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*Automated Report*

## Technical Report for

### Town of Coupeville

### PFAS Analysis

SGS Job Number: FC9076

Sampling Date: 08/24/23

#### Report to:

Town of Coupeville  
434 Wannamaker Road  
Coupeville, WA 98239  
utilities1@townofcoupeville.org

ATTN: Joseph Grogan

Total number of pages in report: 397



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

A handwritten signature in black ink that reads "Norm Farmer".

**Norm Farmer**  
Technical Director

**Client Service contact: Andrea Colby 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)

DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),

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Test results relate only to samples analyzed.

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## Sample Summary

**Town of Coupeville**

**Job No: FC9076**

**PFAS Analysis**

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
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**This report contains results reported as ND = Not detected. The following applies:**  
**Organics ND = Not detected above the MDL**

FC9076-1	08/24/23	12:55 JW	08/25/23	DW	Drinking Water	FCWTP-INF 001(BOOSTER TAP)
FC9076-2	08/24/23	12:55 JW	08/25/23	DW	Drinking Water FB	FCWTP-INF 001 FB
FC9076-3	08/24/23	13:05 JW	08/25/23	DW	Drinking Water	FCWTP-INF 100(SA101)
FC9076-4	08/24/23	13:10 JW	08/25/23	DW	Drinking Water	FCWTP-MP 105(SA105)
FC9076-5	08/24/23	13:10 JW	08/25/23	DW	Drinking Water FB	FCWTP-MP 105 FB
FC9076-6	08/24/23	13:15 JW	08/25/23	DW	Drinking Water	FCWTP-50%MEDIA 50103(SA103)
FC9076-7	08/24/23	13:20 JW	08/25/23	DW	Drinking Water	FCWTP-50%MEDIA 50107(SA107)
FC9076-8	08/24/23	13:25 JW	08/25/23	DW	Drinking Water	FCWTP-EF 109(SA109)
FC9076-9	08/24/23	13:35 JW	08/25/23	DW	Drinking Water	FCWTP-INF 200(SA201)
FC9076-10	08/24/23	13:55 JW	08/25/23	DW	Drinking Water	FCWTP-MP 205(SA205)
FC9076-11	08/24/23	13:55 JW	08/25/23	DW	Drinking Water FB	FCWTP-MP 205 FB
FC9076-12	08/24/23	13:10 JW	08/25/23	DW	Drinking Water	FCWTP-MP (SA105)



## Sample Summary (continued)

**Town of Coupeville**

**Job No: FC9076**

**PFAS Analysis**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FC9076-13	08/24/23	14:00 JW	08/25/23	DW	Drinking Water	FCWTP-EF 209(SA209)
FC9076-14	08/24/23	14:05 JW	08/25/23	DW	Drinking Water	FCWTP-50%MEDIA 50203(SA203)
FC9076-15	08/24/23	14:10 JW	08/25/23	DW	Drinking Water	FCWTP-50%MEDIA 50207(SA207)
FC9076-16	08/24/23	14:20 JW	08/25/23	DW	Drinking Water	FCWTP-EF 002(EXISTING PLANT EFFLUENT/POST PUMPS)
FC9076-16D	08/24/23	14:20 JW	08/25/23	DW	Drinking Water Dup.	FCWTP-EF 002(EXISTING PLANT EFFLUENT/POST PUMPS)
FC9076-16S	08/24/23	14:20 JW	08/25/23	DW	Drinking Water MS	FCWTP-EF 002(EXISTING PLANT EFFLUENT/POST PUMPS)
FC9076-17	08/24/23	14:20 JW	08/25/23	DW	Drinking Water FB	FCWTP-EF 002 FB (EXISTING PLANT EFFLUENT)



## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Town of Coupeville

**Job No:** FC9076

**Site:** PFAS Analysis

**Report Date:** 9/12/2023 9:10:02 PM

On 08/25/2023, 13 Sample(s), 0 Trip Blank(s) and 4 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC9076 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 537.1 REV 1.0

**Matrix:** DW

**Batch ID:** OP98786

Sample(s) FC9076-16MS, FC9076-16MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perfluorotetradecanoic acid are outside control limits. Probable cause is due to matrix

Matrix Spike Duplicate Recovery(s) for Perfluorotetradecanoic acid are outside control limits. Probable cause is due to matrix interference.

FC9076-5: Confirmation run.

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: FC9076  
 Account: Town of Coupeville  
 Project: PFAS Analysis  
 Collected: 08/24/23



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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**FC9076-1 FCWTP-INF 001(BOOSTER TAP)**

Perfluorohexanoic acid	0.0138	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0045	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0384	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0068	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0279	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid	0.0012 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-2 FCWTP-INF 001 FB**

No hits reported in this sample.

**FC9076-3 FCWTP-INF 100(SA101)**

Perfluorohexanoic acid	0.0132	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0043	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0373	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0068	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0274	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid	0.0011 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-4 FCWTP-MP 105(SA105)**

Perfluorohexanoic acid	0.0010 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
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**FC9076-5 FCWTP-MP 105 FB**

Perfluorohexanoic acid	0.00084 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
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**FC9076-6 FCWTP-50%MEDIA 50103(SA103)**

Perfluorohexanoic acid	0.0104	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0012 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0014 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0034	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-7 FCWTP-50%MEDIA 50107(SA107)**

Perfluorohexanoic acid	0.0170	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0049	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0304	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0082	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0180	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

## Summary of Hits

**Job Number:** FC9076  
**Account:** Town of Coupeville  
**Project:** PFAS Analysis  
**Collected:** 08/24/23



Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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**FC9076-8 FCWTP-EF 109(SA109)**

Perfluorohexanoic acid	0.0184	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0046	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0233	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0083	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0124	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-9 FCWTP-INF 200(SA201)**

Perfluorohexanoic acid	0.0137	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0044	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0380	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0070	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0270	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanesulfonic acid	0.0015 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-10 FCWTP-MP 205(SA205)**

Perfluorohexanoic acid	0.0025	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
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**FC9076-11 FCWTP-MP 205 FB**

No hits reported in this sample.

**FC9076-12 FCWTP-MP (SA105)**

Perfluorohexanoic acid	0.0011 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
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**FC9076-13 FCWTP-EF 209(SA209)**

Perfluorohexanoic acid	0.0188	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0051	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0273	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0094	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0150	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

**FC9076-14 FCWTP-50%MEDIA 50203(SA203)**

Perfluorohexanoic acid	0.0129	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0016 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0030	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0045	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0011 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

## Summary of Hits

Job Number: FC9076  
Account: Town of Coupeville  
Project: PFAS Analysis  
Collected: 08/24/23



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FC9076-15 FCWTP-50%MEDIA 50207(SA207)

Perfluorohexanoic acid	0.0158	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluoroheptanoic acid	0.0046	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorooctanoic acid	0.0317	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorobutanesulfonic acid	0.0082	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
Perfluorohexanesulfonic acid	0.0195	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0

FC9076-16 FCWTP-EF 002(EXISTING PLANT EFFLUENT/POST PUMPS)

Perfluorohexanoic acid	0.0018 J	0.0019	0.00074	ug/l	EPA 537.1 REV 1.0
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FC9076-17 FCWTP-EF 002 FB (EXISTING PLANT EFFLUENT)

No hits reported in this sample.

**Sample Results**

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**Report of Analysis**

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SGS North America Inc.

## Report of Analysis

Page 1 of 1

Client Sample ID:	FCWTP-INF 001(BOOSTER TAP)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-1	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105035.D	1	09/08/23 17:56	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0138		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0045		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0384		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0068		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0279		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0012		0.0019	0.00074	ug/l	J

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	110%		70-130%
	13C2-PFDA	114%		70-130%
	d5-EtFOSAA	90%		70-130%
	13C3-HFPO-DA	105%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

Page 1 of 1

Client Sample ID:	FCWTP-INF 001 FB	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-2	Date Received:	08/25/23
Matrix:	DW - Drinking Water FB	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105036.D	1	09/08/23 18:12	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	ND		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROCTANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	114%		70-130%
	d5-EtFOSAA	99%		70-130%
	13C3-HFPO-DA	107%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

Page 1 of 1

Client Sample ID:	FCWTP-INF 100(SA101)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-3	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105037.D	1	09/08/23 18:28	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0132		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0043		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0373		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	0.0068		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0274		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0011		0.0019	0.00074	ug/l	J
<b>PERFLUOROCTANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	111%		70-130%
	13C2-PFDA	116%		70-130%
	d5-EtFOSAA	93%		70-130%
	13C3-HFPO-DA	106%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound



SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-MP 105(SA105)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-4	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105038.D	1	09/08/23 18:43	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0010		0.0019	0.00074	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	111%		70-130%
	d5-EtFOSAA	85%		70-130%
	13C3-HFPO-DA	109%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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<b>Client Sample ID:</b> FCWTP-MP 105 FB	
<b>Lab Sample ID:</b> FC9076-5	<b>Date Sampled:</b> 08/24/23
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 08/25/23
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> PFAS Analysis	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105039.D	1	09/08/23 18:59	AL	09/01/23 08:50	OP98786	SQ2238
Run #2 <sup>a</sup>	Q105081.D	1	09/11/23 13:00	AL	09/01/23 08:50	OP98786	SQ2239

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

### Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.00084		0.0019	0.00074	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

<b>PERFLUOROCTANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	109%	114%	70-130%
	13C2-PFDA	111%	118%	70-130%
	d5-EtFOSAA	93%	93%	70-130%
	13C3-HFPO-DA	106%	128%	70-130%

ND = Not detected      MDL = Method Detection Limit      J = Indicates an estimated value  
 MCL = Maximum Contamination Level (40 CFR 141)      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

<b>Client Sample ID:</b> FCWTP-MP 105 FB	
<b>Lab Sample ID:</b> FC9076-5	<b>Date Sampled:</b> 08/24/23
<b>Matrix:</b> DW - Drinking Water FB	<b>Date Received:</b> 08/25/23
<b>Method:</b> EPA 537.1 REV 1.0 EPA 537	<b>Percent Solids:</b> n/a
<b>Project:</b> PFAS Analysis	

4.5  
4

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
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(a) Confirmation run.

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-50%MEDIA 50103(SA103)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-6	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105040.D	1	09/08/23 19:15	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0104		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0012		0.0019	0.00074	ug/l	J
335-67-1	Perfluorooctanoic acid	0.0014		0.0019	0.00074	ug/l	J
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0034		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	115%		70-130%
	13C2-PFDA	113%		70-130%
	d5-EtFOSAA	90%		70-130%
	13C3-HFPO-DA	112%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-50%MEDIA 50107(SA107)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-7	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105041.D	1	09/08/23 19:31	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0170		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0049		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0304		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0082		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0180		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	108%		70-130%
	13C2-PFDA	107%		70-130%
	d5-EtFOSAA	86%		70-130%
	13C3-HFPO-DA	100%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-EF 109(SA109)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-8	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105042.D	1	09/08/23 19:46	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0184		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0046		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0233		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0083		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0124		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	104%		70-130%
	13C2-PFDA	107%		70-130%
	d5-EtFOSAA	83%		70-130%
	13C3-HFPO-DA	100%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-INF 200(SA201)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-9	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105045.D	1	09/08/23 20:34	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0137		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0044		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0380		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0070		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0270		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0015		0.0019	0.00074	ug/l	J

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	118%		70-130%
	d5-EtFOSAA	92%		70-130%
	13C3-HFPO-DA	105%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-MP 205(SA205)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-10	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105046.D	1	09/08/23 20:50	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0025		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROOCETANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	112%		70-130%
	13C2-PFDA	112%		70-130%
	d5-EtFOSAA	84%		70-130%
	13C3-HFPO-DA	108%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound



SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-MP 205 FB	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-11	Date Received:	08/25/23
Matrix:	DW - Drinking Water FB	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105047.D	1	09/08/23 21:05	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	ND		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROOCETANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	104%		70-130%
	13C2-PFDA	108%		70-130%
	d5-EtFOSAA	91%		70-130%
	13C3-HFPO-DA	101%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-MP (SA105)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-12	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105048.D	1	09/08/23 21:21	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0011		0.0019	0.00074	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROOCETANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	114%		70-130%
	13C2-PFDA	113%		70-130%
	d5-EtFOSAA	88%		70-130%
	13C3-HFPO-DA	110%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-EF 209(SA209)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-13	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105049.D	1	09/08/23 21:37	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0188		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0051		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0273		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0094		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0150		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	114%		70-130%
	13C2-PFDA	109%		70-130%
	d5-EtFOSAA	89%		70-130%
	13C3-HFPO-DA	107%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-50%MEDIA 50203(SA203)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-14	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105050.D	1	09/08/23 21:53	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0129		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0016		0.0019	0.00074	ug/l	J
335-67-1	Perfluorooctanoic acid	0.0030		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0045		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0011		0.0019	0.00074	ug/l	J
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EiFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	105%		70-130%
	13C2-PFDA	107%		70-130%
	d5-EiFOSAA	86%		70-130%
	13C3-HFPO-DA	101%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-50%MEDIA 50207(SA207)	Date Sampled:	08/24/23
Lab Sample ID:	FC9076-15	Date Received:	08/25/23
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Method:	EPA 537.1 REV 1.0 EPA 537		
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105051.D	1	09/08/23 22:09	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0158		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0046		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	0.0317		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	0.0082		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0195		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCATANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	110%		70-130%
	13C2-PFDA	113%		70-130%
	d5-EtFOSAA	90%		70-130%
	13C3-HFPO-DA	103%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-EF 002(EXISTING PLANT EFFLUENT/POST PUMPS)		
Lab Sample ID:	FC9076-16	Date Sampled:	08/24/23
Matrix:	DW - Drinking Water	Date Received:	08/25/23
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105052.D	1	09/08/23 22:24	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	0.0018		0.0019	0.00074	ug/l	J
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROALKYLSULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	

## PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	

## NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	110%		70-130%
	13C2-PFDA	111%		70-130%
	d5-EtFOSAA	92%		70-130%
	13C3-HFPO-DA	105%		70-130%

ND = Not detected MDL = Method Detection Limit

MCL = Maximum Contamination Level (40 CFR 141)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

SGS North America Inc.

## Report of Analysis

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Client Sample ID:	FCWTP-EF 002 FB (EXISTING PLANT EFFLUENT)		
Lab Sample ID:	FC9076-17	Date Sampled:	08/24/23
Matrix:	DW - Drinking Water FB	Date Received:	08/25/23
Method:	EPA 537.1 REV 1.0 EPA 537	Percent Solids:	n/a
Project:	PFAS Analysis		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q105057.D	1	09/08/23 23:43	AL	09/01/23 08:50	OP98786	SQ2238
Run #2							

Run #	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

## Perfluorinated Alkyl Acids

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
<b>PERFLUOROALKYLCARBOXYLIC ACIDS</b>							
307-24-4	Perfluorohexanoic acid	ND		0.0019	0.00074	ug/l	
375-85-9	Perfluoroheptanoic acid	ND		0.0019	0.00074	ug/l	
335-67-1	Perfluorooctanoic acid	ND		0.0019	0.00074	ug/l	
375-95-1	Perfluorononanoic acid	ND		0.0019	0.00074	ug/l	
335-76-2	Perfluorodecanoic acid	ND		0.0019	0.00074	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND		0.0019	0.00074	ug/l	
307-55-1	Perfluorododecanoic acid	ND		0.0019	0.00074	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND		0.0019	0.00074	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROALKYLSULFONIC ACIDS</b>							
375-73-5	Perfluorobutanesulfonic acid	ND		0.0019	0.00074	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND		0.0019	0.00074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0019	0.00074	ug/l	
<b>PERFLUOROOCETANESULFONAMIDOACETIC ACIDS</b>							
2355-31-9	MeFOSAA	ND		0.0037	0.00093	ug/l	
2991-50-6	EtFOSAA	ND		0.0037	0.00093	ug/l	
<b>NEXT GENERATION PFAS ANALYTES</b>							
13252-13-6	HFPO-DA (GenX)	ND		0.0074	0.0028	ug/l	
919005-14-4	ADONA	ND		0.0074	0.0019	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.0074	0.0019	ug/l	
763051-92-9	11Cl-PF3OUds (F-53B Minor)	ND		0.0074	0.0019	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	13C2-PFHxA	106%		70-130%
	13C2-PFDA	111%		70-130%
	d5-EtFOSAA	94%		70-130%
	13C3-HFPO-DA	105%		70-130%

ND = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody





SGS North America Inc - Orlando  
Chain of Custody

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

4405

SGS - ORLANDO JOB #:

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FC 9076

Client / Reporting Information			Project Information			SGS - ORLANDO Quote #											SKIFF #			
Company Name: TOWN OF COUPEVILLE			Project Name FCWTP			Analytical Information											Matrix Codes			
434 WANNAMAHER RD			Street 434 WANNAMAHER RD														DW - Drinking Water			
COUPEVILLE WA 98277			City COUPEVILLE State WA														GW - Ground Water			
Project Contact: Joseph Grogan Email: publicworks@townofcoupeville.org			Project # N44255-21-0-001														WW - Water			
Phone #: 360-678-4461 EXT 113			Fax #														SW - Surface Water			
Sampler(s) Name(s) (Printed) Sampler 1: Jimmy Sampler 2: Jesse			Client Purchase Order #														SO - Soil			
																	SL - Sludge			
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION											LAB USE ONLY				
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NH <sub>4</sub> OH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH/ZnAc	DI WATER	MICH	PFAS EPA 537.1	PFAS EPA 537.1 (MS)	PFAS EPA 537.1 (MSD)		
1	FCWTP-INF 001 (booster tap)	8/24/23	1255	JW	DW	2														
2	FCWTP-INF 001 FB	8/24/23	1255	JW	DW	1														
3	FCWTP-INF 100 (SA101)	8/24/23	1305	JW	DW	2														
4	FCWTP-MP 105 (SA105)	8/24/23	1510	JW	DW	2														
5	FCWTP-MP 105 FB	8/24/23	1310	JW	DW	1														
6	FCWTP-50%MEDIA 50103 (SA103)	8/24/23	1315	JW	DW	2														
7	FCWTP-50%MEDIA 50107 (SA107)	8/24/23	1320	JW	DW	2														
8	FCWTP EF 109 (SA109)	8/24/23	1325	JW	DW	2														
9	FCWTP INF 200 (SA201)	8/24/23	1335	JW	DW	2														
10	FCWTP MP 205 (SA205)	8/24/23	1355	JW	DW	2														
11	FCWTP MP 205 FB	8/24/23	1355	JW	DW	1														
12	FCWTP MP (SA105)	8/24/23	1310	JW	DW	2														
Turnaround Time ( Business days)			Data Deliverable Information											Comments / Remarks						
10 Day (Business) Approved By: / Date: _____ 7 Day _____ 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____ Rush T/A Data Available VIA Email or Lablink			<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input type="checkbox"/> FULLT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S																	
Relinquished By/Sampler/Affiliation			Date Time:			Received By/Affiliation			Date Time:			Relinquished By/Affiliation			Date Time:			Received By/Affiliation		
[Signature]						[Signature] SGS 25 AUG 23														
Relinquished By/Affiliation			Date Time:			Received By/Affiliation			Date Time:			Relinquished By/Affiliation			Date Time:			Received By/Affiliation		

Copy of finished Chain of custody 2-2022 Rev 031318

3.2 FR#1

FC9076: Chain of Custody

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## MS Semi-volatiles

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### QC Data Summaries

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#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

## Method Blank Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98786-MB	Q105034.D	1	09/08/23	AL	09/01/23	OP98786	SQ2238

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FC9076-1, FC9076-2, FC9076-3, FC9076-4, FC9076-5, FC9076-6, FC9076-7, FC9076-8, FC9076-9, FC9076-10, FC9076-11, FC9076-12, FC9076-13, FC9076-14, FC9076-15, FC9076-16, FC9076-17

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0020	0.00080	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0020	0.00080	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.00080	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0020	0.00080	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0020	0.00080	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0020	0.00080	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0020	0.00080	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0020	0.00080	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0020	0.00080	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0020	0.00080	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0020	0.00080	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.00080	ug/l	
2355-31-9	MeFOSAA	ND	0.0040	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0040	0.0010	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0080	0.0030	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	Surrogate Recoveries	Limits	
	13C2-PFHxA	102%	70-130%
	13C2-PFDA	103%	70-130%
	d5-EtFOSAA	90%	70-130%
	13C3-HFPO-DA	101%	70-130%

**Blank Spike Summary**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98786-BS	Q105033.D	1	09/08/23	AL	09/01/23	OP98786	SQ2238

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FC9076-1, FC9076-2, FC9076-3, FC9076-4, FC9076-5, FC9076-6, FC9076-7, FC9076-8, FC9076-9, FC9076-10, FC9076-11, FC9076-12, FC9076-13, FC9076-14, FC9076-15, FC9076-16, FC9076-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0790	99	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0784	98	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0838	105	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0856	107	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0844	106	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0760	95	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0639	80	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0622	78	70-130
376-06-7	Perfluorotetradecanoic acid	0.08	0.0625	78	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0769	96	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0791	99	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0710	89	70-130
2355-31-9	MeFOSAA	0.08	0.0713	89	70-130
2991-50-6	EtFOSAA	0.08	0.0728	91	70-130
13252-13-6	HFPO-DA (GenX)	0.08	0.0805	101	70-130
919005-14-4	ADONA	0.08	0.0804	101	70-130
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0767	96	70-130
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0621	78	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	13C2-PFHxA	111%	70-130%
	13C2-PFDA	110%	70-130%
	d5-EtFOSAA	90%	70-130%
	13C3-HFPO-DA	108%	70-130%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98786-MS	Q105053.D	1	09/08/23	AL	09/01/23	OP98786	SQ2238
OP98786-MSD	Q105054.D	1	09/08/23	AL	09/01/23	OP98786	SQ2238
FC9076-16	Q105052.D	1	09/08/23	AL	09/01/23	OP98786	SQ2238

The QC reported here applies to the following samples:

Method: EPA 537.1 REV 1.0

FC9076-1, FC9076-2, FC9076-3, FC9076-4, FC9076-5, FC9076-6, FC9076-7, FC9076-8, FC9076-9, FC9076-10, FC9076-11, FC9076-12, FC9076-13, FC9076-14, FC9076-15, FC9076-16, FC9076-17

CAS No.	Compound	FC9076-16 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
307-24-4	Perfluorohexanoic acid	0.0018	J	0.0741	0.0745	98	0.0741	0.0749	99	1	70-130/30
375-85-9	Perfluoroheptanoic acid	ND		0.0741	0.0697	94	0.0741	0.0691	93	1	70-130/30
335-67-1	Perfluorooctanoic acid	ND		0.0741	0.0757	102	0.0741	0.0770	104	2	70-130/30
375-95-1	Perfluorononanoic acid	ND		0.0741	0.0778	105	0.0741	0.0777	105	0	70-130/30
335-76-2	Perfluorodecanoic acid	ND		0.0741	0.0780	105	0.0741	0.0777	105	0	70-130/30
2058-94-8	Perfluoroundecanoic acid	ND		0.0741	0.0642	87	0.0741	0.0677	91	5	70-130/30
307-55-1	Perfluorododecanoic acid	ND		0.0741	0.0541	73	0.0741	0.0542	73	0	70-130/30
72629-94-8	Perfluorotridecanoic acid	ND		0.0741	0.0524	71	0.0741	0.0539	73	3	70-130/30
376-06-7	Perfluorotetradecanoic acid	ND		0.0741	0.0487	66*	0.0741	0.0486	66*	0	70-130/30
375-73-5	Perfluorobutanesulfonic acid	ND		0.0741	0.0689	93	0.0741	0.0696	94	1	70-130/30
355-46-4	Perfluorohexanesulfonic acid	ND		0.0741	0.0718	97	0.0741	0.0730	99	2	70-130/30
1763-23-1	Perfluorooctanesulfonic acid	ND		0.0741	0.0649	88	0.0741	0.0640	86	1	70-130/30
2355-31-9	MeFOSAA	ND		0.0741	0.0653	88	0.0741	0.0656	89	0	70-130/30
2991-50-6	EtFOSAA	ND		0.0741	0.0663	90	0.0741	0.0670	90	1	70-130/30
13252-13-6	HFPO-DA (GenX)	ND		0.0741	0.0752	102	0.0741	0.0733	99	3	70-130/30
919005-14-4	ADONA	ND		0.0741	0.0764	103	0.0741	0.0762	103	0	70-130/30
756426-58-19	Cl-PF3ONS (F-53B Major)	ND		0.0741	0.0693	94	0.0741	0.0695	94	0	70-130/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	ND		0.0741	0.0567	77	0.0741	0.0587	79	3	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	FC9076-16	Limits
	13C2-PFHxA	104%	105%	110%	70-130%
	13C2-PFDA	102%	104%	111%	70-130%
	d5-EtFOSAA	81%	86%	92%	70-130%
	13C3-HFPO-DA	95%	99%	105%	70-130%

\* = Outside of Control Limits.

# Internal Standard Area Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Check Std:	SQ2238-ICC2238	Injection Date:	09/08/23
Lab File ID:	Q105026.D	Injection Time:	15:34
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal <sup>a</sup>	81726	4.12	50071	7.13	134163	7.14	27204	7.65	81926	8.06
Check Std <sup>b</sup>	80547	4.12	49591	7.13	133066	7.14	26909	7.65	81564	8.06
Upper Limit <sup>c</sup>	112766	5.12	69427	8.13	186292	8.14	37673	8.65	114190	9.06
Lower Limit <sup>d</sup>	56383	3.12	34714	6.13	93146	6.14	18836	6.65	57095	7.06

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
SQ2238-RT	80257	4.12	47919	7.14	133309	7.15	27783	7.65	83498	8.06

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA

- (a) Initial Cal is: SQ2238-ICC2238 Q105026.D 09/08/23 15:34. Area is AVERAGE of initial cal points.
- (b) Check Std Limit = -50 to + 50% of initial cal area.
- (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.
- (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

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# Internal Standard Area Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Check Std:	SQ2238-CC2238	Injection Date:	09/08/23
Lab File ID:	Q105031.D	Injection Time:	16:53
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal <sup>a</sup>	81726	4.12	50071	7.13	134163	7.14	27204	7.65	81926	8.06
Check Std <sup>b</sup>	78698	4.12	49374	7.13	131930	7.14	26753	7.65	78287	8.06
Upper Limit <sup>c</sup>	110177	5.12	69124	8.13	184702	8.14	37454	8.65	109602	9.06
Lower Limit <sup>d</sup>	55089	3.12	34562	6.13	92351	6.14	18727	6.65	54801	7.06

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
OP98786-BS	69459	4.12	43798	7.13	115805	7.14	23393	7.65	73458	8.06
OP98786-MB	75036	4.12	44329	7.13	126164	7.13	25553	7.64	78089	8.06
FC9076-1	72654	4.12	46795	7.14	124354	7.15	25860	7.67	81901	8.08
FC9076-2	70891	4.15	41917	7.13	116651	7.14	23564	7.65	74439	8.06
FC9076-3	65932	4.11	41014	7.13	113182	7.13	22776	7.65	72660	8.06
FC9076-4	70032	4.12	41602	7.13	116759	7.14	23159	7.64	73936	8.06
FC9076-5	71080	4.11	42521	7.13	118298	7.14	23500	7.65	73055	8.06
FC9076-6	69847	4.11	43087	7.13	118860	7.13	23454	7.64	75114	8.05
FC9076-7	74130	4.11	46608	7.11	129093	7.13	26290	7.64	80090	8.05
FC9076-8	69945	4.11	42909	7.11	120308	7.13	24899	7.64	77818	8.04

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA

(a) Initial Cal is: SQ2238-ICC2238 Q105026.D 09/08/23 15:34. Area is AVERAGE of initial cal points.

(b) Check Std Limit = -50 to + 50% of initial cal area.

(c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.

(d) Lower Limit = -30% of check standard area; Retention time -1 minutes.



# Internal Standard Area Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Check Std:	SQ2238-CC2238	Injection Date:	09/08/23
Lab File ID:	Q105043.D	Injection Time:	20:02
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal <sup>a</sup>	81726	4.12	50071	7.13	134163	7.14	27204	7.65	81926	8.06
Check Std <sup>b</sup>	79552	4.12	48566	7.13	129940	7.14	26043	7.64	78597	8.05
Upper Limit <sup>c</sup>	111373	5.12	67992	8.13	181916	8.14	36460	8.64	110036	9.05
Lower Limit <sup>d</sup>	55686	3.12	33996	6.13	90958	6.14	18230	6.64	55018	7.05

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
FC9076-9	67131	4.11	43460	7.11	118061	7.13	23603	7.64	74585	8.05
FC9076-10	68916	4.11	41724	7.11	116782	7.13	23971	7.64	74684	8.05
FC9076-11	72307	4.12	43449	7.13	122555	7.13	23627	7.64	76493	8.05
FC9076-12	70445	4.11	42386	7.11	117924	7.13	23694	7.64	75164	8.05
FC9076-13	69259	4.11	43204	7.13	120293	7.14	23770	7.64	75996	8.05
FC9076-14	66807	4.11	41211	7.11	113579	7.13	23119	7.64	71878	8.04
FC9076-15	70848	4.11	43752	7.11	124173	7.13	25240	7.63	76547	8.04
FC9076-16	69486	4.11	42906	7.11	118285	7.13	23475	7.64	74078	8.04
OP98786-MS	67436	4.10	41908	7.10	111739	7.12	22859	7.63	69347	8.04
OP98786-MSD	67333	4.10	41573	7.11	110461	7.13	22519	7.63	69356	8.04

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA

(a) Initial Cal is: SQ2238-ICC2238 Q105026.D 09/08/23 15:34. Area is AVERAGE of initial cal points.

(b) Check Std Limit = -50 to + 50% of initial cal area.

(c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.

(d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

# Internal Standard Area Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Check Std:	SQ2238-CC2238	Injection Date:	09/08/23
Lab File ID:	Q105055.D	Injection Time:	23:12
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal <sup>a</sup>	81726	4.12	50071	7.13	134163	7.14	27204	7.65	81926	8.06
Check Std <sup>b</sup>	78076	4.12	50153	7.11	125217	7.13	25471	7.64	73631	8.05
Upper Limit <sup>c</sup>	109306	5.12	70214	8.11	175304	8.13	35659	8.64	103083	9.05
Lower Limit <sup>d</sup>	54653	3.12	35107	6.11	87652	6.13	17830	6.64	51542	7.05

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
FC9076-17	69881	4.12	42746	7.11	118503	7.13	24385	7.64	75135	8.05
OP98787-BS	67927	4.15	44290	7.15	104650	7.17	22144	7.69	60183	8.12
OP98787-MB	64765	4.15	38306	7.17	107734	7.18	20888	7.69	67427	8.12
ZZZZZZ	65812	4.13	42286	7.17	116797	7.18	23721	7.69	73516	8.12
ZZZZZZ	78949	4.11	46806	7.11	130818	7.13	26412	7.64	84183	8.05
ZZZZZZ	70595	4.12	43159	7.13	118684	7.14	23601	7.64	75045	8.05
ZZZZZZ	69556	4.13	45060	7.13	117924	7.13	23718	7.64	73408	8.04

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA

- (a) Initial Cal is: SQ2238-ICC2238 Q105026.D 09/08/23 15:34. Area is AVERAGE of initial cal points.
- (b) Check Std Limit = -50 to + 50% of initial cal area.
- (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.
- (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.

# Internal Standard Area Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Check Std:	SQ2239-CC2238	Injection Date:	09/11/23
Lab File ID:	Q105079.D	Injection Time:	12:28
Instrument ID:	GCMSQ	Method:	EPA 537.1 REV 1.0

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal <sup>a</sup>	81726	4.12	50071	7.13	134163	7.14	27204	7.65	81926	8.06
Check Std <sup>b</sup>	85728	4.08	53924	7.09	137139	7.10	27957	7.60	89322	8.00
Upper Limit <sup>c</sup>	120019	5.08	75494	8.09	191995	8.10	39140	8.60	125051	9.00
Lower Limit <sup>d</sup>	60010	3.08	37747	6.09	95997	6.10	19570	6.60	62525	7.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
FC9076-5 <sup>e</sup>	74167	4.10	45257	7.10	120626	7.12	24437	7.62	79668	8.03

- IS 1 = 13C3-PFPeA
- IS 2 = 13C2-6:2FTS
- IS 3 = 13C2-PFOA
- IS 4 = 13C4-PFOS
- IS 5 = d3-MeFOSAA

- (a) Initial Cal is: SQ2238-ICC2238 Q105026.D 09/08/23 15:34. Area is AVERAGE of initial cal points.
- (b) Check Std Limit = -50 to + 50% of initial cal area.
- (c) Upper Limit = + 40% of check standard area; Retention time + 1 minutes.
- (d) Lower Limit = -30% of check standard area; Retention time -1 minutes.
- (e) Confirmation run.

6.4.5  
6

# Surrogate Recovery Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Method: EPA 537.1 REV 1.0	Matrix: DW
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FC9076-1	Q105035.D	110	114	90	105
FC9076-2	Q105036.D	112	114	99	107
FC9076-3	Q105037.D	111	116	93	106
FC9076-4	Q105038.D	112	111	85	109
FC9076-5	Q105081.D	114	118	93	128
FC9076-5	Q105039.D	109	111	93	106
FC9076-6	Q105040.D	115	113	90	112
FC9076-7	Q105041.D	108	107	86	100
FC9076-8	Q105042.D	104	107	83	100
FC9076-9	Q105045.D	112	118	92	105
FC9076-10	Q105046.D	112	112	84	108
FC9076-11	Q105047.D	104	108	91	101
FC9076-12	Q105048.D	114	113	88	110
FC9076-13	Q105049.D	114	109	89	107
FC9076-14	Q105050.D	105	107	86	101
FC9076-15	Q105051.D	110	113	90	103
FC9076-16	Q105052.D	110	111	92	105
FC9076-17	Q105057.D	106	111	94	105
OP98786-BS	Q105033.D	111	110	90	108
OP98786-MB	Q105034.D	102	103	90	101
OP98786-MS	Q105053.D	104	102	81	95
OP98786-MSD	Q105054.D	105	104	86	99

Surrogate Compounds                      Recovery Limits

S1 = 13C2-PFHxA	70-130%
S2 = 13C2-PFDA	70-130%
S3 = d5-EtFOSAA	70-130%
S4 = 13C3-HFPO-DA	70-130%

6.5.1  
6

# Initial Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-ICC2238  
 Lab FileID: Q105026.D

## Initial Calibration Report

Method Path	Method File	Batch Name	Last Calib Update	Calibration Files	Level Name	Acq. Date-Time	Level Last Update Time	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
D:\MassHunter\Methods	537_090823_SQ2238_quantmethod.xml	D:\MassHunter\Data\090823_DW_SQ2238\QuantResults\sq2238_batch.bin	9/11/2023 9:33:33 AM	D:\MassHunter\Data\090823_DW_SQ2238\Q105021.d	1	9/8/2023 2:15:36 PM	9/11/2023 9:33:33 AM	Quadratic	1.0671	1.0413	1.0649	1.0686	1.1228	1.1098	1.0161	0.8894	1.0475	6.912
D:\MassHunter\Data\090823_DW_SQ2238\Q105022.d	2	D:\MassHunter\Data\090823_DW_SQ2238\Q105023.d	3	D:\MassHunter\Data\090823_DW_SQ2238\Q105024.d	4	9/8/2023 2:31:23 PM	9/11/2023 9:33:33 AM	Quadratic	1.1542	1.1125	1.1254	1.0629	1.0972	1.0999	0.9854	0.8774	1.0643	8.527
D:\MassHunter\Data\090823_DW_SQ2238\Q105025.d	5	D:\MassHunter\Data\090823_DW_SQ2238\Q105026.d	6	D:\MassHunter\Data\090823_DW_SQ2238\Q105027.d	7	9/8/2023 2:47:10 PM	9/11/2023 9:33:33 AM	Quadratic	0.6912	0.6333	0.6710	0.6937	0.7368	0.7610	0.7605	0.8052	0.7191	7.846
D:\MassHunter\Data\090823_DW_SQ2238\Q105028.d	8					9/8/2023 3:02:58 PM	9/11/2023 9:33:33 AM	Linear	0.5983	0.5973	0.6167	0.6265	0.6713	0.6932	0.6879	0.7391	0.6538	7.904
						9/8/2023 3:18:45 PM	9/11/2023 9:33:33 AM	Linear	0.0213	0.0201	0.0210	0.0202	0.0217	0.0225	0.0211	0.0227	0.0213	4.589
						9/8/2023 3:34:32 PM	9/11/2023 9:33:33 AM	Linear	0.0283	0.0274	0.0271	0.0258	0.0288	0.0290	0.0278	0.0289	0.0278	4.020
						9/8/2023 3:50:20 PM	9/11/2023 9:33:33 AM	Linear	0.9215	0.8244	0.8208	0.8258	0.8824	0.8943	0.8648	0.9274	0.8702	4.985
						9/8/2023 4:06:06 PM	9/11/2023 9:33:33 AM	Linear	0.9989	1.0490	1.0683	1.1155	1.2034	1.2238	1.2184	1.3233	1.1501	9.520
								Linear	0.8460	0.8233	0.8582	0.9041	0.9412	0.9682	0.9408	0.9845	0.9083	6.601
								Linear	0.7835	0.7218	0.8025	0.8547	0.8763	0.8801	0.8482	0.8772	0.8305	6.817
								Quadratic	0.1877	0.1656	0.2097	0.2198	0.2218	0.2226	0.2278	0.2405	0.2119	11.396
								Linear	0.9605	0.9173	0.9569	0.9526	1.0313	1.0210	0.9880	0.9678	0.9744	3.853
								Linear	0.9549	0.9128	1.0088	0.9493	1.0389	1.0537	0.9961	1.0083	0.9904	4.833
								Linear	0.6325	0.6627	0.6812	0.6951	0.7285	0.7617	0.7508	0.8131	0.7157	8.240
								Linear	0.6635	0.6239	0.6707	0.6775	0.7255	0.7363	0.7332	0.7587	0.6987	6.624
								Linear	0.6741	0.6303	0.7108	0.7183	0.7593	0.7624	0.7552	0.7817	0.7240	7.098
								Linear	0.9810	0.9623	1.0428	1.0529	1.1225	1.1316	1.1062	1.2259	1.0781	8.008
								Linear	0.7098	0.7753	0.8275	0.8221	0.8493	0.8567	0.8108	0.8975	0.8186	6.924
								Linear	0.6813	0.6813	0.7727	0.7635	0.8200	0.8072	0.7774	0.8198	0.7697	6.450
								Linear	0.9057	1.0241	1.0285	1.1155	1.1648	1.1582	1.1246	1.2026	1.0905	8.963
								Linear	5.3398	5.4843	5.8546	6.0345	6.3393	6.4368	5.9147	6.2442	5.9560	6.599
								Linear	7.1424	7.0299	7.5074	7.8233	8.4797	8.3752	8.3662	8.8026	7.9408	8.342
								Linear	7.9270	7.9078	8.4766	8.7539	9.4497	9.4186	9.6492	10.32	8.9879	9.608

Generated at 9:33 AM on 9/11/2023

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# Initial Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-ICC2238  
 Lab FileID: Q105026.D

## Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFTeDA	Linear	6.7030	6.8878	7.4665	7.7224	8.4295	8.4691	8.3235	9.1283	7.8913	10.676
I d3-MeFOSAA	Linear	0.9032	0.9414	0.8678	0.8832	1.0127	1.0248	1.0189	1.0150	0.9584	6.991
T MeFOSAA	Quadratic	1.1690	0.9808	0.9291	0.9805	1.0669	1.0745	1.1202	1.2048	1.0657	9.123
S d5-EFOSAA	Quadratic	0.7388	0.8397	0.9810	0.9385	1.0008	0.9930	1.0212	1.1189	0.9540	12.261

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

# Initial Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-ICC2238  
 Lab FileID: Q105026.D

## Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	Curve Fit R2
T PFBA	Linear	$y = 0.752672 * x$	0.999658
T PFPeA	Linear	$y = 0.775652 * x$	0.999688
T PFBS	Linear	$y = 1.198802 * x$	0.997487
S 13C2-PFHxA	Quadratic	$y = 0.015941 * x^2 + 0.725064 * x$	0.999952
T PFHxA	Linear	$y = 0.727101 * x$	0.998628
S 13C3-HFPO-DA	Linear	$y = 0.022414 * x$	0.998743
T HFPO-DA	Linear	$y = 0.028392 * x$	0.999151
T PFHpA	Linear	$y = 0.913805 * x$	0.998856
T PFHxS	Linear	$y = 0.879088 * x$	0.997719
T ADONA	Linear	$y = 1.298696 * x$	0.998219
T 6:2FTS	Quadratic	$y = -0.051597 * x^2 + 1.147251 * x$	0.999966
T PFOA	Linear	$y = 0.975101 * x$	0.999495
T PFHpS	Linear	$y = 0.811169 * x$	0.999351
T PFOS	Linear	$y = 1.185751 * x$	0.998954
T PFNA	Linear	$y = 0.871634 * x$	0.999732
T 9C-HPF3ONS	Quadratic	$y = 0.004819 * x^2 + 0.216309 * x$	0.999988
T MeFOSAA	Linear	$y = 1.015754 * x$	0.999933
S 13C2-PFDA	Linear	$y = 0.973779 * x$	0.999740
T PFDA	Linear	$y = 1.007490 * x$	0.999841
T 8:2FTS	Quadratic	$y = -0.048576 * x^2 + 1.118532 * x$	0.999792
S d5-EFOSAA	Quadratic	$y = 0.033627 * x^2 + 1.036601 * x$	0.999985
T EtFOSAA	Quadratic	$y = 0.071523 * x^2 + 0.939326 * x$	0.999953
T PFUnDA	Linear	$y = 6.187050 * x$	0.999252
T 11C1-PF3OUdS	Linear	$y = 0.798592 * x$	0.998361
T PFDoDA	Linear	$y = 8.700863 * x$	0.999305
T PFTfDA	Linear	$y = 10.153538 * x$	0.998626
T PFTeDA	Linear	$y = 8.944845 * x$	0.997915

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

## Initial Calibration Verification

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-ICV2238  
 Lab FileID: Q105030.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105030  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	0.000	# -100.0	0.0
13C2-PFHxA	20.000	0.000	# -100.0	0.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	17.146	-14.3	85.7
8:2FTS	20.000	18.418	-7.9	92.1
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	40.000	0.000	# -100.0	0.0
EtFOSAA	20.000	20.787	3.9	103.9
MeFOSAA	20.000	19.291	-3.5	96.5
PFBA	20.000	18.730	-6.4	93.6
PFBS	20.000	15.148	-24.3	75.7
PFDA	20.000	19.862	-0.7	99.3
PFDoDA	20.000	19.819	-0.9	99.1
PFHpA	20.000	18.292	-8.5	91.5
PFHpS	20.000	18.281	-8.6	91.4
PFHxA	20.000	17.265	-13.7	86.3
PFHxS	20.000	16.164	-19.2	80.8
PFNA	20.000	17.970	-10.1	89.9
PFOA	20.000	19.636	-1.8	98.2
PFOS	20.000	18.490	-7.5	92.5
PFPeA	20.000	17.821	-10.9	89.1
PFTeDA	20.000	17.263	-13.7	86.3
PFTTrDA	20.000	20.130	0.6	100.6
PFUnDA	20.000	20.019	0.1	100.1
ADONA	20.000	17.905	-10.5	89.5
9Cl-PF3ONS	20.000	17.913	-10.4	89.6
11Cl-PF3OUdS	20.000	16.469	-17.7	82.3
13C3-HFPO-DA	40.000	0.000	# -100.0	0.0
HFPO-DA	20.000	20.079	0.4	100.4

CC Criteria: +/- 30%



**Continuing Calibration Summary**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-CC2238  
 Lab FileID: Q105031.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105031  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	20.556	2.8	102.8
13C2-PFHxA	20.000	20.235	1.2	101.2
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	20.046	0.2	100.2
8:2FTS	20.000	20.063	0.3	100.3
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	40.000	41.404	3.5	103.5
EtFOSAA	20.000	21.168	5.8	105.8
MeFOSAA	20.000	20.531	2.7	102.7
PFBA	20.000	19.597	-2.0	98.0
PFBS	20.000	18.460	-7.7	92.3
PFDA	20.000	20.660	3.3	103.3
PFDoDA	20.000	19.766	-1.2	98.8
PFHpA	20.000	19.180	-4.1	95.9
PFHpS	20.000	19.791	-1.0	99.0
PFHxA	20.000	18.776	-6.1	93.9
PFHxS	20.000	18.991	-5.0	95.0
PFNA	20.000	19.839	-0.8	99.2
PFOA	20.000	19.680	-1.6	98.4
PFOS	20.000	19.888	-0.6	99.4
PFPeA	20.000	19.478	-2.6	97.4
PFTeDA	20.000	18.671	-6.6	93.4
PFTTrDA	20.000	19.031	-4.8	95.2
PFUnDA	20.000	20.010	0.1	100.1
ADONA	20.000	18.641	-6.8	93.2
9Cl-PF3ONS	20.000	20.244	1.2	101.2
11Cl-PF3OUdS	20.000	18.068	-9.7	90.3
13C3-HFPO-DA	40.000	38.902	-2.7	97.3
HFPO-DA	20.000	19.453	-2.7	97.3

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Page 1 of 1

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-CC2238  
 Lab FileID: Q105032.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105032  
 Type : QC  
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	0.500	0.495	-1.1	98.9
13C2-PFHxA	0.500	0.475	-5.0	95.0
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	0.500	0.461	-7.7	92.3
8:2FTS	0.500	0.505	1.0	101.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	1.000	1.263	26.3	126.3
EtFOSAA	0.500	0.634	26.7	126.7
MeFOSAA	0.500	0.601	20.2	120.2
PFBA	0.500	0.428	-14.4	85.6
PFBS	0.500	0.428	-14.4	85.6
PFDA	0.500	0.427	-14.5	85.5
PFDoDA	0.500	0.433	-13.5	86.5
PFHpA	0.500	0.464	-7.2	92.8
PFHpS	0.500	0.425	-15.1	84.9
PFHxA	0.500	0.408	-18.4	81.6
PFHxS	0.500	0.423	-15.3	84.7
PFNA	0.500	0.442	-11.6	88.4
PFOA	0.500	0.419	-16.3	83.7
PFOS	0.500	0.435	-12.9	87.1
PFPeA	0.500	0.445	-11.1	88.9
PFTeDA	0.500	0.424	-15.1	84.9
PFTTrDA	0.500	0.402	-19.6	80.4
PFUnDA	0.500	0.424	-15.2	84.8
ADONA	0.500	0.403	-19.5	80.5
9Cl-PF3ONS	0.500	0.526	5.3	105.3
11Cl-PF3OUdS	0.500	0.411	-17.8	82.2
13C3-HFPO-DA	1.000	1.025	2.5	102.5
HFPO-DA	0.500	0.489	-2.1	97.9

CC Criteria: +/- 30%

## Continuing Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-CC2238  
 Lab FileID: Q105043.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105043  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	20.977	4.9	104.9
13C2-PFHxA	20.000	20.527	2.6	102.6
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	20.291	1.5	101.5
8:2FTS	20.000	20.208	1.0	101.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	40.000	40.295	0.7	100.7
EtFOSAA	20.000	20.646	3.2	103.2
MeFOSAA	20.000	20.812	4.1	104.1
PFBA	20.000	19.553	-2.2	97.8
PFBS	20.000	19.048	-4.8	95.2
PFDA	20.000	21.101	5.5	105.5
PFDoDA	20.000	19.715	-1.4	98.6
PFHpA	20.000	19.075	-4.6	95.4
PFHpS	20.000	20.435	2.2	102.2
PFHxA	20.000	19.194	-4.0	96.0
PFHxS	20.000	19.500	-2.5	97.5
PFNA	20.000	20.312	1.6	101.6
PFOA	20.000	20.037	0.2	100.2
PFOS	20.000	19.482	-2.6	97.4
PFPeA	20.000	19.422	-2.9	97.1
PFTeDA	20.000	19.078	-4.6	95.4
PFTrDA	20.000	19.516	-2.4	97.6
PFUnDA	20.000	19.834	-0.8	99.2
ADONA	20.000	19.025	-4.9	95.1
9Cl-PF3ONS	20.000	20.768	3.8	103.8
11Cl-PF3OUdS	20.000	18.885	-5.6	94.4
13C3-HFPO-DA	40.000	38.952	-2.6	97.4
HFPO-DA	20.000	19.328	-3.4	96.6

CC Criteria: +/- 30%

## Continuing Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-CC2238  
 Lab FileID: Q105055.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105055  
 Type : QC  
 Level : 7

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	50.000	49.714	-0.6	99.4
13C2-PFHxA	50.000	49.720	-0.6	99.4
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	50.000	48.610	-2.8	97.2
8:2FTS	50.000	47.685	-4.6	95.4
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	100.000	96.720	-3.3	96.7
EtFOSAA	50.000	49.171	-1.7	98.3
MeFOSAA	50.000	49.710	-0.6	99.4
PFBA	50.000	49.401	-1.2	98.8
PFBS	50.000	47.464	-5.1	94.9
PFDA	50.000	49.262	-1.5	98.5
PFDoDA	50.000	48.150	-3.7	96.3
PFHpA	50.000	47.168	-5.7	94.3
PFHpS	50.000	49.676	-0.6	99.4
PFHxA	50.000	48.005	-4.0	96.0
PFHxS	50.000	48.813	-2.4	97.6
PFNA	50.000	48.803	-2.4	97.6
PFOA	50.000	48.357	-3.3	96.7
PFOS	50.000	48.071	-3.9	96.1
PFPeA	50.000	47.915	-4.2	95.8
PFTeDA	50.000	47.185	-5.6	94.4
PFTTrDA	50.000	47.081	-5.8	94.2
PFUnDA	50.000	49.762	-0.5	99.5
ADONA	50.000	47.696	-4.6	95.4
9Cl-PF3ONS	50.000	50.533	1.1	101.1
11Cl-PF3OUdS	50.000	46.780	-6.4	93.6
13C3-HFPO-DA	100.000	97.549	-2.5	97.5
HFPO-DA	50.000	49.947	-0.1	99.9

CC Criteria: +/- 30%

## Continuing Calibration Summary

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2238-CC2238  
 Lab FileID: Q105064.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\090823\_DW\_SQ2238\sq2238.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105064  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	21.364	6.8	106.8
13C2-PFHxA	20.000	20.381	1.9	101.9
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	19.814	-0.9	99.1
8:2FTS	20.000	19.996	0.0	100.0
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	40.000	41.242	3.1	103.1
EtFOSAA	20.000	20.536	2.7	102.7
MeFOSAA	20.000	20.381	1.9	101.9
PFBA	20.000	19.817	-0.9	99.1
PFBS	20.000	18.470	-7.6	92.4
PFDA	20.000	21.194	6.0	106.0
PFDoDA	20.000	18.887	-5.6	94.4
PFHpA	20.000	19.798	-1.0	99.0
PFHpS	20.000	20.148	0.7	100.7
PFHxA	20.000	19.015	-4.9	95.1
PFHxS	20.000	20.220	1.1	101.1
PFNA	20.000	20.740	3.7	103.7
PFOA	20.000	19.898	-0.5	99.5
PFOS	20.000	19.492	-2.5	97.5
PFPeA	20.000	19.299	-3.5	96.5
PFTeDA	20.000	18.621	-6.9	93.1
PFTTrDA	20.000	18.287	-8.6	91.4
PFUnDA	20.000	20.210	1.0	101.0
ADONA	20.000	19.032	-4.8	95.2
9Cl-PF3ONS	20.000	20.511	2.6	102.6
11Cl-PF3OUdS	20.000	18.785	-6.1	93.9
13C3-HFPO-DA	40.000	39.283	-1.8	98.2
HFPO-DA	20.000	20.372	1.9	101.9

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2239-CC2238  
 Lab FileID: Q105079.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\091123\_DW\_SQ2239\sq2239.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105079  
 Type : QC  
 Level : 6

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	20.000	22.238	11.2	111.2
13C2-PFHxA	20.000	20.778	3.9	103.9
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	20.000	19.650	-1.7	98.3
8:2FTS	20.000	20.349	1.7	101.7
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	40.000	40.453	1.1	101.1
EtFOSAA	20.000	20.388	1.9	101.9
MeFOSAA	20.000	20.031	0.2	100.2
PFBA	20.000	19.283	-3.6	96.4
PFBS	20.000	19.384	-3.1	96.9
PFDA	20.000	21.654	8.3	108.3
PFDoDA	20.000	19.501	-2.5	97.5
PFHpA	20.000	19.818	-0.9	99.1
PFHpS	20.000	20.327	1.6	101.6
PFHxA	20.000	19.234	-3.8	96.2
PFHxS	20.000	20.470	2.3	102.3
PFNA	20.000	21.499	7.5	107.5
PFOA	20.000	20.072	0.4	100.4
PFOS	20.000	19.301	-3.5	96.5
PFPeA	20.000	20.810	4.1	104.1
PFTeDA	20.000	19.297	-3.5	96.5
PFTrDA	20.000	18.858	-5.7	94.3
PFUnDA	20.000	21.786	8.9	108.9
ADONA	20.000	19.045	-4.8	95.2
9Cl-PF3ONS	20.000	20.861	4.3	104.3
11Cl-PF3OUdS	20.000	19.728	-1.4	98.6
13C3-HFPO-DA	40.000	46.740	16.9	116.9
HFPO-DA	20.000	23.668	18.3	118.3

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2239-CC2238  
 Lab FileID: Q105080.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\091123\_DW\_SQ2239\sq2239.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105080  
 Type : QC  
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	0.500	0.491	-1.9	98.1
13C2-PFHxA	0.500	0.483	-3.3	96.7
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	0.500	0.426	-14.7	85.3
8:2FTS	0.500	0.504	0.8	100.8
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	1.000	1.054	5.4	105.4
EtFOSAA	0.500	0.481	-3.7	96.3
MeFOSAA	0.500	0.534	6.7	106.7
PFBA	0.500	0.436	-12.7	87.3
PFBS	0.500	0.422	-15.6	84.4
PFDA	0.500	0.459	-8.3	91.7
PFDoDA	0.500	0.406	-18.8	81.2
PFHpA	0.500	0.490	-2.1	97.9
PFHpS	0.500	0.408	-18.5	81.5
PFHxA	0.500	0.411	-17.8	82.2
PFHxS	0.500	0.431	-13.9	86.1
PFNA	0.500	0.452	-9.6	90.4
PFOA	0.500	0.449	-10.2	89.8
PFOS	0.500	0.454	-9.3	90.7
PFPeA	0.500	0.464	-7.3	92.7
PFTeDA	0.500	0.415	-16.9	83.1
PFTTrDA	0.500	0.396	-20.9	79.1
PFUnDA	0.500	0.449	-10.2	89.8
ADONA	0.500	0.399	-20.3	79.7
9Cl-PF3ONS	0.500	0.461	-7.9	92.1
11Cl-PF3OUdS	0.500	0.361	-27.7	72.3
13C3-HFPO-DA	1.000	1.086	8.6	108.6
HFPO-DA	0.500	0.449	-10.3	89.7

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Sample: SQ2239-CC2238  
 Lab FileID: Q105082.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\091123\_DW\_SQ2239\sq2239.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105021.d  
 2:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105022.d  
 3:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105023.d  
 4:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105024.d  
 5:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105025.d  
 6:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105026.d  
 7:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105027.d  
 8:D:\MassHunter\Data\090823\_DW\_SQ2238\Q105028.d

Data File: Q105082  
 Type : QC  
 Level : 7

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-6:2FTS	---	--ISTD--		
13C2-PFDA	50.000	53.409	6.8	106.8
13C2-PFHxA	50.000	49.839	-0.3	99.7
13C2-PFOA	---	--ISTD--		
13C3-PFPeA	---	--ISTD--		
13C4-PFOS	---	--ISTD--		
6:2FTS	50.000	48.590	-2.8	97.2
8:2FTS	50.000	49.415	-1.2	98.8
d3-MeFOSAA	---	--ISTD--		
d5-EtFOSAA	100.000	97.106	-2.9	97.1
EtFOSAA	50.000	48.836	-2.3	97.7
MeFOSAA	50.000	49.632	-0.7	99.3
PFBA	50.000	48.329	-3.3	96.7
PFBS	50.000	47.200	-5.6	94.4
PFDA	50.000	51.854	3.7	103.7
PFDoDA	50.000	46.634	-6.7	93.3
PFHpA	50.000	49.069	-1.9	98.1
PFHpS	50.000	48.008	-4.0	96.0
PFHxA	50.000	48.292	-3.4	96.6
PFHxS	50.000	49.956	-0.1	99.9
PFNA	50.000	51.088	2.2	102.2
PFOA	50.000	48.657	-2.7	97.3
PFOS	50.000	47.189	-5.6	94.4
PFPeA	50.000	51.018	2.0	102.0
PFTeDA	50.000	45.629	-8.7	91.3
PFTTrDA	50.000	45.630	-8.7	91.3
PFUnDA	50.000	51.624	3.2	103.2
ADONA	50.000	47.339	-5.3	94.7
9Cl-PF3ONS	50.000	50.078	0.2	100.2
11Cl-PF3OUdS	50.000	48.242	-3.5	96.5
13C3-HFPO-DA	100.000	113.041	13.0	113.0
HFPO-DA	50.000	58.250	16.5	116.5

