96
		413.0 -> 169.0	251295			
PFOS	8.191	498.9 -> 79.9	198523	22.41	µg/L	m 95
		498.9 -> 98.8	98610			
PFPeA	4.237	263.0 -> 219.0	993100	52.21	µg/L	100
PFPeS	6.434	349.1 -> 79.9	218580	25.12	µg/L	96
		349.1 -> 98.9	97384			
PFTeDA	9.652	713.1 -> 669.0	501855	25.94	µg/L	96
		713.1 -> 168.9	44304			
PFTrDA	9.309	663.0 -> 619.0	658738	25.52	µg/L	95
		663.0 -> 168.9	73594			
PFUnDA	8.493	563.1 -> 519.0	674305	25.95	µg/L	97
		563.1 -> 269.1	111339			
11Cl-PF3OUdS	9.360	630.9 -> 450.9	947049	47.36	µg/L	100
		632.9 -> 452.9	293996			
9Cl-PF3ONS	8.533	530.8 -> 351.0	1564634	46.86	µg/L	98
		532.8 -> 353.0	500756			
ADONA	6.646	376.9 -> 250.9	3647403	47.55	µg/L	97
		376.9 -> 84.8	919021			
HFPO-DA	5.795	284.9 -> 168.9	260834	51.10	µg/L	93
		284.9 -> 184.9	28274			
3:3FTCA	3.709	241.0 -> 177.0	178897	130.37	µg/L	95
		241.0 -> 117.0	21982			
5:3FTCA	6.099	341.0 -> 237.1	3343561	631.42	µg/L	94
		341.0 -> 217.0	2544918			
7:3FTCA	7.523	441.0 -> 316.9	2202395	643.43	µg/L	96
		441.0 -> 336.9	4985603			
EtFOSA	10.974	526.0 -> 219.0	403628	51.40	µg/L	93
		526.0 -> 169.0	533632			
EtFOSE	10.920	630.0 -> 58.9	953791	132.88	µg/L	100
MeFOSA	10.741	511.9 -> 219.0	350608	52.04	µg/L	96
		511.9 -> 169.0	483396			
MeFOSE	10.673	616.1 -> 58.9	691786	126.75	µg/L	100
PFDoS	9.779	699.1 -> 79.9	47201	23.77	µg/L	97
		699.1 -> 98.8	26412			
NFDHA	5.311	295.0 -> 201.0	184636	51.84	µg/L	97
		295.0 -> 84.9	47203			
PFMBA	4.638	279.0 -> 85.1	698318	51.94	µg/L	100
PFMPA	3.388	229.0 -> 84.9	534421	52.25	µg/L	100
PFEESA	5.888	314.8 -> 134.9	1901845	49.07	µg/L	98
		314.8 -> 82.9	59283			

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

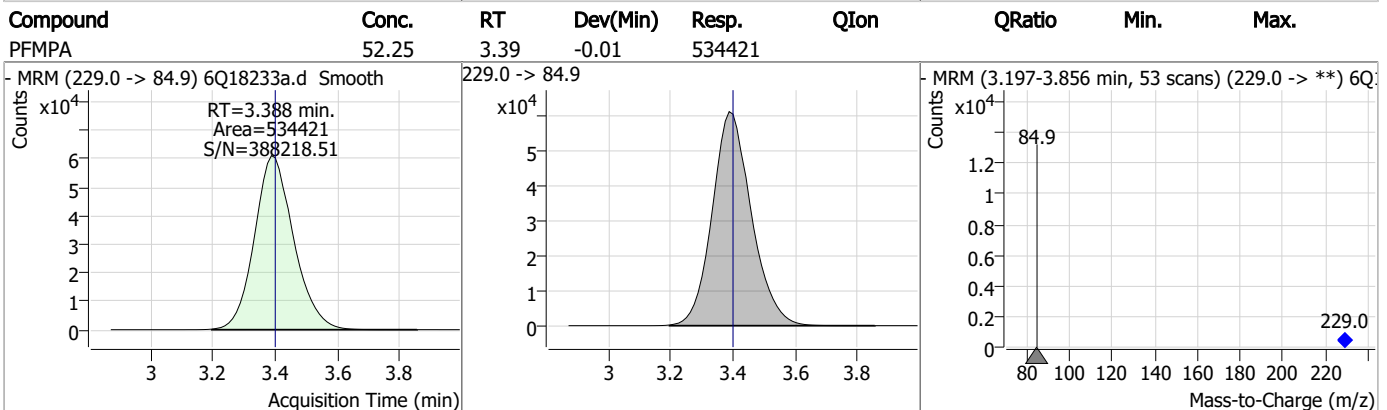
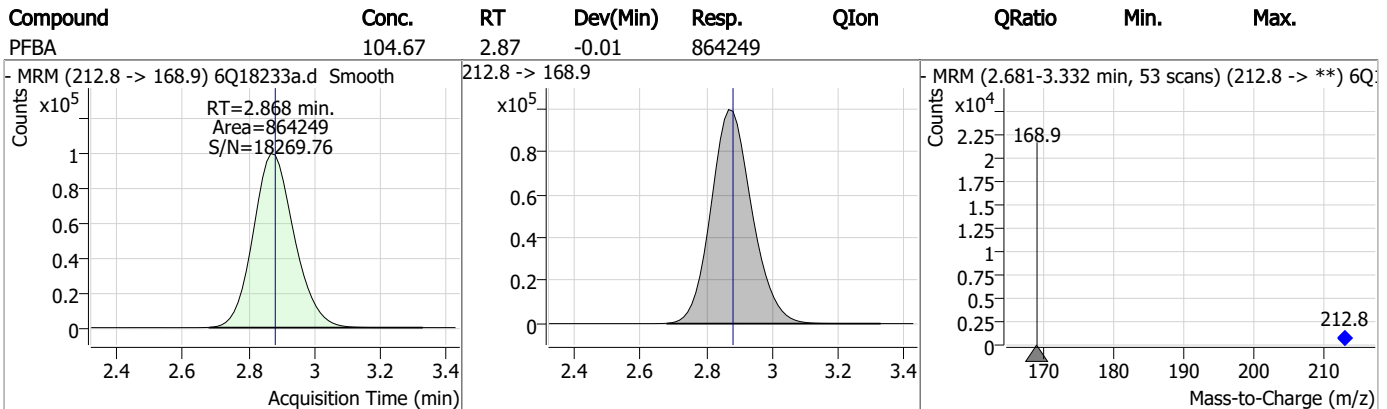
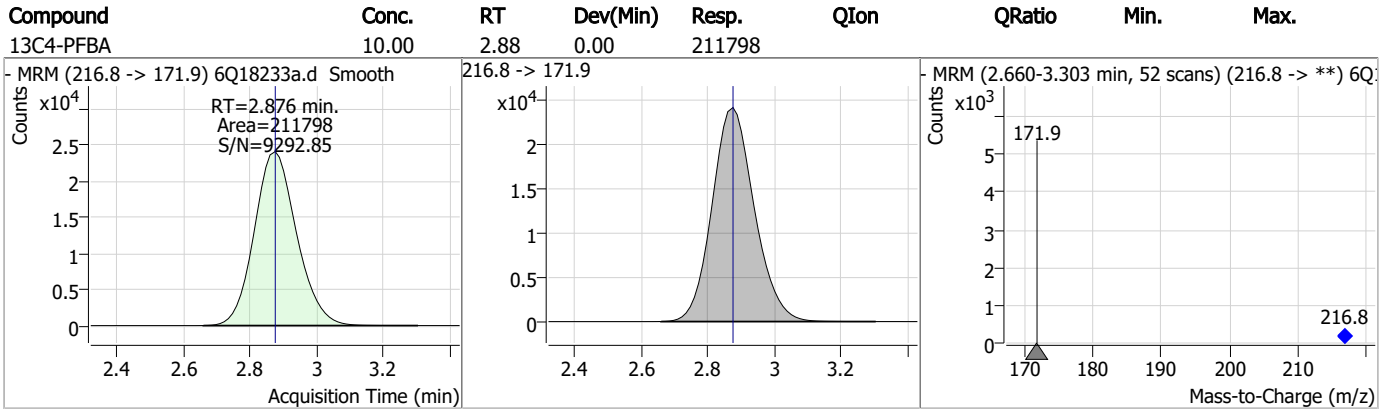
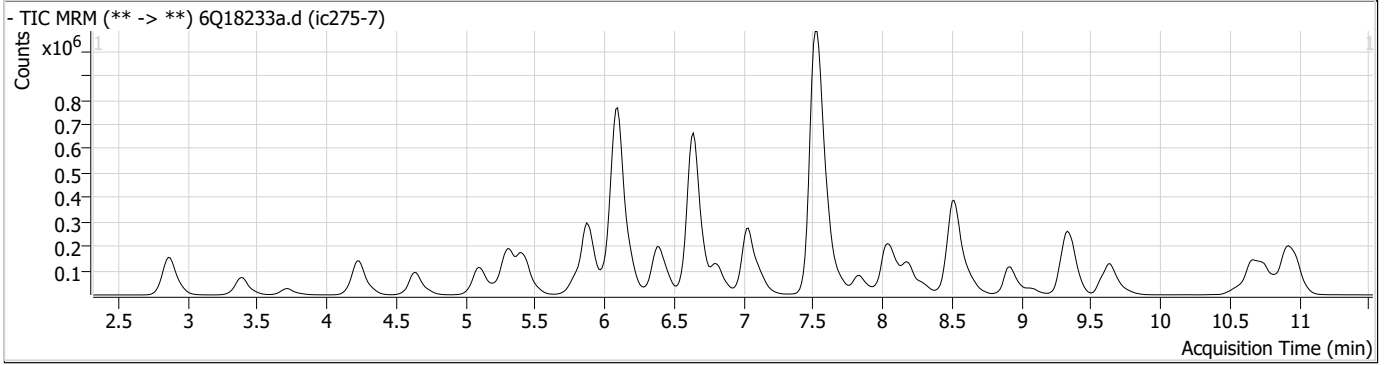
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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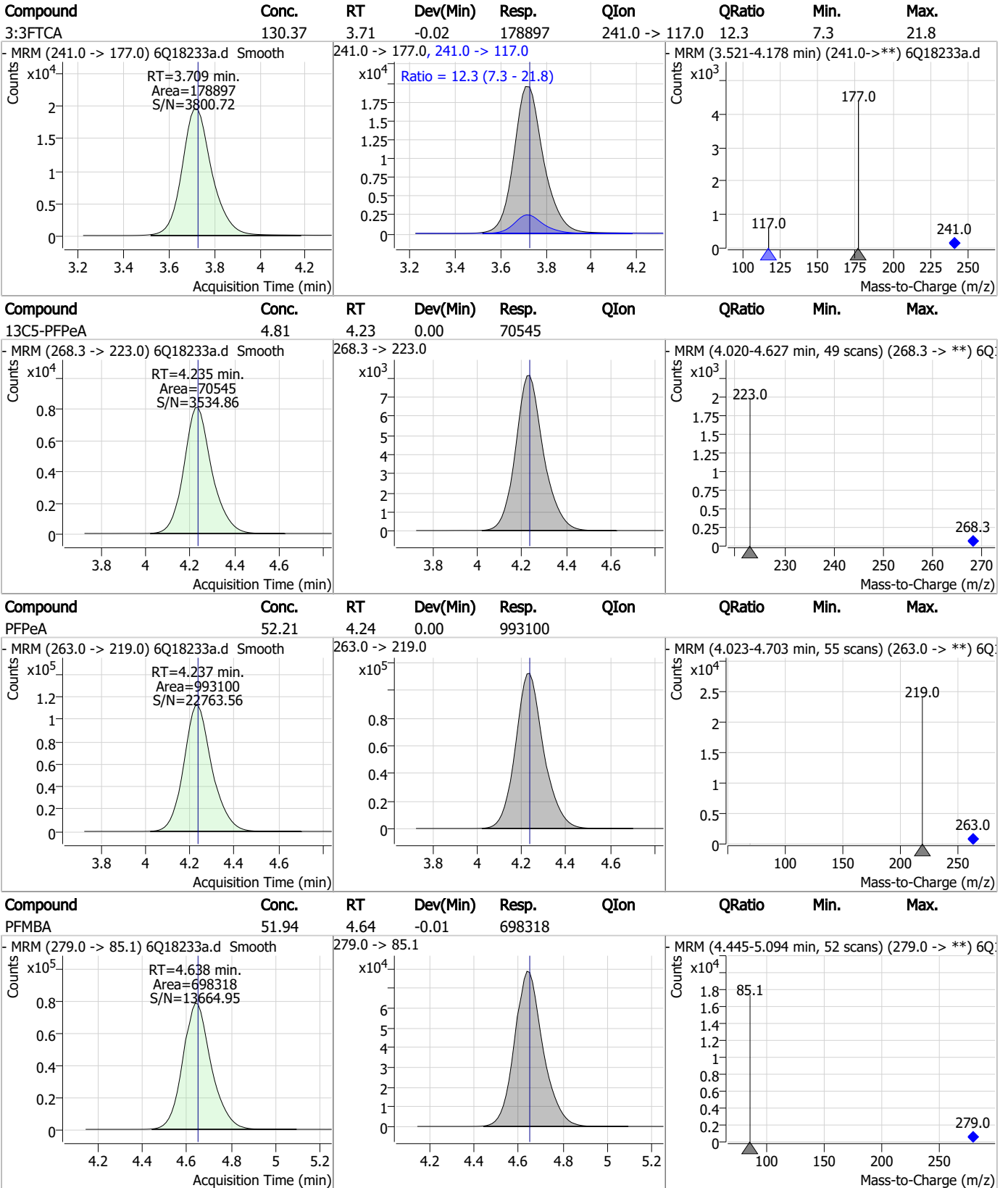
7.7.8
7



Perfluorinated Compounds by LC/MS/MS



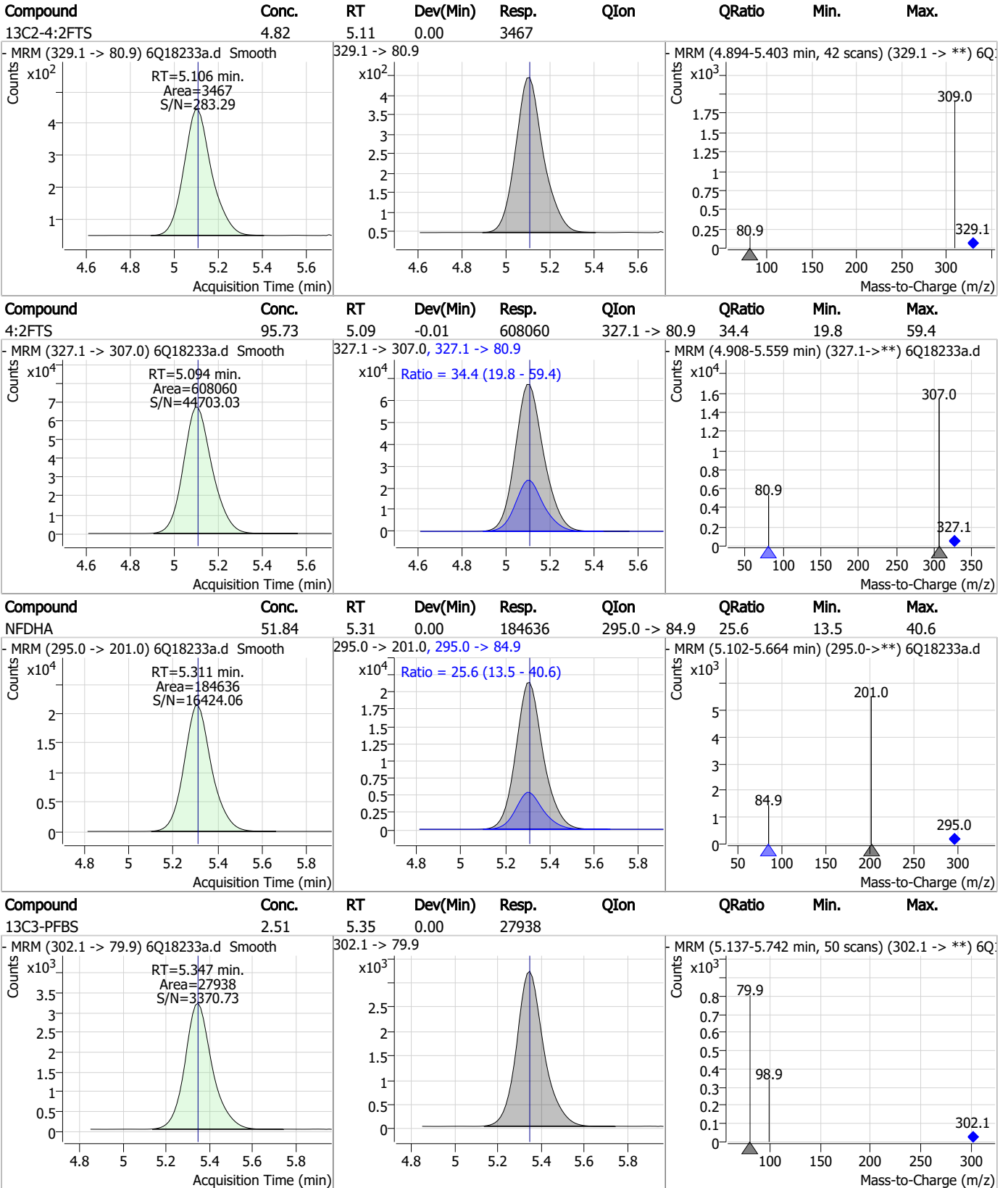
Perfluorinated Compounds by LC/MS/MS



7.7.8

7

Perfluorinated Compounds by LC/MS/MS

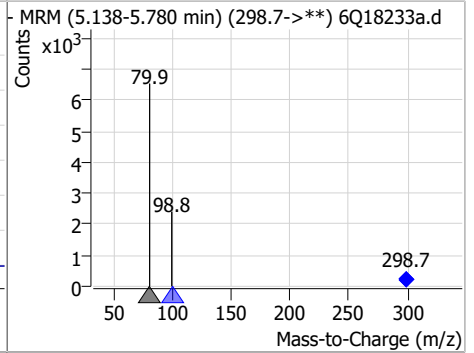
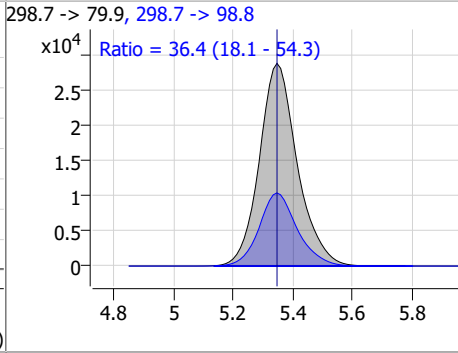
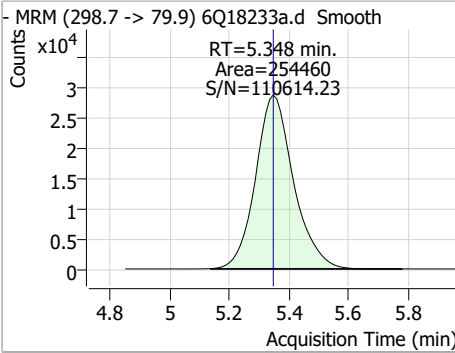


7.7.8

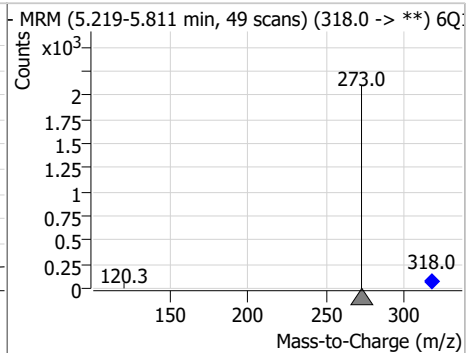
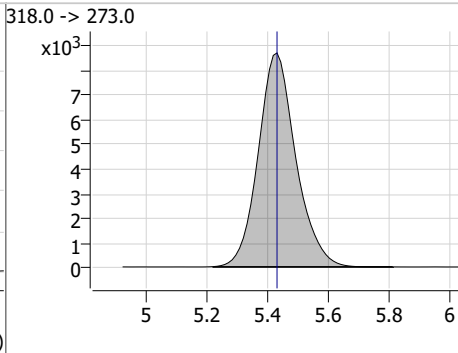
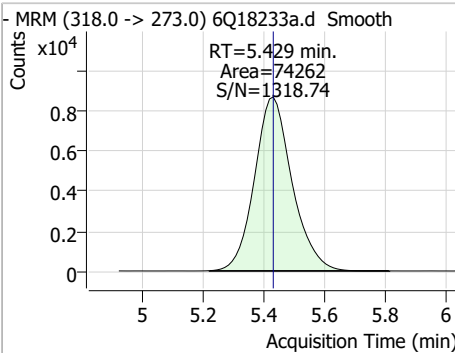
7

Perfluorinated Compounds by LC/MS/MS

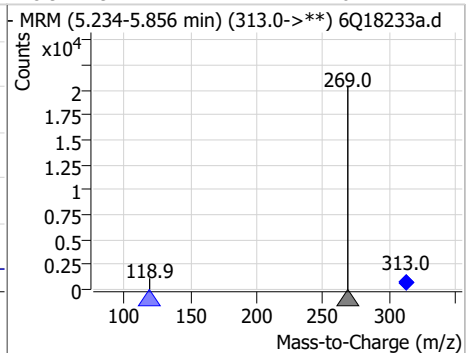
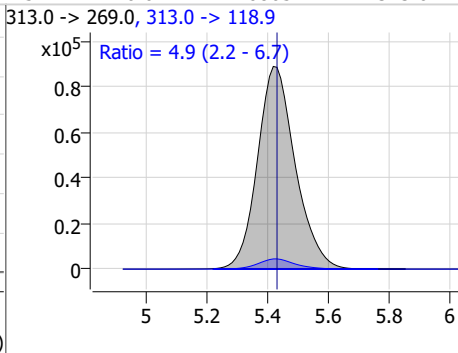
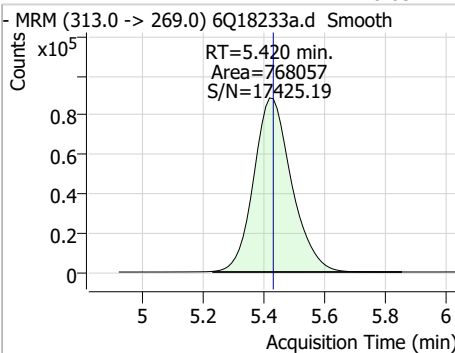
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	23.78	5.35	0.00	254460	298.7 -> 98.8	36.4	18.1	54.3



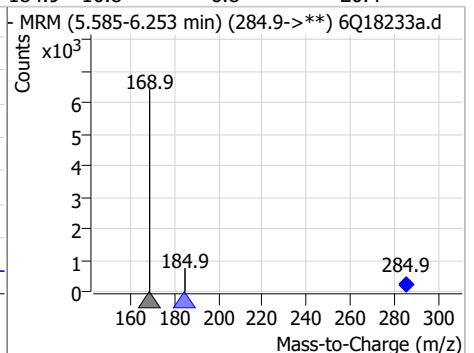
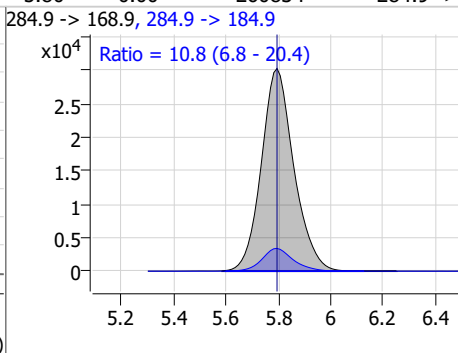
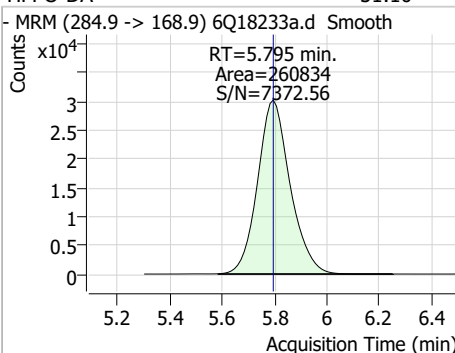
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.37	5.43	0.00	74262				



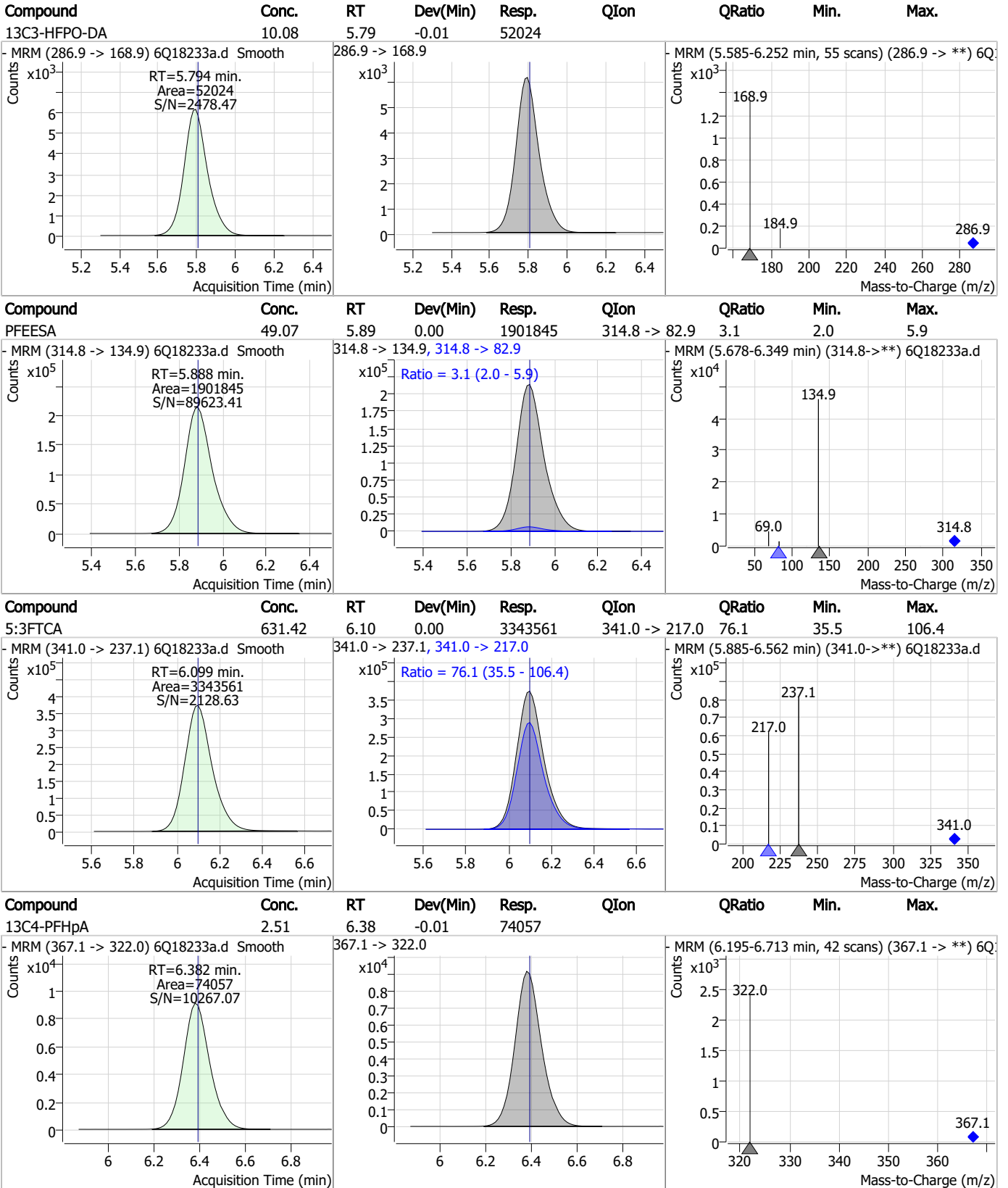
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	26.65	5.42	-0.01	768057	313.0 -> 118.9	4.9	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	51.10	5.80	0.00	260834	284.9 -> 184.9	10.8	6.8	20.4



Perfluorinated Compounds by LC/MS/MS

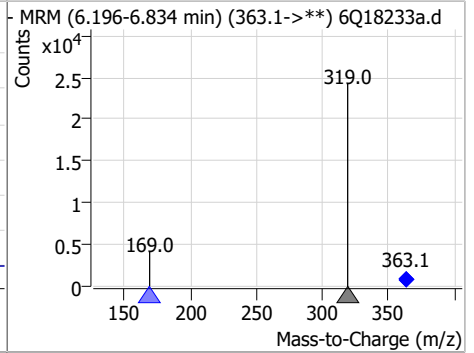
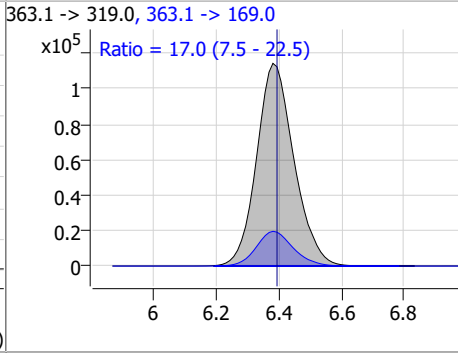
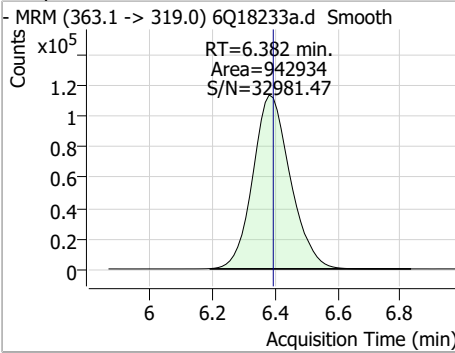


7.7.8

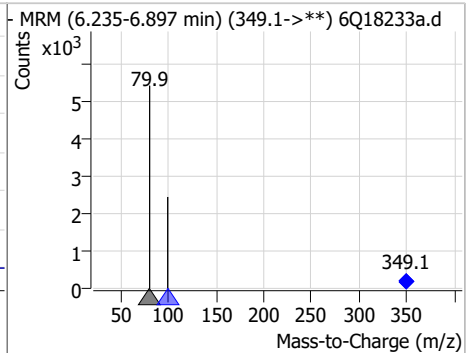
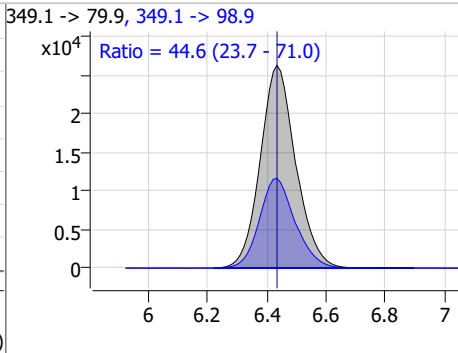
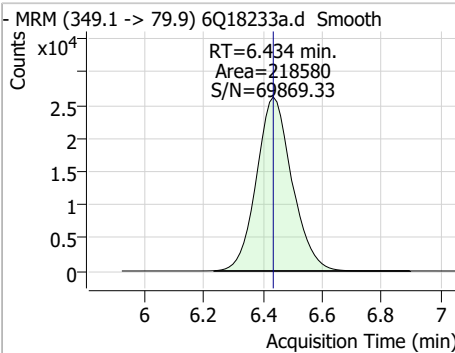
7

Perfluorinated Compounds by LC/MS/MS

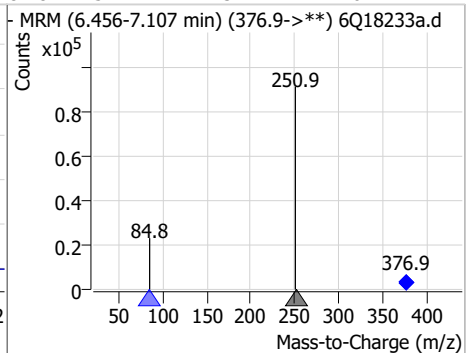
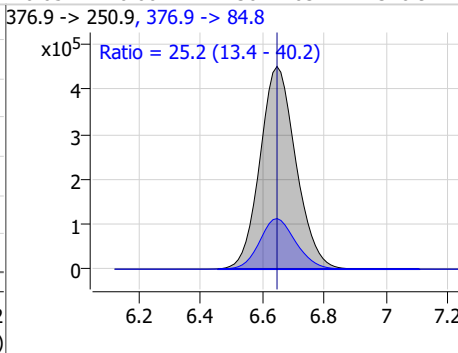
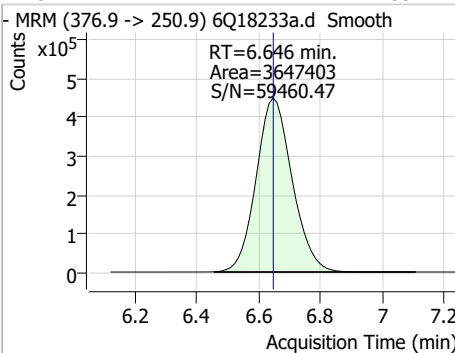
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	24.69	6.38	-0.01	942934	363.1 -> 169.0	17.0	7.5	22.5



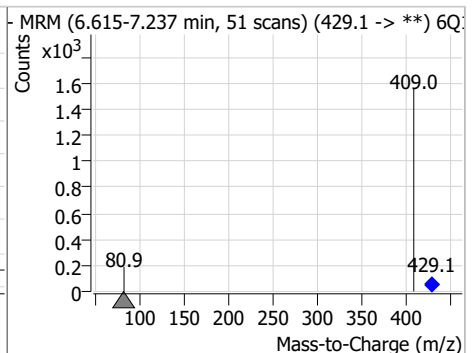
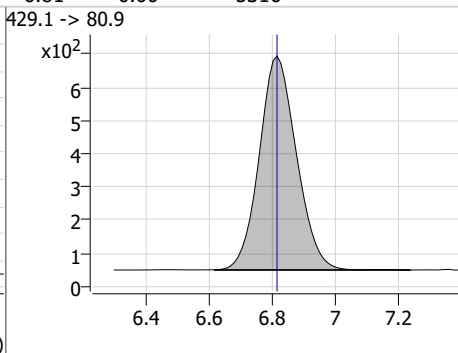
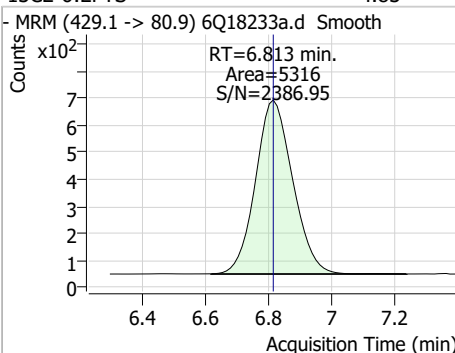
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	25.12	6.43	0.00	218580	349.1 -> 98.9	44.6	23.7	71.0



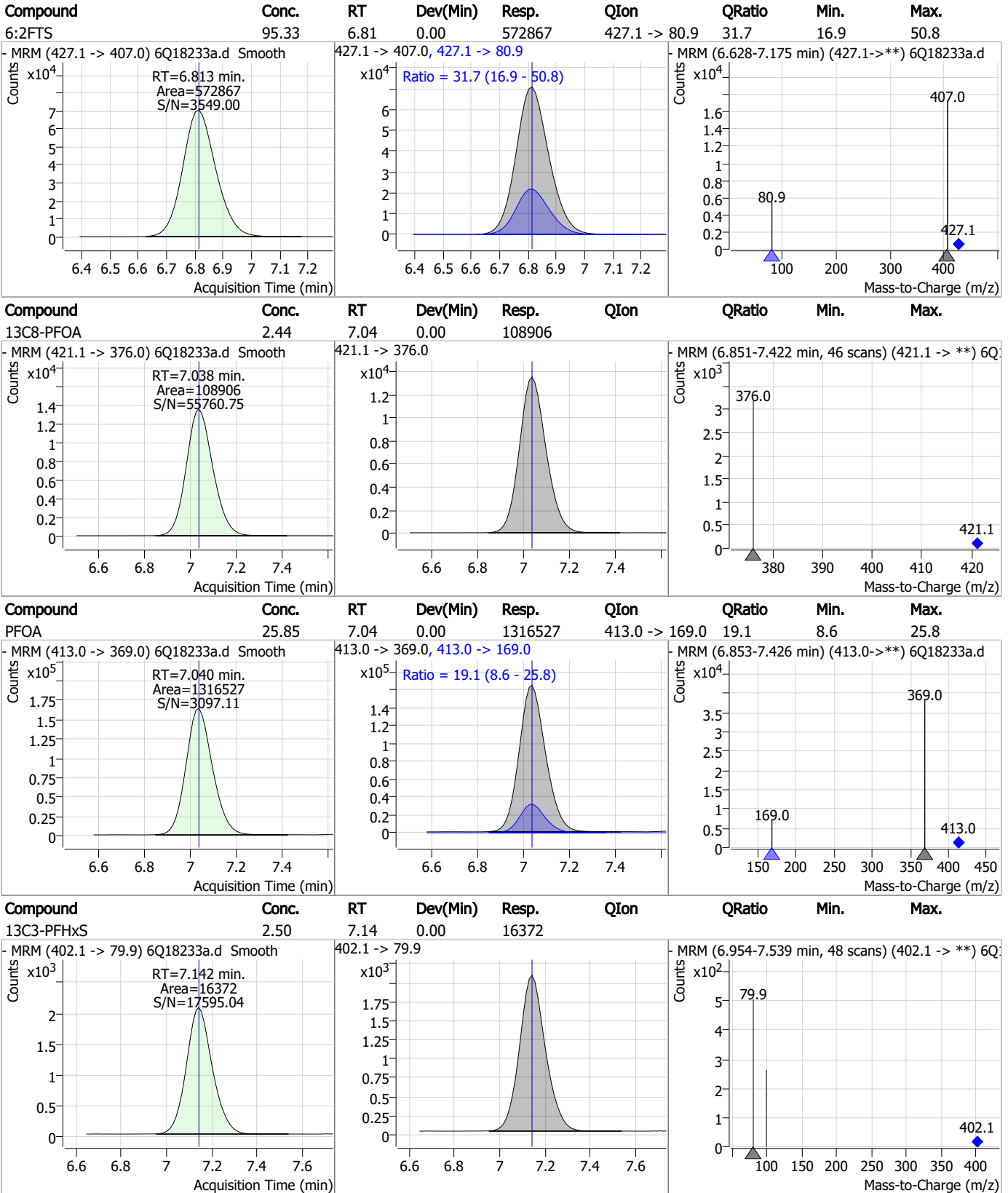
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	47.55	6.65	0.00	3647403	376.9 -> 84.8	25.2	13.4	40.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.83	6.81	0.00	5316	429.1 -> 80.9			



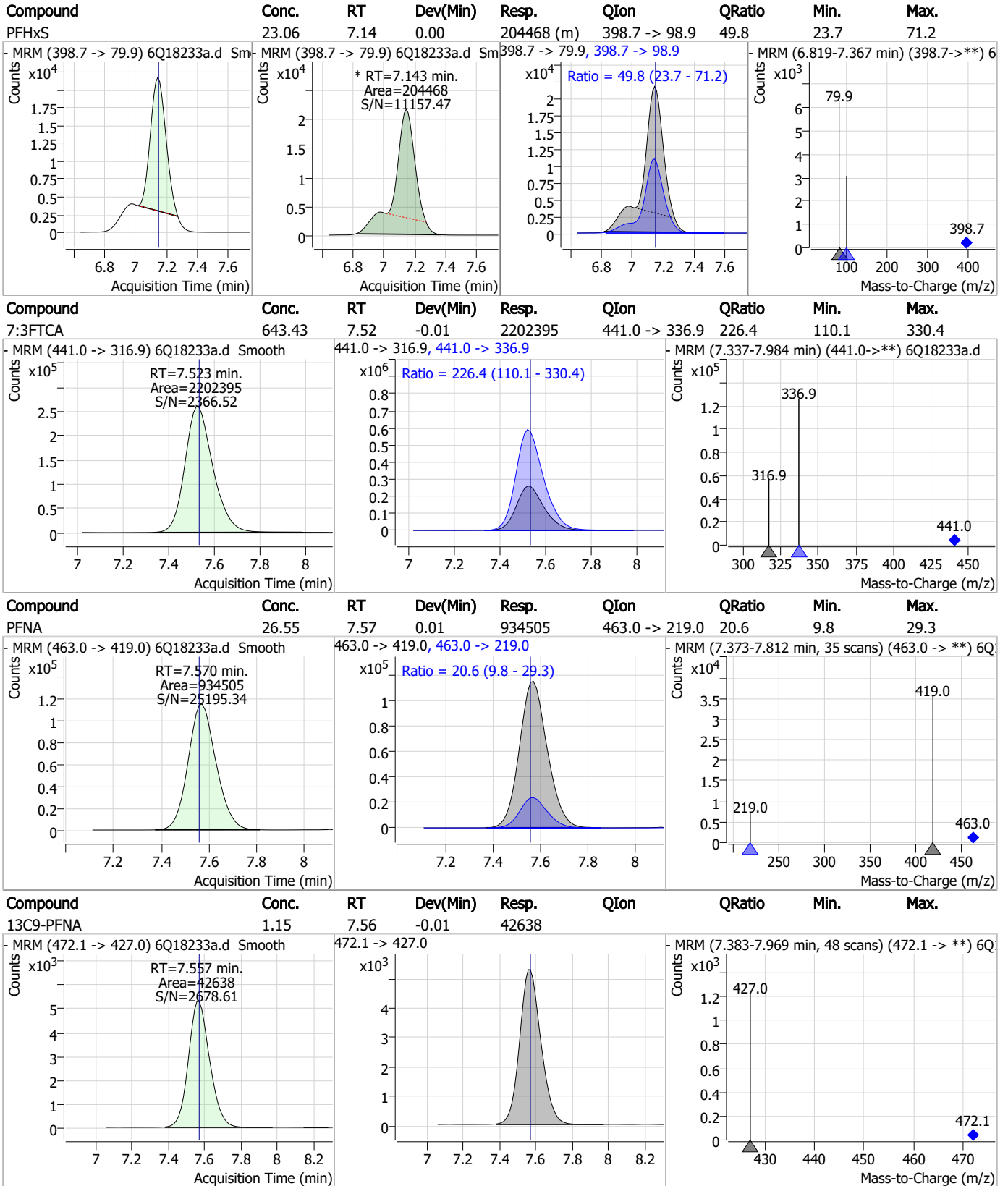
Perfluorinated Compounds by LC/MS/MS



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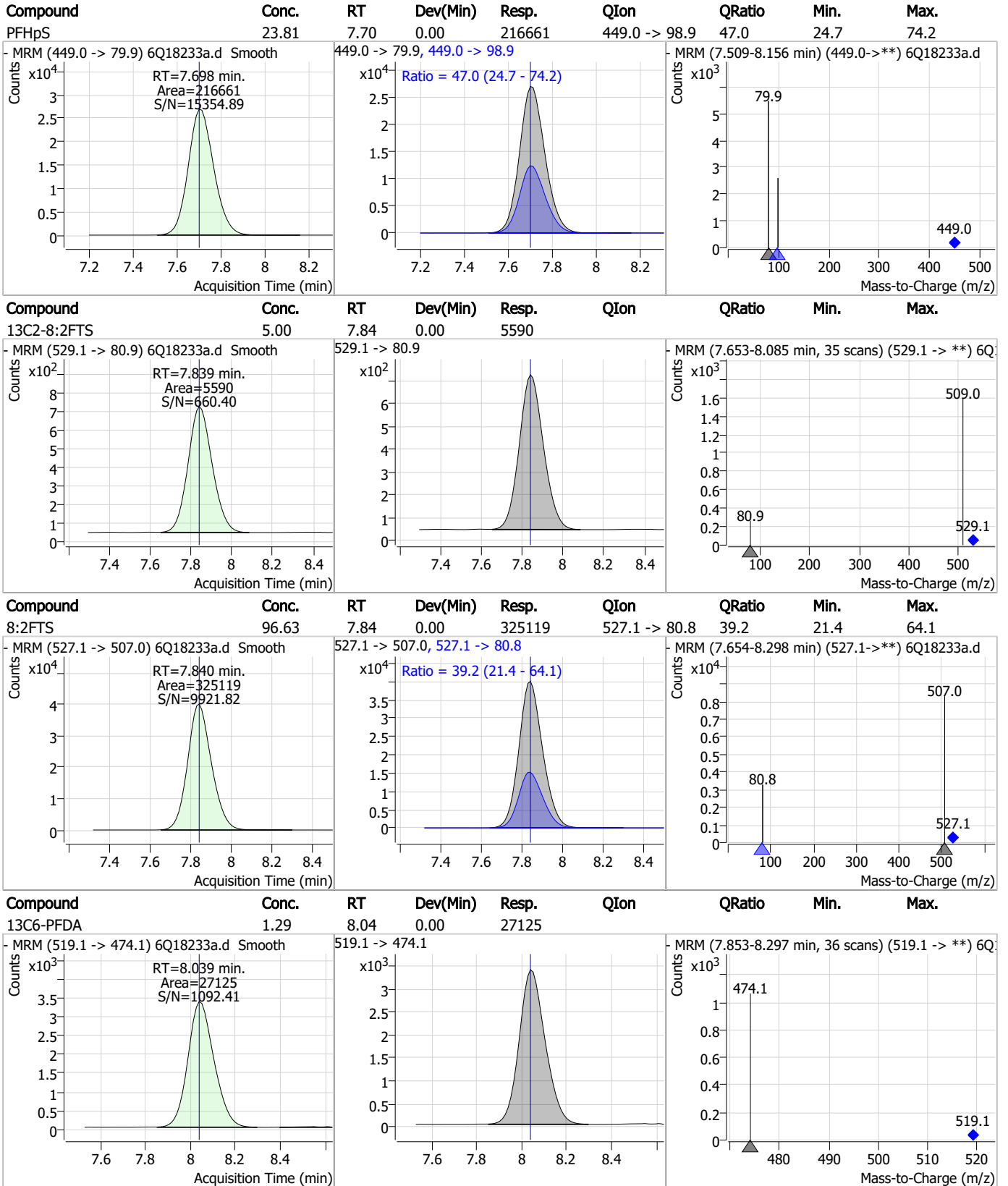
Perfluorinated Compounds by LC/MS/MS



7.7.8

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Perfluorinated Compounds by LC/MS/MS

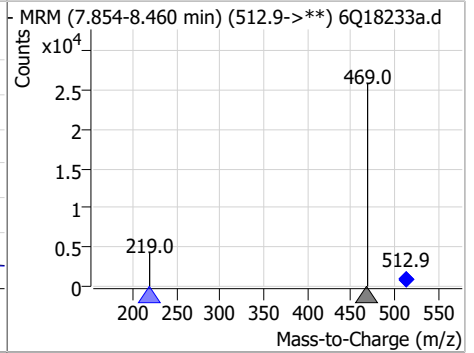
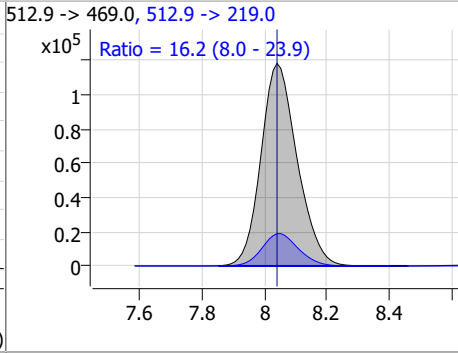
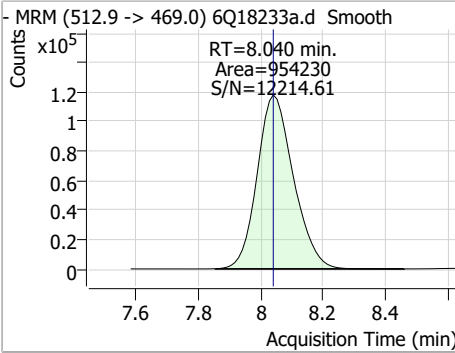


7.7.8

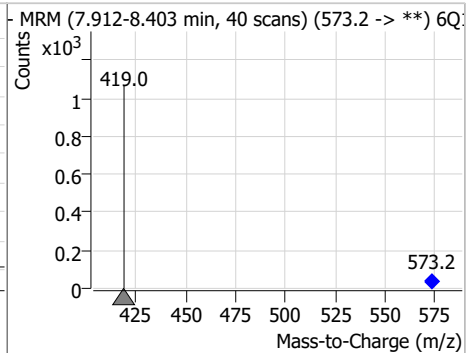
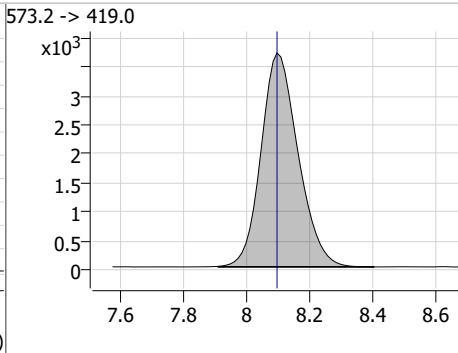
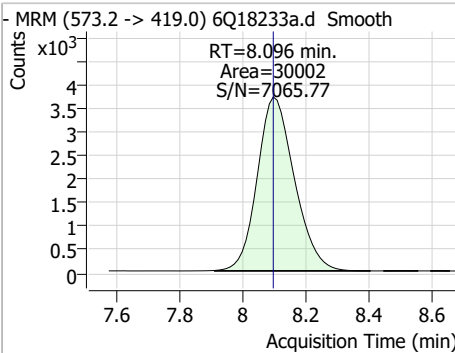
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Perfluorinated Compounds by LC/MS/MS

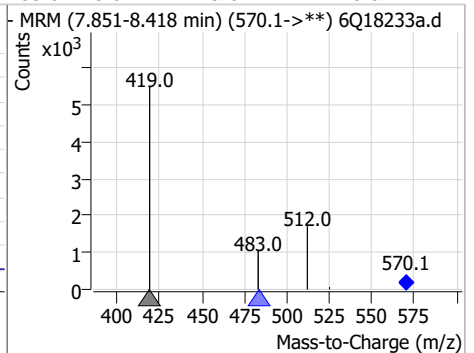
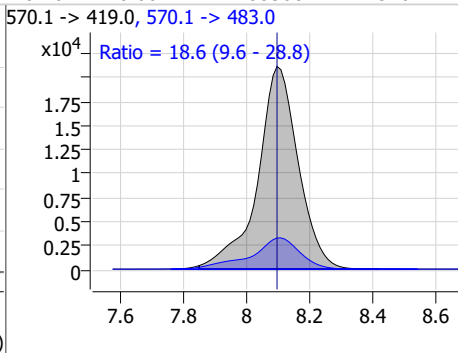
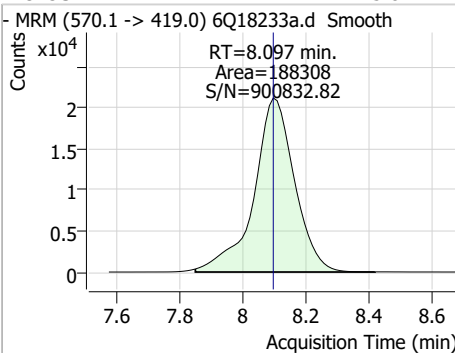
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	25.81	8.04	0.00	954230	512.9 -> 219.0	16.2	8.0	23.9



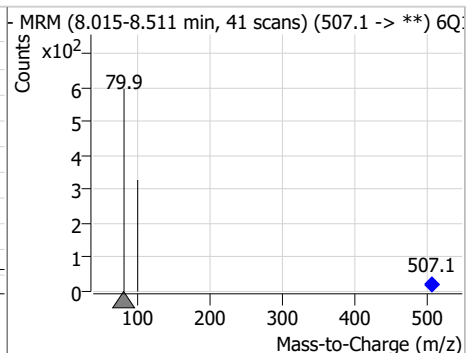
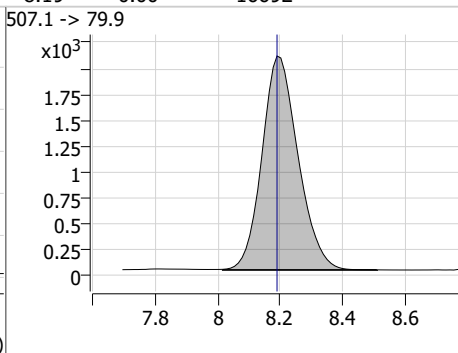
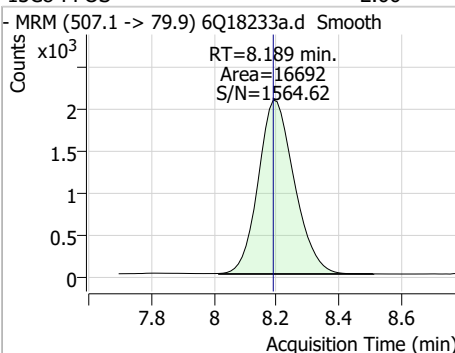
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.98	8.10	0.00	30002				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	25.84	8.10	0.00	188308	570.1 -> 483.0	18.6	9.6	28.8

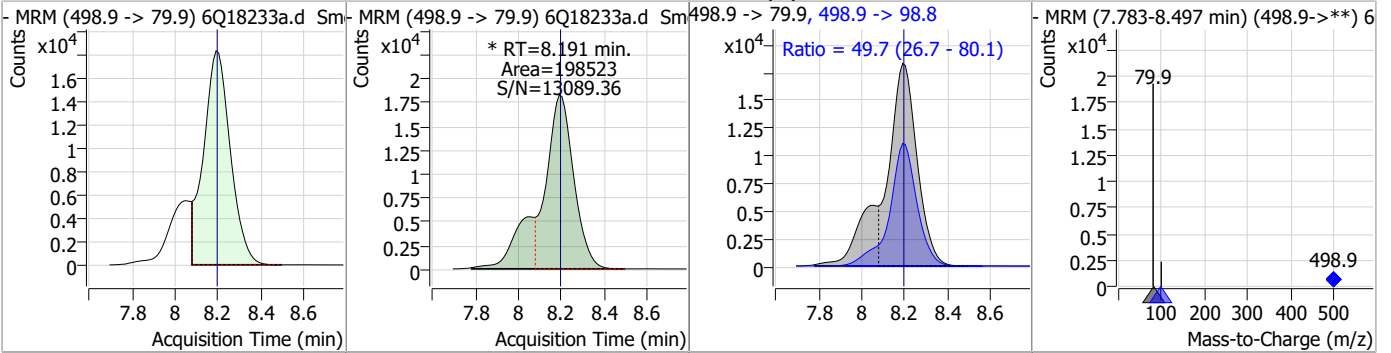


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.66	8.19	0.00	16692				

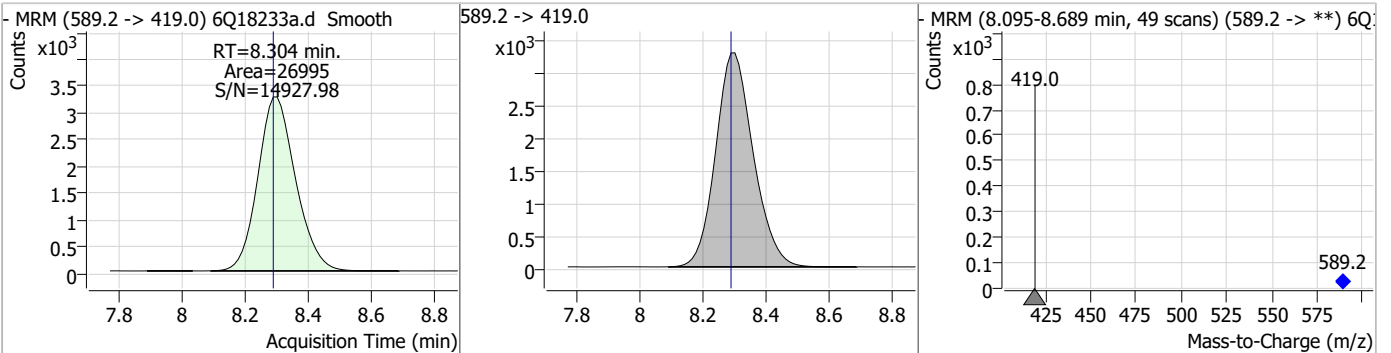


Perfluorinated Compounds by LC/MS/MS

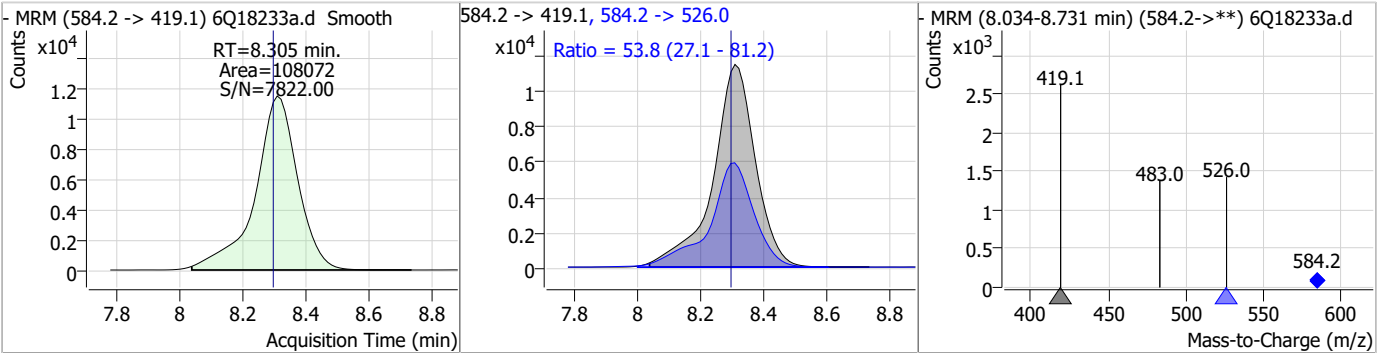
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	22.41	8.19	0.00	198523 (m)	498.9 -> 98.8	49.7	26.7	80.1



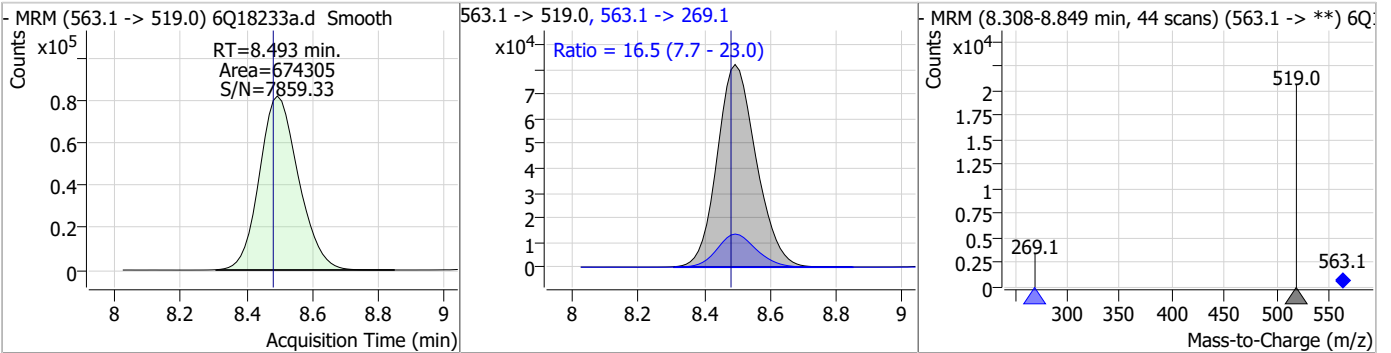
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.77	8.30	0.01	26995				



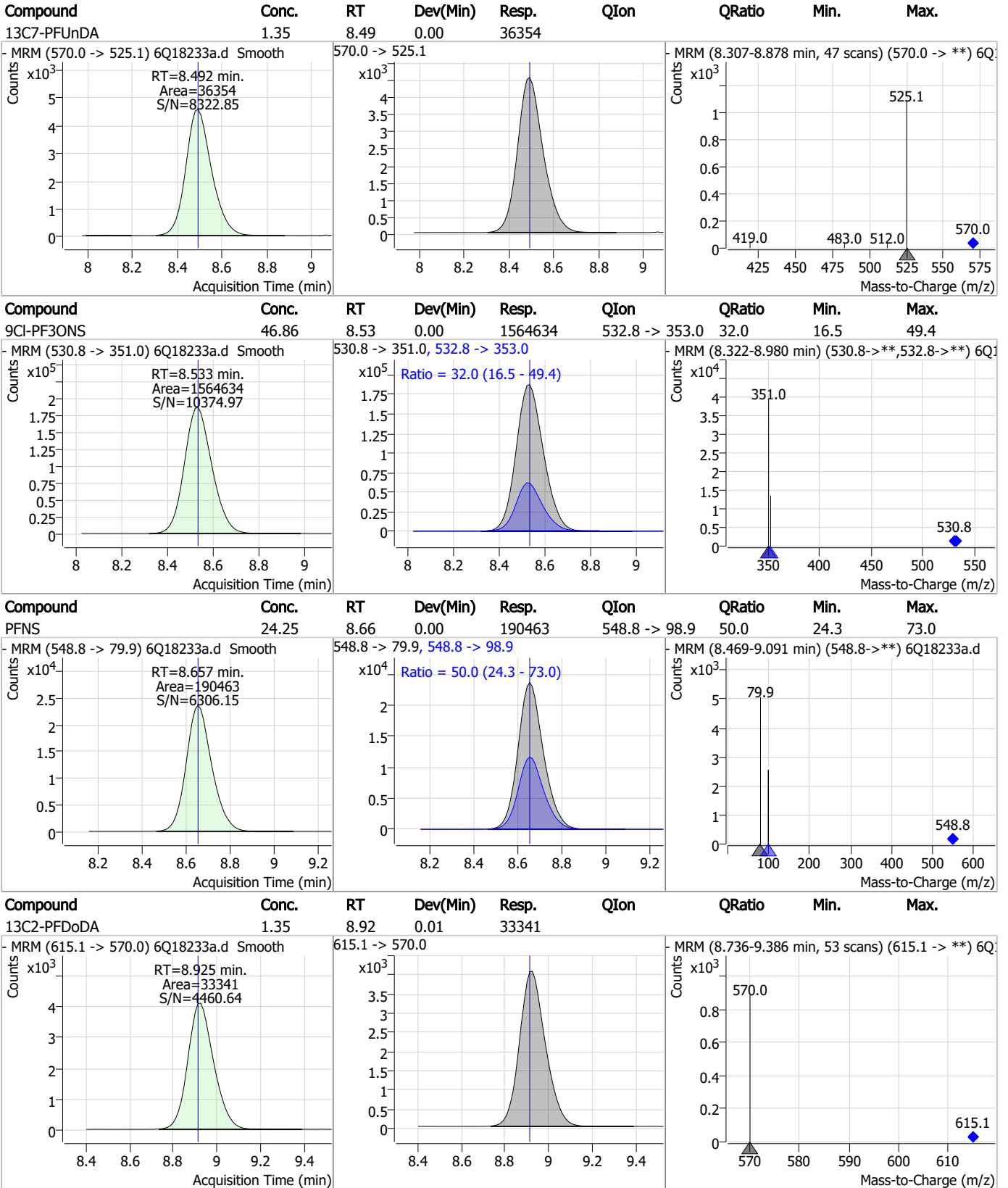
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	26.25	8.31	0.01	108072	584.2 -> 526.0	53.8	27.1	81.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	25.95	8.49	0.01	674305	563.1 -> 269.1	16.5	7.7	23.0



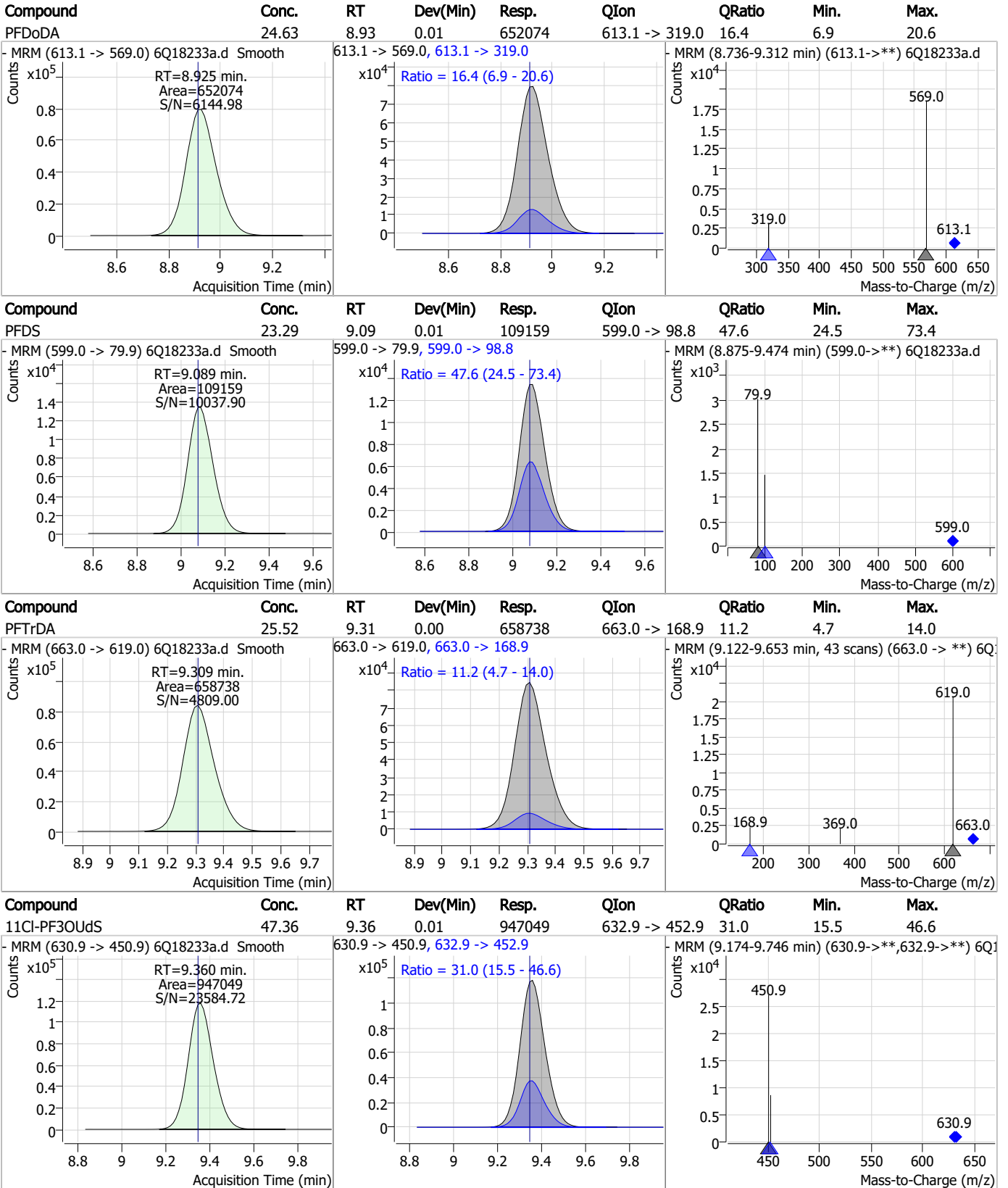
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

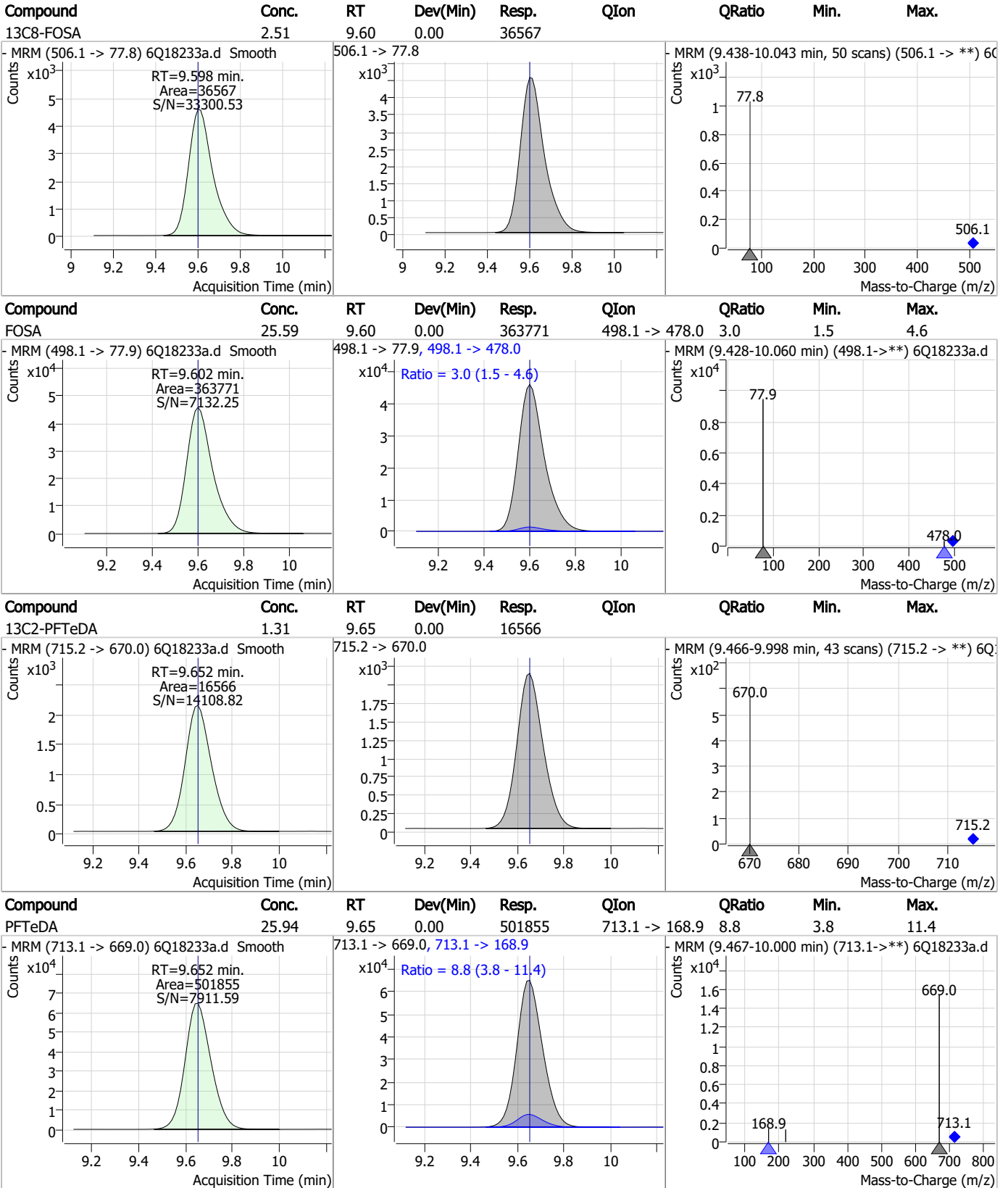


7.7.8

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Perfluorinated Compounds by LC/MS/MS



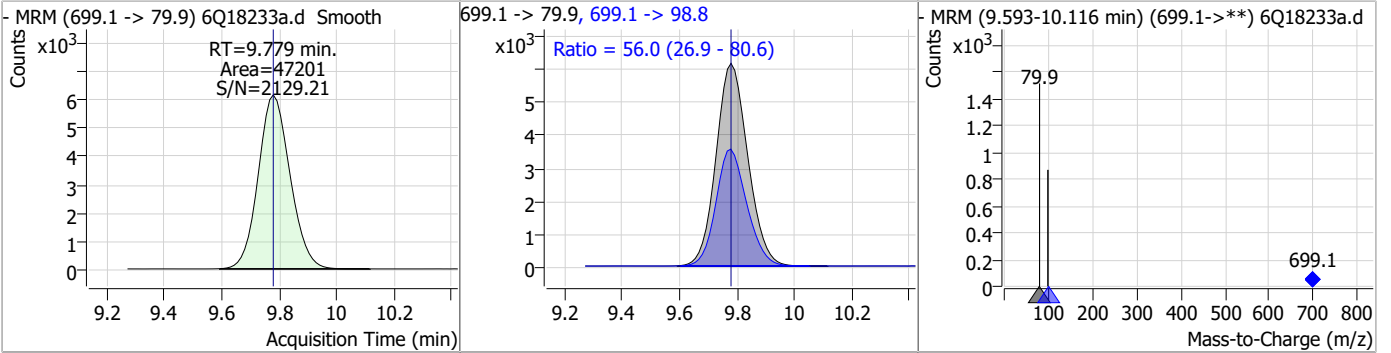
7.7.8

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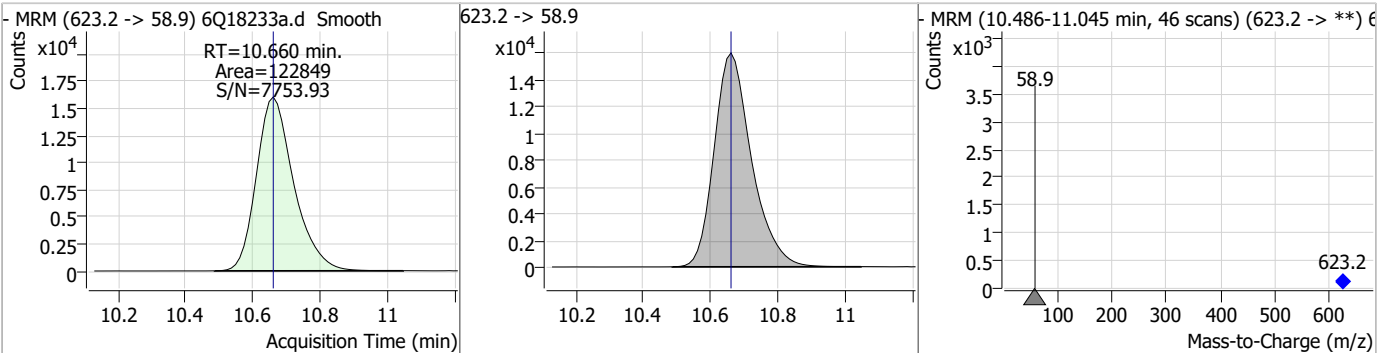


Perfluorinated Compounds by LC/MS/MS

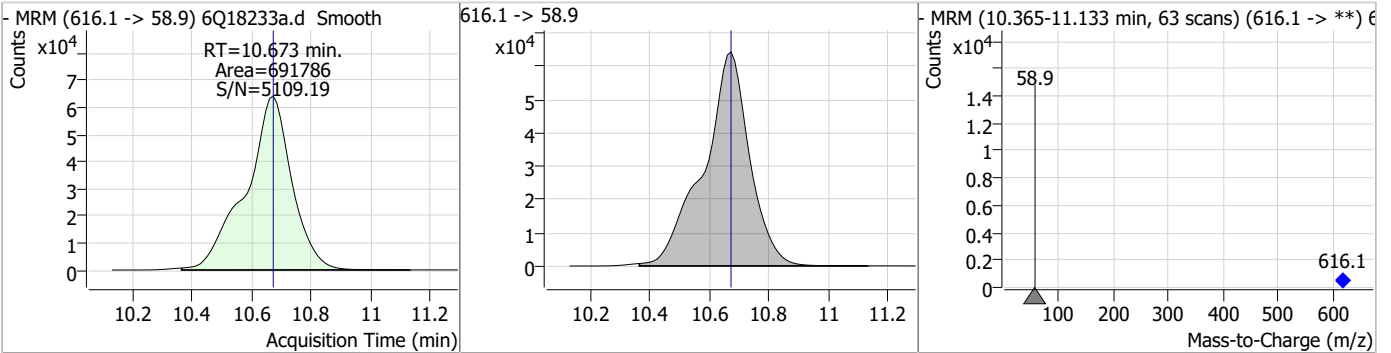
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	23.77	9.78	0.00	47201	699.1 -> 98.8	56.0	26.9	80.6



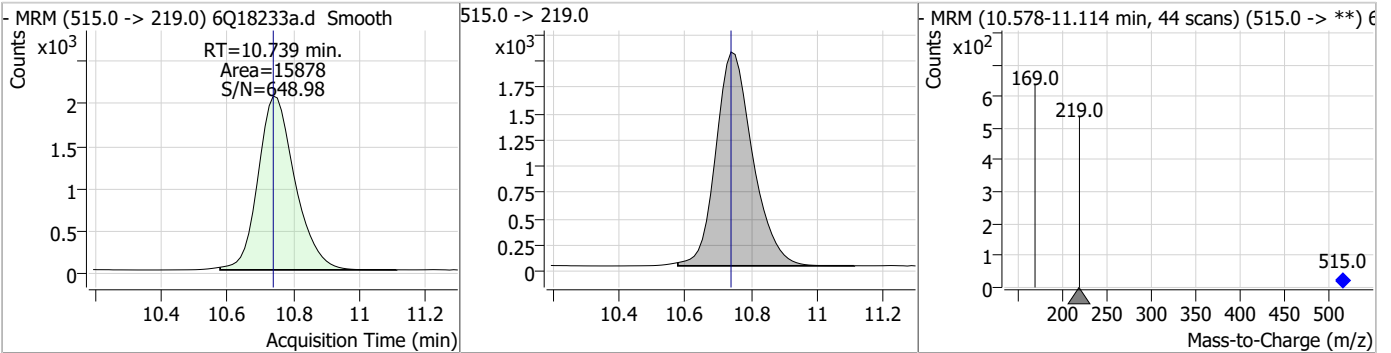
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.89	10.66	0.00	122849				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	126.75	10.67	0.00	691786				

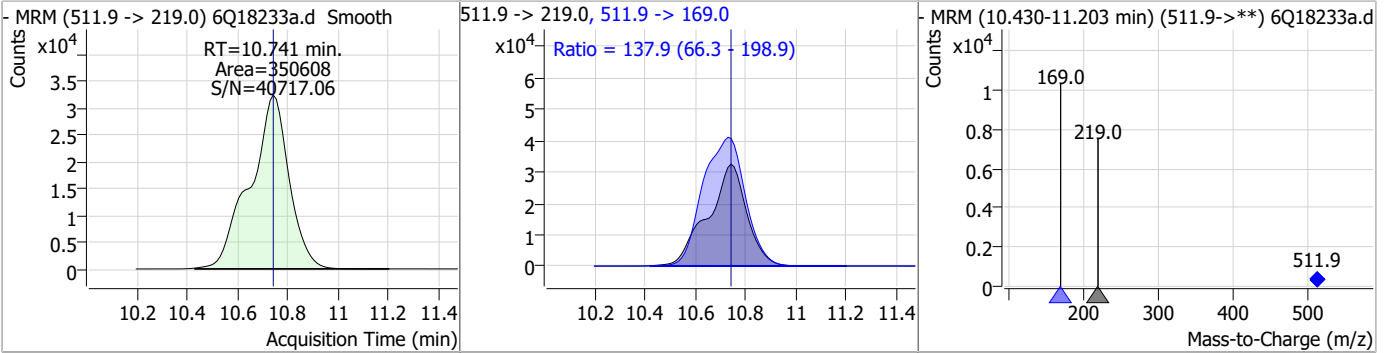


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.50	10.74	0.00	15878				

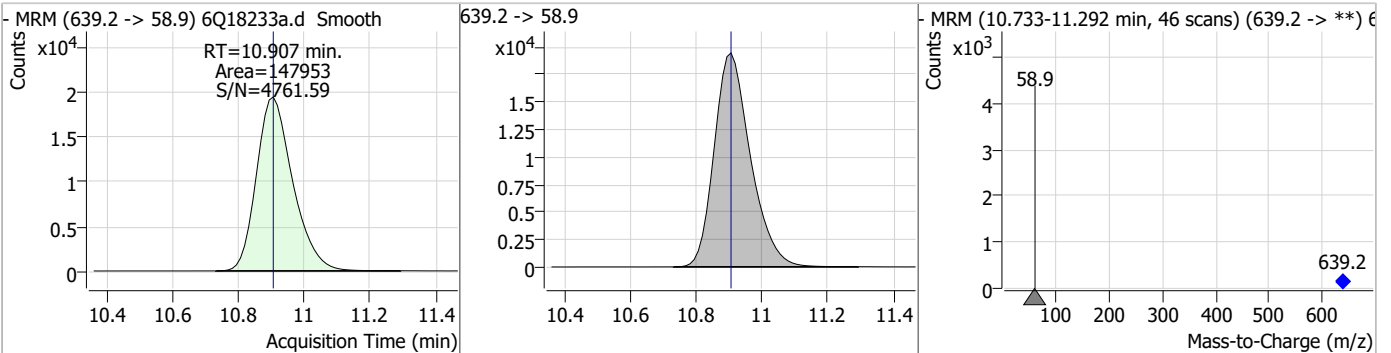


Perfluorinated Compounds by LC/MS/MS

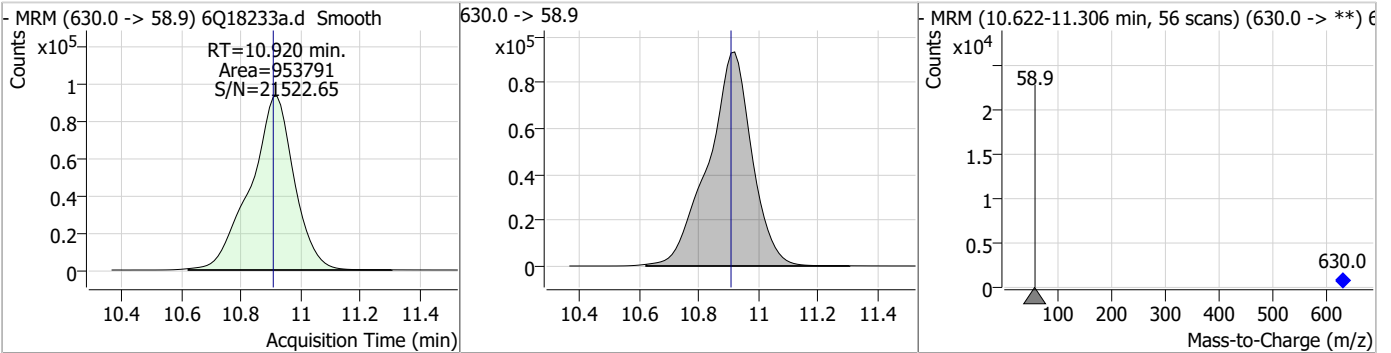
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	52.04	10.74	0.00	350608	511.9 -> 169.0	137.9	66.3	198.9



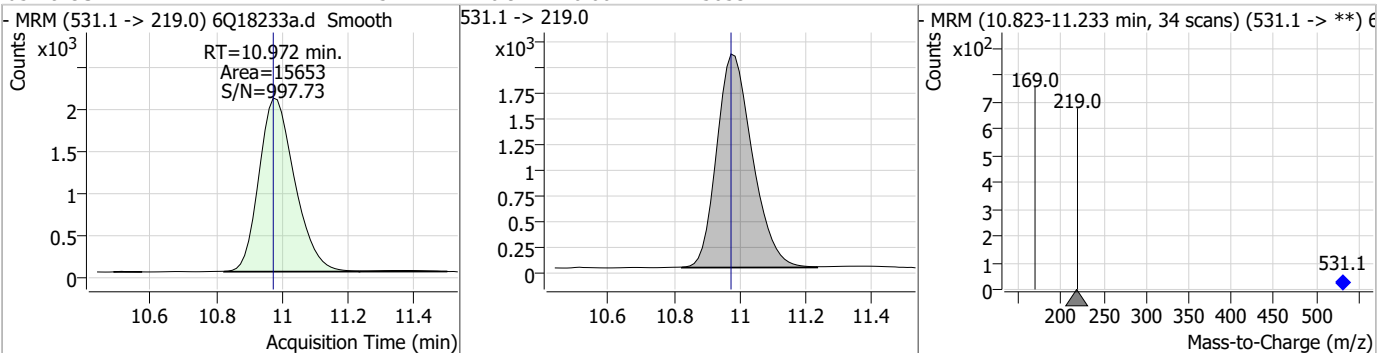
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.10	10.91	0.00	147953				



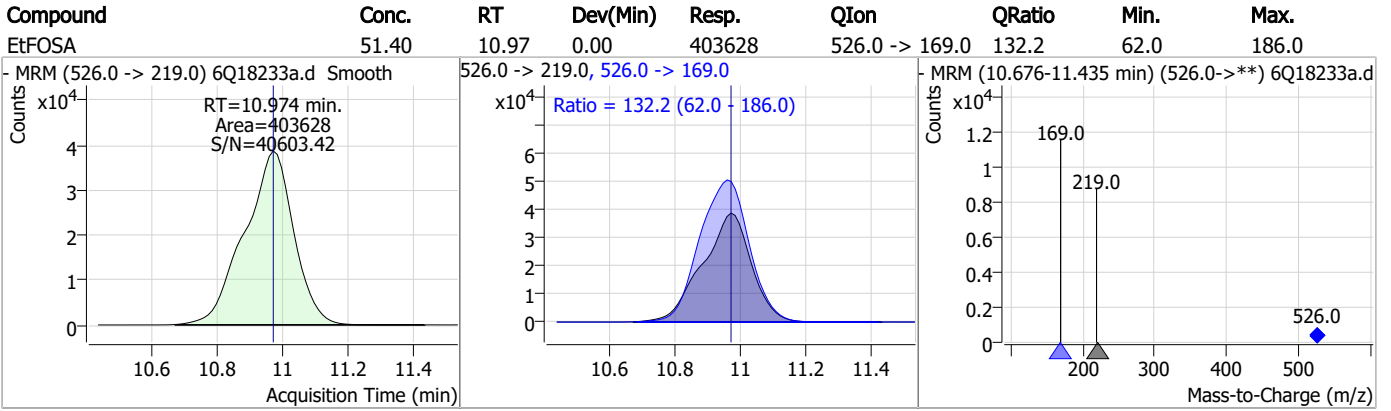
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	132.88	10.92	0.01	953791				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.54	10.97	0.00	15653				



Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q275-IC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18233A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 17:38 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18234a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 5:53:05 PM
 Sample Name : ic275-8
 Vial : P1-A9
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	194717	10.00 µg/L	-0.016
M5-PFPeA	4.235	268.3 -> 223.0	68717	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	74346	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	68896	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	103049	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	43225	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	25919	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33237	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	33472	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	16434	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	34582	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	26641	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	15457	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14922	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3029	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	4949	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5604	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	28005	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	51115	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27949	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	112985	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	138621	25.00 µg/L	0.000
M5-EtFOSA	10.985	531.1 -> 219.0	15093	2.50 µg/L	0.012
M3-MeFOSA	10.739	515.0 -> 219.0	16910	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19198	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82735	5.00 µg/L	-0.015
18O2-PFHxS	7.141	403.0 -> 83.9	11757	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	107238	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37501	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	51624	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	71171	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3029	4.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 85.8%		
13C2-6:2FTS	6.813	429.1 -> 80.9	4949	4.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5604	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33472	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C2-PFTeDA	9.652	715.2 -> 670.0	16434	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.4%		
13C3-PFBS	5.347	302.1 -> 79.9	26641	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C3-PFHxS	7.142	402.1 -> 79.9	15457	2.40 µg/L	0.000

7.7.9
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 = 96.1%	
13C4-PFBA	2.860	216.8 -> 171.9	194717	9.89 µg/L	-0.016
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	68896	2.53 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFHxA	5.429	318.0 -> 273.0	74346	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C5-PFPeA	4.235	268.3 -> 223.0	68717	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	25919	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33237	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.9%	
13C8-FOSA	9.598	506.1 -> 77.8	34582	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C8-PFOA	7.038	421.1 -> 376.0	103049	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-PFOS	8.189	507.1 -> 79.9	14922	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C9-PFNA	7.557	472.1 -> 427.0	43225	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28005	4.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	51115	10.72 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
d3-MeFOSA	10.739	515.0 -> 219.0	16910	2.81 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27949	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.2%	
d7-MeFOSE	10.660	623.2 -> 58.9	112985	24.15 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	138621	23.82 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
d5-EtFOSA	10.985	531.1 -> 219.0	15093	2.58 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	1252198	225.64 µg/L	94
		327.1 -> 80.9	448354		
6:2FTS	6.813	427.1 -> 407.0	1145781	204.84 µg/L	99
		427.1 -> 80.9	383880		
8:2FTS	7.828	527.1 -> 507.0	633981	187.96 µg/L	98
		527.1 -> 80.8	264035		
EtFOSAA	8.305	584.2 -> 419.1	264559	62.07 µg/L	96
		584.2 -> 526.0	134961		
FOSA	9.602	498.1 -> 77.9	842752	62.69 µg/L	100
		498.1 -> 478.0	25124		
MeFOSAA	8.097	570.1 -> 419.0	420428	61.81 µg/L	99
		570.1 -> 483.0	82435		
PFBA	2.868	212.8 -> 168.9	1910490	251.68 µg/L	100
PFBS	5.348	298.7 -> 79.9	555554	54.45 µg/L	96
		298.7 -> 98.8	215039		
PFDA	8.040	512.9 -> 469.0	2320863	65.70 µg/L	98
		512.9 -> 219.0	355590		
PFDoDA	8.913	613.1 -> 569.0	1511524	56.87 µg/L	93
		613.1 -> 319.0	250634		
PFDS	9.076	599.0 -> 79.9	259845	62.03 µg/L	98

7.7.9
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	129910	63.42	µg/L	98
		363.1 -> 319.0	2252786			
PFHpS	7.698	363.1 -> 169.0	356220	61.53	µg/L	98
		449.0 -> 79.9	500393			
PFHxA	5.432	449.0 -> 98.9	253873	59.55	µg/L	98
		313.0 -> 269.0	1718495			
PFHxS	7.143	313.0 -> 118.9	90200	58.99	µg/L	m
		398.7 -> 79.9	493925			
PFNA	7.570	398.7 -> 98.9	246012	62.19	µg/L	99
		463.0 -> 419.0	2219377			
PFNS	8.657	463.0 -> 219.0	447271	64.44	µg/L	100
		548.8 -> 79.9	452385			
PFOA	7.040	548.8 -> 98.9	220202	65.92	µg/L	98
		413.0 -> 369.0	3176528			
PFOS	8.191	413.0 -> 169.0	569223	59.86	µg/L	m
		498.9 -> 79.9	474086			
PFPeA	4.237	498.9 -> 98.8	236976	124.69	µg/L	100
		263.0 -> 219.0	2310455			
PFPeS	6.434	349.1 -> 79.9	504495	61.40	µg/L	97
		349.1 -> 98.9	229800			
PFTeDA	9.640	713.1 -> 669.0	1154113	60.12	µg/L	97
		713.1 -> 168.9	100828			
PFTrDA	9.309	663.0 -> 619.0	1416972	54.68	µg/L	94
		663.0 -> 168.9	162985			
PFUnDA	8.480	563.1 -> 519.0	1447732	60.94	µg/L	95
		563.1 -> 269.1	253694			
11Cl-PF3OUdS	9.348	630.9 -> 450.9	2139385	108.90	µg/L	98
		632.9 -> 452.9	686527			
9Cl-PF3ONS	8.520	530.8 -> 351.0	3681108	112.21	µg/L	95
		532.8 -> 353.0	1102640			
ADONA	6.646	376.9 -> 250.9	8687994	115.28	µg/L	95
		376.9 -> 84.8	2090977			
HFPO-DA	5.795	284.9 -> 168.9	597263	119.08	µg/L	94
		284.9 -> 184.9	67558			
3:3FTCA	3.709	241.0 -> 177.0	428463	320.53	µg/L	95
		241.0 -> 117.0	52687			
5:3FTCA	6.099	341.0 -> 237.1	8131371	1533.85	µg/L	98
		341.0 -> 217.0	5876362			
7:3FTCA	7.523	441.0 -> 316.9	5285981	1542.55	µg/L	100
		441.0 -> 336.9	11658650			
EtFOSA	10.974	526.0 -> 219.0	934697	123.44	µg/L	95
		526.0 -> 169.0	1214417			
EtFOSE	10.920	630.0 -> 58.9	2084138	309.91	µg/L	100
		511.9 -> 219.0	796160			
MeFOSA	10.741	511.9 -> 169.0	1121786	110.97	µg/L	93
		616.1 -> 58.9	1625197			
MeFOSE	10.673	699.1 -> 79.9	114186	323.77	µg/L	100
		699.1 -> 98.8	61998			
PFDoDS	9.779	295.0 -> 201.0	428410	64.33	µg/L	99
		295.0 -> 84.9	106171			
NFDHA	5.311	279.0 -> 85.1	1649514	120.15	µg/L	96
		229.0 -> 84.9	1257380			
PFMBA	4.650	314.8 -> 134.9	4335776	126.19	µg/L	100
		314.8 -> 82.9	136284			
PFMPA	3.388			111.74	µg/L	98
PFEESA	5.888					

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

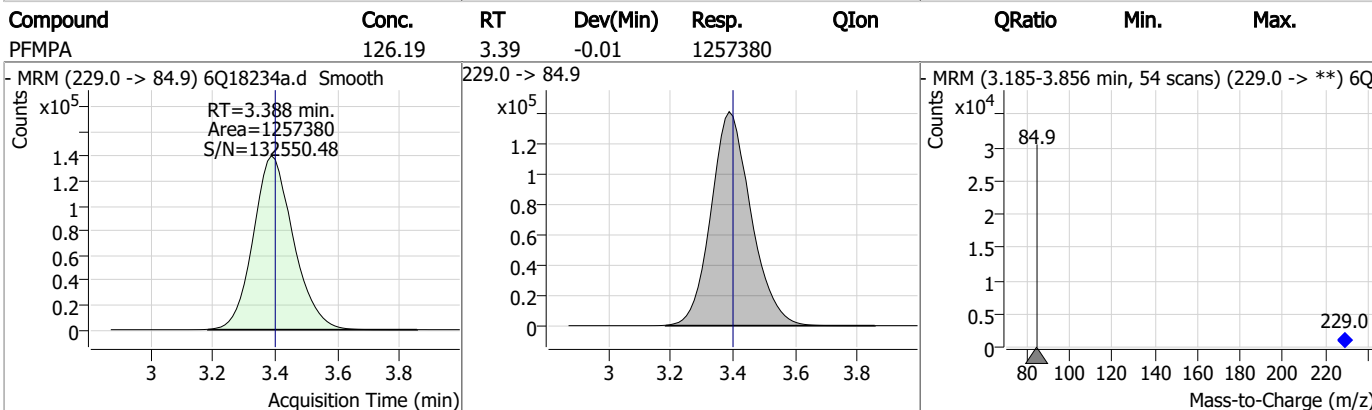
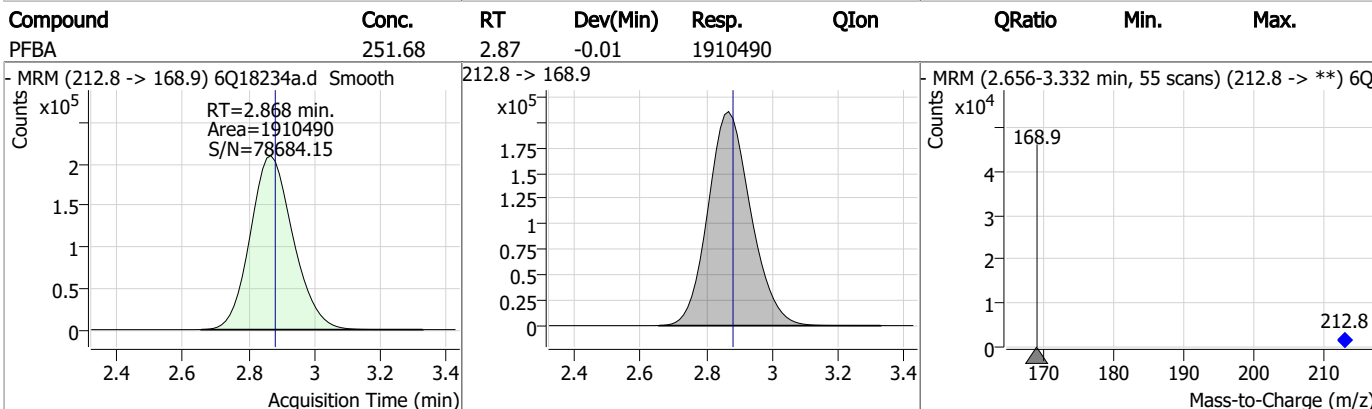
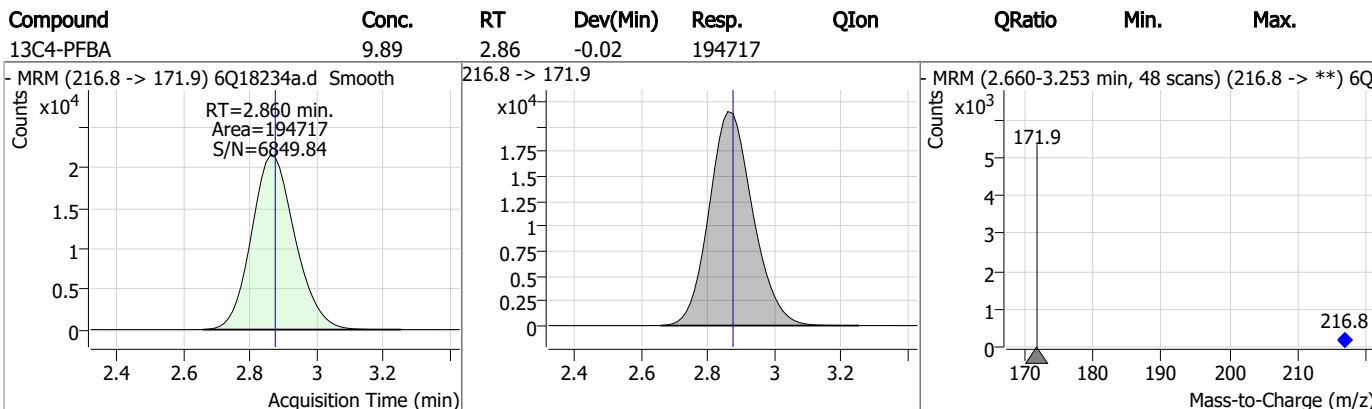
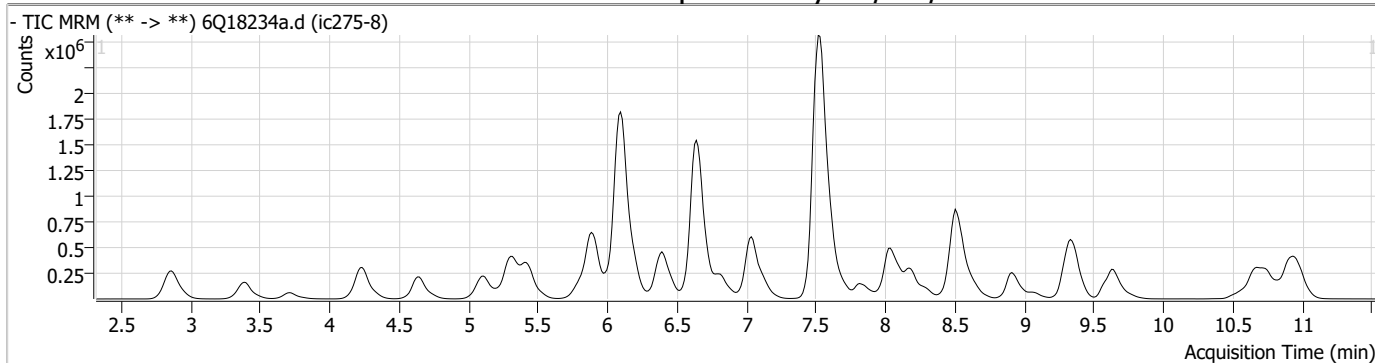
Perfluorinated Compounds by LC/MS/MS

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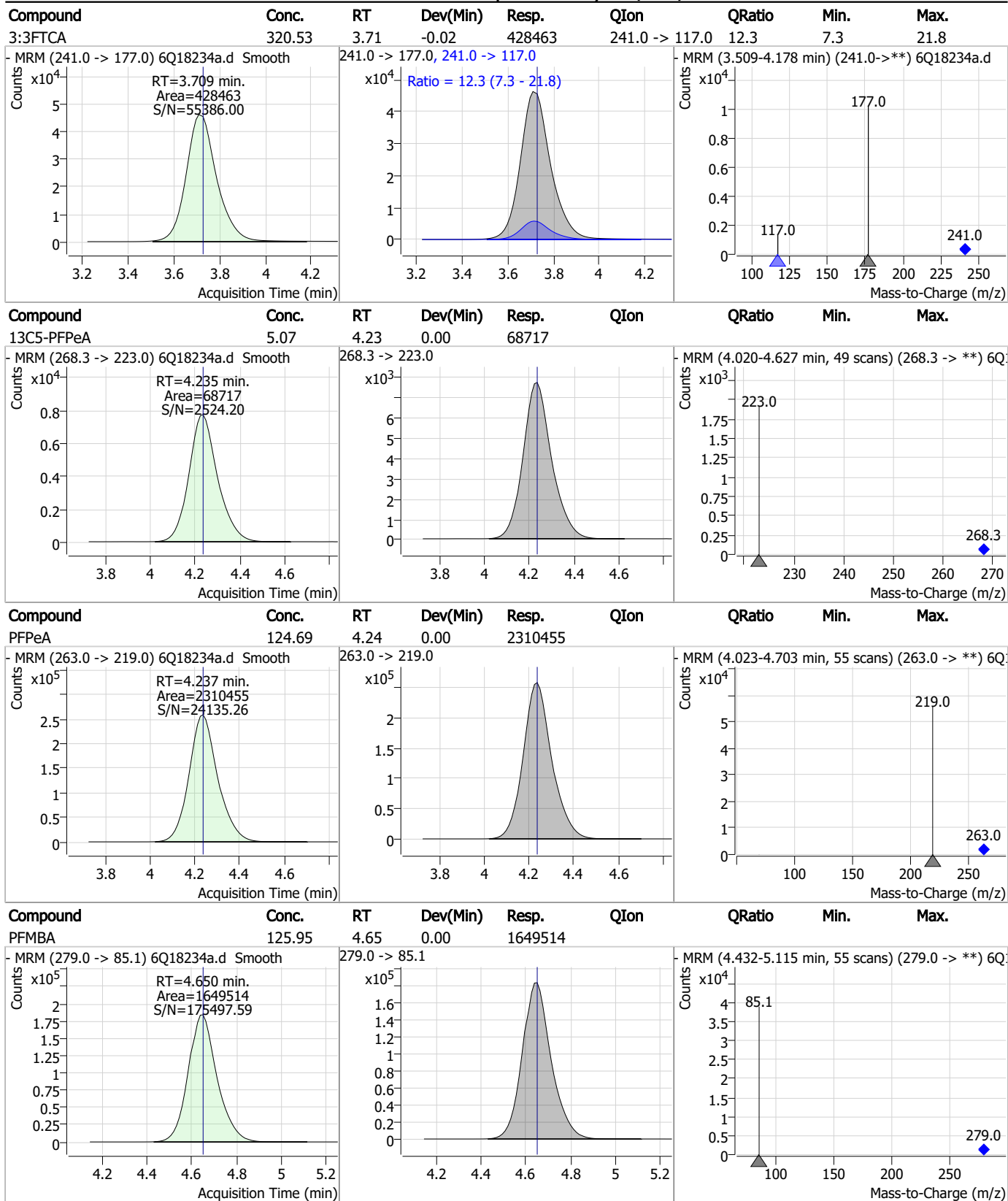
7.7.9

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Perfluorinated Compounds by LC/MS/MS

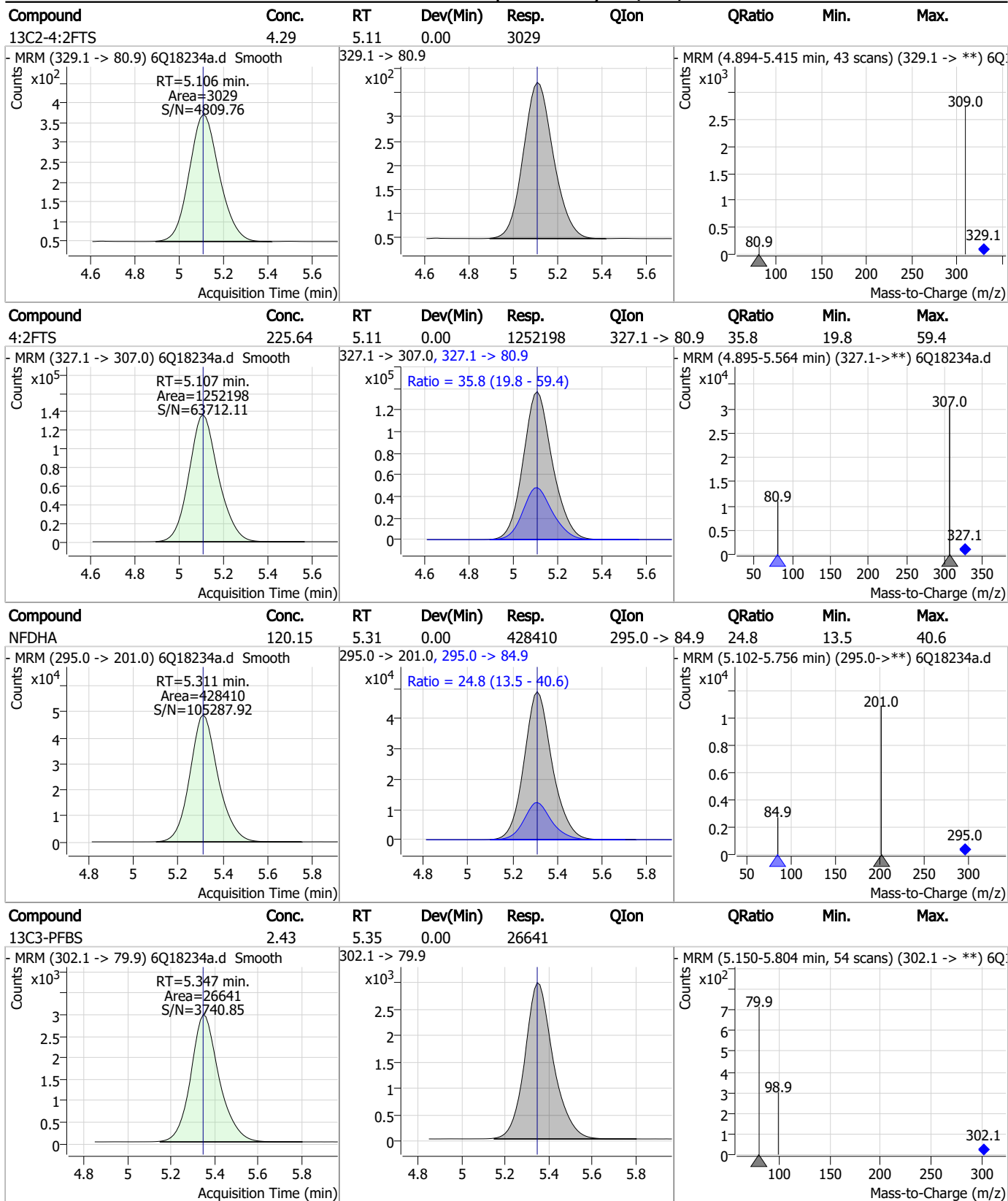


Perfluorinated Compounds by LC/MS/MS



7.7.9
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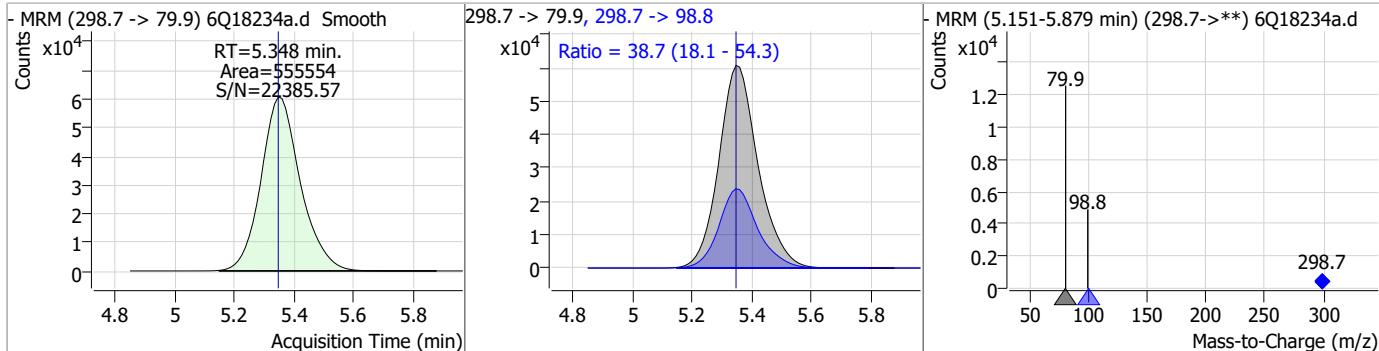
Perfluorinated Compounds by LC/MS/MS



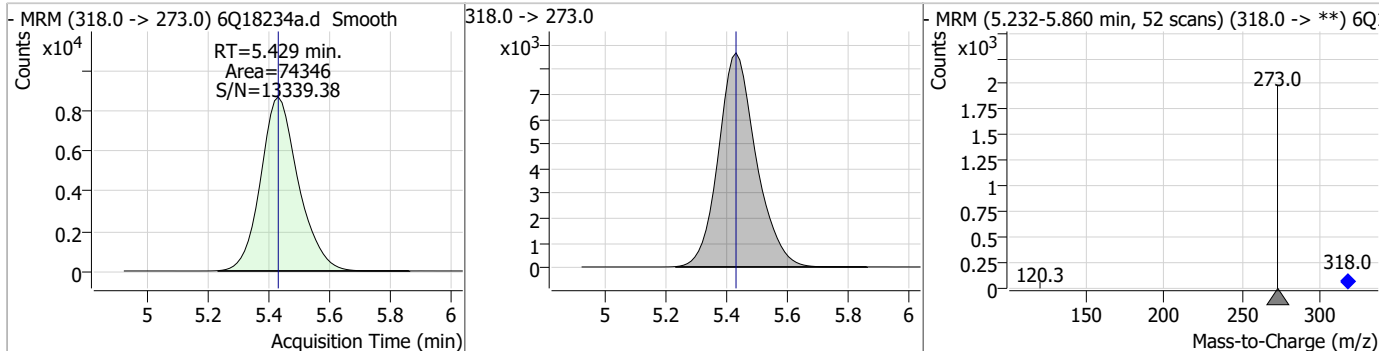
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Perfluorinated Compounds by LC/MS/MS

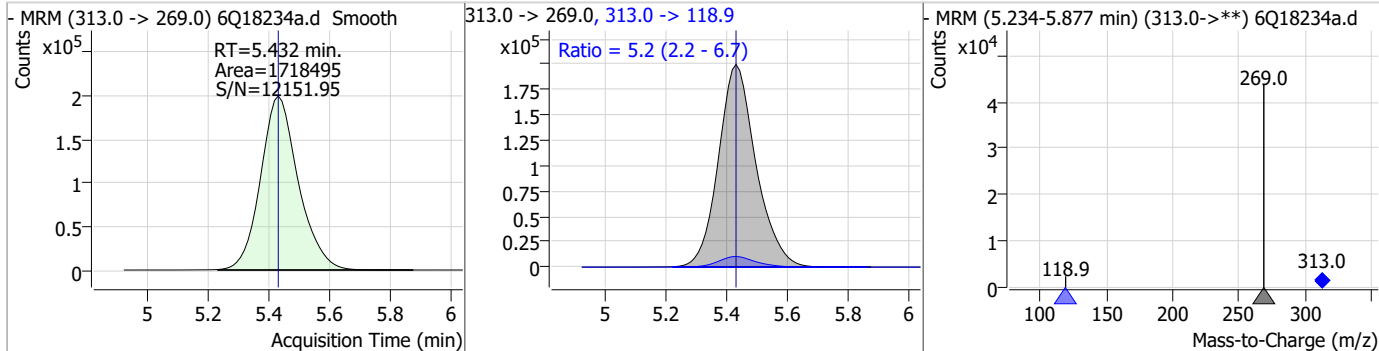
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	54.45	5.35	0.00	555554	298.7 -> 98.8	38.7	18.1	54.3



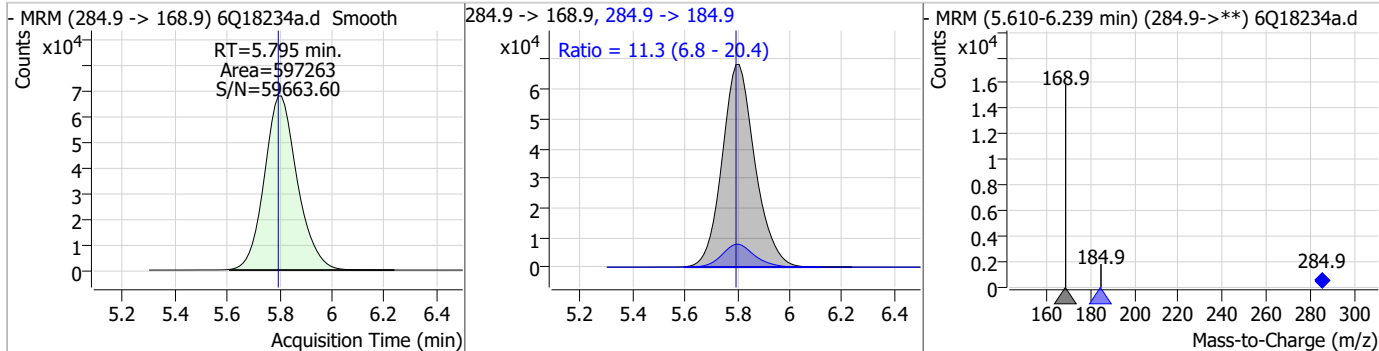
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.57	5.43	0.00	74346				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	59.55	5.43	0.00	1718495	313.0 -> 118.9	5.2	2.2	6.7

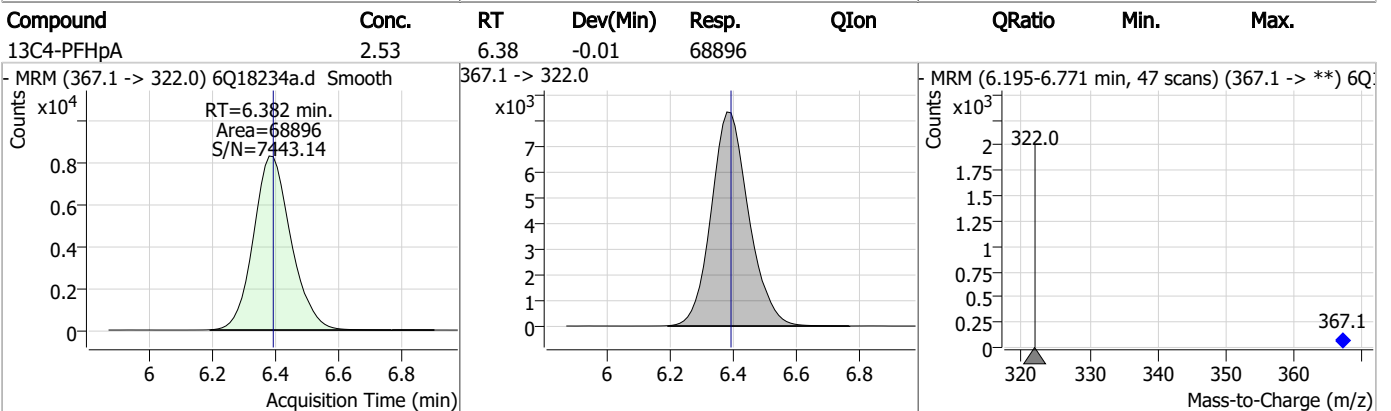
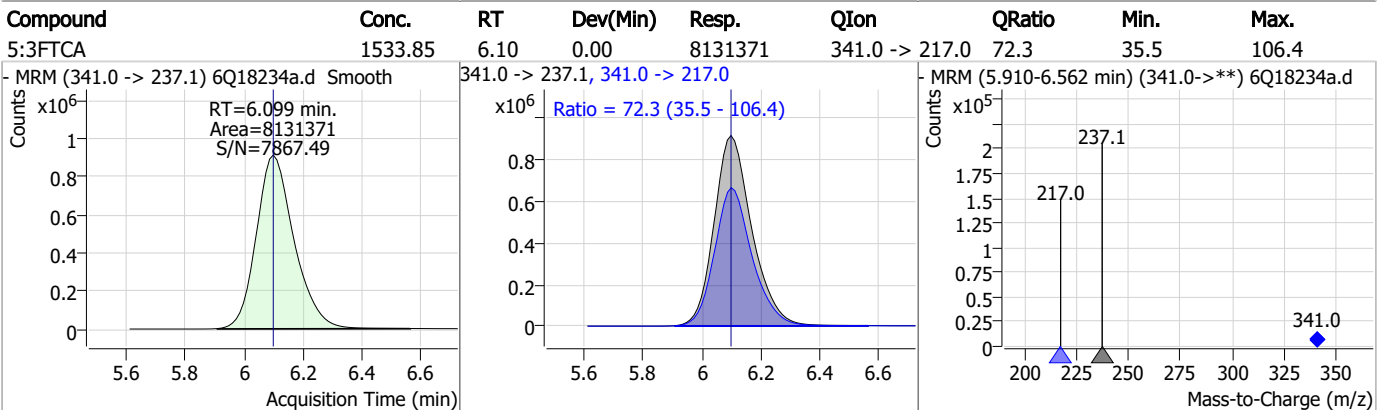
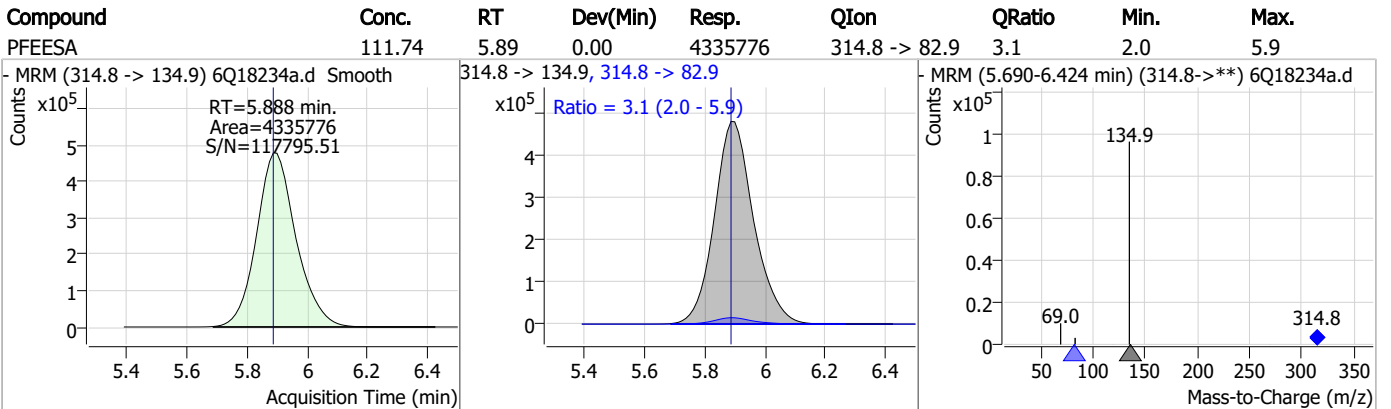
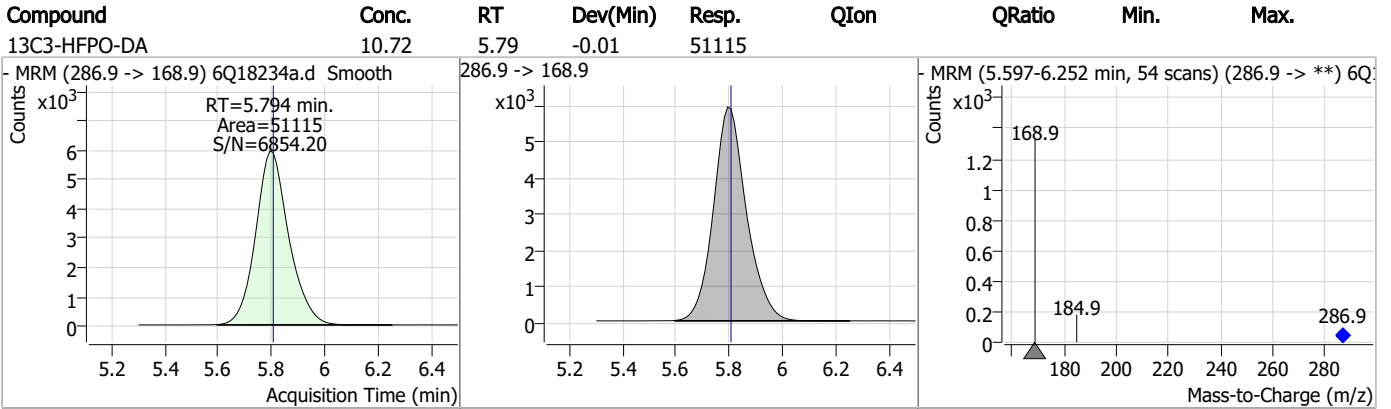


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	119.08	5.80	0.00	597263	284.9 -> 184.9	11.3	6.8	20.4



7.7.9
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Perfluorinated Compounds by LC/MS/MS

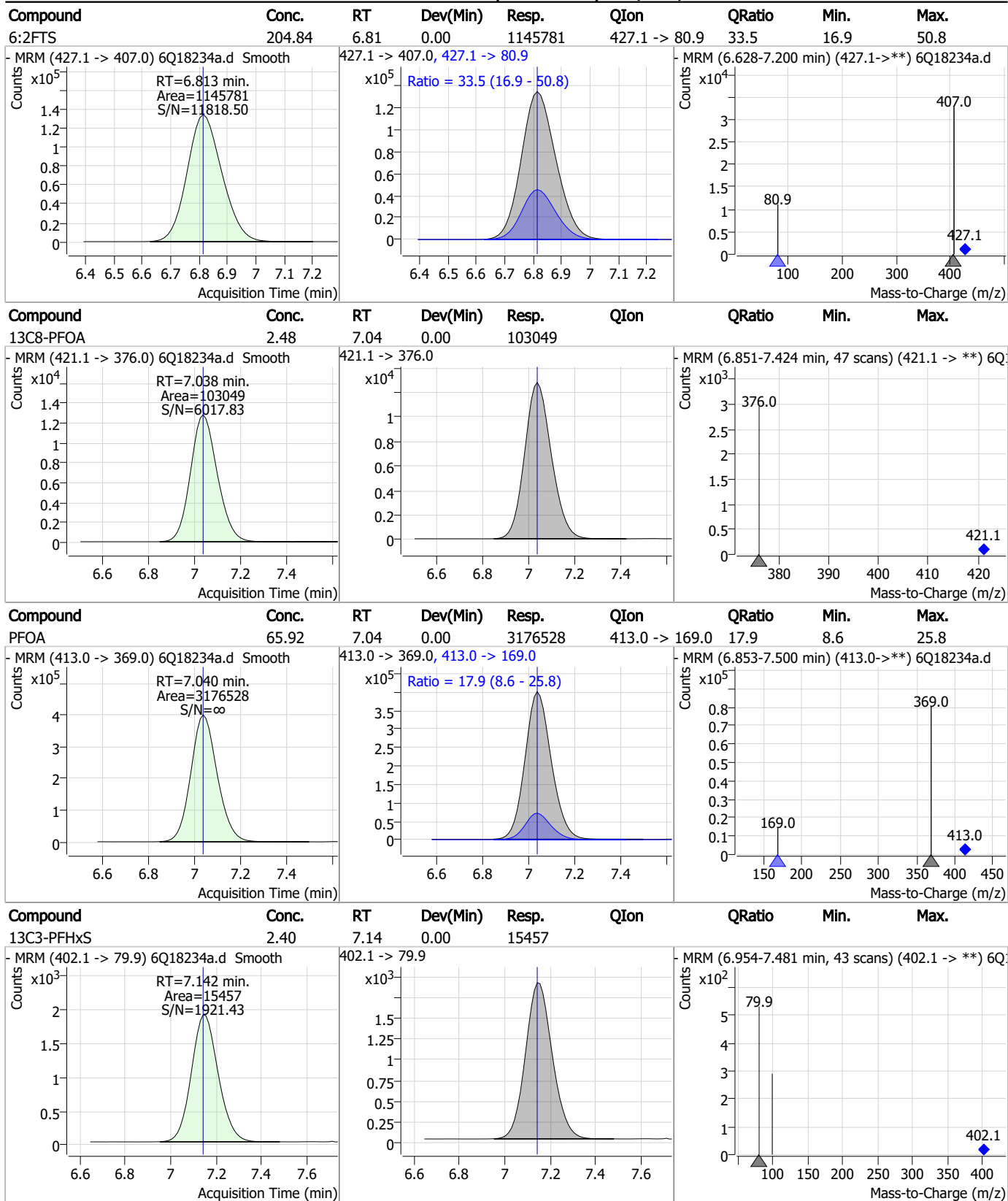


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	63.42	6.38	-0.01	2252786	363.1 -> 169.0	15.8	7.5	22.5
PFPeS	61.40	6.43	0.00	504495	349.1 -> 98.9	45.6	23.7	71.0
ADONA	115.28	6.65	0.00	8687994	376.9 -> 84.8	24.1	13.4	40.2
13C2-6:2FTS	4.58	6.81	0.00	4949	429.1 -> 80.9			

7.7.9
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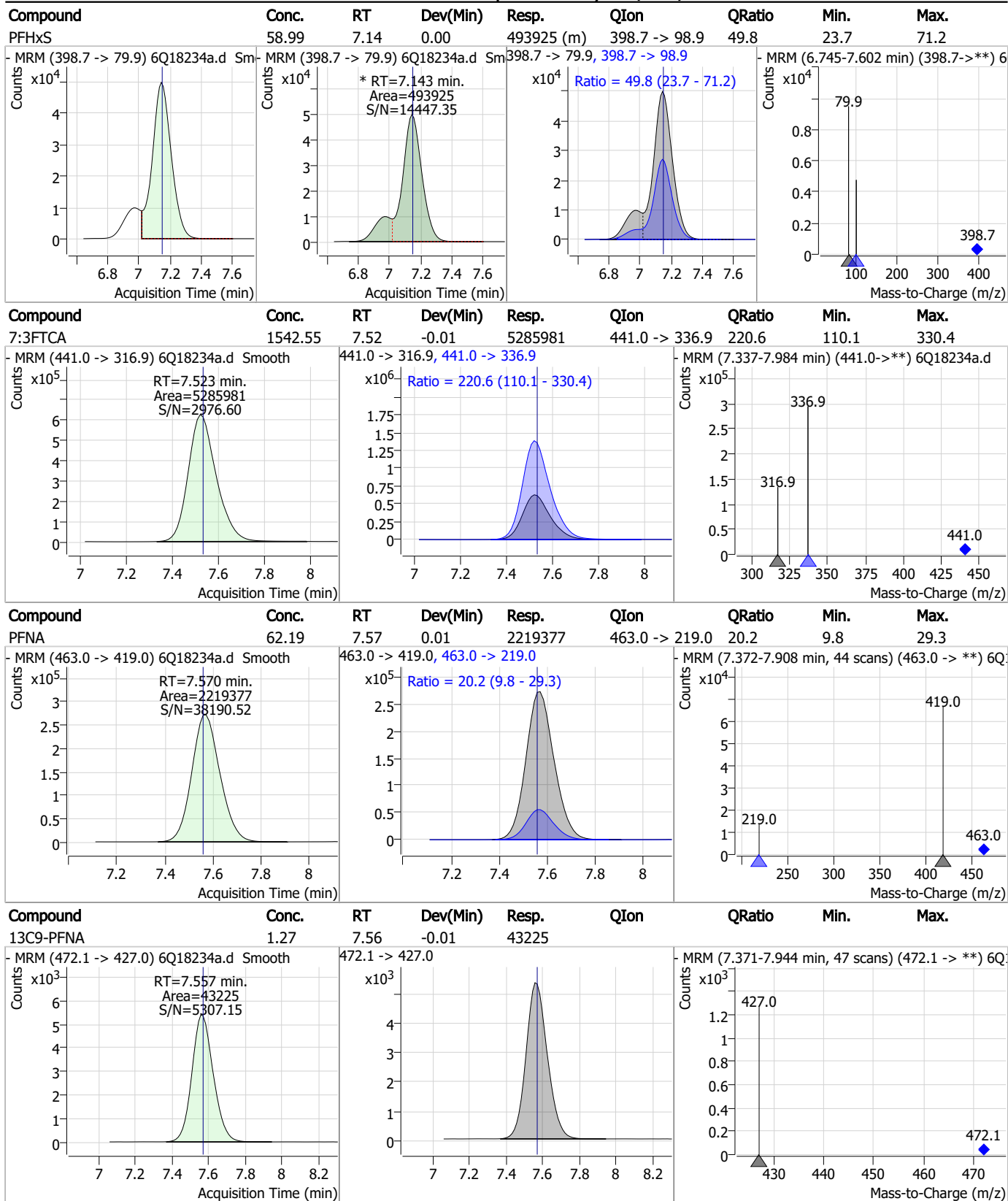
Perfluorinated Compounds by LC/MS/MS



7.7.9

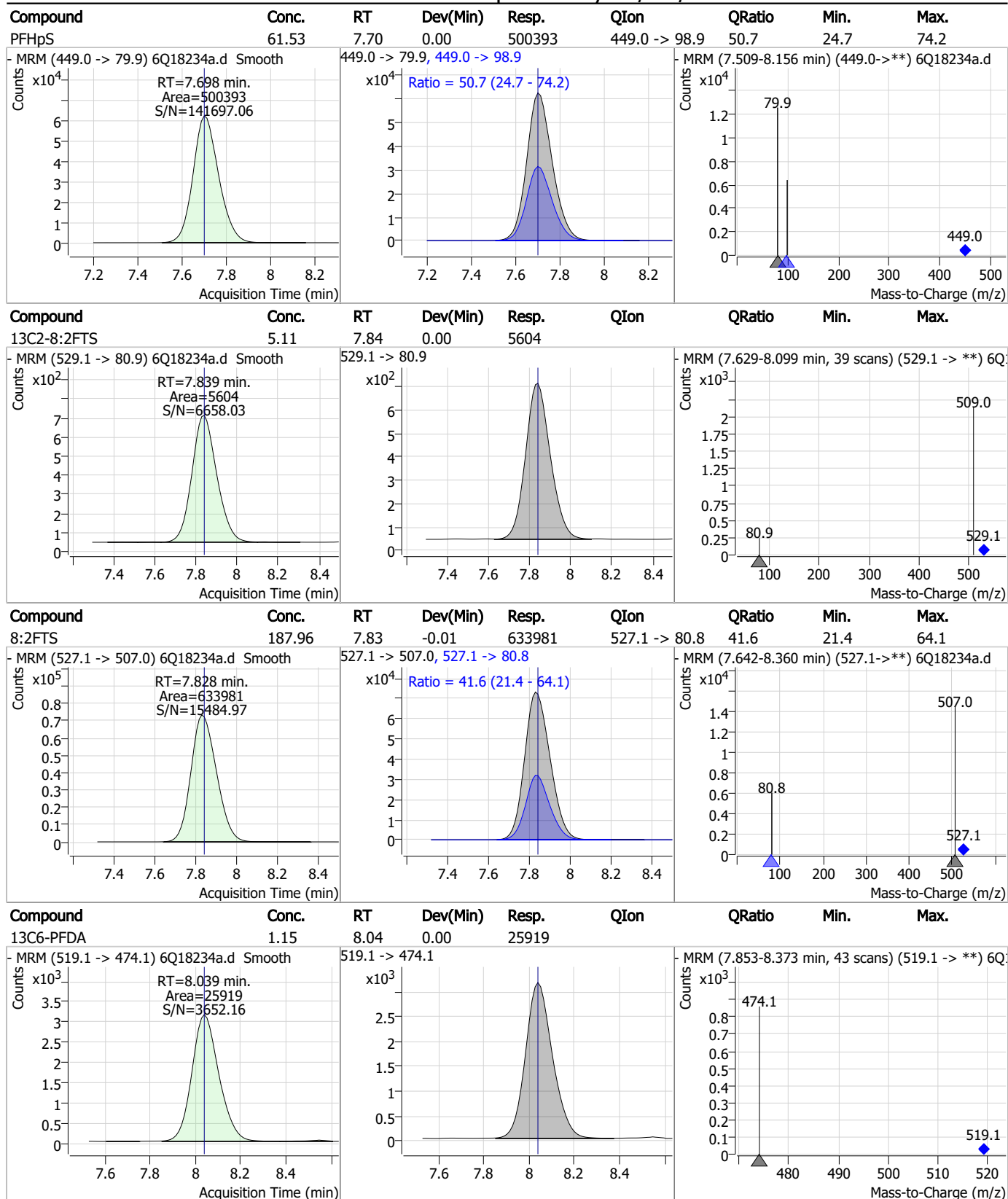
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Perfluorinated Compounds by LC/MS/MS



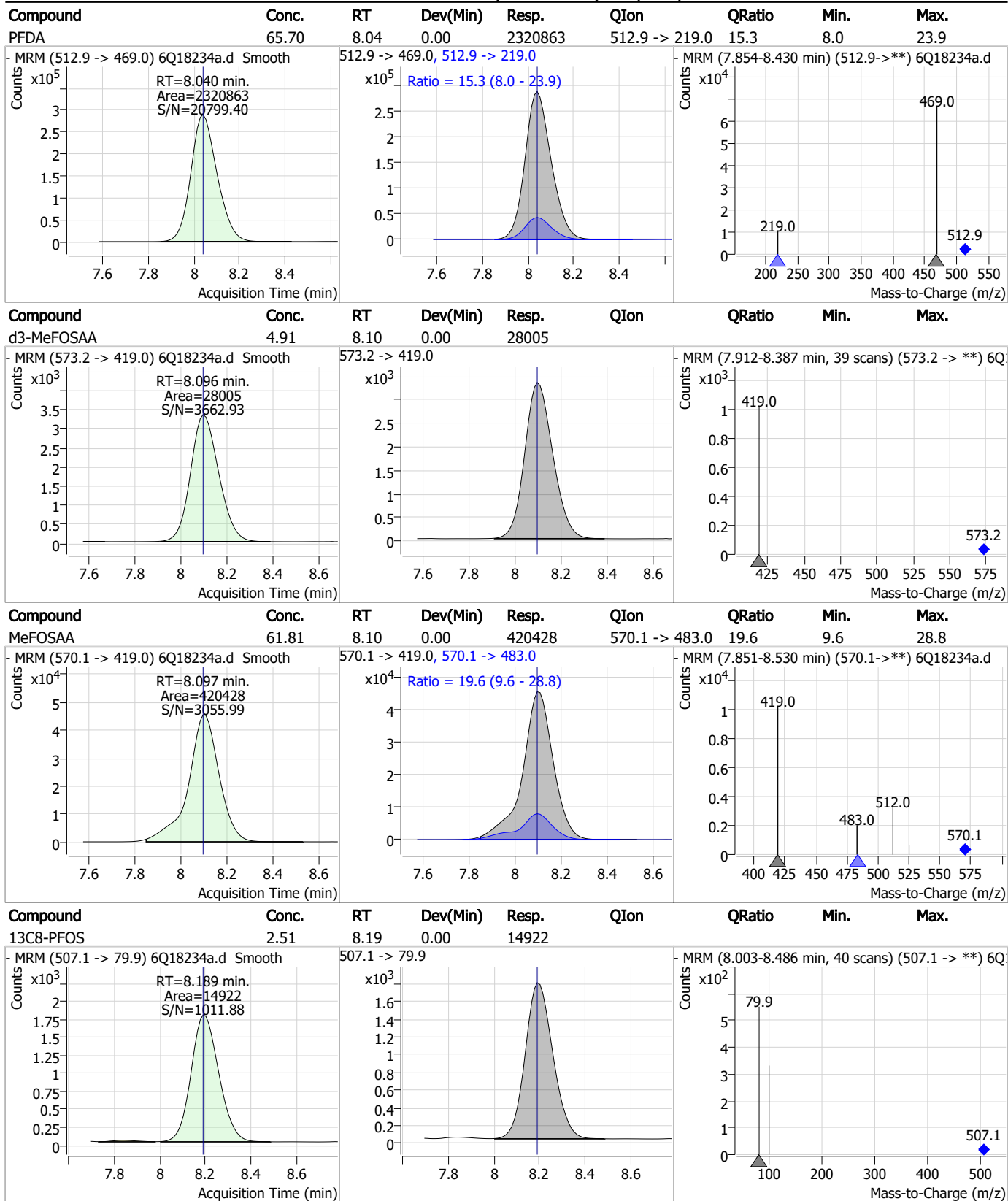
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Perfluorinated Compounds by LC/MS/MS



7.7.9

Perfluorinated Compounds by LC/MS/MS

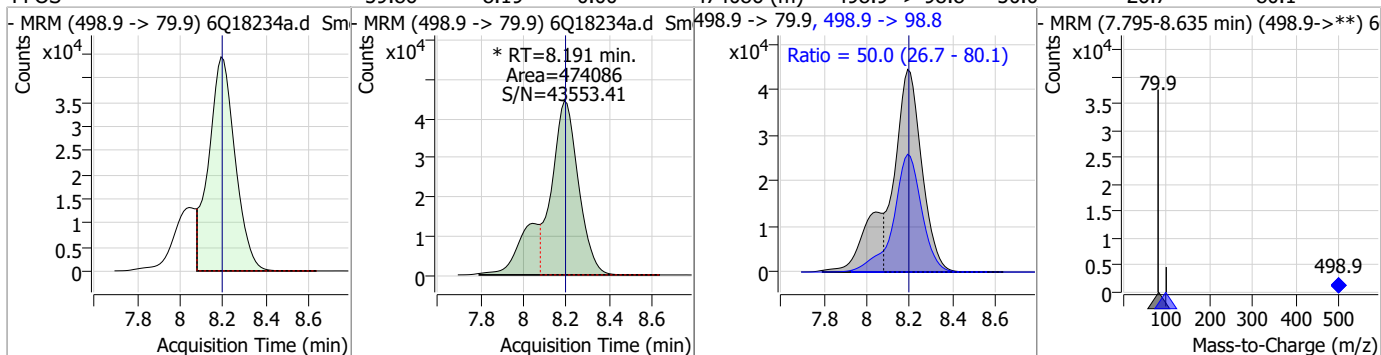


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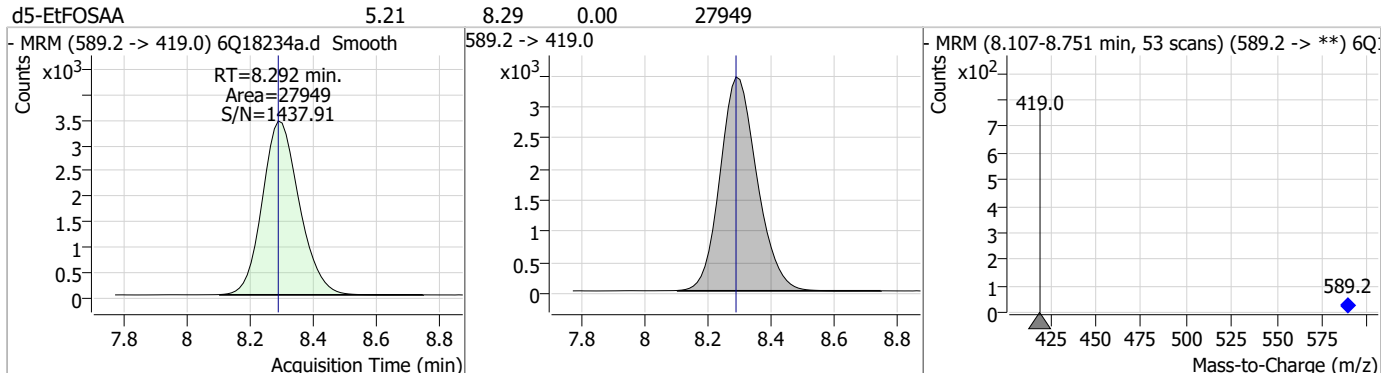


Perfluorinated Compounds by LC/MS/MS

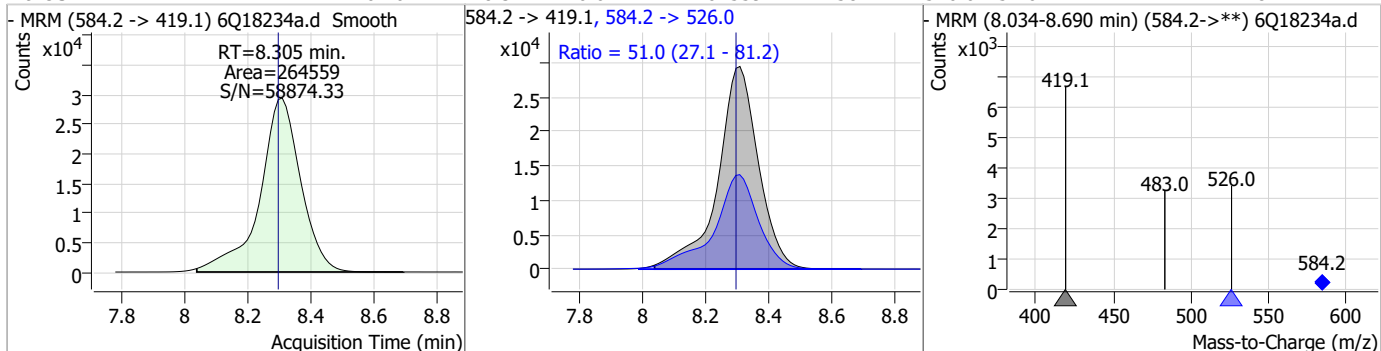
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	59.86	8.19	0.00	474086 (m)	498.9 -> 98.8	50.0	26.7	80.1



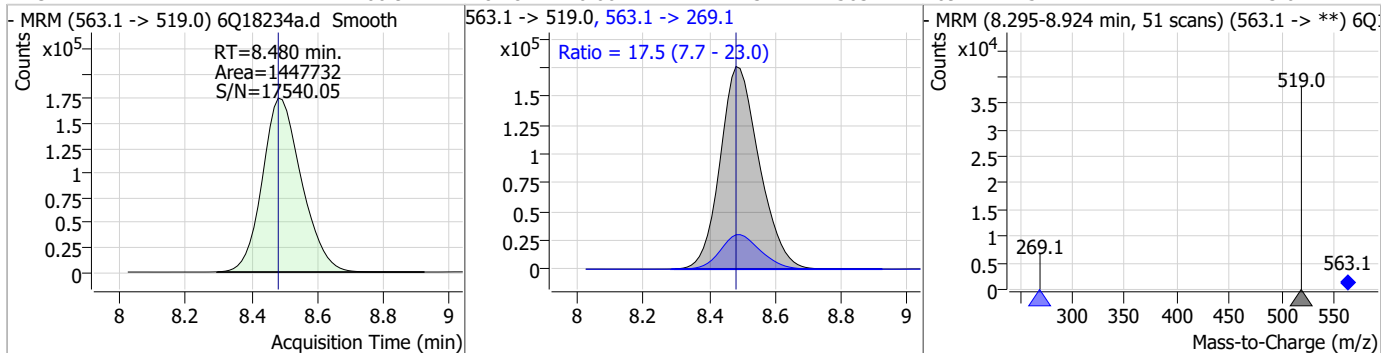
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.21	8.29	0.00	27949				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	62.07	8.31	0.01	264559	584.2 -> 526.0	51.0	27.1	81.2

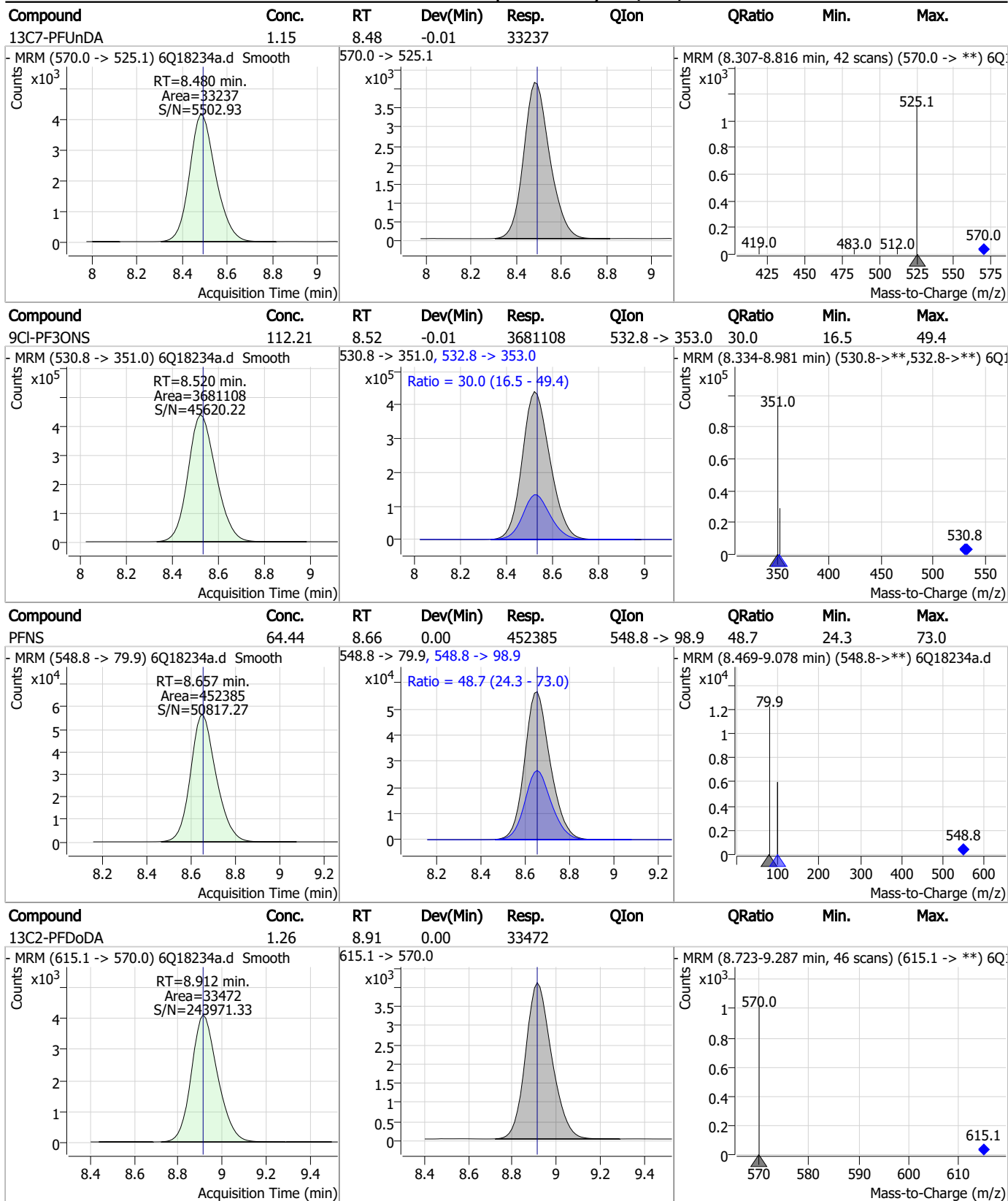


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	60.94	8.48	0.00	1447732	563.1 -> 269.1	17.5	7.7	23.0



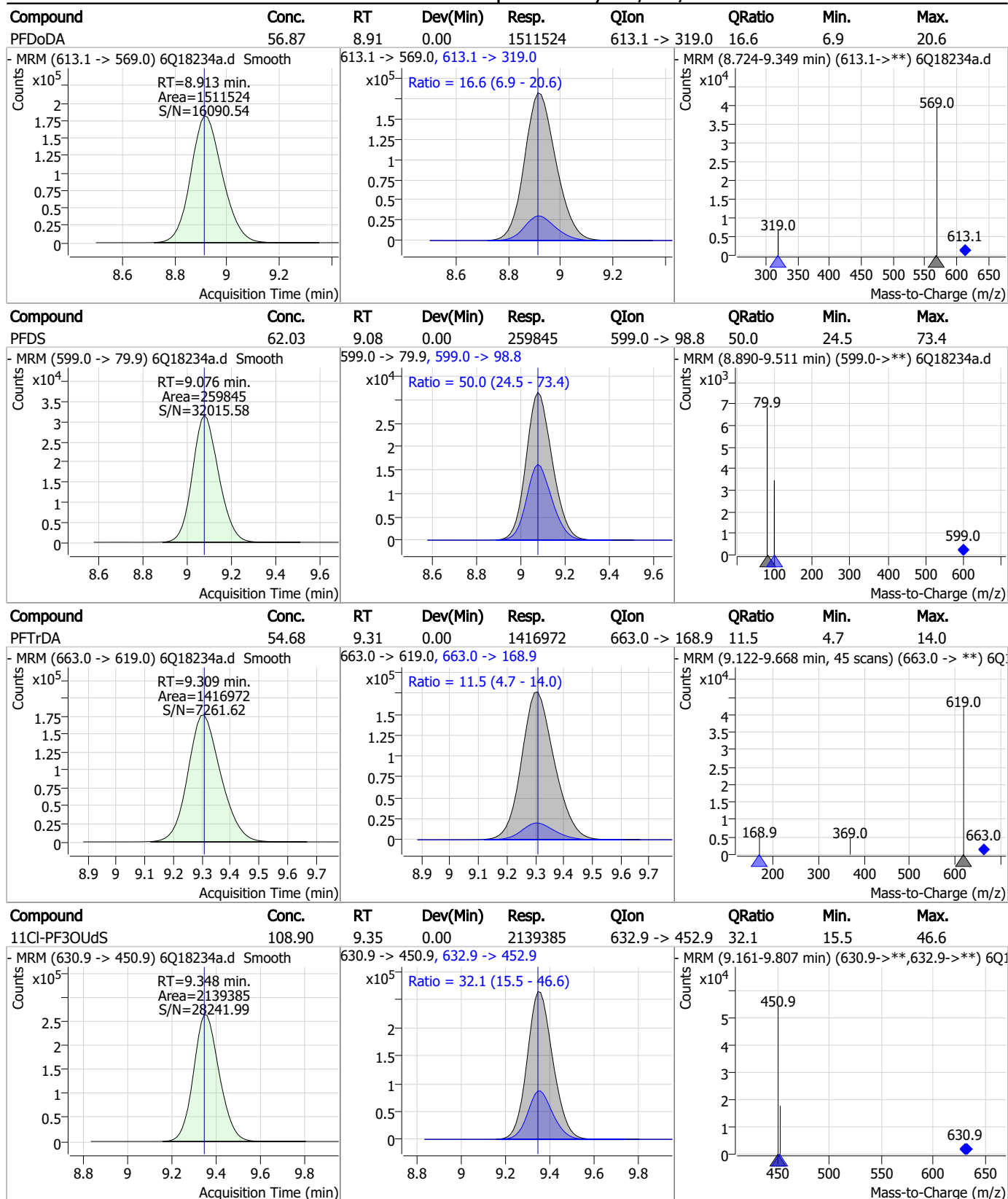
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Perfluorinated Compounds by LC/MS/MS