CC Criteria: +/- 30%



## Run Sequence Report

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Run ID: SQ2238	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2238-IC2238	Q105020.D	09/08/23 13:59	n/a	Mass Calibration Verification
SQ2238-IC2238	Q105021.D	09/08/23 14:15	n/a	Initial cal 0.5
SQ2238-IC2238	Q105022.D	09/08/23 14:31	n/a	Initial cal 1
SQ2238-IC2238	Q105023.D	09/08/23 14:47	n/a	Initial cal 2
SQ2238-IC2238	Q105024.D	09/08/23 15:02	n/a	Initial cal 5
SQ2238-IC2238	Q105025.D	09/08/23 15:18	n/a	Initial cal 10
SQ2238-ICC2238	Q105026.D	09/08/23 15:34	n/a	Initial cal 20
SQ2238-IC2238	Q105027.D	09/08/23 15:50	n/a	Initial cal 50
SQ2238-IC2238	Q105028.D	09/08/23 16:06	n/a	Initial cal 100
SQ2238-RT	Q105029.D	09/08/23 16:21	n/a	Retention Time Marker
SQ2238-ICV2238	Q105030.D	09/08/23 16:37	n/a	Initial cal verification 20
SQ2238-CC2238	Q105031.D	09/08/23 16:53	n/a	Continuing cal 20
SQ2238-CC2238	Q105032.D	09/08/23 17:09	n/a	Continuing cal 0.5
OP98786-BS	Q105033.D	09/08/23 17:24	OP98786	Blank Spike
OP98786-MB	Q105034.D	09/08/23 17:40	OP98786	Method Blank
FC9076-1	Q105035.D	09/08/23 17:56	OP98786	FCWTP-INF 001(BOOSTER TAP)
FC9076-2	Q105036.D	09/08/23 18:12	OP98786	FCWTP-INF 001 FB
FC9076-3	Q105037.D	09/08/23 18:28	OP98786	FCWTP-INF 100(SA101)
FC9076-4	Q105038.D	09/08/23 18:43	OP98786	FCWTP-MP 105(SA105)
FC9076-5	Q105039.D	09/08/23 18:59	OP98786	FCWTP-MP 105 FB
FC9076-6	Q105040.D	09/08/23 19:15	OP98786	FCWTP-50%MEDIA 50103(SA103)
FC9076-7	Q105041.D	09/08/23 19:31	OP98786	FCWTP-50%MEDIA 50107(SA107)
FC9076-8	Q105042.D	09/08/23 19:46	OP98786	FCWTP-EF 109(SA109)
SQ2238-CC2238	Q105043.D	09/08/23 20:02	n/a	Continuing cal 20
FC9076-9	Q105045.D	09/08/23 20:34	OP98786	FCWTP-INF 200(SA201)
FC9076-10	Q105046.D	09/08/23 20:50	OP98786	FCWTP-MP 205(SA205)
FC9076-11	Q105047.D	09/08/23 21:05	OP98786	FCWTP-MP 205 FB
FC9076-12	Q105048.D	09/08/23 21:21	OP98786	FCWTP-MP (SA105)
FC9076-13	Q105049.D	09/08/23 21:37	OP98786	FCWTP-EF 209(SA209)
FC9076-14	Q105050.D	09/08/23 21:53	OP98786	FCWTP-50%MEDIA 50203(SA203)
FC9076-15	Q105051.D	09/08/23 22:09	OP98786	FCWTP-50%MEDIA 50207(SA207)
FC9076-16	Q105052.D	09/08/23 22:24	OP98786	FCWTP-EF 002(EXISTING PLANT EFFLUENT/POS
OP98786-MS	Q105053.D	09/08/23 22:40	OP98786	Matrix Spike
OP98786-MSD	Q105054.D	09/08/23 22:56	OP98786	Matrix Spike Duplicate
SQ2238-CC2238	Q105055.D	09/08/23 23:12	n/a	Continuing cal 50
FC9076-17	Q105057.D	09/08/23 23:43	OP98786	FCWTP-EF 002 FB (EXISTING PLANT EFFLUENT)
OP98787-BS	Q105058.D	09/08/23 23:59	OP98787	Blank Spike
OP98787-MB	Q105059.D	09/09/23 00:15	OP98787	Method Blank
ZZZZZZ	Q105060.D	09/09/23 00:31	OP98787	(unrelated sample)
ZZZZZZ	Q105061.D	09/09/23 00:46	OP98787	(unrelated sample)
ZZZZZZ	Q105062.D	09/09/23 01:02	OP98787	(unrelated sample)
ZZZZZZ	Q105063.D	09/09/23 01:18	OP98787	(unrelated sample)
SQ2238-CC2238	Q105064.D	09/09/23 01:34	n/a	Continuing cal 20
FC9120-5	Q105066.D	09/09/23 02:05	OP98787	(used for QC only; not part of job FC9076)
OP98787-MS	Q105067.D	09/09/23 02:21	OP98787	Matrix Spike
OP98787-MSD	Q105068.D	09/09/23 02:37	OP98787	Matrix Spike Duplicate

# Run Sequence Report

Job Number: FC9076  
Account: TOCOUWAC Town of Coupeville  
Project: PFAS Analysis

Run ID: SQ2238	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2238-CC2238	Q105069.D	09/09/23 02:53	n/a	Continuing cal 50
ZZZZZZ	Q105071.D	09/09/23 03:24	OP98787	(unrelated sample)
SQ2238-ECC2238	Q105072.D	09/09/23 03:40	n/a	Ending cal 20

6.7.1  
6

**Run Sequence Report**

Job Number: FC9076  
 Account: TOCOUWAC Town of Coupeville  
 Project: PFAS Analysis

Run ID: SQ2239	Method: EPA 537.1 REV 1.0	Instrument ID: GCMSQ
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
SQ2239-RT	Q105078.D	09/11/23 12:12	n/a	Retention Time Marker
SQ2239-CC2238	Q105079.D	09/11/23 12:28	n/a	Continuing cal 20
SQ2239-CC2238	Q105080.D	09/11/23 12:44	n/a	Continuing cal 0.5
FC9076-5	Q105081.D	09/11/23 13:00	OP98786	FCWTP-MP 105 FB
SQ2239-CC2238	Q105082.D	09/11/23 13:16	n/a	Continuing cal 50
OP98787-MB	Q105084.D	09/11/23 13:47	OP98787	Method Blank
ZZZZZZ	Q105085.D	09/11/23 14:03	OP98787	(unrelated sample)
SQ2239-ECC2238	Q105087.D	09/11/23 14:34	n/a	Ending cal 20

**MS Semi-volatiles**

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**Raw Data**

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Norman Farmer  
 09/11/23 11:37

### Perfluorinated Compounds by LC/MS/MS

Data File : Q105035.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 5:56:32 PM  
 Sample Name : fc9076-1  
 Vial : P1-B5  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

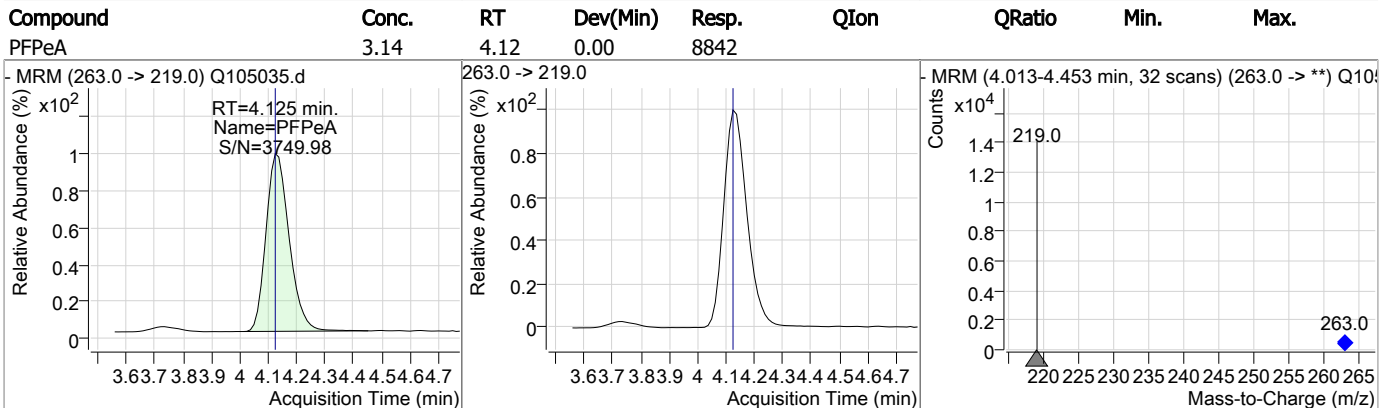
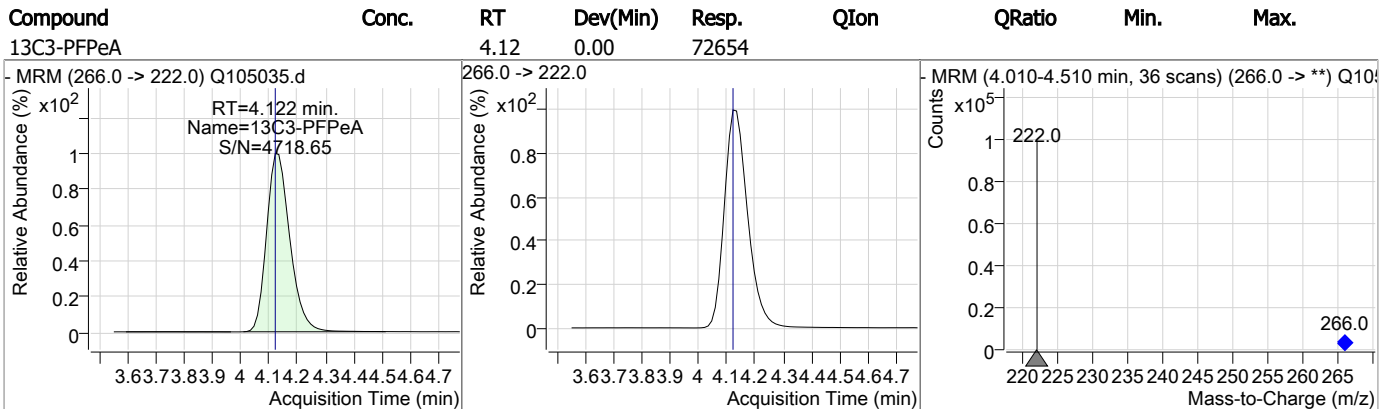
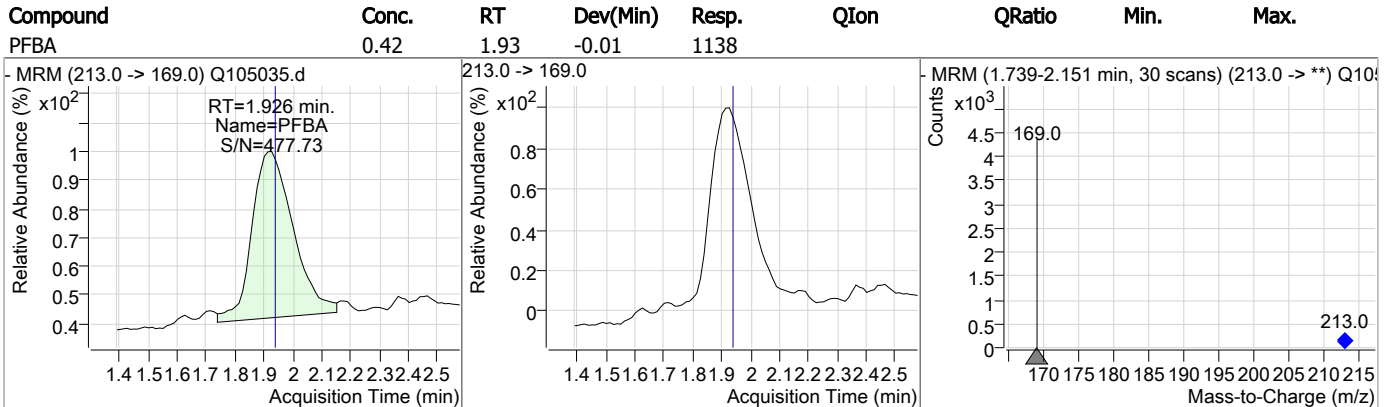
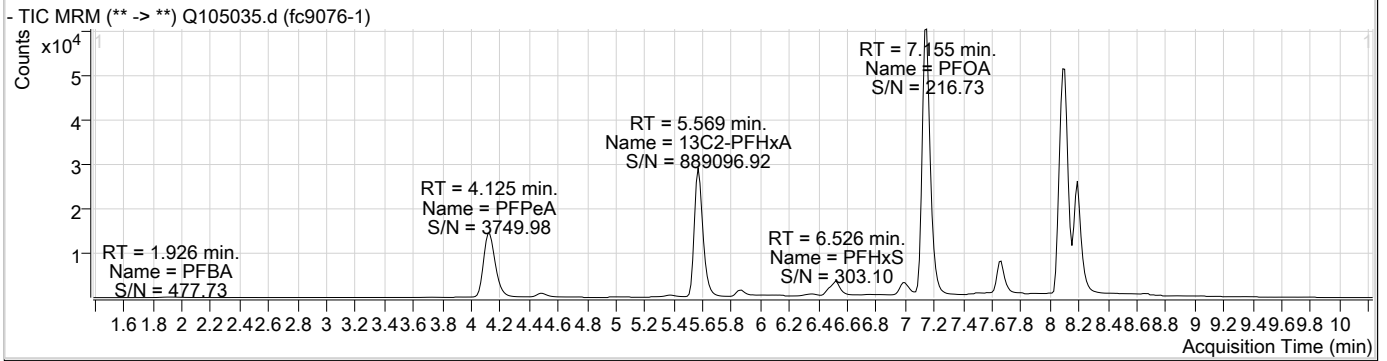
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.139	429.0 -> 409.0	46795	20.00	µg/L	0.013	
13C2-PFOA	7.154	415.0 -> 370.0	124354	20.00	µg/L	0.013	
13C3-PFPeA	4.122	266.0 -> 222.0	72654	20.00	µg/L	0.000	
13C4-PFOS	7.666	503.0 -> 80.0	25860	20.00	µg/L	0.013	
d3-MeFOSAA	8.077	573.0 -> 419.0	81901	40.00	µg/L	0.013	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.107	515.0 -> 470.0	138602	22.89	µg/L	0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 114.5%			
13C2-PFHxA	5.569	315.0 -> 270.0	102018	22.09	µg/L	0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.5%			
d5-EtFOSAA	8.189	589.0 -> 419.0	78800	36.07	µg/L	0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 90.2%			
13C3-HFPO-DA	5.863	287.0 -> 169.0	5856	42.02	µg/L	0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 105.1%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.926	213.0 -> 169.0	1138	0.42	µg/L	100	
PFBS	4.478	299.0 -> 80.0	2832	1.83	µg/L	m	96
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.477	363.0 -> 319.0	6969	1.23	µg/L	m	97
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.571	313.0 -> 269.0	16840	3.72	µg/L		100
PFHxS	6.526	399.0 -> 80.0	8553	7.52	µg/L	m	100
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.155	413.0 -> 369.0	62864	10.37	µg/L	m	95
PFOS	7.475	499.0 -> 80.0	477	0.31	µg/L	m	63
PFPeA	4.125	263.0 -> 219.0	8842	3.14	µg/L		100
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

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

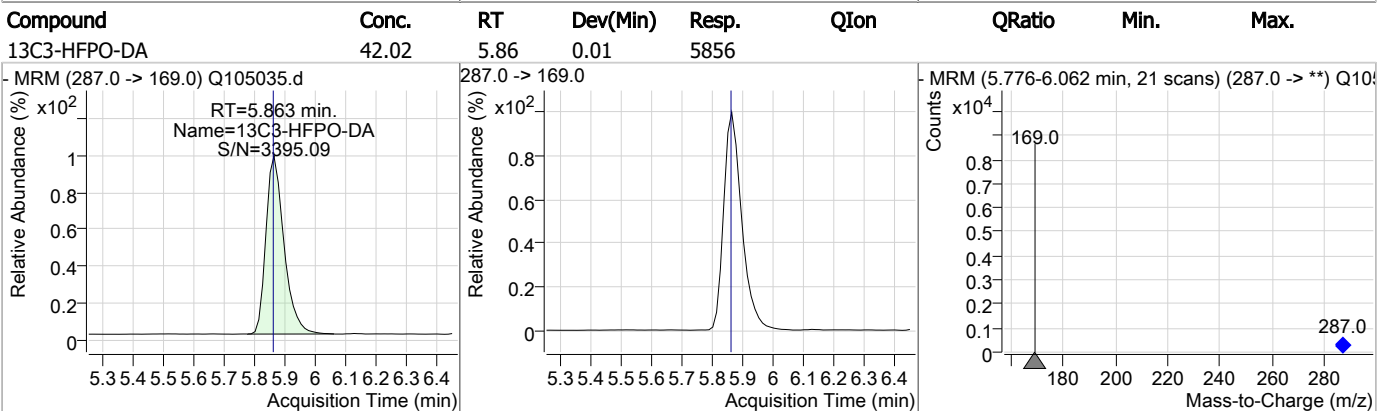
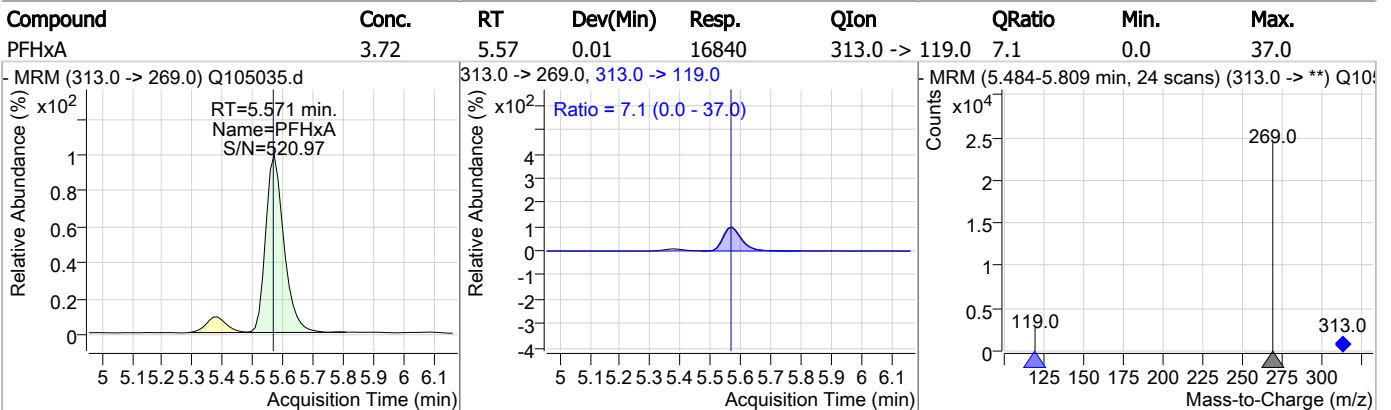
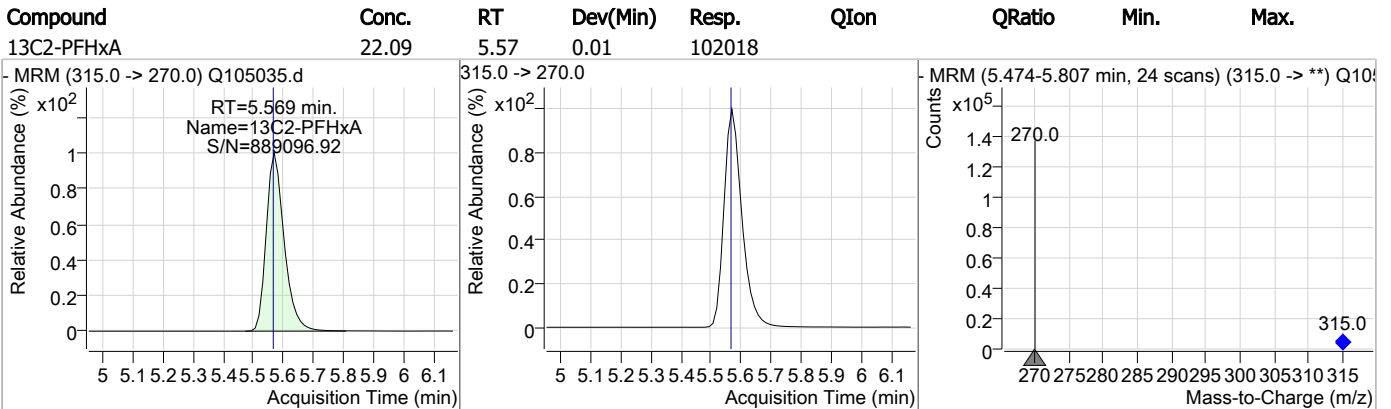
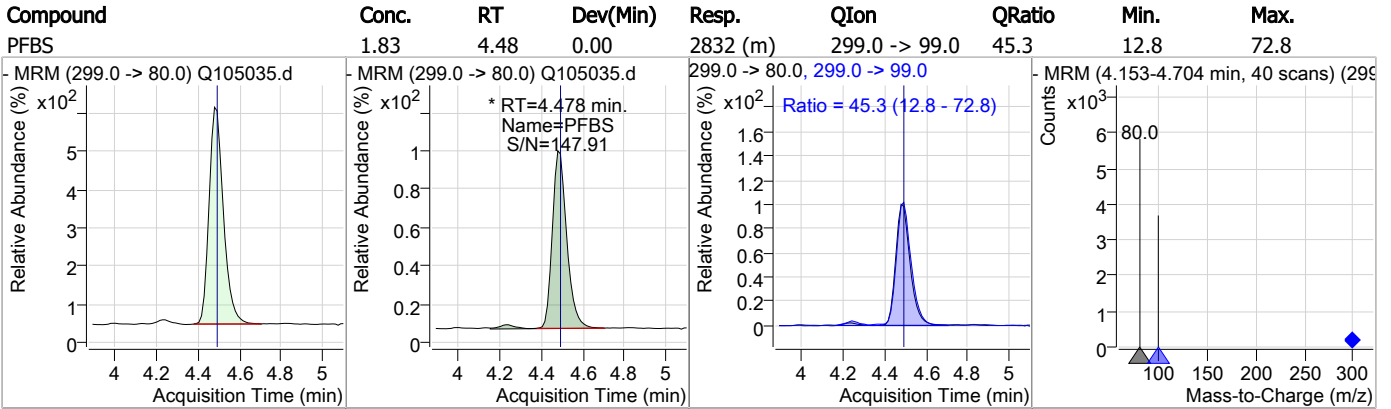
7.1.1  
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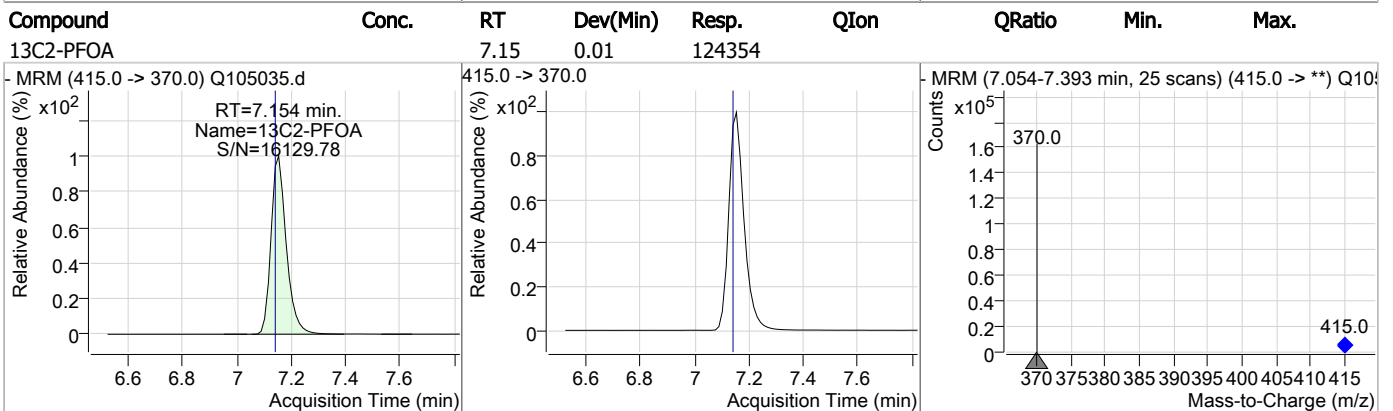
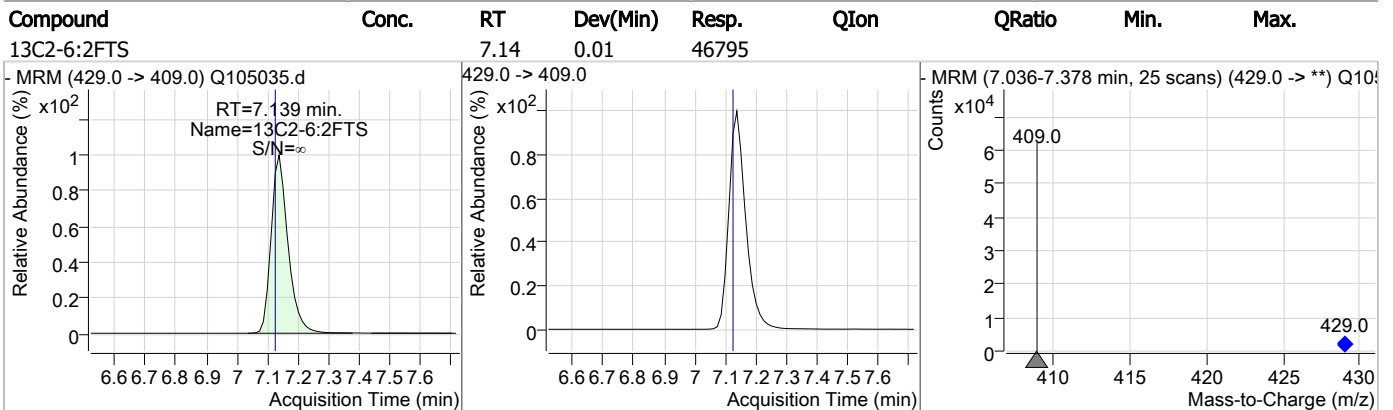
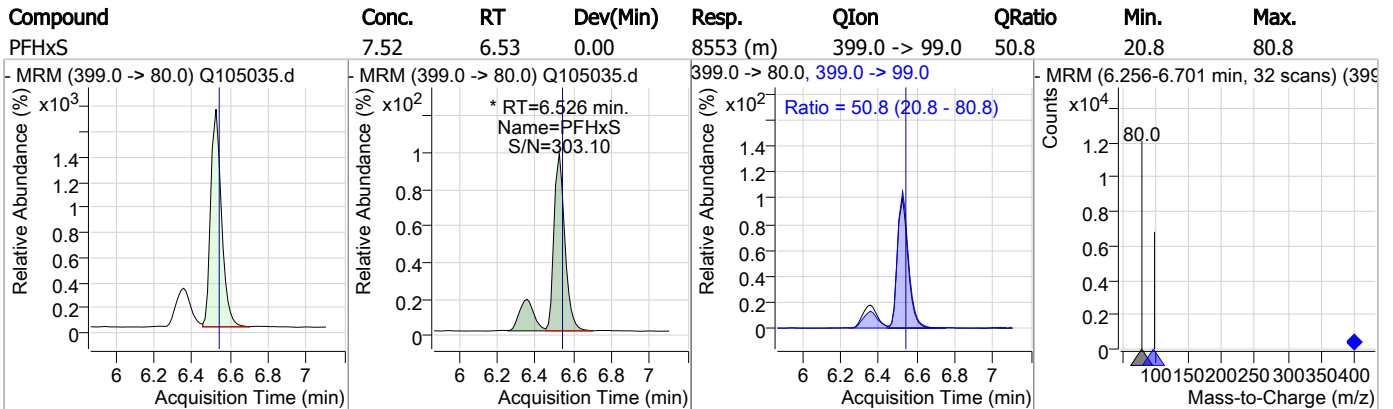
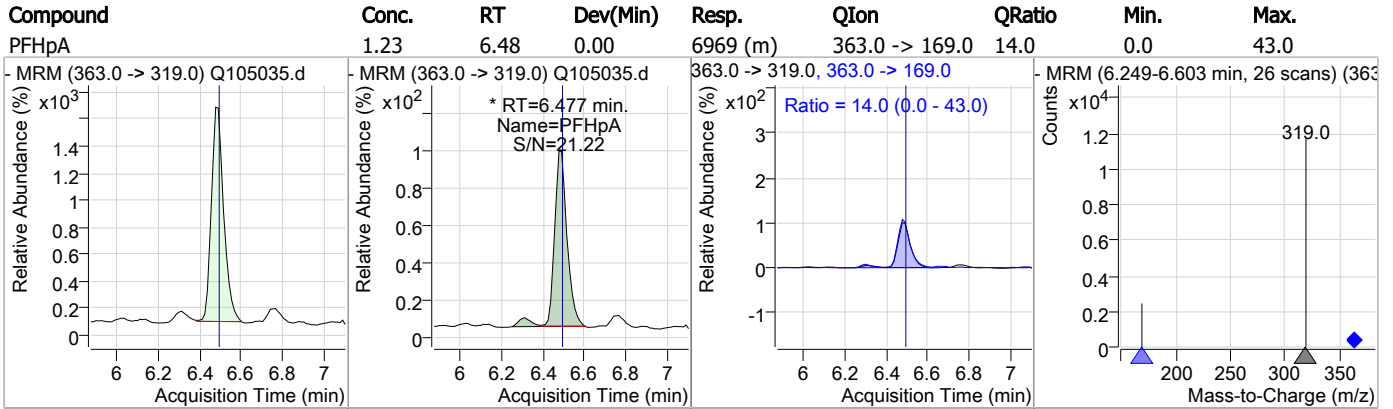
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

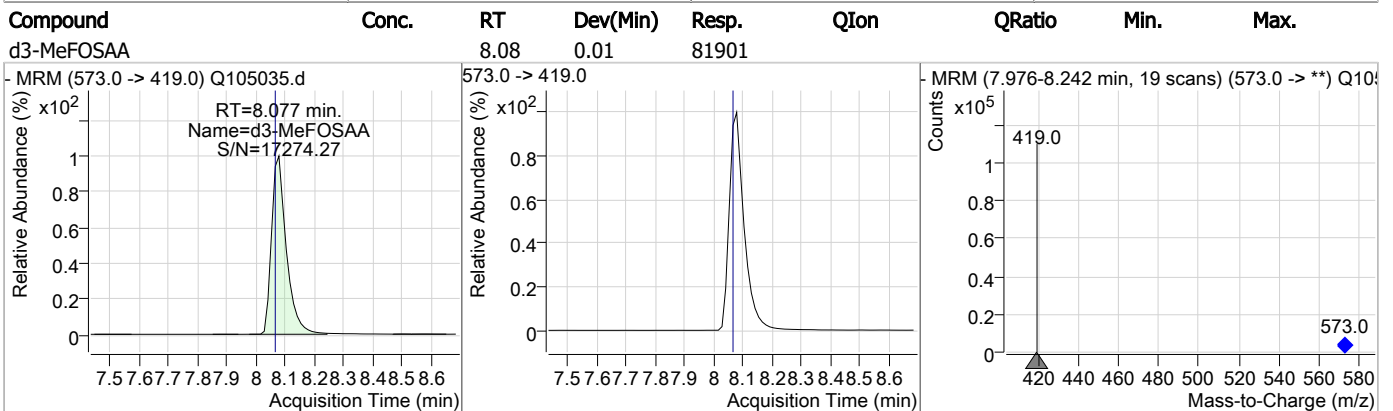
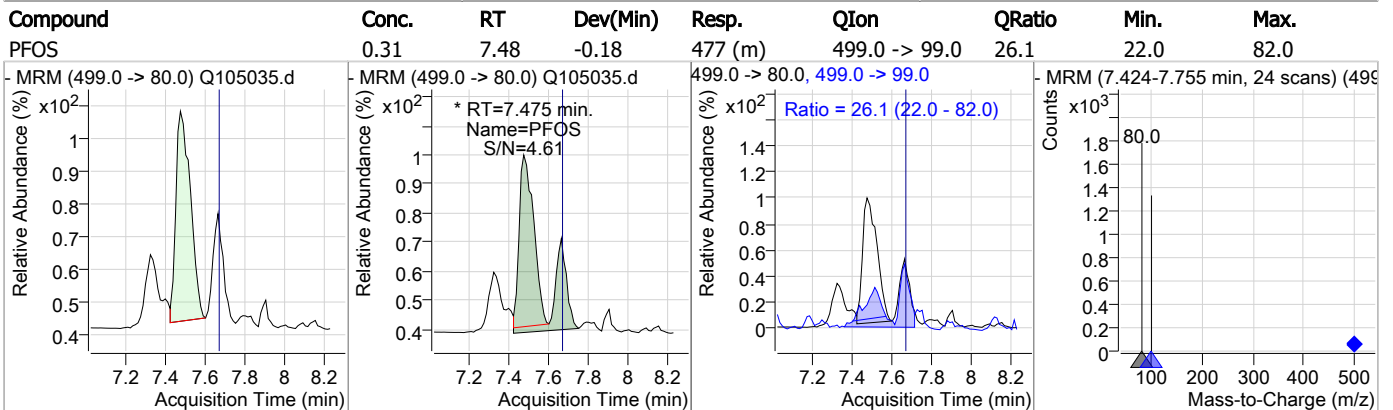
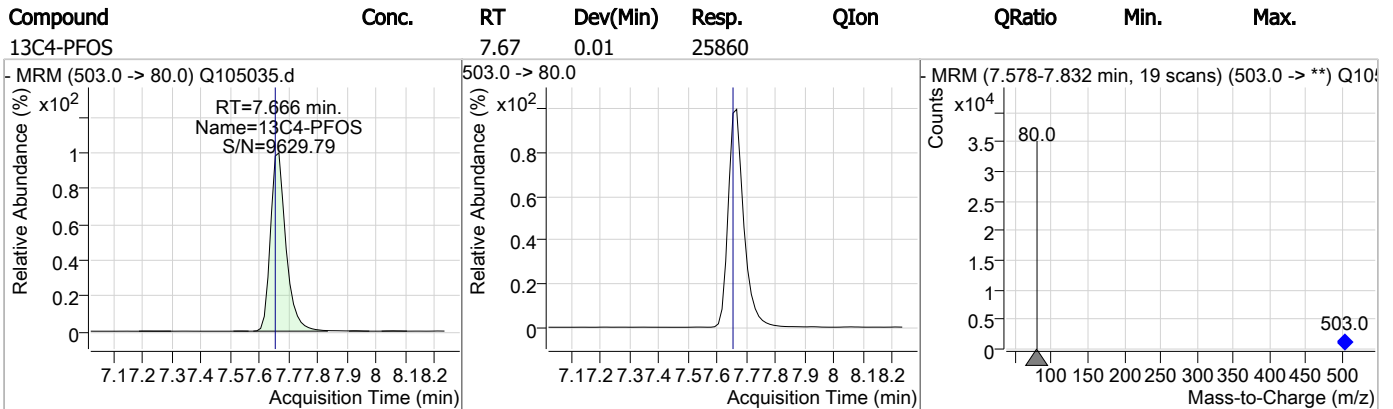
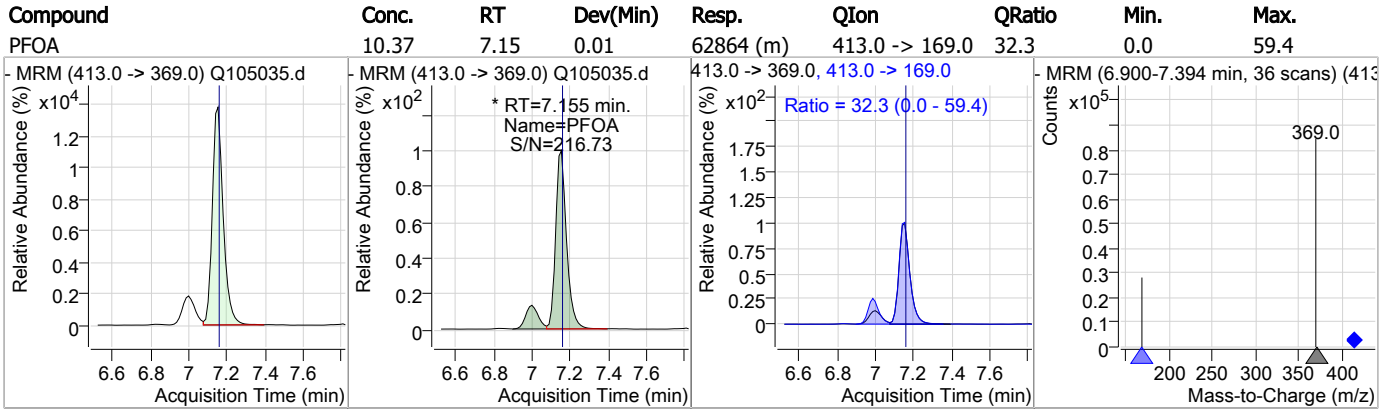


### Perfluorinated Compounds by LC/MS/MS



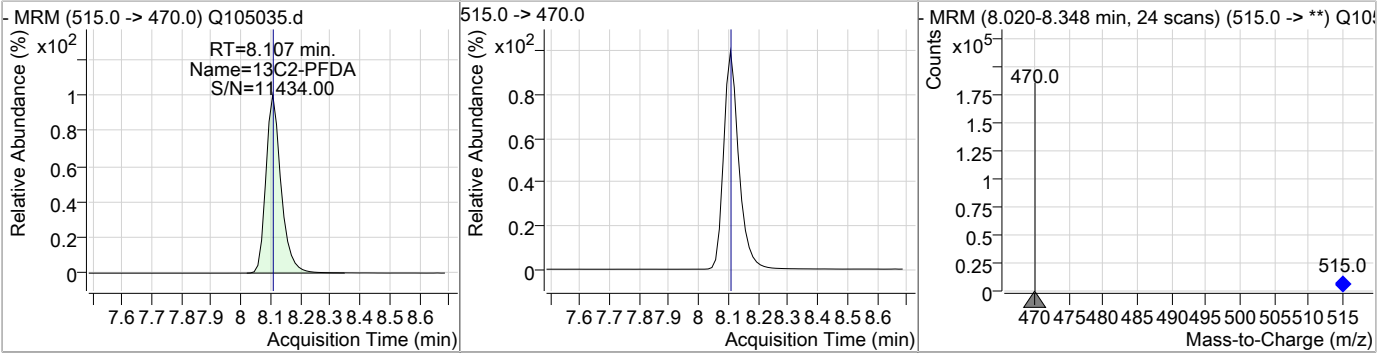


### Perfluorinated Compounds by LC/MS/MS

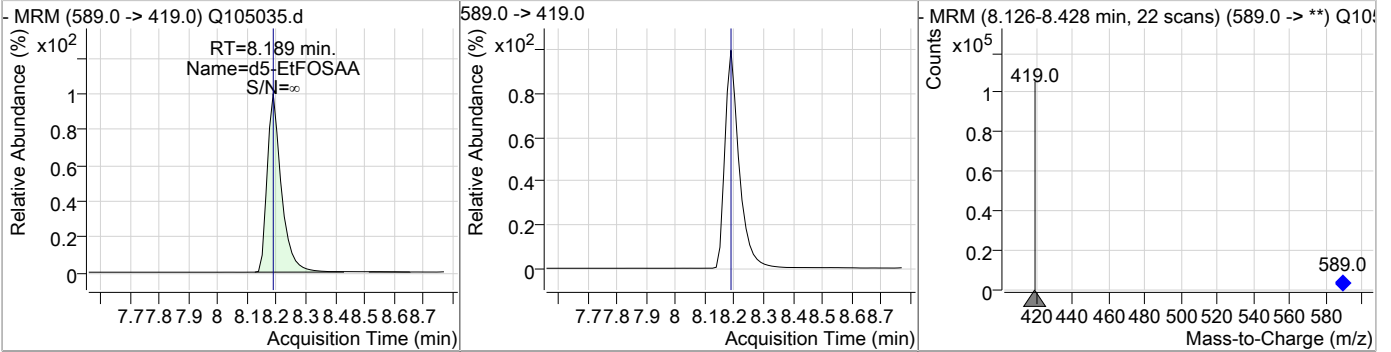


Perfluorinated Compounds by LC/MS/MS

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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# Manual Integration Approval Summary

Sample Number: FC9076-1                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105035.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 17:56                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.48	Split peak
Perfluoroheptanoic acid	375-85-9		6.48	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanoic acid	335-67-1		7.16	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.47	Split peak

7.1.1.1  
7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105036.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 6:12:19 PM  
 Sample Name : fc9076-2  
 Vial : P1-B6  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

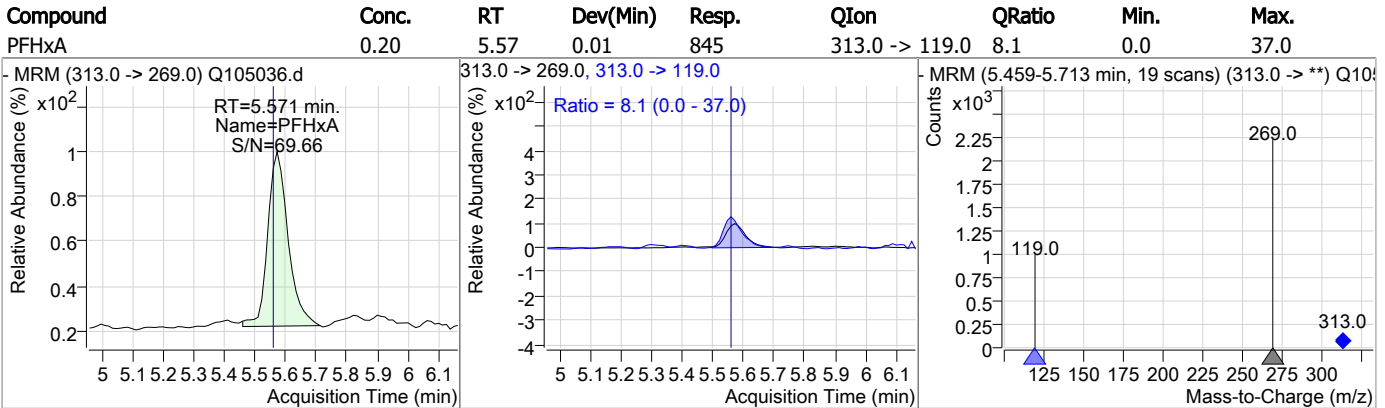
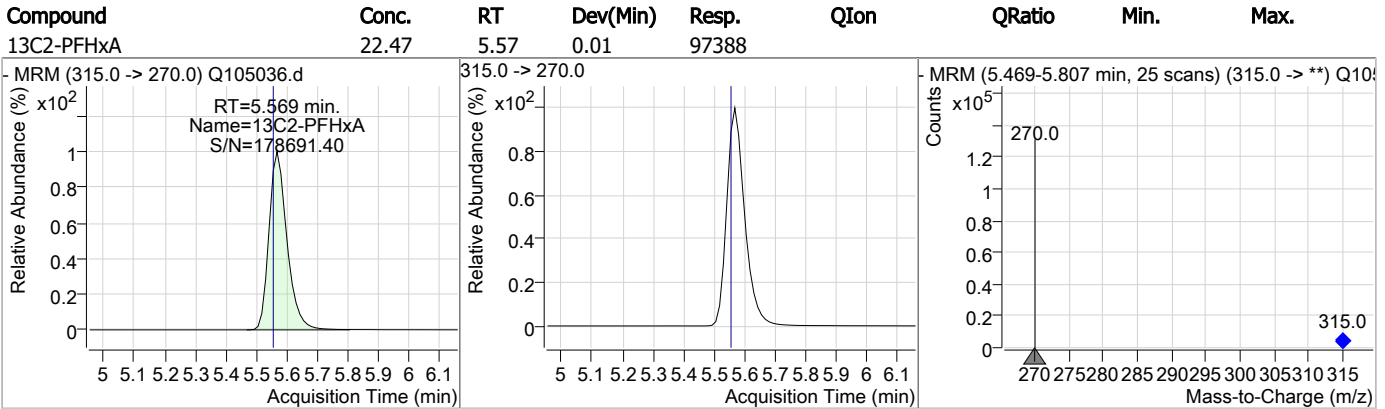
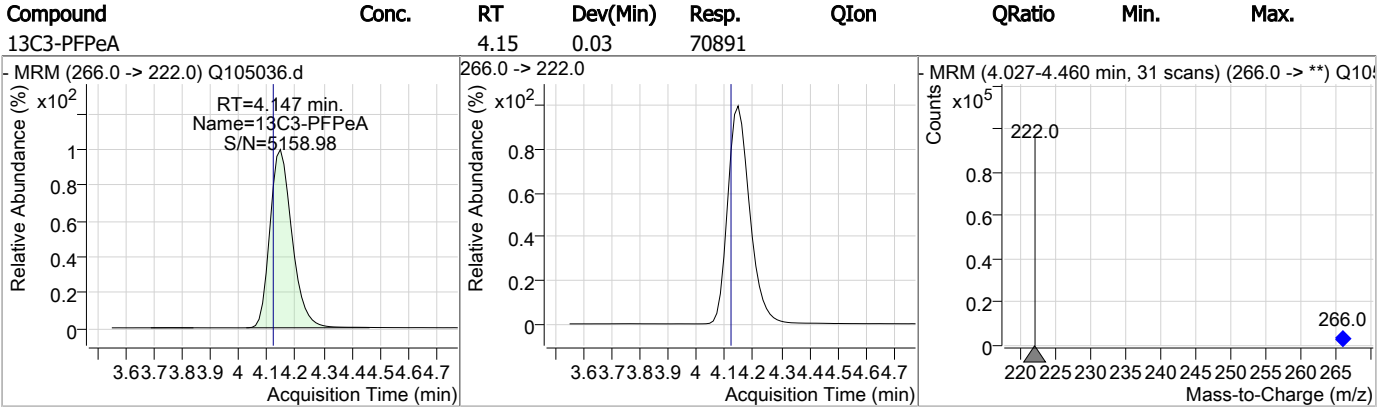
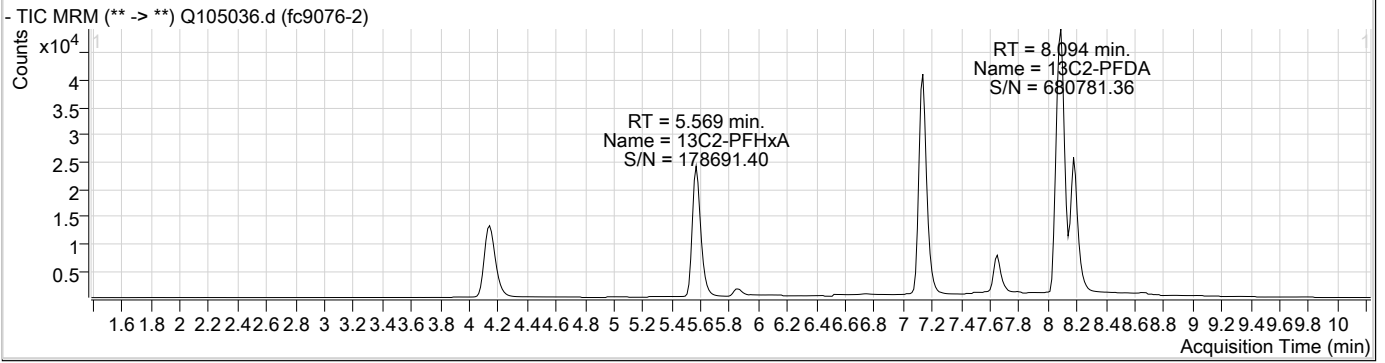
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	41917	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	116651	20.00 µg/L	0.000
13C3-PFPeA	4.147	266.0 -> 222.0	70891	20.00 µg/L	0.025
13C4-PFOS	7.653	503.0 -> 80.0	23564	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	74439	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	130032	22.89 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 114.5%	
13C2-PFHxA	5.569	315.0 -> 270.0	97388	22.47 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 112.4%	
d5-EtFOSAA	8.176	589.0 -> 419.0	78655	39.51 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 98.8%	
13C3-HFPO-DA	5.863	287.0 -> 169.0	5574	42.64 µg/L	0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 106.6%	
<b>Target Compounds</b>					
					<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.571	313.0 -> 269.0	845	0.20 µg/L	97
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	5.865	285.0 -> 169.0	0	0.00 µg/L m	1

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

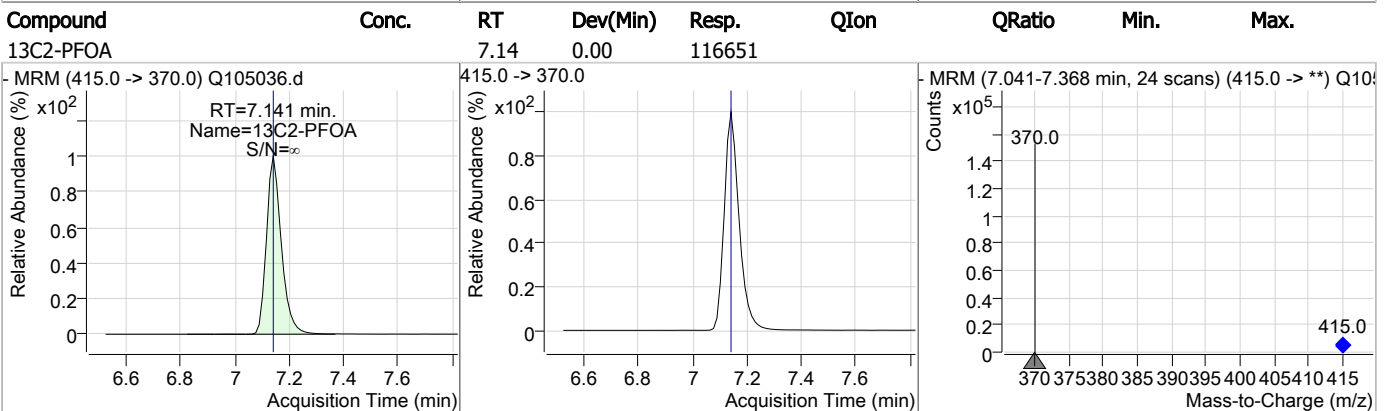
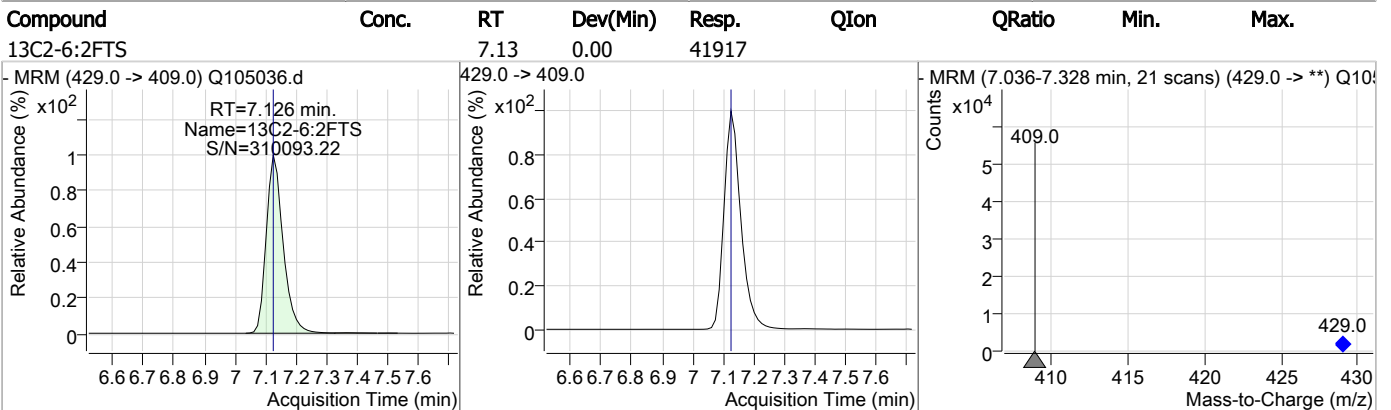
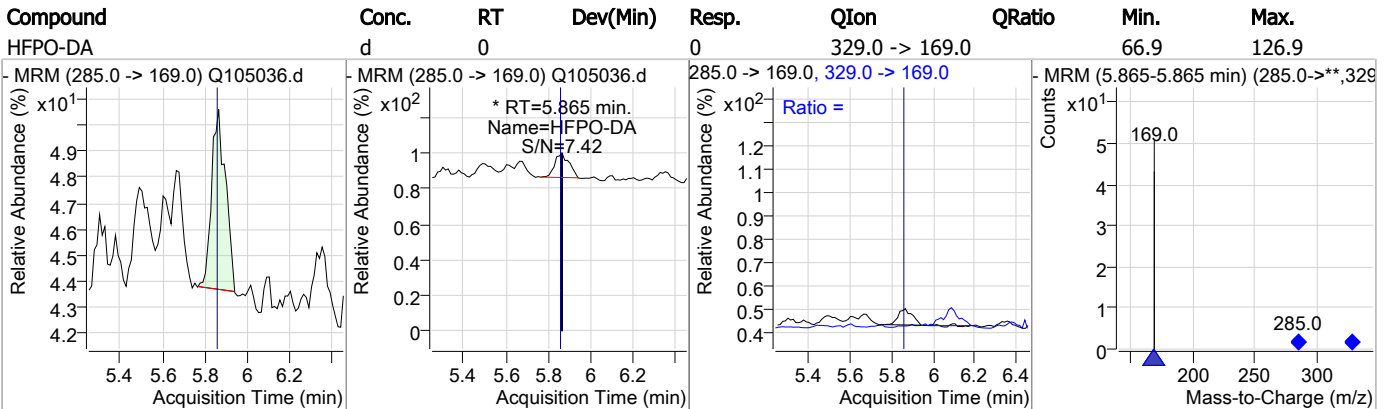
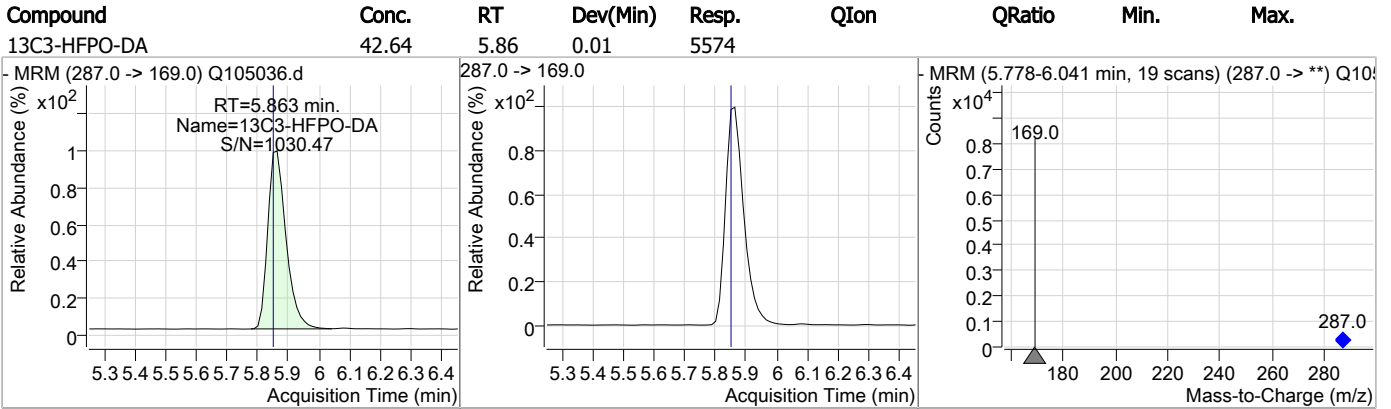
7.12  
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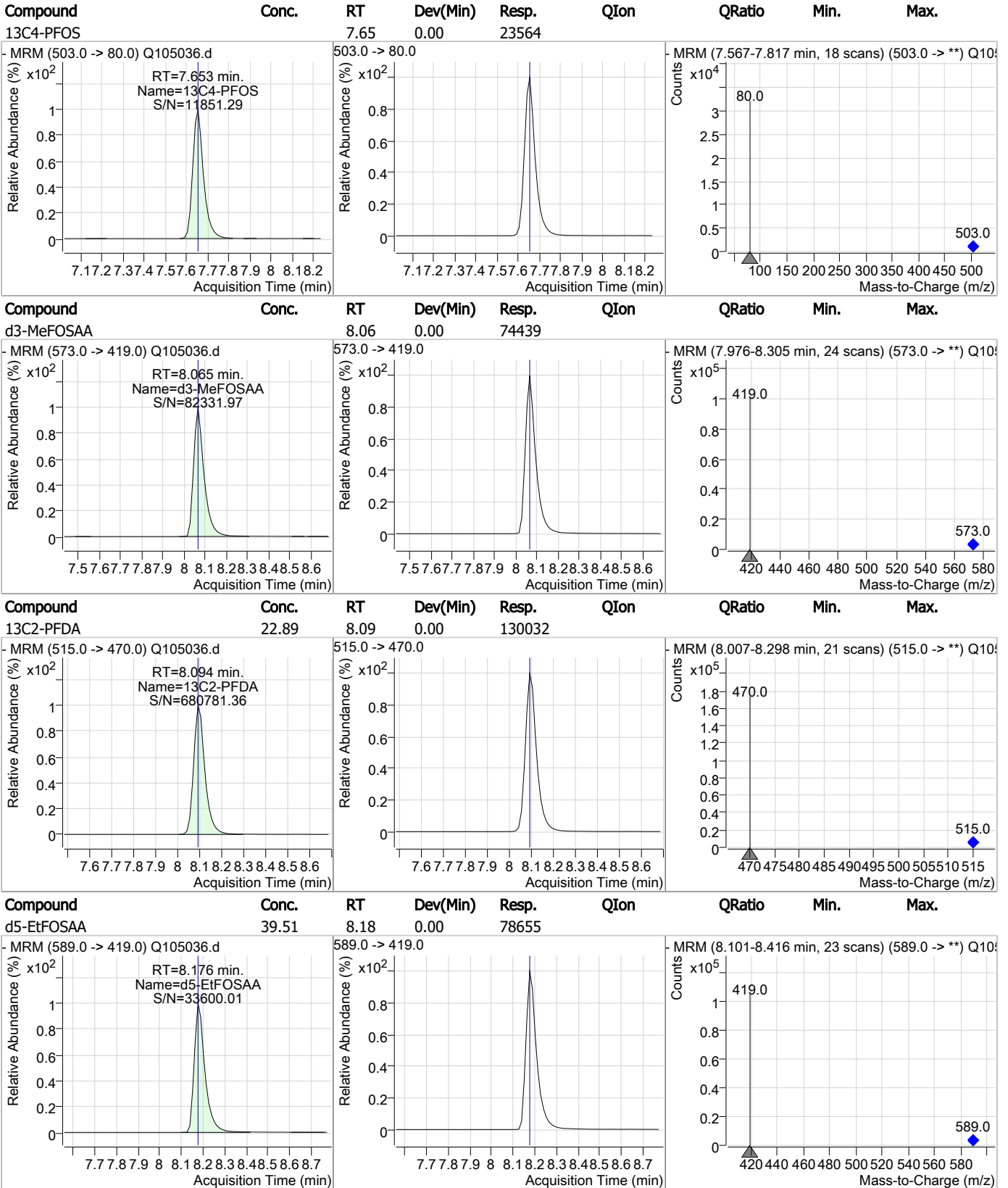
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.1.2