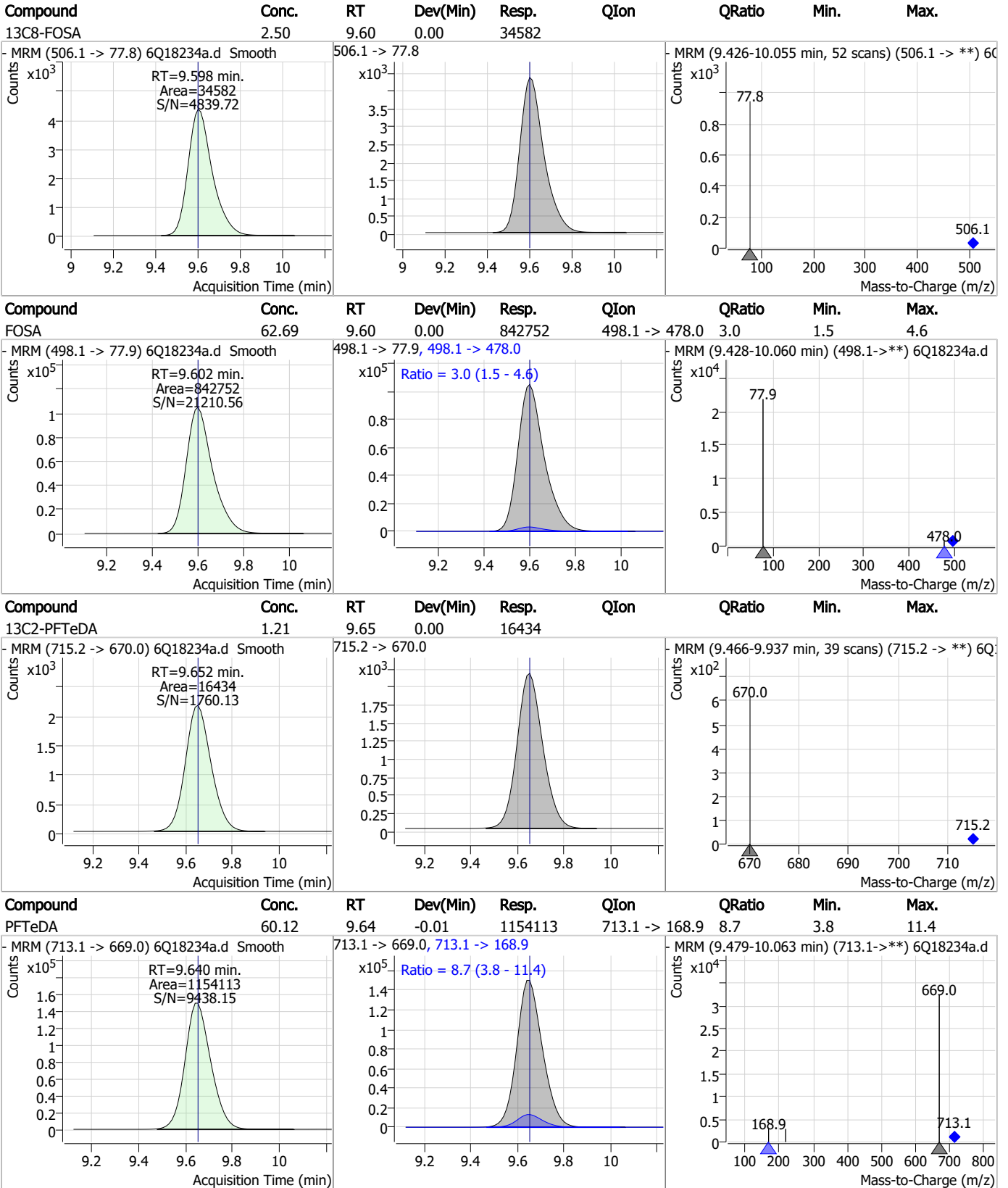
7.7.9
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

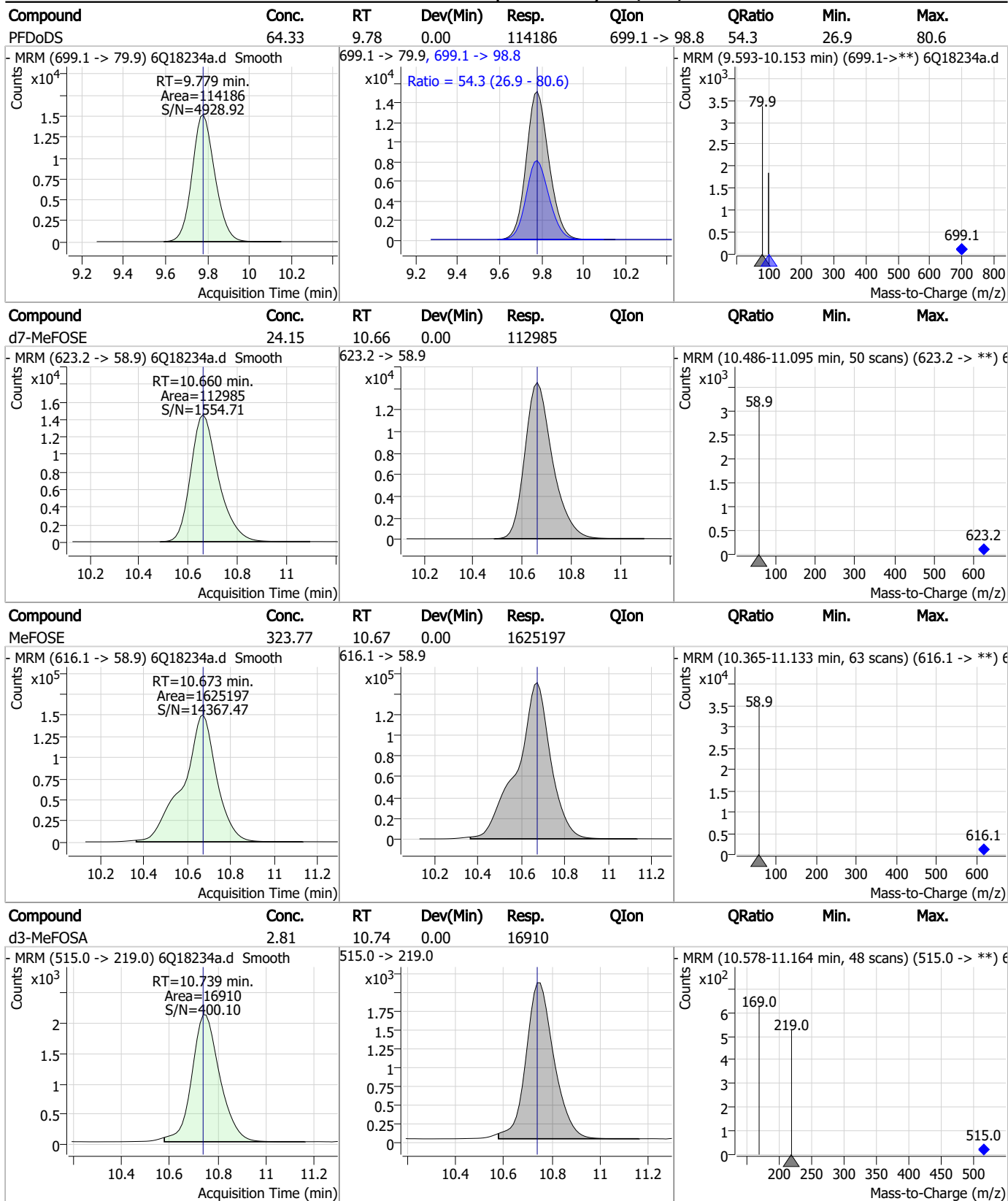


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Perfluorinated Compounds by LC/MS/MS

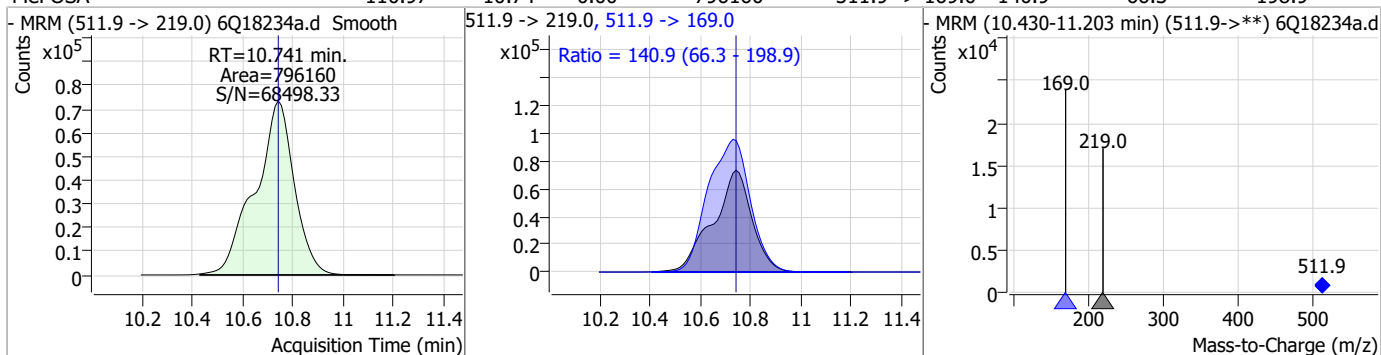


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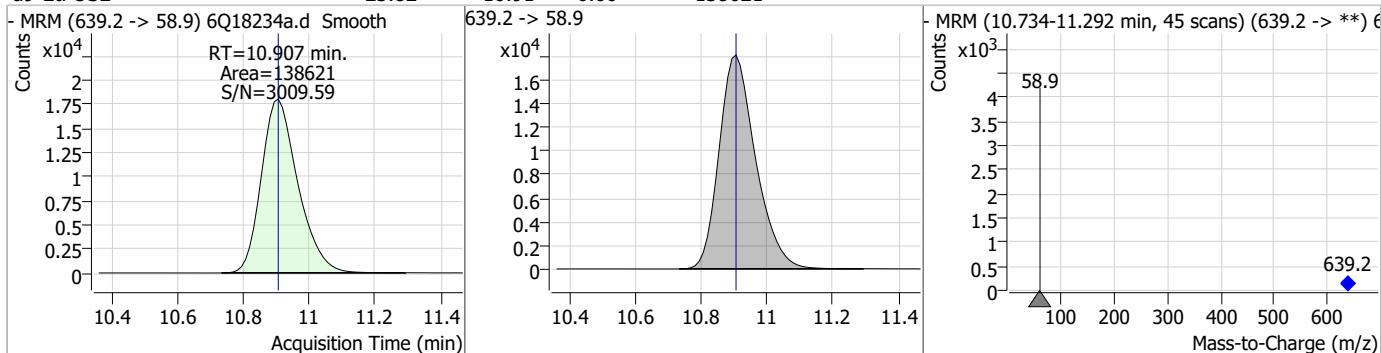
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Perfluorinated Compounds by LC/MS/MS

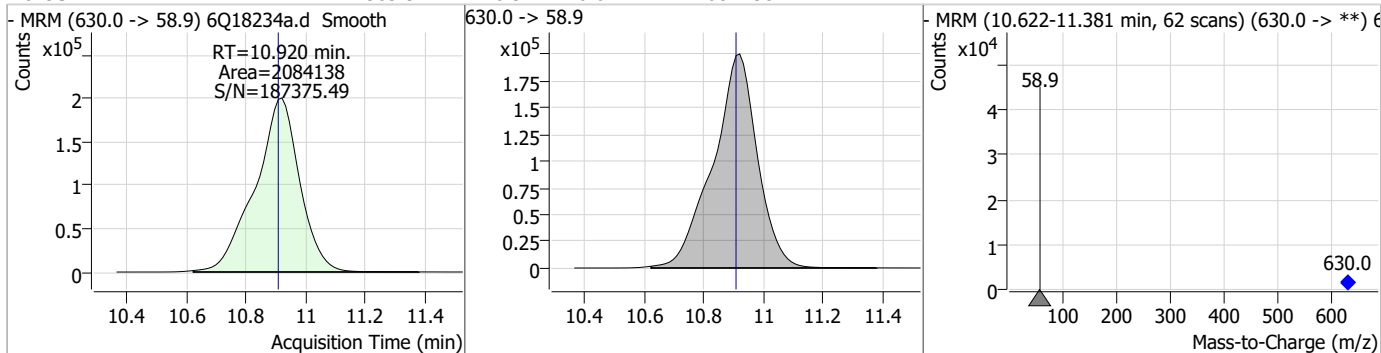
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	110.97	10.74	0.00	796160	511.9 -> 169.0	140.9	66.3	198.9



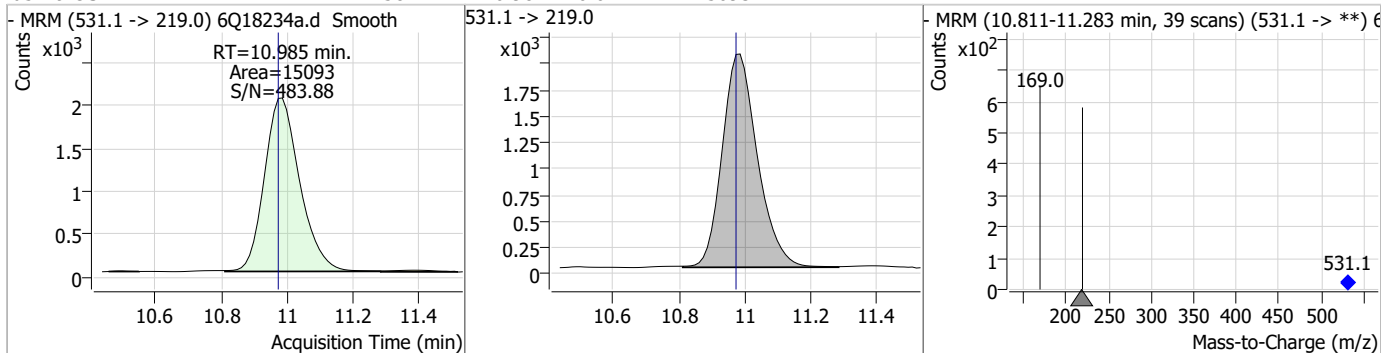
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.82	10.91	0.00	138621				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	309.91	10.92	0.01	2084138				

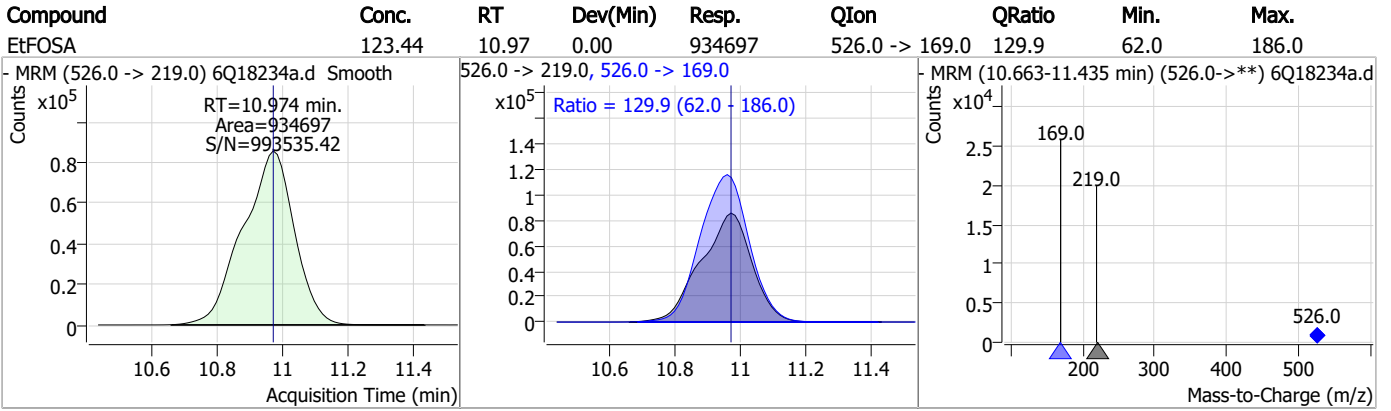


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.58	10.98	0.01	15093				



7.7.9
7

Perfluorinated Compounds by LC/MS/MS



7.7.9

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Manual Integration Approval Summary

Sample Number: S6Q275-IC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18234A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 17:53 Supervisor approved: 05/24/23 16:04 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.7.9.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18236a.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 6:22:02 PM
 Sample Name : icv275-4
 Vial : P1-B1
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	220920	10.00 µg/L	-0.053
M5-PFPeA	4.222	268.3 -> 223.0	75237	5.00 µg/L	-0.012
M5-PFHxA	5.429	318.0 -> 273.0	80402	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	77205	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	115853	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	47293	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	30270	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	36619	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	33476	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	17795	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	38647	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	30274	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17698	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16423	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4128	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	5981	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6183	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	31274	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	52101	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29310	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	127777	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	156172	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16055	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16475	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20203	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	92276	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	13075	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	117178	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37629	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58494	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	77504	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4128	5.26 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.2%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5981	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6183	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33476	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C2-PFTeDA	9.639	715.2 -> 670.0	17795	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C3-PFBS	5.347	302.1 -> 79.9	30274	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.5%		
13C3-PFHxS	7.142	402.1 -> 79.9	17698	2.47 µg/L	0.000

7.7.10
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 = 98.9%	
13C4-PFBA	2.822	216.8 -> 171.9	220920	10.06 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFHpA	6.395	367.1 -> 322.0	77205	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C5-PFHxA	5.429	318.0 -> 273.0	80402	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C5-PFPeA	4.222	268.3 -> 223.0	75237	5.10 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C6-PFDA	8.039	519.1 -> 474.1	30270	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.8%	
13C7-PFUnDA	8.492	570.0 -> 525.1	36619	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-FOSA	9.598	506.1 -> 77.8	38647	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C8-PFOA	7.038	421.1 -> 376.0	115853	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C8-PFOS	8.189	507.1 -> 79.9	16423	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C9-PFNA	7.557	472.1 -> 427.0	47293	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	31274	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	52101	10.03 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
d3-MeFOSA	10.739	515.0 -> 219.0	16475	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29310	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	127777	25.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	156172	25.50 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
d5-EtFOSA	10.972	531.1 -> 219.0	16055	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	62255	8.23 µg/L	97
		327.1 -> 80.9	23460		
6:2FTS	6.813	427.1 -> 407.0	59080	8.74 µg/L	98
		427.1 -> 80.9	19424		
8:2FTS	7.840	527.1 -> 507.0	30401	8.17 µg/L	100
		527.1 -> 80.8	12923		
EtFOSAA	8.293	584.2 -> 419.1	9636	2.16 µg/L	97
		584.2 -> 526.0	5425		
FOSA	9.602	498.1 -> 77.9	32493	2.16 µg/L	99
		498.1 -> 478.0	1044		
MeFOSAA	8.097	570.1 -> 419.0	17557	2.31 µg/L	97
		570.1 -> 483.0	3171		
PFBA	2.831	212.8 -> 168.9	75792	8.80 µg/L	100
PFBS	5.348	298.7 -> 79.9	21465	1.85 µg/L	95
		298.7 -> 98.8	8465		
PFDA	8.040	512.9 -> 469.0	85057	2.06 µg/L	98
		512.9 -> 219.0	14252		
PFDODA	8.913	613.1 -> 569.0	58588	2.20 µg/L	94
		613.1 -> 319.0	9515		
PFDS	9.076	599.0 -> 79.9	9662	2.10 µg/L	98

7.7.10
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	4872	2.15 µg/L	97
		363.1 -> 319.0	85596		
PFHpS	7.698	363.1 -> 169.0	13892	2.01 µg/L	98
		449.0 -> 79.9	17998		
PFHxA	5.432	449.0 -> 98.9	8701	2.10 µg/L	98
		313.0 -> 269.0	65444		
PFHxS	7.143	313.0 -> 118.9	3448	1.95 µg/L	98
		398.7 -> 79.9	18719		
PFNA	7.570	398.7 -> 98.9	9081	2.02 µg/L	96
		463.0 -> 419.0	79018		
PFNS	8.657	463.0 -> 219.0	16670	2.13 µg/L	93
		548.8 -> 79.9	16418		
PFOA	7.040	548.8 -> 98.9	8797	2.26 µg/L	99
		413.0 -> 369.0	122368		
PFOS	8.191	413.0 -> 169.0	21597	2.08 µg/L	92
		498.9 -> 79.9	18136		
PFPeA	4.224	498.9 -> 98.8	8621	4.35 µg/L	100
		263.0 -> 219.0	88176		
PFPeS	6.434	349.1 -> 79.9	19962	2.12 µg/L	95
		349.1 -> 98.9	8754		
PFTeDA	9.640	713.1 -> 669.0	42128	2.03 µg/L	93
		713.1 -> 168.9	4164		
PFTrDA	9.309	663.0 -> 619.0	58085	2.24 µg/L	92
		663.0 -> 168.9	7007		
PFUnDA	8.493	563.1 -> 519.0	61704	2.36 µg/L	99
		563.1 -> 269.1	9308		
11CI-PF3OUdS	9.348	630.9 -> 450.9	83867	4.19 µg/L	97
		632.9 -> 452.9	24468		
9CI-PF3ONS	8.520	530.8 -> 351.0	147041	4.40 µg/L	90
		532.8 -> 353.0	40241		
ADONA	6.646	376.9 -> 250.9	312983	4.07 µg/L	98
		376.9 -> 84.8	80804		
HFPO-DA	5.795	284.9 -> 168.9	21687	4.24 µg/L	92
		284.9 -> 184.9	2288		
3:3FTCA	3.671	241.0 -> 177.0	15076	10.30 µg/L	98
		241.0 -> 117.0	2036		
5:3FTCA	6.086	341.0 -> 237.1	314183	54.80 µg/L	99
		341.0 -> 217.0	225697		
7:3FTCA	7.523	441.0 -> 316.9	211756	57.14 µg/L	93
		441.0 -> 336.9	441276		
EtFOSA	10.974	526.0 -> 219.0	35037	4.35 µg/L	89
		526.0 -> 169.0	47797		
EtFOSE	10.920	630.0 -> 58.9	85902	11.34 µg/L	100
		511.9 -> 219.0	30266		
MeFOSA	10.741	511.9 -> 169.0	42629	4.33 µg/L	93
		616.1 -> 58.9	60618		
MeFOSE	10.673	699.1 -> 79.9	4191	10.68 µg/L	100
		699.1 -> 98.8	2373		
PFDoDS	9.767	295.0 -> 201.0	15438	2.15 µg/L	96
		295.0 -> 84.9	4157		
NFDHA	5.299	279.0 -> 85.1	59991	4.00 µg/L	100
		229.0 -> 84.9	45264		
PFMBA	4.638	314.8 -> 134.9	156847	4.18 µg/L	100
		314.8 -> 82.9	5316		
PFMPA	3.363			4.15 µg/L	100
PFEESA	5.888			3.74 µg/L	98

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



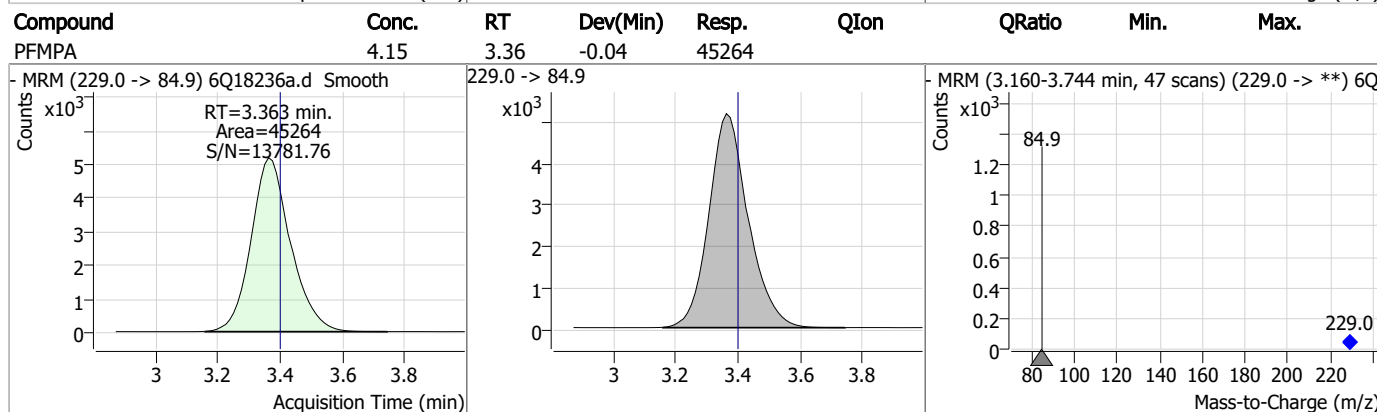
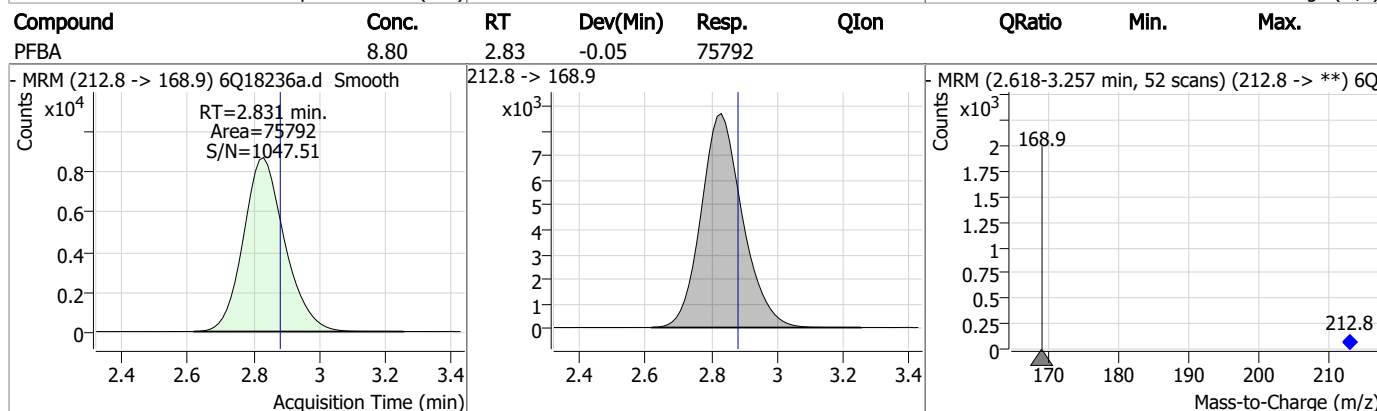
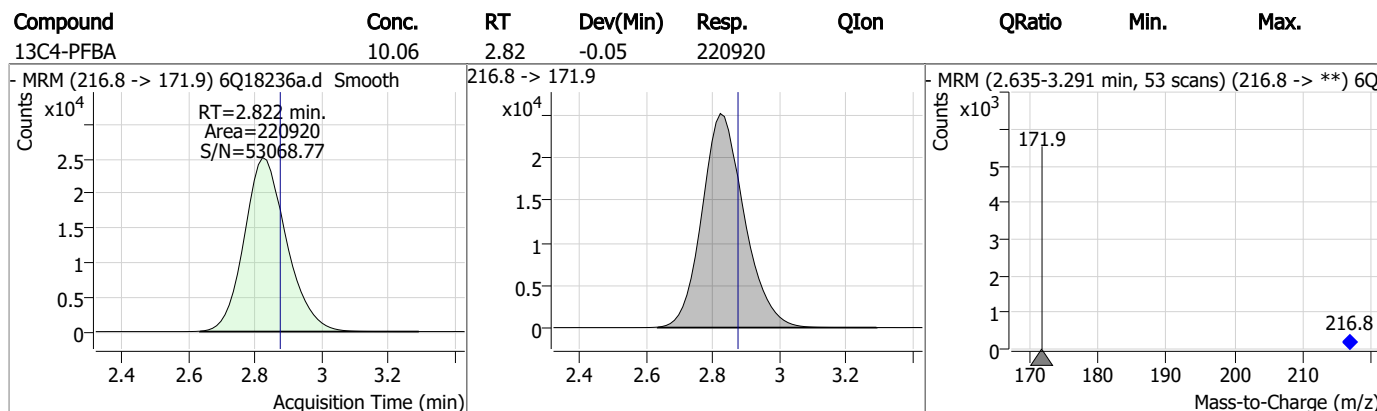
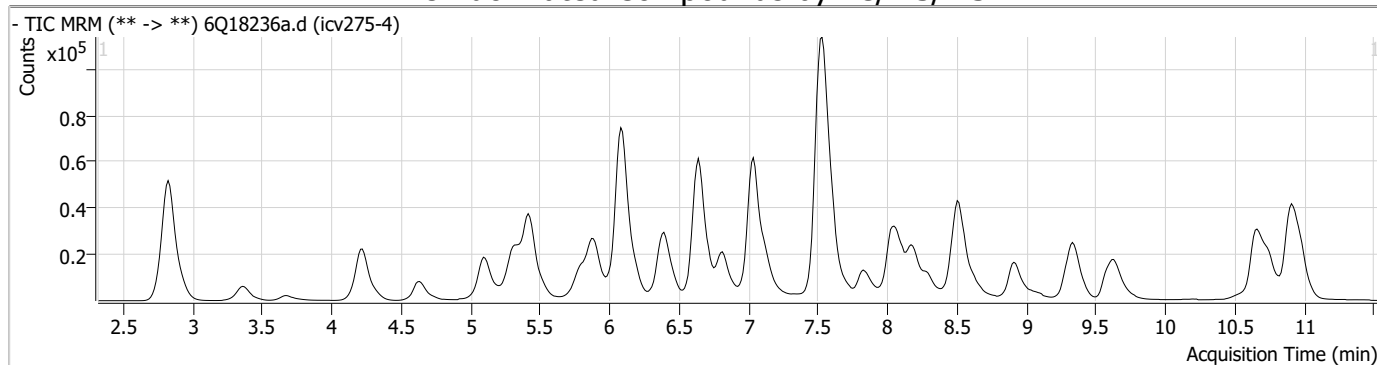
Perfluorinated Compounds by LC/MS/MS

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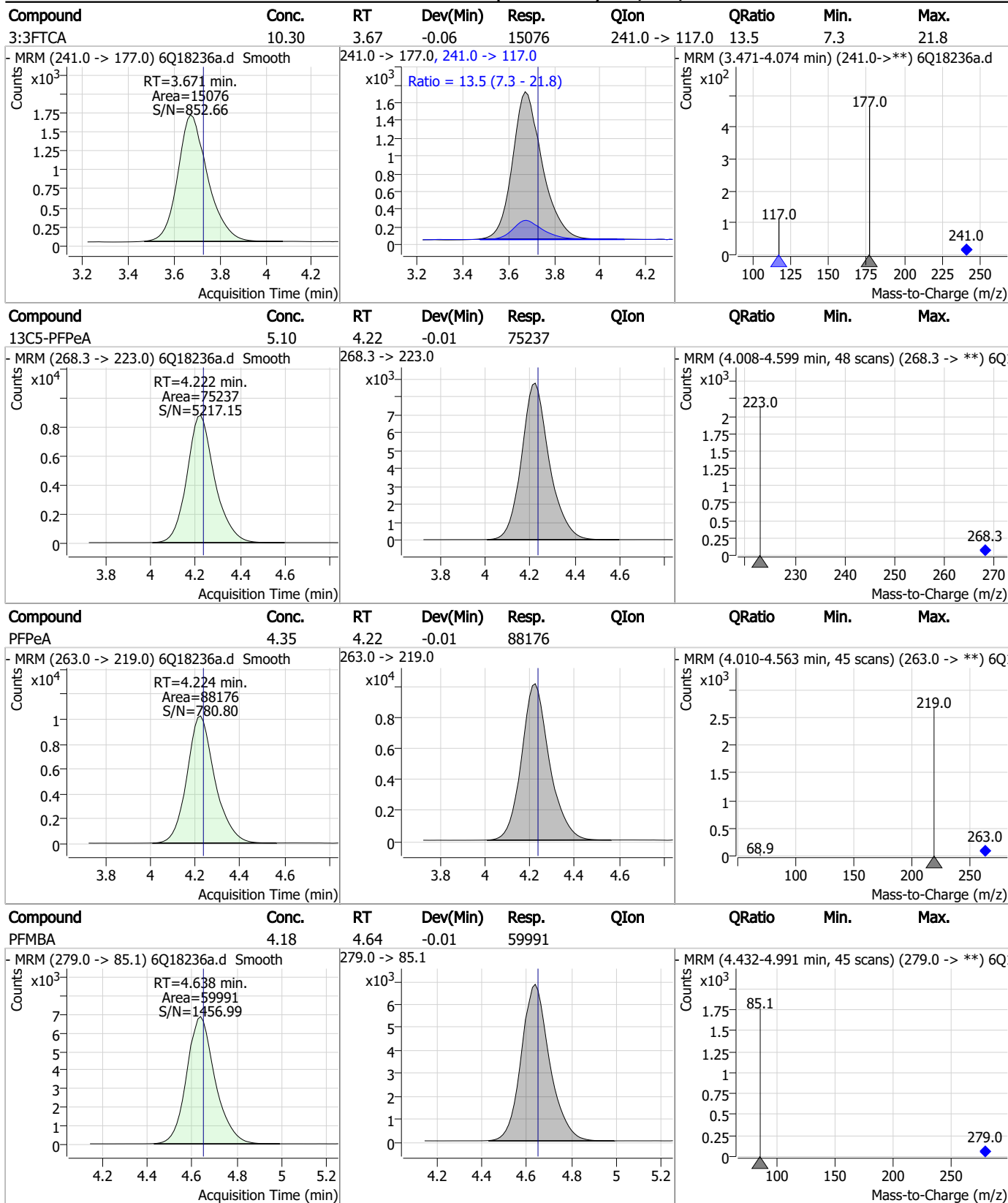
7.7.10

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Perfluorinated Compounds by LC/MS/MS

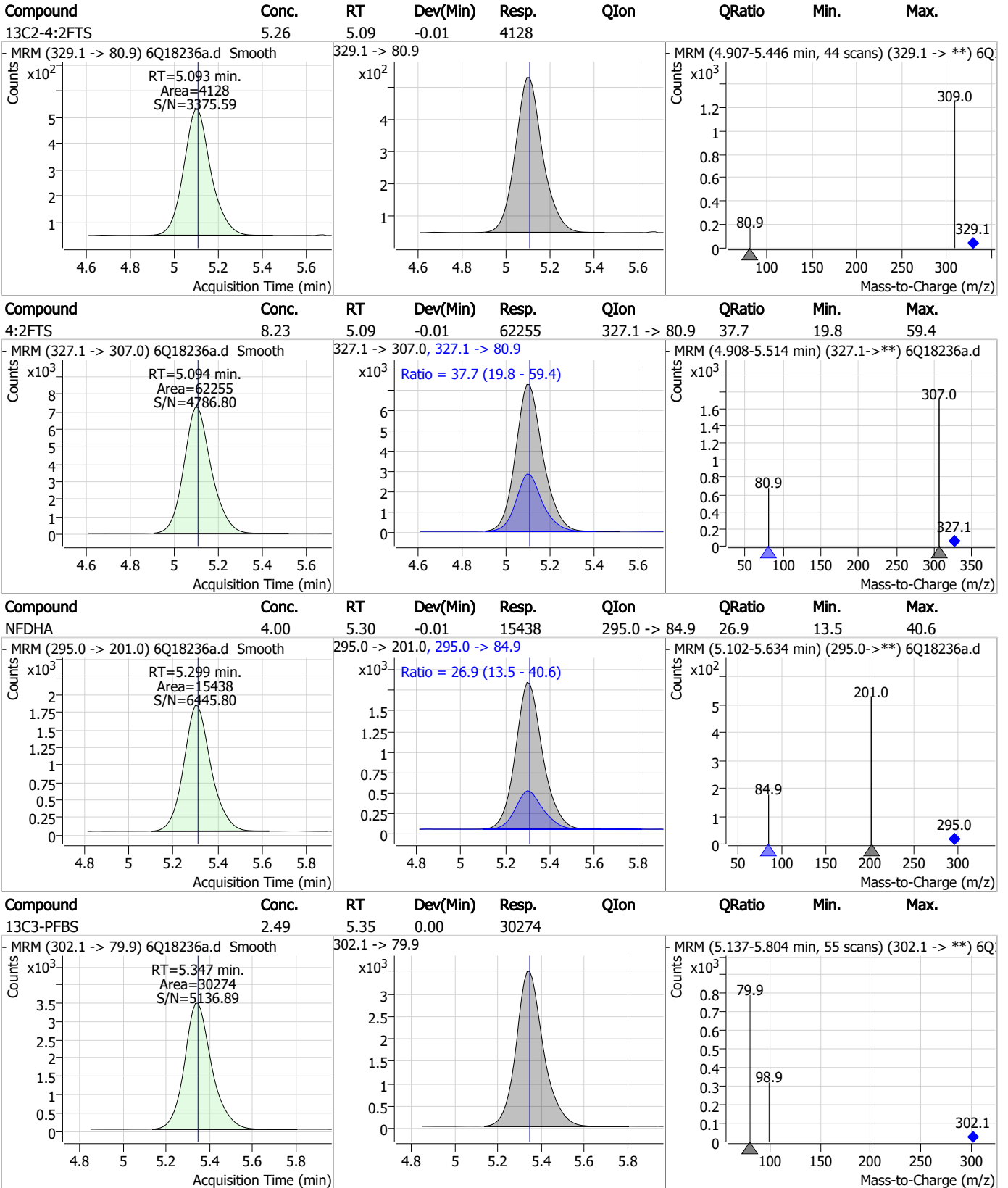


Perfluorinated Compounds by LC/MS/MS



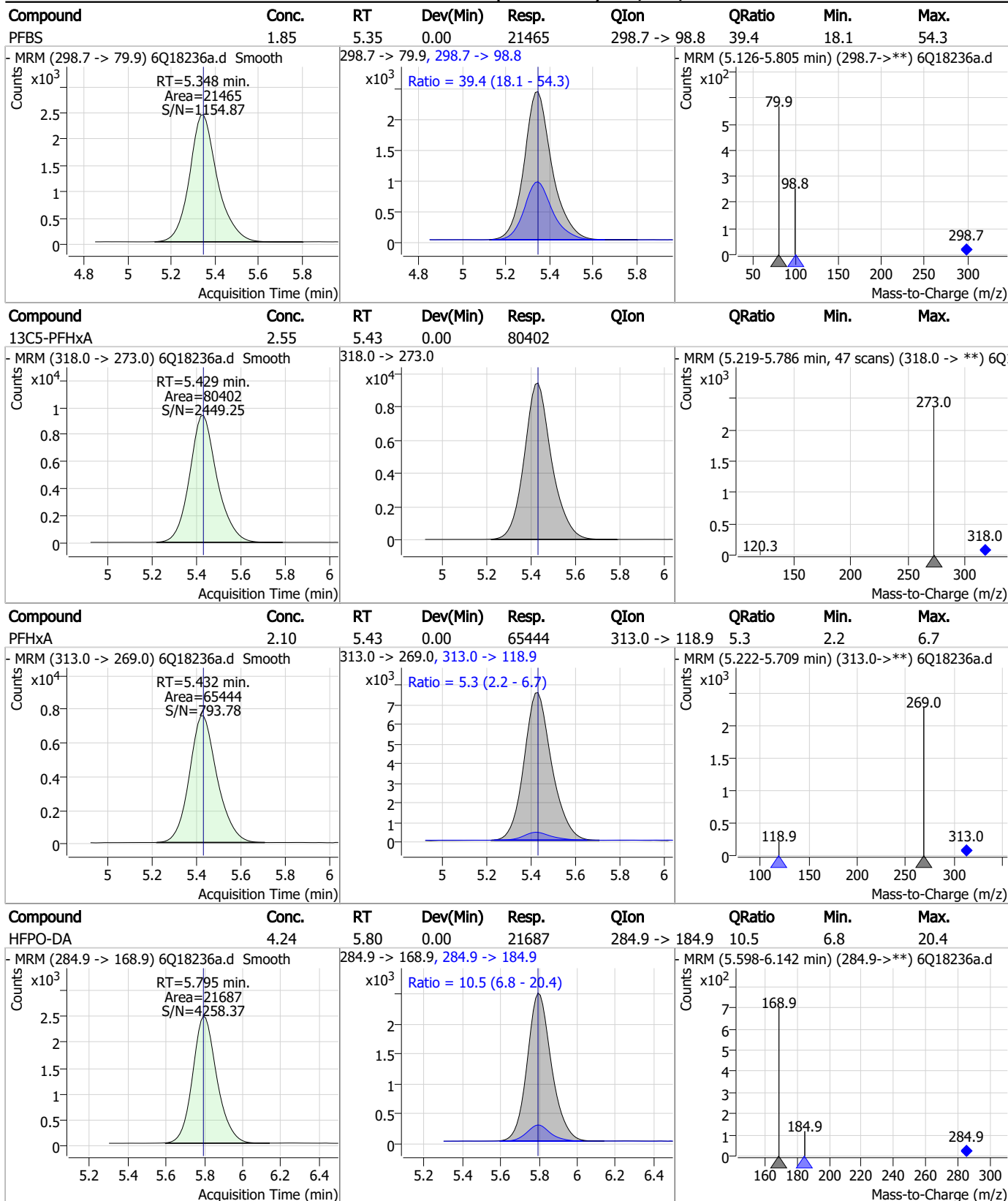
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



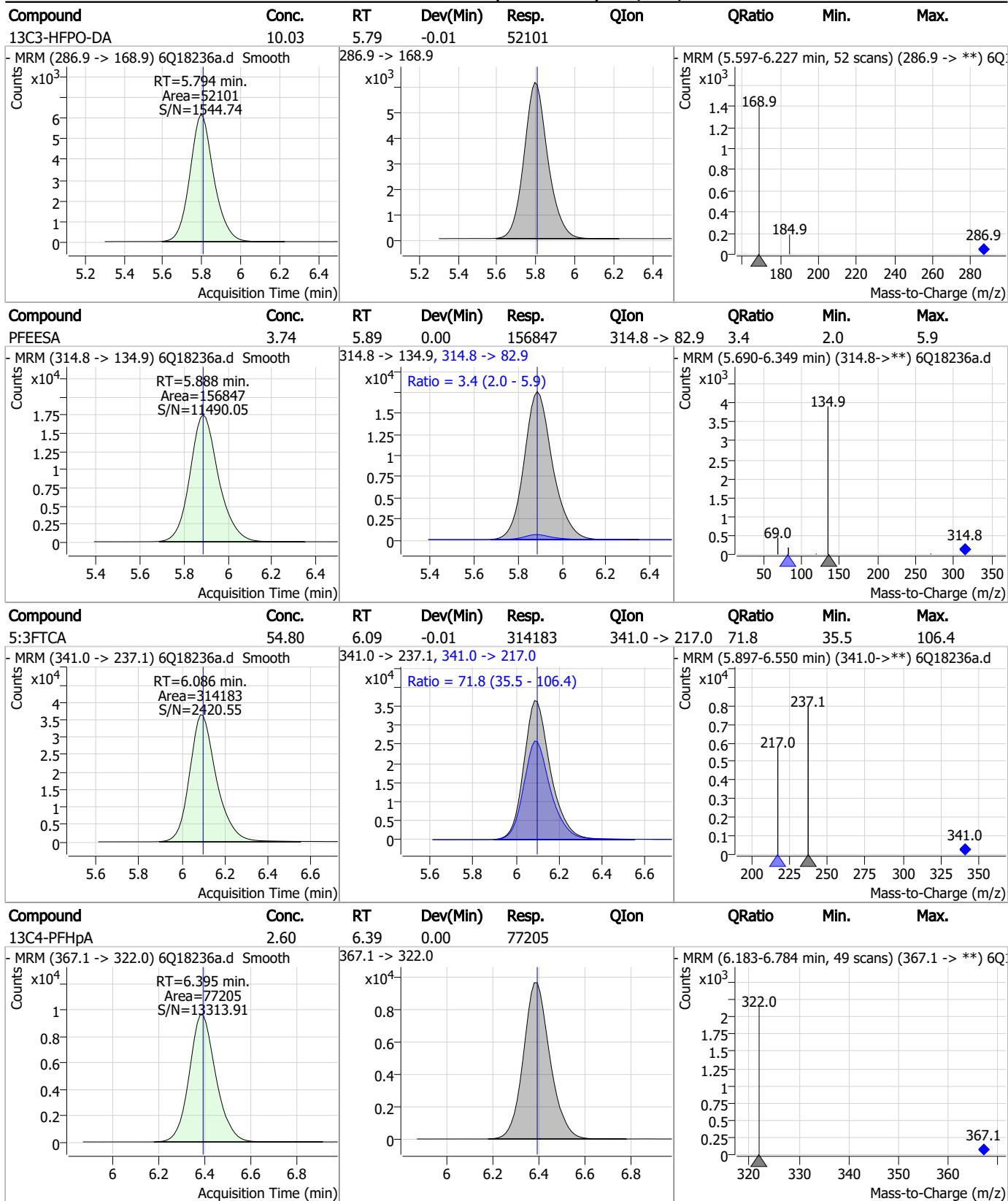
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Perfluorinated Compounds by LC/MS/MS



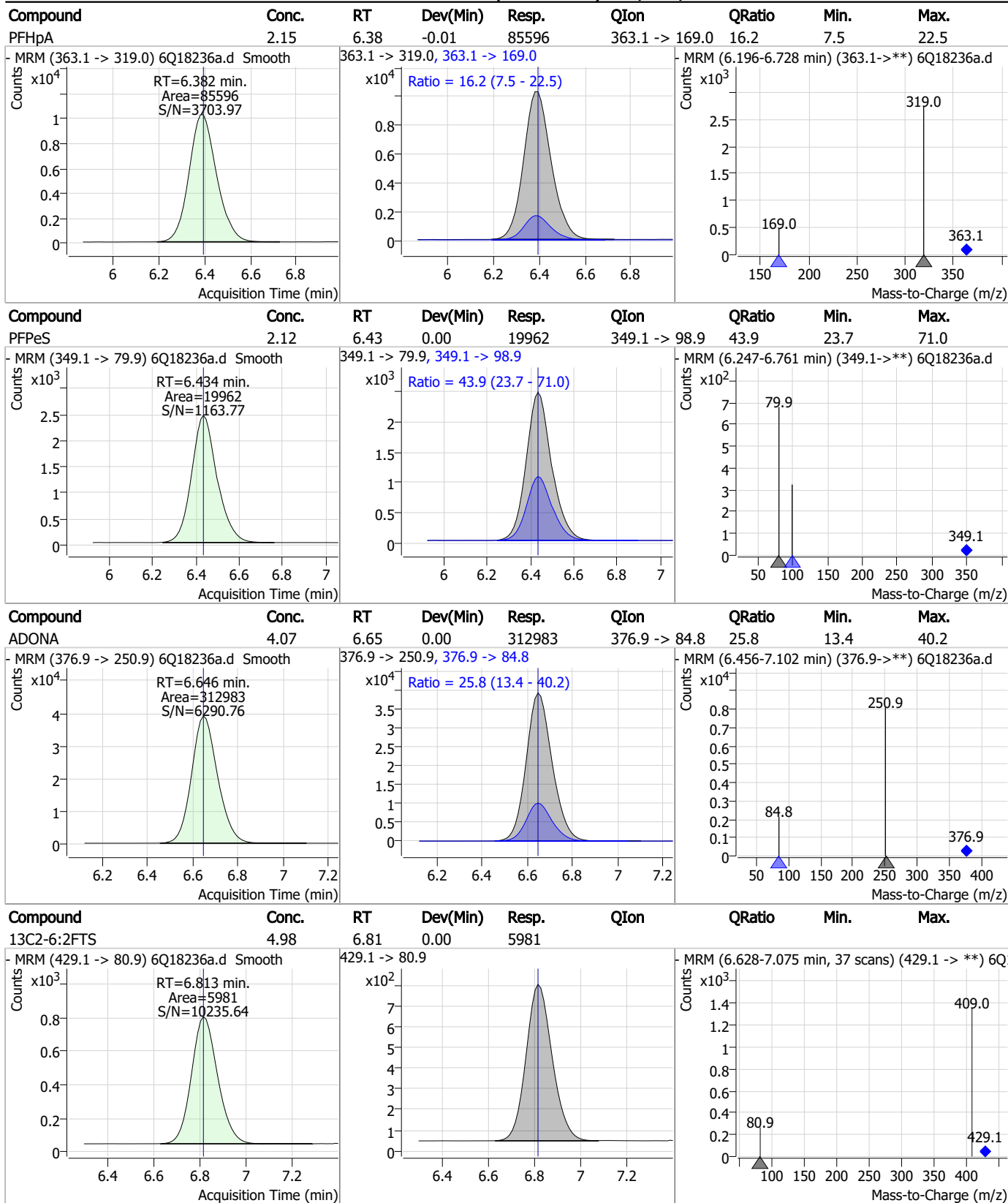
7.7.10
7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

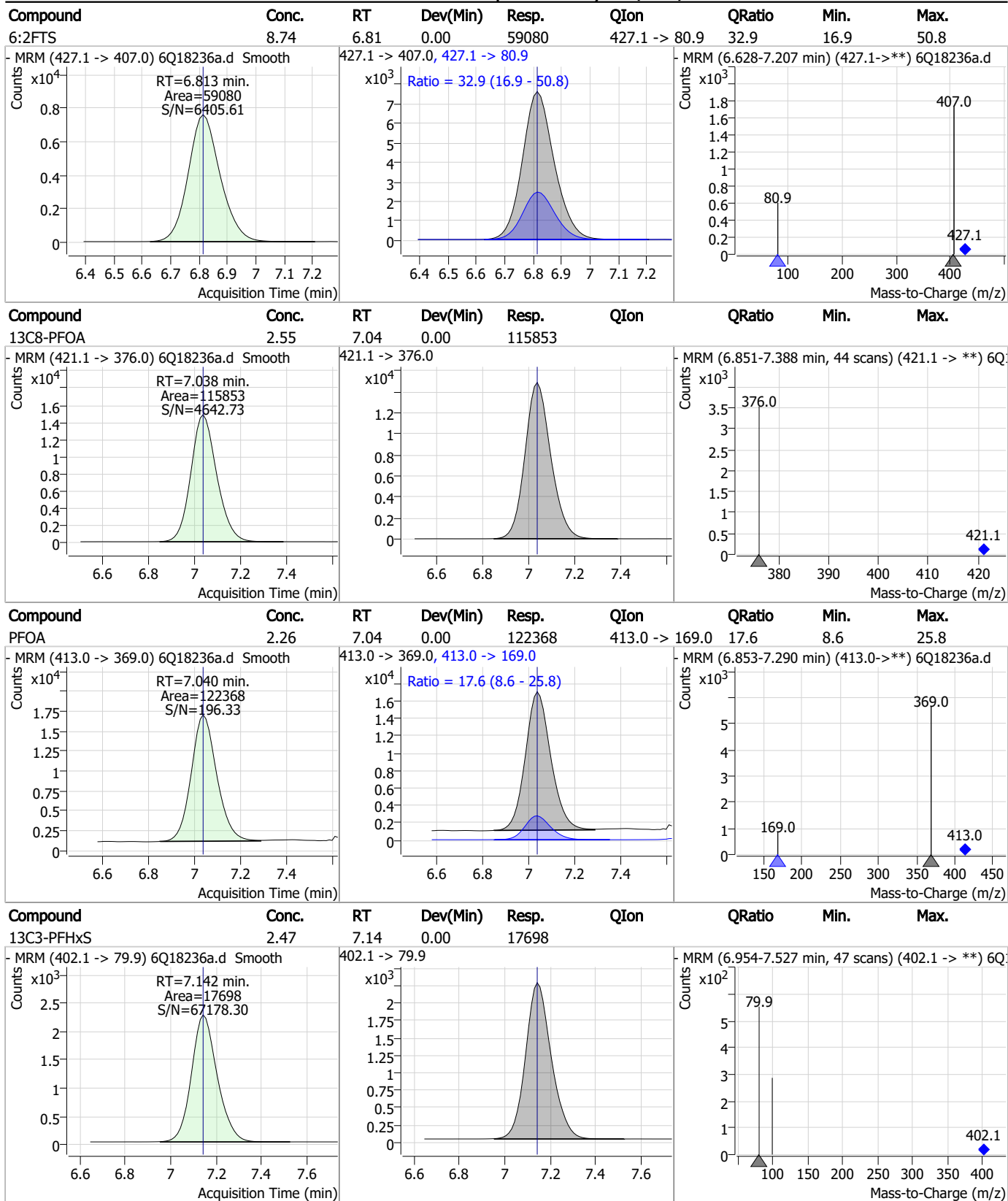
Perfluorinated Compounds by LC/MS/MS



7.7.10
7

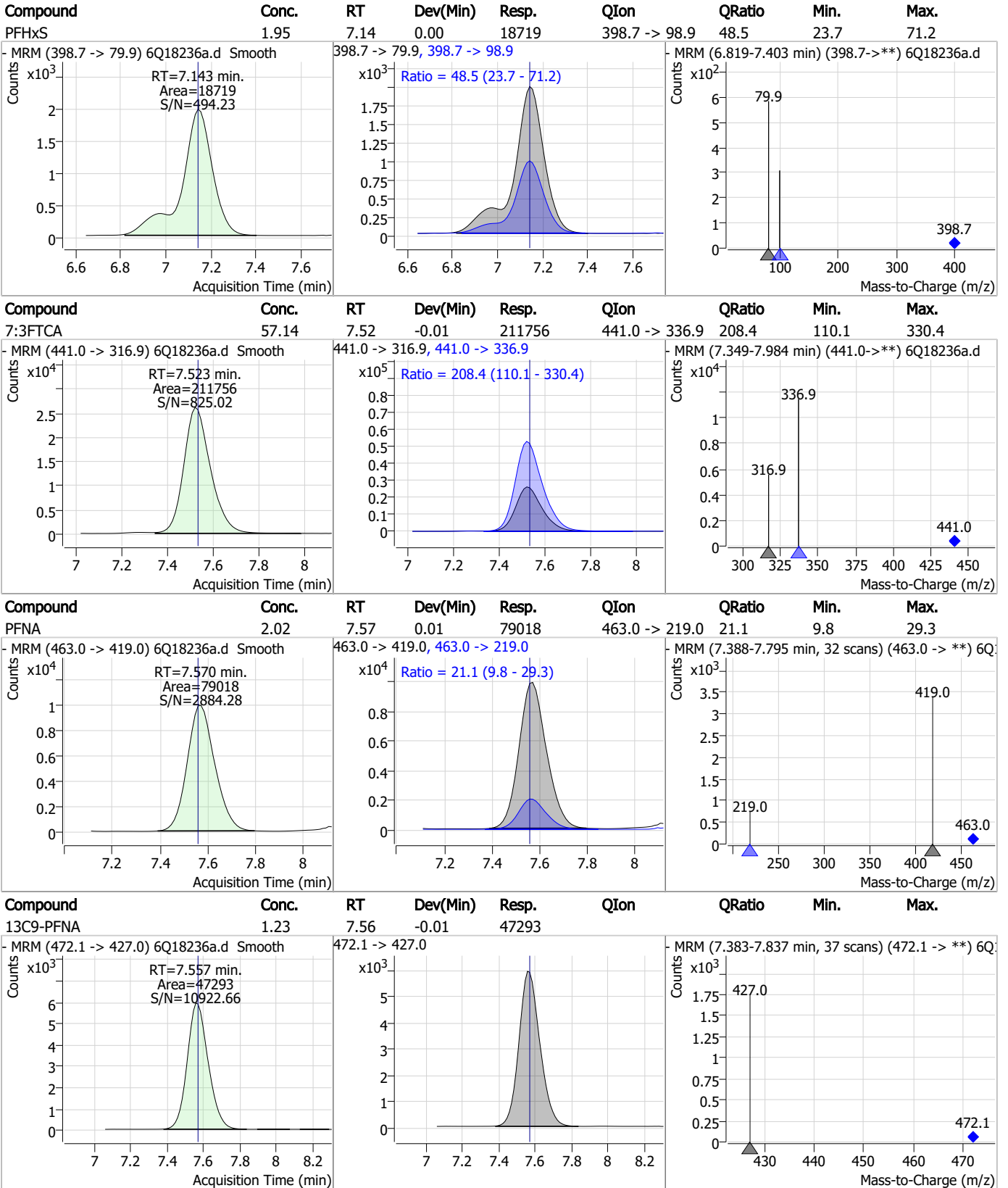


Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

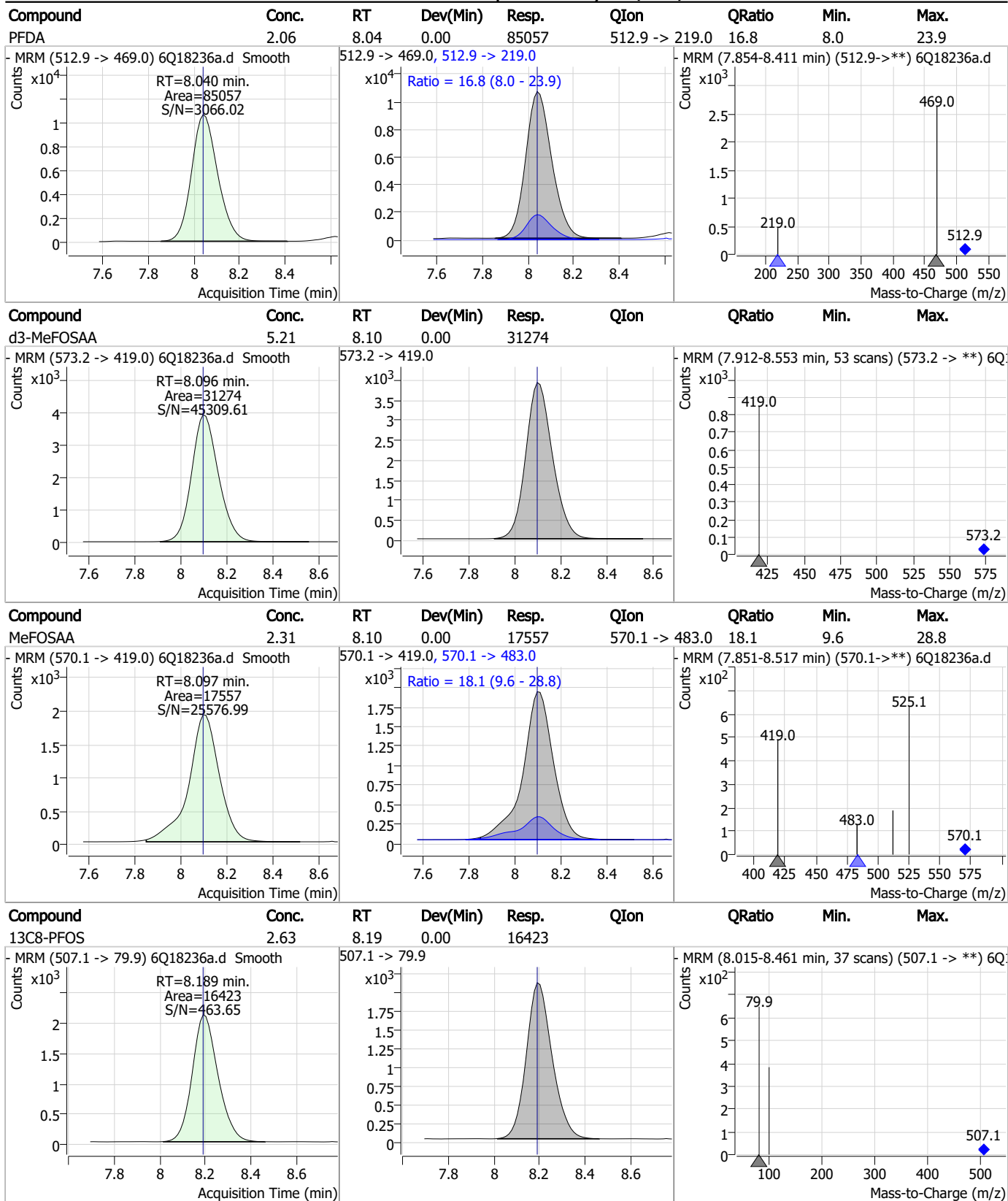


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.01	7.70	0.00	17998	449.0 -> 98.9	48.3	24.7	74.2
- MRM (449.0 -> 79.9) 6Q18236a.d Smooth			449.0 -> 79.9, 449.0 -> 98.9			- MRM (7.509-7.995 min) (449.0->**) 6Q18236a.d		
13C2-8:2FTS	5.07	7.84	0.00	6183				
- MRM (529.1 -> 80.9) 6Q18236a.d Smooth			529.1 -> 80.9			- MRM (7.653-8.124 min, 39 scans) (529.1 -> **) 6Q18236a.d		
8:2FTS	8.17	7.84	0.00	30401	527.1 -> 80.8	42.5	21.4	64.1
- MRM (527.1 -> 507.0) 6Q18236a.d Smooth			527.1 -> 507.0, 527.1 -> 80.8			- MRM (7.654-8.120 min) (527.1->**) 6Q18236a.d		
13C6-PFDA	1.33	8.04	0.00	30270				
- MRM (519.1 -> 474.1) 6Q18236a.d Smooth			519.1 -> 474.1			- MRM (7.853-8.285 min, 35 scans) (519.1 -> **) 6Q18236a.d		

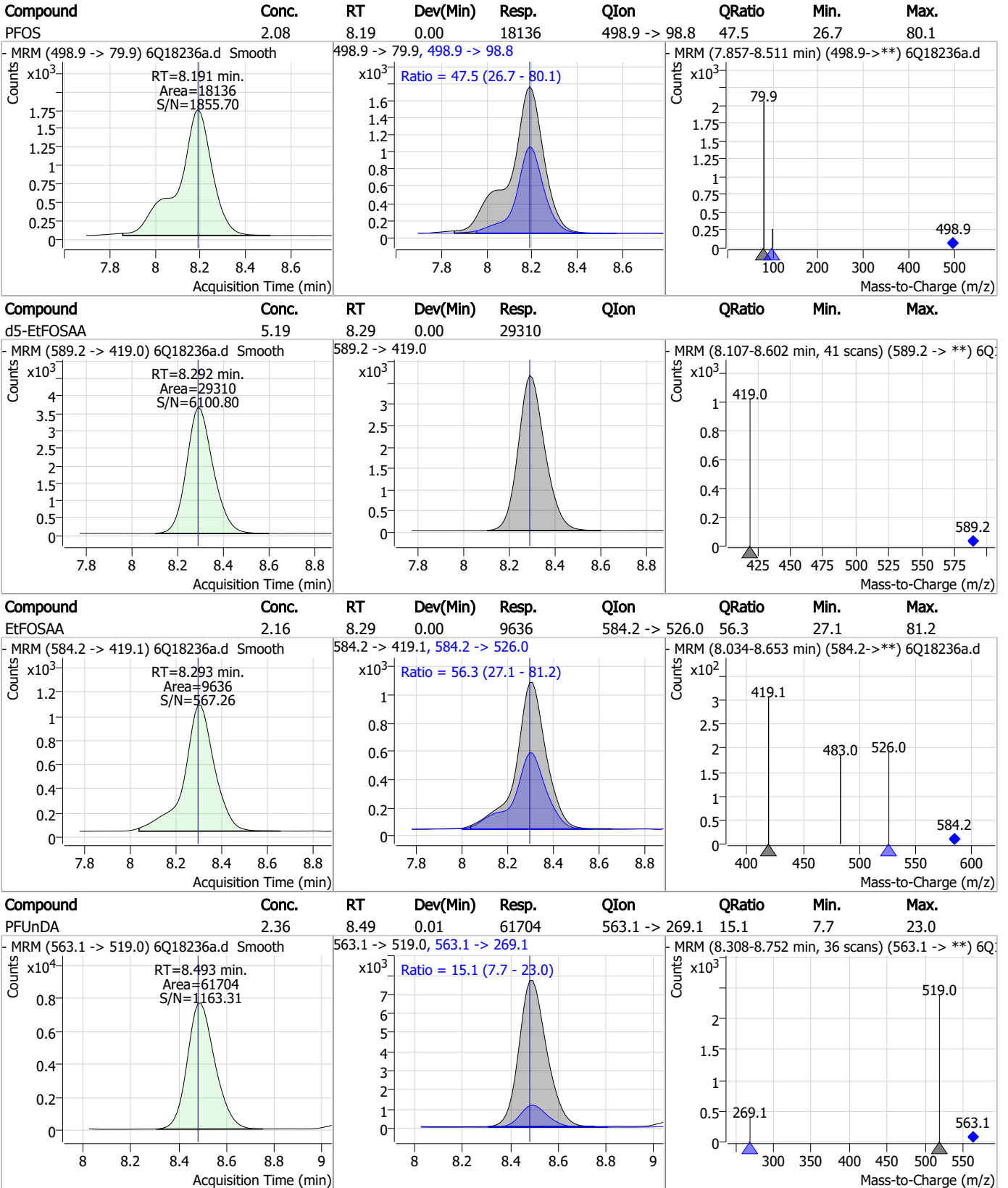
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10
7

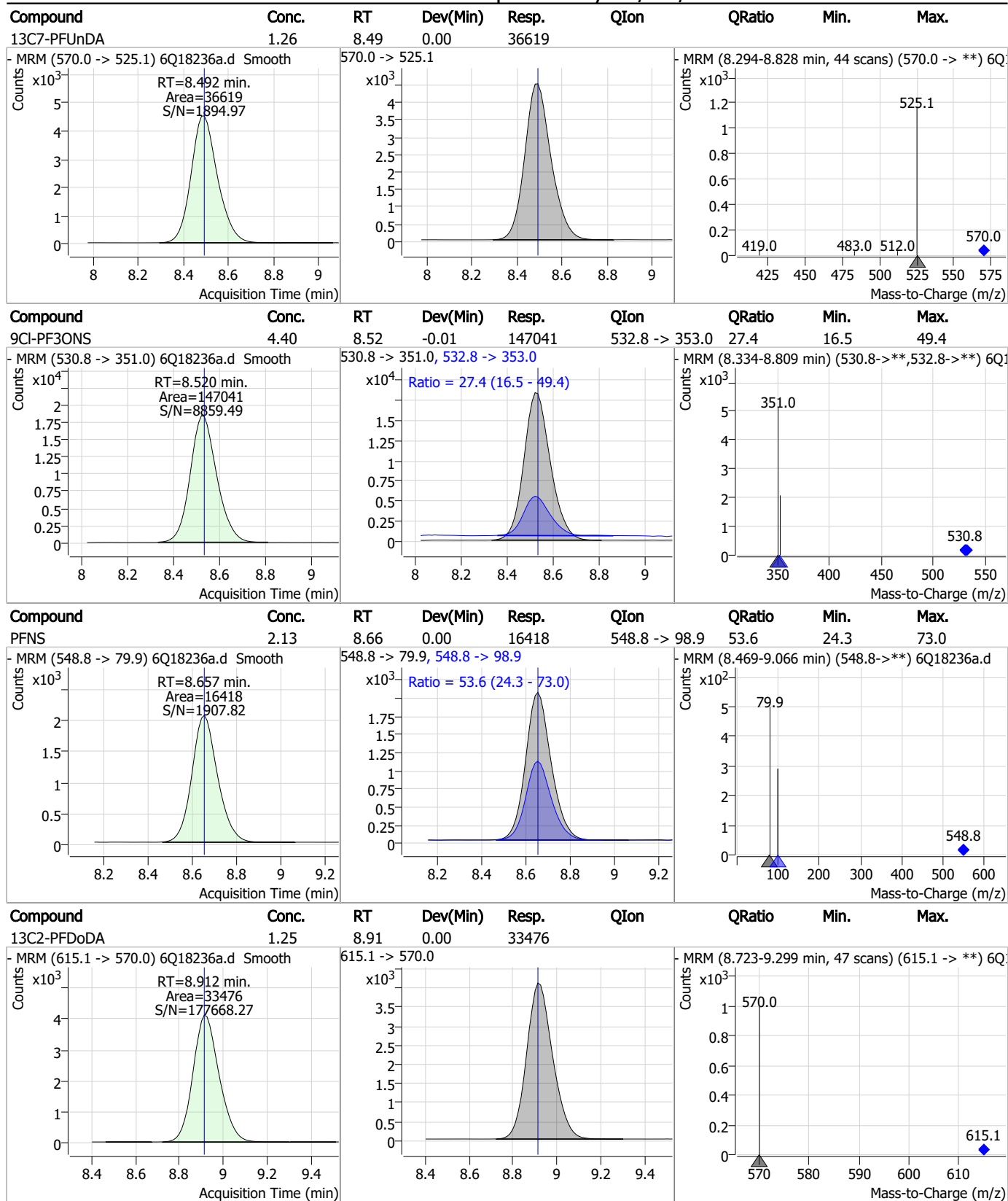
Perfluorinated Compounds by LC/MS/MS



7.7.10 7

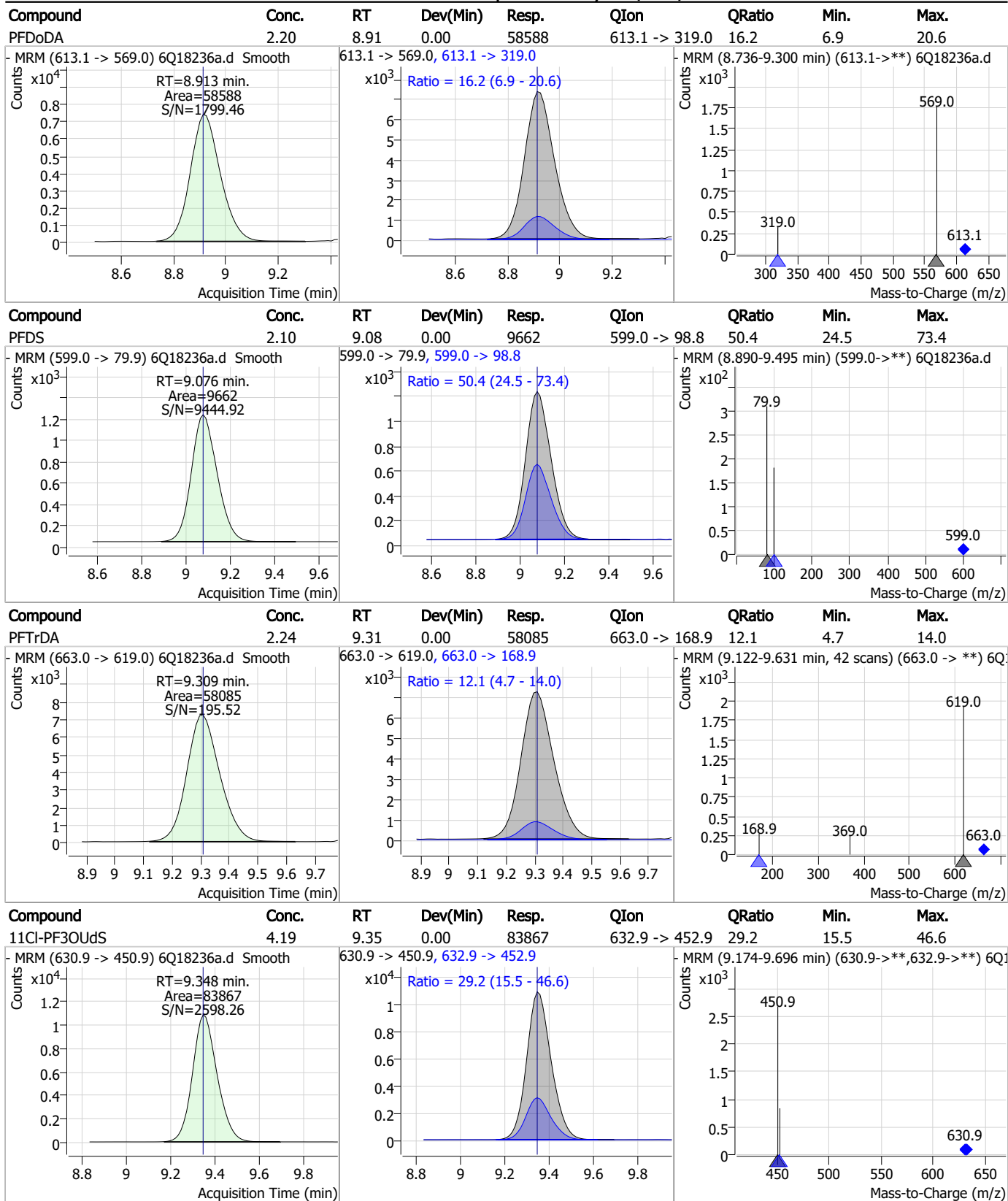


Perfluorinated Compounds by LC/MS/MS



7.7.10 7

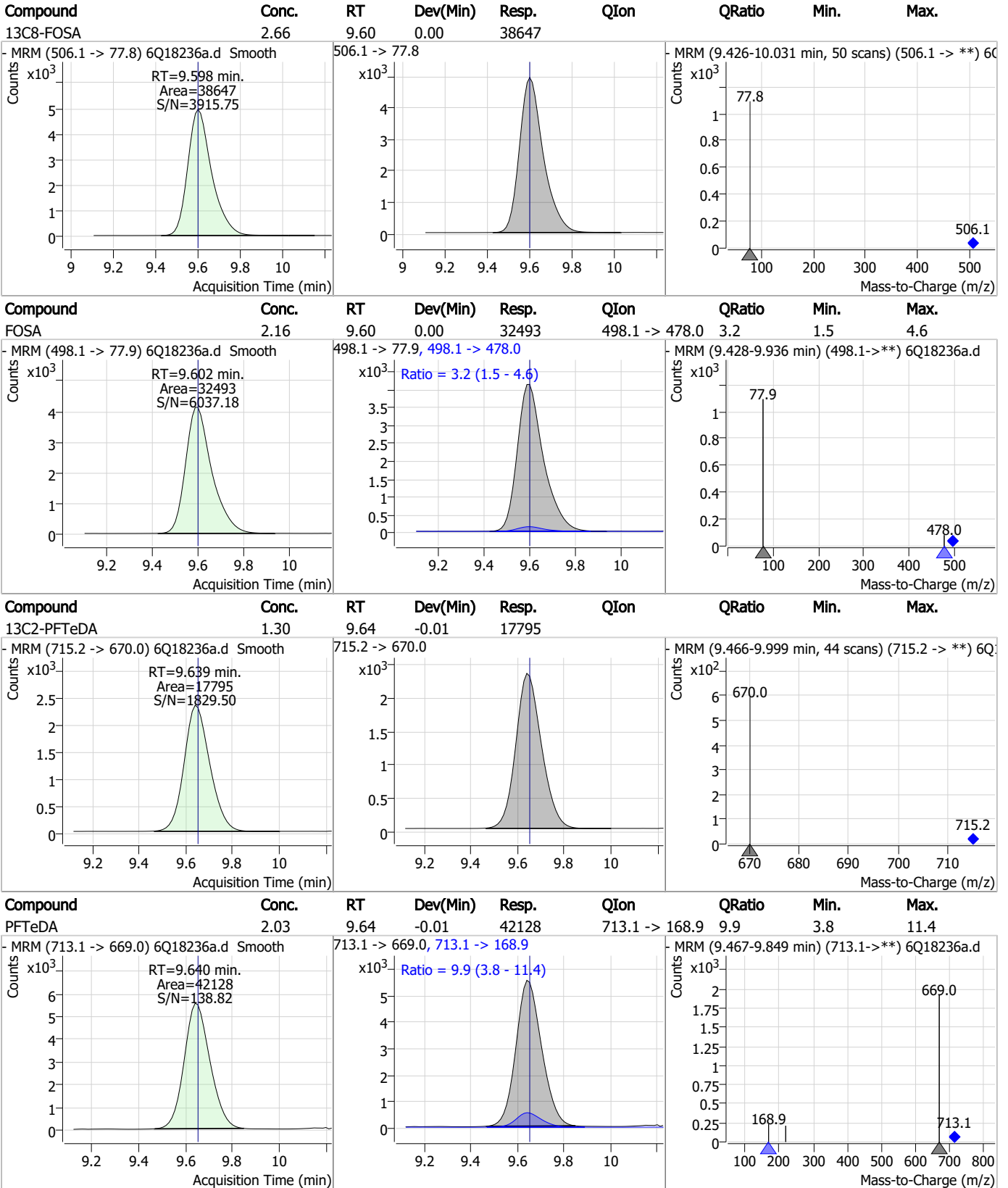
Perfluorinated Compounds by LC/MS/MS



7.7.10 7



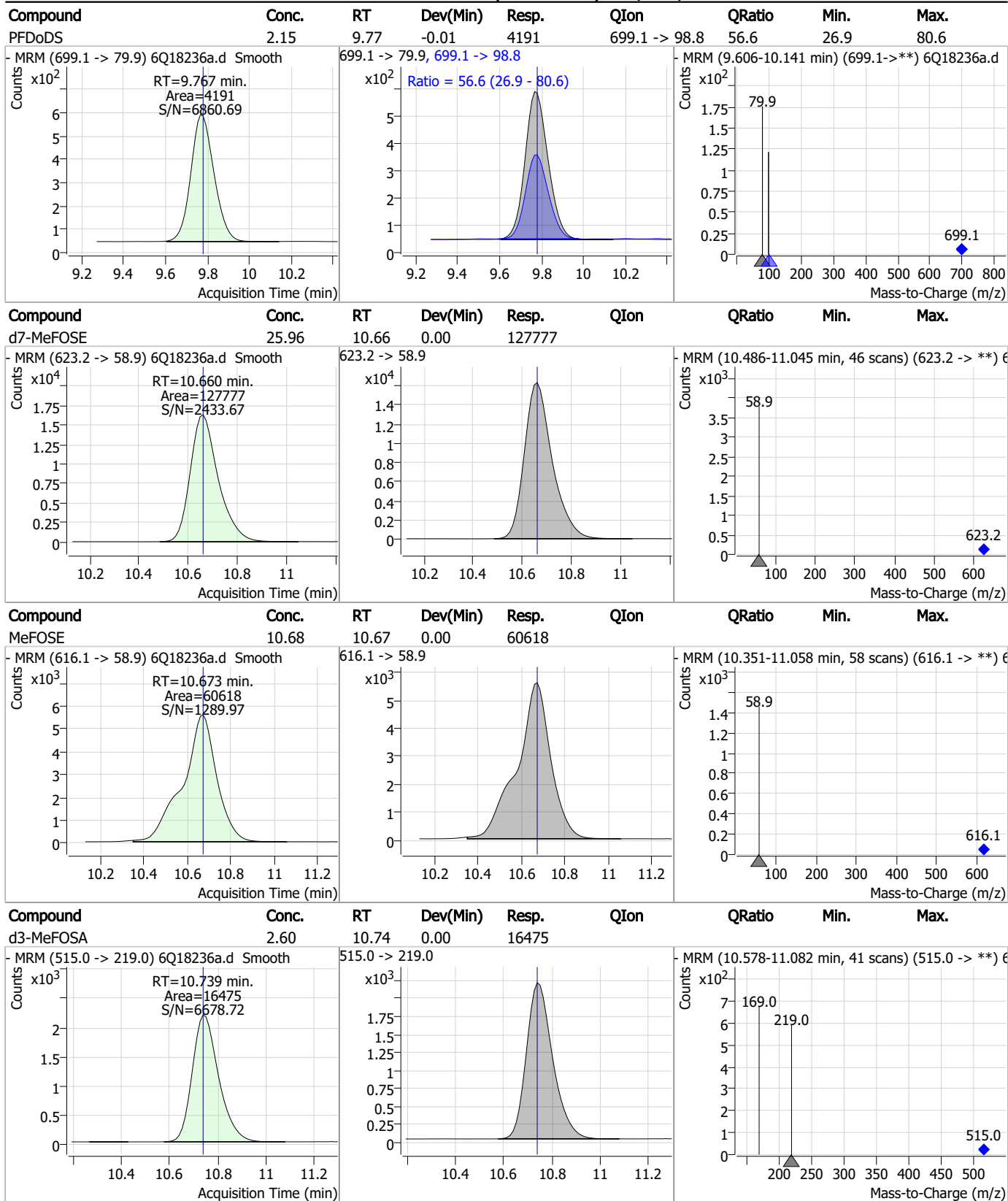
Perfluorinated Compounds by LC/MS/MS



7.7.10 7

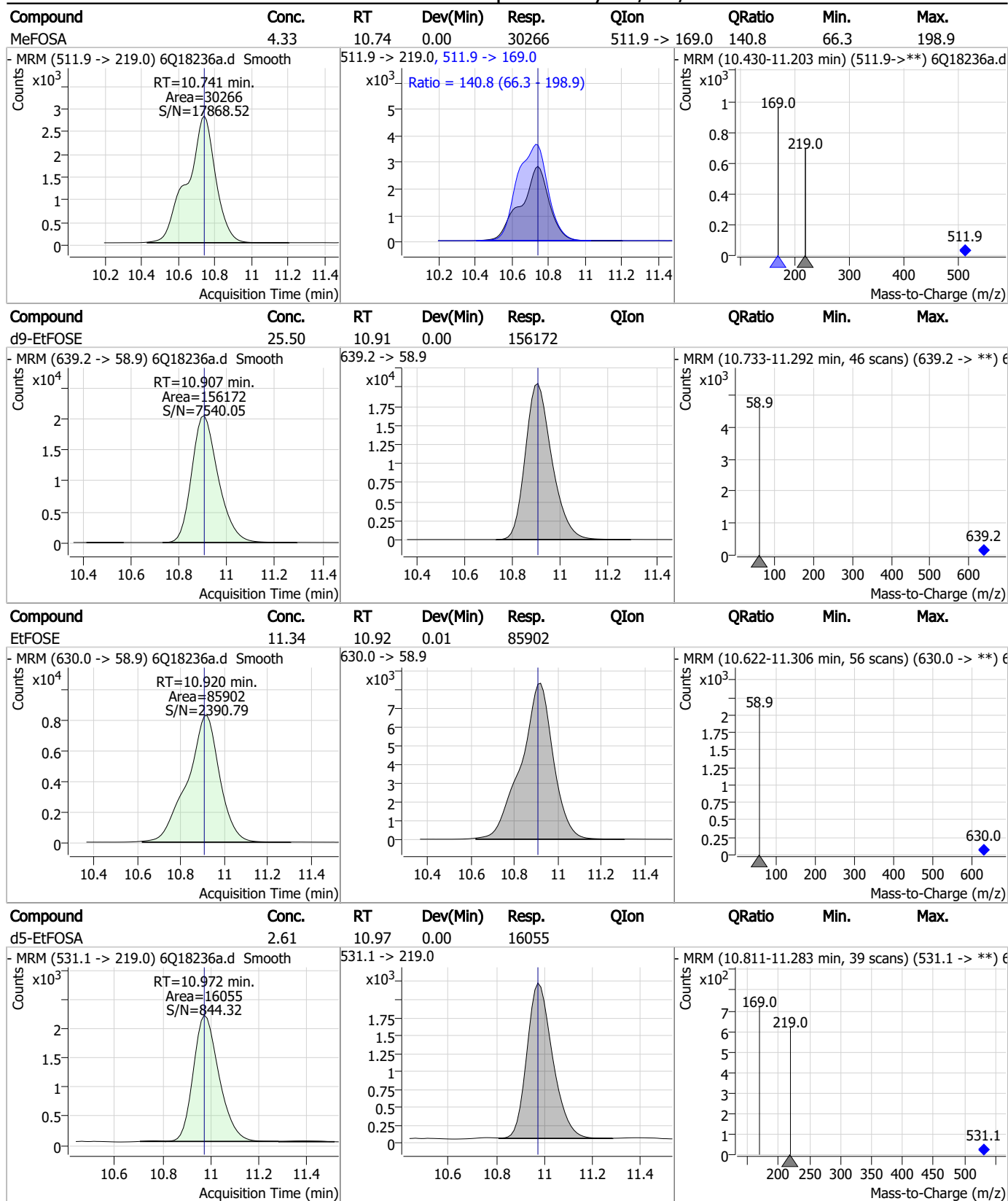


Perfluorinated Compounds by LC/MS/MS



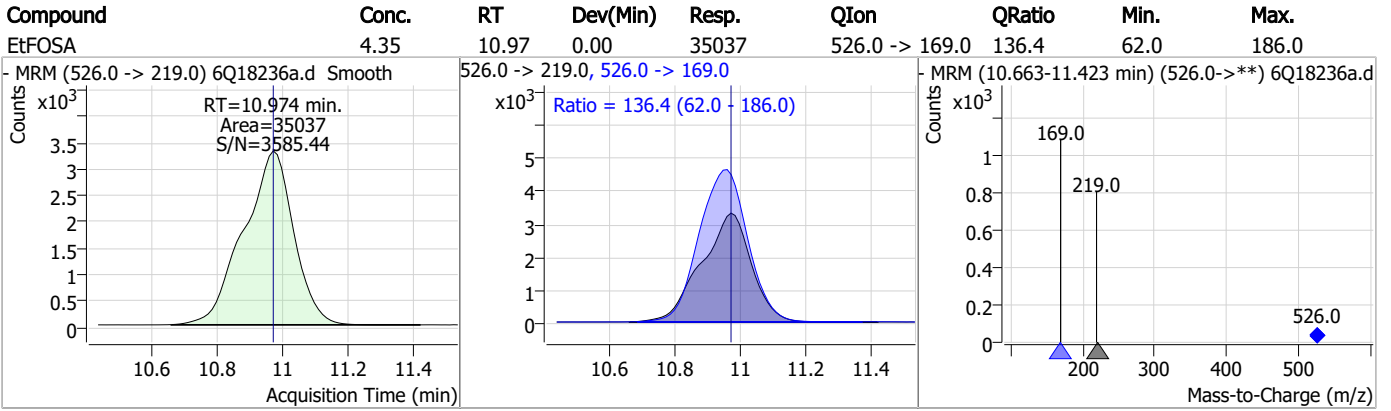
7.7.10 7

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

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 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/23/2023 6:36:31 PM
 Sample Name : icv275-20
 Vial : P1-B2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q275.batch.bin
 Sample Information : OP96663,S6Q275,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	192454	10.00 µg/L	-0.016
M5-PFPeA	4.235	268.3 -> 223.0	62785	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	66116	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	61825	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	95415	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	40687	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	24426	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	31065	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	29266	1.25 µg/L	0.000
M2-PFTeDA	9.652	715.2 -> 670.0	13946	1.25 µg/L	0.000
M8-FOSA	9.598	506.1 -> 77.8	31466	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	23614	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	14959	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	12845	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	3284	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	4984	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5052	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	26711	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	44741	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24688	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	104838	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	136407	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	13642	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	14020	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	17317	2.50 µg/L	0.012
13C3-PFBA	2.864	216.0 -> 172.0	80538	5.00 µg/L	-0.015
18O2-PFHxS	7.141	403.0 -> 83.9	10877	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	100597	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	32919	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	45669	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	65932	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	3284	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C2-6:2FTS	6.813	429.1 -> 80.9	4984	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5052	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFDoDA	8.912	615.1 -> 570.0	29266	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C2-PFTeDA	9.652	715.2 -> 670.0	13946	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.2%		
13C3-PFBS	5.347	302.1 -> 79.9	23614	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 93.3%		
13C3-PFHxS	7.142	402.1 -> 79.9	14959	2.51 µg/L	0.000

7.7.11
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	192454	10.04 µg/L	-0.016
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.382	367.1 -> 322.0	61825	2.45 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C5-PFHxA	5.429	318.0 -> 273.0	66116	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C5-PFPeA	4.235	268.3 -> 223.0	62785	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C6-PFDA	8.039	519.1 -> 474.1	24426	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C7-PFUnDA	8.492	570.0 -> 525.1	31065	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C8-FOSA	9.598	506.1 -> 77.8	31466	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C8-PFOA	7.038	421.1 -> 376.0	95415	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C8-PFOS	8.189	507.1 -> 79.9	12845	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C9-PFNA	7.557	472.1 -> 427.0	40687	1.35 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	26711	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	44741	10.13 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
d3-MeFOSA	10.739	515.0 -> 219.0	14020	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	24688	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	104838	24.85 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	136407	25.98 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d5-EtFOSA	10.972	531.1 -> 219.0	13642	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	133387	22.17 µg/L	96
		327.1 -> 80.9	49806		
6:2FTS	6.813	427.1 -> 407.0	123488	21.92 µg/L	98
		427.1 -> 80.9	40223		
8:2FTS	7.840	527.1 -> 507.0	64707	21.28 µg/L	99
		527.1 -> 80.8	27961		
EtFOSAA	8.305	584.2 -> 419.1	83226	22.11 µg/L	94
		584.2 -> 526.0	41774		
FOSA	9.602	498.1 -> 77.9	283484	23.18 µg/L	100
		498.1 -> 478.0	8144		
MeFOSAA	8.097	570.1 -> 419.0	143800	22.17 µg/L	99
		570.1 -> 483.0	28209		
PFBA	2.868	212.8 -> 168.9	158606	21.14 µg/L	100
PFBS	5.348	298.7 -> 79.9	212050	23.45 µg/L	98
		298.7 -> 98.8	79493		
PFDA	8.040	512.9 -> 469.0	732801	22.01 µg/L	98
		512.9 -> 219.0	122386		
PFDoDA	8.925	613.1 -> 569.0	430542	18.53 µg/L	95
		613.1 -> 319.0	68486		
PFDS	9.076	599.0 -> 79.9	86292	23.93 µg/L	97

7.7.11
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	40614		
PFHpA	6.382	363.1 -> 319.0	674048	21.14 µg/L	96
		363.1 -> 169.0	113549		
PFHpS	7.698	449.0 -> 79.9	162964	23.28 µg/L	96
		449.0 -> 98.9	85140		
PFHxA	5.432	313.0 -> 269.0	569691	22.20 µg/L	99
		313.0 -> 118.9	28109		
PFHxS	7.143	398.7 -> 79.9	180562	22.28 µg/L	99
		398.7 -> 98.9	84579		
PFNA	7.570	463.0 -> 419.0	788874	23.48 µg/L	100
		463.0 -> 219.0	155199		
PFNS	8.656	548.8 -> 79.9	148070	24.50 µg/L	99
		548.8 -> 98.9	73076		
PFOA	7.040	413.0 -> 369.0	994140	22.28 µg/L	99
		413.0 -> 169.0	174514		
PFOS	8.191	498.9 -> 79.9	136986	20.09 µg/L	m 91
		498.9 -> 98.8	64745		
PFPeA	4.237	263.0 -> 219.0	391179	23.11 µg/L	100
PFPeS	6.434	349.1 -> 79.9	176057	22.14 µg/L	97
		349.1 -> 98.9	79360		
PFTeDA	9.640	713.1 -> 669.0	373392	22.92 µg/L	97
		713.1 -> 168.9	32894		
PFTrDA	9.309	663.0 -> 619.0	431873	19.06 µg/L	93
		663.0 -> 168.9	50591		
PFUnDA	8.493	563.1 -> 519.0	468485	21.10 µg/L	98
		563.1 -> 269.1	75241		
11Cl-PF3OUdS	9.348	630.9 -> 450.9	377545	21.96 µg/L	98
		632.9 -> 452.9	113974		
9Cl-PF3ONS	8.520	530.8 -> 351.0	591304	20.59 µg/L	99
		532.8 -> 353.0	191763		
ADONA	6.646	376.9 -> 250.9	1375321	20.85 µg/L	99
		376.9 -> 84.8	360641		
HFPO-DA	5.795	284.9 -> 168.9	86314	19.66 µg/L	94
		284.9 -> 184.9	9771		
3:3FTCA	3.727	241.0 -> 177.0	25388	20.79 µg/L	95
		241.0 -> 117.0	3118		
5:3FTCA	6.099	341.0 -> 237.1	107359	22.77 µg/L	95
		341.0 -> 217.0	80216		
7:3FTCA	7.523	441.0 -> 316.9	64693	21.23 µg/L	99
		441.0 -> 336.9	143892		
EtFOSA	10.986	526.0 -> 219.0	140024	20.46 µg/L	87
		526.0 -> 169.0	152593		
EtFOSE	10.920	630.0 -> 58.9	774055	116.97 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	117849	19.81 µg/L	83
		511.9 -> 169.0	133185		
MeFOSE	10.673	616.1 -> 58.9	506578	108.76 µg/L	100
PFDoDS	9.779	699.1 -> 79.9	32773	21.45 µg/L	100
		699.1 -> 98.8	17638		
NFDHA	5.311	295.0 -> 201.0	68953	21.74 µg/L	96
		295.0 -> 84.9	17195		
PFMBA	4.650	279.0 -> 85.1	258295	21.59 µg/L	100
PFMPA	3.388	229.0 -> 84.9	198113	21.76 µg/L	100
PFEESA	5.888	314.8 -> 134.9	647485	18.76 µg/L	99
		314.8 -> 82.9	22456		

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

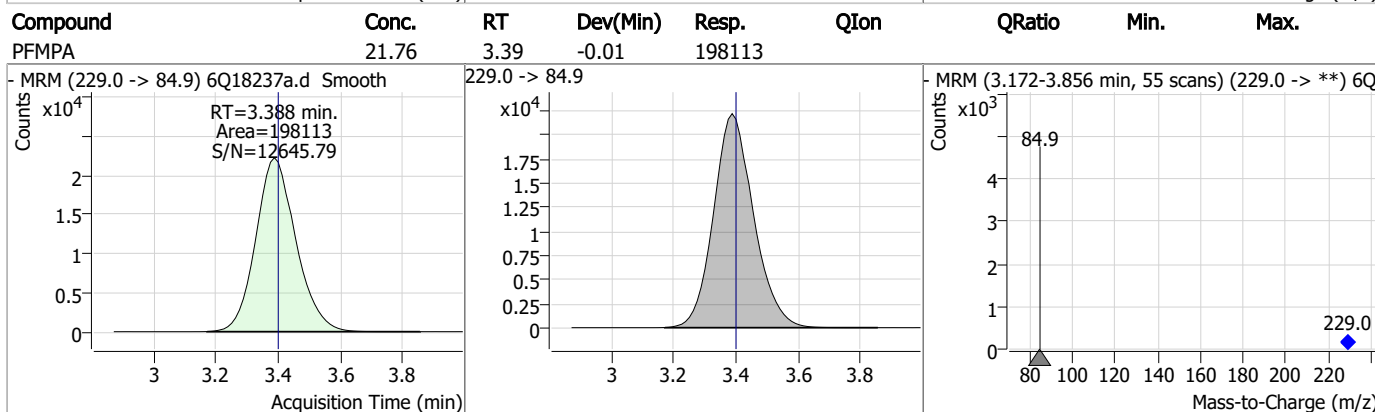
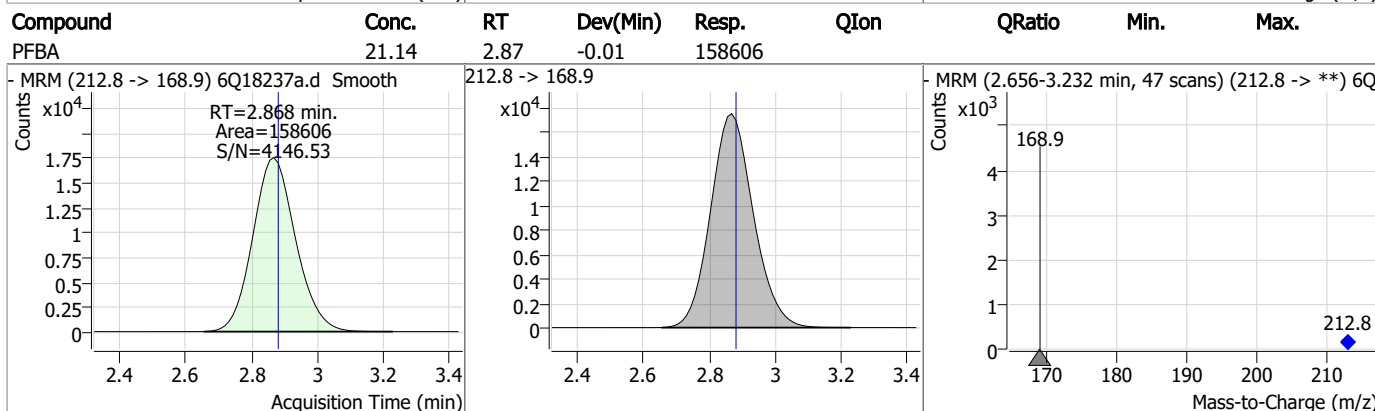
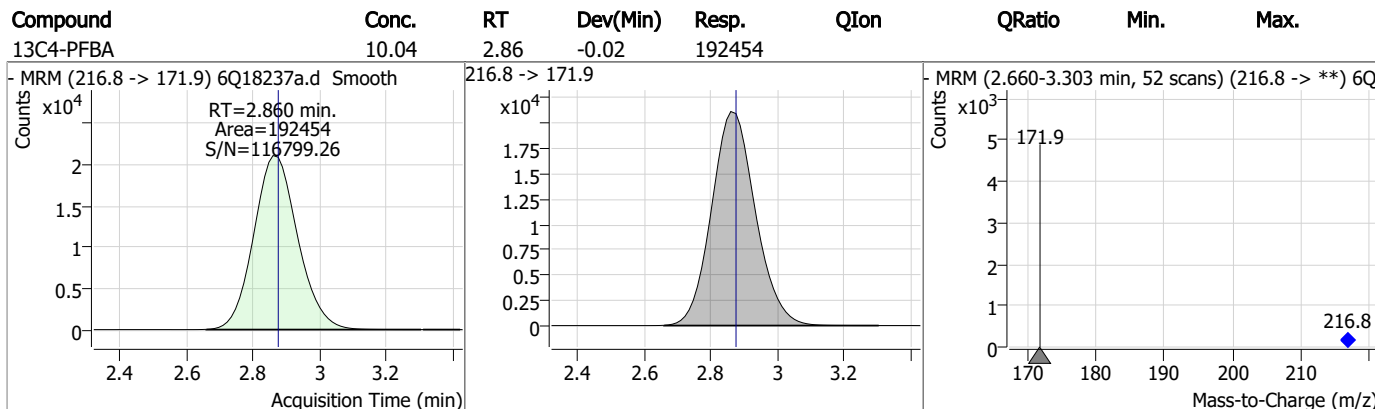
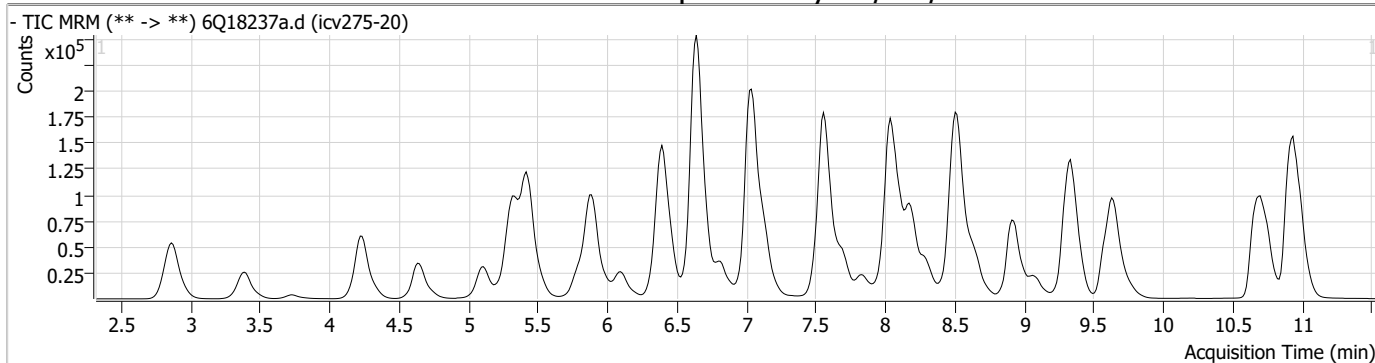
Perfluorinated Compounds by LC/MS/MS

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

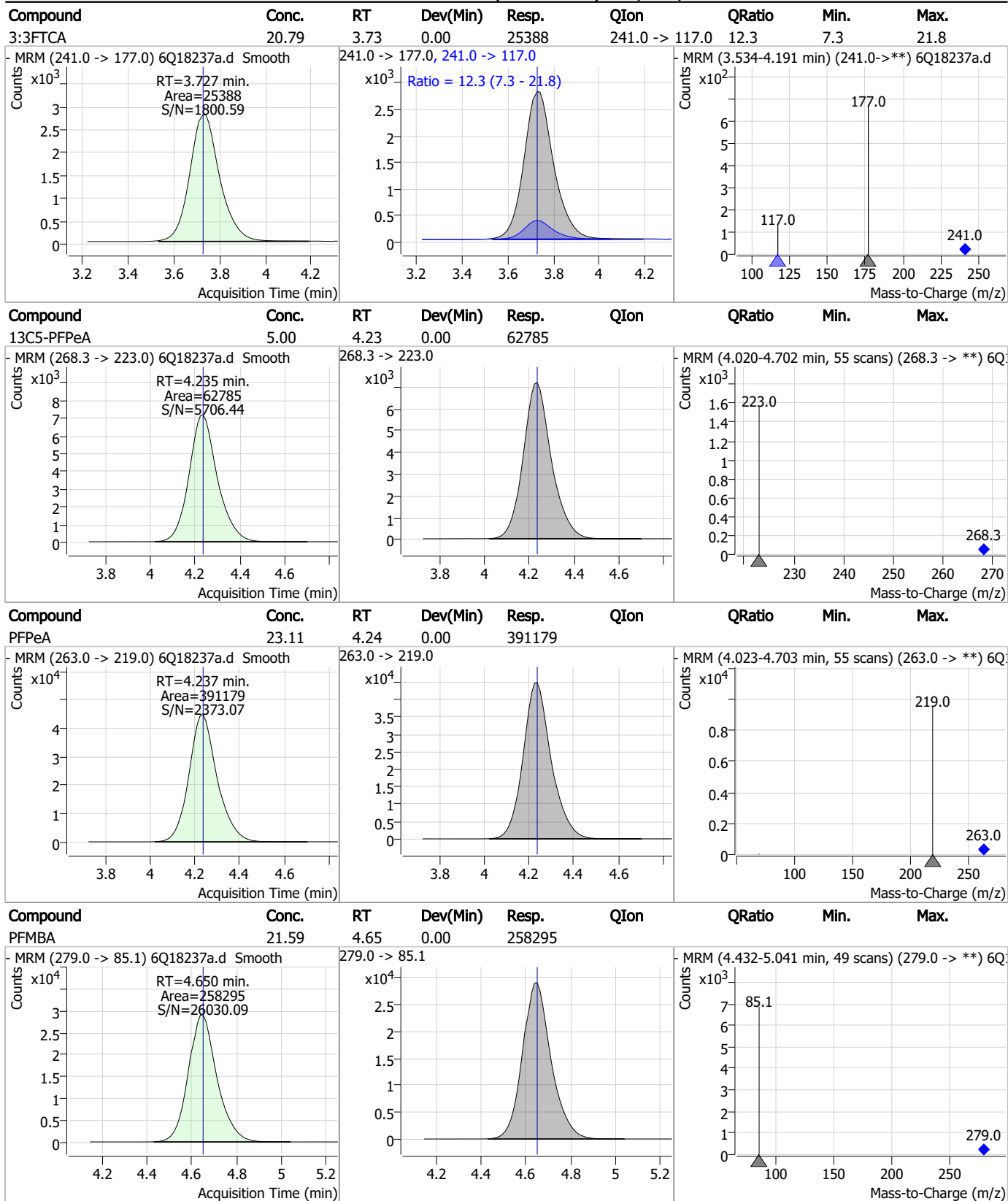
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Perfluorinated Compounds by LC/MS/MS



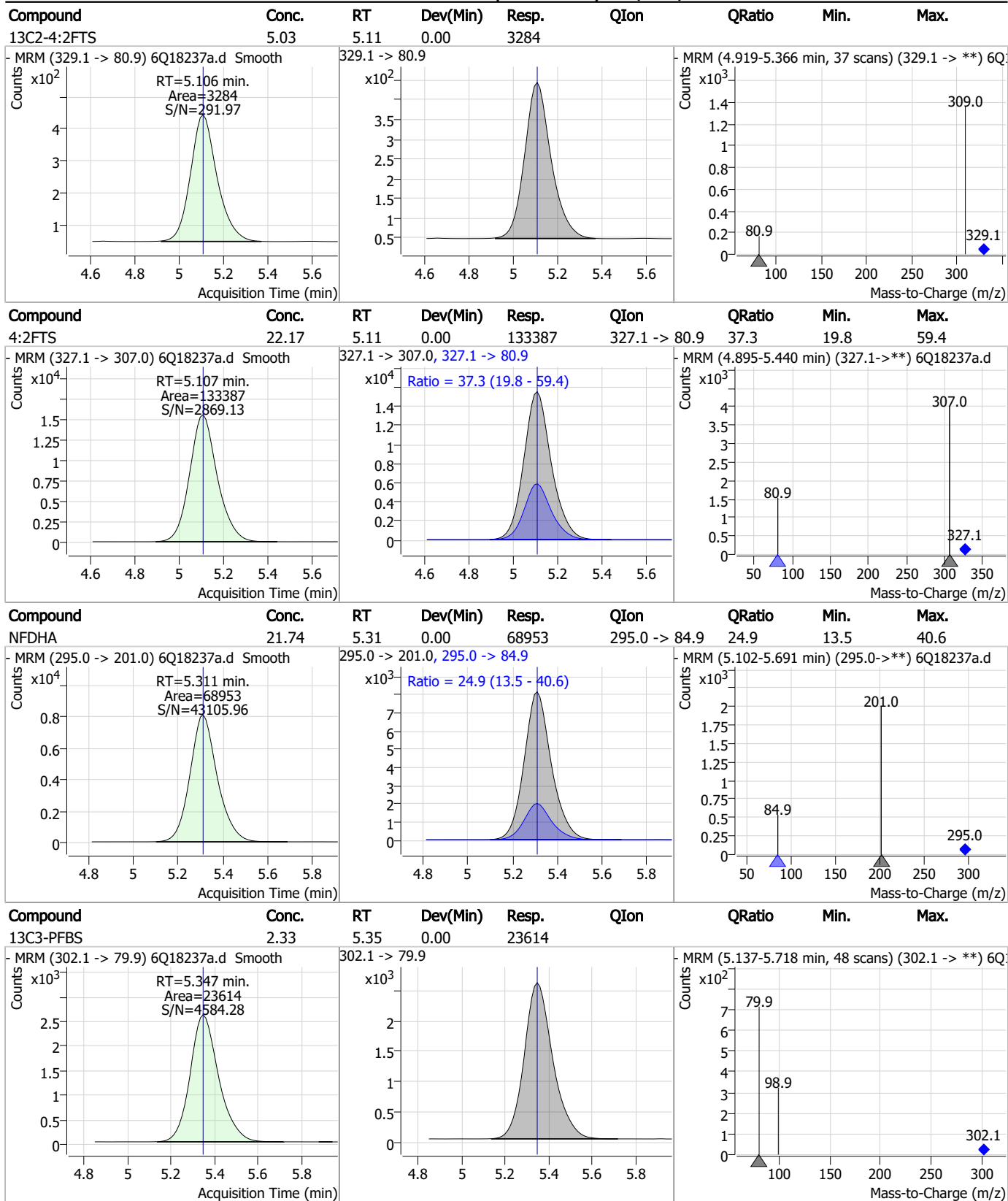
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Perfluorinated Compounds by LC/MS/MS



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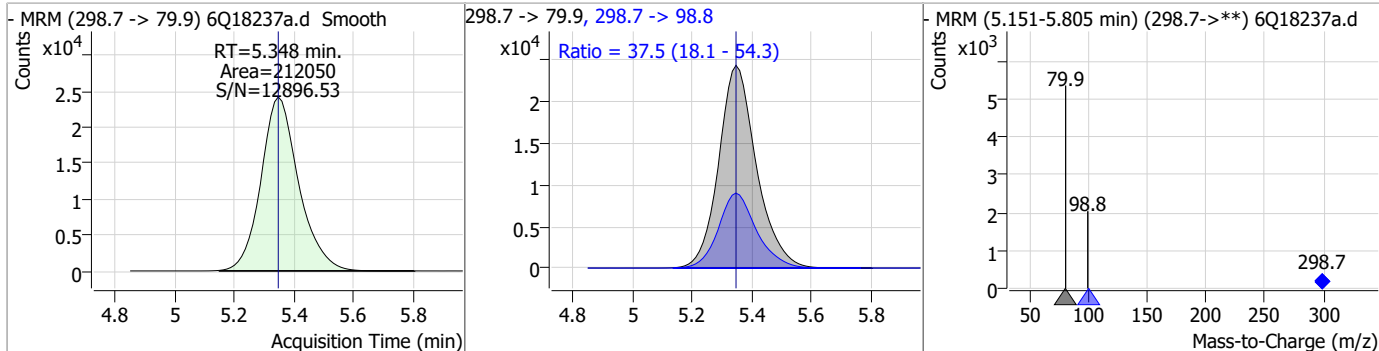
Perfluorinated Compounds by LC/MS/MS



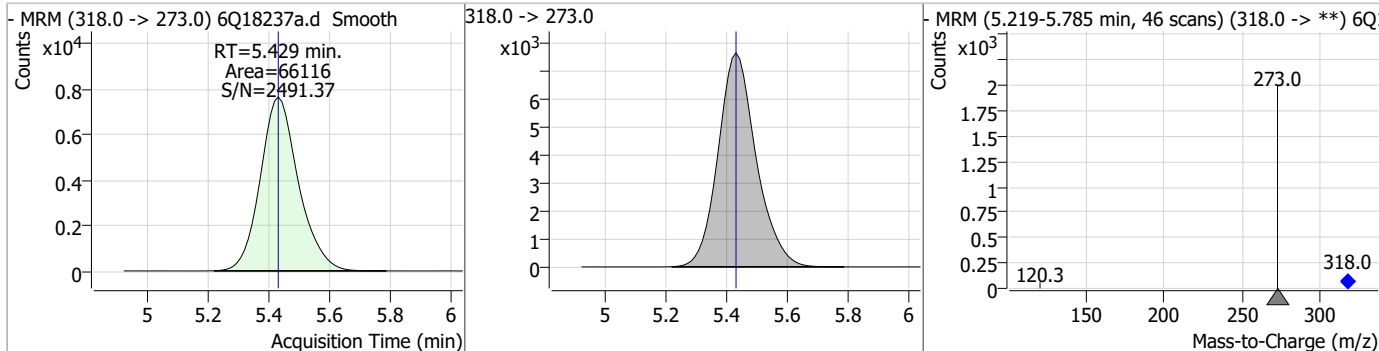
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Perfluorinated Compounds by LC/MS/MS

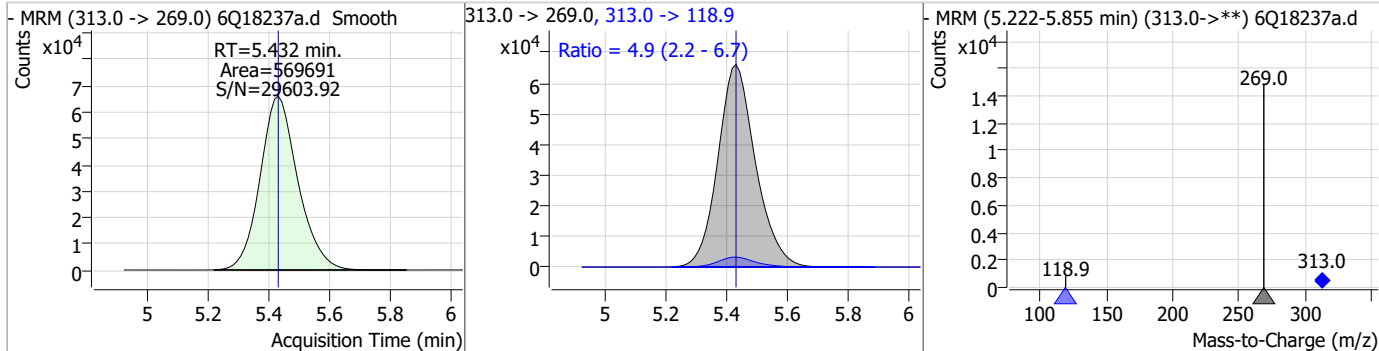
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	23.45	5.35	0.00	212050	298.7 -> 98.8	37.5	18.1	54.3



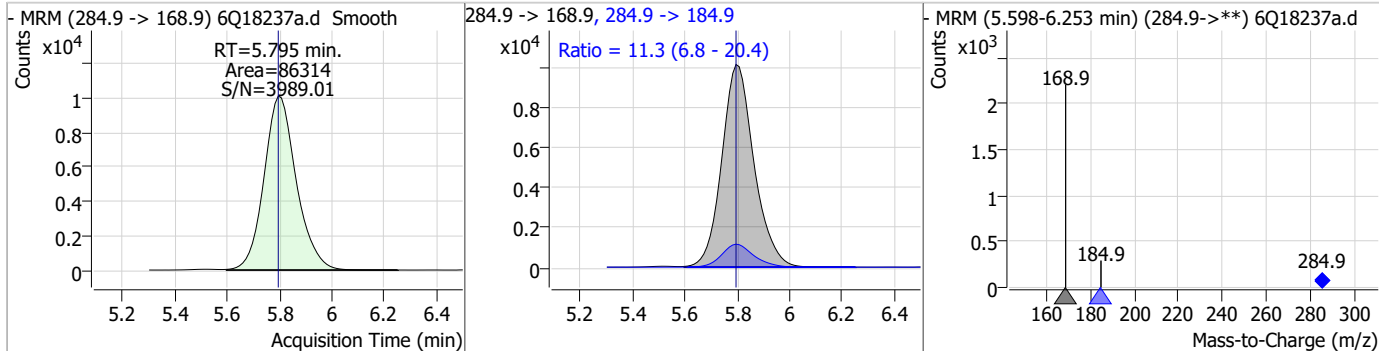
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.43	0.00	66116				



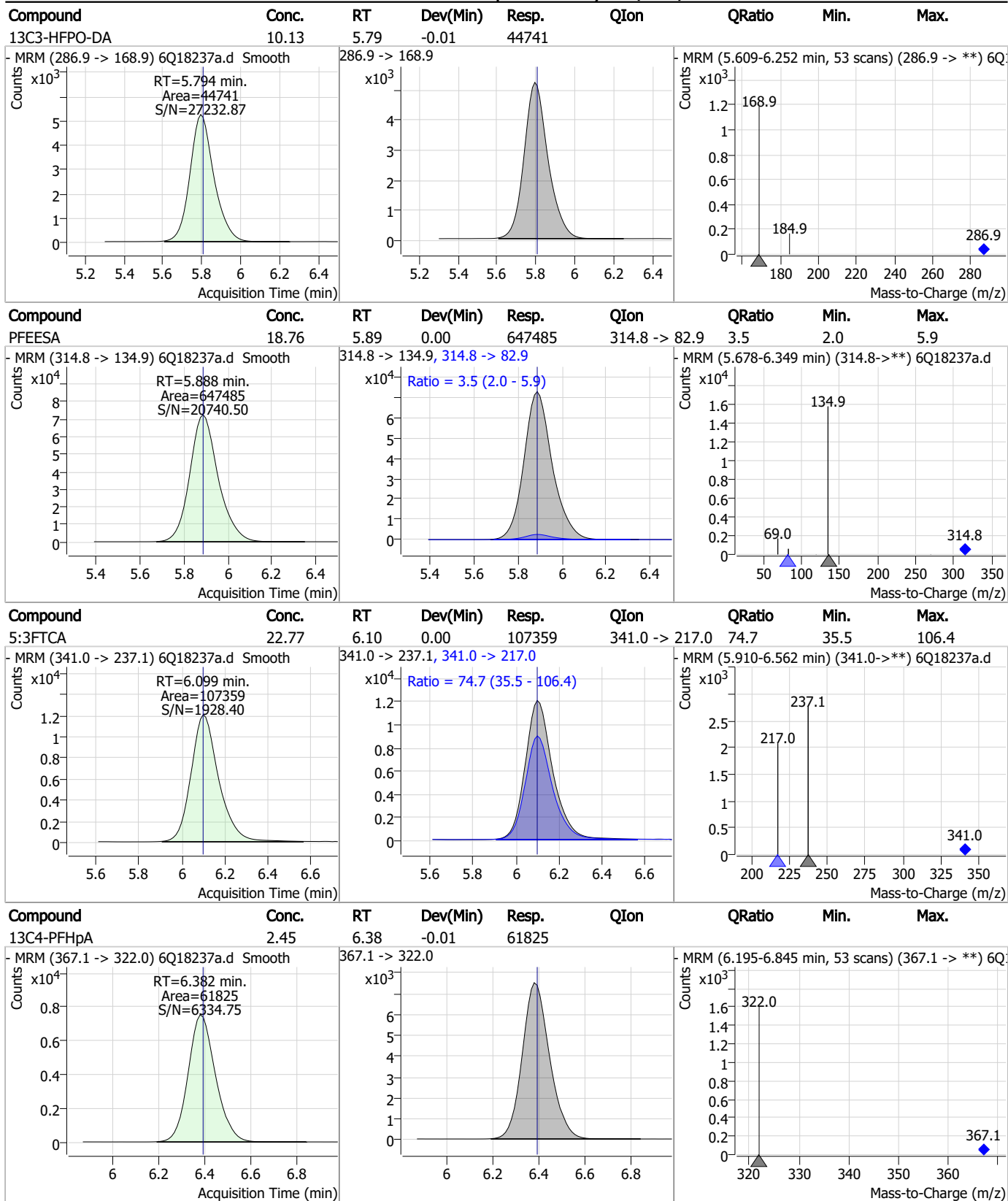
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	22.20	5.43	0.00	569691	313.0 -> 118.9	4.9	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.66	5.80	0.00	86314	284.9 -> 184.9	11.3	6.8	20.4



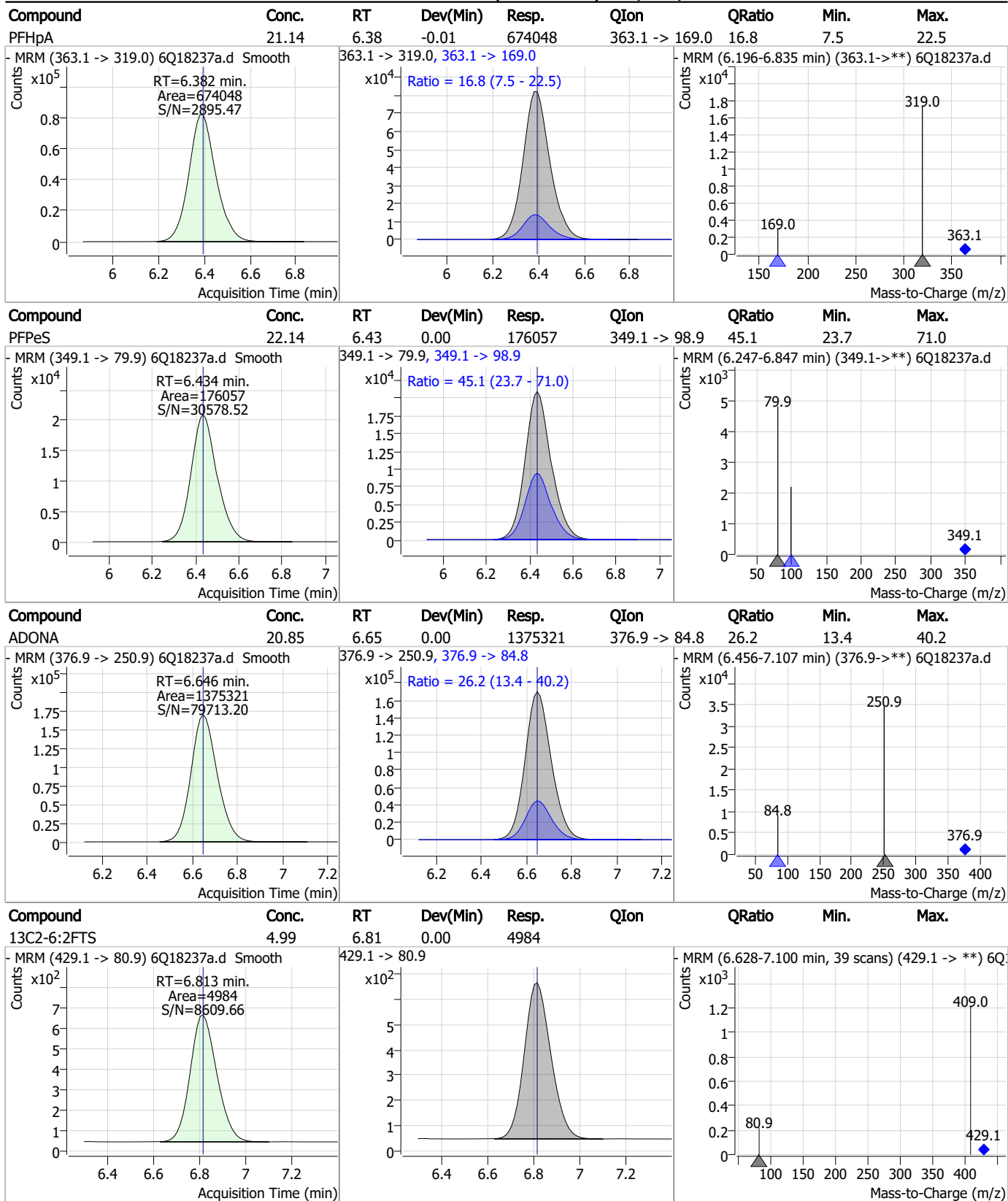
Perfluorinated Compounds by LC/MS/MS



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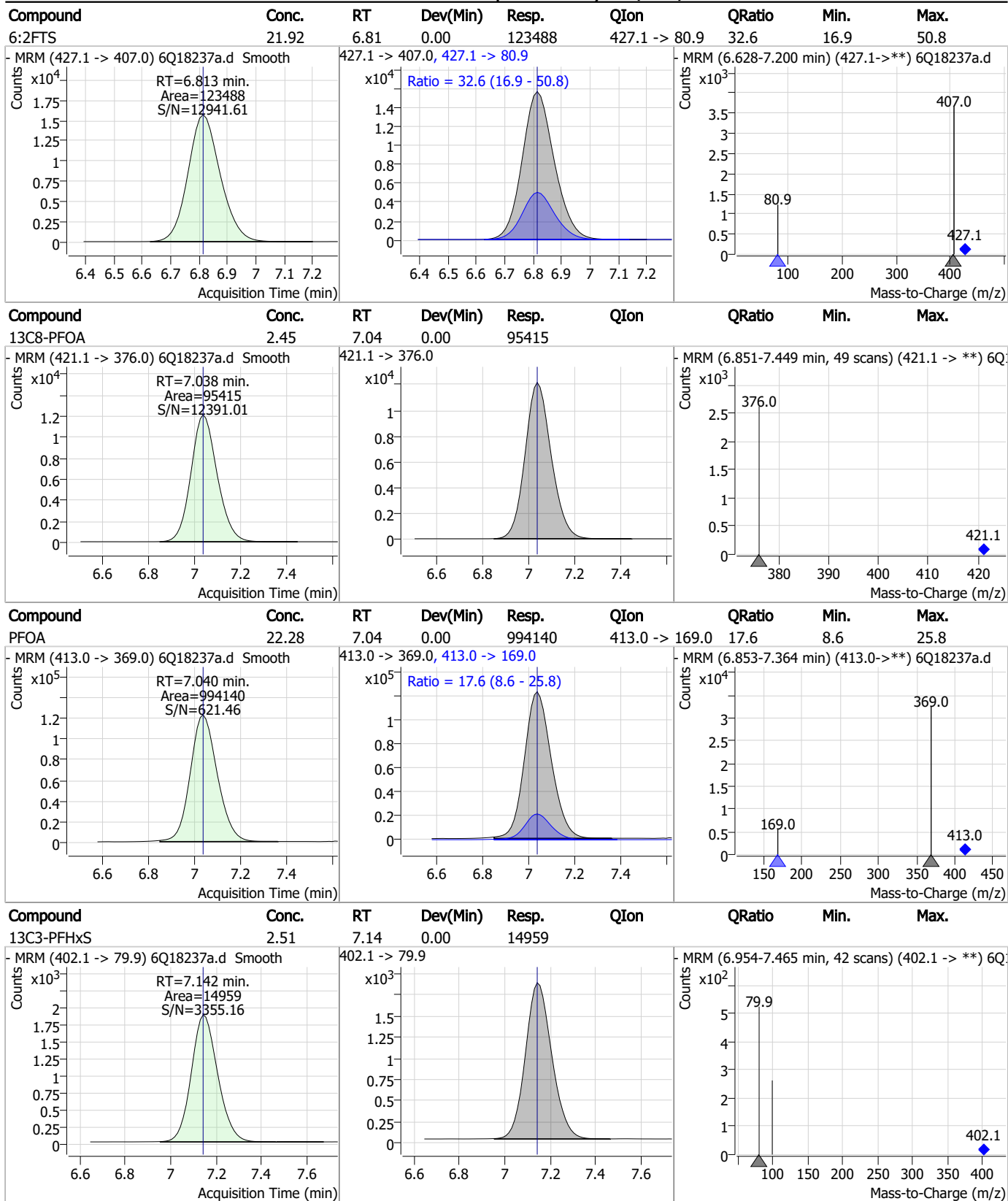
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Perfluorinated Compounds by LC/MS/MS



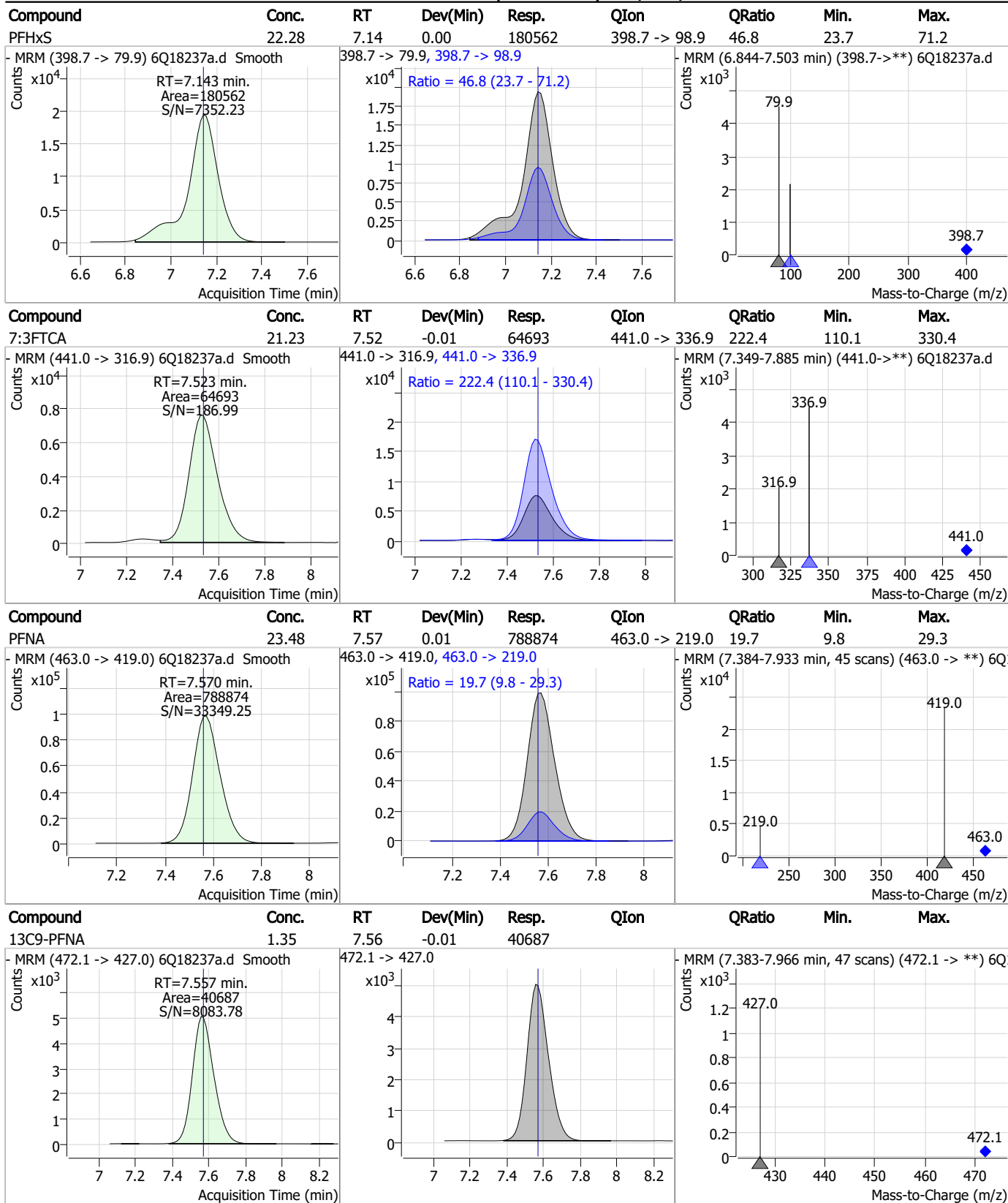
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Perfluorinated Compounds by LC/MS/MS



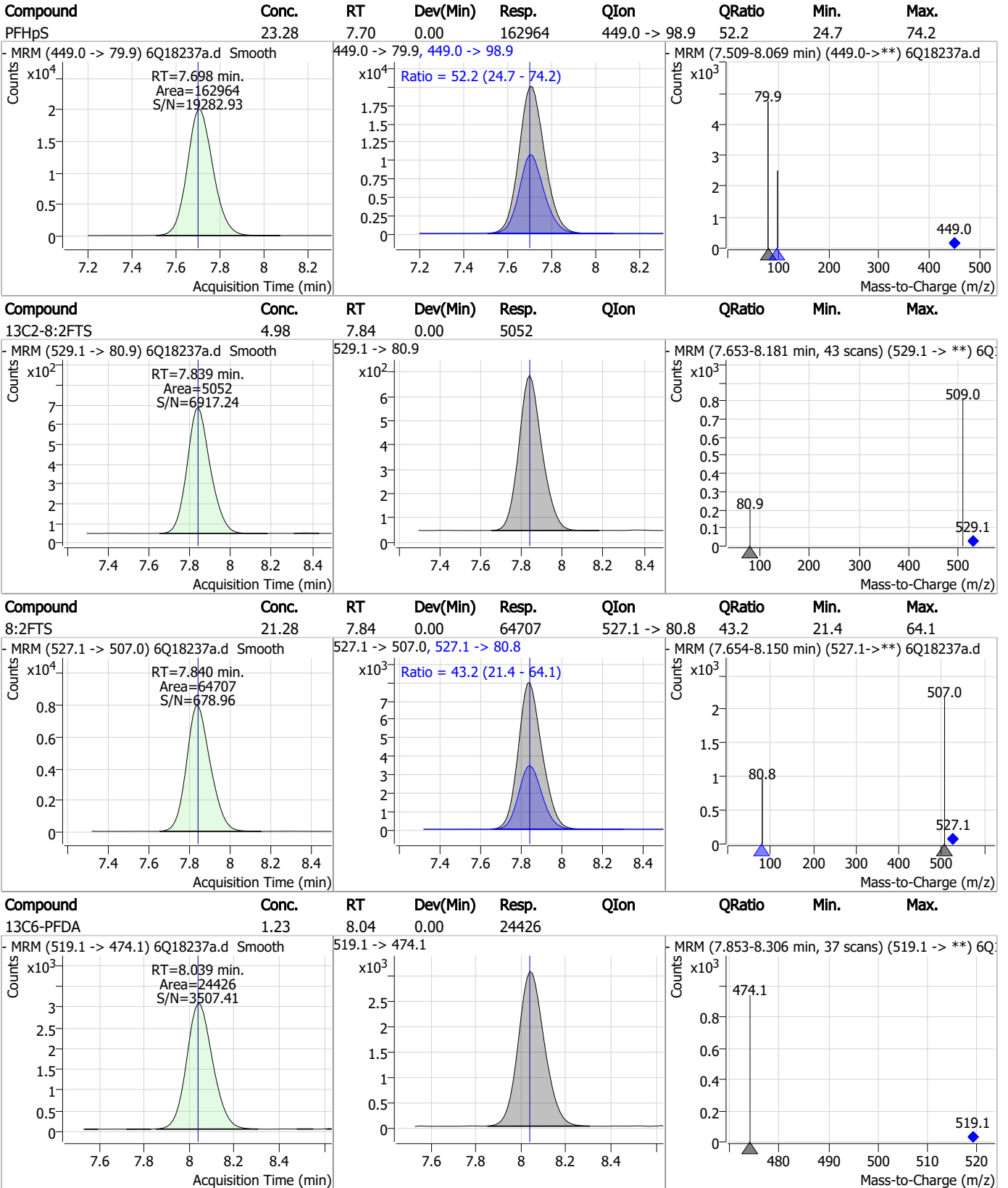
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Perfluorinated Compounds by LC/MS/MS



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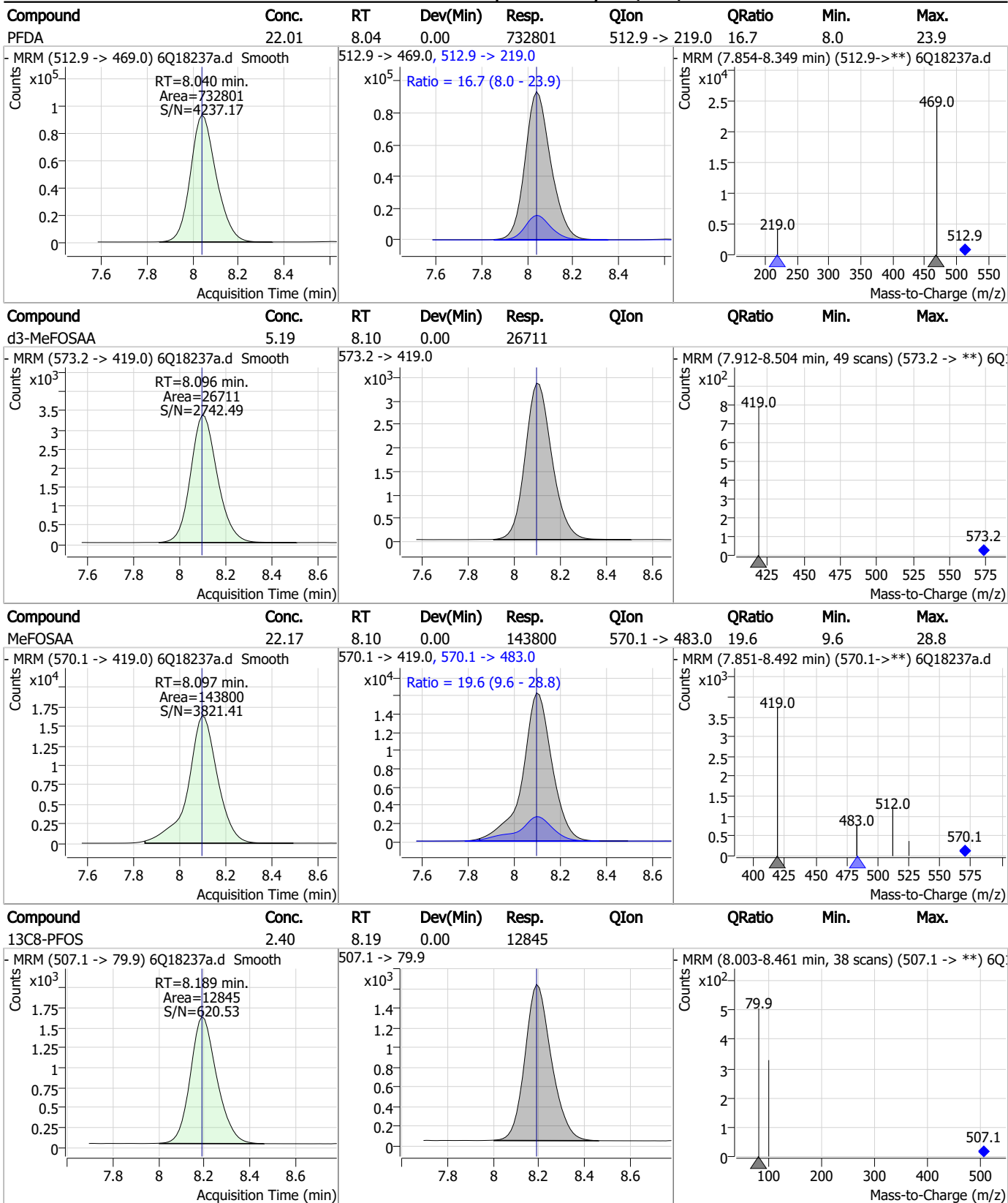
Perfluorinated Compounds by LC/MS/MS



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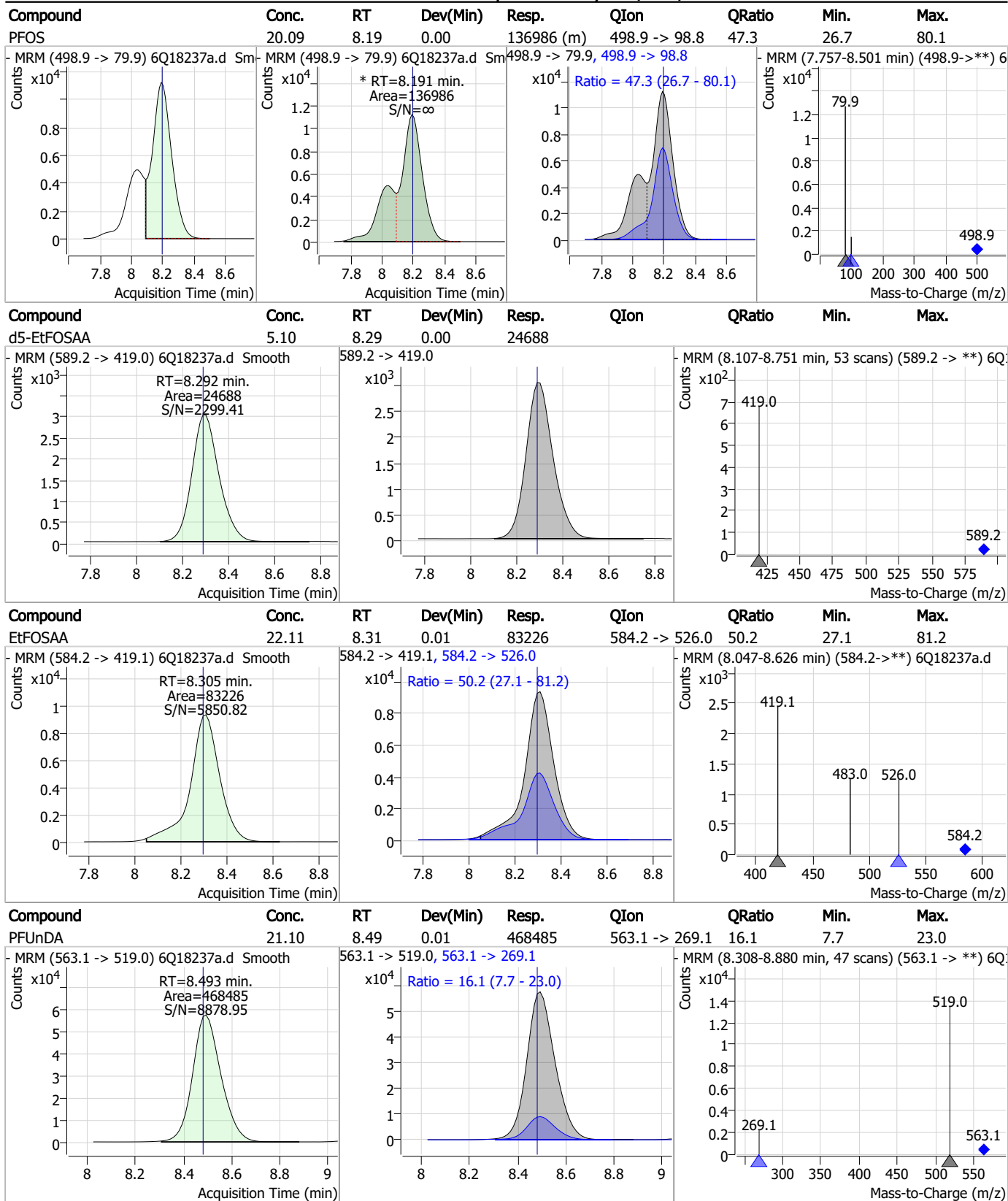
Perfluorinated Compounds by LC/MS/MS



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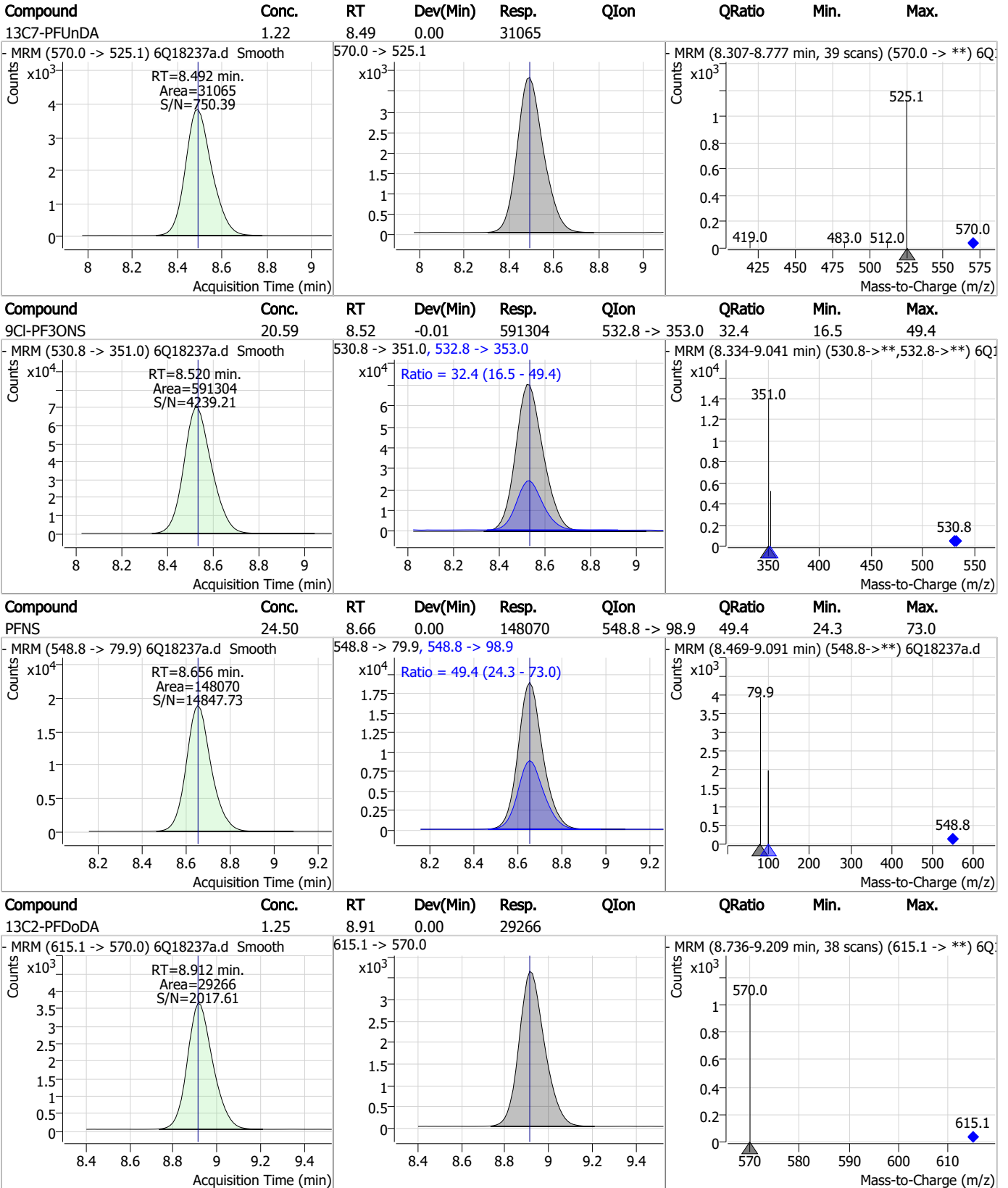
Perfluorinated Compounds by LC/MS/MS



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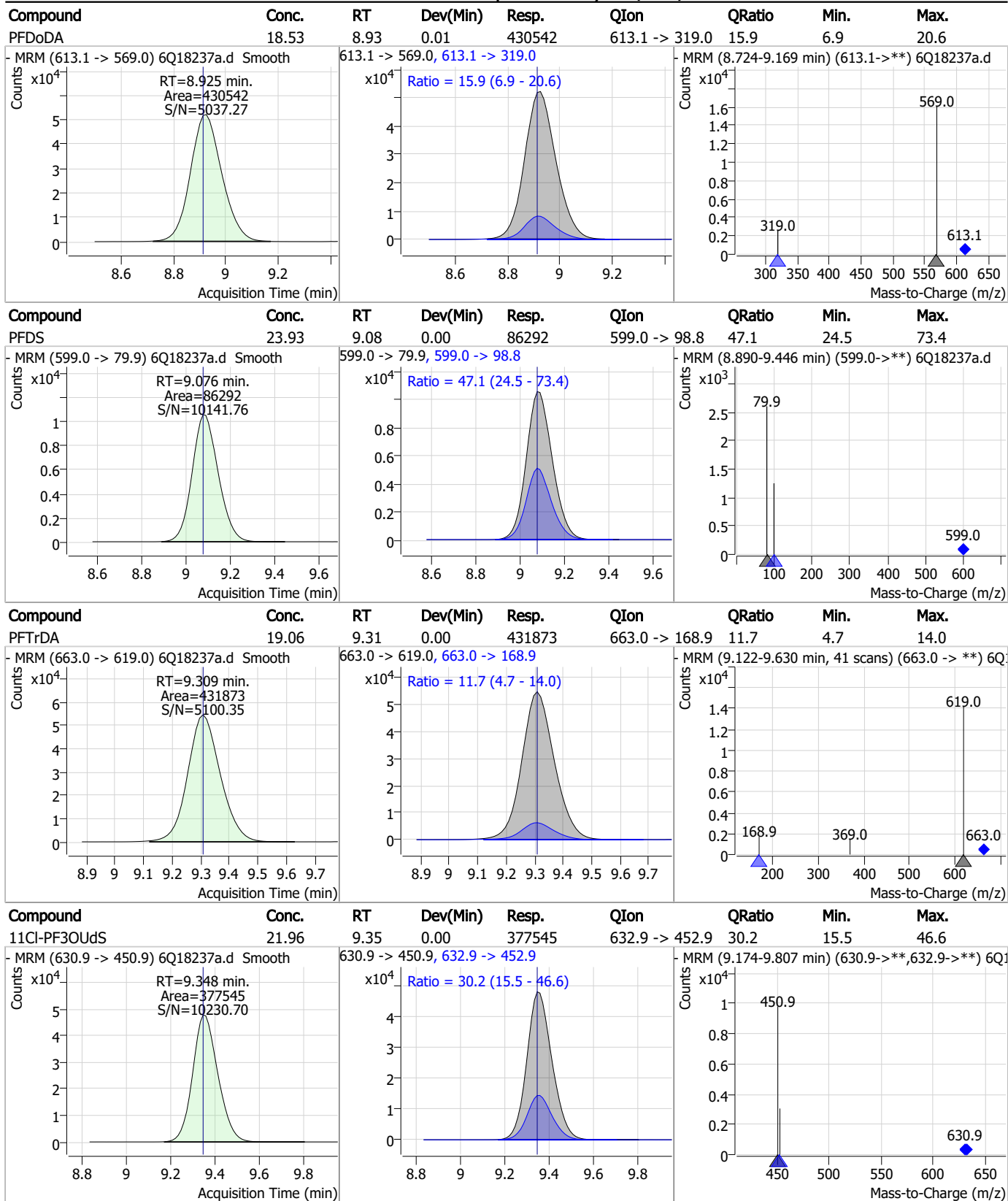
Perfluorinated Compounds by LC/MS/MS



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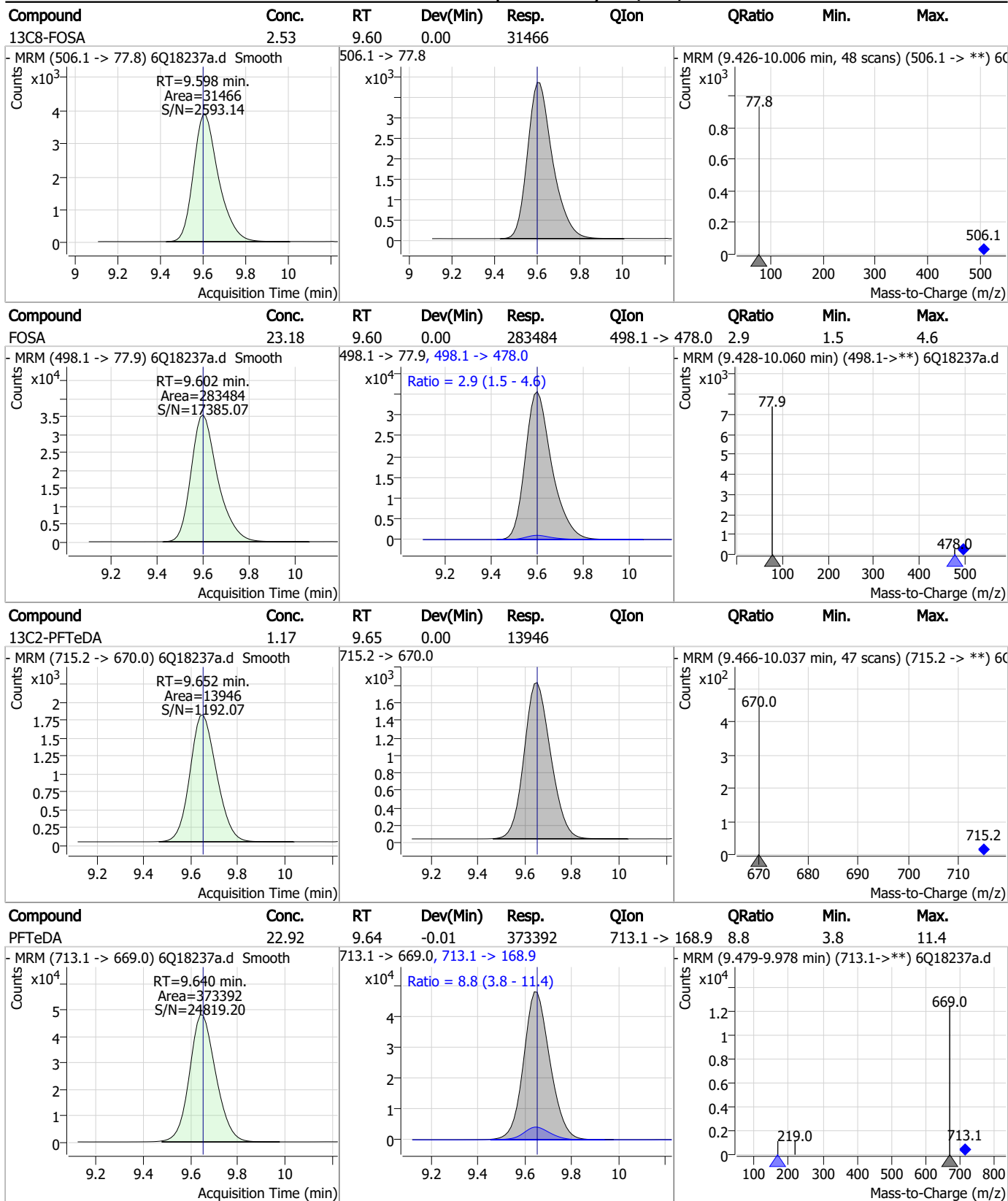
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

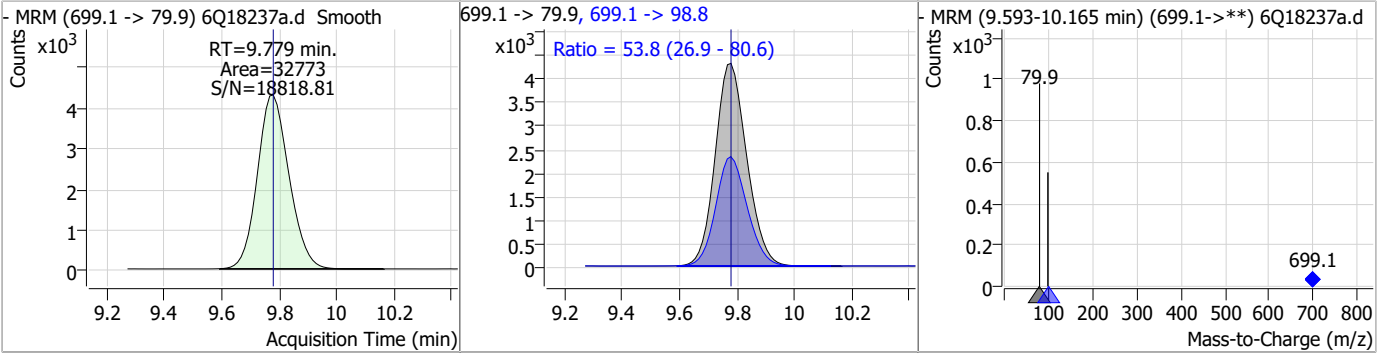


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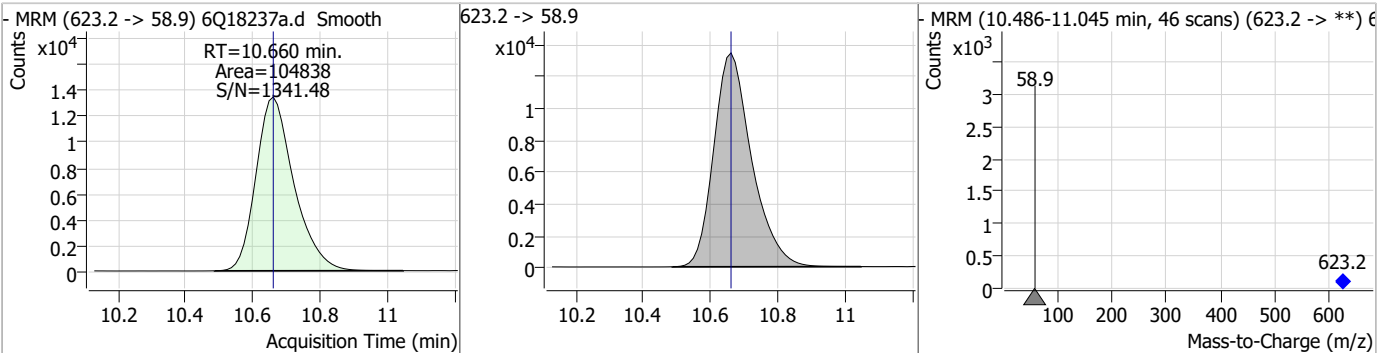


Perfluorinated Compounds by LC/MS/MS

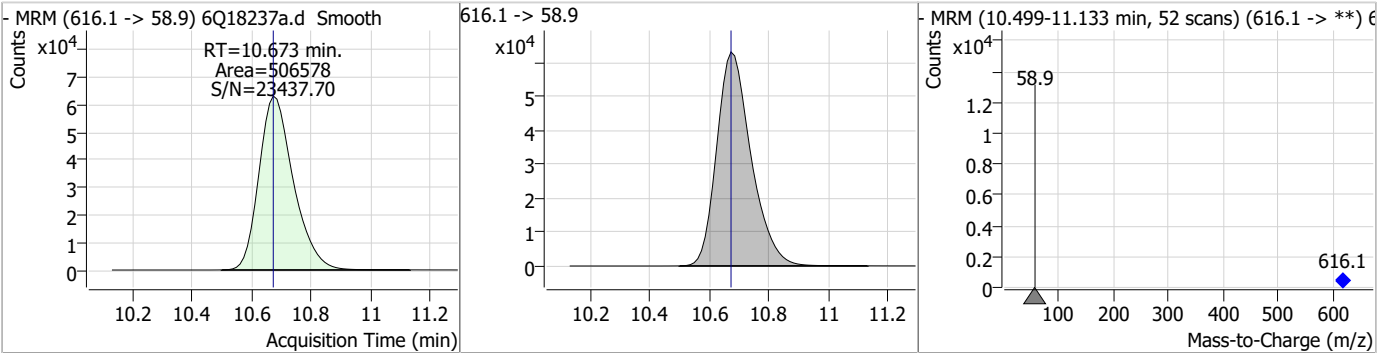
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	21.45	9.78	0.00	32773	699.1 -> 98.8	53.8	26.9	80.6



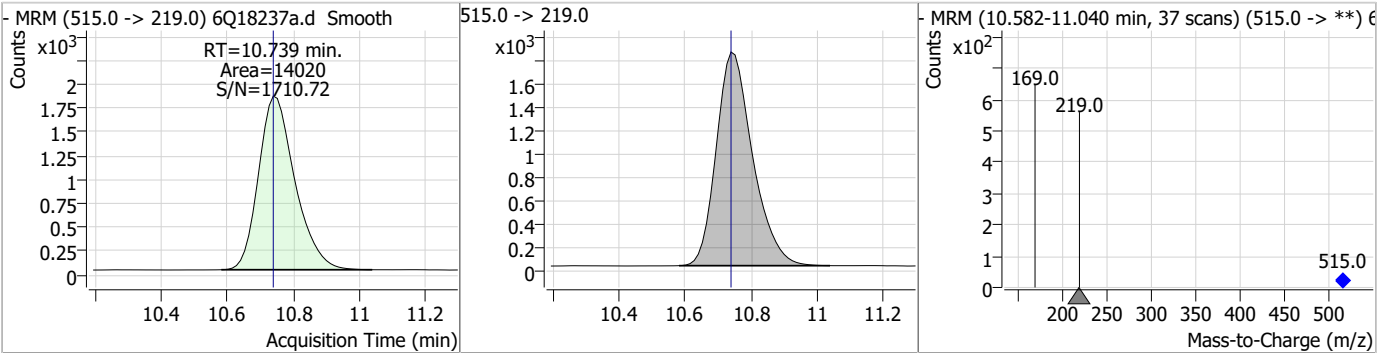
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.85	10.66	0.00	104838				



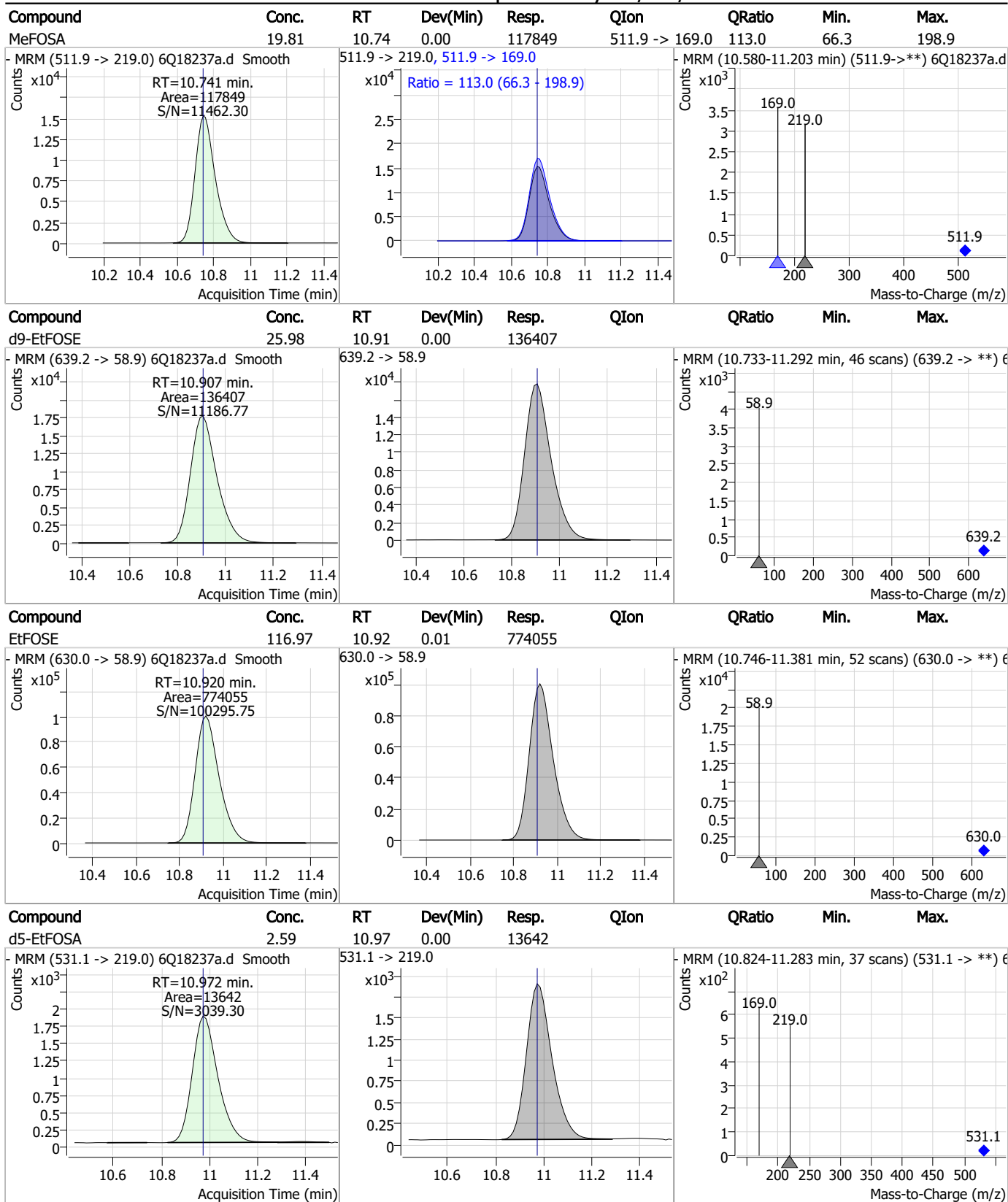
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	108.76	10.67	0.00	506578				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.58	10.74	0.00	14020				

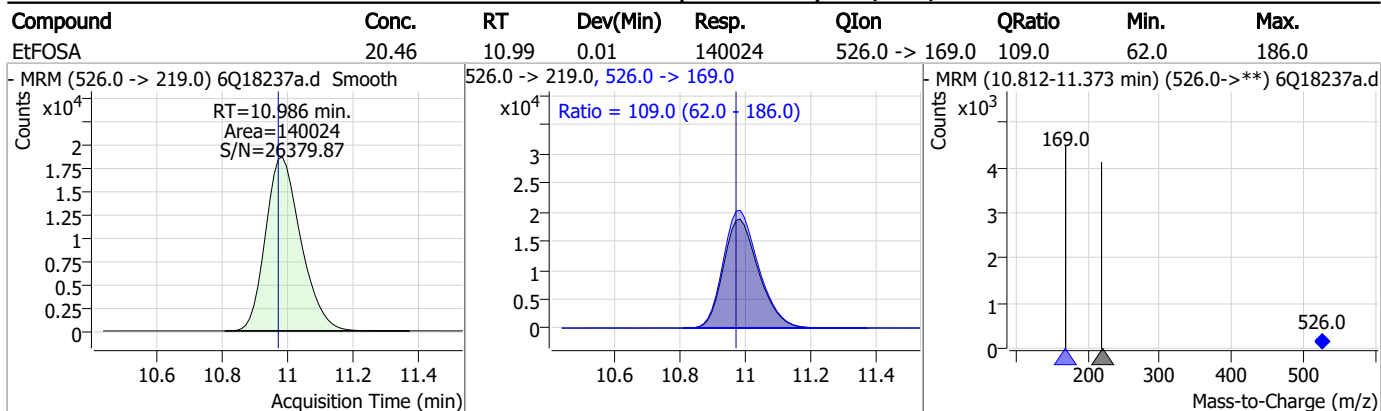


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q275-ICV275 Method: EPA DRAFT 1633
Lab FileID: 6Q18237A.D Analyst approved: 05/24/23 13:11 Martha Valls
Injection Time: 05/23/23 18:36 Supervisor approved: 05/24/23 16:04 Norman Farmer

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

7.7.11.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18339.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 7:04:06 PM
 Sample Name : cc275-1.0LL
 Vial : P1-A2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	229603	10.00 µg/L	-0.053
M5-PFPeA	4.222	268.3 -> 223.0	78382	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	82163	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	82064	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	122205	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	51183	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	31466	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	40958	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	34787	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	19232	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	40231	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	30281	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	18227	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	17247	2.50 µg/L	0.000
M2-4:2FTS	5.094	329.1 -> 80.9	4608	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	7090	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6631	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	36120	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	53736	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	30952	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	129799	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	161973	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15951	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15531	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	22379	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	96625	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	13713	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	126522	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	40537	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	61983	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	79914	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.094	329.1 -> 80.9	4608	5.60 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.9%		
13C2-6:2FTS	6.813	429.1 -> 80.9	7090	5.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.5%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6631	5.18 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-PFDoDA	8.912	615.1 -> 570.0	34787	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	19232	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C3-PFBS	5.334	302.1 -> 79.9	30281	2.37 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C3-PFHxS	7.142	402.1 -> 79.9	18227	2.43 µg/L	0.000

7.7.12
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 = 97.1%	
13C4-PFBA	2.822	216.8 -> 171.9	229603	9.99 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	82064	2.68 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C5-PFHxA	5.417	318.0 -> 273.0	82163	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFPeA	4.222	268.3 -> 223.0	78382	5.15 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C6-PFDA	8.039	519.1 -> 474.1	31466	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C7-PFUnDA	8.492	570.0 -> 525.1	40958	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C8-FOSA	9.598	506.1 -> 77.8	40231	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C8-PFOA	7.038	421.1 -> 376.0	122205	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C8-PFOS	8.189	507.1 -> 79.9	17247	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C9-PFNA	7.557	472.1 -> 427.0	51183	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	36120	5.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	53736	10.04 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d3-MeFOSA	10.739	515.0 -> 219.0	15531	2.21 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30952	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	129799	23.80 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	161973	23.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.5%	
d5-EtFOSA	10.972	531.1 -> 219.0	15951	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	5464	0.65 µg/L	95
		327.1 -> 80.9	2008		
6:2FTS	6.813	427.1 -> 407.0	5389	0.67 µg/L	98
		427.1 -> 80.9	1760		
8:2FTS	7.828	527.1 -> 507.0	3123	0.78 µg/L	99
		527.1 -> 80.8	1311		
EtFOSAA	8.293	584.2 -> 419.1	1054	0.22 µg/L	84
		584.2 -> 526.0	448		
FOSA	9.602	498.1 -> 77.9	2969	0.19 µg/L	100
		498.1 -> 478.0	91		
MeFOSAA	8.097	570.1 -> 419.0	1747	0.20 µg/L	100
		570.1 -> 483.0	339		
PFBA	2.831	212.8 -> 168.9	6475	0.72 µg/L	100
PFBS	5.335	298.7 -> 79.9	1901	0.16 µg/L	98
		298.7 -> 98.8	666		
PFDA	8.040	512.9 -> 469.0	8747	0.20 µg/L	89
		512.9 -> 219.0	985		
PFDODA	8.913	613.1 -> 569.0	6261	0.23 µg/L	100
		613.1 -> 319.0	857		
PFDS	9.076	599.0 -> 79.9	847	0.17 µg/L	97

7.7.12
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	396	0.18 µg/L	100
		363.1 -> 319.0	7711		
PFHpS	7.698	363.1 -> 169.0	1166	0.18 µg/L	87
		449.0 -> 79.9	1684		
PFHxA	5.420	449.0 -> 98.9	981	0.18 µg/L	99
		313.0 -> 269.0	5768		
PFHxS	7.143	313.0 -> 118.9	282	0.18 µg/L	99
		398.7 -> 79.9	1731		
PFNA	7.558	398.7 -> 98.9	829	0.17 µg/L	97
		463.0 -> 419.0	7214		
PFNS	8.657	463.0 -> 219.0	1512	0.18 µg/L	93
		548.8 -> 79.9	1450		
PFOA	7.040	548.8 -> 98.9	642	0.24 µg/L	94
		413.0 -> 369.0	13958		
PFOS	8.178	413.0 -> 169.0	2055	0.18 µg/L	86
		498.9 -> 79.9	1675		
PFPeA	4.224	498.9 -> 98.8	729	0.36 µg/L	100
		263.0 -> 219.0	7568		
PFPeS	6.422	349.1 -> 79.9	1762	0.18 µg/L	100
		349.1 -> 98.9	828		
PFTeDA	9.640	713.1 -> 669.0	3905	0.17 µg/L	96
		713.1 -> 168.9	347		
PFTrDA	9.296	663.0 -> 619.0	4888	0.18 µg/L	94
		663.0 -> 168.9	570		
PFUnDA	8.480	563.1 -> 519.0	4764	0.16 µg/L	91
		563.1 -> 269.1	910		
11Cl-PF3OUdS	9.348	630.9 -> 450.9	7283	0.35 µg/L	97
		632.9 -> 452.9	2373		
9Cl-PF3ONS	8.520	530.8 -> 351.0	11959	0.35 µg/L	86
		532.8 -> 353.0	4913		
ADONA	6.646	376.9 -> 250.9	27918	0.35 µg/L	99
		376.9 -> 84.8	7404		
HFPO-DA	5.795	284.9 -> 168.9	1986	0.38 µg/L	97
		284.9 -> 184.9	245		
3:3FTCA	3.671	241.0 -> 177.0	1334	0.87 µg/L	98
		241.0 -> 117.0	182		
5:3FTCA	6.086	341.0 -> 237.1	28320	4.83 µg/L	96
		341.0 -> 217.0	21072		
7:3FTCA	7.523	441.0 -> 316.9	18287	4.83 µg/L	99
		441.0 -> 336.9	40112		
EtFOSA	10.974	526.0 -> 219.0	3187	0.40 µg/L	96
		526.0 -> 169.0	4108		
EtFOSE	10.907	630.0 -> 58.9	7590	0.97 µg/L	100
		511.9 -> 219.0	2604		
MeFOSA	10.741	511.9 -> 169.0	3661	0.40 µg/L	93
		616.1 -> 58.9	5459		
MeFOSE	10.673	699.1 -> 79.9	367	0.95 µg/L	100
		699.1 -> 98.8	217		
PFDoDS	9.767	295.0 -> 201.0	1490	0.18 µg/L	92
		295.0 -> 84.9	387		
NFDHA	5.299	279.0 -> 85.1	5202	0.38 µg/L	98
		229.0 -> 84.9	3997		
PFMBA	4.638	314.8 -> 134.9	14126	0.35 µg/L	100
		314.8 -> 82.9	494		
PFMPA	3.363			0.35 µg/L	100
PFEESA	5.875			0.33 µg/L	99

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

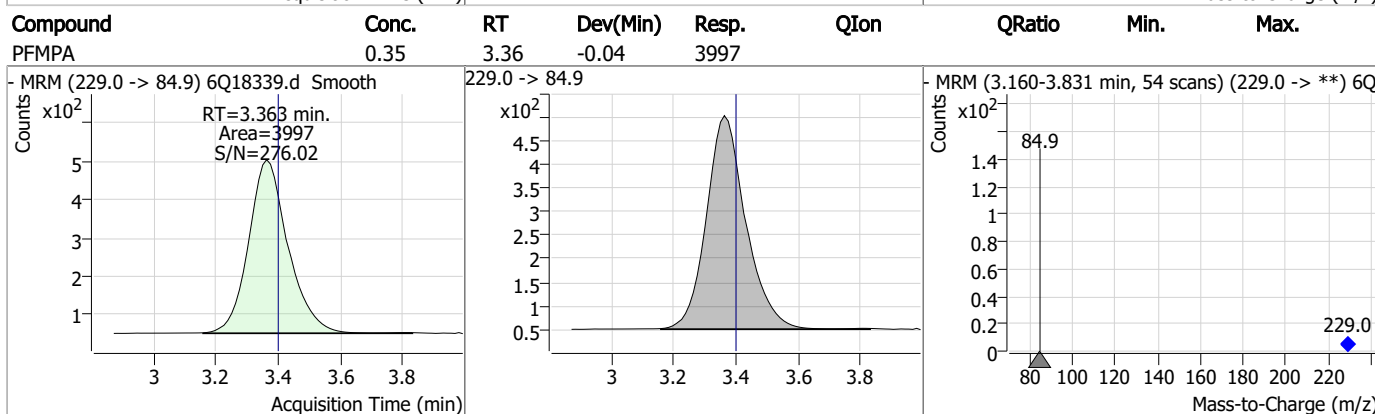
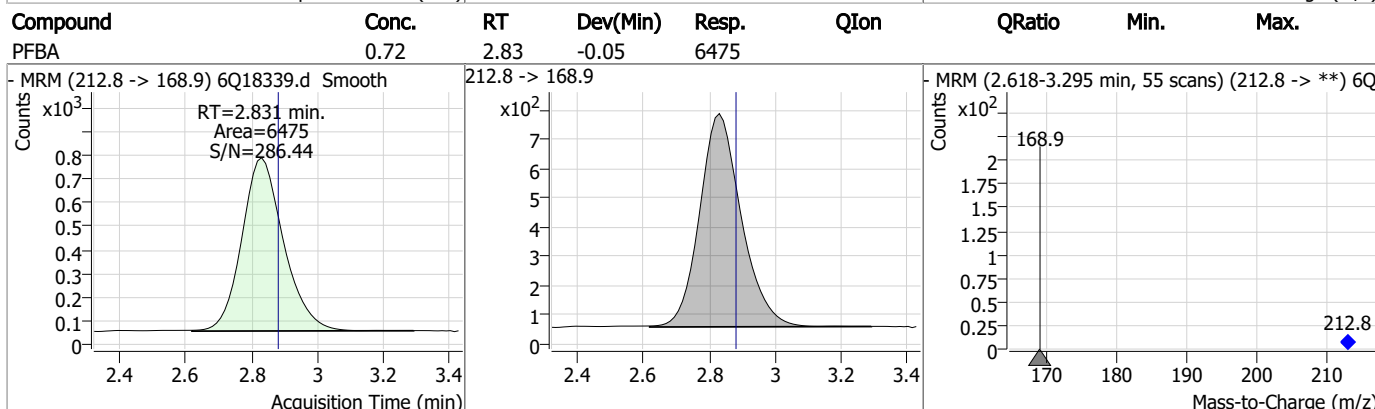
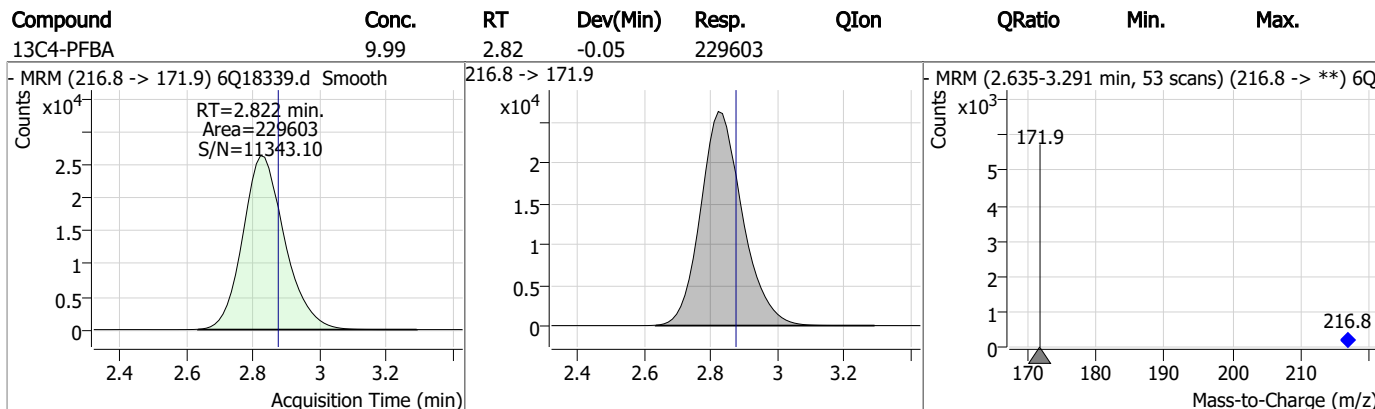
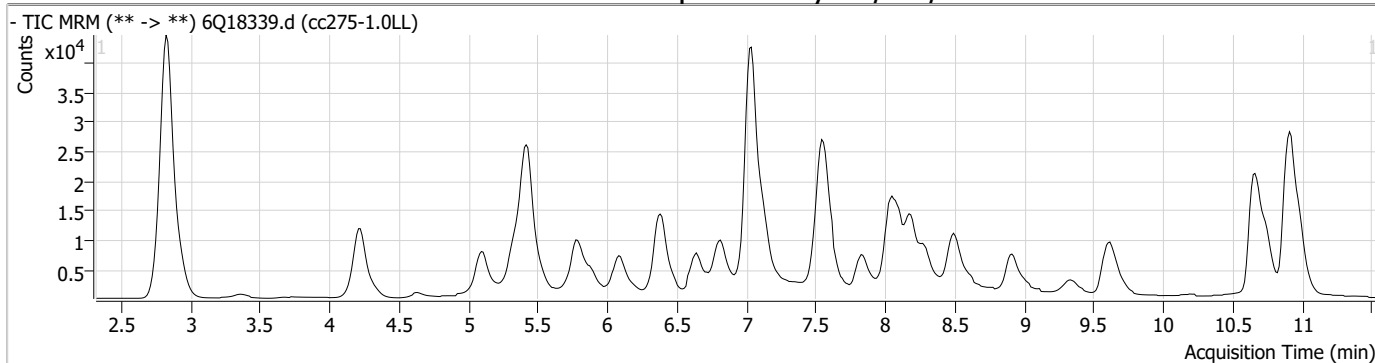
Perfluorinated Compounds by LC/MS/MS

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

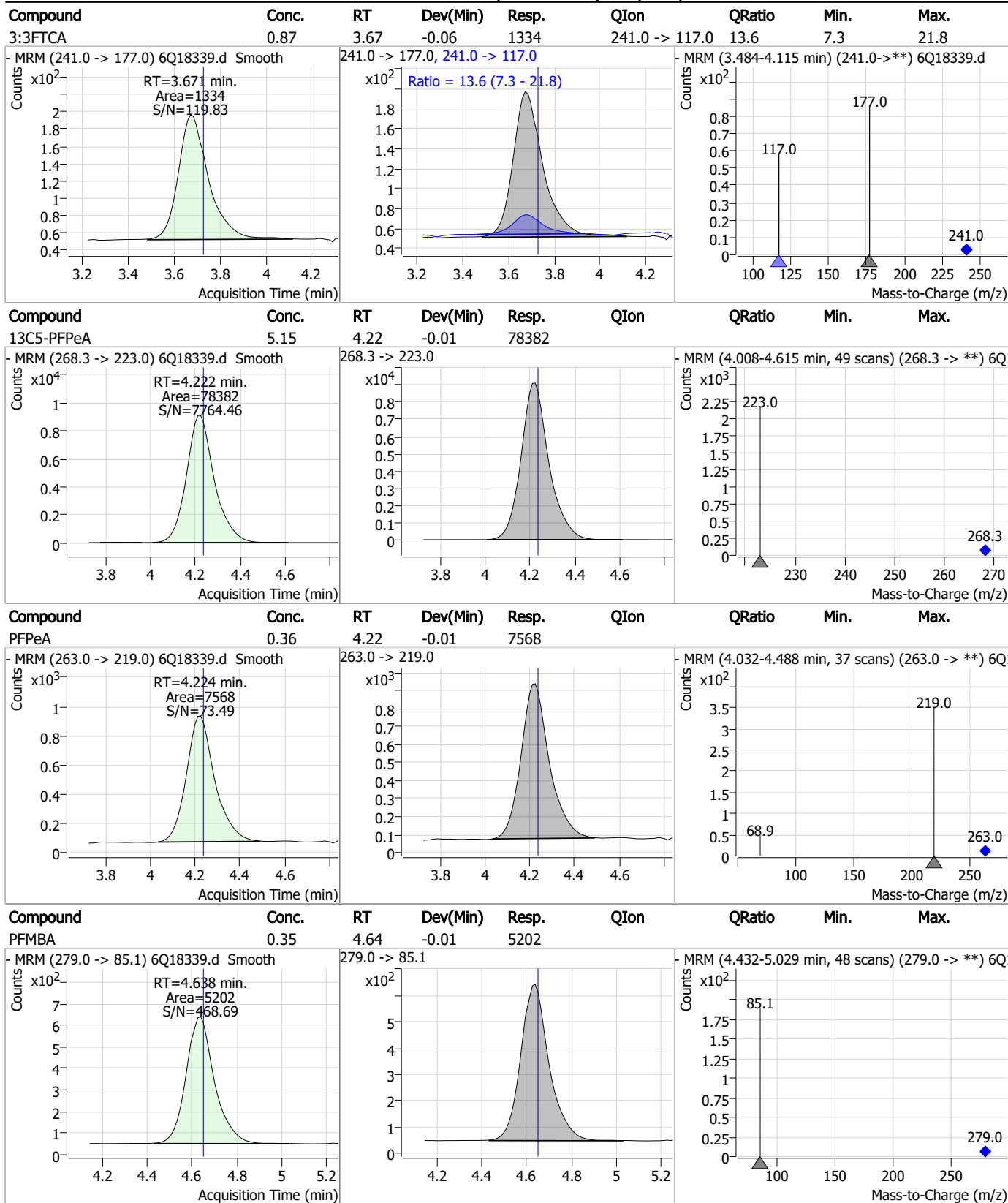
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Perfluorinated Compounds by LC/MS/MS



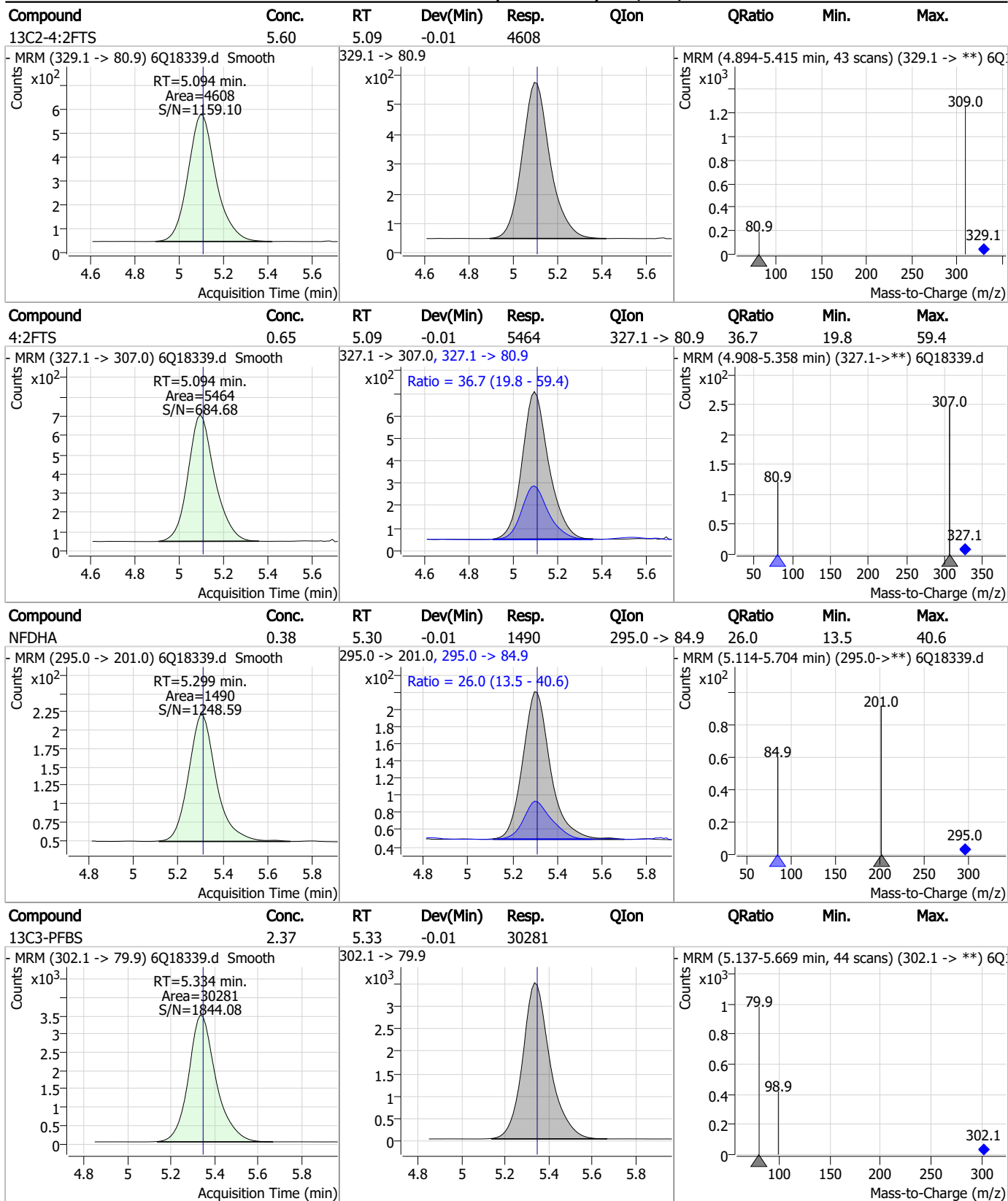
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Perfluorinated Compounds by LC/MS/MS



7.7.12 7

Perfluorinated Compounds by LC/MS/MS

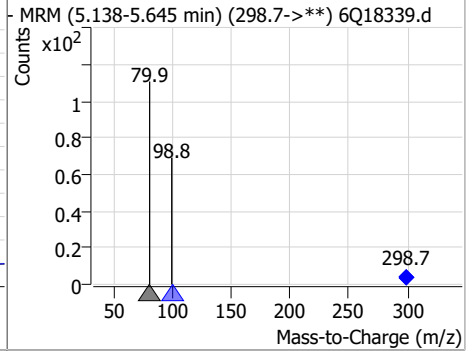
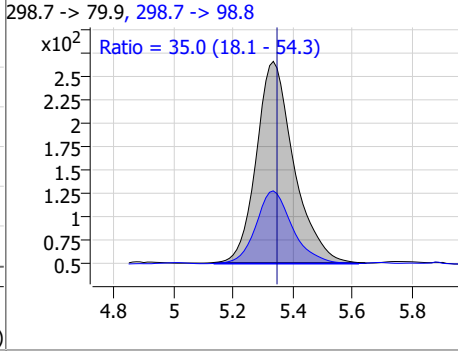
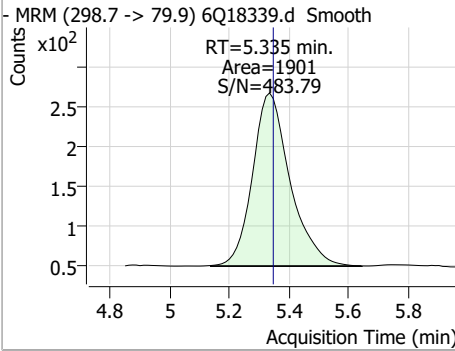


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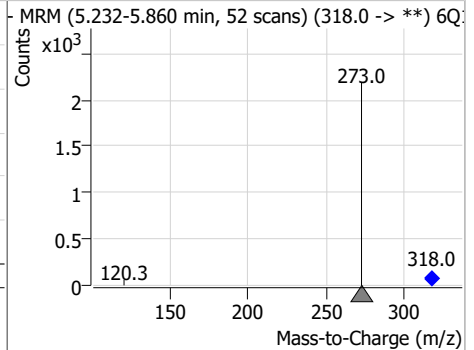
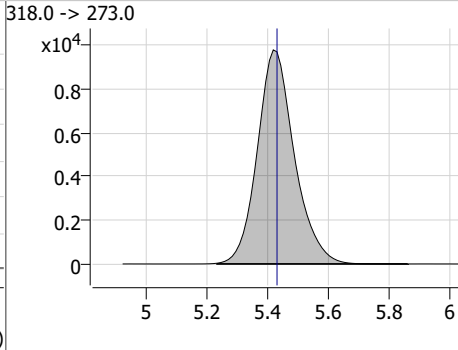
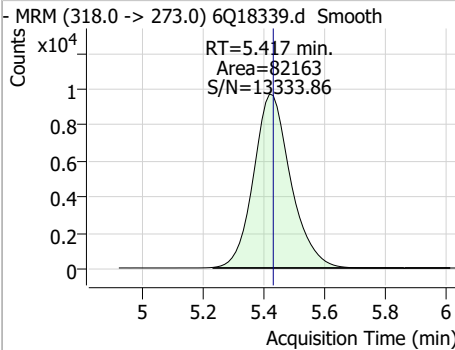


Perfluorinated Compounds by LC/MS/MS

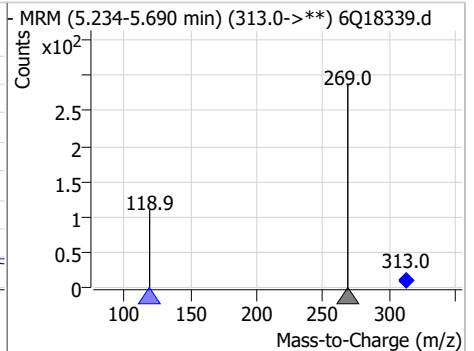
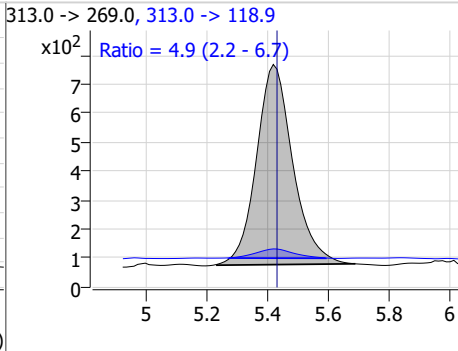
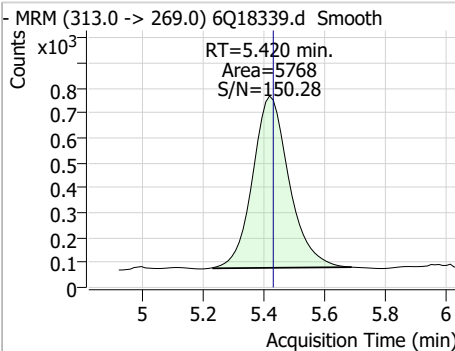
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.16	5.34	-0.01	1901	298.7 -> 98.8	35.0	18.1	54.3



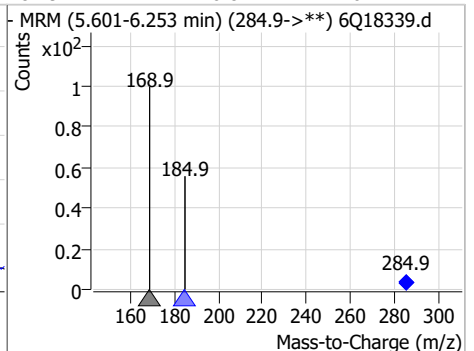
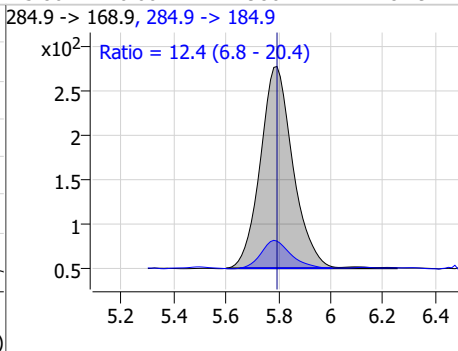
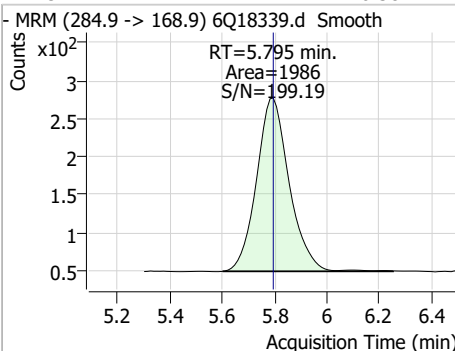
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.42	-0.01	82163	318.0 -> 273.0	4.9	2.2	6.7



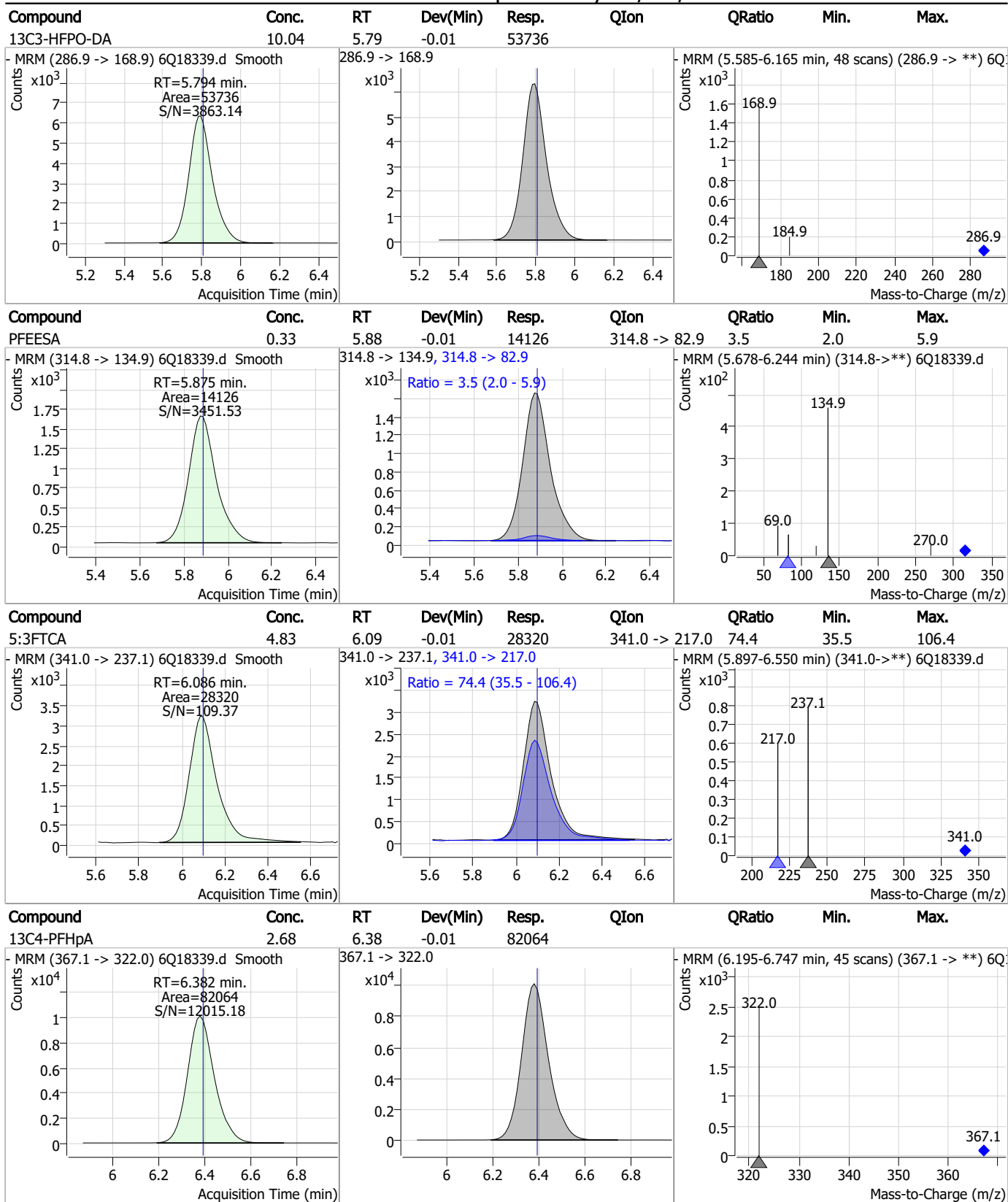
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.18	5.42	-0.01	5768	313.0 -> 118.9	4.9	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.38	5.80	0.00	1986	284.9 -> 184.9	12.4	6.8	20.4

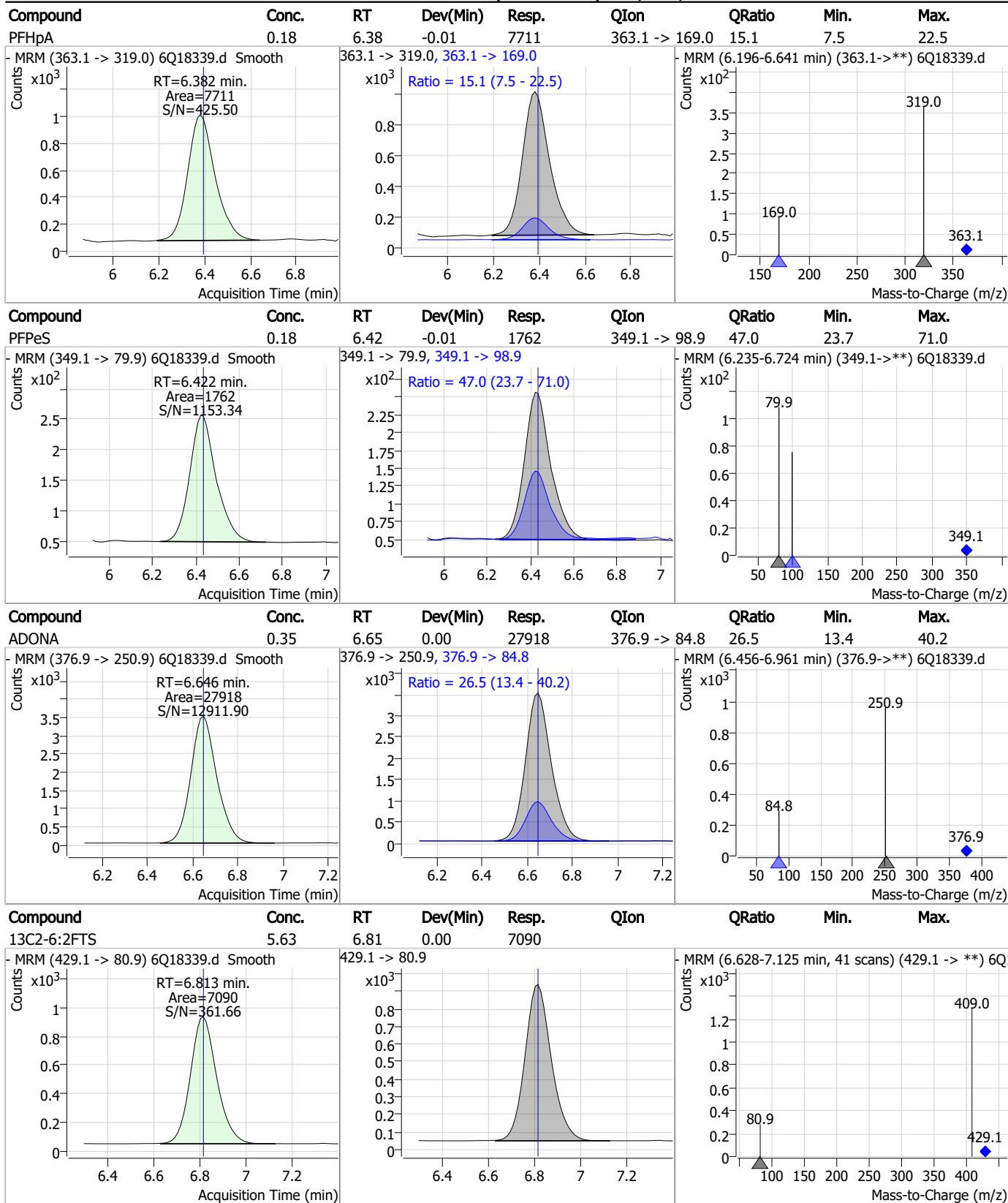


Perfluorinated Compounds by LC/MS/MS



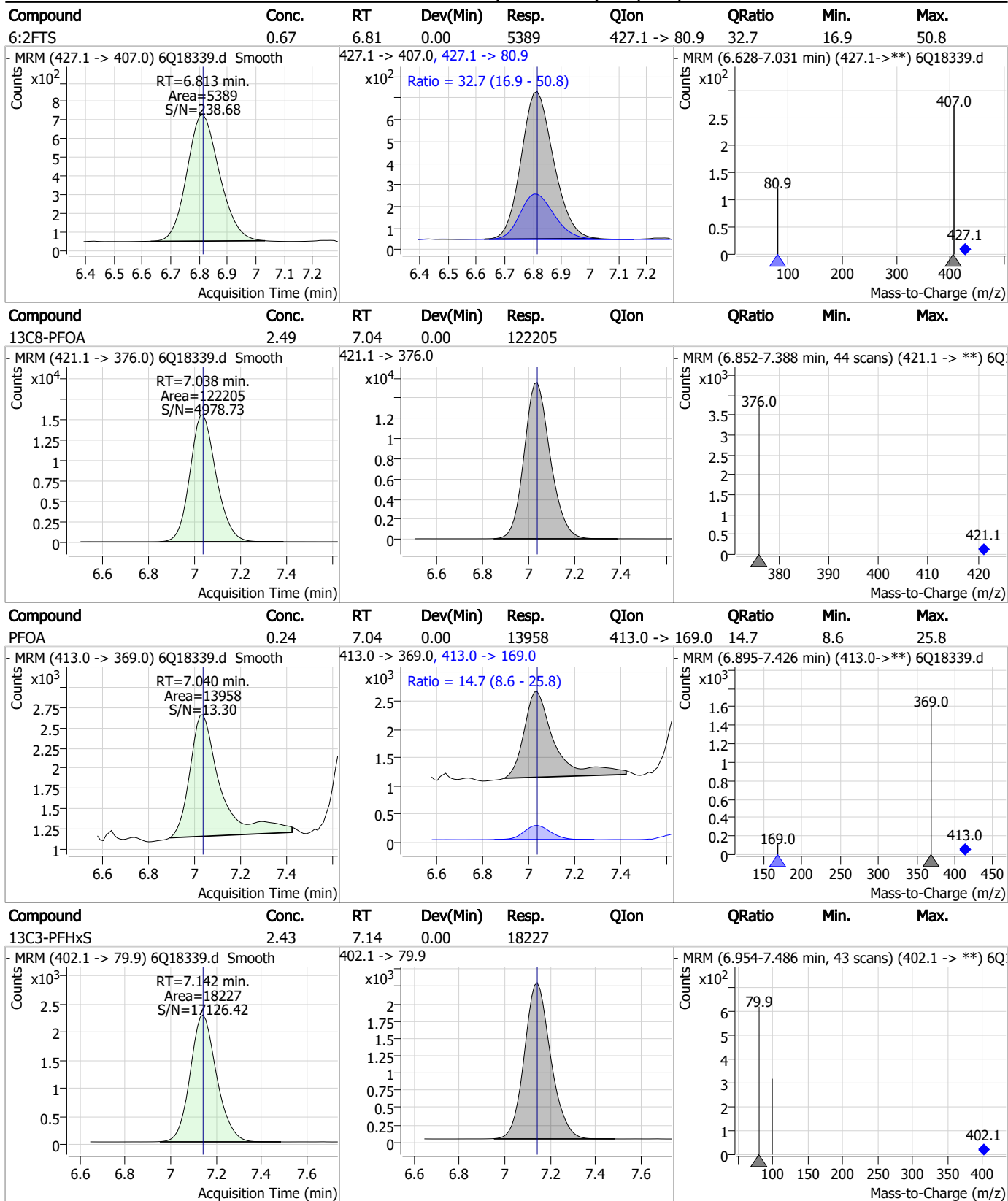
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Perfluorinated Compounds by LC/MS/MS



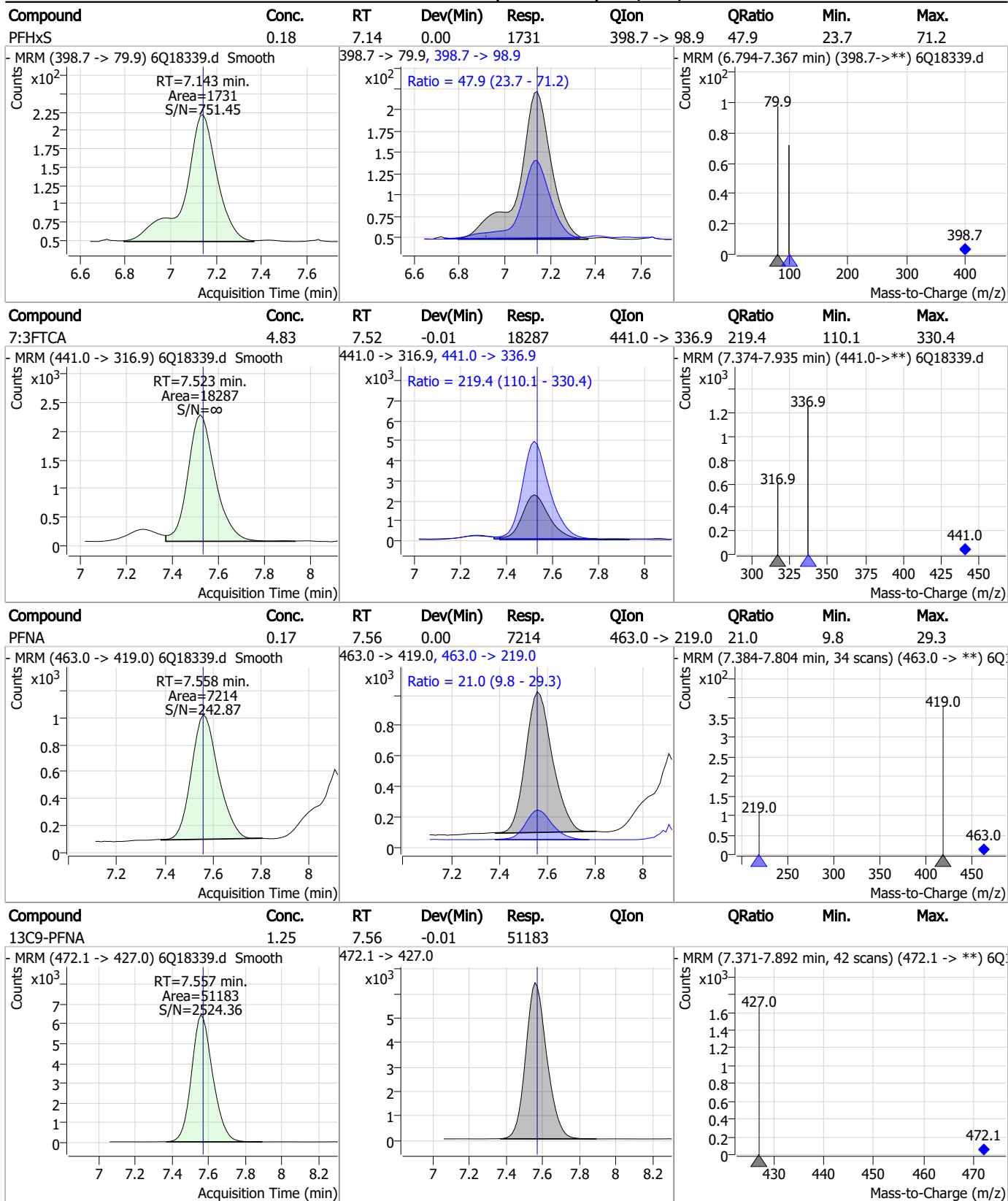
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Perfluorinated Compounds by LC/MS/MS



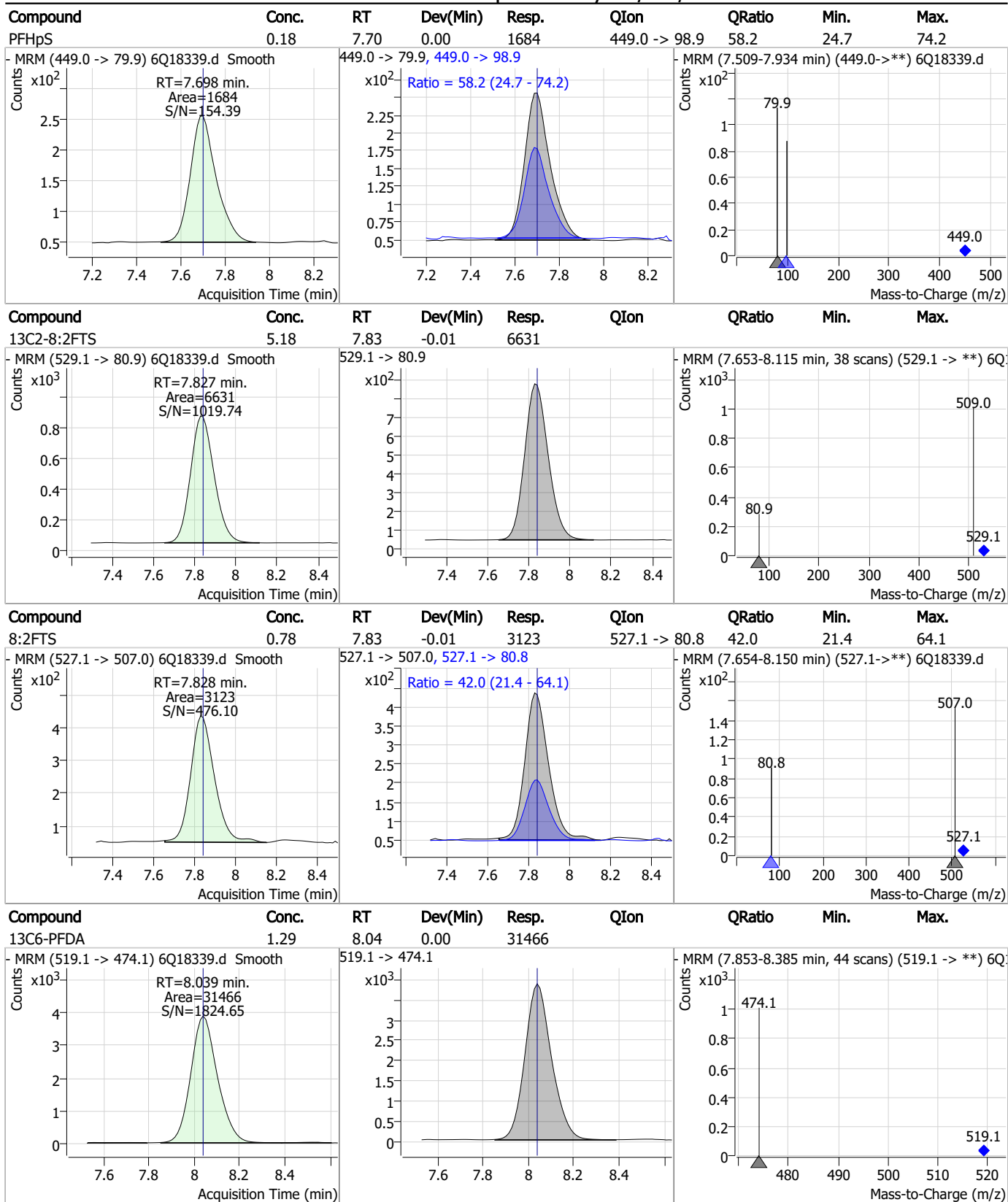
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Perfluorinated Compounds by LC/MS/MS



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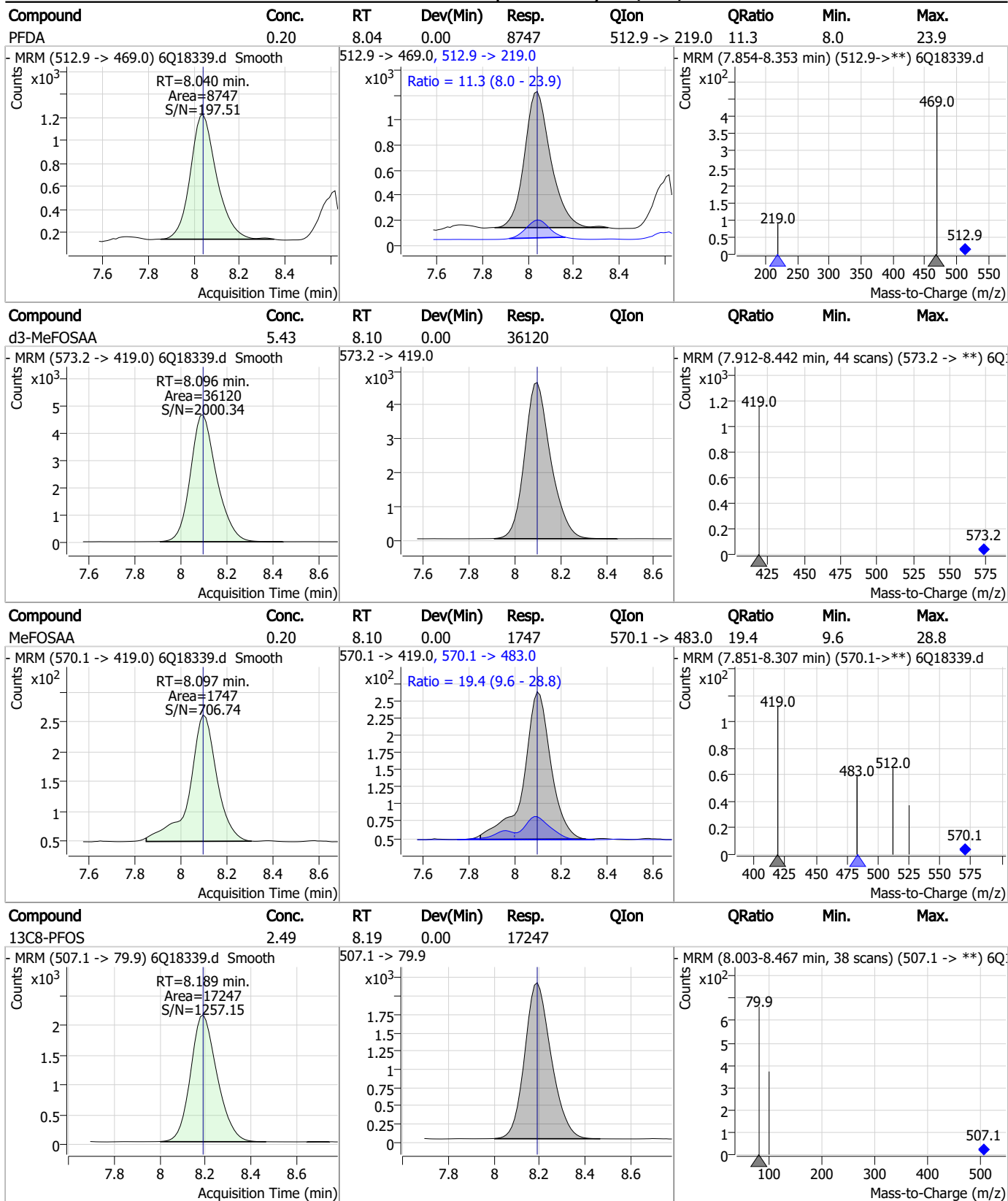
Perfluorinated Compounds by LC/MS/MS



7.7.12

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Perfluorinated Compounds by LC/MS/MS

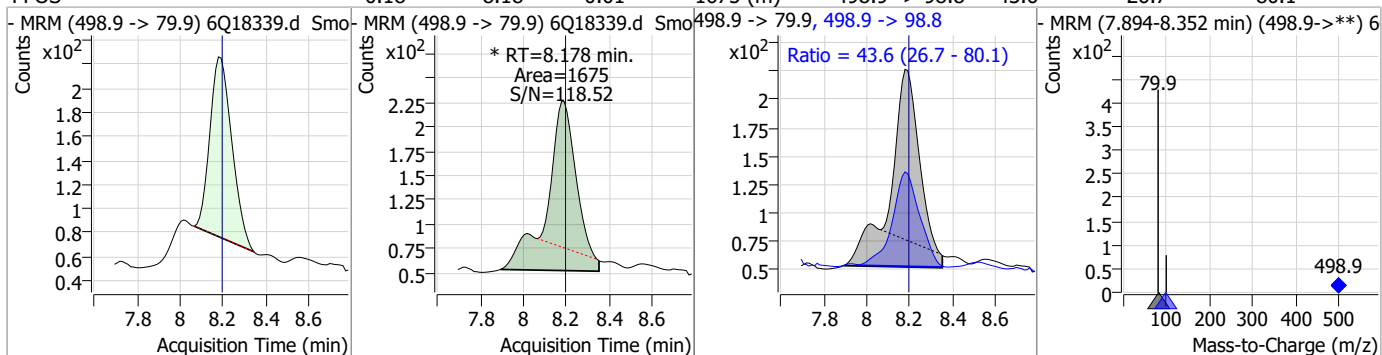


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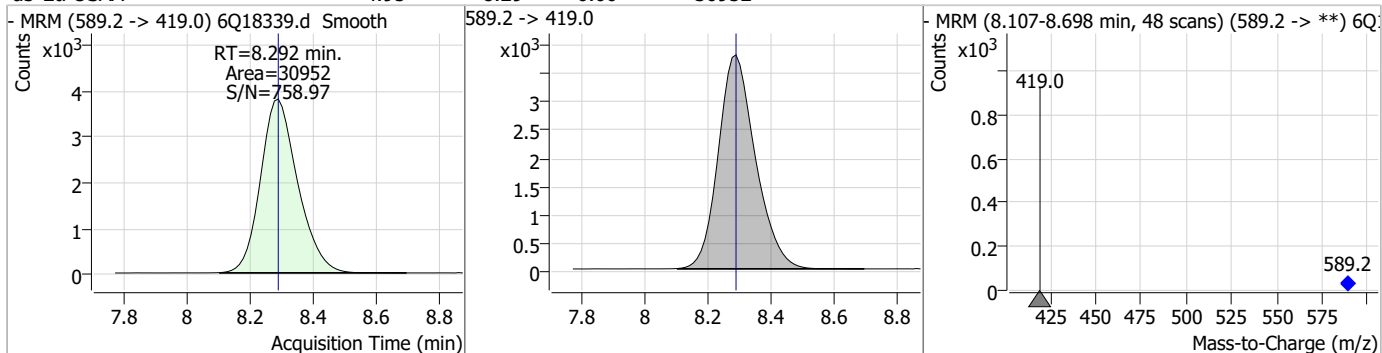
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Perfluorinated Compounds by LC/MS/MS

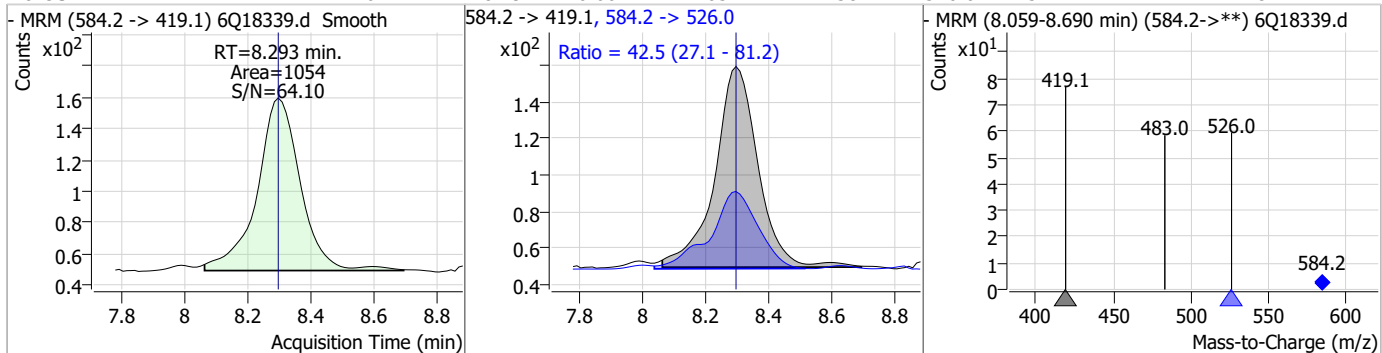
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.18	8.18	-0.01	1675 (m)	498.9 -> 98.8	43.6	26.7	80.1



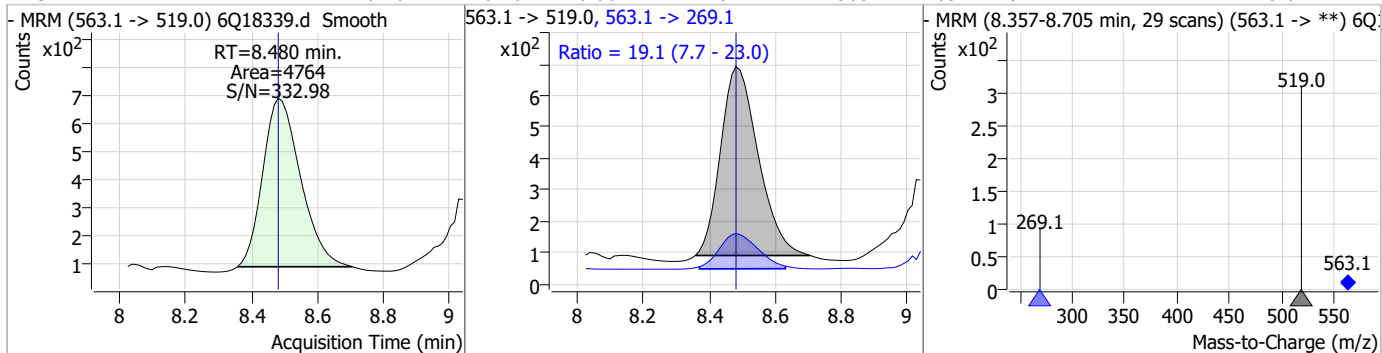
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.95	8.29	0.00	30952	589.2 -> 419.0	42.5	27.1	81.2



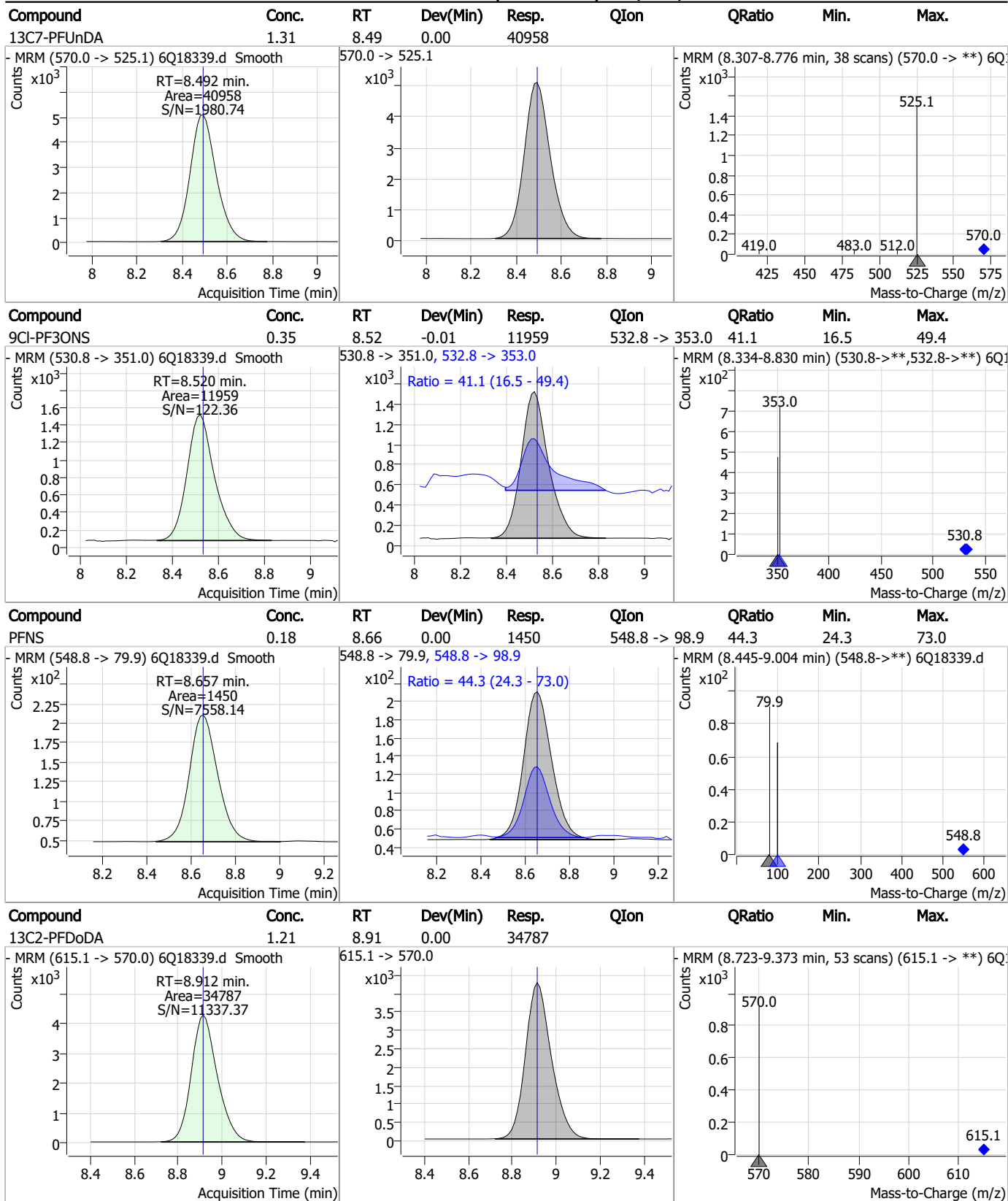
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.22	8.29	0.00	1054	584.2 -> 419.1	42.5	27.1	81.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.16	8.48	0.00	4764	563.1 -> 269.1	19.1	7.7	23.0

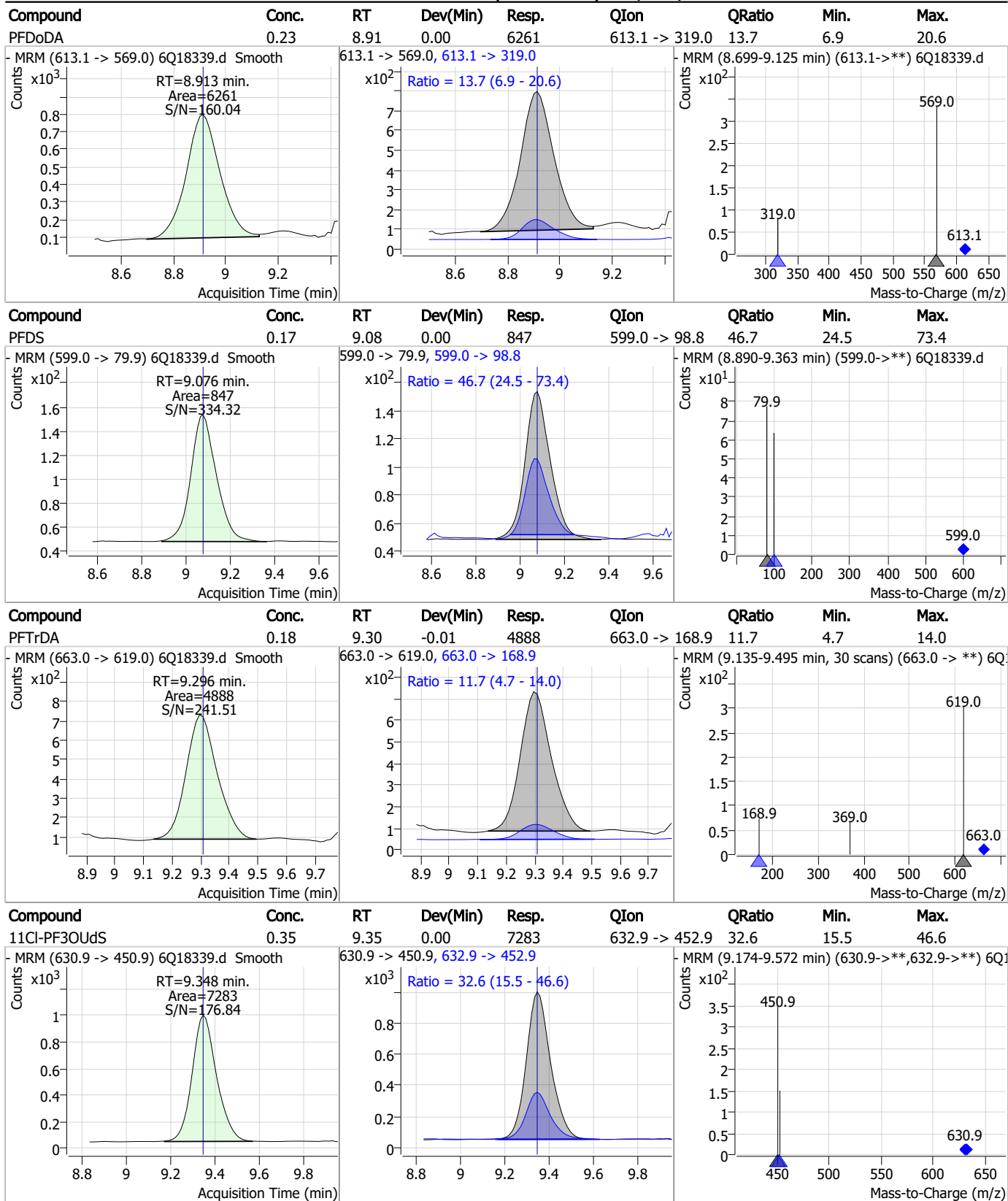


Perfluorinated Compounds by LC/MS/MS



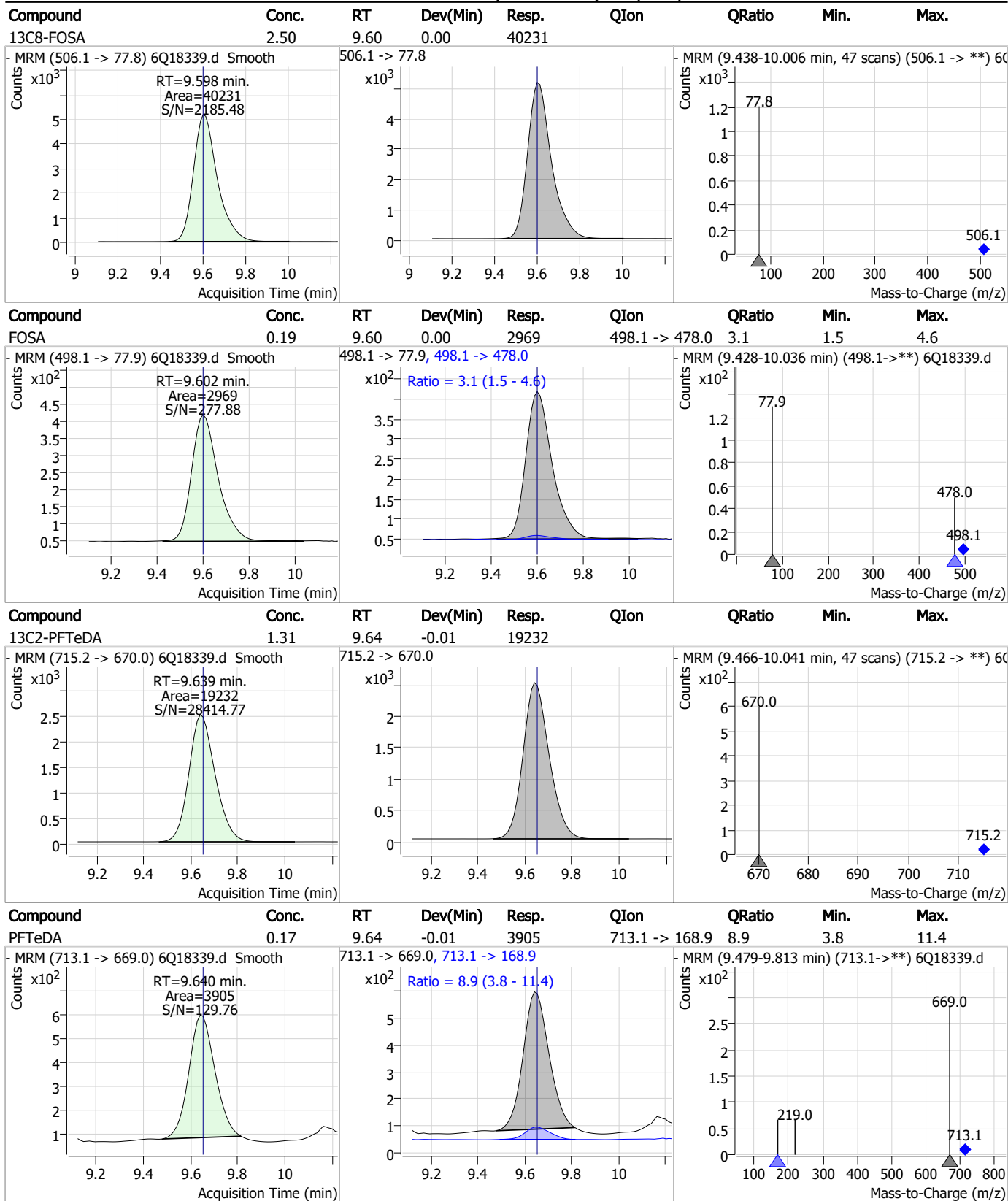
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Perfluorinated Compounds by LC/MS/MS



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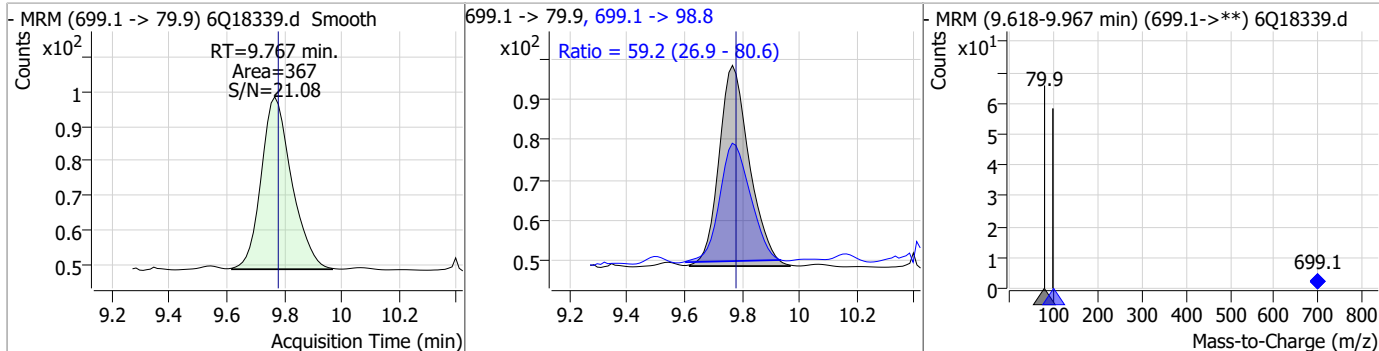
Perfluorinated Compounds by LC/MS/MS



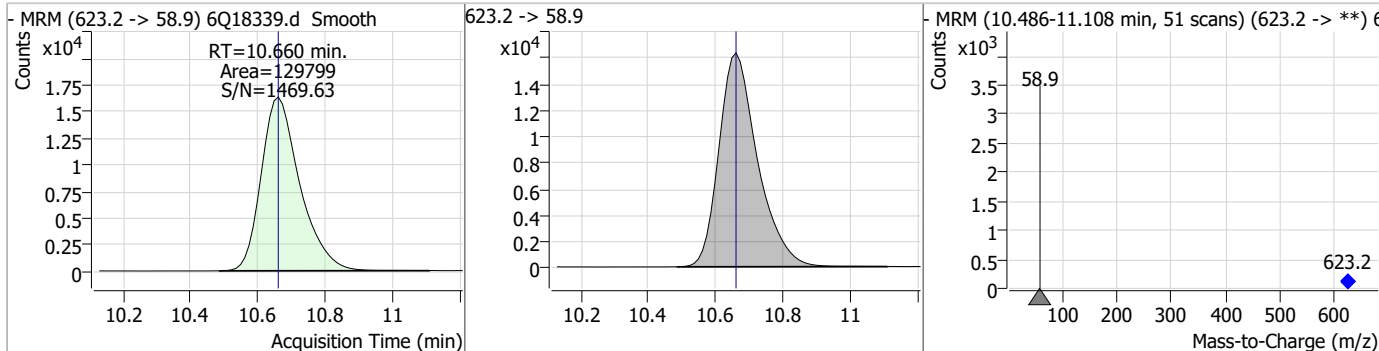
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Perfluorinated Compounds by LC/MS/MS

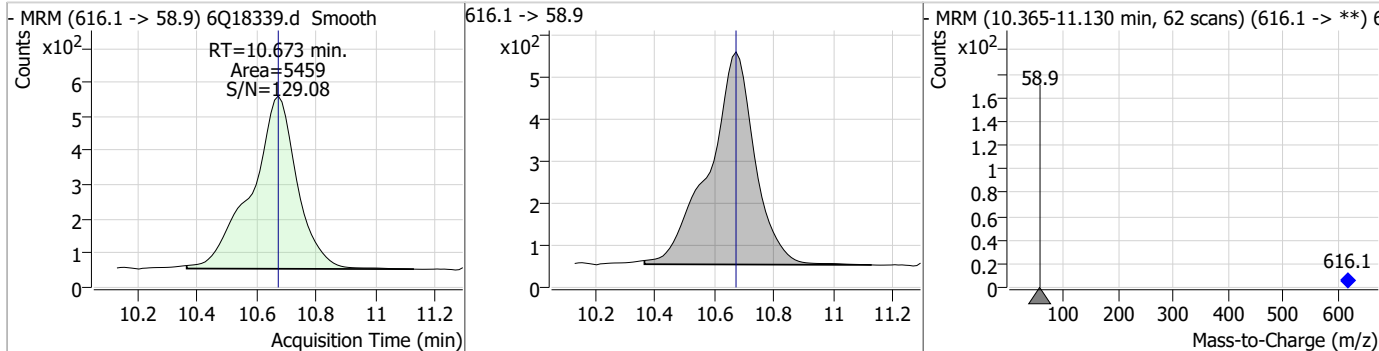
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.18	9.77	-0.01	367	699.1 -> 98.8	59.2	26.9	80.6



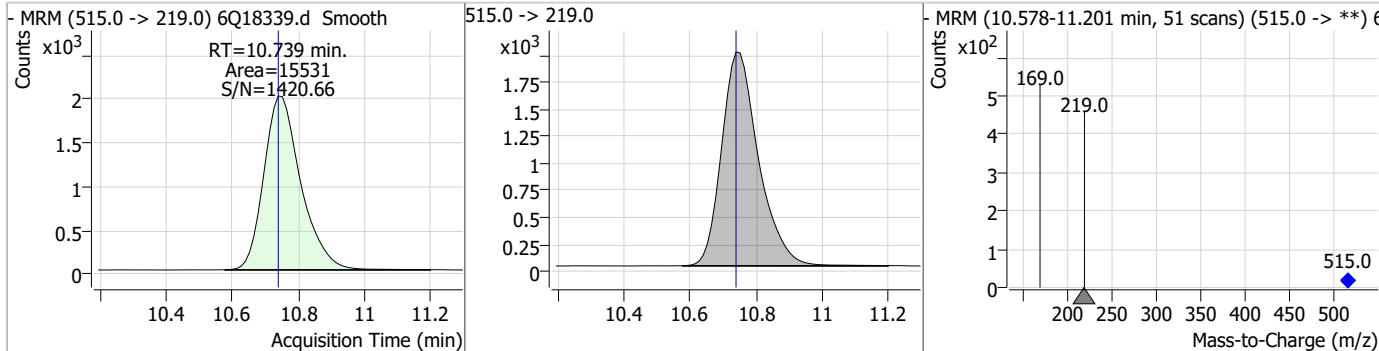
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.80	10.66	0.00	129799				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.95	10.67	0.00	5459				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.21	10.74	0.00	15531				



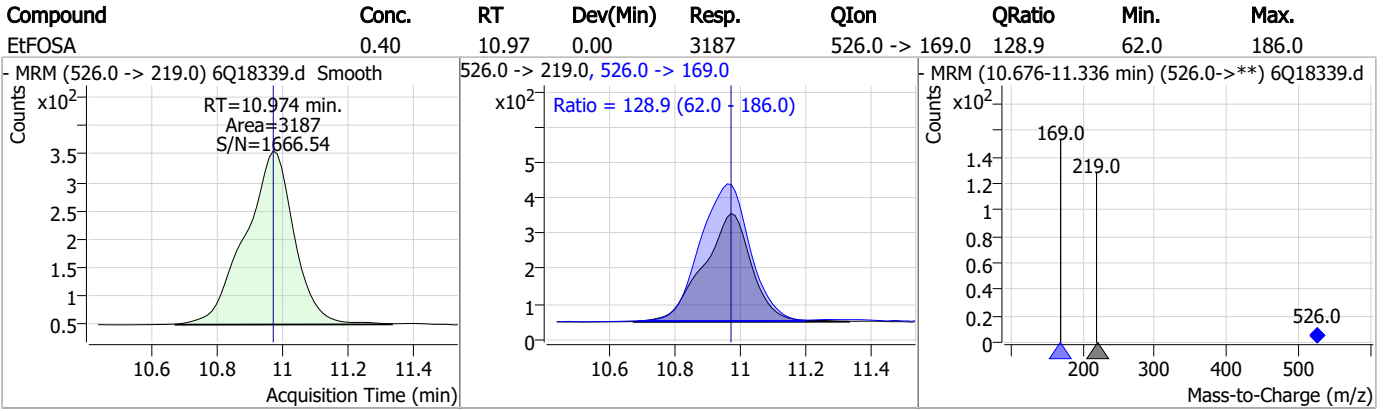
7.7.12
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.40	10.74	0.00	2604	511.9 -> 169.0	140.6	66.3	198.9
d9-EtFOSE	23.87	10.91	0.00	161973	639.2 -> 58.9	639.2 -> 58.9	639.2 -> 58.9	639.2 -> 58.9
EtFOSE	0.97	10.91	0.00	7590	630.0 -> 58.9	630.0 -> 58.9	630.0 -> 58.9	630.0 -> 58.9
d5-EtFOSA	2.34	10.97	0.00	15951	531.1 -> 219.0	531.1 -> 219.0	531.1 -> 219.0	531.1 -> 219.0

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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18339.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 19:04 Supervisor approved: 05/25/23 13:01 Norman Farmer

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

7.7.12.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18346.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 8:45:28 PM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	229743	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	75883	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	80664	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	78141	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	119275	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	46425	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29011	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	38434	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	33624	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	18260	1.25 µg/L	-0.012
M8-FOSA	9.611	506.1 -> 77.8	38981	2.50 µg/L	0.012
M3-PFBS	5.347	302.1 -> 79.9	30386	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17181	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16761	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4460	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6565	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6712	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	33982	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	51023	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	32542	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	124977	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	158498	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16570	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15827	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20425	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	97079	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13005	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	120327	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39120	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58619	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	77890	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4460	5.71 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.2%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6565	5.49 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6712	5.53 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.6%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33624	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.8%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18260	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C3-PFBS	5.347	302.1 -> 79.9	30386	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.4%		
13C3-PFHxS	7.142	402.1 -> 79.9	17181	2.41 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 = 96.5%	
13C4-PFBA	2.876	216.8 -> 171.9	229743	9.95 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C4-PFHpA	6.382	367.1 -> 322.0	78141	2.62 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C5-PFHxA	5.429	318.0 -> 273.0	80664	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFPeA	4.235	268.3 -> 223.0	75883	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C6-PFDA	8.039	519.1 -> 474.1	29011	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C7-PFUnDA	8.492	570.0 -> 525.1	38434	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C8-FOSA	9.611	506.1 -> 77.8	38981	2.65 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C8-PFOA	7.038	421.1 -> 376.0	119275	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C8-PFOS	8.189	507.1 -> 79.9	16761	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.1%	
13C9-PFNA	7.569	472.1 -> 427.0	46425	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33982	5.60 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	51023	9.78 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d3-MeFOSA	10.739	515.0 -> 219.0	15827	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	32542	5.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	124977	25.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	158498	25.60 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	16570	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	68956	8.44 µg/L	94
		327.1 -> 80.9	24876		
6:2FTS	6.813	427.1 -> 407.0	68470	9.23 µg/L	98
		427.1 -> 80.9	22503		
8:2FTS	7.840	527.1 -> 507.0	38017	9.41 µg/L	95
		527.1 -> 80.8	15076		
EtFOSAA	8.293	584.2 -> 419.1	12084	2.43 µg/L	94
		584.2 -> 526.0	6007		
FOSA	9.602	498.1 -> 77.9	36316	2.40 µg/L	100
		498.1 -> 478.0	1149		
MeFOSAA	8.097	570.1 -> 419.0	19327	2.34 µg/L	100
		570.1 -> 483.0	3705		
PFBA	2.882	212.8 -> 168.9	86357	9.64 µg/L	100
PFBS	5.348	298.7 -> 79.9	23533	2.02 µg/L	98
		298.7 -> 98.8	8786		
PFDA	8.040	512.9 -> 469.0	92047	2.33 µg/L	98
		512.9 -> 219.0	15348		
PFDODA	8.913	613.1 -> 569.0	67123	2.51 µg/L	97
		613.1 -> 319.0	9922		
PFDS	9.076	599.0 -> 79.9	10658	2.27 µg/L	100

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	5227	2.23 µg/L	95
		363.1 -> 319.0	89878		
PFHpS	7.698	363.1 -> 169.0	15291	2.28 µg/L	100
		449.0 -> 79.9	20863		
PFHxA	5.432	449.0 -> 98.9	10285	2.38 µg/L	99
		313.0 -> 269.0	74363		
PFHxS	7.143	313.0 -> 118.9	3684	2.23 µg/L	100
		398.7 -> 79.9	20736		
PFNA	7.558	398.7 -> 98.9	9837	2.41 µg/L	98
		463.0 -> 419.0	92310		
PFNS	8.657	463.0 -> 219.0	18731	2.21 µg/L	93
		548.8 -> 79.9	17391		
PFOA	7.040	548.8 -> 98.9	9292	2.39 µg/L	99
		413.0 -> 369.0	133477		
PFOS	8.191	413.0 -> 169.0	23689	2.23 µg/L	93
		498.9 -> 79.9	19826		
PFPeA	4.237	498.9 -> 98.8	9654	4.83 µg/L	100
		263.0 -> 219.0	98839		
PFPeS	6.434	349.1 -> 79.9	20960	2.30 µg/L	100
		349.1 -> 98.9	9946		
PFTeDA	9.640	713.1 -> 669.0	47680	2.24 µg/L	96
		713.1 -> 168.9	4296		
PFTrDA	9.309	663.0 -> 619.0	66078	2.54 µg/L	96
		663.0 -> 168.9	7156		
PFUnDA	8.493	563.1 -> 519.0	67788	2.47 µg/L	97
		563.1 -> 269.1	11355		
11CI-PF3OUdS	9.348	630.9 -> 450.9	94964	4.84 µg/L	99
		632.9 -> 452.9	28832		
9CI-PF3ONS	8.520	530.8 -> 351.0	162412	4.96 µg/L	95
		532.8 -> 353.0	49095		
ADONA	6.646	376.9 -> 250.9	355392	4.72 µg/L	98
		376.9 -> 84.8	91571		
HFPO-DA	5.795	284.9 -> 168.9	25262	5.05 µg/L	95
		284.9 -> 184.9	2974		
3:3FTCA	3.727	241.0 -> 177.0	16792	11.38 µg/L	97
		241.0 -> 117.0	2231		
5:3FTCA	6.099	341.0 -> 237.1	331911	57.71 µg/L	96
		341.0 -> 217.0	246836		
7:3FTCA	7.523	441.0 -> 316.9	226559	60.94 µg/L	92
		441.0 -> 336.9	469011		
EtFOSA	10.974	526.0 -> 219.0	37748	4.54 µg/L	90
		526.0 -> 169.0	51220		
EtFOSE	10.920	630.0 -> 58.9	97594	12.69 µg/L	100
		511.9 -> 219.0	31982		
MeFOSA	10.741	511.9 -> 169.0	46557	4.76 µg/L	89
		616.1 -> 58.9	68615		
MeFOSE	10.673	699.1 -> 79.9	4724	12.36 µg/L	100
		699.1 -> 98.8	2611		
PFDoDS	9.779	295.0 -> 201.0	18922	2.37 µg/L	98
		295.0 -> 84.9	4703		
NFDHA	5.311	279.0 -> 85.1	68756	4.89 µg/L	96
		229.0 -> 84.9	52441		
PFMBA	4.650	314.8 -> 134.9	174491	4.75 µg/L	100
		314.8 -> 82.9	6339		
PFMPA	3.388			4.77 µg/L	100
PFEESA	5.888			4.14 µg/L	99

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

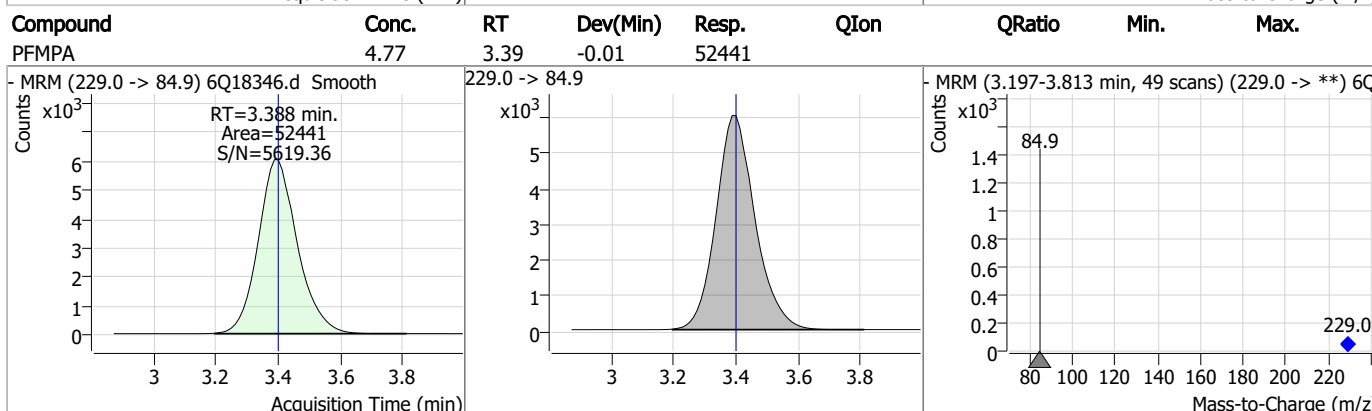
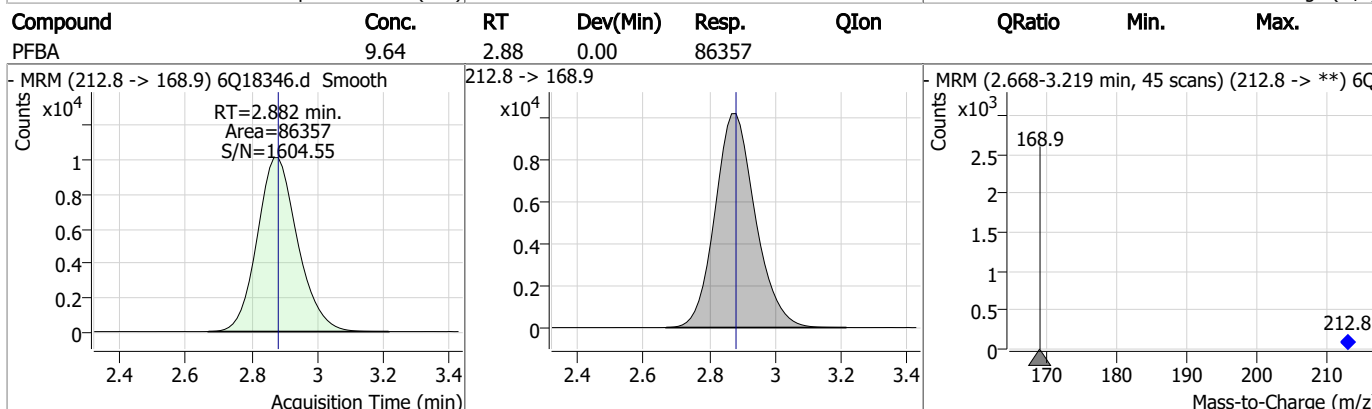
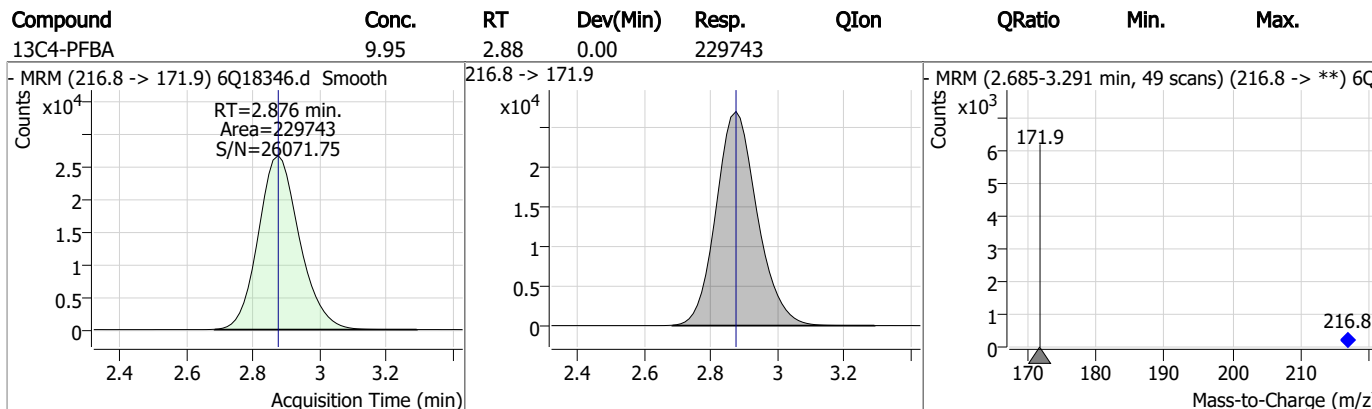
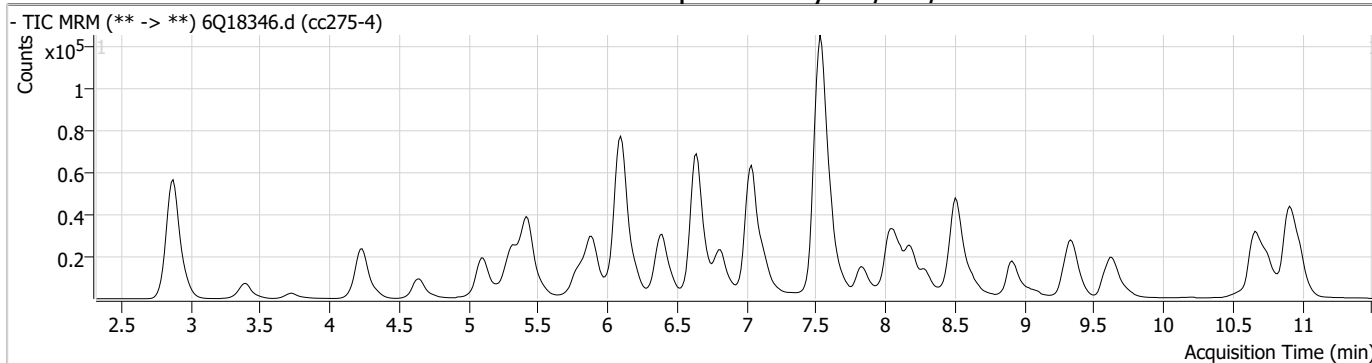
Perfluorinated Compounds by LC/MS/MS

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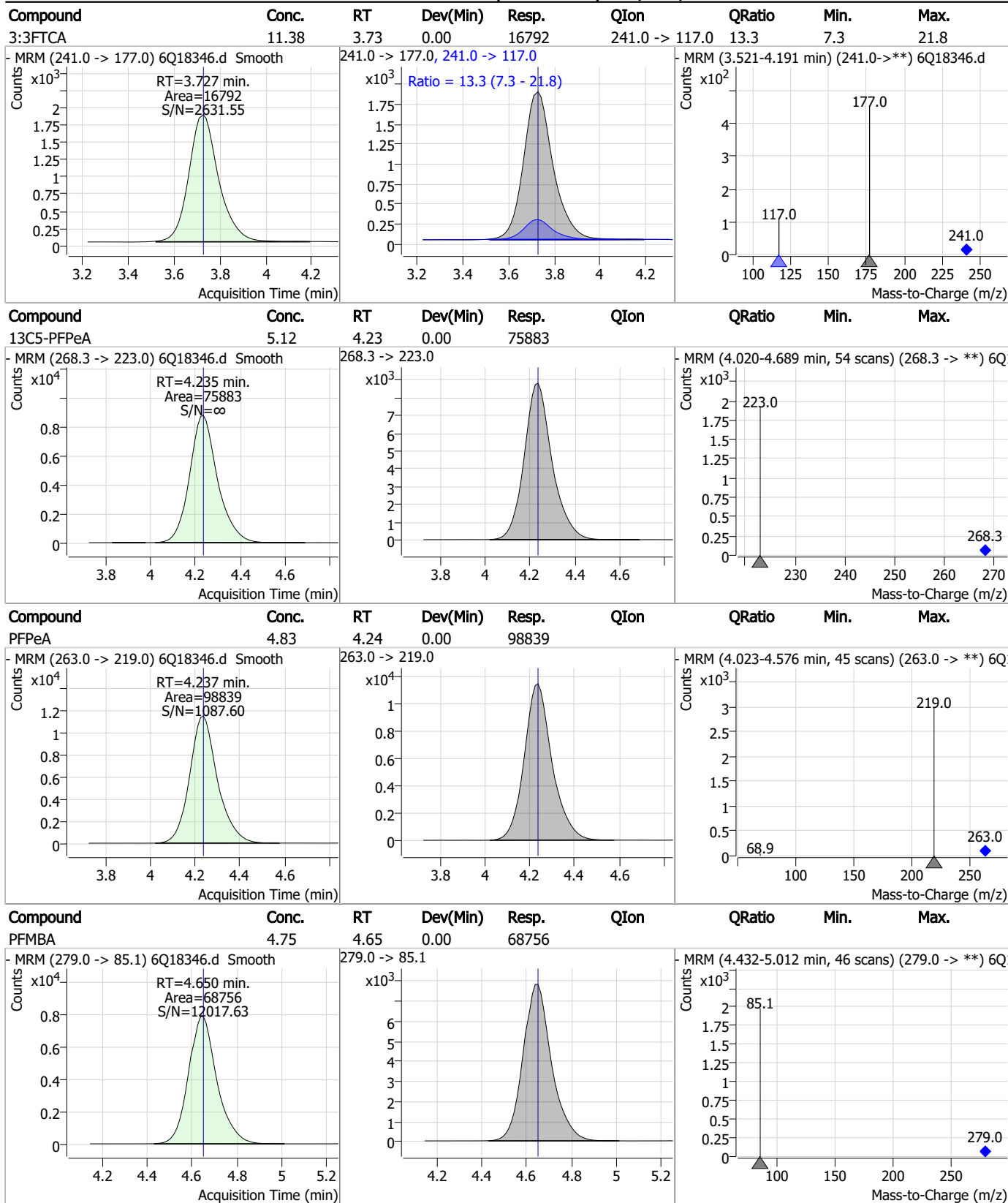
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Perfluorinated Compounds by LC/MS/MS



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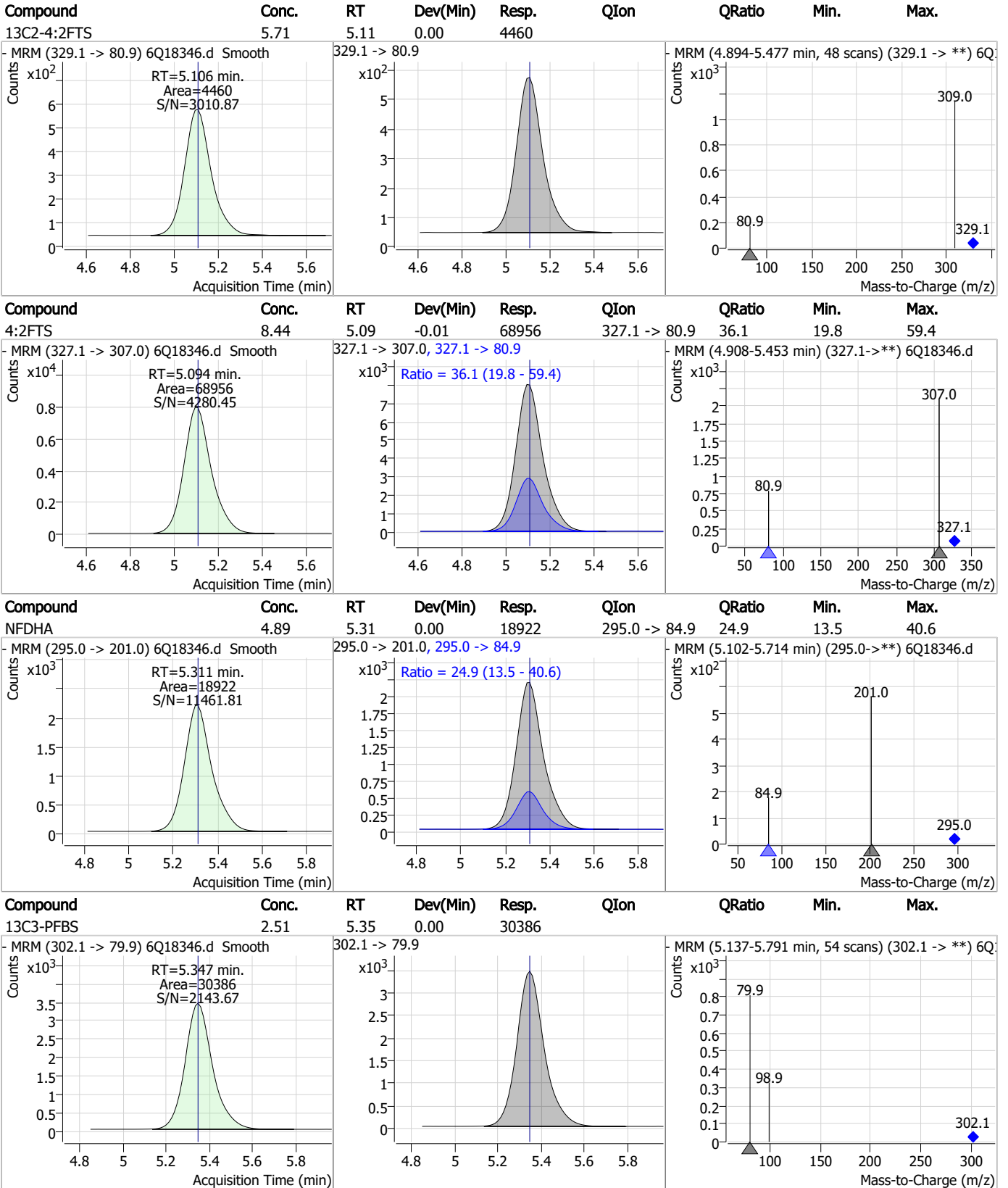
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

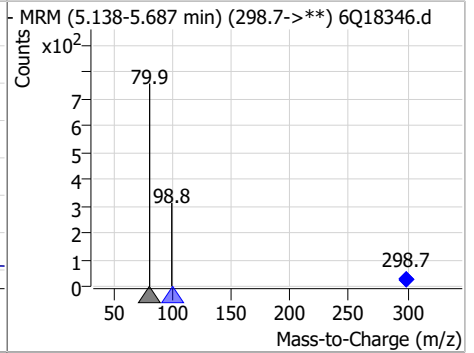
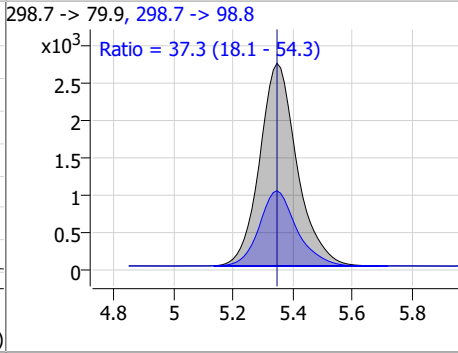
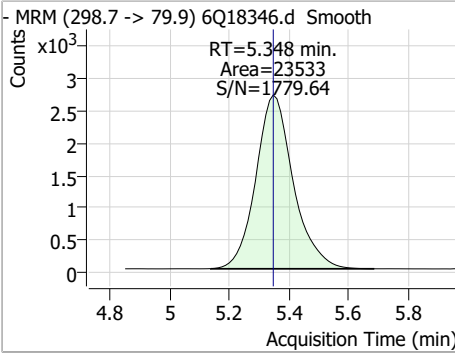


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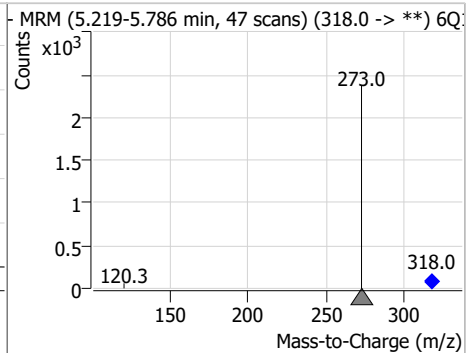
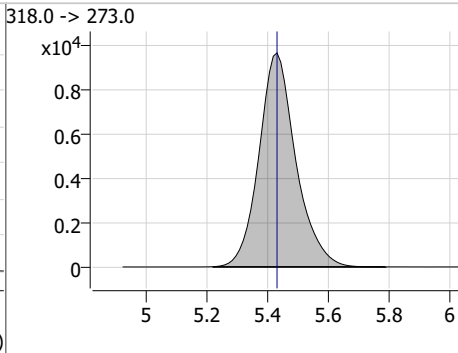
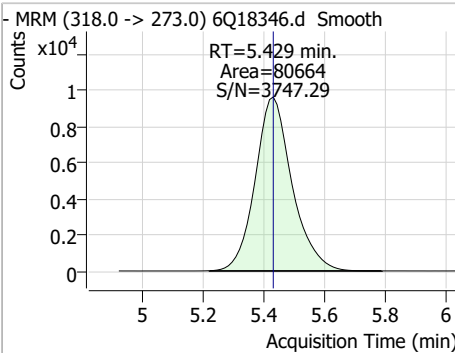


Perfluorinated Compounds by LC/MS/MS

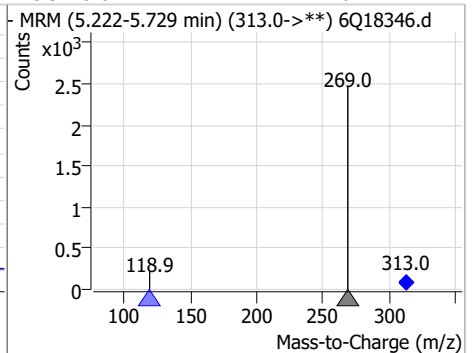
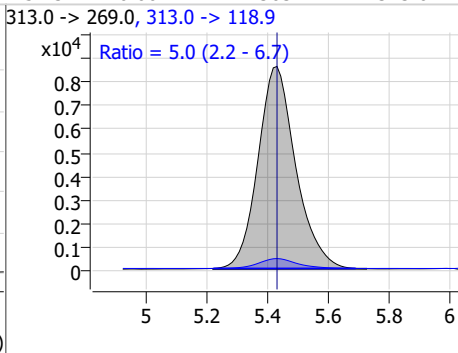
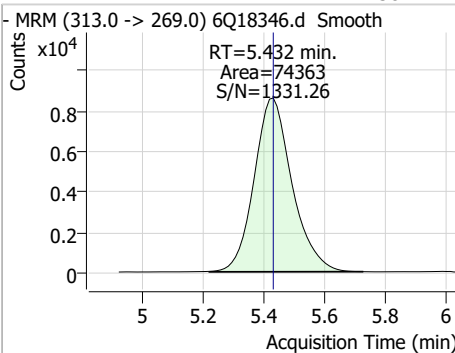
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.02	5.35	0.00	23533	298.7 -> 98.8	37.3	18.1	54.3



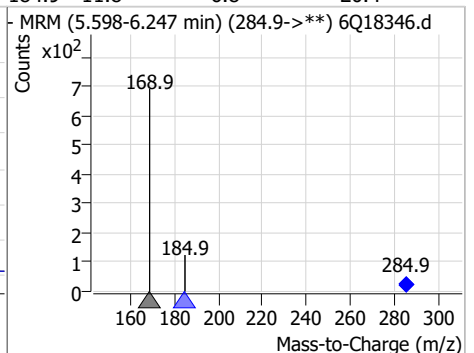
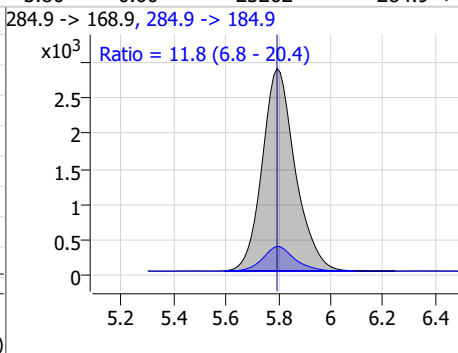
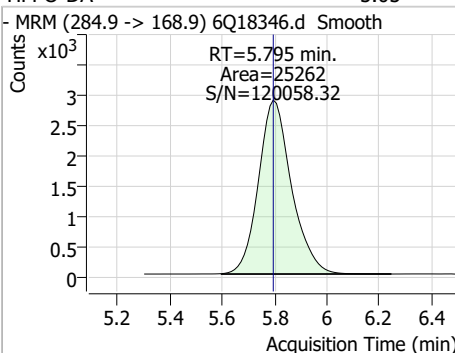
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.55	5.43	0.00	80664				



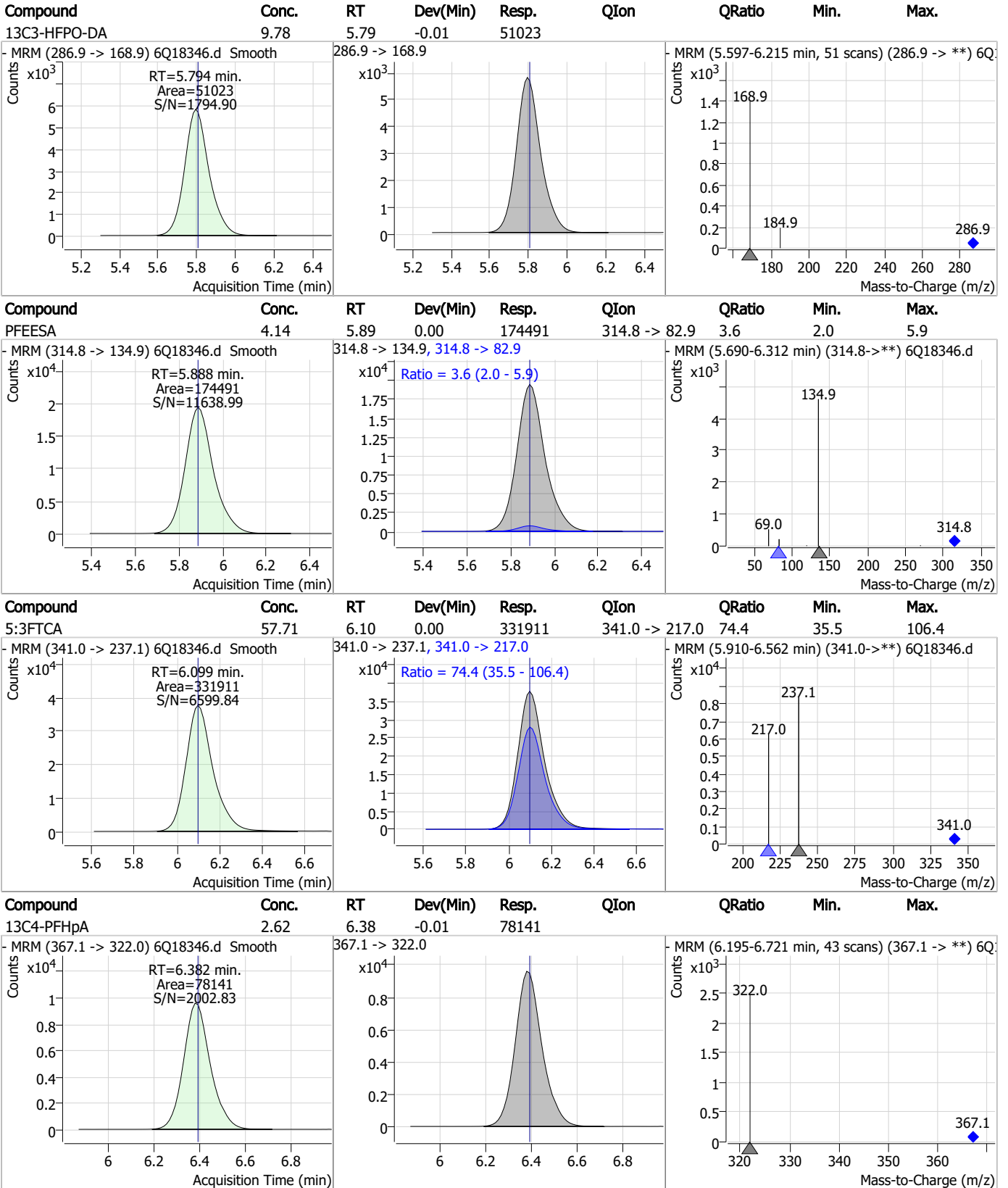
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.38	5.43	0.00	74363	313.0 -> 118.9	5.0	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.05	5.80	0.00	25262	284.9 -> 184.9	11.8	6.8	20.4



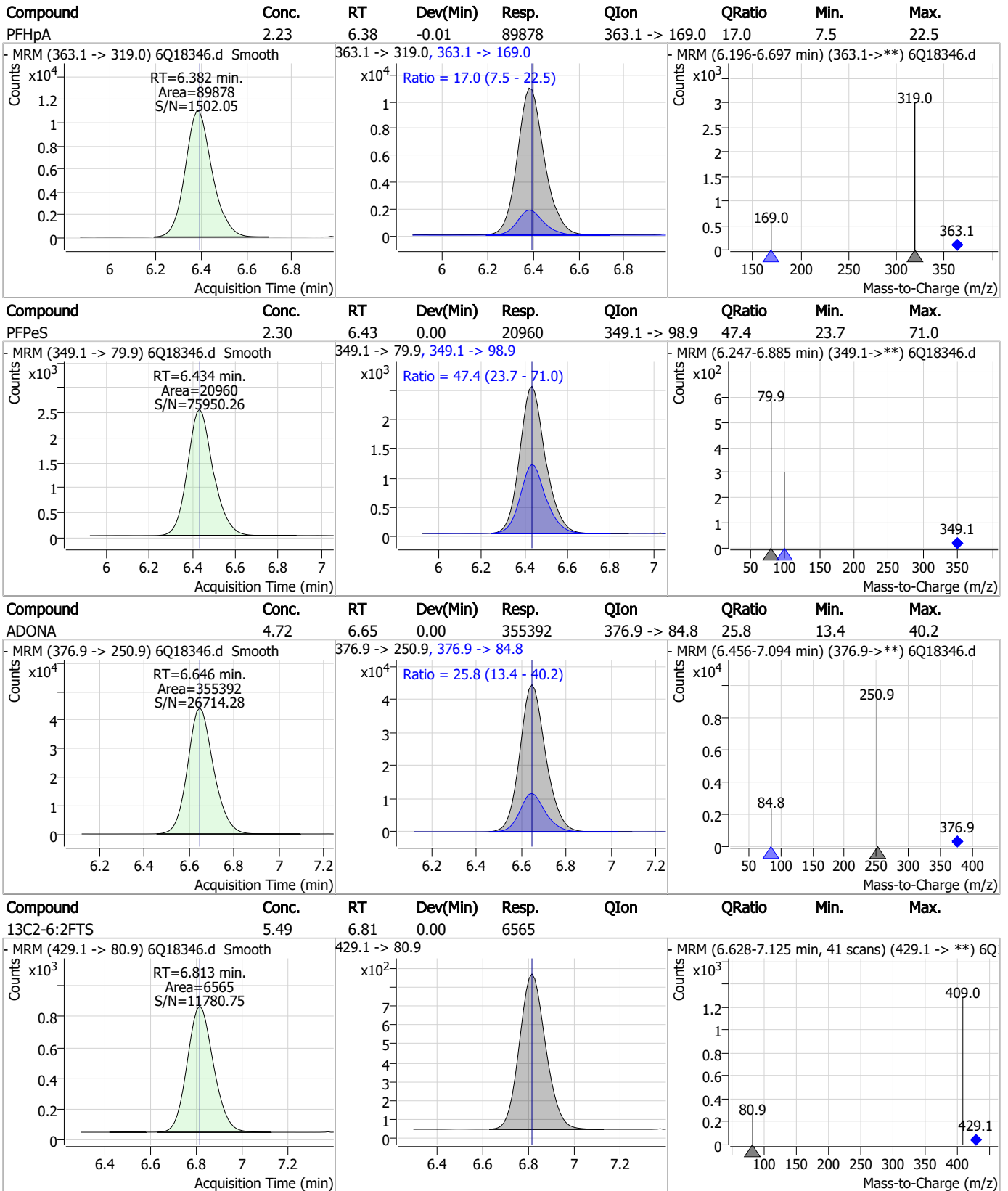
Perfluorinated Compounds by LC/MS/MS



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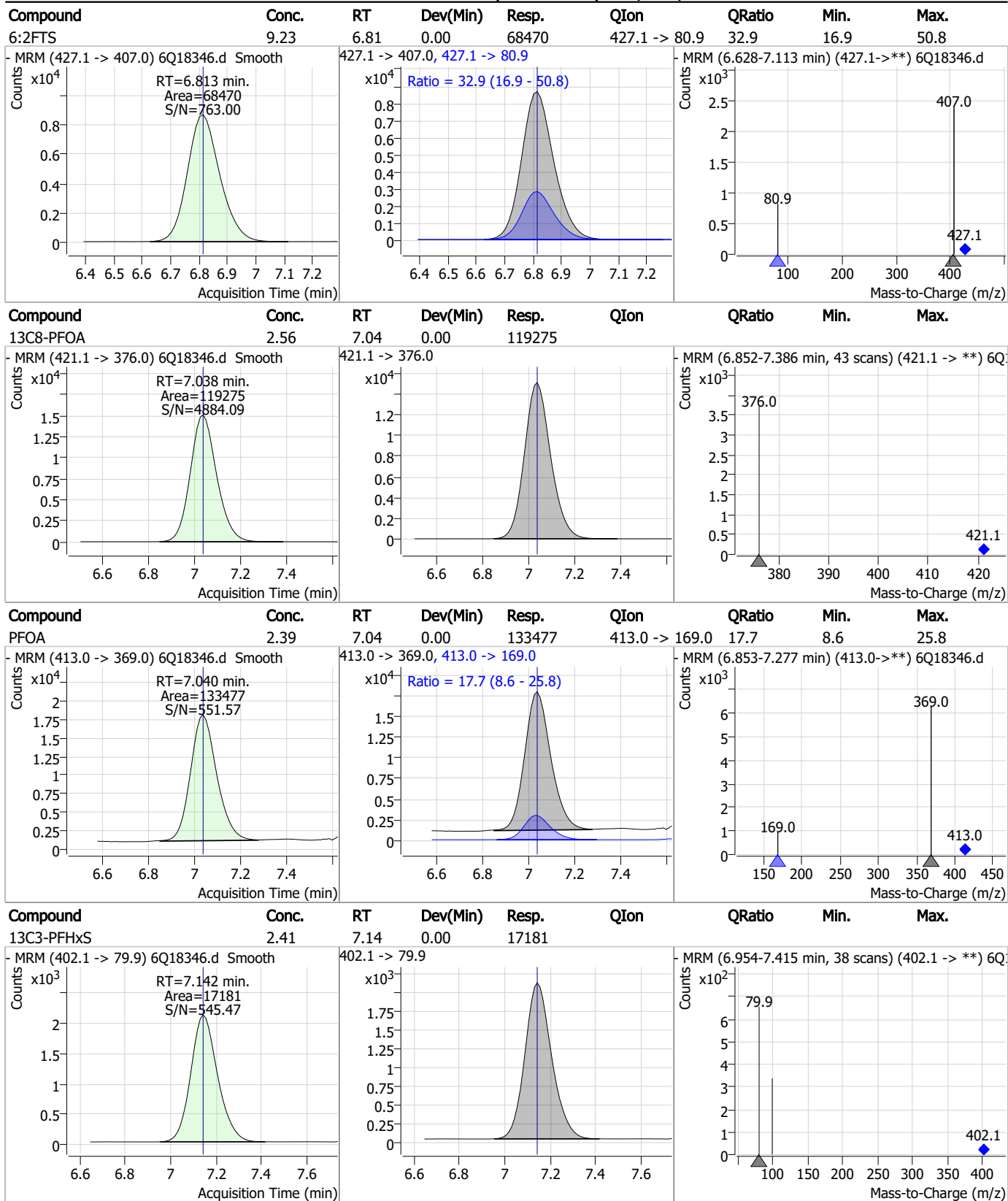


Perfluorinated Compounds by LC/MS/MS



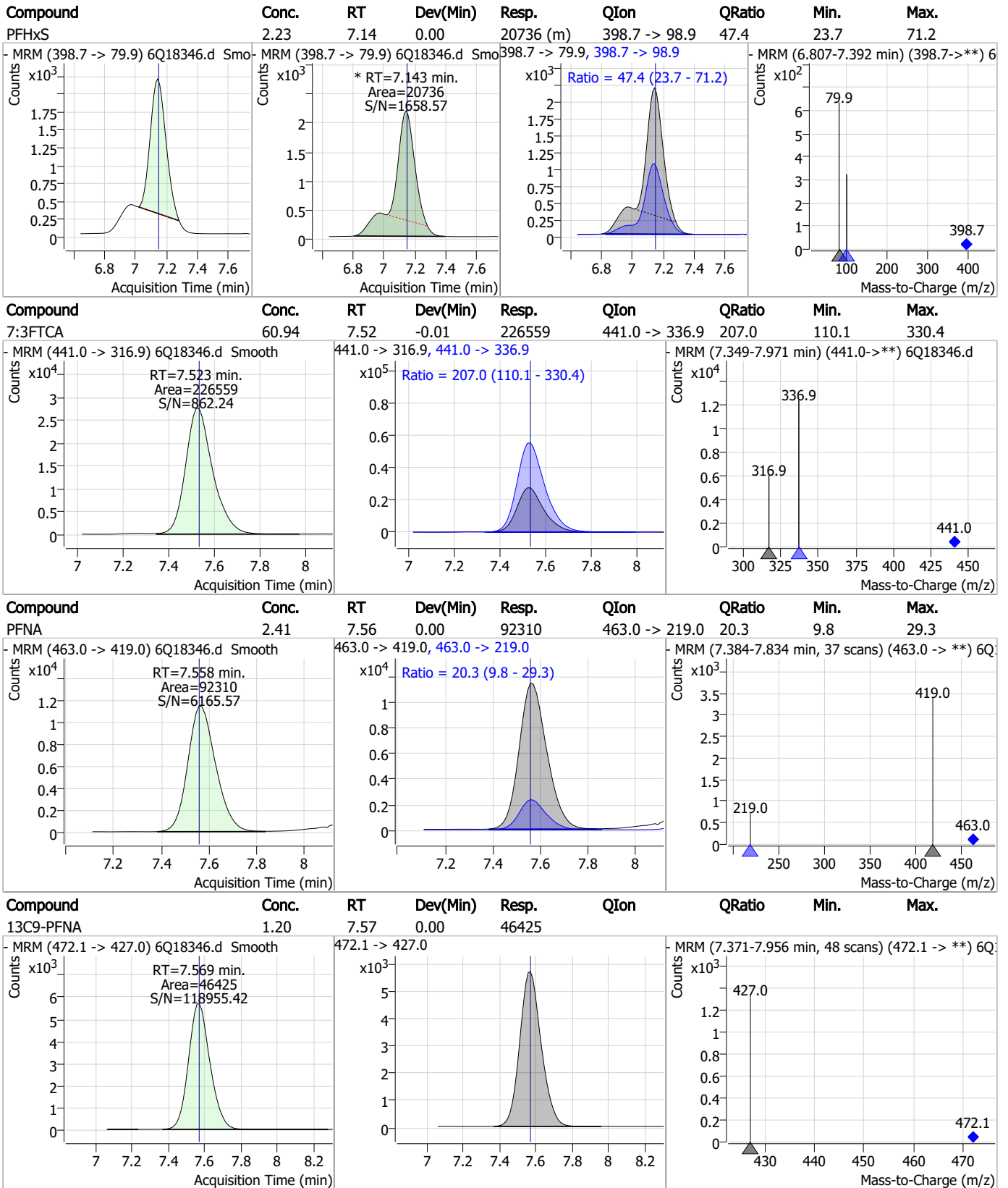
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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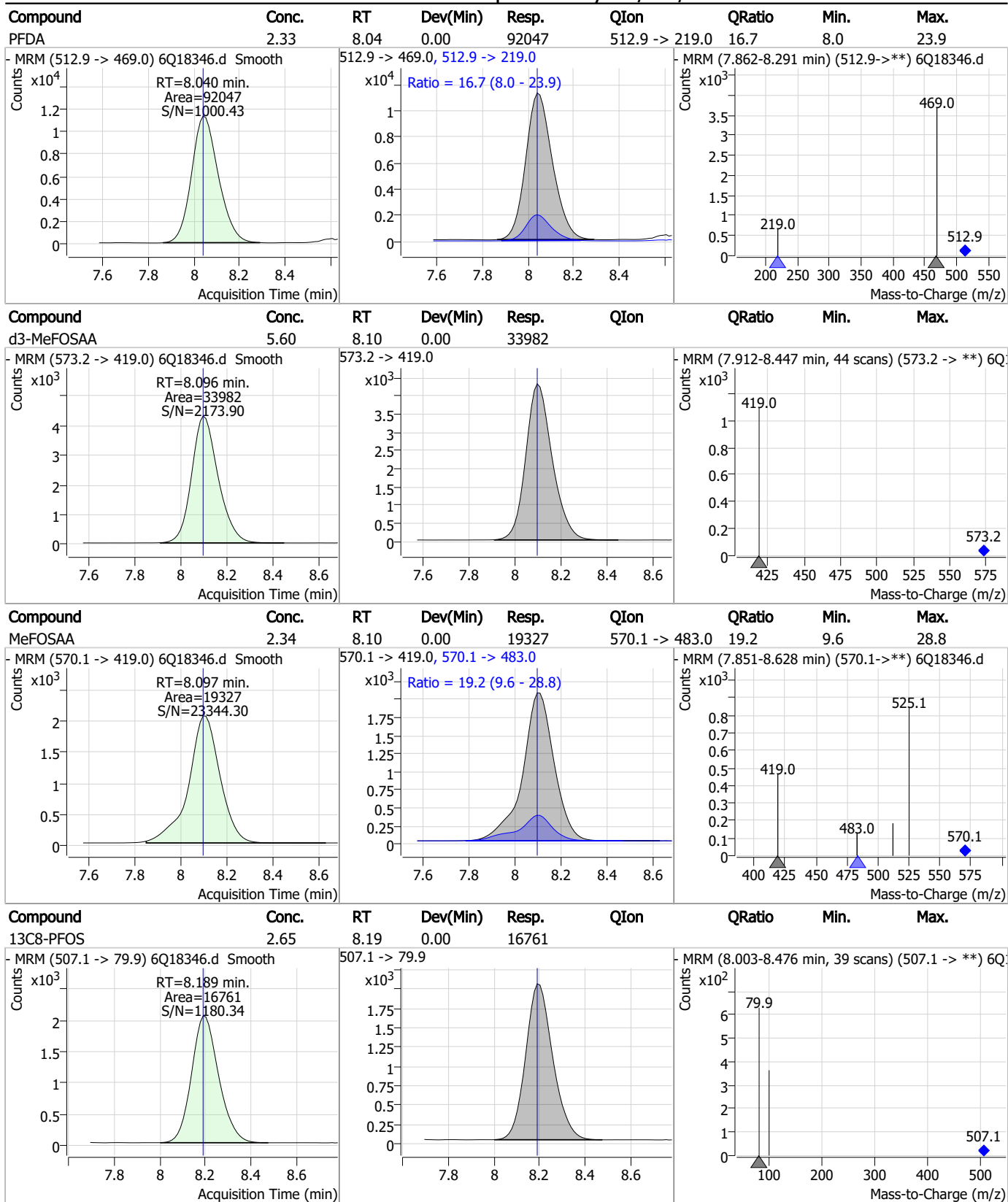


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.28	7.70	0.00	20863	449.0 -> 98.9	49.3	24.7	74.2
13C2-8:2FTS	5.53	7.84	0.00	6712				
8:2FTS	9.41	7.84	0.00	38017	527.1 -> 80.8	39.7	21.4	64.1
13C6-PFDA	1.23	8.04	0.00	29011				

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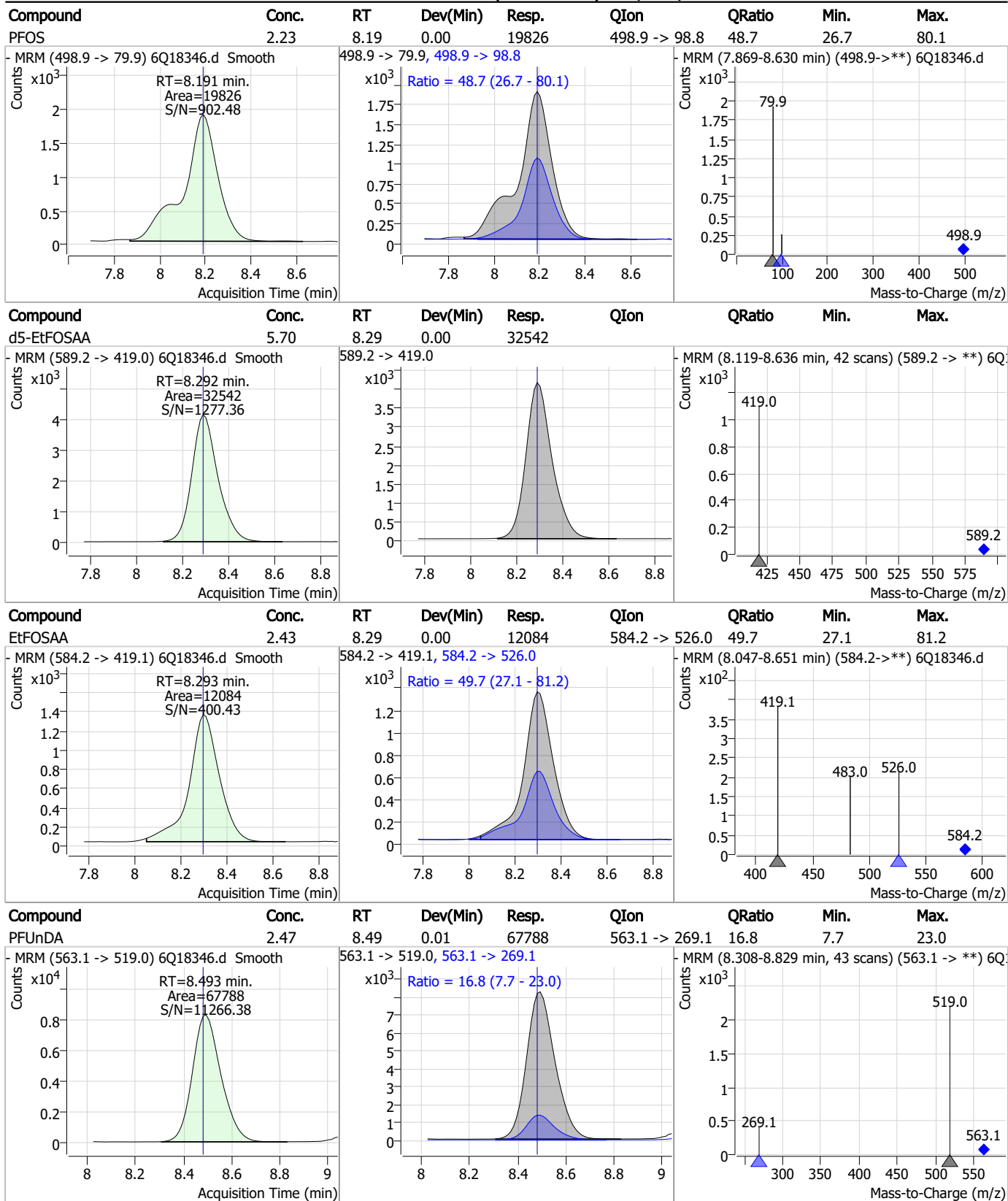
Perfluorinated Compounds by LC/MS/MS



7.7.13

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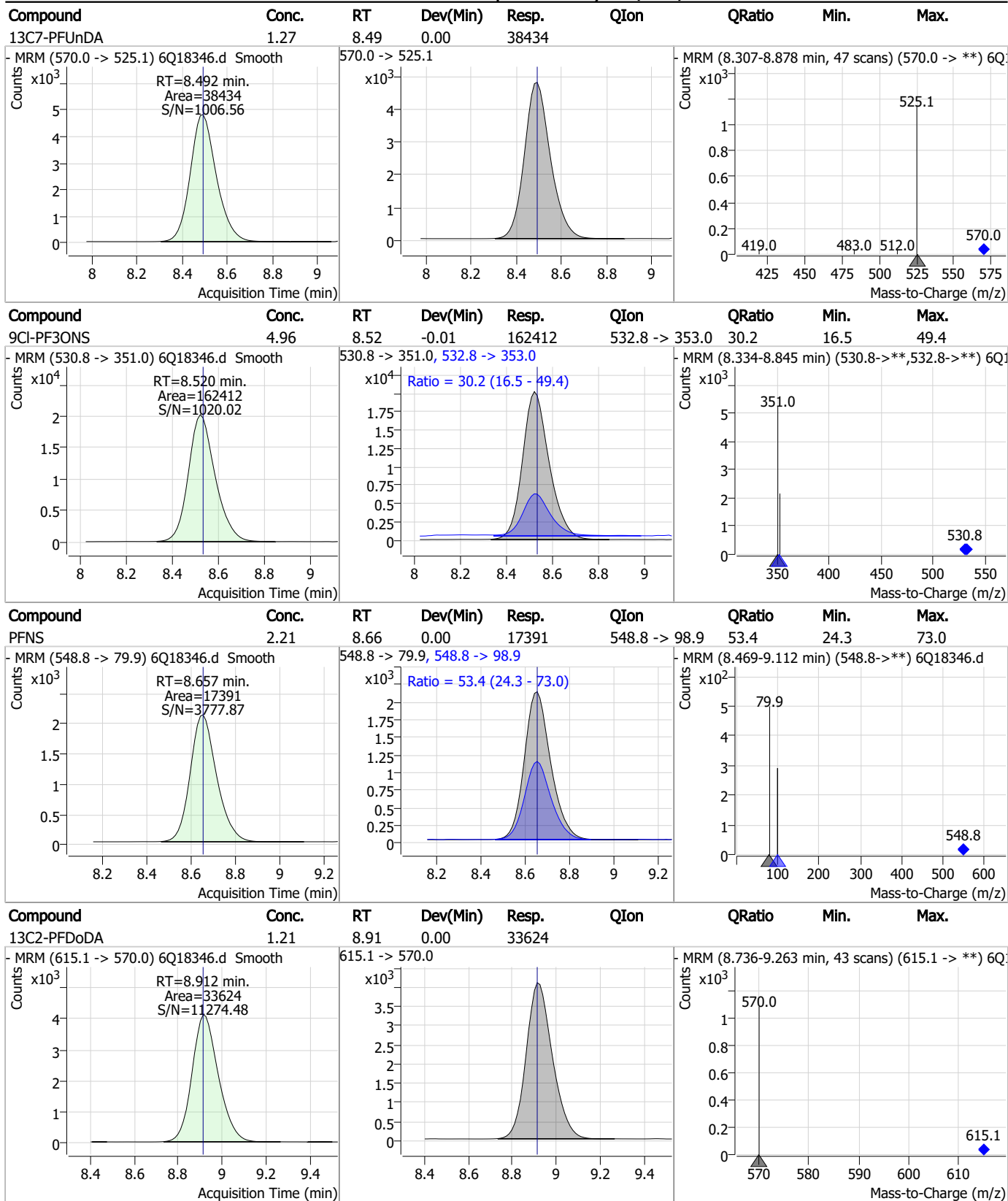
Perfluorinated Compounds by LC/MS/MS



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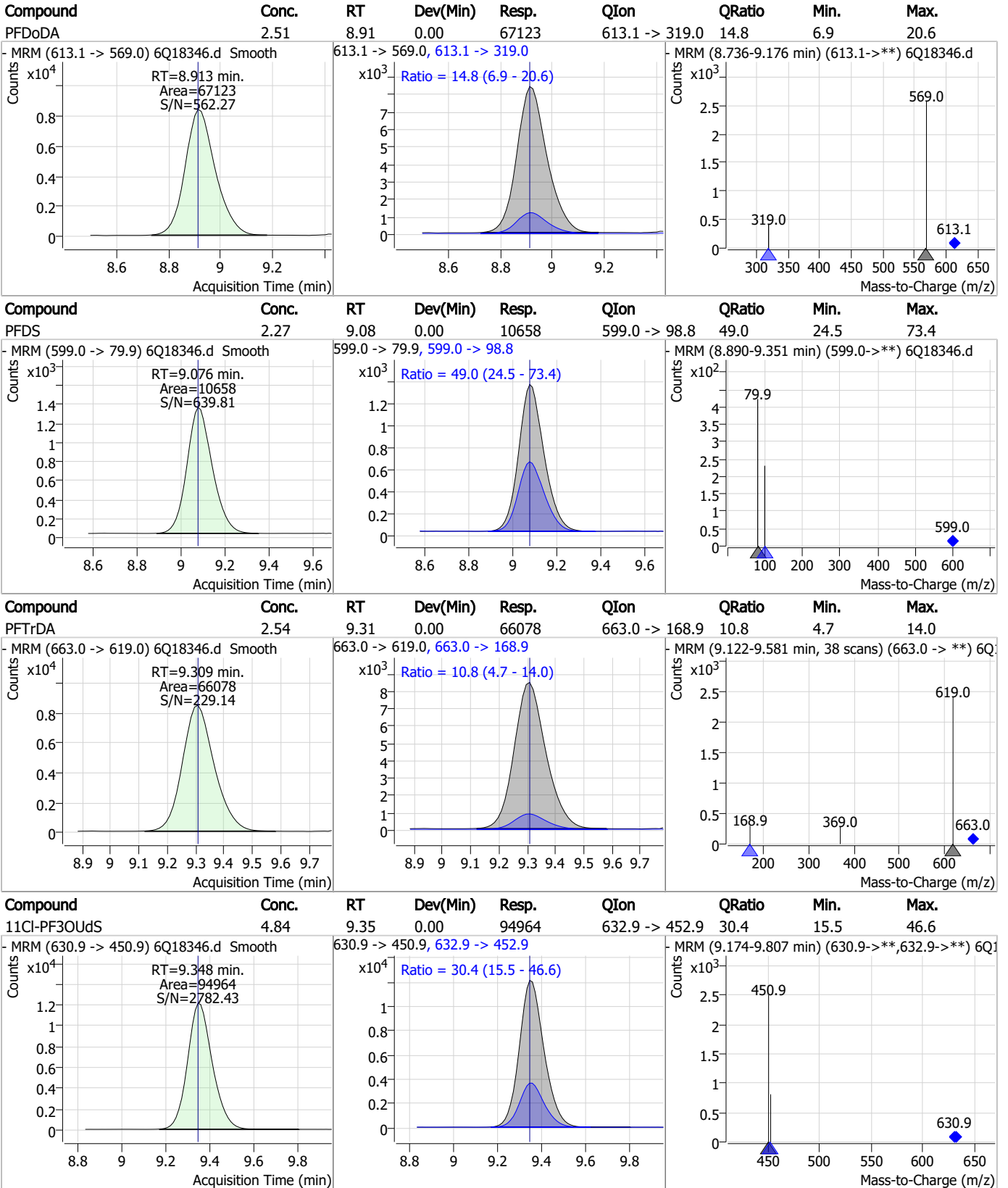
Perfluorinated Compounds by LC/MS/MS



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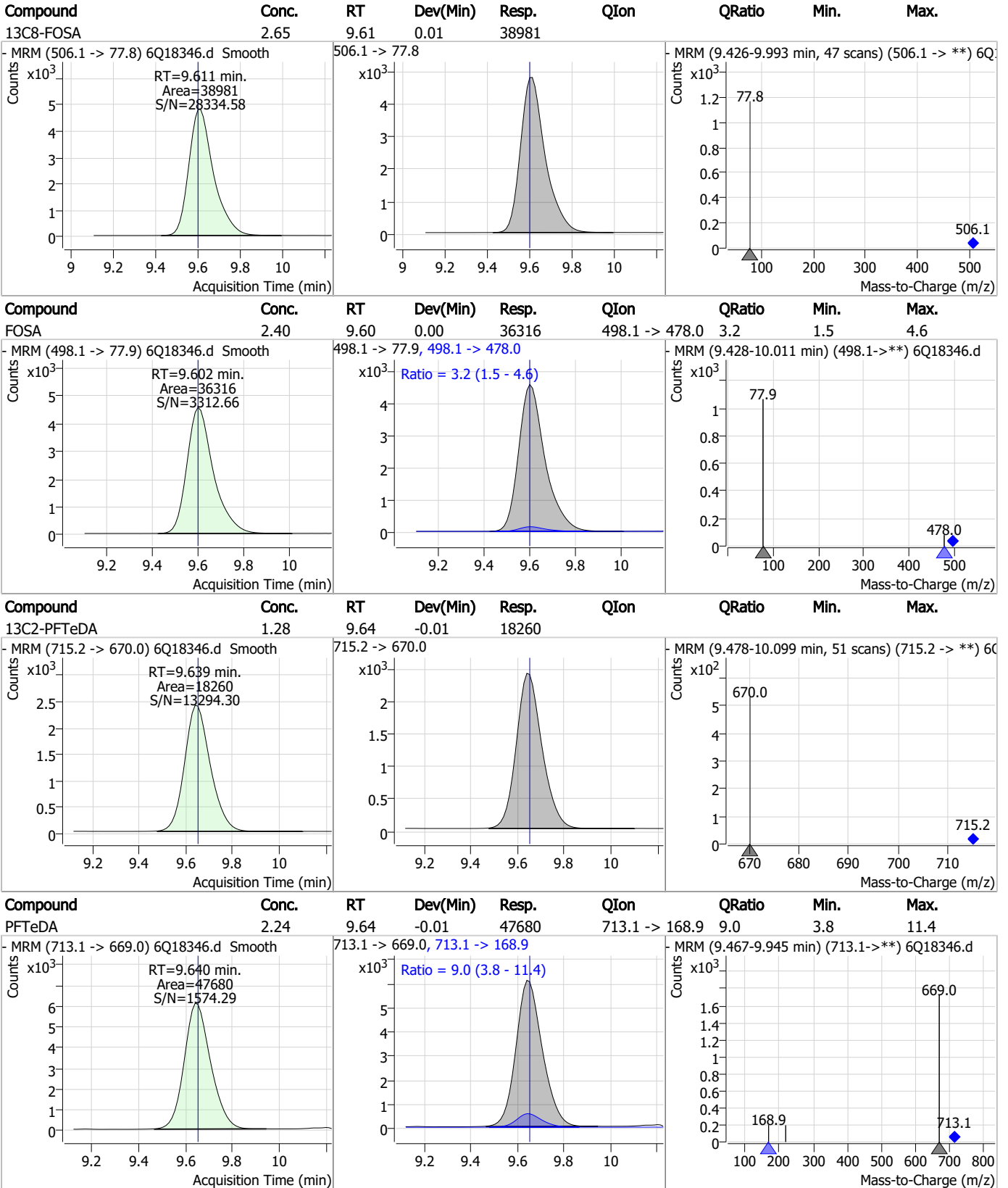
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



7.7.13
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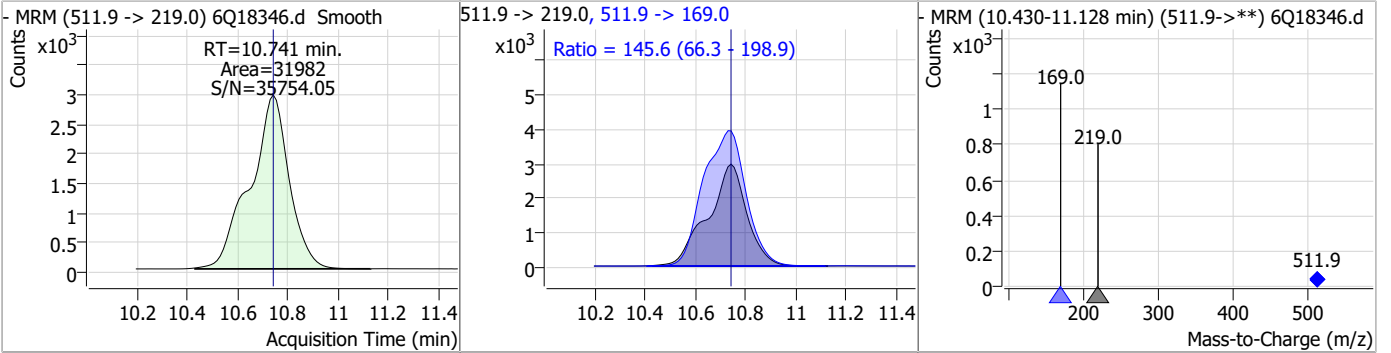
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.37	9.78	0.00	4724	699.1 -> 98.8	55.3	26.9	80.6
d7-MeFOSE	25.11	10.66	0.00	124977				
MeFOSE	12.36	10.67	0.00	68615				
d3-MeFOSA	2.47	10.74	0.00	15827				

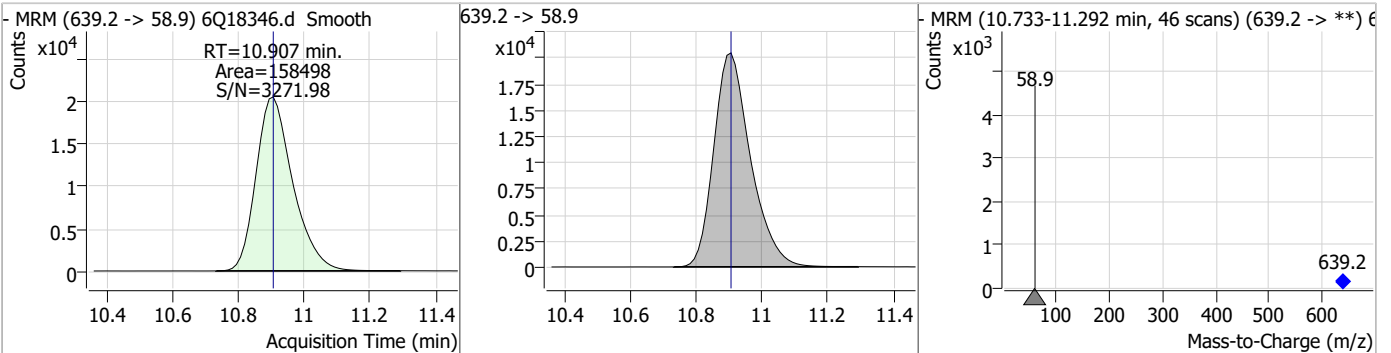
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Perfluorinated Compounds by LC/MS/MS