7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105037.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 6:28:07 PM  
 Sample Name : fc9076-3  
 Vial : P1-B7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.126	429.0 -> 409.0	41014	20.00	µg/L	0.000	
13C2-PFOA	7.129	415.0 -> 370.0	113182	20.00	µg/L	-0.013	
13C3-PFPeA	4.109	266.0 -> 222.0	65932	20.00	µg/L	-0.013	
13C4-PFOS	7.653	503.0 -> 80.0	22776	20.00	µg/L	0.000	
d3-MeFOSAA	8.065	573.0 -> 419.0	72660	40.00	µg/L	0.000	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.094	515.0 -> 470.0	127348	23.11	µg/L	0.000	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 115.5%			
13C2-PFHxA	5.544	315.0 -> 270.0	93191	22.17	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.9%			
d5-EtFOSAA	8.176	589.0 -> 419.0	71838	37.04	µg/L	0.000	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 92.6%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5362	42.27	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 105.7%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.914	213.0 -> 169.0	1122	0.45	µg/L	100	
PFBS	4.466	299.0 -> 80.0	2515	1.84	µg/L	m 98	
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.449	363.0 -> 319.0	5994	1.16	µg/L	m 93	
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	14629	3.56	µg/L	100	
PFHxS	6.494	399.0 -> 80.0	7410	7.40	µg/L	m 95	
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.129	413.0 -> 369.0	55508	10.06	µg/L	m 96	
PFOS	7.463	499.0 -> 80.0	416	0.31	µg/L	m 68	
PFPeA	4.100	263.0 -> 219.0	7951	3.11	µg/L	100	
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

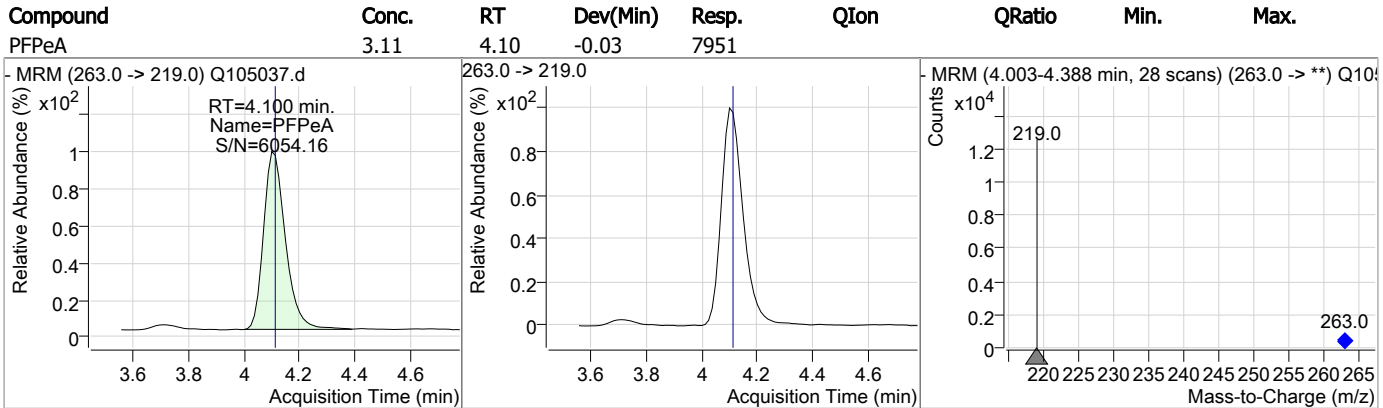
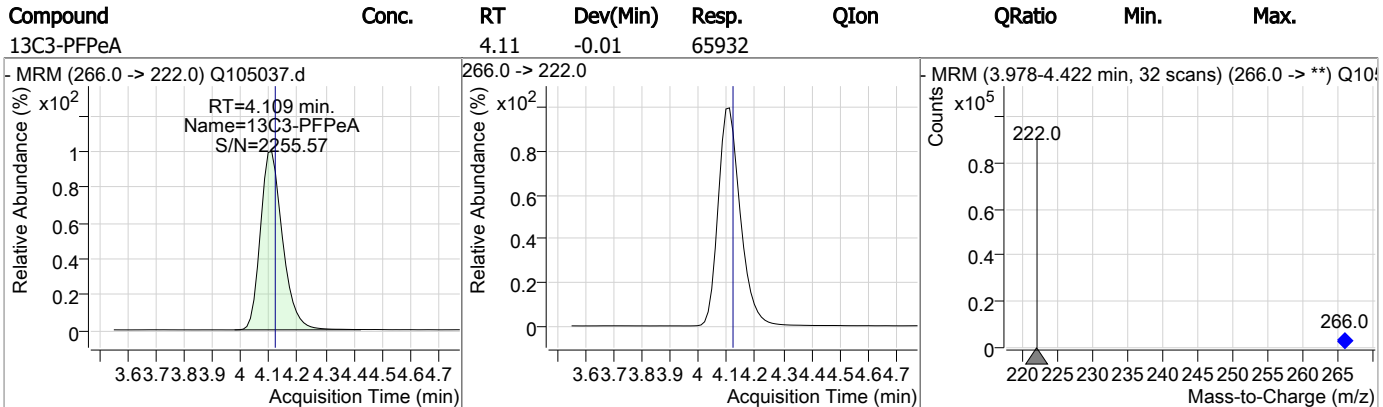
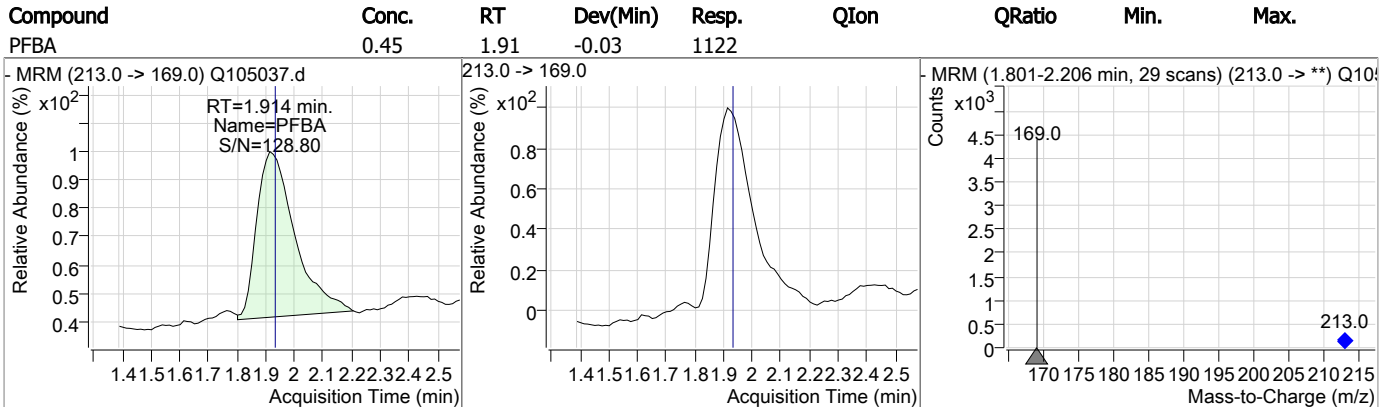
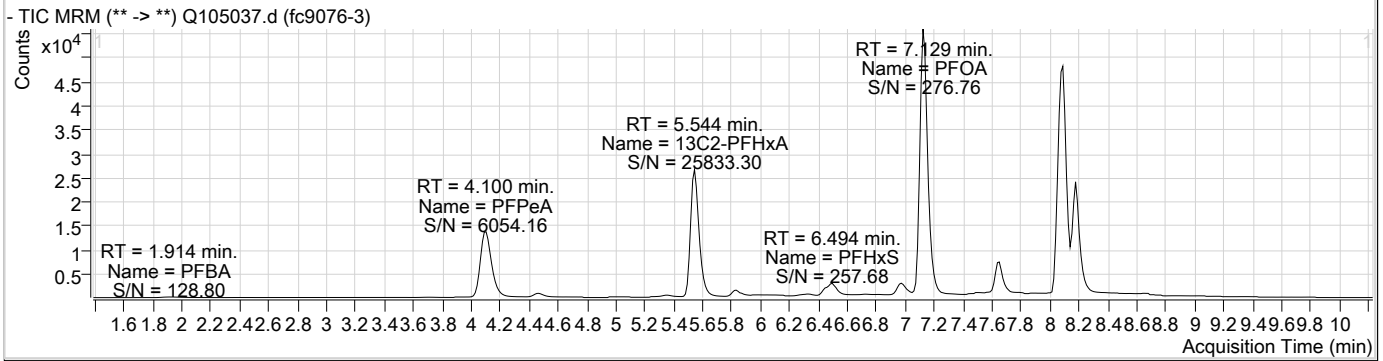
# = Qualifier out of range, m = manually integrated, + = Area summed

7.1.3  
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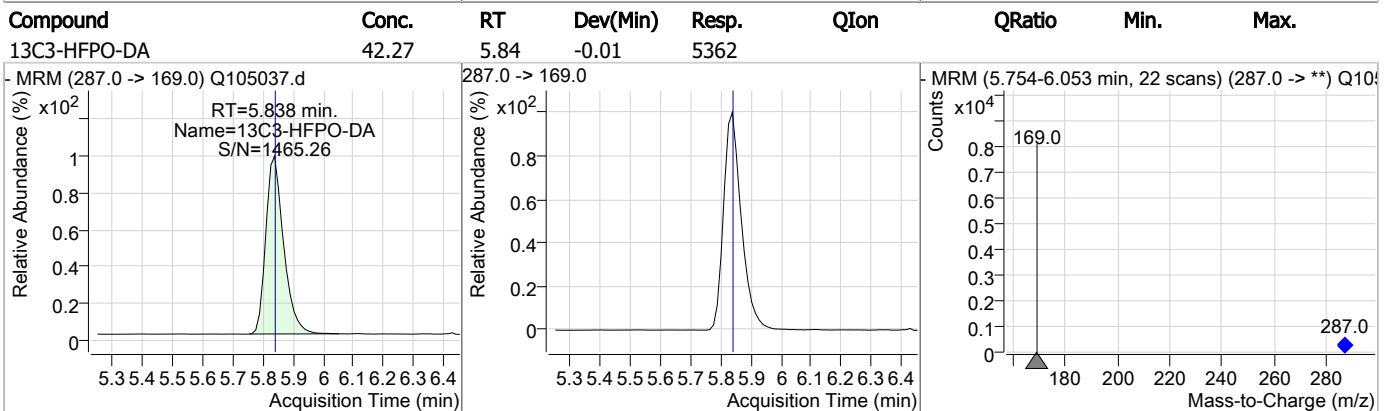
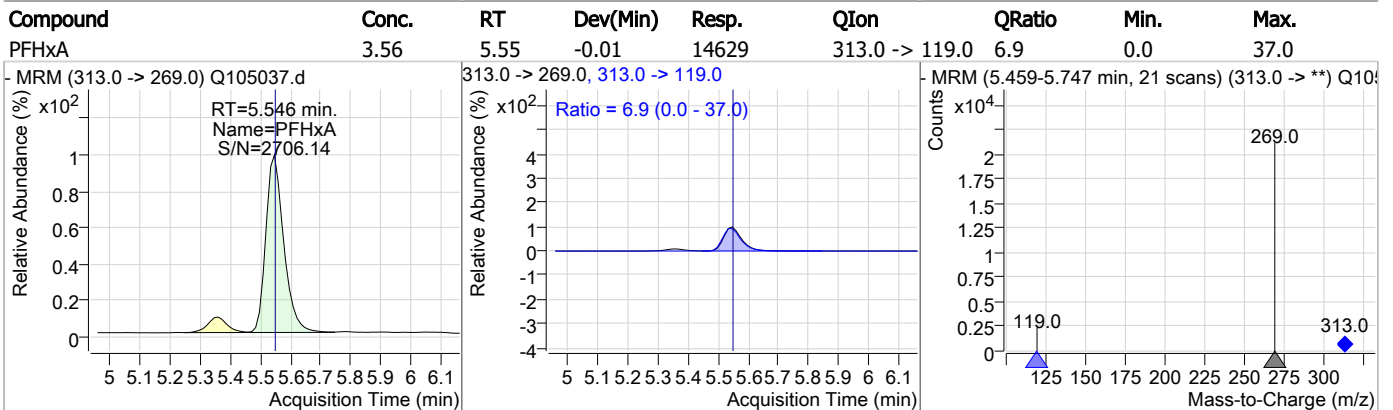
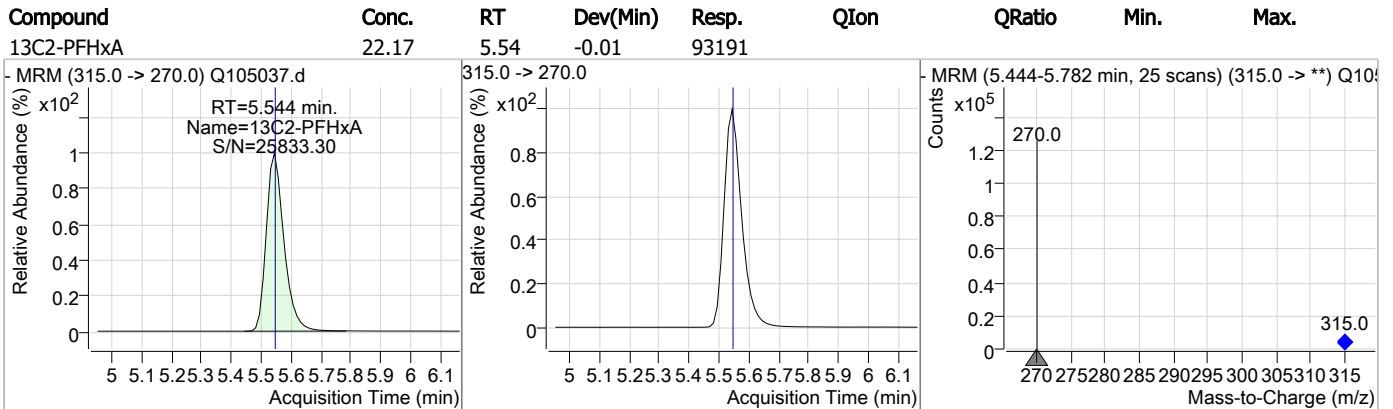
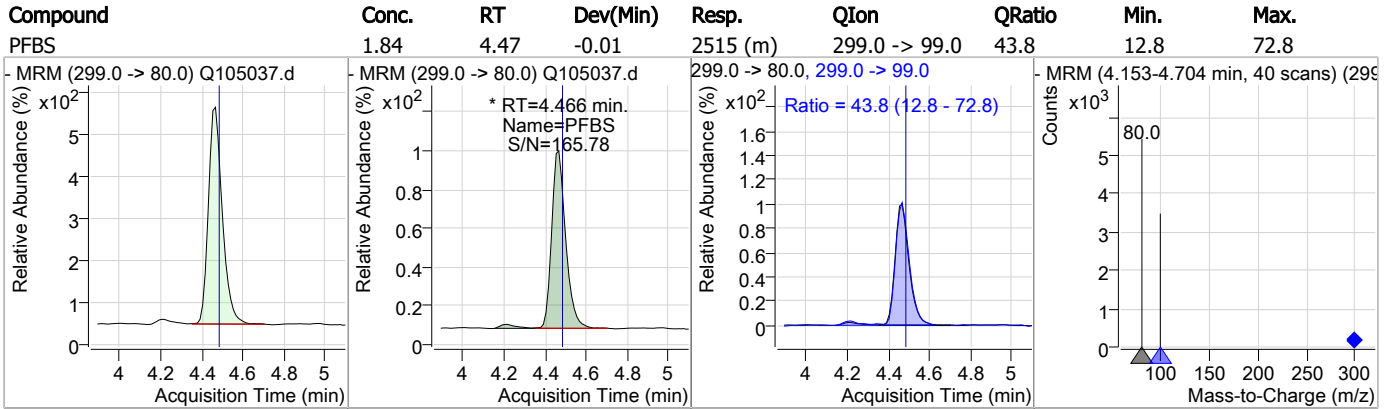




### Perfluorinated Compounds by LC/MS/MS



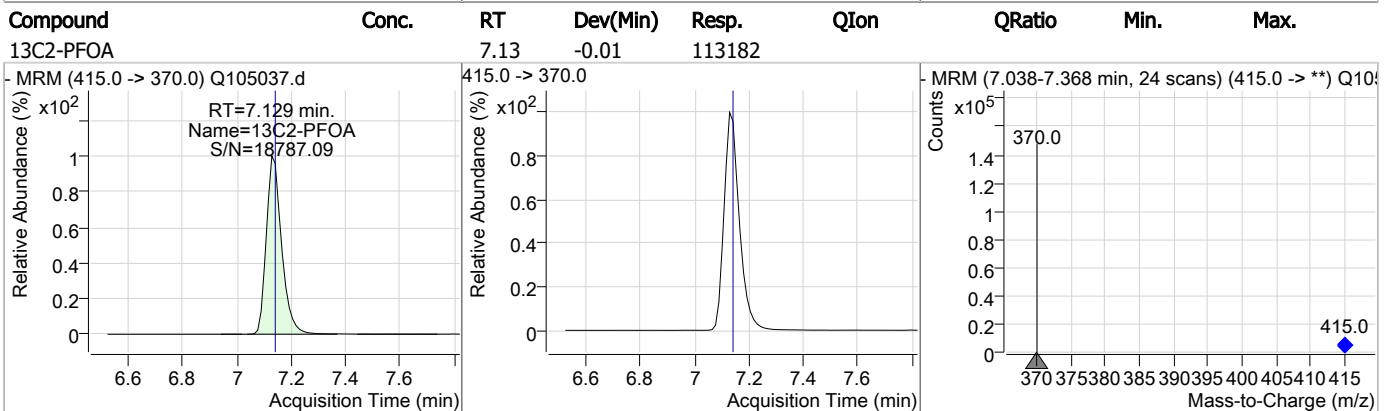
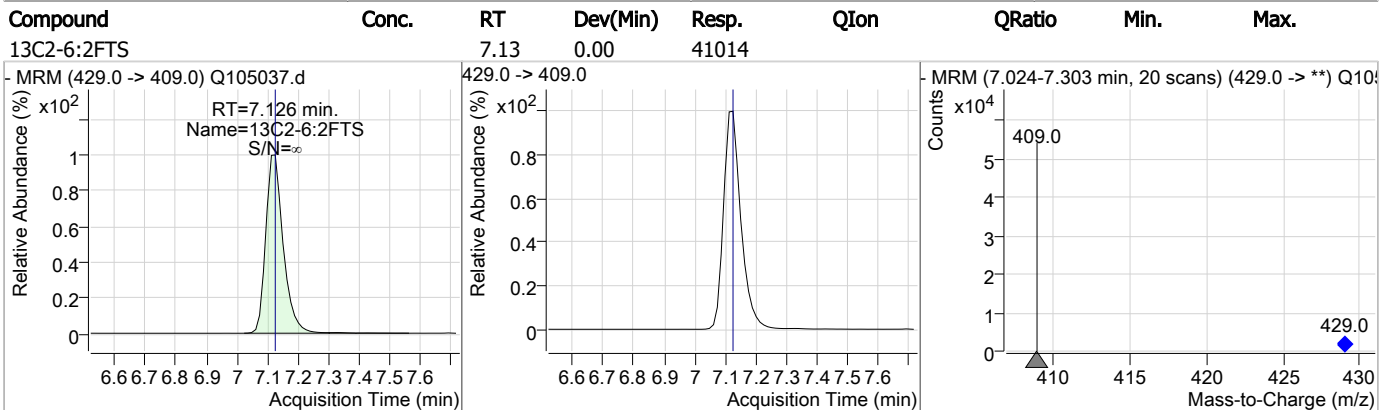
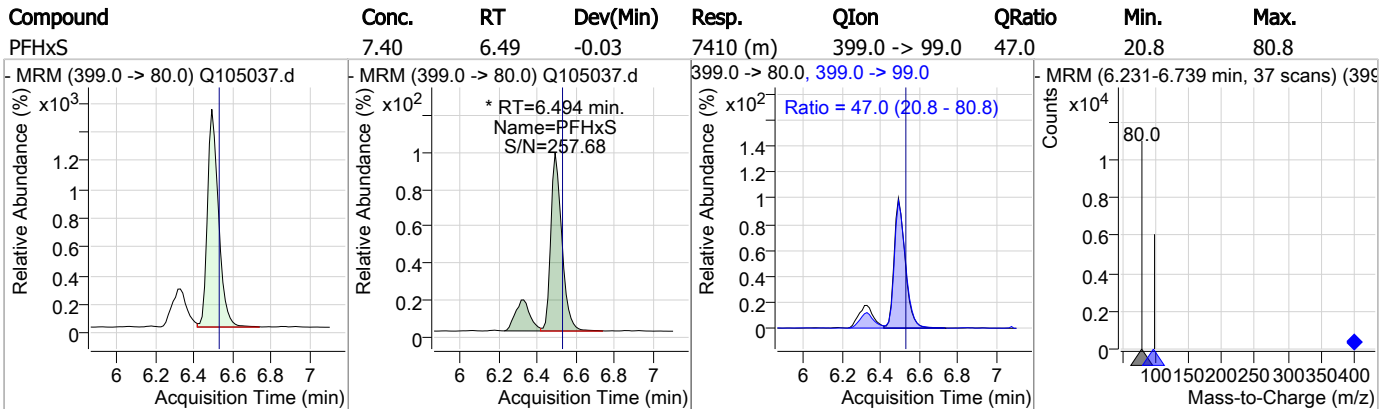
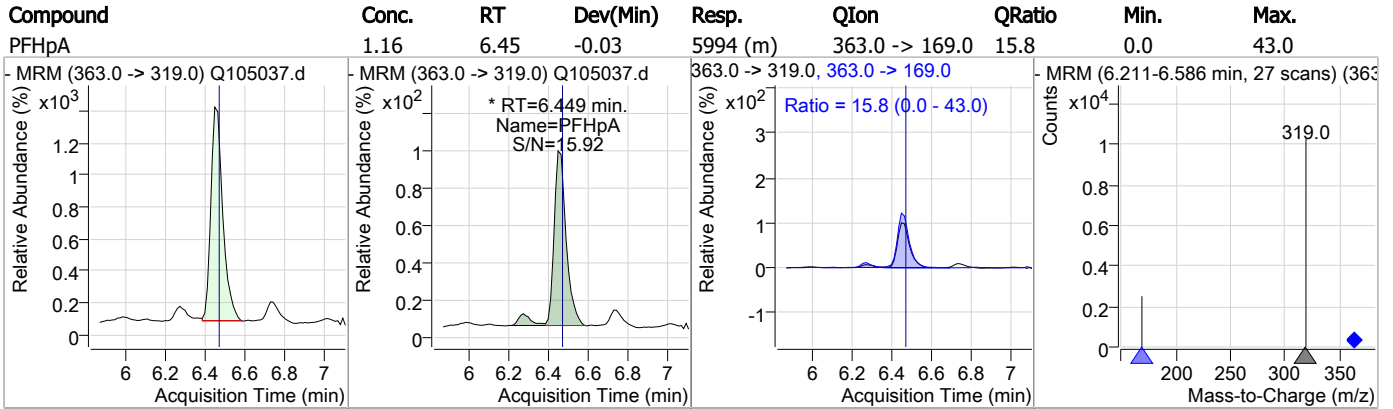
### Perfluorinated Compounds by LC/MS/MS



7.1.3

7

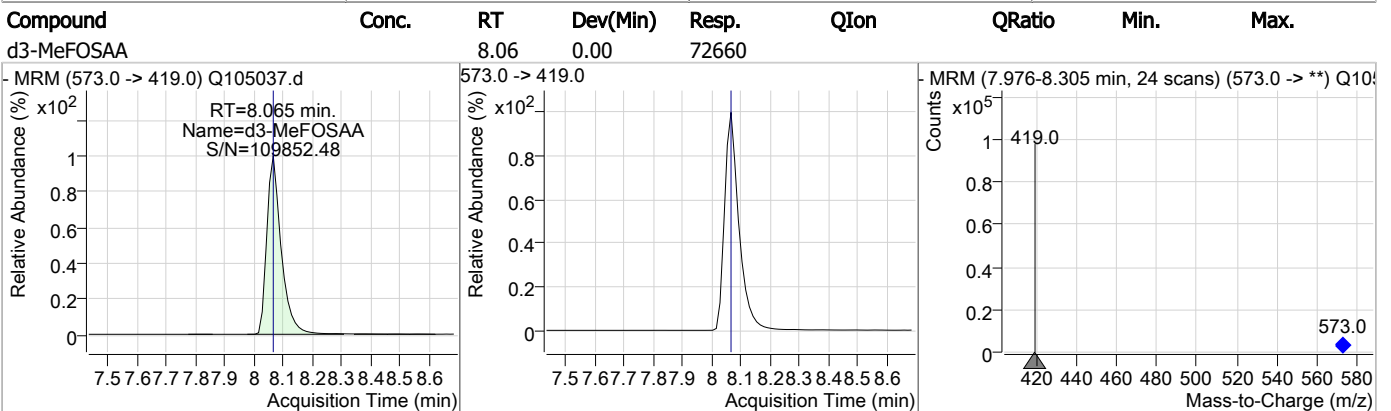
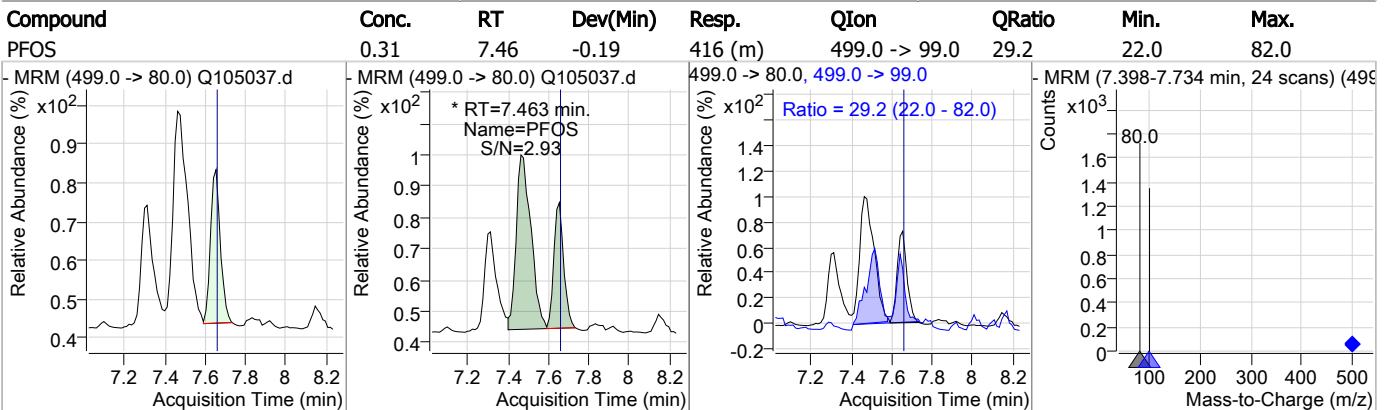
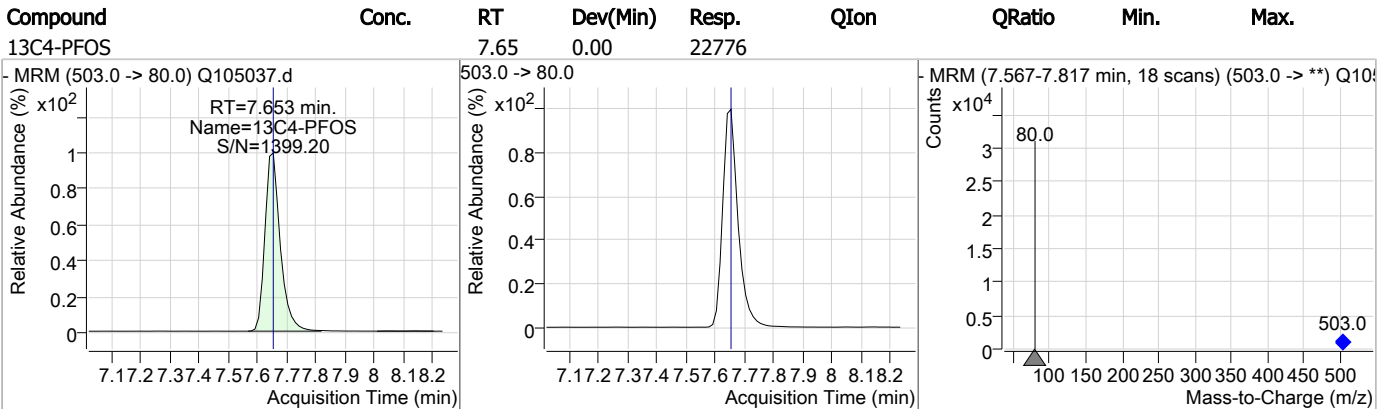
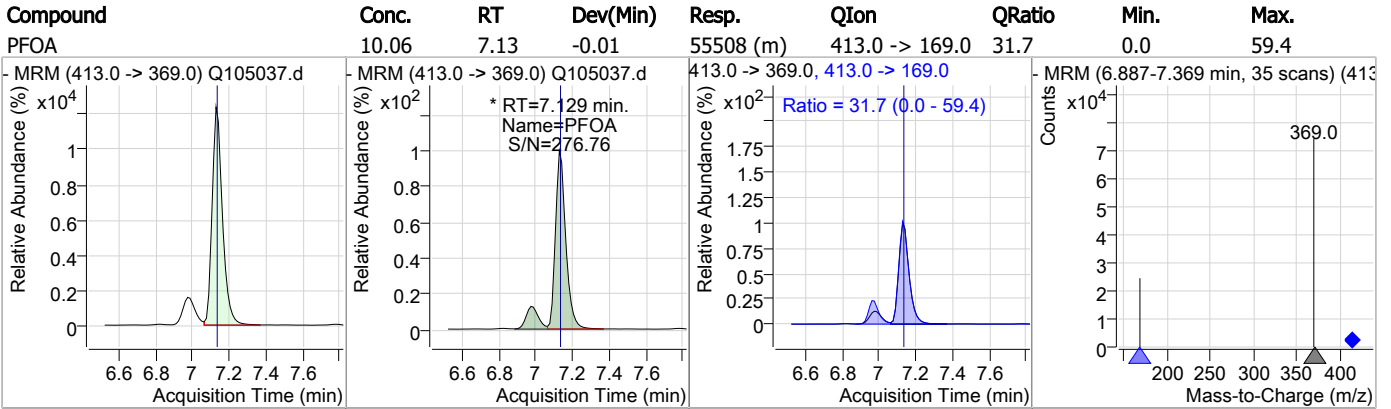
### Perfluorinated Compounds by LC/MS/MS



7.1.3

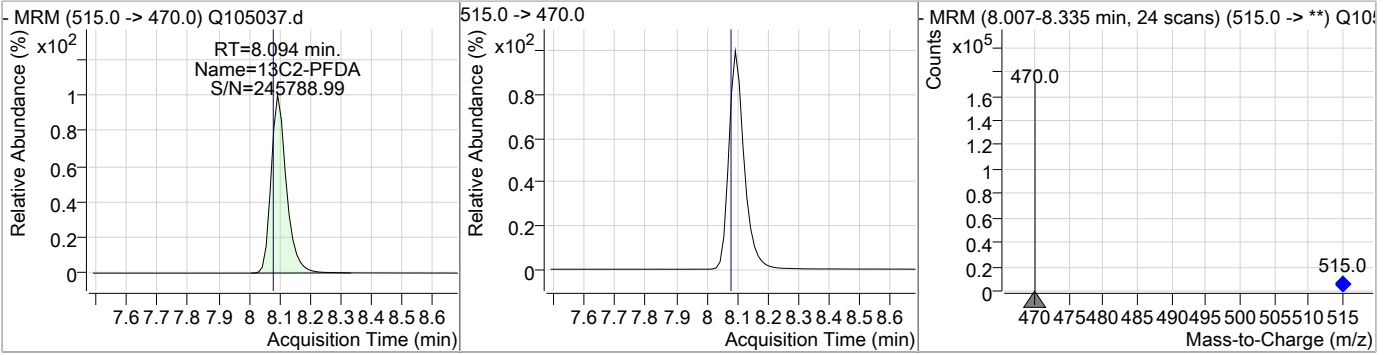
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### Perfluorinated Compounds by LC/MS/MS

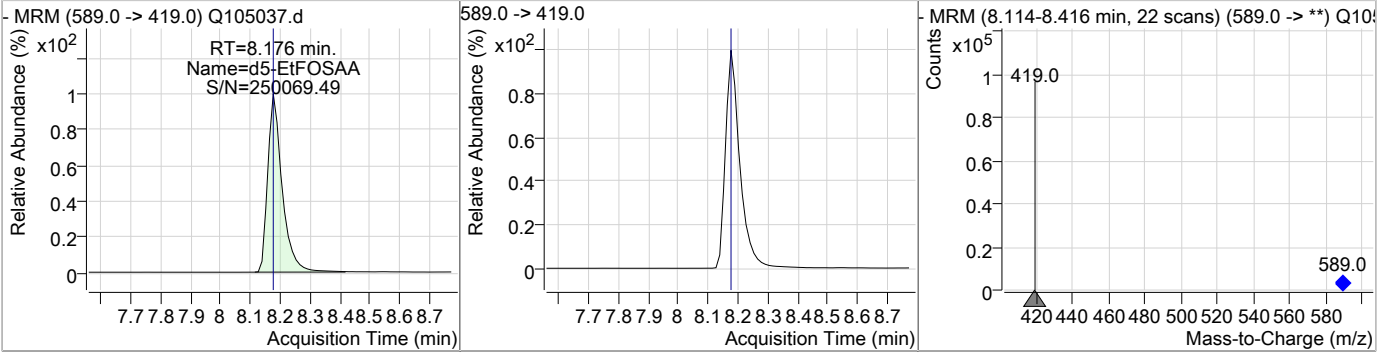


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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7.1.3

7

# Manual Integration Approval Summary

Sample Number: FC9076-3                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105037.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 18:28                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.45	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.46	Split peak

7.13.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105038.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 6:43:54 PM  
 Sample Name : fc9076-4  
 Vial : P1-B8  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

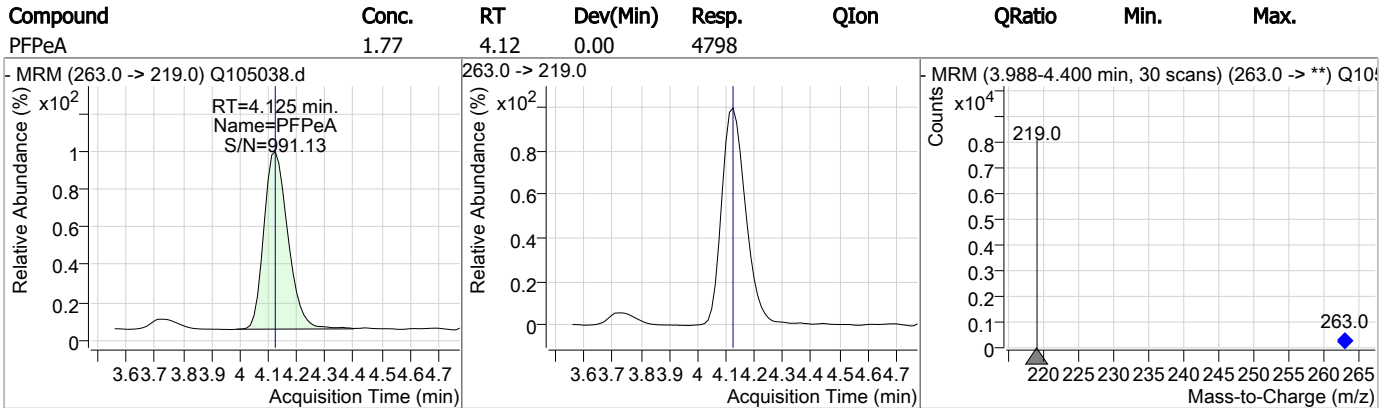
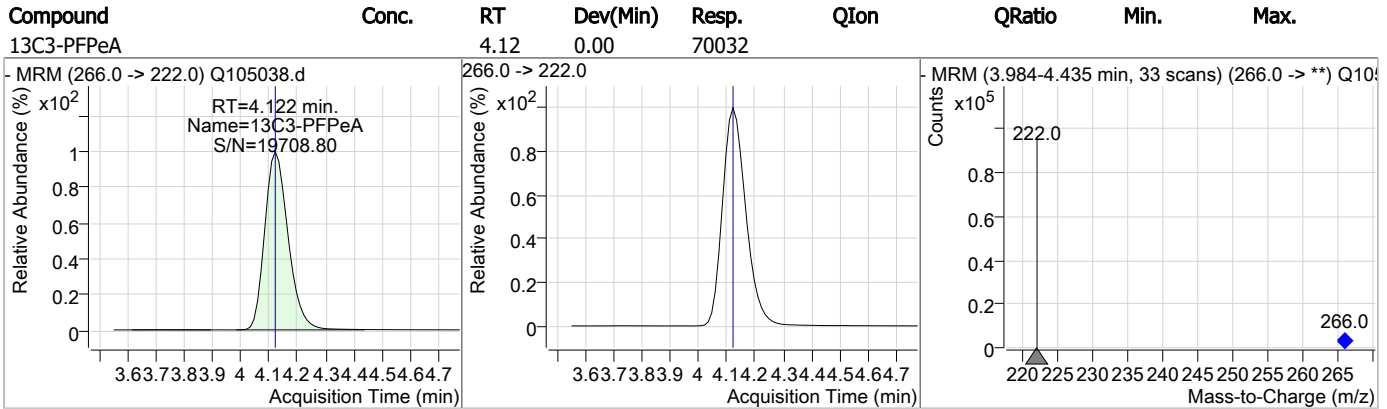
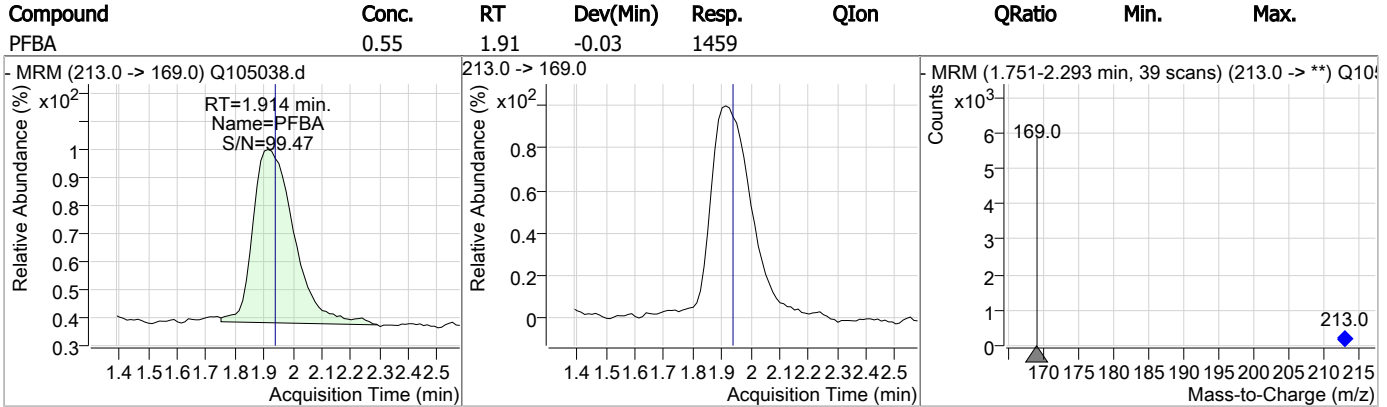
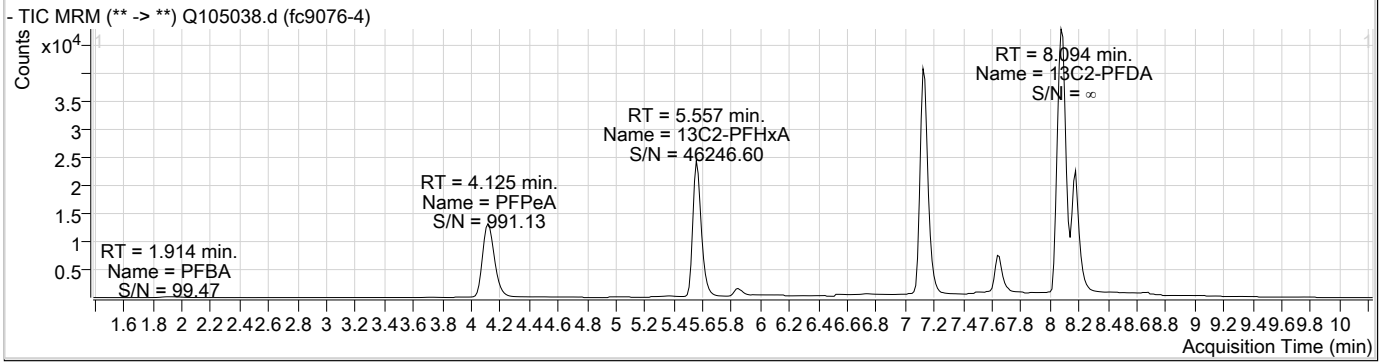
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	41602	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	116759	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	70032	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	23159	20.00 µg/L	-0.013
d3-MeFOSAA	8.065	573.0 -> 419.0	73936	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	126376	22.23 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 111.2%	
13C2-PFHxA	5.557	315.0 -> 270.0	97479	22.47 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 112.4%	
d5-EtFOSAA	8.176	589.0 -> 419.0	67202	34.13 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 85.3%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5685	43.44 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 108.6%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.914	213.0 -> 169.0	1459	0.55 µg/L	100
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.559	313.0 -> 269.0	1162	0.27 µg/L	96
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	4.125	263.0 -> 219.0	4798	1.77 µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

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

7.14  
7



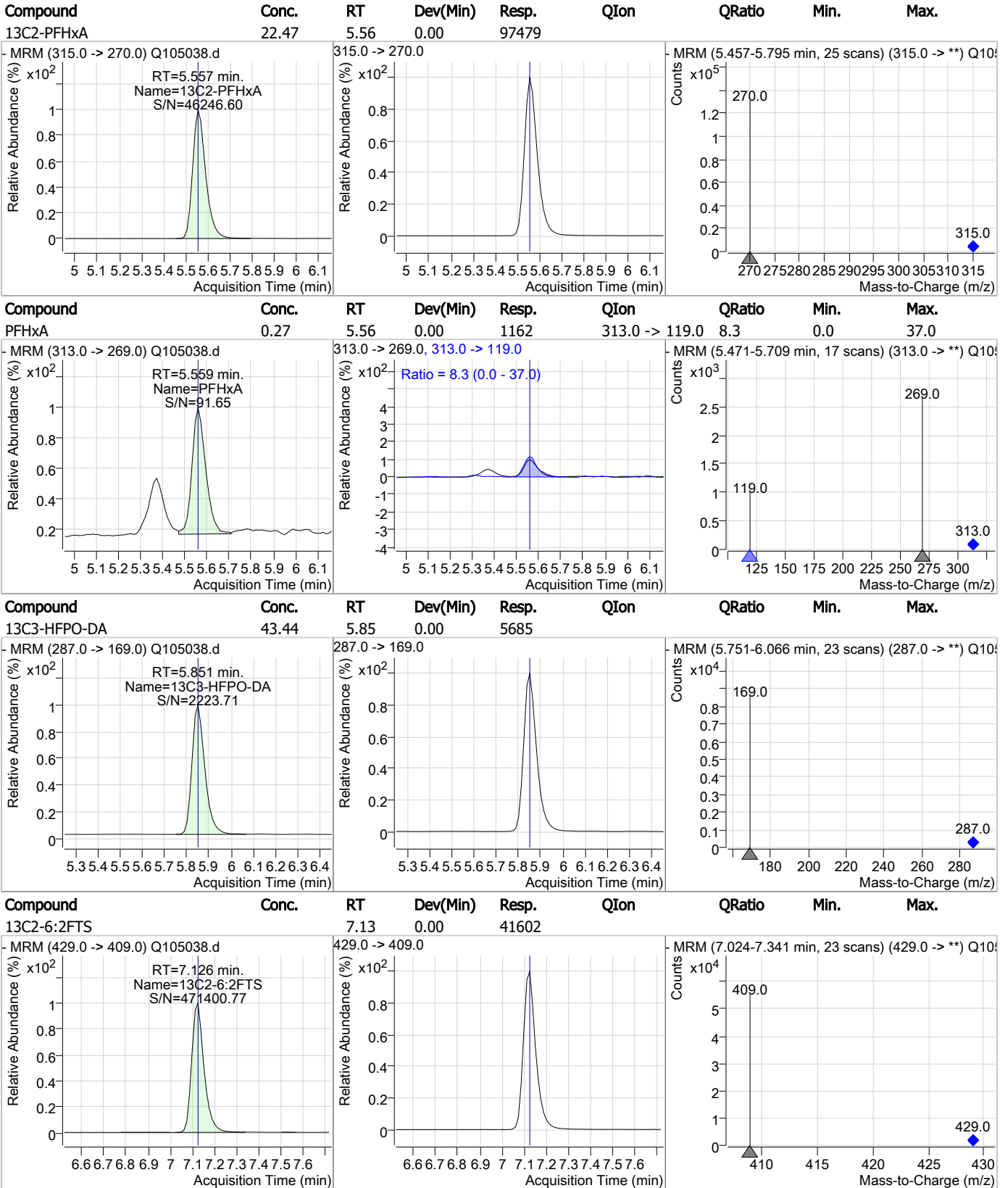
### Perfluorinated Compounds by LC/MS/MS



7.1.4  
7



### Perfluorinated Compounds by LC/MS/MS



7.1.4

7

### Perfluorinated Compounds by LC/MS/MS

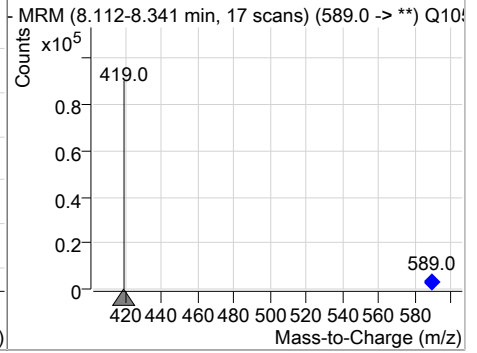
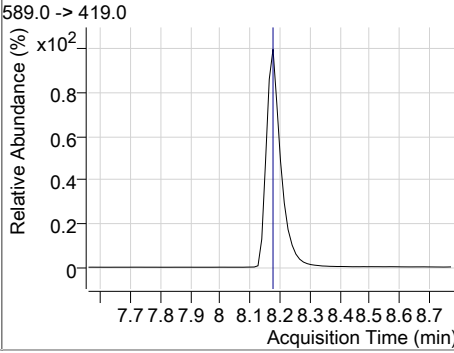
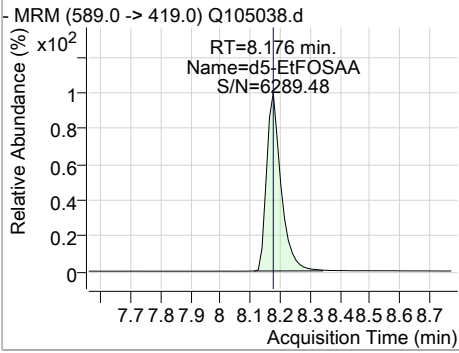
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFOA		7.14	0.00	116759				
13C4-PFOS		7.64	-0.01	23159				
d3-MeFOSAA		8.06	0.00	73936				
13C2-PFDA	22.23	8.09	0.00	126376				

7.1.4

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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	34.13	8.18	0.00	67202				



7.14  
7

## Perfluorinated Compounds by LC/MS/MS

Data File : Q105039.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 6:59:39 PM  
 Sample Name : fc9076-5  
 Vial : P1-B9  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

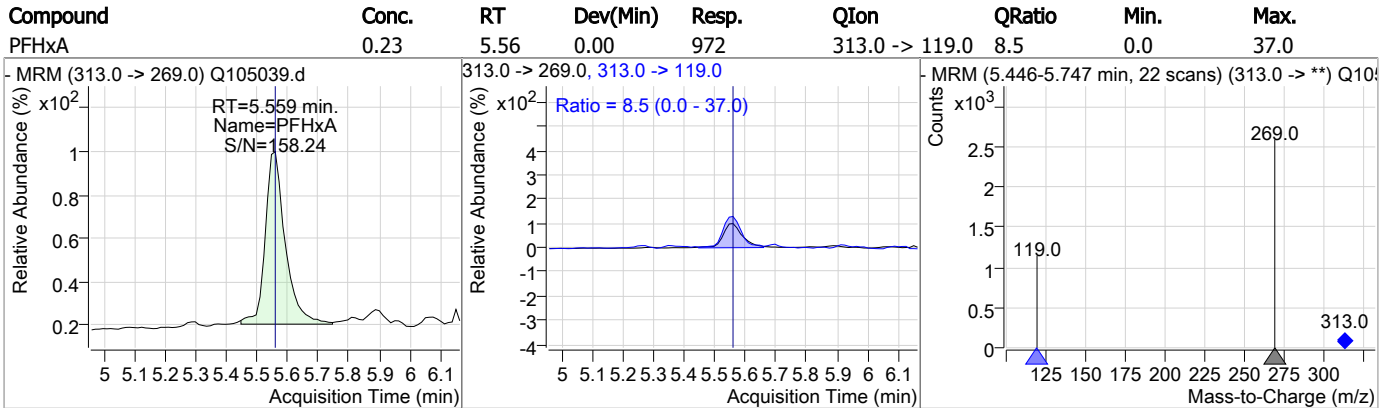
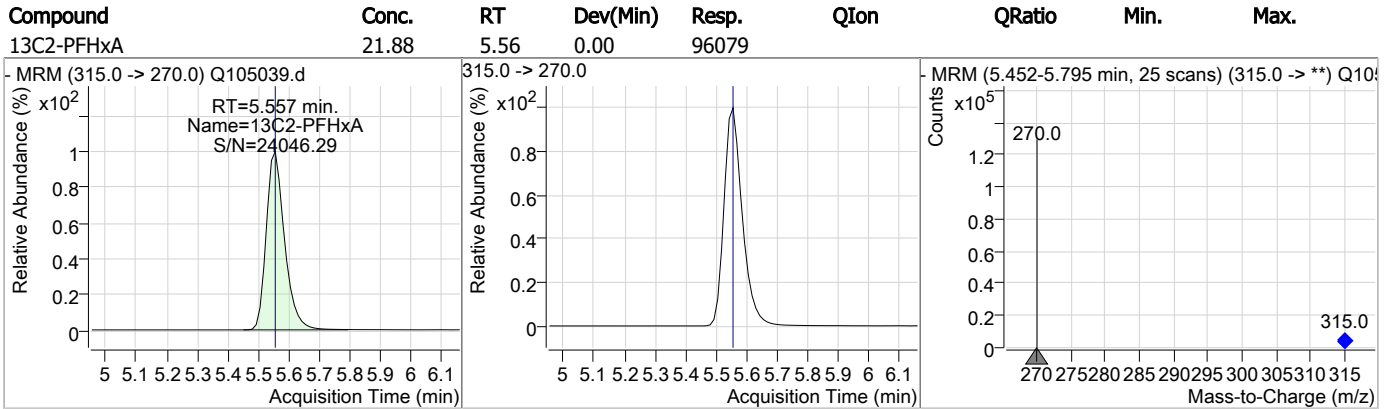
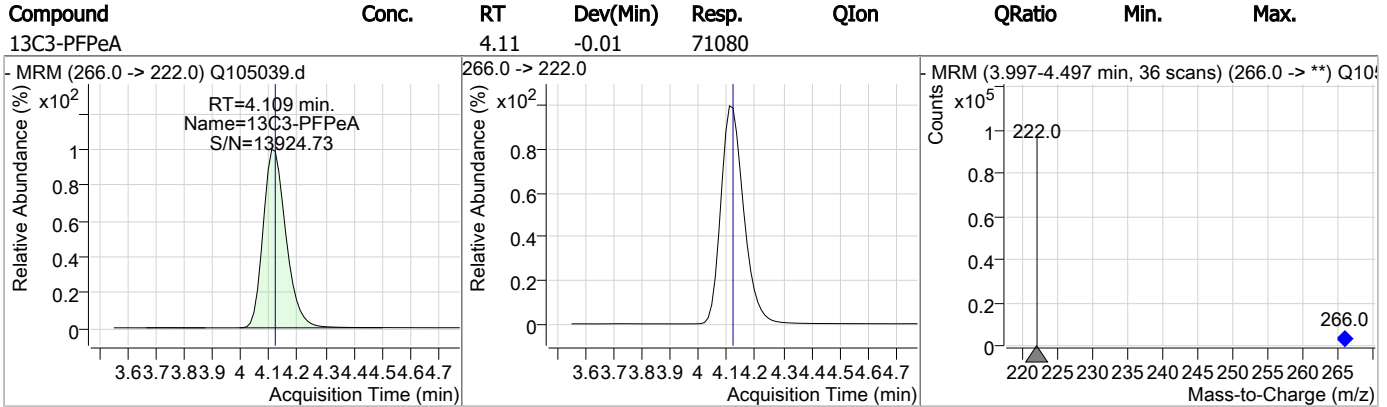
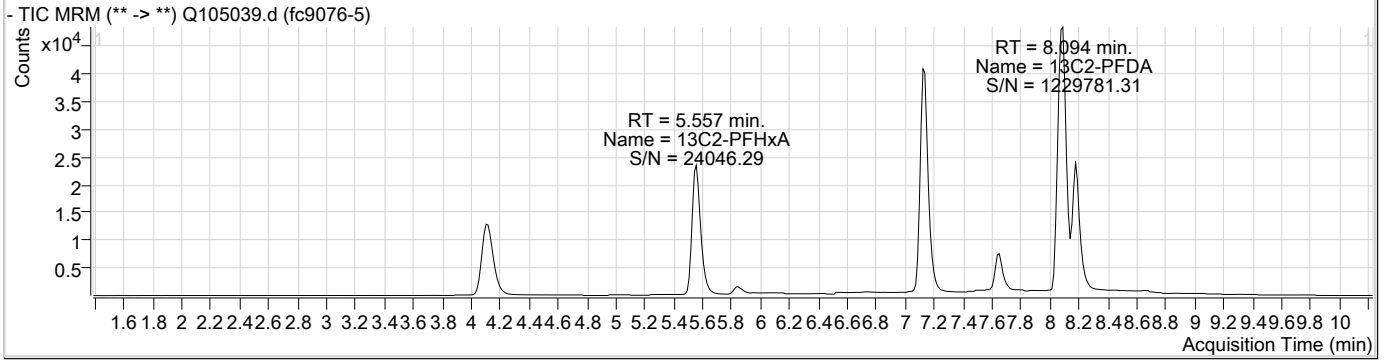
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	42521	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	118298	20.00 µg/L	0.000
13C3-PFPeA	4.109	266.0 -> 222.0	71080	20.00 µg/L	-0.013
13C4-PFOS	7.653	503.0 -> 80.0	23500	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	73055	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	127560	22.15 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.7%	
13C2-PFHxA	5.557	315.0 -> 270.0	96079	21.88 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 109.4%	
d5-EtFOSAA	8.176	589.0 -> 419.0	72931	37.39 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 93.5%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5597	42.22 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 105.5%	
<b>Target Compounds</b>					
					<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.559	313.0 -> 269.0	972	0.23 µg/L	96
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	5.853	285.0 -> 169.0	0	0.00 µg/L m	1