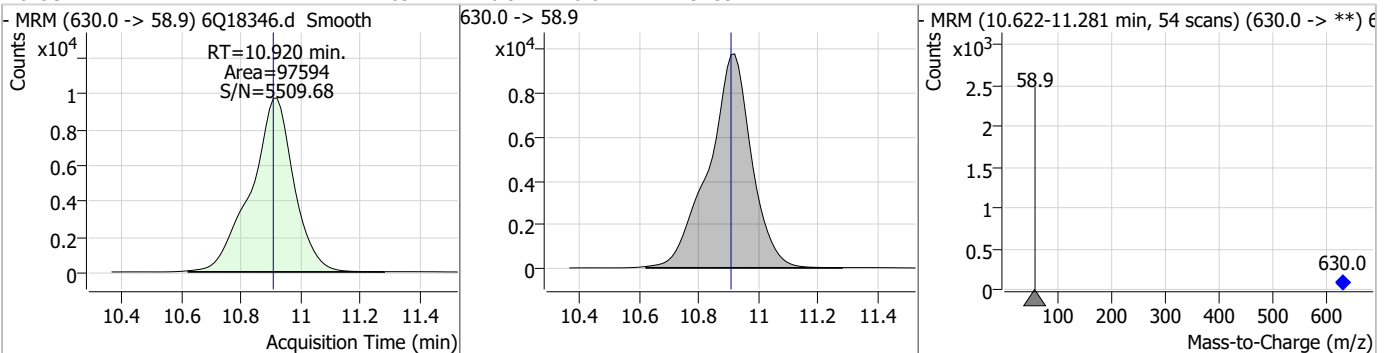
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.76	10.74	0.00	31982	511.9 -> 169.0	145.6	66.3	198.9



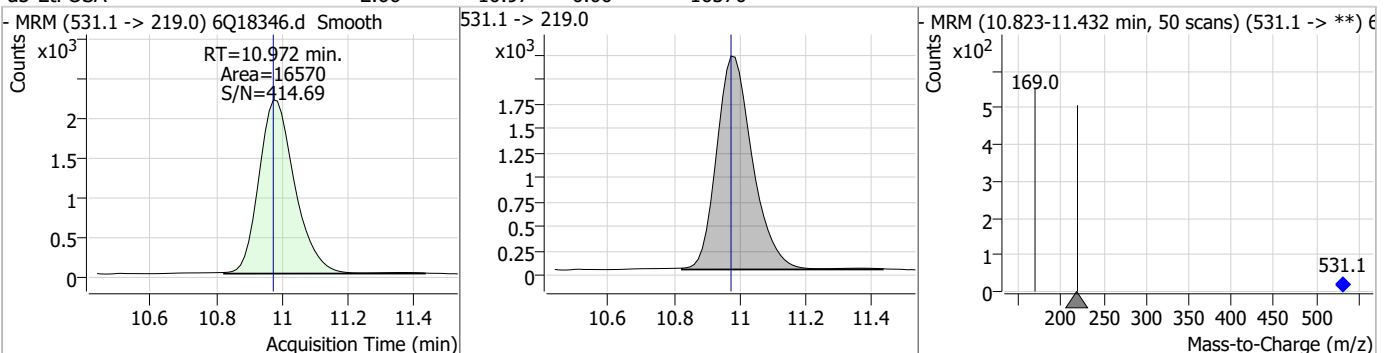
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.60	10.91	0.00	158498				



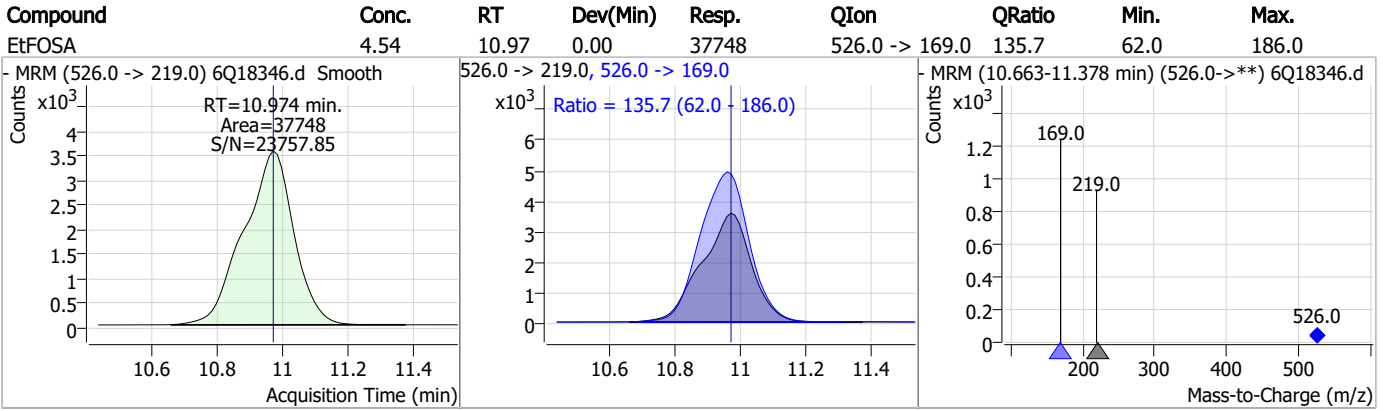
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.69	10.92	0.01	97594				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.66	10.97	0.00	16570				



Perfluorinated Compounds by LC/MS/MS



7.7.13
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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18346.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 20:45 Supervisor approved: 05/25/23 13:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.13.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18358.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/24/2023 11:39:14 PM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	224852	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	75045	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	82185	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	76239	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	113640	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	46890	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28891	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	37211	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	33587	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	17606	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	38966	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	28352	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	16846	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	17422	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4203	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	6205	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6295	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	32172	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	51496	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29317	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	127489	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	159465	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16019	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15358	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21186	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	95794	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	13214	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	119167	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	40133	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	58519	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	79022	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.106	329.1 -> 80.9	4203	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6205	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6295	5.11 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33587	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.2%		
13C2-PFTeDA	9.639	715.2 -> 670.0	17606	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.5%		
13C3-PFBS	5.347	302.1 -> 79.9	28352	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.2%		
13C3-PFHxS	7.142	402.1 -> 79.9	16846	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	2.876	216.8 -> 171.9	224852	9.86 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C4-PFHpA	6.382	367.1 -> 322.0	76239	2.52 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFHxA	5.429	318.0 -> 273.0	82185	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C5-PFPeA	4.235	268.3 -> 223.0	75045	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C6-PFDA	8.039	519.1 -> 474.1	28891	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	37211	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C8-FOSA	9.598	506.1 -> 77.8	38966	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C8-PFOA	7.038	421.1 -> 376.0	113640	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	17422	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C9-PFNA	7.557	472.1 -> 427.0	46890	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32172	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	51496	9.73 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
d3-MeFOSA	10.739	515.0 -> 219.0	15358	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	29317	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	127489	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	159465	24.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	16019	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	69439	9.02 µg/L	92
		327.1 -> 80.9	24105		
6:2FTS	6.813	427.1 -> 407.0	67459	9.62 µg/L	98
		427.1 -> 80.9	22231		
8:2FTS	7.828	527.1 -> 507.0	37449	9.88 µg/L	93
		527.1 -> 80.8	14380		
EtFOSAA	8.293	584.2 -> 419.1	11240	2.51 µg/L	96
		584.2 -> 526.0	6375		
FOSA	9.602	498.1 -> 77.9	35279	2.33 µg/L	100
		498.1 -> 478.0	1045		
MeFOSAA	8.097	570.1 -> 419.0	19024	2.43 µg/L	99
		570.1 -> 483.0	3722		
PFBA	2.882	212.8 -> 168.9	84341	9.62 µg/L	100
PFBS	5.348	298.7 -> 79.9	23744	2.19 µg/L	97
		298.7 -> 98.8	8983		
PFDA	8.027	512.9 -> 469.0	96028	2.44 µg/L	100
		512.9 -> 219.0	15392		
PFDoDA	8.913	613.1 -> 569.0	66580	2.50 µg/L	96
		613.1 -> 319.0	10079		
PFDS	9.076	599.0 -> 79.9	10728	2.19 µg/L	100

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	5234	2.30 µg/L	96
		363.1 -> 319.0	90511		
PFHpS	7.698	363.1 -> 169.0	14949	2.13 µg/L	99
		449.0 -> 79.9	20259		
PFHxA	5.432	449.0 -> 98.9	9926	2.31 µg/L	98
		313.0 -> 269.0	73581		
PFHxS	7.143	313.0 -> 118.9	3686	2.17 µg/L	99
		398.7 -> 79.9	19804		
PFNA	7.558	398.7 -> 98.9	9504	2.40 µg/L	99
		463.0 -> 419.0	92845		
PFNS	8.644	463.0 -> 219.0	18703	2.09 µg/L	90
		548.8 -> 79.9	17126		
PFOA	7.028	548.8 -> 98.9	9504	2.54 µg/L	98
		413.0 -> 369.0	134710		
PFOS	8.191	413.0 -> 169.0	24535	2.16 µg/L	94
		498.9 -> 79.9	19992		
PFPeA	4.237	498.9 -> 98.8	9885	4.82 µg/L	100
		263.0 -> 219.0	97592		
PFPeS	6.434	349.1 -> 79.9	20623	2.30 µg/L	100
		349.1 -> 98.9	9789		
PFTeDA	9.640	713.1 -> 669.0	49426	2.40 µg/L	97
		713.1 -> 168.9	4323		
PFTrDA	9.296	663.0 -> 619.0	64946	2.50 µg/L	94
		663.0 -> 168.9	7504		
PFUnDA	8.480	563.1 -> 519.0	69278	2.60 µg/L	95
		563.1 -> 269.1	11989		
11CI-PF3OUdS	9.348	630.9 -> 450.9	92645	4.68 µg/L	98
		632.9 -> 452.9	27885		
9CI-PF3ONS	8.520	530.8 -> 351.0	152629	4.62 µg/L	98
		532.8 -> 353.0	48805		
ADONA	6.646	376.9 -> 250.9	352117	4.64 µg/L	99
		376.9 -> 84.8	91905		
HFPO-DA	5.795	284.9 -> 168.9	23960	4.74 µg/L	95
		284.9 -> 184.9	2729		
3:3FTCA	3.727	241.0 -> 177.0	16388	11.23 µg/L	98
		241.0 -> 117.0	2248		
5:3FTCA	6.099	341.0 -> 237.1	332537	56.74 µg/L	96
		341.0 -> 217.0	247435		
7:3FTCA	7.523	441.0 -> 316.9	220882	58.31 µg/L	98
		441.0 -> 336.9	480188		
EtFOSA	10.974	526.0 -> 219.0	38168	4.75 µg/L	94
		526.0 -> 169.0	49872		
EtFOSE	10.920	630.0 -> 58.9	93194	12.05 µg/L	100
		511.9 -> 219.0	32511		
MeFOSA	10.741	511.9 -> 169.0	45718	4.99 µg/L	93
		616.1 -> 58.9	69161		
MeFOSE	10.673	699.1 -> 79.9	4857	12.21 µg/L	100
		699.1 -> 98.8	2600		
PFDoDS	9.767	295.0 -> 201.0	18516	2.34 µg/L	100
		295.0 -> 84.9	4474		
NFDHA	5.311	279.0 -> 85.1	67550	4.72 µg/L	100
		229.0 -> 84.9	51410		
PFMBA	3.401	314.8 -> 134.9	175122	4.72 µg/L	100
		314.8 -> 82.9	5617		
PFEESA	5.888			4.08 µg/L	98

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

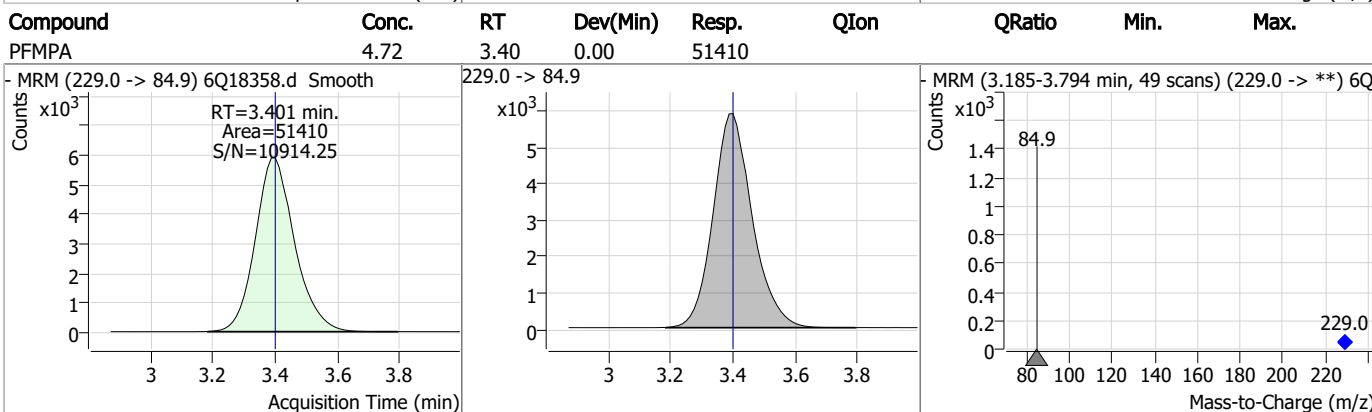
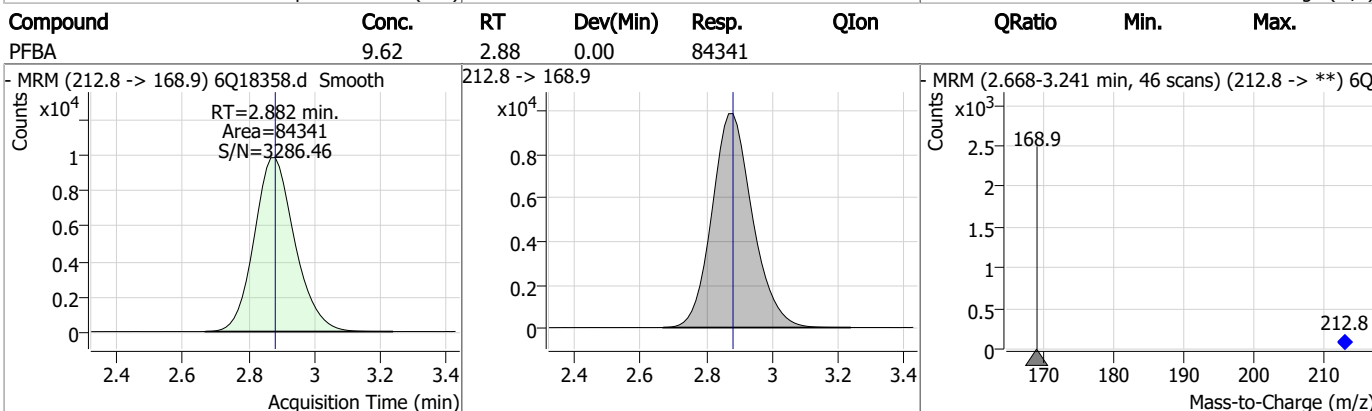
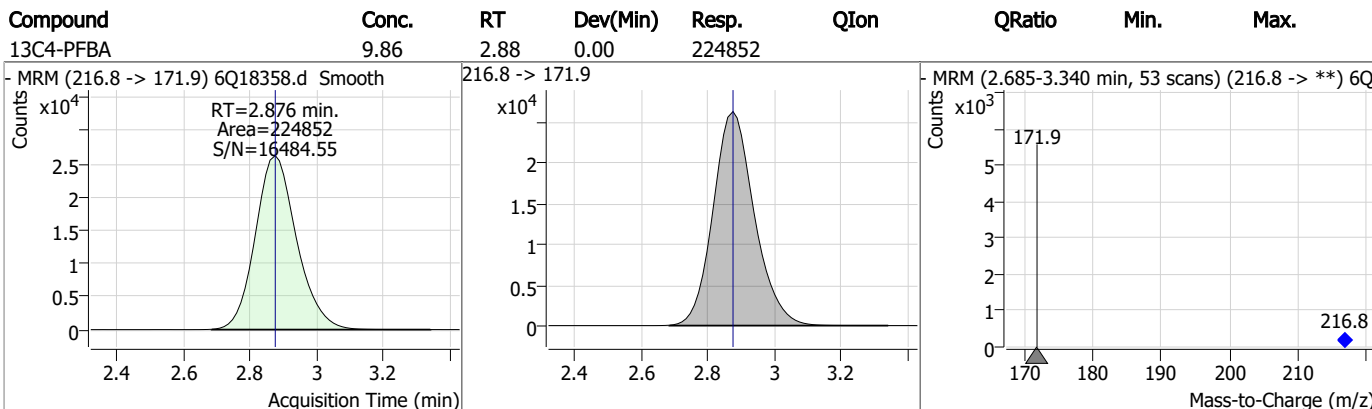
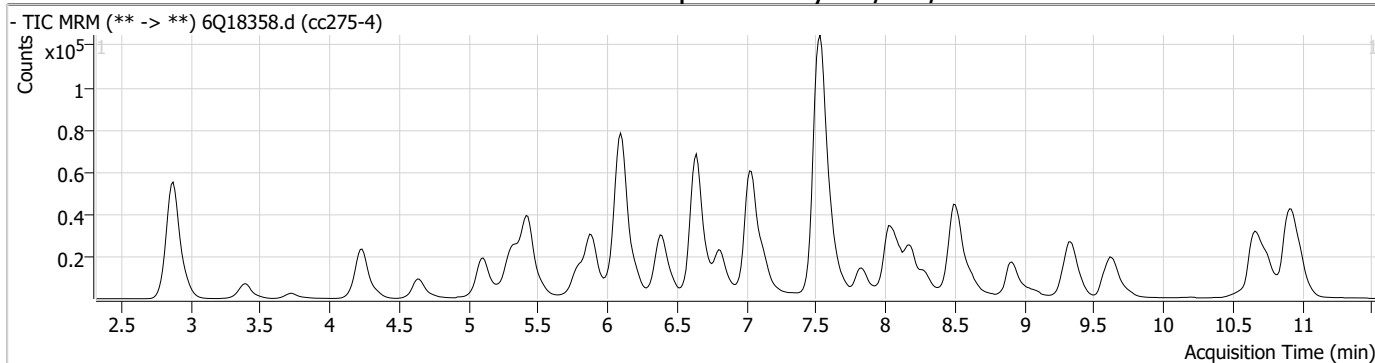
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.14

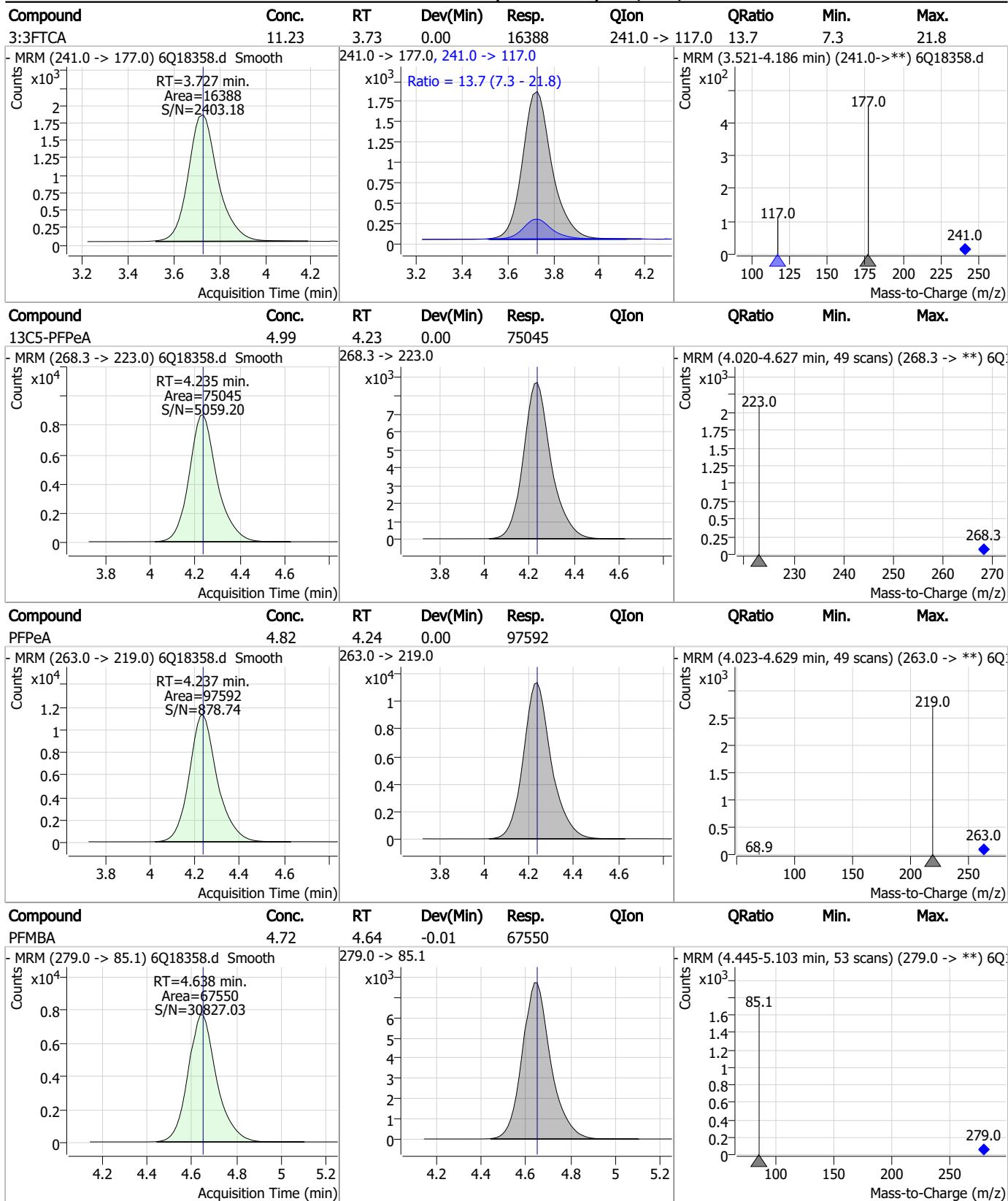
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Perfluorinated Compounds by LC/MS/MS



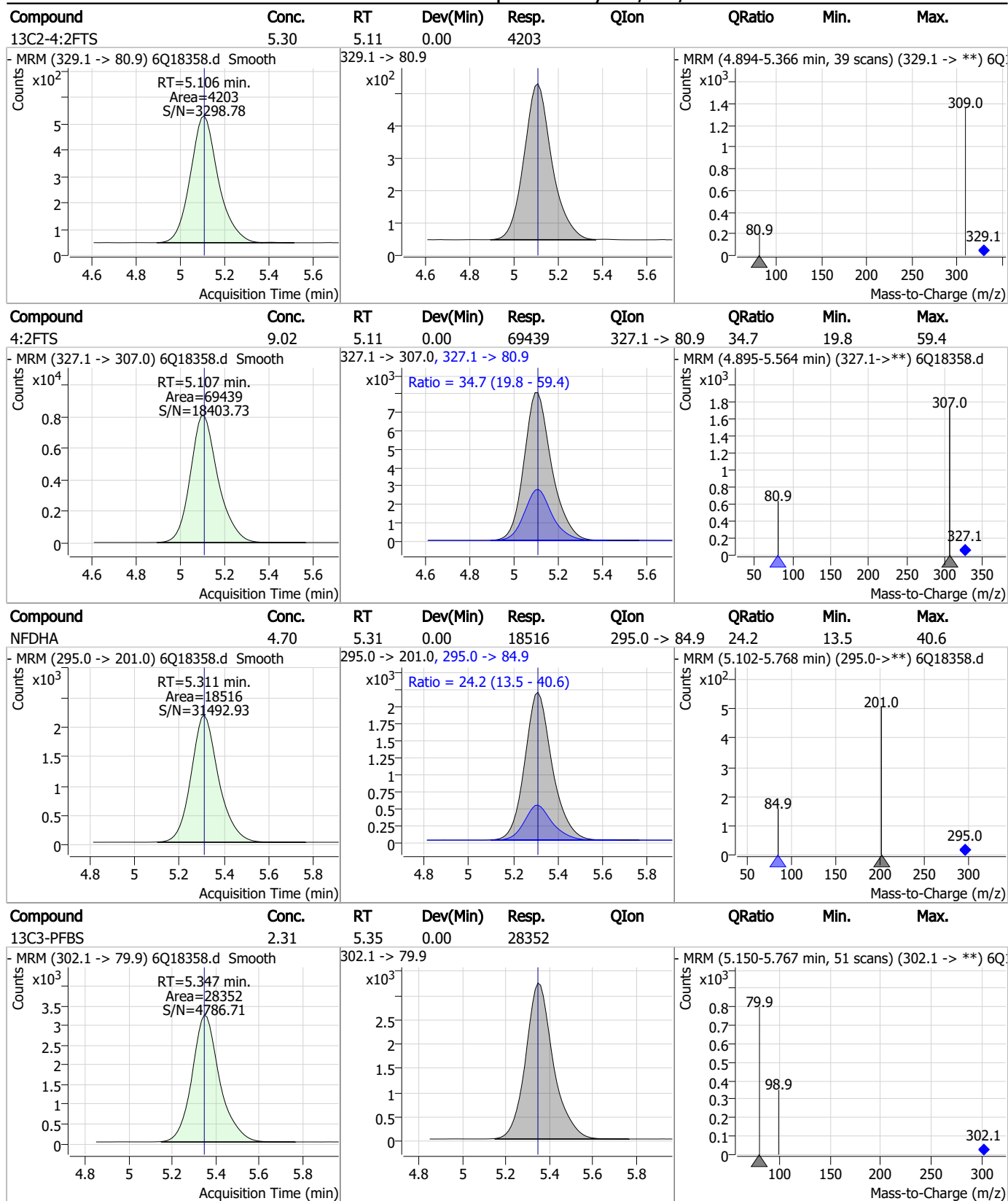
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Perfluorinated Compounds by LC/MS/MS



7.7.14

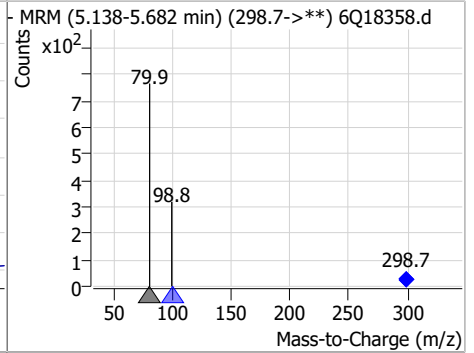
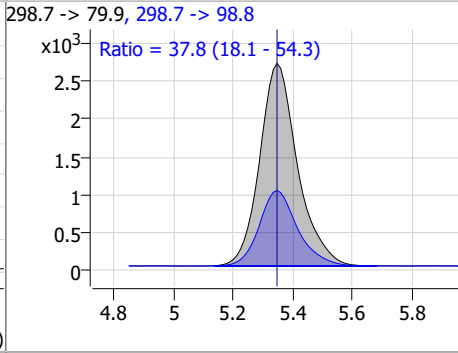
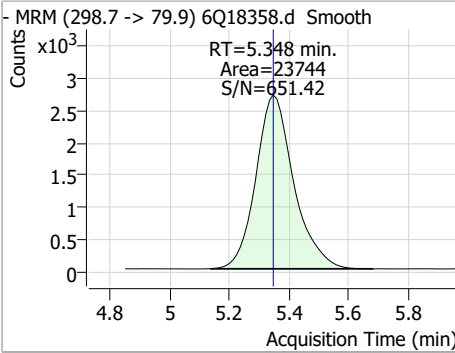
Perfluorinated Compounds by LC/MS/MS



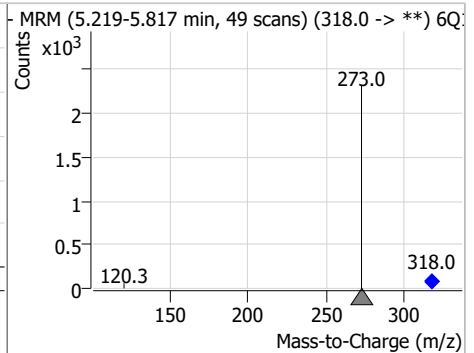
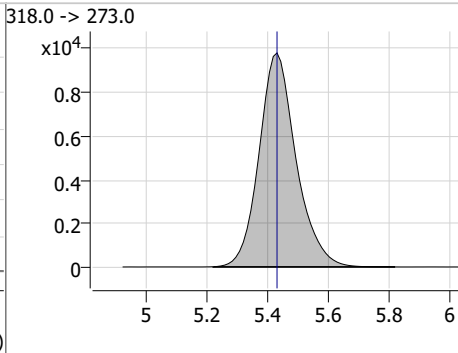
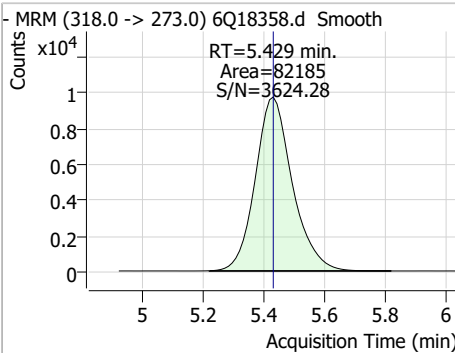
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Perfluorinated Compounds by LC/MS/MS

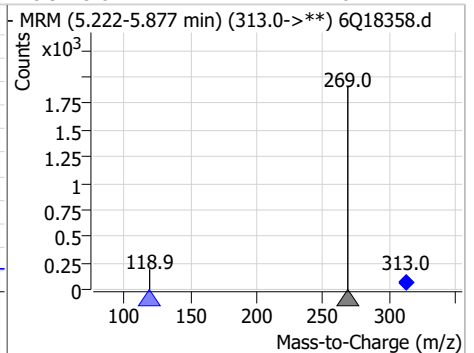
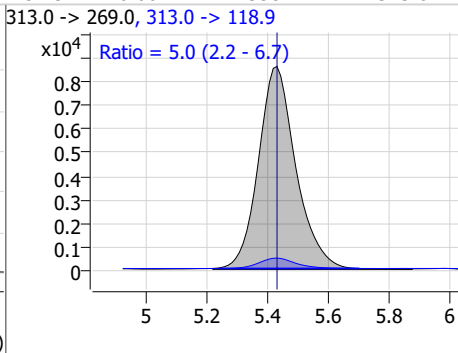
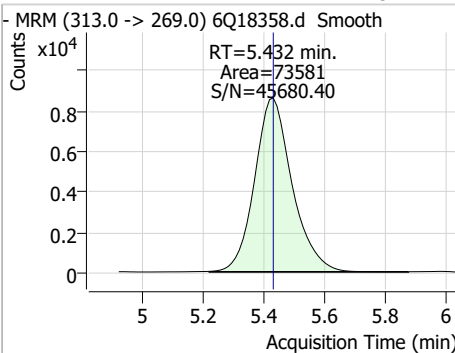
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.19	5.35	0.00	23744	298.7 -> 98.8	37.8	18.1	54.3



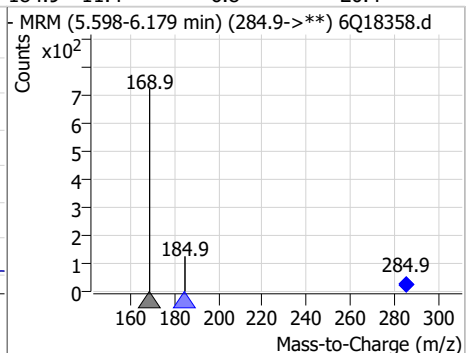
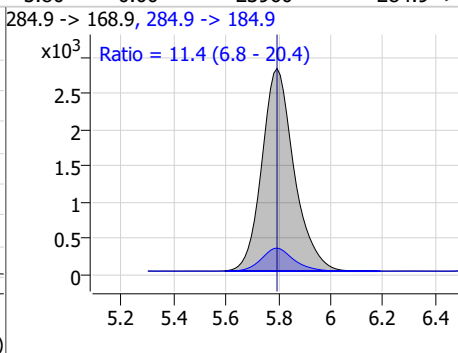
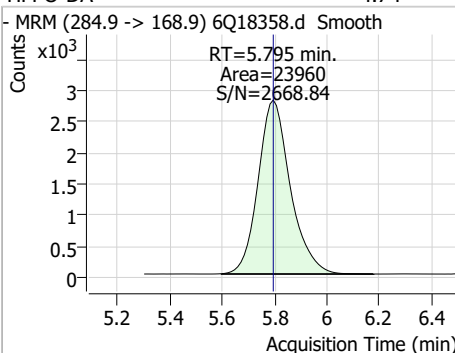
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.56	5.43	0.00	82185	318.0 -> 273.0	5.0	2.2	6.7



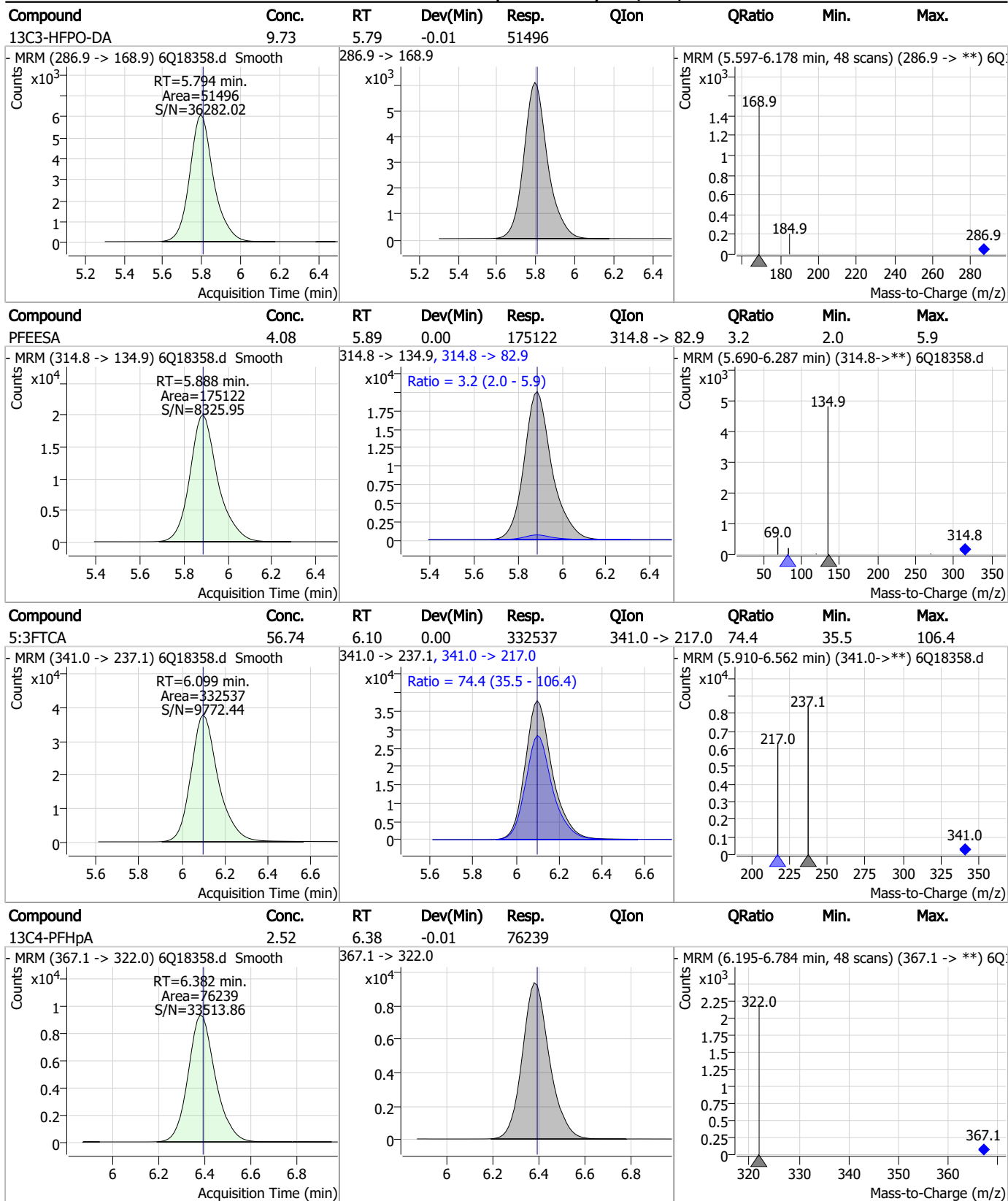
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.31	5.43	0.00	73581	313.0 -> 118.9	5.0	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.74	5.80	0.00	23960	284.9 -> 184.9	11.4	6.8	20.4

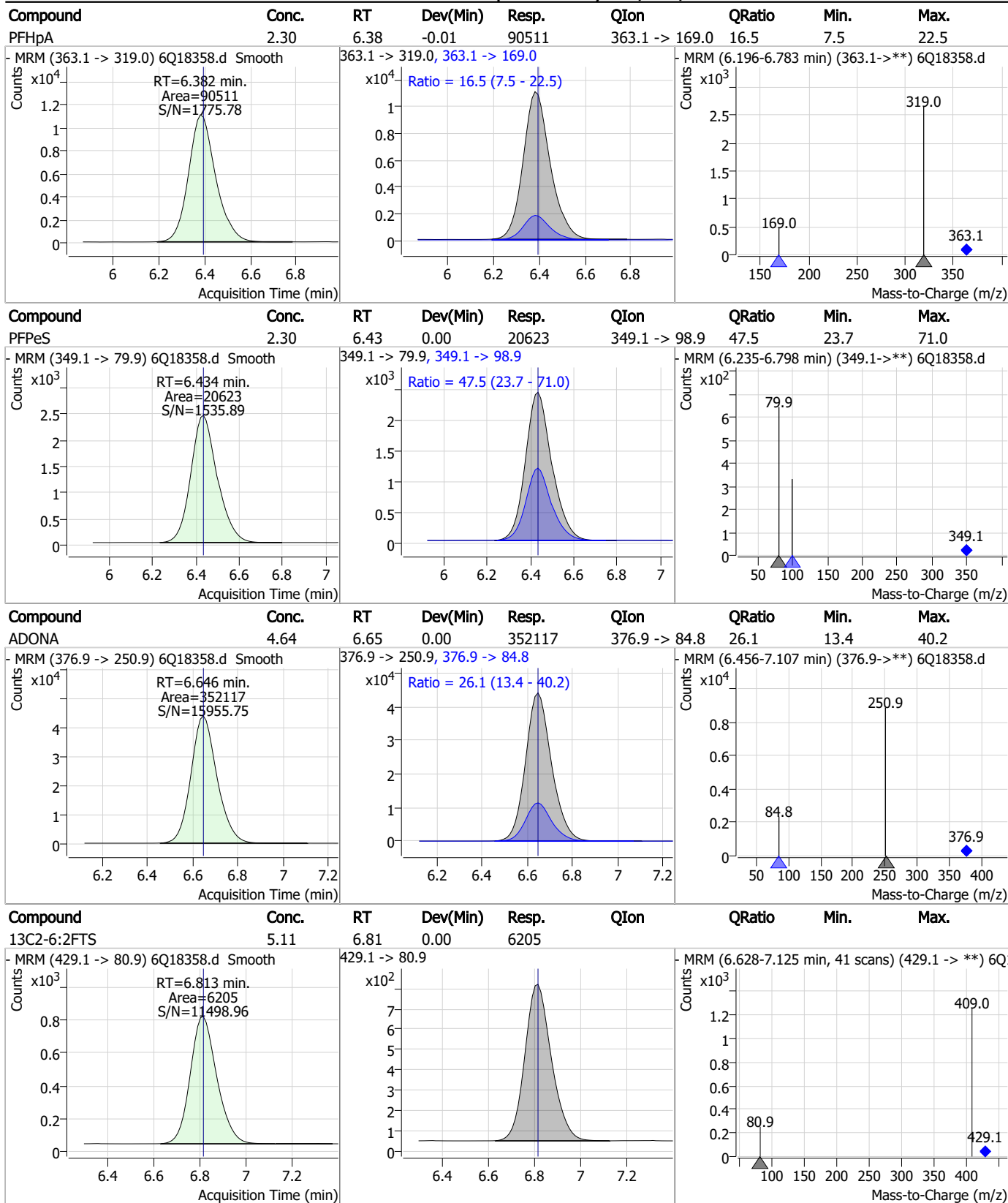


Perfluorinated Compounds by LC/MS/MS



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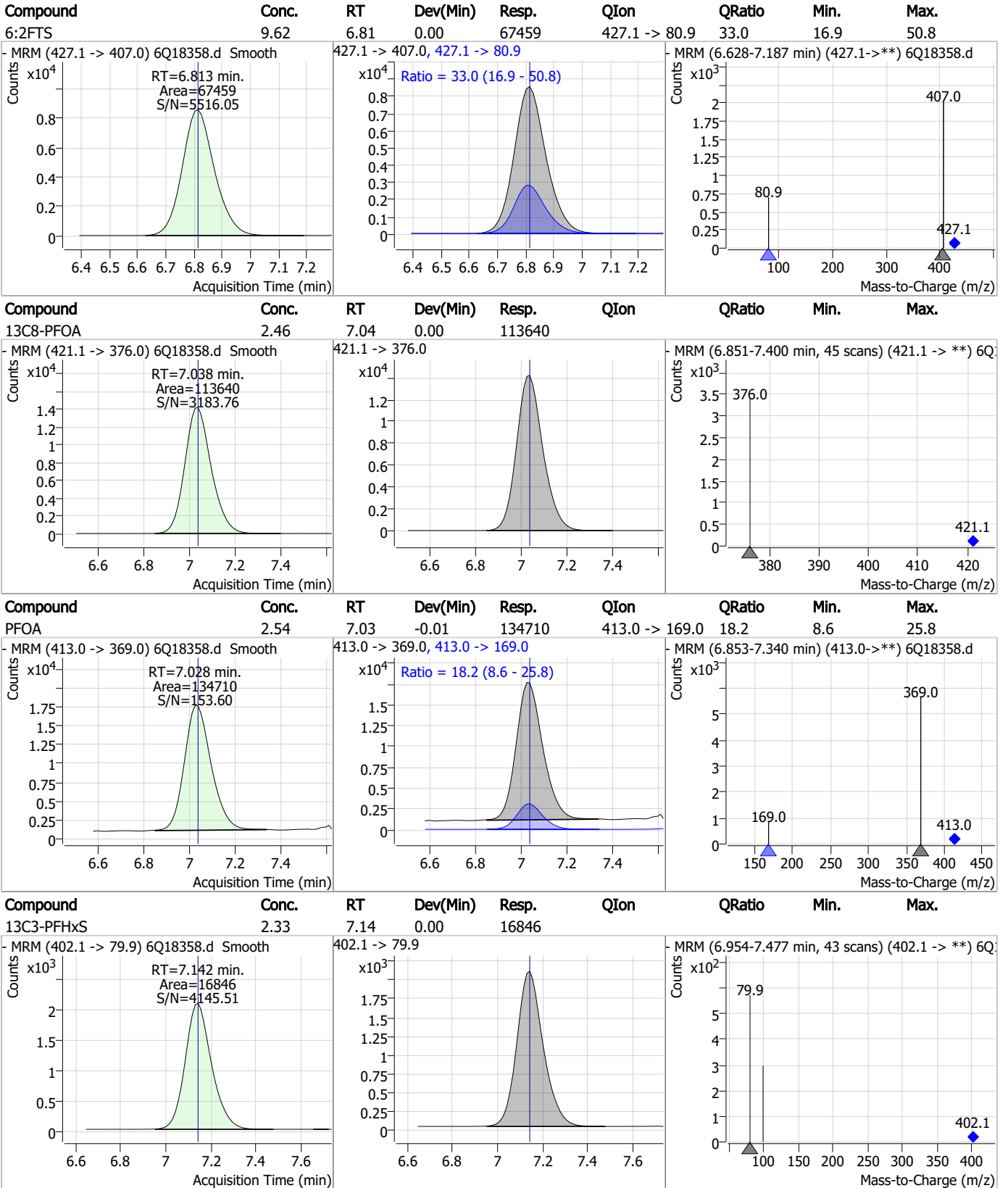
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

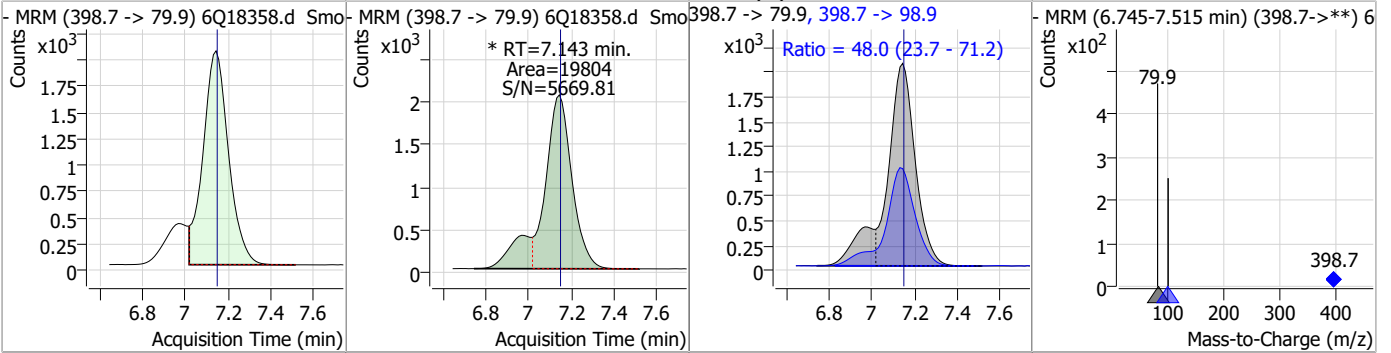


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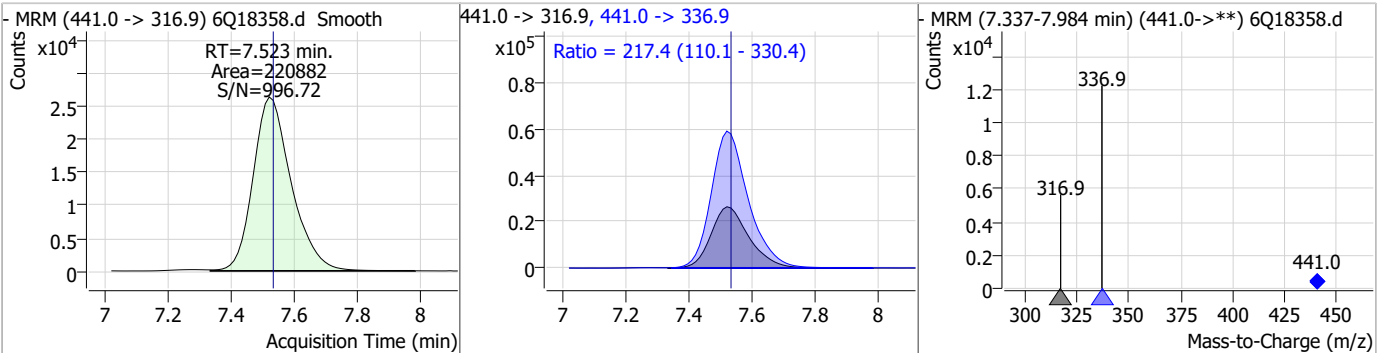


Perfluorinated Compounds by LC/MS/MS

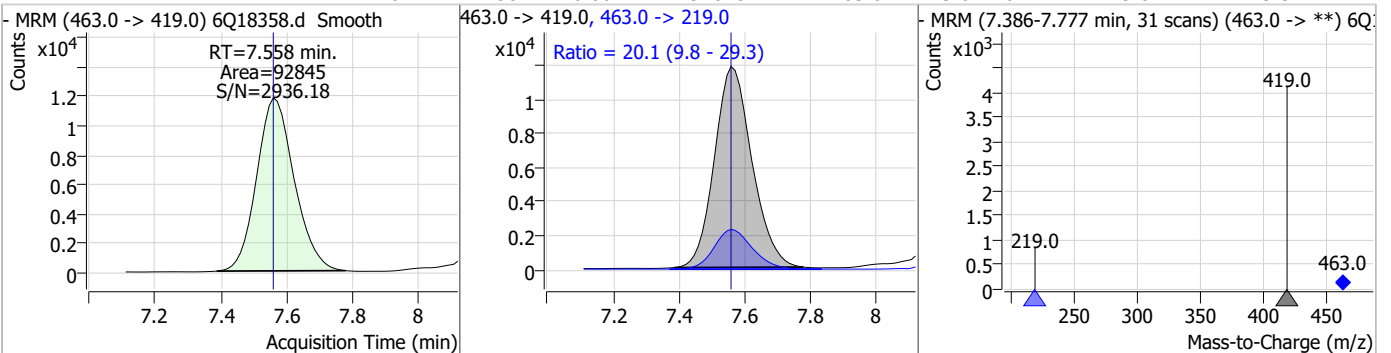
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.17	7.14	0.00	19804 (m)	398.7 -> 98.9	48.0	23.7	71.2



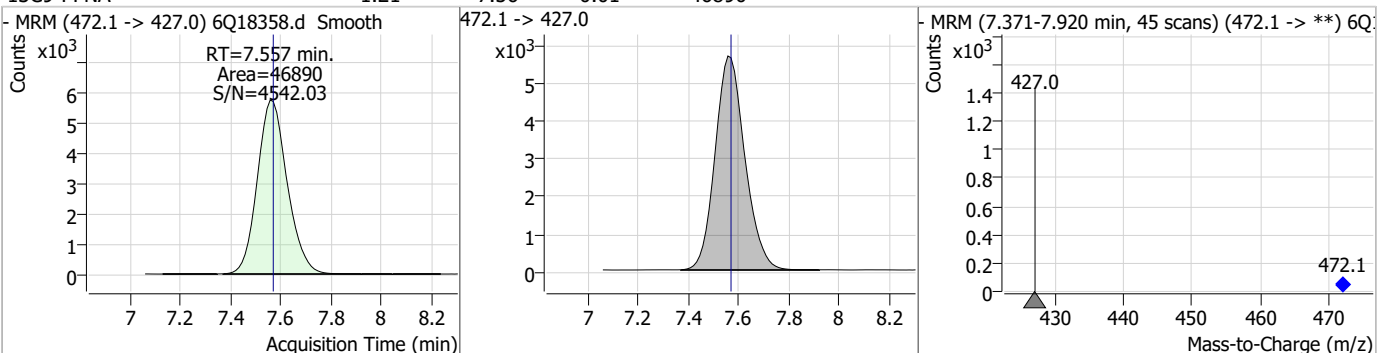
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	58.31	7.52	-0.01	220882	441.0 -> 336.9	217.4	110.1	330.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.40	7.56	0.00	92845	463.0 -> 219.0	20.1	9.8	29.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.56	-0.01	46890	472.1 -> 427.0			

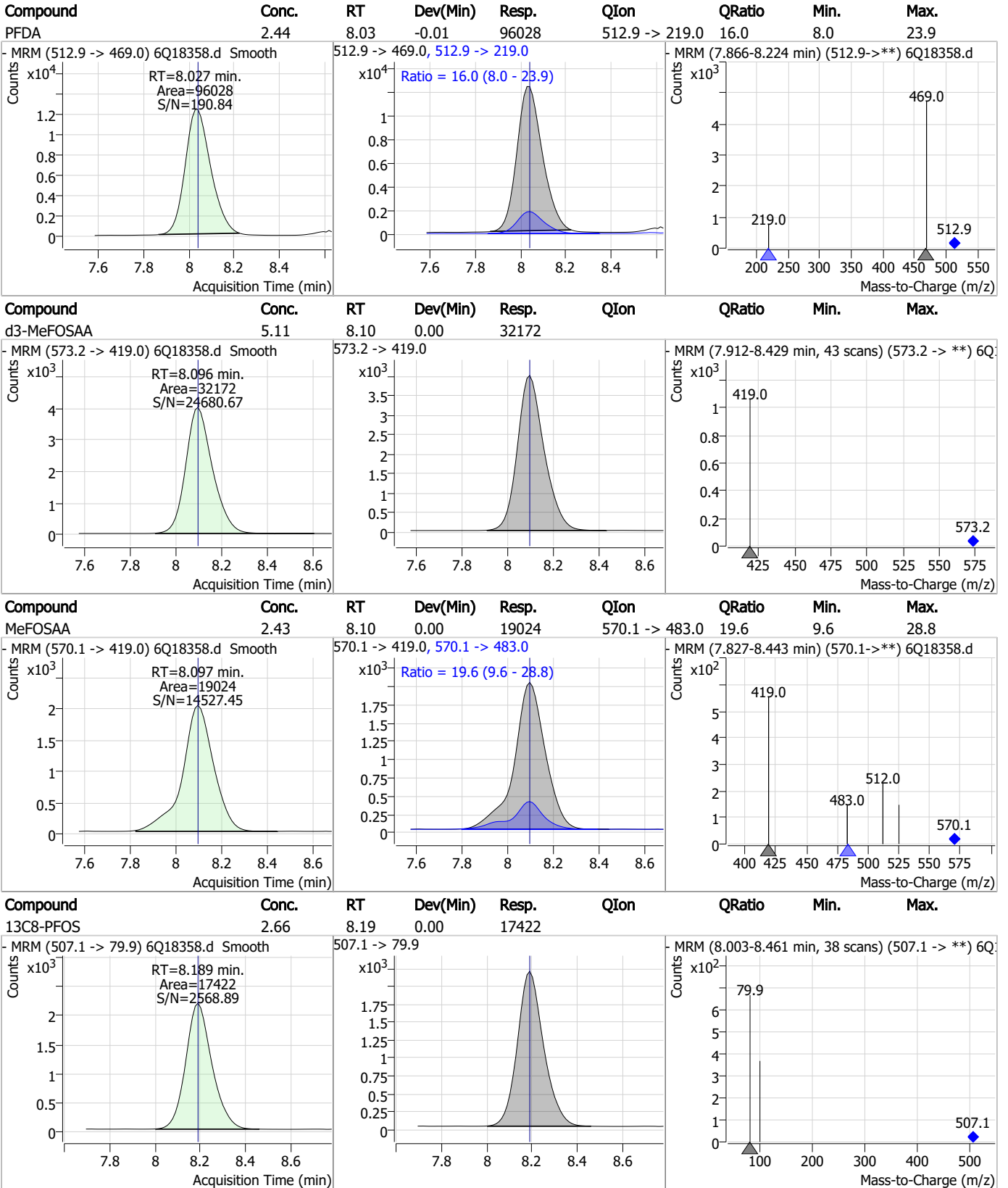


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.13	7.70	0.00	20259	449.0 -> 98.9	49.0	24.7	74.2
13C2-8:2FTS	5.11	7.83	-0.01	6295	529.1 -> 80.9	38.4	21.4	64.1
8:2FTS	9.88	7.83	-0.01	37449	527.1 -> 80.8	38.4	21.4	64.1
13C6-PFDA	1.19	8.04	0.00	28891	519.1 -> 474.1	38.4	21.4	64.1

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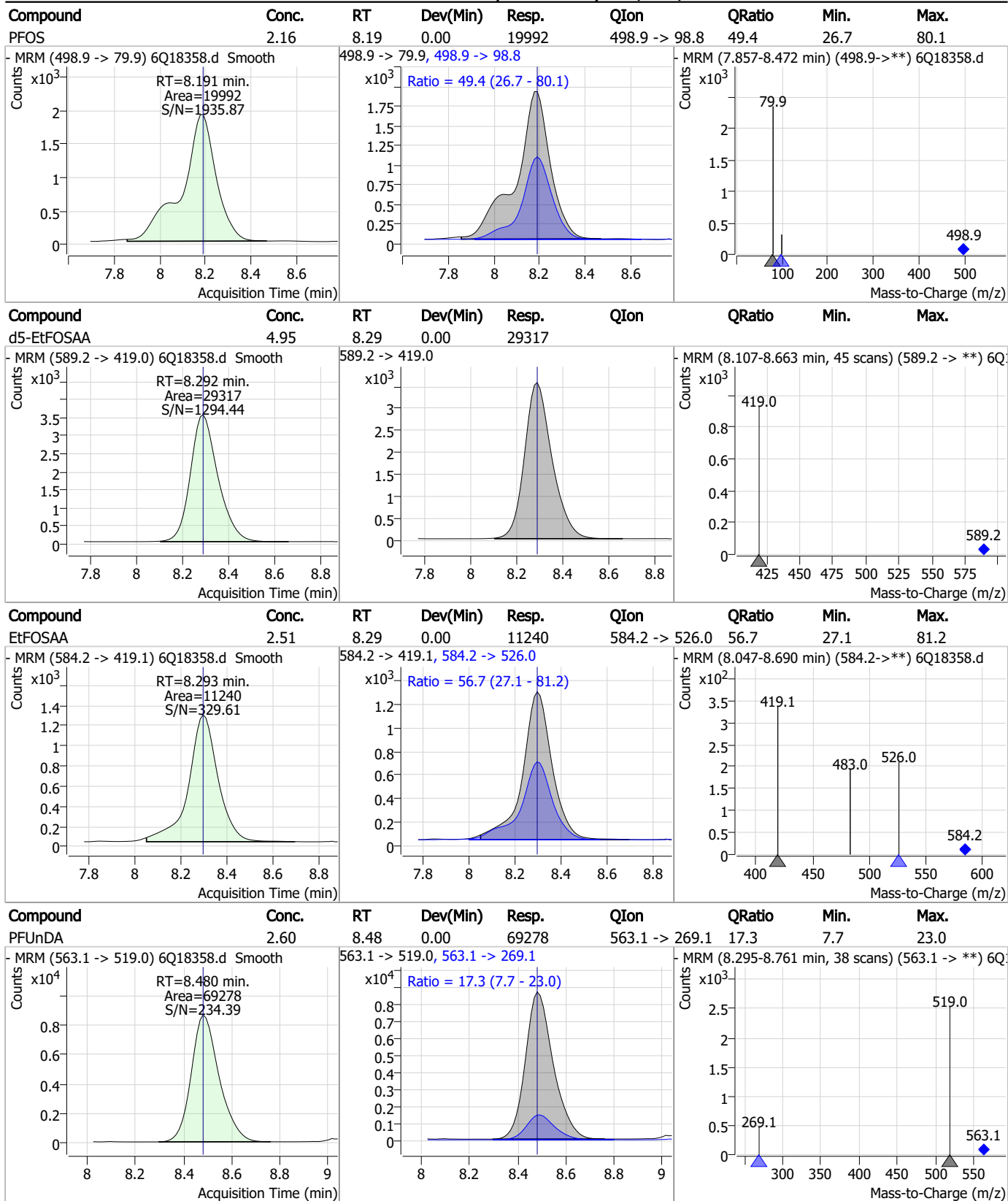
Perfluorinated Compounds by LC/MS/MS



7.7.14
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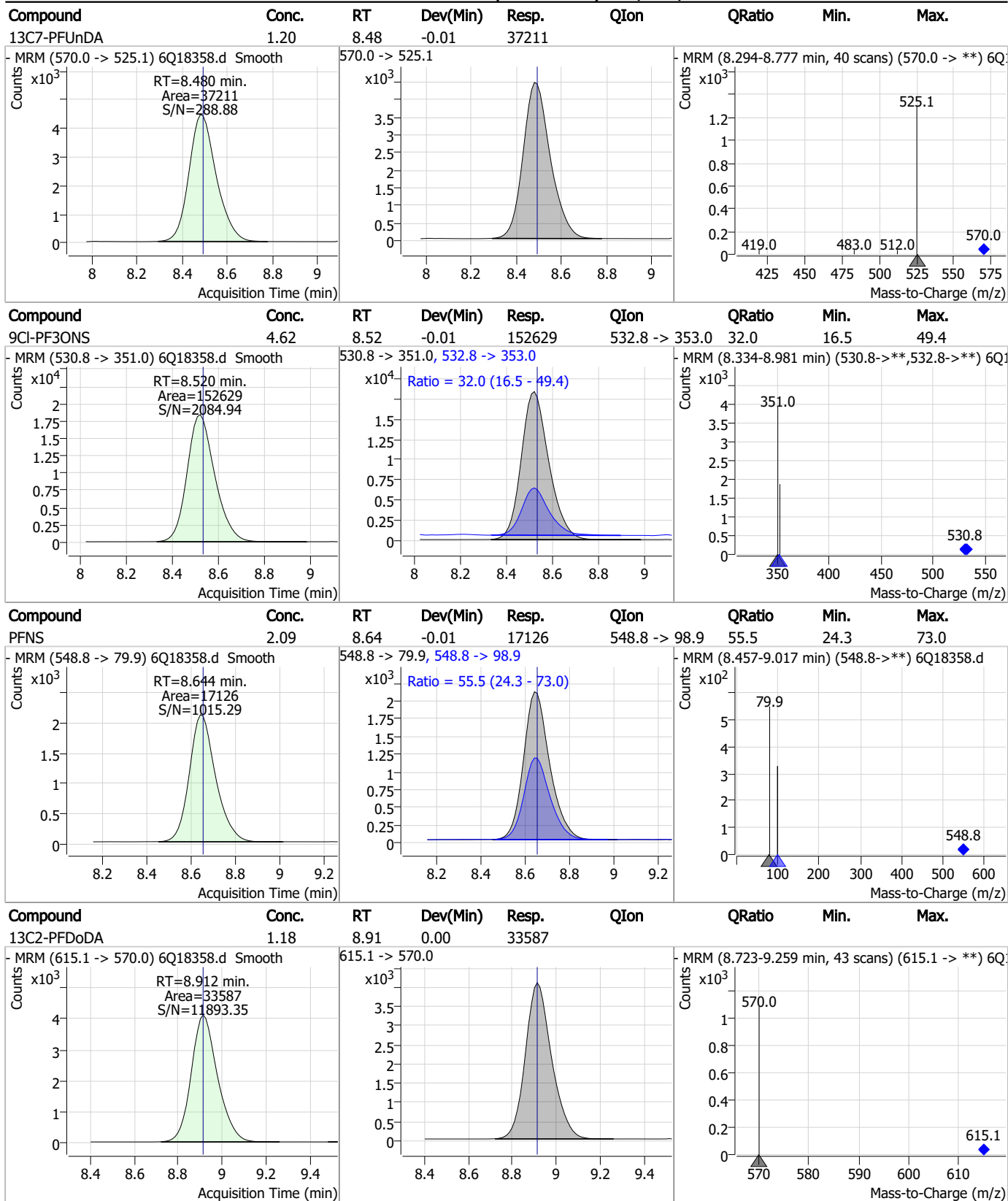
Perfluorinated Compounds by LC/MS/MS



7.7.14

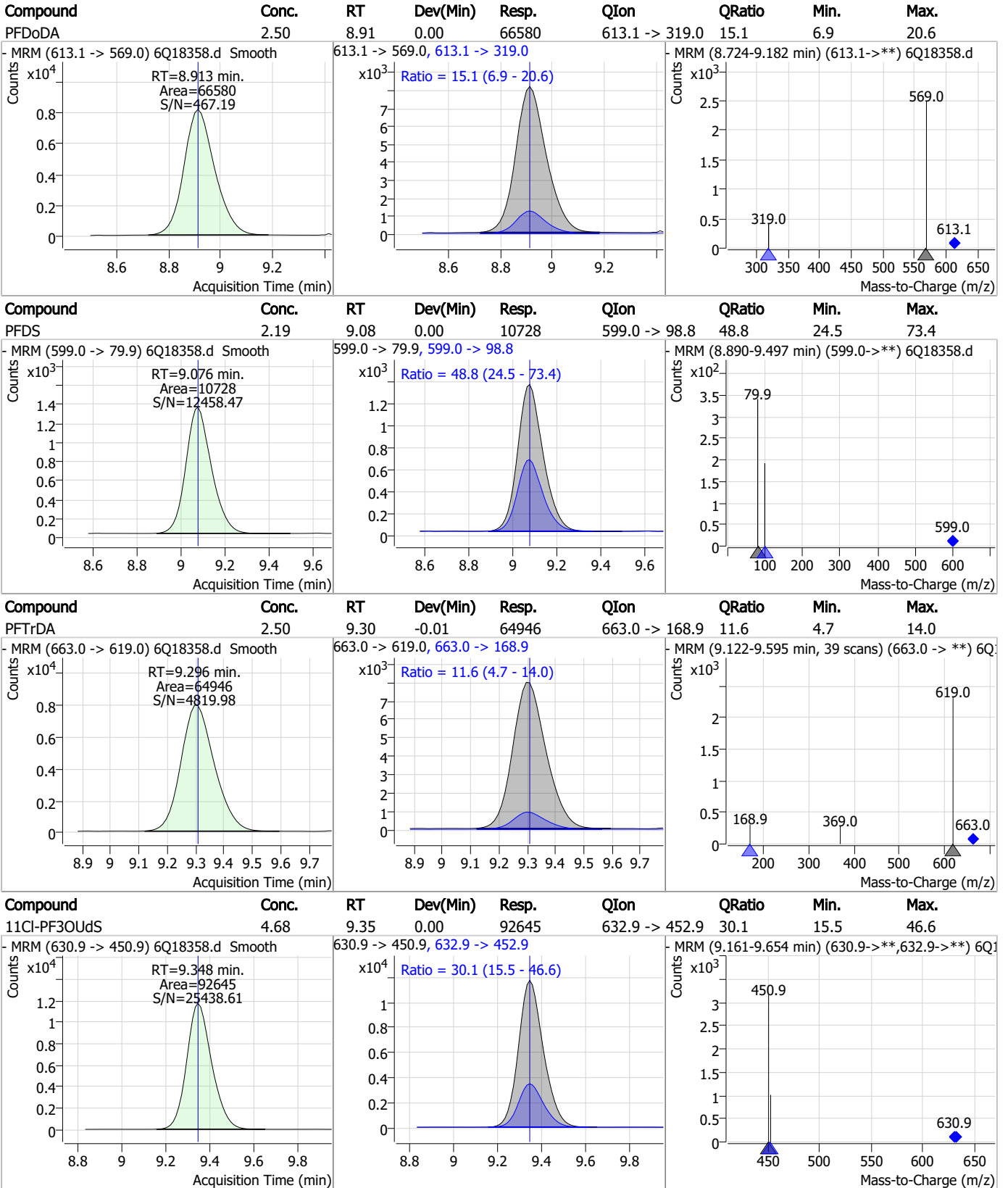
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Perfluorinated Compounds by LC/MS/MS



7.7.14

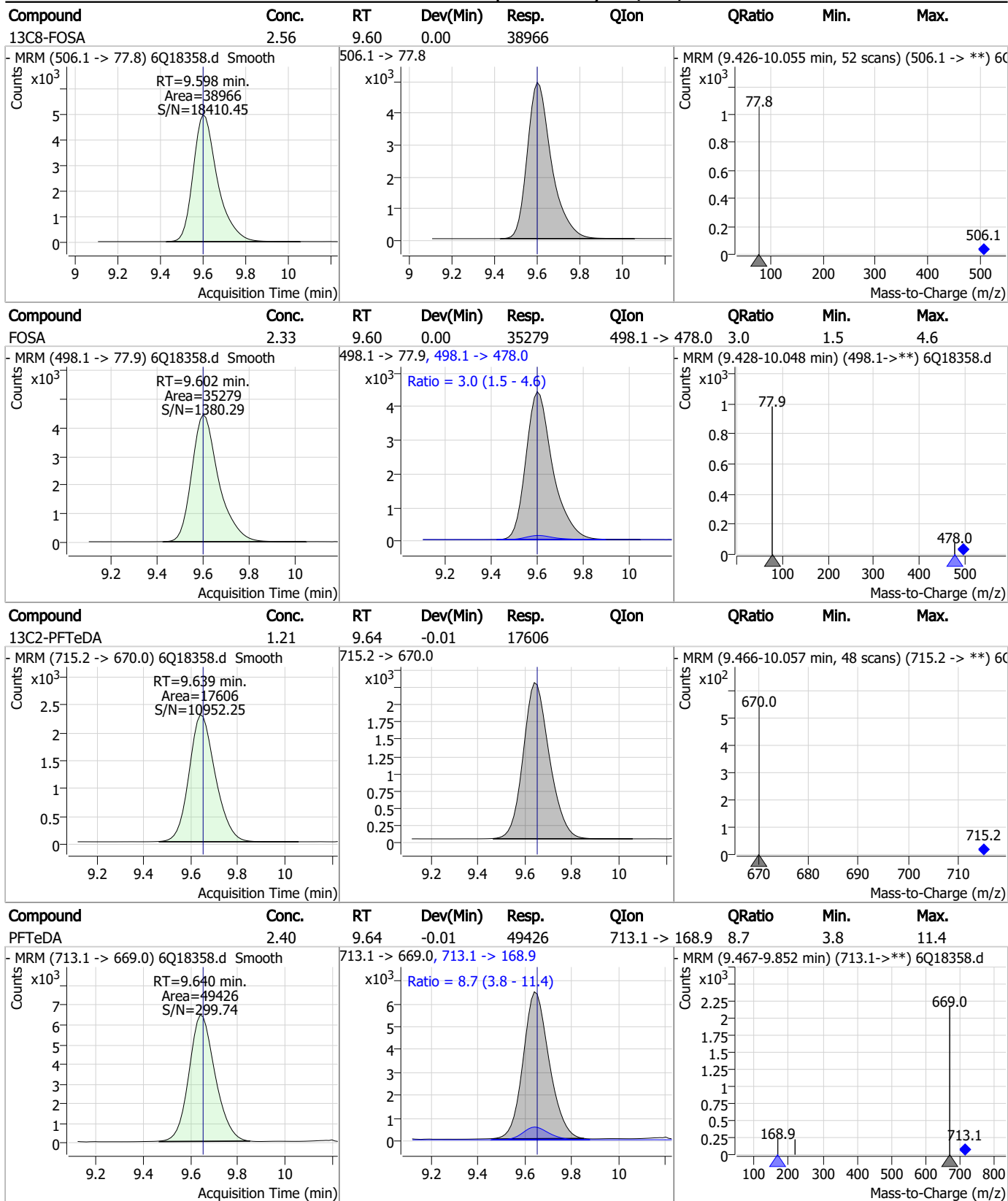
Perfluorinated Compounds by LC/MS/MS



7.7.14
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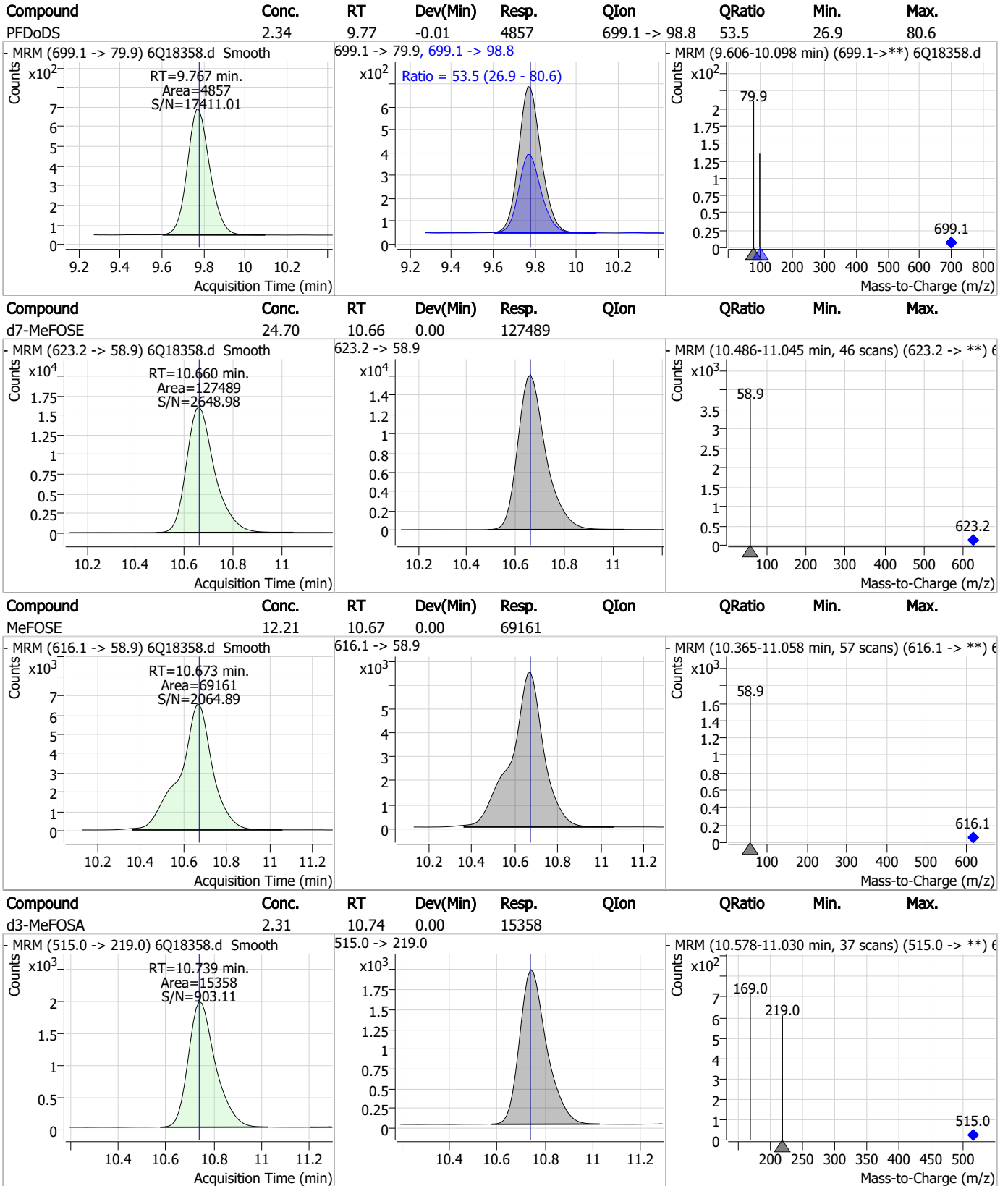


Perfluorinated Compounds by LC/MS/MS



7.7.14

Perfluorinated Compounds by LC/MS/MS

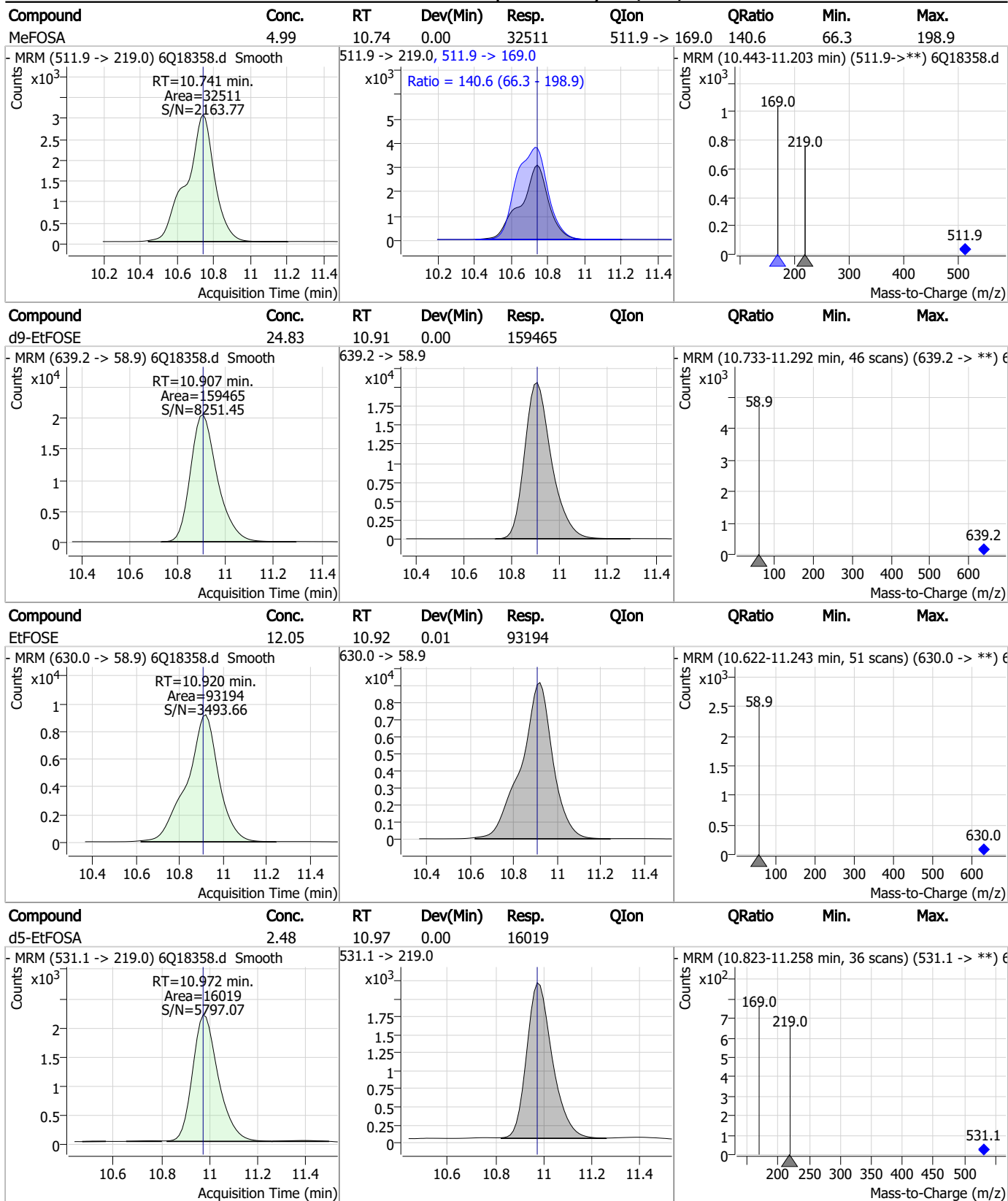


7.7.14

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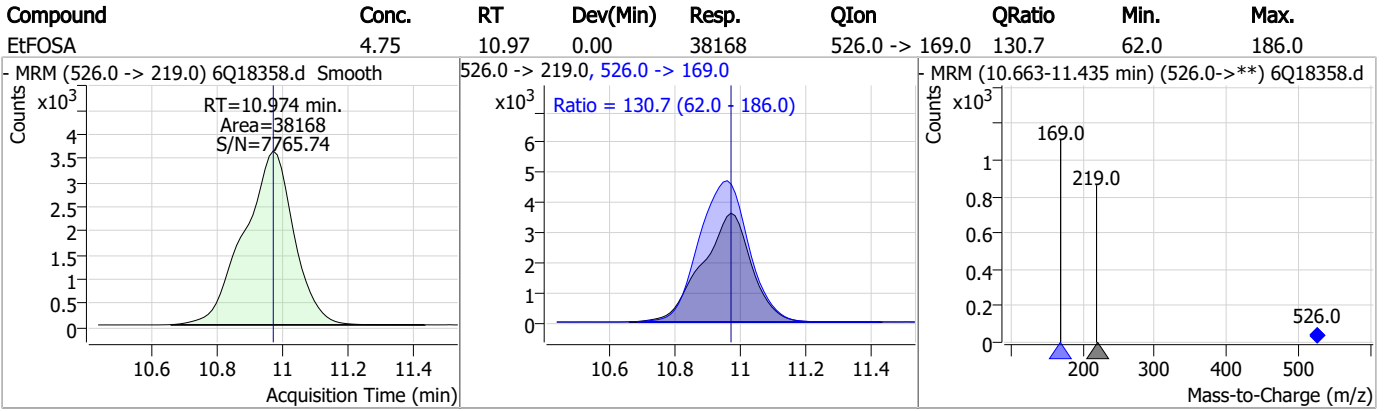


Perfluorinated Compounds by LC/MS/MS



7.7.14
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Perfluorinated Compounds by LC/MS/MS



7.7.14
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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18358.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/24/23 23:39 Supervisor approved: 05/25/23 13:06 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.14.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18369.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 2:18:34 AM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	226045	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	75664	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	79746	2.50 µg/L	0.000
M4-PFHpA	6.395	367.1 -> 322.0	76038	2.50 µg/L	0.000
M8-PFOA	7.038	421.1 -> 376.0	120856	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	50091	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	30715	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	41220	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	33355	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	18350	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	38259	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	28879	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17885	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16117	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4103	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	6142	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6187	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	35987	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	51884	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	30782	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	129539	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	154868	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15614	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16070	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21367	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	95931	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	12298	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	120801	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	40351	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	59070	1.25 µg/L	0.000
13C2-PFHxA	5.430	315.1 -> 270.0	77399	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4103	5.56 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.1%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6142	5.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6187	5.39 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.8%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33355	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.1%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18350	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.1%		
13C3-PFBS	5.347	302.1 -> 79.9	28879	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C3-PFHxS	7.142	402.1 -> 79.9	17885	2.66 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 = 106.3%	
13C4-PFBA	2.876	216.8 -> 171.9	226045	9.90 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C4-PFHpA	6.395	367.1 -> 322.0	76038	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C5-PFHxA	5.429	318.0 -> 273.0	79746	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C5-PFPeA	4.235	268.3 -> 223.0	75664	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C6-PFDA	8.039	519.1 -> 474.1	30715	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C7-PFUnDA	8.480	570.0 -> 525.1	41220	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C8-FOSA	9.598	506.1 -> 77.8	38259	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C8-PFOA	7.038	421.1 -> 376.0	120856	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C8-PFOS	8.189	507.1 -> 79.9	16117	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C9-PFNA	7.557	472.1 -> 427.0	50091	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	35987	5.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.3%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	51884	10.01 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSA	10.739	515.0 -> 219.0	16070	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30782	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
d7-MeFOSE	10.660	623.2 -> 58.9	129539	24.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	154868	23.91 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
d5-EtFOSA	10.972	531.1 -> 219.0	15614	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	67204	8.94 µg/L	96
		327.1 -> 80.9	25028		
6:2FTS	6.813	427.1 -> 407.0	67968	9.79 µg/L	97
		427.1 -> 80.9	22007		
8:2FTS	7.828	527.1 -> 507.0	39435	10.59 µg/L	93
		527.1 -> 80.8	15200		
EtFOSAA	8.293	584.2 -> 419.1	11273	2.40 µg/L	98
		584.2 -> 526.0	5919		
FOSA	9.602	498.1 -> 77.9	36309	2.44 µg/L	100
		498.1 -> 478.0	1082		
MeFOSAA	8.097	570.1 -> 419.0	18564	2.12 µg/L	95
		570.1 -> 483.0	3947		
PFBA	2.882	212.8 -> 168.9	85639	9.72 µg/L	100
PFBS	5.348	298.7 -> 79.9	23806	2.15 µg/L	99
		298.7 -> 98.8	8776		
PFDA	8.040	512.9 -> 469.0	96418	2.30 µg/L	98
		512.9 -> 219.0	14688		
PFDoDA	8.913	613.1 -> 569.0	65765	2.48 µg/L	94
		613.1 -> 319.0	10704		
PFDS	9.076	599.0 -> 79.9	10984	2.43 µg/L	97

7.7.15
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.396	599.0 -> 98.8	5137	2.27 µg/L	95
		363.1 -> 319.0	88880		
PFHpS	7.698	363.1 -> 169.0	15169	2.28 µg/L	96
		449.0 -> 79.9	20024		
PFHxA	5.432	449.0 -> 98.9	10508	2.39 µg/L	98
		313.0 -> 269.0	73949		
PFHxS	7.143	313.0 -> 118.9	3759	2.16 µg/L	97
		398.7 -> 79.9	20916		
PFNA	7.558	398.7 -> 98.9	9575	2.19 µg/L	98
		463.0 -> 419.0	90449		
PFNS	8.644	463.0 -> 219.0	18287	2.34 µg/L	96
		548.8 -> 79.9	17779		
PFOA	7.040	548.8 -> 98.9	9164	2.33 µg/L	99
		413.0 -> 369.0	131850		
PFOS	8.191	413.0 -> 169.0	23290	2.32 µg/L	95
		498.9 -> 79.9	19810		
PFPeA	4.237	498.9 -> 98.8	9848	4.75 µg/L	100
		263.0 -> 219.0	97008		
PFPeS	6.434	349.1 -> 79.9	21582	2.27 µg/L	95
		349.1 -> 98.9	9449		
PFTeDA	9.640	713.1 -> 669.0	47747	2.23 µg/L	95
		713.1 -> 168.9	4490		
PFTrDA	9.296	663.0 -> 619.0	65455	2.53 µg/L	95
		663.0 -> 168.9	7375		
PFUnDA	8.480	563.1 -> 519.0	66298	2.25 µg/L	94
		563.1 -> 269.1	11729		
11CI-PF3OUdS	9.348	630.9 -> 450.9	92295	4.63 µg/L	99
		632.9 -> 452.9	29237		
9CI-PF3ONS	8.520	530.8 -> 351.0	158655	4.76 µg/L	94
		532.8 -> 353.0	46805		
ADONA	6.646	376.9 -> 250.9	352770	4.61 µg/L	98
		376.9 -> 84.8	90042		
HFPO-DA	5.795	284.9 -> 168.9	24144	4.74 µg/L	95
		284.9 -> 184.9	2827		
3:3FTCA	3.727	241.0 -> 177.0	16513	11.22 µg/L	97
		241.0 -> 117.0	2169		
5:3FTCA	6.099	341.0 -> 237.1	337080	59.28 µg/L	99
		341.0 -> 217.0	242856		
7:3FTCA	7.523	441.0 -> 316.9	231434	62.96 µg/L	93
		441.0 -> 336.9	483868		
EtFOSA	10.974	526.0 -> 219.0	39261	5.01 µg/L	96
		526.0 -> 169.0	50321		
EtFOSE	10.920	630.0 -> 58.9	94813	12.62 µg/L	100
		511.9 -> 219.0	33306		
MeFOSA	10.741	511.9 -> 169.0	44389	4.88 µg/L	99
		616.1 -> 58.9	69922		
MeFOSE	10.673	699.1 -> 79.9	4648	12.15 µg/L	100
		699.1 -> 98.8	2487		
PFDoDS	9.767	295.0 -> 201.0	18619	2.42 µg/L	100
		295.0 -> 84.9	4504		
NFDHA	5.311	279.0 -> 85.1	68206	4.87 µg/L	94
		229.0 -> 84.9	51349		
PFMBA	4.650	314.8 -> 134.9	173437	4.73 µg/L	100
		314.8 -> 82.9	5884		
PFMPA	3.388			4.68 µg/L	100
PFEESA	5.888			4.17 µg/L	98

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

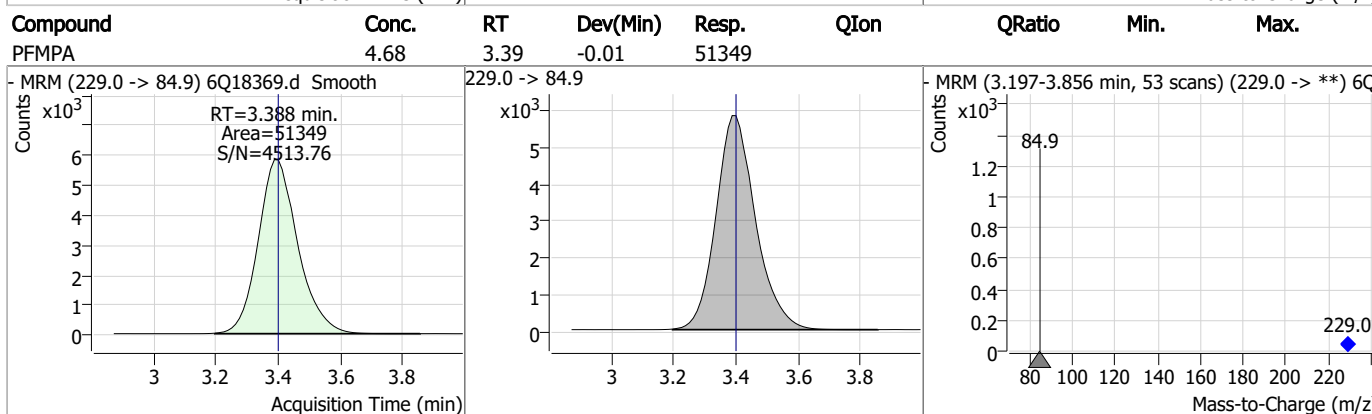
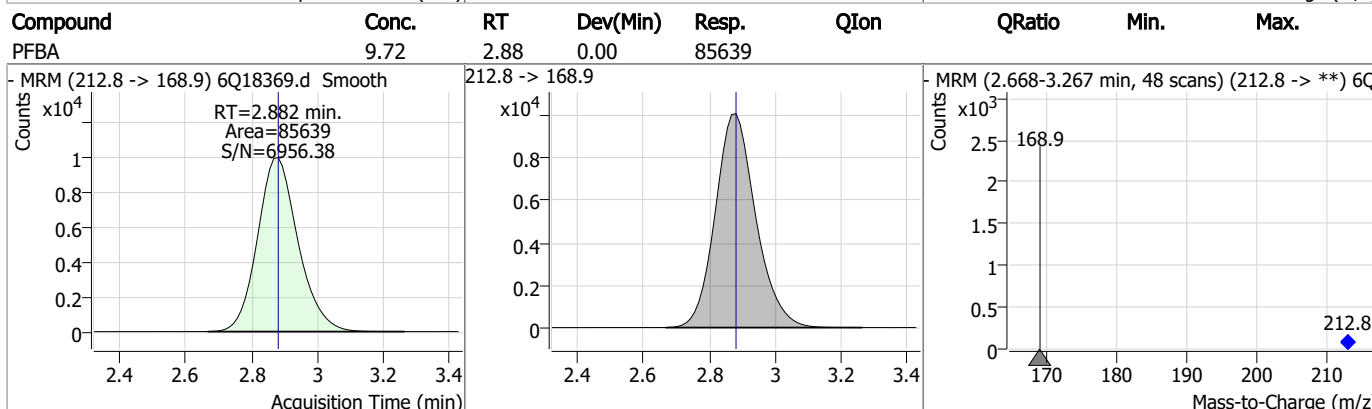
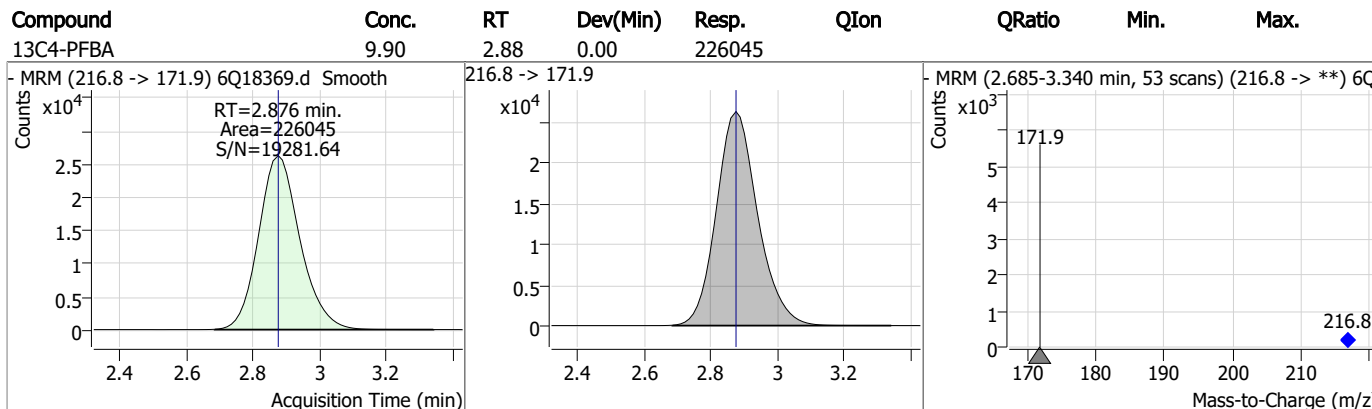
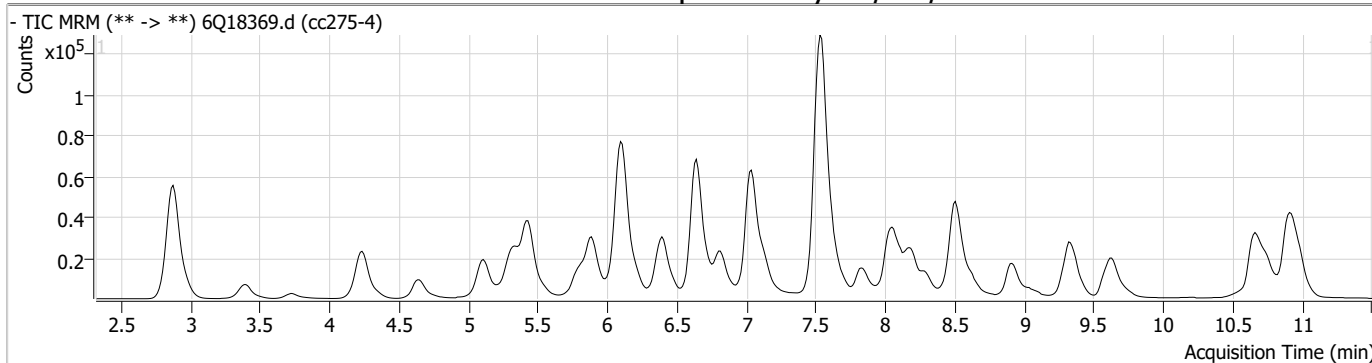
Perfluorinated Compounds by LC/MS/MS

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

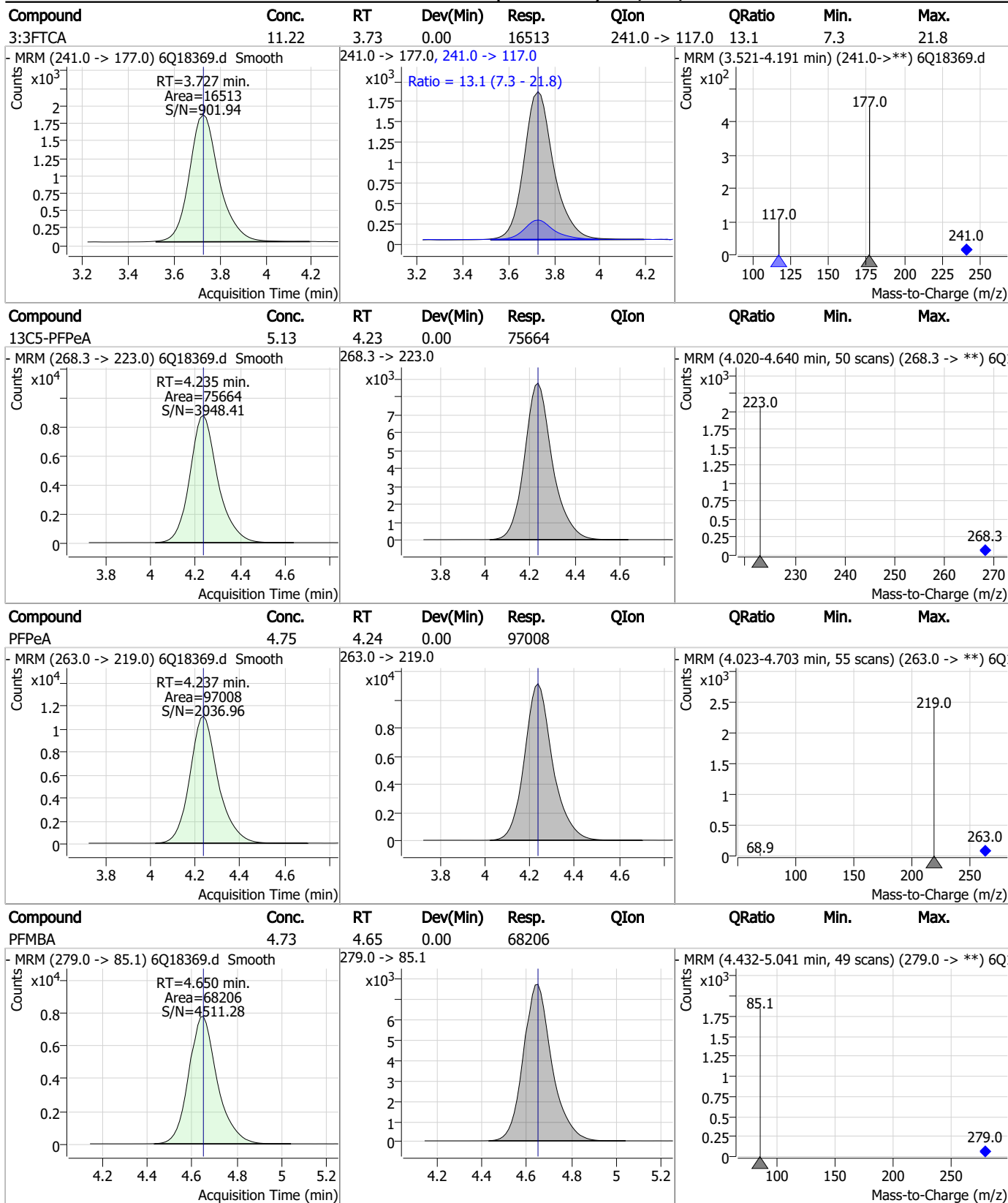
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Perfluorinated Compounds by LC/MS/MS



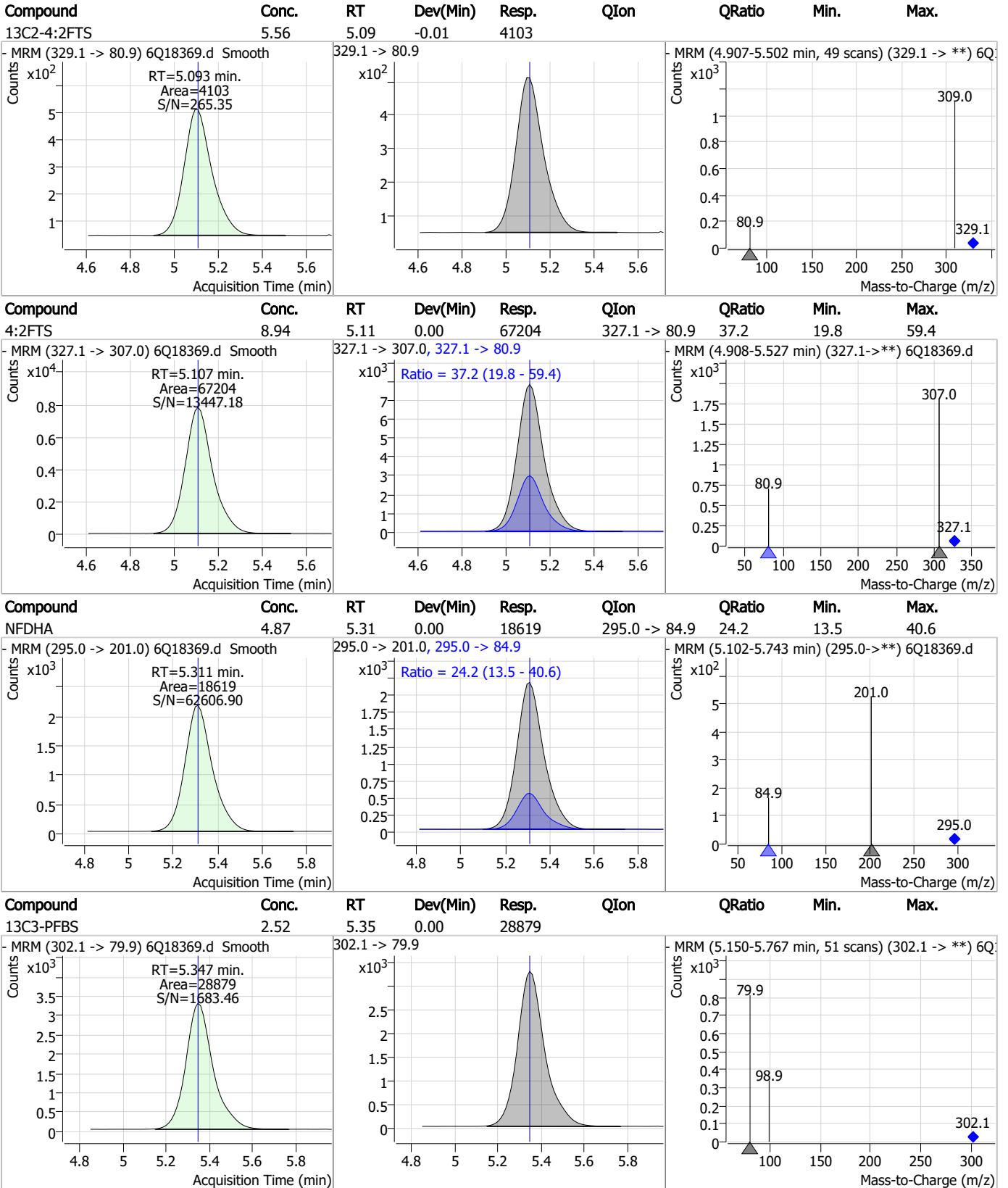
7.7.15
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Perfluorinated Compounds by LC/MS/MS



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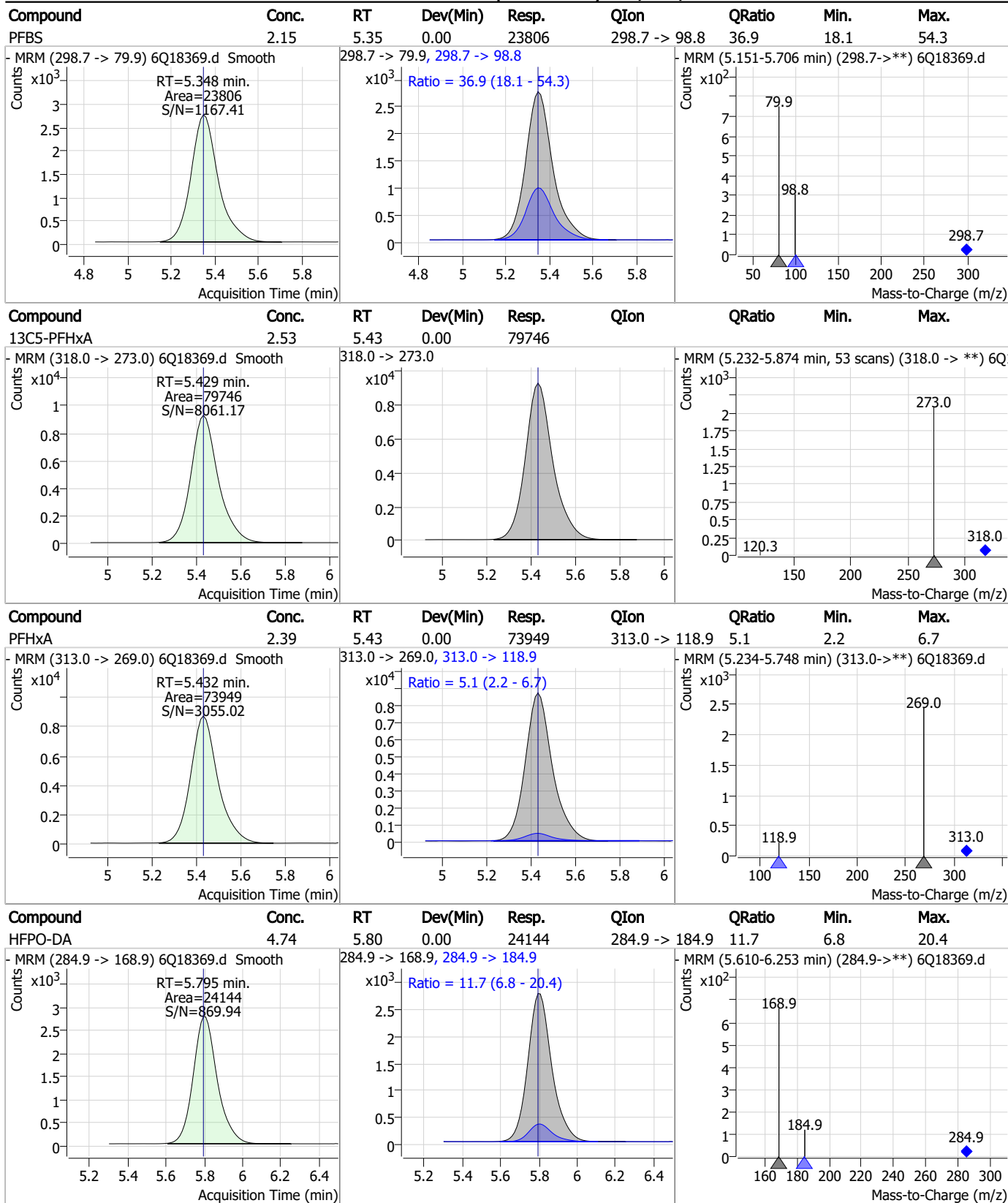
Perfluorinated Compounds by LC/MS/MS



7.7.15 7

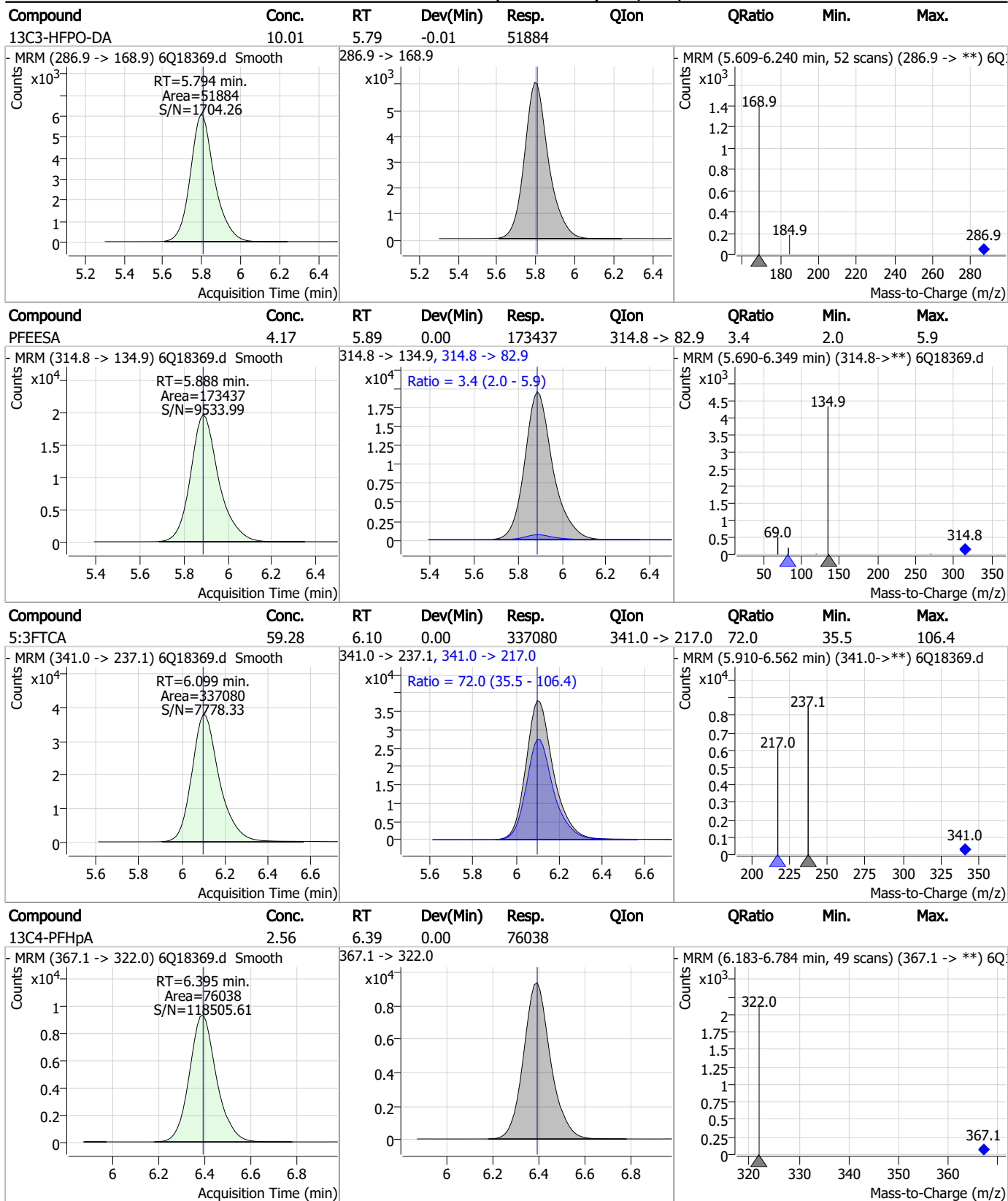


Perfluorinated Compounds by LC/MS/MS



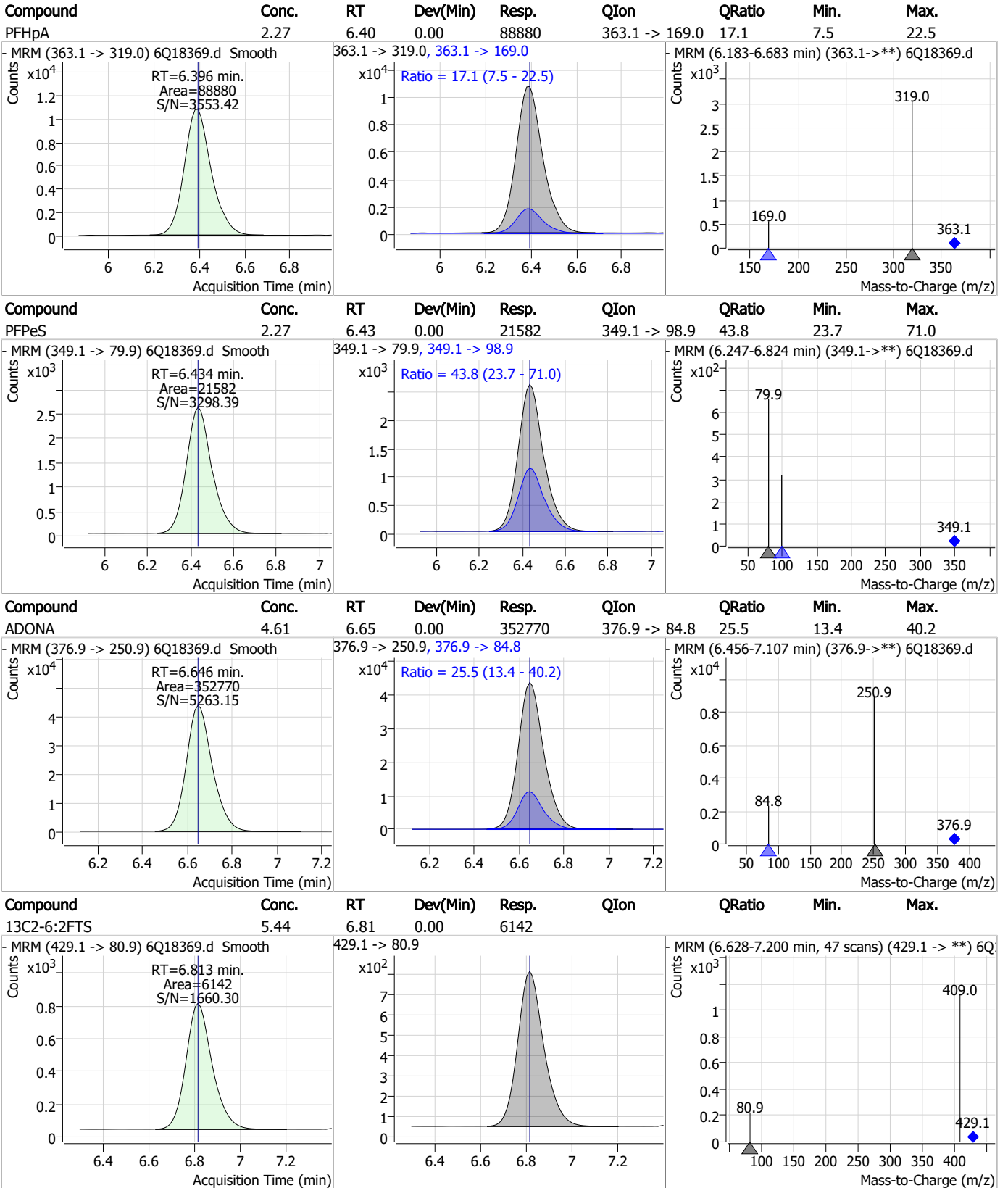
7.7.15

Perfluorinated Compounds by LC/MS/MS



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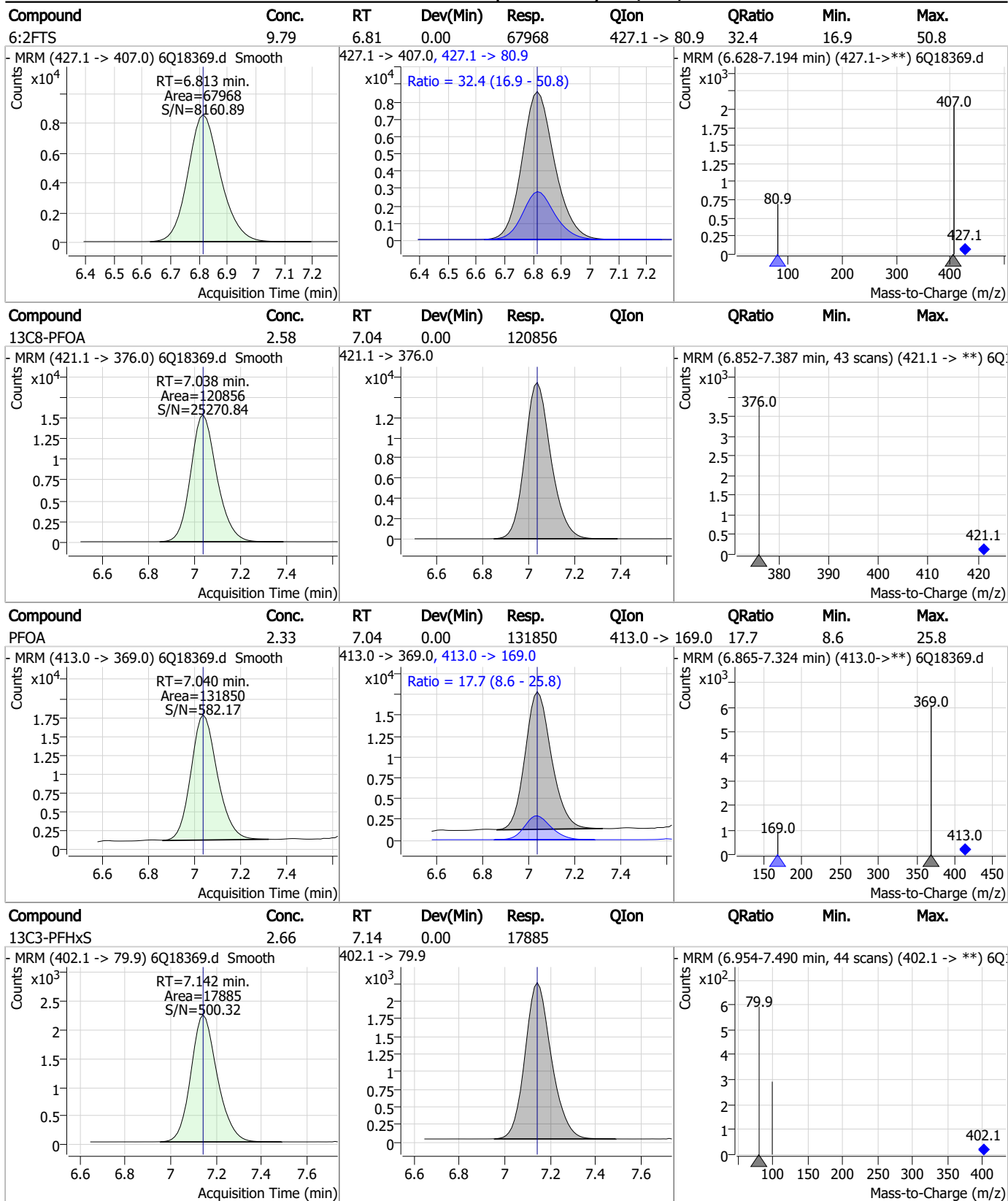
Perfluorinated Compounds by LC/MS/MS



7.7.15 7

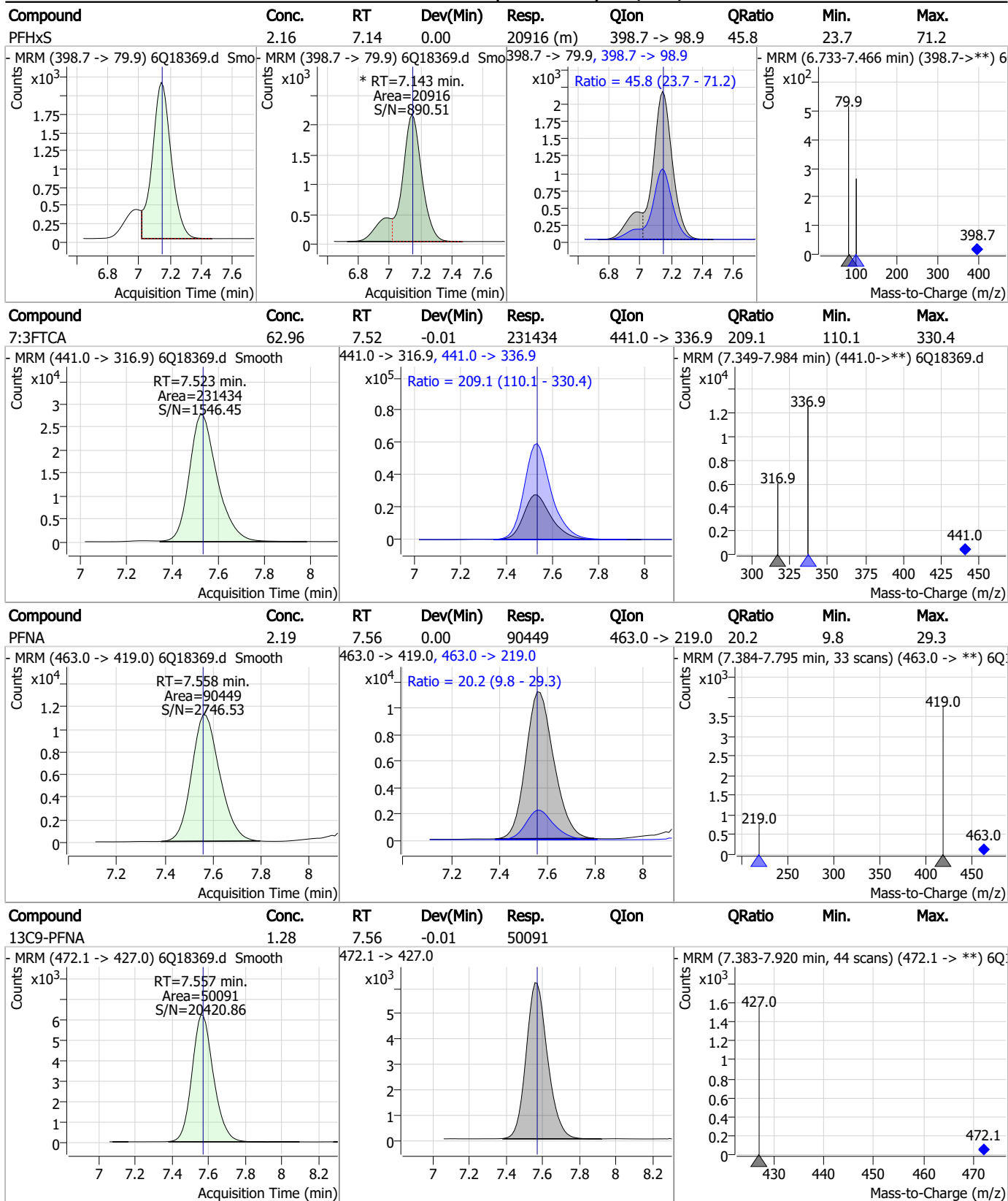


Perfluorinated Compounds by LC/MS/MS



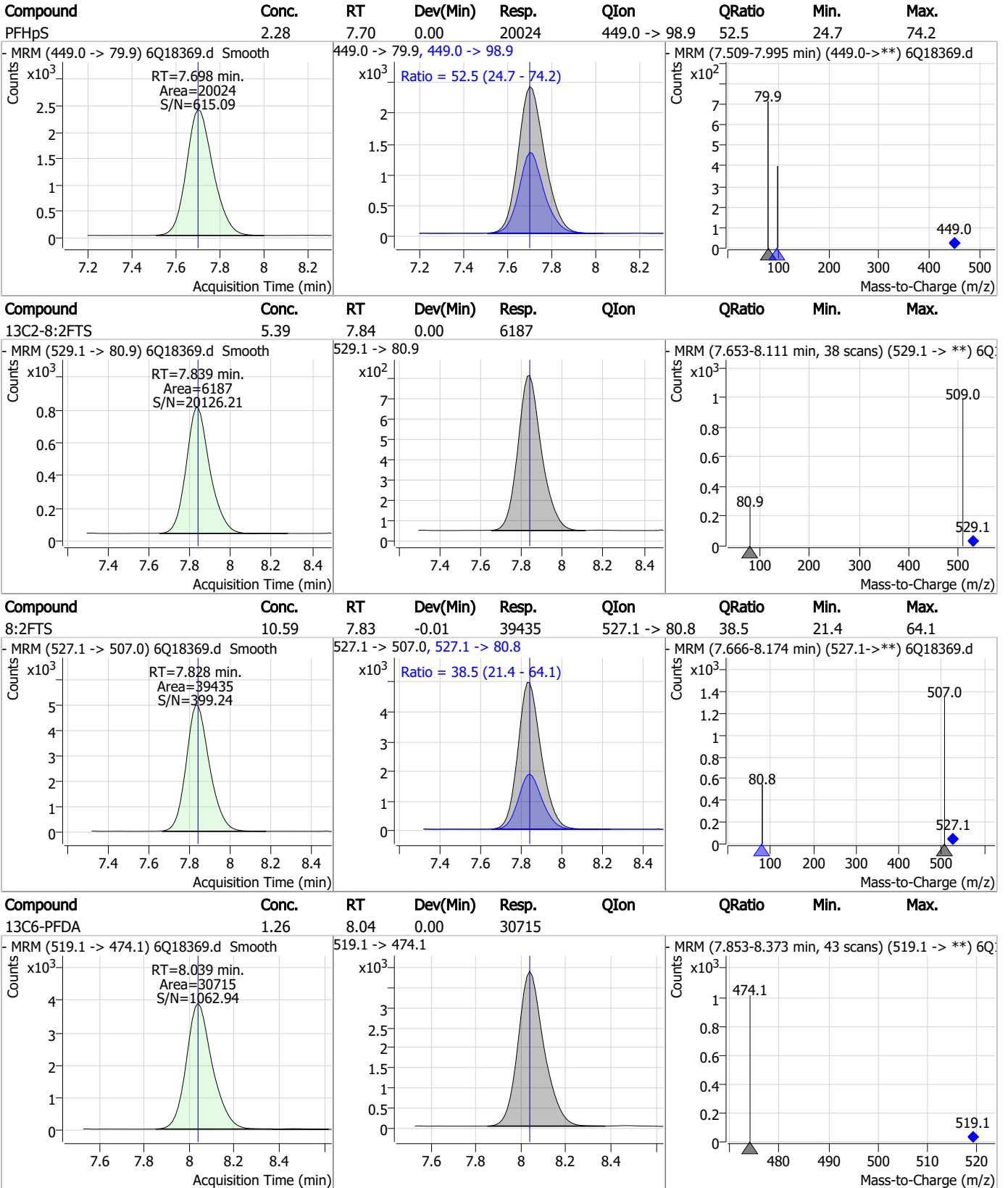
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Perfluorinated Compounds by LC/MS/MS



7.7.15
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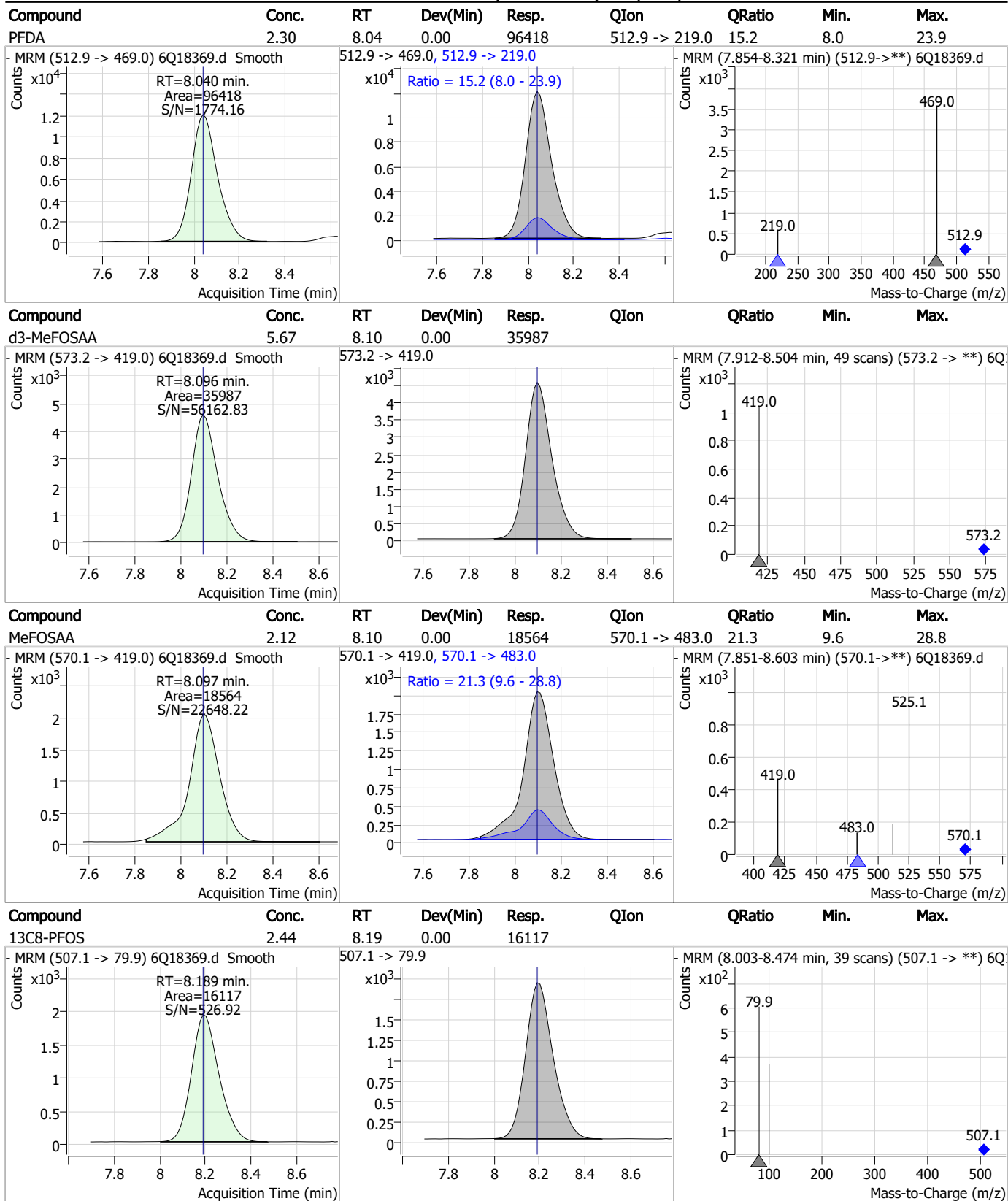
Perfluorinated Compounds by LC/MS/MS



7.7.15 7

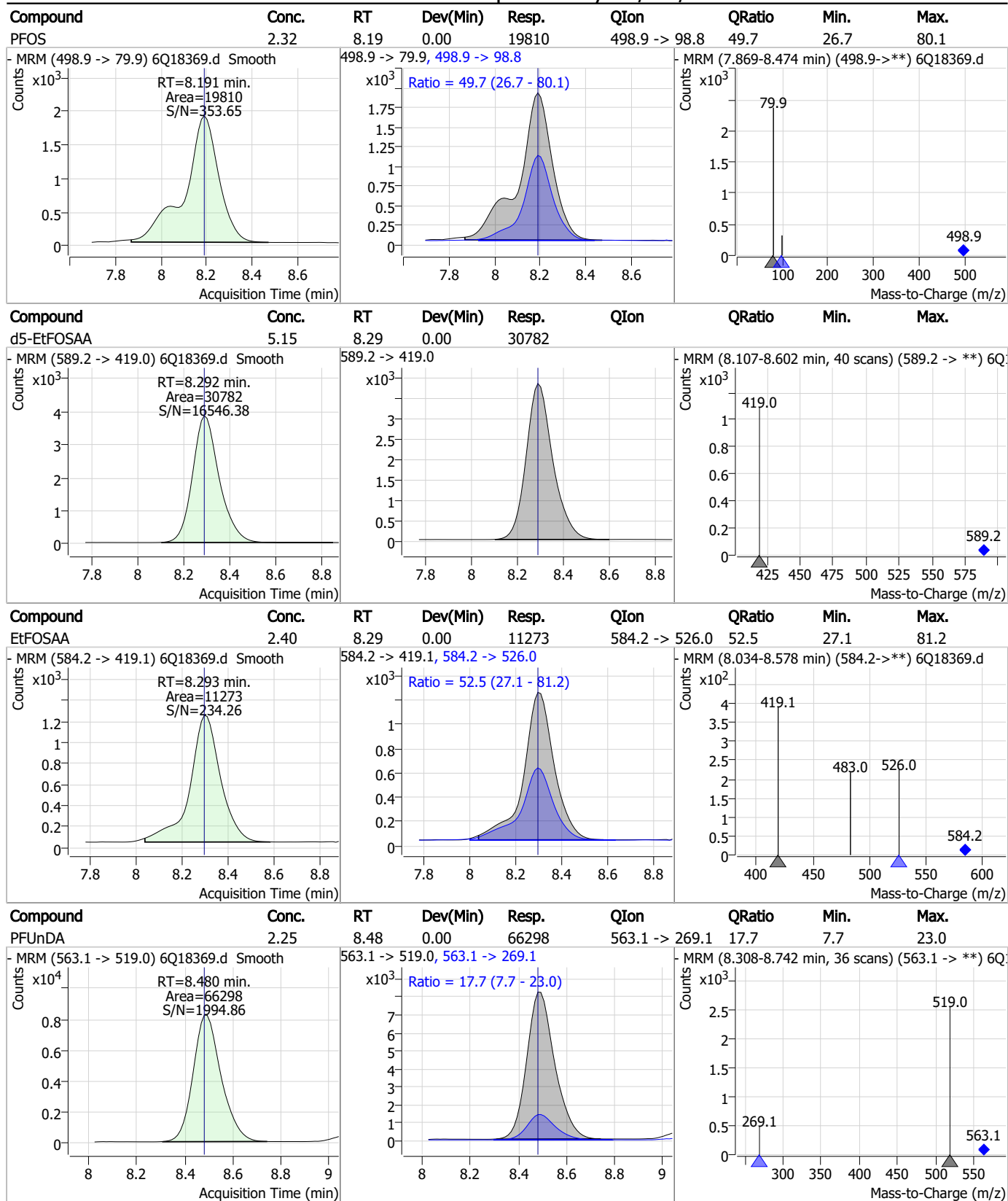


Perfluorinated Compounds by LC/MS/MS



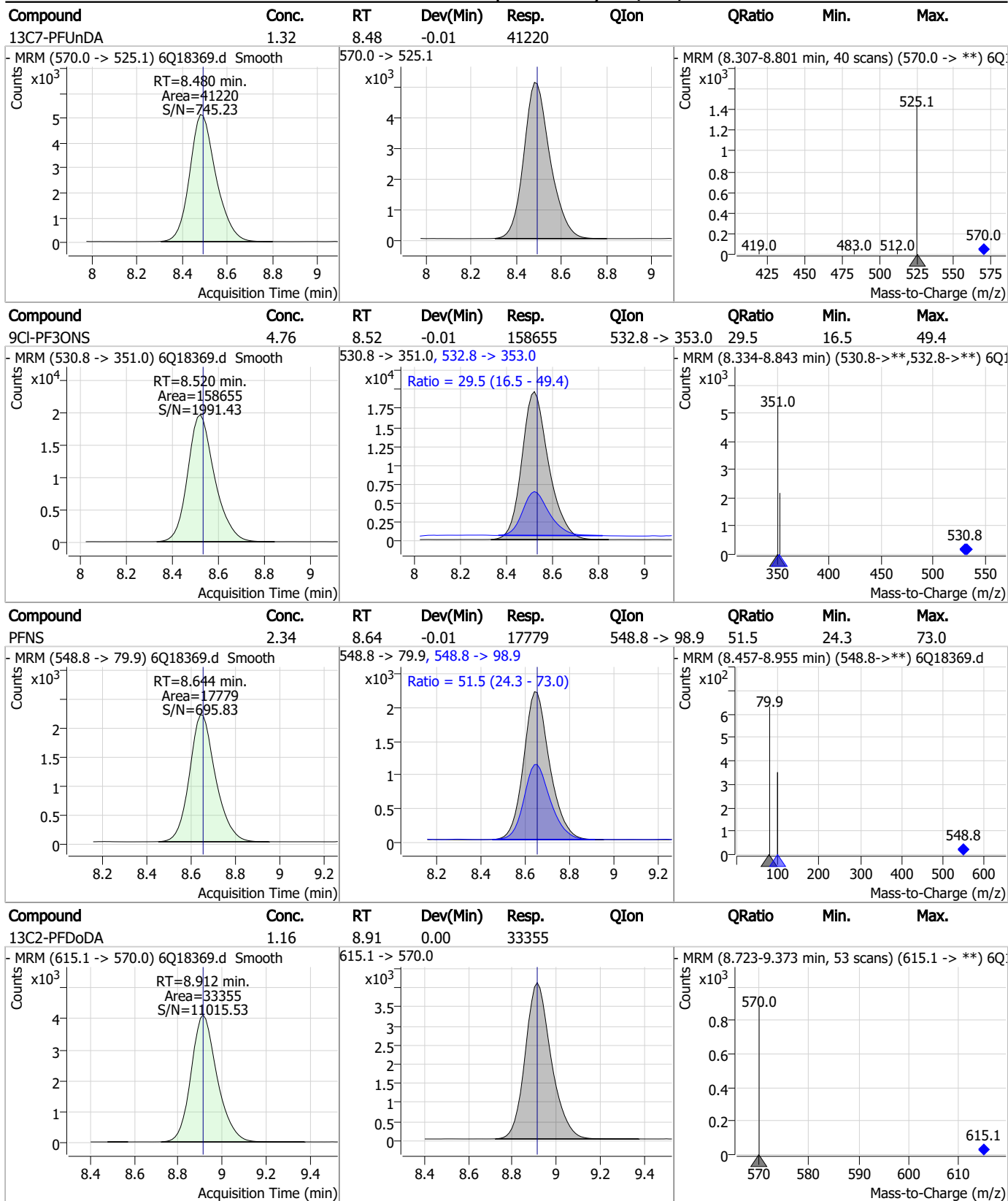
7.7.15 7

Perfluorinated Compounds by LC/MS/MS



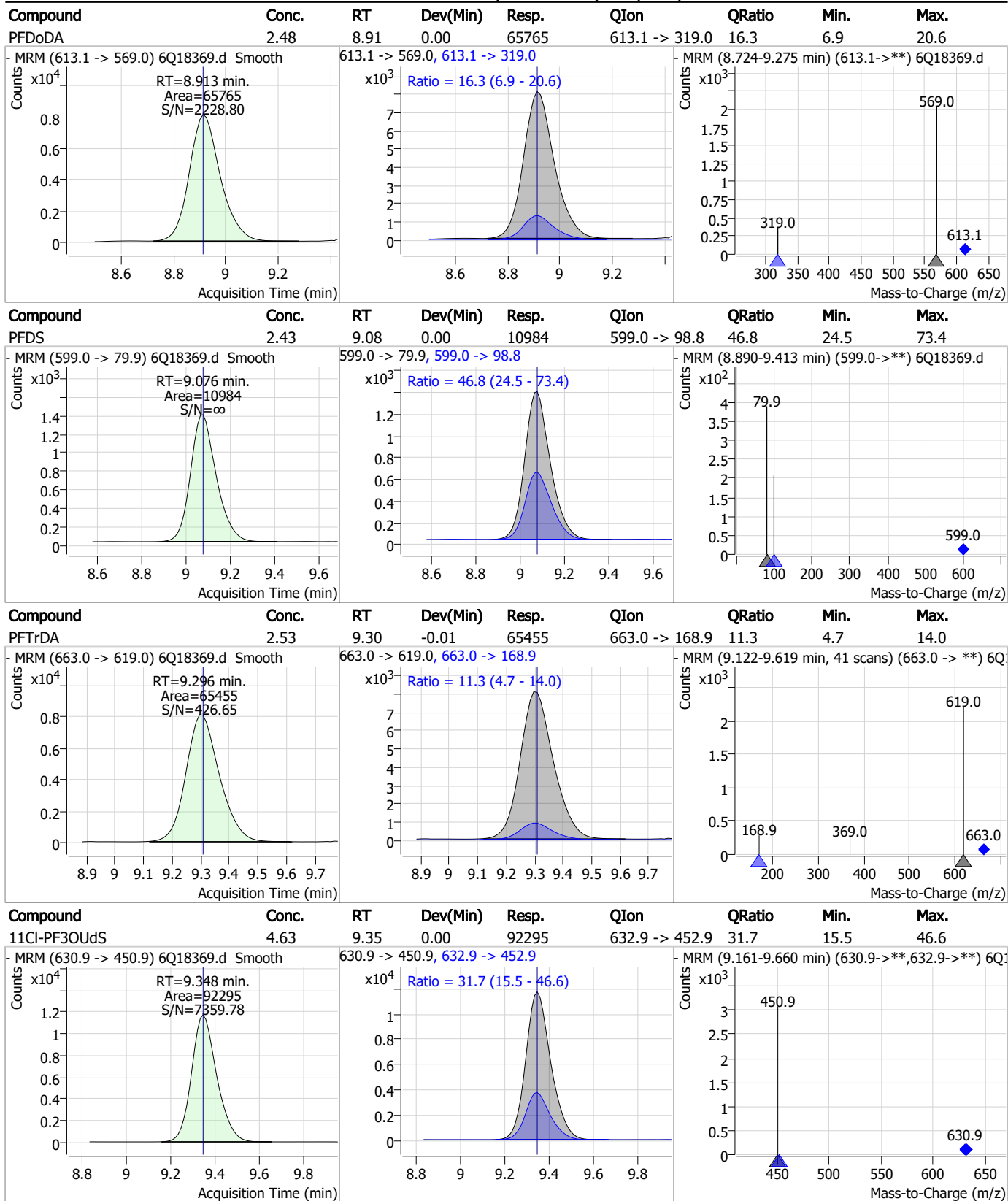
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Perfluorinated Compounds by LC/MS/MS



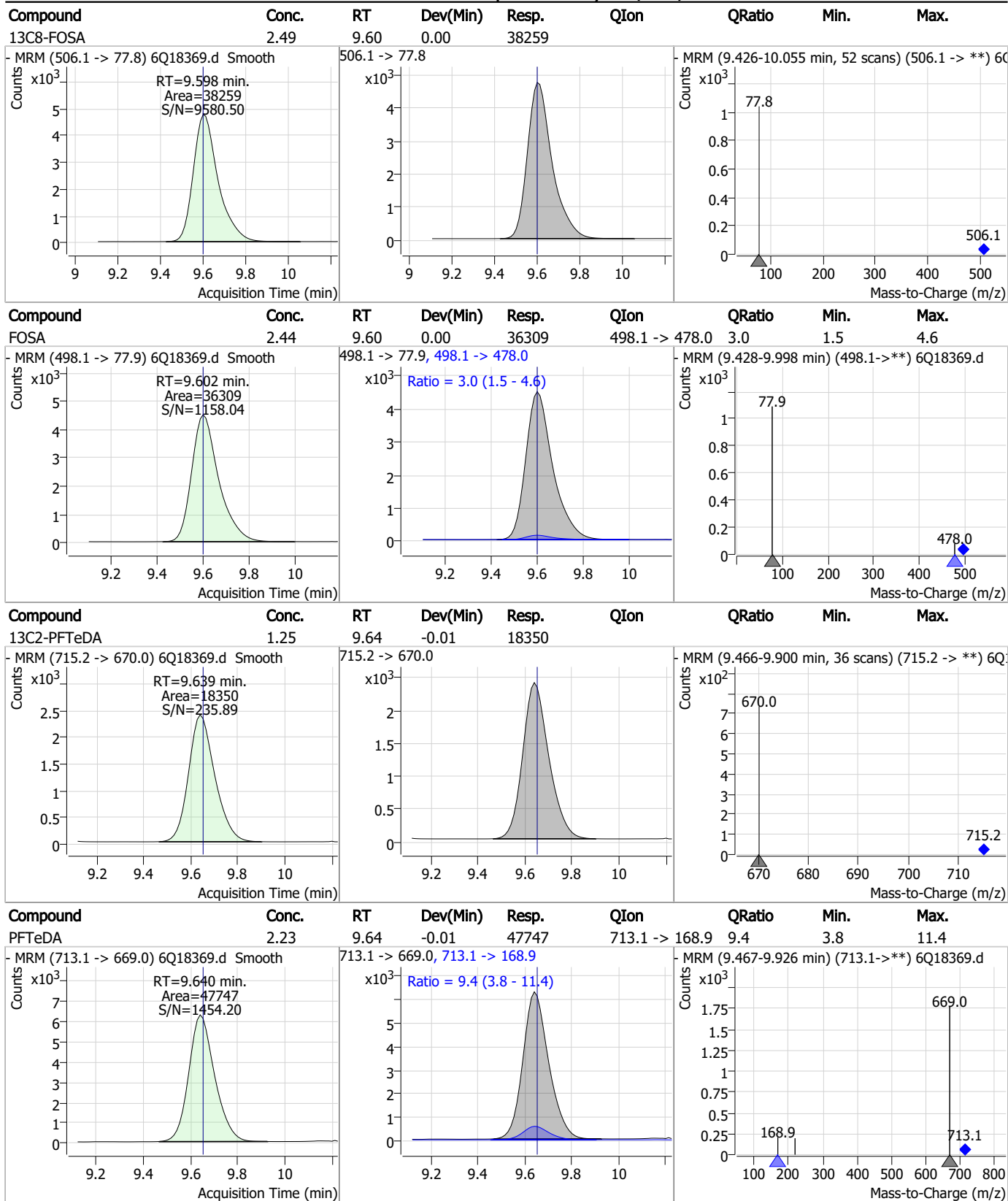
7.7.15 7

Perfluorinated Compounds by LC/MS/MS



7.7.15
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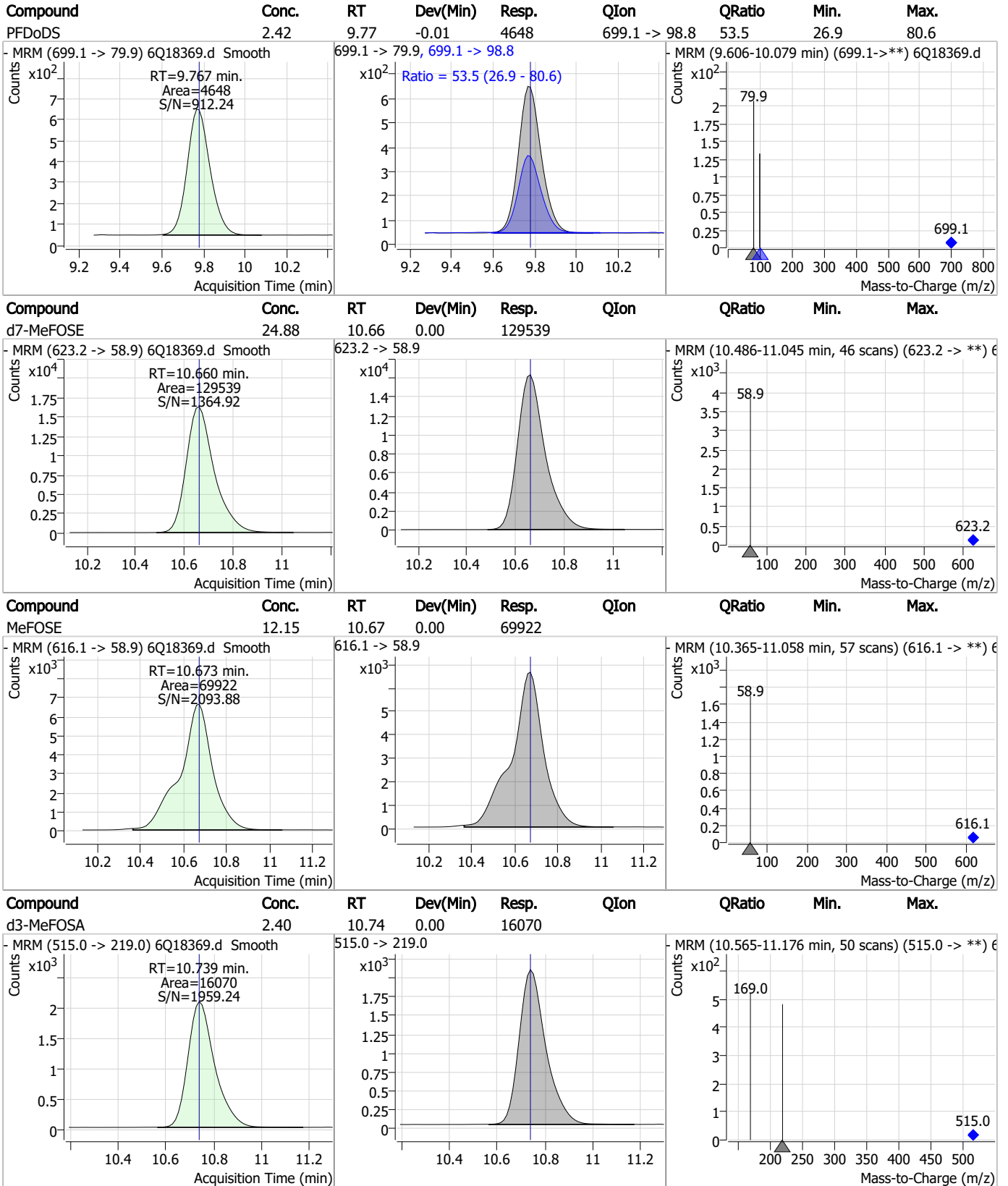
Perfluorinated Compounds by LC/MS/MS



7.7.15
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Perfluorinated Compounds by LC/MS/MS

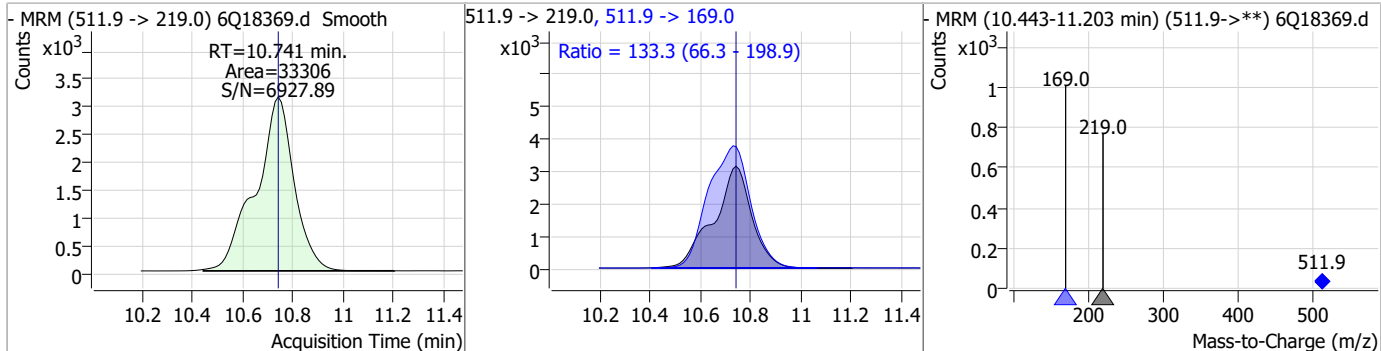


7.7.15 7

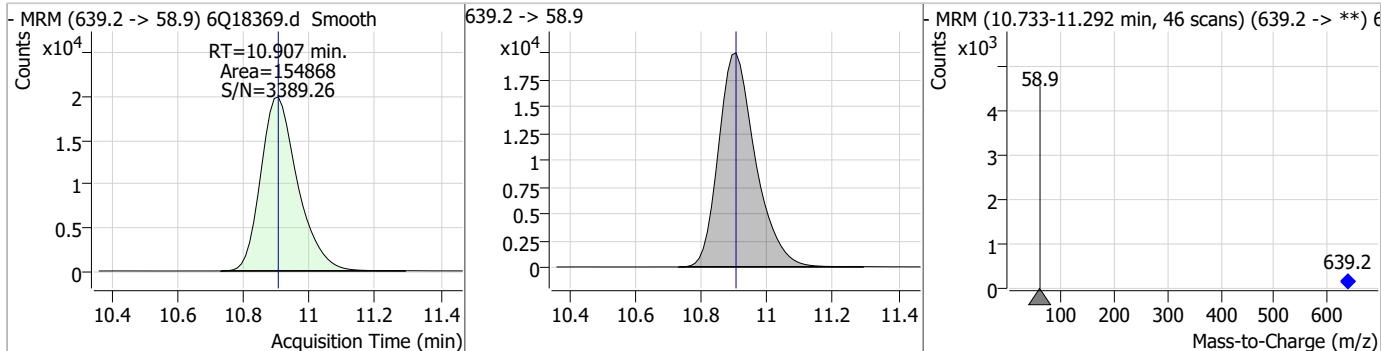


Perfluorinated Compounds by LC/MS/MS

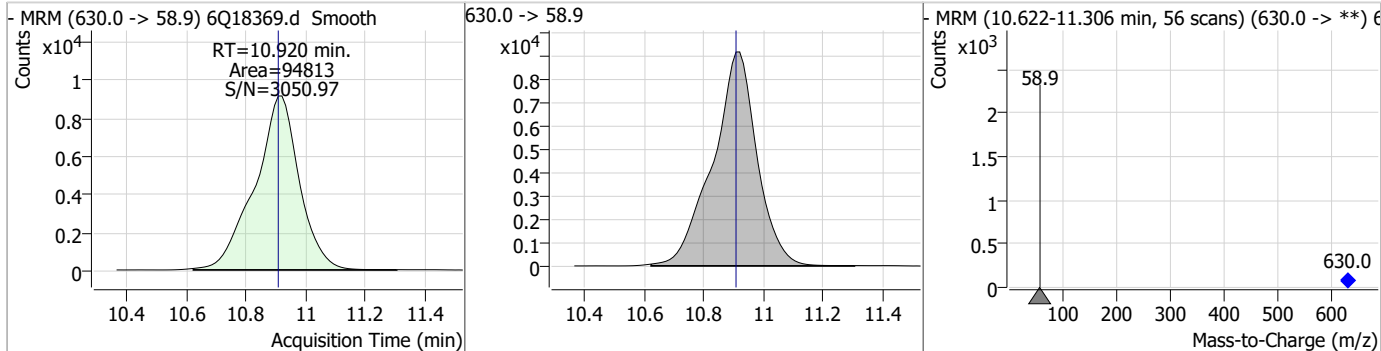
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.88	10.74	0.00	33306	511.9 -> 169.0	133.3	66.3	198.9



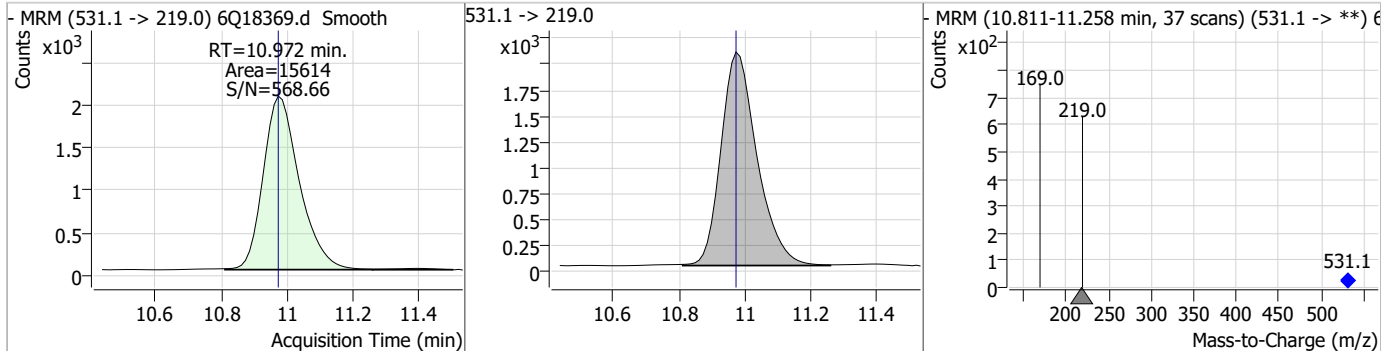
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.91	10.91	0.00	154868				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.62	10.92	0.01	94813				

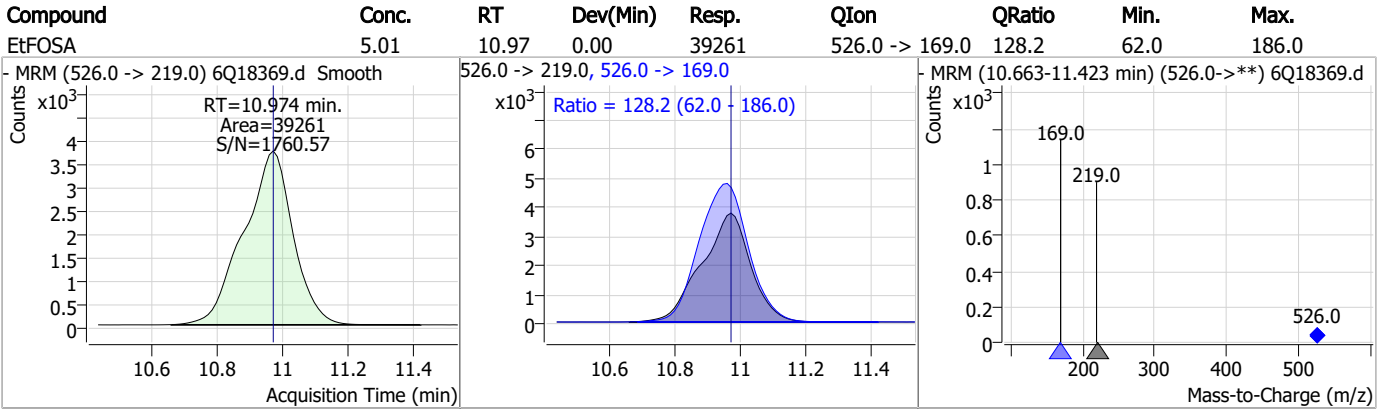


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.40	10.97	0.00	15614				



7.7.15
7

Perfluorinated Compounds by LC/MS/MS



7.7.15

7

Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18369.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/25/23 02:18 Supervisor approved: 05/25/23 13:08 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.15.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18370.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 2:33:02 AM
 Sample Name : cc275-1.0LL
 Vial : P1-A2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	230698	10.00 µg/L	-0.053
M5-PFPeA	4.222	268.3 -> 223.0	79066	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	80455	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	82785	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	123647	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	49285	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	31552	1.25 µg/L	0.000
M7-PFUnDA	8.492	570.0 -> 525.1	39876	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	35709	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	18702	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	40135	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	31361	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	19141	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	18362	2.50 µg/L	0.000
M2-4:2FTS	5.094	329.1 -> 80.9	4715	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	6901	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6614	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	36669	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	53137	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	33636	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	129273	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	166575	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16306	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	16142	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21337	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	97349	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	13510	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	128466	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39336	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	63360	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	84841	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.094	329.1 -> 80.9	4715	5.81 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.3%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6901	5.56 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.2%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6614	5.25 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C2-PFDoDA	8.912	615.1 -> 570.0	35709	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18702	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C3-PFBS	5.334	302.1 -> 79.9	31361	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.8%		
13C3-PFHxS	7.142	402.1 -> 79.9	19141	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 = 103.5%	
13C4-PFBA	2.822	216.8 -> 171.9	230698	9.96 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.382	367.1 -> 322.0	82785	2.55 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFHxA	5.417	318.0 -> 273.0	80455	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
13C5-PFPeA	4.222	268.3 -> 223.0	79066	4.89 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C6-PFDA	8.039	519.1 -> 474.1	31552	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C7-PFUnDA	8.492	570.0 -> 525.1	39876	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C8-FOSA	9.598	506.1 -> 77.8	40135	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C8-PFOA	7.038	421.1 -> 376.0	123647	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-PFOS	8.189	507.1 -> 79.9	18362	2.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.2%	
13C9-PFNA	7.557	472.1 -> 427.0	49285	1.18 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	36669	5.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.6%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	53137	9.35 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 93.5%	
d3-MeFOSA	10.739	515.0 -> 219.0	16142	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	33636	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	129273	24.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	166575	25.75 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d5-EtFOSA	10.972	531.1 -> 219.0	16306	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	5579	0.65 µg/L	96
		327.1 -> 80.9	2075		
6:2FTS	6.813	427.1 -> 407.0	5259	0.67 µg/L	99
		427.1 -> 80.9	1766		
8:2FTS	7.828	527.1 -> 507.0	2830	0.71 µg/L	100
		527.1 -> 80.8	1208		
EtFOSAA	8.293	584.2 -> 419.1	1052	0.21 µg/L	95
		584.2 -> 526.0	532		
FOSA	9.602	498.1 -> 77.9	2855	0.18 µg/L	99
		498.1 -> 478.0	80		
MeFOSAA	8.097	570.1 -> 419.0	1554	0.17 µg/L	95
		570.1 -> 483.0	265		
PFBA	2.831	212.8 -> 168.9	6351	0.71 µg/L	100
PFBS	5.335	298.7 -> 79.9	1851	0.15 µg/L	96
		298.7 -> 98.8	717		
PFDA	8.040	512.9 -> 469.0	7718	0.18 µg/L	99
		512.9 -> 219.0	1278		
PFDODA	8.913	613.1 -> 569.0	5282	0.19 µg/L	98
		613.1 -> 319.0	759		
PFDS	9.076	599.0 -> 79.9	860	0.17 µg/L	81

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	531	0.17	µg/L	96
		363.1 -> 319.0	7341			
PFHpS	7.698	363.1 -> 169.0	1215	0.15	µg/L	91
		449.0 -> 79.9	1547			
PFHxA	5.432	449.0 -> 98.9	858	0.19	µg/L	96
		313.0 -> 269.0	5977			
PFHxS	7.143	313.0 -> 118.9	345	0.15	µg/L	m
		398.7 -> 79.9	1568			
PFNA	7.558	398.7 -> 98.9	862	0.18	µg/L	100
		463.0 -> 419.0	7479			
PFNS	8.657	463.0 -> 219.0	1475	0.16	µg/L	89
		548.8 -> 79.9	1346			
PFOA	7.040	548.8 -> 98.9	757	0.19	µg/L	96
		413.0 -> 369.0	10698			
PFOS	8.191	413.0 -> 169.0	2030	0.17	µg/L	m
		498.9 -> 79.9	1611			
PFPeA	4.224	498.9 -> 98.8	864	0.37	µg/L	100
		263.0 -> 219.0	7892			
PFPeS	6.434	349.1 -> 79.9	1618	0.16	µg/L	90
		349.1 -> 98.9	661			
PFTeDA	9.640	713.1 -> 669.0	4427	0.20	µg/L	97
		713.1 -> 168.9	377			
PFTrDA	9.296	663.0 -> 619.0	5264	0.19	µg/L	94
		663.0 -> 168.9	606			
PFUnDA	8.480	563.1 -> 519.0	5337	0.19	µg/L	88
		563.1 -> 269.1	1074			
11Cl-PF3OUdS	9.348	630.9 -> 450.9	7412	0.36	µg/L	98
		632.9 -> 452.9	2231			
9Cl-PF3ONS	8.520	530.8 -> 351.0	11832	0.35	µg/L	97
		532.8 -> 353.0	4064			
ADONA	6.646	376.9 -> 250.9	27771	0.35	µg/L	100
		376.9 -> 84.8	7508			
HFPO-DA	5.783	284.9 -> 168.9	1978	0.38	µg/L	99
		284.9 -> 184.9	259			
3:3FTCA	3.684	241.0 -> 177.0	1321	0.86	µg/L	97
		241.0 -> 117.0	210			
5:3FTCA	6.086	341.0 -> 237.1	28444	4.96	µg/L	93
		341.0 -> 217.0	21740			
7:3FTCA	7.523	441.0 -> 316.9	18079	4.88	µg/L	97
		441.0 -> 336.9	40831			
EtFOSA	10.974	526.0 -> 219.0	2880	0.35	µg/L	80
		526.0 -> 169.0	4239			
EtFOSE	10.907	630.0 -> 58.9	7552	0.93	µg/L	100
		511.9 -> 219.0	2656			
MeFOSA	10.741	511.9 -> 169.0	3676	0.39	µg/L	95
		616.1 -> 58.9	5255			
MeFOSE	10.673	699.1 -> 79.9	413	0.91	µg/L	100
		699.1 -> 98.8	172			
PFDoDS	9.767	295.0 -> 201.0	1449	0.19	µg/L	83
		295.0 -> 84.9	423			
NFDHA	5.299	279.0 -> 85.1	5321	0.38	µg/L	96
		229.0 -> 84.9	4071			
PFMBA	4.638	314.8 -> 134.9	13365	0.35	µg/L	100
		314.8 -> 82.9	402			
PFMPA	3.363			0.36	µg/L	100
PFEESA	5.888			0.32	µg/L	97

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

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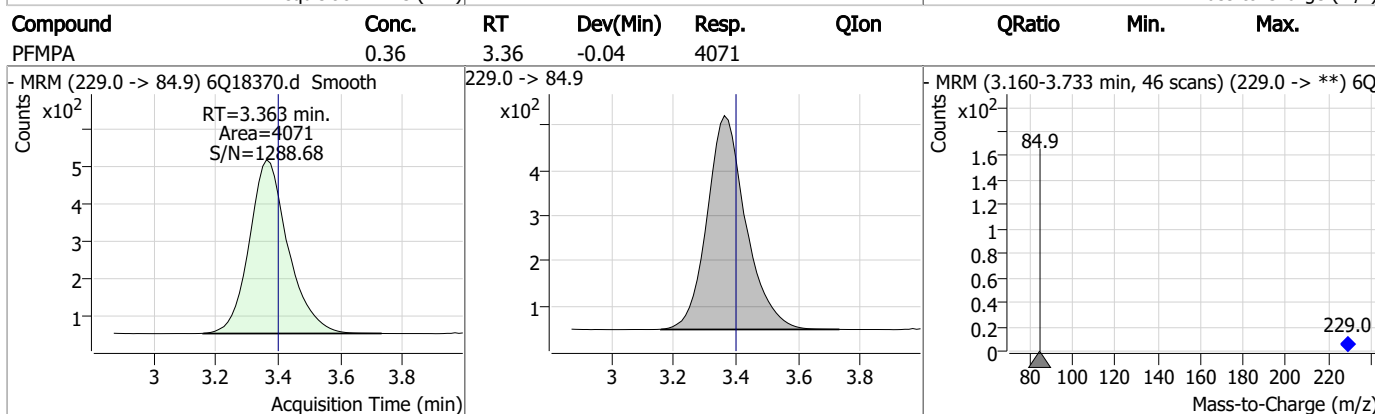
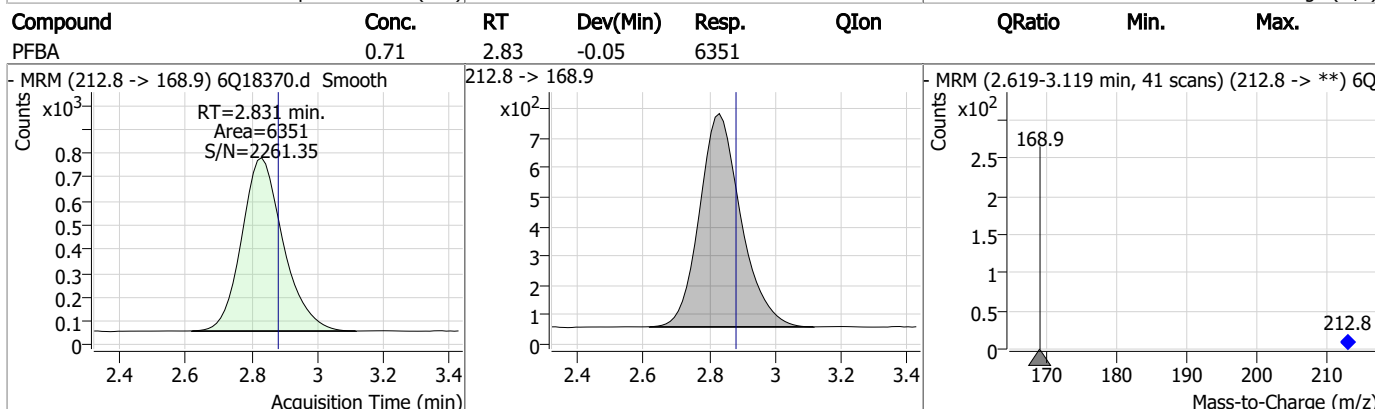
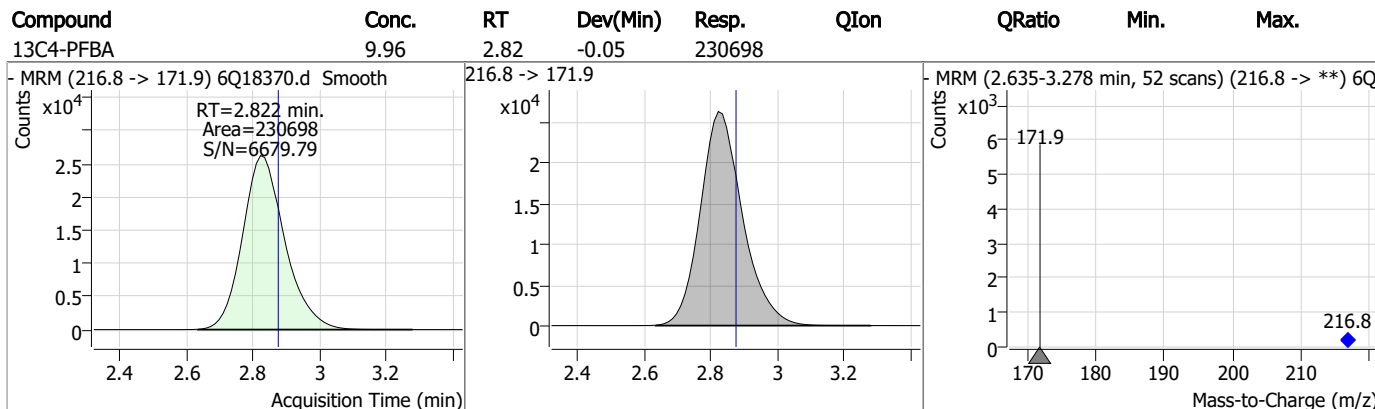
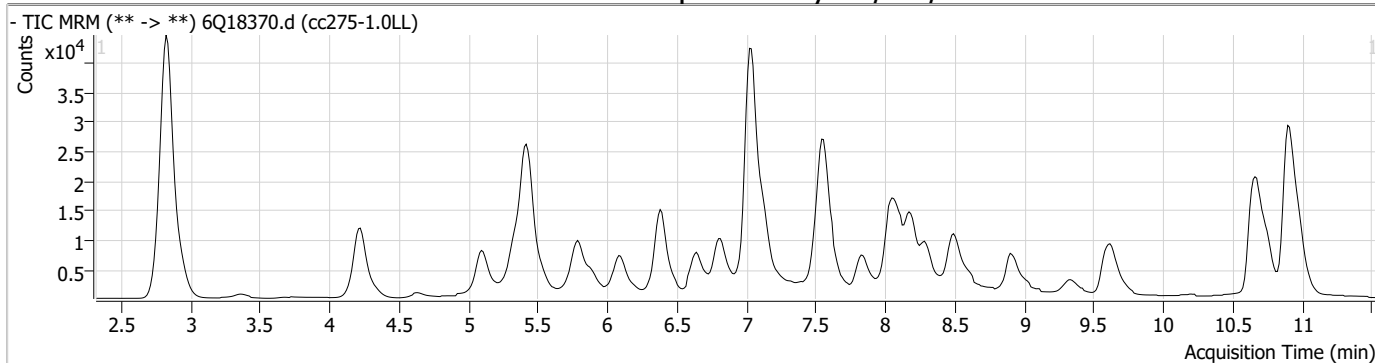
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.16

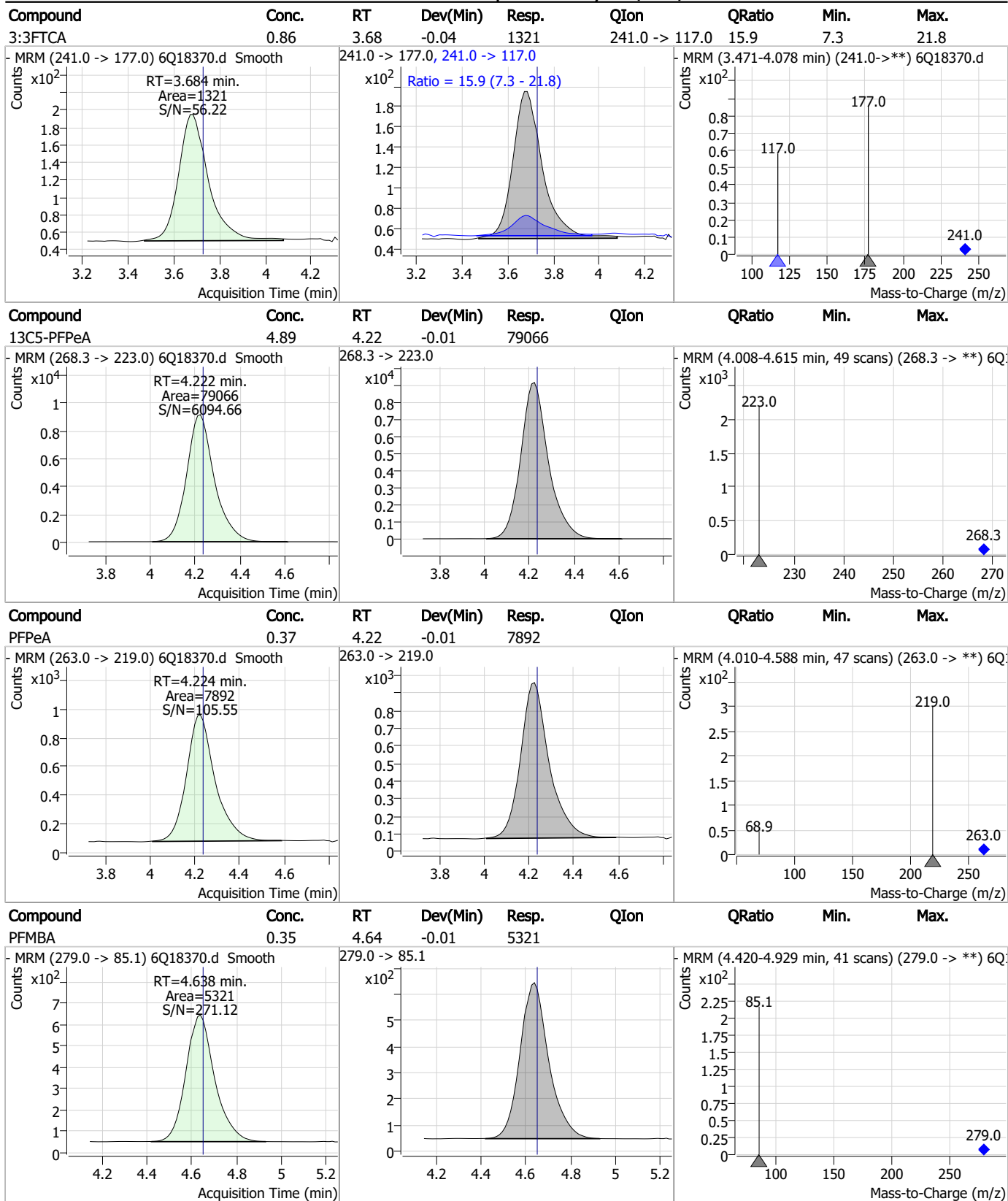
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Perfluorinated Compounds by LC/MS/MS



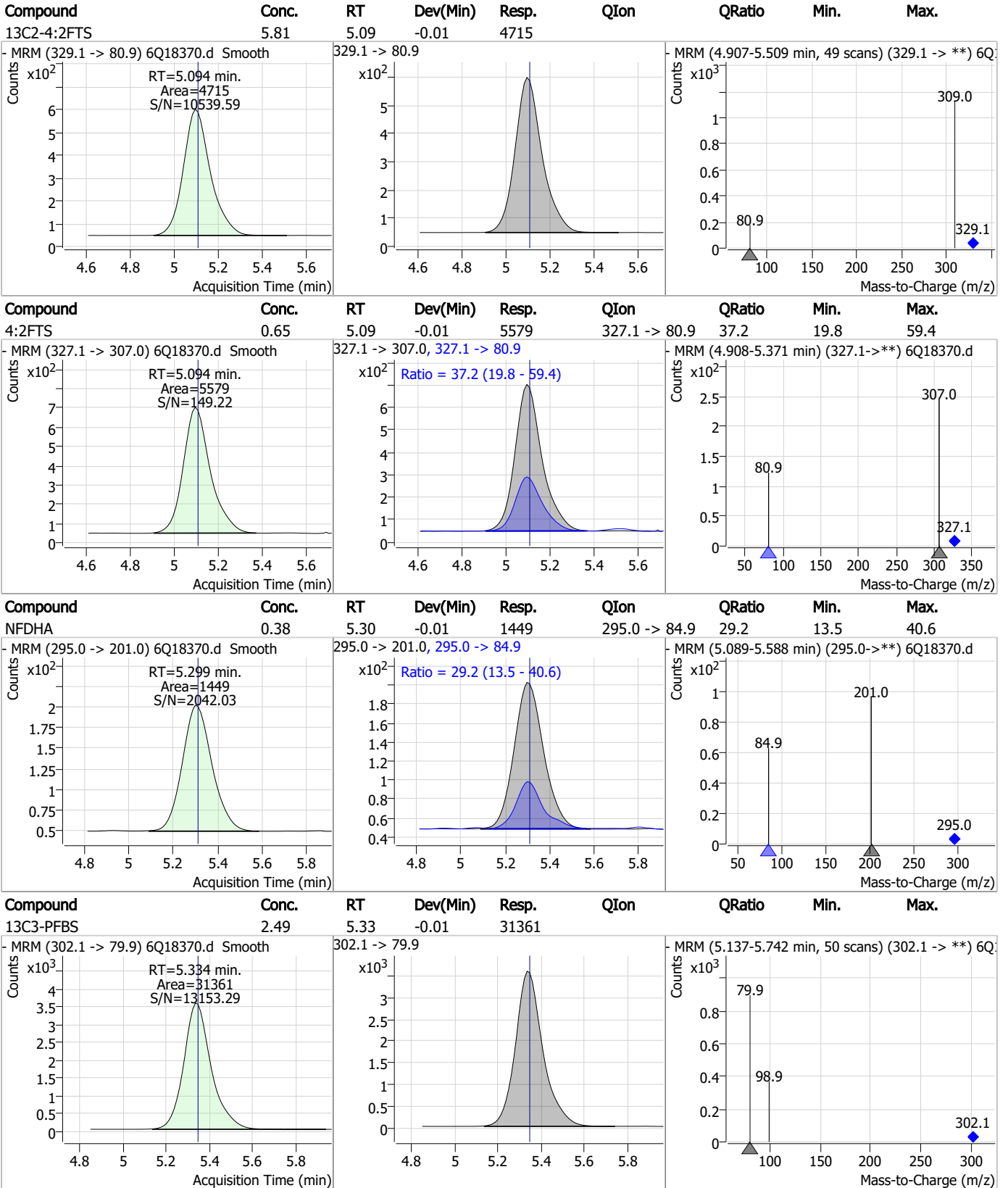
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Perfluorinated Compounds by LC/MS/MS



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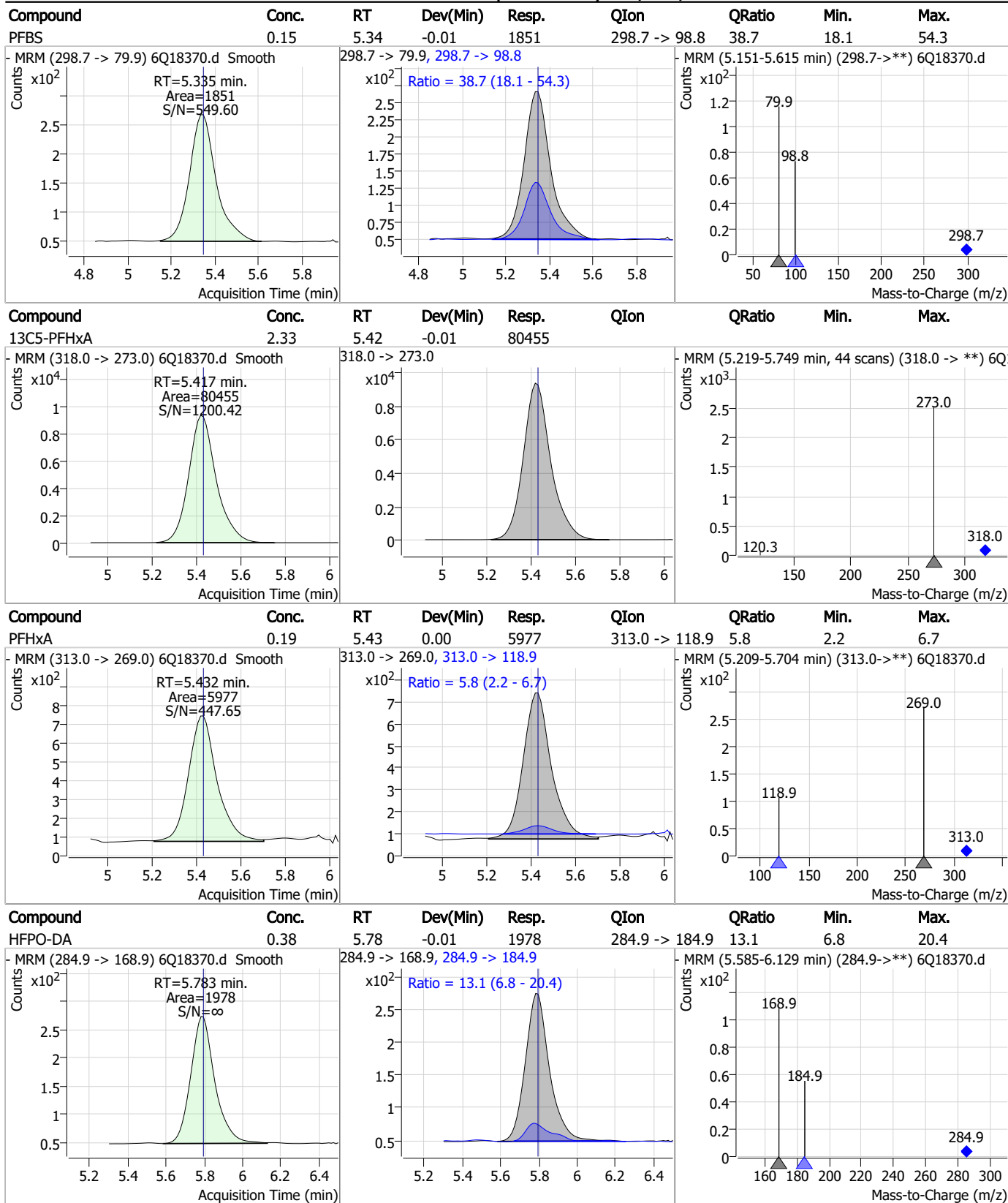
Perfluorinated Compounds by LC/MS/MS



7.7.16 7



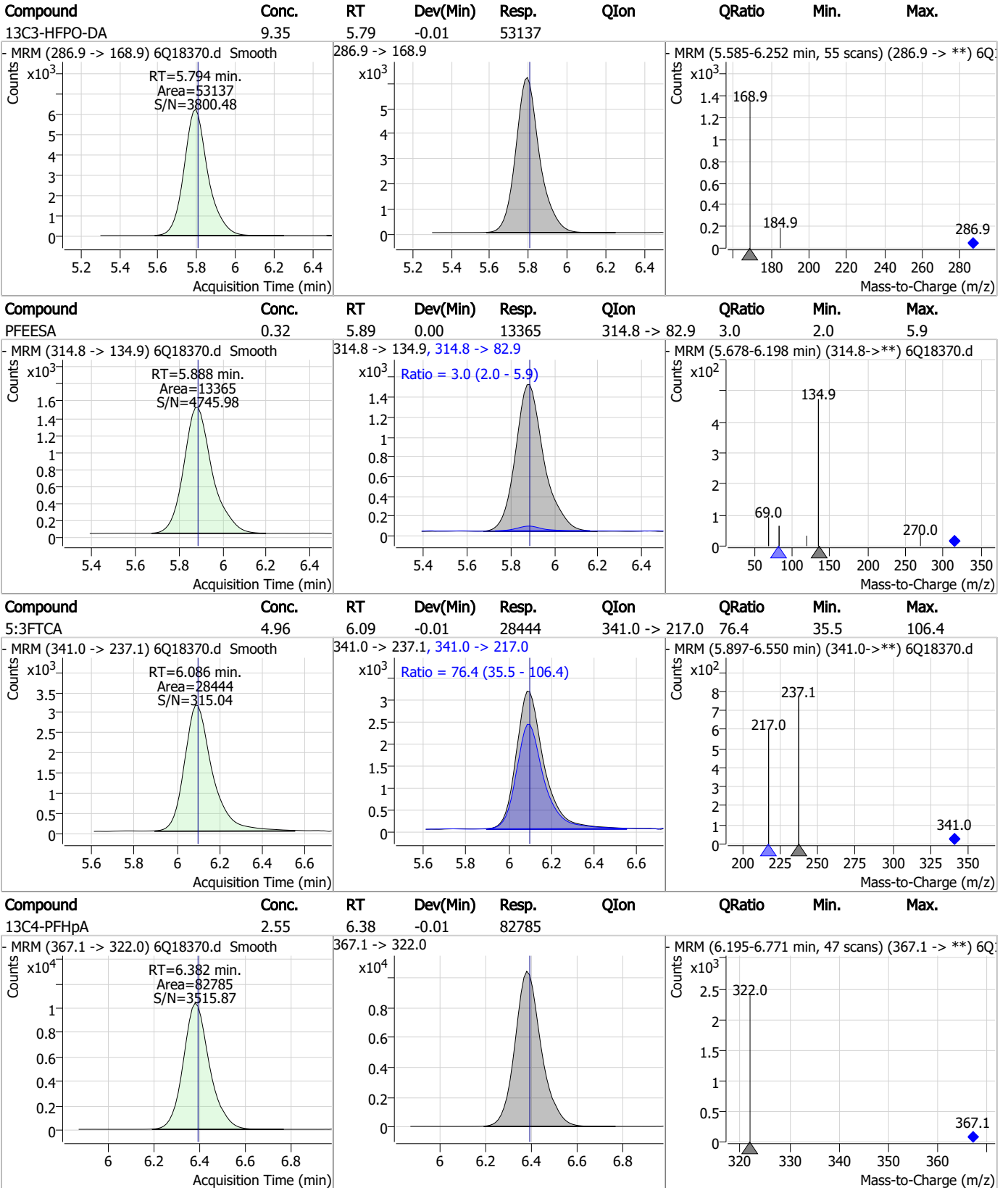
Perfluorinated Compounds by LC/MS/MS



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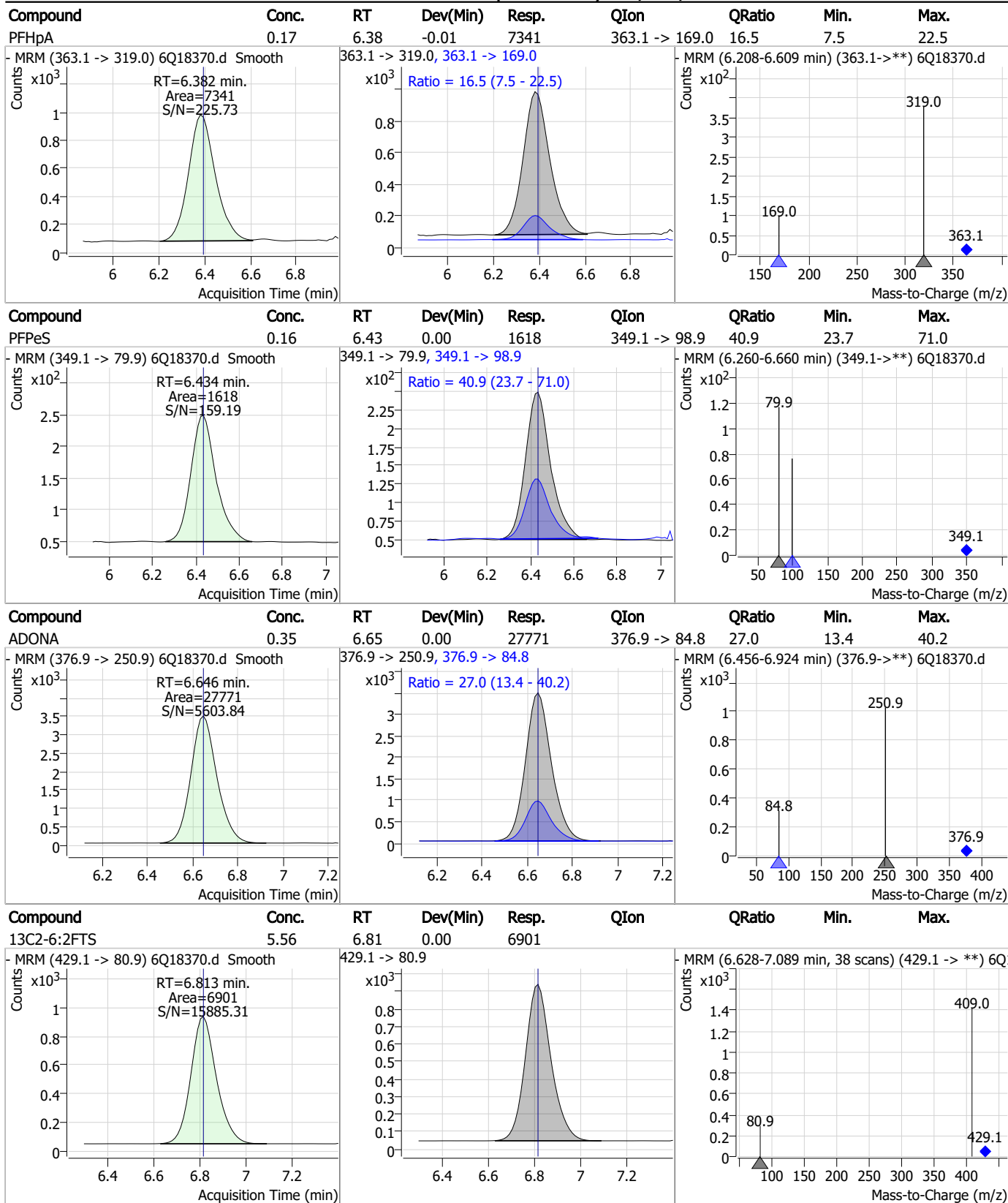
Perfluorinated Compounds by LC/MS/MS



7.7.16 7

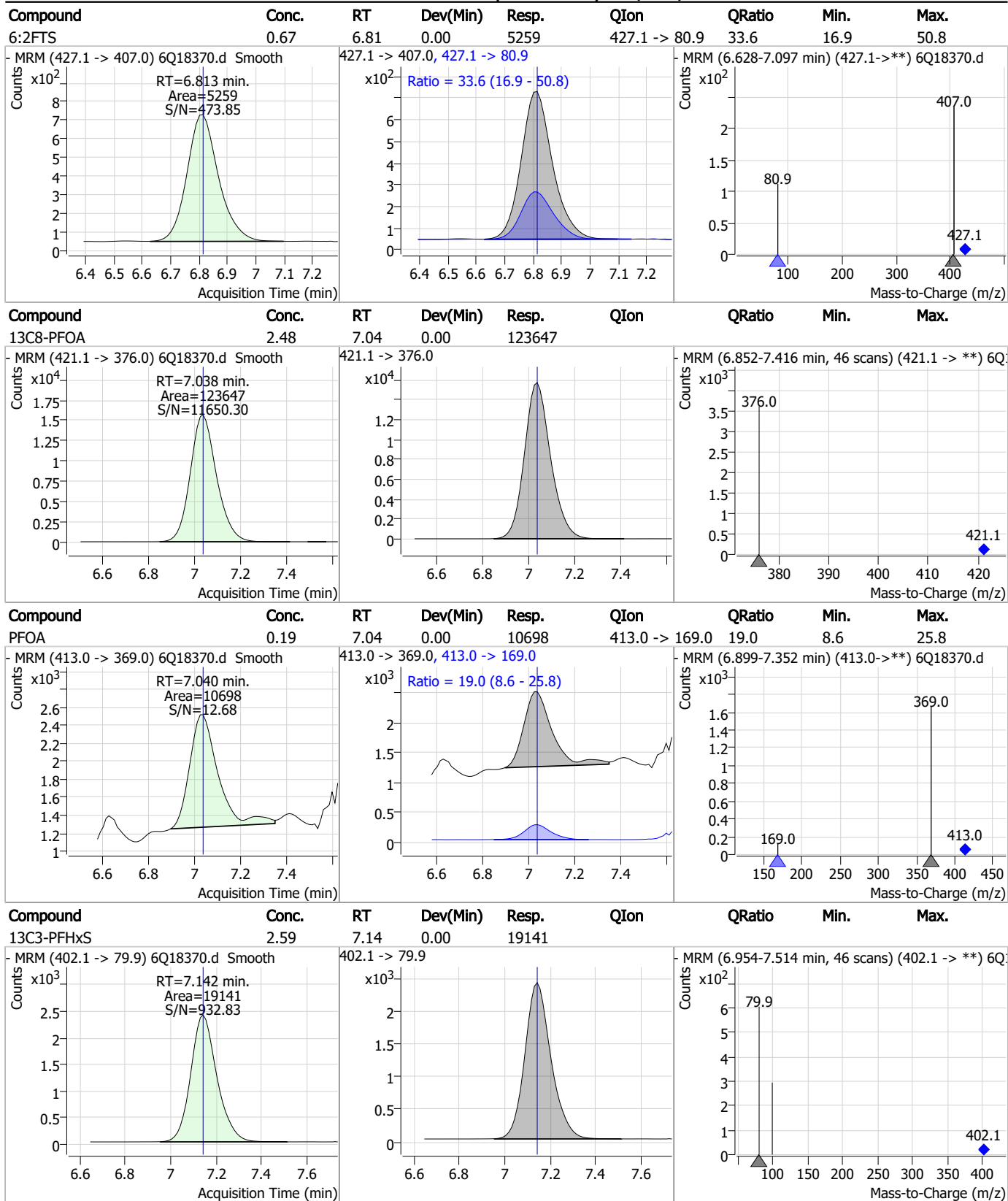


Perfluorinated Compounds by LC/MS/MS



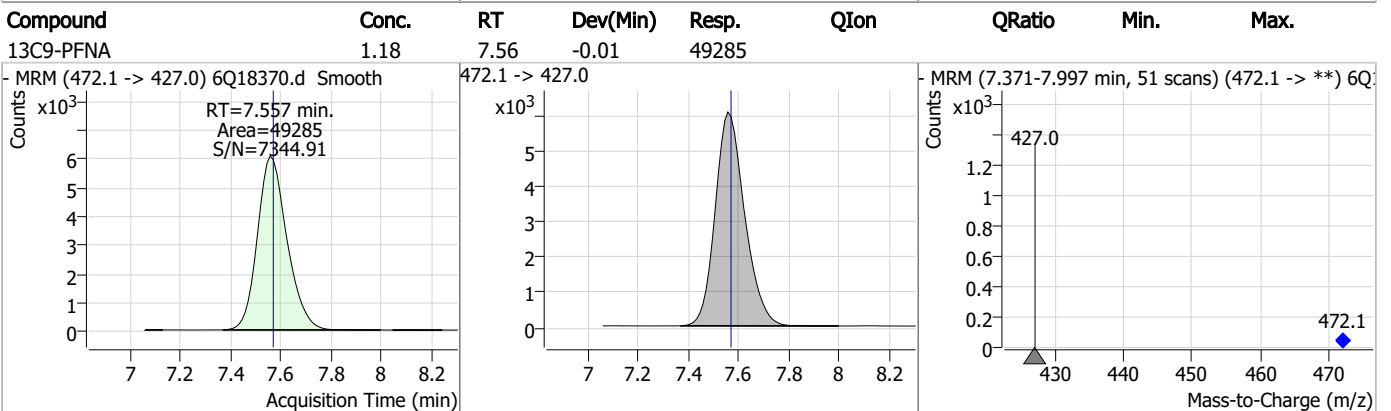
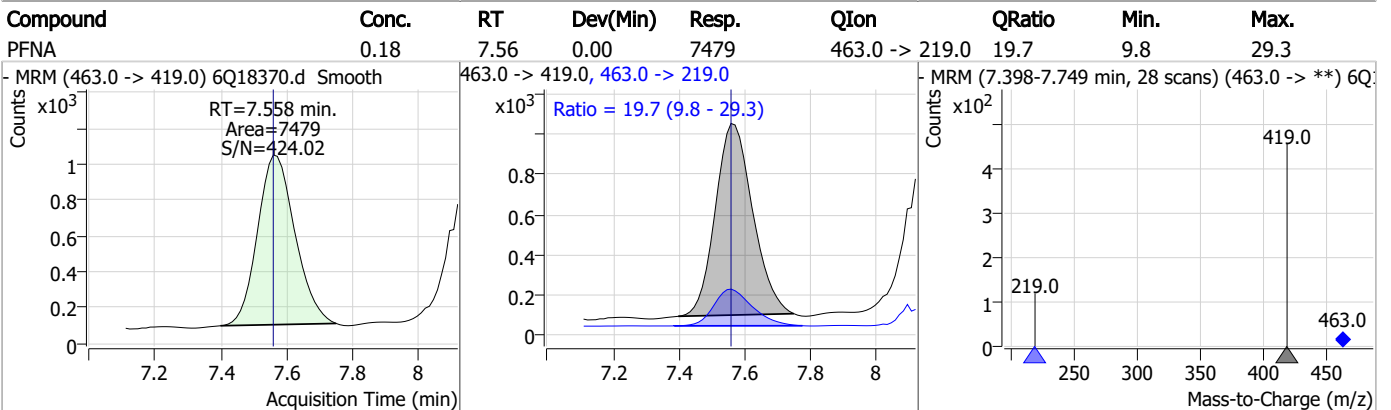
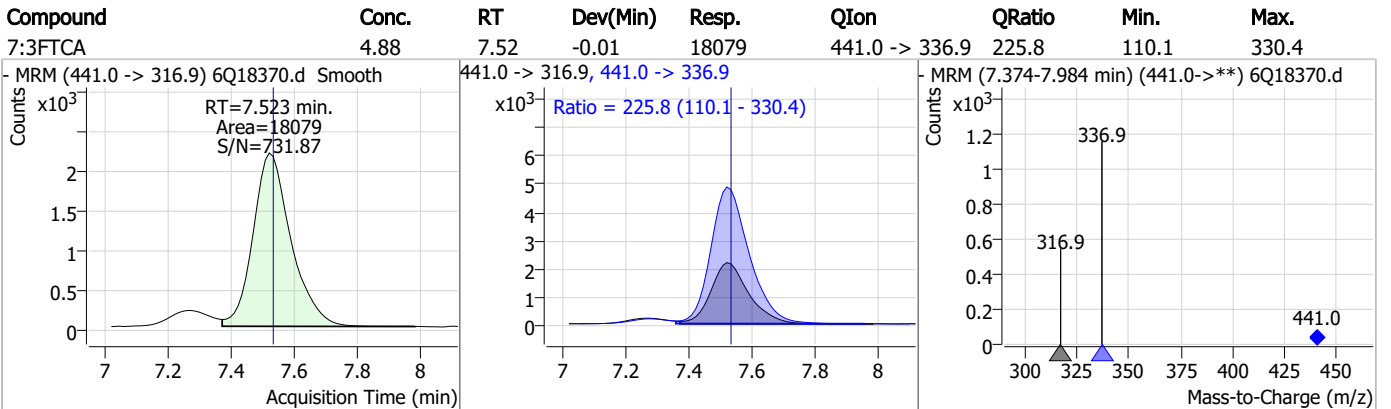
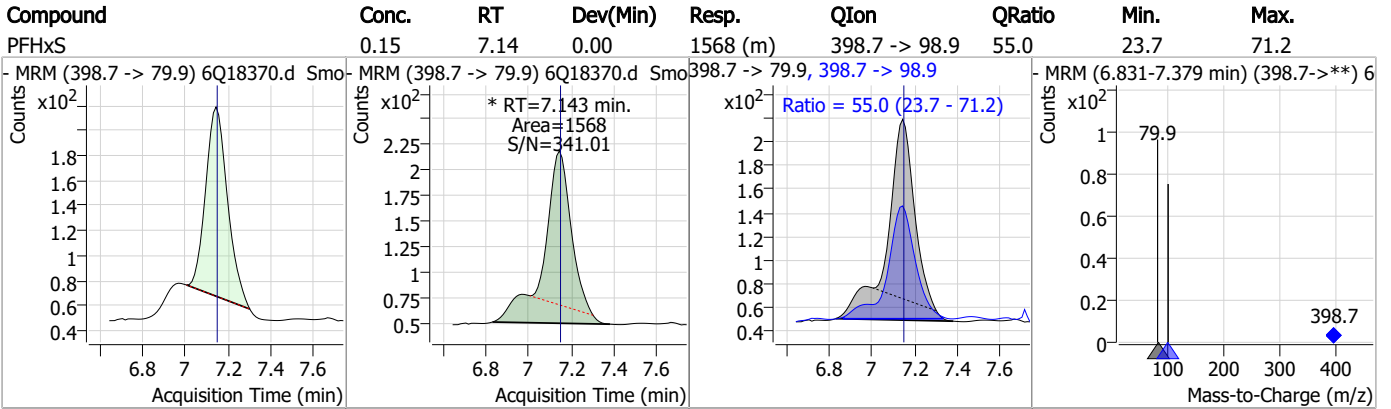
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Perfluorinated Compounds by LC/MS/MS



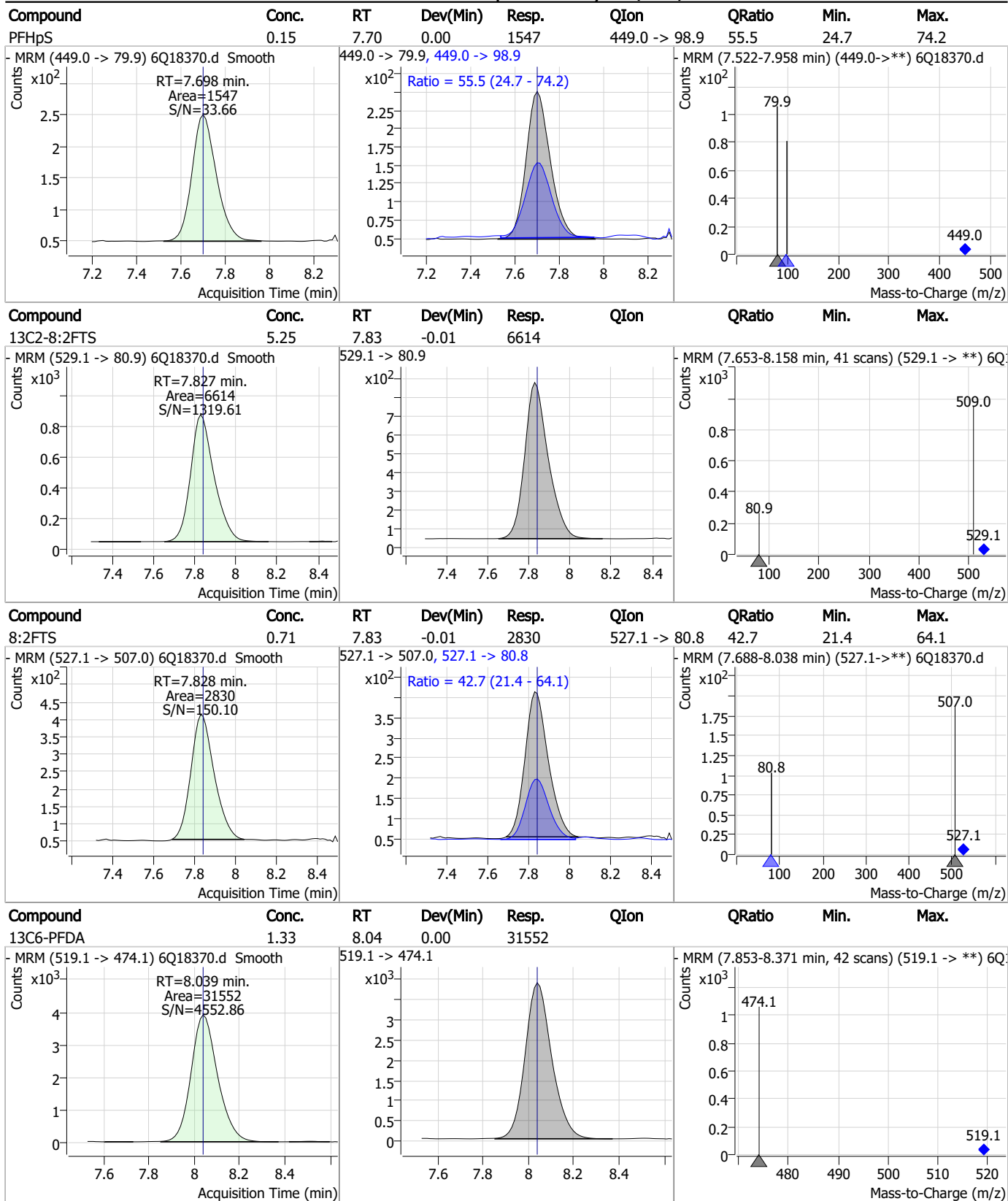
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Perfluorinated Compounds by LC/MS/MS



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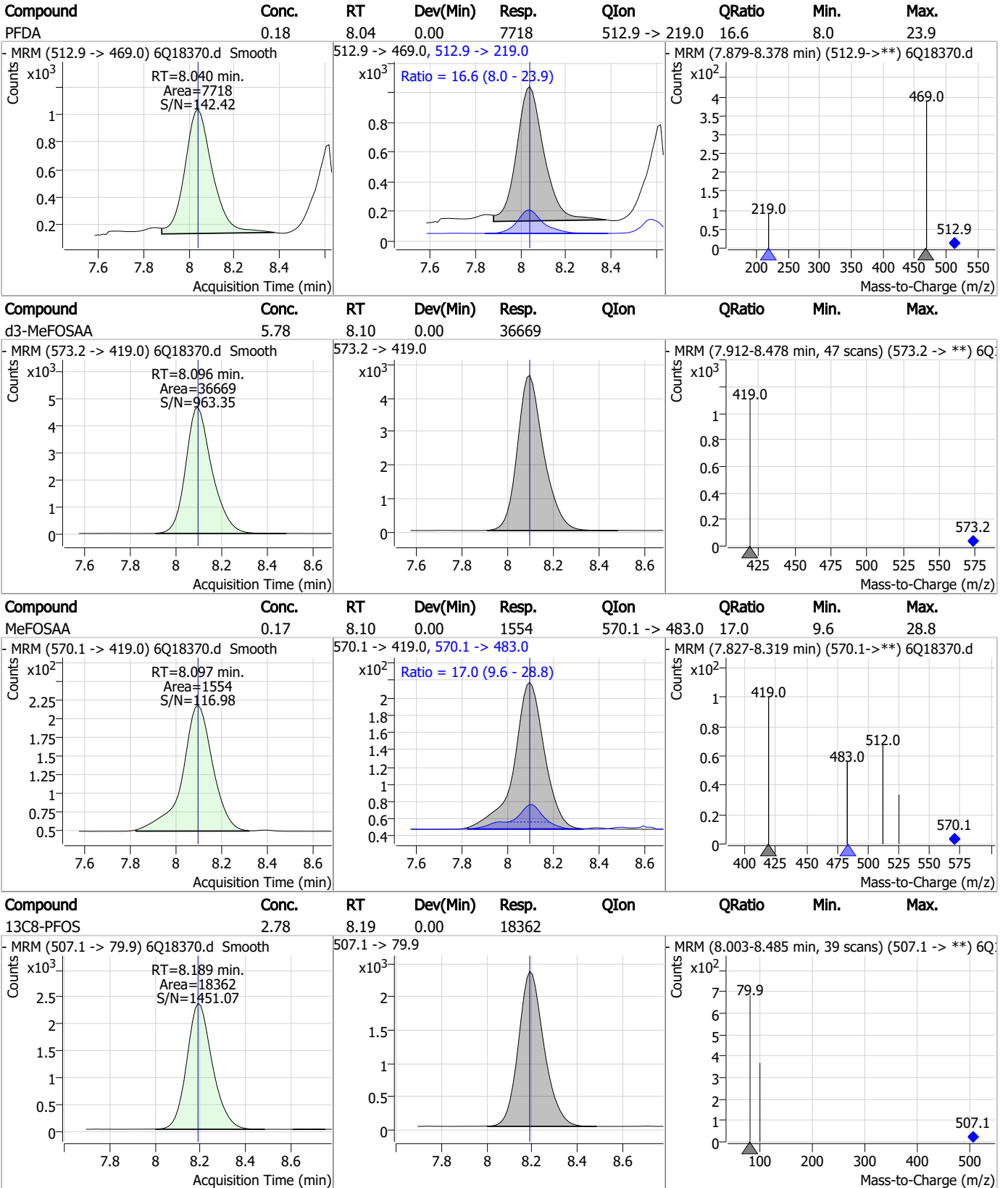
Perfluorinated Compounds by LC/MS/MS



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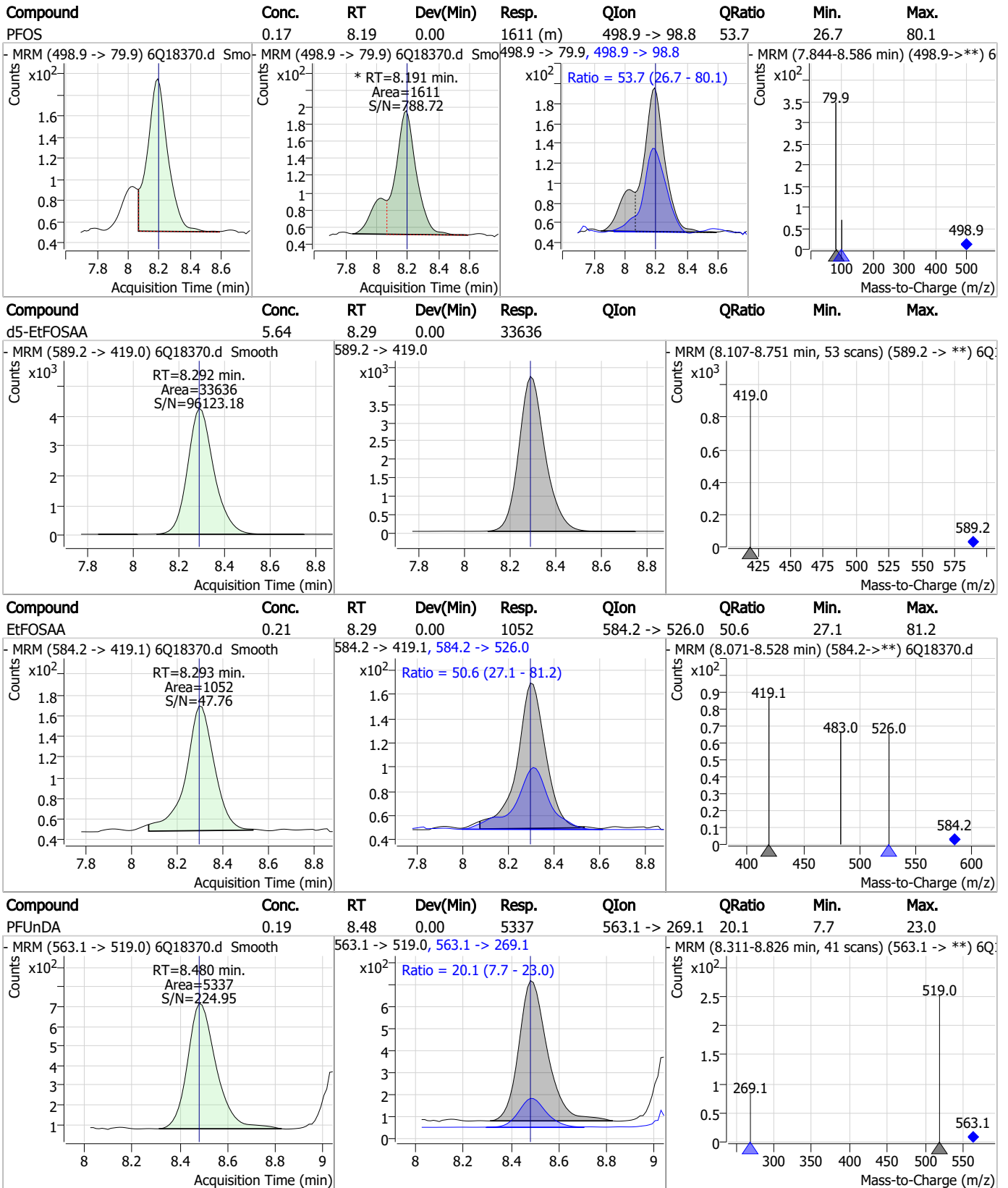
Perfluorinated Compounds by LC/MS/MS



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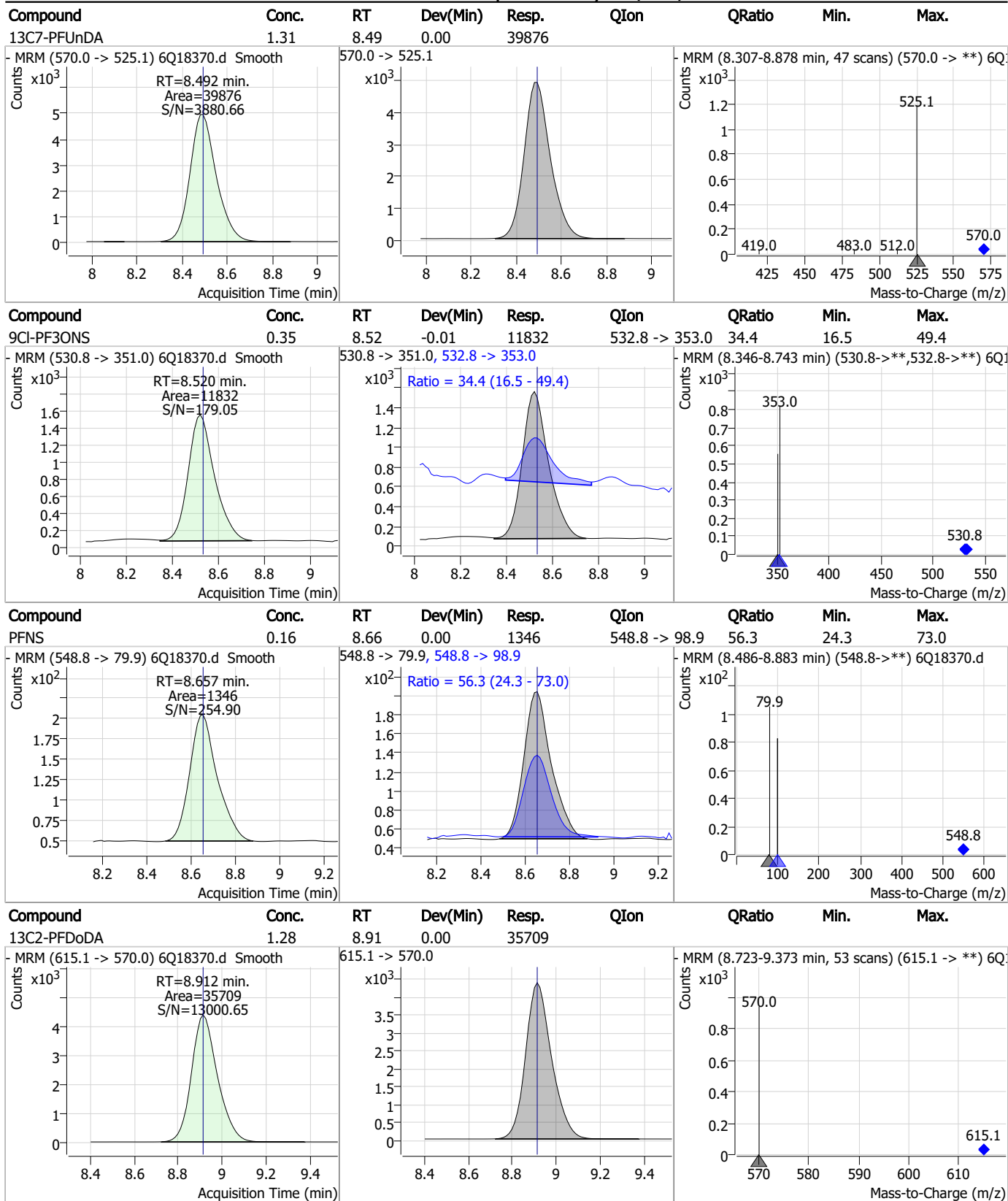
Perfluorinated Compounds by LC/MS/MS



7.7.16 7

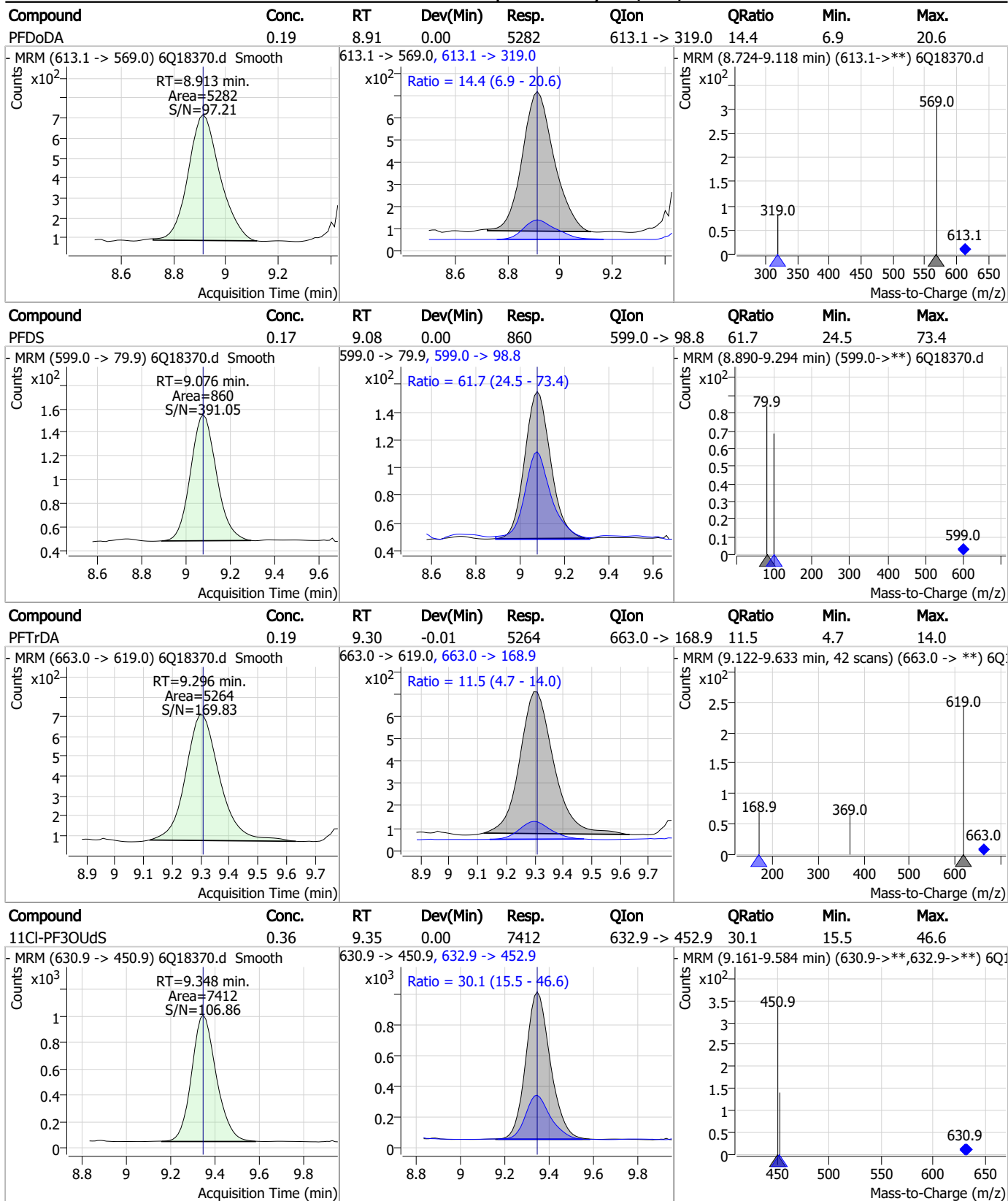


Perfluorinated Compounds by LC/MS/MS



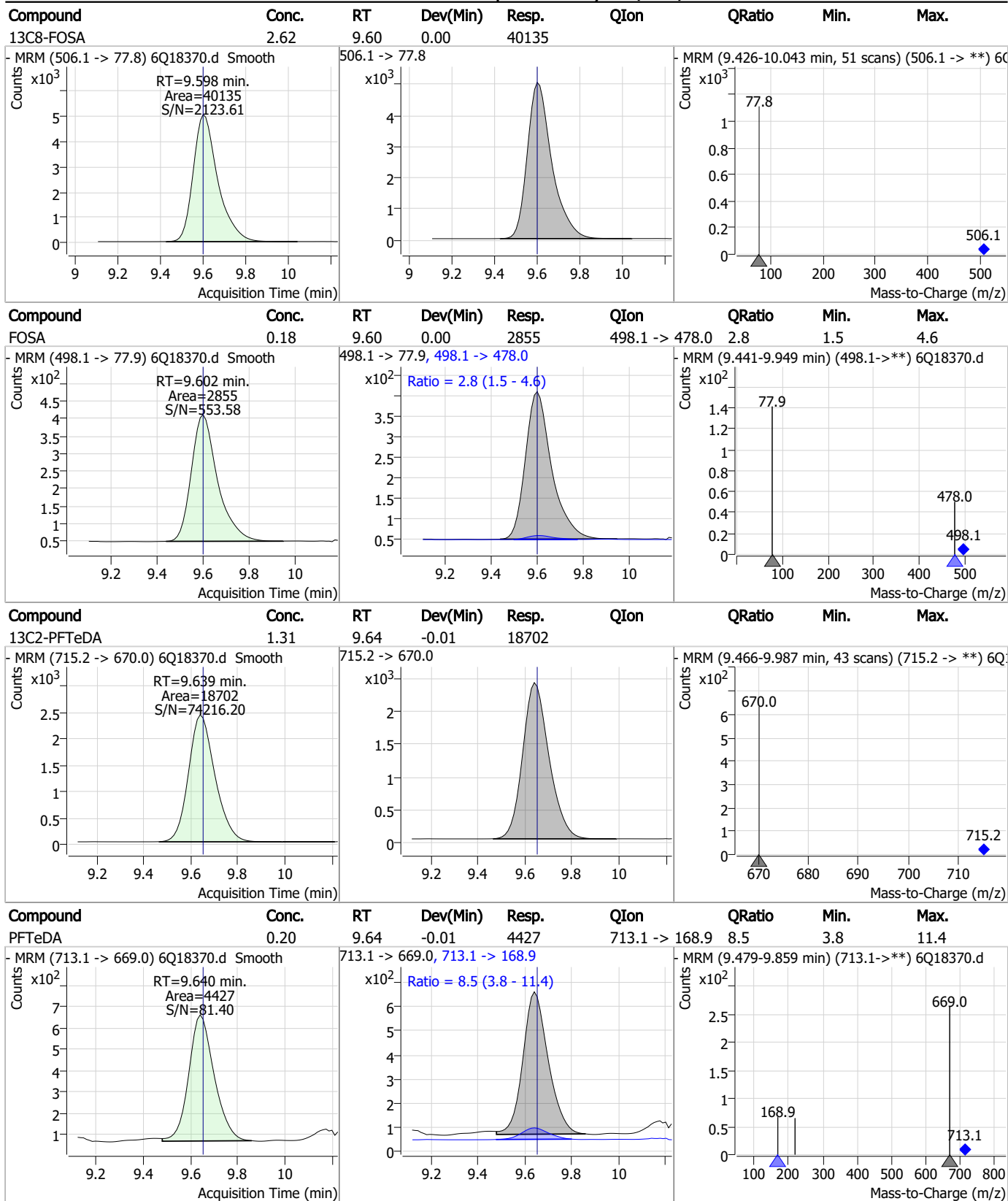
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Perfluorinated Compounds by LC/MS/MS



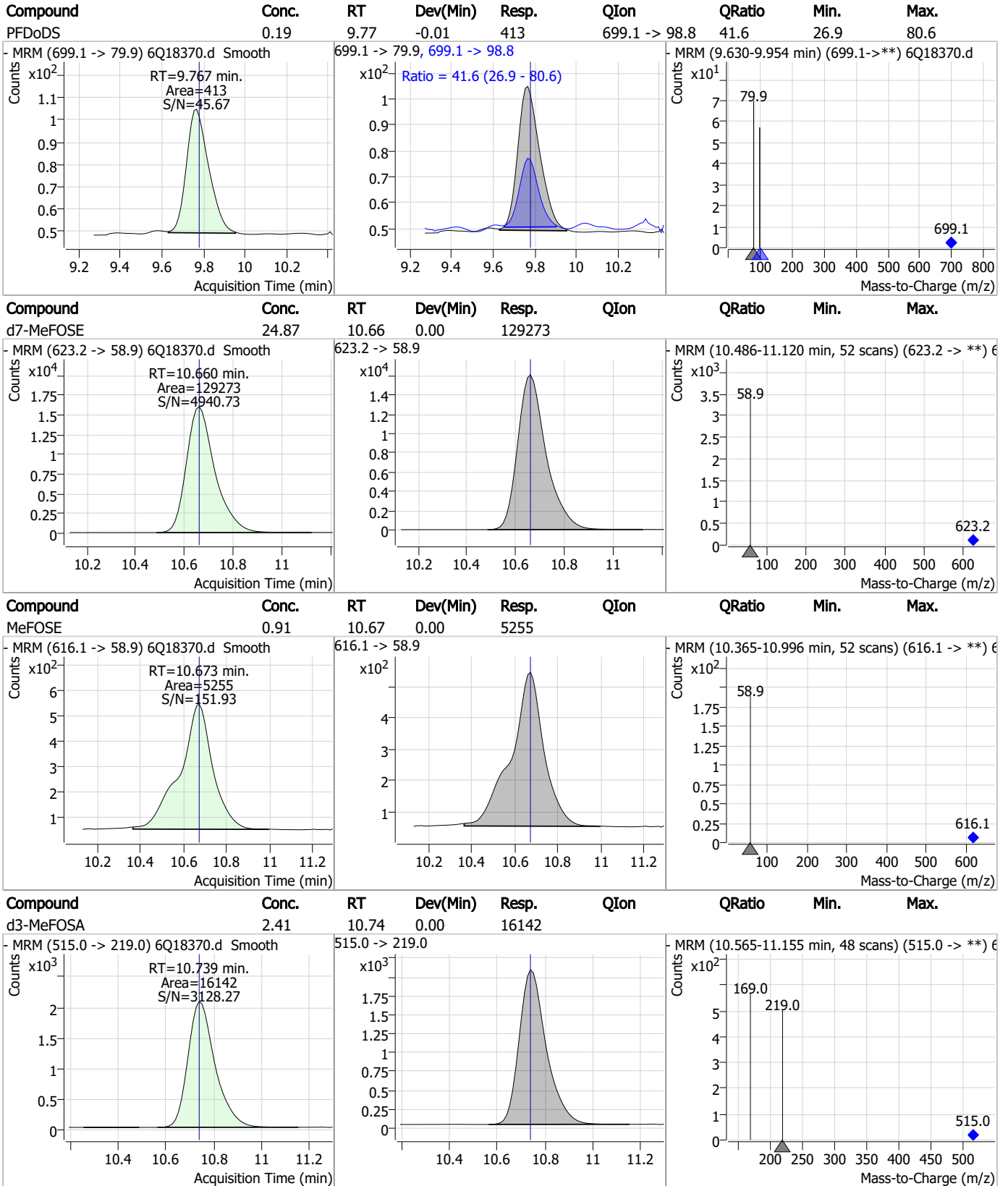
7.7.16
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Perfluorinated Compounds by LC/MS/MS



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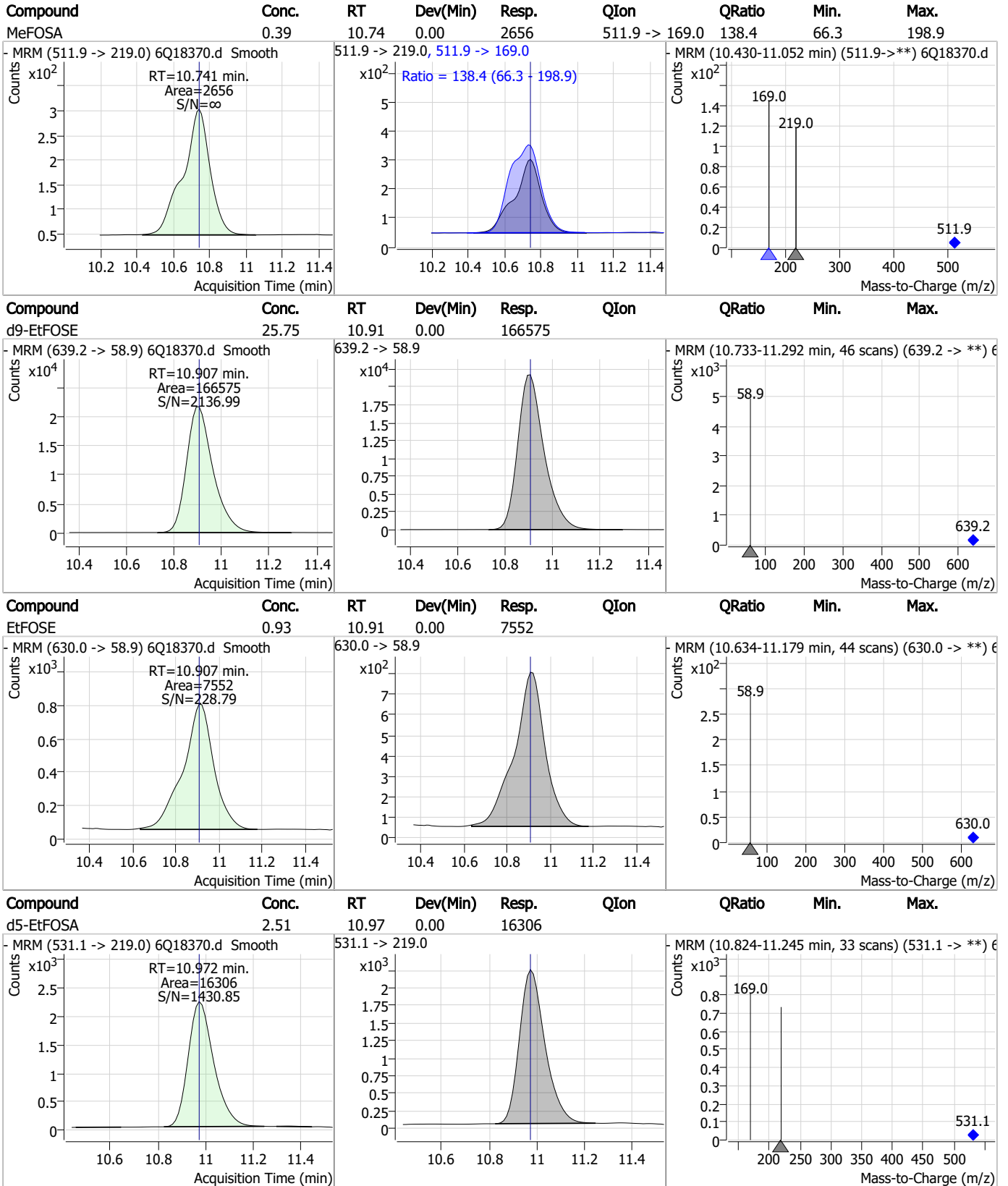
Perfluorinated Compounds by LC/MS/MS



7.7.16 7



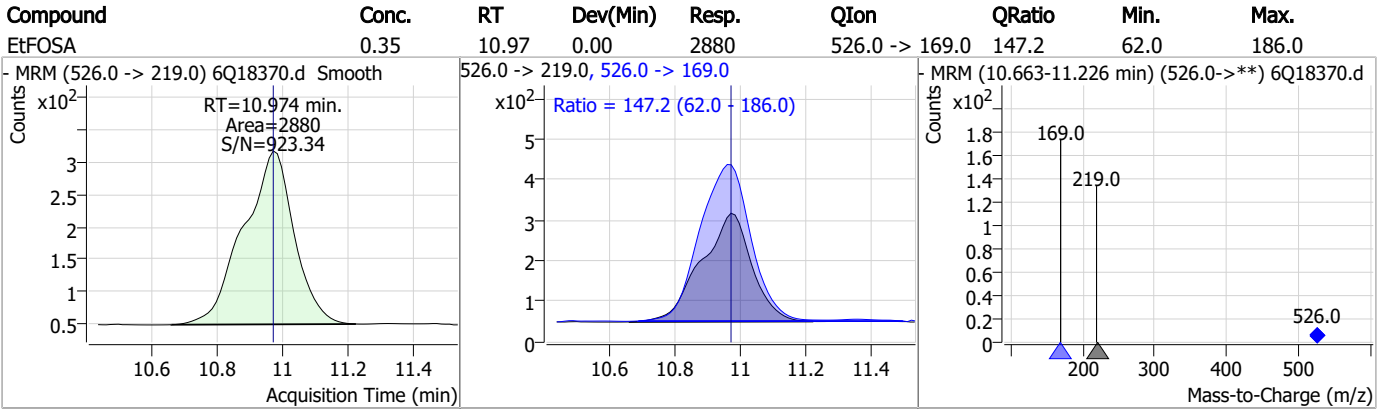
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18370.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/25/23 02:33 Supervisor approved: 05/25/23 13:08 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18382.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 9:26:01 AM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	218329	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	71547	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	77230	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	72725	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	111066	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	46440	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	27832	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	37183	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	31911	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	17056	1.25 µg/L	-0.012
M8-FOSA	9.611	506.1 -> 77.8	37700	2.50 µg/L	0.012
M3-PFBS	5.359	302.1 -> 79.9	28025	2.50 µg/L	0.012
M3-PFHxS	7.142	402.1 -> 79.9	17585	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15460	2.50 µg/L	0.000
M2-4:2FTS	5.106	329.1 -> 80.9	4151	5.00 µg/L	0.000
M2-6:2FTS	6.813	429.1 -> 80.9	5958	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5749	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	30257	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	50580	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29376	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	126356	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	157302	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15200	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15239	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19746	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	92650	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	12411	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	114567	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37576	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	55089	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	74837	2.50 µg/L	0.000

System Monitoring Compounds

13C2-4:2FTS	5.106	329.1 -> 80.9	4151	5.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5958	5.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5749	4.96 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C2-PFDoDA	8.912	615.1 -> 570.0	31911	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	17056	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.9%		
13C3-PFBS	5.359	302.1 -> 79.9	28025	2.43 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C3-PFHxS	7.142	402.1 -> 79.9	17585	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 = 103.5%	
13C4-PFBA	2.876	216.8 -> 171.9	218329	9.90 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C4-PFHpA	6.382	367.1 -> 322.0	72725	2.54 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C5-PFHxA	5.429	318.0 -> 273.0	77230	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFPeA	4.235	268.3 -> 223.0	71547	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	27832	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	37183	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C8-FOSA	9.611	506.1 -> 77.8	37700	2.65 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-PFOA	7.038	421.1 -> 376.0	111066	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C8-PFOS	8.189	507.1 -> 79.9	15460	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C9-PFNA	7.557	472.1 -> 427.0	46440	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30257	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	50580	10.09 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	15239	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29376	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	126356	26.26 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	157302	26.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
d5-EtFOSA	10.972	531.1 -> 219.0	15200	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	63890	8.40 µg/L	96
		327.1 -> 80.9	23711		
6:2FTS	6.813	427.1 -> 407.0	65615	9.74 µg/L	97
		427.1 -> 80.9	21261		
8:2FTS	7.828	527.1 -> 507.0	34564	9.99 µg/L	96
		527.1 -> 80.8	13943		
EtFOSAA	8.293	584.2 -> 419.1	10889	2.43 µg/L	94
		584.2 -> 526.0	5449		
FOSA	9.602	498.1 -> 77.9	34118	2.33 µg/L	100
		498.1 -> 478.0	971		
MeFOSAA	8.097	570.1 -> 419.0	20097	2.73 µg/L	98
		570.1 -> 483.0	3707		
PFBA	2.882	212.8 -> 168.9	81326	9.55 µg/L	100
PFBS	5.348	298.7 -> 79.9	22648	2.11 µg/L	97
		298.7 -> 98.8	8597		
PFDA	8.040	512.9 -> 469.0	90135	2.38 µg/L	98
		512.9 -> 219.0	15218		
PFDODA	8.913	613.1 -> 569.0	61662	2.43 µg/L	94
		613.1 -> 319.0	9831		
PFDS	9.076	599.0 -> 79.9	10146	2.34 µg/L	100

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	4983	2.39	µg/L	97
		363.1 -> 319.0	89768			
PFHpS	7.698	363.1 -> 169.0	14705	2.24	µg/L	93
		449.0 -> 79.9	18909			
PFHxA	5.432	449.0 -> 98.9	10255	2.36	µg/L	98
		313.0 -> 269.0	70736			
PFHxS	7.143	313.0 -> 118.9	3646	2.06	µg/L	m
		398.7 -> 79.9	19625			
PFNA	7.558	398.7 -> 98.9	9473	2.41	µg/L	100
		463.0 -> 419.0	92501			
PFNS	8.657	463.0 -> 219.0	18148	2.36	µg/L	95
		548.8 -> 79.9	17169			
PFOA	7.040	548.8 -> 98.9	8954	2.44	µg/L	97
		413.0 -> 369.0	126632			
PFOS	8.191	413.0 -> 169.0	23200	2.17	µg/L	m
		498.9 -> 79.9	17786			
PFPeA	4.237	498.9 -> 98.8	9295	4.85	µg/L	100
		263.0 -> 219.0	93602			
PFPeS	6.434	349.1 -> 79.9	20200	2.16	µg/L	99
		349.1 -> 98.9	9354			
PFTeDA	9.640	713.1 -> 669.0	45149	2.27	µg/L	96
		713.1 -> 168.9	4137			
PFTrDA	9.309	663.0 -> 619.0	63665	2.58	µg/L	95
		663.0 -> 168.9	6994			
PFUnDA	8.480	563.1 -> 519.0	63663	2.40	µg/L	96
		563.1 -> 269.1	10833			
11CI-PF3OUdS	9.348	630.9 -> 450.9	86314	4.44	µg/L	99
		632.9 -> 452.9	27498			
9CI-PF3ONS	8.520	530.8 -> 351.0	143639	4.42	µg/L	98
		532.8 -> 353.0	48894			
ADONA	6.646	376.9 -> 250.9	339826	4.56	µg/L	99
		376.9 -> 84.8	88846			
HFPO-DA	5.795	284.9 -> 168.9	23762	4.79	µg/L	95
		284.9 -> 184.9	2779			
3:3FTCA	3.727	241.0 -> 177.0	15937	11.45	µg/L	96
		241.0 -> 117.0	2024			
5:3FTCA	6.099	341.0 -> 237.1	318908	57.91	µg/L	98
		341.0 -> 217.0	231411			
7:3FTCA	7.523	441.0 -> 316.9	207299	58.23	µg/L	97
		441.0 -> 336.9	447044			
EtFOSA	10.974	526.0 -> 219.0	37089	4.86	µg/L	92
		526.0 -> 169.0	49457			
EtFOSE	10.920	630.0 -> 58.9	94502	12.38	µg/L	100
		511.9 -> 219.0	31008			
MeFOSA	10.741	511.9 -> 169.0	44818	4.80	µg/L	90
		616.1 -> 58.9	67332			
MeFOSE	10.673	699.1 -> 79.9	4589	11.99	µg/L	100
		699.1 -> 98.8	2471			
PFDoDS	9.767	295.0 -> 201.0	18293	2.50	µg/L	100
		295.0 -> 84.9	4656			
NFDHA	5.311	279.0 -> 85.1	65429	4.94	µg/L	97
		229.0 -> 84.9	50008			
PFMBA	4.650	314.8 -> 134.9	166883	4.82	µg/L	100
		314.8 -> 82.9	5703			
PFMPA	3.401			4.14	µg/L	99
PFEESA	5.888					

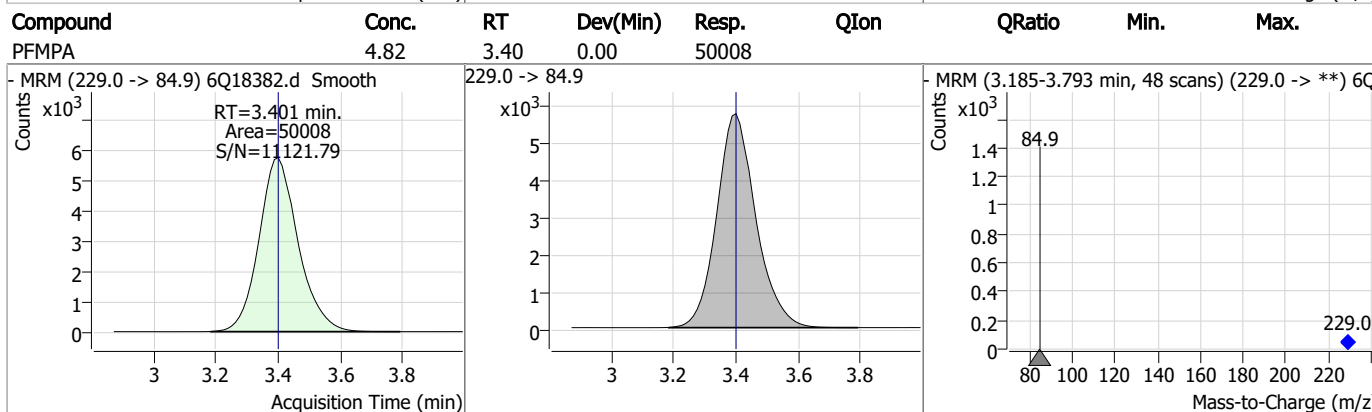
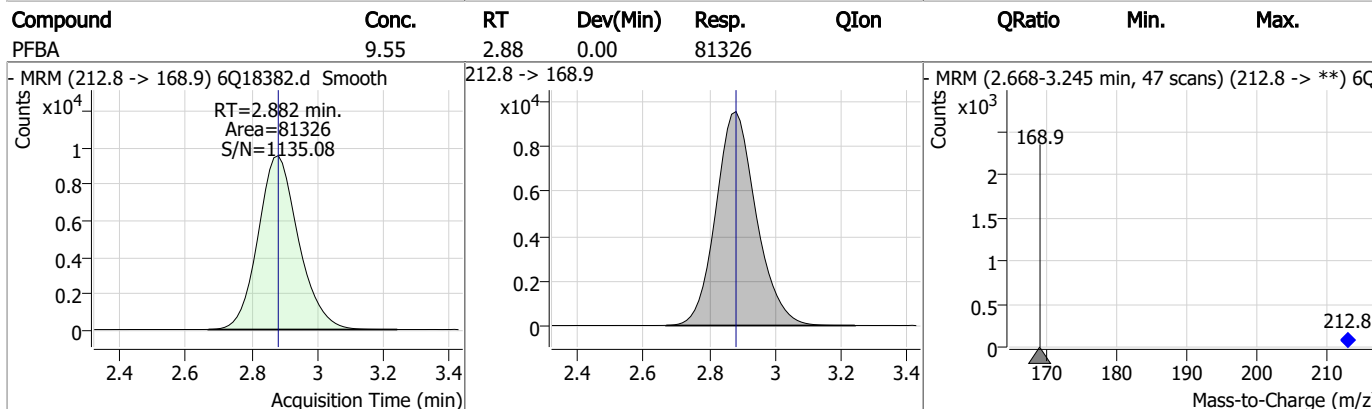
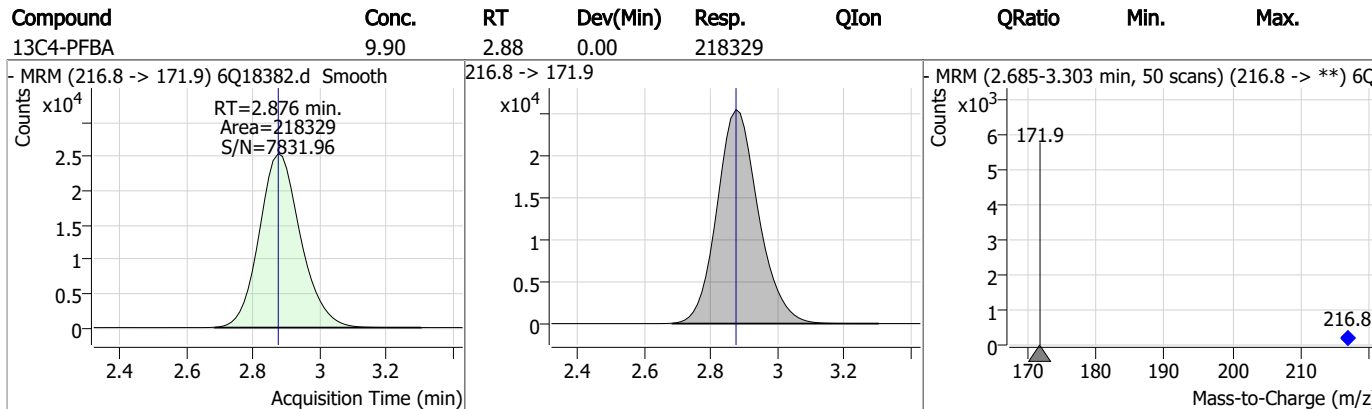
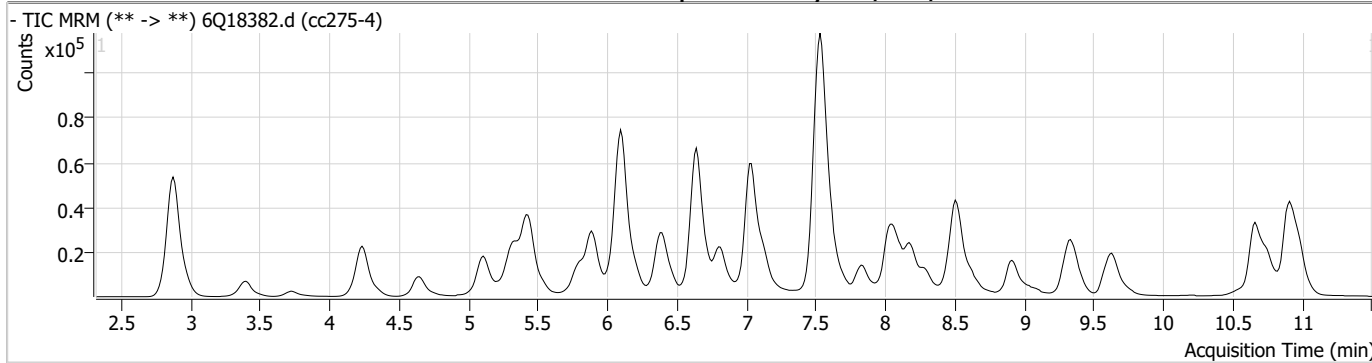
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

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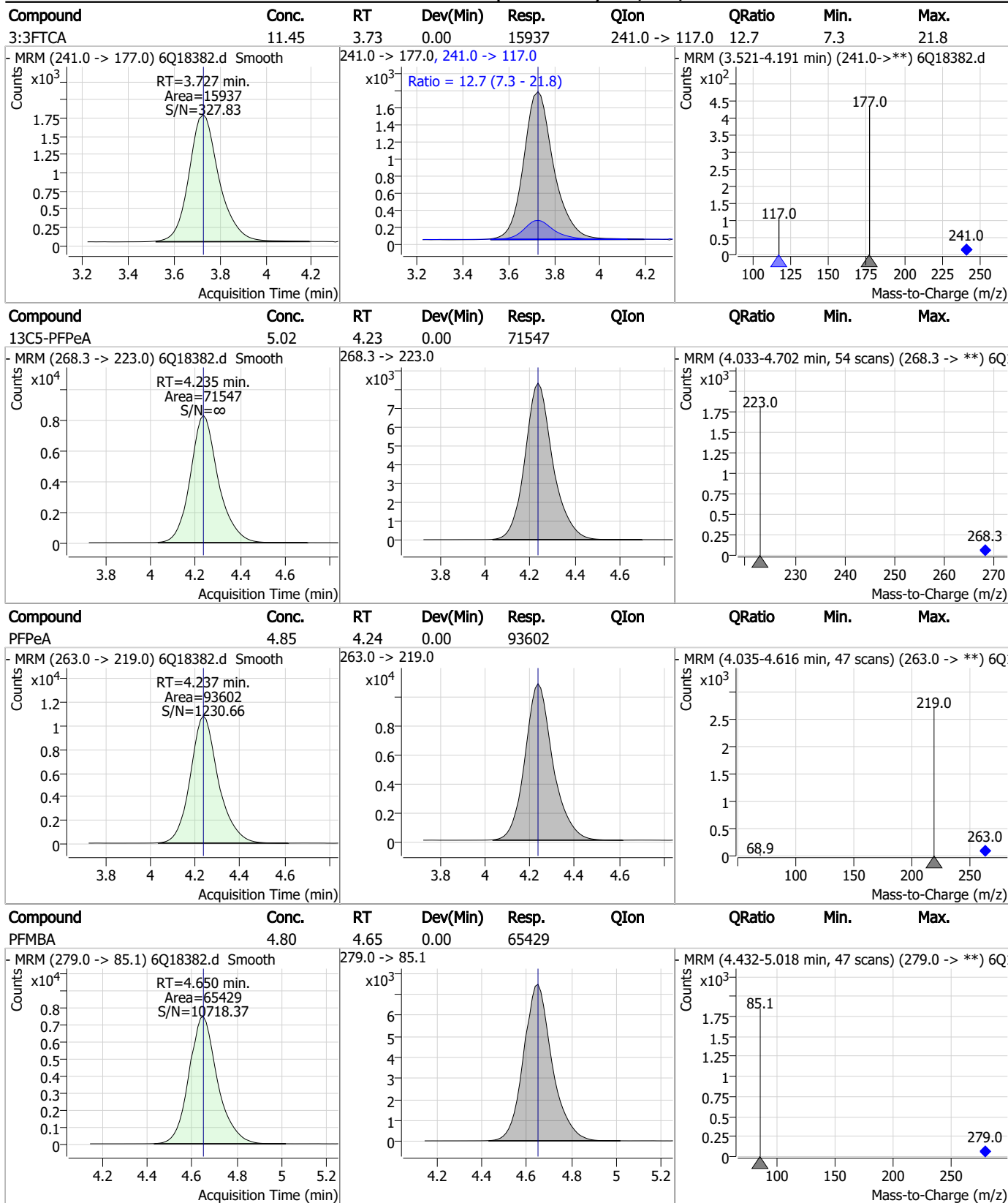
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Perfluorinated Compounds by LC/MS/MS



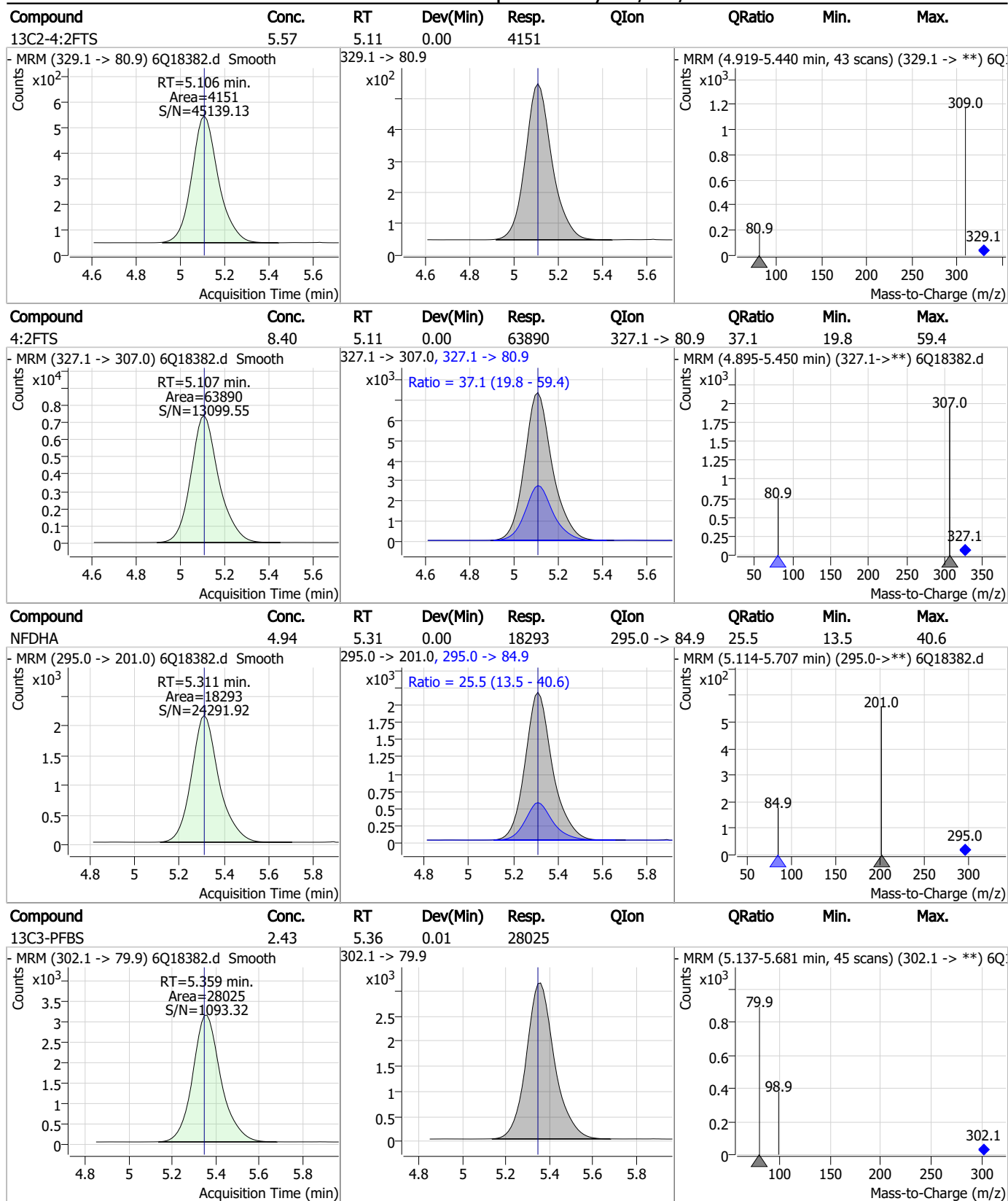
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Perfluorinated Compounds by LC/MS/MS



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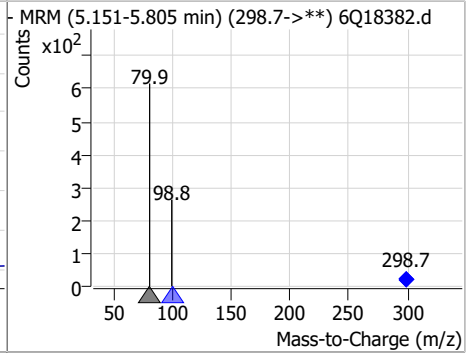
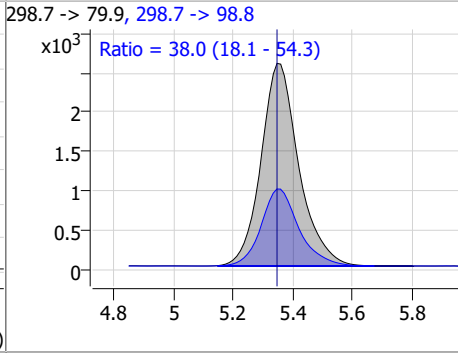
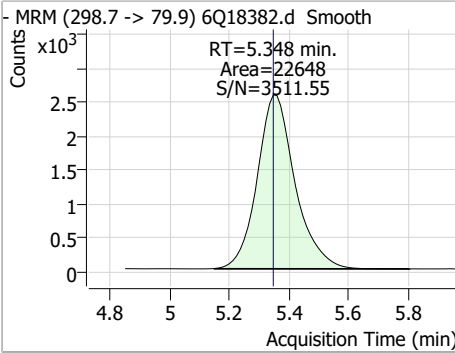
Perfluorinated Compounds by LC/MS/MS



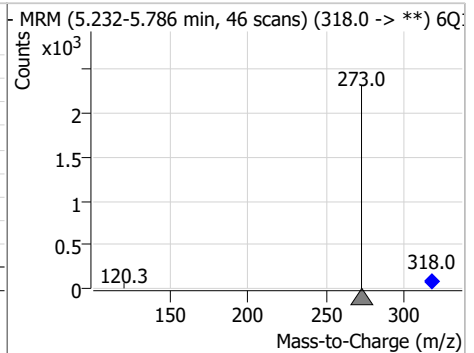
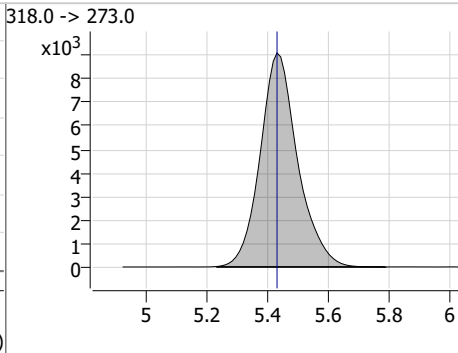
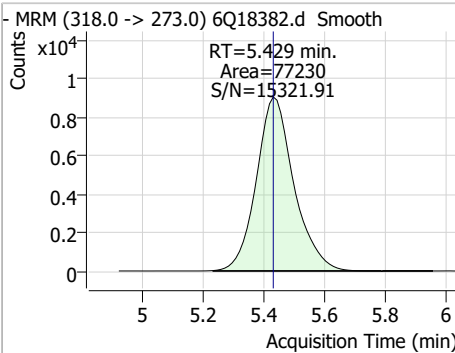
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Perfluorinated Compounds by LC/MS/MS

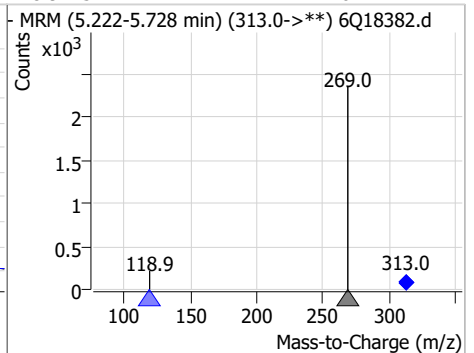
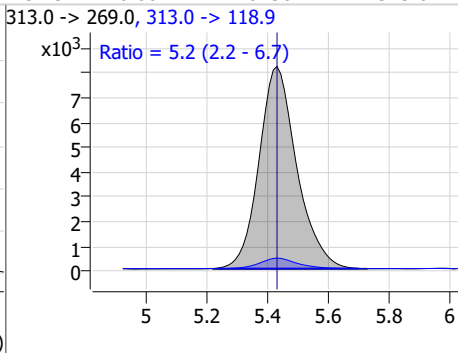
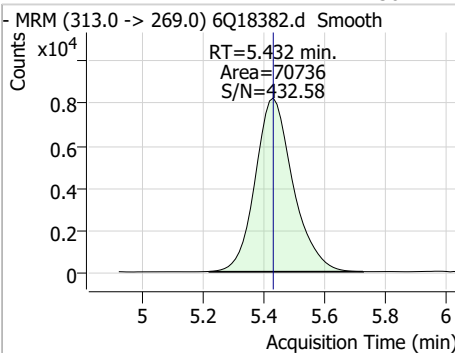
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.11	5.35	0.00	22648	298.7 -> 98.8	38.0	18.1	54.3



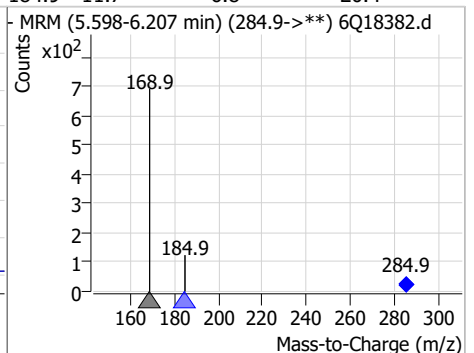
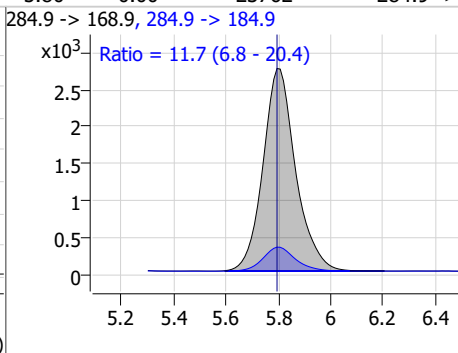
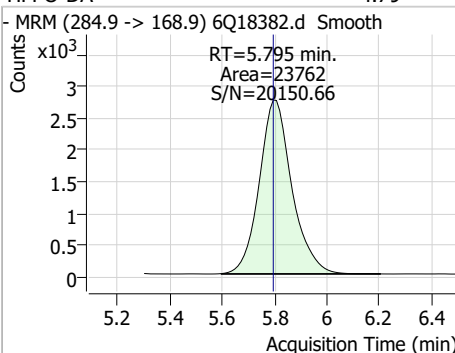
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.43	0.00	77230	318.0 -> 273.0	5.2	2.2	6.7



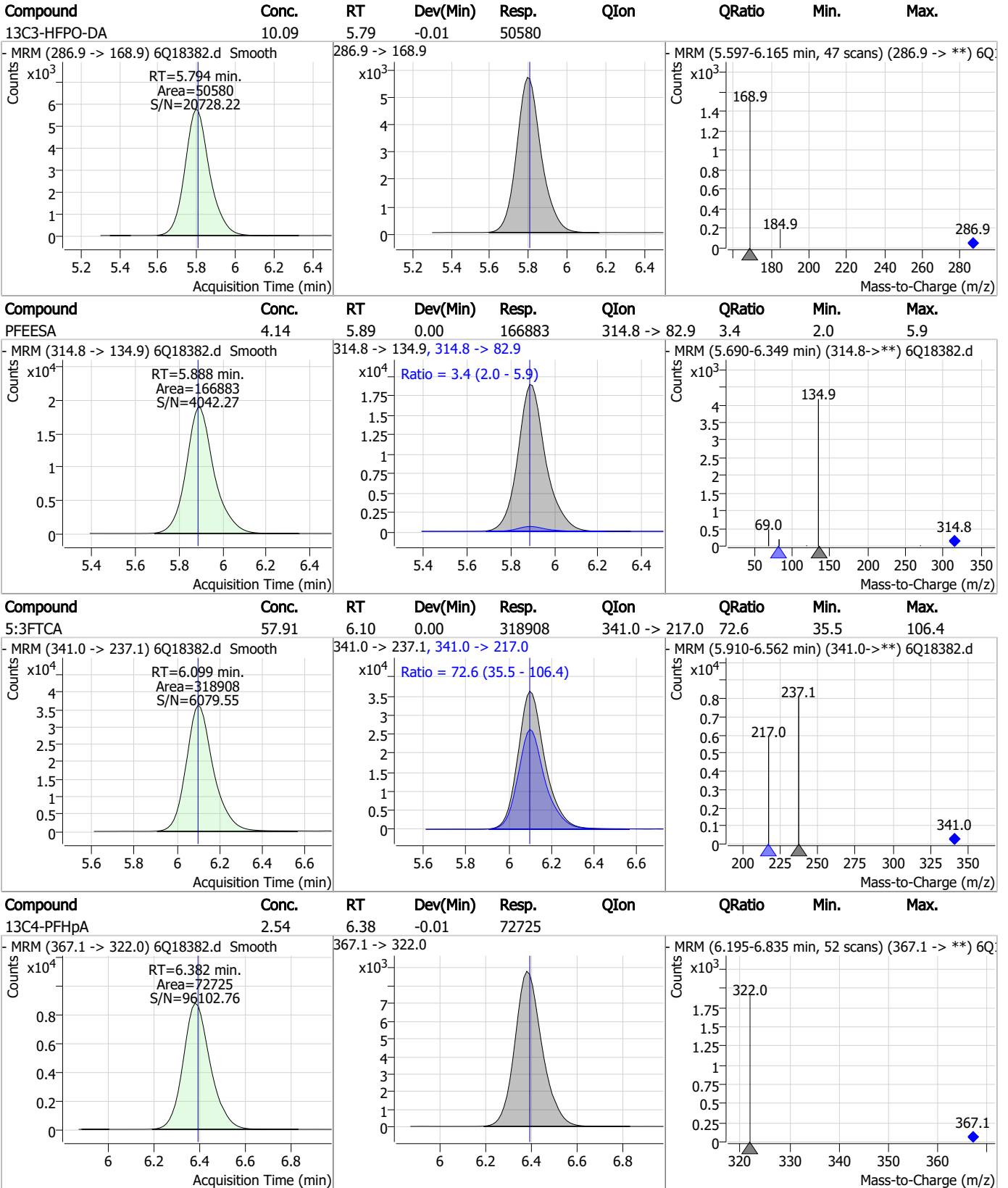
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.36	5.43	0.00	70736	313.0 -> 118.9	5.2	2.2	6.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.79	5.80	0.00	23762	284.9 -> 184.9	11.7	6.8	20.4



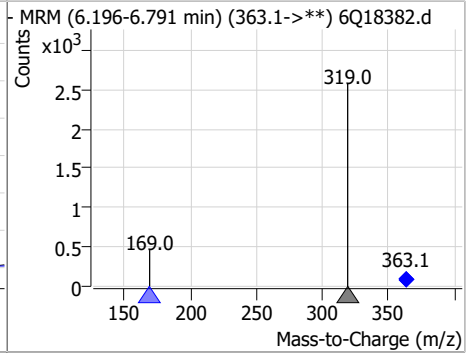
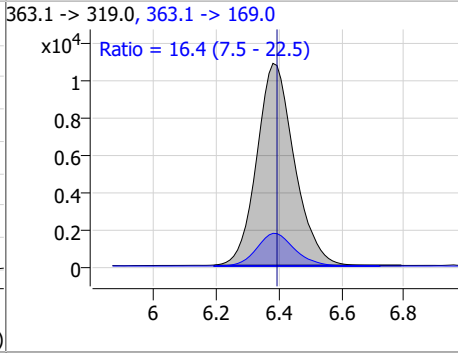
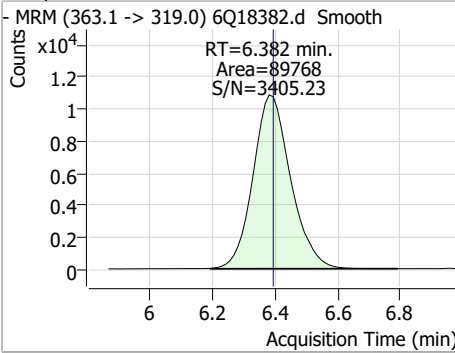
Perfluorinated Compounds by LC/MS/MS



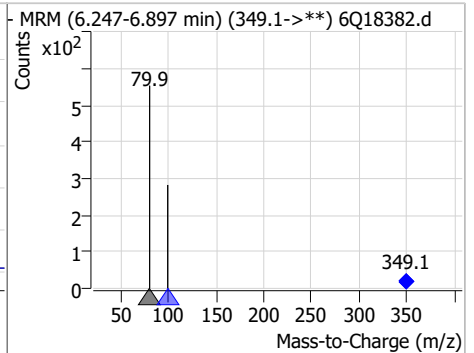
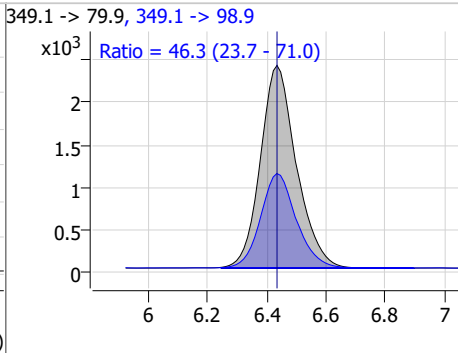
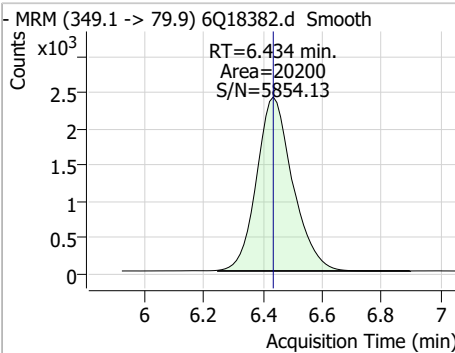
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Perfluorinated Compounds by LC/MS/MS

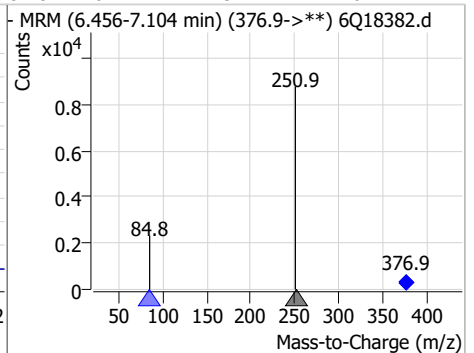
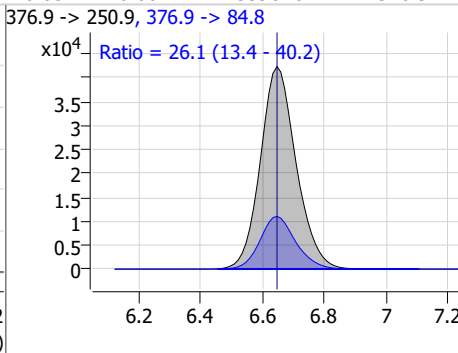
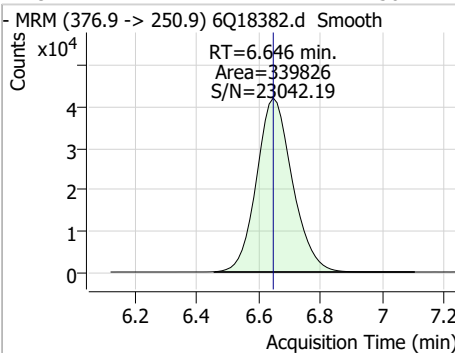
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.39	6.38	-0.01	89768	363.1 -> 169.0	16.4	7.5	22.5



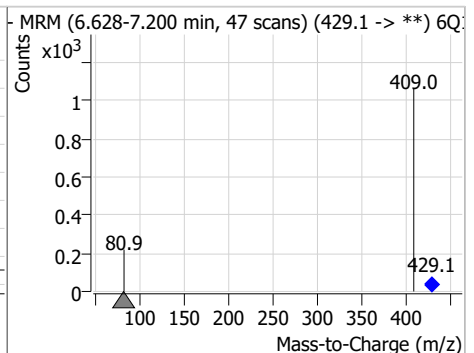
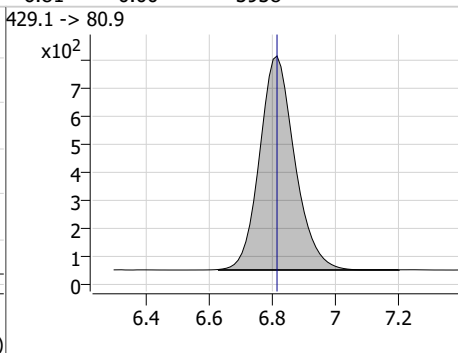
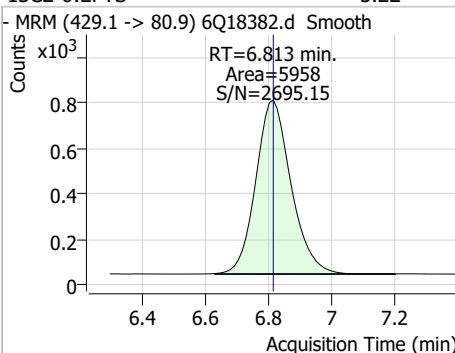
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.16	6.43	0.00	20200	349.1 -> 98.9	46.3	23.7	71.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.56	6.65	0.00	339826	376.9 -> 84.8	26.1	13.4	40.2

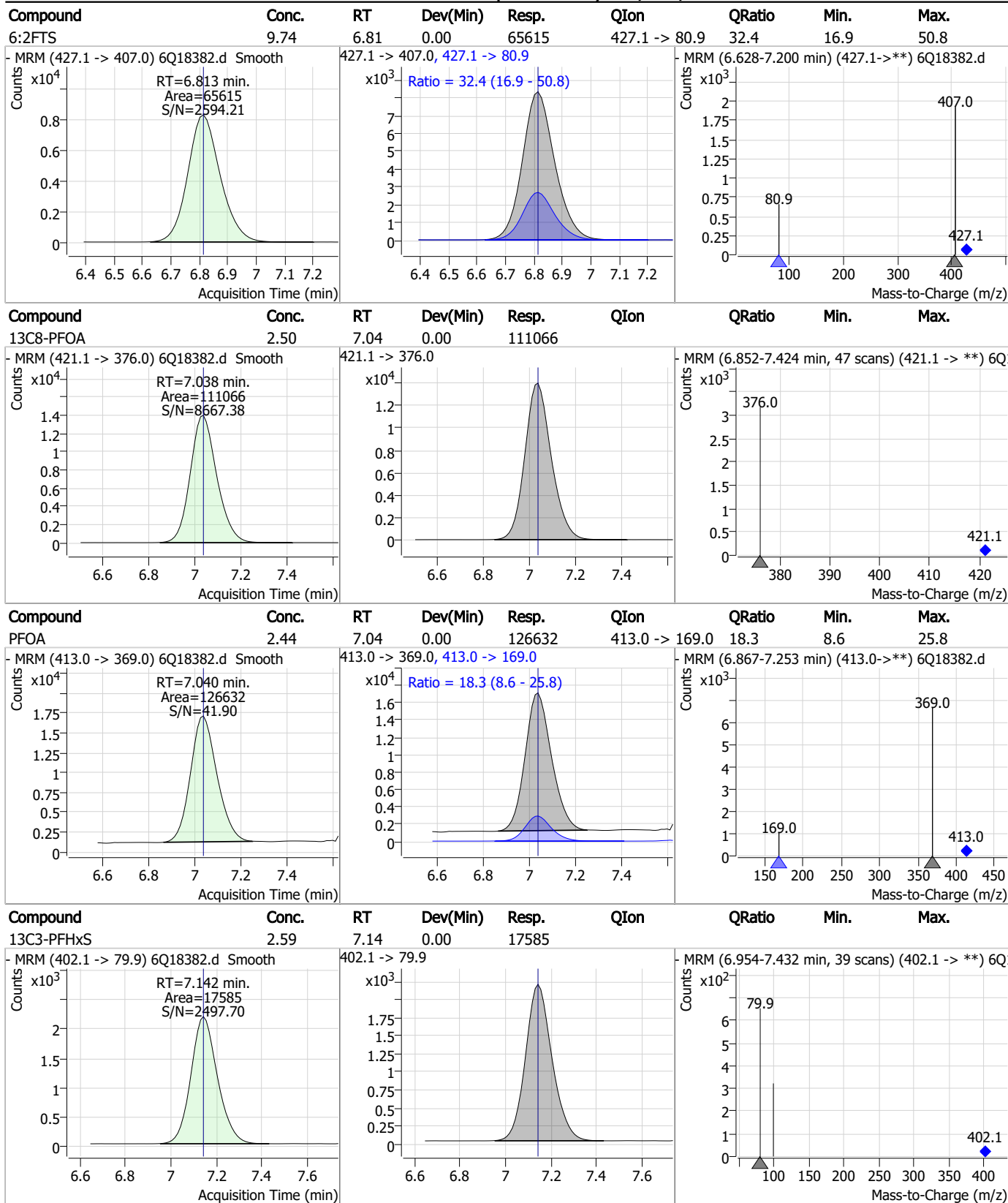


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.22	6.81	0.00	5958	429.1 -> 80.9			



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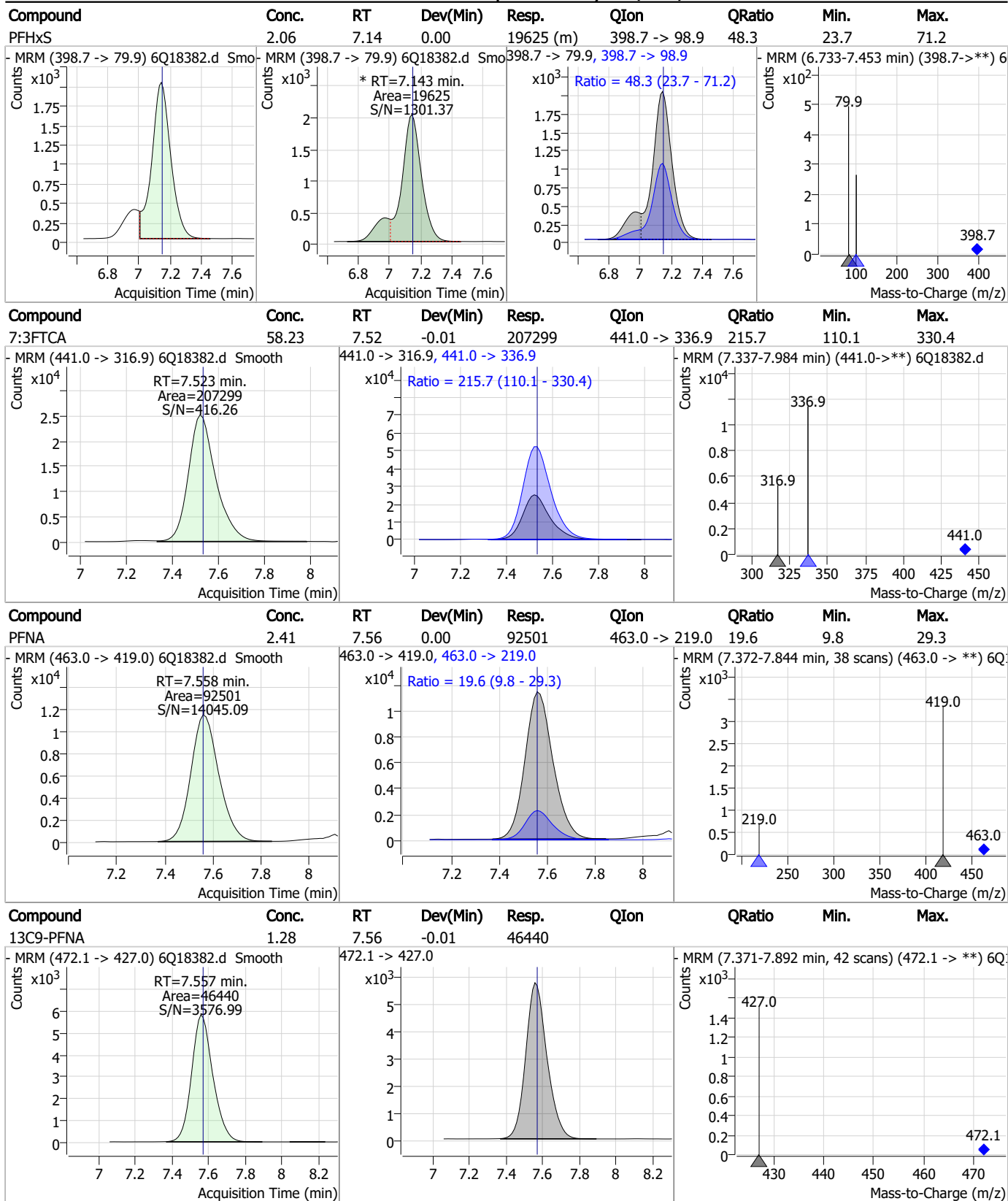
Perfluorinated Compounds by LC/MS/MS



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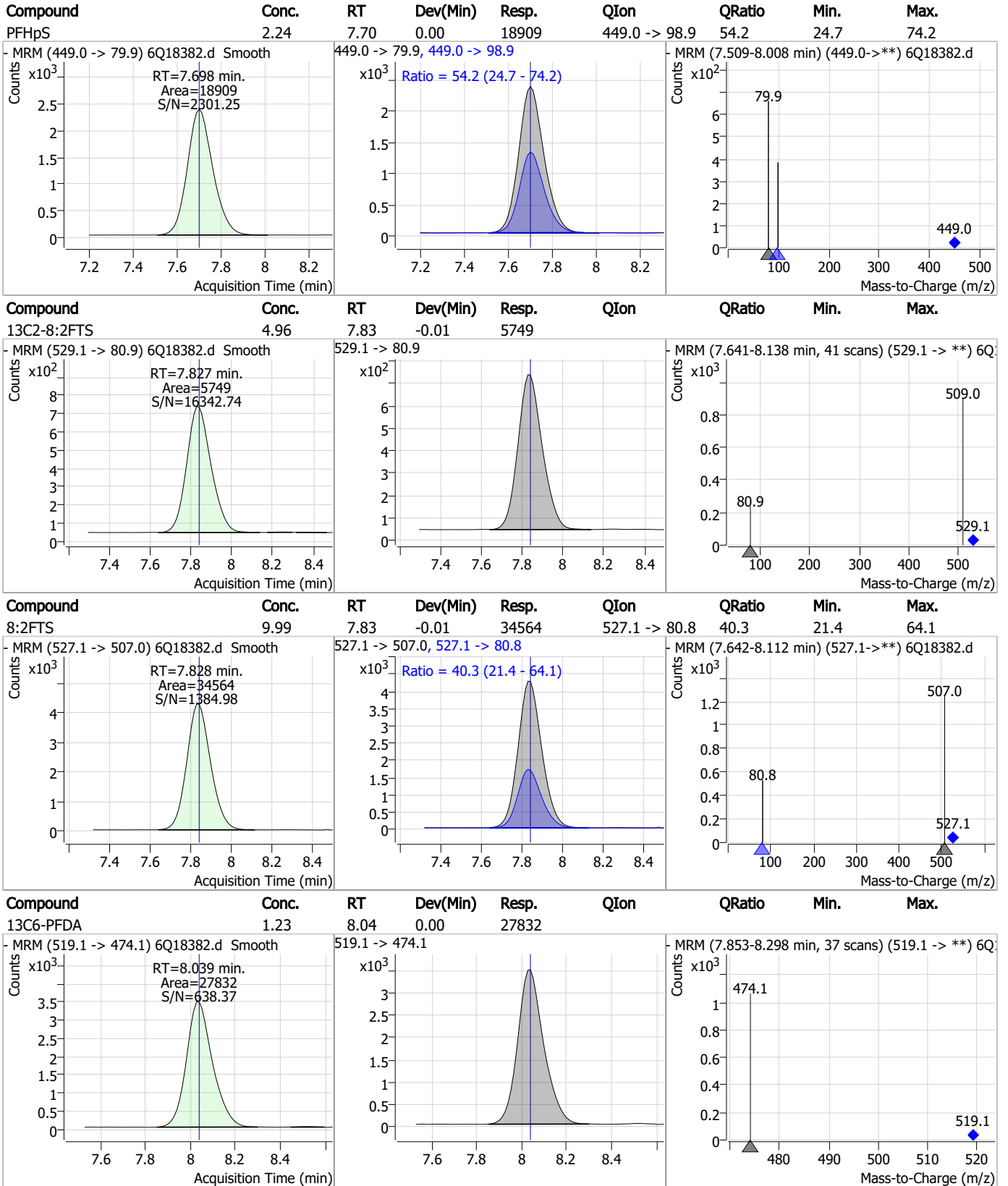


Perfluorinated Compounds by LC/MS/MS



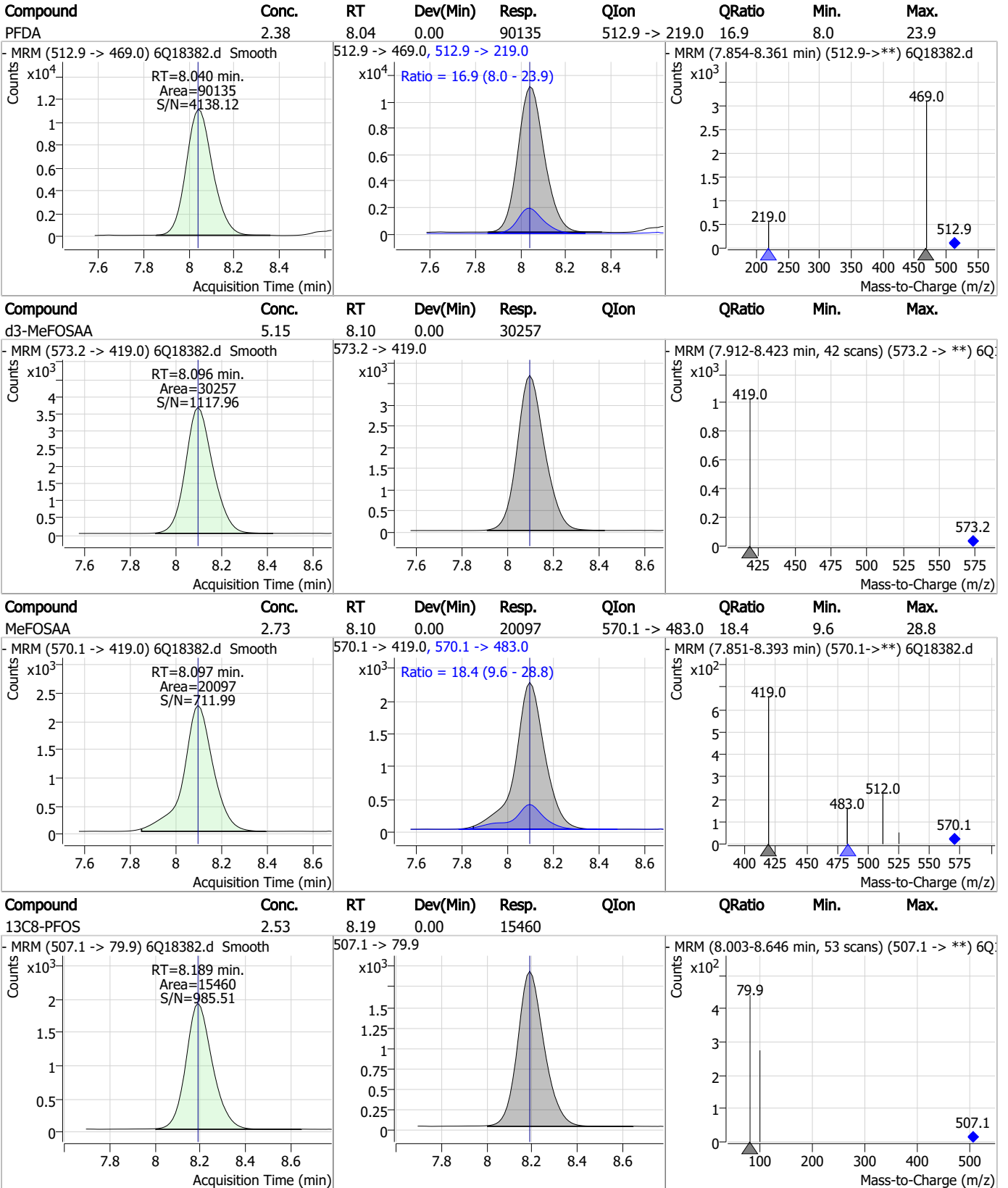
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Perfluorinated Compounds by LC/MS/MS



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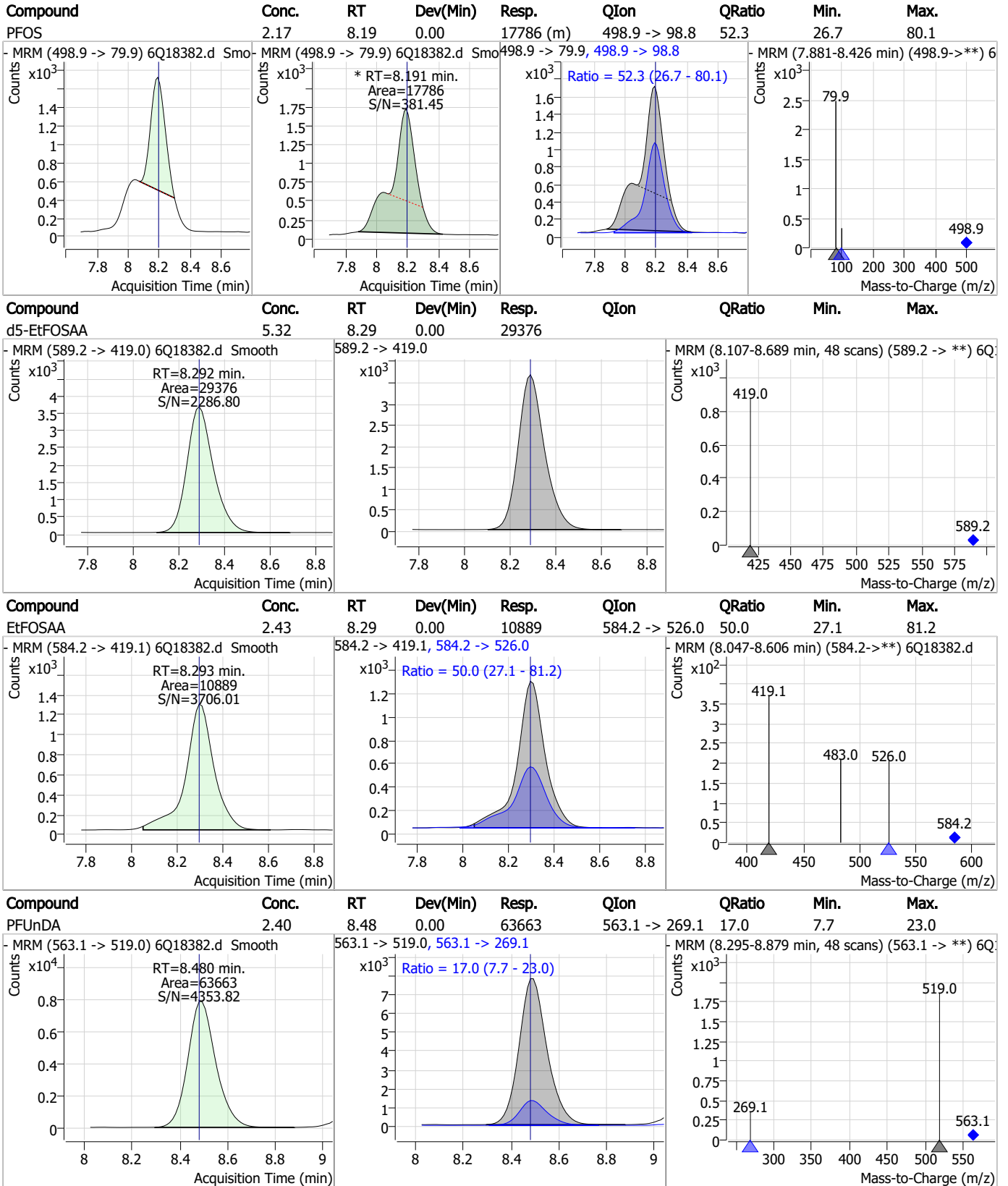
Perfluorinated Compounds by LC/MS/MS



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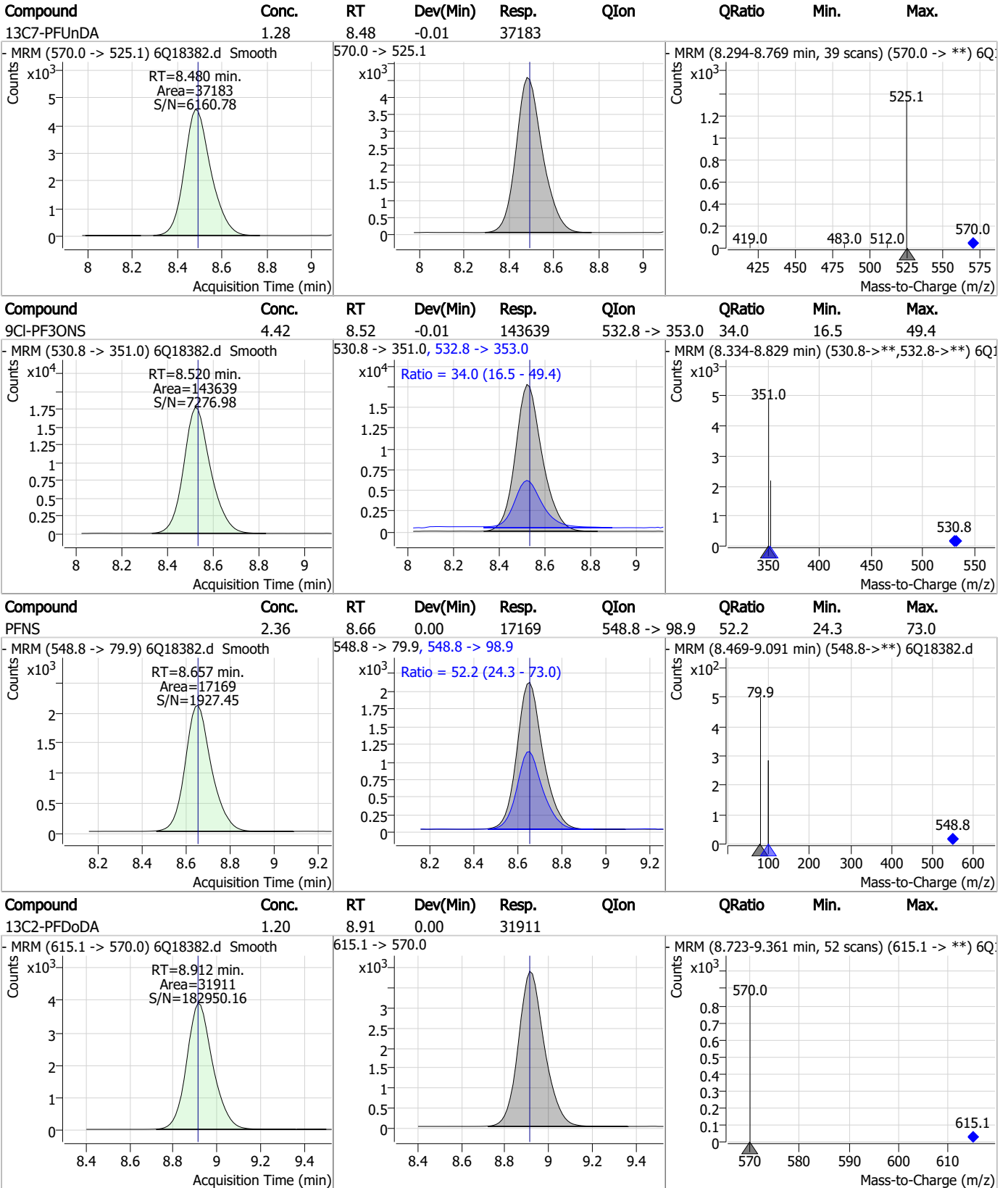
Perfluorinated Compounds by LC/MS/MS



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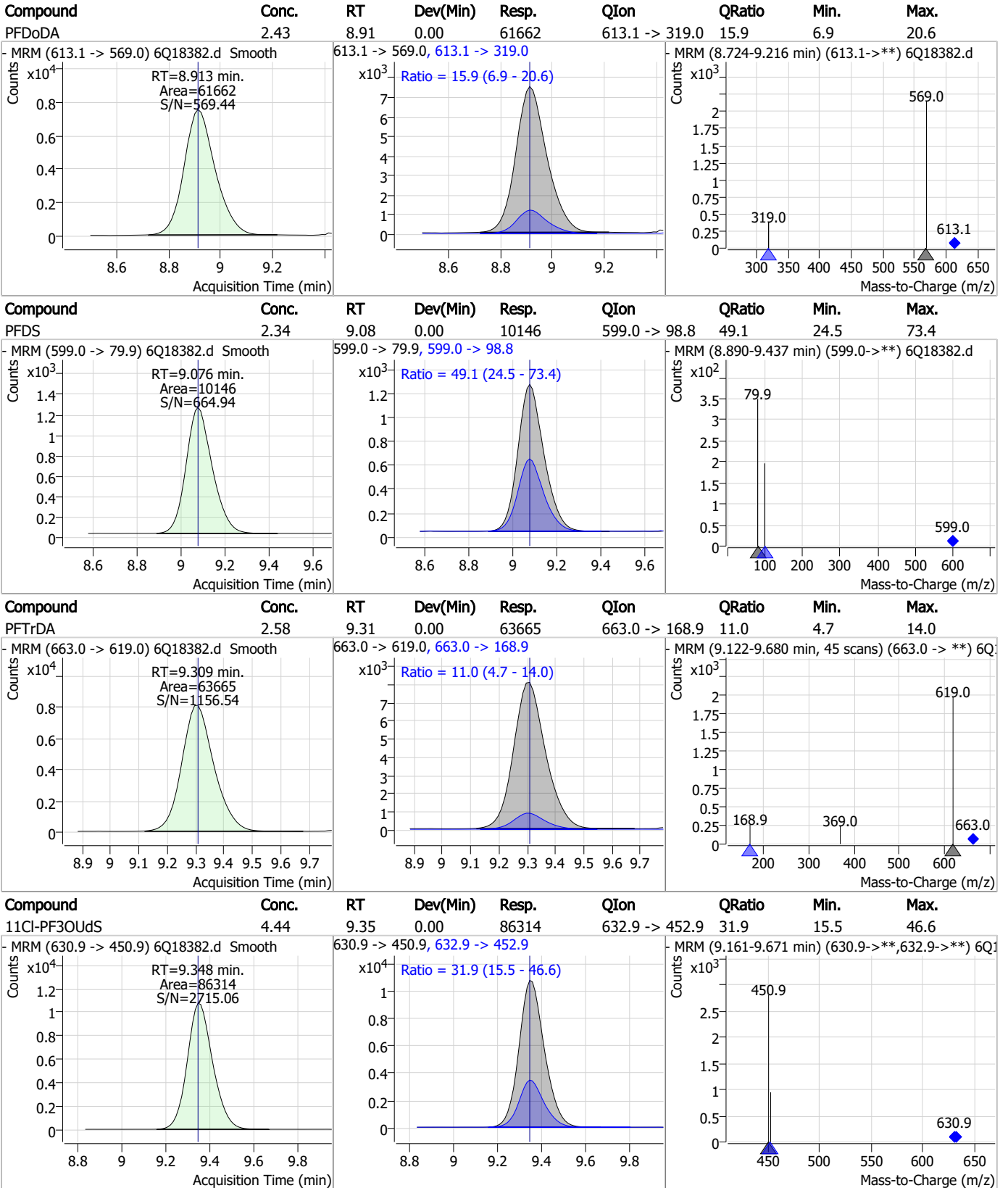
Perfluorinated Compounds by LC/MS/MS



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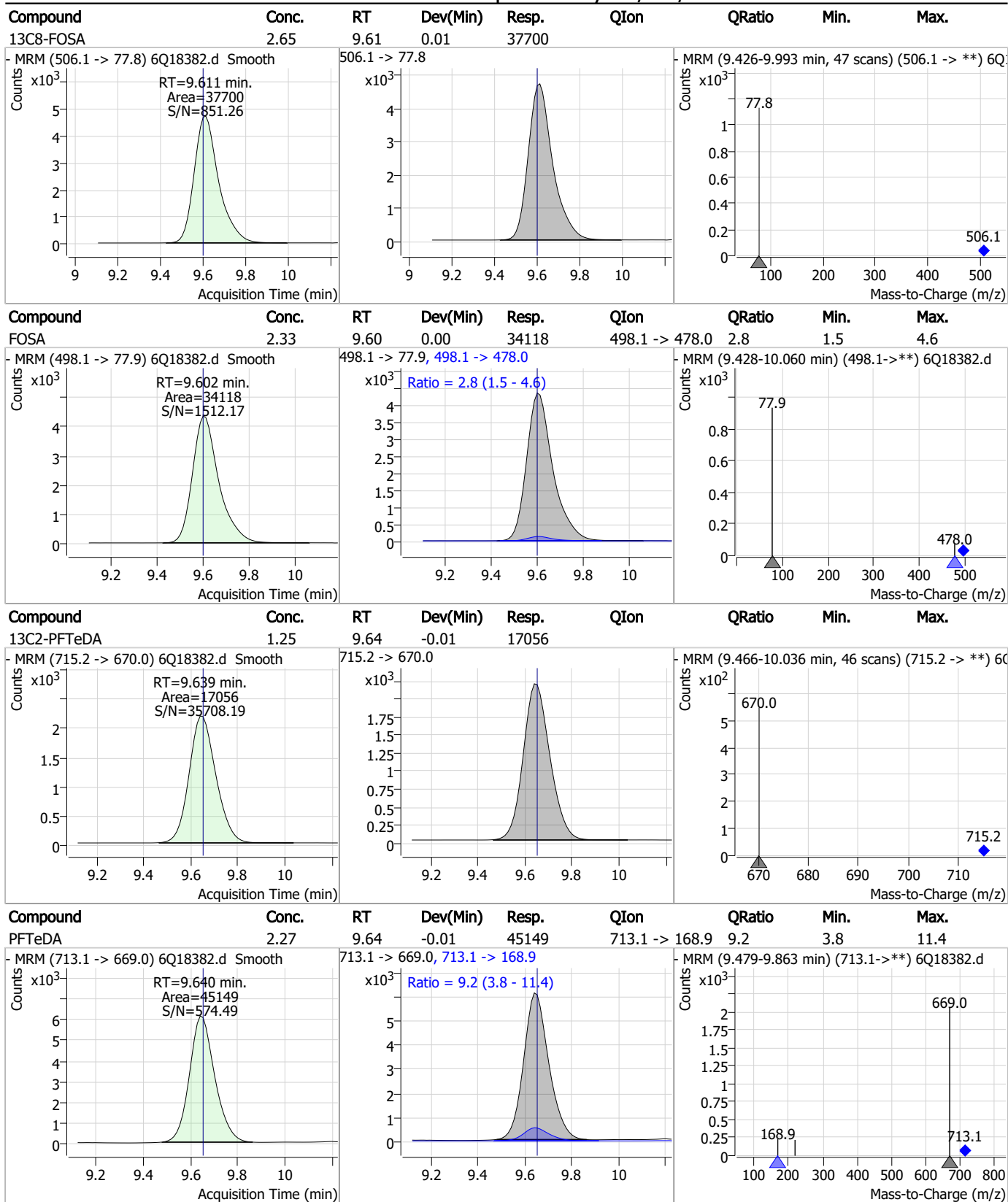
Perfluorinated Compounds by LC/MS/MS



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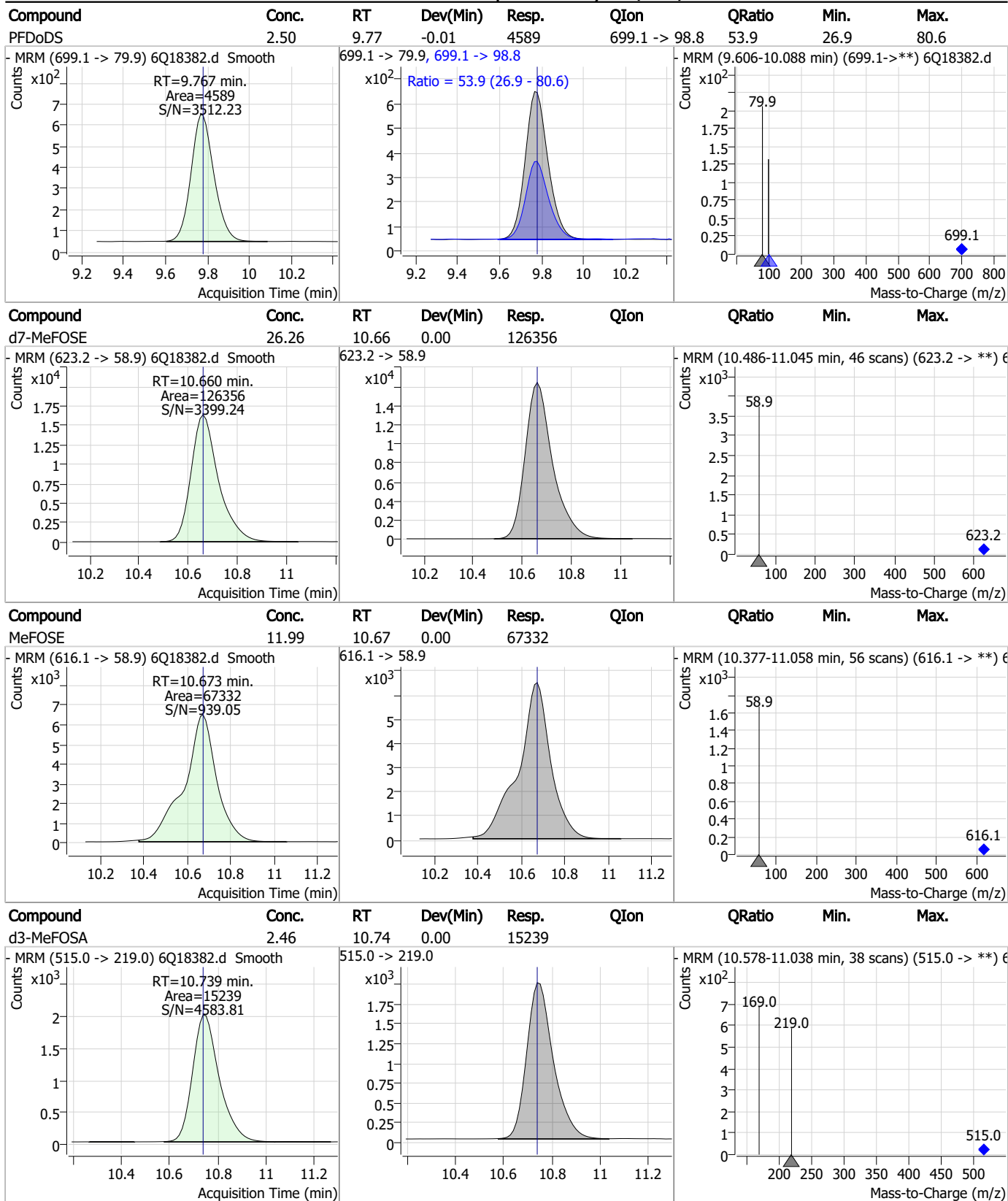
Perfluorinated Compounds by LC/MS/MS



7.7.17



Perfluorinated Compounds by LC/MS/MS



7.7.17

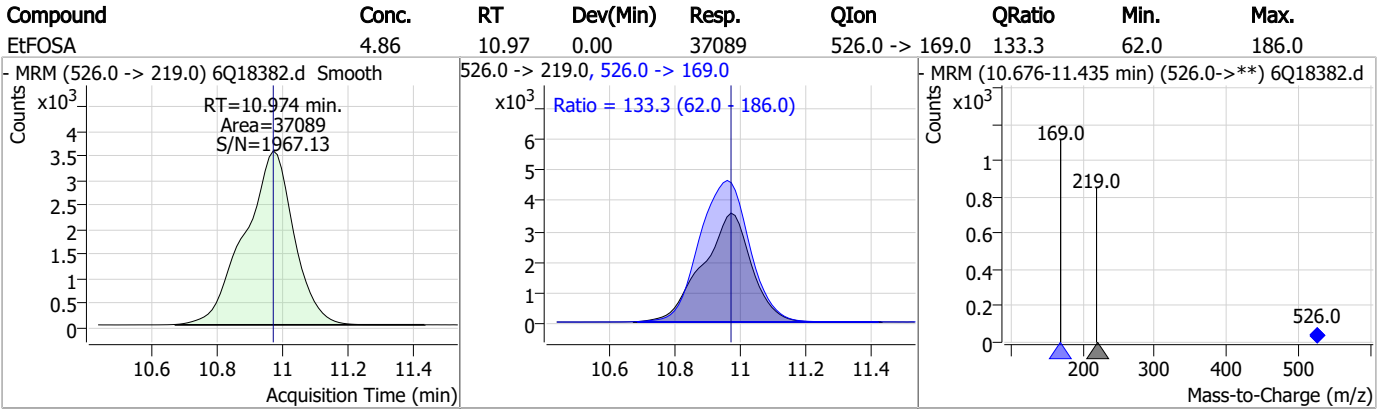
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.80	10.74	0.00	31008	511.9 -> 169.0	144.5	66.3	198.9
d9-EtFOSE	26.28	10.91	0.00	157302	639.2 -> 58.9			
EtFOSE	12.38	10.92	0.01	94502	630.0 -> 58.9			
d5-EtFOSA	2.53	10.97	0.00	15200	531.1 -> 219.0			