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

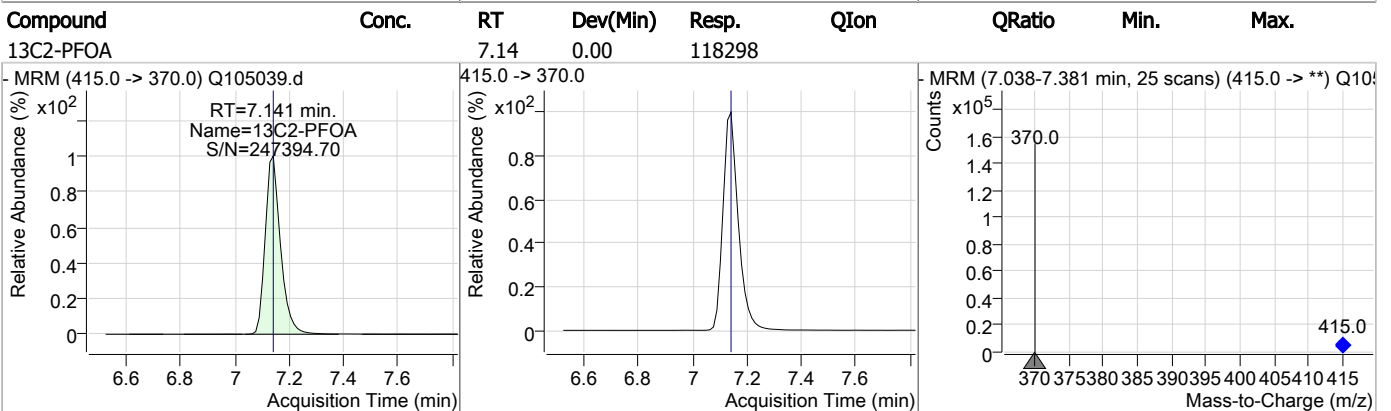
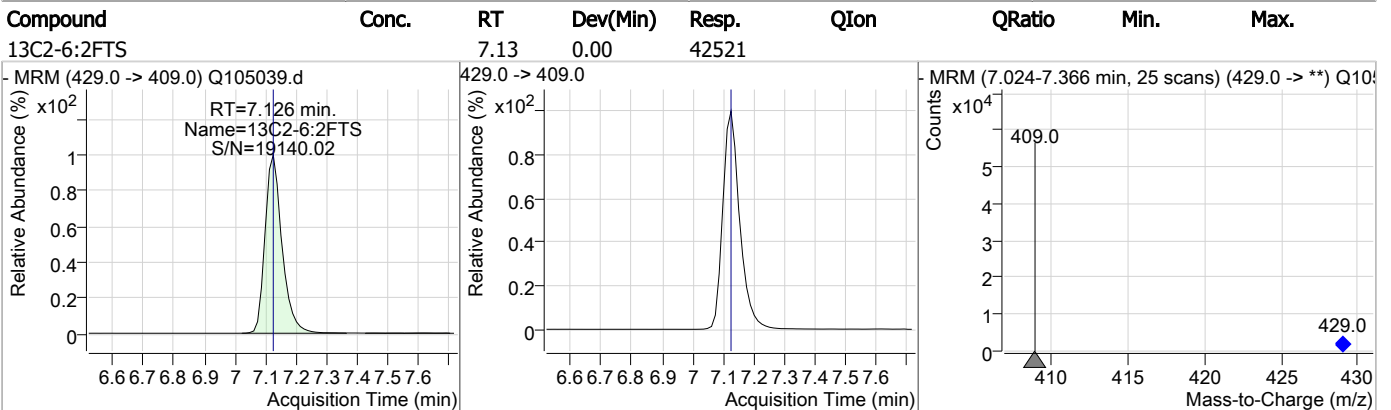
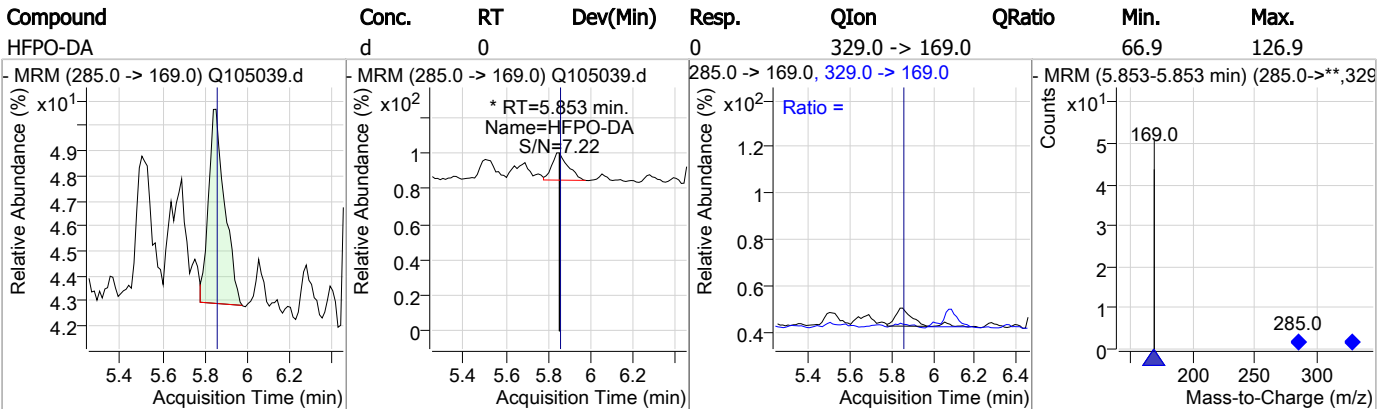
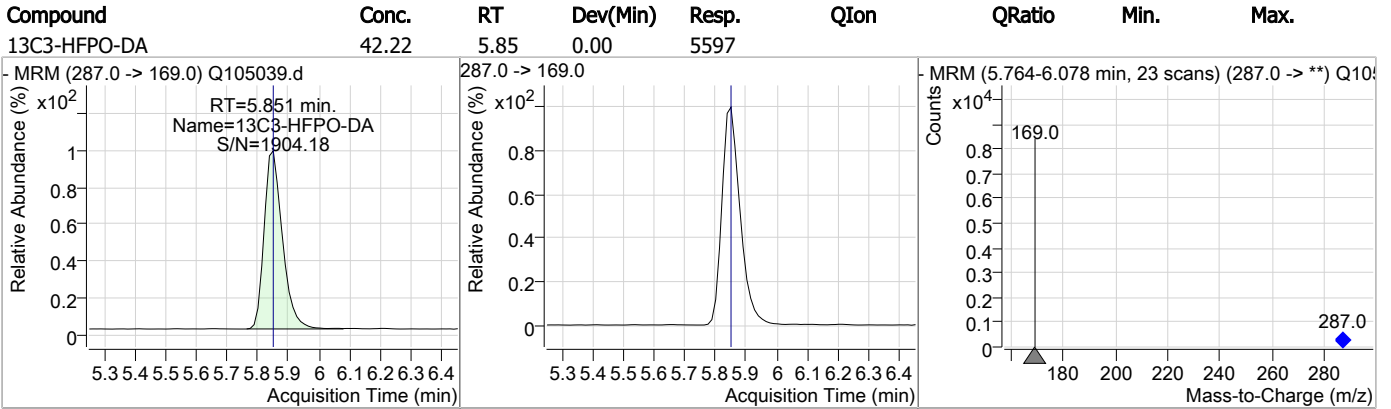
7.15  
7



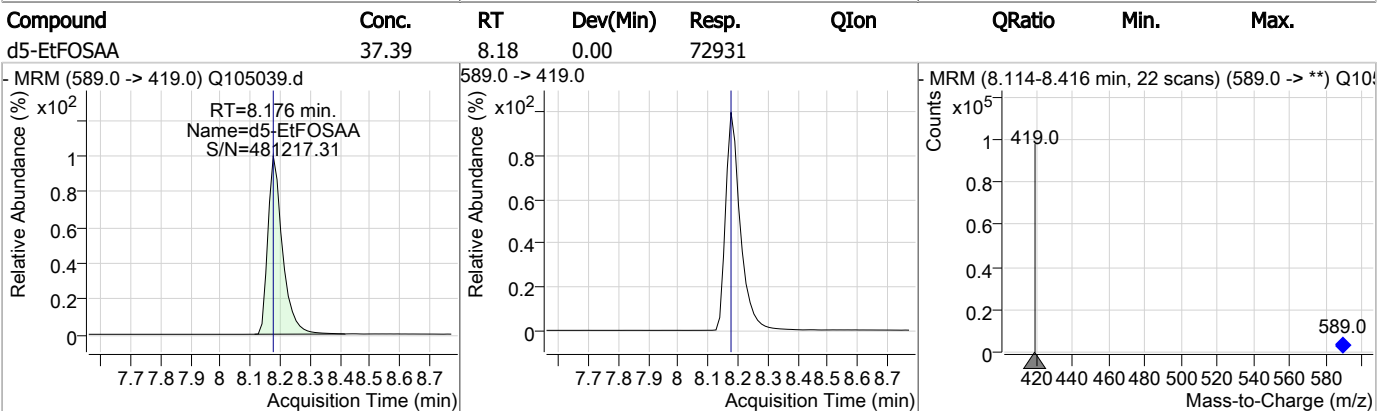
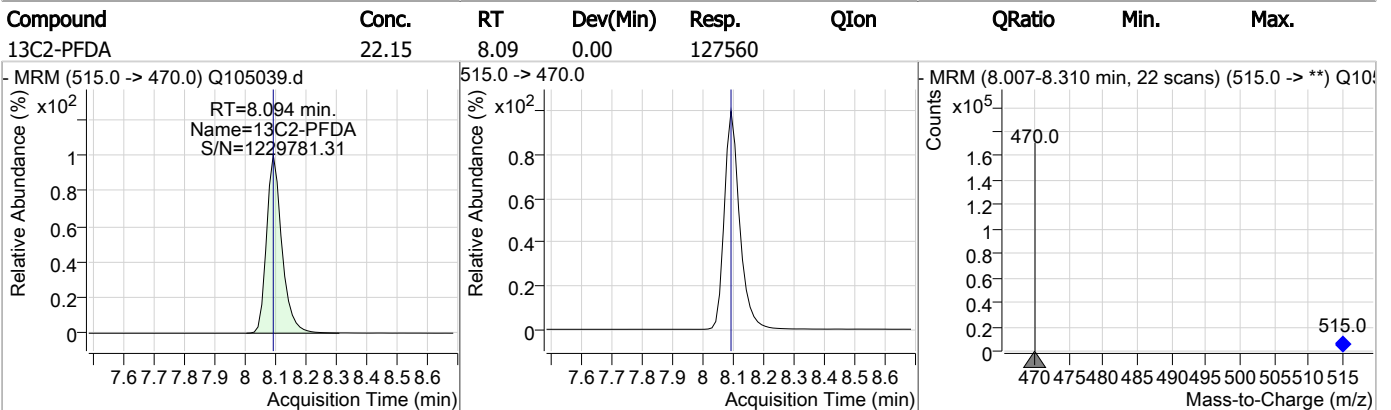
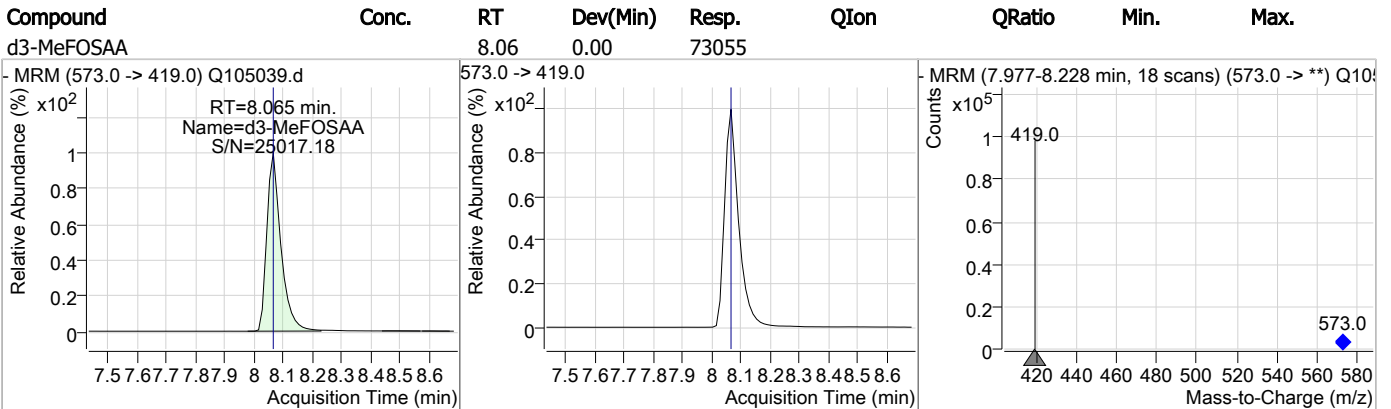
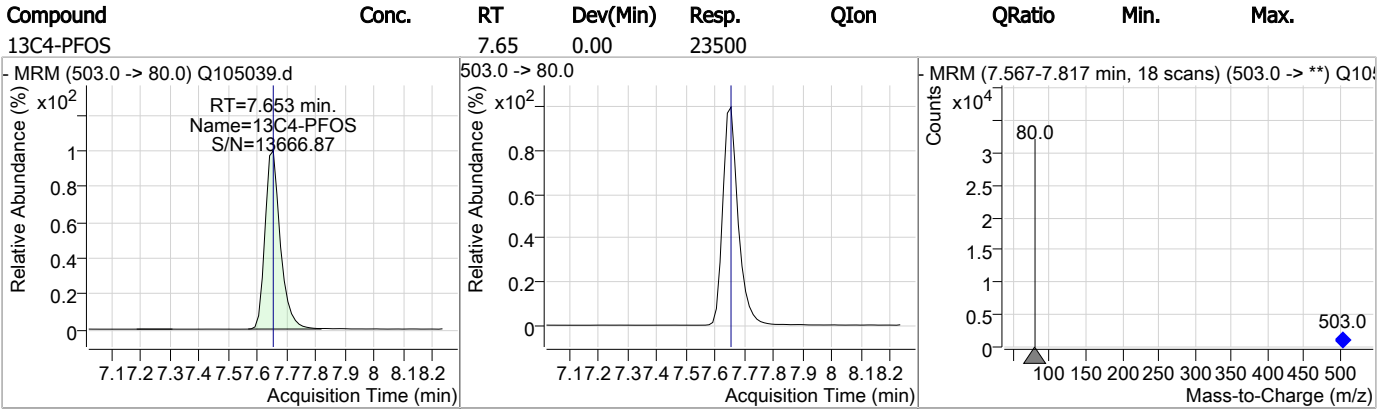
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



7.15

7

## Perfluorinated Compounds by LC/MS/MS

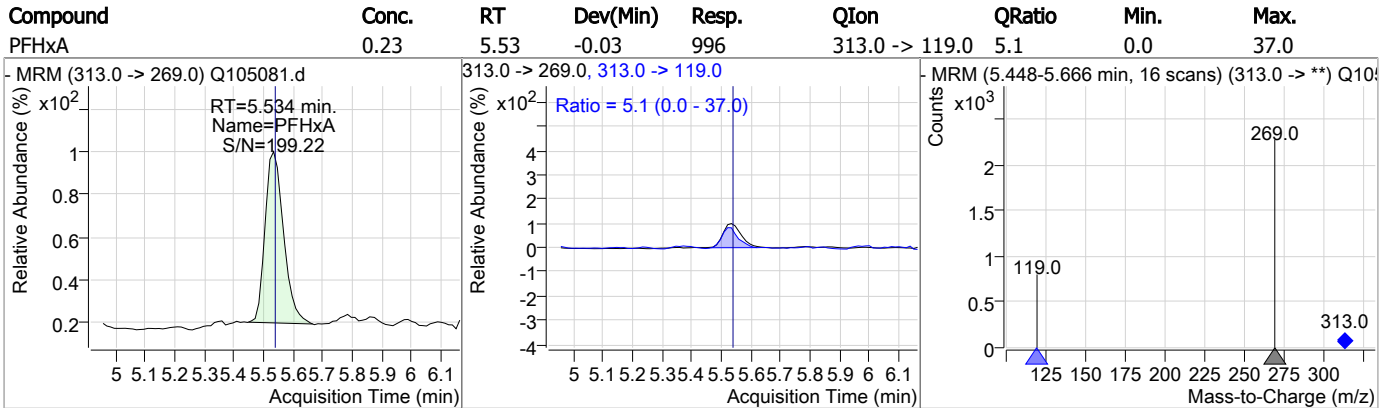
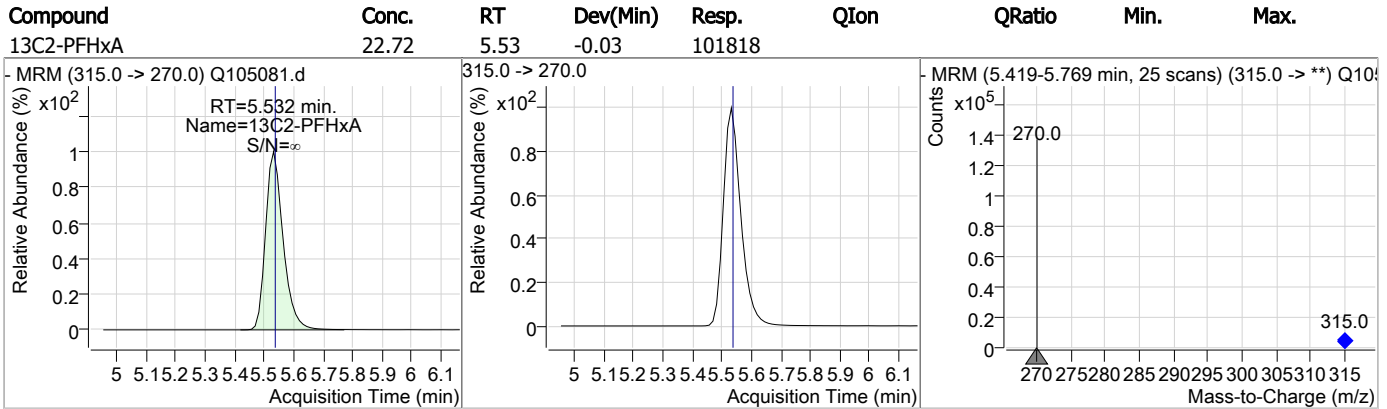
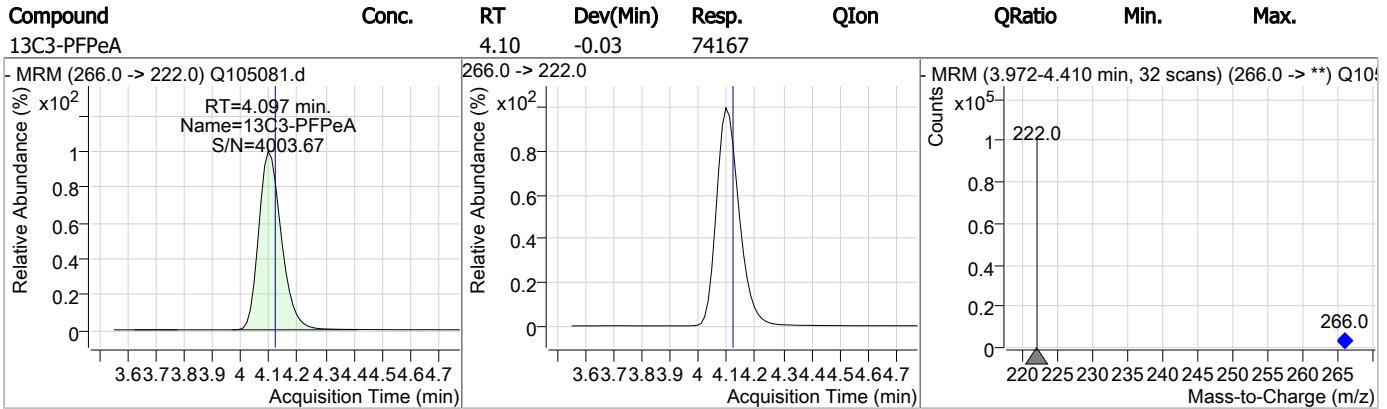
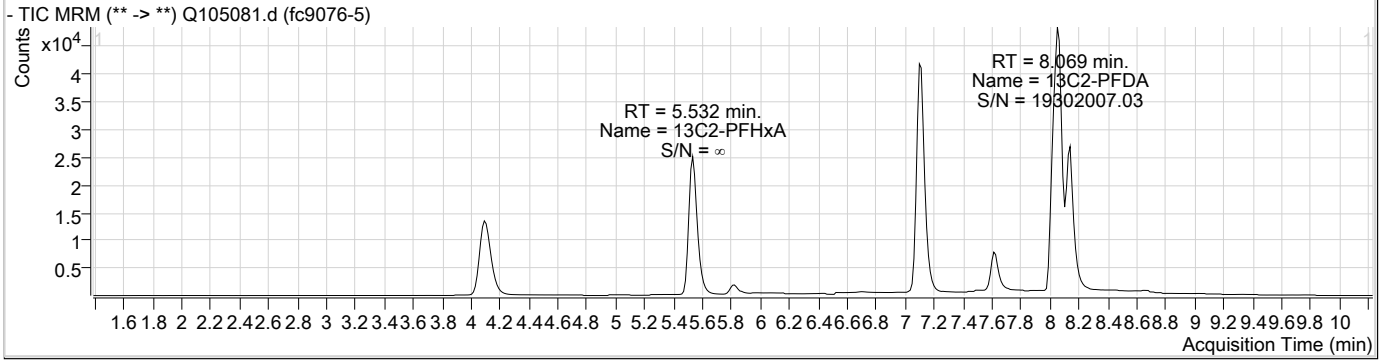
Data File : Q105081.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/11/2023 1:00:15 PM  
 Sample Name : fc9076-5  
 Vial : P1-B9  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2239.batch.bin  
 Sample Information : op98786,SQ2239,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.100	429.0 -> 409.0	45257	20.00 µg/L	-0.026
13C2-PFOA	7.116	415.0 -> 370.0	120626	20.00 µg/L	-0.025
13C3-PFPeA	4.097	266.0 -> 222.0	74167	20.00 µg/L	-0.025
13C4-PFOS	7.616	503.0 -> 80.0	24437	20.00 µg/L	-0.038
d3-MeFOSAA	8.027	573.0 -> 419.0	79668	40.00 µg/L	-0.038
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.069	515.0 -> 470.0	138973	23.66 µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 118.3%	
13C2-PFHxA	5.532	315.0 -> 270.0	101818	22.72 µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 113.6%	
d5-EtFOSAA	8.138	589.0 -> 419.0	79418	37.34 µg/L	-0.038
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 93.3%	
13C3-HFPO-DA	5.826	287.0 -> 169.0	6909	51.11 µg/L	-0.025
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 127.8%	
<b>Target Compounds</b>					
					<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.534	313.0 -> 269.0	996	0.23 µg/L	94
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	5.803	285.0 -> 169.0	0	0.00 µg/L m	1

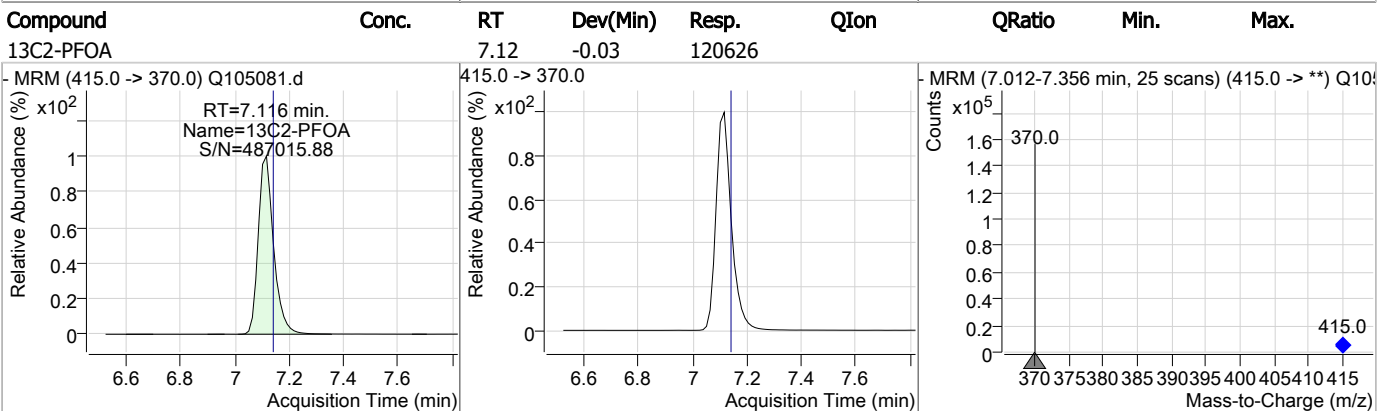
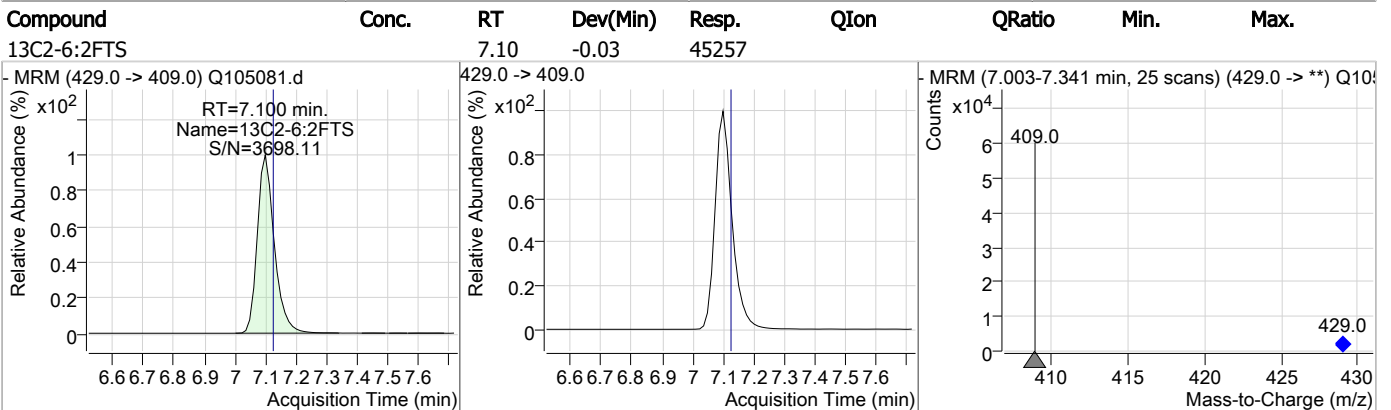
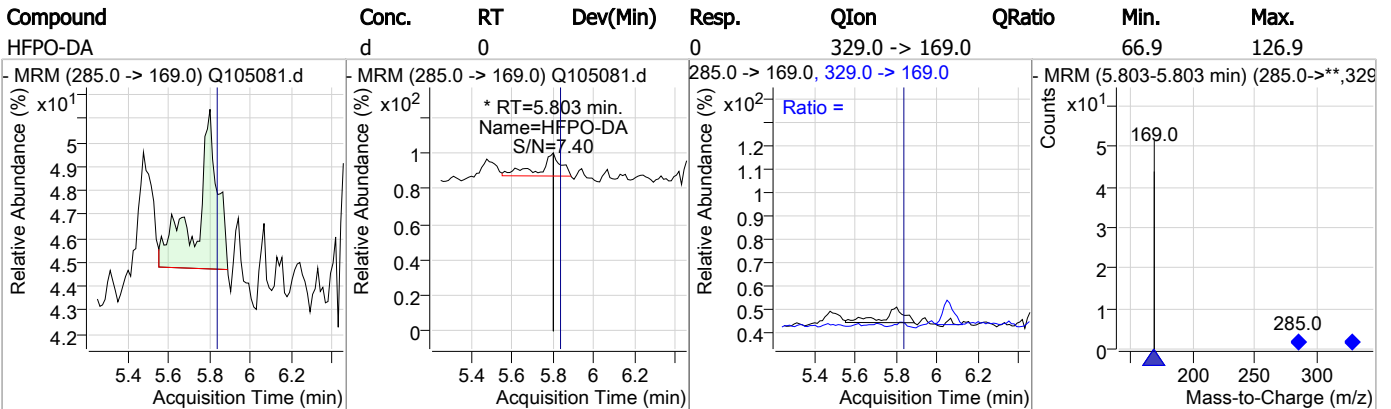
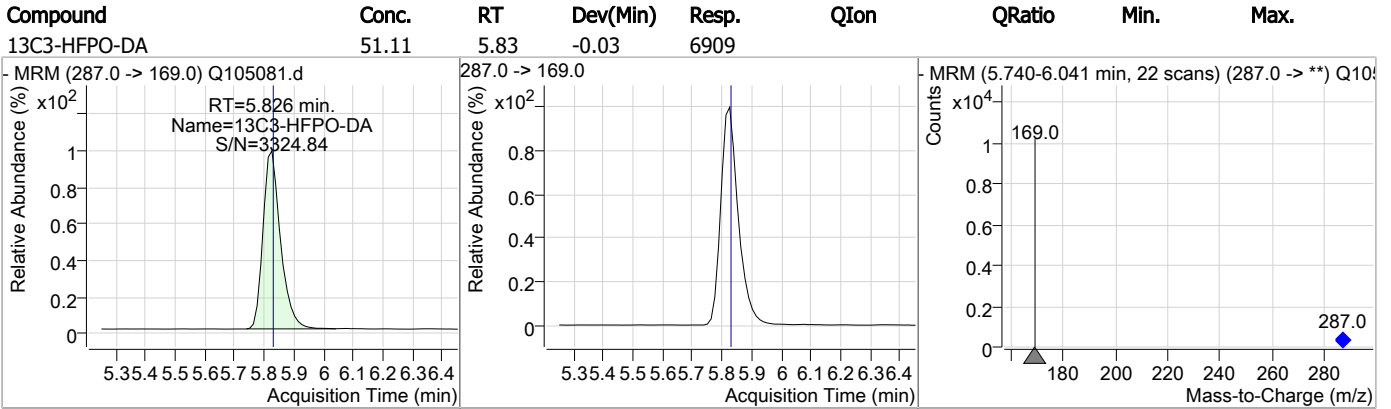
# = Qualifier out of range, m = manually integrated, + = Area summed



### 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.
13C4-PFOS		7.62	-0.04	24437				
d3-MeFOSAA		8.03	-0.04	79668				
13C2-PFDA	23.66	8.07	-0.03	138973				
d5-EtFOSAA	37.34	8.14	-0.04	79418				

7.1.6

7



Perfluorinated Compounds by LC/MS/MS

Data File : Q105040.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 7:15:25 PM  
 Sample Name : fc9076-6  
 Vial : P1-C1  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

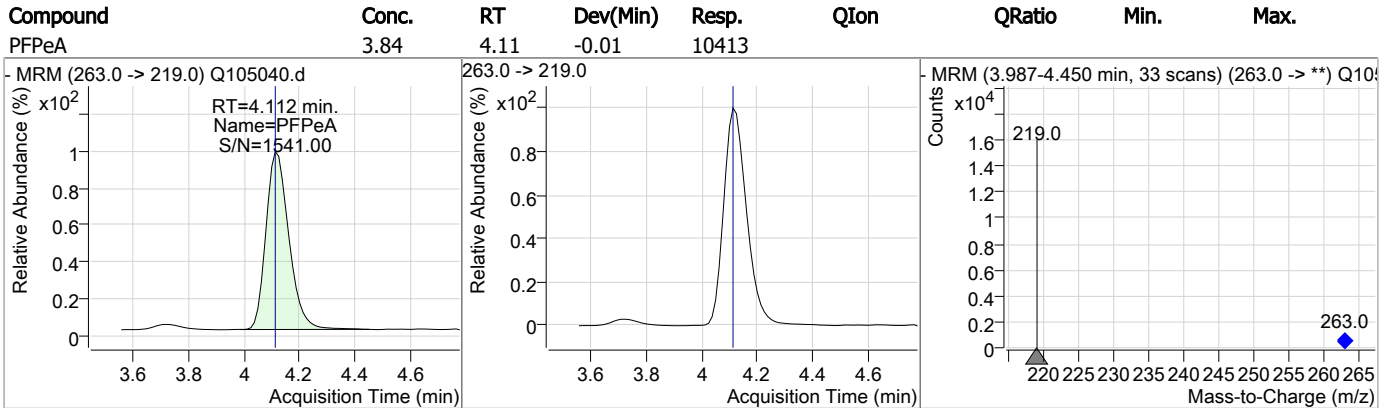
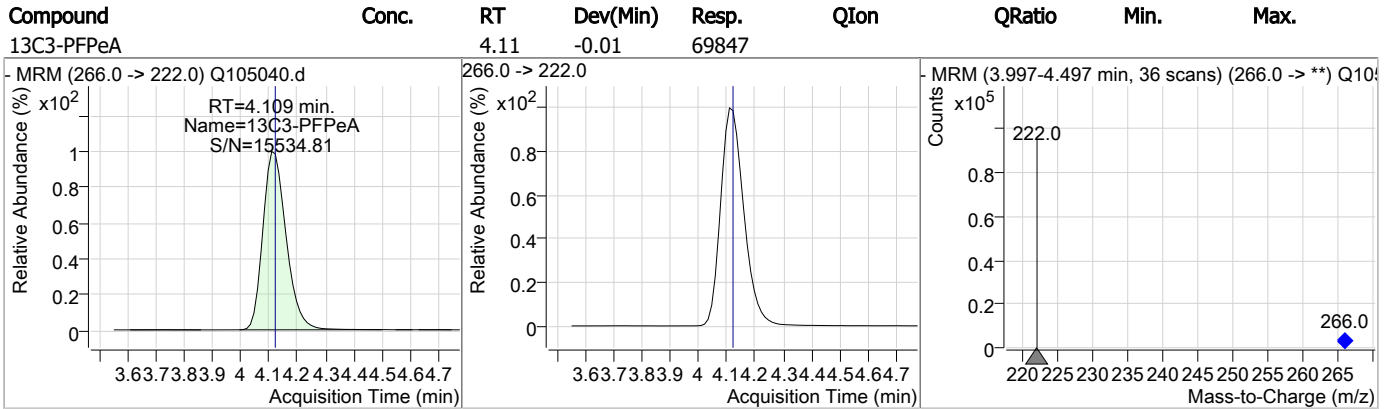
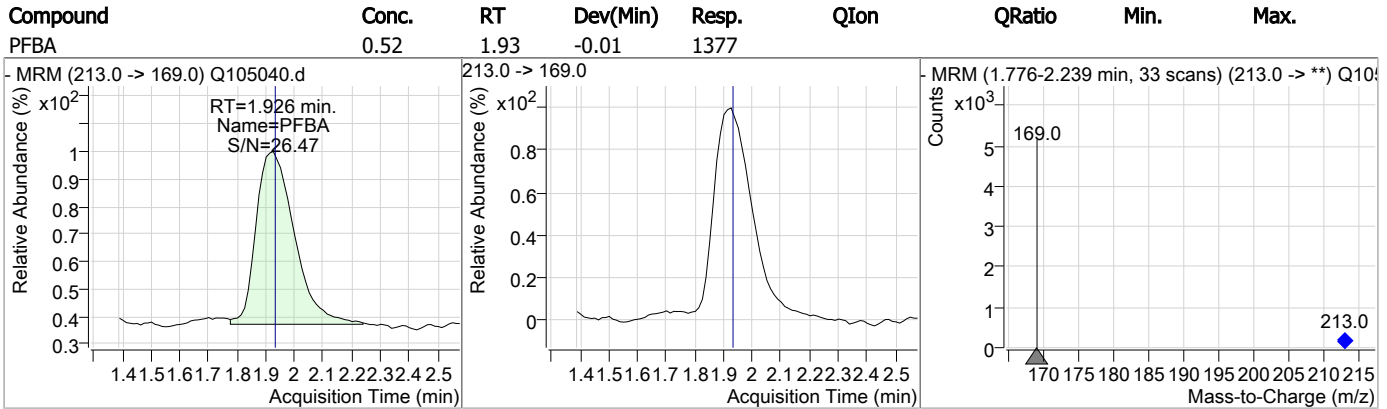
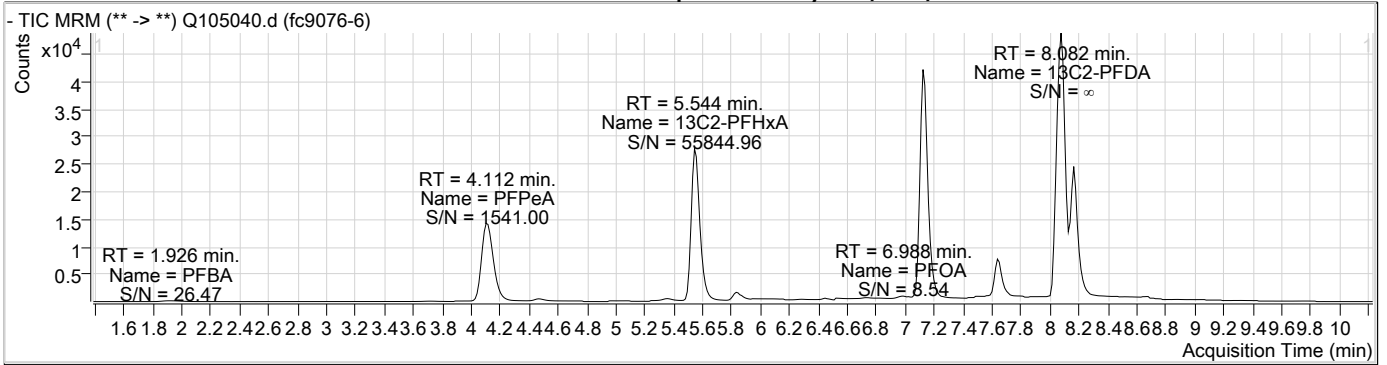
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.126	429.0 -> 409.0	43087	20.00	µg/L	0.000	
13C2-PFOA	7.129	415.0 -> 370.0	118860	20.00	µg/L	-0.013	
13C3-PFPeA	4.109	266.0 -> 222.0	69847	20.00	µg/L	-0.013	
13C4-PFOS	7.641	503.0 -> 80.0	23454	20.00	µg/L	-0.013	
d3-MeFOSAA	8.052	573.0 -> 419.0	75114	40.00	µg/L	-0.013	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.082	515.0 -> 470.0	130929	22.62	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 113.1%			
13C2-PFHxA	5.544	315.0 -> 270.0	101630	23.00	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 115.0%			
d5-EtFOSAA	8.163	589.0 -> 419.0	72380	36.12	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 90.3%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5962	44.75	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 111.9%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.926	213.0 -> 169.0	1377	0.52	µg/L	100	
PFBS	4.466	299.0 -> 80.0	1308	0.93	µg/L	m 95	
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.464	363.0 -> 319.0	1701	0.31	µg/L	m 96	
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	12171	2.82	µg/L	99	
PFHxS	-	399.0 -> 80.0	-	N.D.			
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	6.988	413.0 -> 369.0	2178	0.38	µg/L	m 89	
PFOS	-	499.0 -> 80.0	-	N.D.			
PFPeA	4.112	263.0 -> 219.0	10413	3.84	µg/L	100	
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

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

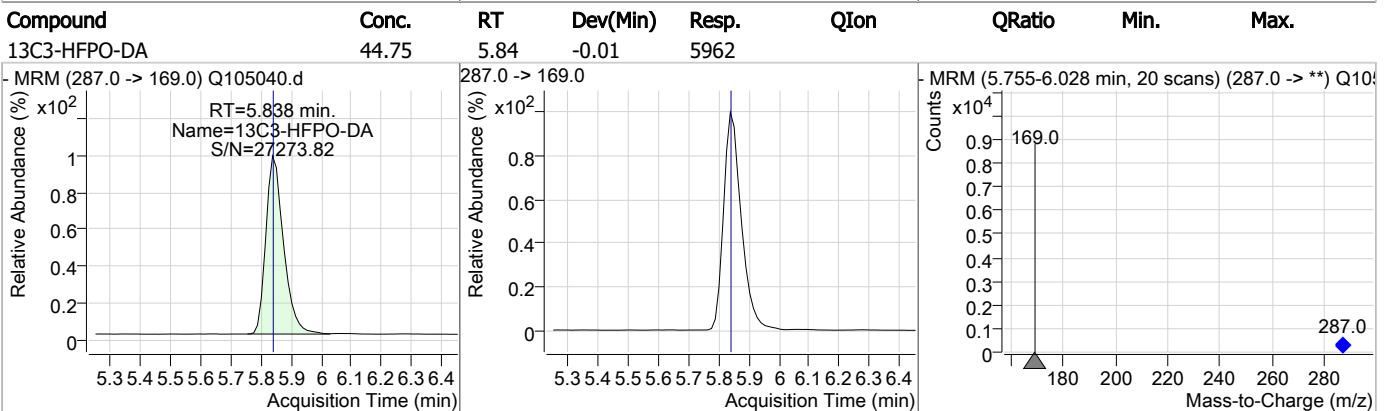
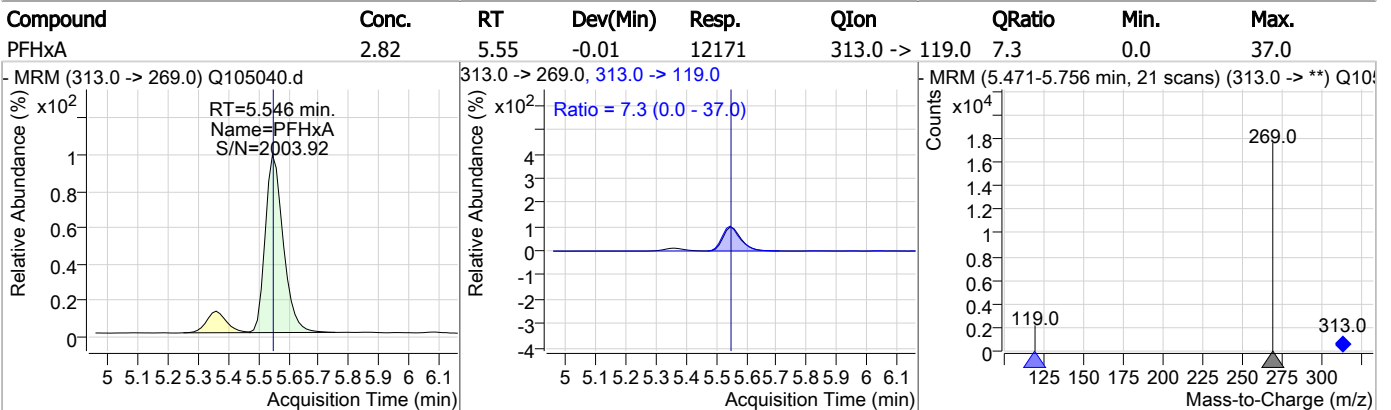
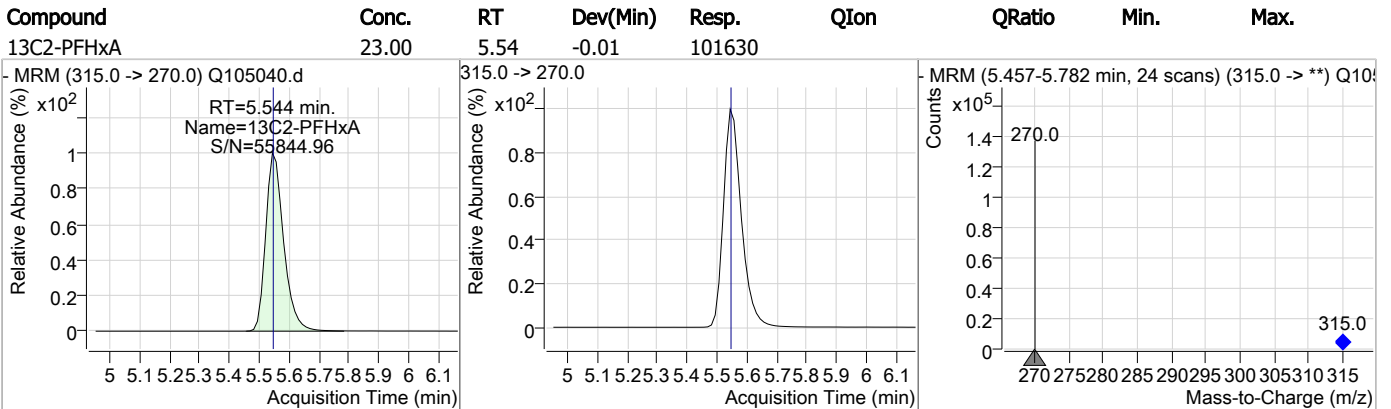
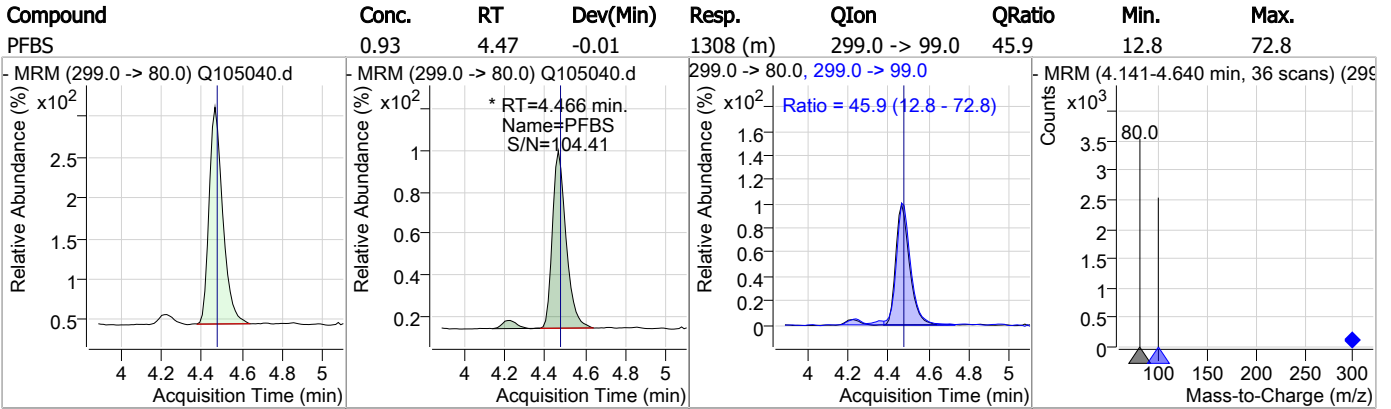
7.17  
7



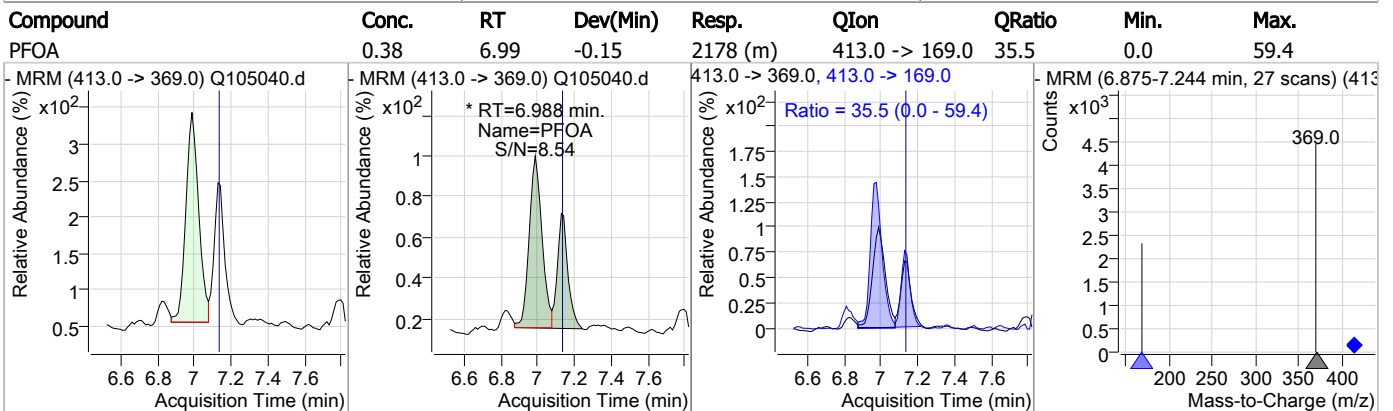
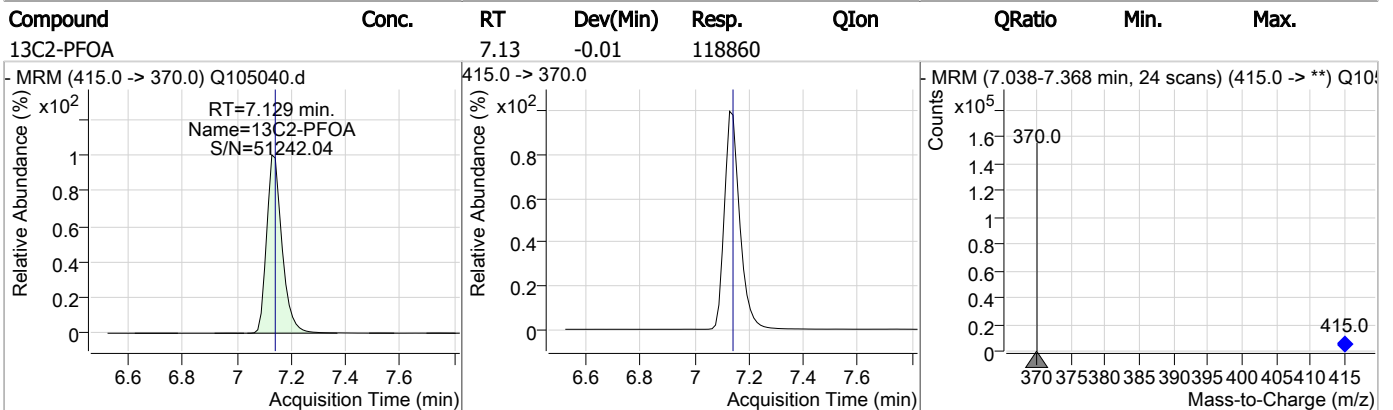
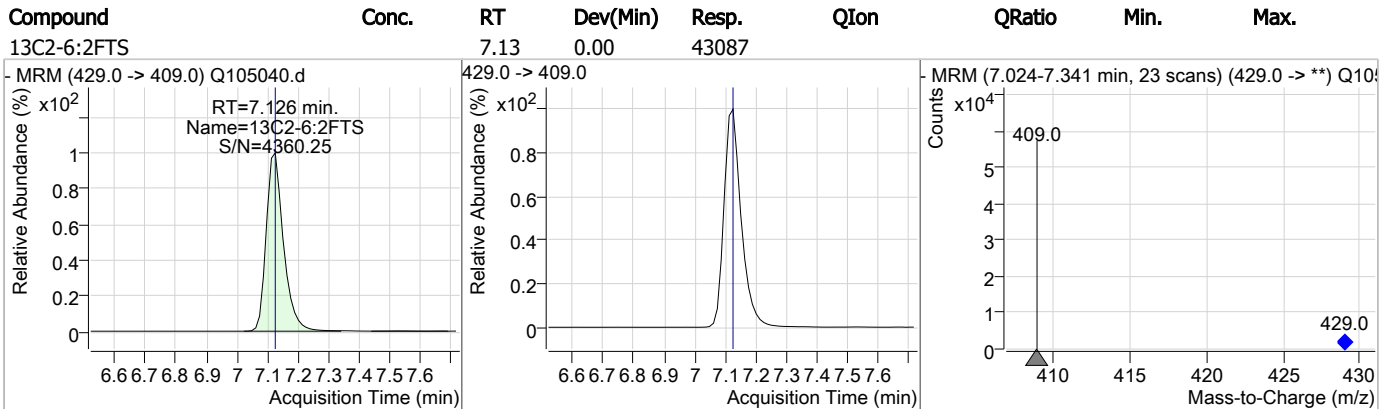
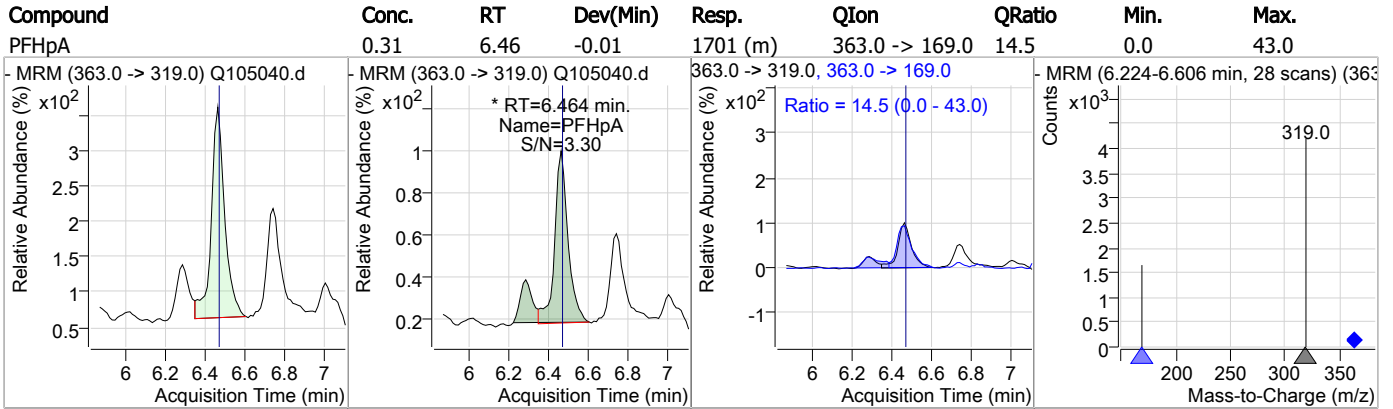
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

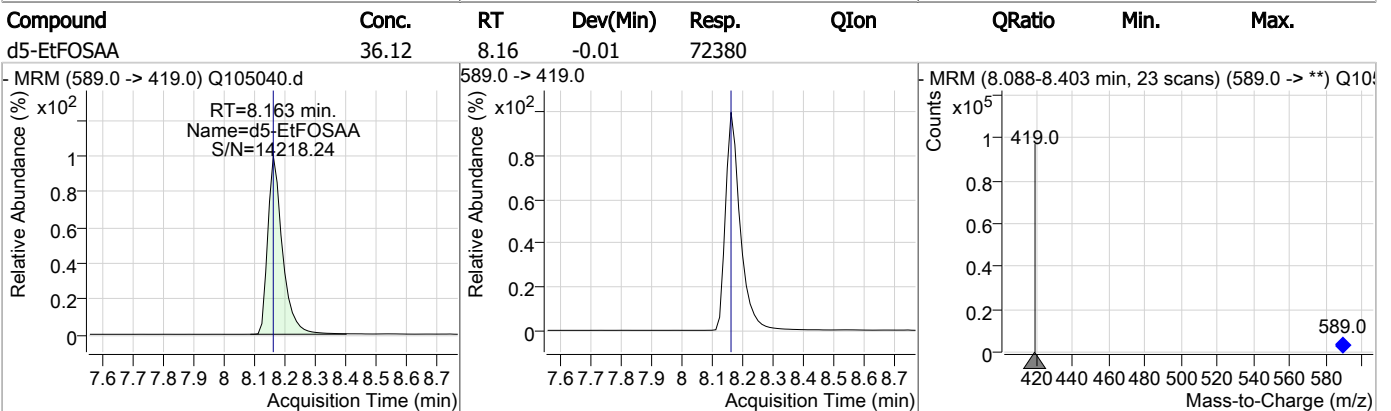
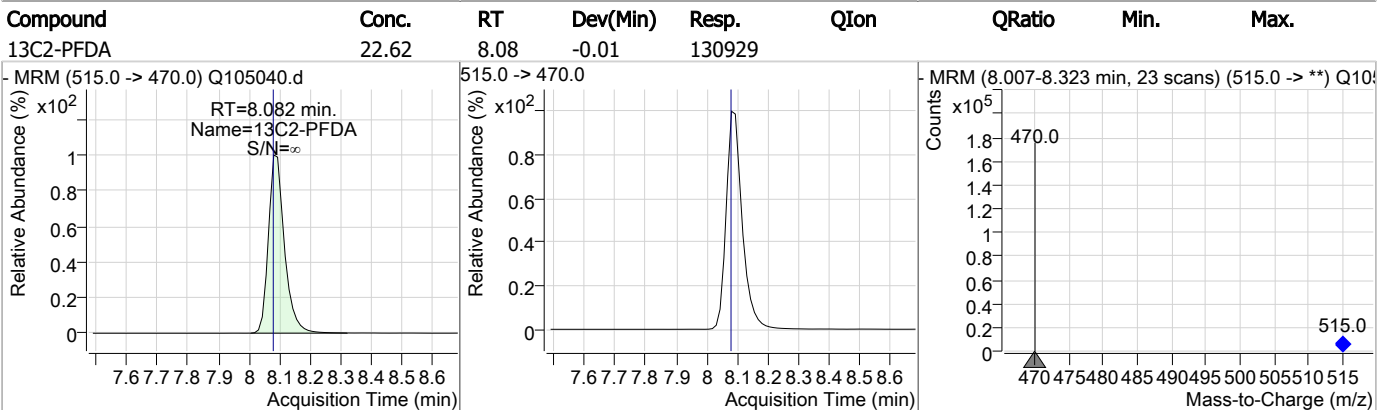
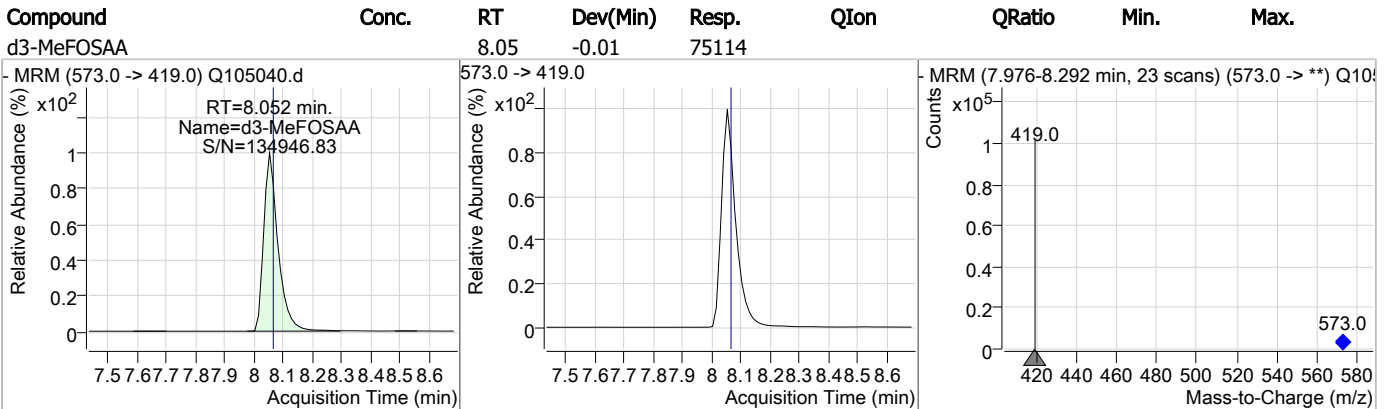
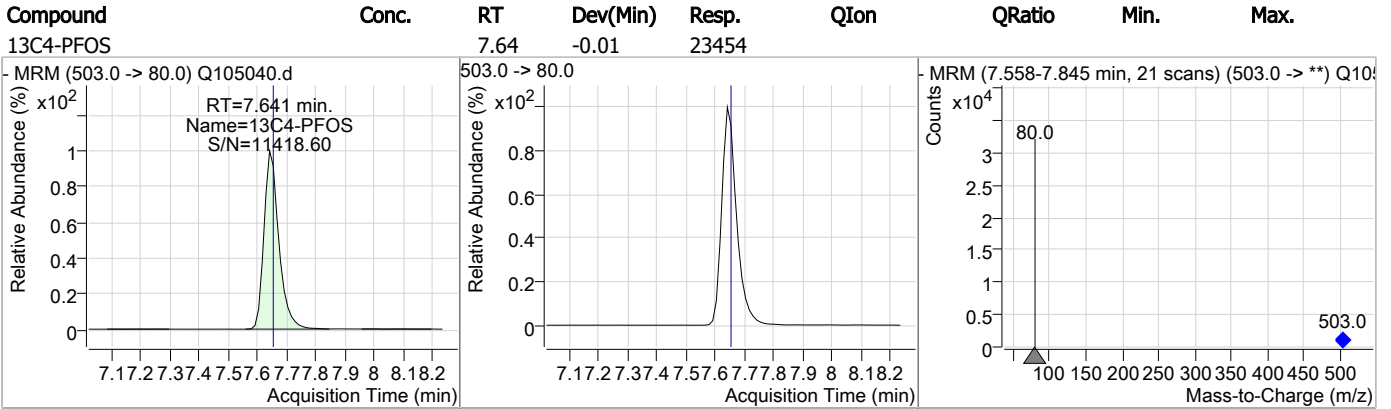