7.7.17



Perfluorinated Compounds by LC/MS/MS



7.7.17
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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18382.D Analyst approved: 05/25/23 10:32 Martha Valls
Injection Time: 05/25/23 09:26 Supervisor approved: 05/25/23 13:09 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.7.17.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18383.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 9:40:30 AM
 Sample Name : cc275-1.0LL
 Vial : P1-A2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	223526	10.00 µg/L	-0.053
M5-PFPeA	4.222	268.3 -> 223.0	76268	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	81794	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	76653	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	117081	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	48254	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28702	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	38989	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	32678	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	18691	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	38157	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	29337	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	17853	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16543	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4786	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	6711	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6437	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34763	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	52347	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	31962	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	123571	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	160545	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16193	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15980	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20731	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	95067	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	12787	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	121555	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39027	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	60889	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	77906	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4786	6.23 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.7%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6711	5.71 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.2%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6437	5.39 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-PFDoDA	8.912	615.1 -> 570.0	32678	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.3%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18691	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C3-PFBS	5.334	302.1 -> 79.9	29337	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.6%		
13C3-PFHxS	7.142	402.1 -> 79.9	17853	2.55 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C4-PFBA	2.822	216.8 -> 171.9	223526	9.88 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C4-PFHpA	6.382	367.1 -> 322.0	76653	2.57 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C5-PFHxA	5.417	318.0 -> 273.0	81794	2.58 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C5-PFPeA	4.222	268.3 -> 223.0	76268	5.14 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C6-PFDA	8.039	519.1 -> 474.1	28702	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C7-PFUnDA	8.480	570.0 -> 525.1	38989	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C8-FOSA	9.598	506.1 -> 77.8	38157	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C8-PFOA	7.038	421.1 -> 376.0	117081	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C8-PFOS	8.189	507.1 -> 79.9	16543	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C9-PFNA	7.557	472.1 -> 427.0	48254	1.20 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34763	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	52347	10.03 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
d3-MeFOSA	10.739	515.0 -> 219.0	15980	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	31962	5.52 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.3%	
d7-MeFOSE	10.660	623.2 -> 58.9	123571	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d9-EtFOSE	10.907	639.2 -> 58.9	160545	25.55 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
d5-EtFOSA	10.972	531.1 -> 219.0	16193	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	5264	0.60 µg/L	92
		327.1 -> 80.9	1829		
6:2FTS	6.813	427.1 -> 407.0	4860	0.64 µg/L	99
		427.1 -> 80.9	1611		
8:2FTS	7.840	527.1 -> 507.0	2794	0.72 µg/L	97
		527.1 -> 80.8	1144		
EtFOSAA	8.293	584.2 -> 419.1	887	0.18 µg/L	m 99
		584.2 -> 526.0	476		
FOSA	9.602	498.1 -> 77.9	2605	0.18 µg/L	98
		498.1 -> 478.0	63		
MeFOSAA	8.097	570.1 -> 419.0	1467	0.17 µg/L	87
		570.1 -> 483.0	366		
PFBA	2.831	212.8 -> 168.9	6104	0.70 µg/L	100
PFBS	5.335	298.7 -> 79.9	1728	0.15 µg/L	84
		298.7 -> 98.8	789		
PFDA	8.040	512.9 -> 469.0	7592	0.19 µg/L	98
		512.9 -> 219.0	1266		
PFDODA	8.913	613.1 -> 569.0	5134	0.20 µg/L	95
		613.1 -> 319.0	816		
PFDS	9.076	599.0 -> 79.9	806	0.17 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	400	0.18	µg/L	97
		363.1 -> 319.0	7277			
PFHpS	7.698	363.1 -> 169.0	1168	0.20	µg/L	92
		449.0 -> 79.9	1808			
PFHxA	5.420	449.0 -> 98.9	800	0.17	µg/L	97
		313.0 -> 269.0	5486			
PFHxS	7.143	313.0 -> 118.9	307	0.17	µg/L	96
		398.7 -> 79.9	1636			
PFNA	7.558	398.7 -> 98.9	733	0.19	µg/L	98
		463.0 -> 419.0	7614			
PFNS	8.657	463.0 -> 219.0	1415	0.17	µg/L	89
		548.8 -> 79.9	1308			
PFOA	7.040	548.8 -> 98.9	738	0.17	µg/L	92
		413.0 -> 369.0	9540			
PFOS	8.191	413.0 -> 169.0	1957	0.17	µg/L	100
		498.9 -> 79.9	1482			
PFPeA	4.224	498.9 -> 98.8	795	0.38	µg/L	100
		263.0 -> 219.0	7768			
PFPeS	6.434	349.1 -> 79.9	1671	0.18	µg/L	98
		349.1 -> 98.9	808			
PFTeDA	9.640	713.1 -> 669.0	3673	0.17	µg/L	94
		713.1 -> 168.9	361			
PFTrDA	9.296	663.0 -> 619.0	5330	0.21	µg/L	95
		663.0 -> 168.9	595			
PFUnDA	8.480	563.1 -> 519.0	5125	0.18	µg/L	99
		563.1 -> 269.1	796			
11Cl-PF3OUdS	9.348	630.9 -> 450.9	6822	0.34	µg/L	99
		632.9 -> 452.9	2158			
9Cl-PF3ONS	8.520	530.8 -> 351.0	11858	0.35	µg/L	95
		532.8 -> 353.0	4216			
ADONA	6.646	376.9 -> 250.9	27068	0.35	µg/L	100
		376.9 -> 84.8	7266			
HFPO-DA	5.795	284.9 -> 168.9	1941	0.38	µg/L	93
		284.9 -> 184.9	210			
3:3FTCA	3.684	241.0 -> 177.0	1309	0.88	µg/L	93
		241.0 -> 117.0	227			
5:3FTCA	6.086	341.0 -> 237.1	26920	4.62	µg/L	91
		341.0 -> 217.0	21061			
7:3FTCA	7.523	441.0 -> 316.9	17042	4.52	µg/L	96
		441.0 -> 336.9	38685			
EtFOSA	10.974	526.0 -> 219.0	2961	0.36	µg/L	86
		526.0 -> 169.0	4126			
EtFOSE	10.920	630.0 -> 58.9	7743	0.99	µg/L	100
		511.9 -> 219.0	2509			
MeFOSA	10.741	511.9 -> 169.0	3545	0.37	µg/L	93
		616.1 -> 58.9	5394			
MeFOSE	10.673	699.1 -> 79.9	327	0.98	µg/L	100
		699.1 -> 98.8	222			
PFDoDS	9.767	295.0 -> 201.0	1477	0.17	µg/L	80
		295.0 -> 84.9	383			
NFDHA	5.299	279.0 -> 85.1	5086	0.38	µg/L	98
		229.0 -> 84.9	3941			
PFMBA	4.638	314.8 -> 134.9	12747	0.36	µg/L	100
		314.8 -> 82.9	447			
PFMPA	3.363			0.30	µg/L	99
PFEESA	5.888					

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

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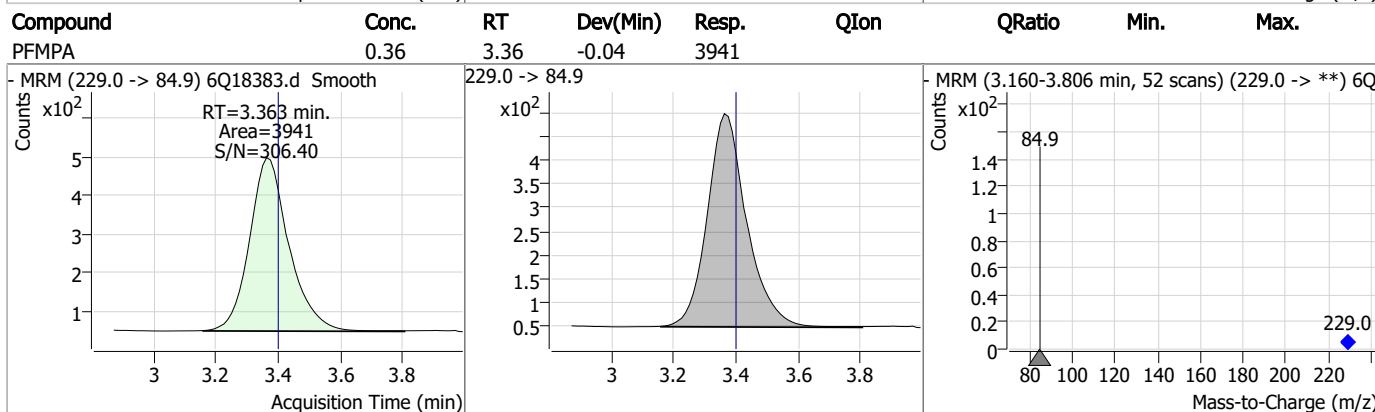
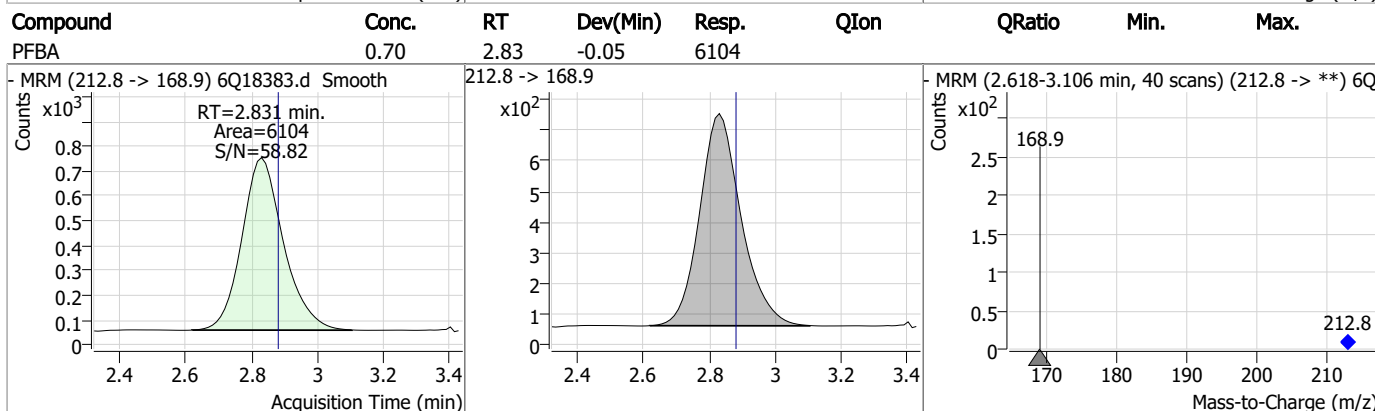
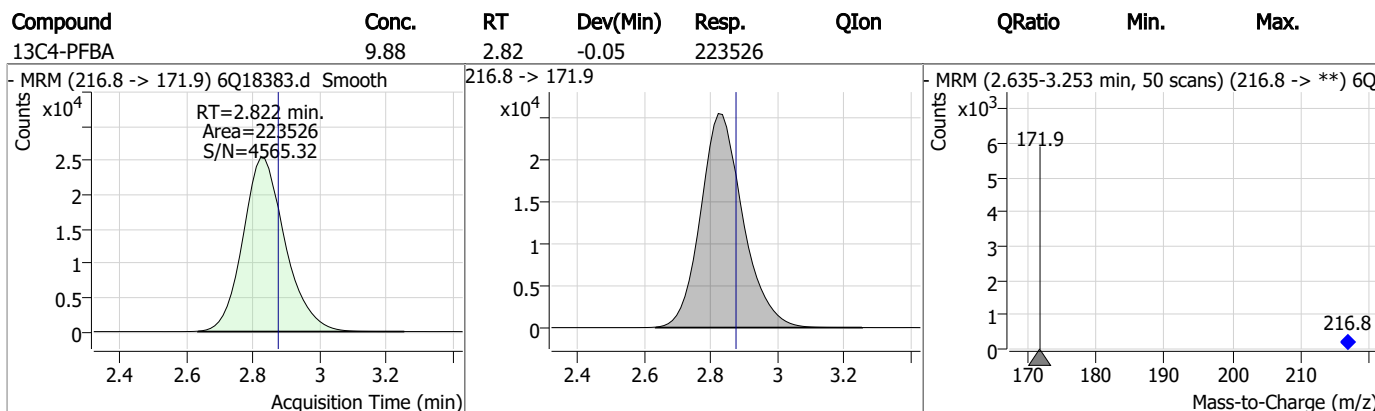
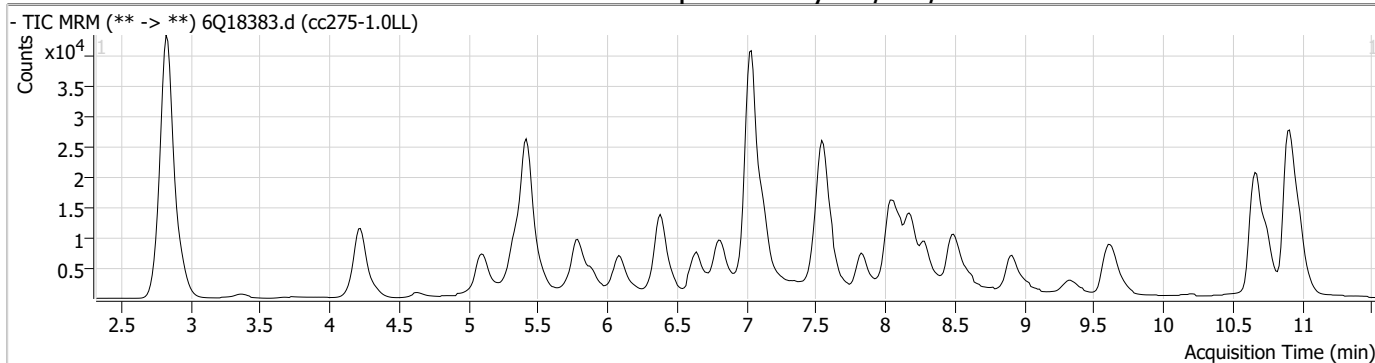
Perfluorinated Compounds by LC/MS/MS

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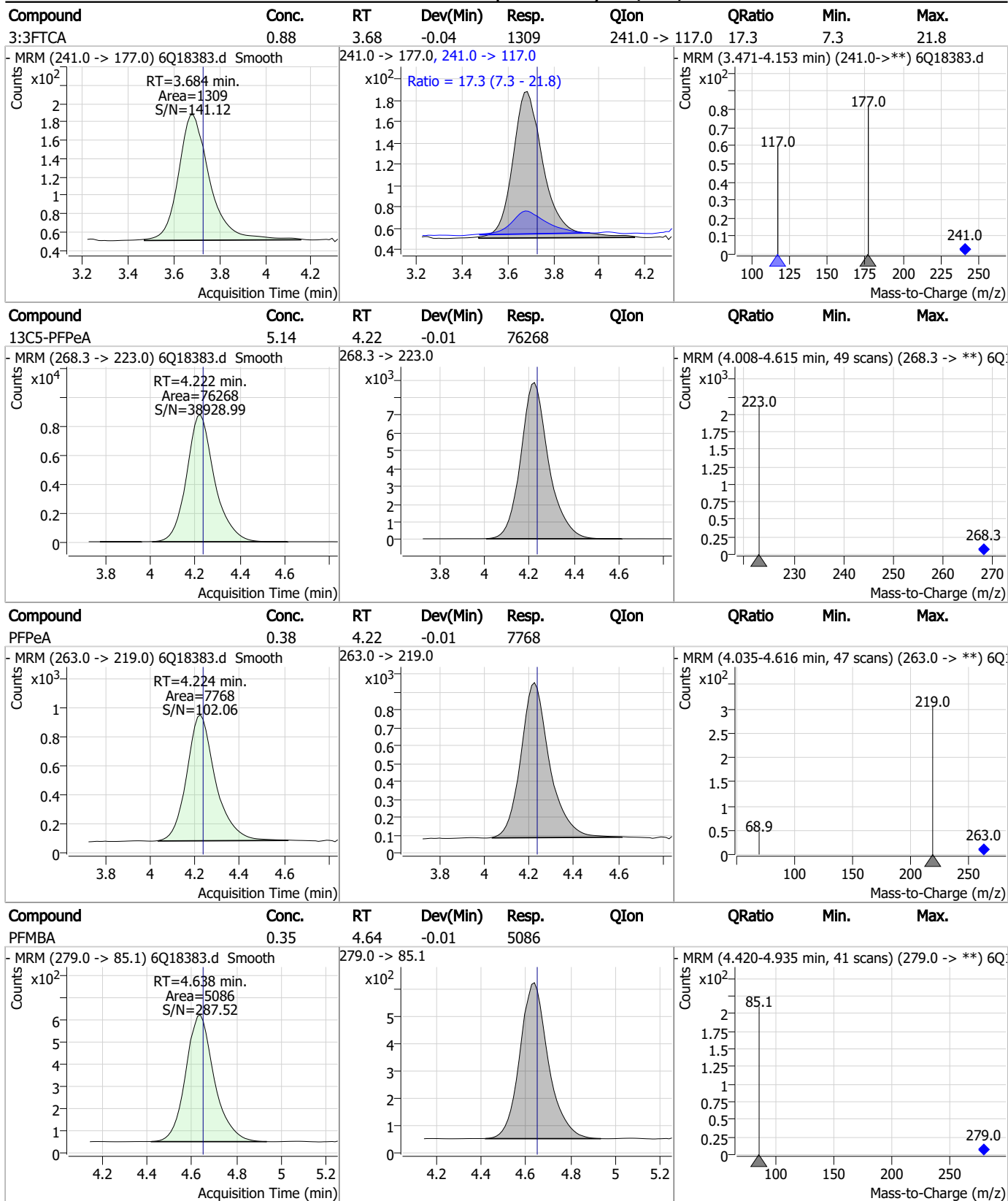
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Perfluorinated Compounds by LC/MS/MS

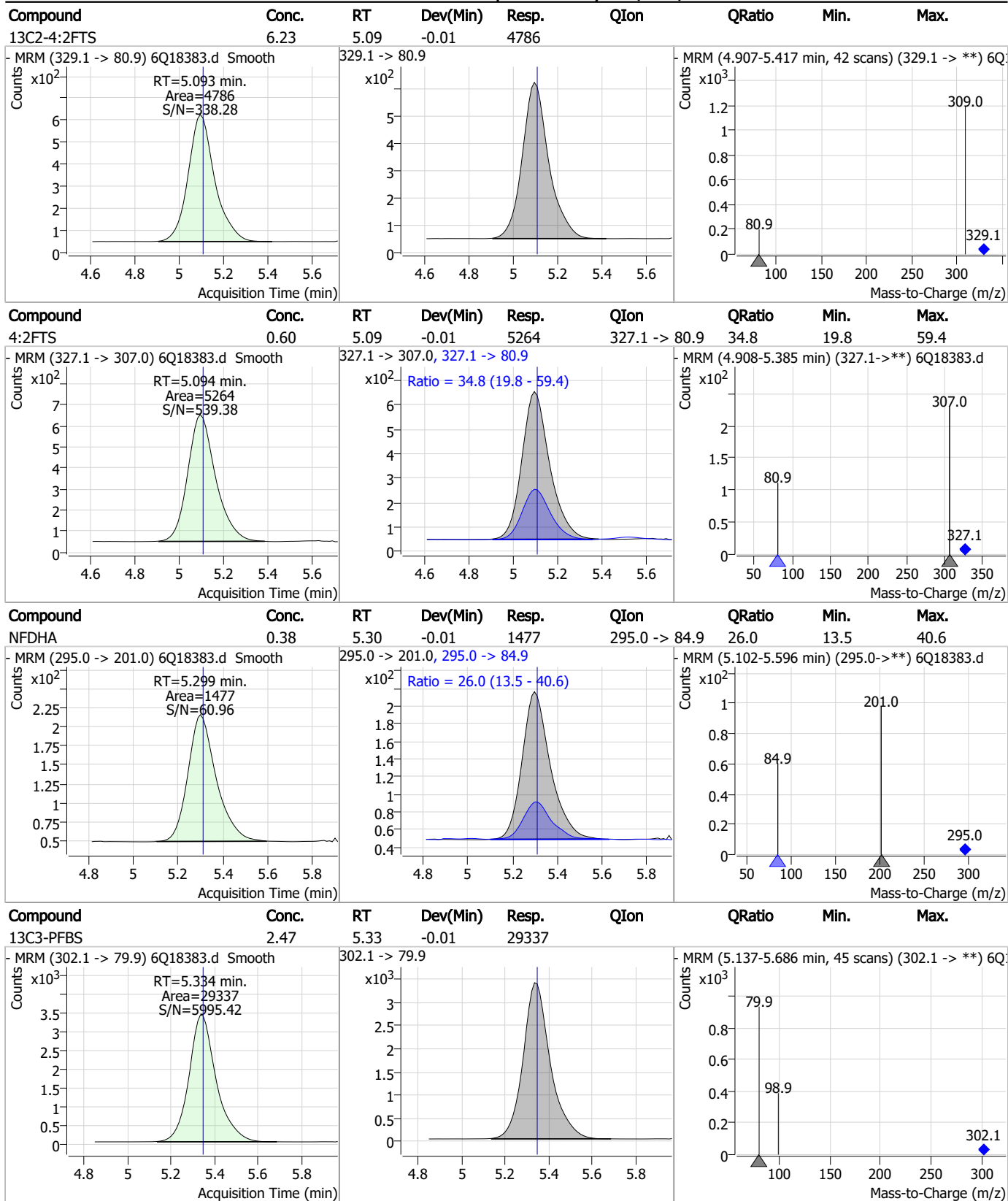


Perfluorinated Compounds by LC/MS/MS



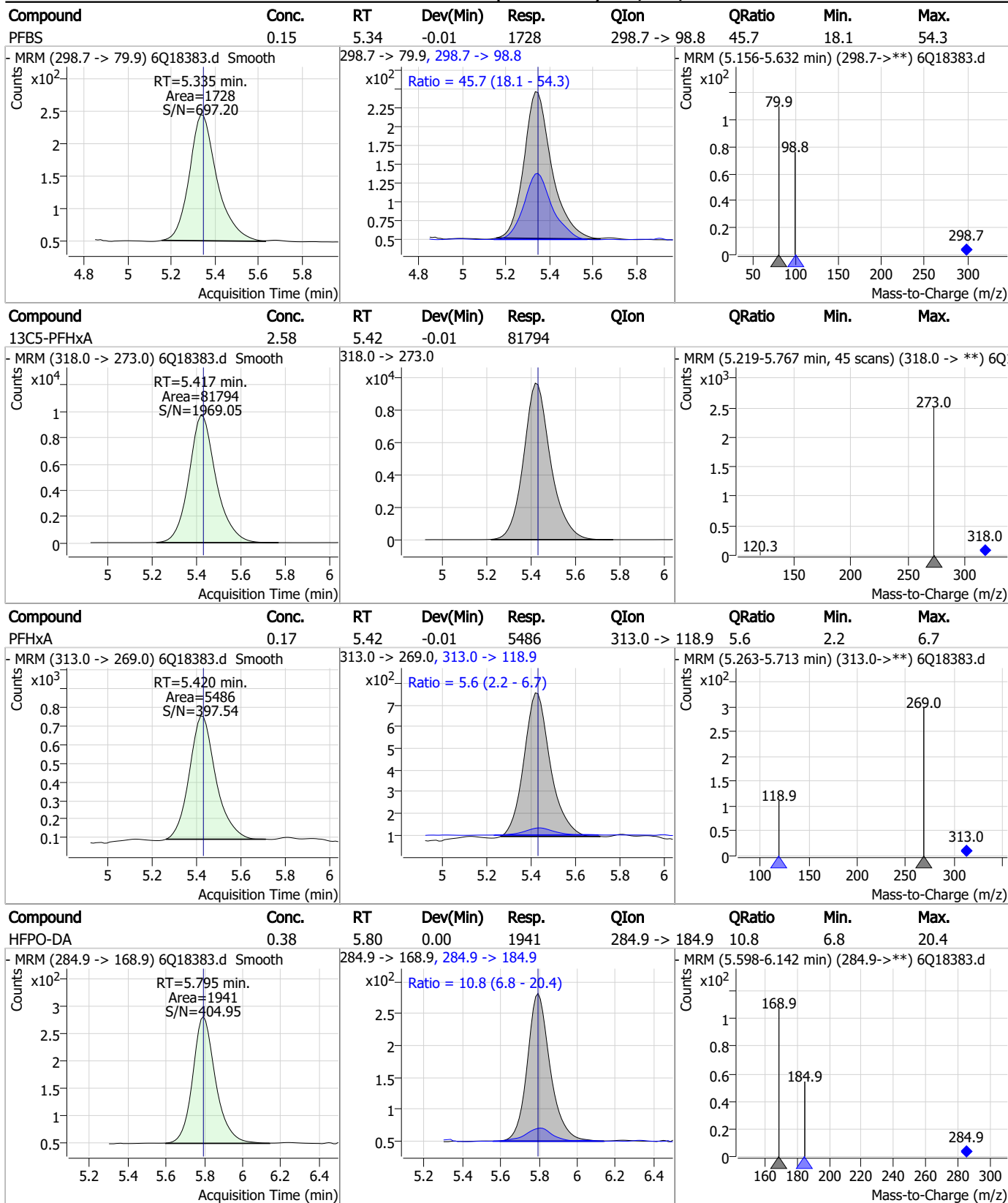
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Perfluorinated Compounds by LC/MS/MS



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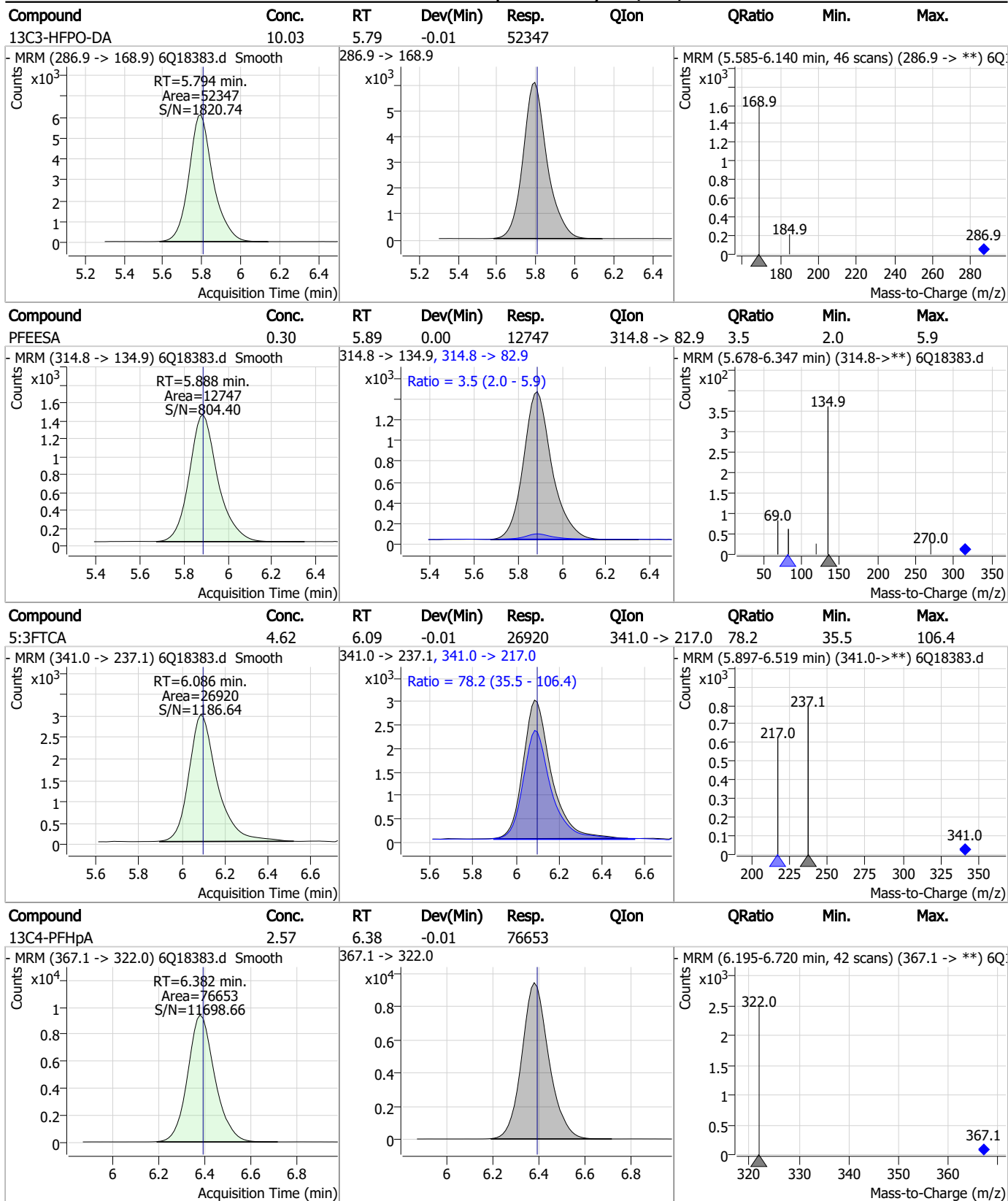
Perfluorinated Compounds by LC/MS/MS



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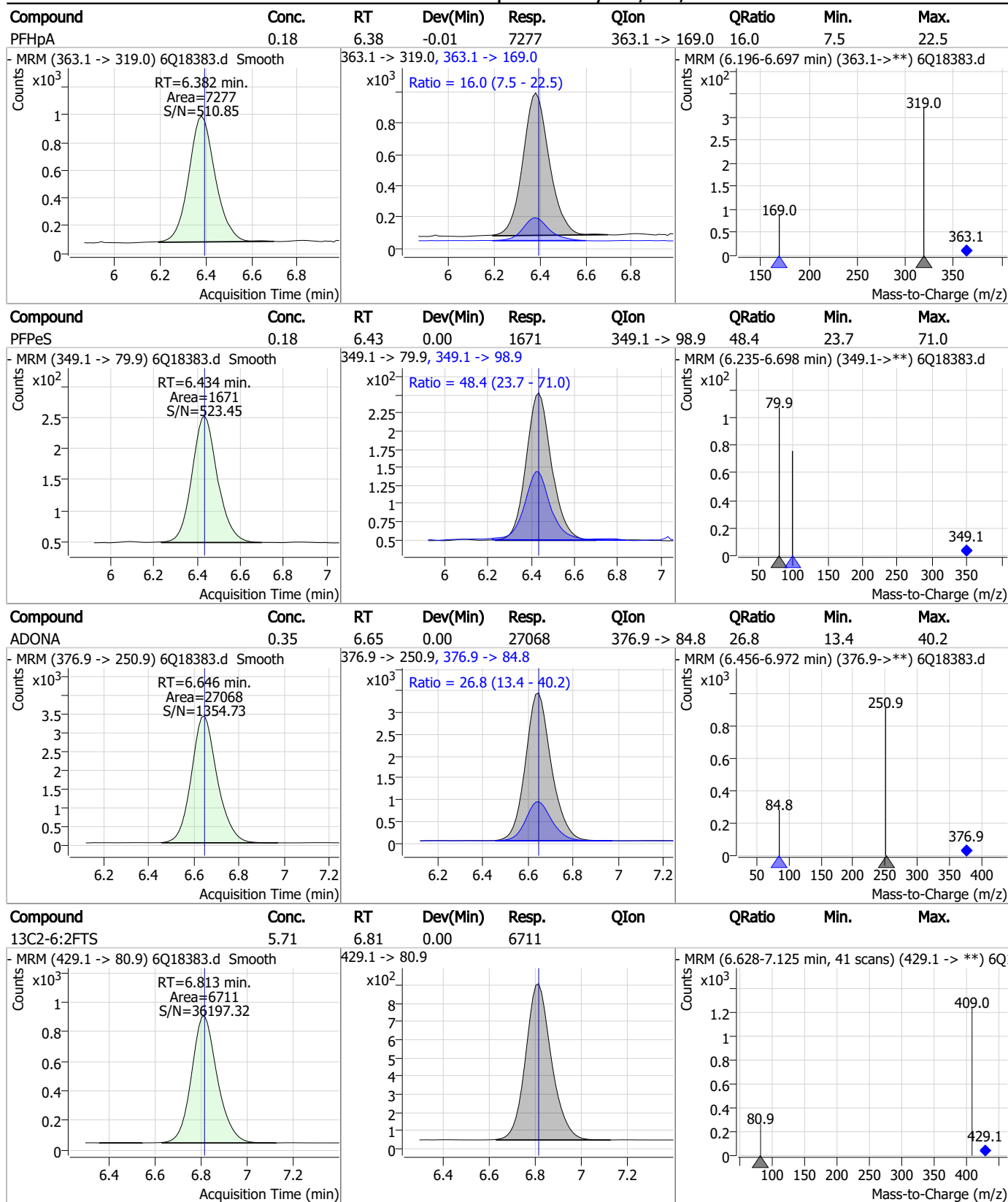


Perfluorinated Compounds by LC/MS/MS



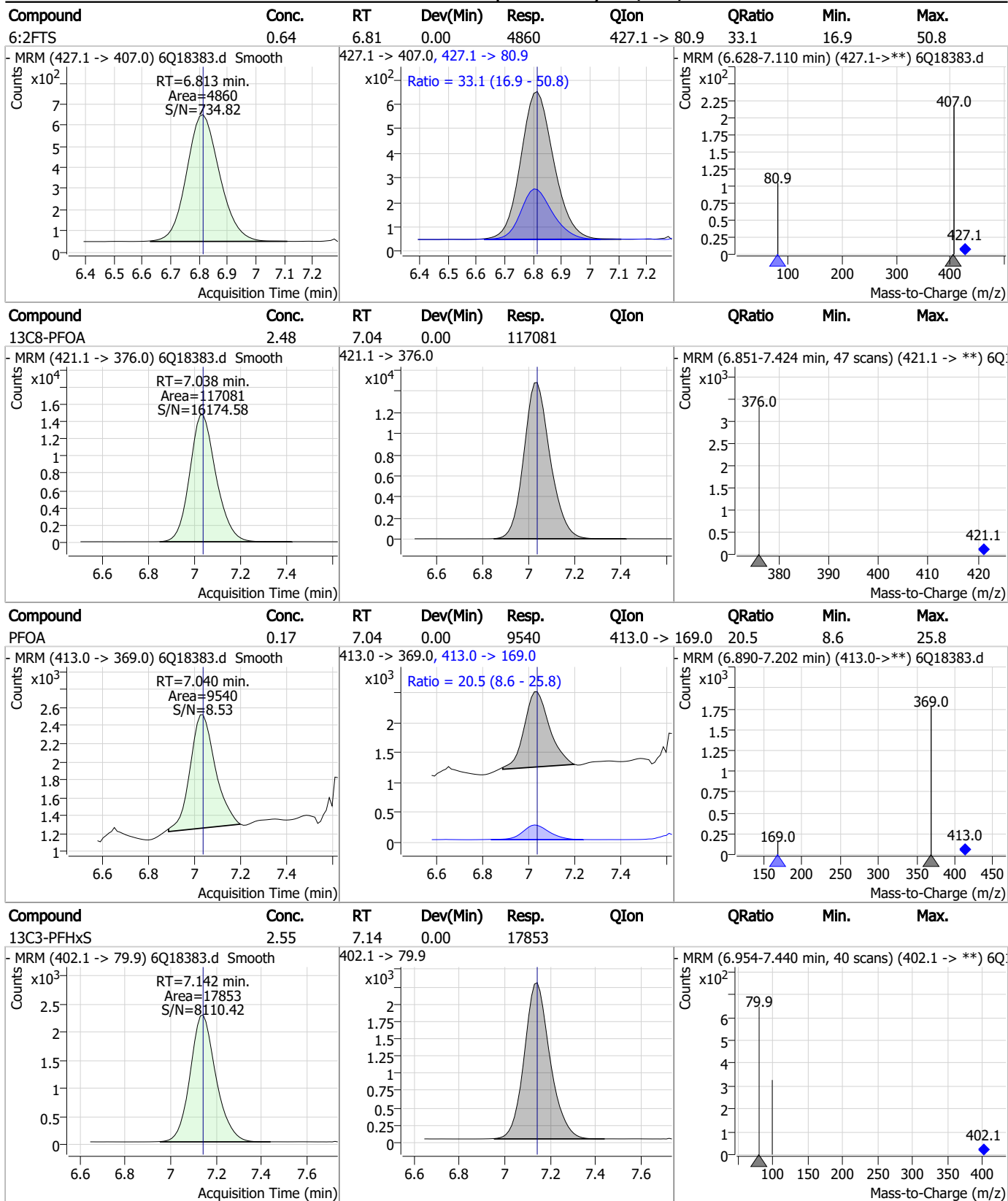
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Perfluorinated Compounds by LC/MS/MS



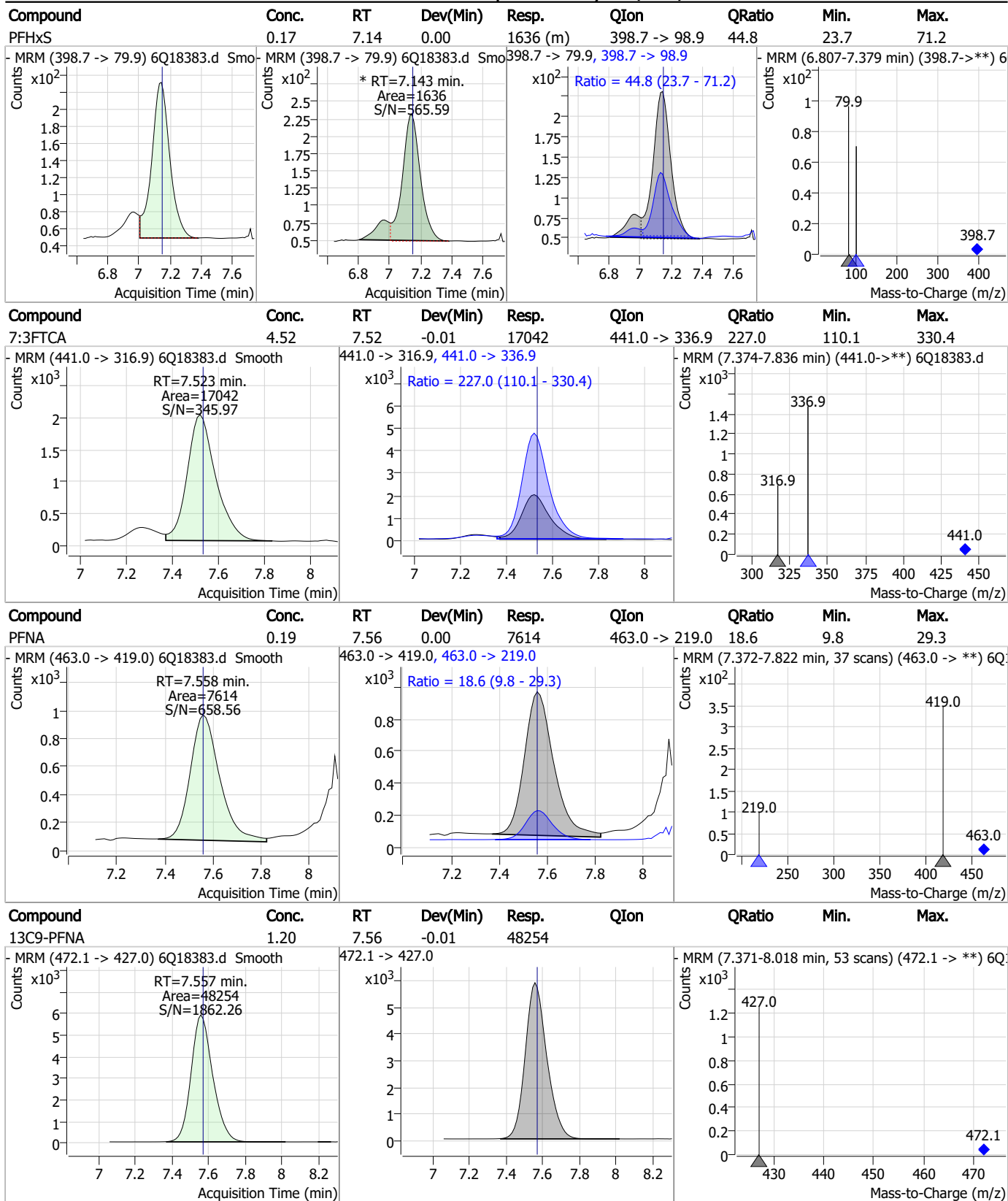
7.7.18

Perfluorinated Compounds by LC/MS/MS



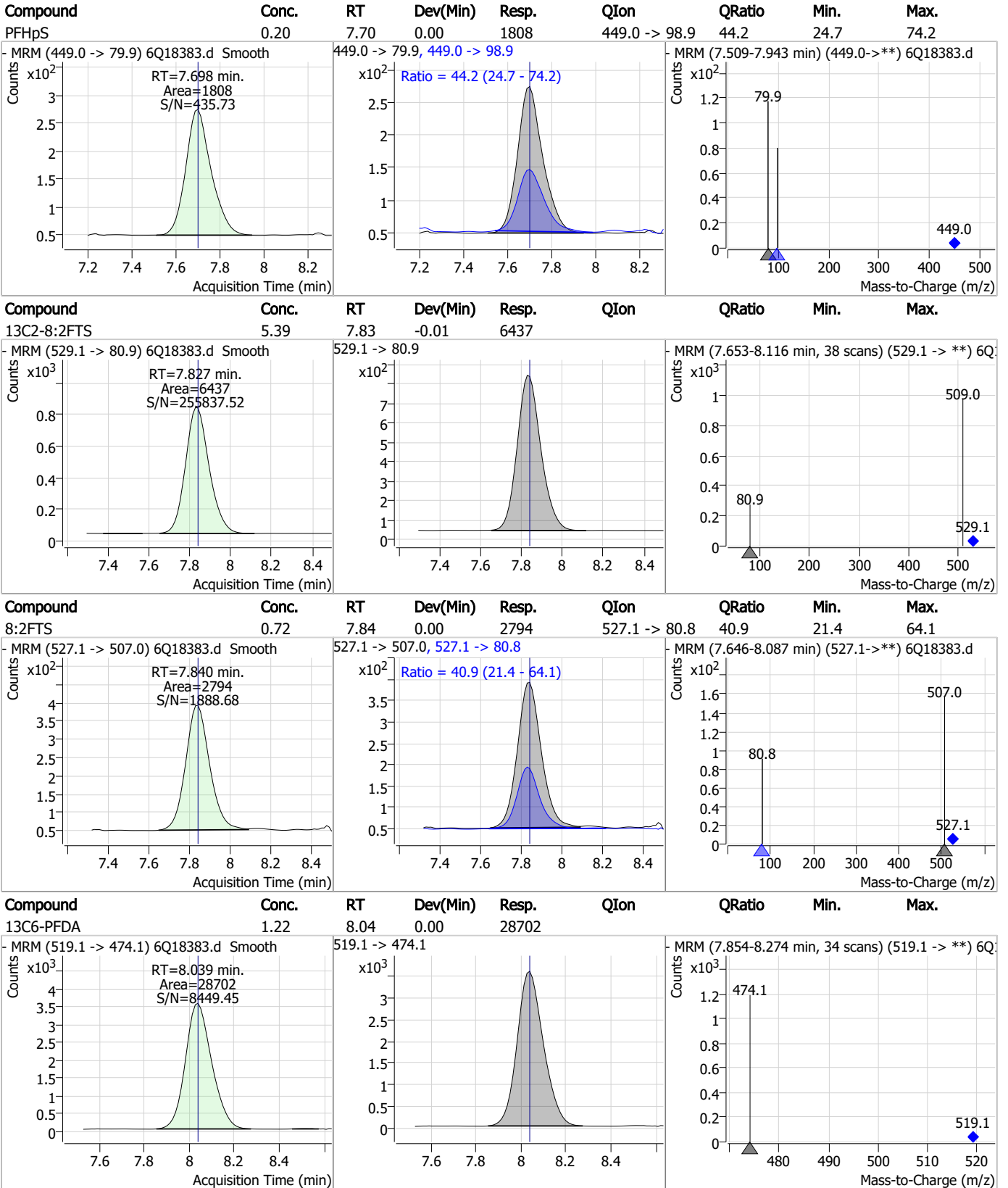
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Perfluorinated Compounds by LC/MS/MS



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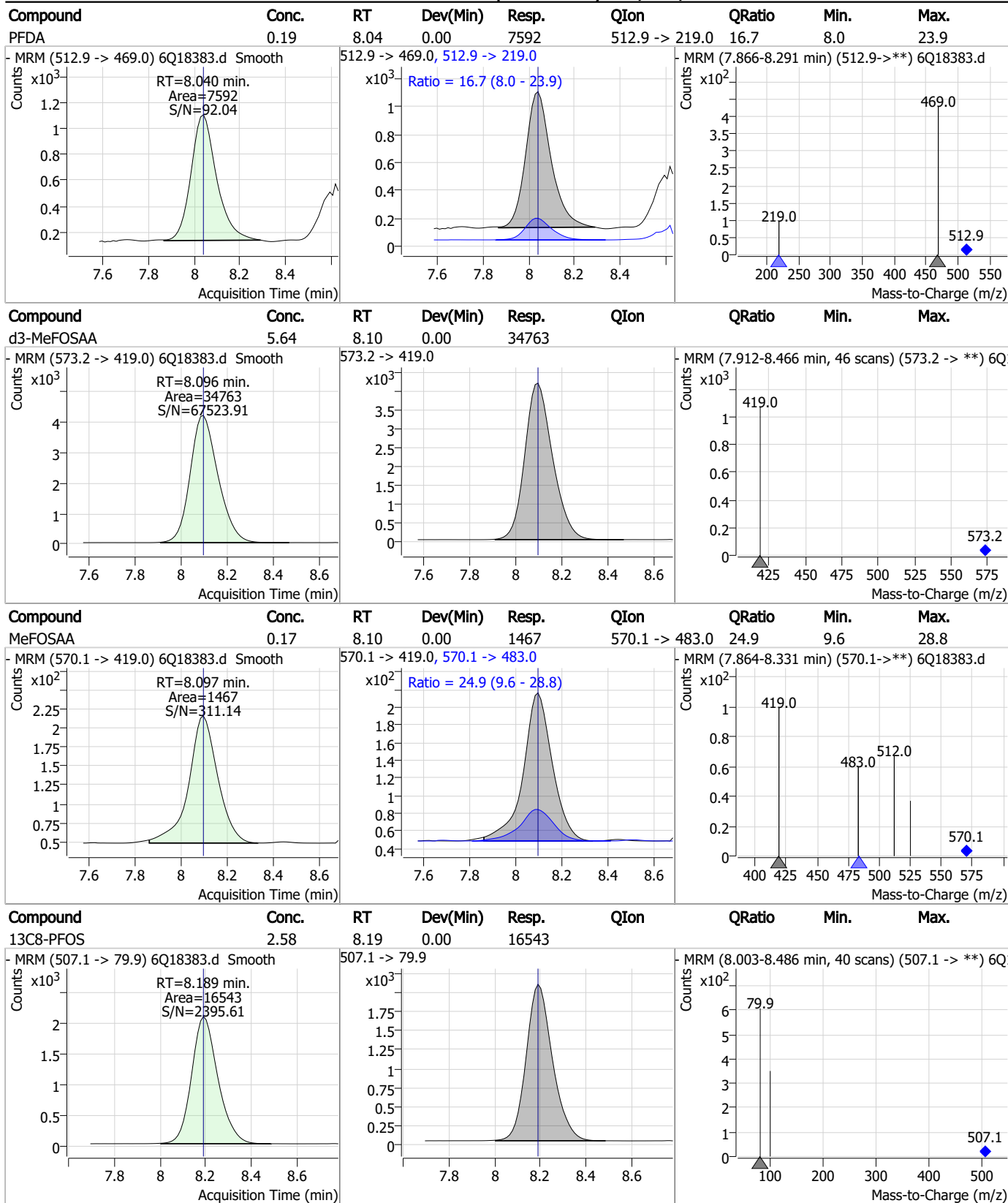
Perfluorinated Compounds by LC/MS/MS



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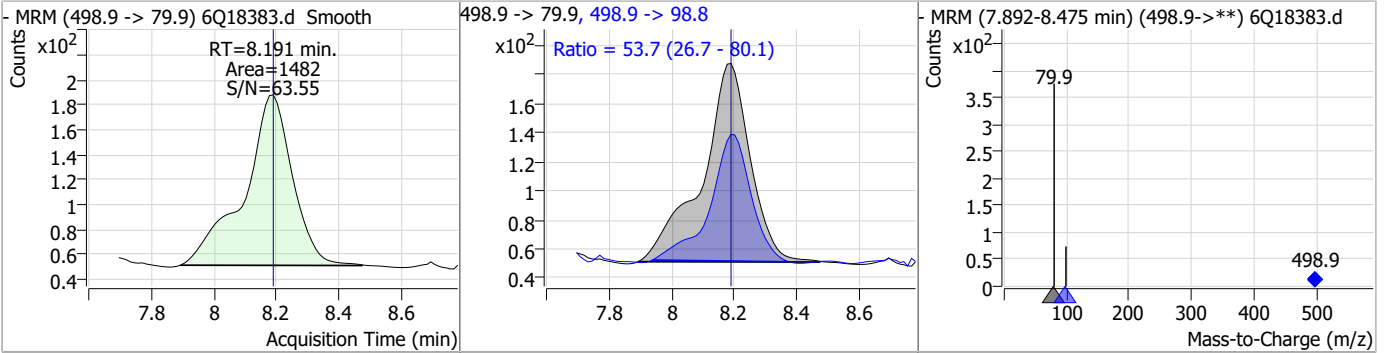
Perfluorinated Compounds by LC/MS/MS



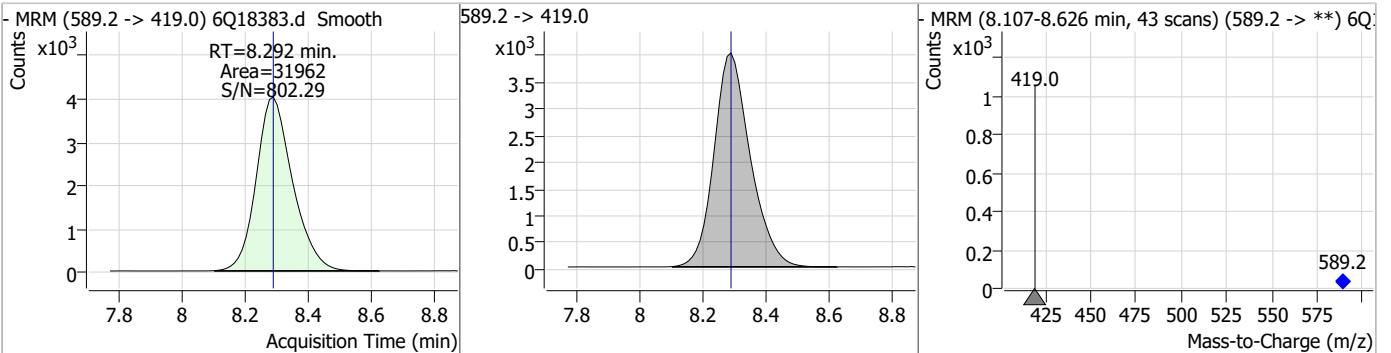
7.7.18
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Perfluorinated Compounds by LC/MS/MS

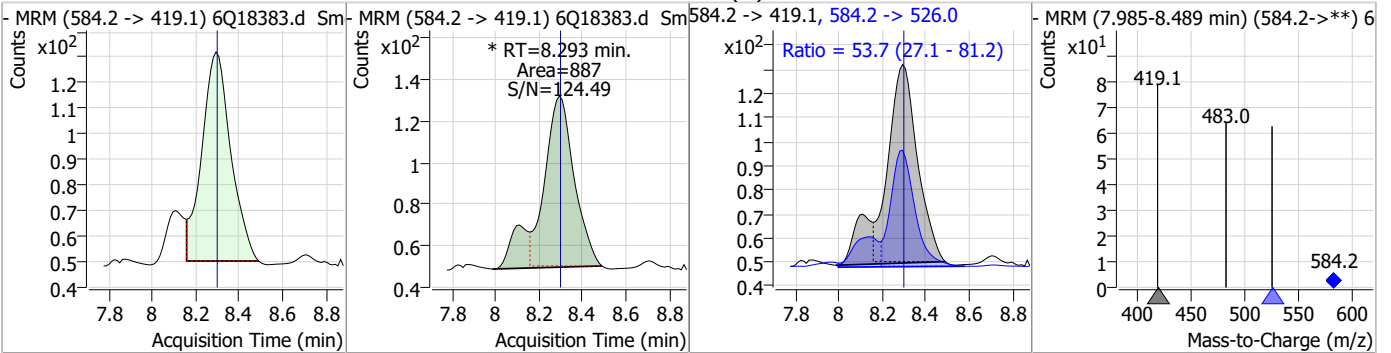
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.17	8.19	0.00	1482	498.9 -> 98.8	53.7	26.7	80.1



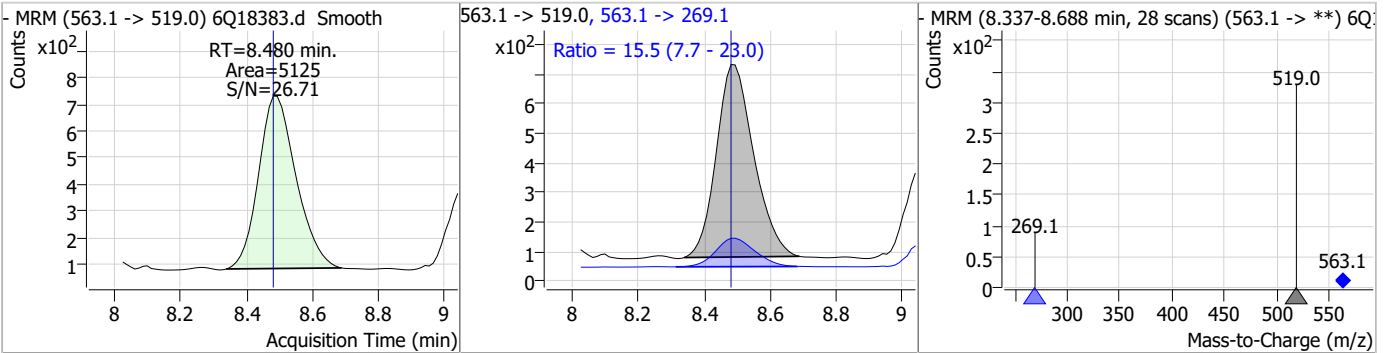
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.52	8.29	0.00	31962				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.18	8.29	0.00	887 (m)	584.2 -> 526.0	53.7	27.1	81.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.18	8.48	0.00	5125	563.1 -> 269.1	15.5	7.7	23.0



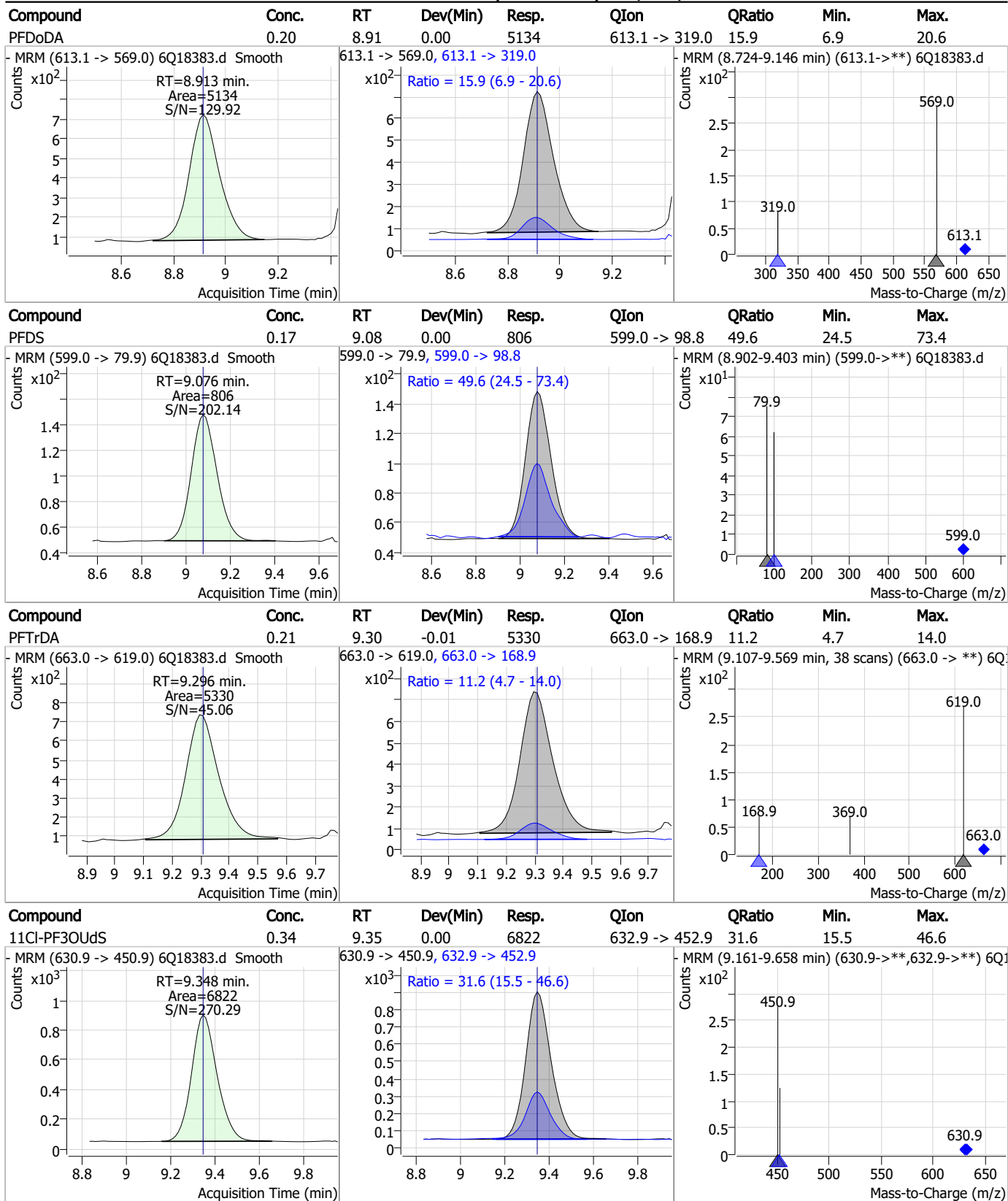
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.48	-0.01	38989				
- MRM (570.0 -> 525.1) 6Q18383.d Smooth Counts x10 ³ RT=8.480 min. Area=38989 S/N=3651.26 Acquisition Time (min)			570.0 -> 525.1 x10 ³ Acquisition Time (min)			- MRM (8.307-8.803 min, 41 scans) (570.0 -> **) 6Q18383.d Counts x10 ³ 525.1 419.0 483.0 512.0 570.0 Mass-to-Charge (m/z)		
9Cl-PF3ONS	0.35	8.52	-0.01	11858	532.8 -> 353.0	35.6	16.5	49.4
- MRM (530.8 -> 351.0) 6Q18383.d Smooth Counts x10 ³ RT=8.520 min. Area=11858 S/N=252.96 Acquisition Time (min)			530.8 -> 351.0, 532.8 -> 353.0 x10 ³ Ratio = 35.6 (16.5 - 49.4) Acquisition Time (min)			- MRM (8.348-8.749 min) (530.8->**,532.8->**) 6Q18383.d Counts x10 ³ 353.0 530.8 Mass-to-Charge (m/z)		
PFNS	0.17	8.66	0.00	1308	548.8 -> 98.9	56.4	24.3	73.0
- MRM (548.8 -> 79.9) 6Q18383.d Smooth Counts x10 ² RT=8.657 min. Area=1308 S/N=140.15 Acquisition Time (min)			548.8 -> 79.9, 548.8 -> 98.9 x10 ² Ratio = 56.4 (24.3 - 73.0) Acquisition Time (min)			- MRM (8.472-8.875 min) (548.8->**) 6Q18383.d Counts x10 ² 79.9 548.8 Mass-to-Charge (m/z)		
13C2-PFDoDA	1.18	8.91	0.00	32678				
- MRM (615.1 -> 570.0) 6Q18383.d Smooth Counts x10 ³ RT=8.912 min. Area=32678 S/N=20899.45 Acquisition Time (min)			615.1 -> 570.0 x10 ³ Acquisition Time (min)			- MRM (8.723-9.224 min, 41 scans) (615.1 -> **) 6Q18383.d Counts x10 ³ 570.0 615.1 Mass-to-Charge (m/z)		

7.7.18 7

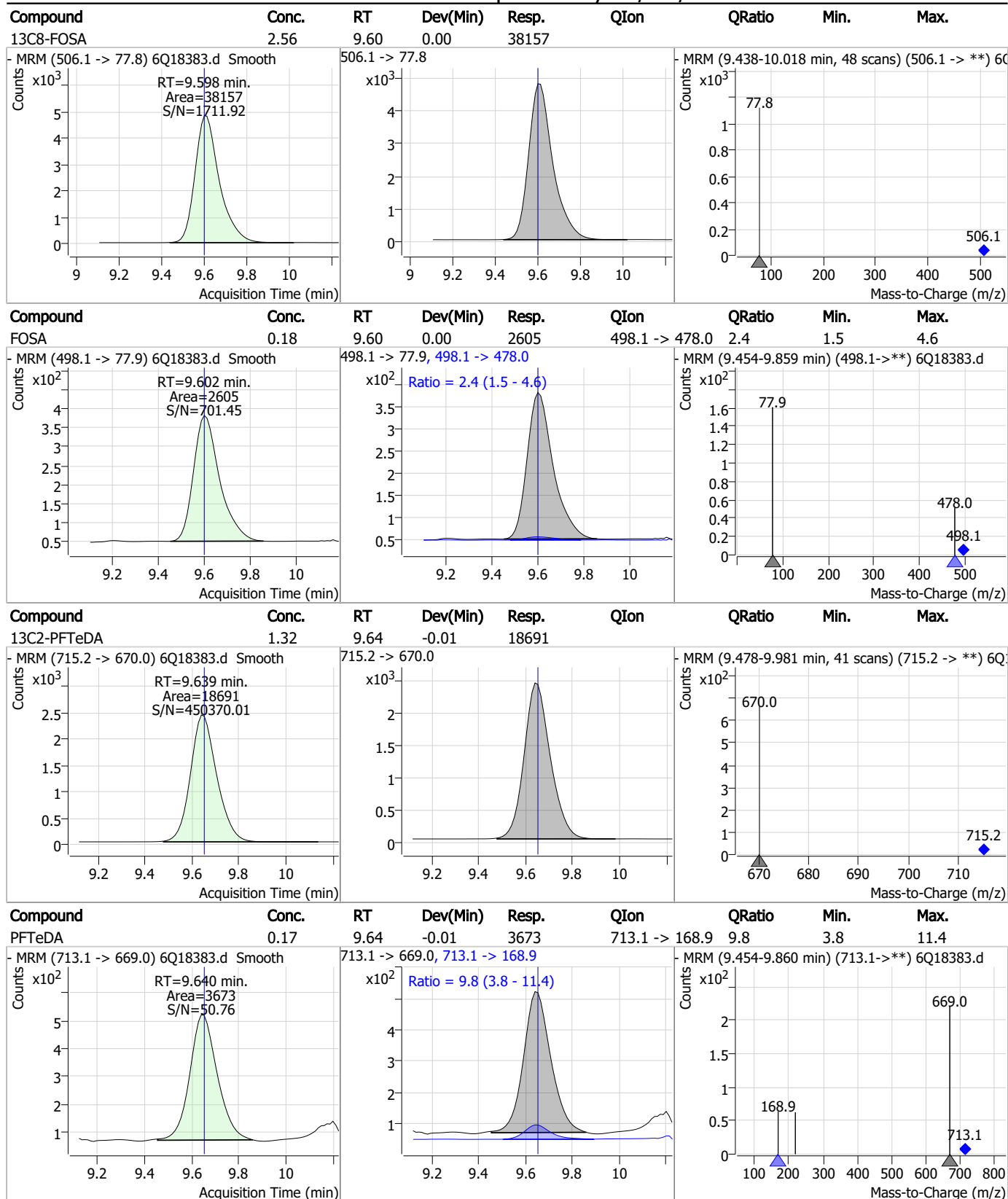


Perfluorinated Compounds by LC/MS/MS



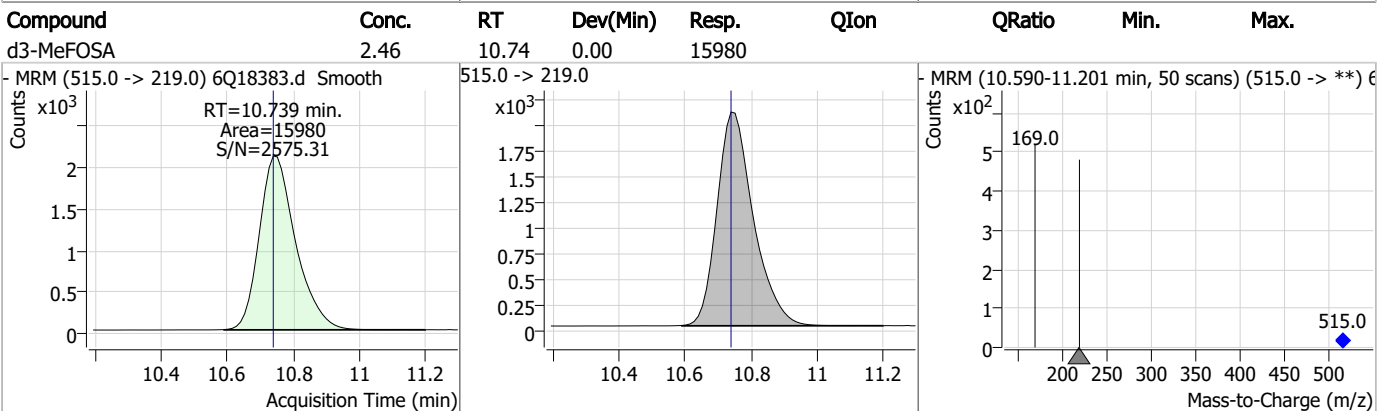
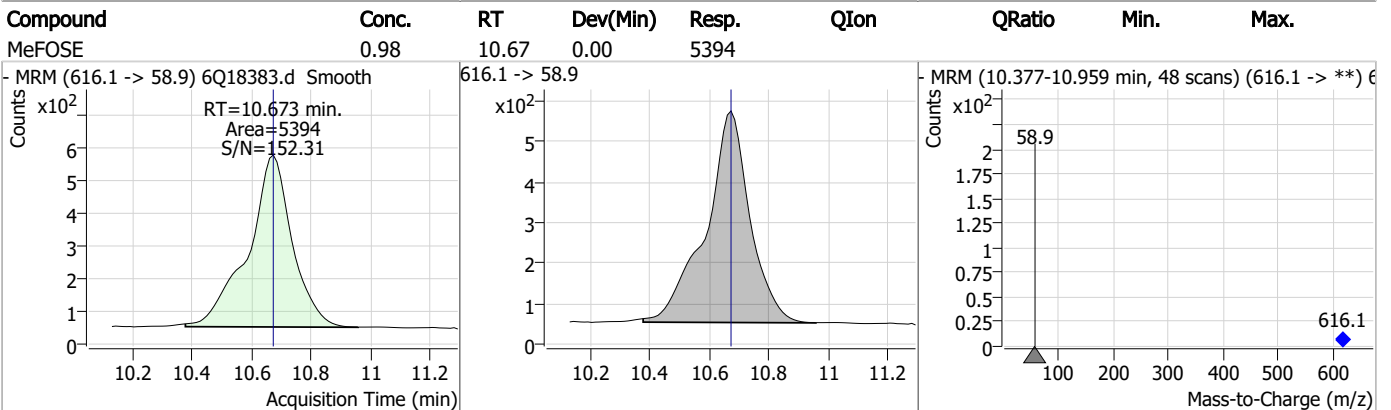
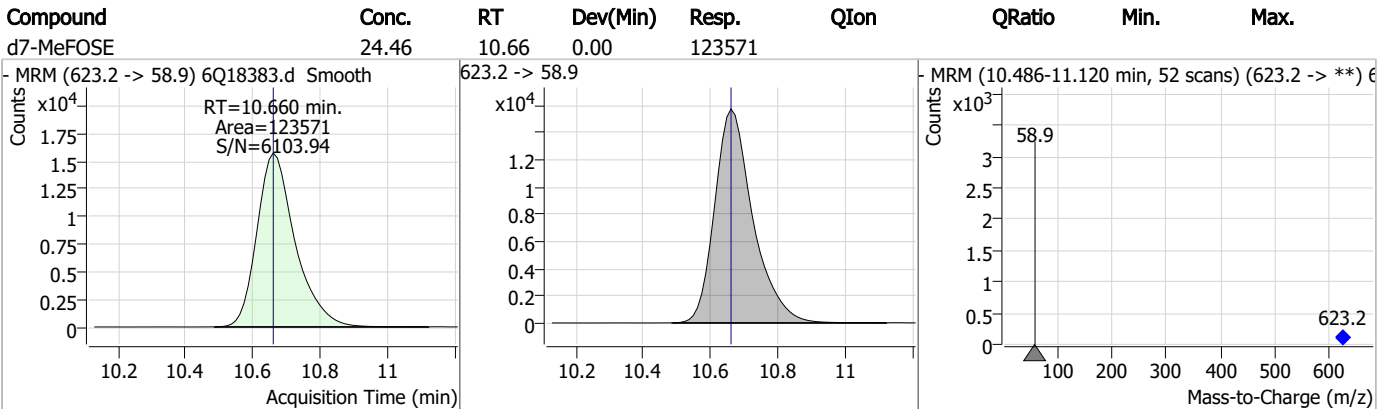
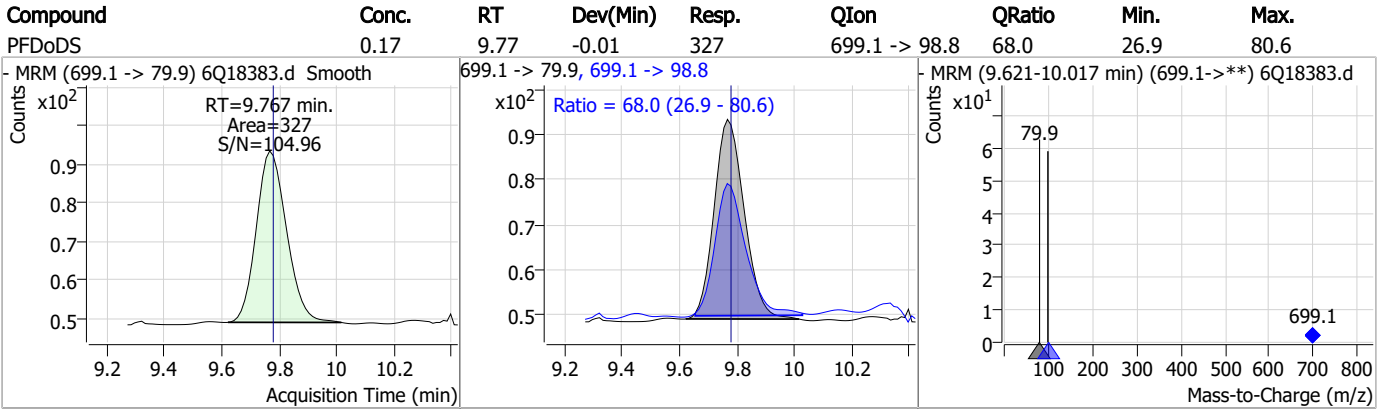
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Perfluorinated Compounds by LC/MS/MS



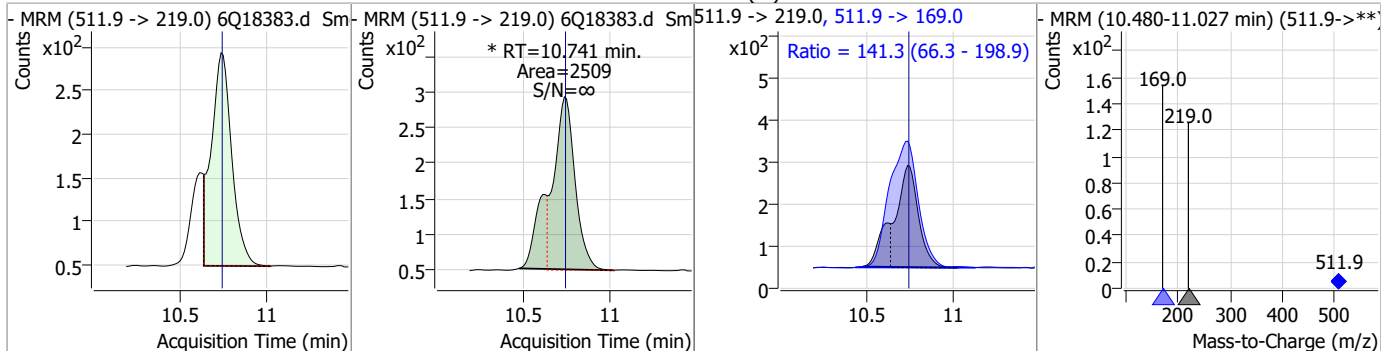
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Perfluorinated Compounds by LC/MS/MS

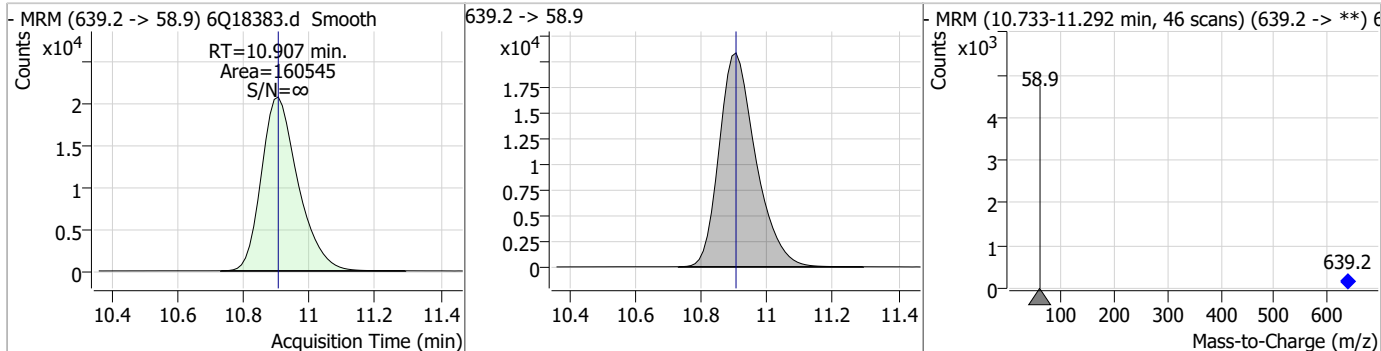


Perfluorinated Compounds by LC/MS/MS

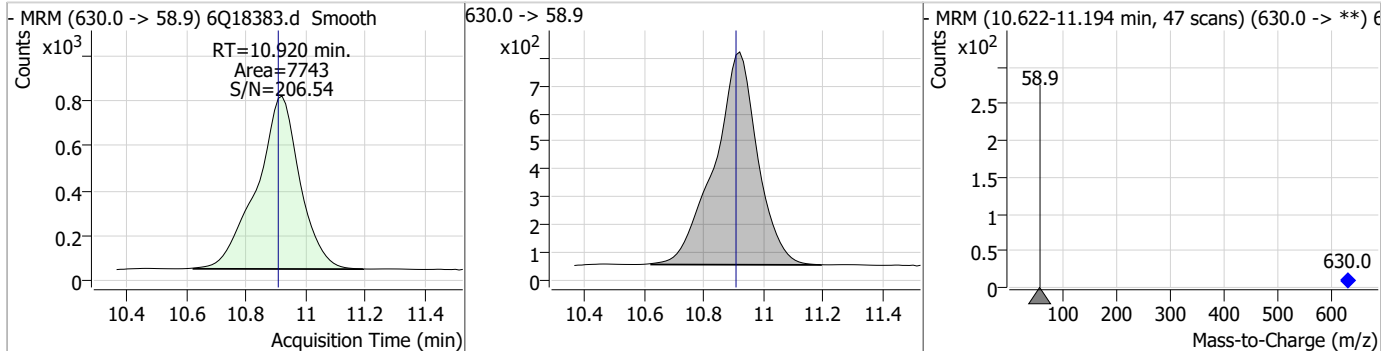
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.37	10.74	0.00	2509 (m)	511.9 -> 169.0	141.3	66.3	198.9



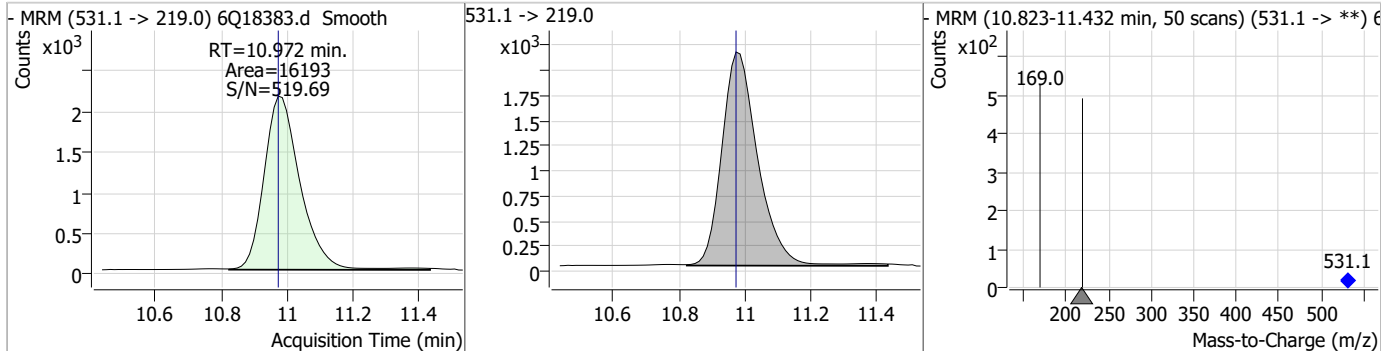
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.55	10.91	0.00	160545				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	0.99	10.92	0.01	7743				

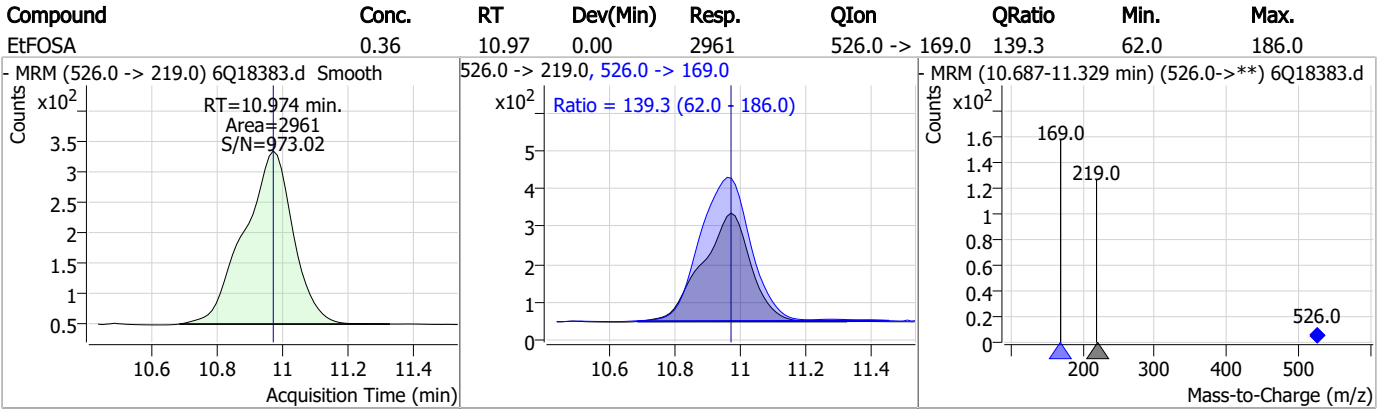


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.57	10.97	0.00	16193				



7.7.18
7

Perfluorinated Compounds by LC/MS/MS



7.7.18

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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18383.D Analyst approved: 05/26/23 13:10 Natasha Gumtie
Injection Time: 05/25/23 09:40 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
EtFOSAA	2991-50-6		8.29	Split peak
MeFOSA	31506-32-8		10.74	Split peak

7.7.18.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18395.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 12:34:19 PM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	215914	10.00 µg/L	0.000
M5-PFPeA	4.235	268.3 -> 223.0	70482	5.00 µg/L	0.000
M5-PFHxA	5.429	318.0 -> 273.0	76995	2.50 µg/L	0.000
M4-PFHpA	6.382	367.1 -> 322.0	72835	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	108363	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	44809	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28042	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	37365	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	32856	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	16645	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	37113	2.50 µg/L	0.000
M3-PFBS	5.347	302.1 -> 79.9	27800	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	17012	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15896	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	3895	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	6180	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6004	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34026	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	49795	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29194	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	121512	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	149533	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	14898	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	14753	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19939	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	91683	5.00 µg/L	0.000
18O2-PFHxS	7.141	403.0 -> 83.9	11874	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	114976	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37318	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	57032	1.25 µg/L	-0.012
13C2-PFHxA	5.430	315.1 -> 270.0	74403	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	3895	5.46 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.3%		
13C2-6:2FTS	6.813	429.1 -> 80.9	6180	5.66 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.3%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6004	5.42 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	32856	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.1%		
13C2-PFTeDA	9.639	715.2 -> 670.0	16645	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.2%		
13C3-PFBS	5.347	302.1 -> 79.9	27800	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.6%		
13C3-PFHxS	7.142	402.1 -> 79.9	17012	2.62 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C4-PFBA	2.876	216.8 -> 171.9	215914	9.90 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C4-PFHpA	6.382	367.1 -> 322.0	72835	2.55 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFHxA	5.429	318.0 -> 273.0	76995	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFPeA	4.235	268.3 -> 223.0	70482	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C6-PFDA	8.039	519.1 -> 474.1	28042	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	37365	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-FOSA	9.598	506.1 -> 77.8	37113	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C8-PFOA	7.038	421.1 -> 376.0	108363	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C8-PFOS	8.189	507.1 -> 79.9	15896	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C9-PFNA	7.557	472.1 -> 427.0	44809	1.19 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34026	5.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	49795	9.99 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	14753	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29194	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	121512	25.01 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	149533	24.74 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSA	10.972	531.1 -> 219.0	14898	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	
Target Compounds					QValue
4:2FTS	5.107	327.1 -> 307.0	66814	9.36 µg/L	92
		327.1 -> 80.9	23275		
6:2FTS	6.813	427.1 -> 407.0	61908	8.86 µg/L	97
		427.1 -> 80.9	21887		
8:2FTS	7.828	527.1 -> 507.0	35004	9.69 µg/L	98
		527.1 -> 80.8	14462		
EtFOSAA	8.293	584.2 -> 419.1	11592	2.60 µg/L	99
		584.2 -> 526.0	6213		
FOSA	9.602	498.1 -> 77.9	33583	2.33 µg/L	100
		498.1 -> 478.0	1057		
MeFOSAA	8.097	570.1 -> 419.0	19142	2.32 µg/L	99
		570.1 -> 483.0	3570		
PFBA	2.868	212.8 -> 168.9	81641	9.70 µg/L	100
PFBS	5.348	298.7 -> 79.9	22974	2.16 µg/L	98
		298.7 -> 98.8	8566		
PFDA	8.040	512.9 -> 469.0	89640	2.35 µg/L	99
		512.9 -> 219.0	14878		
PFDoDA	8.913	613.1 -> 569.0	60463	2.32 µg/L	94
		613.1 -> 319.0	9845		
PFDS	9.076	599.0 -> 79.9	10335	2.32 µg/L	96

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	4805	2.32	µg/L	95
		363.1 -> 319.0	87264			
PFHpS	7.698	363.1 -> 169.0	14725	2.33	µg/L	99
		449.0 -> 79.9	20151			
PFHxA	5.432	449.0 -> 98.9	10026	2.29	µg/L	98
		313.0 -> 269.0	68411			
PFHxS	7.143	313.0 -> 118.9	3481	2.06	µg/L	97
		398.7 -> 79.9	19024			
PFNA	7.558	398.7 -> 98.9	9379	2.48	µg/L	99
		463.0 -> 419.0	91920			
PFNS	8.657	463.0 -> 219.0	17583	2.36	µg/L	96
		548.8 -> 79.9	17644			
PFOA	7.040	548.8 -> 98.9	9075	2.61	µg/L	99
		413.0 -> 369.0	132013			
PFOS	8.191	413.0 -> 169.0	22376	2.32	µg/L	93
		498.9 -> 79.9	19593			
PFPeA	4.237	498.9 -> 98.8	9425	4.89	µg/L	100
		263.0 -> 219.0	92969			
PFPeS	6.434	349.1 -> 79.9	19989	2.21	µg/L	99
		349.1 -> 98.9	9367			
PFTeDA	9.640	713.1 -> 669.0	47825	2.46	µg/L	96
		713.1 -> 168.9	4257			
PFTrDA	9.296	663.0 -> 619.0	61471	2.42	µg/L	95
		663.0 -> 168.9	6784			
PFUnDA	8.493	563.1 -> 519.0	64618	2.42	µg/L	98
		563.1 -> 269.1	10401			
11CI-PF3OUdS	9.348	630.9 -> 450.9	88543	4.63	µg/L	99
		632.9 -> 452.9	26883			
9CI-PF3ONS	8.520	530.8 -> 351.0	142836	4.47	µg/L	100
		532.8 -> 353.0	46606			
ADONA	6.646	376.9 -> 250.9	332300	4.53	µg/L	99
		376.9 -> 84.8	91057			
HFPO-DA	5.795	284.9 -> 168.9	23309	4.77	µg/L	97
		284.9 -> 184.9	2898			
3:3FTCA	3.727	241.0 -> 177.0	15797	11.52	µg/L	95
		241.0 -> 117.0	1980			
5:3FTCA	6.099	341.0 -> 237.1	302025	55.01	µg/L	91
		341.0 -> 217.0	236143			
7:3FTCA	7.523	441.0 -> 316.9	212159	59.78	µg/L	90
		441.0 -> 336.9	433266			
EtFOSA	10.974	526.0 -> 219.0	36365	4.87	µg/L	90
		526.0 -> 169.0	49088			
EtFOSE	10.920	630.0 -> 58.9	89730	12.37	µg/L	100
		511.9 -> 219.0	30779			
MeFOSA	10.741	511.9 -> 169.0	43186	4.92	µg/L	93
		616.1 -> 58.9	65491			
MeFOSE	10.673	699.1 -> 79.9	4498	12.13	µg/L	100
		699.1 -> 98.8	2442			
PFDoDS	9.767	295.0 -> 201.0	17441	2.38	µg/L	99
		295.0 -> 84.9	4460			
NFDHA	5.311	279.0 -> 85.1	65192	4.72	µg/L	97
		229.0 -> 84.9	49699			
PFMBA	4.638	314.8 -> 134.9	169984	4.85	µg/L	100
		314.8 -> 82.9	5949			
PFMPA	3.388			4.86	µg/L	100
PFEESA	5.888			4.23	µg/L	99

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

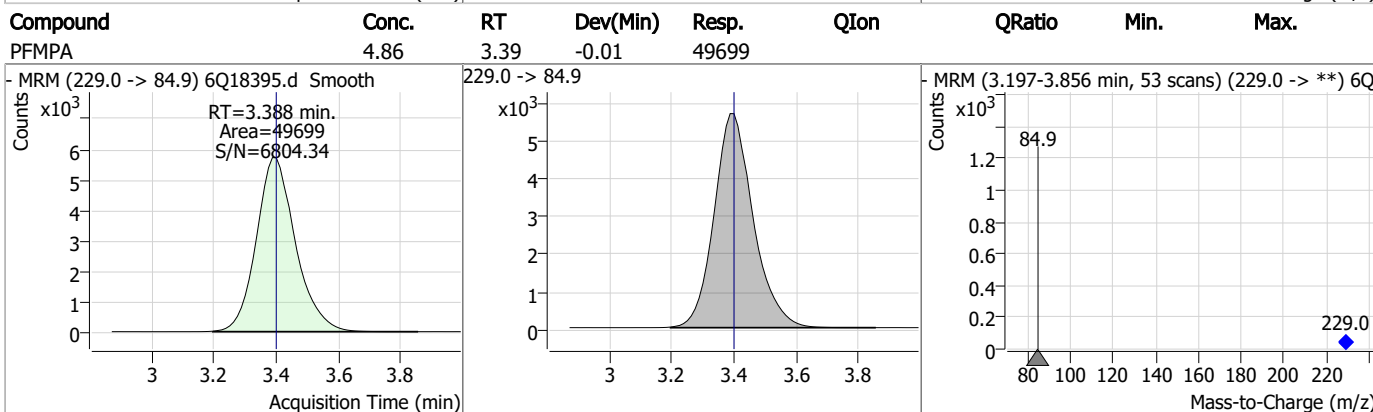
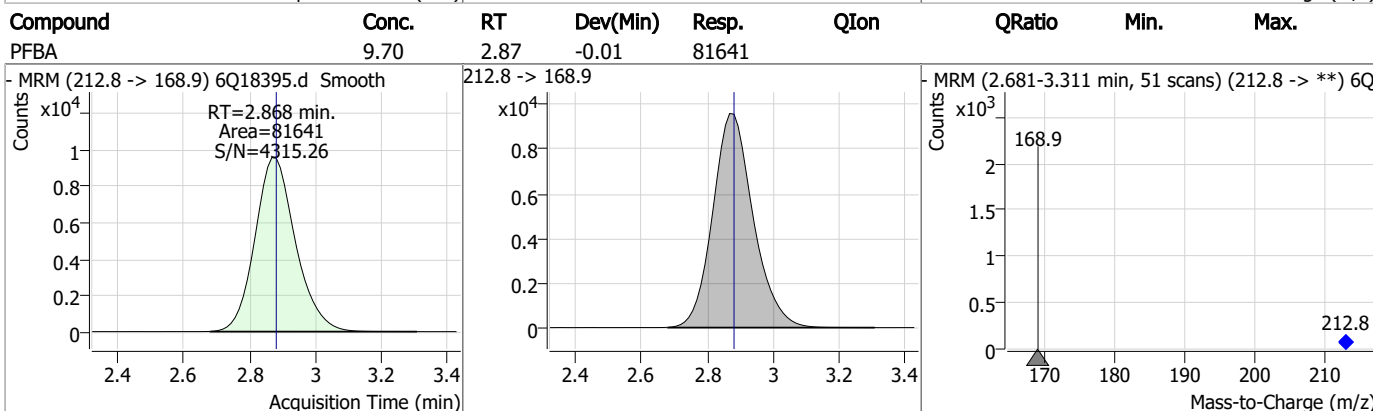
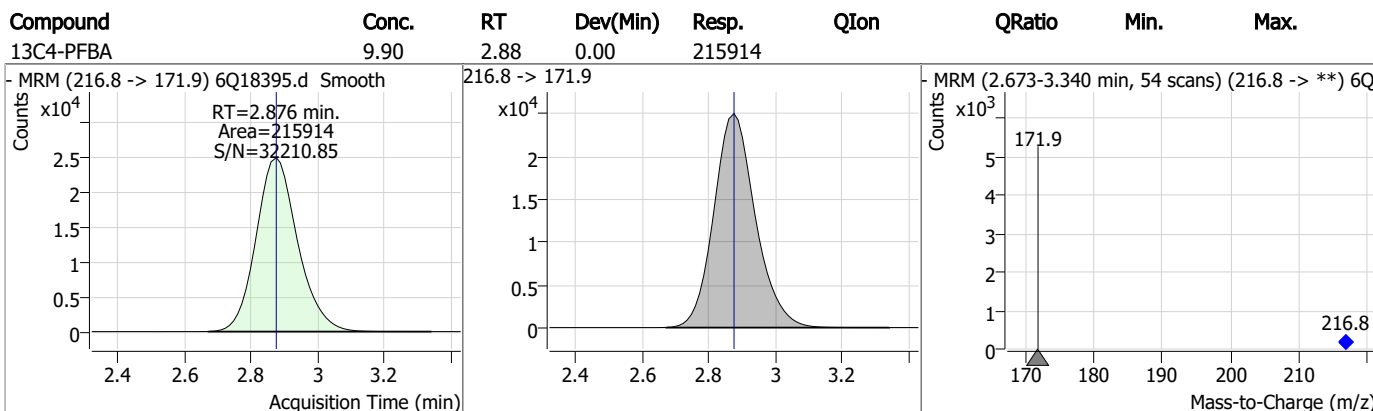
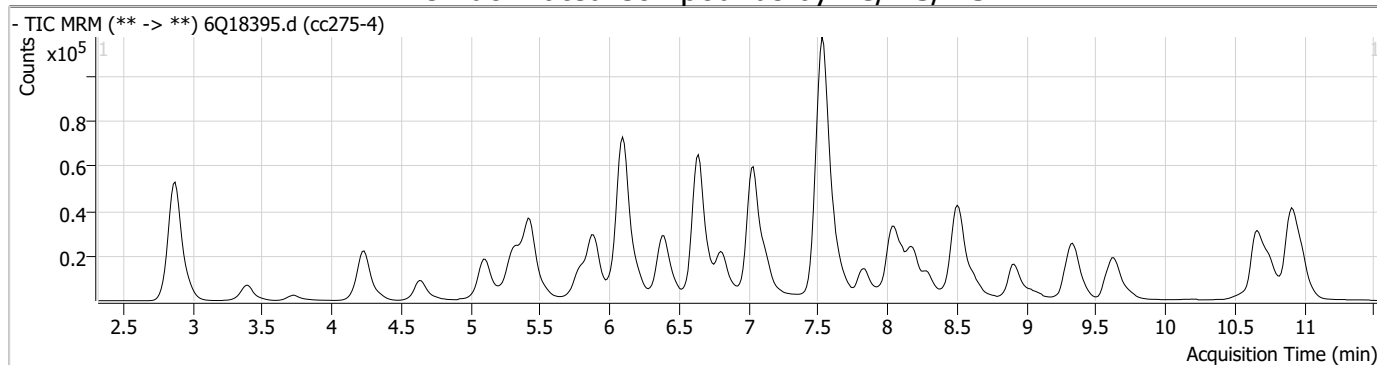
Perfluorinated Compounds by LC/MS/MS

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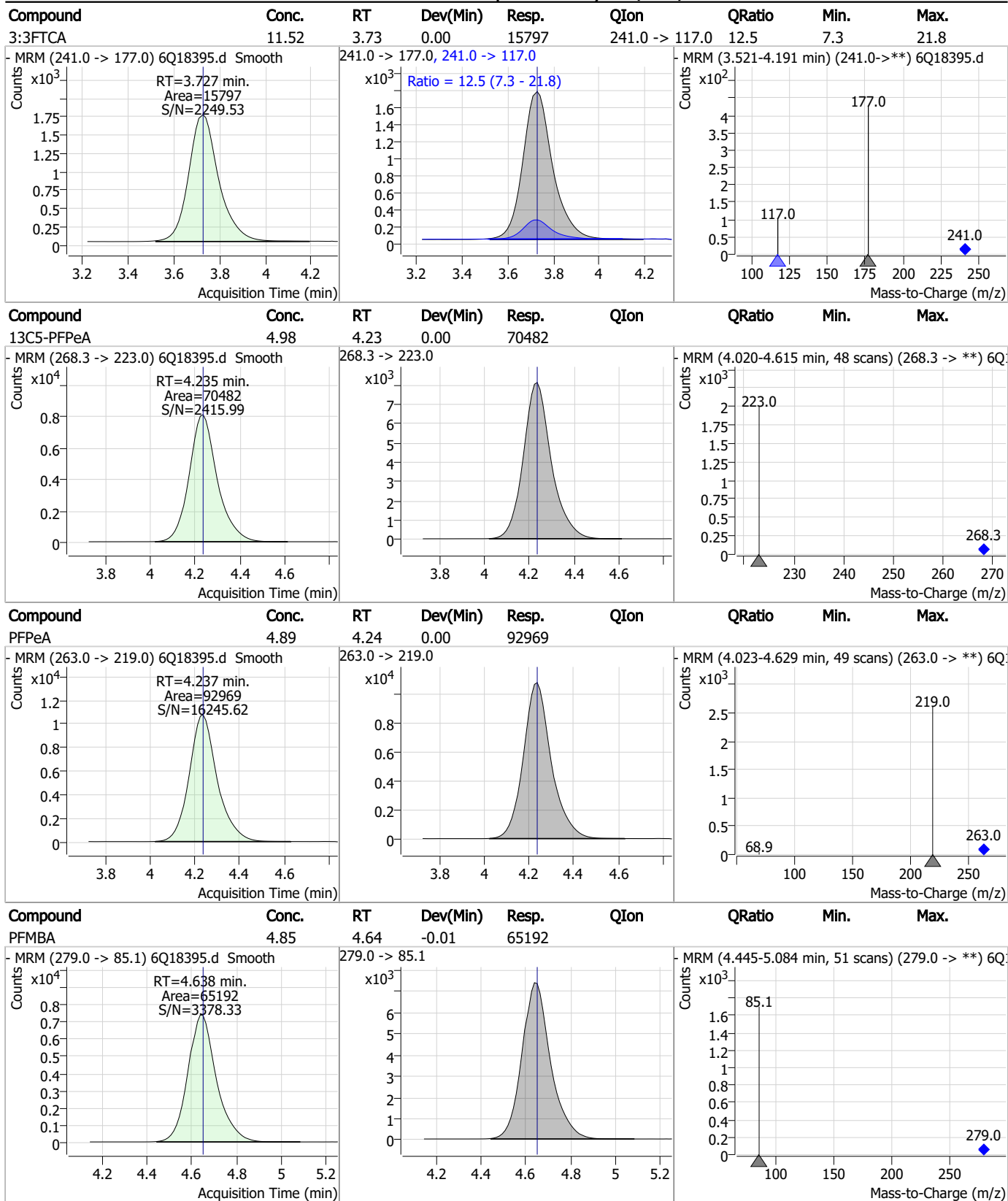
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Perfluorinated Compounds by LC/MS/MS

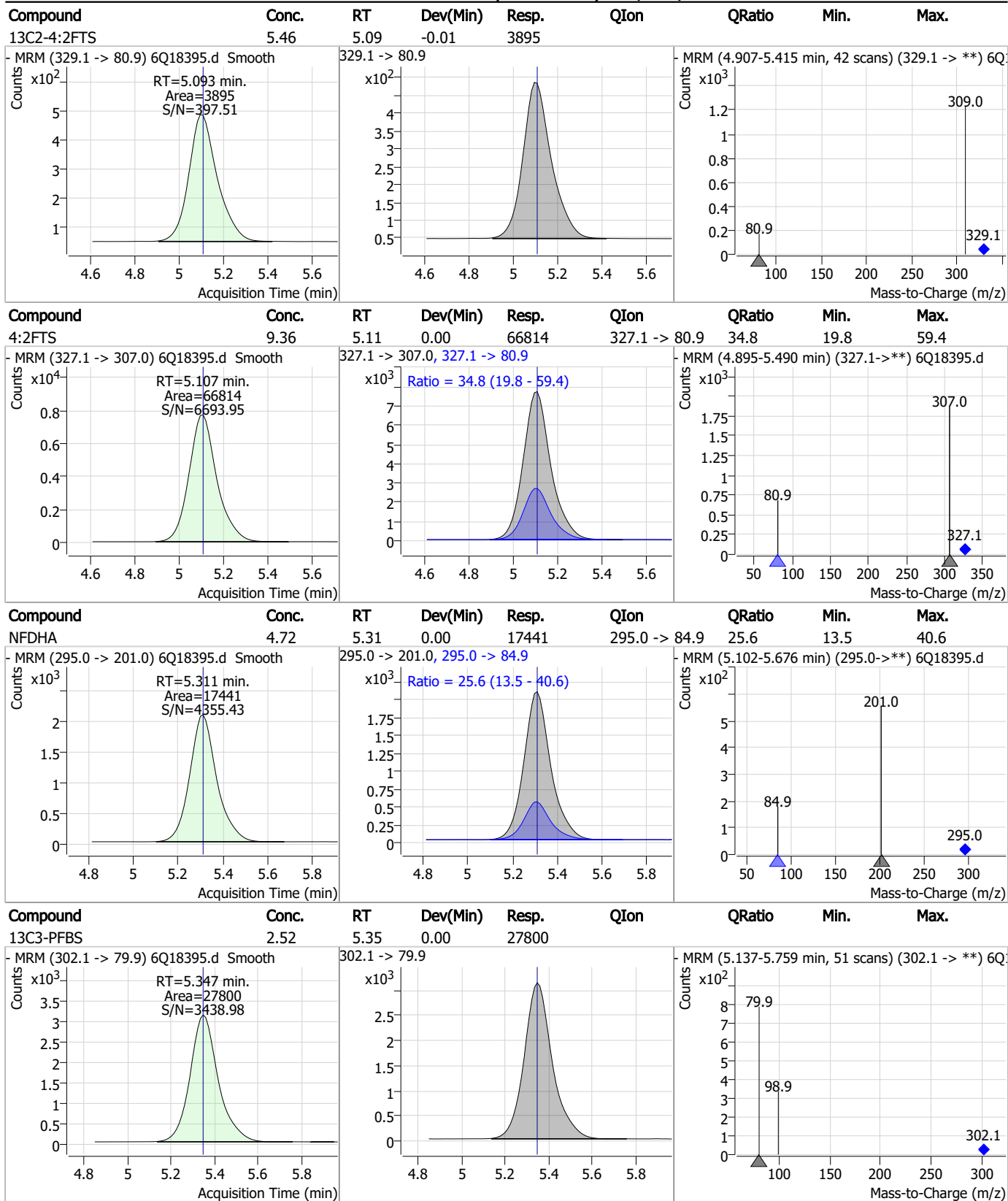


Perfluorinated Compounds by LC/MS/MS



7.7.19

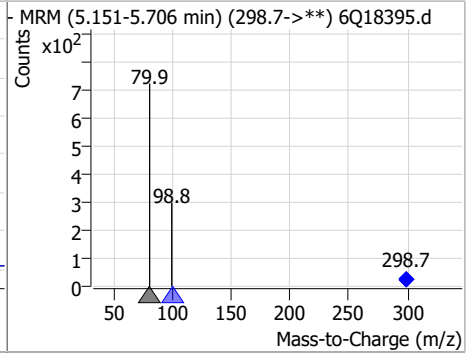
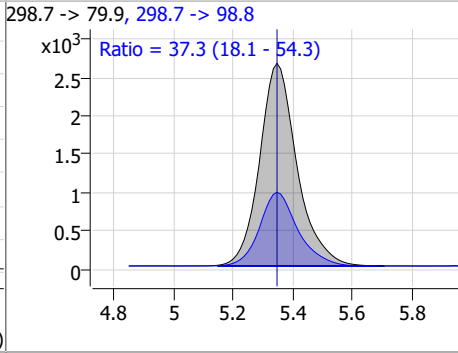
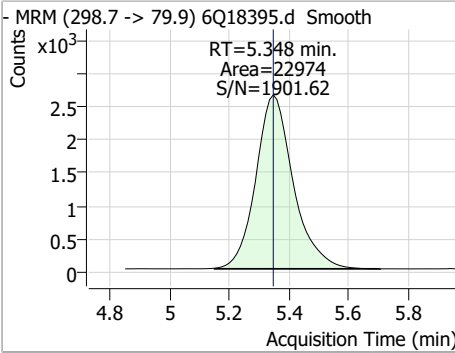
Perfluorinated Compounds by LC/MS/MS



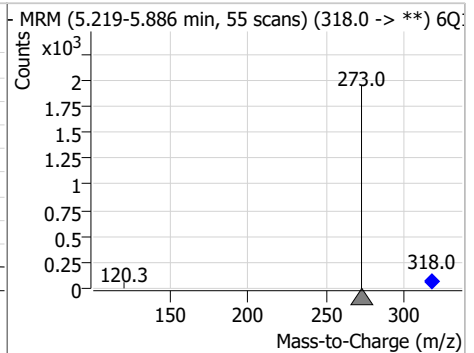
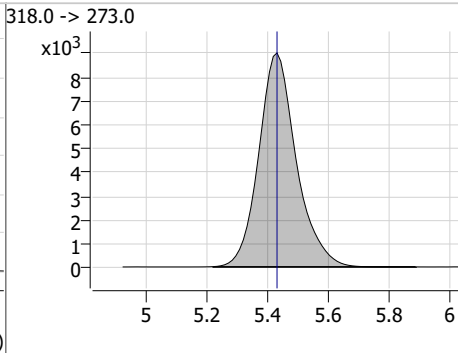
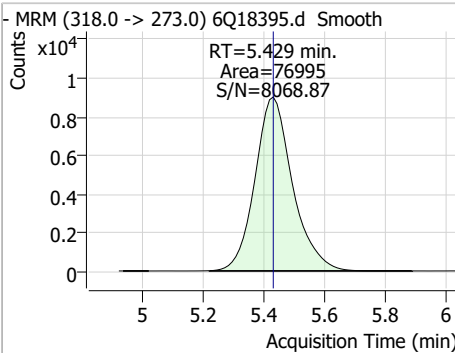
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Perfluorinated Compounds by LC/MS/MS

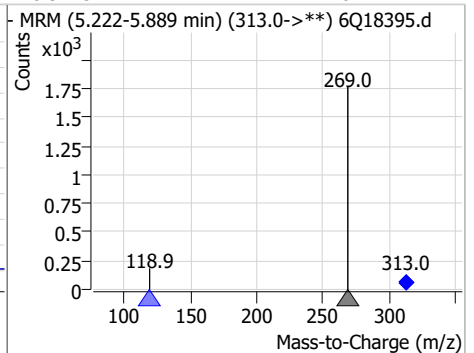
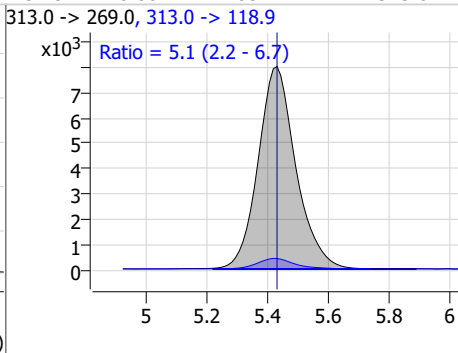
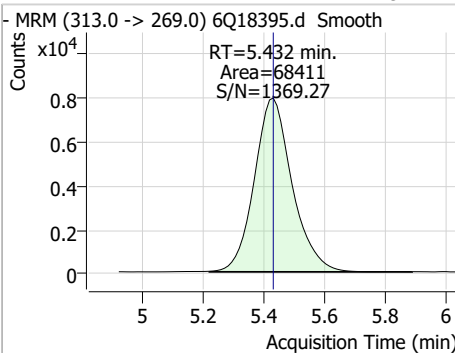
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.16	5.35	0.00	22974	298.7 -> 98.8	37.3	18.1	54.3



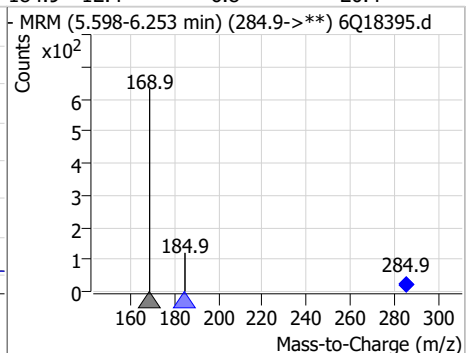
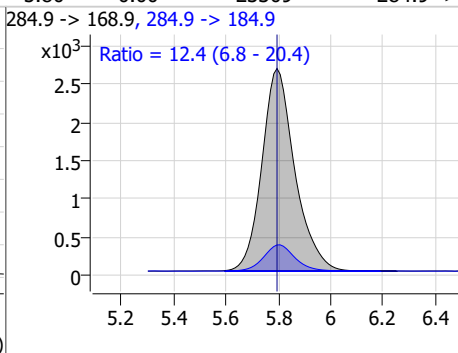
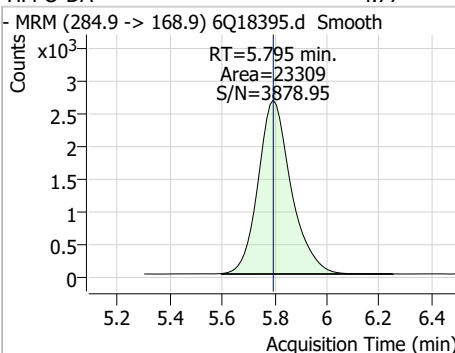
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.43	0.00	76995	318.0 -> 273.0	5.1	2.2	6.7



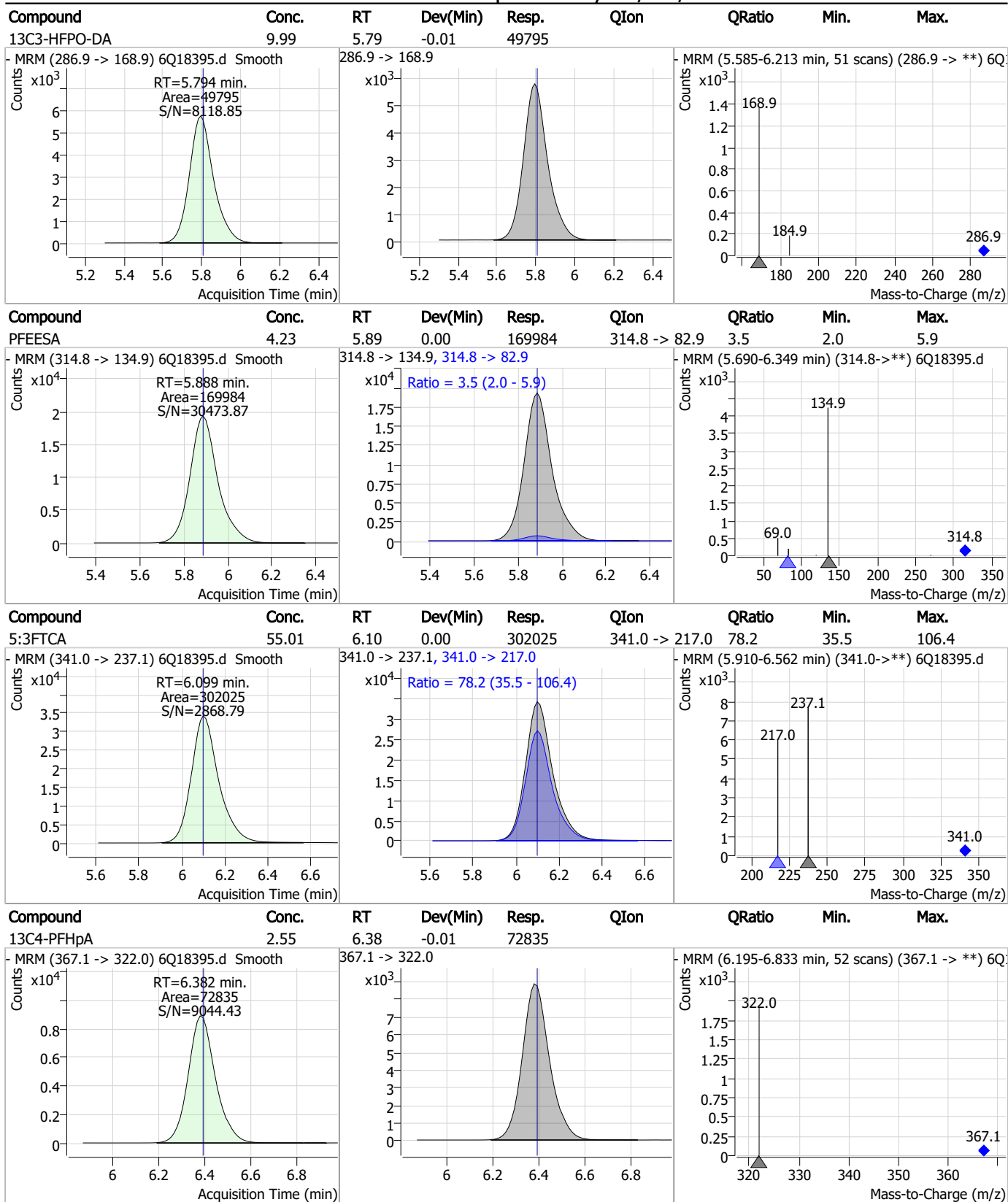
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.29	5.43	0.00	68411	313.0 -> 118.9	12.4	6.8	20.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.77	5.80	0.00	23309	284.9 -> 184.9	12.4	6.8	20.4



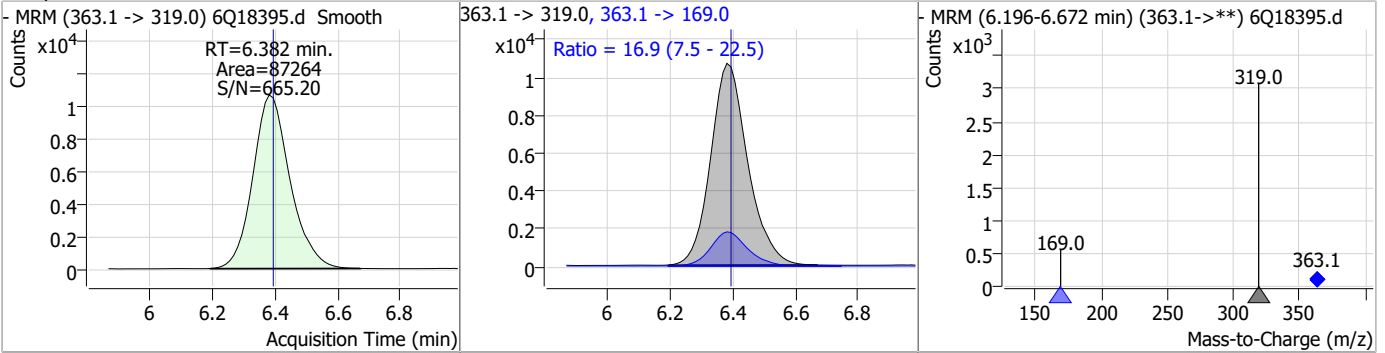
Perfluorinated Compounds by LC/MS/MS



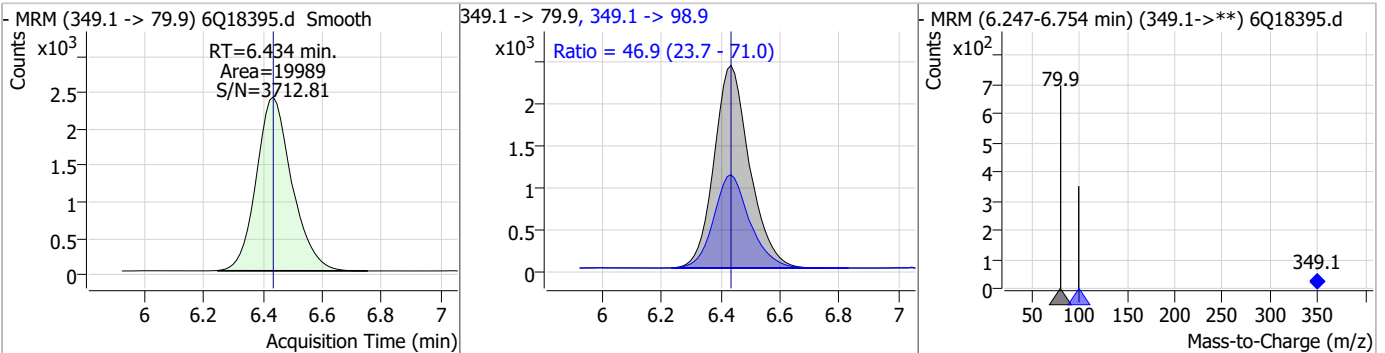
7.7.19
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Perfluorinated Compounds by LC/MS/MS

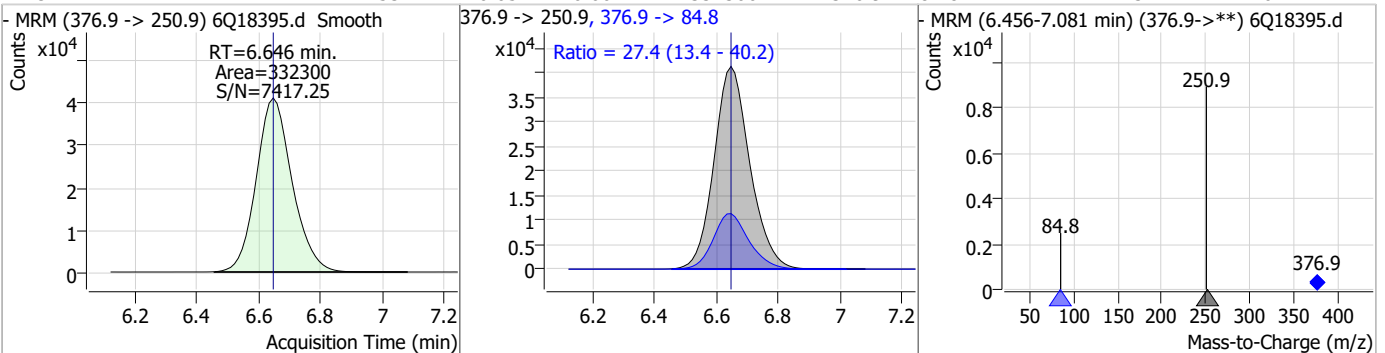
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.32	6.38	-0.01	87264	363.1 -> 169.0	16.9	7.5	22.5



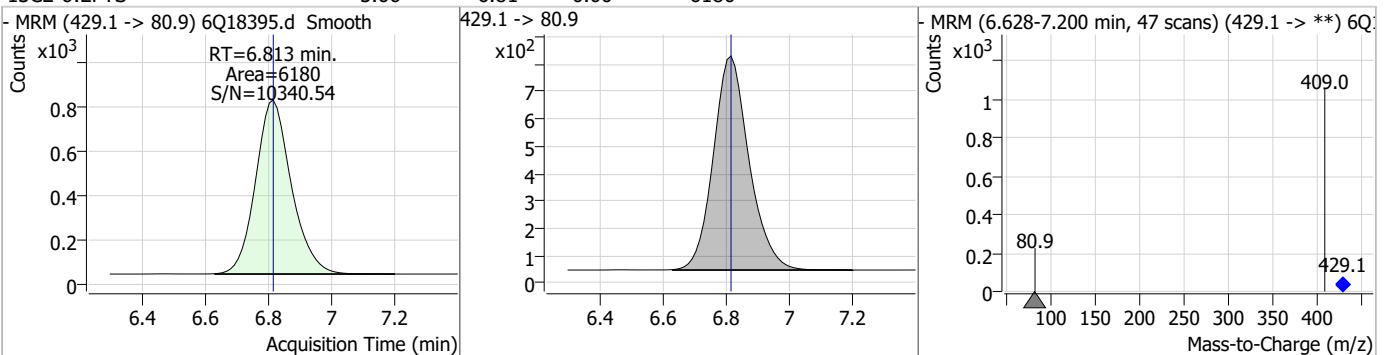
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.21	6.43	0.00	19989	349.1 -> 98.9	46.9	23.7	71.0



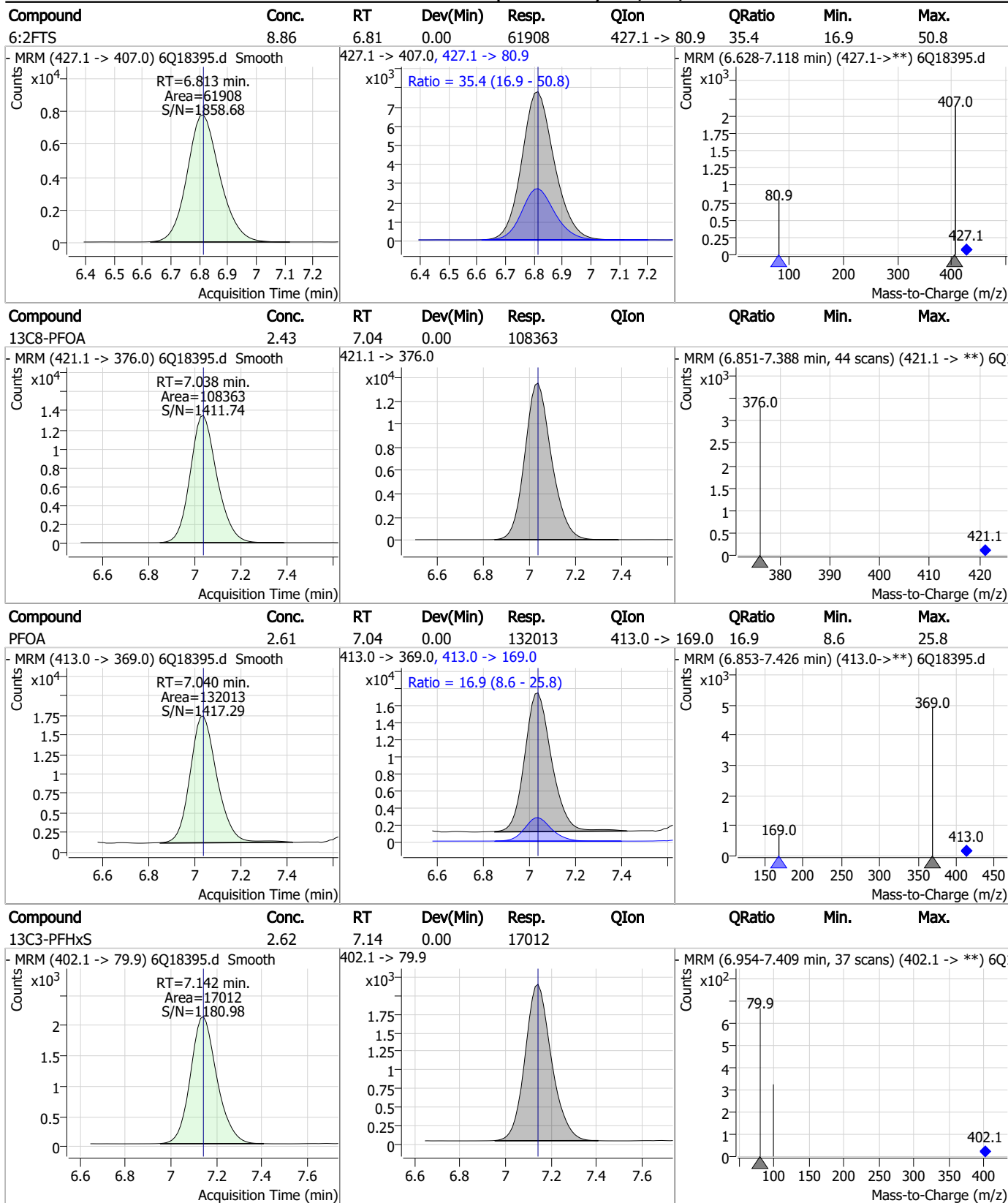
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.53	6.65	0.00	332300	376.9 -> 84.8	27.4	13.4	40.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.66	6.81	0.00	6180	429.1 -> 80.9			

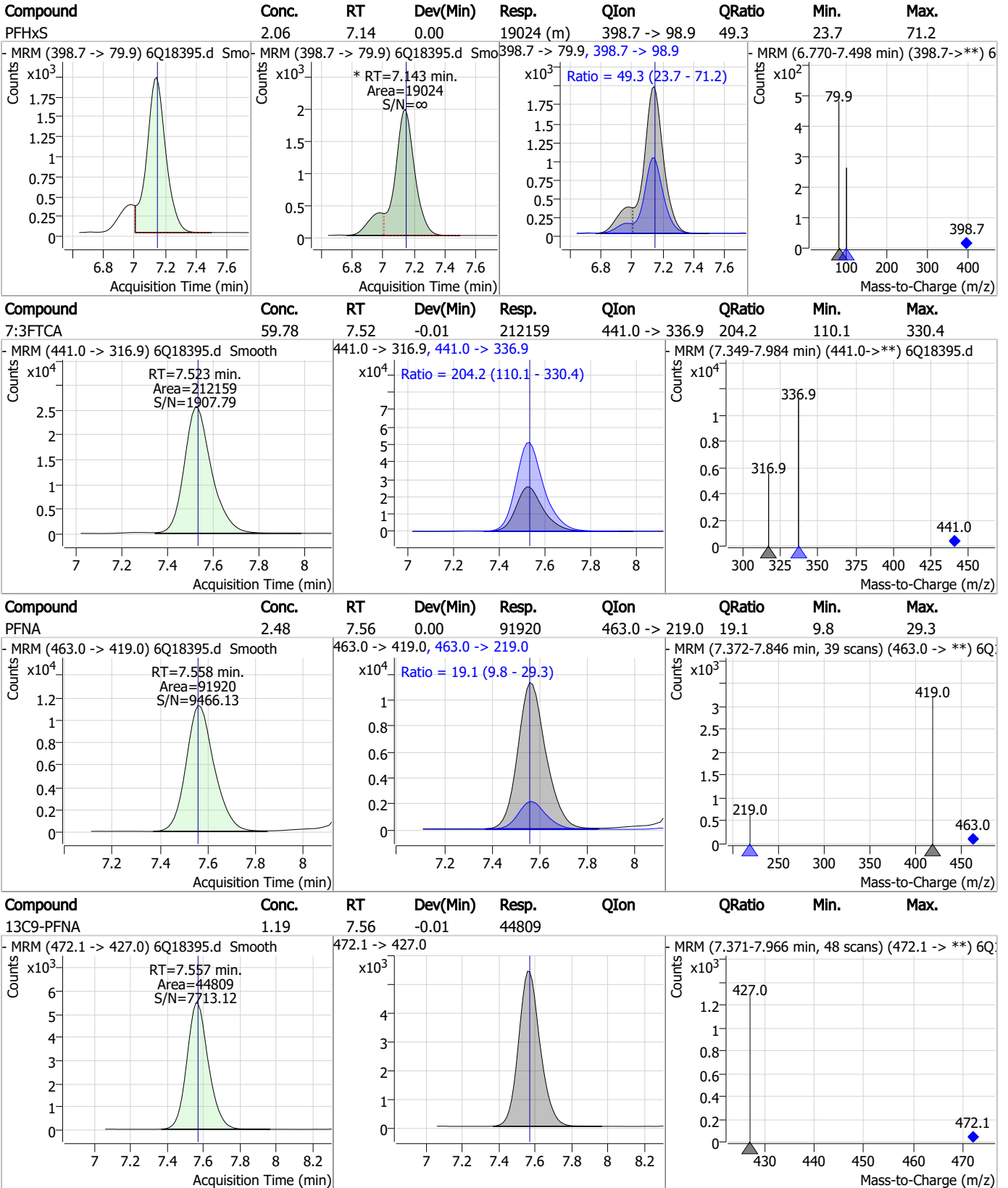


Perfluorinated Compounds by LC/MS/MS



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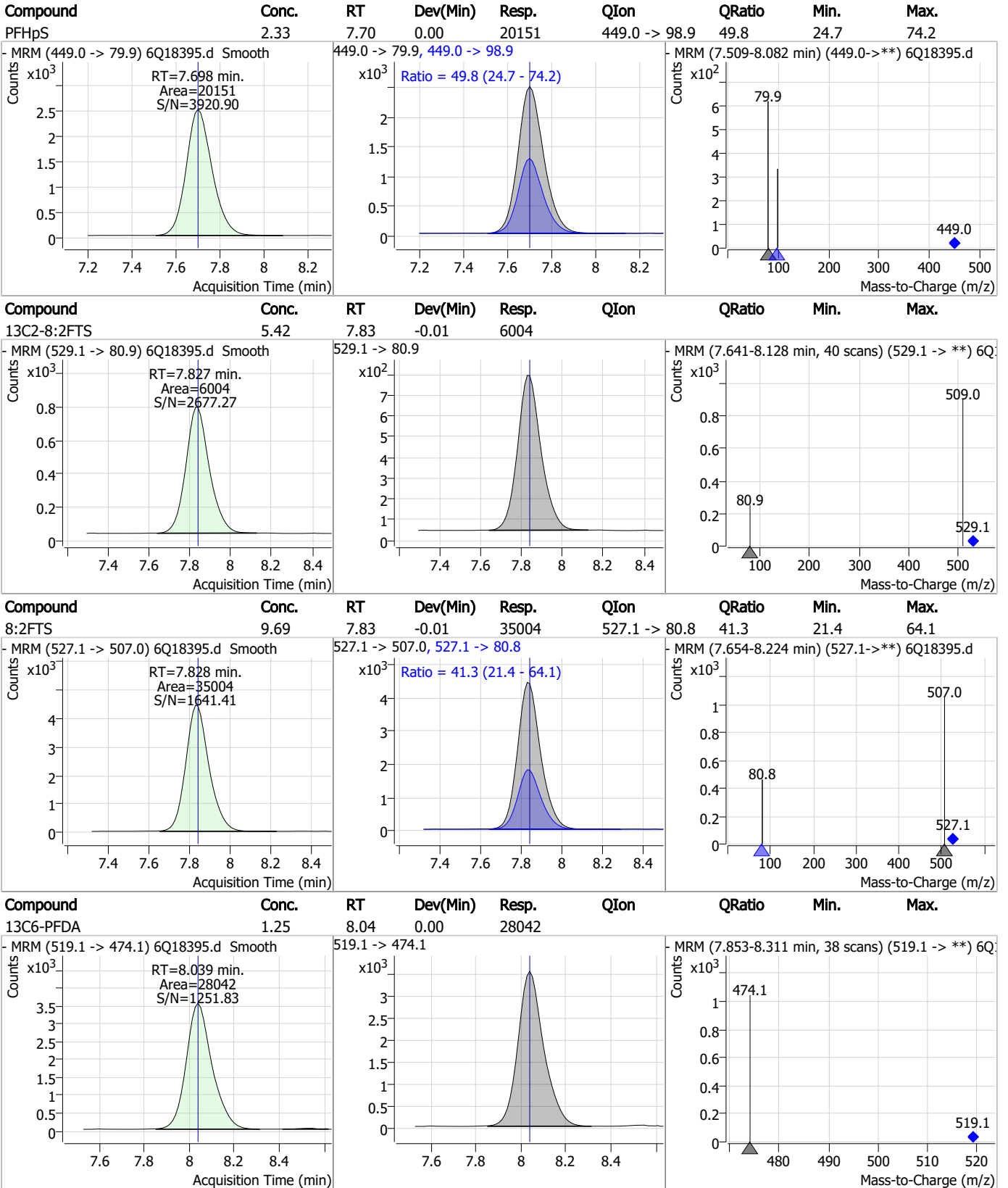
Perfluorinated Compounds by LC/MS/MS



7.7.19 7



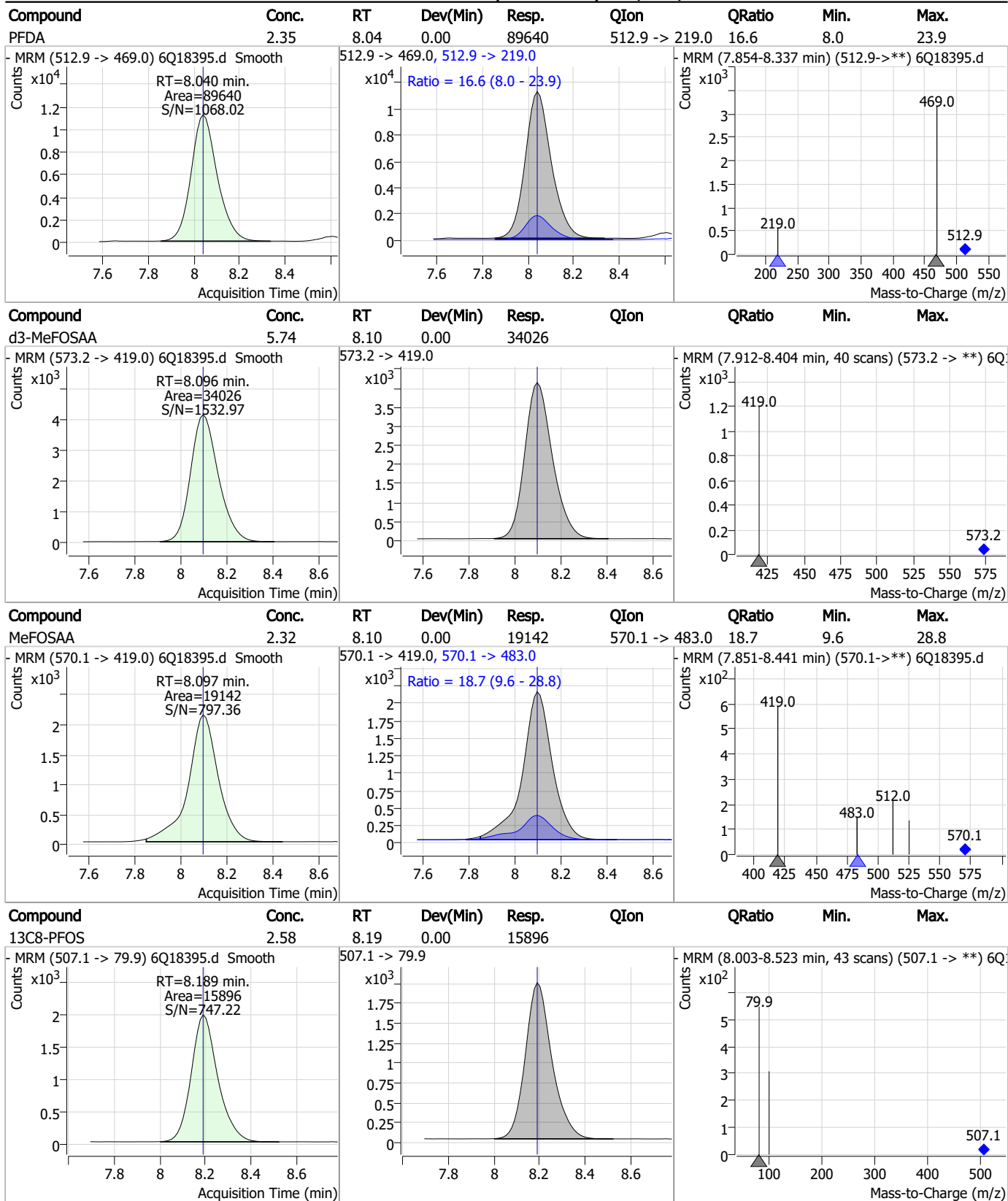
Perfluorinated Compounds by LC/MS/MS



7.7.19

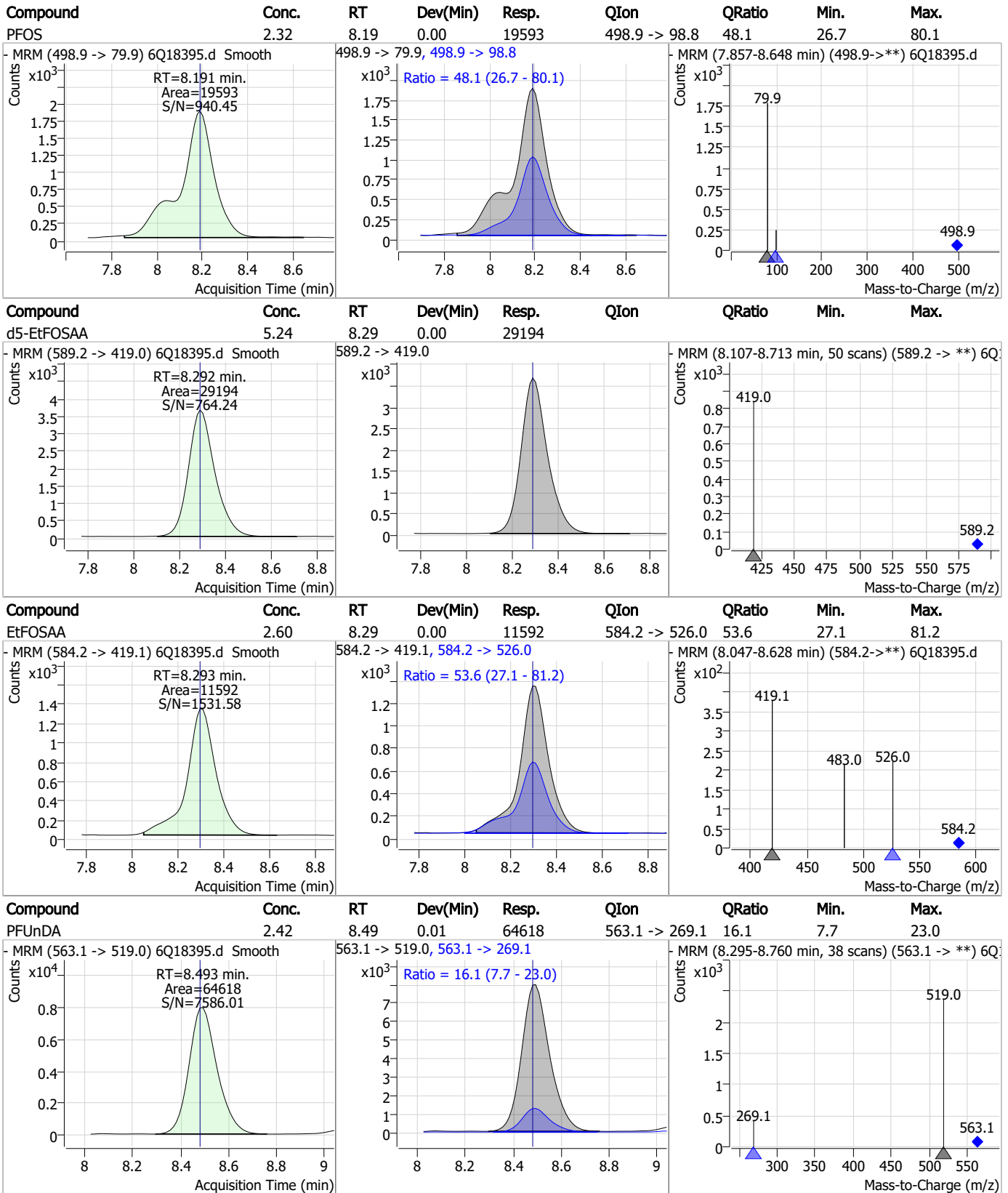
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Perfluorinated Compounds by LC/MS/MS



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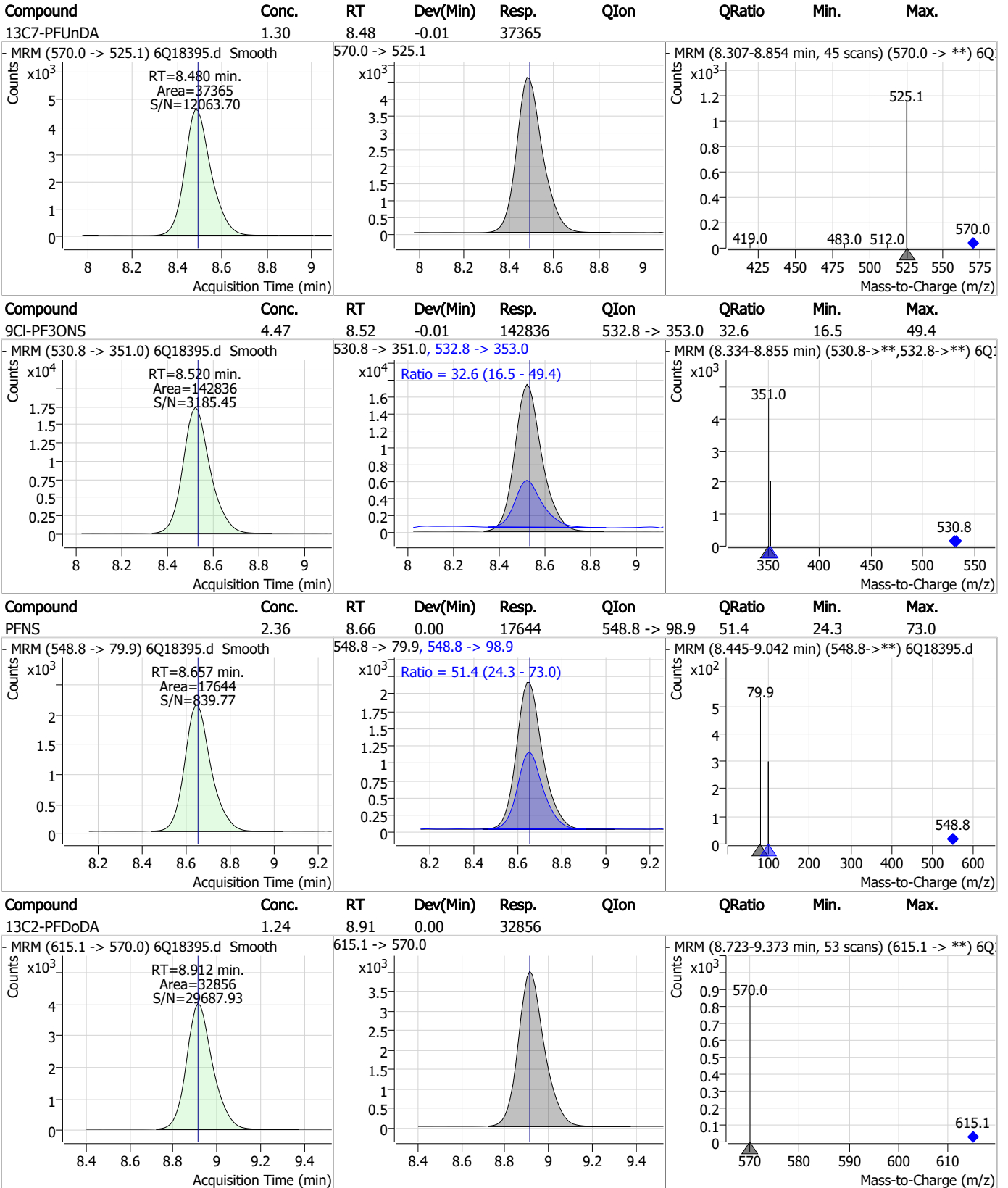
Perfluorinated Compounds by LC/MS/MS



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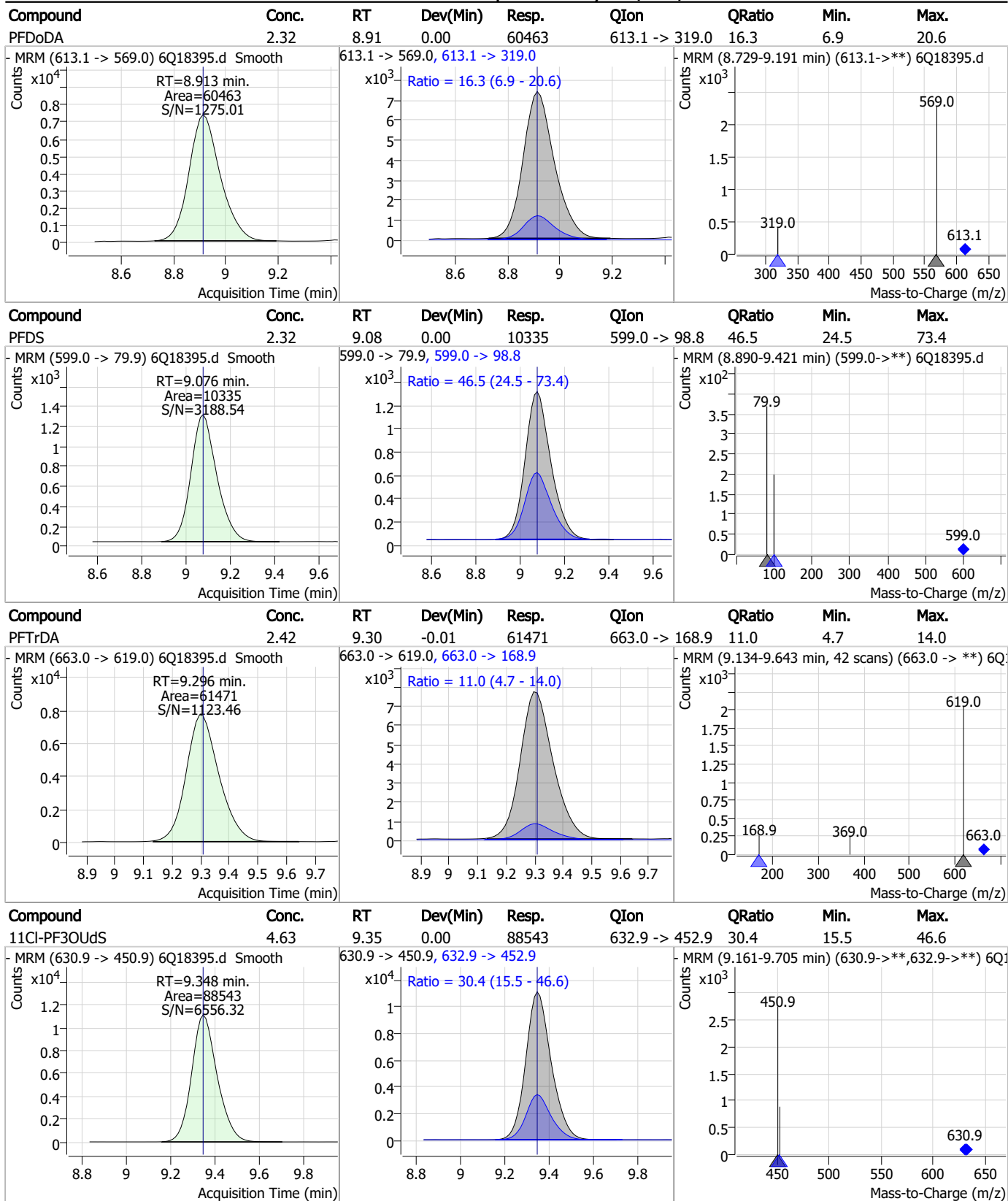
Perfluorinated Compounds by LC/MS/MS



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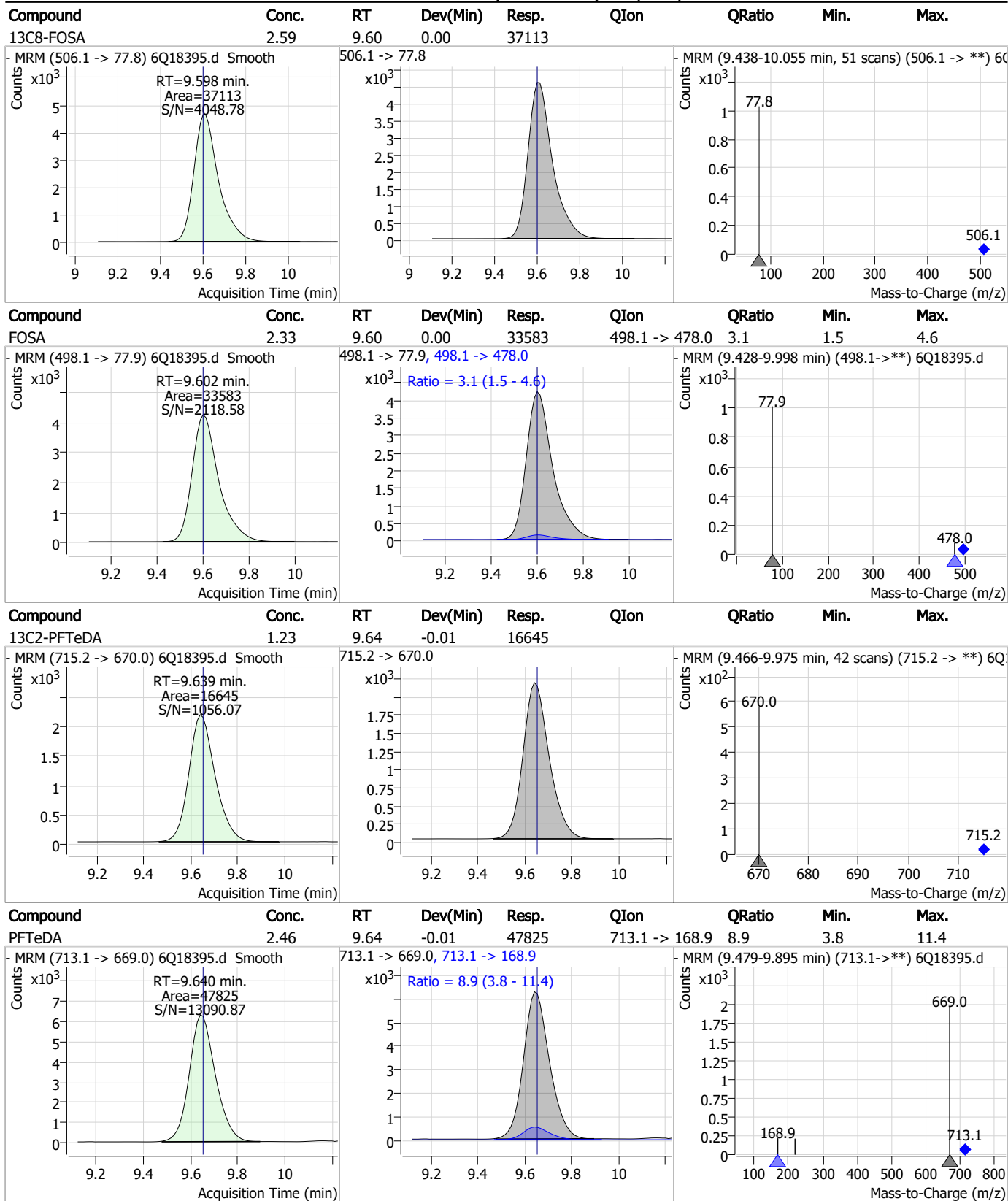
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



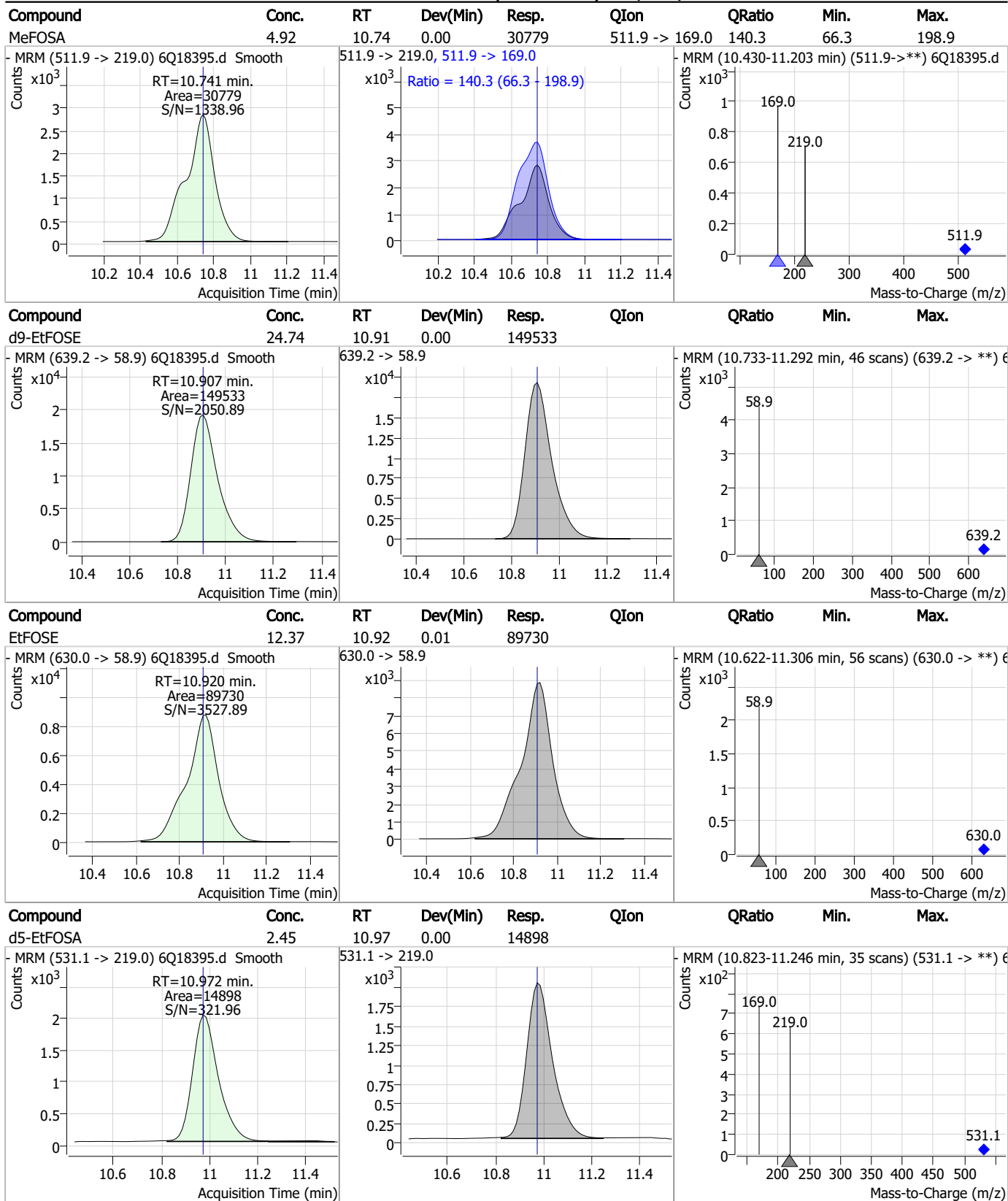
7.7.19
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.38	9.77	-0.01	4498	699.1 -> 98.8	54.3	26.9	80.6
d7-MeFOSE	25.01	10.66	0.00	121512	623.2 -> 58.9	623.2 -> 58.9	623.2 -> **)	623.2
MeFOSE	12.13	10.67	0.00	65491	616.1 -> 58.9	616.1 -> 58.9	616.1 -> **)	616.1
d3-MeFOSA	2.36	10.74	0.00	14753	515.0 -> 219.0	515.0 -> 219.0	515.0 -> **)	515.0

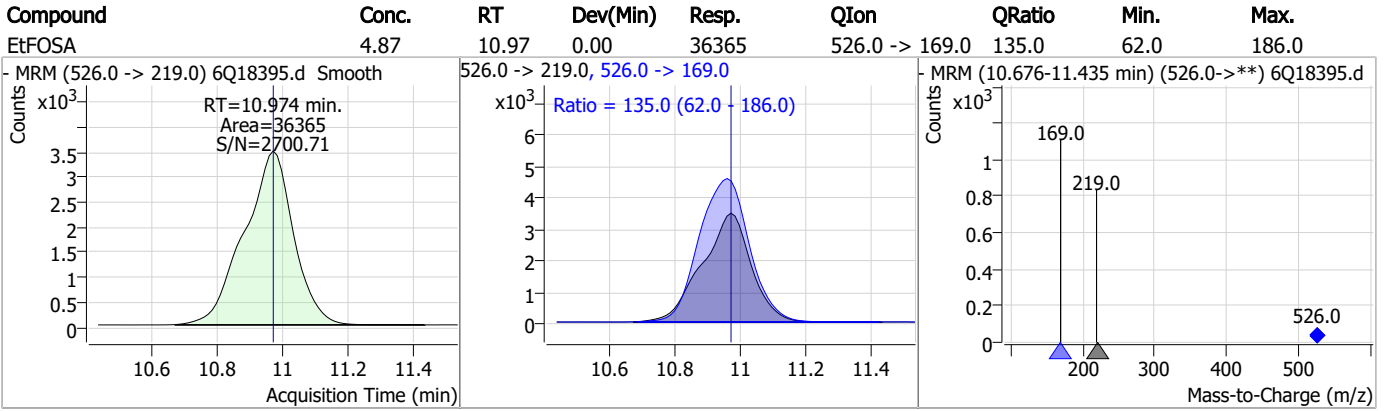
7.7.19

Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18395.D Analyst approved: 05/26/23 13:10 Natasha Gumtie
Injection Time: 05/25/23 12:34 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.19.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18407.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 3:58:01 PM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.835	216.8 -> 171.9	206368	10.00 µg/L	-0.041
M5-PFPeA	4.222	268.3 -> 223.0	69505	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	75497	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	71478	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	104851	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	42125	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	28599	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35976	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	31038	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	16483	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	35183	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	27780	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	16725	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15257	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	3996	5.00 µg/L	-0.013
M2-6:2FTS	6.813	429.1 -> 80.9	5949	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5693	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	32325	5.00 µg/L	0.000
M3-HFPO-DA	5.794	286.9 -> 168.9	49022	10.00 µg/L	-0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29279	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	114097	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	151192	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	15225	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15315	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19286	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	86834	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	12231	2.50 µg/L	0.000
13C4-PFOA	7.027	417.1 -> 372.0	114703	2.50 µg/L	-0.012
13C2-PFDA	8.039	515.1 -> 470.1	36969	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	53481	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	74735	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	3996	5.44 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.8%		
13C2-6:2FTS	6.813	429.1 -> 80.9	5949	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5693	4.99 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.8%		
13C2-PFDoDA	8.912	615.1 -> 570.0	31038	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFTeDA	9.639	715.2 -> 670.0	16483	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C3-PFBS	5.334	302.1 -> 79.9	27780	2.44 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.6%		
13C3-PFHxS	7.142	402.1 -> 79.9	16725	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	2.835	216.8 -> 171.9	206368	9.99 µg/L	-0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.382	367.1 -> 322.0	71478	2.50 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFHxA	5.417	318.0 -> 273.0	75497	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C5-PFPeA	4.222	268.3 -> 223.0	69505	4.88 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C6-PFDA	8.039	519.1 -> 474.1	28599	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	35976	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-FOSA	9.598	506.1 -> 77.8	35183	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C8-PFOA	7.026	421.1 -> 376.0	104851	2.36 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
13C8-PFOS	8.189	507.1 -> 79.9	15257	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C9-PFNA	7.557	472.1 -> 427.0	42125	1.19 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32325	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C3-HFPO-DA	5.794	286.9 -> 168.9	49022	9.79 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d3-MeFOSA	10.739	515.0 -> 219.0	15315	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29279	5.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	114097	24.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	151192	25.86 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	15225	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	62260	8.50 µg/L	98
		327.1 -> 80.9	23876		
6:2FTS	6.801	427.1 -> 407.0	59593	8.86 µg/L	99
		427.1 -> 80.9	20558		
8:2FTS	7.828	527.1 -> 507.0	33245	9.70 µg/L	95
		527.1 -> 80.8	13216		
EtFOSAA	8.293	584.2 -> 419.1	10942	2.45 µg/L	91
		584.2 -> 526.0	5224		
FOSA	9.602	498.1 -> 77.9	32404	2.37 µg/L	99
		498.1 -> 478.0	912		
MeFOSAA	8.085	570.1 -> 419.0	17649	2.25 µg/L	99
		570.1 -> 483.0	3450		
PFBA	2.831	212.8 -> 168.9	73150	9.09 µg/L	100
PFBS	5.335	298.7 -> 79.9	20714	1.95 µg/L	95
		298.7 -> 98.8	8142		
PFDA	8.040	512.9 -> 469.0	82214	2.11 µg/L	100
		512.9 -> 219.0	13210		
PFDODA	8.913	613.1 -> 569.0	57314	2.33 µg/L	95
		613.1 -> 319.0	9118		
PFDS	9.076	599.0 -> 79.9	9448	2.21 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	4563	2.17	µg/L	96
		363.1 -> 319.0	79851			
PFHpS	7.698	363.1 -> 169.0	13396	2.11	µg/L	94
		449.0 -> 79.9	17584			
PFHxA	5.420	449.0 -> 98.9	9379	2.15	µg/L	97
		313.0 -> 269.0	63010			
PFHxS	7.143	313.0 -> 118.9	3409	1.95	µg/L	97
		398.7 -> 79.9	17673			
PFNA	7.558	398.7 -> 98.9	8693	2.37	µg/L	100
		463.0 -> 419.0	82257			
PFNS	8.644	463.0 -> 219.0	15871	2.13	µg/L	92
		548.8 -> 79.9	15275			
PFOA	7.028	548.8 -> 98.9	8247	2.43	µg/L	99
		413.0 -> 369.0	119353			
PFOS	8.178	413.0 -> 169.0	20076	2.22	µg/L	96
		498.9 -> 79.9	17975			
PFPeA	4.224	498.9 -> 98.8	9046	4.59	µg/L	100
		263.0 -> 219.0	86089			
PFPeS	6.434	349.1 -> 79.9	17623	1.98	µg/L	94
		349.1 -> 98.9	9002			
PFTeDA	9.640	713.1 -> 669.0	42972	2.23	µg/L	96
		713.1 -> 168.9	3826			
PFTrDA	9.296	663.0 -> 619.0	54847	2.28	µg/L	92
		663.0 -> 168.9	6654			
PFUnDA	8.480	563.1 -> 519.0	58698	2.28	µg/L	95
		563.1 -> 269.1	10246			
11CI-PF3OUdS	9.348	630.9 -> 450.9	85103	4.52	µg/L	97
		632.9 -> 452.9	25202			
9CI-PF3ONS	8.520	530.8 -> 351.0	140833	4.48	µg/L	95
		532.8 -> 353.0	42505			
ADONA	6.646	376.9 -> 250.9	323479	4.48	µg/L	99
		376.9 -> 84.8	84418			
HFPO-DA	5.795	284.9 -> 168.9	22015	4.58	µg/L	95
		284.9 -> 184.9	2534			
3:3FTCA	3.684	241.0 -> 177.0	14296	10.57	µg/L	97
		241.0 -> 117.0	1924			
5:3FTCA	6.086	341.0 -> 237.1	297352	55.24	µg/L	97
		341.0 -> 217.0	219097			
7:3FTCA	7.523	441.0 -> 316.9	193662	55.65	µg/L	96
		441.0 -> 336.9	415501			
EtFOSA	10.974	526.0 -> 219.0	34532	4.52	µg/L	93
		526.0 -> 169.0	45538			
EtFOSE	10.920	630.0 -> 58.9	84193	11.48	µg/L	100
		511.9 -> 219.0	28917			
MeFOSA	10.741	511.9 -> 169.0	41514	4.45	µg/L	91
		616.1 -> 58.9	62298			
MeFOSE	10.673	699.1 -> 79.9	4012	12.29	µg/L	100
		699.1 -> 98.8	2275			
PFDoDS	9.767	295.0 -> 201.0	16343	2.21	µg/L	96
		295.0 -> 84.9	4141			
NFDHA	5.299	279.0 -> 85.1	59293	4.51	µg/L	97
		229.0 -> 84.9	45443			
PFMBA	4.638	314.8 -> 134.9	155396	4.48	µg/L	100
		314.8 -> 82.9	5560			
PFMPA	3.376			4.51	µg/L	100
PFEESA	5.875			3.94	µg/L	99

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

7.7.20

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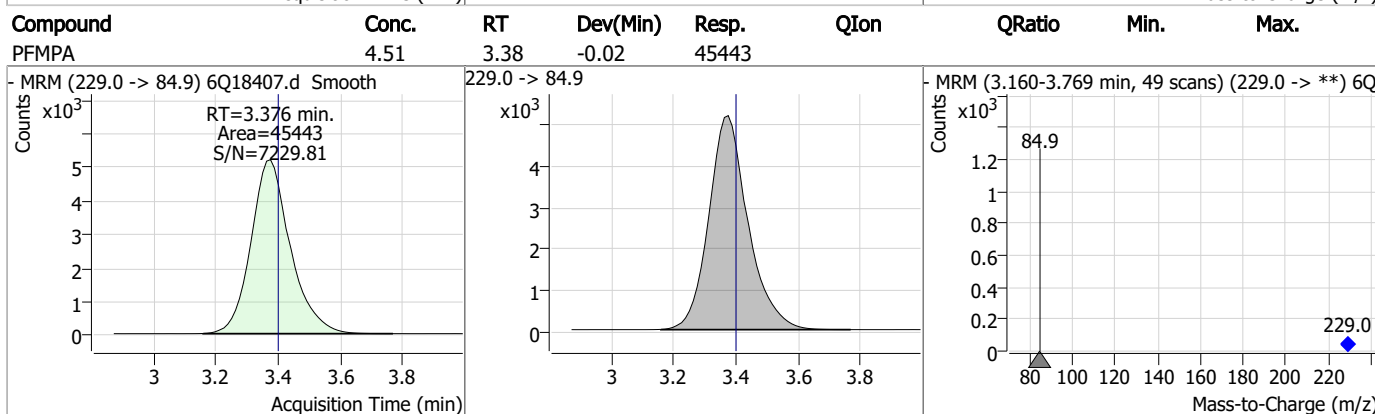
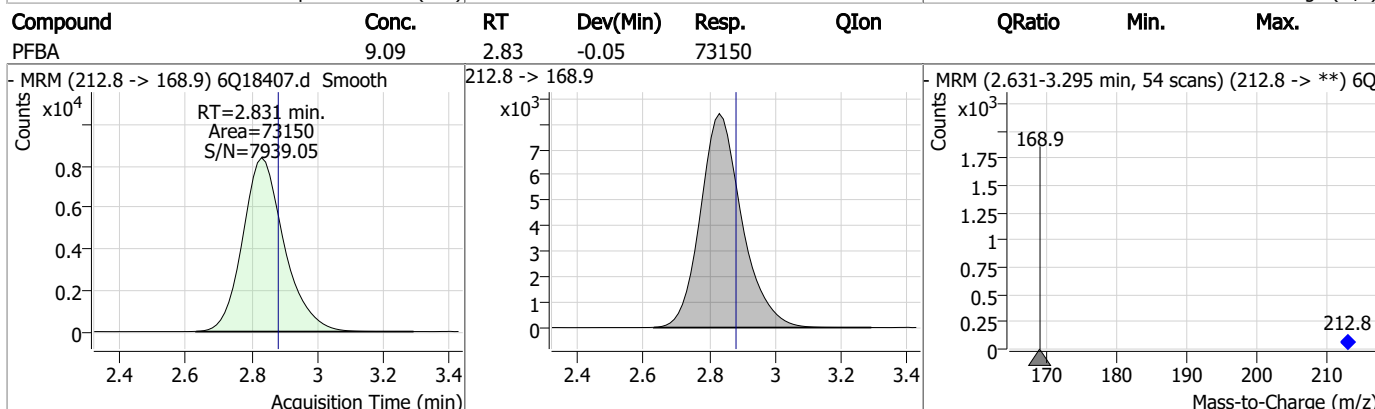
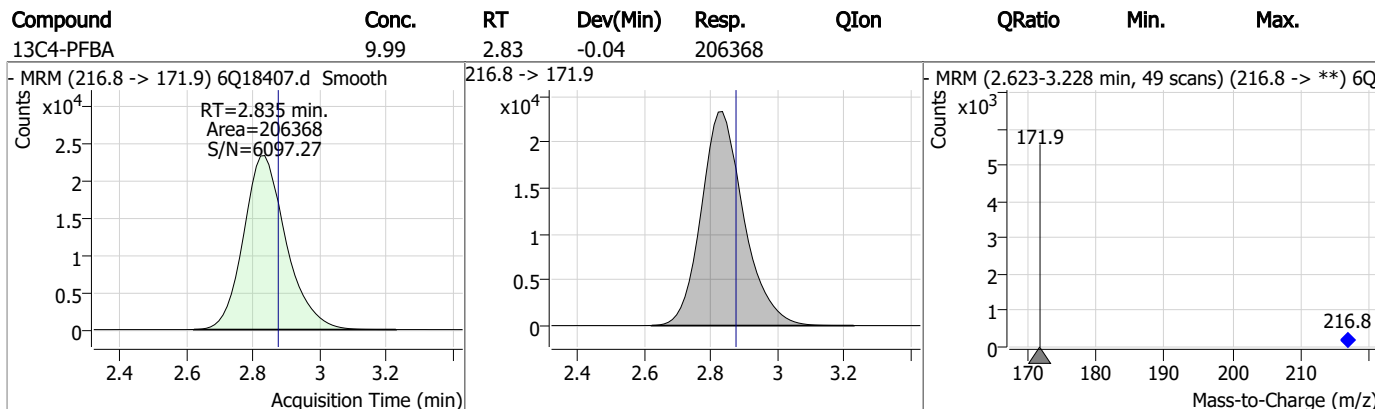
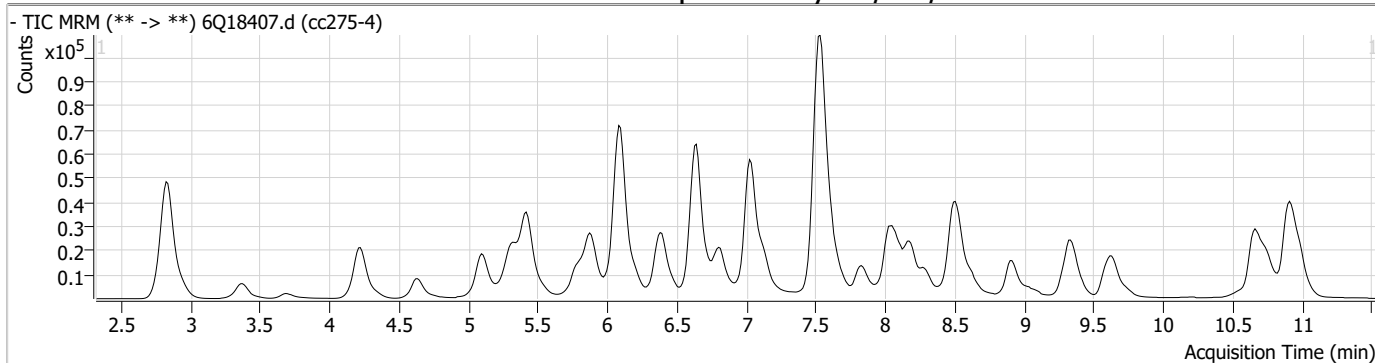
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.20

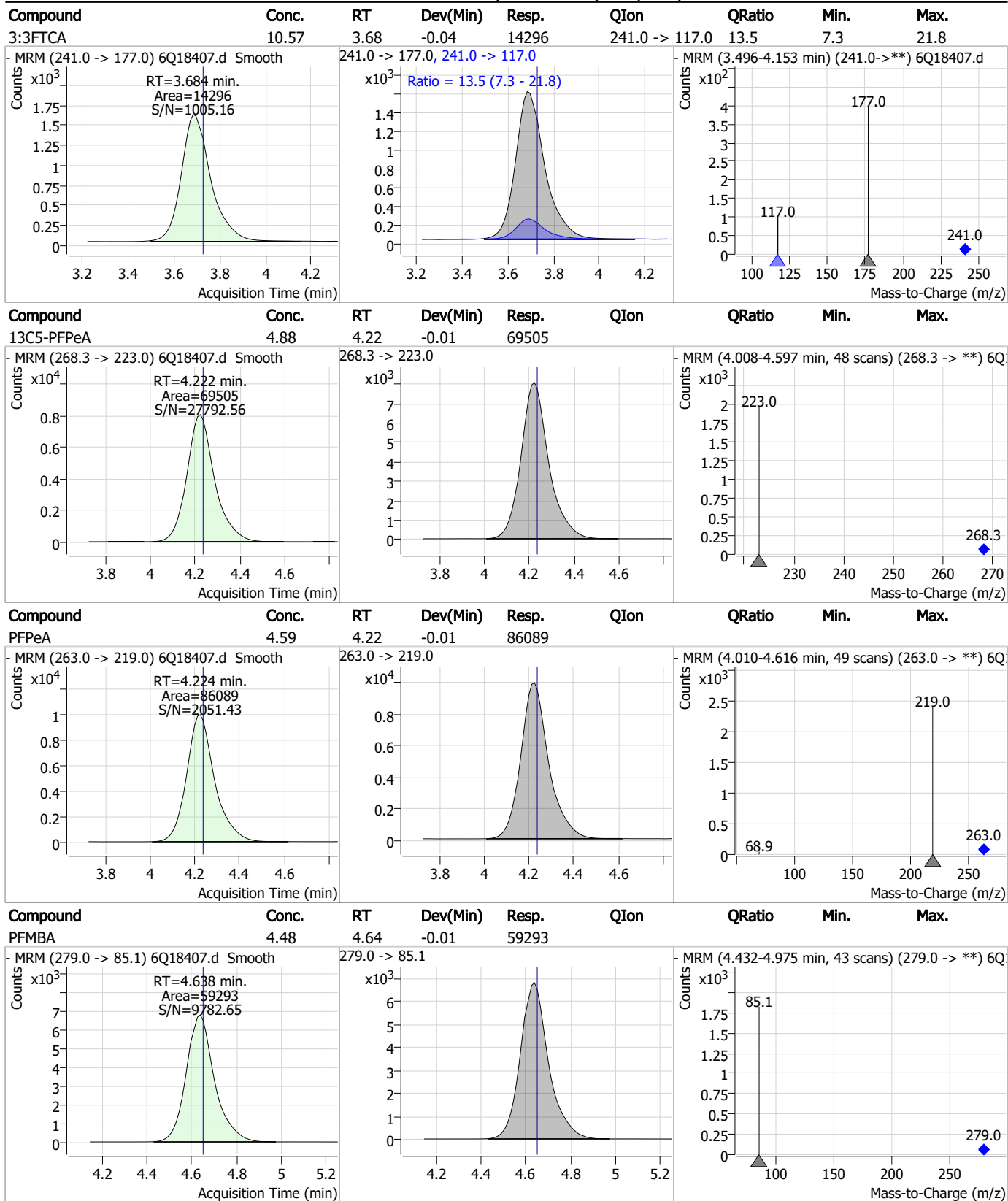
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Perfluorinated Compounds by LC/MS/MS



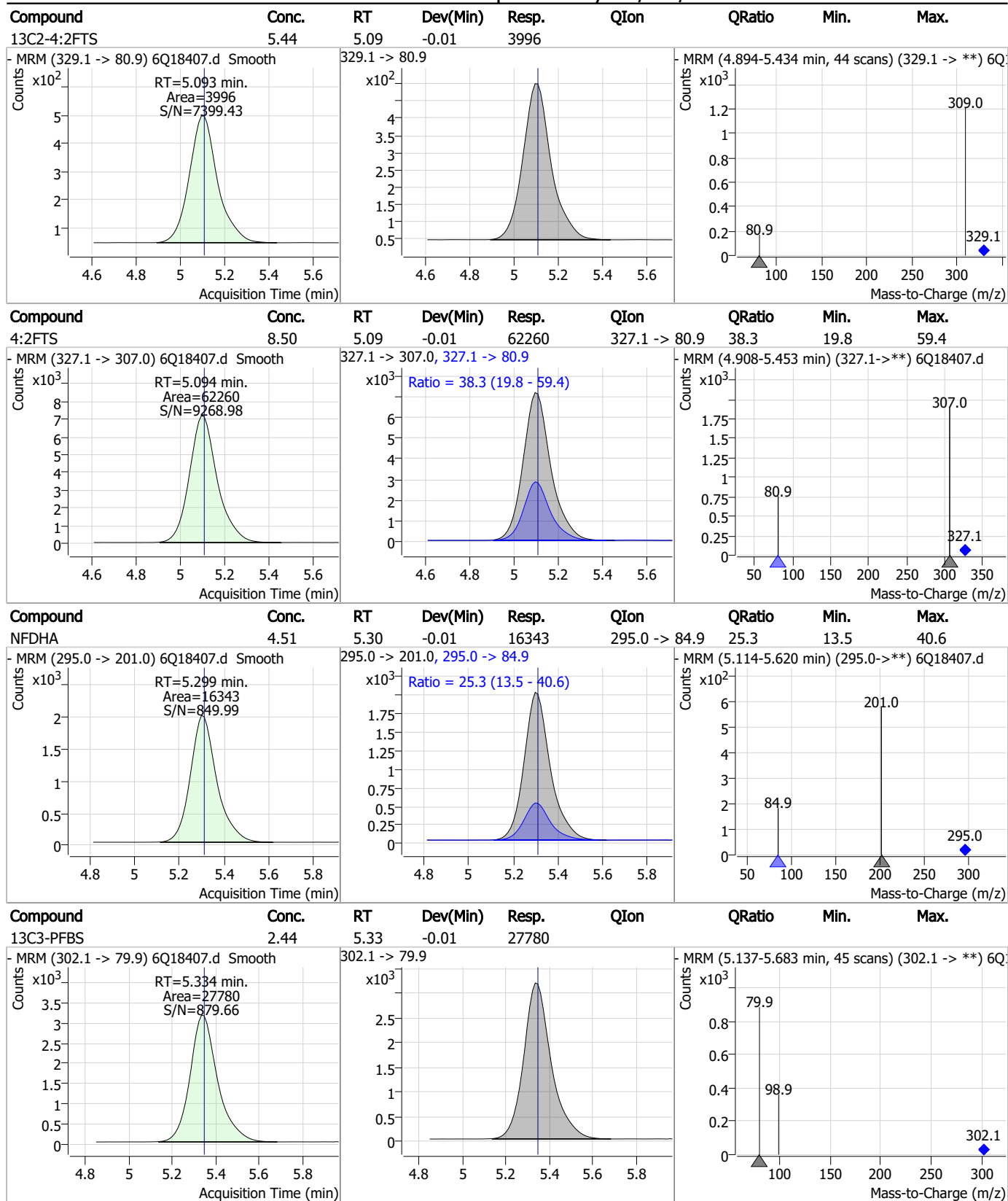
7.7.20
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Perfluorinated Compounds by LC/MS/MS



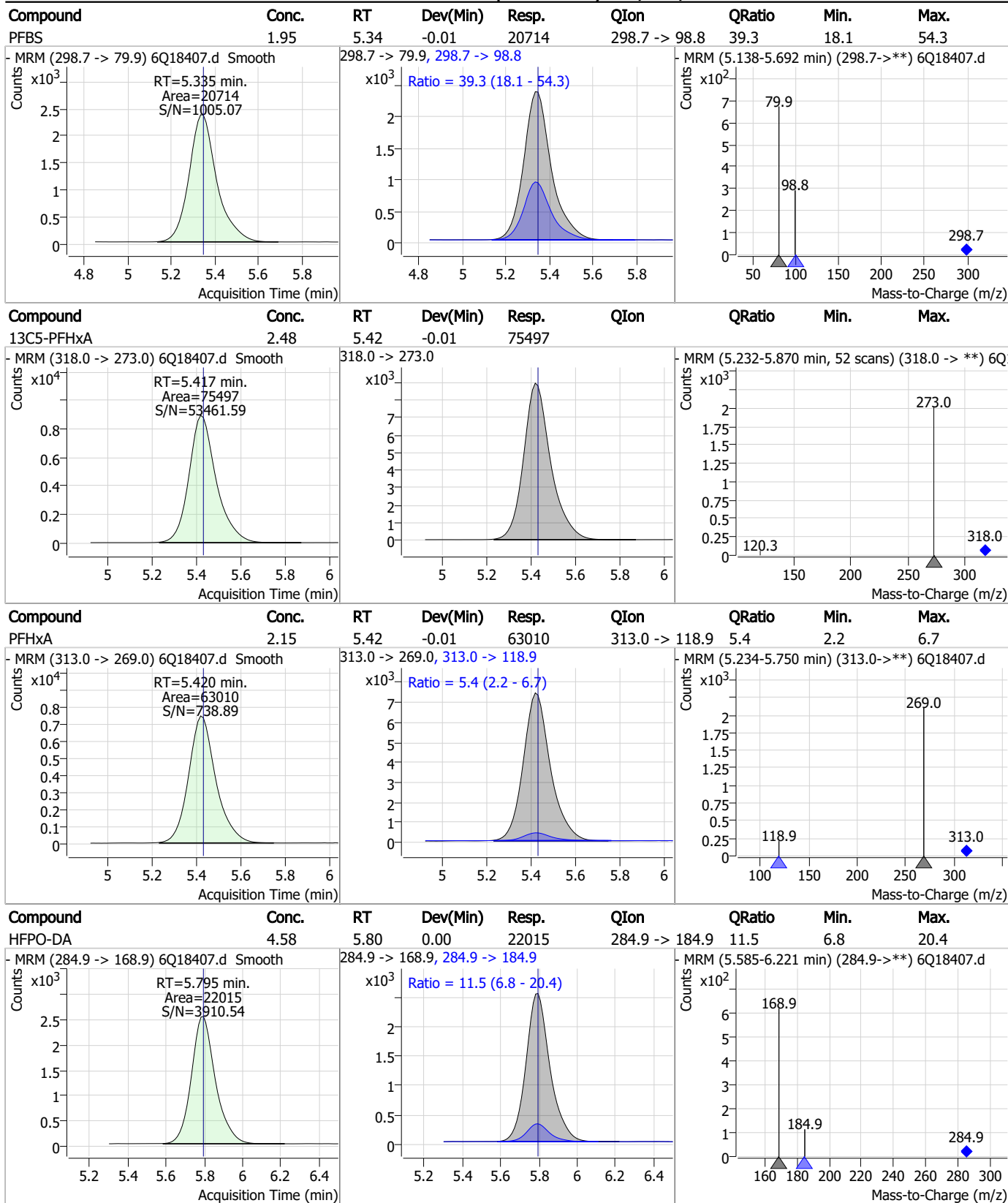
7.7.20 7

Perfluorinated Compounds by LC/MS/MS



7.7.20 7

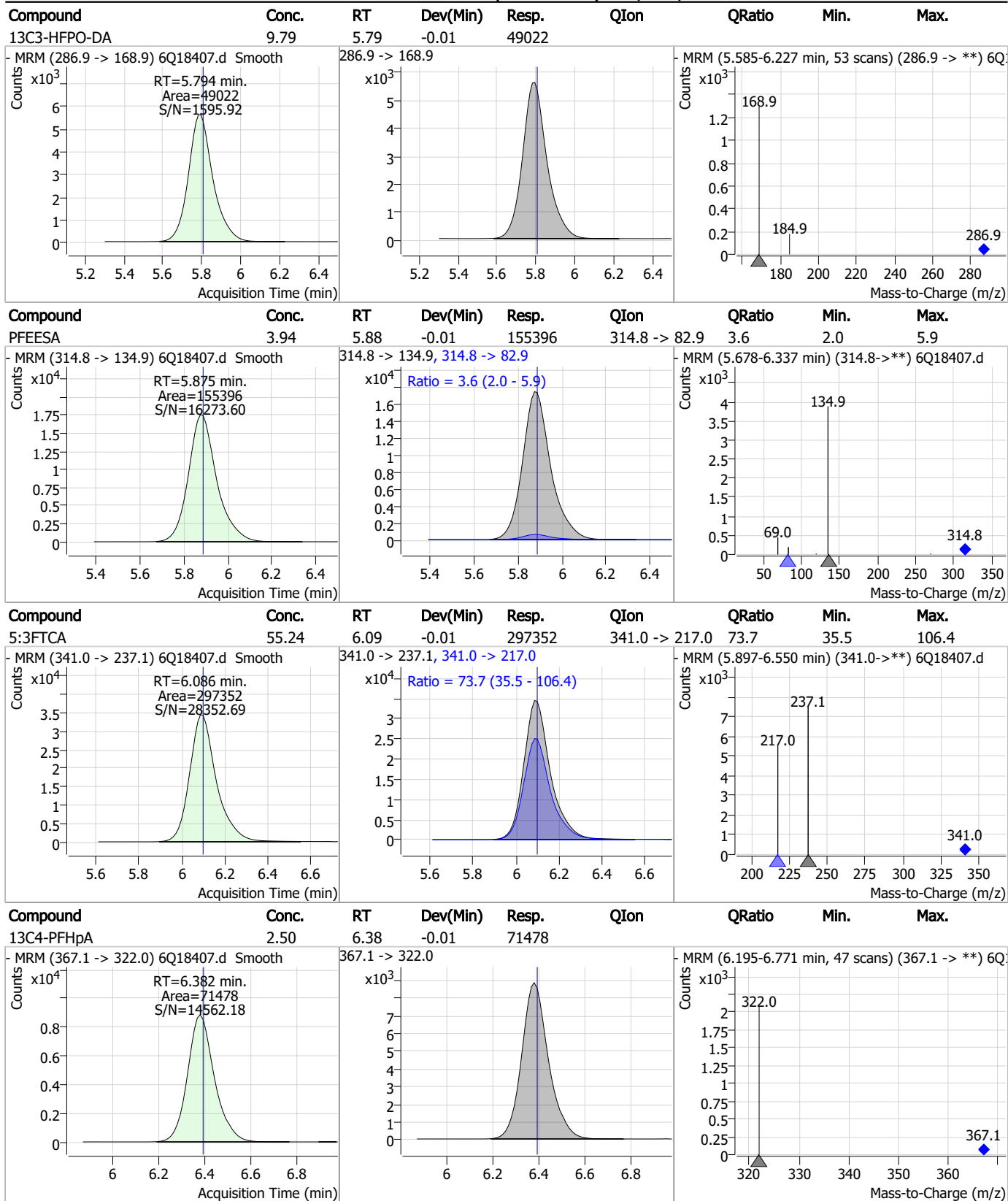
Perfluorinated Compounds by LC/MS/MS



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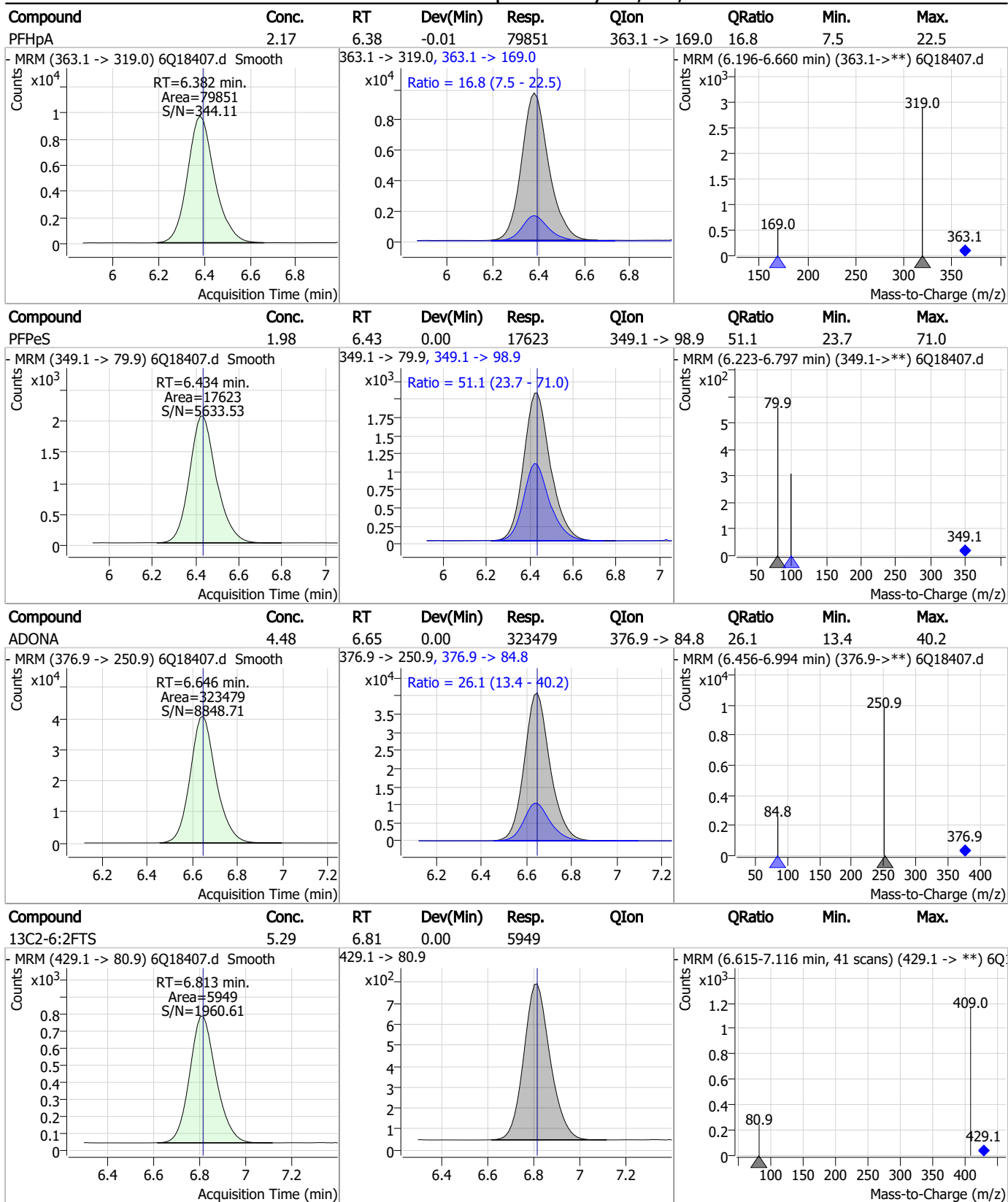


Perfluorinated Compounds by LC/MS/MS



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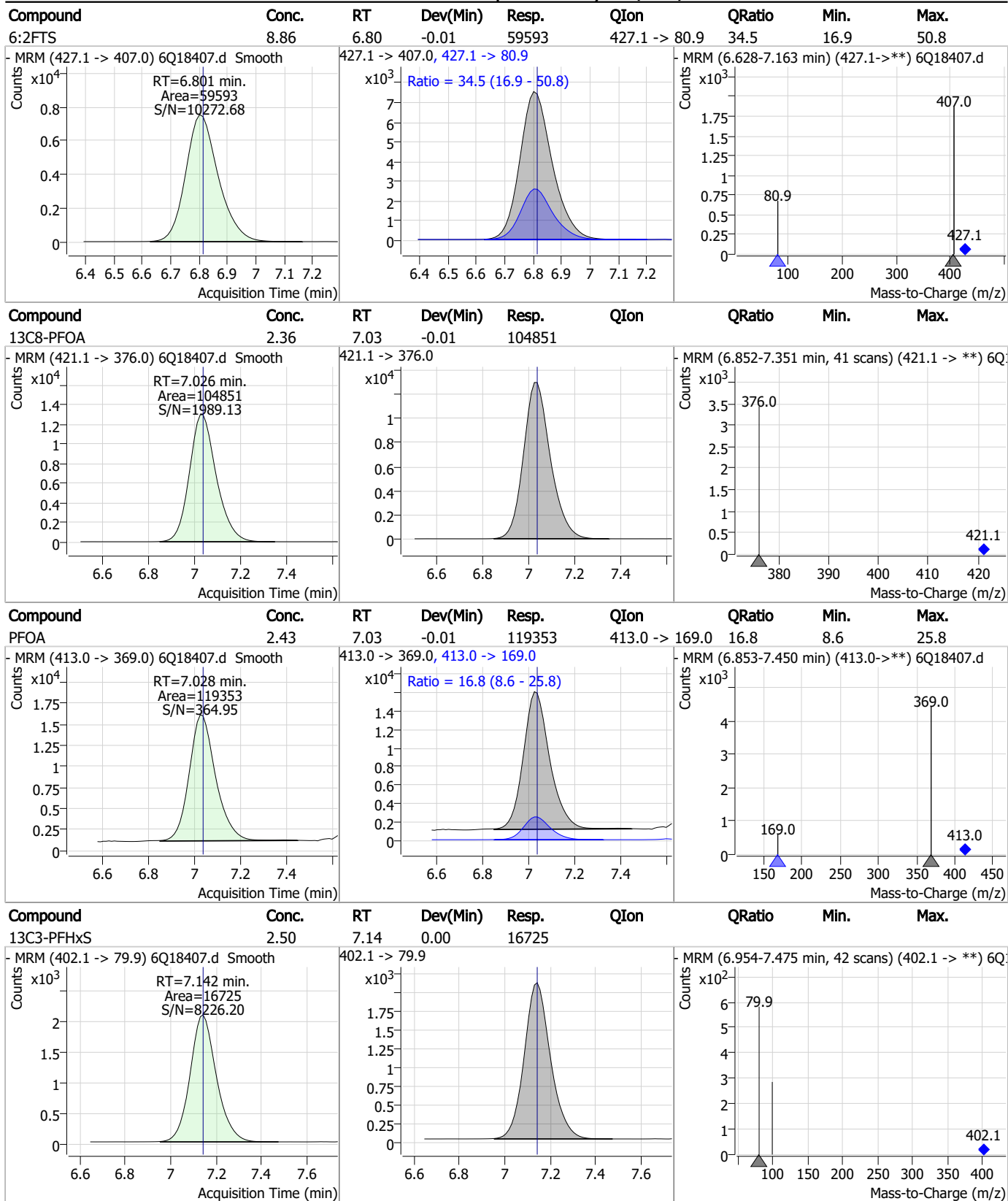
Perfluorinated Compounds by LC/MS/MS



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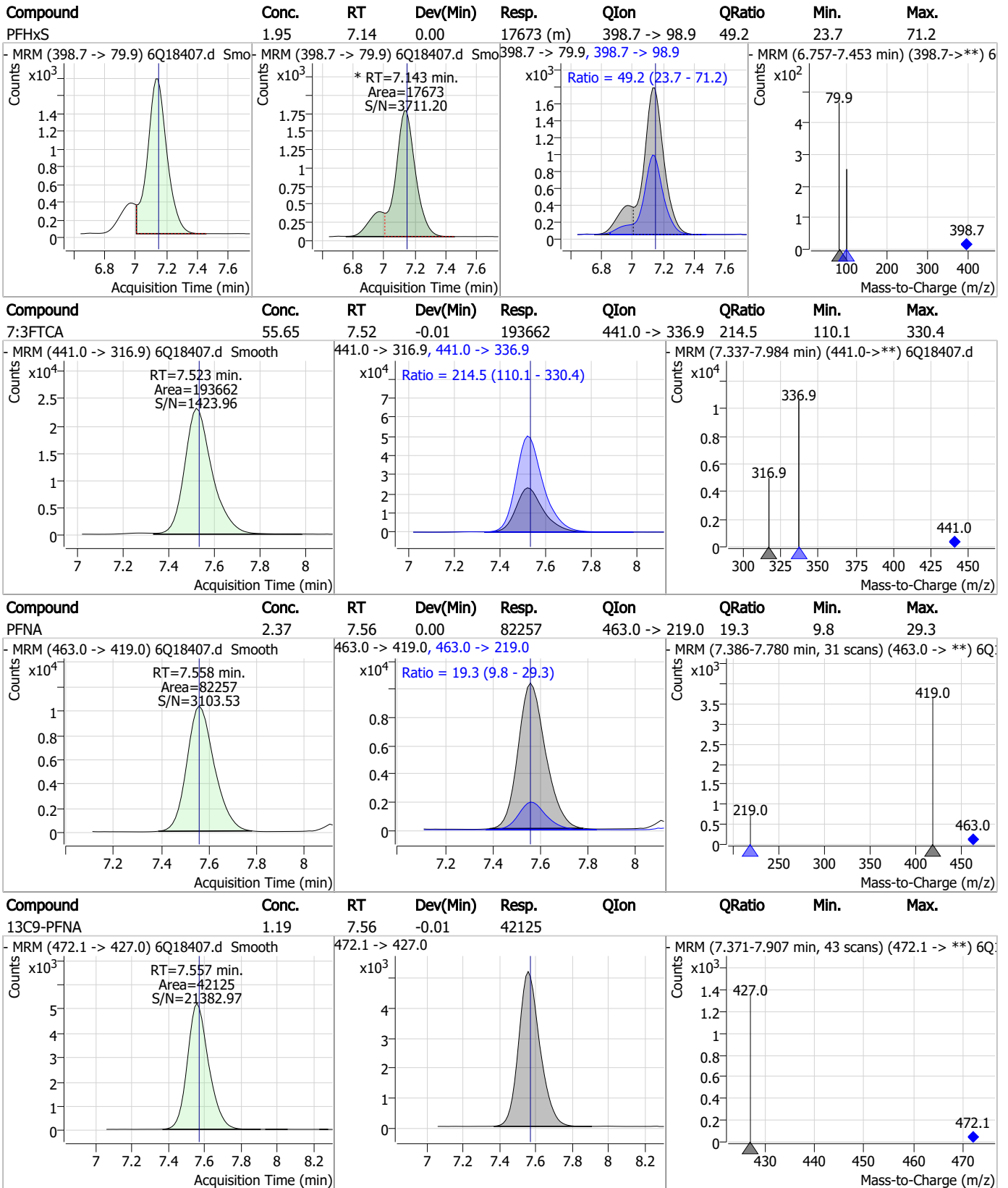


Perfluorinated Compounds by LC/MS/MS



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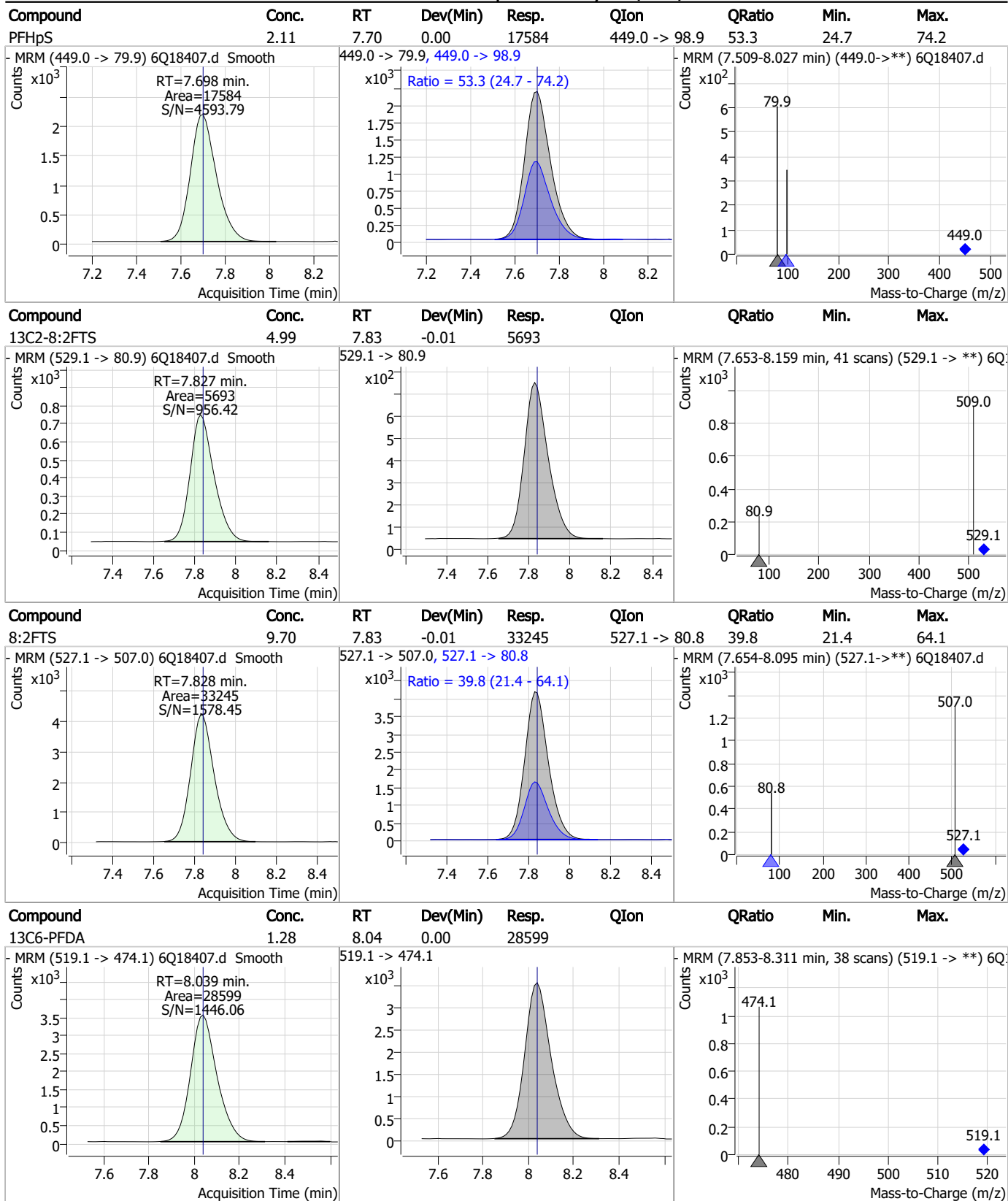
Perfluorinated Compounds by LC/MS/MS



7.7.20 7

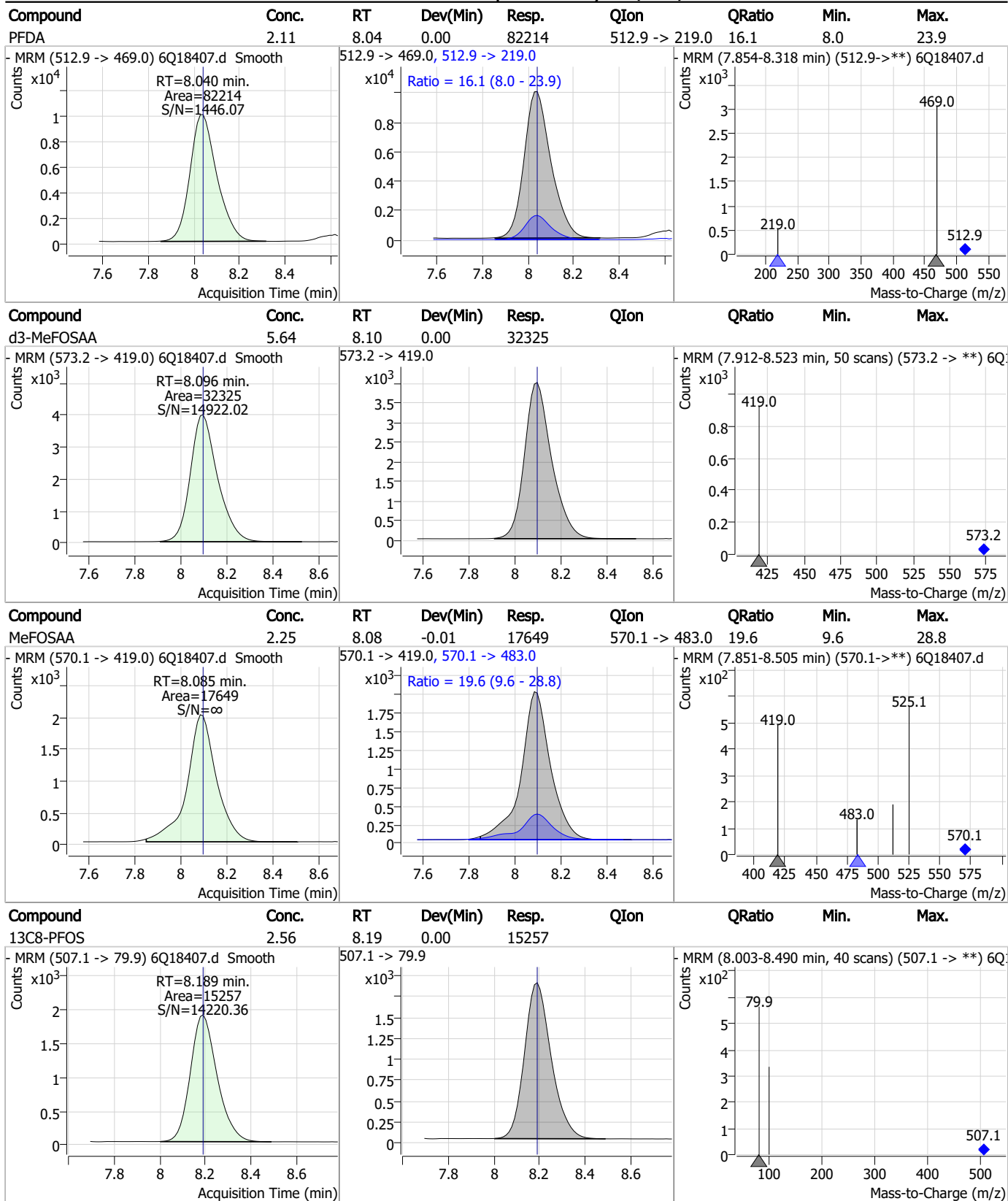


Perfluorinated Compounds by LC/MS/MS



7.7.20 7

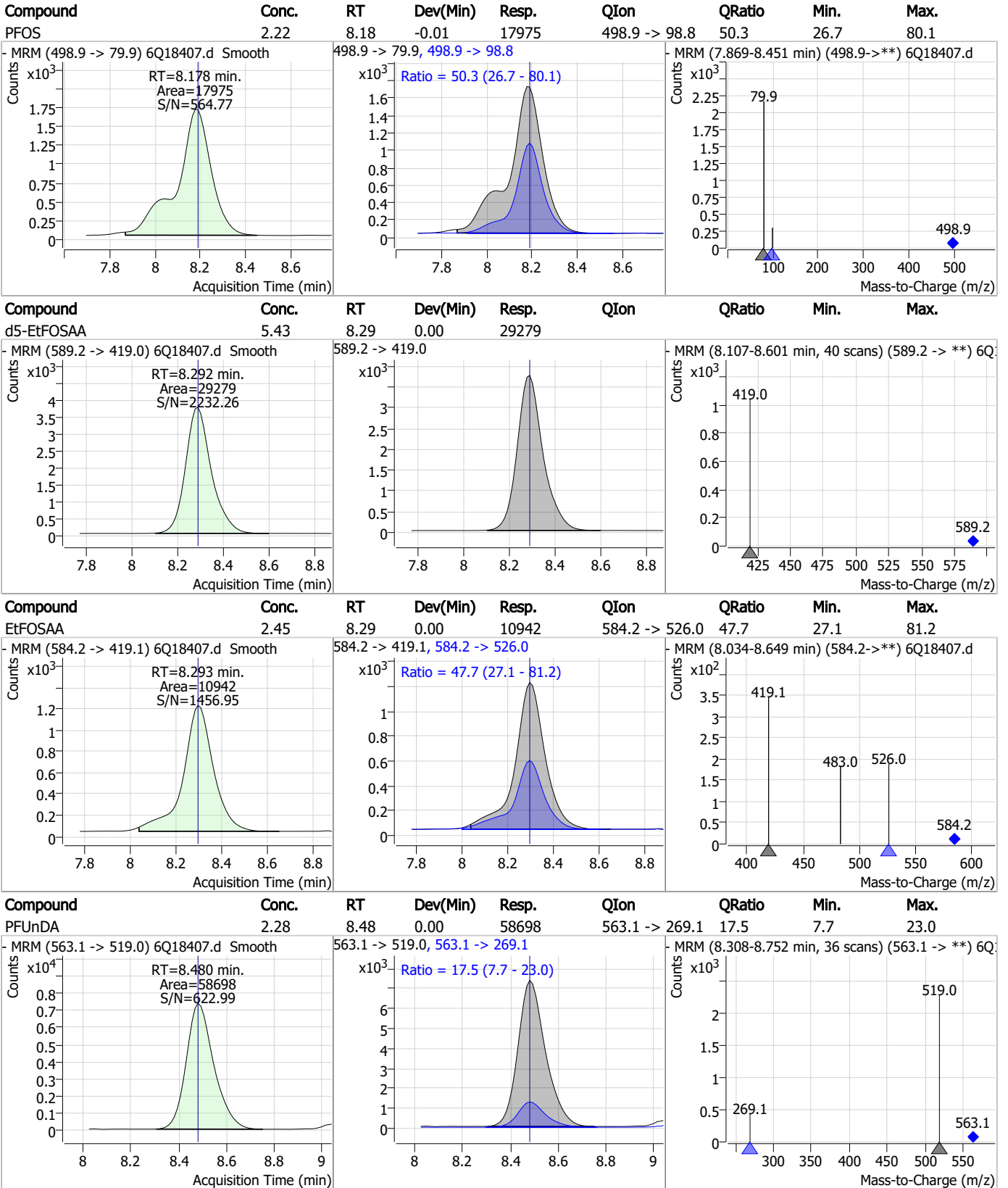
Perfluorinated Compounds by LC/MS/MS



7.7.20 7



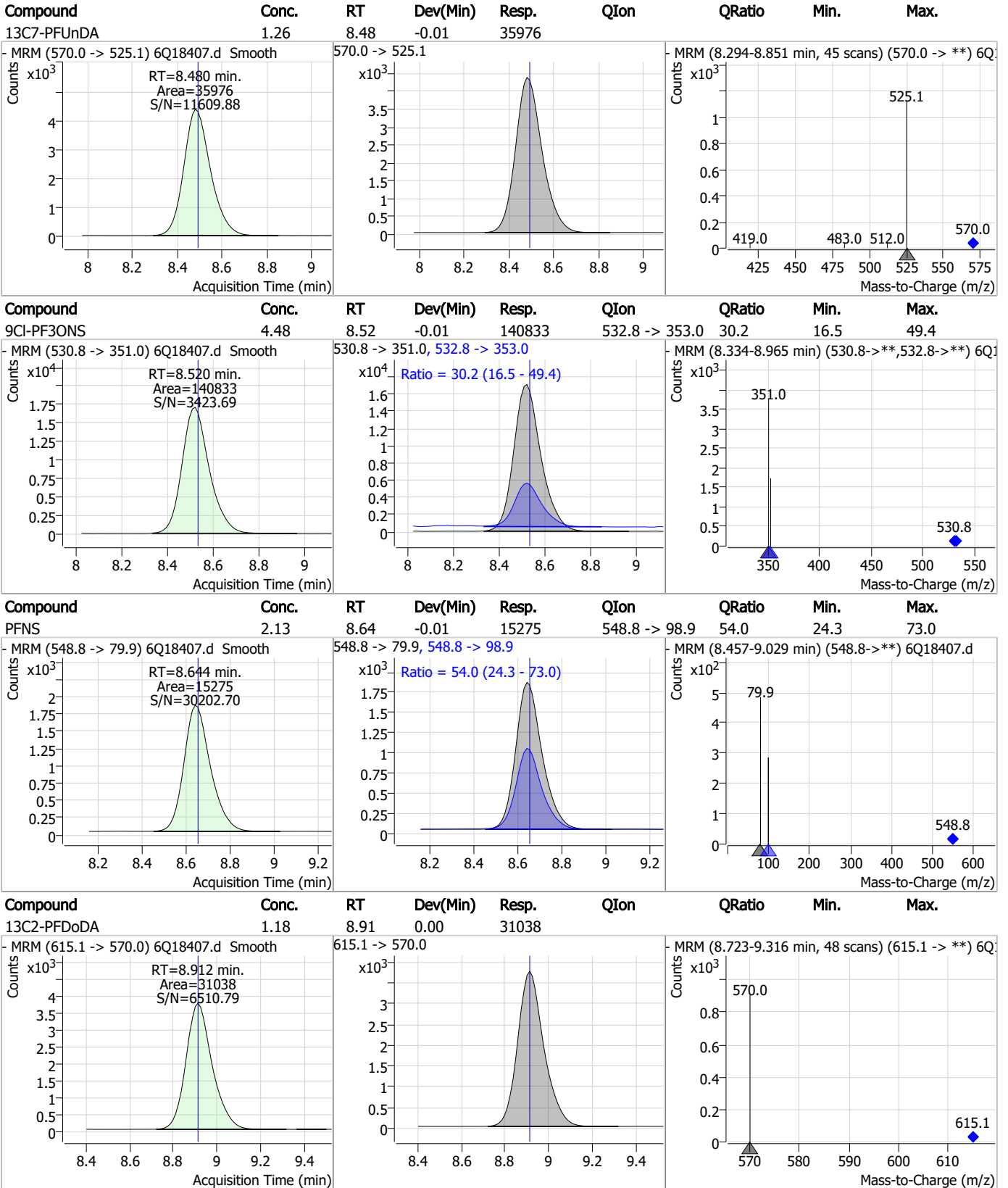
Perfluorinated Compounds by LC/MS/MS



7.7.20 7



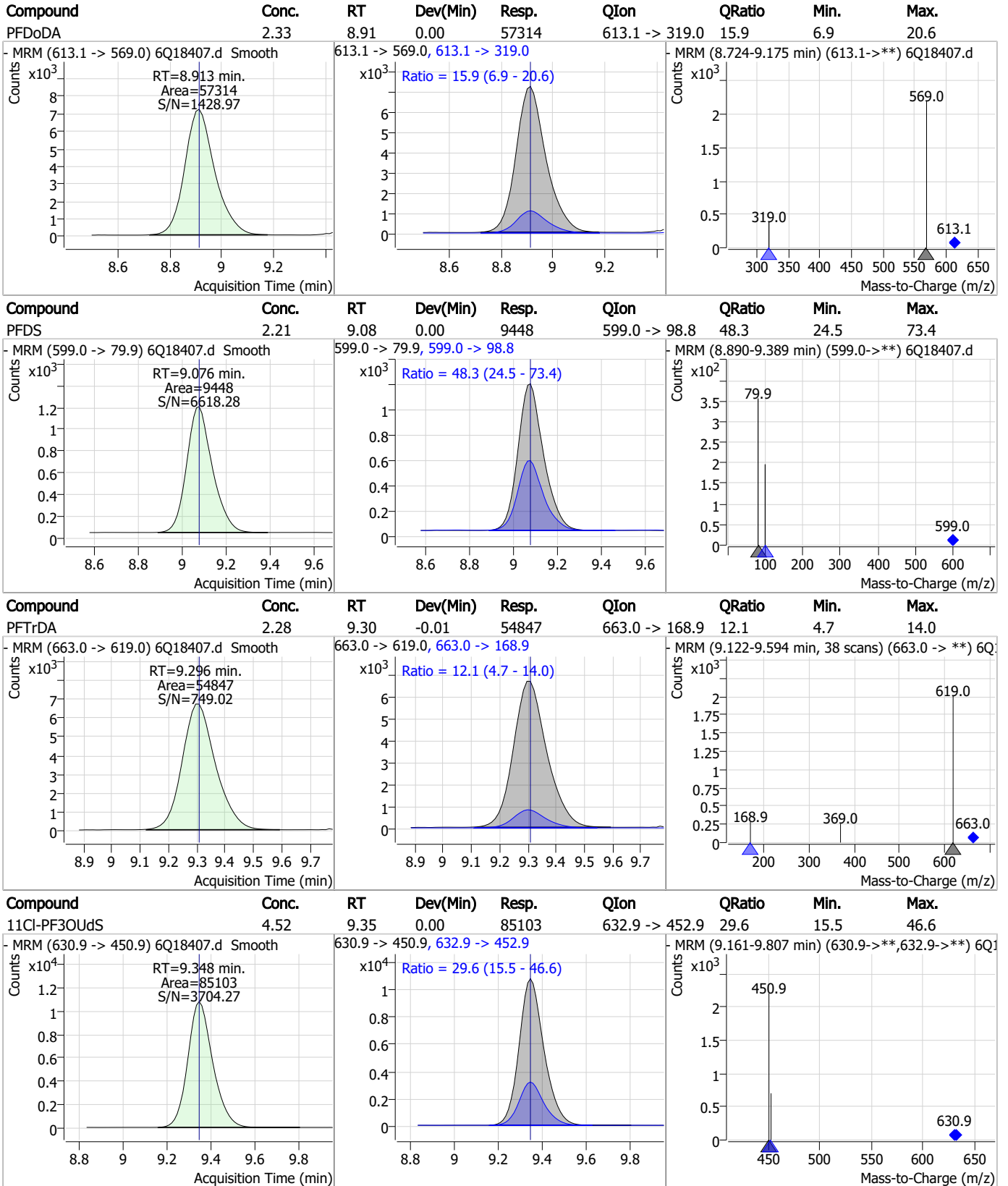
Perfluorinated Compounds by LC/MS/MS



7.7.20 7



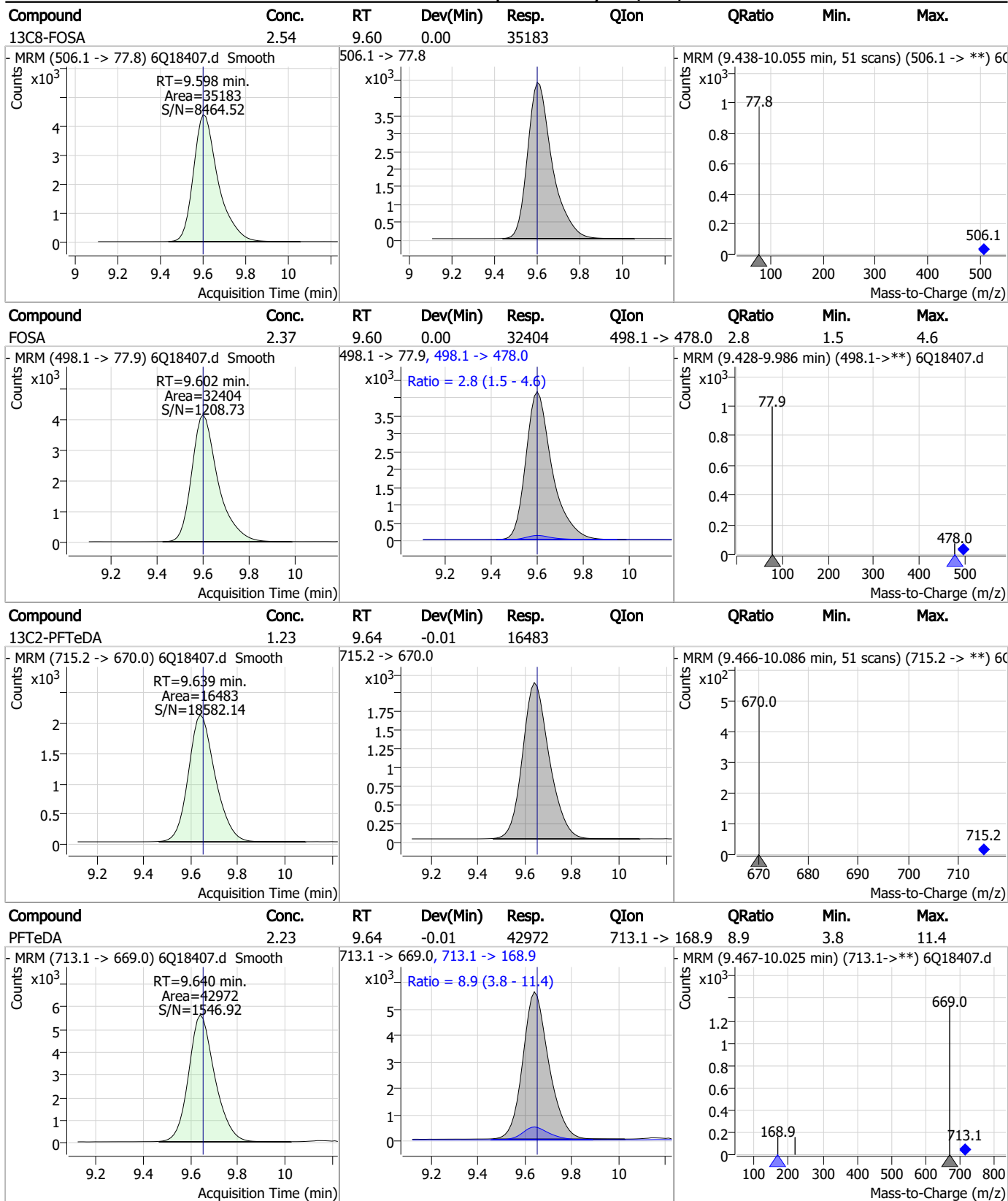
Perfluorinated Compounds by LC/MS/MS



7.7.20 7

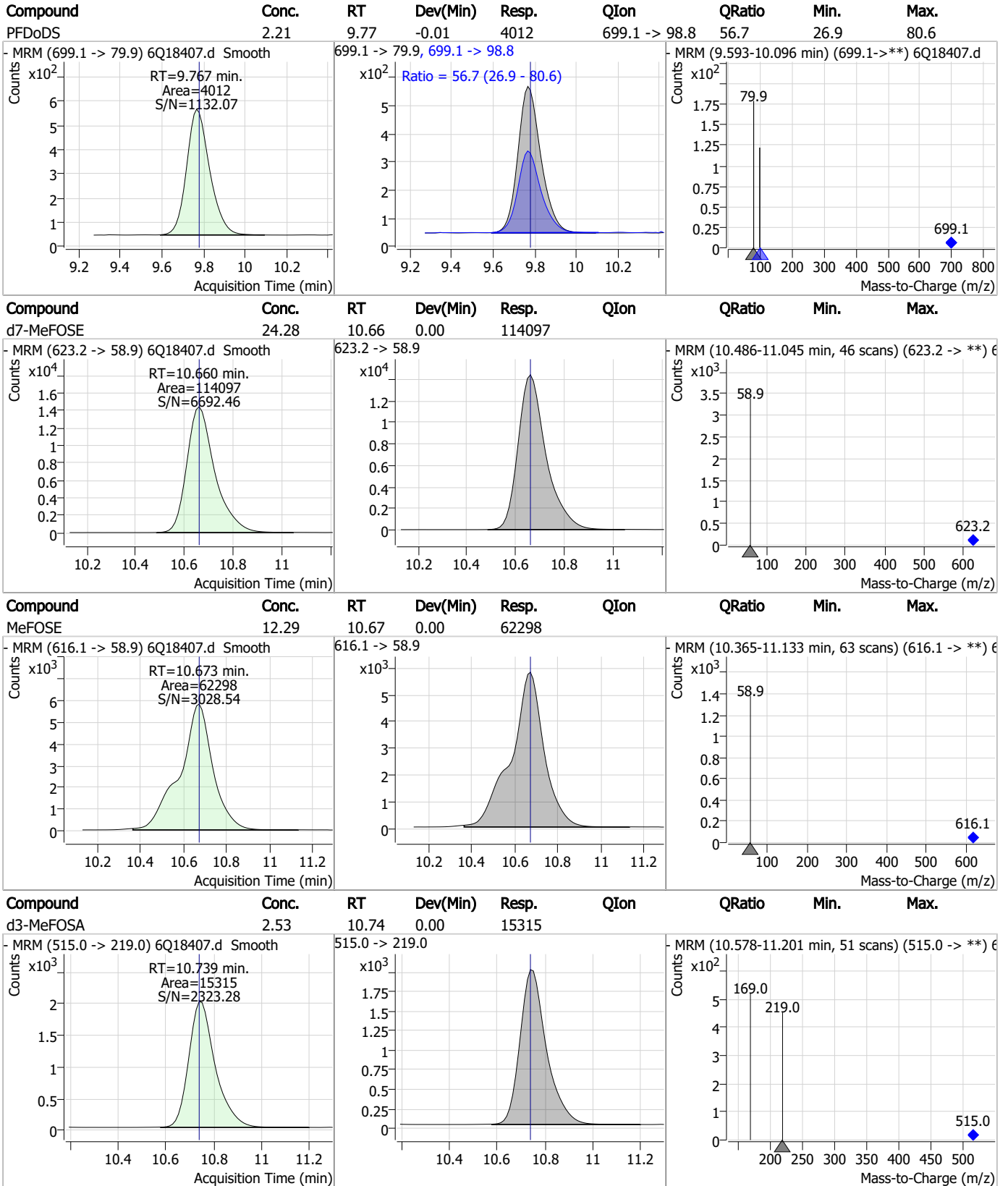


Perfluorinated Compounds by LC/MS/MS



7.7.20 7

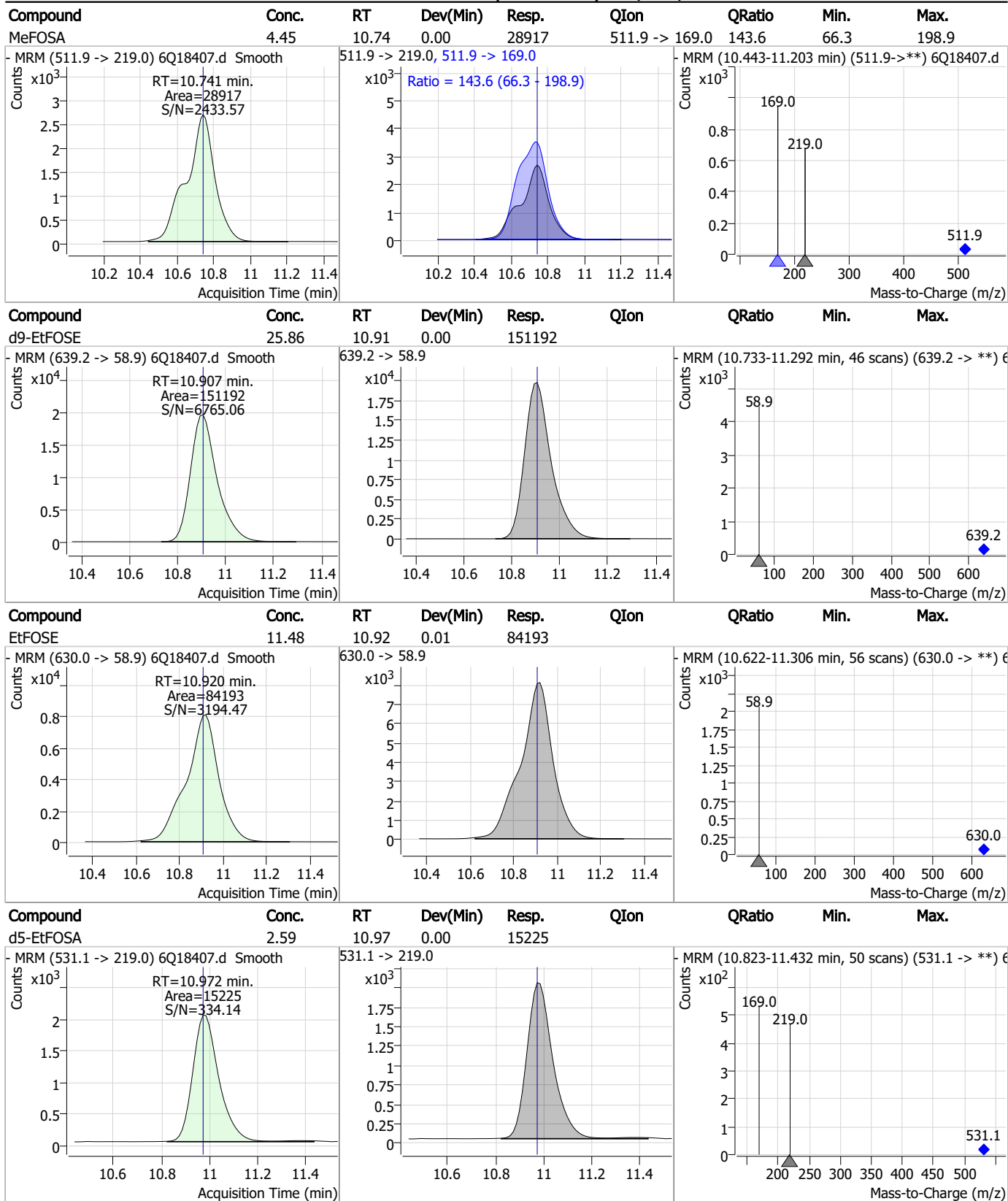
Perfluorinated Compounds by LC/MS/MS



7.7.20

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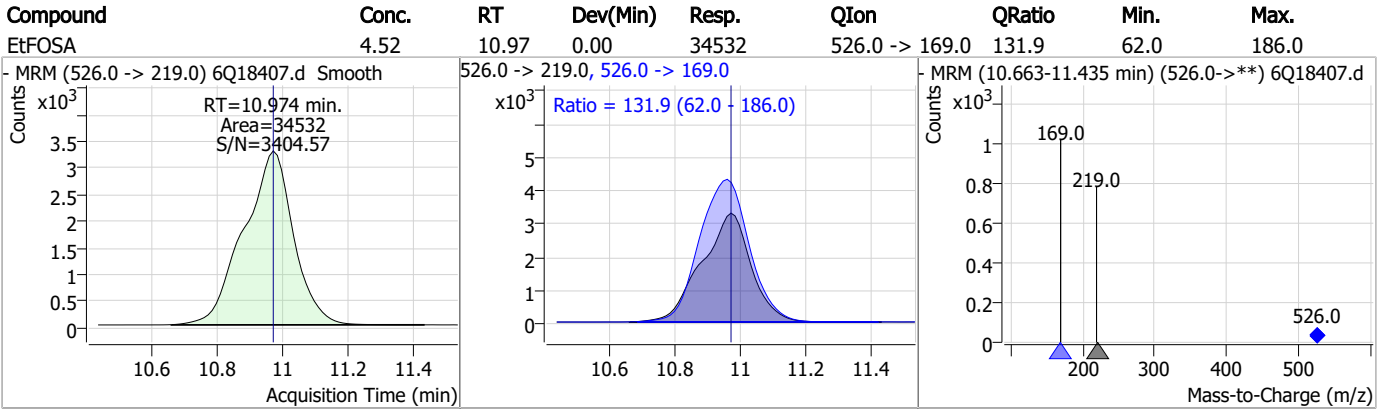
Perfluorinated Compounds by LC/MS/MS



7.7.20

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Perfluorinated Compounds by LC/MS/MS



7.7.20
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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18407.D Analyst approved: 05/26/23 13:10 Natasha Gumtie
Injection Time: 05/25/23 15:58 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak

7.7.20.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18418.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 6:37:19 PM
 Sample Name : cc275-1.0LL
 Vial : P1-A2
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP97028,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	223317	10.00 µg/L	-0.053
M5-PFPeA	4.222	268.3 -> 223.0	76160	5.00 µg/L	-0.012
M5-PFHxA	5.417	318.0 -> 273.0	82549	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	77623	2.50 µg/L	-0.013
M8-PFOA	7.038	421.1 -> 376.0	119510	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	48107	1.25 µg/L	-0.012
M6-PFDA	8.039	519.1 -> 474.1	31787	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	40499	1.25 µg/L	-0.012
M2-PFDoDA	8.912	615.1 -> 570.0	33261	1.25 µg/L	0.000
M2-PFTeDA	9.639	715.2 -> 670.0	18297	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	39106	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	30136	2.50 µg/L	-0.012
M3-PFHxS	7.142	402.1 -> 79.9	18621	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16419	2.50 µg/L	0.000
M2-4:2FTS	5.094	329.1 -> 80.9	4662	5.00 µg/L	-0.013
M2-6:2FTS	6.801	429.1 -> 80.9	6767	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	6805	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	37699	5.00 µg/L	0.000
M3-HFPO-DA	5.782	286.9 -> 168.9	53774	10.00 µg/L	-0.025
M5-EtFOSAA	8.292	589.2 -> 419.0	32898	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	121363	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	170018	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	16238	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15428	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21093	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	94169	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	13139	2.50 µg/L	0.000
13C4-PFOA	7.039	417.1 -> 372.0	127196	2.50 µg/L	0.000
13C2-PFDA	8.027	515.1 -> 470.1	39098	1.25 µg/L	-0.012
13C5-PFNA	7.557	468.0 -> 423.0	60168	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	81862	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.094	329.1 -> 80.9	4662	5.91 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.2%		
13C2-6:2FTS	6.801	429.1 -> 80.9	6767	5.60 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6805	5.55 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.0%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33261	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.8%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18297	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C3-PFBS	5.334	302.1 -> 79.9	30136	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.6%		
13C3-PFHxS	7.142	402.1 -> 79.9	18621	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 = 103.6%	
13C4-PFBA	2.822	216.8 -> 171.9	223317	9.97 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.382	367.1 -> 322.0	77623	2.47 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C5-PFHxA	5.417	318.0 -> 273.0	82549	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C5-PFPeA	4.222	268.3 -> 223.0	76160	4.89 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C6-PFDA	8.039	519.1 -> 474.1	31787	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.9%	
13C7-PFUnDA	8.480	570.0 -> 525.1	40499	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.4%	
13C8-FOSA	9.598	506.1 -> 77.8	39106	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-PFOA	7.038	421.1 -> 376.0	119510	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOS	8.189	507.1 -> 79.9	16419	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C9-PFNA	7.557	472.1 -> 427.0	48107	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	37699	6.01 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.2%	
13C3-HFPO-DA	5.782	286.9 -> 168.9	53774	9.80 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSA	10.739	515.0 -> 219.0	15428	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	32898	5.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	121363	23.61 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	170018	26.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	16238	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	5393	0.63 µg/L	100
		327.1 -> 80.9	2124		
6:2FTS	6.813	427.1 -> 407.0	5359	0.70 µg/L	98
		427.1 -> 80.9	1863		
8:2FTS	7.828	527.1 -> 507.0	2685	0.66 µg/L	98
		527.1 -> 80.8	1113		
EtFOSAA	8.293	584.2 -> 419.1	902	0.18 µg/L	97
		584.2 -> 526.0	471		
FOSA	9.602	498.1 -> 77.9	2782	0.18 µg/L	98
		498.1 -> 478.0	101		
MeFOSAA	8.097	570.1 -> 419.0	1541	0.17 µg/L	97
		570.1 -> 483.0	278		
PFBA	2.831	212.8 -> 168.9	6107	0.70 µg/L	100
PFBS	5.335	298.7 -> 79.9	1714	0.15 µg/L	89
		298.7 -> 98.8	731		
PFDA	8.040	512.9 -> 469.0	7323	0.17 µg/L	99
		512.9 -> 219.0	1134		
PFDODA	8.900	613.1 -> 569.0	4931	0.19 µg/L	96
		613.1 -> 319.0	754		
PFDS	9.064	599.0 -> 79.9	903	0.20 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	446	0.19	µg/L	98
		363.1 -> 319.0	7512			
PFHpS	7.698	363.1 -> 169.0	1078	0.19	µg/L	98
		449.0 -> 79.9	1662			
PFHxA	5.420	449.0 -> 98.9	848	0.19	µg/L	93
		313.0 -> 269.0	5951			
PFHxS	7.143	313.0 -> 118.9	396	0.16	µg/L	92
		398.7 -> 79.9	1568			
PFNA	7.558	398.7 -> 98.9	830	0.20	µg/L	100
		463.0 -> 419.0	7768			
PFNS	8.644	463.0 -> 219.0	1524	0.15	µg/L	82
		548.8 -> 79.9	1175			
PFOA	7.028	548.8 -> 98.9	718	0.15	µg/L	82
		413.0 -> 369.0	8138			
PFOS	8.178	413.0 -> 169.0	2032	0.19	µg/L	86
		498.9 -> 79.9	1656			
PFPeA	4.224	498.9 -> 98.8	723	0.36	µg/L	100
		263.0 -> 219.0	7409			
PFPeS	6.422	349.1 -> 79.9	1557	0.16	µg/L	94
		349.1 -> 98.9	799			
PFTeDA	9.640	713.1 -> 669.0	4265	0.20	µg/L	96
		713.1 -> 168.9	378			
PFTrDA	9.296	663.0 -> 619.0	5276	0.20	µg/L	96
		663.0 -> 168.9	573			
PFUnDA	8.480	563.1 -> 519.0	4777	0.17	µg/L	91
		563.1 -> 269.1	902			
11Cl-PF3OUdS	9.348	630.9 -> 450.9	7063	0.34	µg/L	98
		632.9 -> 452.9	2284			
9Cl-PF3ONS	8.520	530.8 -> 351.0	11836	0.34	µg/L	73
		532.8 -> 353.0	5684			
ADONA	6.646	376.9 -> 250.9	26859	0.34	µg/L	99
		376.9 -> 84.8	7110			
HFPO-DA	5.795	284.9 -> 168.9	2043	0.39	µg/L	96
		284.9 -> 184.9	241			
3:3FTCA	3.684	241.0 -> 177.0	1244	0.84	µg/L	93
		241.0 -> 117.0	218			
5:3FTCA	6.086	341.0 -> 237.1	26923	4.57	µg/L	96
		341.0 -> 217.0	20049			
7:3FTCA	7.523	441.0 -> 316.9	17962	4.72	µg/L	91
		441.0 -> 336.9	36875			
EtFOSA	10.974	526.0 -> 219.0	2987	0.37	µg/L	98
		526.0 -> 169.0	3787			
EtFOSE	10.920	630.0 -> 58.9	7352	0.89	µg/L	100
		511.9 -> 219.0	1874			
MeFOSA	10.741	511.9 -> 169.0	3668	0.29	µg/L	46
		616.1 -> 58.9	5140			
MeFOSE	10.673	699.1 -> 79.9	380	0.95	µg/L	100
		699.1 -> 98.8	229			
PFDoDS	9.767	295.0 -> 201.0	1325	0.19	µg/L	91
		295.0 -> 84.9	332			
NFDHA	5.299	279.0 -> 85.1	5050	0.35	µg/L	100
		229.0 -> 84.9	3906			
PFMBA	4.638	314.8 -> 134.9	13466	0.35	µg/L	100
		314.8 -> 82.9	368			
PFMPA	3.363			0.31	µg/L	96
PFEESA	5.875					

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

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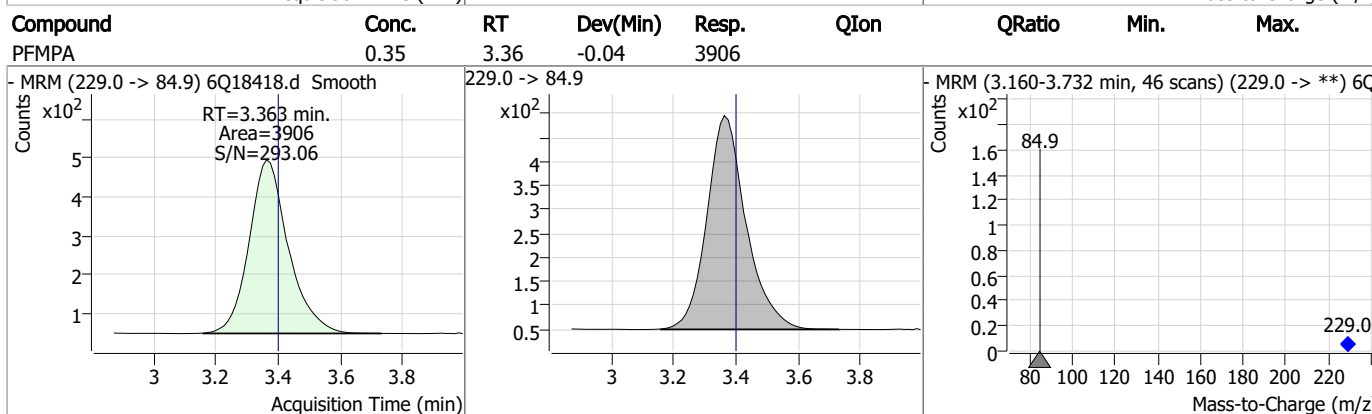
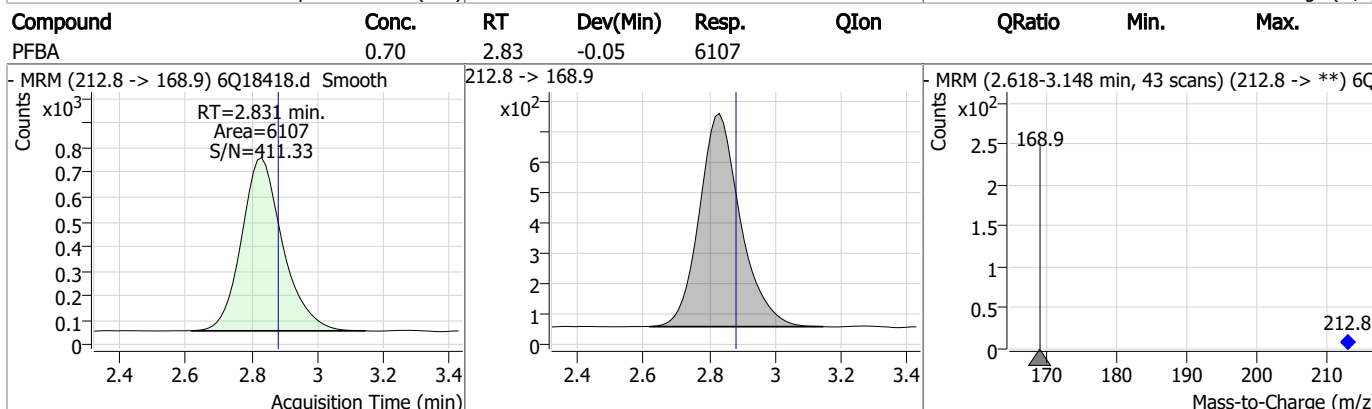
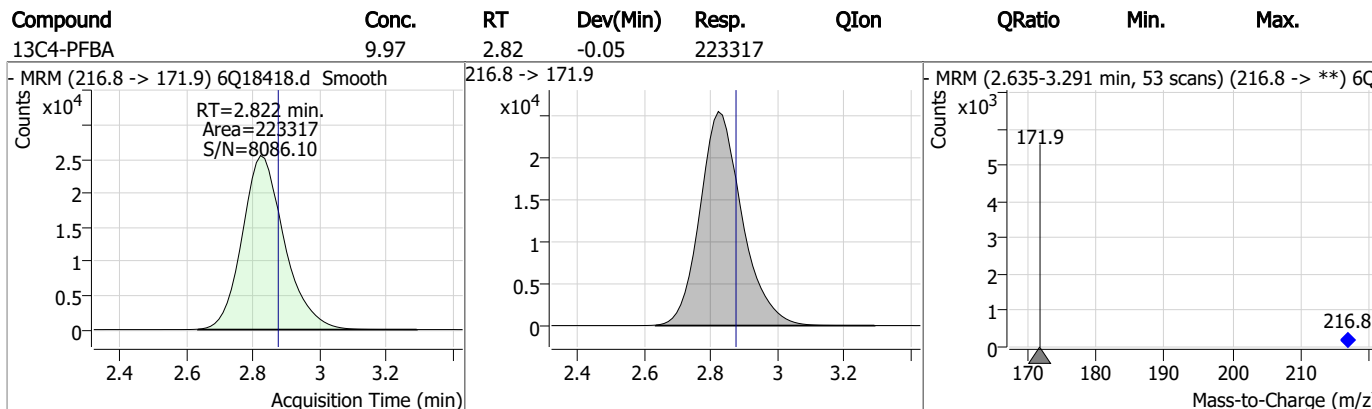
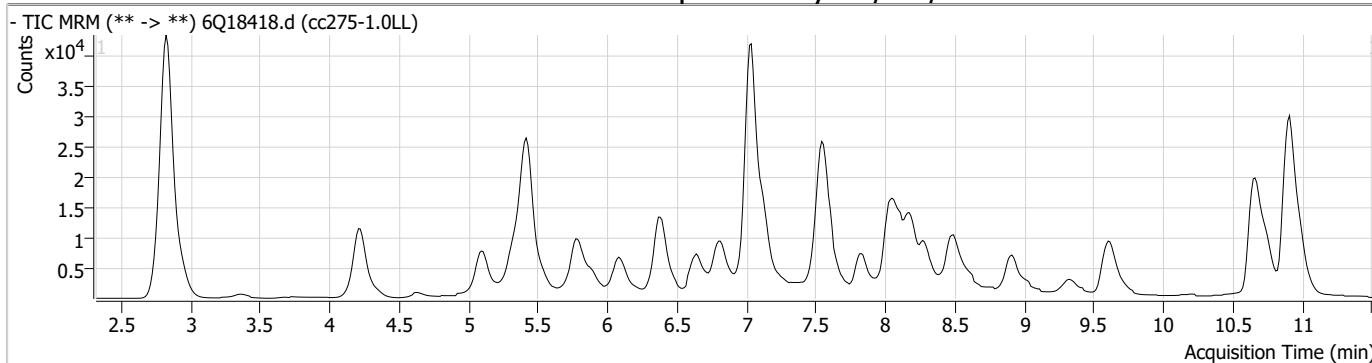
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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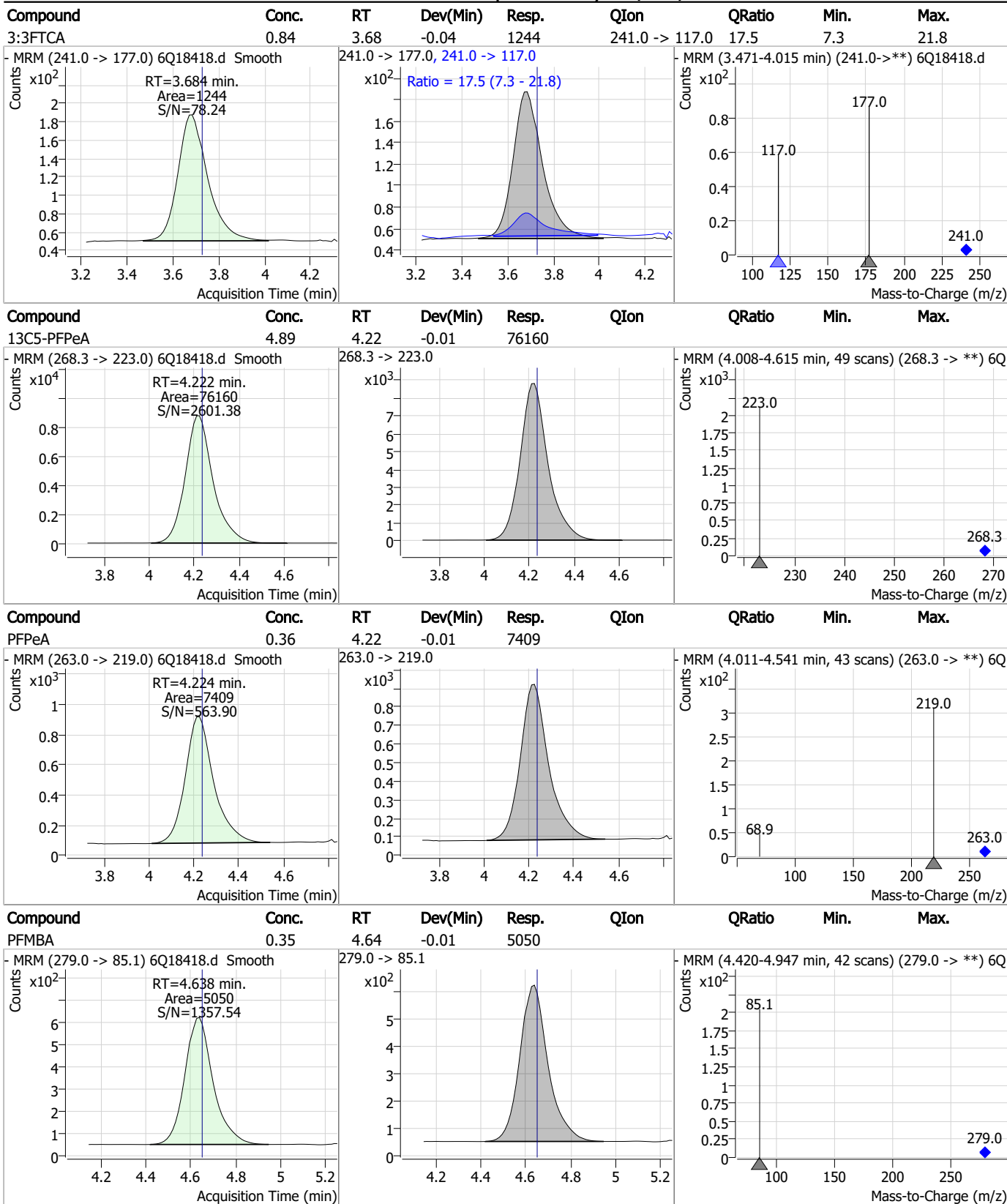
7.7.21

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Perfluorinated Compounds by LC/MS/MS

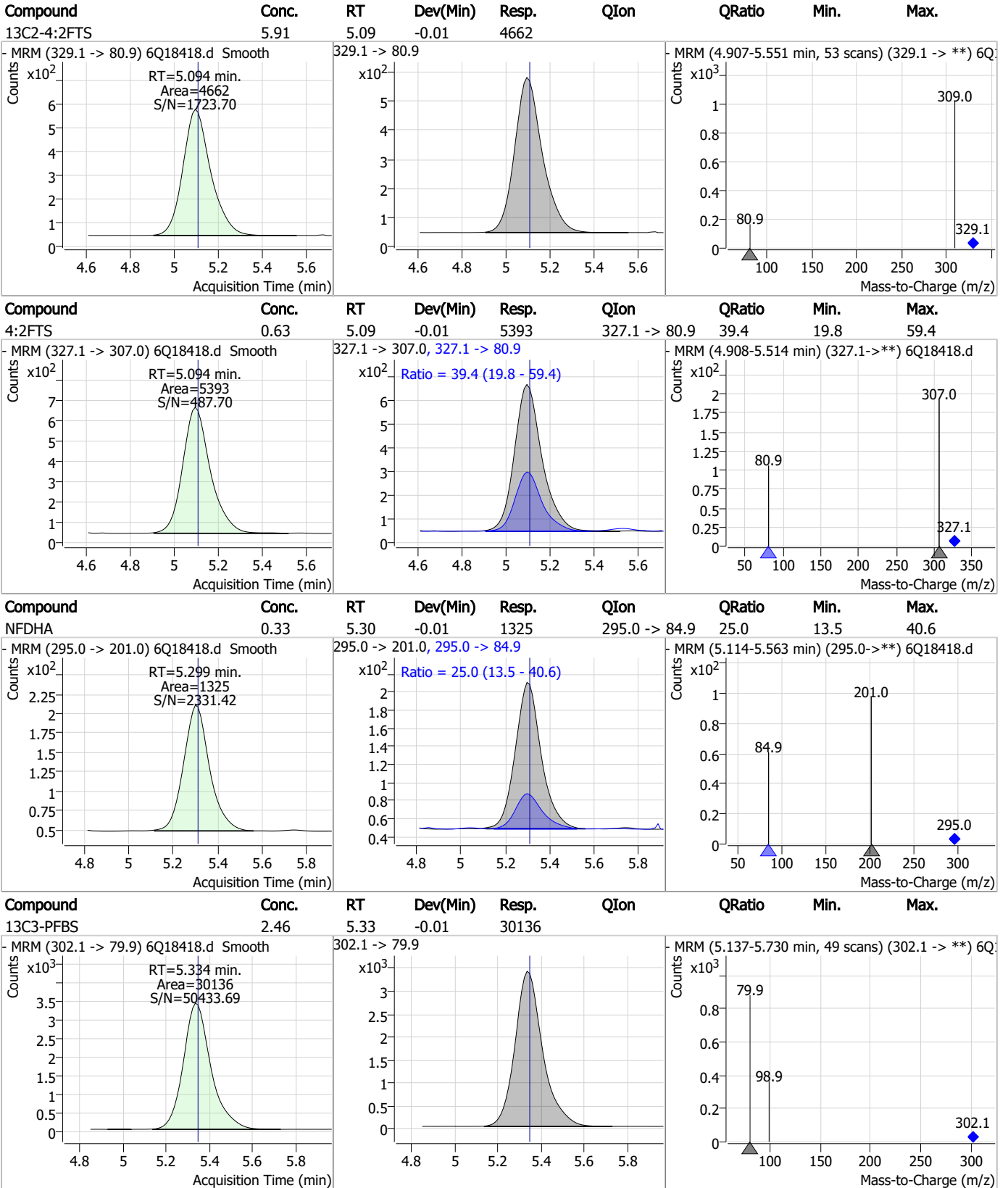


Perfluorinated Compounds by LC/MS/MS



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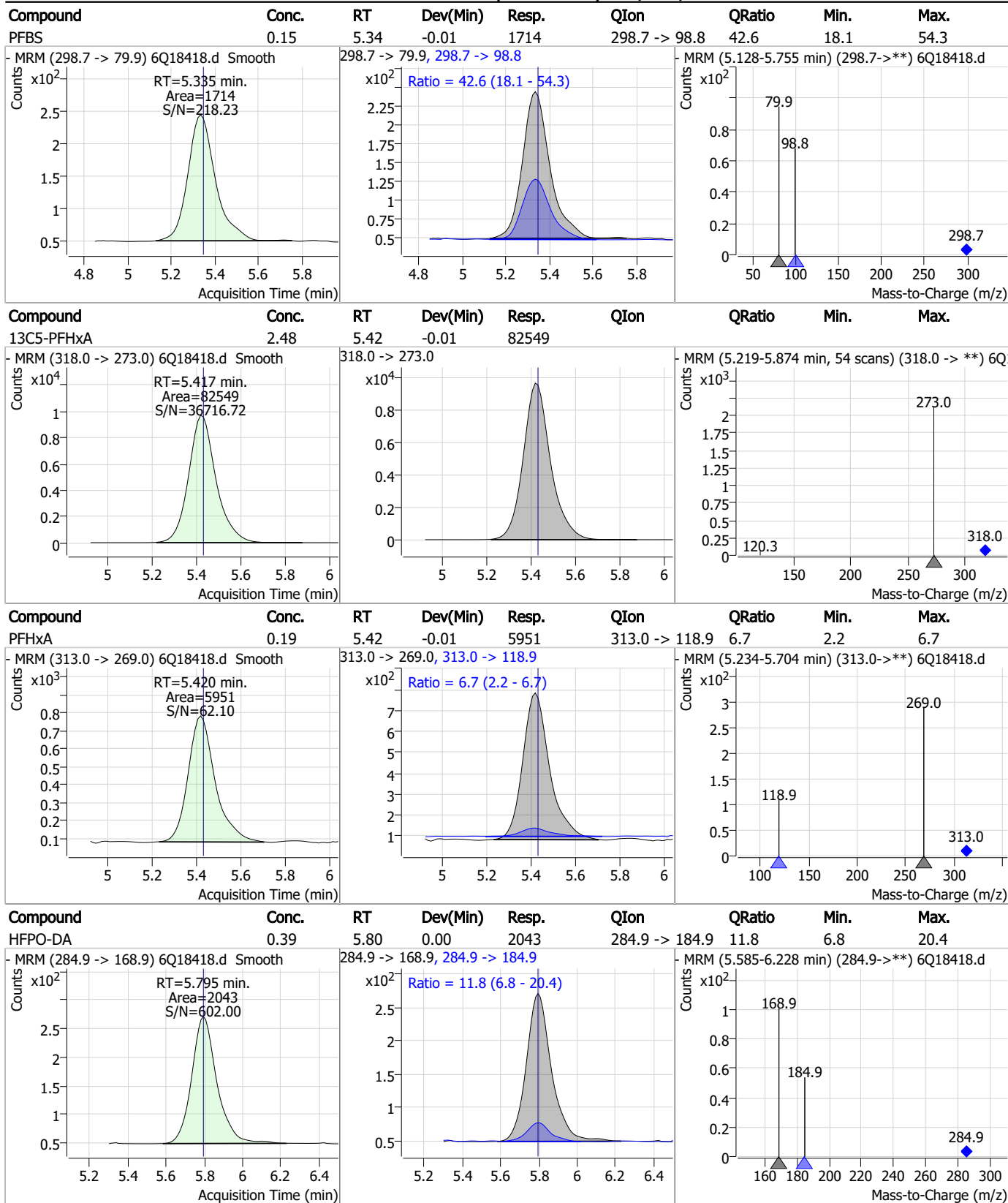
Perfluorinated Compounds by LC/MS/MS



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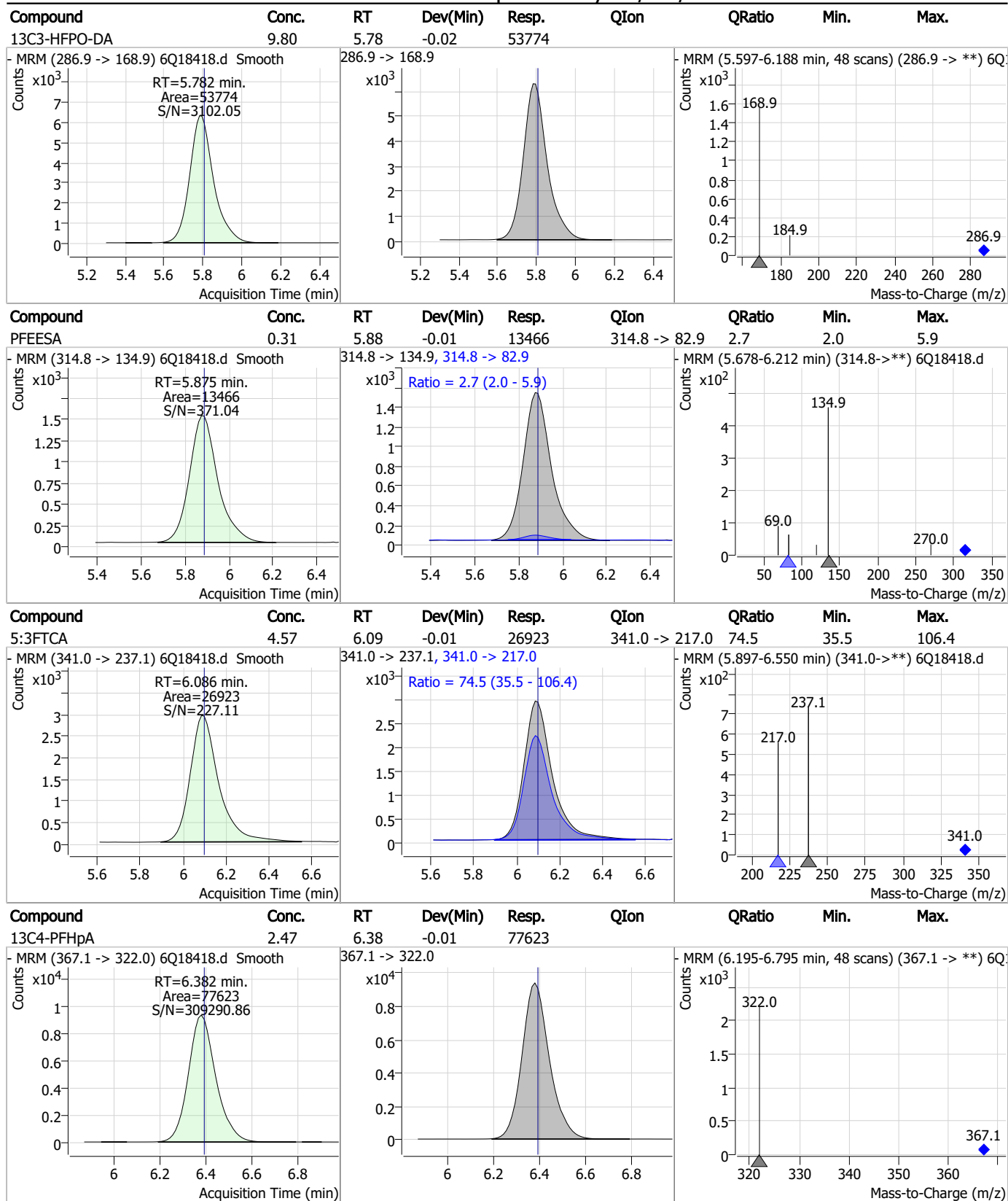
Perfluorinated Compounds by LC/MS/MS



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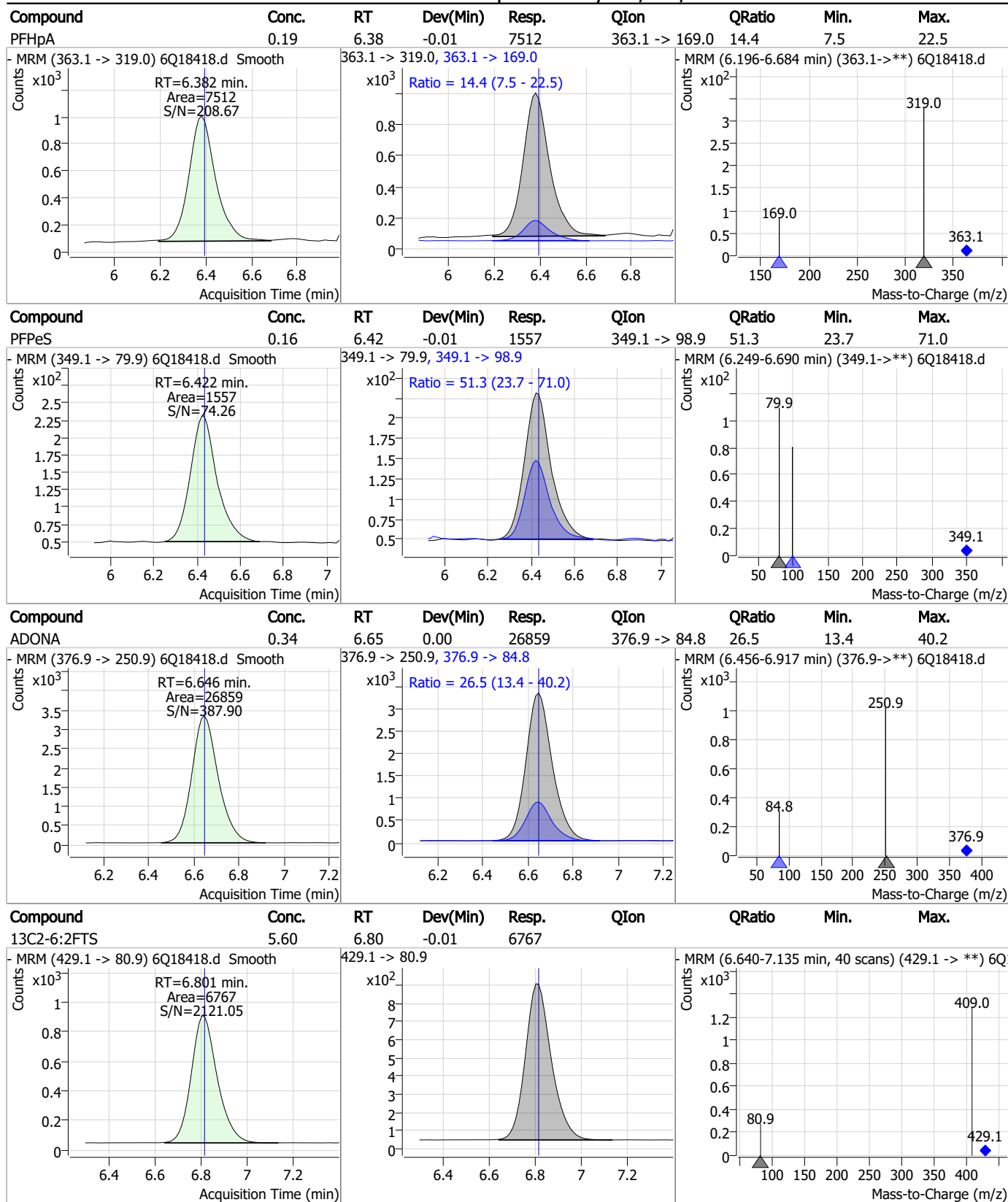


Perfluorinated Compounds by LC/MS/MS



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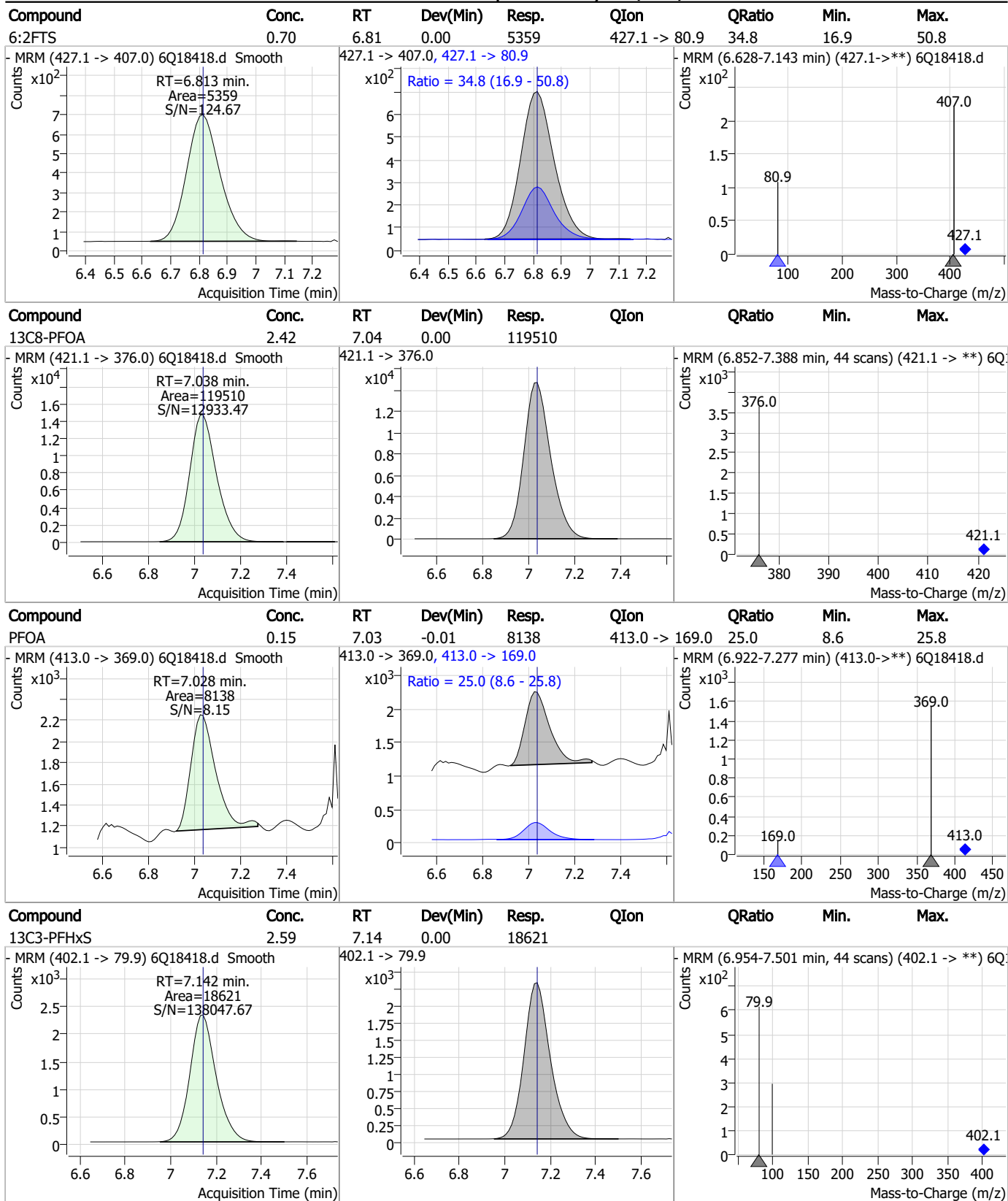
Perfluorinated Compounds by LC/MS/MS



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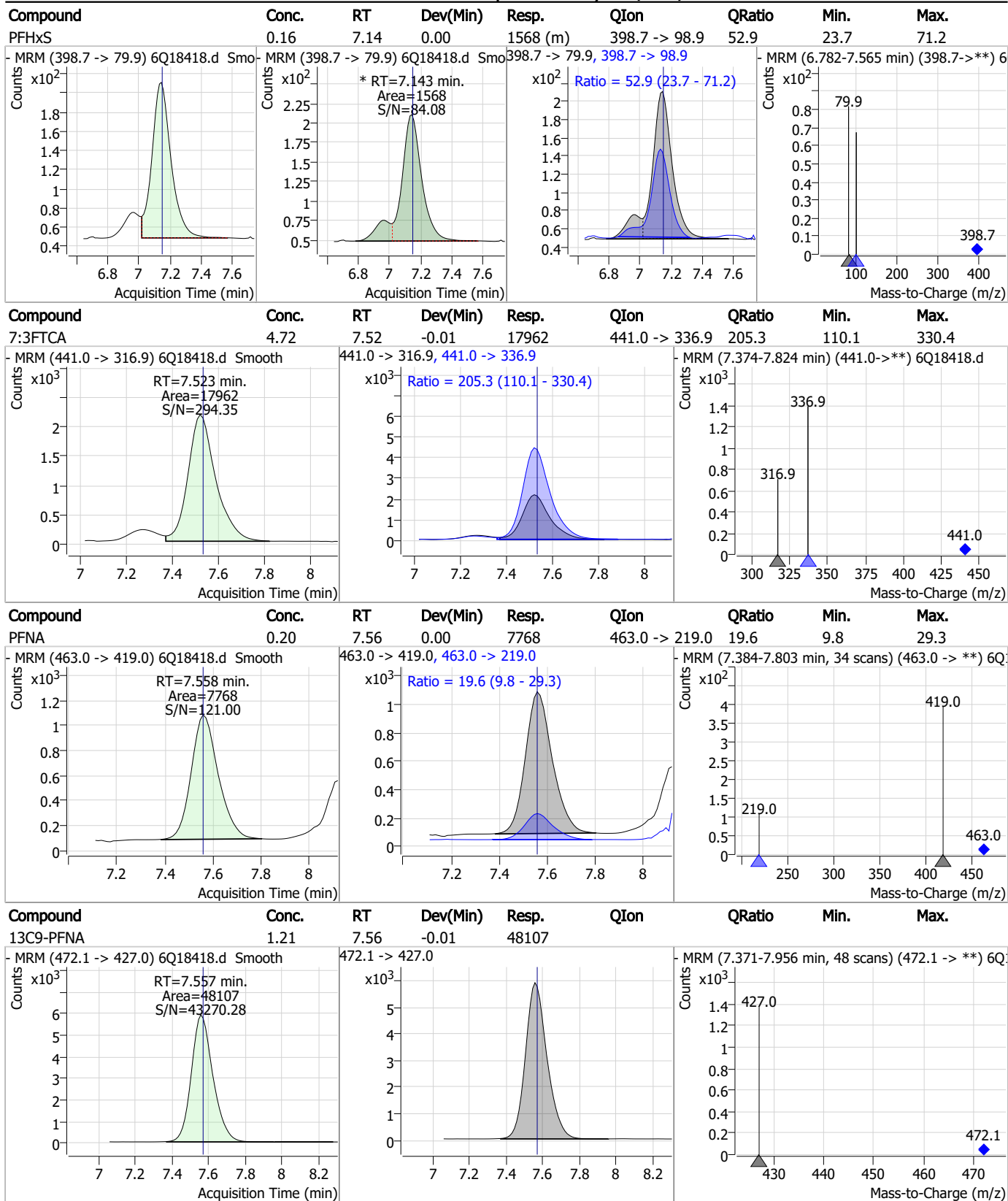
Perfluorinated Compounds by LC/MS/MS



7.7.21

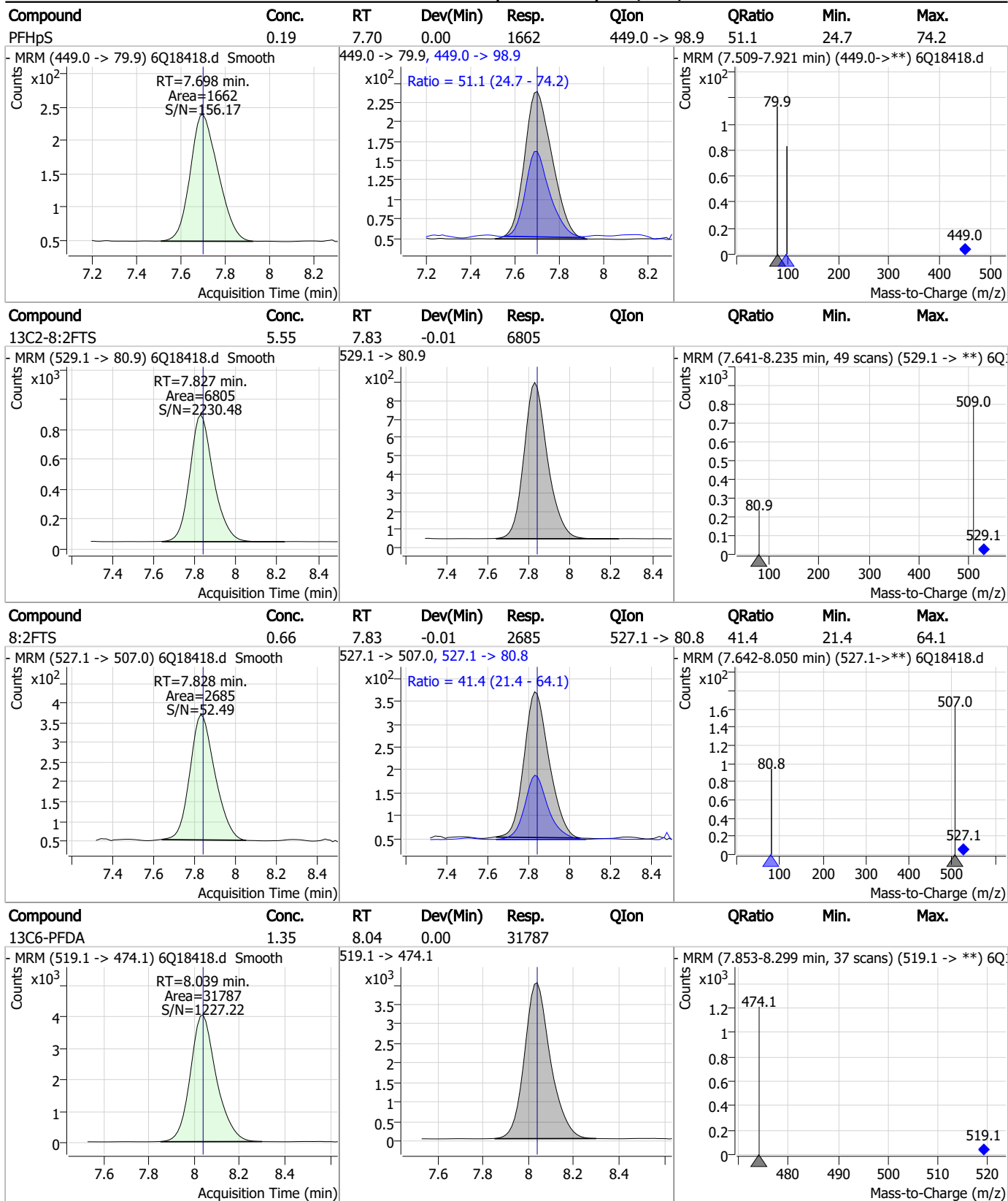
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Perfluorinated Compounds by LC/MS/MS



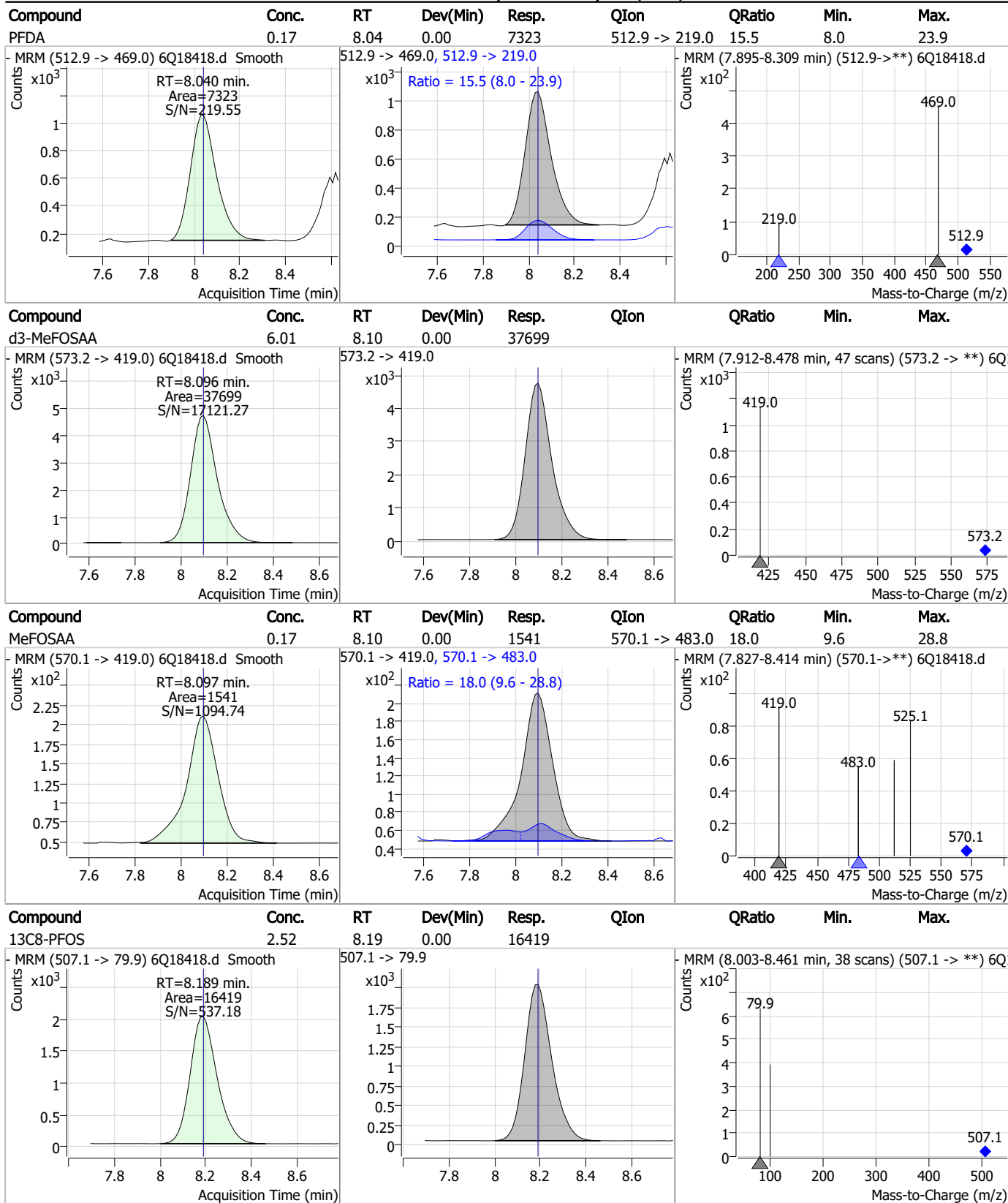
7.7.21

Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

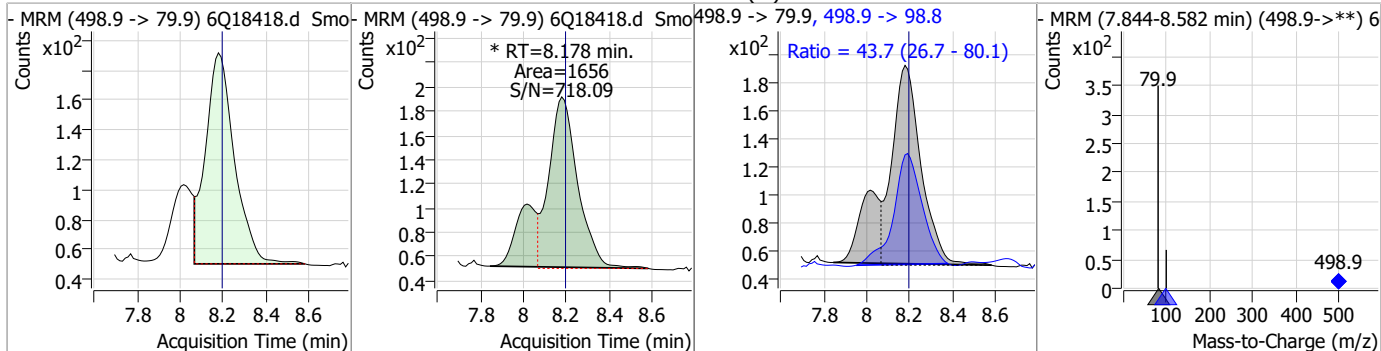


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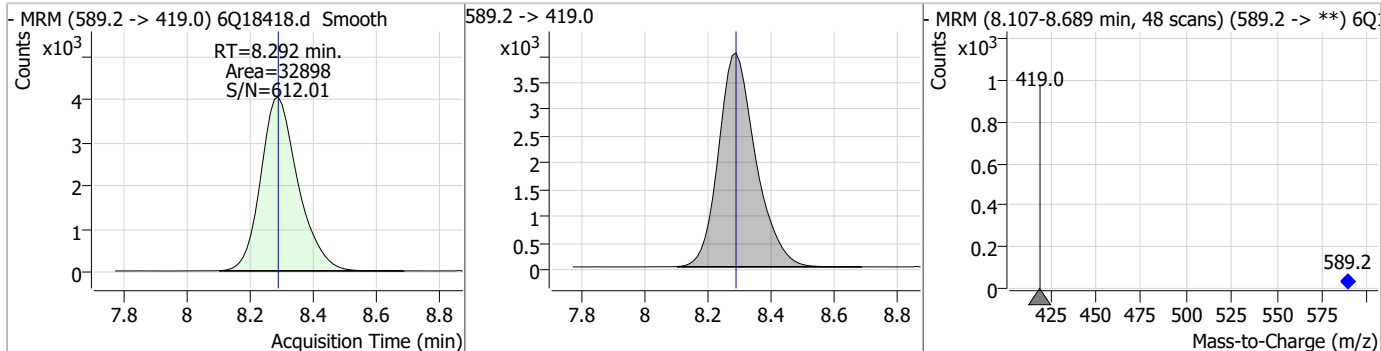
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Perfluorinated Compounds by LC/MS/MS

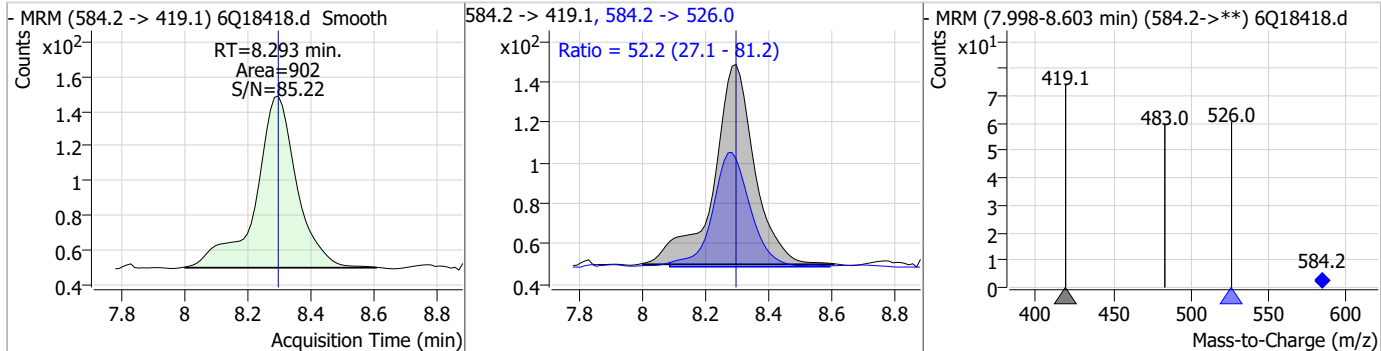
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.19	8.18	-0.01	1656 (m)	498.9 -> 98.8	43.7	26.7	80.1



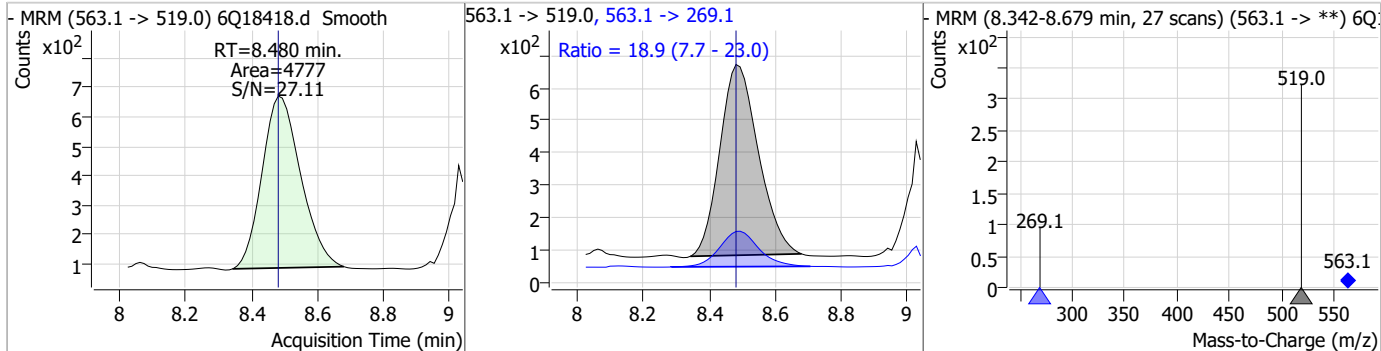
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.58	8.29	0.00	32898				



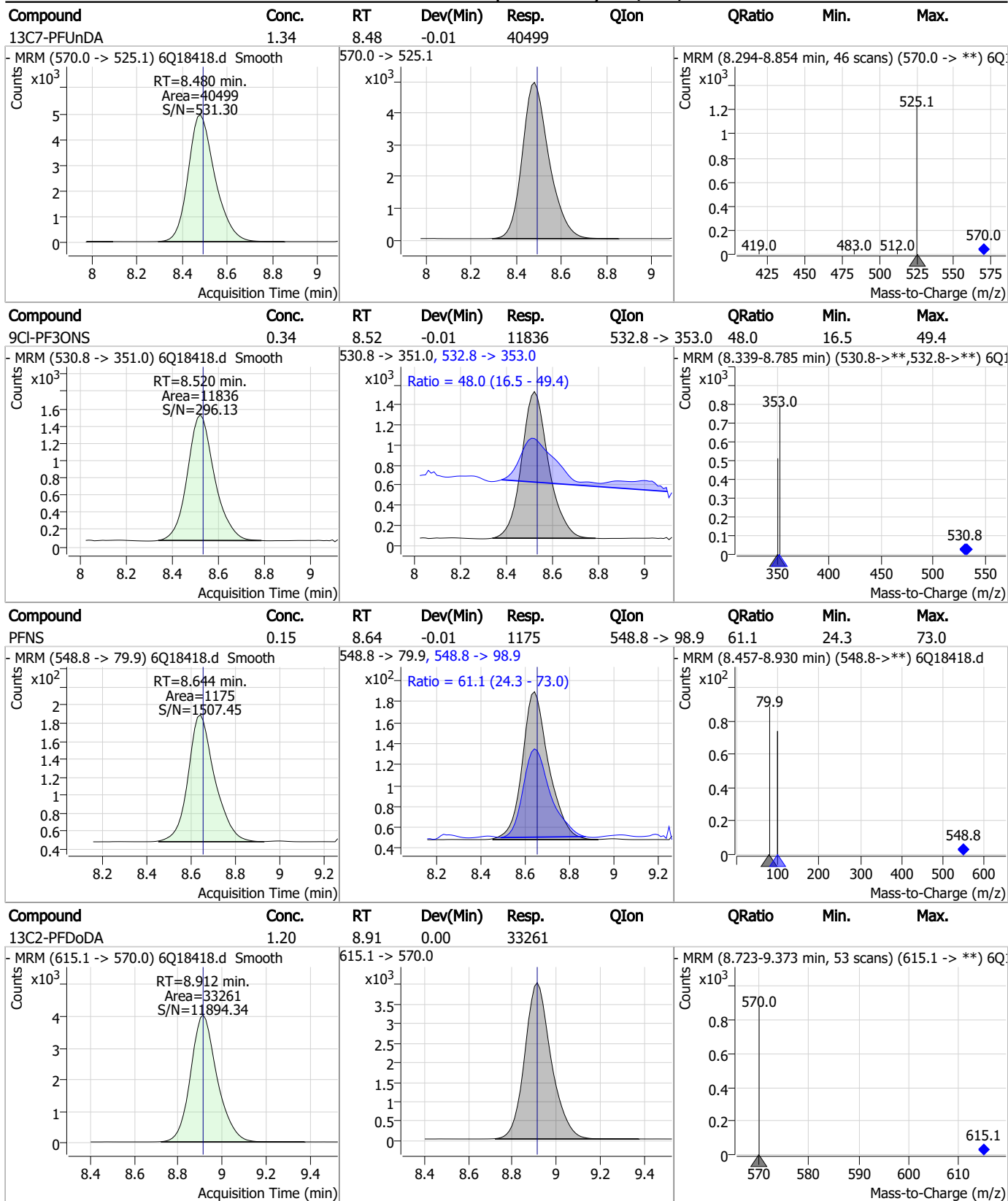
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.18	8.29	0.00	902	584.2 -> 526.0	52.2	27.1	81.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.17	8.48	0.00	4777	563.1 -> 269.1	18.9	7.7	23.0

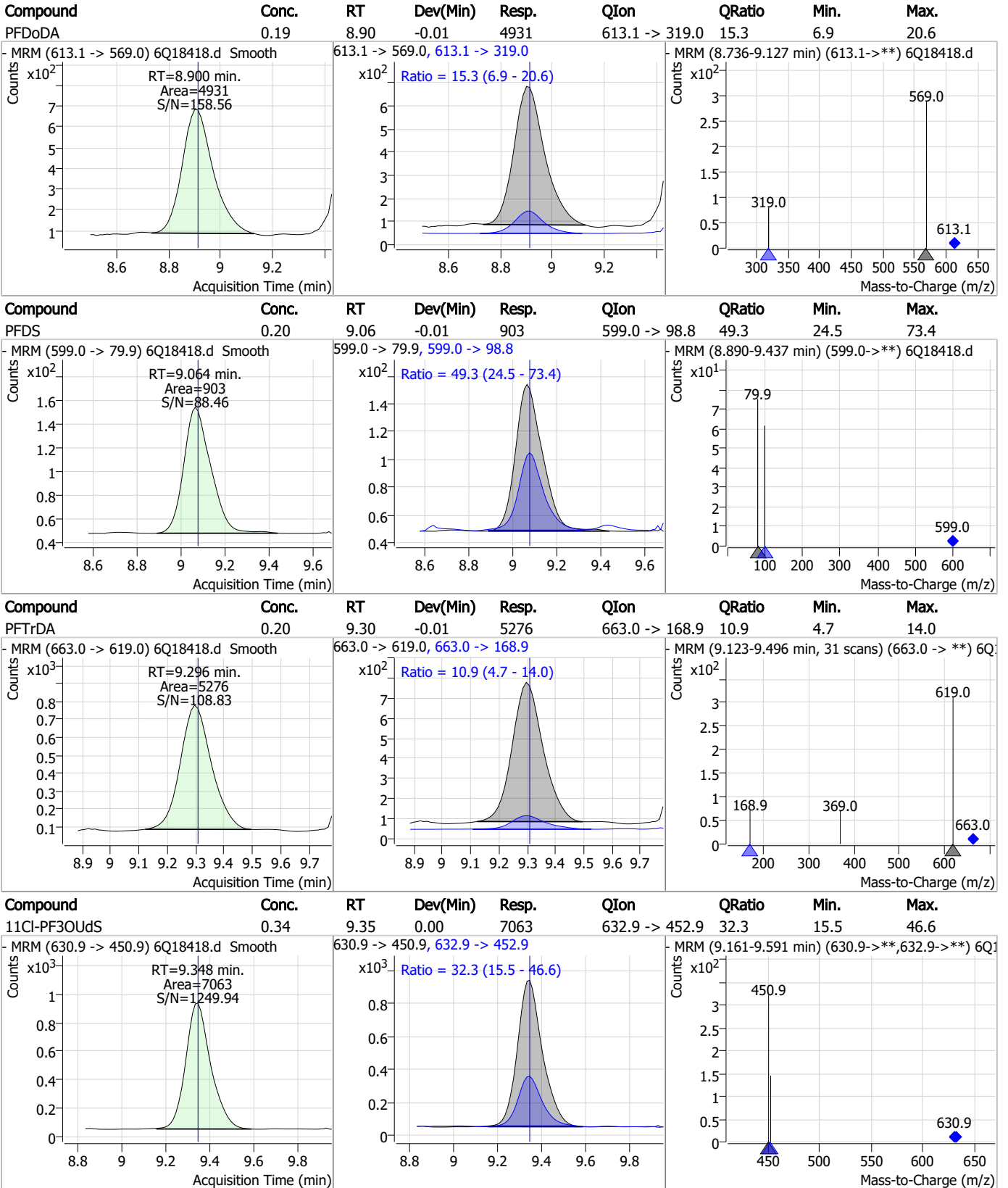


Perfluorinated Compounds by LC/MS/MS



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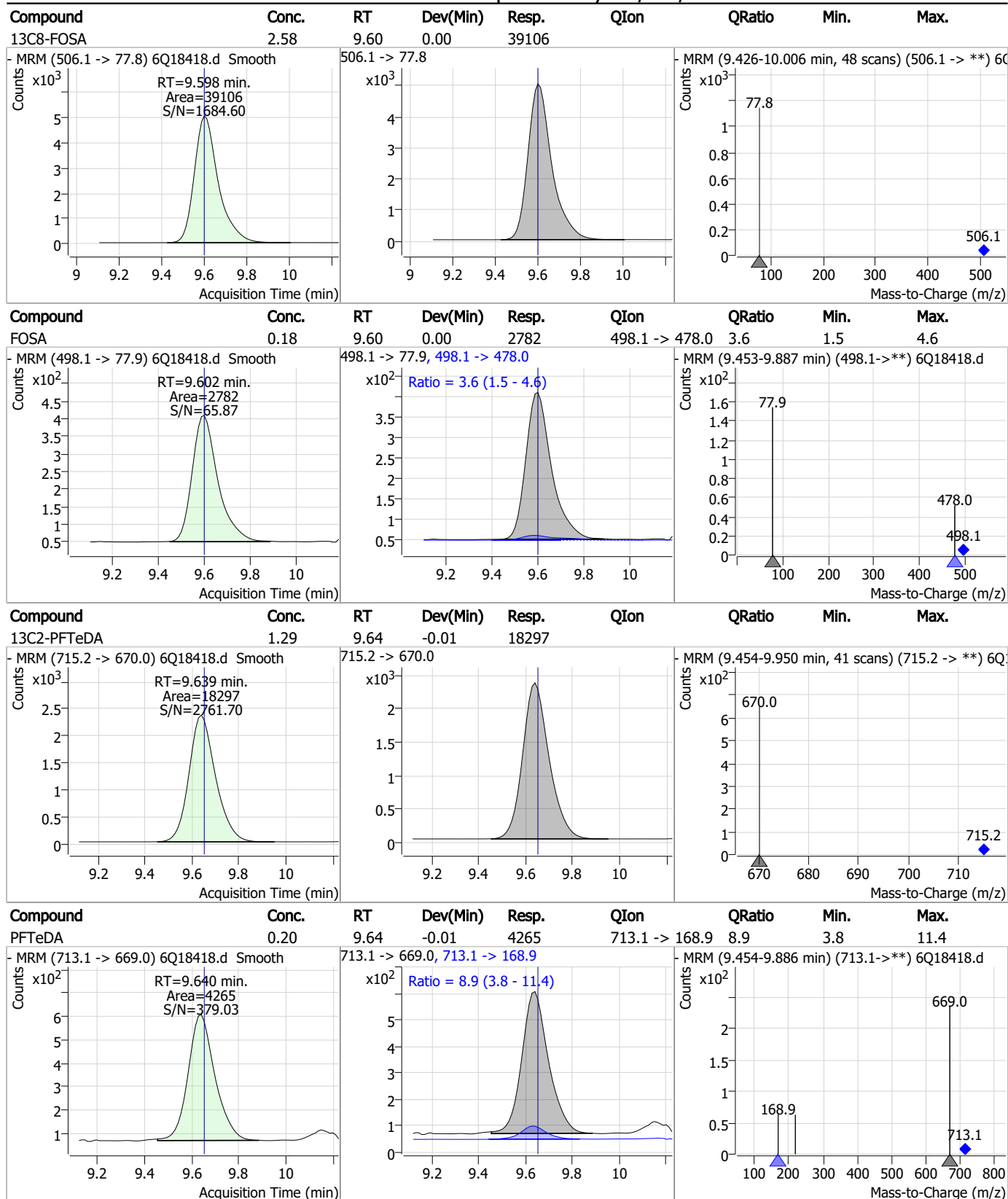
Perfluorinated Compounds by LC/MS/MS



7.7.21 7



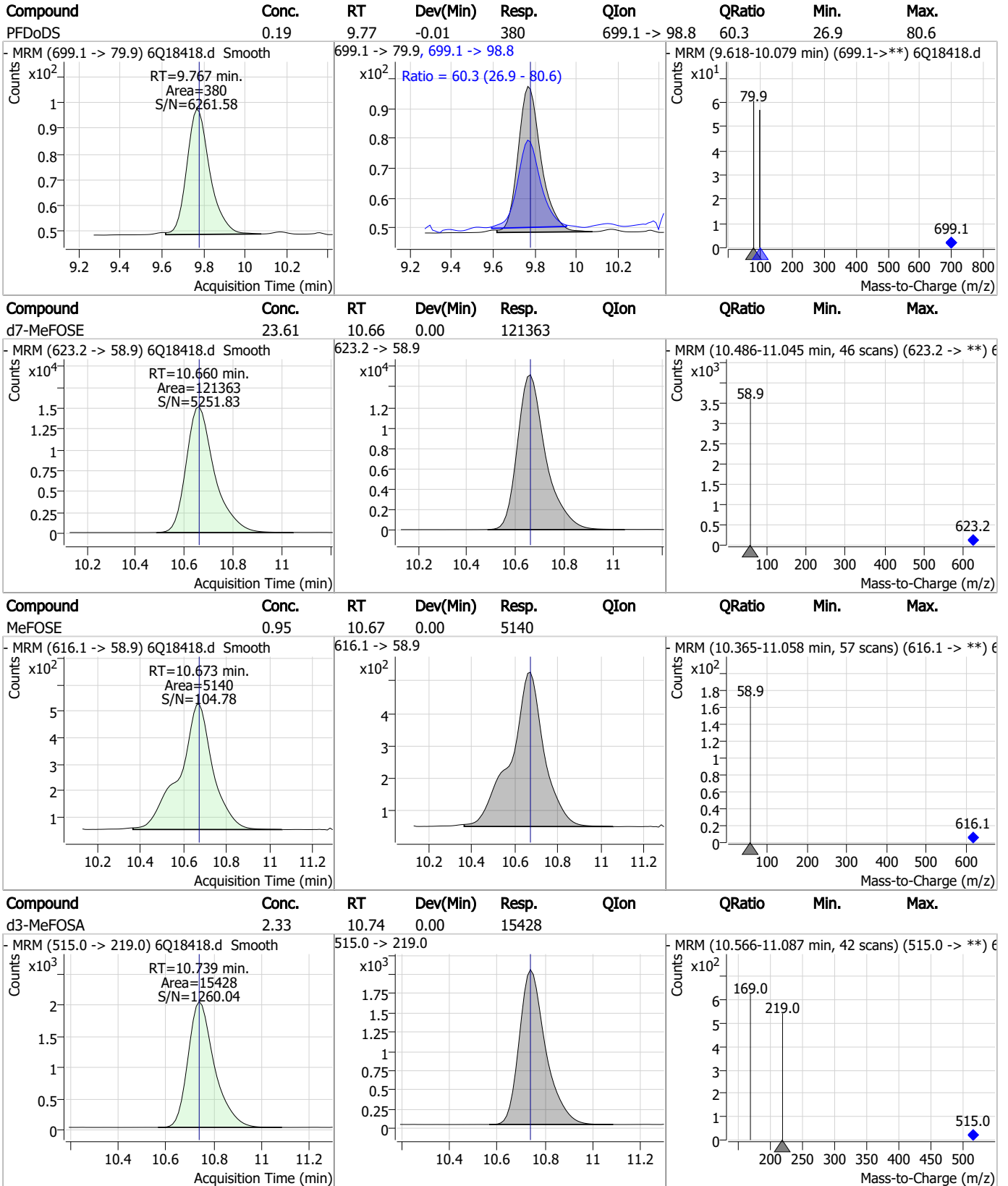
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

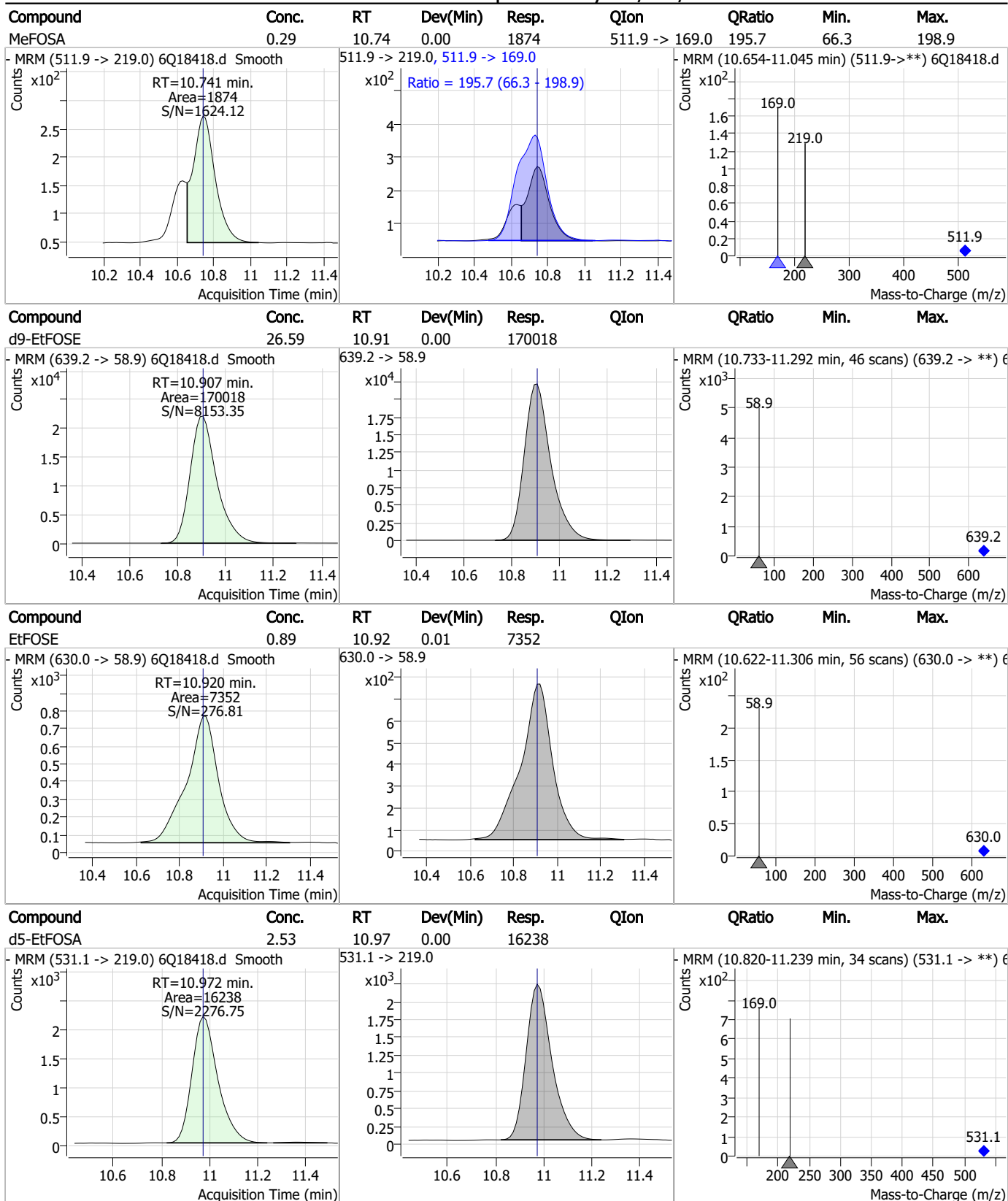


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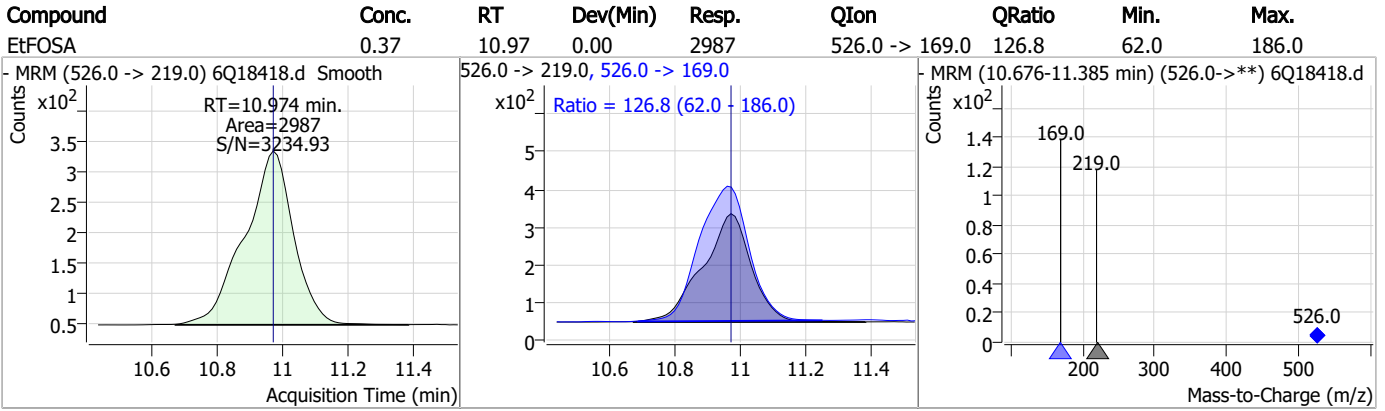
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18418.D Analyst approved: 05/26/23 13:21 Natasha Gumtie
Injection Time: 05/25/23 18:37 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.18	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18419.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 5/25/2023 6:51:48 PM
 Sample Name : cc275-4
 Vial : P1-A5
 DA Method File : 1633_052423_S6Q275.quantmethod.xml
 Batch Name : s6q276.batch.bin
 Sample Information : OP96663,S6Q276,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.822	216.8 -> 171.9	207700	10.00 µg/L	-0.053
M5-PFPeA	4.210	268.3 -> 223.0	70984	5.00 µg/L	-0.025
M5-PFHxA	5.417	318.0 -> 273.0	76025	2.50 µg/L	-0.012
M4-PFHpA	6.382	367.1 -> 322.0	73471	2.50 µg/L	-0.013
M8-PFOA	7.026	421.1 -> 376.0	108818	2.50 µg/L	-0.012
M9-PFNA	7.557	472.1 -> 427.0	44153	1.25 µg/L	-0.012
M6-PFDA	8.027	519.1 -> 474.1	28878	1.25 µg/L	-0.012
M7-PFUnDA	8.480	570.0 -> 525.1	37064	1.25 µg/L	-0.012
M2-PFDoDA	8.900	615.1 -> 570.0	31105	1.25 µg/L	-0.012
M2-PFTeDA	9.639	715.2 -> 670.0	18149	1.25 µg/L	-0.012
M8-FOSA	9.598	506.1 -> 77.8	37213	2.50 µg/L	0.000
M3-PFBS	5.334	302.1 -> 79.9	27139	2.50 µg/L	-0.012
M3-PFHxS	7.130	402.1 -> 79.9	16527	2.50 µg/L	-0.012
M8-PFOS	8.189	507.1 -> 79.9	15590	2.50 µg/L	0.000
M2-4:2FTS	5.093	329.1 -> 80.9	4379	5.00 µg/L	-0.013
M2-6:2FTS	6.800	429.1 -> 80.9	6151	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	6235	5.00 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	32647	5.00 µg/L	-0.012
M3-HFPO-DA	5.782	286.9 -> 168.9	49160	10.00 µg/L	-0.025
M5-EtFOSAA	8.279	589.2 -> 419.0	30162	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	113079	25.00 µg/L	0.000
M9-EtFOSE	10.894	639.2 -> 58.9	151017	25.00 µg/L	-0.012
M5-EtFOSA	10.972	531.1 -> 219.0	15139	2.50 µg/L	0.000
M3-MeFOSA	10.739	515.0 -> 219.0	15274	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19451	2.50 µg/L	0.000
13C3-PFBA	2.827	216.0 -> 172.0	87532	5.00 µg/L	-0.052
18O2-PFHxS	7.141	403.0 -> 83.9	12566	2.50 µg/L	0.000
13C4-PFOA	7.026	417.1 -> 372.0	110932	2.50 µg/L	-0.012
13C2-PFDA	8.039	515.1 -> 470.1	38218	1.25 µg/L	0.000
13C5-PFNA	7.557	468.0 -> 423.0	53876	1.25 µg/L	-0.012
13C2-PFHxA	5.417	315.1 -> 270.0	72926	2.50 µg/L	-0.012
System Monitoring Compounds					
13C2-4:2FTS	5.093	329.1 -> 80.9	4379	5.80 µg/L	-0.013
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.1%		
13C2-6:2FTS	6.800	429.1 -> 80.9	6151	5.33 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.5%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6235	5.32 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31105	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 91.6%		
13C2-PFTeDA	9.639	715.2 -> 670.0	18149	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C3-PFBS	5.334	302.1 -> 79.9	27139	2.32 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.8%		
13C3-PFHxS	7.130	402.1 -> 79.9	16527	2.40 µg/L	-0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C4-PFBA	2.822	216.8 -> 171.9	207700	9.97 µg/L	-0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.382	367.1 -> 322.0	73471	2.63 µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C5-PFHxA	5.417	318.0 -> 273.0	76025	2.56 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C5-PFPeA	4.210	268.3 -> 223.0	70984	5.11 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C6-PFDA	8.027	519.1 -> 474.1	28878	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	37064	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-FOSA	9.598	506.1 -> 77.8	37213	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C8-PFOA	7.026	421.1 -> 376.0	108818	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C8-PFOS	8.189	507.1 -> 79.9	15590	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C9-PFNA	7.557	472.1 -> 427.0	44153	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
d3-MeFOSAA	8.084	573.2 -> 419.0	32647	5.65 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.9%	
13C3-HFPO-DA	5.782	286.9 -> 168.9	49160	10.06 µg/L	-0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d3-MeFOSA	10.739	515.0 -> 219.0	15274	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
d5-EtFOSAA	8.279	589.2 -> 419.0	30162	5.55 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	113079	23.86 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
d9-EtFOSE	10.894	639.2 -> 58.9	151017	25.61 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
d5-EtFOSA	10.972	531.1 -> 219.0	15139	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
Target Compounds					QValue
4:2FTS	5.094	327.1 -> 307.0	60140	7.50 µg/L	97
		327.1 -> 80.9	22886		
6:2FTS	6.801	427.1 -> 407.0	62295	8.96 µg/L	99
		427.1 -> 80.9	20615		
8:2FTS	7.828	527.1 -> 507.0	33552	8.94 µg/L	96
		527.1 -> 80.8	13488		
EtFOSAA	8.293	584.2 -> 419.1	10355	2.25 µg/L	98
		584.2 -> 526.0	5482		
FOSA	9.602	498.1 -> 77.9	31725	2.19 µg/L	100
		498.1 -> 478.0	993		
MeFOSAA	8.097	570.1 -> 419.0	17045	2.15 µg/L	100
		570.1 -> 483.0	3249		
PFBA	2.831	212.8 -> 168.9	72756	8.99 µg/L	100
PFBS	5.335	298.7 -> 79.9	21335	2.05 µg/L	100
		298.7 -> 98.8	7757		
PFDA	8.027	512.9 -> 469.0	82739	2.10 µg/L	99
		512.9 -> 219.0	12908		
PFDODA	8.913	613.1 -> 569.0	56211	2.28 µg/L	95
		613.1 -> 319.0	8814		
PFDS	9.064	599.0 -> 79.9	9385	2.14 µg/L	100