### Perfluorinated Compounds by LC/MS/MS





Perfluorinated Compounds by LC/MS/MS





# Manual Integration Approval Summary

Sample Number: FC9076-6                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105040.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 19:15                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorooctanoic acid	335-67-1		6.99	Split peak

7.1.7.1

7

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Norman Farmer  
 09/11/23 11:37

### Perfluorinated Compounds by LC/MS/MS

Data File : Q105041.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 7:31:12 PM  
 Sample Name : fc9076-7  
 Vial : P1-C2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

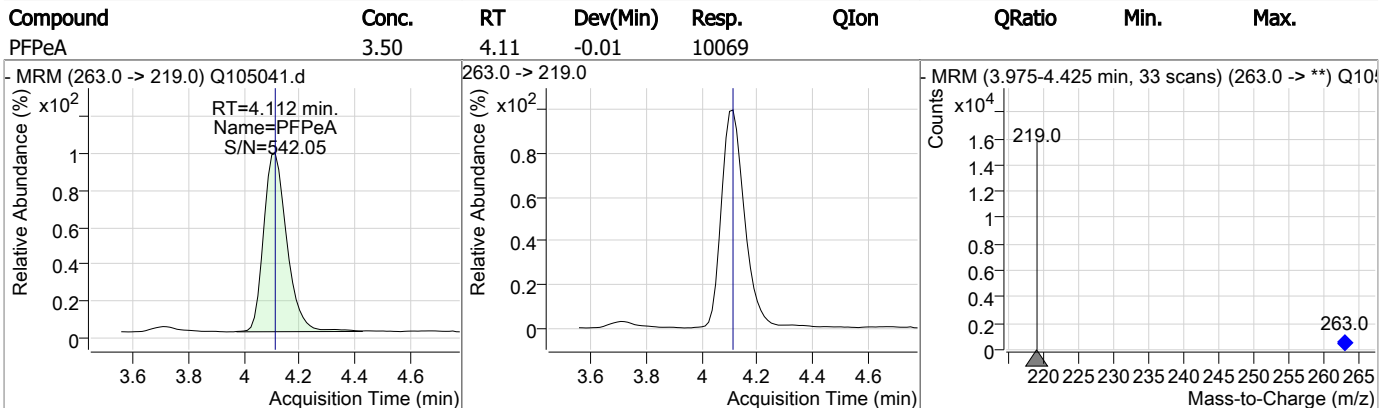
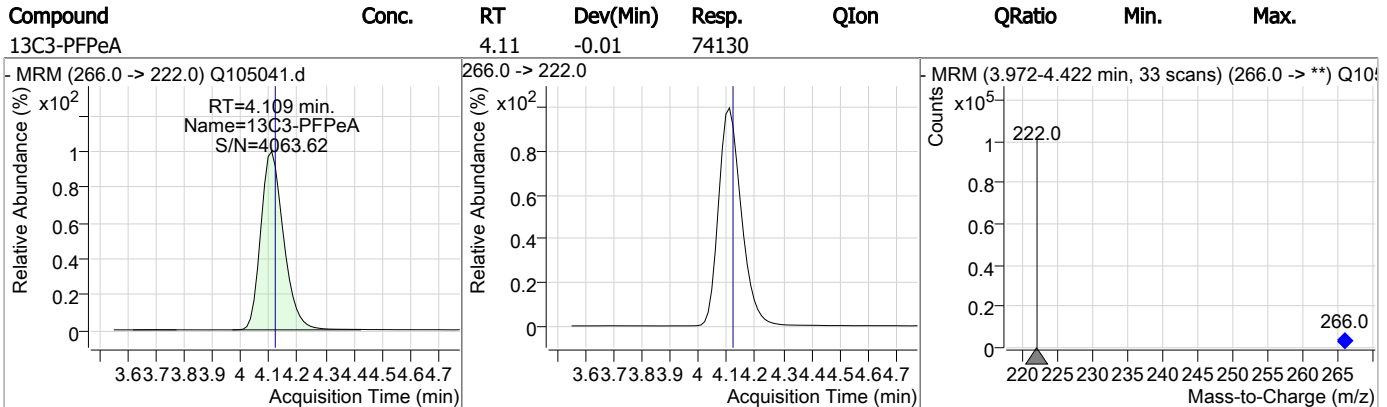
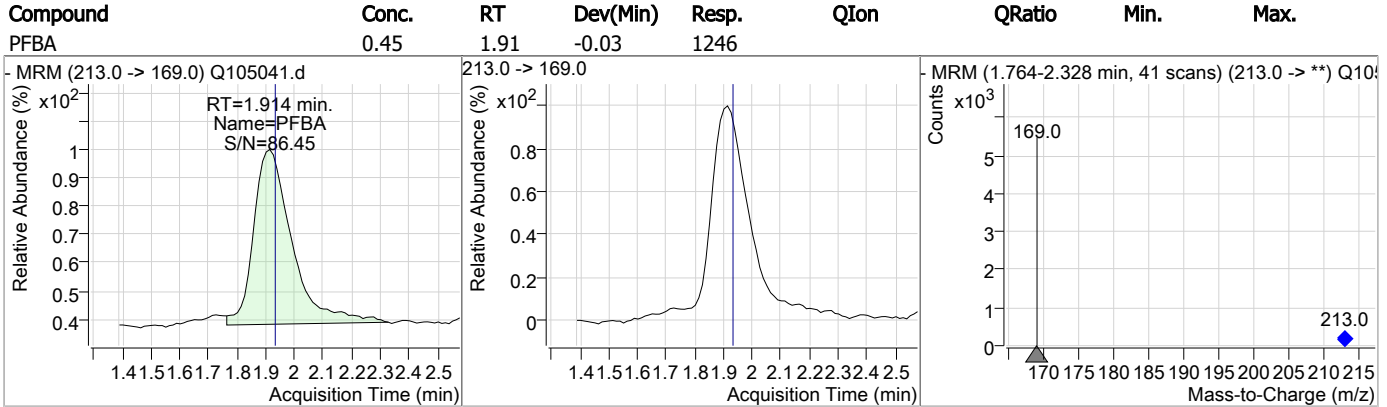
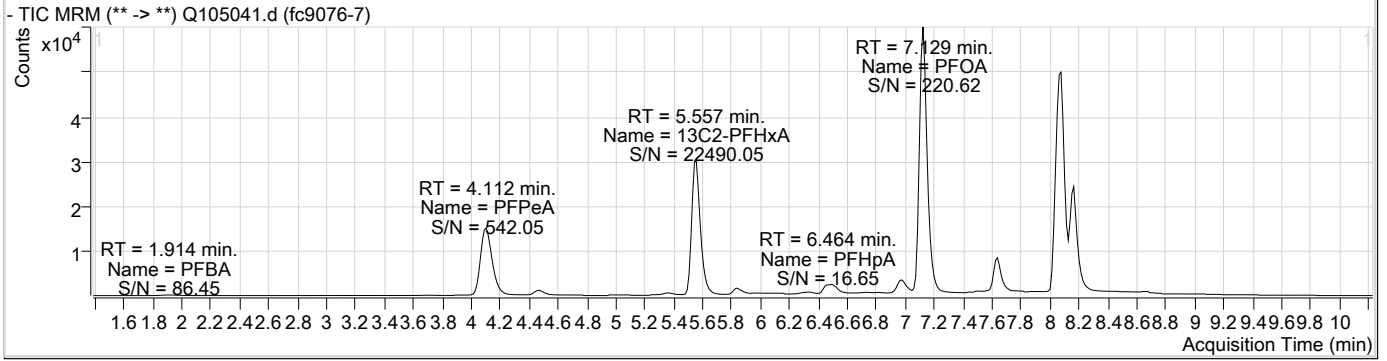
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.114	429.0 -> 409.0	46608	20.00	µg/L	-0.013	
13C2-PFOA	7.129	415.0 -> 370.0	129093	20.00	µg/L	-0.013	
13C3-PFPeA	4.109	266.0 -> 222.0	74130	20.00	µg/L	-0.013	
13C4-PFOS	7.641	503.0 -> 80.0	26290	20.00	µg/L	-0.013	
d3-MeFOSAA	8.052	573.0 -> 419.0	80090	40.00	µg/L	-0.013	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.082	515.0 -> 470.0	134495	21.40	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 107.0%			
13C2-PFHxA	5.557	315.0 -> 270.0	103540	21.61	µg/L	0.000	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 108.1%			
d5-EtFOSAA	8.163	589.0 -> 419.0	73409	34.41	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 86.0%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5761	39.82	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 99.5%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.914	213.0 -> 169.0	1246	0.45	µg/L	100	
PFBS	4.466	299.0 -> 80.0	3497	2.22	µg/L	m 94	
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.464	363.0 -> 319.0	7883	1.34	µg/L	m 97	
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	21596	4.60	µg/L	100	
PFHxS	6.506	399.0 -> 80.0	5615	4.86	µg/L	m 95	
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.129	413.0 -> 369.0	51626	8.20	µg/L	m 94	
PFOS	7.490	499.0 -> 80.0	0	0.00	µg/L	m 1	
PFPeA	4.112	263.0 -> 219.0	10069	3.50	µg/L	100	
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

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

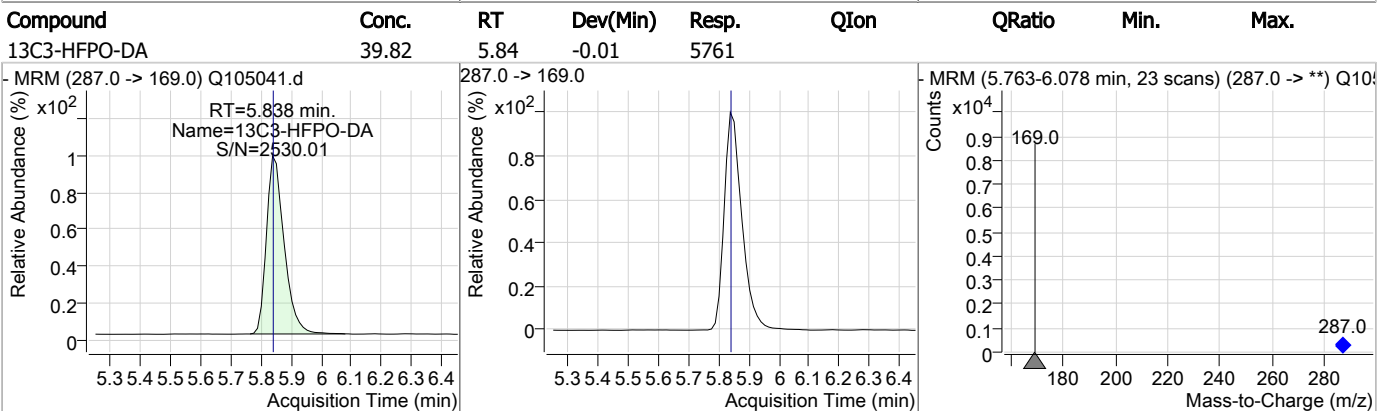
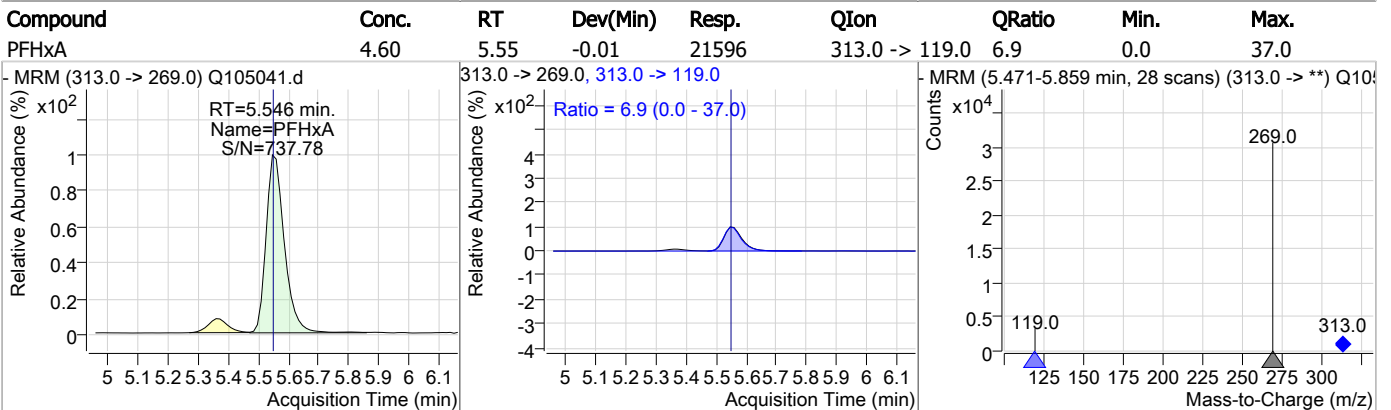
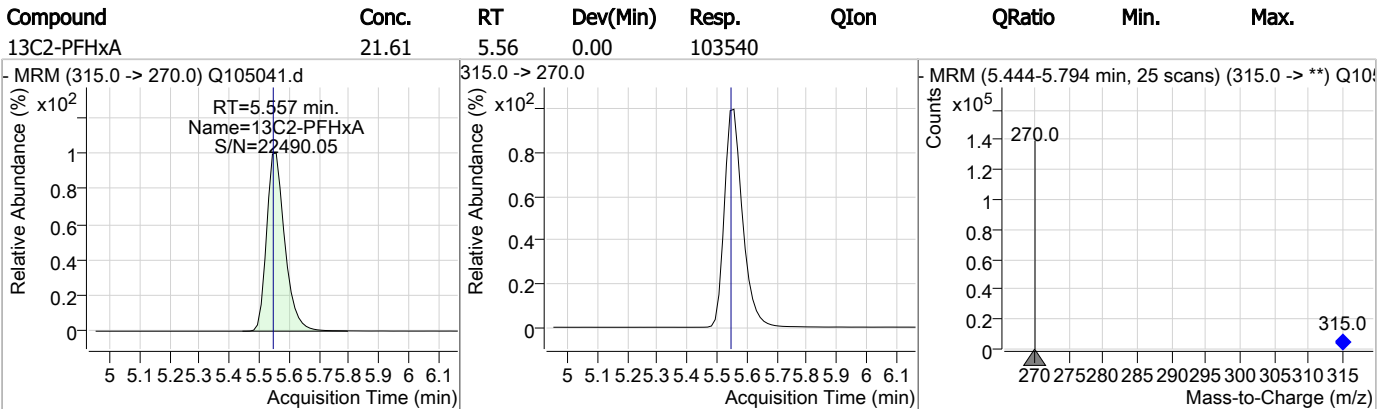
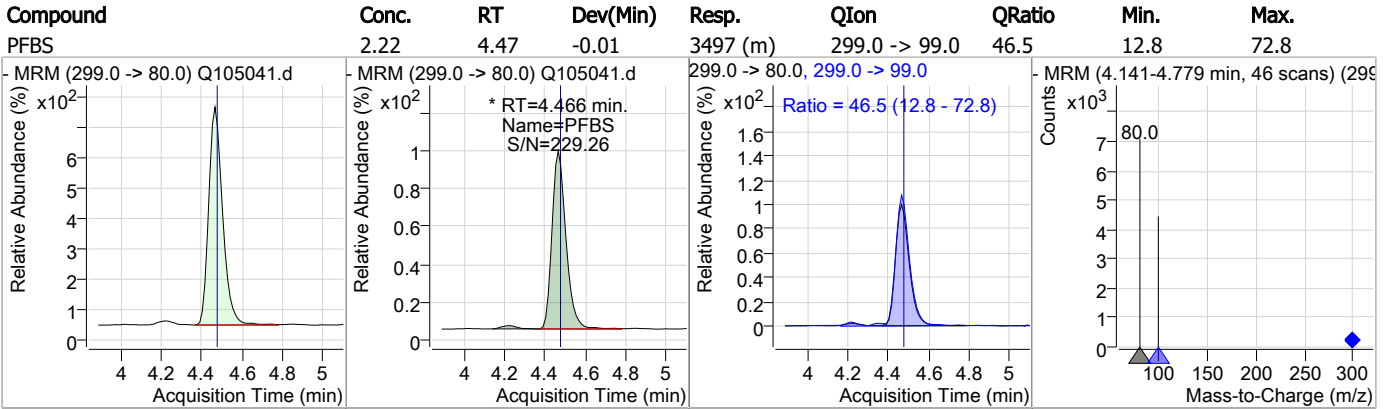
7.1.8  
7



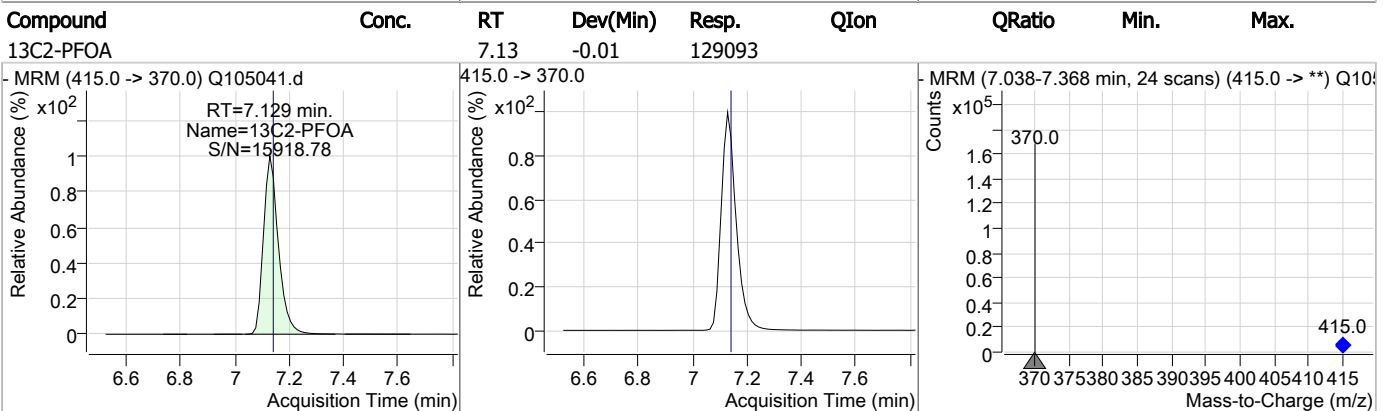
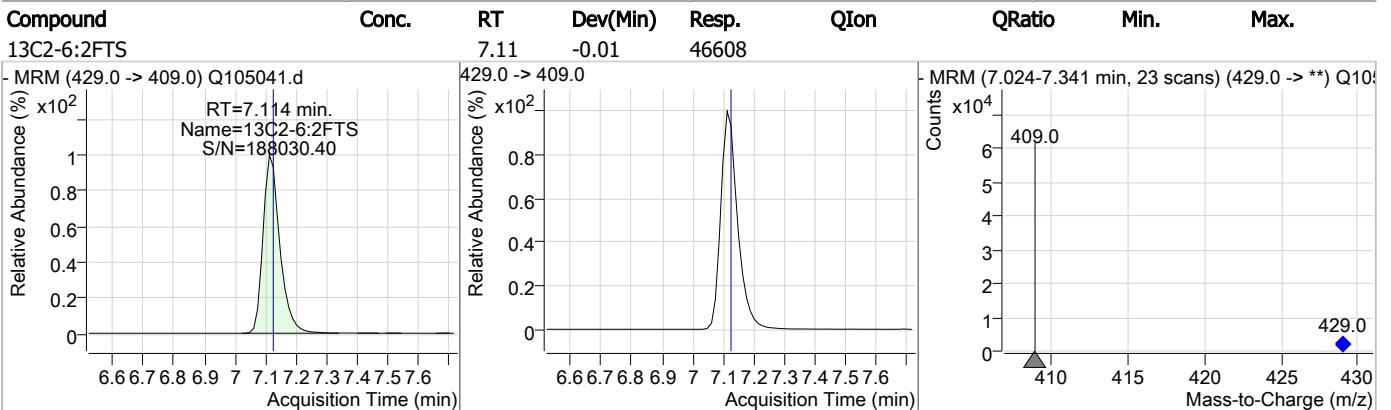
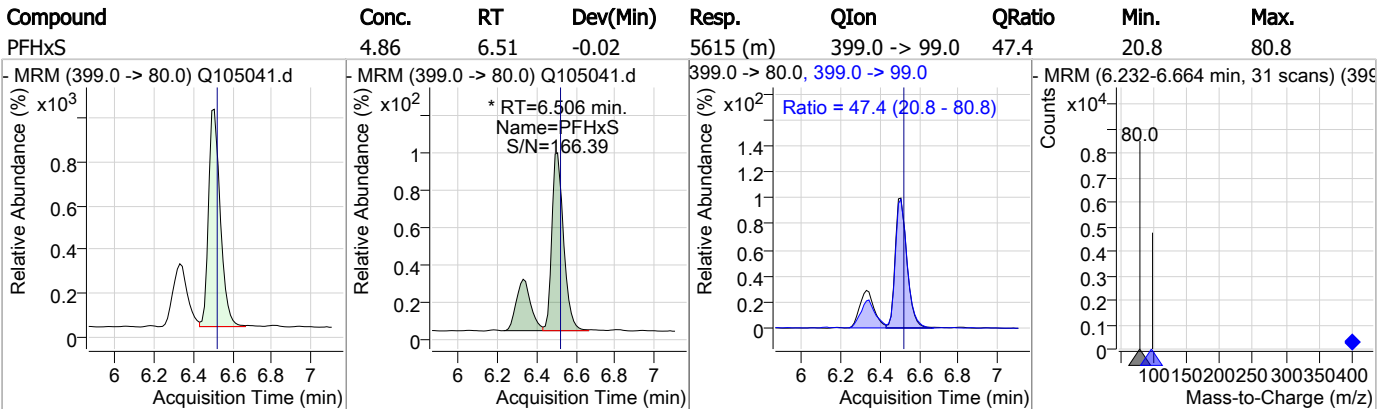
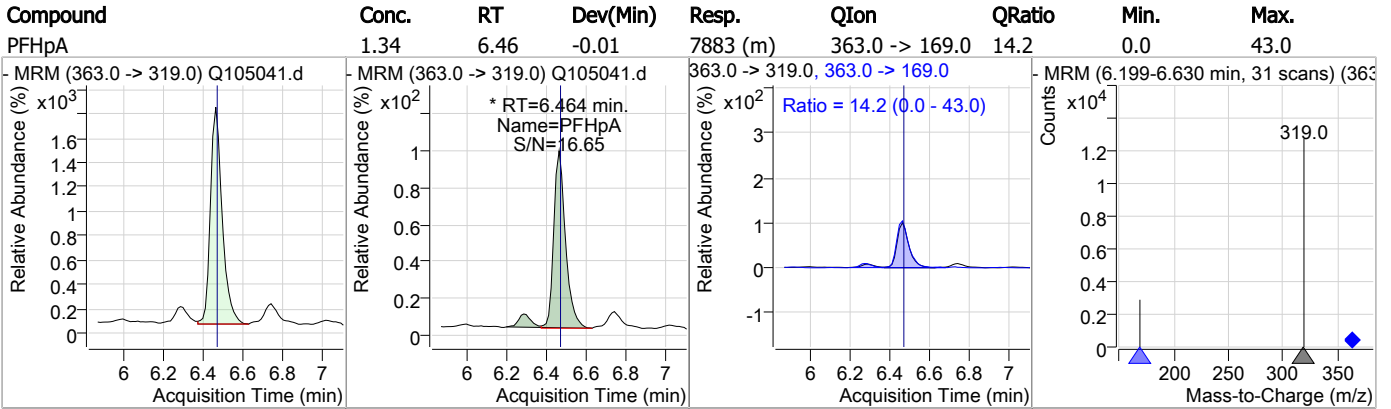
### Perfluorinated Compounds by LC/MS/MS



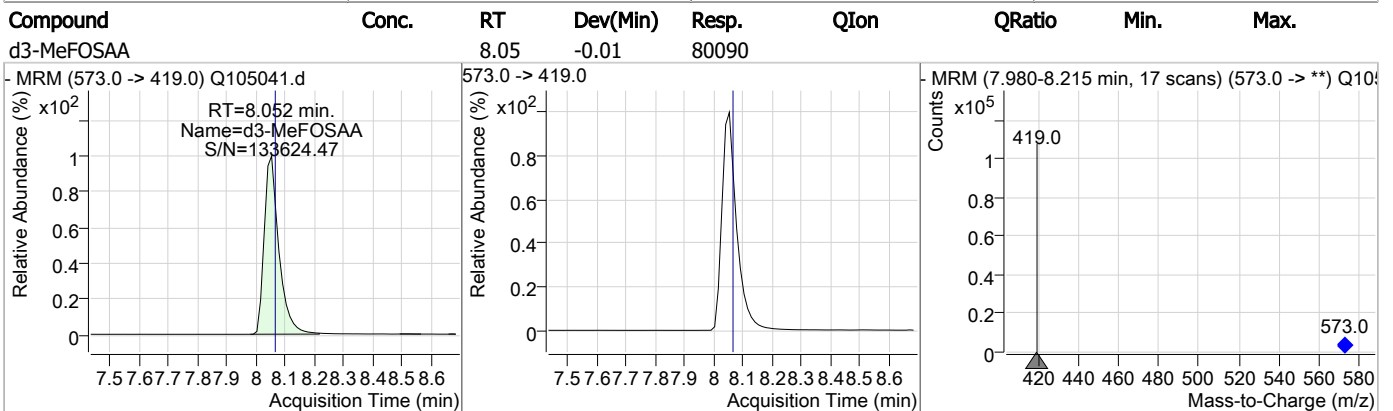
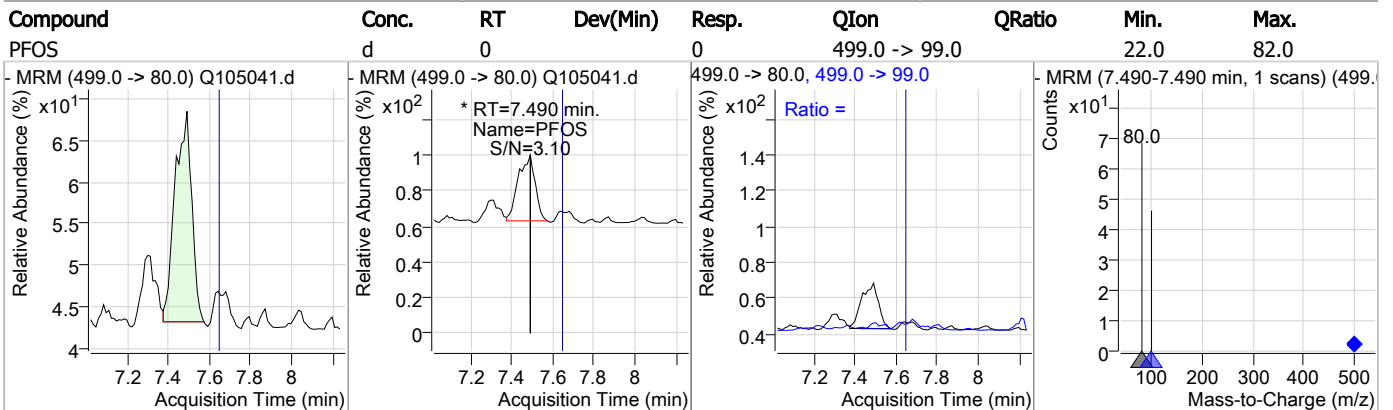
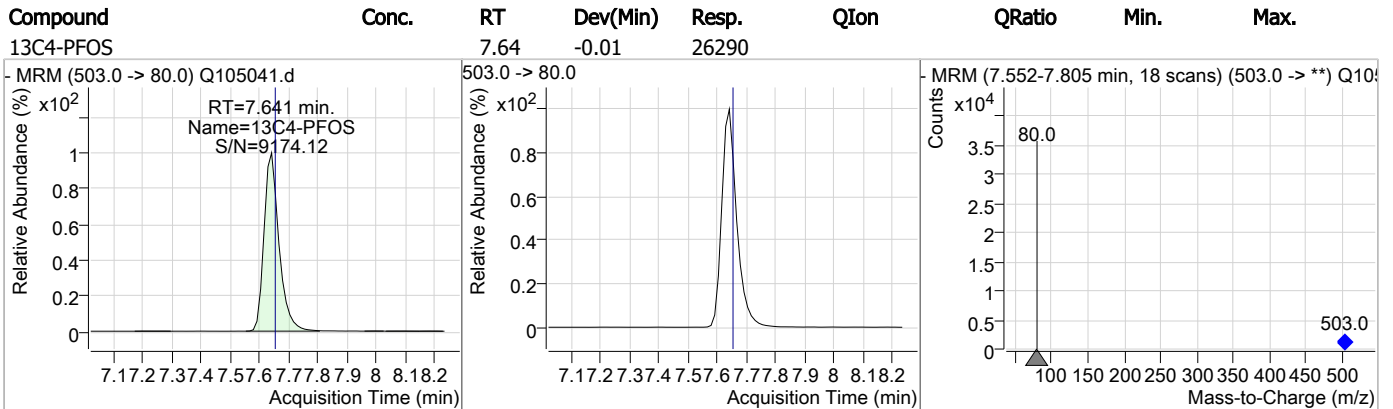
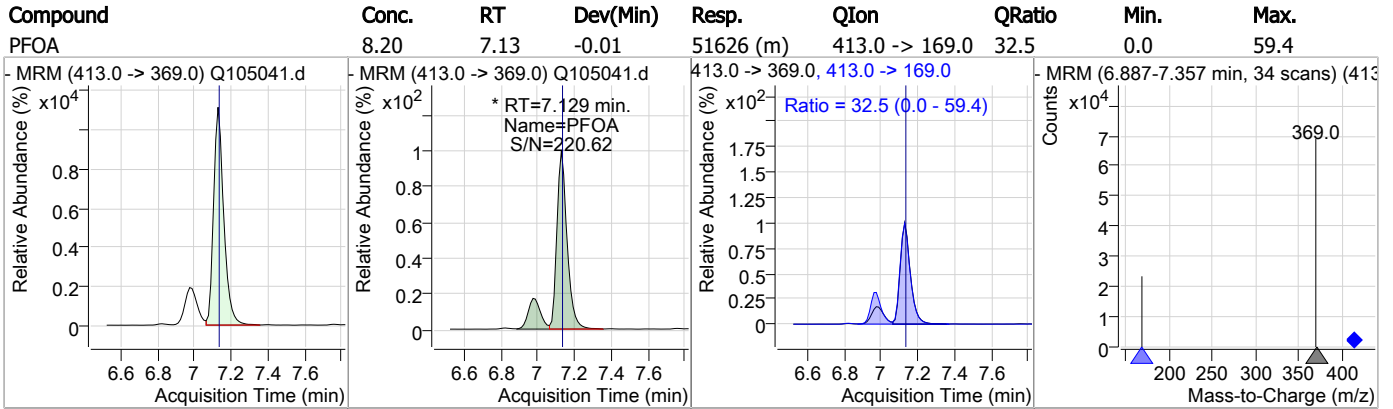
### Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

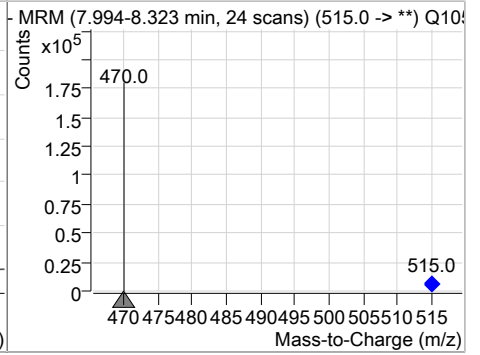
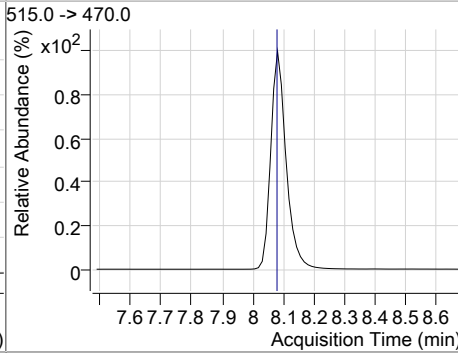
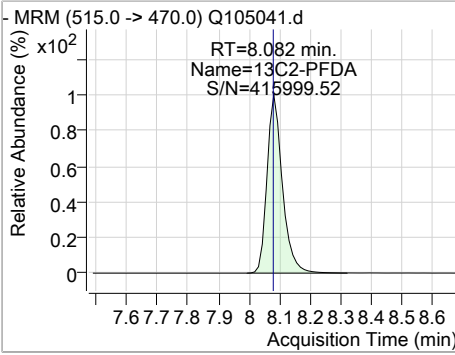


### Perfluorinated Compounds by LC/MS/MS

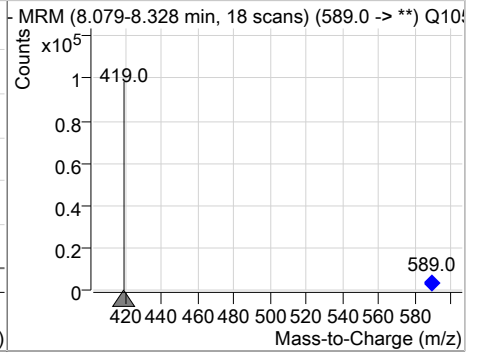
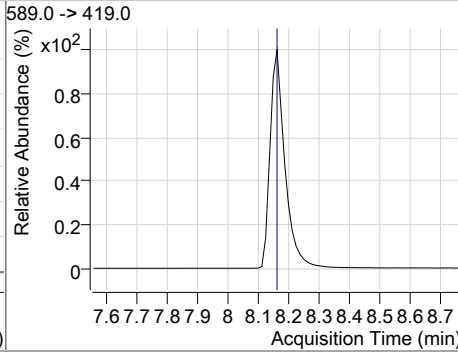
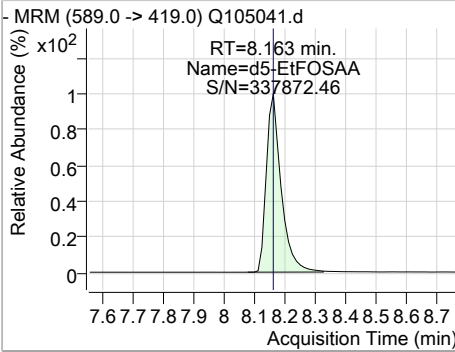


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.40	8.08	-0.01	134495				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	34.41	8.16	-0.01	73409				



7.1.8

7

# Manual Integration Approval Summary

Sample Number: FC9076-7                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105041.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 19:31              Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak

7.1.8.1  
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Perfluorinated Compounds by LC/MS/MS

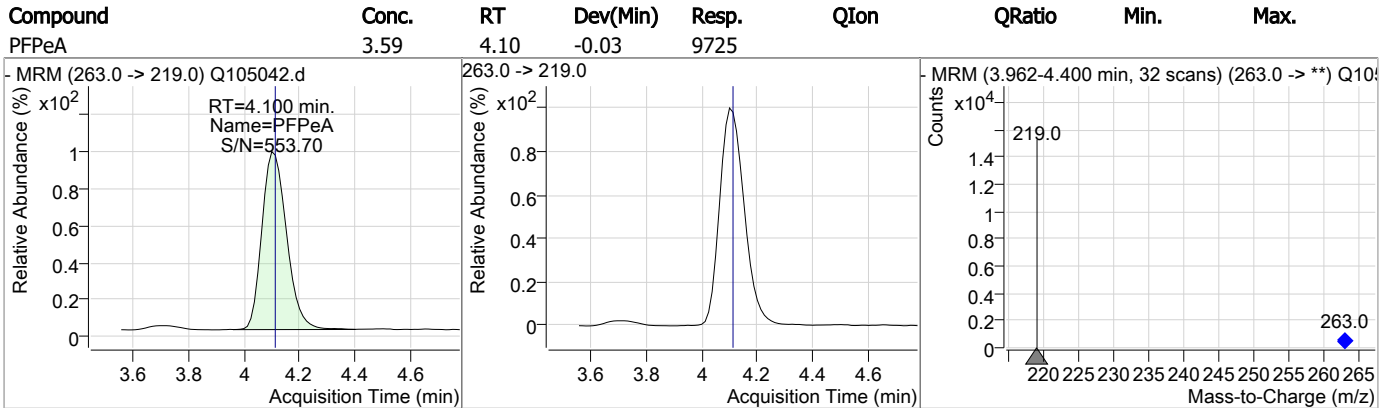
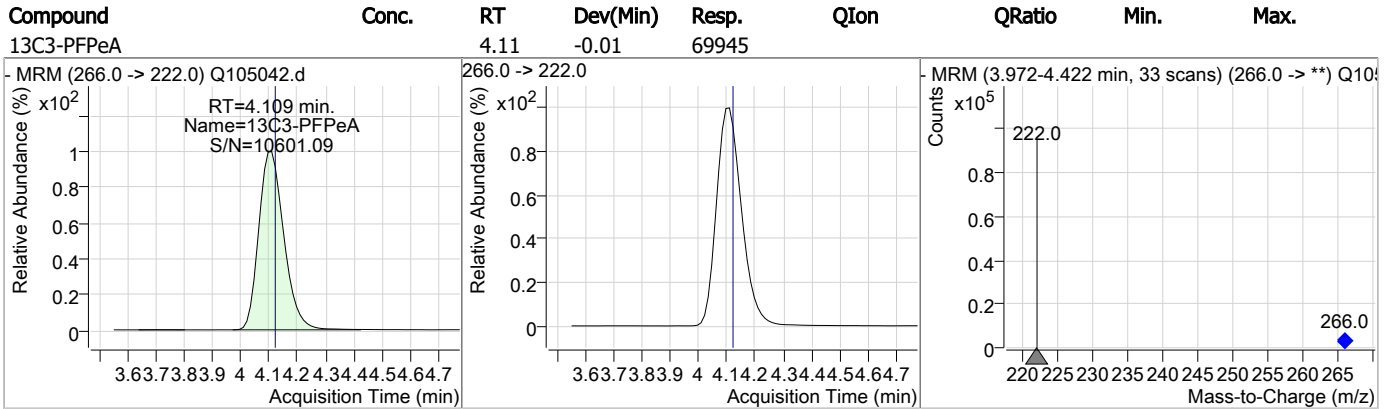
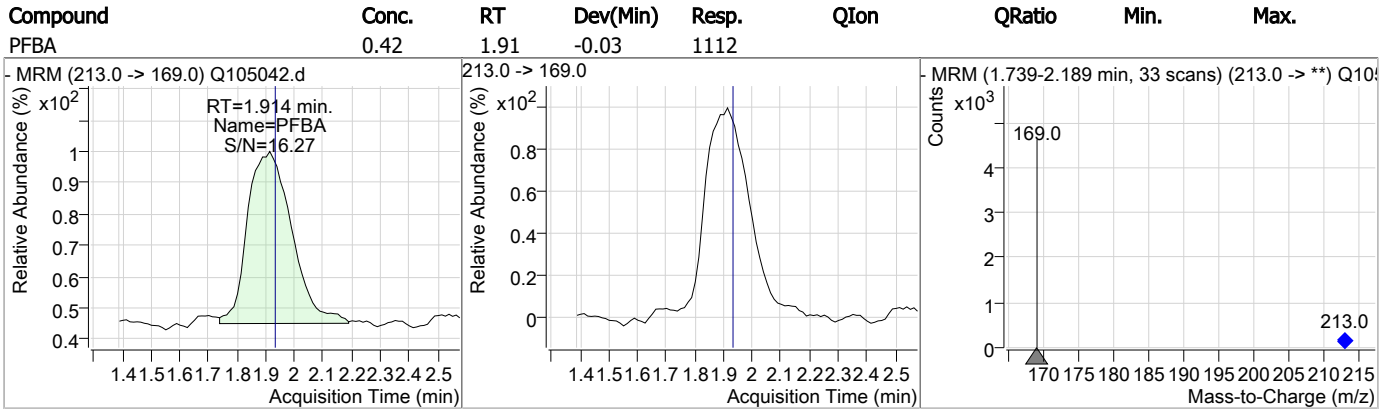
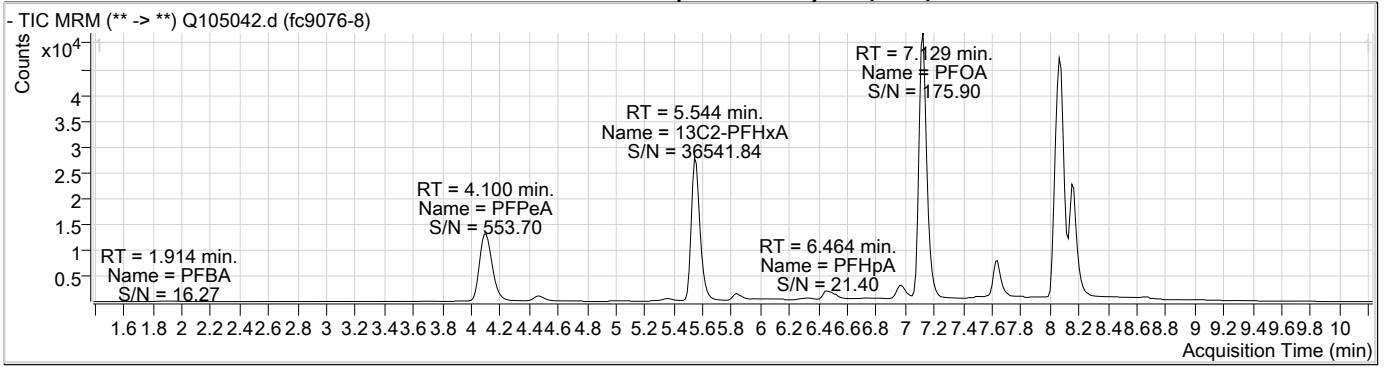
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 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 7:46:58 PM  
 Sample Name : fc9076-8  
 Vial : P1-C3  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.114	429.0 -> 409.0	42909	20.00 µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	120308	20.00 µg/L	-0.013
13C3-PFPeA	4.109	266.0 -> 222.0	69945	20.00 µg/L	-0.013
13C4-PFOS	7.641	503.0 -> 80.0	24899	20.00 µg/L	-0.013
d3-MeFOSAA	8.040	573.0 -> 419.0	77818	40.00 µg/L	-0.025
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	125005	21.34 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 106.7%	
13C2-PFHxA	5.544	315.0 -> 270.0	93129	20.87 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.4%	
d5-EtFOSAA	8.163	589.0 -> 419.0	68484	33.07 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 82.7%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	5414	40.15 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 100.4%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	QValue
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.914	213.0 -> 169.0	1112	0.42 µg/L	100
PFBS	4.466	299.0 -> 80.0	3341	2.24 µg/L	m 95
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	6.464	363.0 -> 319.0	6778	1.23 µg/L	m 99
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.546	313.0 -> 269.0	21746	4.97 µg/L	99
PFHxS	6.494	399.0 -> 80.0	3665	3.35 µg/L	m 90
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	7.129	413.0 -> 369.0	36902	6.29 µg/L	m 90
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	4.100	263.0 -> 219.0	9725	3.59 µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

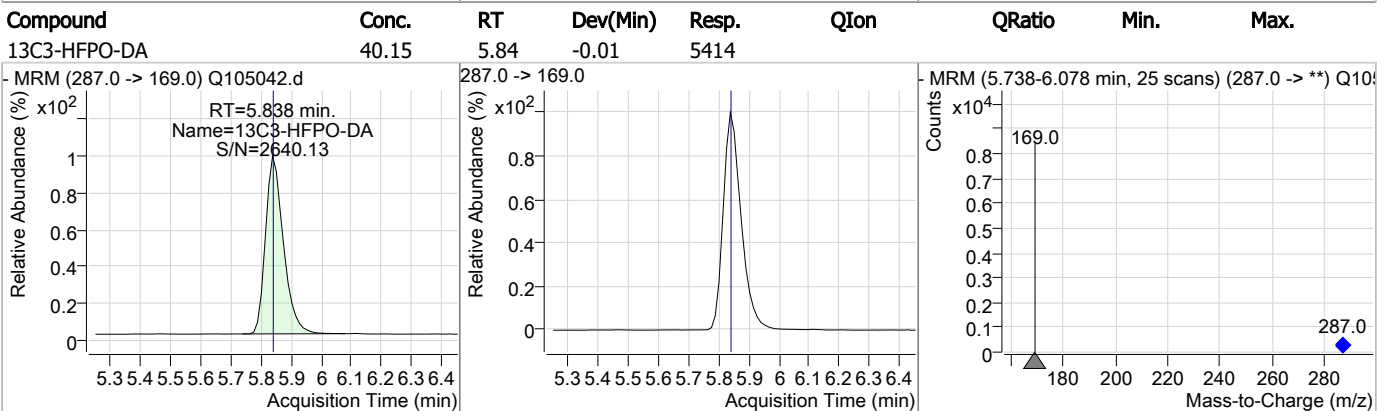
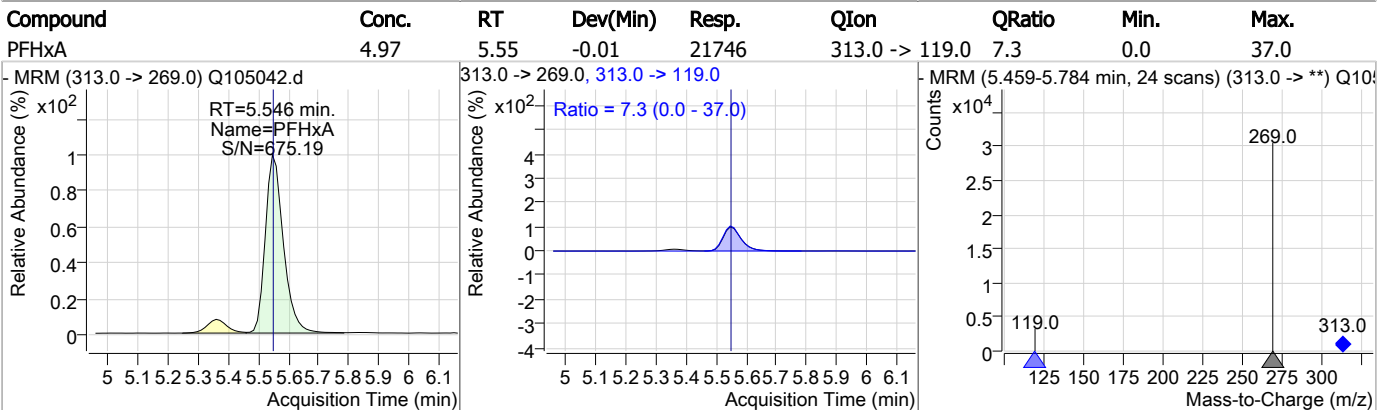
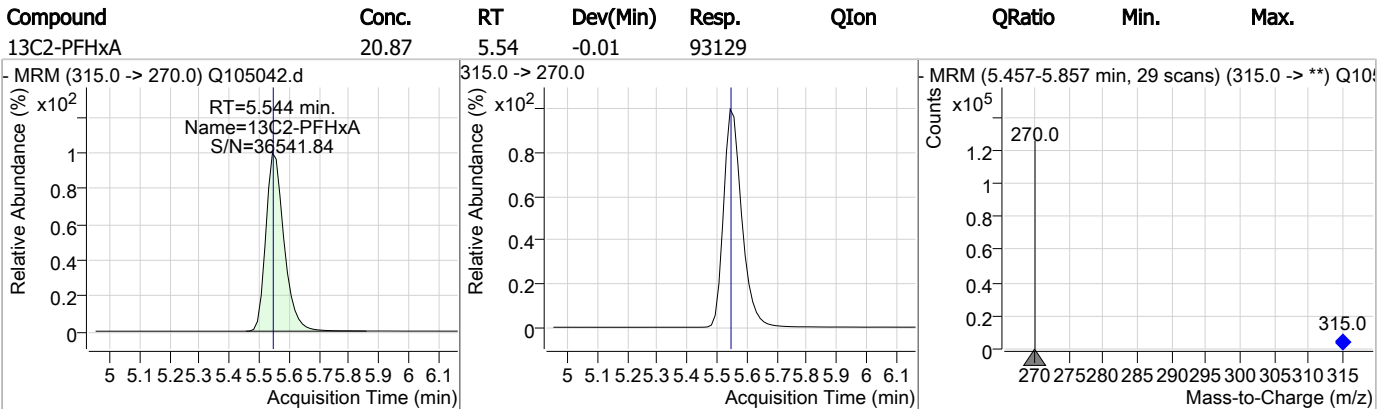
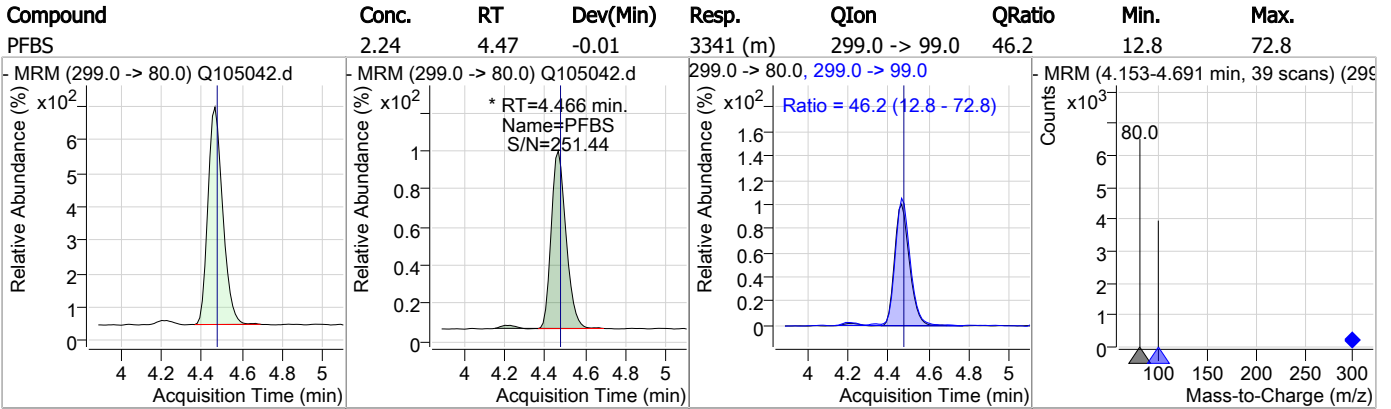
# = Qualifier out of range, m = manually integrated, + = Area summed

7.19  
7

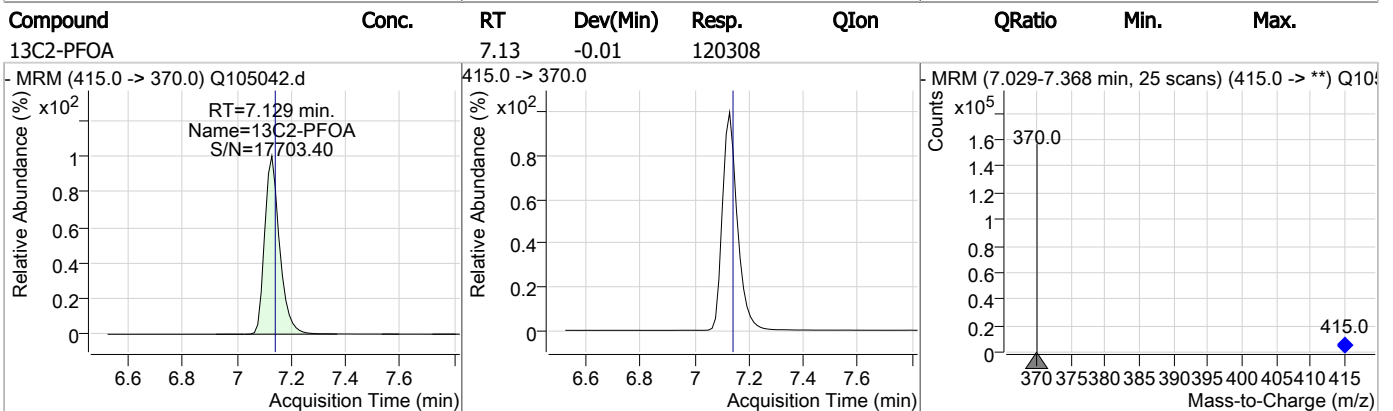
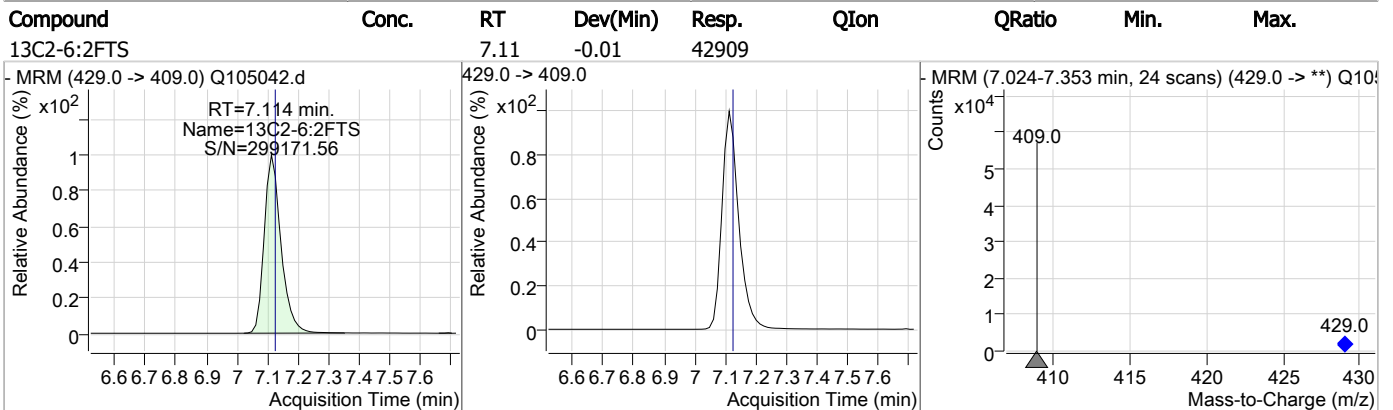
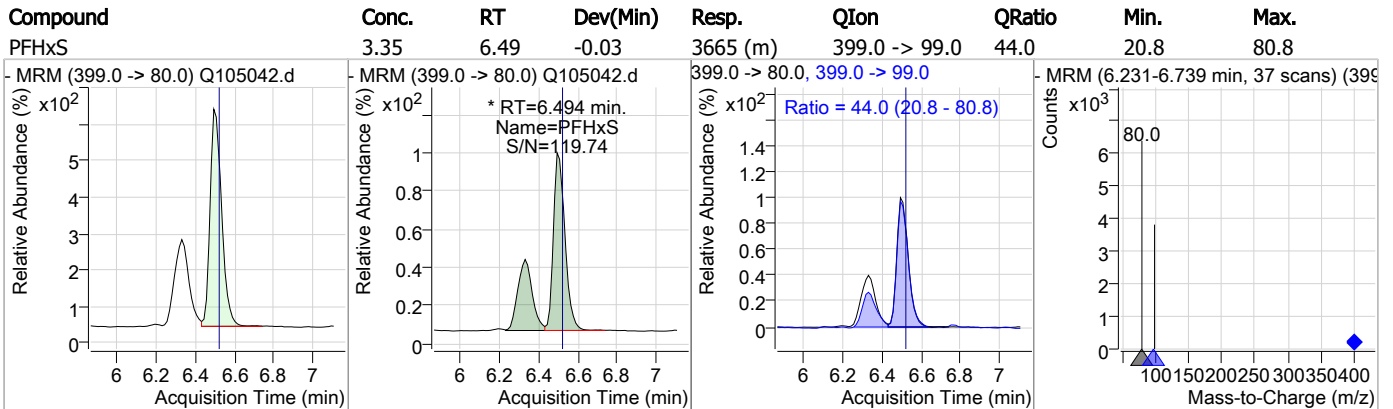
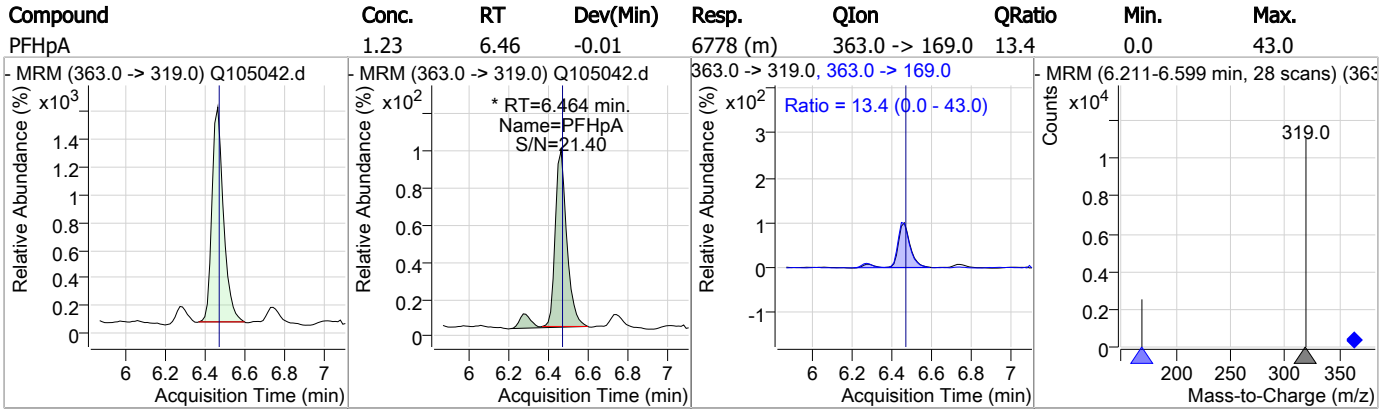
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