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.382	599.0 -> 98.8	4609	2.14	µg/L	96
		363.1 -> 319.0	81138			
PFHpS	7.698	363.1 -> 169.0	13642	2.08	µg/L	94
		449.0 -> 79.9	17692			
PFHxA	5.420	449.0 -> 98.9	9457	2.26	µg/L	99
		313.0 -> 269.0	66697			
PFHxS	7.131	313.0 -> 118.9	3177	1.91	µg/L	92
		398.7 -> 79.9	17067			
PFNA	7.558	398.7 -> 98.9	9066	2.24	µg/L	98
		463.0 -> 419.0	81492			
PFNS	8.644	463.0 -> 219.0	16612	2.23	µg/L	94
		548.8 -> 79.9	16389			
PFOA	7.028	548.8 -> 98.9	8705	2.30	µg/L	97
		413.0 -> 369.0	117026			
PFOS	8.178	413.0 -> 169.0	21411	2.08	µg/L	96
		498.9 -> 79.9	17229			
PFPeA	4.212	498.9 -> 98.8	8747	4.54	µg/L	100
		263.0 -> 219.0	86827			
PFPeS	6.422	349.1 -> 79.9	18518	2.11	µg/L	98
		349.1 -> 98.9	8498			
PFTeDA	9.640	713.1 -> 669.0	45443	2.14	µg/L	98
		713.1 -> 168.9	3705			
PFTrDA	9.296	663.0 -> 619.0	58360	2.42	µg/L	96
		663.0 -> 168.9	6222			
PFUnDA	8.480	563.1 -> 519.0	62283	2.35	µg/L	98
		563.1 -> 269.1	9973			
11CI-PF3OUdS	9.348	630.9 -> 450.9	82701	4.38	µg/L	98
		632.9 -> 452.9	26506			
9CI-PF3ONS	8.508	530.8 -> 351.0	143499	4.55	µg/L	96
		532.8 -> 353.0	44098			
ADONA	6.632	376.9 -> 250.9	322869	4.45	µg/L	97
		376.9 -> 84.8	81891			
HFPO-DA	5.783	284.9 -> 168.9	22091	4.58	µg/L	95
		284.9 -> 184.9	2593			
3:3FTCA	3.671	241.0 -> 177.0	14362	10.40	µg/L	97
		241.0 -> 117.0	1889			
5:3FTCA	6.086	341.0 -> 237.1	300825	55.49	µg/L	99
		341.0 -> 217.0	214622			
7:3FTCA	7.523	441.0 -> 316.9	195929	55.91	µg/L	93
		441.0 -> 336.9	408192			
EtFOSA	10.974	526.0 -> 219.0	35378	4.66	µg/L	97
		526.0 -> 169.0	45043			
EtFOSE	10.907	630.0 -> 58.9	82468	11.26	µg/L	100
		511.9 -> 219.0	29795			
MeFOSA	10.741	511.9 -> 169.0	40850	4.60	µg/L	96
		616.1 -> 58.9	60491			
MeFOSE	10.673	699.1 -> 79.9	4338	12.04	µg/L	100
		699.1 -> 98.8	2332			
PFDoDS	9.767	295.0 -> 201.0	16729	2.34	µg/L	100
		295.0 -> 84.9	4125			
NFDHA	5.299	279.0 -> 85.1	59412	4.59	µg/L	95
		229.0 -> 84.9	46051			
PFMBA	4.626	314.8 -> 134.9	152411	4.39	µg/L	100
		314.8 -> 82.9	5080			
PFMPA	3.363			4.47	µg/L	100
PFEESA	5.875			3.84	µg/L	98

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

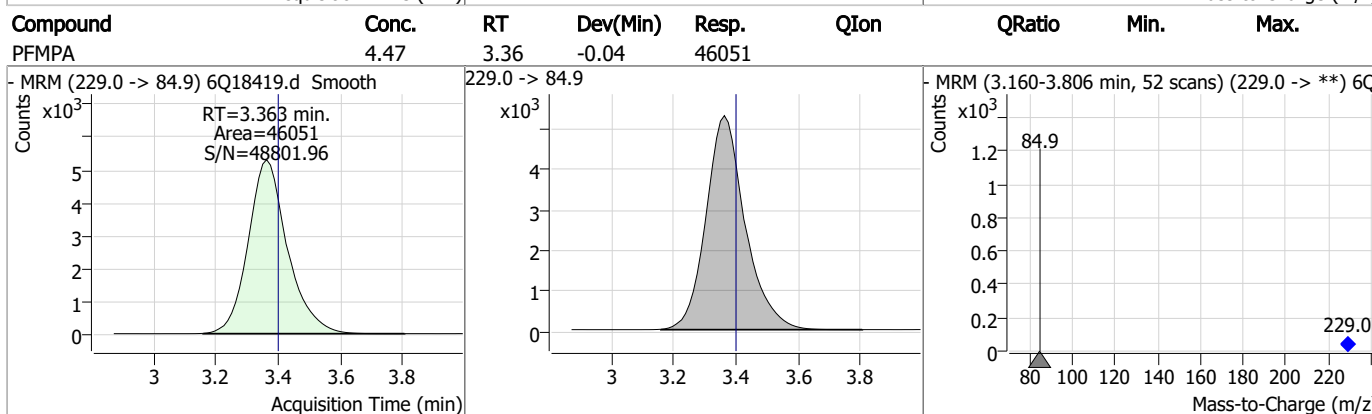
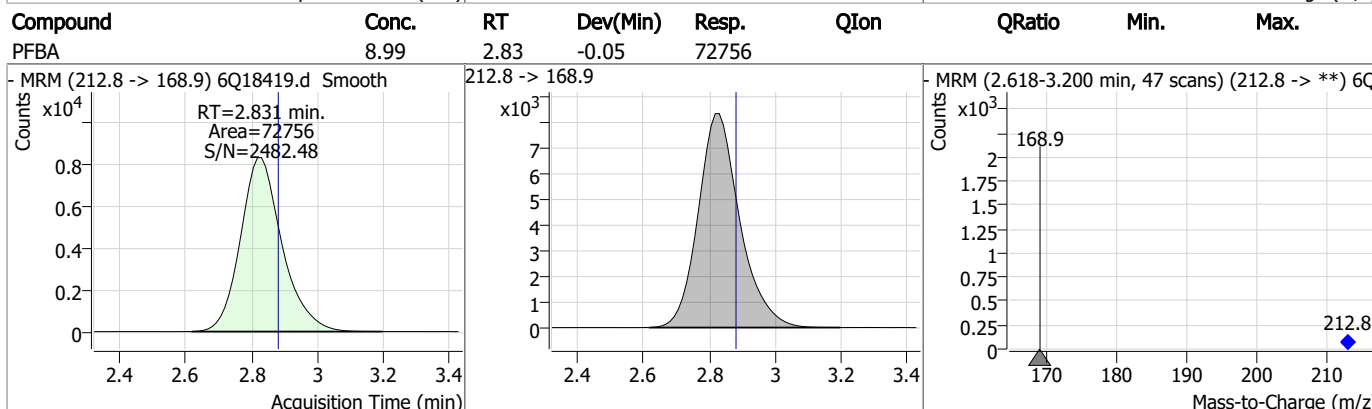
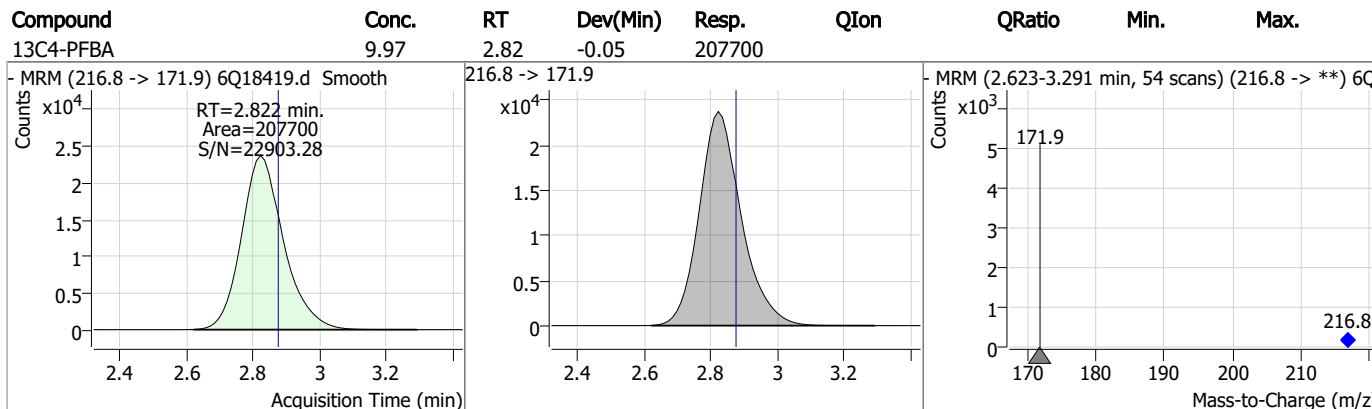
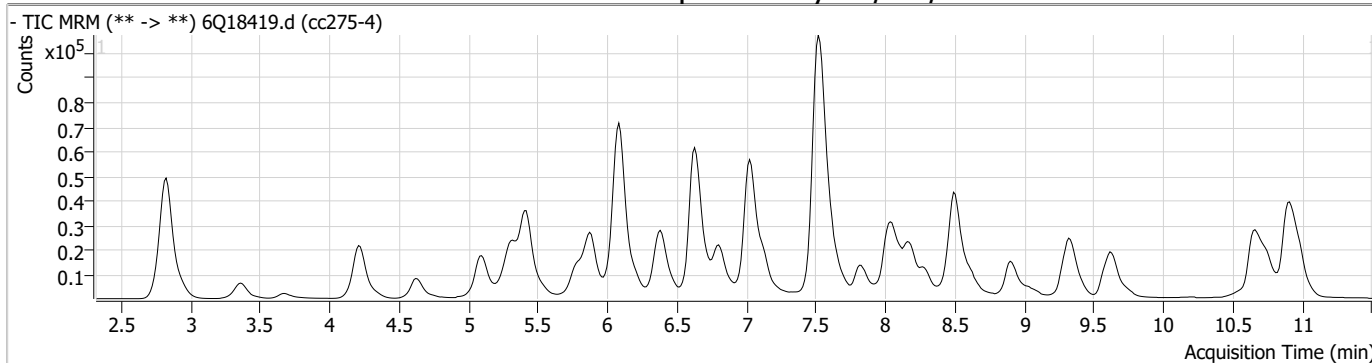
Perfluorinated Compounds by LC/MS/MS

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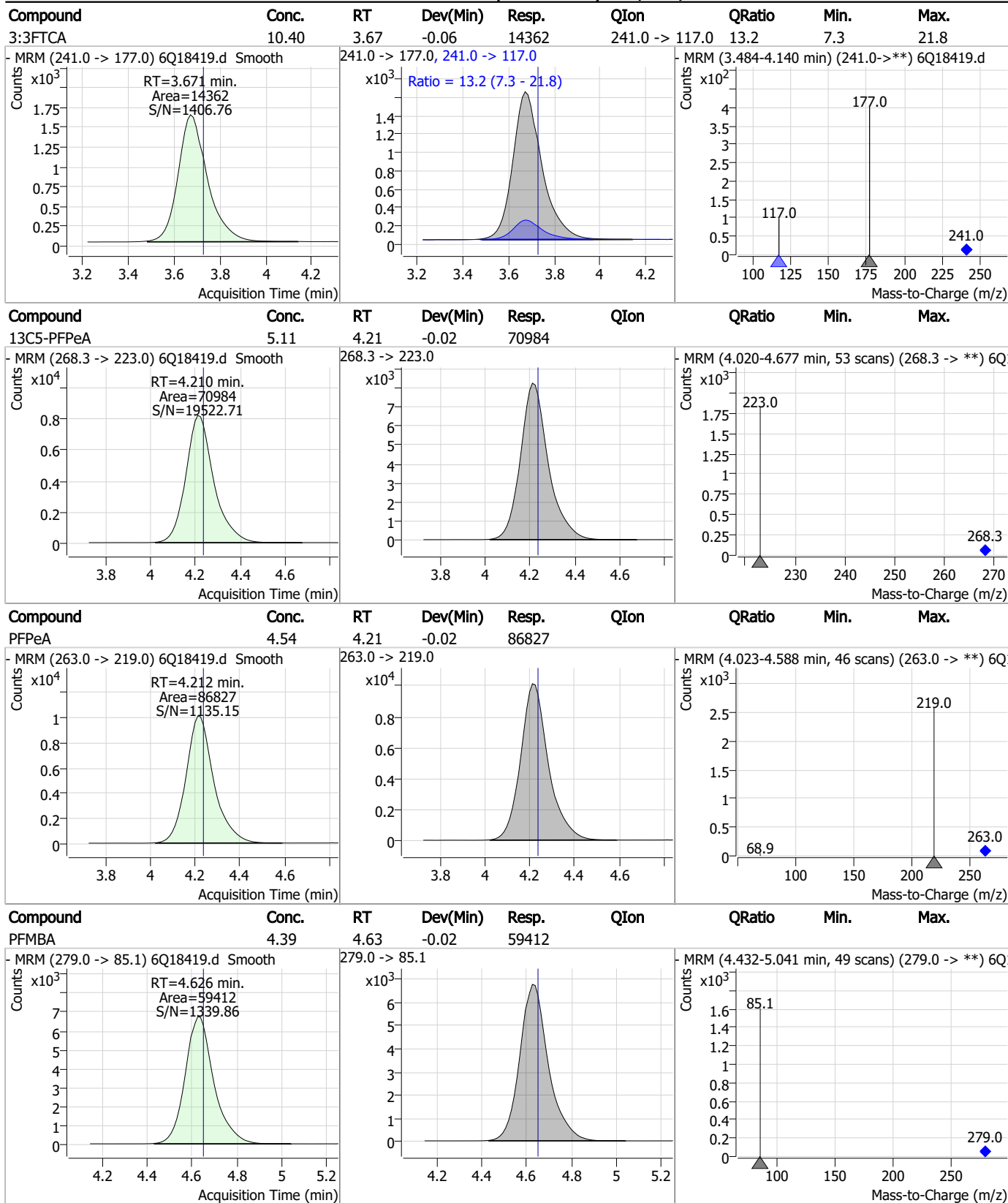
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Perfluorinated Compounds by LC/MS/MS



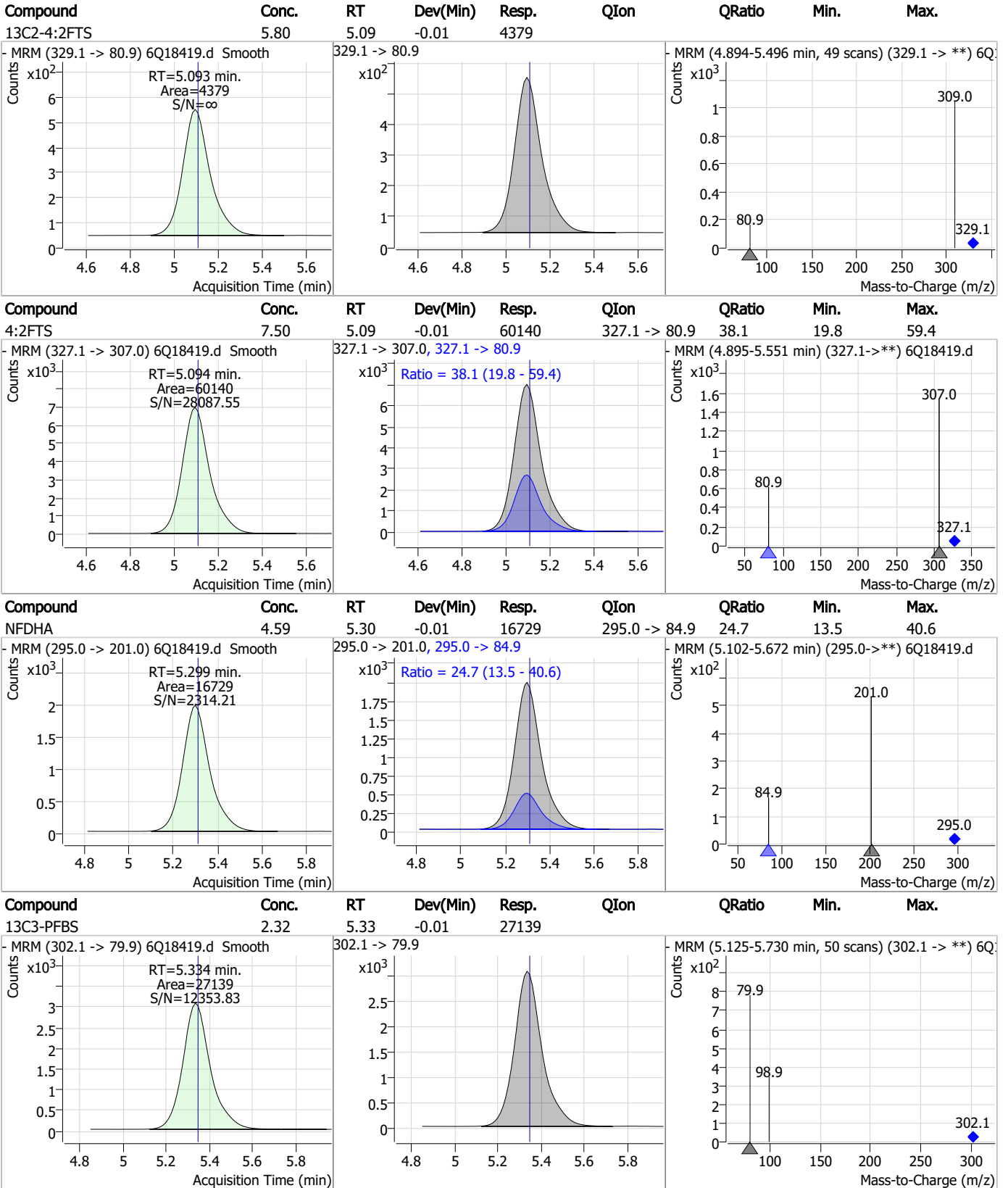
Perfluorinated Compounds by LC/MS/MS



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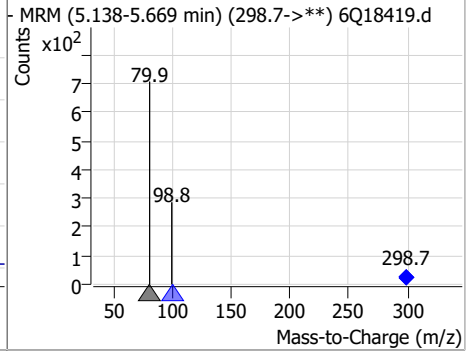
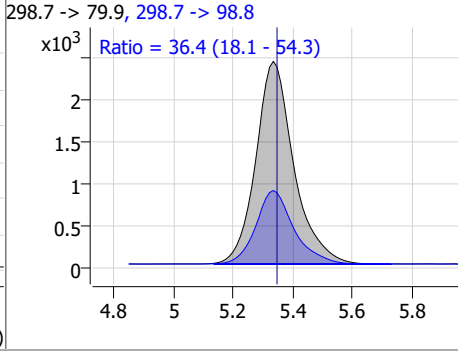
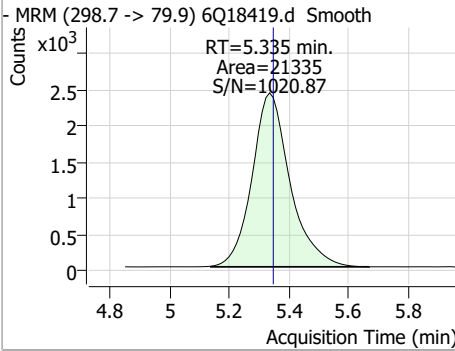
Perfluorinated Compounds by LC/MS/MS



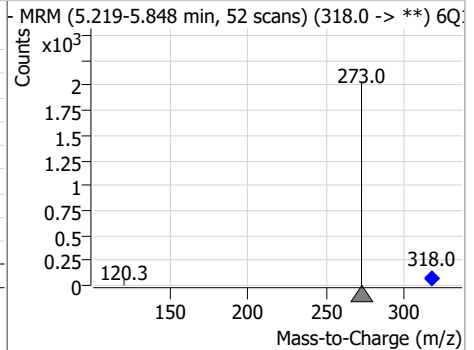
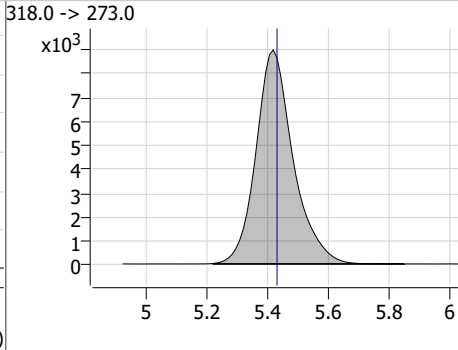
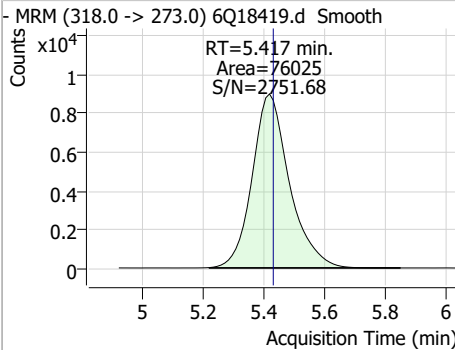
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Perfluorinated Compounds by LC/MS/MS

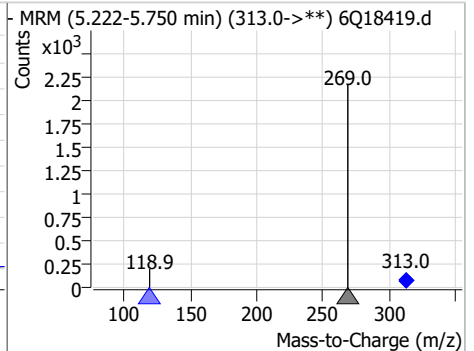
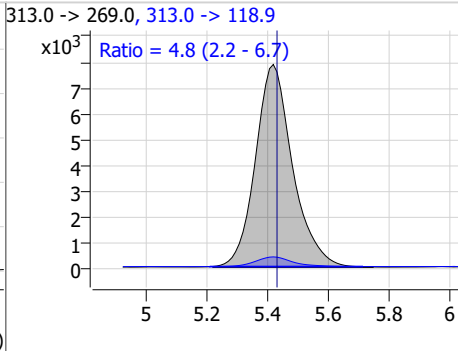
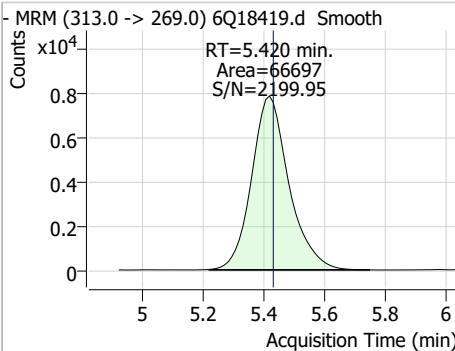
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.05	5.34	-0.01	21335	298.7 -> 98.8	36.4	18.1	54.3



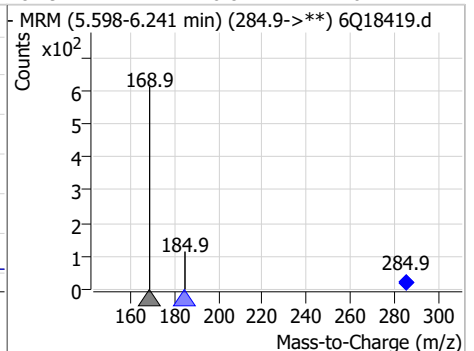
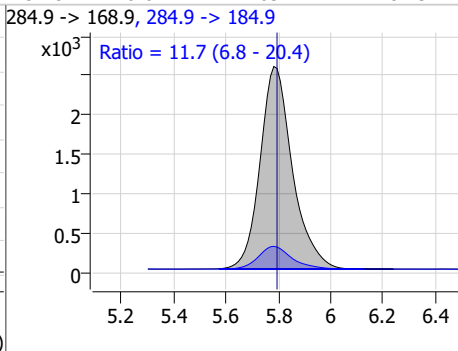
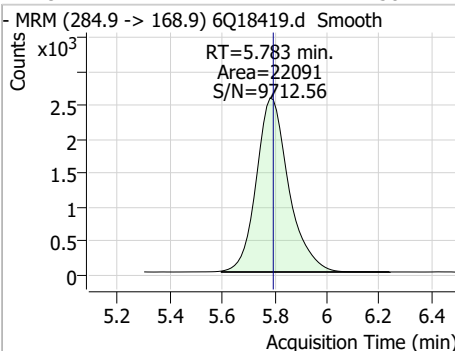
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.56	5.42	-0.01	76025	318.0 -> 273.0	4.8	2.2	6.7



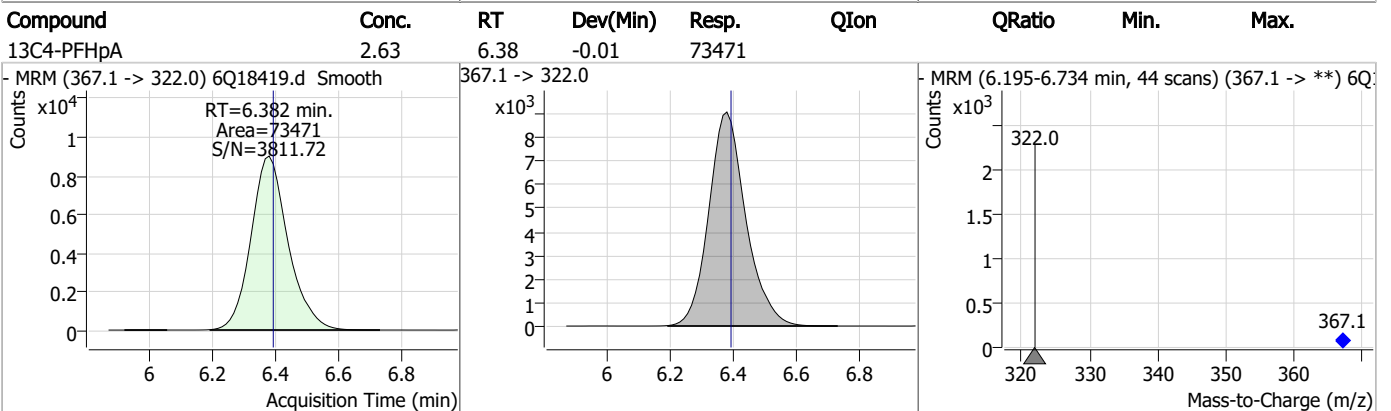
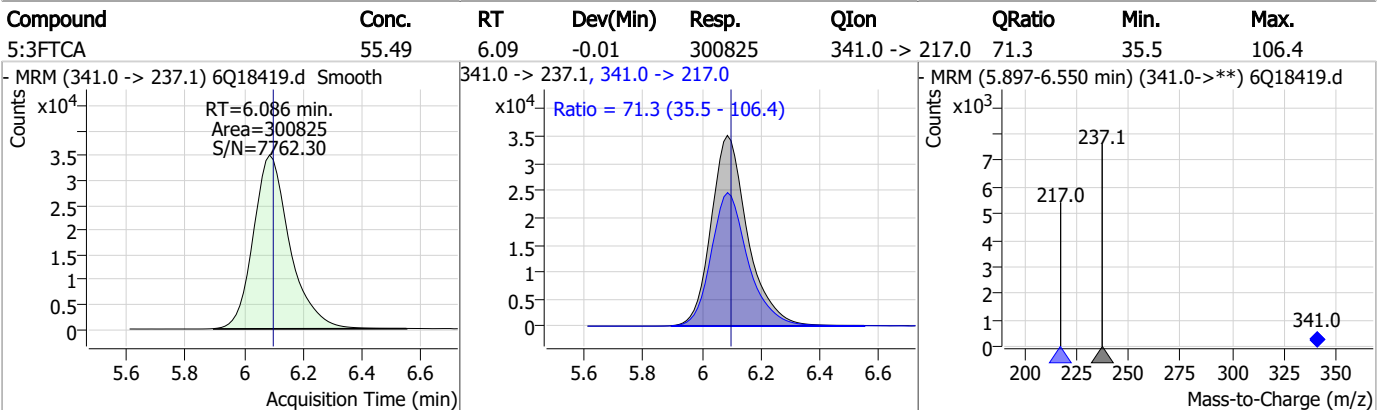
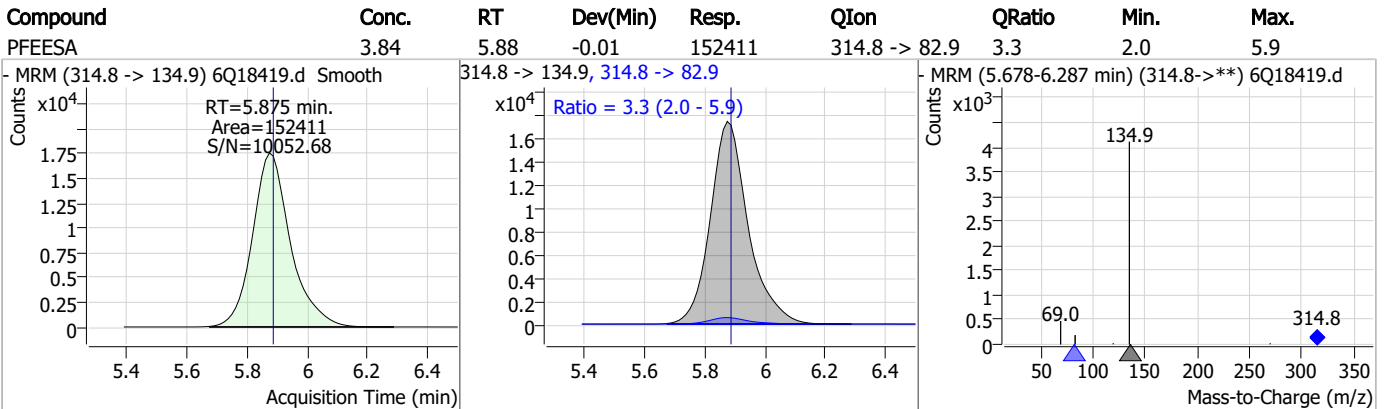
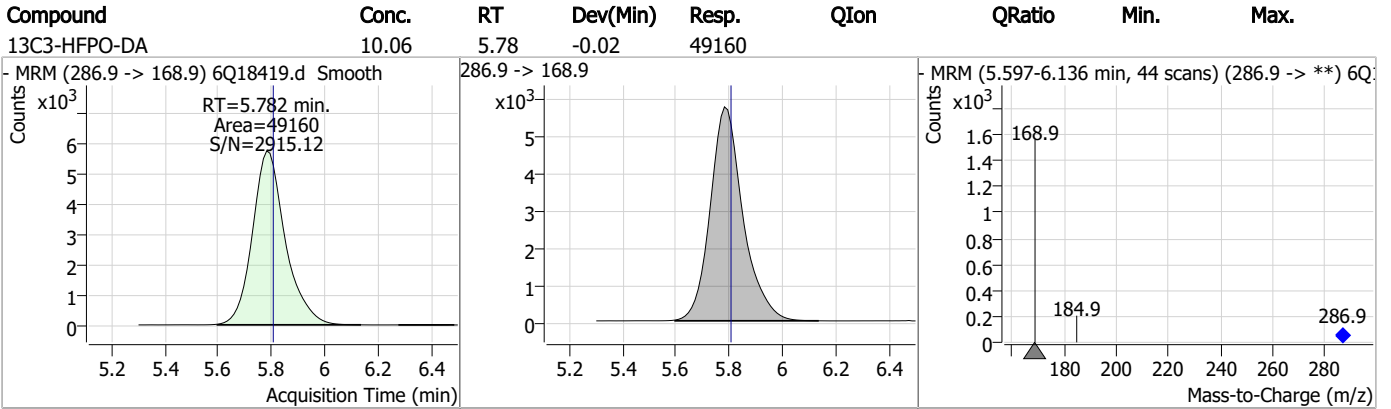
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.26	5.42	-0.01	66697	313.0 -> 118.9	11.7	6.8	20.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.58	5.78	-0.01	22091	284.9 -> 184.9	184.9	184.9	184.9



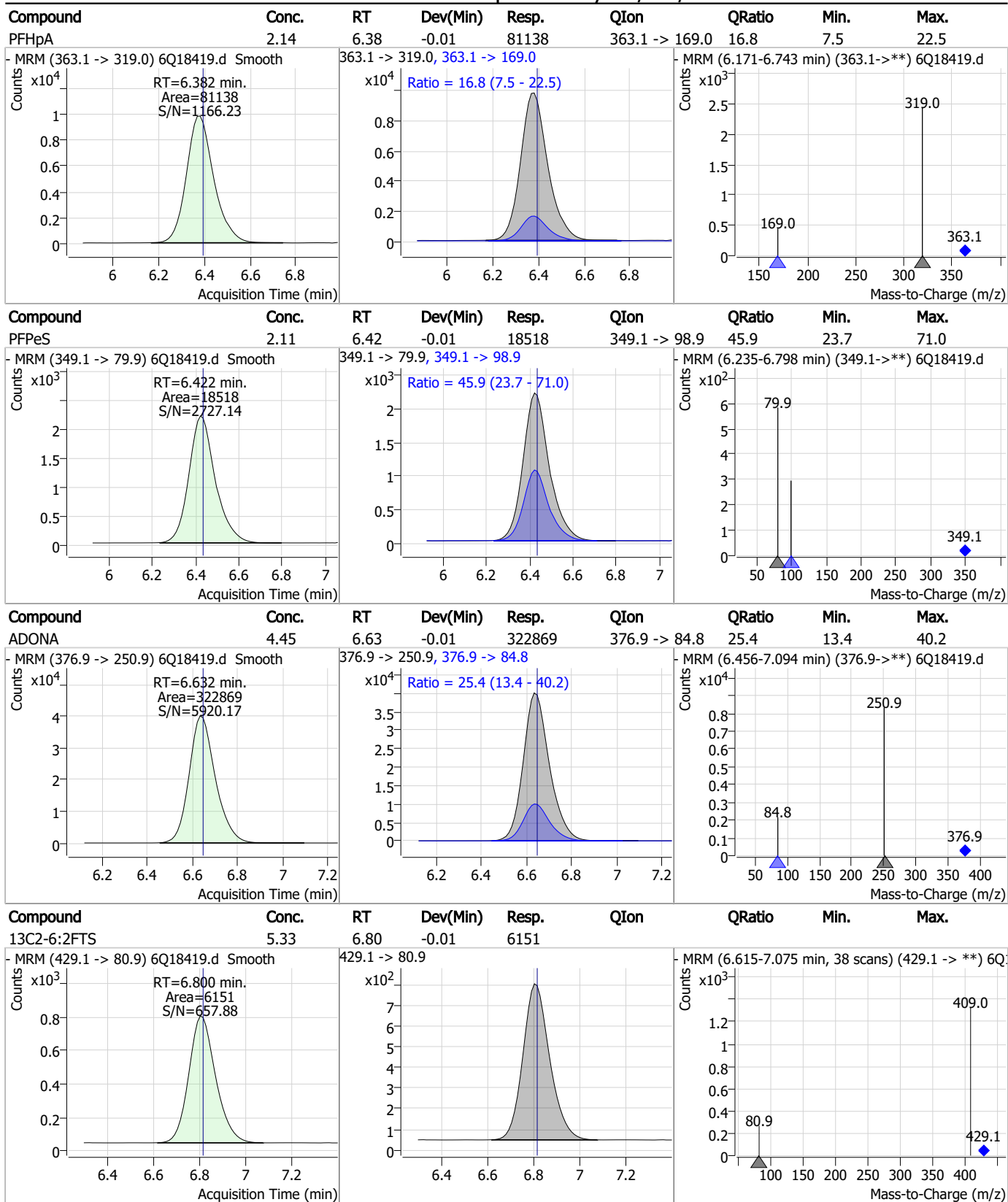
Perfluorinated Compounds by LC/MS/MS



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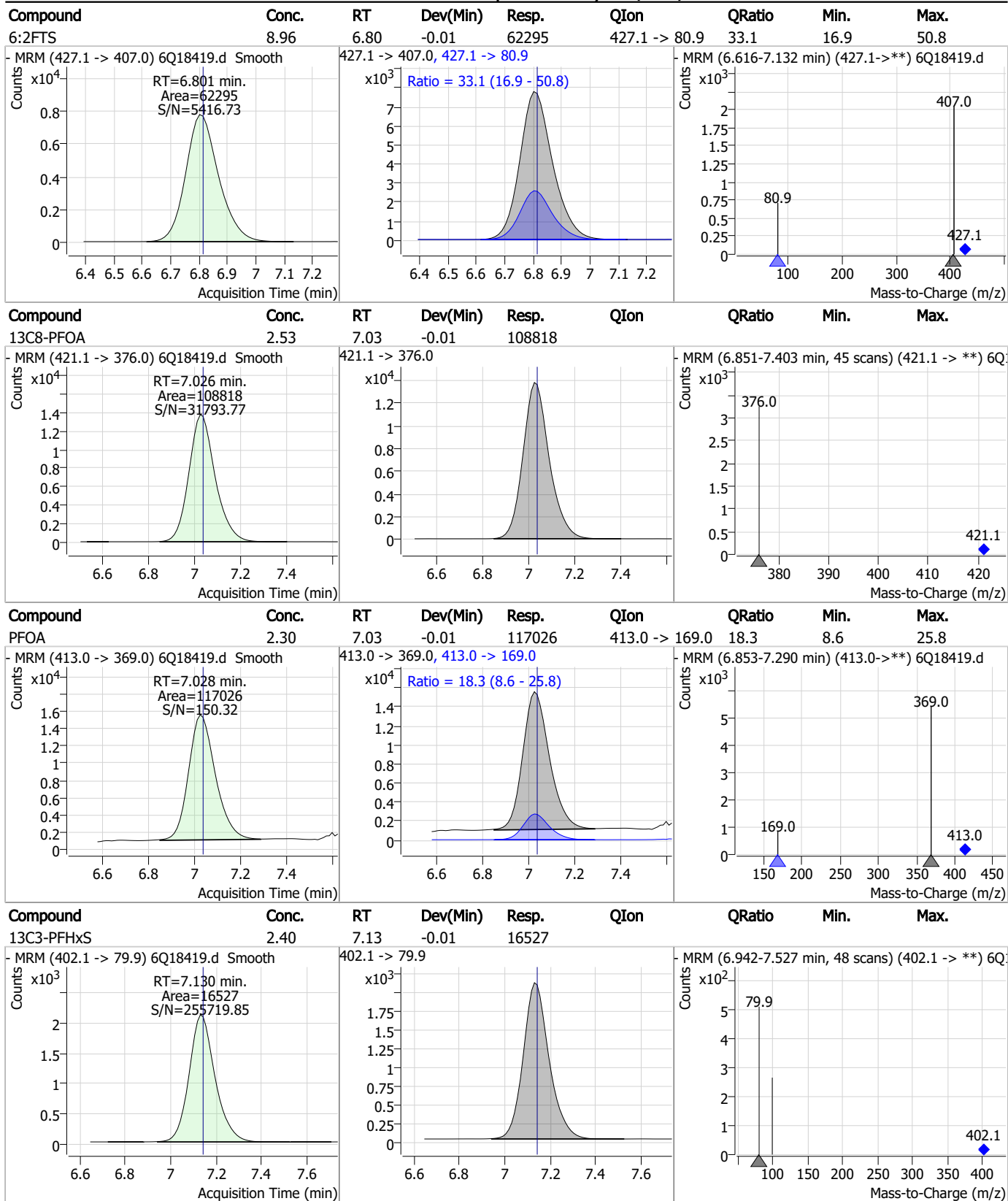
Perfluorinated Compounds by LC/MS/MS



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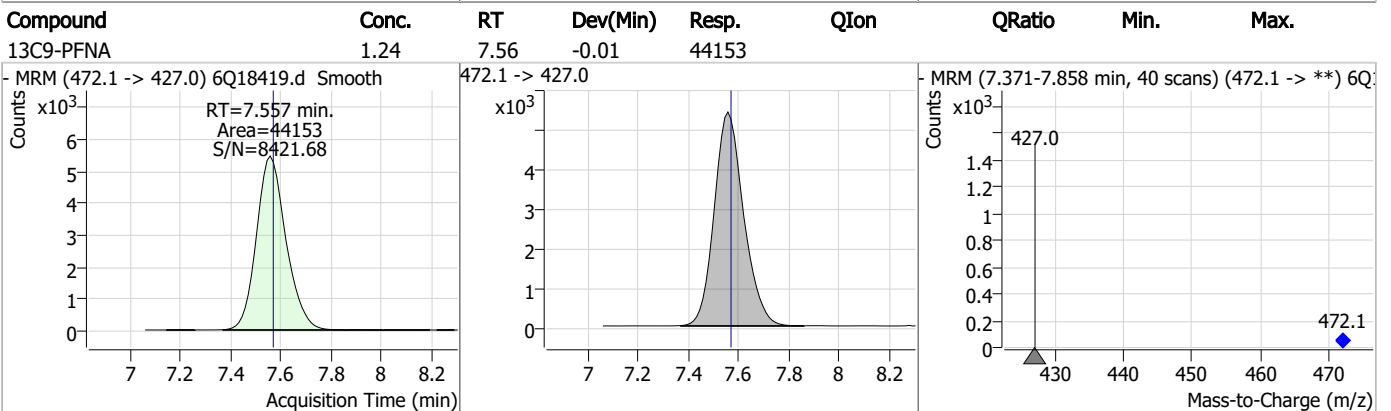
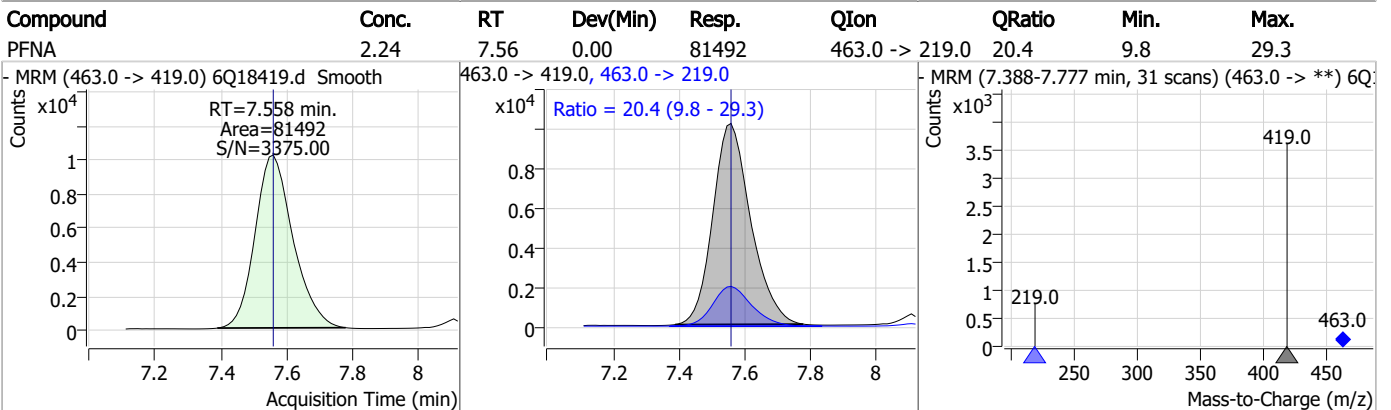
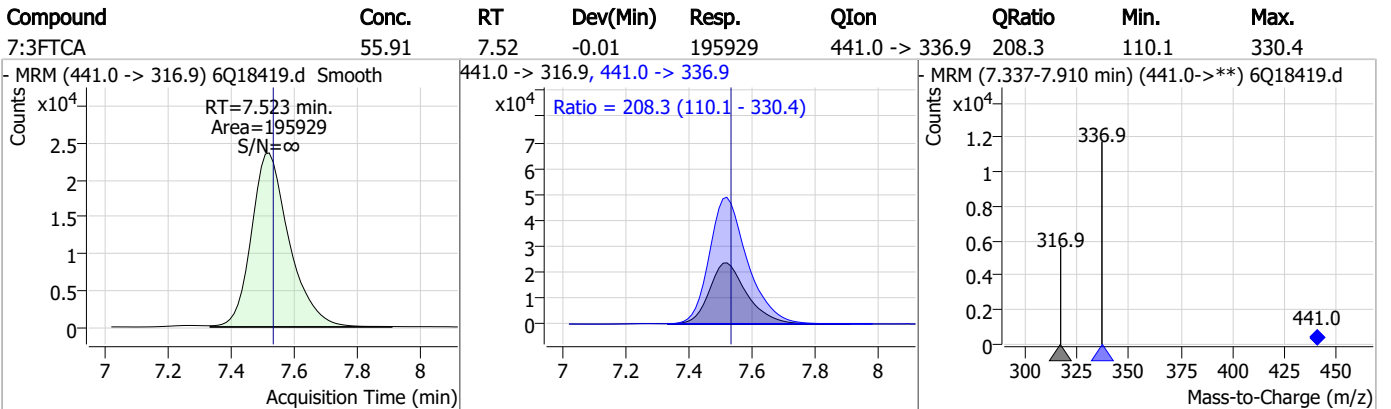
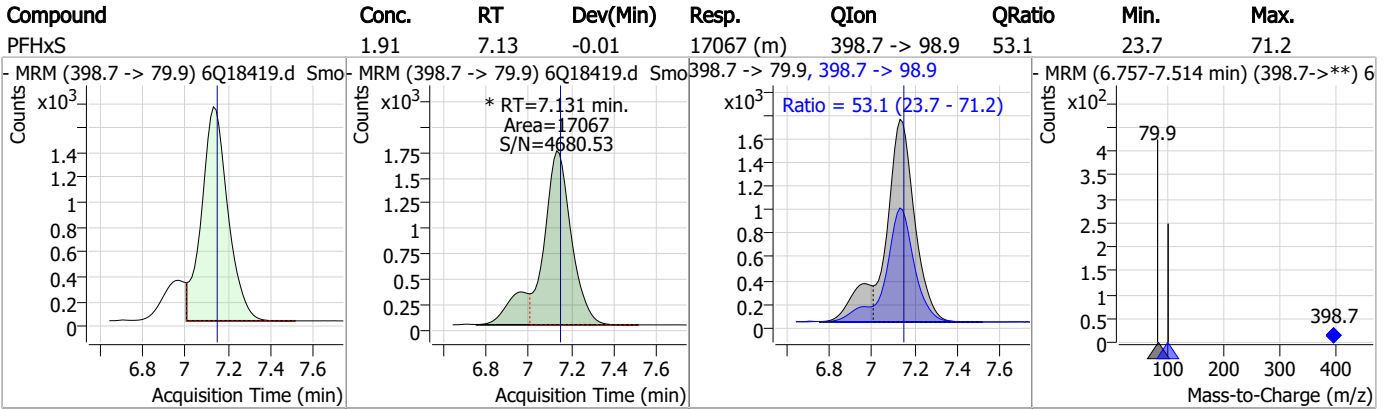


Perfluorinated Compounds by LC/MS/MS

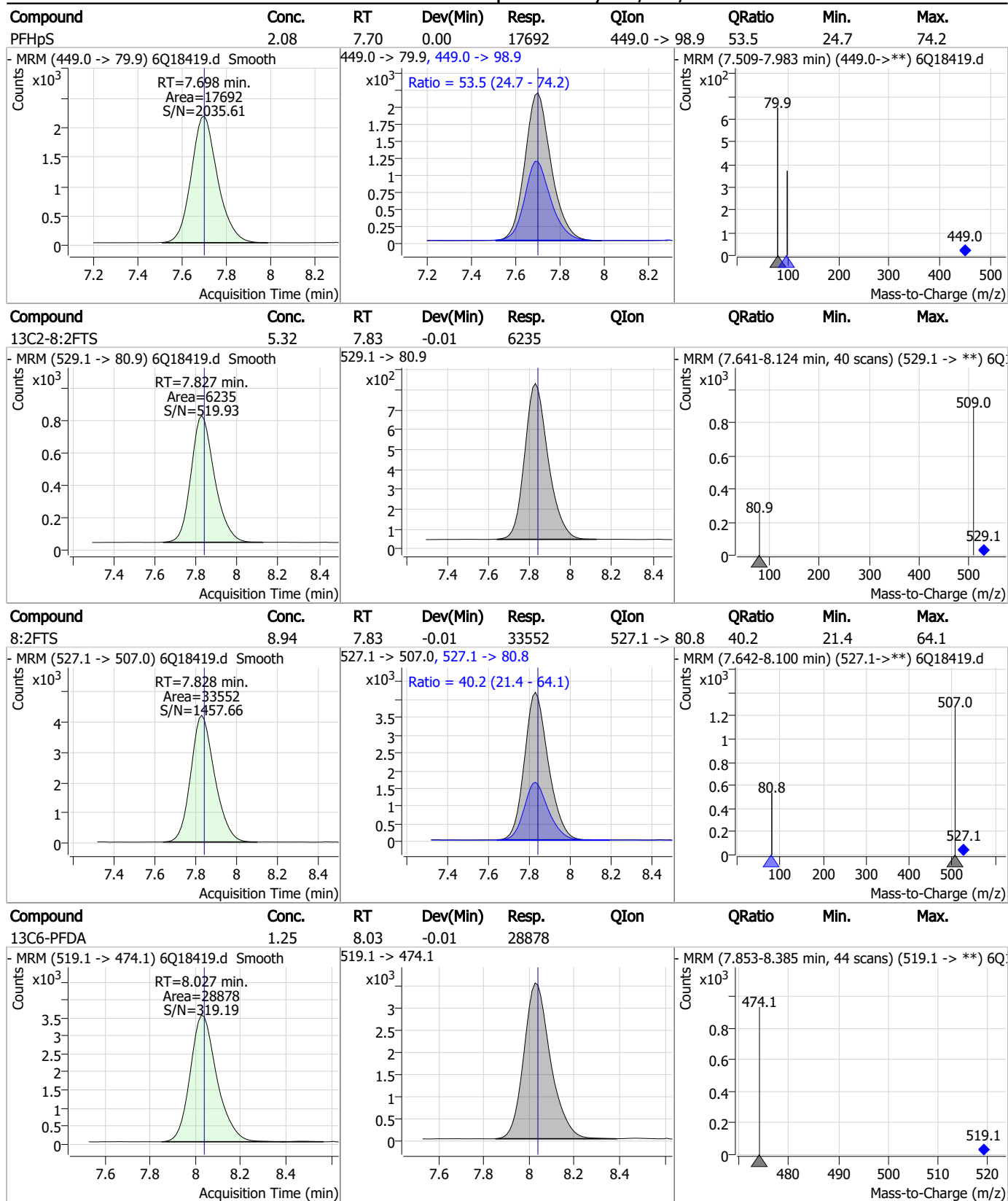


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Perfluorinated Compounds by LC/MS/MS



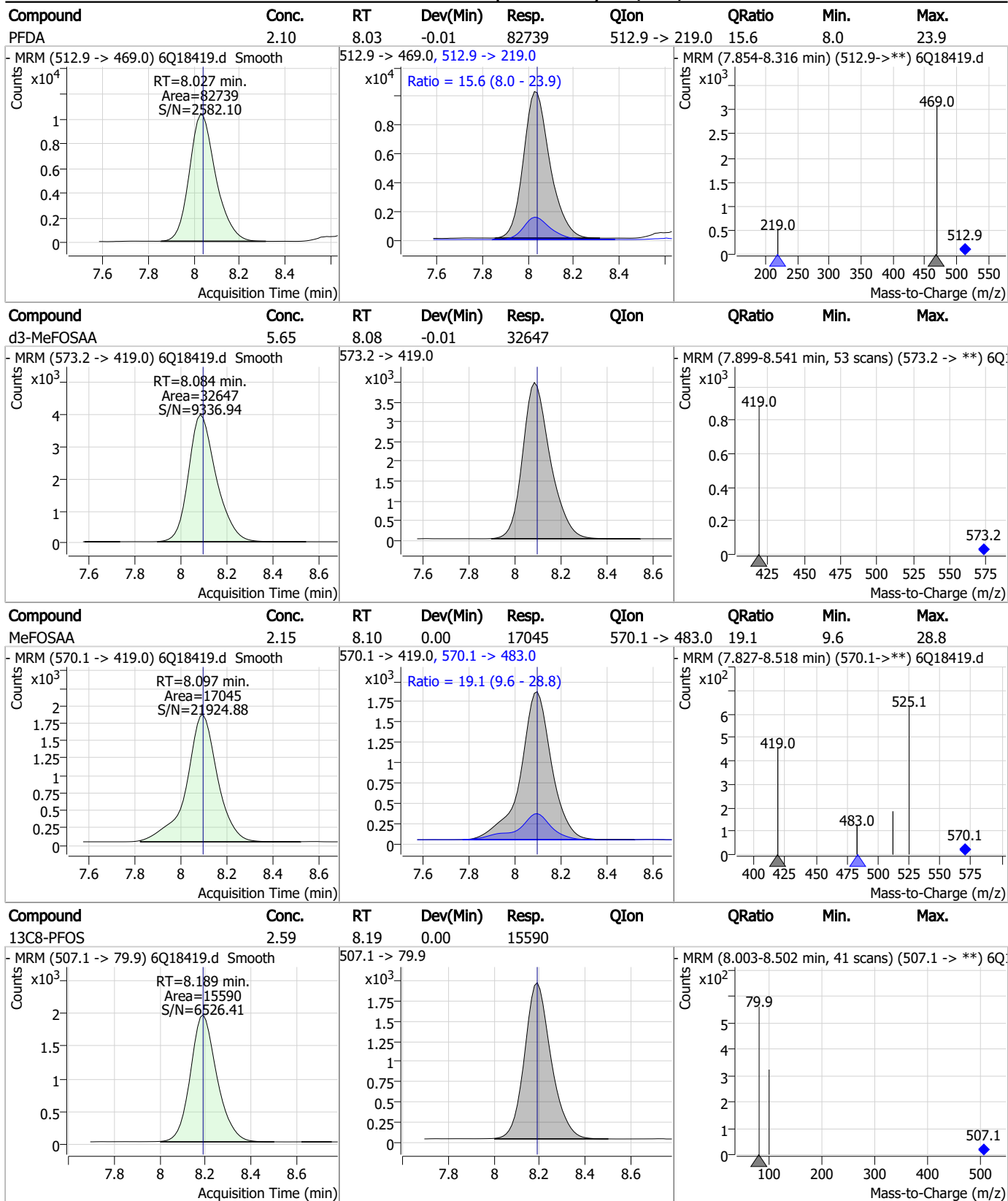
Perfluorinated Compounds by LC/MS/MS



7.7.22

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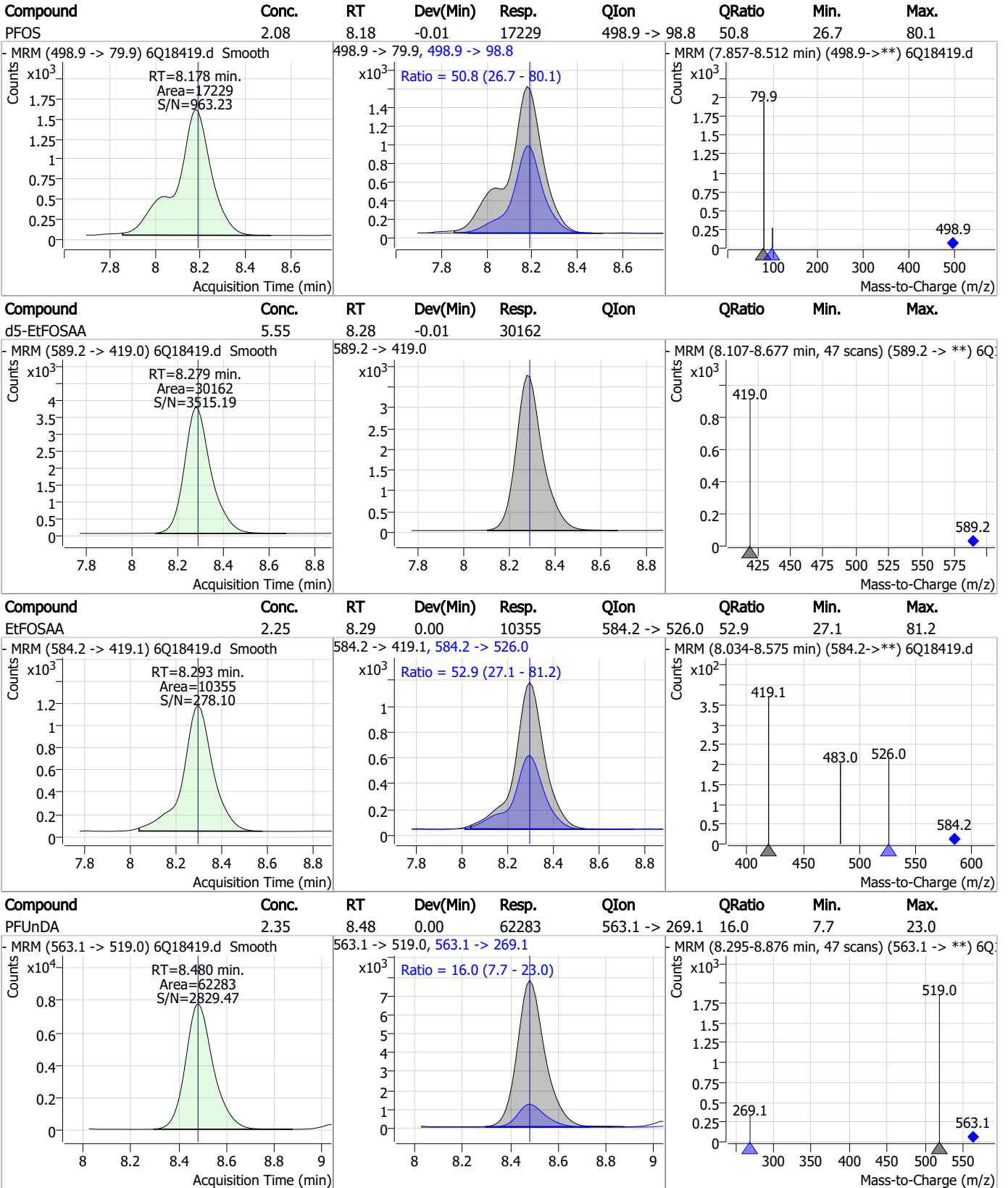
Perfluorinated Compounds by LC/MS/MS



7.7.22

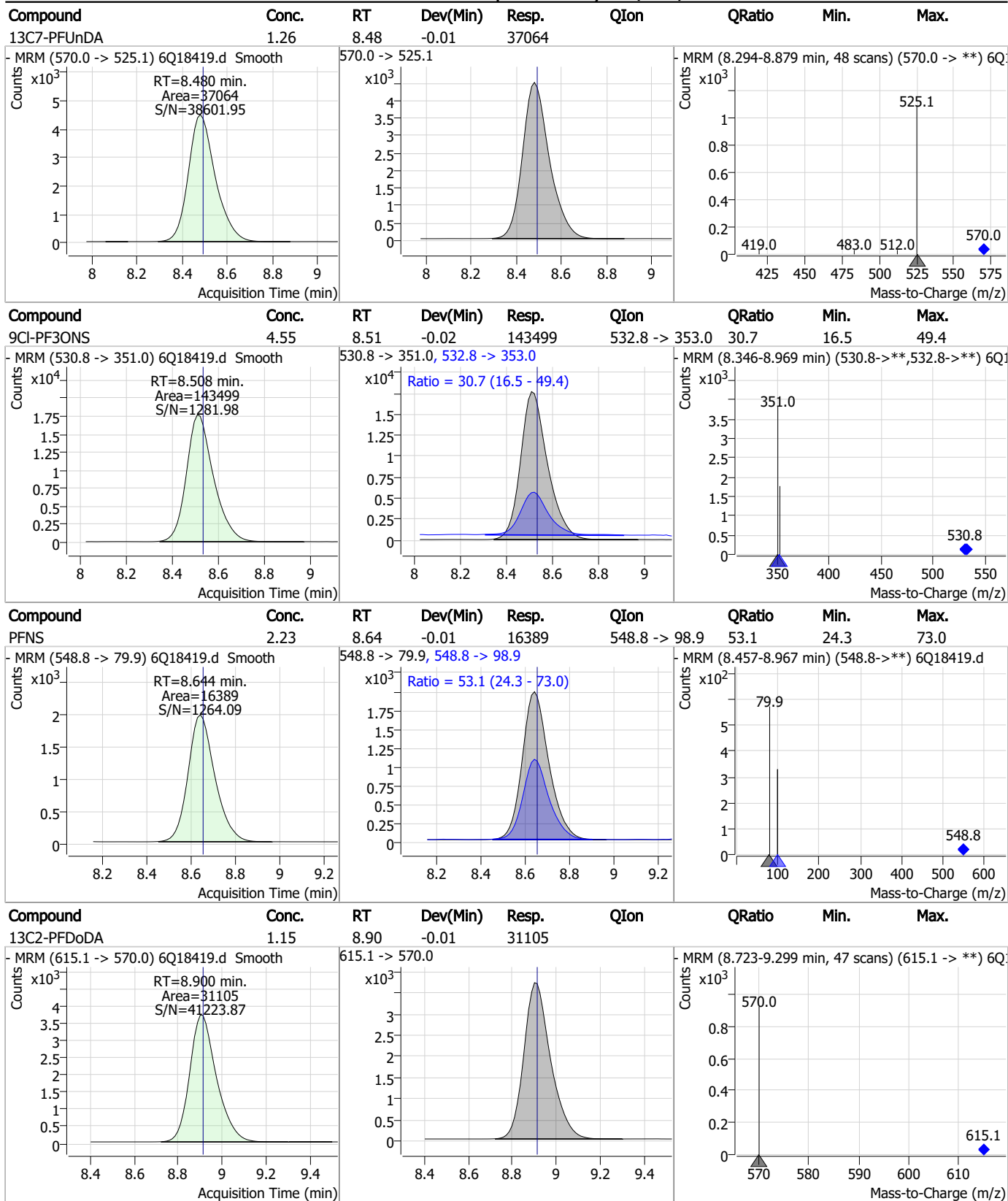
7

Perfluorinated Compounds by LC/MS/MS



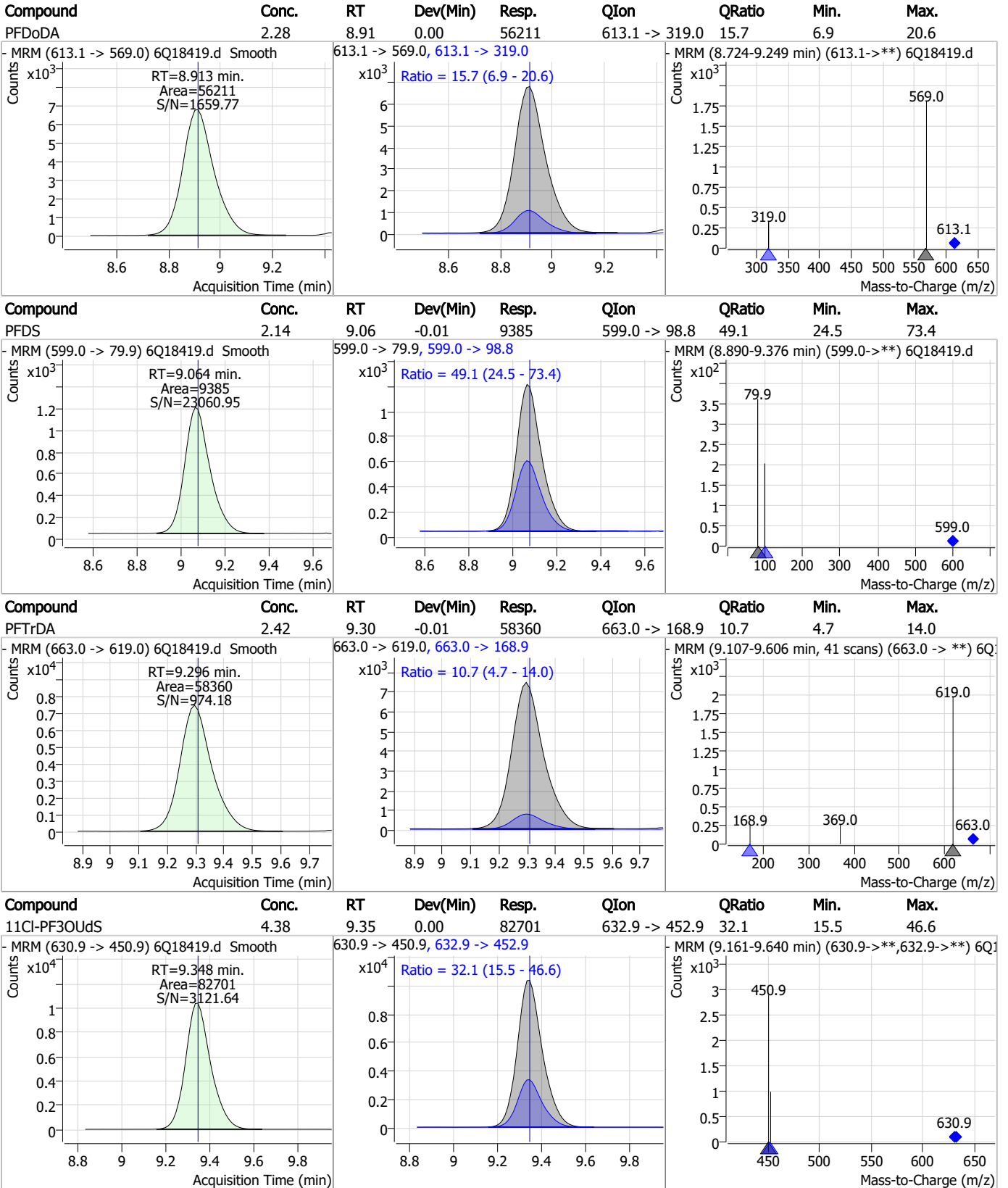
7.7.22 7

Perfluorinated Compounds by LC/MS/MS



7.7.22

Perfluorinated Compounds by LC/MS/MS

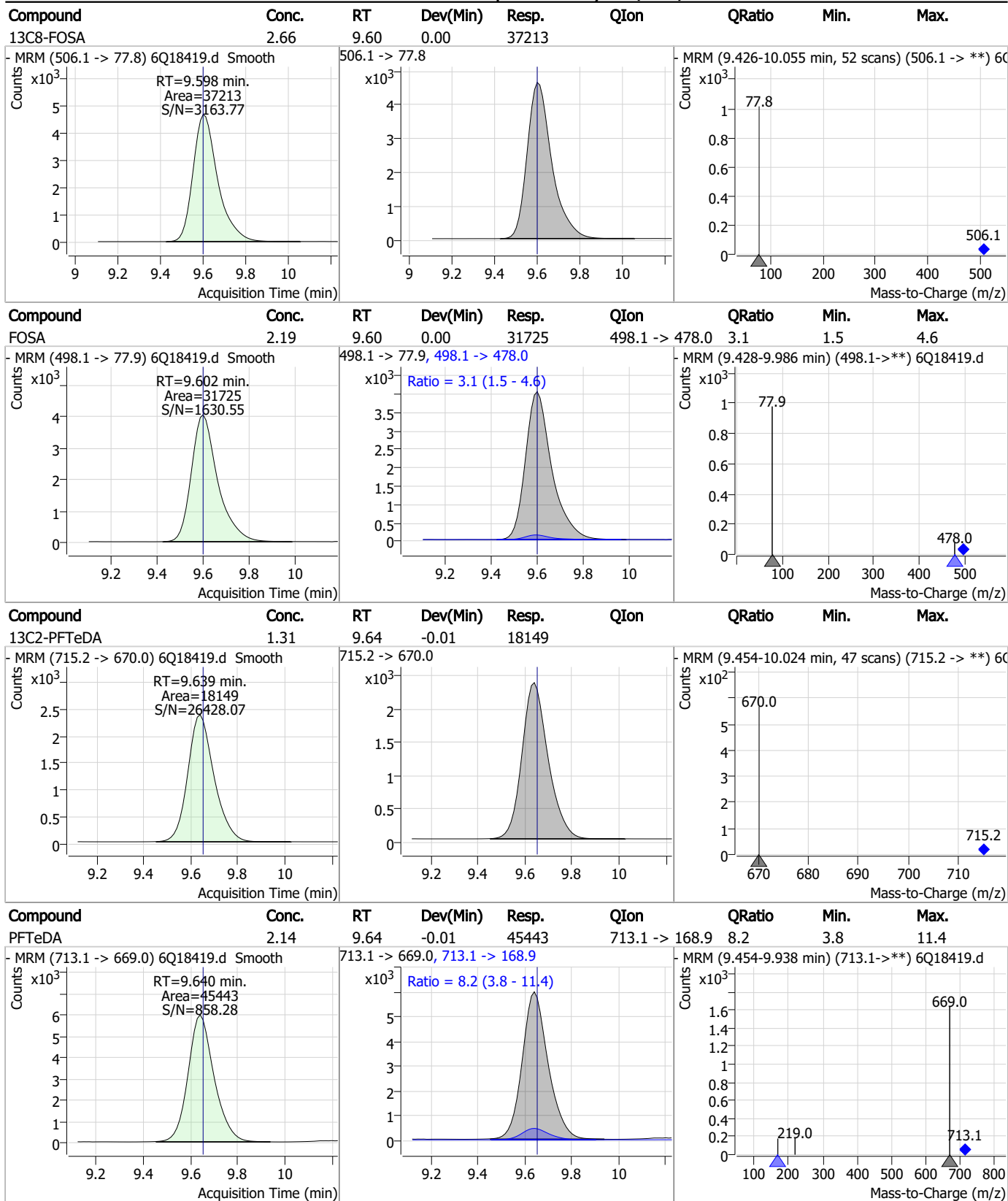


7.7.22

7

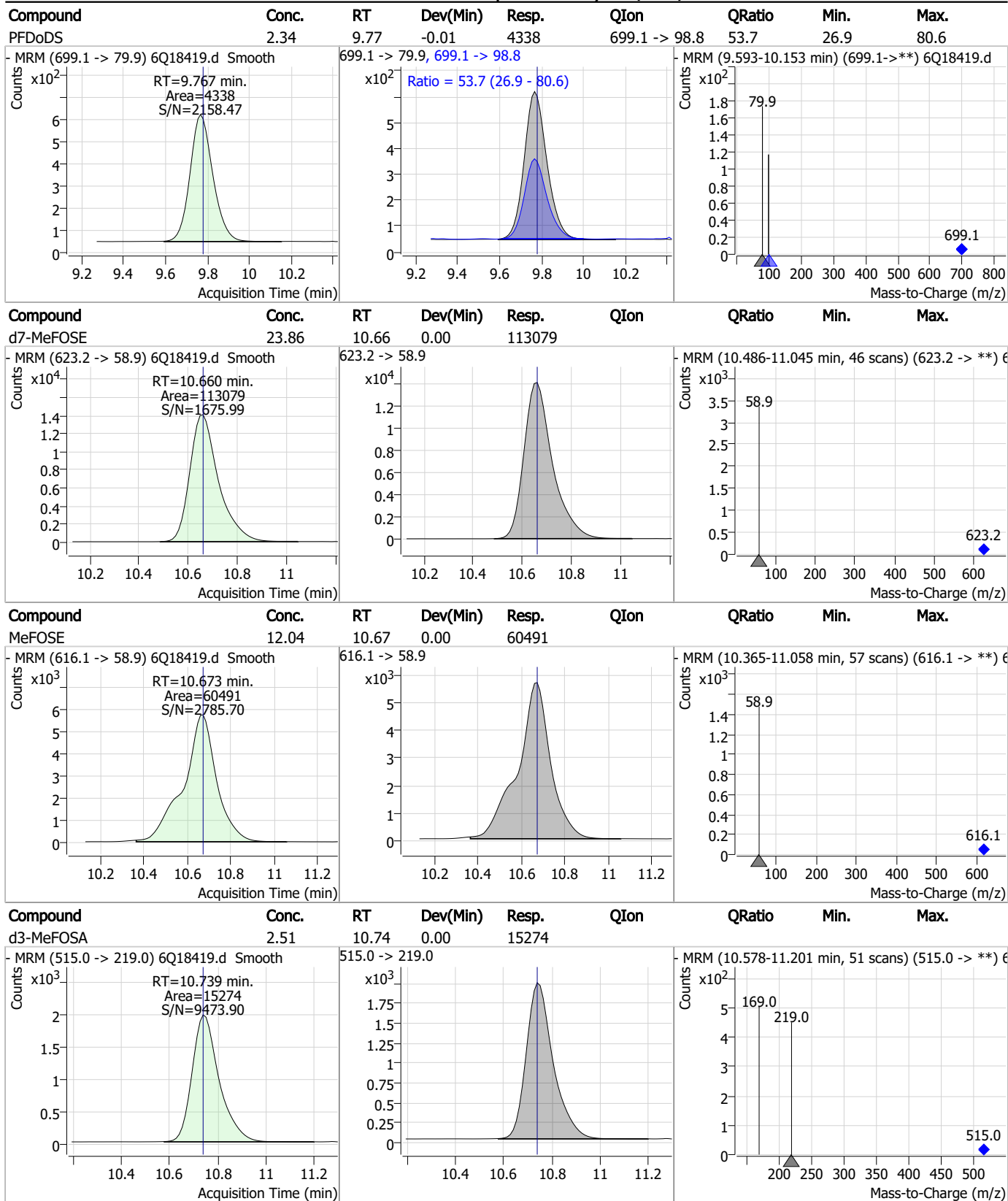


Perfluorinated Compounds by LC/MS/MS



7.7.22

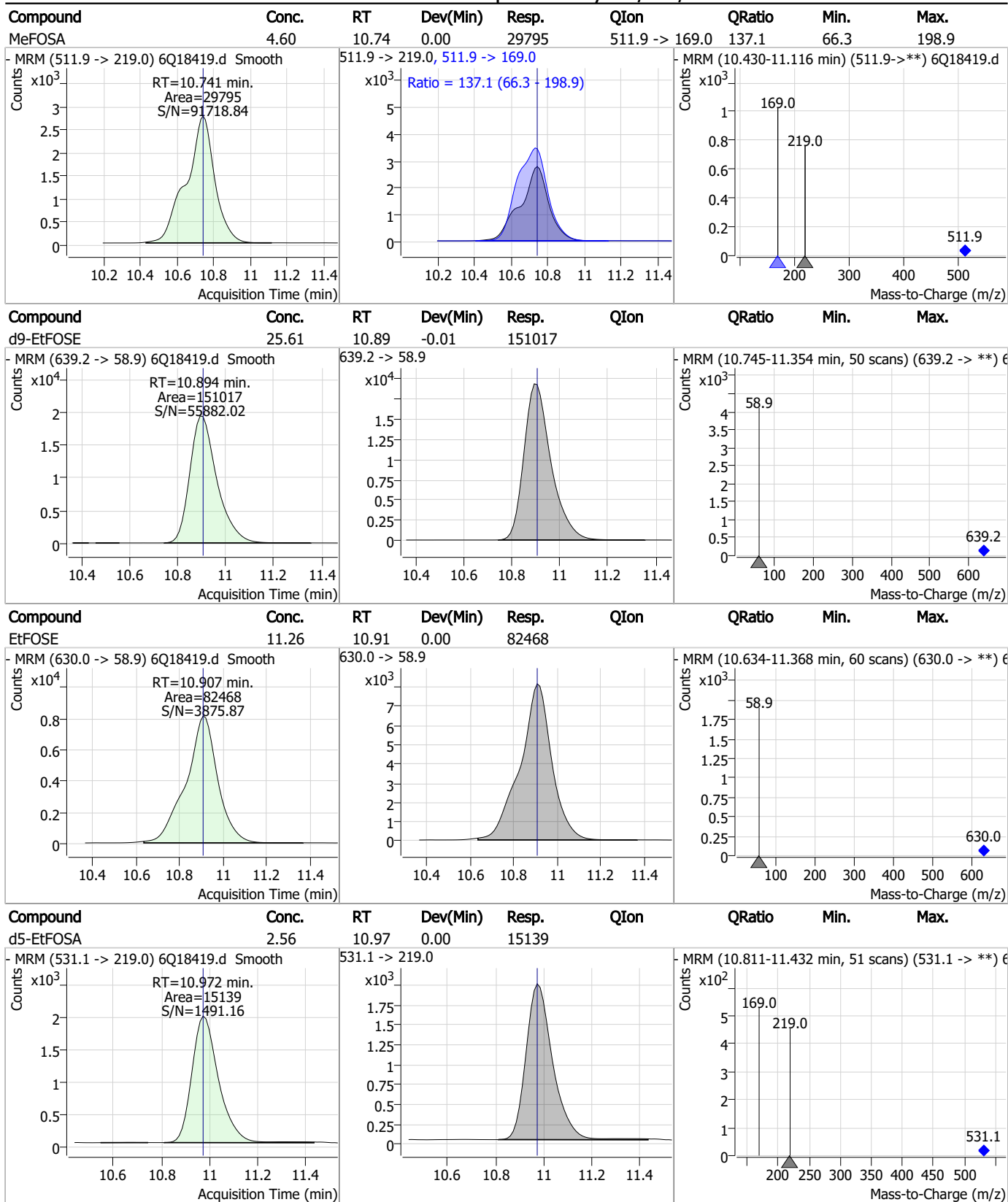
Perfluorinated Compounds by LC/MS/MS



7.7.22

7

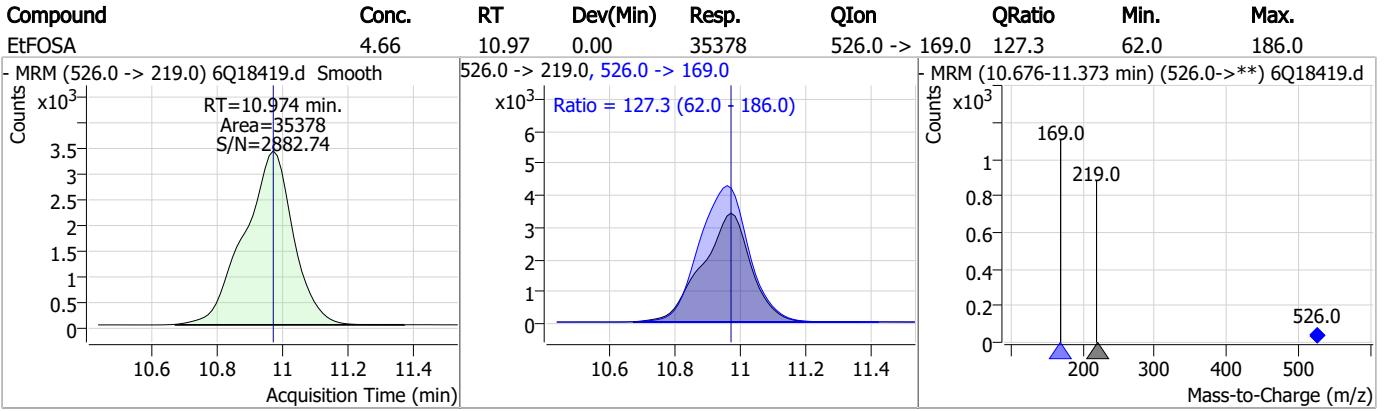
Perfluorinated Compounds by LC/MS/MS



7.7.22

7

Perfluorinated Compounds by LC/MS/MS



7.7.22
7

Manual Integration Approval Summary

Sample Number: S6Q276-CC275 Method: EPA DRAFT 1633
Lab FileID: 6Q18419.D Analyst approved: 05/26/23 13:10 Natasha Gumtie
Injection Time: 05/25/23 18:51 Supervisor approved: 05/28/23 09:00 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.13	Split peak

7.7.22.1

7

SGS ORLANDO

DATE:	05/23/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_052323_S6Q275
CAL DATE:	05/23/23
ANALYST:	M. Valls
RUN BATCH:	S6Q275

ELUENT A LOT #:	ACN 220228
ELUENT B LOT #:	HPLC WATER LOT: 224870 W15% ACN 220225 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2107C
ICV STD LOT #:	LCMS 2107C/2100B
ISTD/ID STD LOT #:	11765/11764

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q18222a.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
2	6Q18223a.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
3	6Q18224a.d	P1-B3	RT TDCA	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
4	6Q18225a.d	P1-B4	RT BR-LN	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
5	6Q18226a.d	P1-A1	ic275-0	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
6	6Q18227a.d	P1-A2	ic275-1	1633full.m	Calibration	1.6/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
7	6Q18228a.d	P1-A3	ic275-2	1633full.m	Calibration	3.2/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
8	6Q18229a.d	P1-A4	ic275-3	1633full.m	Calibration	10/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
9	6Q18230a.d	P1-A5	icc275-4	1633full.m	Calibration	20/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
10	6Q18231a.d	P1-A6	ic275-5	1633full.m	Calibration	40/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
11	6Q18232a.d	P1-A7	ic275-6	1633full.m	Calibration	100/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
12	6Q18233a.d	P1-A8	ic275-7	1633full.m	Calibration	200/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
13	6Q18234a.d	P1-A9	ic275-8	1633full.m	Calibration	1x	OP96663.S6Q275.500,,,5.0,1,.water	✓
14	6Q18235a.d	P1-A1	iblk	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
15	6Q18236a.d	P1-B1	icv275-4	1633full.m	QC	20/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
16	6Q18237a.d	P1-B2	icv275-20	1633full.m	QC	100/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
17	6Q18238a.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
18	6Q18239a.d	P1-A2	cc275-1.0LL	1633full.m	QC	1.6/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
19	6Q18240a.d	P3-F1	op97001-bs	1633full.m	Sample		OP97001.S6Q275.500,,,5.0,1,.water	✓
20	6Q18241a.d	P3-F2	op97001-llbs:2	1633full.m	Sample		OP97001.S6Q275.500,,,5.0,1,.water	✓
21	6Q18242a.d	P3-F3	op97001-mb	1633full.m	Sample		OP97001.S6Q275.500,,,5.0,1,.water	✓
22	6Q18243a.d	P3-F4	JD65440-1	1633full.m	Sample		OP97001.S6Q275.60,,,5.0,1,.water	✓
23	6Q18244a.d	P3-F7	FC5501-14	1633full.m	Sample		OP96916.S6Q275.10,,,5.0,1,.water	original sample, surr failing
24	6Q18245a.d	P3-F8	FC5501-15	1633full.m	Sample		OP96916.S6Q275.100,,,5.0,1,.water	original sample, surr failing
25	6Q18246a.d	P3-F9	FC5501-15	1633full.m	Sample	100/500	OP96916.S6Q275.100,,,5.0,5,.water	not use.
26	6Q18247a.d	P1-F1	FC5501-15	1633full.m	Sample	100/500	OP96984.S6Q275.100,,,5.0,5,.water	✓
27	6Q18248a.d	P1-F2	FC5501-12	1633full.m	Sample	100/500	OP96916.S6Q275.500,,,5.0,5,.water	to verify only
28	6Q18249a.d	P1-F3	op96916-dup	1633full.m	Sample	100/500	OP96916.S6Q275.500,,,5.0,5,.water	to verify only
29	6Q18250a.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663.S6Q275.500,,,5.0,1,.water	✓
30	6Q18251a.d	P1-A1	iccb	1633full.m	Sample		OP96663.S6Q275.500,,,5.0,1,.water	✓
31	6Q18252a.d	P2-D3	op96958-bs	1633full.m	Sample		OP96958.S6Q275.500,,,5.0,1,.water	✓
32	6Q18253a.d	P2-D4	op96958-llbs:3	1633full.m	Sample		OP96958.S6Q275.500,,,5.0,1,.water	✓
33	6Q18254a.d	P2-D5	op96958-mb	1633full.m	Sample		OP96958.S6Q275.500,,,5.0,1,.water	✓
34	6Q18255a.d	P2-D6	FC5649-1	1633full.m	Sample		OP96958.S6Q275.550,,,5.0,1,.water	✓
35	6Q18256a.d	P2-D7	FC5649-2	1633full.m	Sample		OP96958.S6Q275.550,,,5.0,1,.water	✓



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q18257a.d	P2-D8	op96958.ms	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
37	6Q18258a.d	P2-D9	FC5649-3	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
38	6Q18259a.d	P2-E1	op96958-dup	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
39	6Q18260a.d	P2-E2	FC5649-4	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
40	6Q18261a.d	P2-E3	FC5649-5	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
41	6Q18262a.d	P1-A5	cc275-4	1633full.m	QC	OP96663.S6Q275.500,,,5.0,1,water	✓
42	6Q18263a.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q275.500,,,5.0,1,water	✓
43	6Q18264a.d	P2-E4	FC5649-6	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
44	6Q18265a.d	P2-E5	FC5649-7	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
45	6Q18266a.d	P2-E6	FC5649-8	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
46	6Q18267a.d	P2-E7	FC5649-9	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
47	6Q18268a.d	P2-E8	FC5649-10	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
48	6Q18269a.d	P2-E9	FC5649-11	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
49	6Q18270a.d	P2-F1	FC5649-12	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
50	6Q18271a.d	P2-F2	FC5649-13	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
51	6Q18272a.d	P2-F3	FC5649-14	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
52	6Q18273a.d	P2-F4	FC5649-15	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
53	6Q18274a.d	P1-A5	cc275-4	1633full.m	QC	OP96663.S6Q275.500,,,5.0,1,water	✓
54	6Q18275.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q275.500,,,5.0,1,water	✓
55	6Q18276.d	P2-F5	FC5649-16	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
56	6Q18277.d	P2-F6	FC5649-17	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
57	6Q18278.d	P2-F7	FC5649-18	1633full.m	Sample	OP96958.S6Q275.550,,,5.0,1,water	✓
58	6Q18279.d	P2-A6	FC5593-14	1633full.m	Sample	OP96940.S6Q275.585,,,5.0,5,water	✓
59	6Q18280.d	P1-A5	cc275-4	1633full.m	QC	OP96663.S6Q275.500,,,5.0,1,water	✓
60	6Q18281.d	P1-A2	cc275-1.0LL	1633full.m	QC	OP96663.S6Q275.500,,,5.0,1,water	✓
61	6Q18282.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q275.500,,,5.0,1,water	✓
62	6Q18283.d	P3-A1	op96961-bs	1633full.m	Sample	OP96961.S6Q275.500,,,5.0,1,water	✓
63	6Q18284.d	P3-A2	op96961-llbs:3	1633full.m	Sample	OP96961.S6Q275.500,,,5.0,1,water	✓
64	6Q18285.d	P3-A3	op96961-mb	1633full.m	Sample	OP96961.S6Q275.500,,,5.0,1,water	✓
65	6Q18286.d	P3-A4	FC5721-1	1633full.m	Sample	OP96961.S6Q275.535,,,5.0,1,water	✓
66	6Q18287.d	P3-A5	FC5721-2	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
67	6Q18288.d	P3-A6	FC5721-3	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
68	6Q18289.d	P3-A7	FC5721-4	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
69	6Q18290.d	P3-A8	FC5721-5	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
70	6Q18291.d	P3-A9	FC5721-6	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
71	6Q18292.d	P3-B1	FC5721-7	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
72	6Q18293.d	P1-A5	cc275-4	1633full.m	QC	OP96663.S6Q275.500,,,5.0,1,water	✓
73	6Q18294.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q275.500,,,5.0,1,water	✓
74	6Q18295.d	P3-B2	FC5721-8	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
75	6Q18296.d	P3-B3	FC5721-9	1633full.m	Sample	OP96961.S6Q275.540,,,5.0,1,water	✓
76	6Q18297.d	P3-B4	op96961-ms	1633full.m	Sample	OP96961.S6Q275.540,,,5.0,1,water	✓
77	6Q18298.d	P3-B5	FC5721-10	1633full.m	Sample	OP96961.S6Q275.545,,,5.0,1,water	✓
78	6Q18299.d	P3-B6	op96961-dup	1633full.m	Sample	OP96961.S6Q275.540,,,5.0,1,water	✓



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

79	6Q18300.d	P3-B7	FC5721-11	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
80	6Q18301.d	P3-B8	FC5721-12	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
81	6Q18302.d	P3-B9	FC5721-13	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
82	6Q18303.d	P3-C1	FC5721-14	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
83	6Q18304.d	P3-C2	FC5721-15	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	rr sample, vial empty
84	6Q18305.d	P1-A5	cc275-4	1633full.m	QC	OP96663,S6Q275,500,,,5.0,1,water	✓
85	6Q18306.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q275,500,,,5.0,1,water	✓
86	6Q18307.d	P3-C3	FC5721-16	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
87	6Q18308.d	P3-C4	FC5721-17	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
88	6Q18309.d	P3-C5	op96956-bs	1633full.m	Sample	OP96956,S6Q275,5.00,,,5.0,1,soil	✓
89	6Q18310.d	P3-C6	op96956-llbs:2	1633full.m	Sample	OP96956,S6Q275,5.00,,,5.0,1,soil	✓
90	6Q18311.d	P3-C7	op96956-mb	1633full.m	Sample	OP96956,S6Q275,5.00,,,5.0,1,soil	✓
91	6Q18312.d	P3-C8	FC5868-1	1633full.m	Sample	OP96956,S6Q275,6.04,,,5.0,1,soil	✓
92	6Q18313.d	P3-C9	JD65541-1	1633full.m	Sample	OP96956,S6Q275,5.03,,,5.0,1,soil	✓
93	6Q18314.d	P3-D1	JD65541-2	1633full.m	Sample	OP96956,S6Q275,5.01,,,5.0,1,soil	✓
94	6Q18315.d	P3-D2	JD65541-3	1633full.m	Sample	OP96956,S6Q275,5.02,,,5.0,1,soil	✓
95	6Q18316.d	P3-D3	JD65541-4	1633full.m	Sample	OP96956,S6Q275,5.00,,,5.0,1,soil	✓
96	6Q18317.d	P1-A5	cc275-4	1633full.m	QC	OP96663,S6Q275,500,,,5.0,1,water	✓
97	6Q18318.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q275,500,,,5.0,1,water	✓
98	6Q18319.d	P3-D4	JD65541-5	1633full.m	Sample	OP96956,S6Q275,5.03,,,5.0,1,soil	✓
99	6Q18320.d	P3-D5	JD65541-6	1633full.m	Sample	OP96956,S6Q275,4.98,,,5.0,1,soil	✓
100	6Q18321.d	P3-D6	JD65541-7	1633full.m	Sample	OP96956,S6Q275,5.02,,,5.0,1,soil	✓
101	6Q18322.d	P3-D7	op96956-ms	1633full.m	Sample	OP96956,S6Q275,5.00,,,5.0,1,soil	✓
102	6Q18323.d	P3-D8	op96956-msd	1633full.m	Sample	OP96956,S6Q275,4.99,,,5.0,1,soil	✓
103	6Q18324.d	P3-C2	FC5721-15	1633full.m	Sample	OP96961,S6Q275,545,,,5.0,1,water	✓
104	6Q18325.d	P1-A5	Ecc275-4	1633full.m	QC	OP96663,S6Q275,500,,,5.0,1,water	✓
105	6Q18326.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q275,500,,,5.0,1,water	✓
106	6Q18327.d	P1-F1	Test level 1	1633full.m	Sample	OP96663,S6Q275,500,,,5.0,1,water	✓

SGS ORLANDO

DATE:	05/24/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_052323_S6Q275
CAL DATE:	05/23/23
ANALYST:	M.Valls MRE
RUN BATCH:	S6Q276

ELUENT A LOT #:	ACN 220228
ELUENT B LOT #:	HPLC WATER LOT: 224870 W15% ACN 220225 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2107C
ICV STD LOT #:	LCMS 2107C/2100B
ISTD/ID STD LOT #:	11765/11764

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
111	6Q18332.d	P1-B9	CCB	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
112	6Q18333.d	P1-B9	CCB	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
113	6Q18334.d	P1-B3	RT TDCA	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
114	6Q18335.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
115	6Q18336.d	P1-A9	High Std	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
116	6Q18337.d	P1-A1	iblk	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
117	6Q18338.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP97028,S6Q276,500,,,5.0,1,,water	✓
118	6Q18339.d	P1-A2	cc275-1.0LL	1633full.m	QC	1.6/500	OP97028,S6Q276,500,,,5.0,1,,water	✓
119	6Q18340.d	P4-A1	op97028-bs	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
120	6Q18341.d	P4-A2	op97028-llbs:3	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
121	6Q18342.d	P4-A3	op97028-mb	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
122	6Q18343.d	P4-A4	FC5560-6	1633full.m	Sample		OP97028,S6Q276,570,,,5.0,1,,water	CF
123	6Q18344.d	P4-A5	FC5560-10	1633full.m	Sample		OP97028,S6Q276,570,,,5.0,1,,water	CF
124	6Q18345.d	P4-A6	FC5567-10	1633full.m	Sample		OP97028,S6Q276,560,,,5.0,1,,water	CF
125	6Q18346.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276,500,,,5.0,1,,water	✓
126	6Q18347.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
127	6Q18348.d	P4-A7	op97007-bs	1633full.m	Sample		OP97007,S6Q276,500,,,5.0,1,,water	✓
128	6Q18349.d	P4-A8	op97007-llbs:3	1633full.m	Sample		OP97007,S6Q276,500,,,5.0,1,,water	✓
129	6Q18350.d	P4-A9	op97007-mb	1633full.m	Sample		OP97007,S6Q276,500,,,5.0,1,,water	✓
130	6Q18351.d	P4-B1	FC6217-1	1633full.m	Sample		OP97007,S6Q276,570,,,5.0,1,,water	✓
131	6Q18352.d	P4-B2	FC6217-2	1633full.m	Sample		OP97007,S6Q276,560,,,5.0,1,,water	✓
132	6Q18353.d	P4-B3	FC6238-1	1633full.m	Sample		OP97007,S6Q276,550,,,5.0,1,,water	✓
133	6Q18354.d	P4-B4	FC6238-2	1633full.m	Sample		OP97007,S6Q276,560,,,5.0,1,,water	✓
134	6Q18355.d	P4-B5	FC6238-3	1633full.m	Sample		OP97007,S6Q276,580,,,5.0,1,,water	✓
135	6Q18356.d	P4-B6	op97007-ms	1633full.m	Sample		OP97007,S6Q276,550,,,5.0,1,,water	✓
136	6Q18357.d	P4-B7	FC6238-4	1633full.m	Sample		OP97007,S6Q276,560,,,5.0,1,,water	✓
137	6Q18358.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276,500,,,5.0,1,,water	✓
138	6Q18359.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276,500,,,5.0,1,,water	✓
139	6Q18360.d	P4-B8	FC6238-5	1633full.m	Sample		OP97007,S6Q276,500,,,5.0,1,,water	✓
140	6Q18361.d	P4-B9	op97007-dup	1633full.m	Sample		OP97007,S6Q276,570,,,5.0,1,,water	✓
141	6Q18362.d	P4-C1	op96980-bs	1633full.m	Sample		OP96980,S6Q276,500,,,5.0,1,,water	✓
142	6Q18363.d	P4-C2	op96980-llbs:3	1633full.m	Sample		OP96980,S6Q276,500,,,5.0,1,,water	✓
143	6Q18364.d	P4-C3	op96980-mb	1633full.m	Sample		OP96980,S6Q276,500,,,5.0,1,,water	✓
144	6Q18365.d	P4-C4	FC5883-1	1633full.m	Sample		OP96980,S6Q276,555,,,5.0,1,,water	✓
145	6Q18366.d	P4-C5	FC5883-2	1633full.m	Sample		OP96980,S6Q276,550,,,5.0,1,,water	✓

LCMS6-6Q ANALYSIS LOG

SGS ORLANDO

146	6Q18367.d	P4-C6	FC5884-1	1633full.m	Sample		OP96980,S6Q276.555,,,5.0,1,water	✓
147	6Q18368.d	P4-C7	FC5885-1	1633full.m	Sample		OP96980,S6Q276.480,,,5.0,1,water	✓
148	6Q18369.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276.500,,,5.0,1,water	✓
149	6Q18370.d	P1-A2	cc275-1.0LL	1633full.m	QC	1.6/500	OP97028,S6Q276.500,,,5.0,1,water	✓
150	6Q18371.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
151	6Q18372.d	P4-C8	FC5885-2	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
152	6Q18373.d	P4-C9	op96980-msd	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
153	6Q18374.d	P4-D1	op96980-msd	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
154	6Q18375.d	P4-D2	FC5885-3	1633full.m	Sample		OP96980,S6Q276.535,,,5.0,1,water	✓
155	6Q18376.d	P4-D3	FC5885-4	1633full.m	Sample		OP96980,S6Q276.550,,,5.0,1,water	✓
156	6Q18377.d	P4-D4	FC5885-5	1633full.m	Sample		OP96980,S6Q276.450,,,5.0,1,water	✓
157	6Q18378.d	P1-B3	RT TDCA	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
158	6Q18379.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
159	6Q18380.d	P1-A9	High Std	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
160	6Q18381.d	P1-A1	iblk	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
161	6Q18382.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276.500,,,5.0,1,water	✓
162	6Q18383.d	P1-A2	cc275-1.0LL	1633full.m	QC	1	OP97028,S6Q276.500,,,5.0,1,water	✓
163	6Q18384.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
164	6Q18385.d	P4-C8	FC5885-2	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
165	6Q18386.d	P4-C9	op96980-ms	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
166	6Q18387.d	P4-D1	op96980-msd	1633full.m	Sample		OP96980,S6Q276.485,,,5.0,1,water	✓
167	6Q18388.d	P4-D2	FC5885-3	1633full.m	Sample		OP96980,S6Q276.535,,,5.0,1,water	✓
168	6Q18389.d	P4-D3	FC5885-4	1633full.m	Sample		OP96980,S6Q276.550,,,5.0,1,water	✓
169	6Q18390.d	P4-D4	FC5885-5	1633full.m	Sample		OP96980,S6Q276.450,,,5.0,1,water	✓
170	6Q18391.d	P4-D5	FC5885-6	1633full.m	Sample		OP96980,S6Q276.510,,,5.0,1,water	✓
171	6Q18392.d	P4-D6	FC5885-7	1633full.m	Sample		OP96980,S6Q276.540,,,5.0,1,water	✓
172	6Q18393.d	P4-D7	FC5885-8	1633full.m	Sample		OP96980,S6Q276.530,,,5.0,1,water	✓
173	6Q18394.d	P4-D8	FC5885-9	1633full.m	Sample		OP96980,S6Q276.530,,,5.0,1,water	✓
174	6Q18395.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276.500,,,5.0,1,water	✓
175	6Q18396.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
176	6Q18397.d	P4-D9	FC5885-10	1633full.m	Sample		OP96980,S6Q276.565,,,5.0,1,water	✓
177	6Q18398.d	P4-E1	op96978-bs	1633full.m	Sample		OP96978,S6Q276.500,,,5.0,1,water	✓
178	6Q18399.d	P4-E2	op96978-llbs:2	1633full.m	Sample		OP96978,S6Q276.500,,,5.0,1,water	✓
179	6Q18400.d	P4-E3	op96978-mb	1633full.m	Sample		OP96978,S6Q276.500,,,5.0,1,water	✓
180	6Q18401.d	P4-E4	FC5808-1	1633full.m	Sample		OP96978,S6Q276.510,,,5.0,1,water	✓
181	6Q18402.d	P4-E5	op96978-ms	1633full.m	Sample		OP96978,S6Q276.470,,,5.0,1,water	✓
182	6Q18403.d	P4-E6	FC5808-2	1633full.m	Sample		OP96978,S6Q276.570,,,5.0,1,water	✓
183	6Q18404.d	P4-E7	FC5808-3	1633full.m	Sample		OP96978,S6Q276.540,,,5.0,1,water	✓
184	6Q18405.d	P4-E8	op96978-dup	1633full.m	Sample		OP96978,S6Q276.520,,,5.0,1,water	✓
185	6Q18406.d	P4-E9	FC5808-4	1633full.m	Sample		OP96978,S6Q276.550,,,5.0,1,water	✓
186	6Q18407.d	P1-A5	cc275-4	1633full.m	QC	20/500	OP96663,S6Q276.500,,,5.0,1,water	✓
187	6Q18408.d	P1-A1	iccb	1633full.m	Sample		OP97028,S6Q276.500,,,5.0,1,water	✓
188	6Q18409.d	P4-F1	FC5836-1	1633full.m	Sample		OP96978,S6Q276.540,,,5.0,1,water	✓

LCMS6-6Q ANALYSIS LOG

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189	6Q18410.d	P4-F2	FC5836-2	1633full.m	Sample	OP96978,S6Q276,540,,,5.0,1,water	✓
190	6Q18411.d	P4-F3	FC5836-3	1633full.m	Sample	OP96978,S6Q276,530,,,5.0,1,water	✓
191	6Q18412.d	P4-F4	FC5879-1	1633full.m	Sample	OP96978,S6Q276,570,,,5.0,1,water	✓
192	6Q18413.d	P4-F5	FC6157-1	1633full.m	Sample	OP96978,S6Q276,60,,,5.0,1,water	✓
193	6Q18414.d	P4-F6	FC6157-1A	1633full.m	Sample	OP96978,S6Q276,60,,,5.0,1,water	✓
194	6Q18415.d	P4-F7	opo97007-ms	1633full.m	Sample	OP97007,S6Q276,500,,,5.0,2,water	✓
195	6Q18416.d	P4-F8	FC5885-5	1633full.m	Sample	OP96980,S6Q276,450,,,5.0,1,water	✓
196	6Q18417.d	P4-F9	FC5885-4	1633full.m	Sample	OP96980,S6Q276,550,,,5.0,10,water	Redo lower volume
197	6Q18418.d	P1-A2	cc275-1.0LL	1633full.m	QC	OP97028,S6Q276,500,,,5.0,1,water	✓
198	6Q18419.d	P1-A5	cc275-4	1633full.m	QC	OP96663,S6Q276,500,,,5.0,1,water	✓
199	6Q18420.d	P1-A1	iccb	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	✓
200	6Q18421.d	P3-D9	opo96957-bs	1633full.m	Sample	OP96957,S6Q276,5.00,,,5.0,1,soil	✓
201	6Q18422.d	P3-E1	opo96957-lbs:3	1633full.m	Sample	OP96957,S6Q276,5.00,,,5.0,1,soil	✓
202	6Q18423.d	P3-E2	opo96957-mb	1633full.m	Sample	OP96957,S6Q276,5.00,,,5.0,1,soil	✓
203	6Q18424.d	P3-E3	FC5956-2	1633full.m	Sample	OP96957,S6Q276,4.95,,,5.0,10,soil	✓
204	6Q18425.d	P3-E4	FC6114-1	1633full.m	Sample	OP96957,S6Q276,4.95,,,5.0,1,soil	rr 10x, then report with E
205	6Q18426.d	P3-E5	FC6114-2	1633full.m	Sample	OP96957,S6Q276,5.01,,,5.0,1,soil	RR 5x
206	6Q18427.d	P3-E6	FC6114-3	1633full.m	Sample	OP96957,S6Q276,4.95,,,5.0,1,soil	rr 5x
207	6Q18428.d	P3-E7	opo96957-ms	1633full.m	Sample	OP96957,S6Q276,5.03,,,5.0,1,soil	✓
208	6Q18429.d	P3-E8	opo96957-msd	1633full.m	Sample	OP96957,S6Q276,5.02,,,5.0,1,soil	✓
209	6Q18430.d	P1-A5	Ecc275-4	1633full.m	QC	OP96663,S6Q276,500,,,5.0,1,water	✓
210	6Q18431.d	P1-A1	iccb	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid
211	6Q18432.d	P1-F2	Test 2127D	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid
212	6Q18433.d	P1-F3	Test 2127E	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid
213	6Q18434.d	P1-F4	Test 2127C	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid
214	6Q18435.d	P1-F5	Test 2127B	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid
215	6Q18436.d	P1-F6	Test 2127A	1633full.m	Sample	OP97028,S6Q276,500,,,5.0,1,water	Test new Cal sid

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 2106A-B	PFC SPIKE	11653	PFOA-DOD (28 comps)	Absolute Wellington Labs	11/08/27	10/18/24	1.0ppm	2mL	5mL	400ppb	MS/MNH 5/14/20	01/18/23	10/18/23	NG
		11432	N-He-FOSA-m	Wellington Labs	02/18/27	03/13/24	50ppm	40uL						NG
		11513	FBSA-1		11/10/26	04/18/24								NG
		11514	FHSA-1		12/19/26	04/18/24								NG
		11332	PFERHS		03/18/27	10/18/24								NG
LCMS 2107A-C	1633-OPiKE Cal Std.	11734	PFAC MXH	Wellington	8/8/27	4/14/24	1-4 ppm	250uL	4mL	62.5 125 250ppb	1633 MIX	4/19/23	10/19/23	MV
		11736	PFAC MXF	Wellington	11/11/25	4/14/24	2ppm	250uL		125ppb	2688mL			
		11737	PFAC MXG		12/11/27	4/11/24	2ppm	250uL		125ppb				
		11676	PFAC MXJ		9/11/26	4/19/24	4-20 ppm	250uL		125ppb				
LCMS 2108A-O	10PPb PFC ID SURT	11763	MPFAC-24-ES	Wellington Labs	01/18/28	04/18/24	1.0ppm	2.4mL	312uL	312/1000 ppb				
		11635A	M3HFO-DA		11/08/28	04/18/24	50ppm	48uL		0.5ppm	MS/MNH 5/14/20	04/24/23	10/24/23	NG
LCMS-2109	537.1 DW STD.	11431	d-N-MADOSAM		05/06/27	03/13/24	50ppm	48uL						NG
		11653	PFOA-DOD (28 comps)	Absolute	11/09/27	04/18/24	1.0ug/mL	4mL	100ppb	90% MeOH 4/24/23 4% H ₂ O		09/10/23	09/10/23	JR
		2080	DW SURT.		07/06/23		1.0/2.0 PPM	400uL	100/200 ppb					JR

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



* tested & passed

* tested & passed on glass

* tested & passed on glass

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 20915A-E	(10ppb) PFC ID SURR	A-5 11669	PFAC-2YES	Wilmington Labs	01/16/18	03/18/24	1.0ppm	2.4mL	~50mL	0.5ppm	151mech 51.420	03/18/23	09/18/23	NS
↓	↓	11585	MTHRO-DA	↓	11/08/15	01/26/24	50ppm	48uL	↓	↓	↓	↓	↓	NS
↓	↓	11431	d-N-METOSAM	↓	05/10/07	03/13/24	50ppm	48uL	↓	↓	↓	↓	↓	NS
LCMS 20916A-B	1033 spike Cal wtd.	11672	PFAC-MxH	Wilmington	8/8/17	3/23/24	1-4 ppm	250uL	4mL	02.5 125 250ppb	1033 MIX	3/30/23	9/30/23	MU
↓	↓	11686	PFAC-MxI	↓	2/27/28	3/30/24	170 ppm	250uL	↓	02.5 025ppb	↓	↓	↓	↓
↓	↓	11674A	PFAC-MxJ	↓	11/1/25	3/23/24	2ppm	500uL	↓	250ppb	↓	↓	↓	↓
↓	↓	11674B	PFAC-MxK	↓	12/1/27	3/16/24	2ppm	250uL	↓	125ppb	↓	↓	↓	↓
↓	↓	11660	PFAC-MxL	↓	9/11/26	3/23/24	4-20 ppm	312uL	↓	312/100 PPb	↓	↓	↓	↓
↓	↓	11675	PFAC-MxM	↓	10/28/23	10/28/23	50ppm	200uL	5mL	2ppm	1033 MIX	4/16/23	10/28/23	MU
LCMS 2097A-B	BR-LN metel for 1033	11497	br-N metosa	Wilmington	08/23/17	10/28/23	50ppm	200uL	↓	2ppm	↓	↓	↓	↓
↓	↓	11498	br-N Effosa	↓	10/07/17	10/28/23	50ppm	200uL	↓	5ppm	↓	↓	↓	↓
↓	↓	11495	br-N metosa	↓	10/28/17	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓
↓	↓	11494	br-N Effosa	↓	10/7/17	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓
↓	↓					4/16/25								

* tested & used on 3/30/24

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



Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2098A	1033 spike Cal std.	11672A	PFAC	Wellington	8/18/27	3/23/24	1-4 ppm	250uL	4mL	0.25 1.25 250ppb	1033 mix	4/6/23	10/6/23	MW
		LCMS 2097	Br-1n Et-Me	SGS Labo	NA	10/28/23	3ppm 5ppm	250uL		125ppb 312.5ppb				
		11674B	PFAC Mx F	Wellington	1/11/25	3/30/24	2ppm	250uL 500uL		350ppb 125ppb				
		11675	PFAC Mx G		12/1/27	3/30/24	2ppm	250uL		125ppb				
		11672B	PFAC Mx J		9/14/26	3/23/24	4-20 ppm	312uL		312/100 ppb				
LCMS 2099	537.1 Du std. (Fumeral)	11670	M3P-PEA	Wellington Labs	07/08/25	04/06/24	50ppm	80uL	4mL	1.0ppm	0.10 MESH 41. H2O	04/06/23	05/15/23	NG
		10436A	Mx 2 FTS		11/05/25	04/06/24		80uL		1.0ppm				NG
		10522B	d3-N-NEOSAA		10/22/25	08/15/23		160uL		20ppm				NG
		10498A	M1FOS		11/02/25	03/22/24		80uL		1.0ppm				NG
		11069	M2RFA		12/01/26	03/22/24		80uL		1.0ppm				NG
LCMS 2100	Full List (40)	11626	PFOR 28 Comp.	Absolute	11/19/27	4/11/24	1.0ppm	400uL	4 mL	100ppb	75% MeOH 5% H2O	4/11/23	7/24/23	MW
2101	List 40 spike (50)	LCMS 2067	40 List ADD #1	SGS Add.		8/23/23	1.0ppm	400uL			(2,40021)			
		LCMS 2070	40 List ADD #2			5/12/23	1.0ppm	400uL						
		LCMS 2054	FOSSE Std.			7/24/23	5.0ppm	400uL		50ppb				
LCMS 2101	Fose std.	11336	N-et Fose	Wellington	5/13/27	9/19/23	50ppm	200uL	2.0mL	5ppm	45% MeOH 5% H2O	9/11/23	9/19/23	MW
		11338	N-me fose		5/13/27	9/19/23	50ppm	200uL						

* LCMS 2100 91B
rechecked & passed on 10/23/23
are normal

* LCMS 2100 91B
rechecked & passed on 10/23/23

LCMS 2100 91B
rechecked & passed on 10/23/23

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

ORLD-QAC-0017-6-03-FORM-lcms std prep log.xls 030819



Organic Standards Preparation Log

SGS - Orlando Std. #	Parent Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2067	40 List std. ADD-ON #1	10720A	10:2 FTS	Wellington	3/3/26	3/21/23	50 ppm	80 uL	4.0 mL	1 ppm	95% MeOH 5% H2O	2/8/23	3/21/23 8/23/23	MV
		10840	L- PFDOS		7/9/26	10/18/23							8/23/23	
		10829	N- MCFOSA		8/3/26	8/23/23								
		10837	N- E-FOSA		8/3/26	8/23/23								
		10842	PFHxDA		9/3/26	10/18/23								
		10841	PFOA		5/7/26	10/18/23								
		11116B	3:3FTCA PFRPA		2/3/27	2/8/24								
		10685A	5:3FTCA PF2PA		11/1/25	8/23/23								
		11116A	7:3FTCA FHPA		11/12/25	2/8/24								
		11332	PFECHS		3/2/27	10/18/23								
		10762B	PFEESA		5/13/25	10/18/23								
		10763B	PFMBA		3/31/25	10/18/23								
		10764	PFMPA		3/31/25	2/8/24								
		10765B	NFHDA 3.6-OPHPA		3/31/25	10/18/23								
					NG 02/10/23									

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

ORLD-QAC-0017-6-03-FORM-lcms std prep log.xls 030819



Organic Standards Preparation Log

SGS - Orlando Sid. #	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 2074 A-B	PFC SPIKE	11613	PROA-DOD CASCOMP	Absolute Wellington Labs	11/09/23	02/23/24	1.0ppm	2mL	5mL	400ppb	95% MeOH 5% H2O	02/23/23	05/23/23	NG
		10829	N-Me-PBSA-M	Wellington Labs	08/23/26	08/23/23	50ppm	40uL						NG
		11250	PBSA-1		11/10/26	11/08/23								NG
		11249	PHSA-1		12/29/26	11/03/23								NG
		11322	PFECHS		02/28/27	10/18/23								NG
LCMS 2075A-F	(10 PPB) PFC ID SURF	11639	MPPAC-24ES	Wellington Labs	03/24/27	02/23/24	1.0ppm	2.4mL	~50 mL	0.5ppm	95% MeOH 5% H2O	02/23/23	05/23/23	NG
		11585	N2HFO-DA	Wellington Labs	11/08/26	01/26/24	50ppm	48uL						NG
		11385	B-N-NACOSA-M	Wellington Labs	05/10/27	01/01/24	50ppm	48uL						NG
LCMS 2076	40 List std. ADDON #2	11250	FBSA-1	Wellington Labs	11/10/26	11/8/23	50ppm	80uL	4.0mL	1ppm	95% MeOH 5% H2O	2/27/23	5/2/26	MW
		11249	FHSA-1		2/29/26	11/3/23	50ppm	80uL						
		11140	L-PFRG		7/12/26	5/26/23	50ppm	80uL						
LCMS 2077A-B	1633 Solvent B	11387	Ammonium Sulfate Acetate drich			1/25/24	99.9%	0.62g	4L	2mM	95% MeOH 5% H2O	2/28/23	4/28/23	MW
		224870	HPLC water	Fisher		2/28/23		3,800ml		95%				
		220225	Acetoni trile			2/20/24		200mL		5%				
						aka new 2/28/23								
						Continue next page #1								

* added 8/23/23
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* based on date opened as specified in each SGS - Orlando SOP.
ORLD-QAC-0017-6-03-FORM-icms std prep log.xls 030819



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 2052	1633 prep mix	221044 Lot:	MeOH	Fisher	—	1/4/24	99.9%	92 mL	100 mL	92%	N/A	1/19/23	2/19/23	MV
		219481 Lot:	NH4OH		—	9/19/23	100%	3.3 mL		1%				
		224863 Lot:	H2O		—	1/7/24	100%	1.7 mL		4%				
		224297 Lot:	Acetic Acid		—	6/24	99.7%	0.625 mL		.625%				
LCMS 2053	(spike) Full list std	11568	PFOA DOP 28 Calc	SGS Standards	11/9/27	11/10/24	1.0 ppm	400 nL	4.0 mL	100 ppb	95% MeOH 5% H2O	12/4/23	3/21/23	MV
		1987	LCMS 40 list Addon #1		—	3/21/23	1.0 ppm	400 nL						
		1986	LCMS 40 list Addon #2		—	4/18/23	1.0 ppm	400 nL						
		2054	LCMS Fose std.		—	7/7/23	5.0 ppm	400 nL		500 ppb				
LCMS 2054	Fose std.	11336	N-Et-FOSE	Wellington	5/13/27	9/19/23	50 ppm	200 nL	2.0 mL	5 ppm	95% MeOH 5% H2O	12/4/23	7/24/23	MV
		11338	N-Me FOSE		5/13/27	9/19/23	50 ppm	200 nL						
LCMS 2055	1633 Cal std.	10855 J	PFAC MXH	Wellington	9/14/26	1/17/24	1-4 ppm	2.50 nL	4 mL	62.5 125 250 ppb	1633 MIX	1/24/23	7/24/23	MV
		10853 J	PFAC MXI		9/14/26	1/11/24	1-10 ppm	2.50 nL		62.5 125 250 ppb				
		11549 B	PFAC MX F		1/11/25	1/11/24	2 ppm	500 nL		250 ppb				
		10854 J	PFAC MX G		3/4/25	1/24/24	2 ppm	250 nL		125 ppb				
		11492	PFAC MX J		9/14/26	1/11/24	4-20 ppm	312 nL		312/100 ppb				
		11603												

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

ORLD-QAC-0017-6-03-FORM-icms std prep log.xls 030819

11494



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol Isomeric Mix

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

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-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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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

brNMeFOSE0922 (1 of 7)
rev1

7.9.1

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11495



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSE

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

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

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS Data (SIR)
- Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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Revision#:9, Revised 2020-12-23

brNEtFOSE1022 (1 of 7)
rev1

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

brNMeFOSA0822 (1 of 6)
rev1

7.9.1

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide Isomeric Mix

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

DESCRIPTION:

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

DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (SIR)
- Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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Revision#:9, Revised 2020-12-23

brNEtFOSA0922 (1 of 6)
rev1

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11676
rec'd: 02/23/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic
Acid Solution/Mixture

PRODUCT CODE:	PFAC-MXJ
LOT NUMBER:	PFACMXJ0921
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/08/2021
LAST TESTED: (mm/dd/yyyy)	09/14/2021
EXPIRY DATE: (mm/dd/yyyy)	09/14/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Table A: PFAC-MXJ; Components and Concentrations (µg/mL; ± 5% in methanol)

Compound	Acronym	Concentration (µg/mL)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By: 
B.G. Chittim, General Manager

Date: 10/02/2021
(mm/dd/yyyy)

11688
rec'd 103/03/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

PFACMXG1122 (1 of 5)
rev0

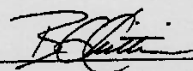
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Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))

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)

11689
rec'd: 03/03/23



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>	PFACMXJ0921
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/08/2021
<u>LAST TESTED:</u> (mm/dd/yyyy)	09/14/2021
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	09/14/2026
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

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

PFACMXJ0921 (1 of 5)
rev1

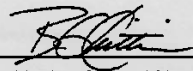
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Table A: PFAC-MXJ; Components and Concentrations ($\mu\text{g}/\text{mL}$; $\pm 5\%$ in methanol)

Compound	Acronym	Concentration ($\mu\text{g}/\text{mL}$)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By:



B.G. Chittim, General Manager

Date: 10/02/2021

(mm/dd/yyyy)

11734
rec'd: 03/29/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH

Native PFAS
Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXH
<u>LOT NUMBER:</u>	PFACMXH0822
<u>SOLVENT(S):</u>	Methanol/Isopropanol (2%)/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/05/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	08/08/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	08/08/2027
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₆, C₇, C₈, 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 (FOSA). 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

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rev0

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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		24
Perfluoro-n-dodecanoic acid	PFDoA	1000		26
Perfluoro-n-tridecanoic acid	PFTDA	1000		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000		29
Perfluoro-1-octanesulfonamide	FOSA	1000		23
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
Potassium perfluoro-1-butanesulfonate	L-PFBS	1000	887	
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

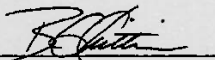
^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

^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: 08/09/2022
(mm/dd/yyyy)

11736
rec'd: 03/29/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF

Native Replacement PFAS
Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXF
<u>LOT NUMBER:</u>	PFACMXF0122
<u>SOLVENT(S):</u>	Methanol / Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	01/10/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	01/11/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	01/11/2025
<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 GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native 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# 3, Revised 2020-12-23

PFACMXF0122 (1 of 5)
rev0

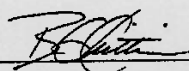
7.9.1
7

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: 01/12/2022
(mm/dd/yyyy)

11737
rec'd: 03/29/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

**Native Perfluoroalkyl Ether Carboxylic
Acids and Sulfonate Solution/Mixture**

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision# 9, Revised 2020-12-23

PFACMXG1122 (1 of 5)
rev0

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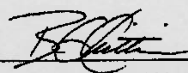
7

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.

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B.G. Chittim, General Manager

Date: 12/09/2022

(mm/dd/yyyy)

10726 A

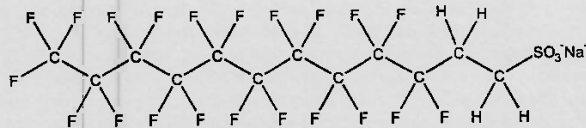


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS0221
COMPOUND: Sodium 1H,1H,2H,2H-perfluorododecanesulfonate

STRUCTURE: **CAS #:** 108026-35-3



MOLECULAR FORMULA: 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

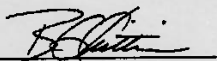
DOCUMENTATION/ DATA ATTACHED:

- 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
B.G. Chittim, General Manager (mm/dd/yyyy)

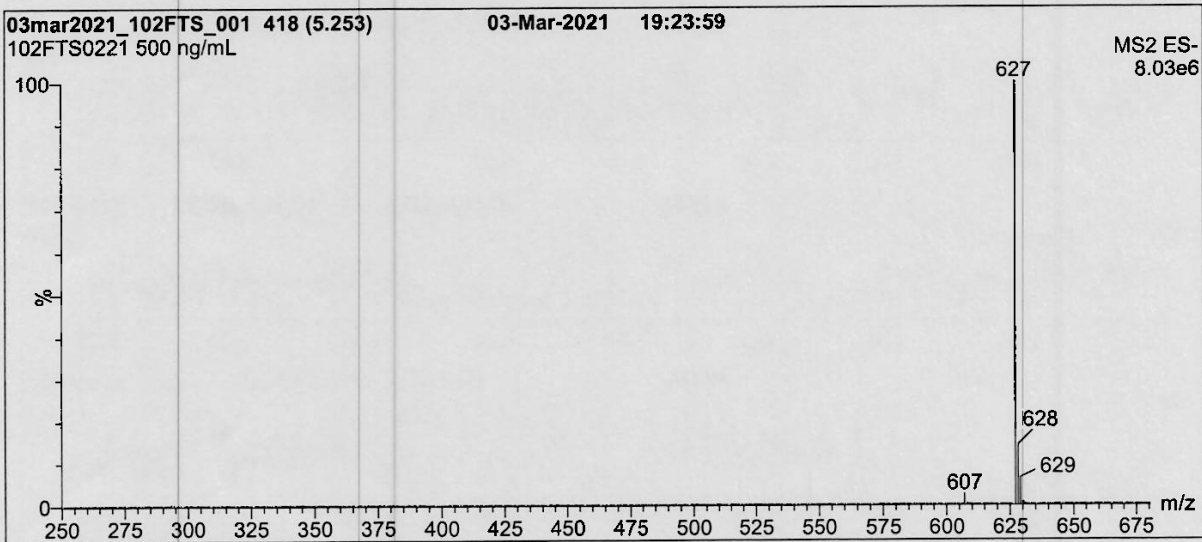
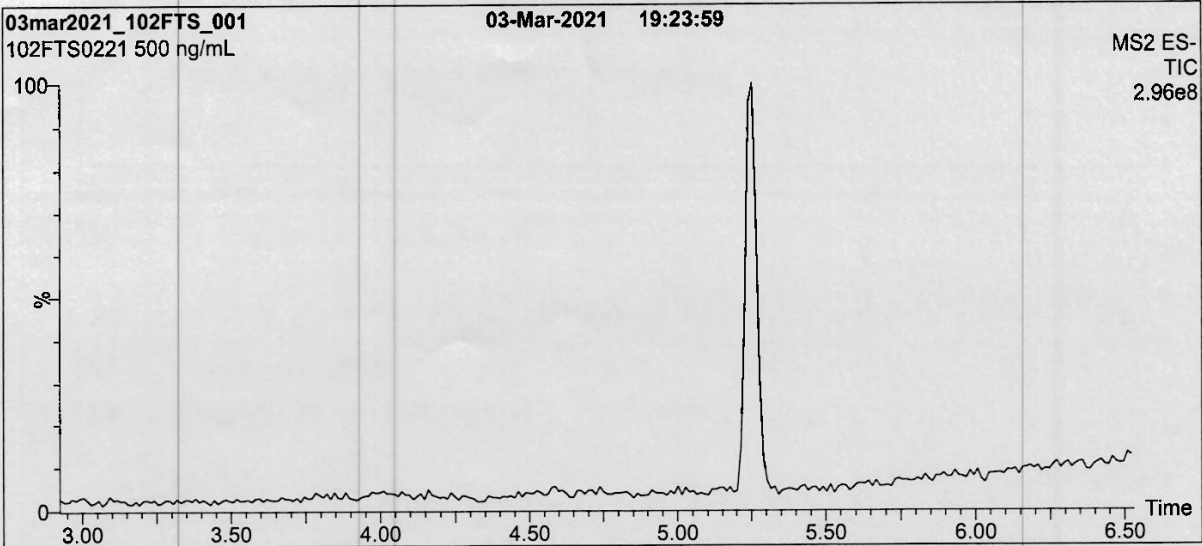
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Form#: 27, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

7.9.1

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Figure 1: 10:2FTS; LC/MS Data (Full Scan and Mass Spectrum)



Conditions for Figure 1:

Waters Acquity Ultra Performance LC
 Waters Xevo TQ-S micro MS

Chromatographic Conditions:
 Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
 Start: 40% H₂O / 60% (80:20 MeOH:ACN)
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min and hold for 3 min
 before returning to initial conditions in 0.75 min.
 Time: 12 min

Flow: 300 μ L/min

MS Parameters:
 Experiment: Full Scan (250 - 850 amu)
 Source: Electrospray (negative)
 Capillary Voltage (kV) = 2.00
 Cone Voltage (V) = 25.00
 Desolvation Temperature ($^{\circ}$ C) = 500
 Desolvation Gas Flow (L/hr) = 1000

10762 A-B



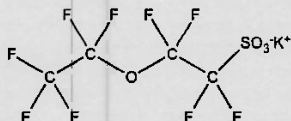
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFEESA *rec'd
8/20/21
WPH* **LOT NUMBER:** PFEESA0520

COMPOUND: Potassium perfluoro(2-ethoxyethane)sulfonate

STRUCTURE: **CAS #:** 117205-07-9



MOLECULAR FORMULA: C₄F₈SO₄K **MOLECULAR WEIGHT:** 354.19

CONCENTRATION: 50.0 ± 2.5 µg/ml (K salt) **SOLVENT(S):** Methanol

44.6 ± 2.2 µg/ml (PFEESA acid)

44.5 ± 2.2 µg/ml (PFEESA anion)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 05/13/2020

EXPIRY DATE: (mm/dd/yyyy) 05/13/2025

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

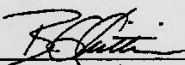
Figure 1: LC/MS Data (TIC and Mass Spectrum)

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 05/29/2020
(mm/dd/yyyy)

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Form#:27, Issued 2004-11-10
Revision#:7, Revised 2020-01-09

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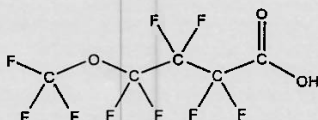
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PF5OHxA *res'd with 8/20/21* **LOT NUMBER:** PF5OHxA0320

COMPOUND: Perfluoro-5-oxahexanoic acid

SYNONYM: Perfluoro-4-methoxybutanoic acid (PFMBA)

STRUCTURE: **CAS #:** 863090-89-5



MOLECULAR FORMULA: C₅HF₉O₃ **MOLECULAR WEIGHT:** 280.05

CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 03/31/2020

EXPIRY DATE: (mm/dd/yyyy) 03/31/2025

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

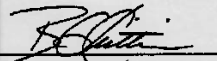
DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 12/21/2020
(mm/dd/yyyy)

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

PF5OHxA0320 (1 of 4)
rev1

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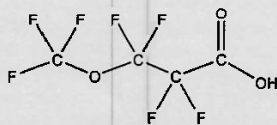
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PF4OPeA *rec'd
WPH
8/20/21* **LOT NUMBER:** PF4OPeA0320

COMPOUND: Perfluoro-4-oxapentanoic acid

SYNONYM: Perfluoro-3-methoxypropanoic acid (PFMPA)

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



MOLECULAR FORMULA: C₄HF₇O₃ **MOLECULAR WEIGHT:** 230.04

CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 03/31/2020

EXPIRY DATE: (mm/dd/yyyy) 03/31/2025

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

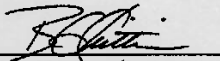
DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

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

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

PF4OPeA0320 (1 of 4)
rev1

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

3,6-OPFHpA

*rec'd
WPH
8/20/21*

LOT NUMBER:

36OPFHpA0320

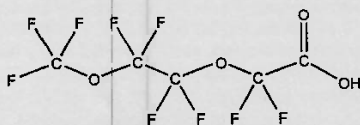
COMPOUND:

Perfluoro-3,6-dioxaheptanoic acid

STRUCTURE:

CAS #:

151772-58-6



MOLECULAR FORMULA:

C₆H₂F₉O₄

MOLECULAR WEIGHT:

296.04

CONCENTRATION:

50.0 ± 2.5 µg/ml

SOLVENT(S):

Methanol
Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

03/31/2020

EXPIRY DATE: (mm/dd/yyyy)

03/31/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim
B.G. Chittim, General Manager

Date: 05/27/2020
(mm/dd/yyyy)

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PRODUCT CODE:

N-EtFOSA-M

10837

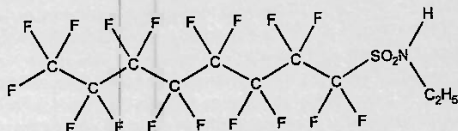
LOT NUMBER: NEtFOSA0821M

COMPOUND:

N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #: 4151-50-2



MOLECULAR FORMULA:

C₁₀H₉F₁₇NO₂S

MOLECULAR WEIGHT:

527.20

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

08/12/2021

EXPIRY DATE: (mm/dd/yyyy)

08/12/2026

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

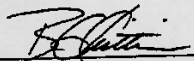
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:


B.G. Chittim, General Manager

Date: 08/16/2021

(mm/dd/yyyy)

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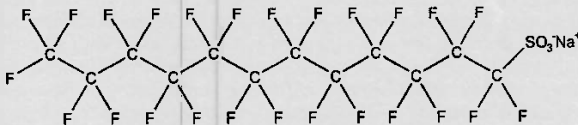
10840

PRODUCT CODE: L-PFDoS
COMPOUND: Sodium perfluoro-1-dodecanesulfonate

LOT NUMBER: LPFDoS0721

STRUCTURE:

CAS #: 1260224-54-1



MOLECULAR FORMULA: C₁₂F₂₅SO₃Na
CONCENTRATION: 50.0 ± 2.5 µg/mL (Na salt)
48.5 ± 2.4 µg/mL (PFDoS acid)
48.4 ± 2.4 µg/mL (PFDoS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/09/2021
EXPIRY DATE: (mm/dd/yyyy) 07/09/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 722.14
SOLVENT(S): Methanol

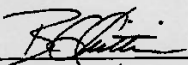
DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager
Date: 07/16/2021
(mm/dd/yyyy)

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CERTIFICATE OF ANALYSIS DOCUMENTATION

10847 NG 01/18/23

PRODUCT CODE:

PFODA

LOT NUMBER:

PFODA0821

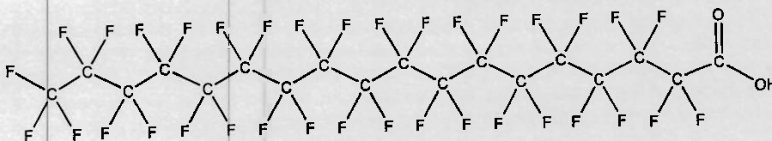
COMPOUND:

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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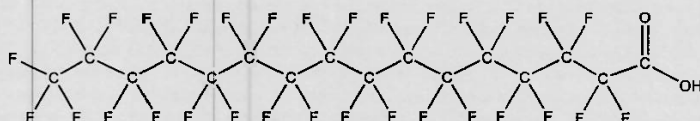
WELLINGTON LABORATORIES

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

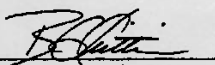
DOCUMENTATION/ DATA ATTACHED:

- 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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1116B on the back NW



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

FHpPA

LOT NUMBER:

FHpPA1020

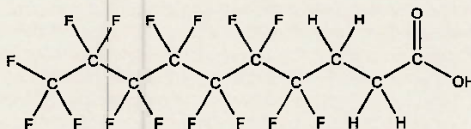
COMPOUND:

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

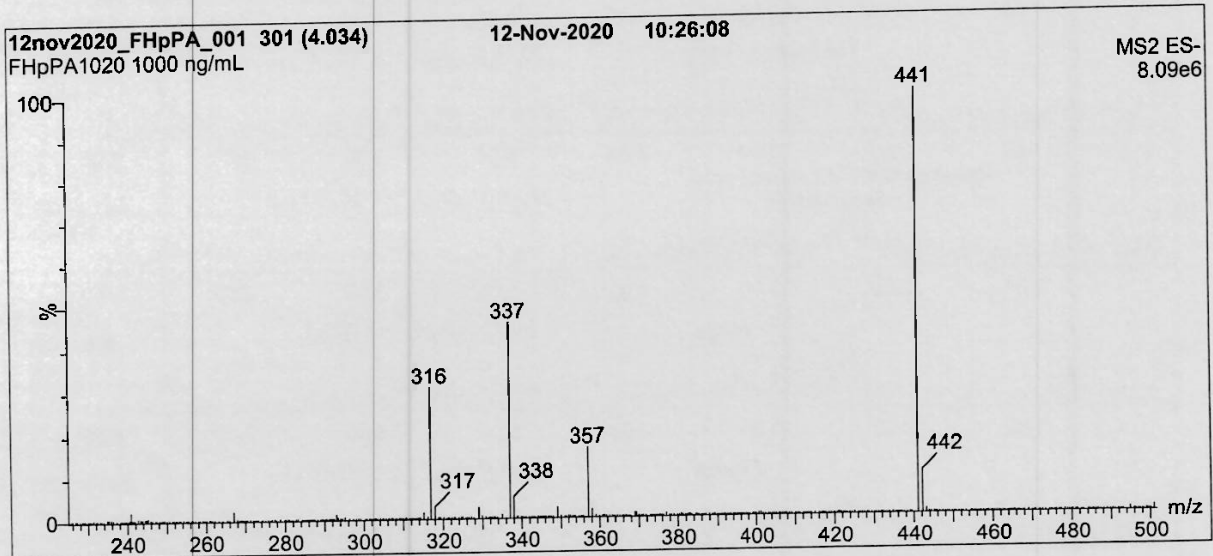
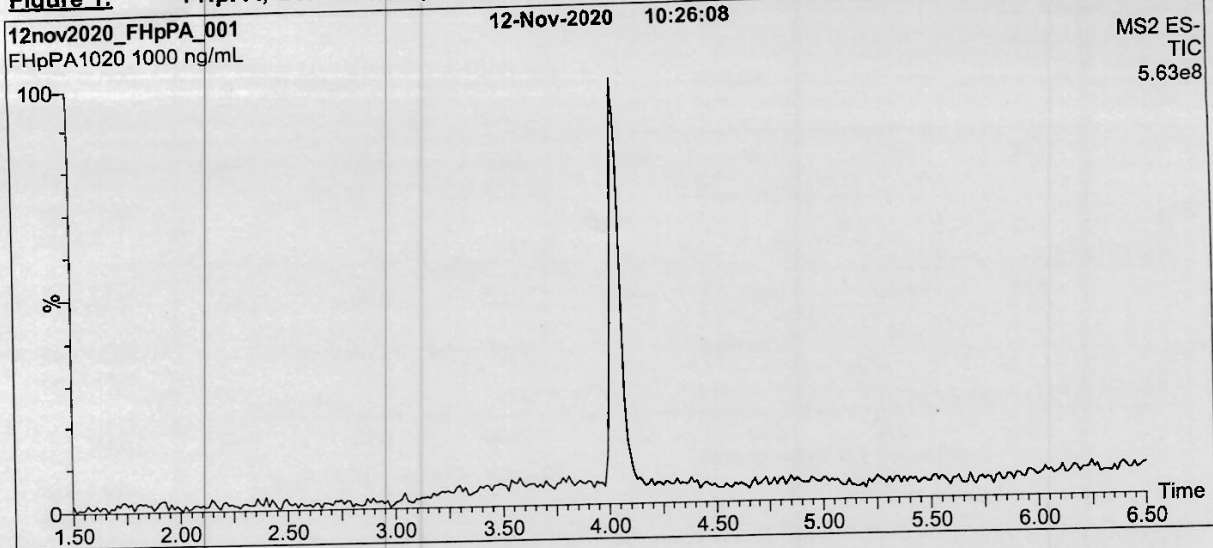
Date: 11/27/2020

(mm/dd/yyyy)

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

FHpPA1020 (1 of 4)
rev0

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

FPrPA(3:3FTEA) 1116 B



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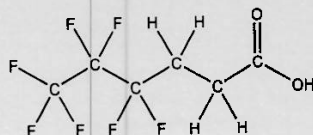
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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

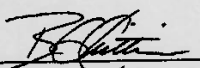
DOCUMENTATION/ DATA ATTACHED:

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 (C₆H₃F₇O₂) 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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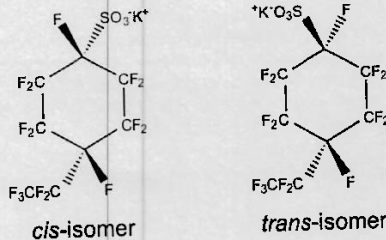
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:
COMPOUND:

PFECHS
Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

LOT NUMBER: PFECHS0222

STRUCTURE:



CAS #: 335-24-0

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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11626
rec'd 01/26/23

CERTIFIED WEIGHT REPORT

Part Number: **64029A**
Lot Number: **110922**
Description: **PFOA - DOD**
28 components
Expiration Date: **110827**
Recommended Storage: **Freezer (0 °C)**
Nominal Concentration (µg/mL): **1.0**
NIST Test ID#: **6UTB**

Solvent(s): **Methanol (1 mM KOH)**
2-Propanol
Lot# **102722** (98%)
32500 (2%)

Formulated By: <i>P. S. Chauhan</i>	110922
Prepared By: <i>Prashant Chauhan</i>	DATE
Reviewed By: <i>Pedro L. Rentas</i>	110922
	DATE

Volume(s) shown below were combined and diluted to (mL):
Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.)		
									Free Acid CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid (PFBA)	99542	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid (PFPeA)	99543	050222	0.02	2.00	0.017	50.3	1.01	0.02	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid (PFHxA)	99199	071122	0.02	2.00	0.017	50.2	1.00	0.02	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid (PFHpA)	99197	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-85-9	N/A	N/A
5. Perfluorooctanoic acid (br-PFOA)*	99202	080522	0.02	2.00	0.017	50.2	1.00	0.02	335-67-1 (L)	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid (PFNA)	99200	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-95-1	N/A	N/A
7. Perfluorodecanoic acid (PFDA)	99195	110922	0.02	2.00	0.017	50.0	1.00	0.02	335-76-2	N/A	rat 57mg/kg
8. Perfluoroundecanoic acid (PFUnA)	99205	071522	0.02	2.00	0.017	50.2	1.00	0.02	2058-94-8	N/A	N/A
9. Perfluorododecanoic acid (PFDoA)	99196	071522	0.02	2.00	0.017	50.1	1.00	0.02	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid (PTTDA)	99204	110922	0.02	2.00	0.017	50.1	1.00	0.02	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid (PFTeDA)	99203	033022	0.02	2.00	0.017	50.1	1.00	0.02	376-06-7	N/A	N/A
12. Perfluorooctanesulfonamide (FOSA)	3677	FOSA03221	0.02	2.00	0.017	50.0	1.00	0.05	2355-31-9 (L)	N/A	N/A
13. N-Methylperfluorooctanesulfonamidoacetic acid (br-NMeFOSAA)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	50.0	1.00	0.05	2991-50-6 (L)	N/A	N/A
14. N-Ethylperfluorooctanesulfonamidoacetic acid (br-NEFOSAA)*	4163	brNEFOSAA1121	0.02	2.00	0.017	50.0	1.00	0.05	2991-50-6 (L)	N/A	N/A
15. Perfluorobutanesulfonic acid (PFBS)	99194	080522	0.02	2.00	0.017	50.2	1.00	0.02	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid (PFPeS)	99544	032422	0.02	2.00	0.017	50.1	1.00	0.02	2706-91-4	N/A	N/A
17. Perfluorohexanesulfonic acid (br-PFHxS)*	99198	071522	0.02	2.00	0.017	50.2	1.00	0.02	355-46-4 (L)	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid (PFHpS)	3672	LPFHpS0822	0.021	2.10	0.017	47.6	1.00	0.05	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (br-PFOS)*	99201	033022	0.02	2.00	0.017	50.1	1.00	0.01	1763-23-1 (L)	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid (PFNS)	3957	LPFNS1021	0.021	2.10	0.017	48.0	1.01	0.05	68259-12-1	N/A	N/A
21. Perfluoro-1-decanesulfonic acid (PFDS)	3671	LPFDS0222	0.021	2.10	0.017	48.2	1.01	0.05	335-77-3	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	65271	080522	0.02	2.00	0.017	50.2	1.00	0.05	757124-72-4	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	65272	071522	0.02	2.00	0.017	47.9	1.01	0.05	29108-34-4	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	3662	82FTS0822	0.021	2.10	0.017	50.1	1.00	0.02	13252-13-6	N/A	N/A
25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropanoic acid (HFPO-DA)	99666	080522	0.02	2.00	0.017	50.1	1.00	0.05	763051-92-9	N/A	N/A
26. 11-Chlorooctadecafluoro-3-oxadecane-1-sulfonic acid (11Cl-PF3OUdS)	4165	11ClPF3OUdS0522	0.021	2.12	0.017	47.1	1.00	0.05	756426-56-1	N/A	N/A
27. 9-Chlorooctadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	4164	9ClPF3ONS0522	0.021	2.14	0.017	46.6	1.00	0.05	919005-14-4	N/A	N/A
28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA)	4103	NaDONA0922	0.021	2.12	0.017	47.1	1.00	0.05			
Perfluorooctanoic acid (linear)*	99202	080522	0.02	2.00	0.004	49.6	0.99	0.010	335-67-1 (L)	N/A	ipr-rat 189mg/kg
Perfluorooctanoic acid (branched isomer)*	99202	080522	0.02	2.00	0.004	0.6	0.01	0.001	335-67-1 (L)	N/A	ipr-rat 189mg/kg
Perfluorohexanesulfonic acid (linear)*	99198	071522	0.02	2.00	0.017	44.2	0.88	0.02	355-46-4 (L)	N/A	N/A
Perfluorohexanesulfonic acid (branched isomer)*	99198	071522	0.02	2.00	0.017	6.0	0.12	0.0021	355-46-4 (L)	N/A	N/A
Heptadecafluorooctanesulfonic acid (linear)*	99201	033022	0.02	2.00	0.017	38.1	0.76	0.02	1763-23-1 (L)	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	033022	0.02	2.00	0.017	7.5	0.15	0.003	1763-23-1 (L)	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	033022	0.02	2.00	0.017	4.0	0.08	0.002	1763-23-1 (L)	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	033022	0.02	2.00	0.017	0.5	0.010	0.0002	1763-23-1 (L)	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	36.0	0.72	0.04	2355-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	6.5	0.13	0.011	2355-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	5.0	0.10	0.005	2355-31-9 (L)	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	2.5	0.05	0.0009	2355-31-9 (L)	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4163	brNEFOSAA1121	0.02	2.00	0.017	36.6	0.73	0.04	2991-50-6 (L)	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA1121	0.02	2.00	0.017	7.7	0.15	0.009	2991-50-6 (L)	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA1121	0.02	2.00	0.017	6.3	0.11	0.005	2991-50-6 (L)	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA1121	0.02	2.00	0.017	0.4	0.007	0.0006	2991-50-6 (L)	N/A	N/A

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.

The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
Uncertainty Reference: Taylor, B.N. and Kaye, C.E. "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

7.9.1
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11140



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

L-PFPrS

LOT NUMBER:

LPFPrS0721

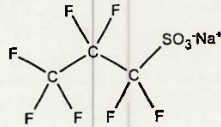
COMPOUND:

Sodium perfluoro-1-propanesulfonate

STRUCTURE:

CAS #:

Not available



MOLECULAR FORMULA:

C₃F₇SO₃Na

MOLECULAR WEIGHT:

272.07

CONCENTRATION:

50.0 ± 2.5 µg/mL (Na salt)

SOLVENT(S):

Methanol

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

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 08/04/2021

(mm/dd/yyyy)

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11250 Lx 7/1122



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

FBSA-I

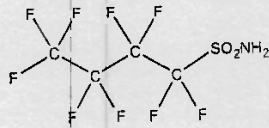
LOT NUMBER: FBSA11211

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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Revision#: 9, Revised 2020-12-23

FBSA11211 (1 of 4)
rev0

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-EtFOSE-M

LOT NUMBER:

NEtFOSE0622M

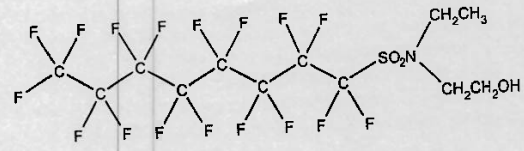
COMPOUND:

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.

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Certified By: 
B.G. Chittim, General Manager

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

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NEtFOSE0622M (1 of 5)
rev0

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



11338



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSE-M

LOT NUMBER:

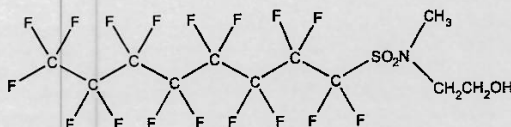
NMeFOSE0522M

COMPOUND:

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

STRUCTURE:**CAS #:**

24448-09-7

**MOLECULAR FORMULA:**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



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

MPFAC-HIF-IS

Mass-Labelled PFAS Injection
Standard Solution/Mixture

PRODUCT CODE: MPFAC-HIF-IS
LQT 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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

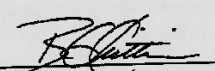
Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

MPFACHIFIS1122 (1 of 5)
rev0

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:  Date: 12/05/2022
(mm/dd/yyyy)
R.G. Chittim, General Manager

11765 A-J
Rec'd: 04/20/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

PRODUCT CODE: MPFAC-HIF-ES
LOT NUMBER: MPFACHIFES1022
SOLVENT(S): Methanol/Isopropanol (1%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 10/28/2022
LAST TESTED: (mm/dd/yyyy) 11/23/2022
EXPIRY DATE: (mm/dd/yyyy) 11/23/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂, C₁₄), three mass-labelled (¹³C) perfluoroalkanesulfonates (C₄, C₆, and C₈), three mass-labelled (one ¹³C and two ²H) perfluoro-1-octanesulfonamides, three mass-labelled (¹³C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (²H) perfluorooctane-sulfonamidoethanols, and mass-labelled (¹³C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ¹³C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ²H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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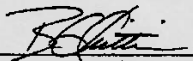
Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

MPFACHIFES1022 (1 of 7)
rev0

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	MPFD _o A	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)

SGS - ORLANDO

Date/Time Started 05/22/23 11:00
(mm/dd/yyyy 24:00)

Date/Time Finished 5/24/23 10:00
(mm/dd/yyyy 24:00)

Batch# OP97007 Ext. By: GH

SPE LIQUID SAMPLE PREP REPORT

Method EPA 1633 Draft (QSM) List 40

Balance ID: _____

Conc. By: _____ Viald By: _____

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount (ul)	Spike Amount (ul)	Final Volume (ml)	Manifold ID	Comments
OP 97007 MB		500	7	N/A	25		5	A4	
OP 97007 BS		500	7	N/A		200			
OP 97007 LLBS		500	7	N/A		60			
FC 6217-1	2	570	7						
	2	560							
FC 6238-1	2	550							
	2	560							
	3	550							
	4	540							
	5	570	7	N/A	25		5	A4	
OP FC 6238 3MS	3	560	7	N/A	25	200	5	A4	
OP MSD									
OP FC 6238 5DUP	3	540	7	N/A	25		5	A4	

Comments:

EIS (SURR) ID: 11806A-D Conc: 250-5000 ng/ml Exp. Date: 05/18/24 Inj. By: GH Ver. By: CM
 SPIKE.1 ID: LCMS 2122E Conc: VARIED Exp. Date: 10/28/23 Inj. By: GH Ver. By: CM
 SPIKE.2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____
 NIS (ISTD) ID: 11805F-H Conc: 250-1000 ng/ml Exp. Date: 5/22/24 Inj. By: MW Ver. By: NC

TurboVap Temp (Therm ID): _____ N-Evap Temp (Therm ID): _____
 Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 224231 1% NH4OH MeOH P# 407 SPE Lot # 6723930-02
 Water Lot# OP97000 0.3M Formic Acid P# 405 Syringe filter Lot # _____
 Acetic Acid# 194003 3% NH4OH Sol _____ pH paper Lot# 215322
 0.1M Formic PF408 5% Formic Acid _____ Carbon Lot# 99687

Relinquished By: Gabriella Vachon
 Accepted By: MW

Date: 05/22/23
 Date: 5/24/23

7.10.1
7