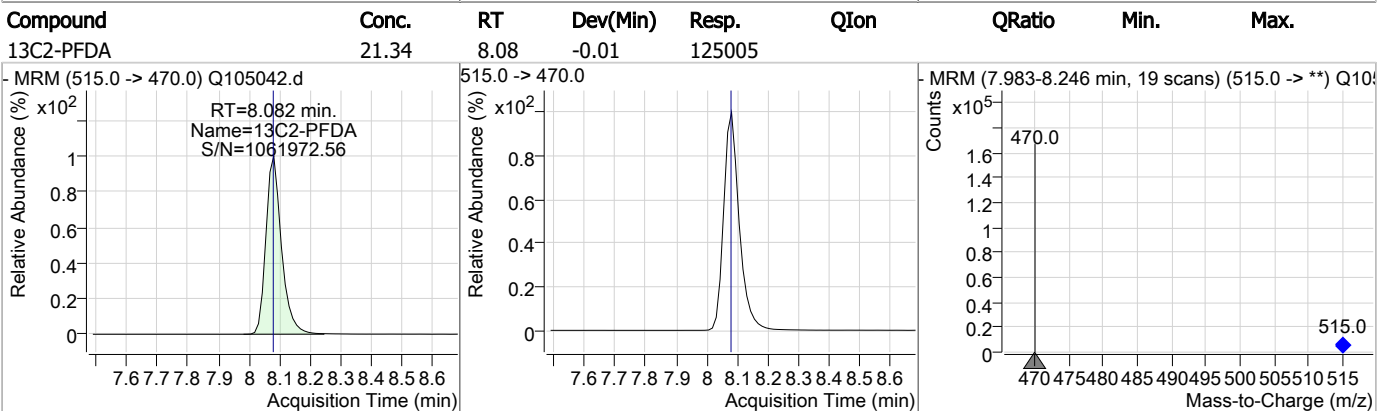
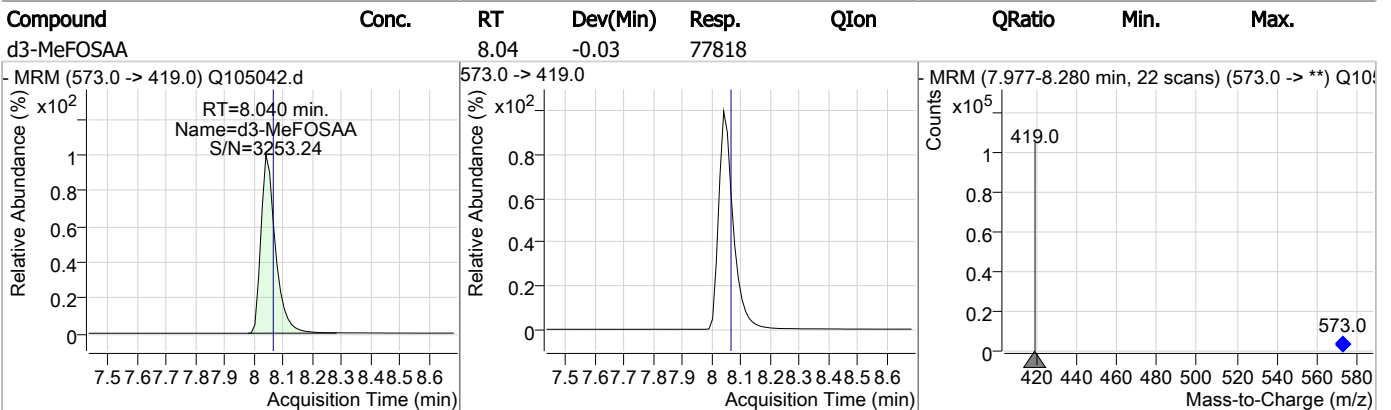
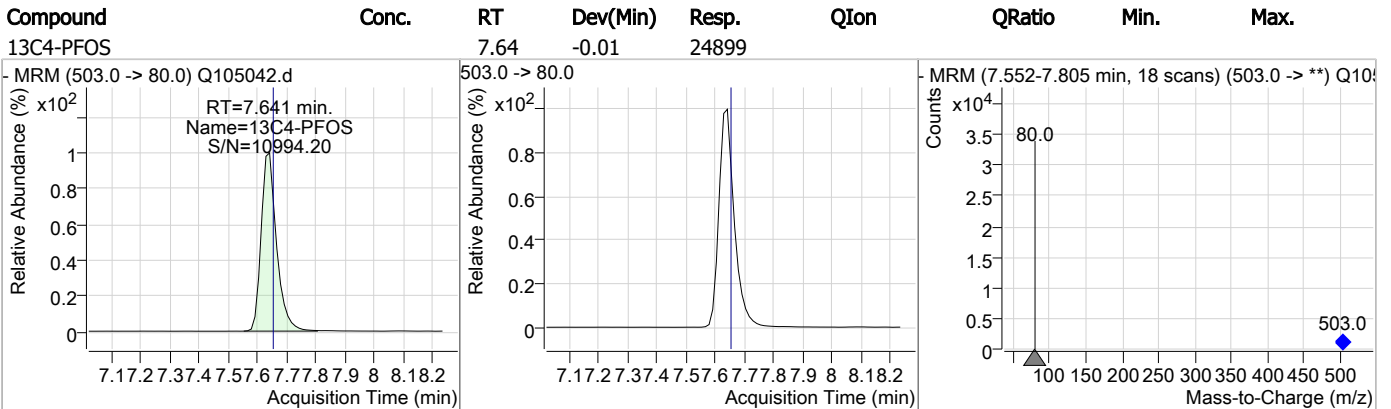
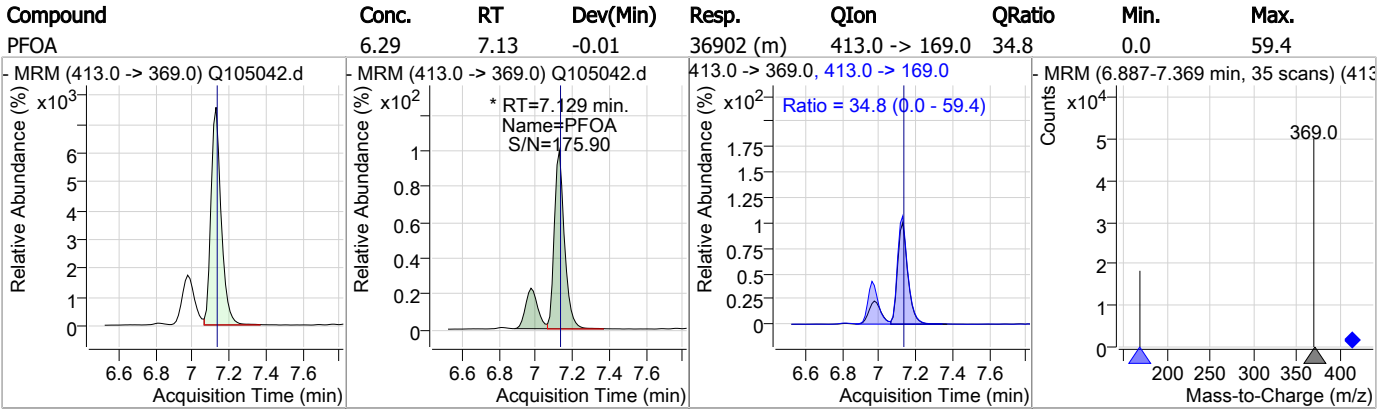
### Perfluorinated Compounds by LC/MS/MS



7.1.9

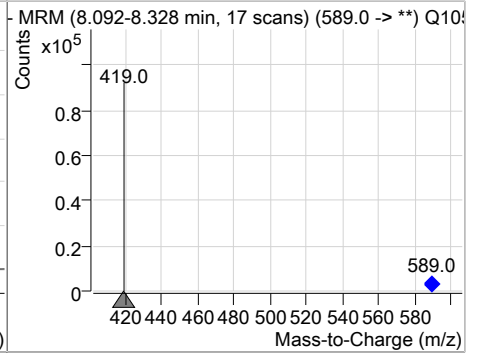
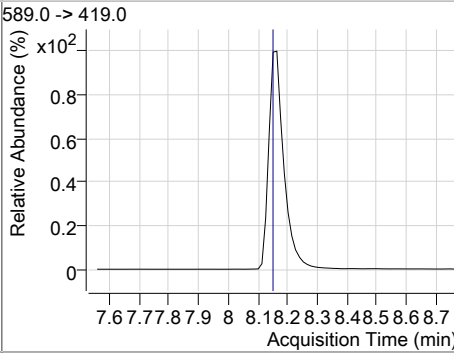
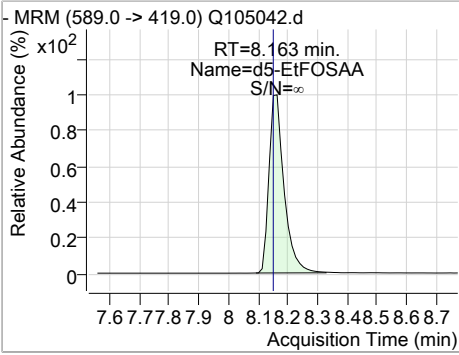
7

### Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	33.07	8.16	-0.01	68484				



7.1.9  
7

# Manual Integration Approval Summary

Sample Number: FC9076-8                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105042.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 19:46                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak

7.1.9.1  
7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105045.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 8:34:20 PM  
 Sample Name : fc9076-9  
 Vial : P1-C4  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

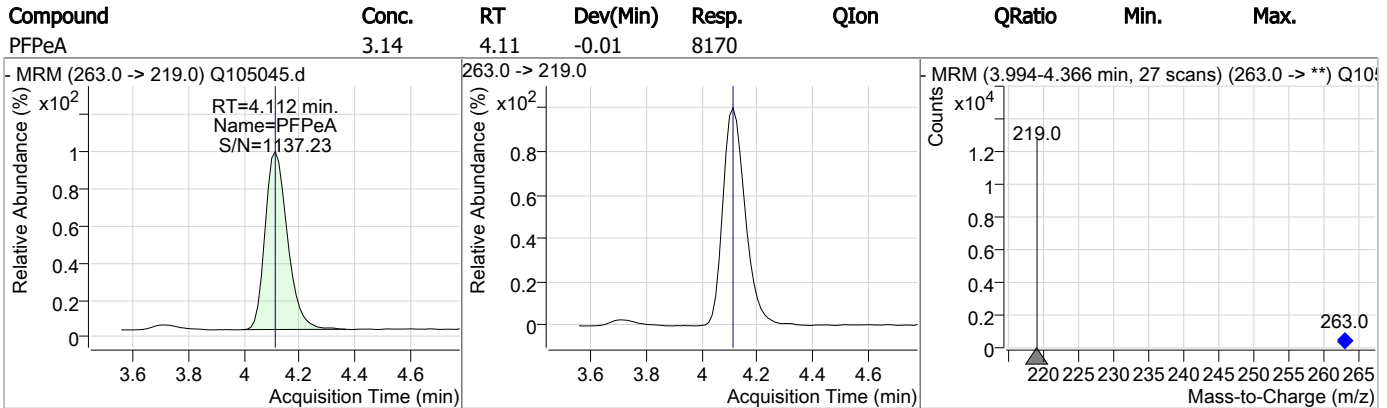
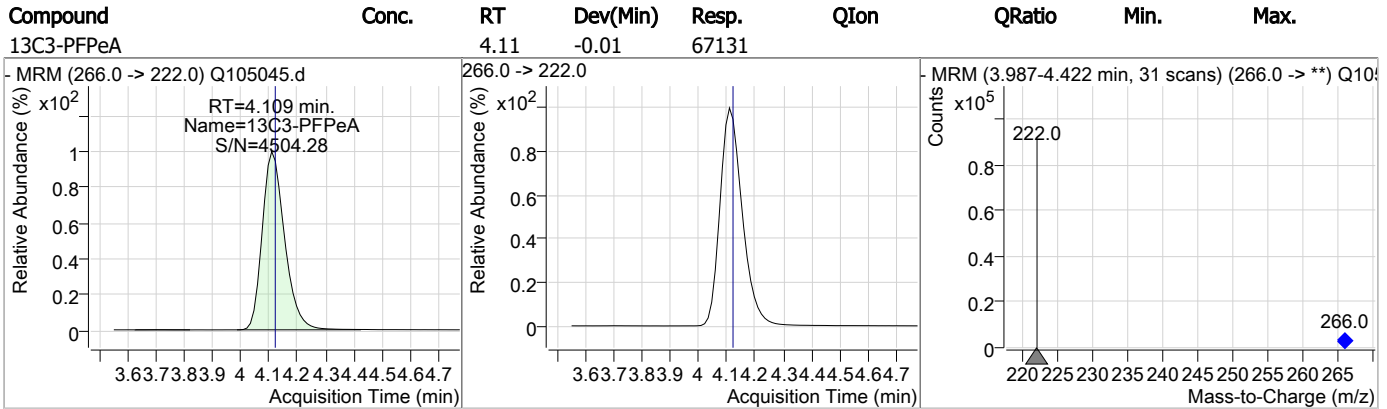
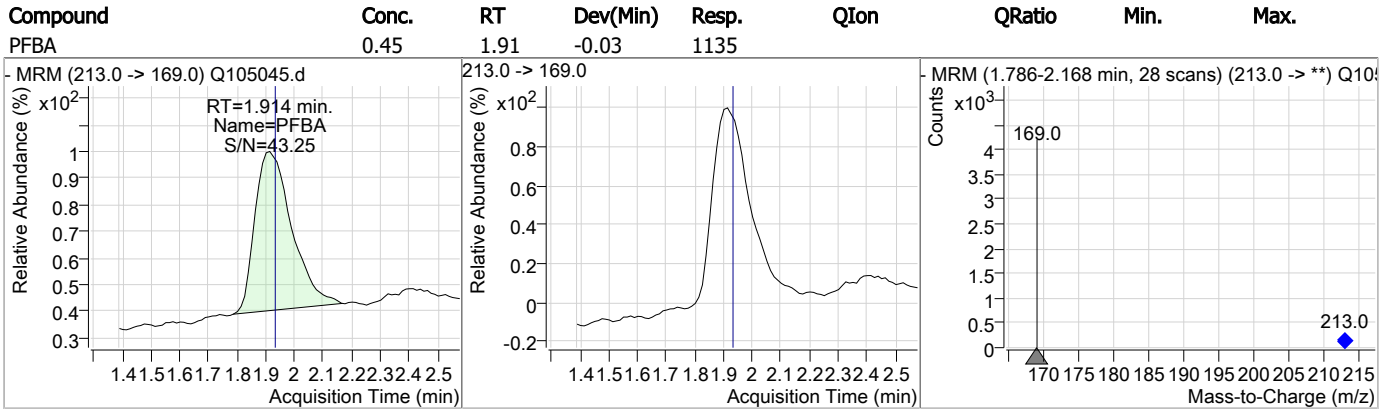
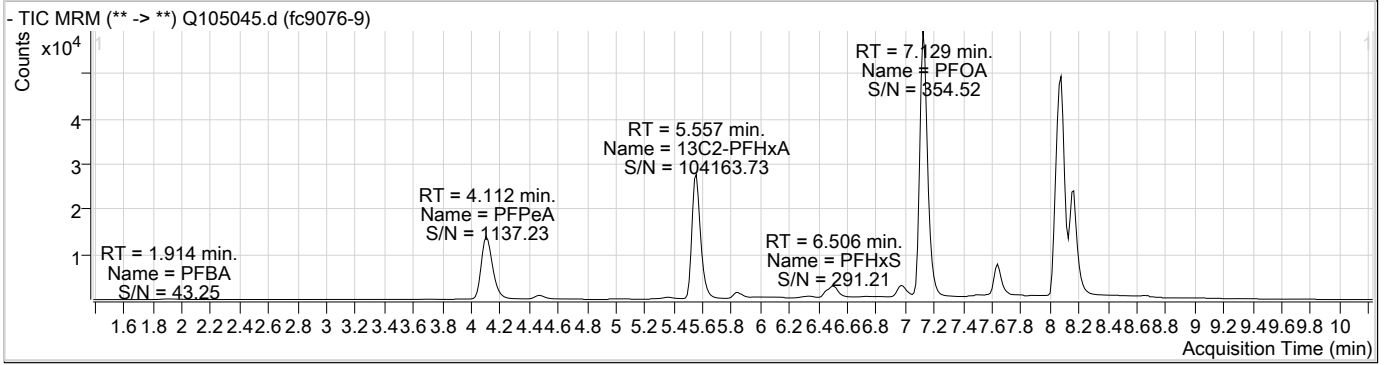
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.114	429.0 -> 409.0	43460	20.00	µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	118061	20.00	µg/L	-0.013
13C3-PFPeA	4.109	266.0 -> 222.0	67131	20.00	µg/L	-0.013
13C4-PFOS	7.641	503.0 -> 80.0	23603	20.00	µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	74585	40.00	µg/L	-0.013
<b>System Monitoring Compounds</b>						
13C2-PFDA	8.082	515.0 -> 470.0	135399	23.55	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 117.8%		
13C2-PFHxA	5.557	315.0 -> 270.0	97881	22.32	µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 111.6%		
d5-EtFOSAA	8.163	589.0 -> 419.0	73574	36.96	µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 92.4%		
13C3-HFPO-DA	5.838	287.0 -> 169.0	5569	42.09	µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 105.2%		
<b>Target Compounds</b>						
						<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	1.914	213.0 -> 169.0	1135	0.45	µg/L	100
PFBS	4.466	299.0 -> 80.0	2684	1.90	µg/L	m 96
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFHpA	6.464	363.0 -> 319.0	6448	1.20	µg/L	m 97
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	5.559	313.0 -> 269.0	15849	3.69	µg/L	99
PFHxS	6.506	399.0 -> 80.0	7575	7.30	µg/L	m 94
PFNA	-	463.0 -> 419.0	-	N.D.		
PFOA	7.129	413.0 -> 369.0	59037	10.26	µg/L	m 94
PFOS	7.463	499.0 -> 80.0	582	0.42	µg/L	#m 52
PFPeA	4.112	263.0 -> 219.0	8170	3.14	µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
HFPO-DA	-	285.0 -> 169.0	-	N.D.		

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

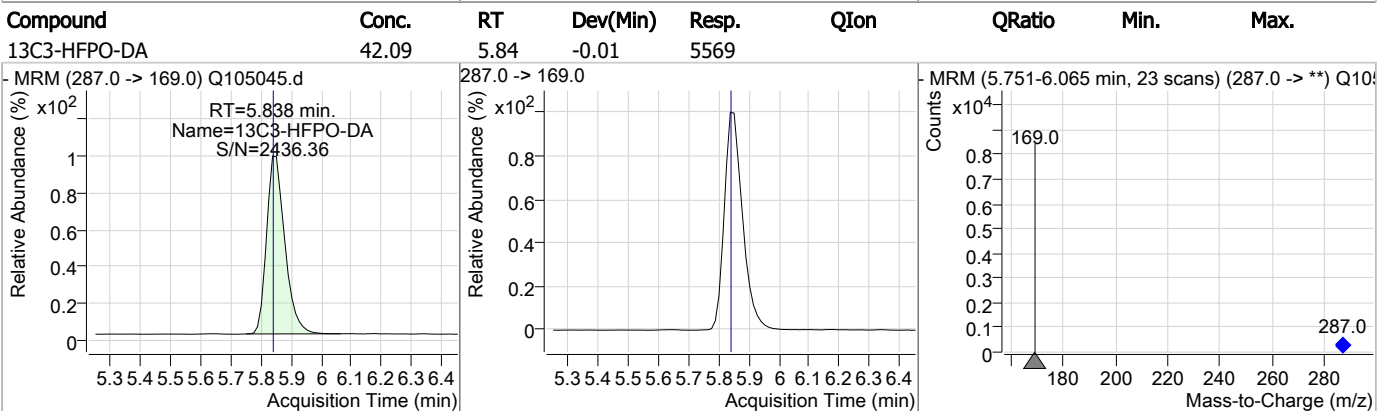
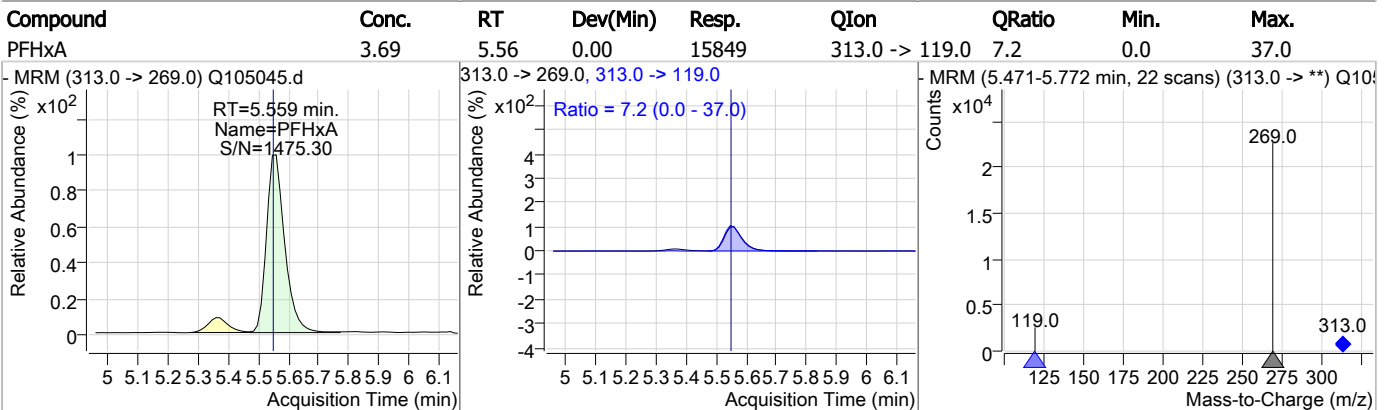
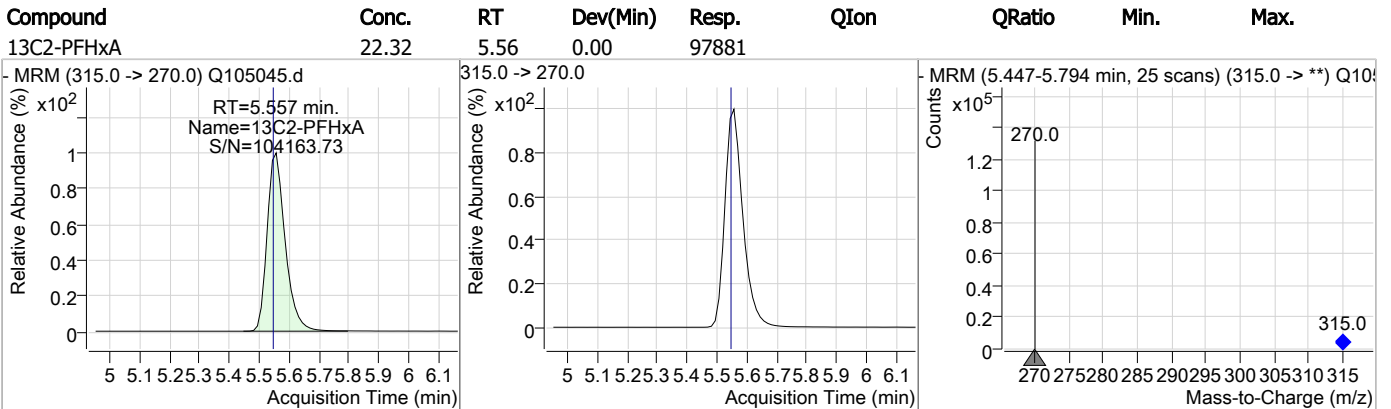
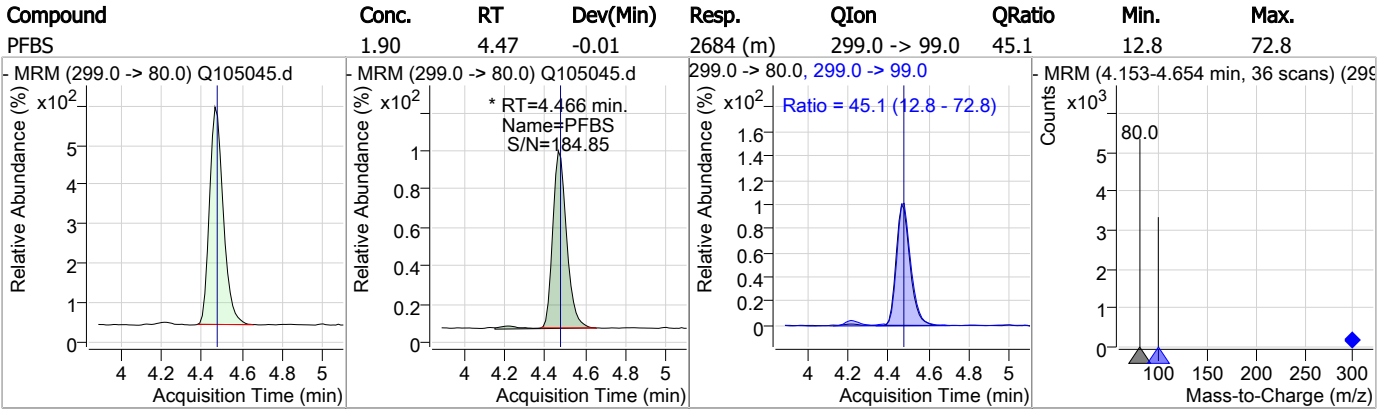
7.1.10  
7



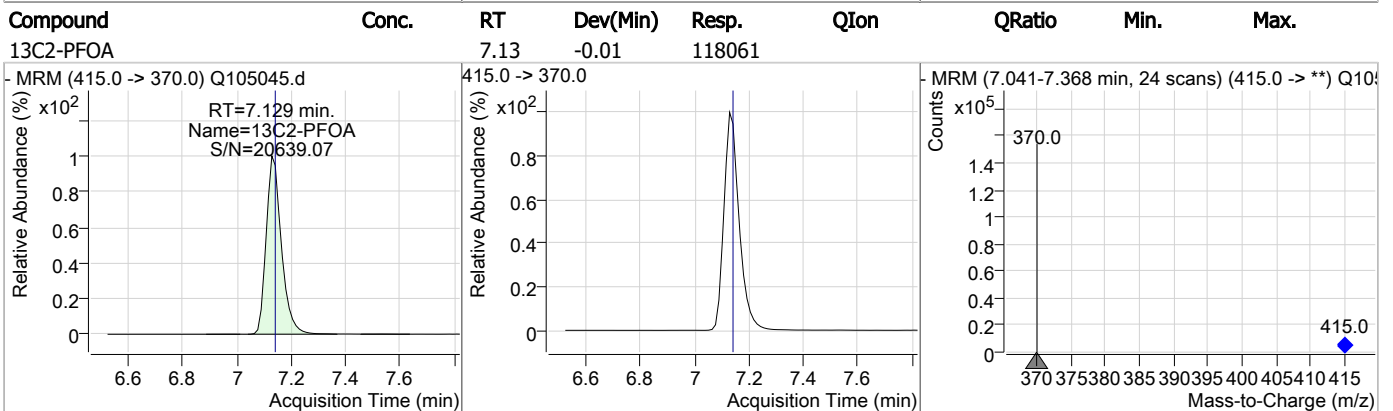
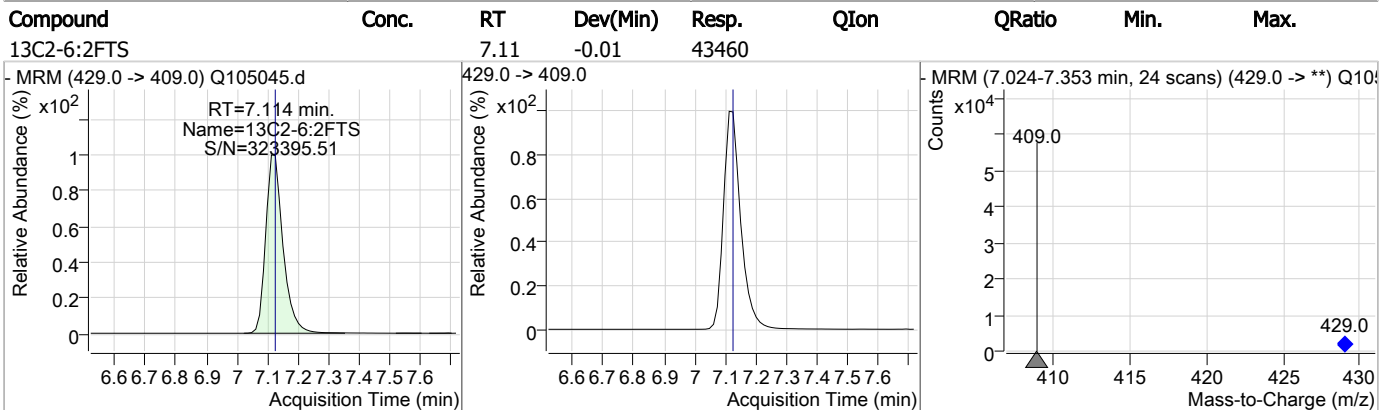
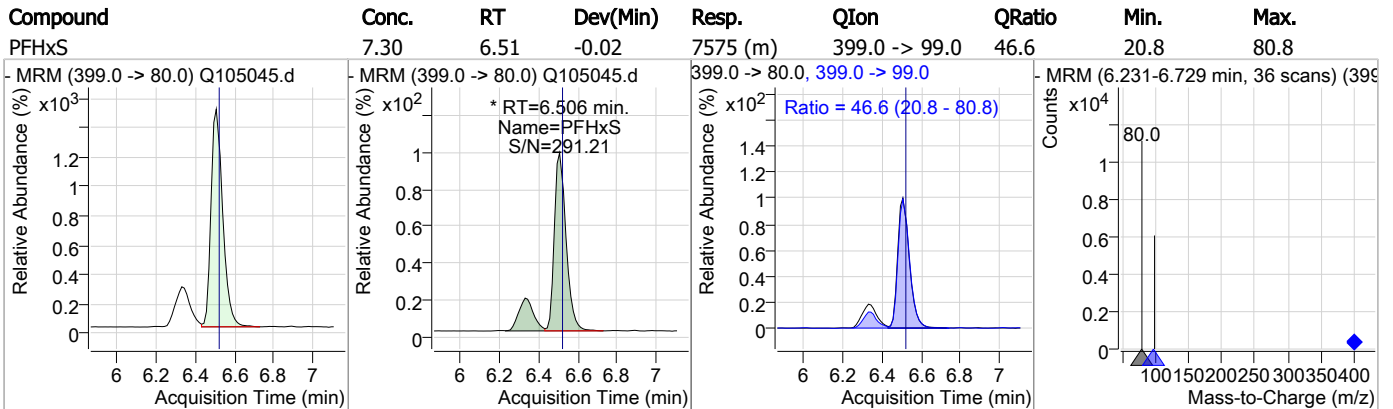
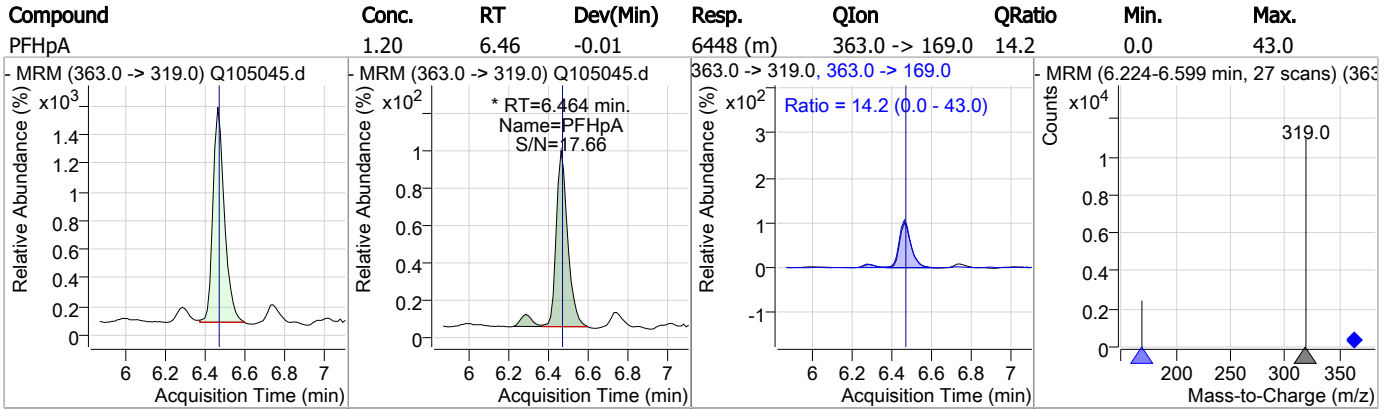
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



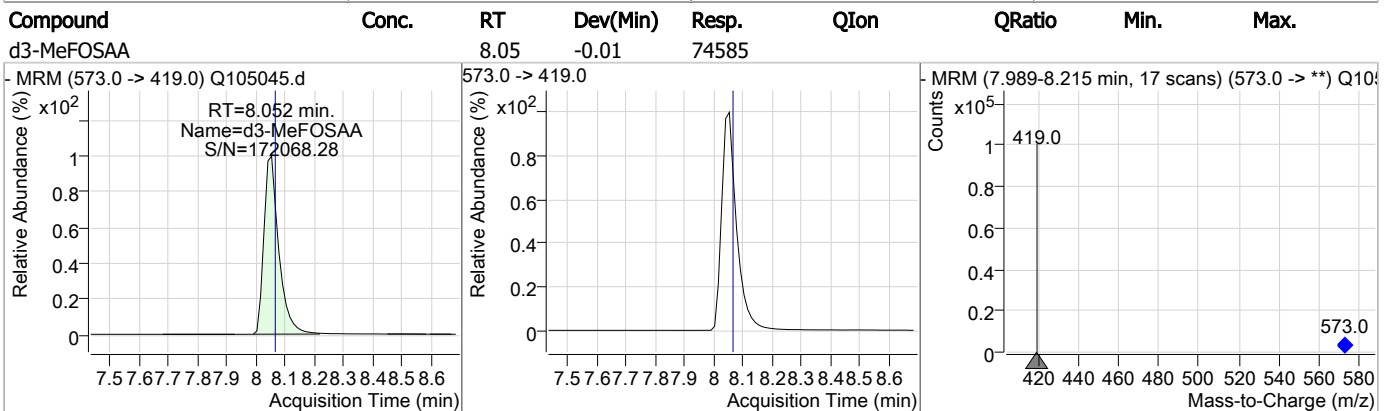
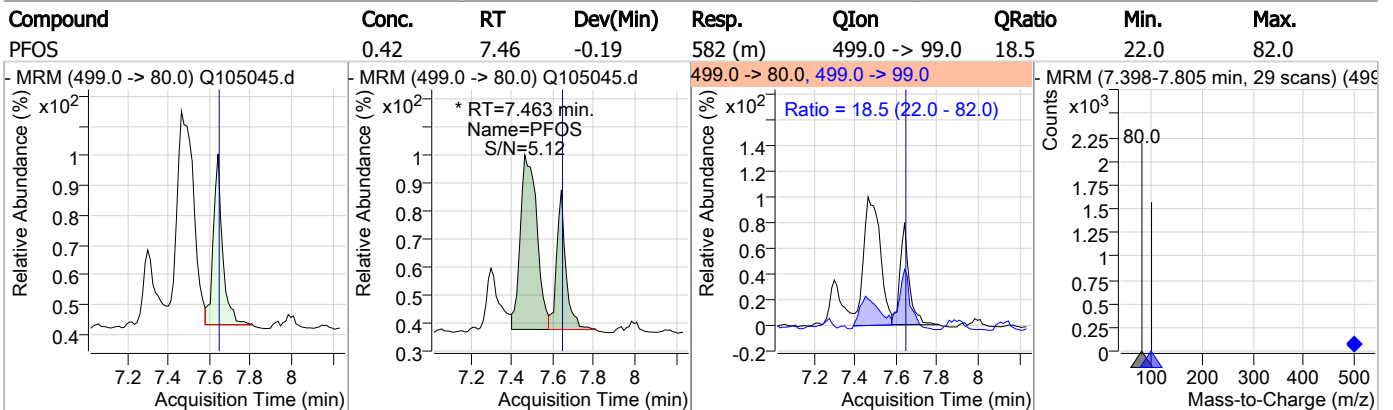
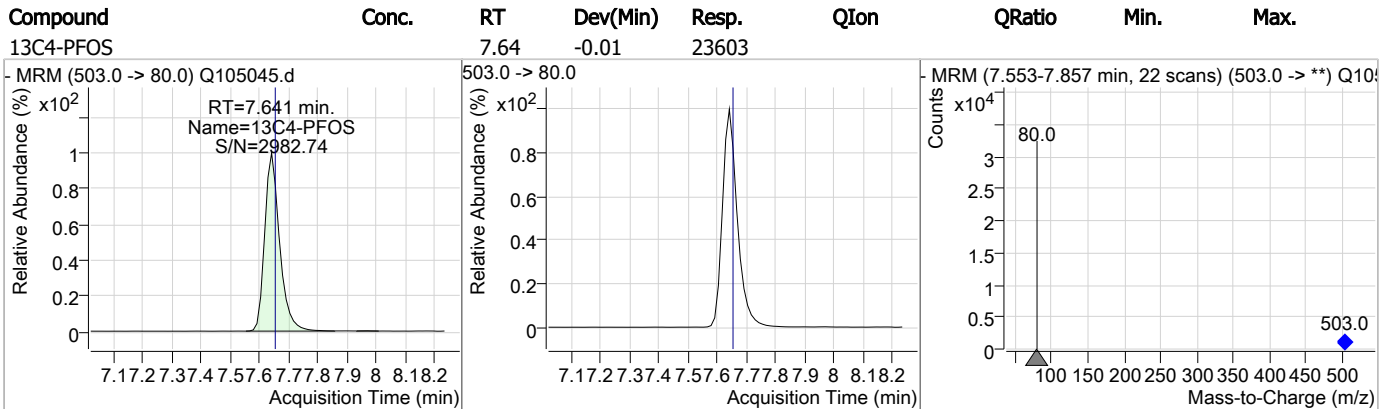
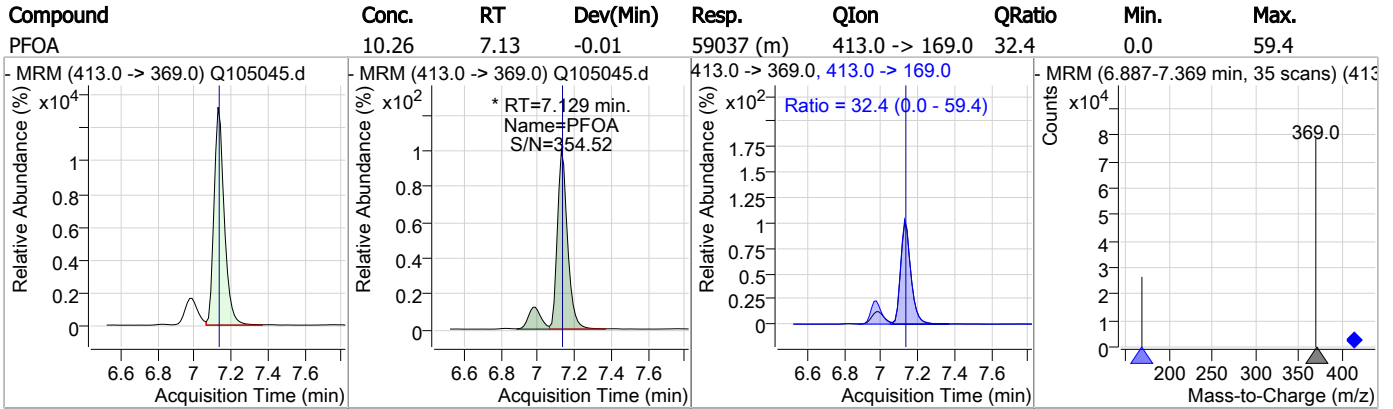
### Perfluorinated Compounds by LC/MS/MS



7.1.10  
7



### Perfluorinated Compounds by LC/MS/MS

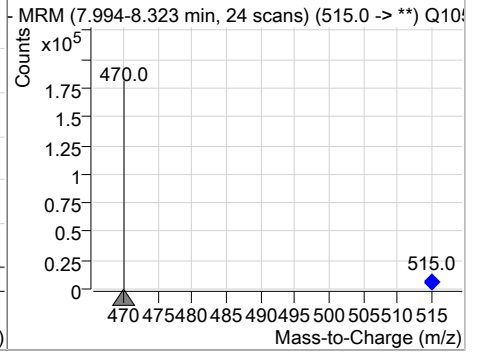
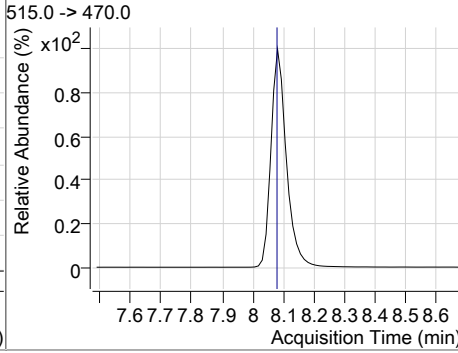
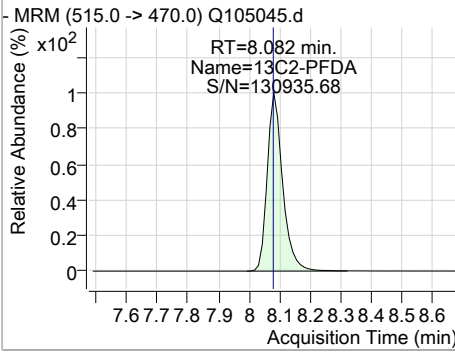


7.1.10  
7

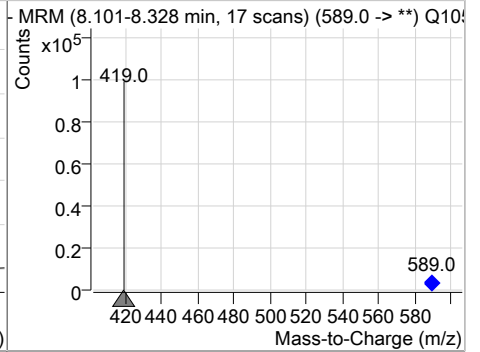
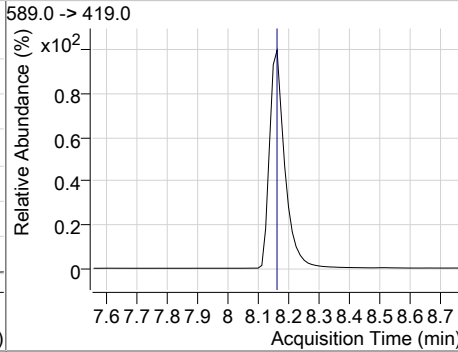
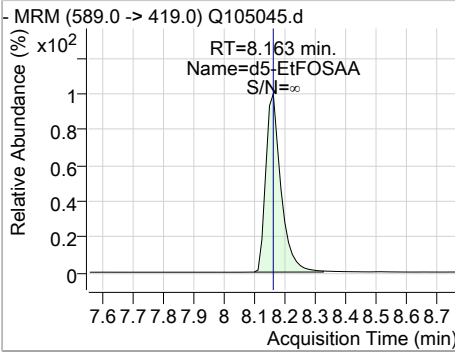


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	23.55	8.08	-0.01	135399				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	36.96	8.16	-0.01	73574				



7.1.10  
7

# Manual Integration Approval Summary

Sample Number: FC9076-9                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105045.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 20:34              Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.46	Split peak

7.1.10.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105046.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 8:50:07 PM  
 Sample Name : fc9076-10  
 Vial : P1-C5  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

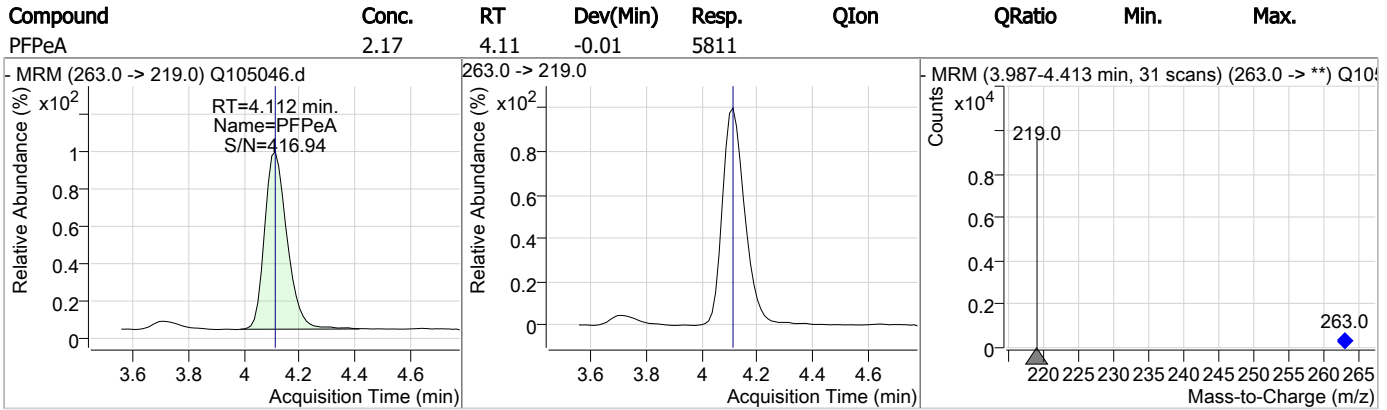
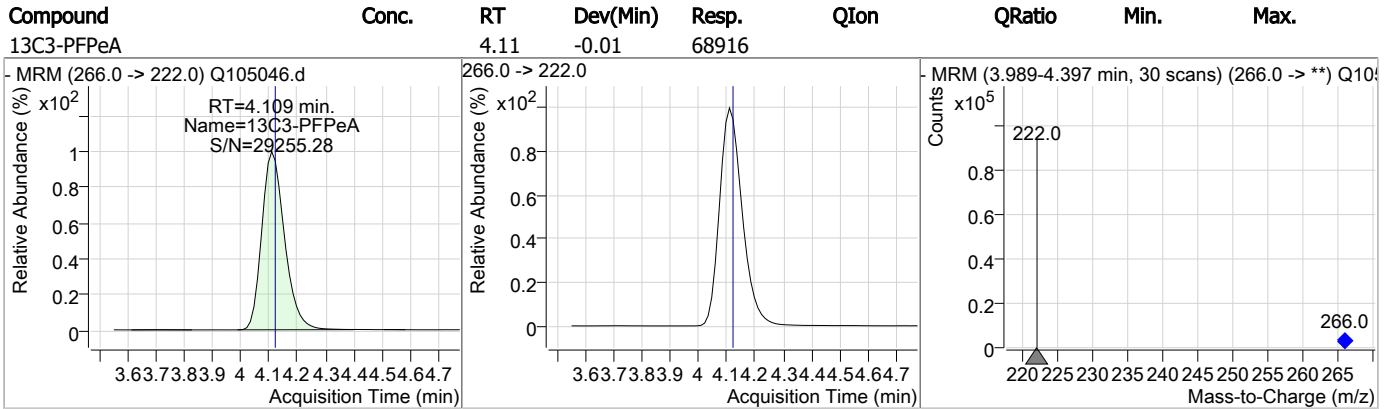
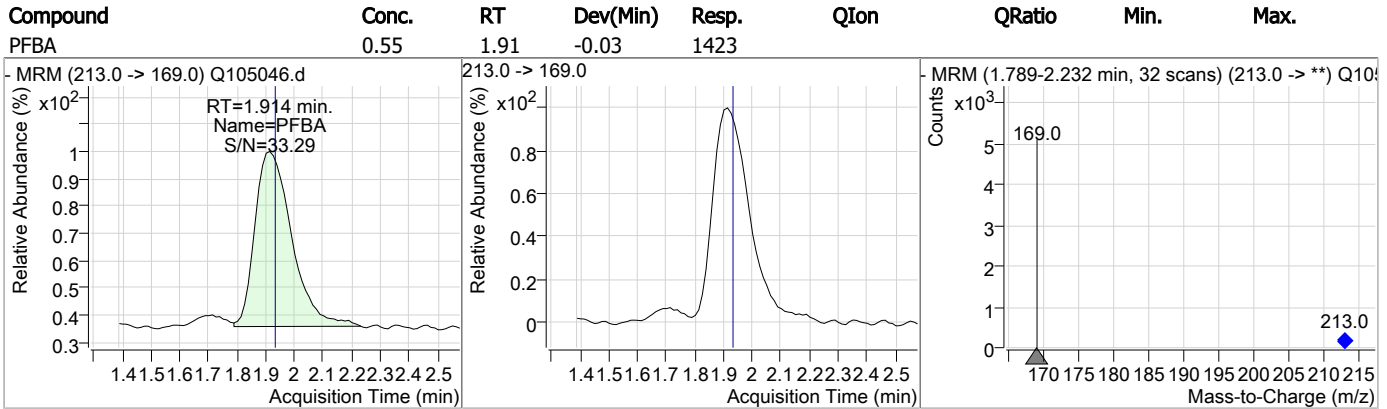
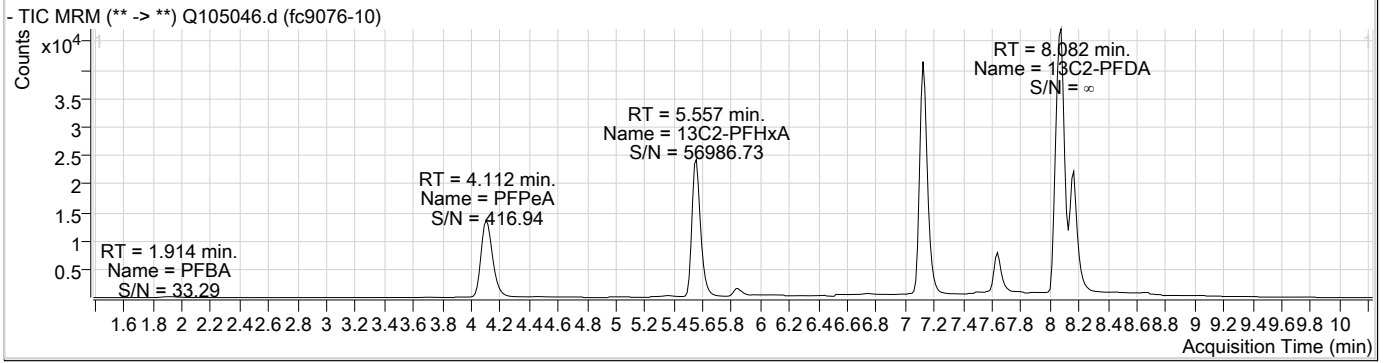
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.114	429.0 -> 409.0	41724	20.00 µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	116782	20.00 µg/L	-0.013
13C3-PFPeA	4.109	266.0 -> 222.0	68916	20.00 µg/L	-0.013
13C4-PFOS	7.641	503.0 -> 80.0	23971	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	74684	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	127521	22.43 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 112.1%	
13C2-PFHxA	5.557	315.0 -> 270.0	97554	22.49 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 112.4%	
d5-EtFOSAA	8.163	589.0 -> 419.0	67062	33.73 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 84.3%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5635	43.06 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 107.6%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.914	213.0 -> 169.0	1423	0.55 µg/L	100
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.546	313.0 -> 269.0	2863	0.67 µg/L	98
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	4.112	263.0 -> 219.0	5811	2.17 µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

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

7.1.11  
7



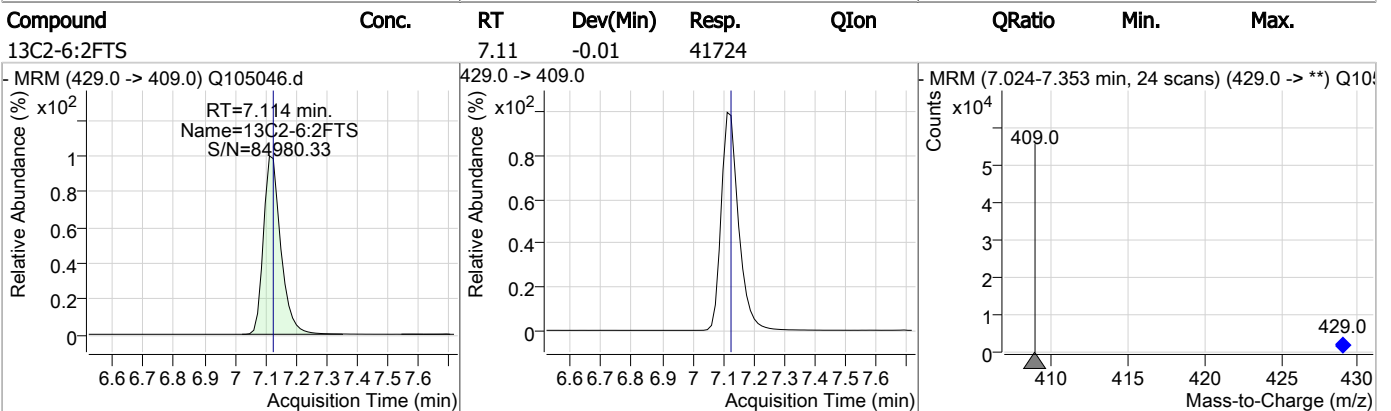
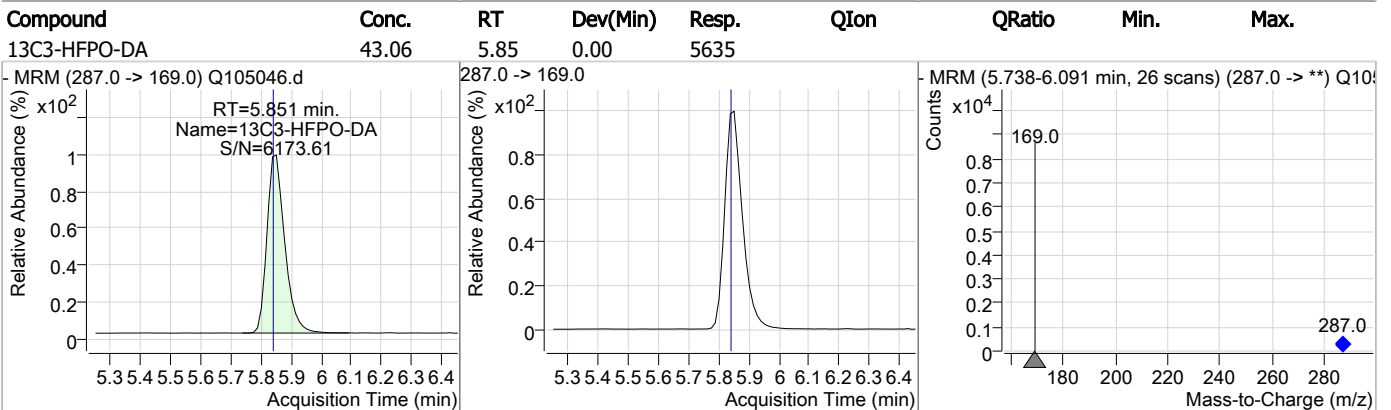
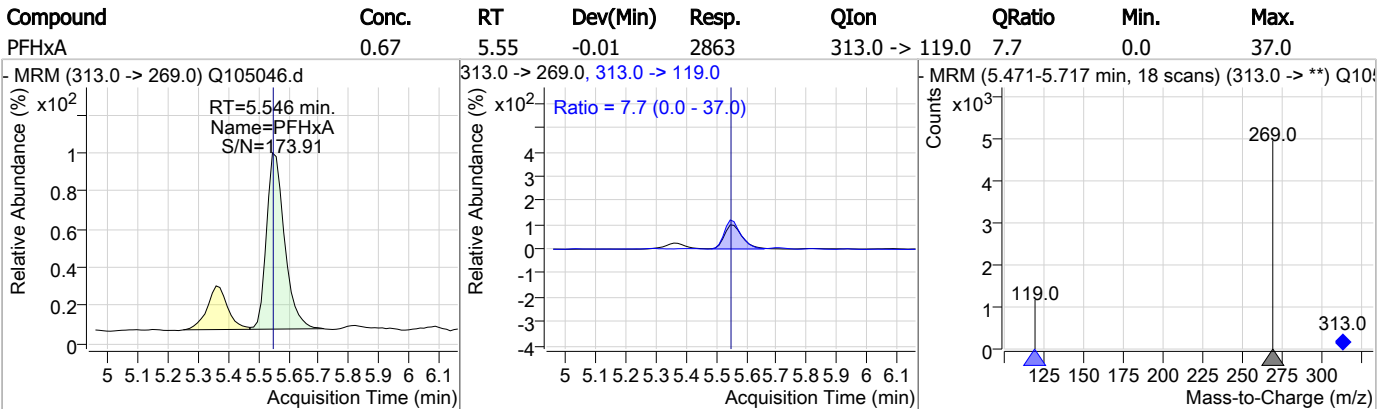
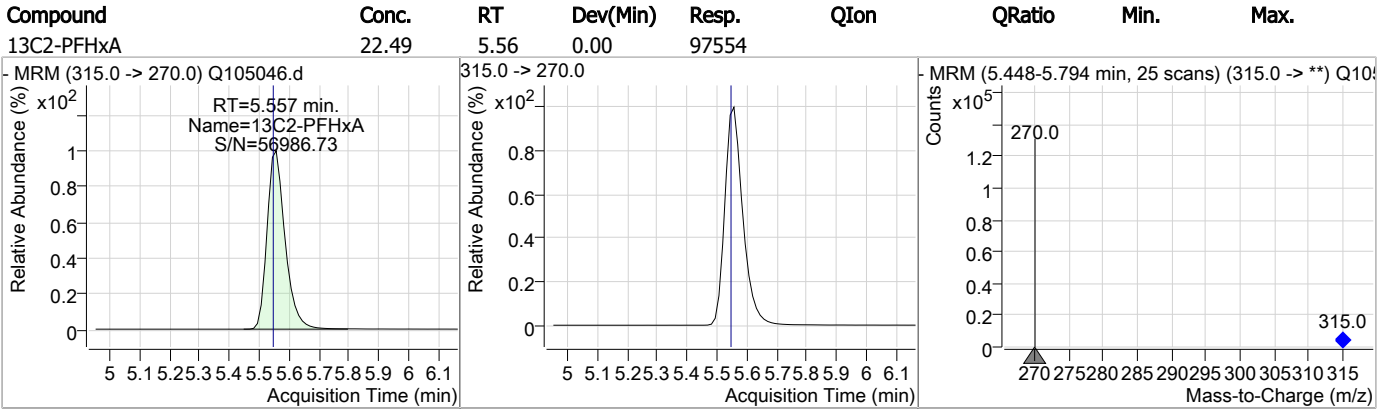
### Perfluorinated Compounds by LC/MS/MS



7.1.11  
7



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFOA		7.13	-0.01	116782				
13C4-PFOS		7.64	-0.01	23971				
d3-MeFOSAA		8.05	-0.01	74684				
13C2-PFDA	22.43	8.08	-0.01	127521				

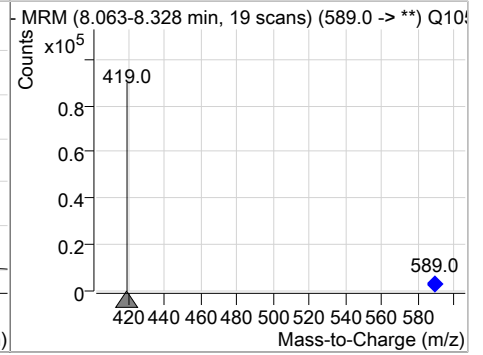
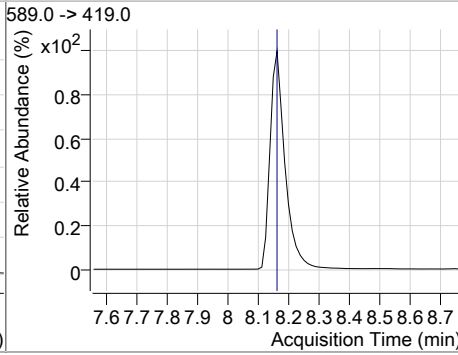
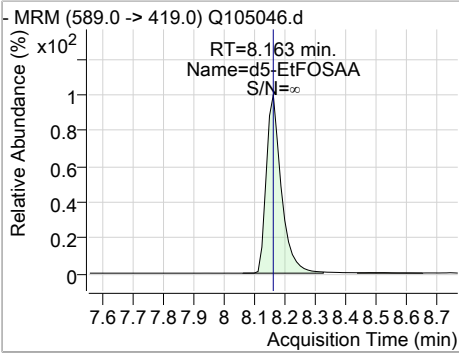
7.1.11

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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	33.73	8.16	-0.01	67062				



7.1.11  
7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105047.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 9:05:53 PM  
 Sample Name : fc9076-11  
 Vial : P1-C6  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

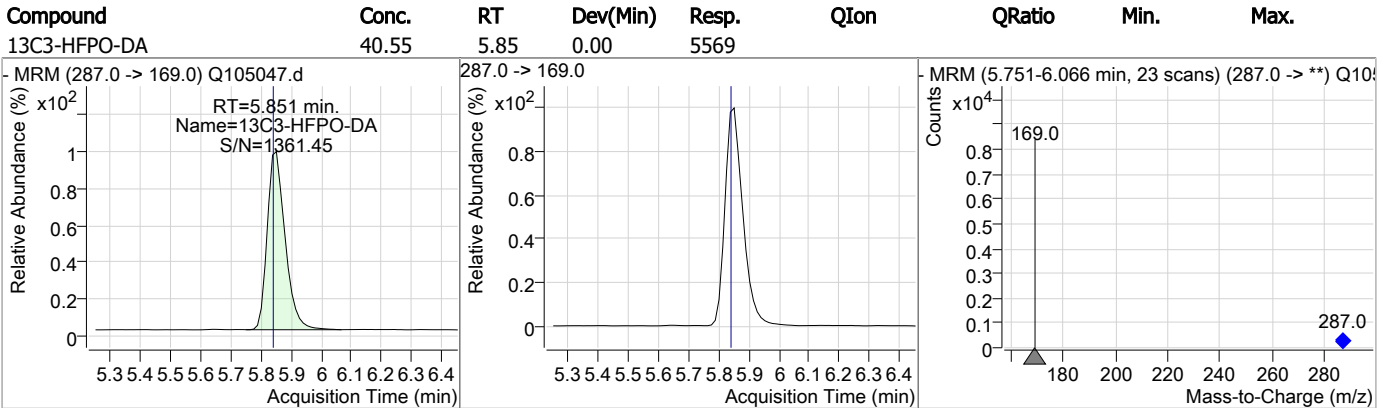
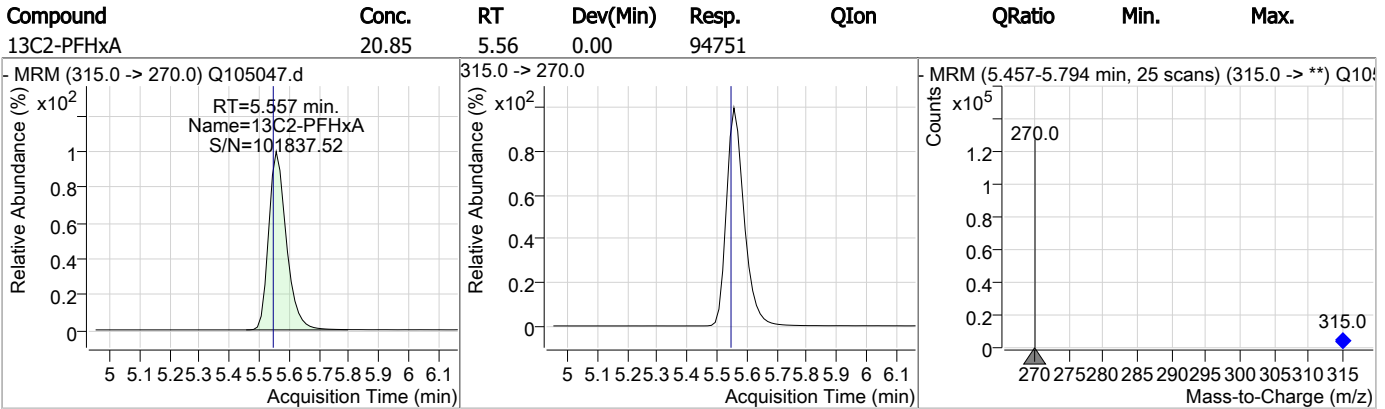
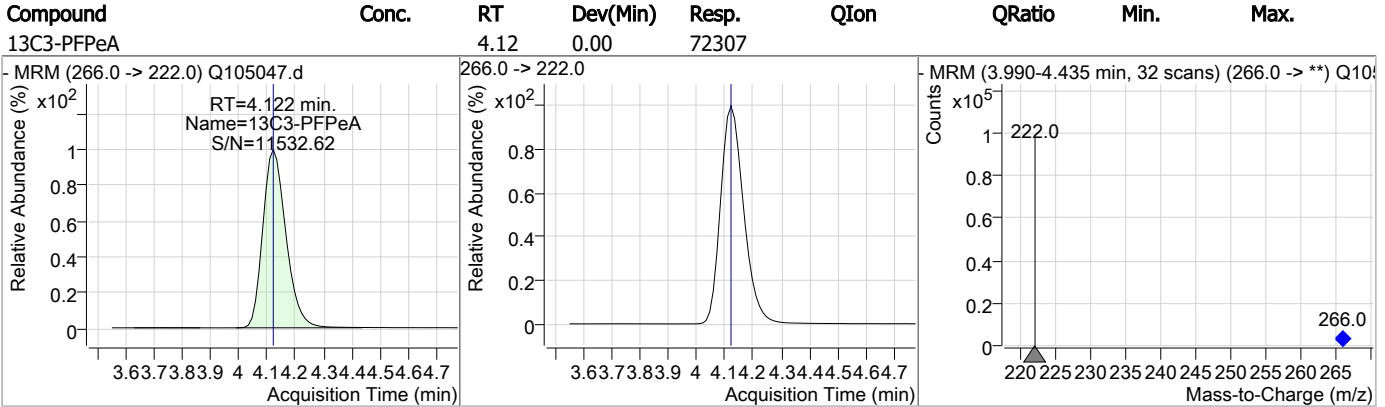
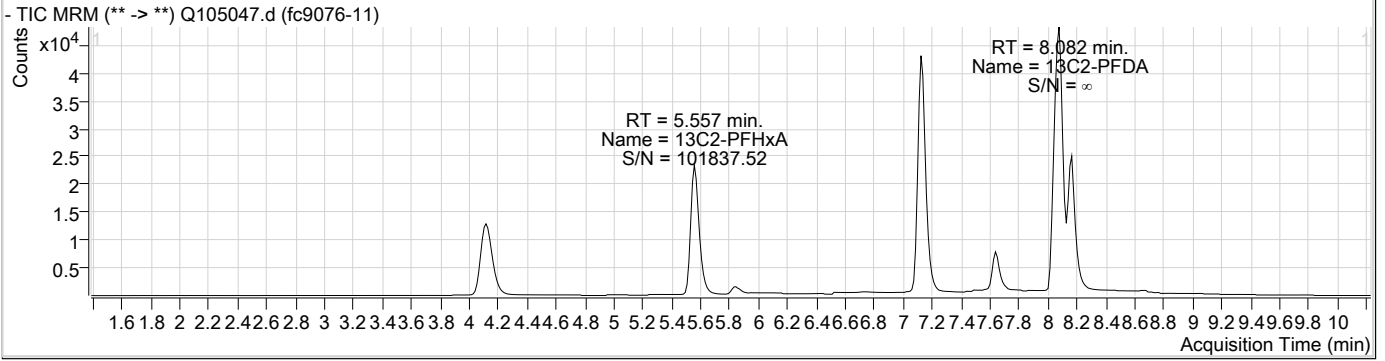
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	43449	20.00 µg/L	0.000
13C2-PFOA	7.129	415.0 -> 370.0	122555	20.00 µg/L	-0.013
13C3-PFPeA	4.122	266.0 -> 222.0	72307	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	23627	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	76493	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	129453	21.69 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 108.5%	
13C2-PFHxA	5.557	315.0 -> 270.0	94751	20.85 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.2%	
d5-EtFOSAA	8.163	589.0 -> 419.0	74366	36.44 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 91.1%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5569	40.55 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 101.4%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	QValue
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	-	213.0 -> 169.0	-	N.D.	
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	-	313.0 -> 269.0	-	N.D.	
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	5.828	285.0 -> 169.0	0	0.00 µg/L m	1

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

7.1.12  
7

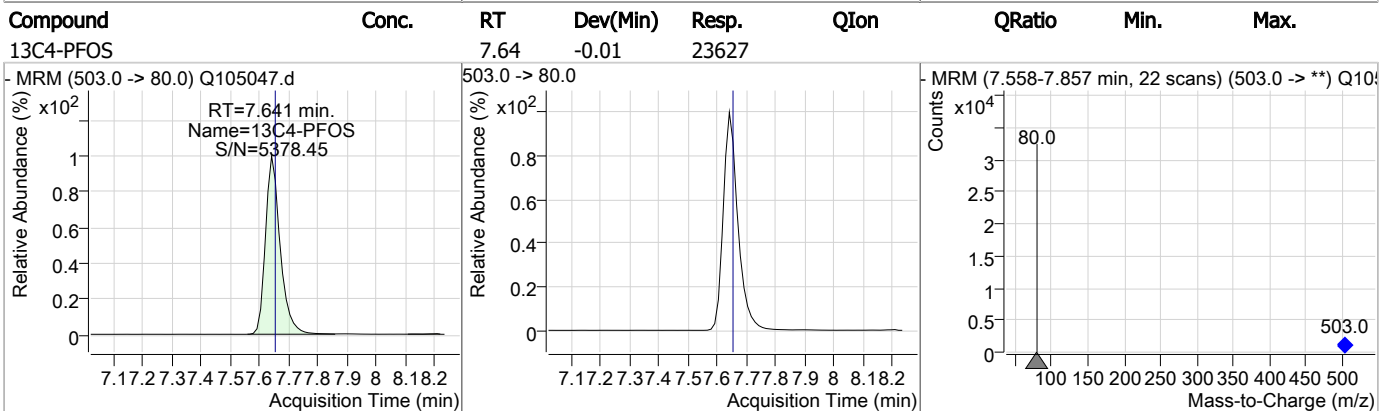
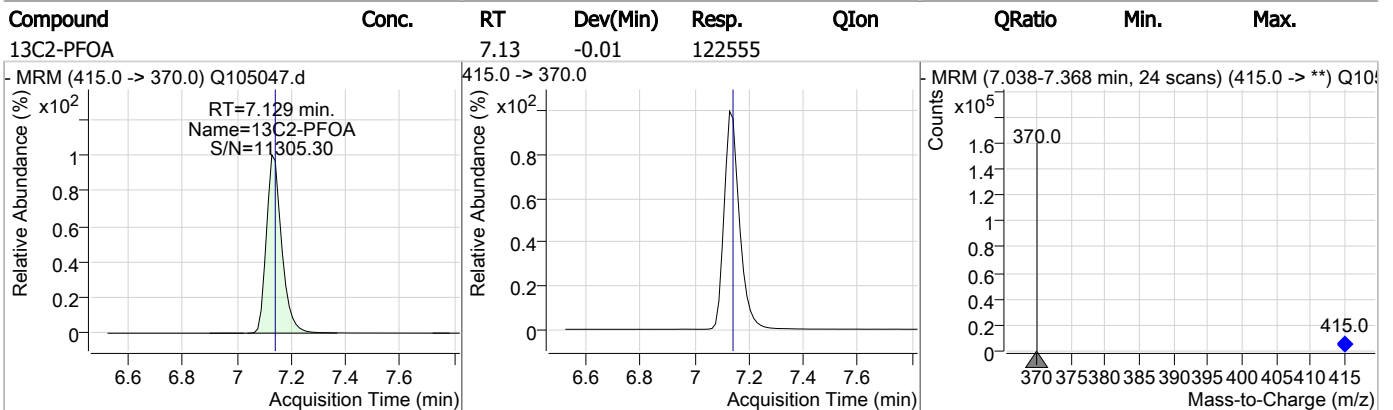
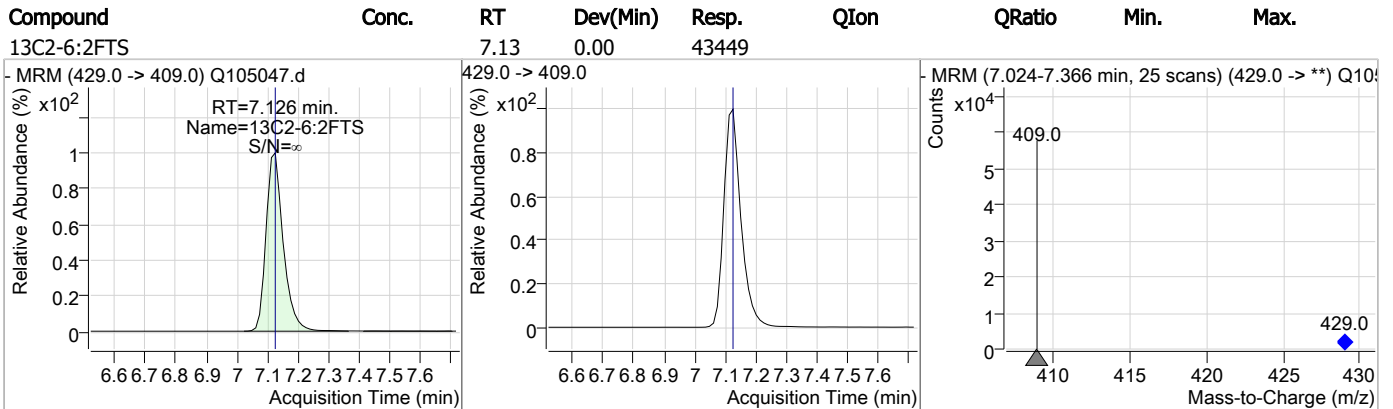
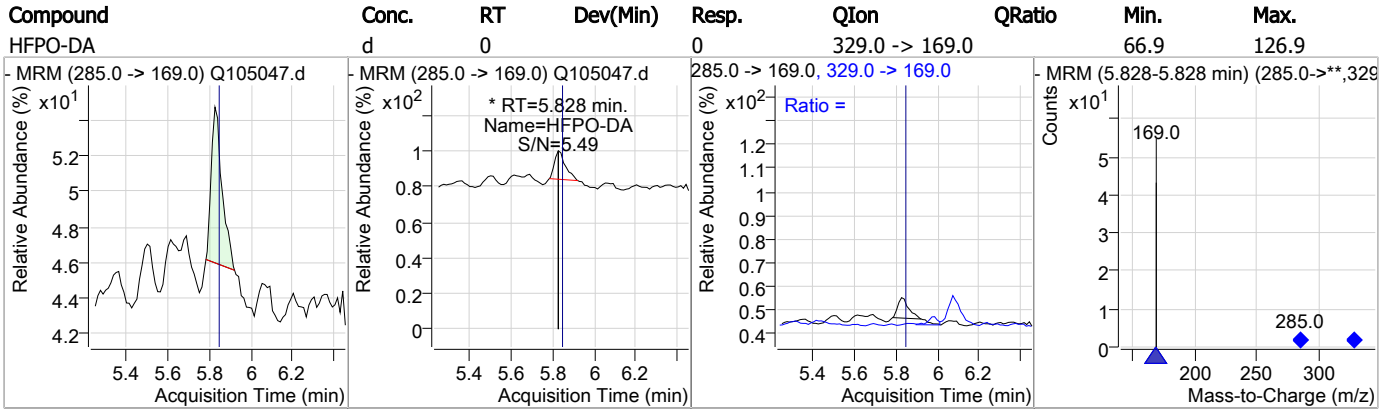


### Perfluorinated Compounds by LC/MS/MS



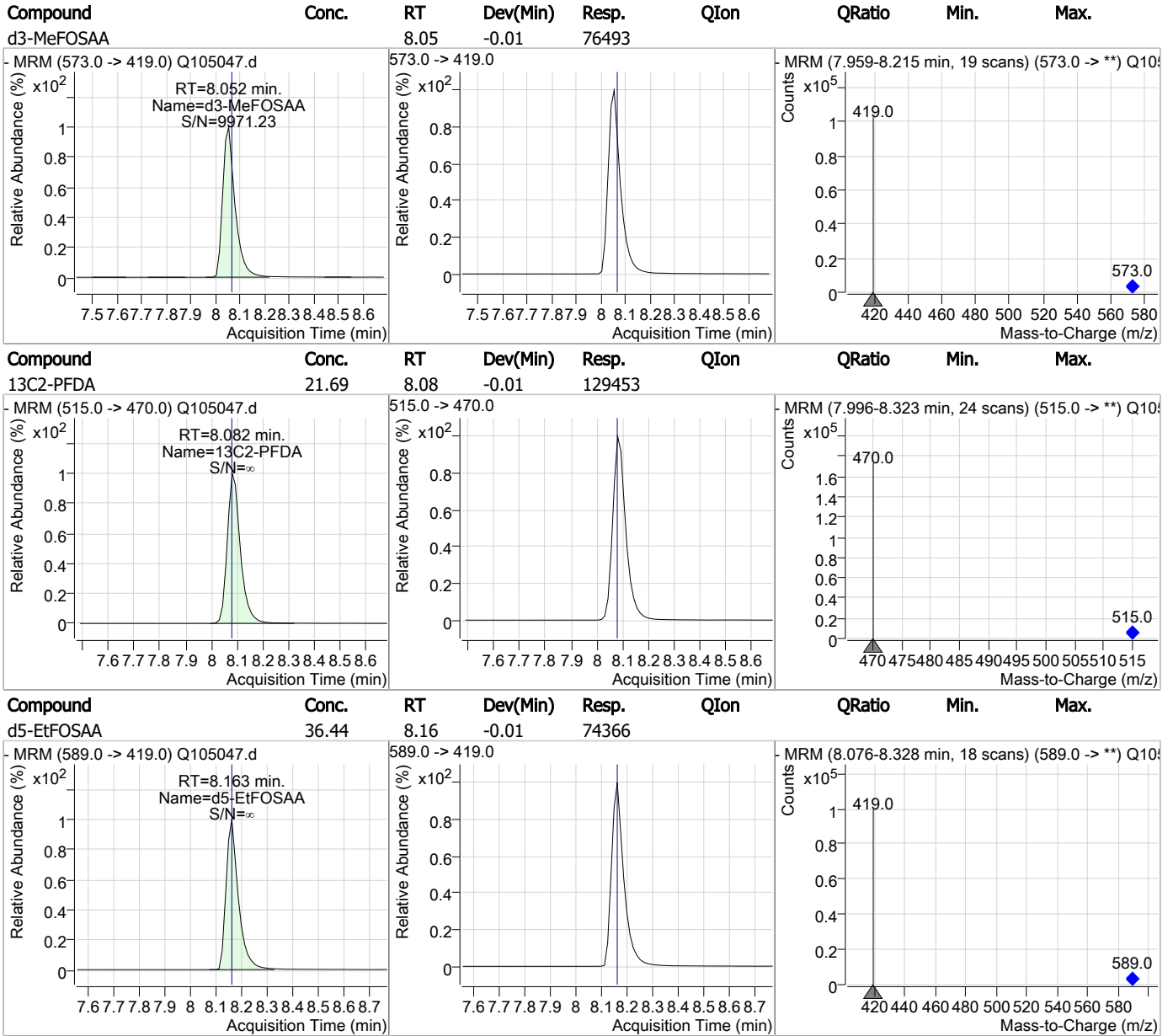
7.1.12  
7

### Perfluorinated Compounds by LC/MS/MS



7.1.12  
7

### Perfluorinated Compounds by LC/MS/MS



7.1.12  
7



Perfluorinated Compounds by LC/MS/MS

Data File : Q105048.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 9:21:40 PM  
 Sample Name : fc9076-12  
 Vial : P1-C7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.114	429.0 -> 409.0	42386	20.00 µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	117924	20.00 µg/L	-0.013
13C3-PFPeA	4.109	266.0 -> 222.0	70445	20.00 µg/L	-0.013
13C4-PFOS	7.641	503.0 -> 80.0	23694	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	75164	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	130156	22.67 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 113.3%	
13C2-PFHxA	5.544	315.0 -> 270.0	100102	22.84 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 114.2%	
d5-EtFOSAA	8.163	589.0 -> 419.0	70159	35.02 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 87.6%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	5815	44.00 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 110.0%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.914	213.0 -> 169.0	1550	0.58 µg/L	100
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.546	313.0 -> 269.0	1327	0.31 µg/L	96
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	4.112	263.0 -> 219.0	4895	1.79 µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

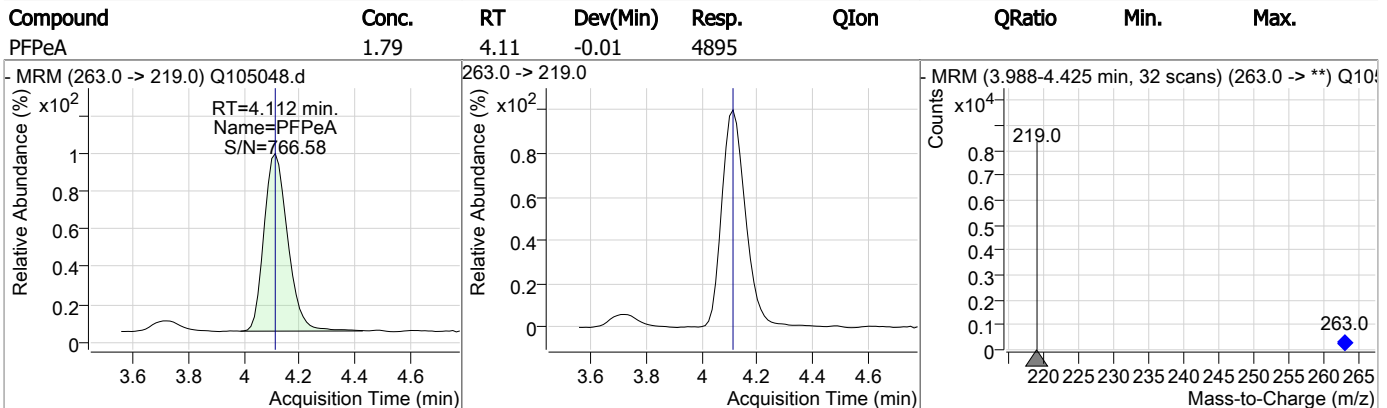
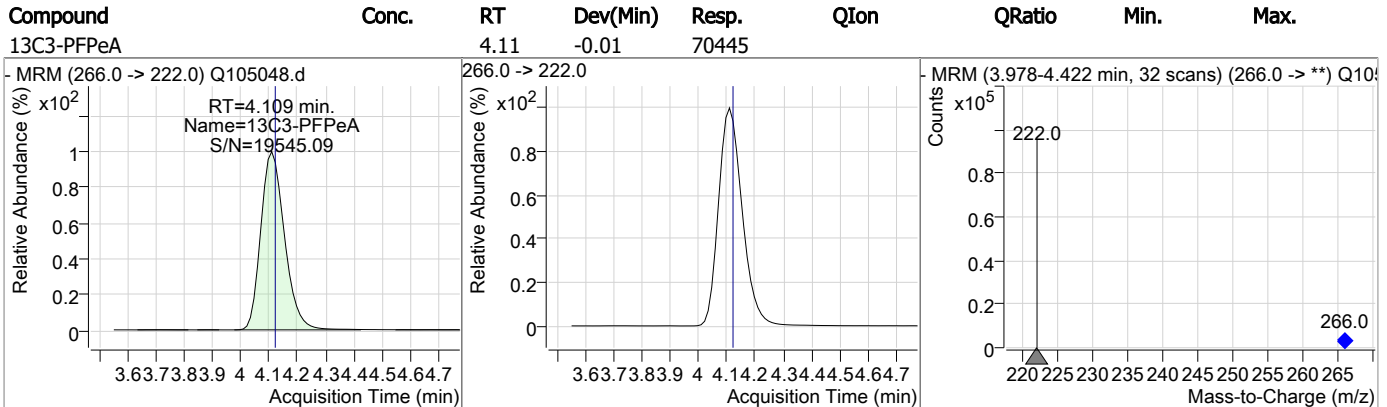
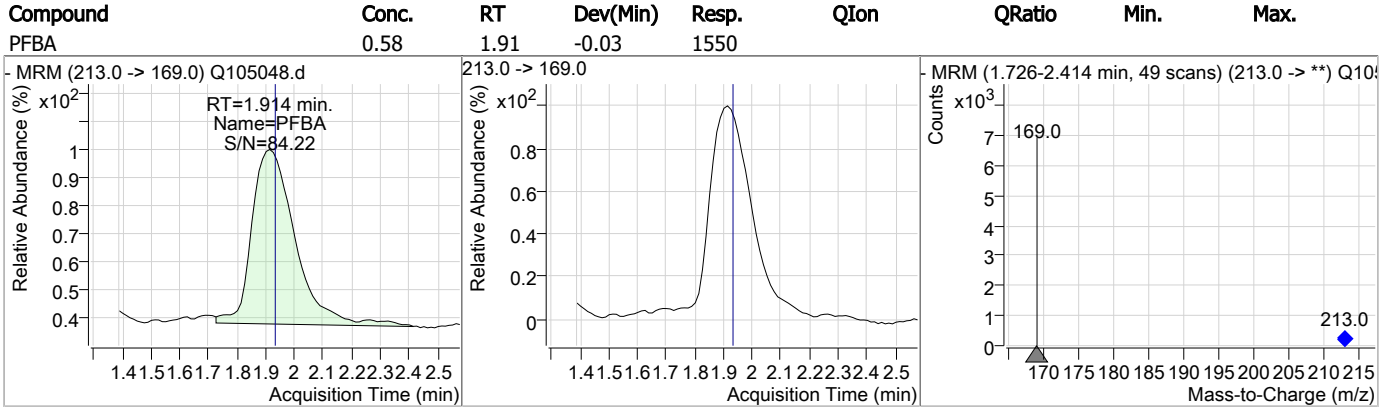
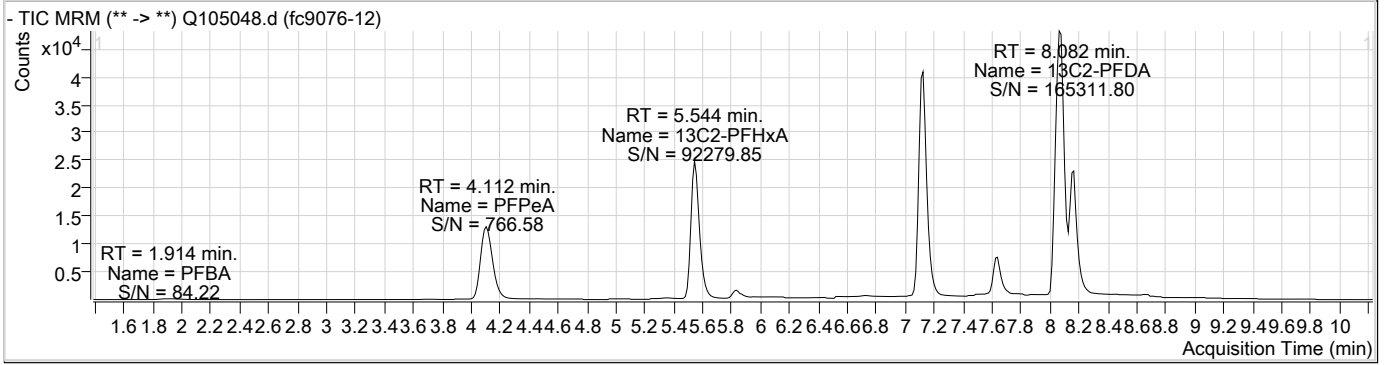
# = Qualifier out of range, m = manually integrated, + = Area summed

7.1.13  
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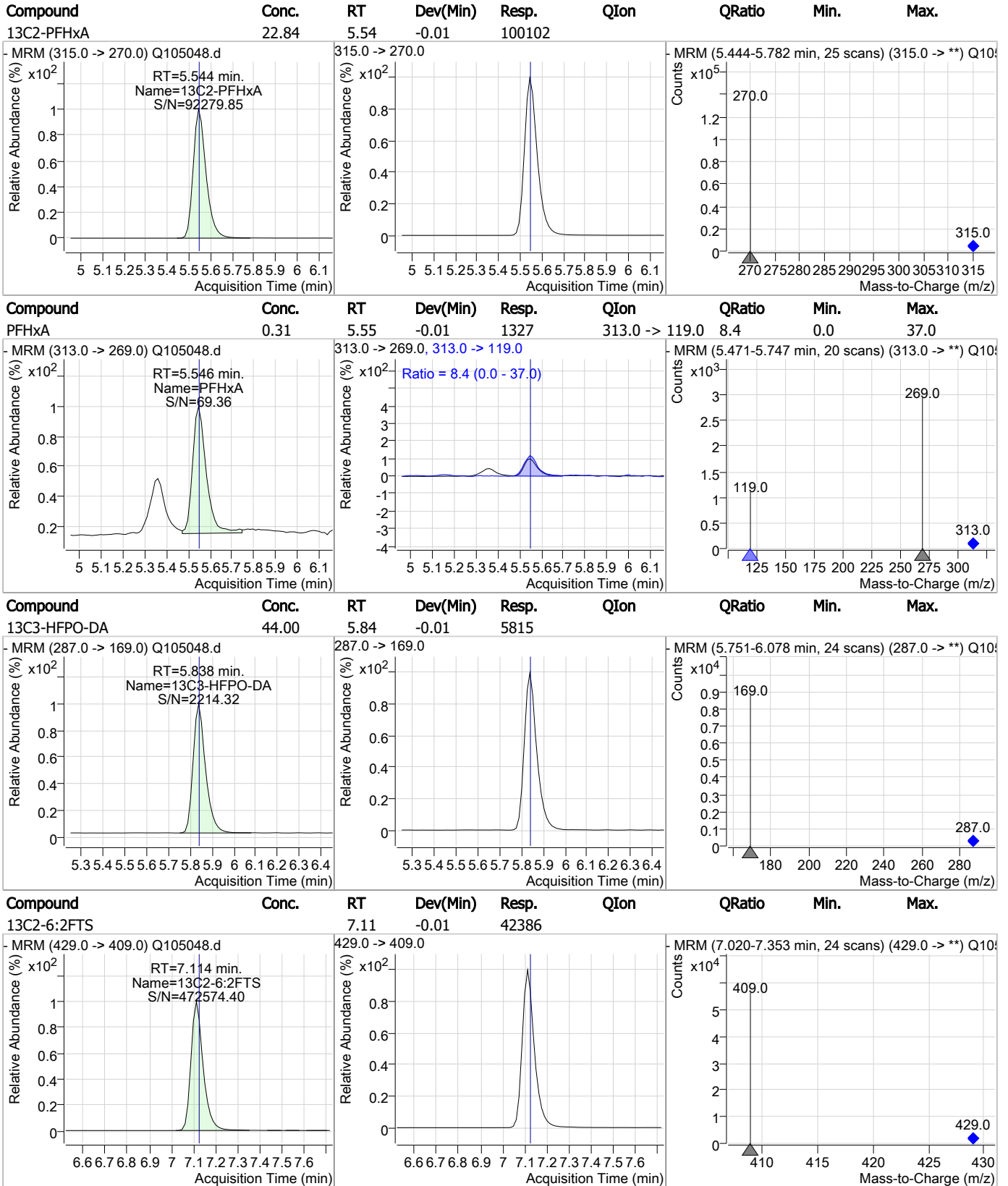


### Perfluorinated Compounds by LC/MS/MS



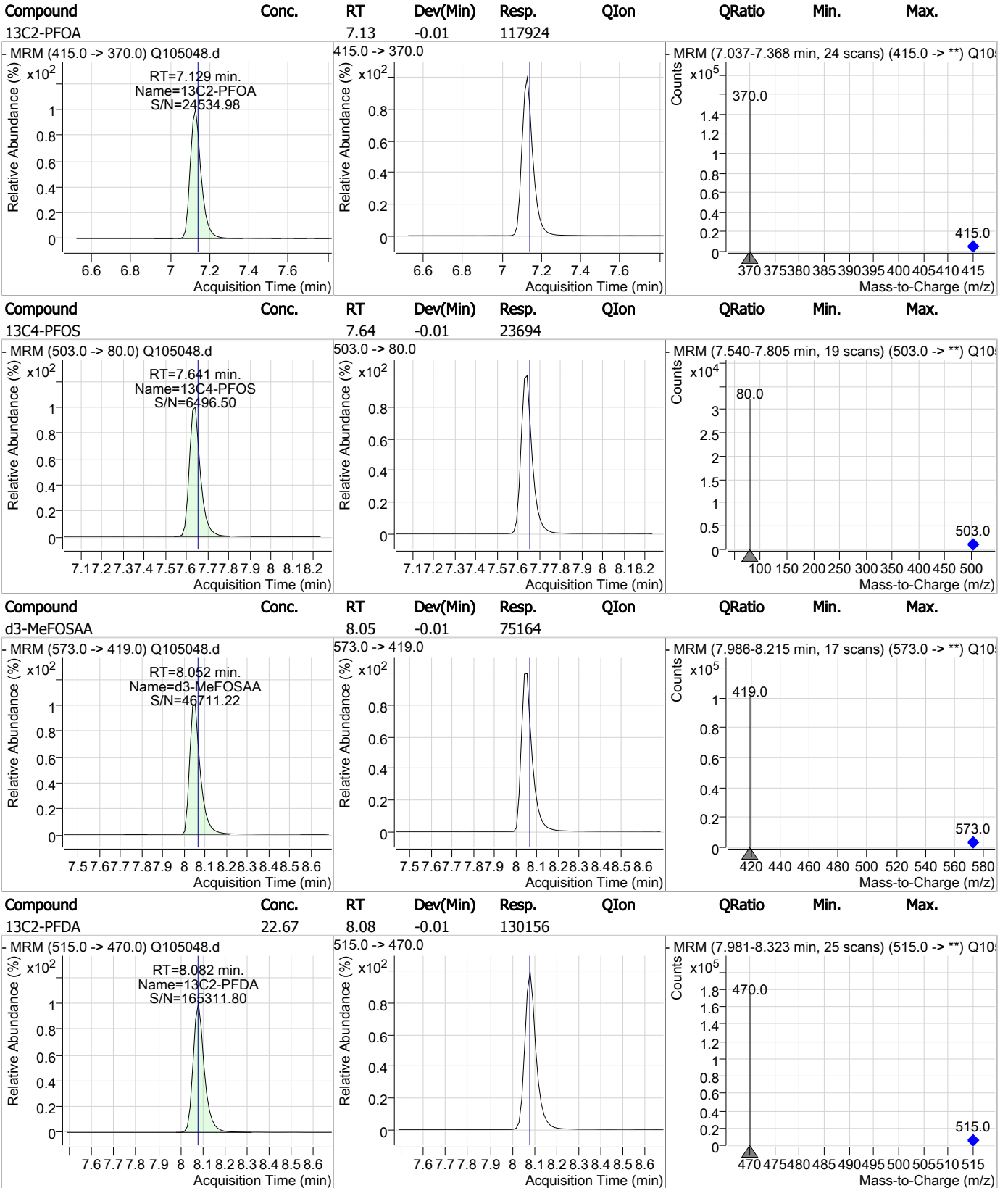
7.1.13  
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### Perfluorinated Compounds by LC/MS/MS



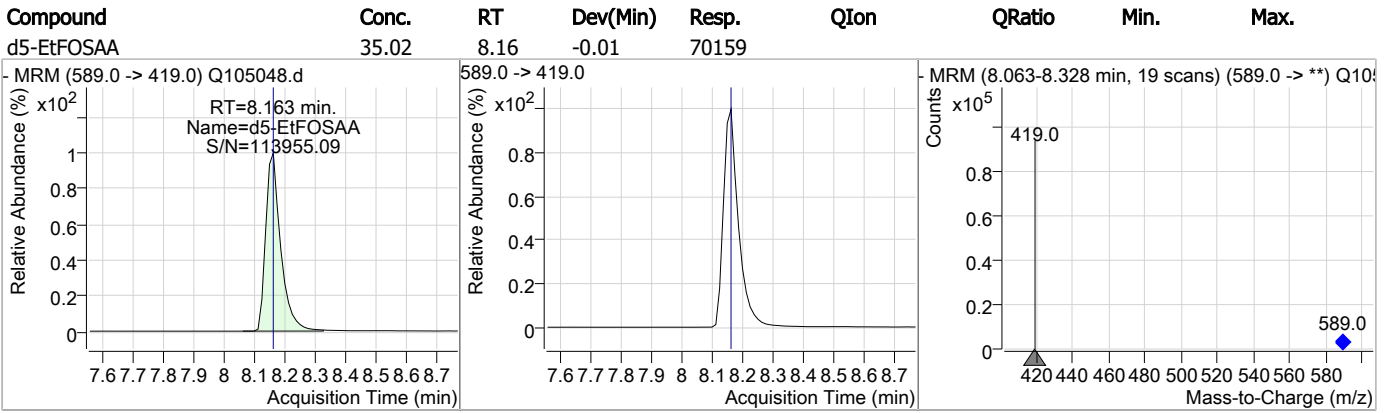
7.1.13  
7

### Perfluorinated Compounds by LC/MS/MS



7.1.13  
7

### Perfluorinated Compounds by LC/MS/MS



7.1.13  
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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Norman Farmer  
 09/11/23 11:37

### Perfluorinated Compounds by LC/MS/MS

Data File : Q105049.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 9:37:28 PM  
 Sample Name : fc9076-13  
 Vial : P1-C8  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

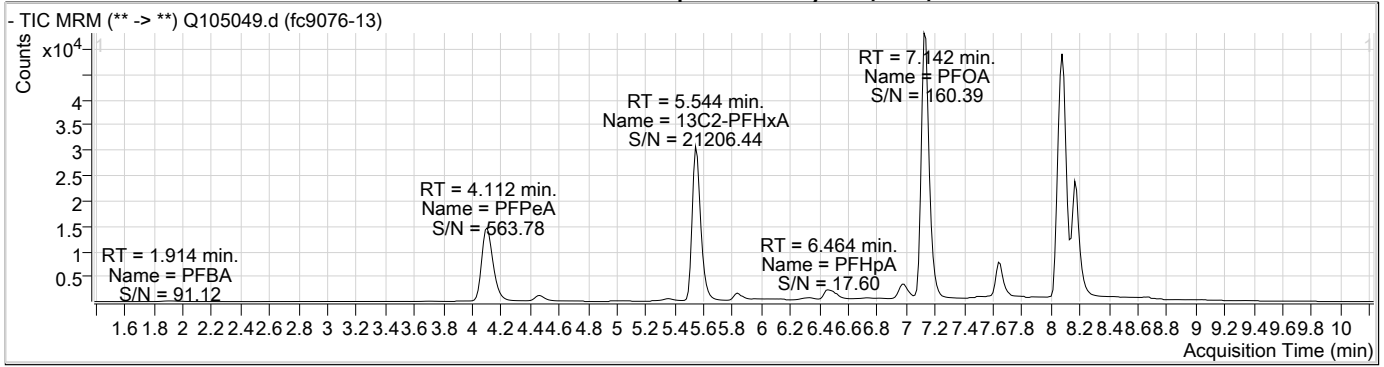
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.126	429.0 -> 409.0	43204	20.00	µg/L	0.000	
13C2-PFOA	7.141	415.0 -> 370.0	120293	20.00	µg/L	0.000	
13C3-PFPeA	4.109	266.0 -> 222.0	69259	20.00	µg/L	-0.013	
13C4-PFOS	7.641	503.0 -> 80.0	23770	20.00	µg/L	-0.013	
d3-MeFOSAA	8.052	573.0 -> 419.0	75996	40.00	µg/L	-0.013	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.094	515.0 -> 470.0	127676	21.80	µg/L	0.000	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 109.0%			
13C2-PFHxA	5.544	315.0 -> 270.0	101862	22.79	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 113.9%			
d5-EtFOSAA	8.163	589.0 -> 419.0	72074	35.57	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 88.9%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5745	42.61	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 106.5%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.914	213.0 -> 169.0	1170	0.45	µg/L	100	
PFBS	4.466	299.0 -> 80.0	3608	2.53	µg/L	m	100
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.464	363.0 -> 319.0	7633	1.39	µg/L	m	97
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	22231	5.08	µg/L		100
PFHxS	6.494	399.0 -> 80.0	4231	4.05	µg/L	m	94
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.142	413.0 -> 369.0	43156	7.36	µg/L	m	93
PFOS	7.641	499.0 -> 80.0	225	0.16	µg/L	m	93
PFPeA	4.112	263.0 -> 219.0	10101	3.76	µg/L		100
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

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

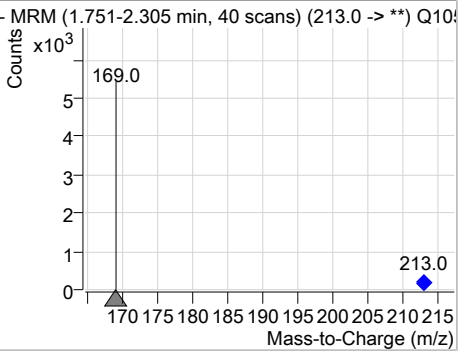
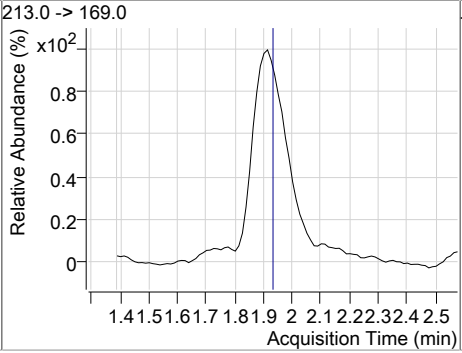
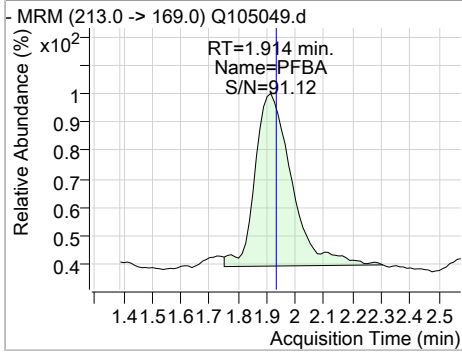
7.1.14  
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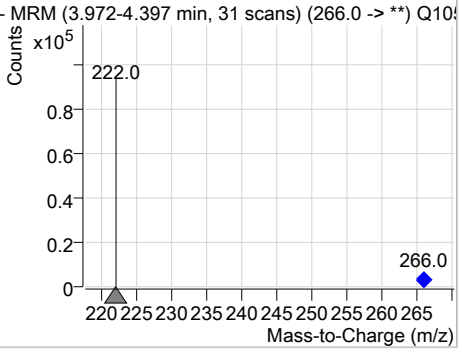
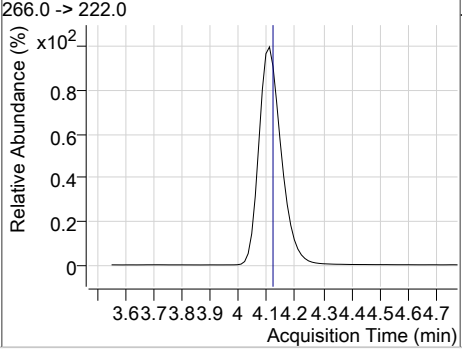
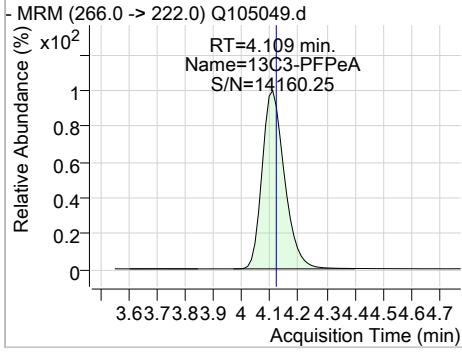
### Perfluorinated Compounds by LC/MS/MS



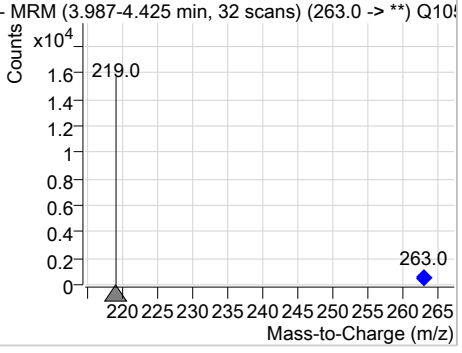
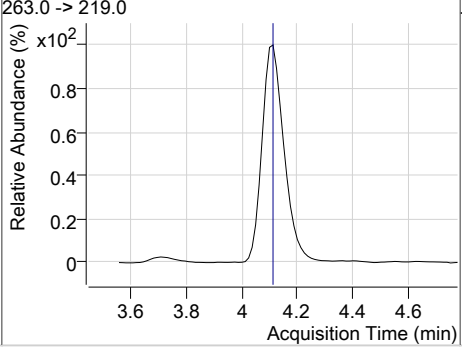
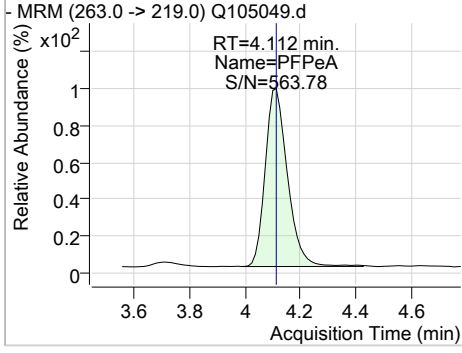
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.45	1.91	-0.03	1170				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.11	-0.01	69259				

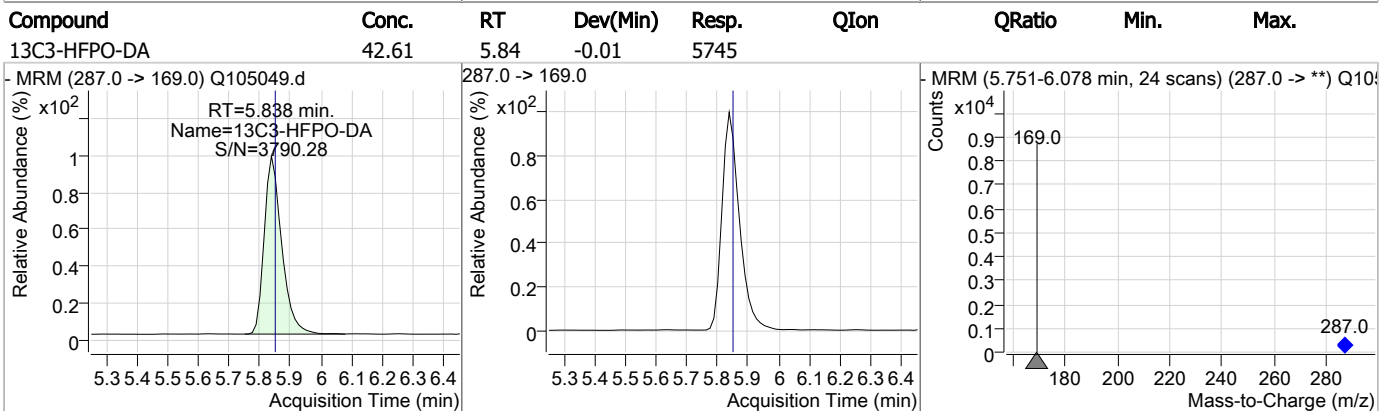
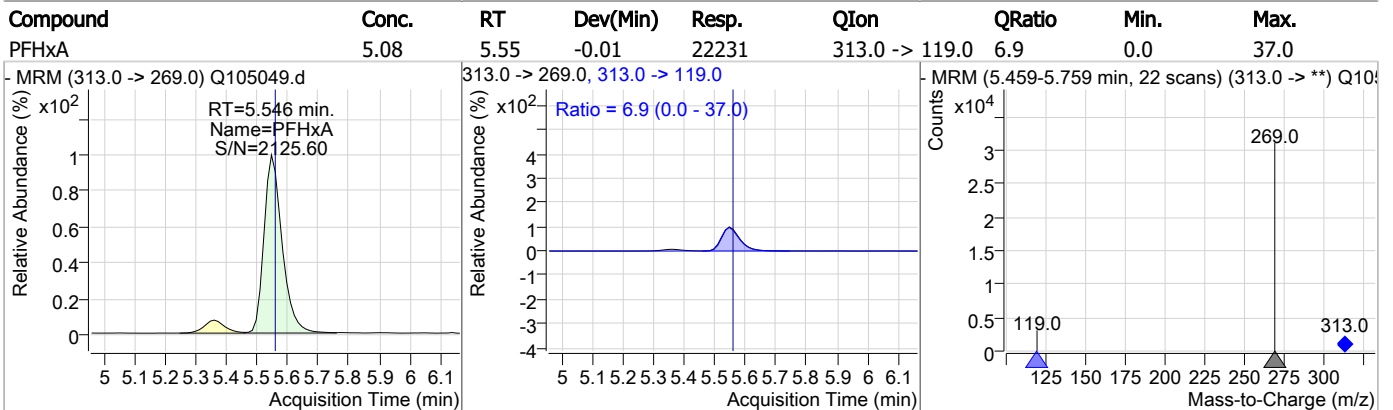
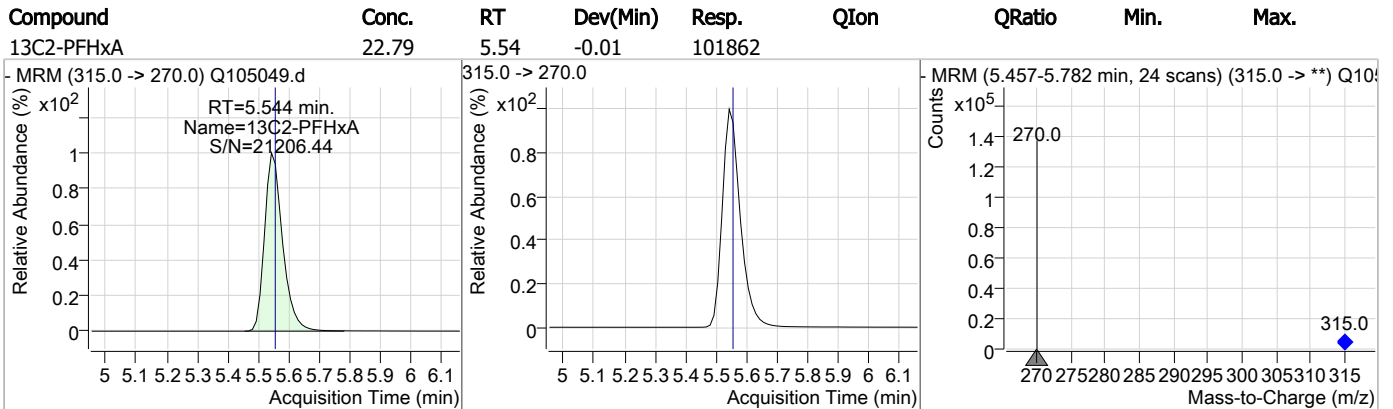
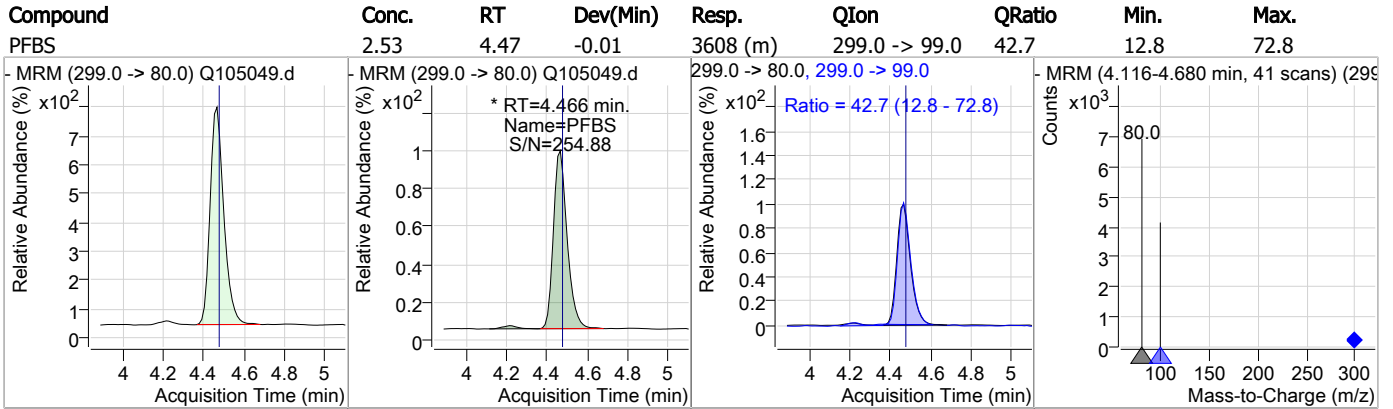


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	3.76	4.11	-0.01	10101				



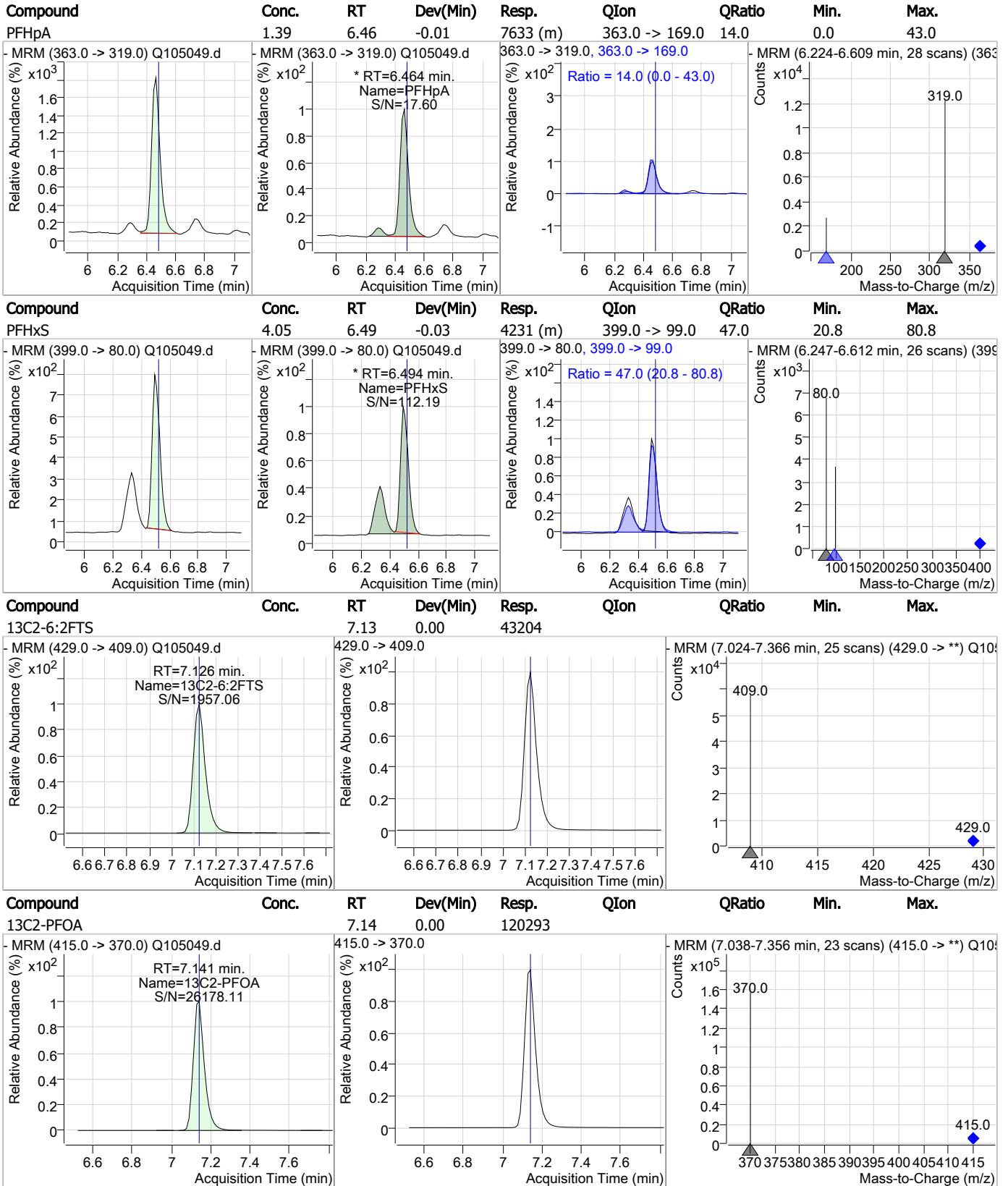
7.1.14  
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### Perfluorinated Compounds by LC/MS/MS



7.1.14

### Perfluorinated Compounds by LC/MS/MS



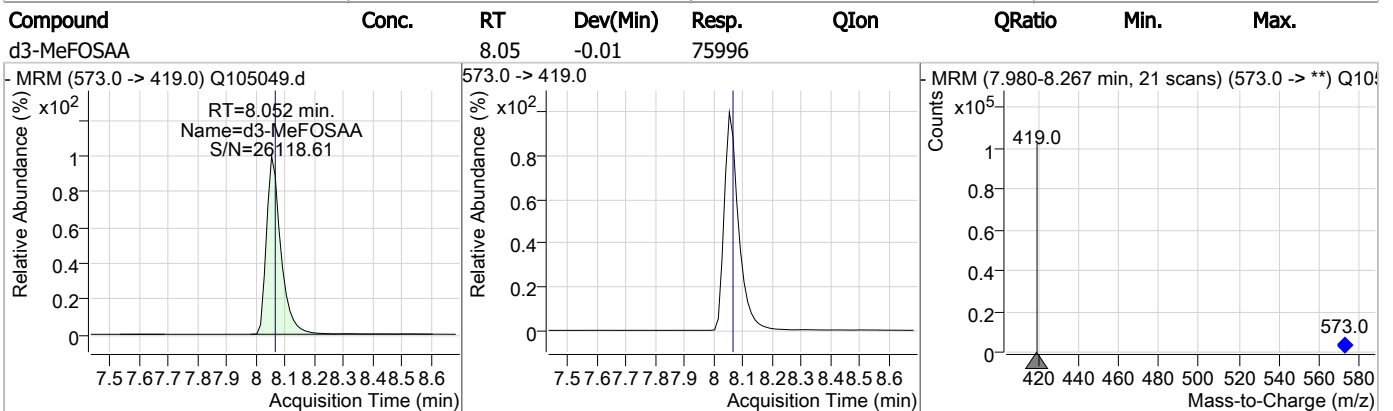
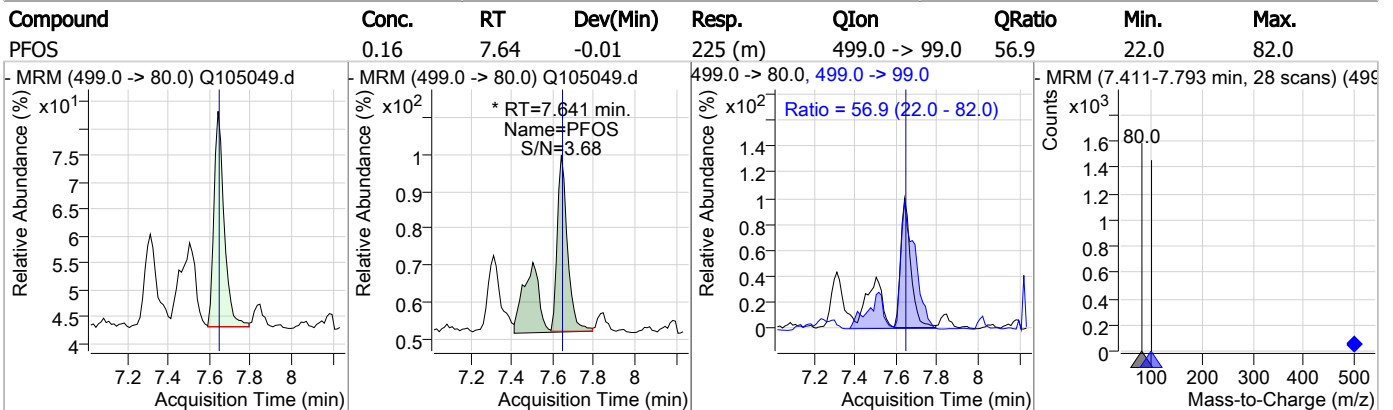
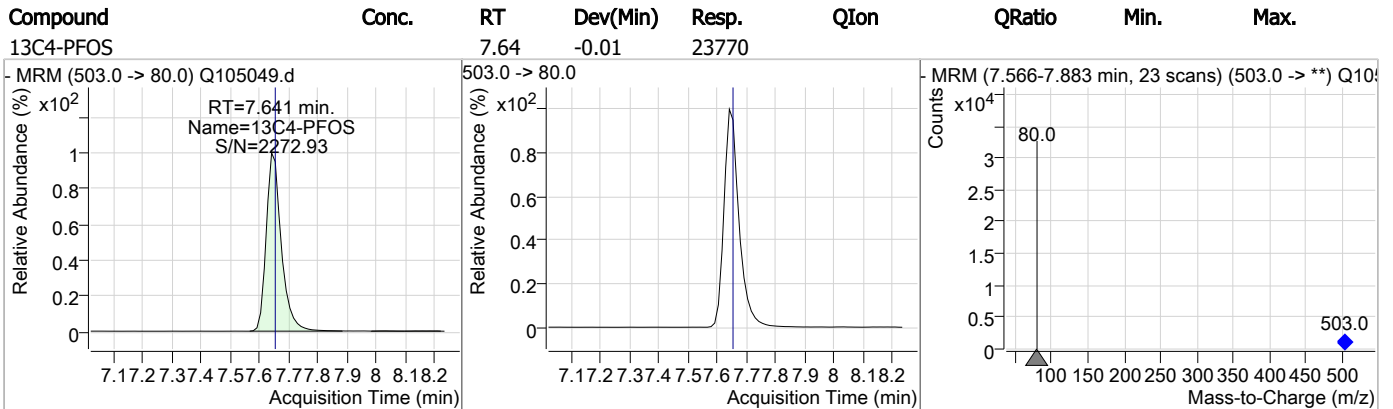
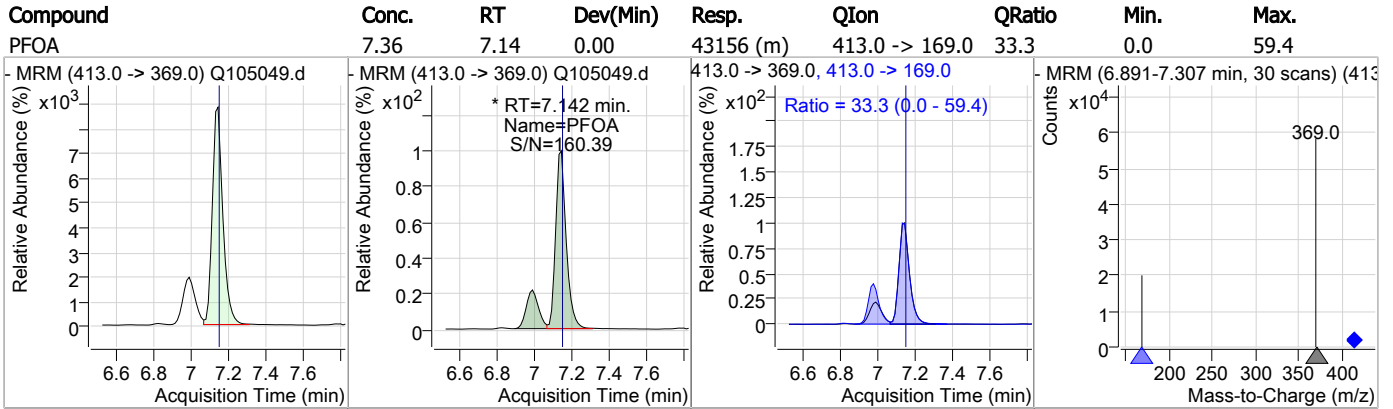
7.1.14

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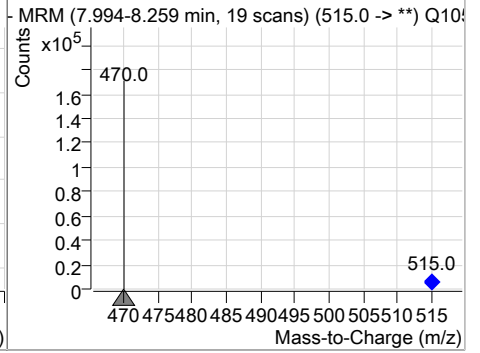
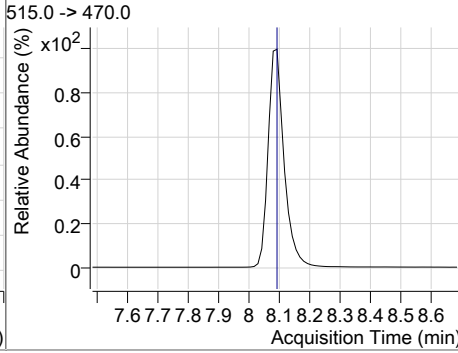
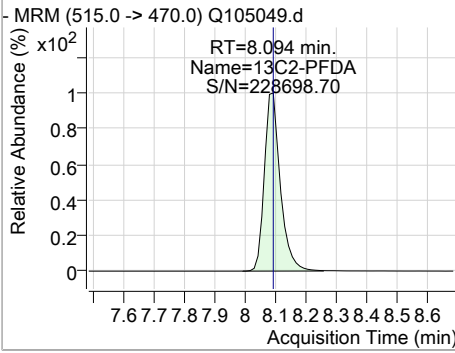
### Perfluorinated Compounds by LC/MS/MS



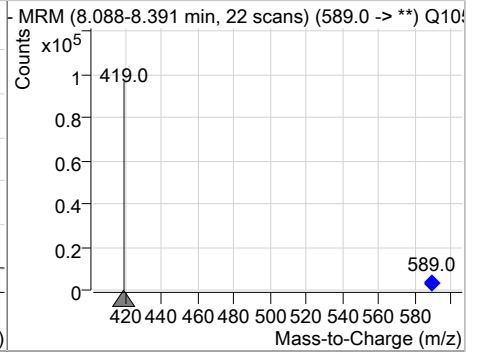
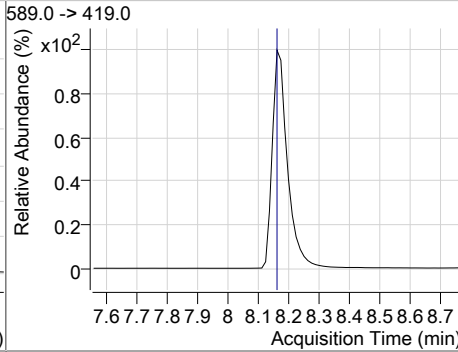
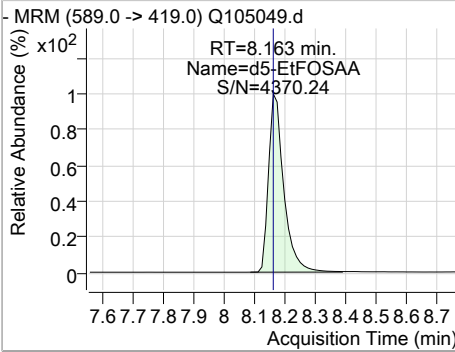
7.1.14  
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.80	8.09	0.00	127676				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	35.57	8.16	-0.01	72074				



7.1.14  
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# Manual Integration Approval Summary

Sample Number: FC9076-13                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105049.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 21:37                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanoic acid	335-67-1		7.14	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.64	Split peak

7.1.14.1

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Perfluorinated Compounds by LC/MS/MS

Data File : Q105050.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 9:53:15 PM  
 Sample Name : fc9076-14  
 Vial : P1-C9  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

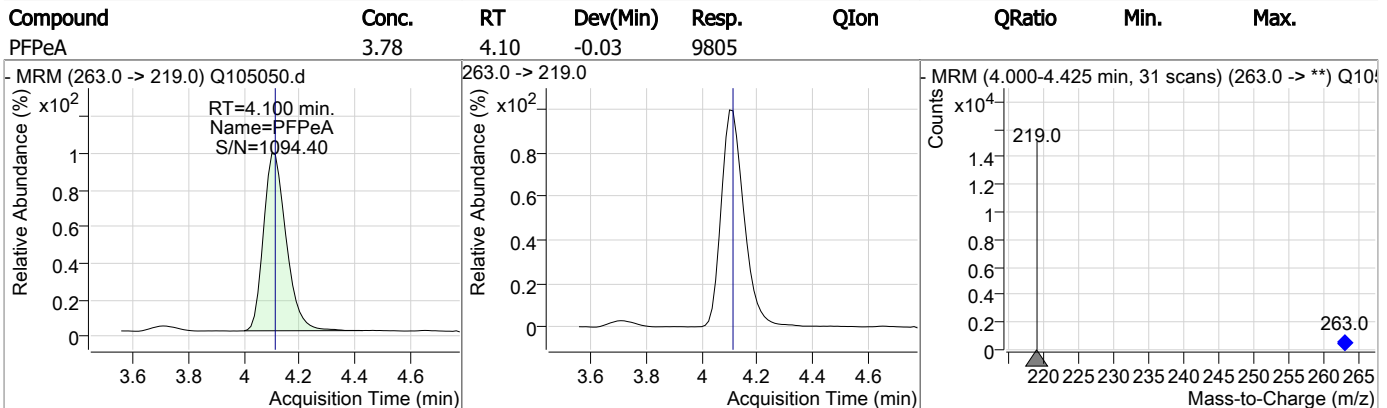
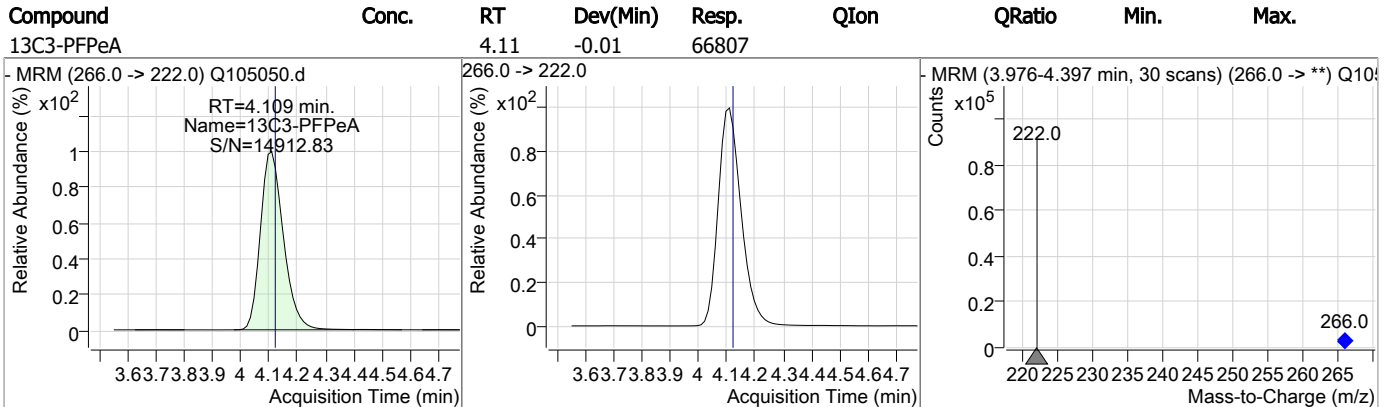
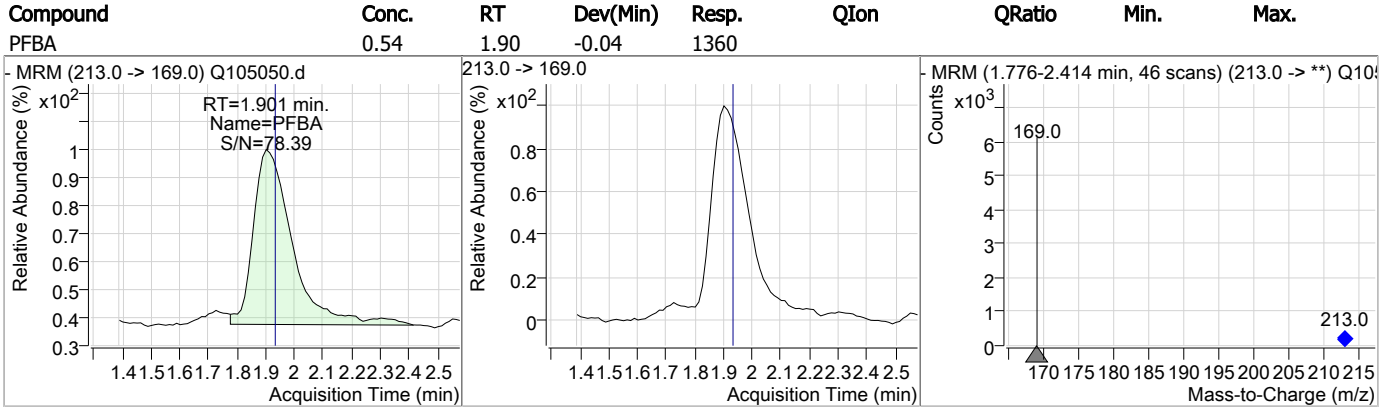
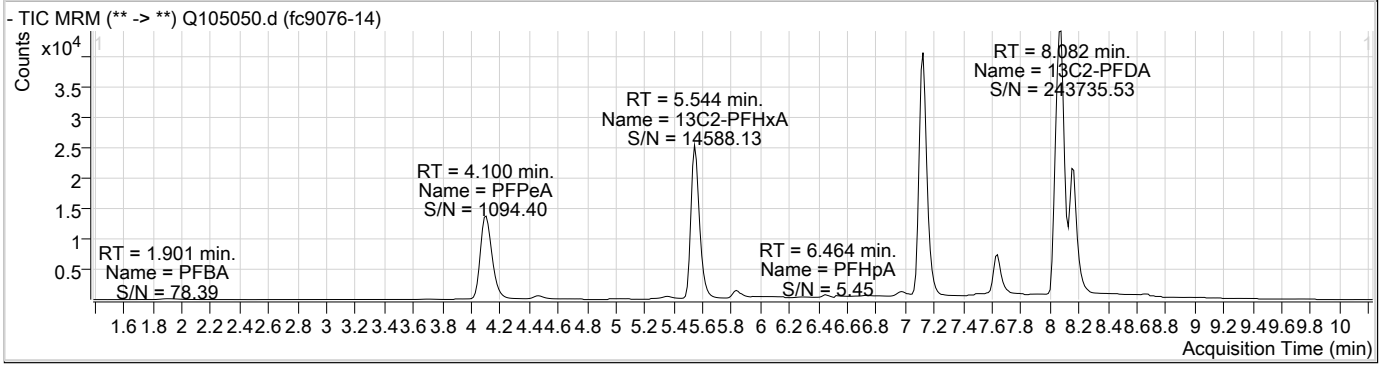
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.114	429.0 -> 409.0	41211	20.00	µg/L	-0.013	
13C2-PFOA	7.129	415.0 -> 370.0	113579	20.00	µg/L	-0.013	
13C3-PFPeA	4.109	266.0 -> 222.0	66807	20.00	µg/L	-0.013	
13C4-PFOS	7.641	503.0 -> 80.0	23119	20.00	µg/L	-0.013	
d3-MeFOSAA	8.040	573.0 -> 419.0	71878	40.00	µg/L	-0.025	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.082	515.0 -> 470.0	118885	21.50	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 107.5%			
13C2-PFHxA	5.544	315.0 -> 270.0	88643	21.04	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 105.2%			
d5-EtFOSAA	8.163	589.0 -> 419.0	65877	34.41	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 86.0%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5159	40.53	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 101.3%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.901	213.0 -> 169.0	1360	0.54	µg/L	100	
PFBS	4.466	299.0 -> 80.0	1689	1.22	µg/L	m 93	
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.464	363.0 -> 319.0	2305	0.44	µg/L	m 98	
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	14341	3.47	µg/L	99	
PFHxS	6.318	399.0 -> 80.0	304	0.30	µg/L	m 97	
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.129	413.0 -> 369.0	4457	0.80	µg/L	m 88	
PFOS	-	499.0 -> 80.0	-	N.D.			
PFPeA	4.100	263.0 -> 219.0	9805	3.78	µg/L	100	
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	-	285.0 -> 169.0	-	N.D.			

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

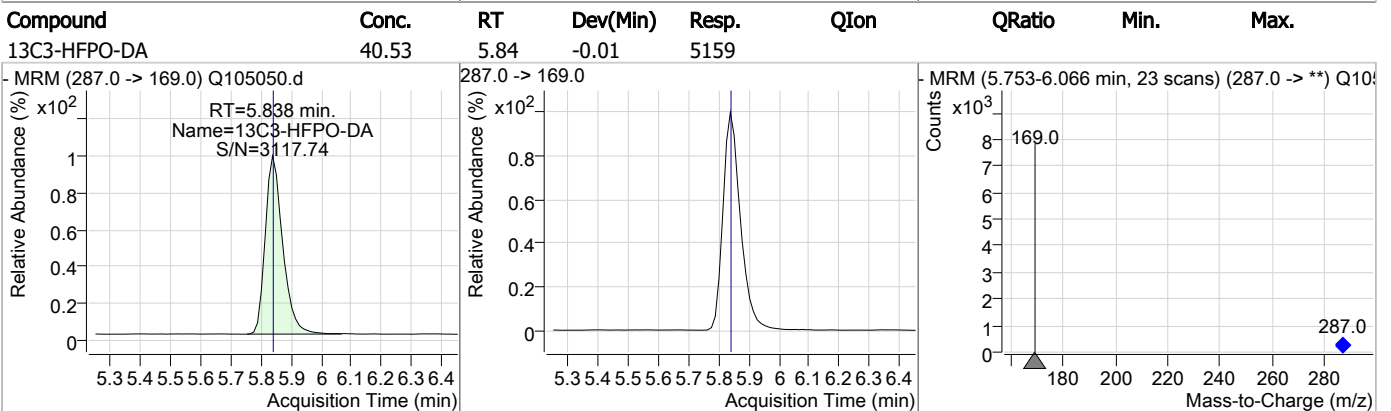
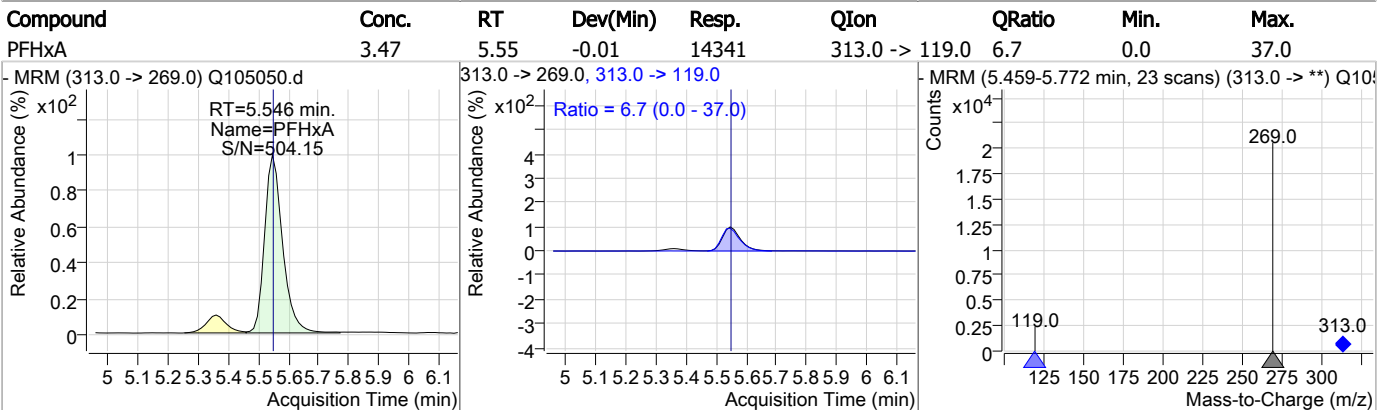
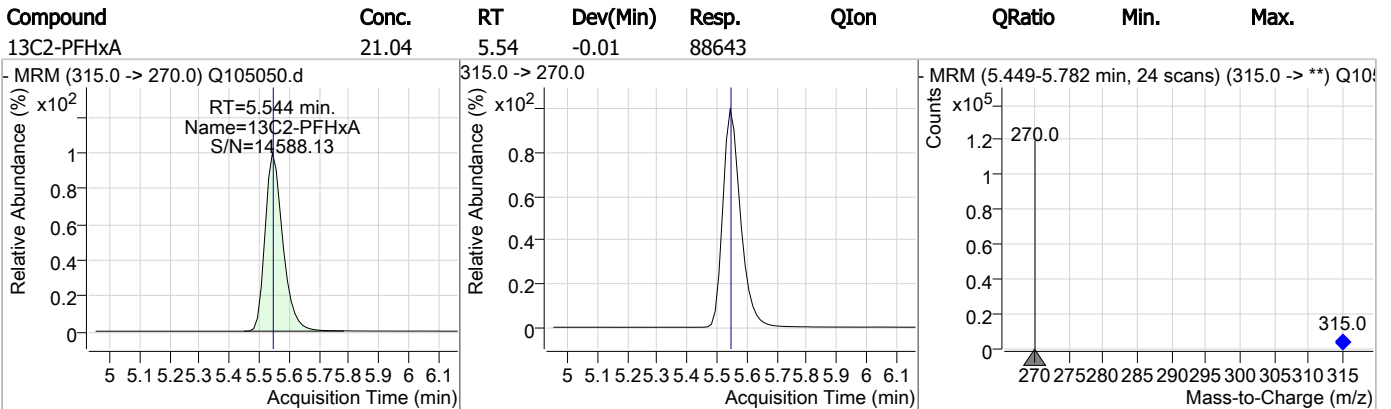
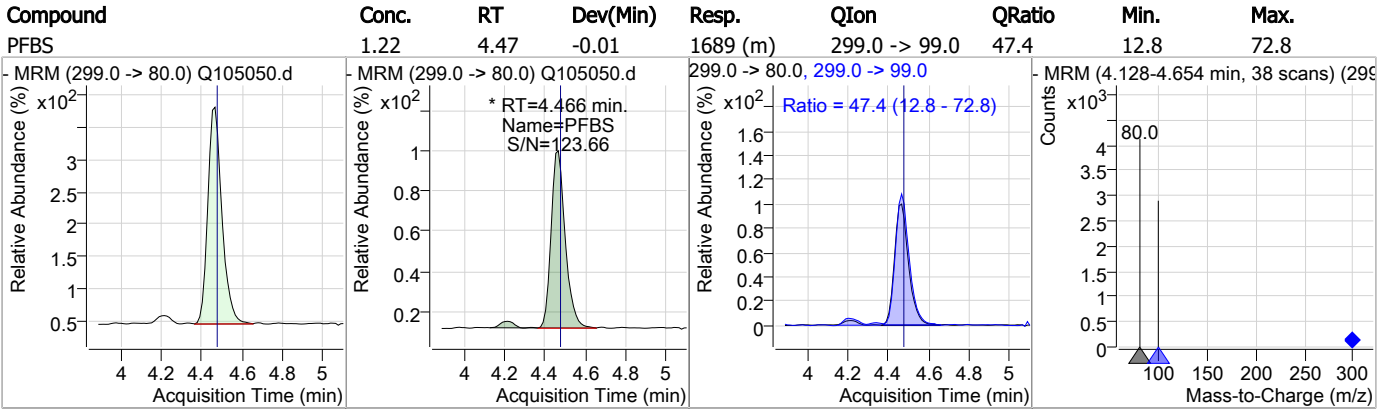
7.1.15  
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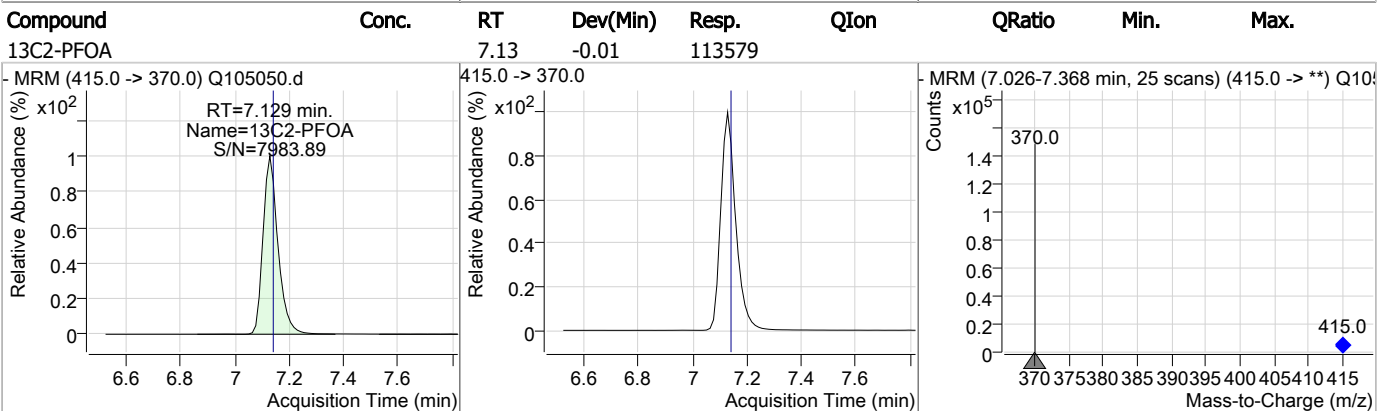
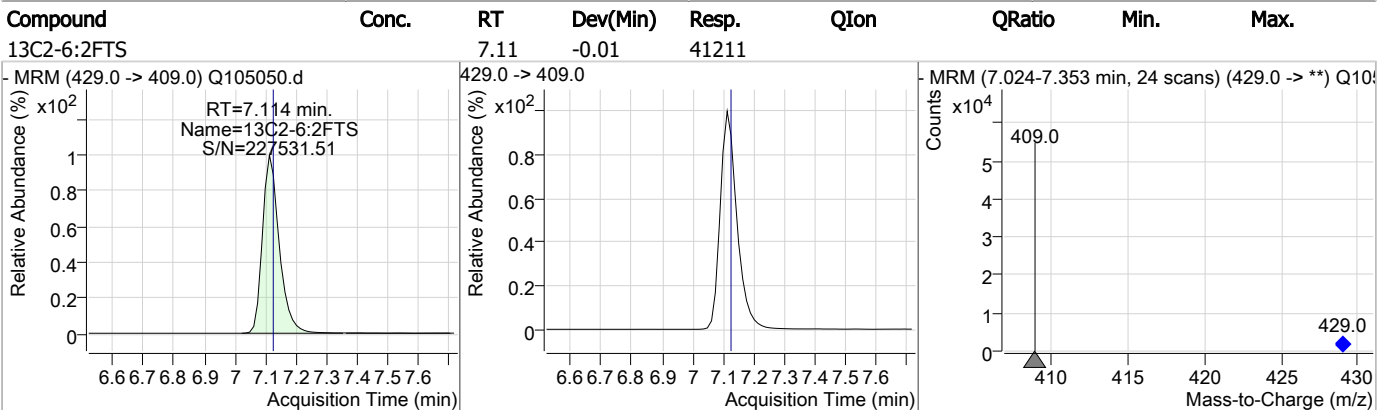
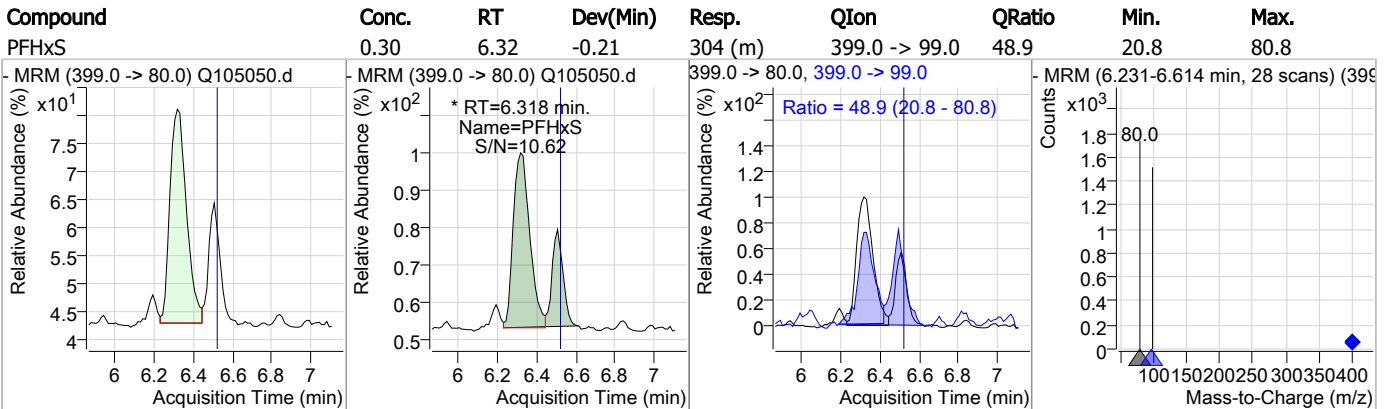
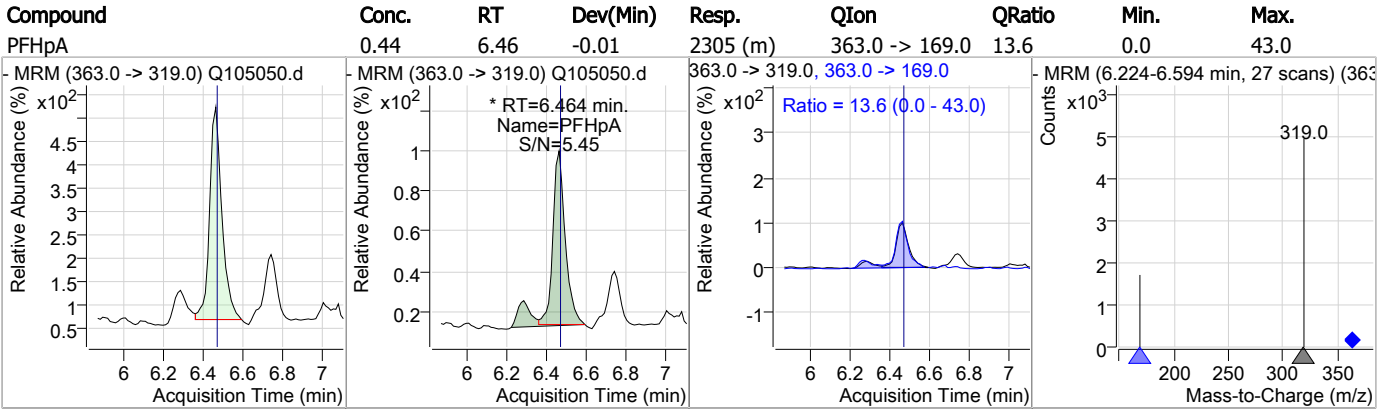
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS



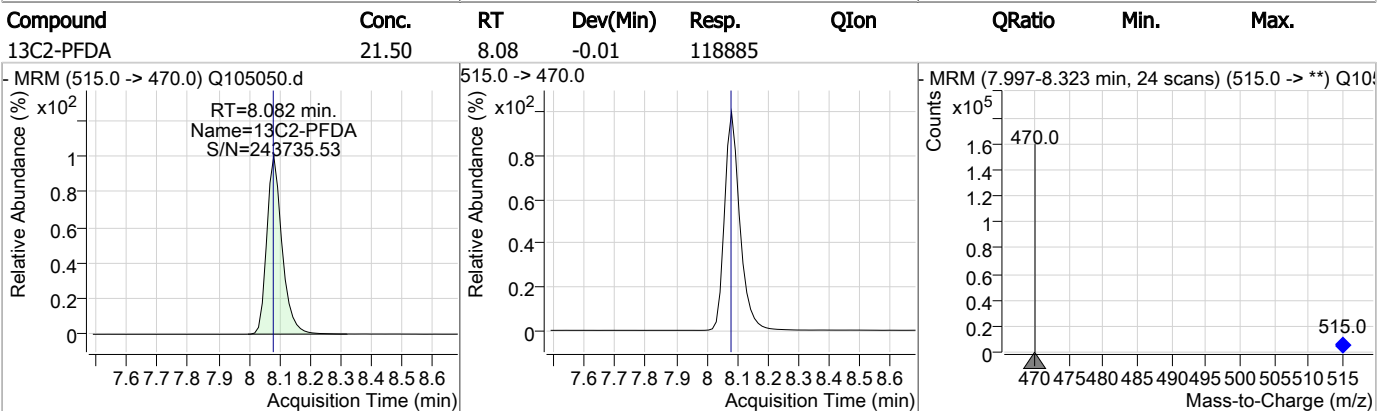
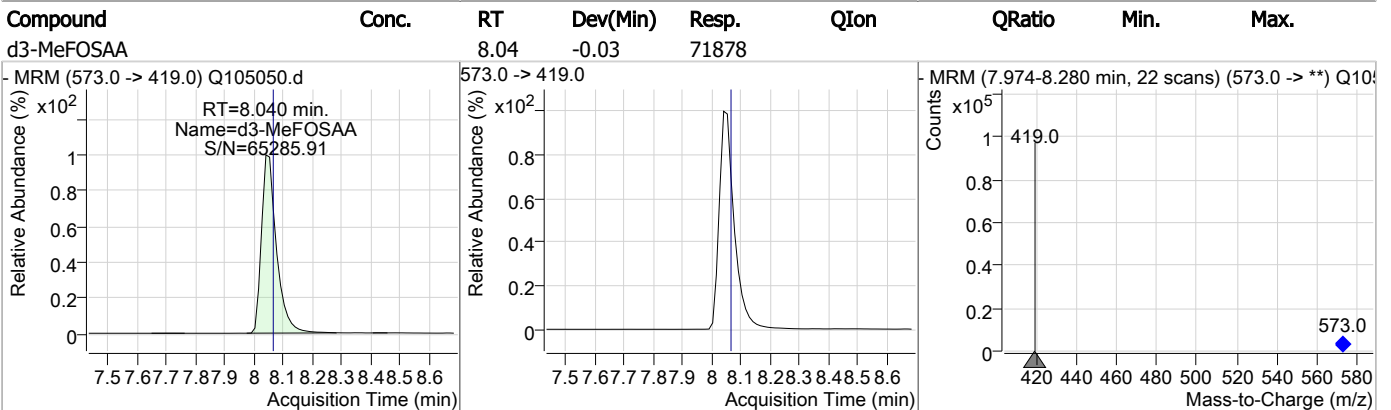
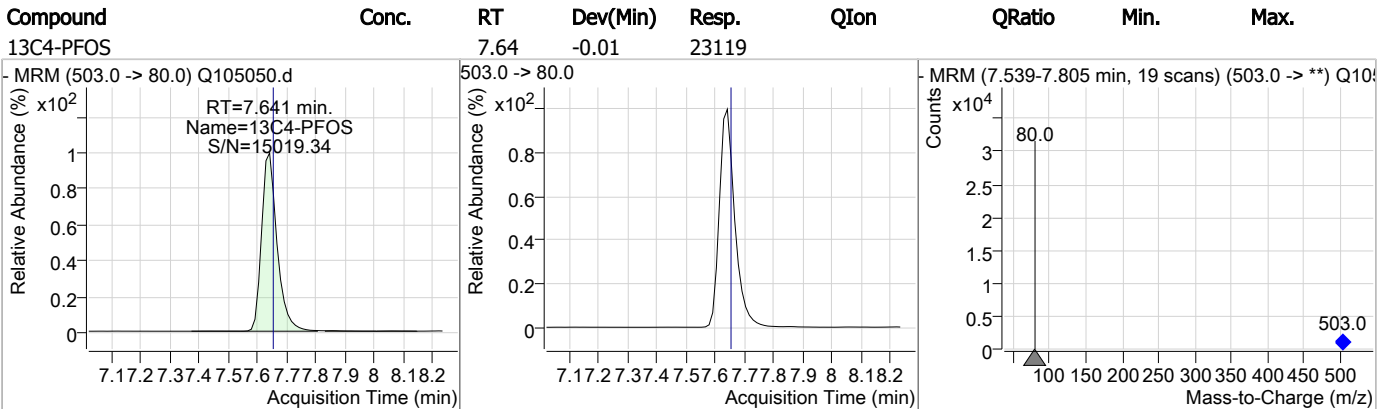
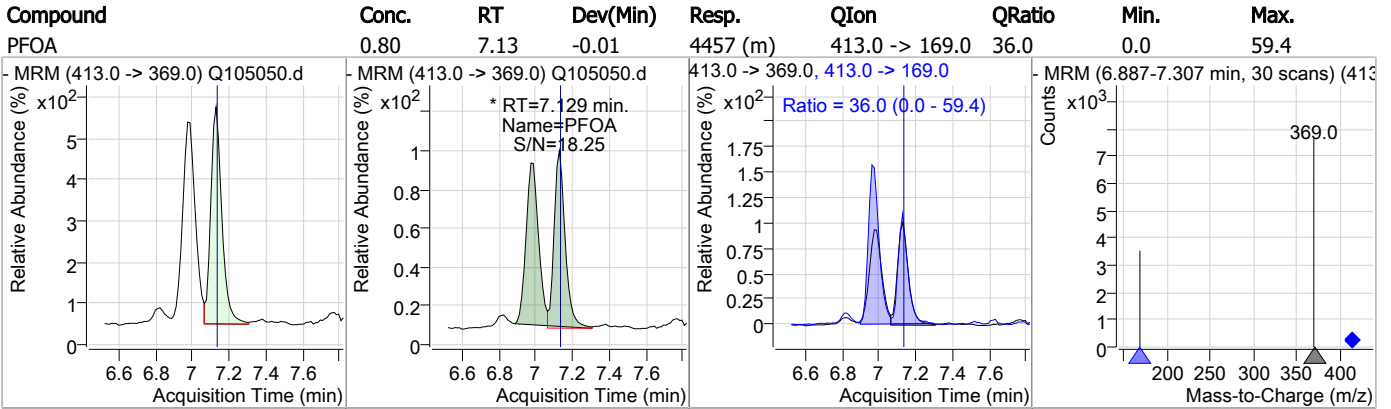
### Perfluorinated Compounds by LC/MS/MS



7.1.15  
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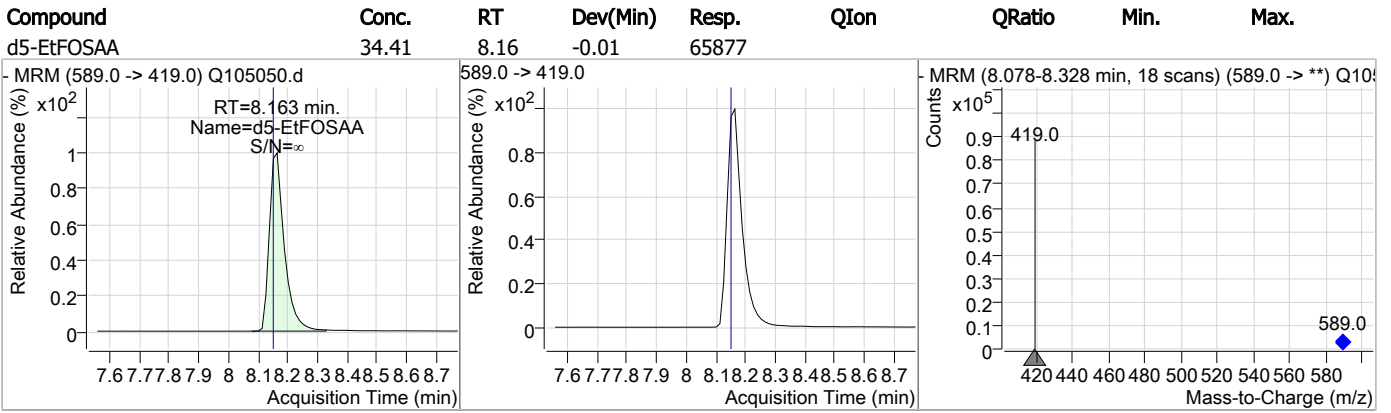
### Perfluorinated Compounds by LC/MS/MS



7.1.15  
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### Perfluorinated Compounds by LC/MS/MS



7.1.15  
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# Manual Integration Approval Summary

Sample Number: FC9076-14                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105050.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 21:53                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.32	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak

7.1.15.1  
7

### Perfluorinated Compounds by LC/MS/MS

Data File : Q105051.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 10:09:01 PM  
 Sample Name : fc9076-15  
 Vial : P1-D1  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

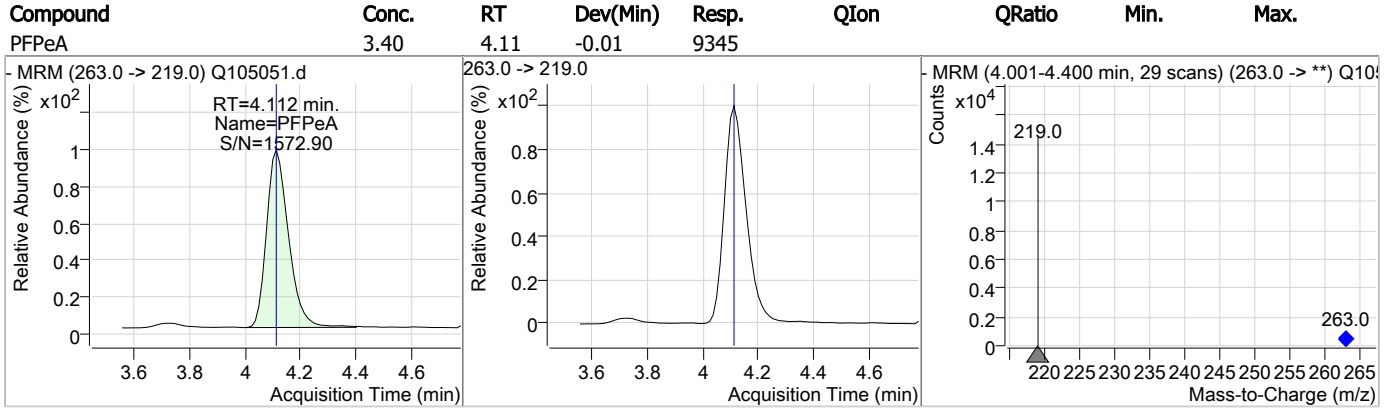
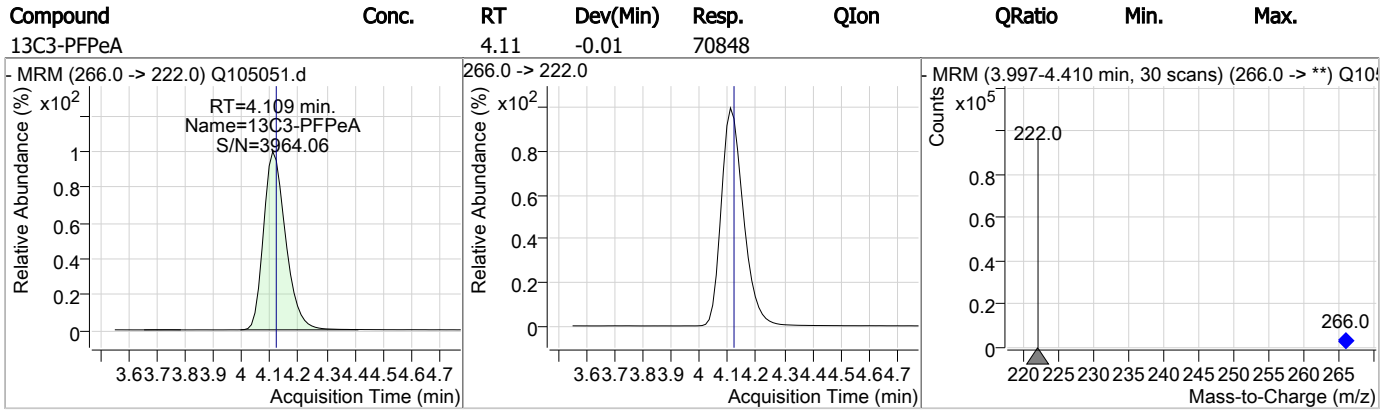
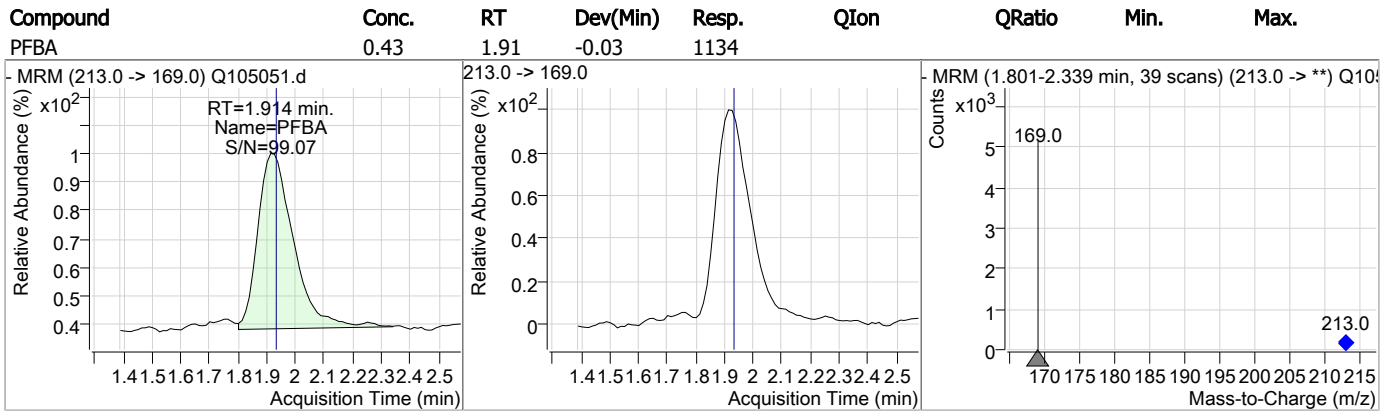
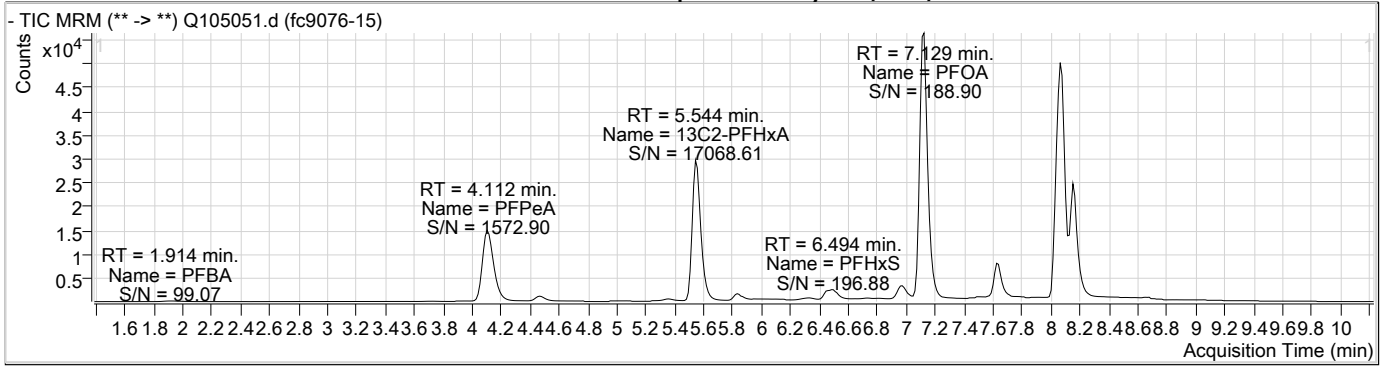
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)	QValue
<b>Internal Standards</b>							
13C2-6:2FTS	7.114	429.0 -> 409.0	43752	20.00	µg/L	-0.013	
13C2-PFOA	7.129	415.0 -> 370.0	124173	20.00	µg/L	-0.013	
13C3-PFPeA	4.109	266.0 -> 222.0	70848	20.00	µg/L	-0.013	
13C4-PFOS	7.628	503.0 -> 80.0	25240	20.00	µg/L	-0.025	
d3-MeFOSAA	8.040	573.0 -> 419.0	76547	40.00	µg/L	-0.025	
<b>System Monitoring Compounds</b>							
13C2-PFDA	8.082	515.0 -> 470.0	136529	22.58	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 112.9%			
13C2-PFHxA	5.544	315.0 -> 270.0	101614	22.04	µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.2%			
d5-EtFOSAA	8.151	589.0 -> 419.0	73377	35.94	µg/L	-0.025	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 89.9%			
13C3-HFPO-DA	5.838	287.0 -> 169.0	5760	41.39	µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 103.5%			
<b>Target Compounds</b>							
6:2FTS	-	427.0 -> 407.0	-	N.D.			
8:2FTS	-	527.0 -> 507.0	-	N.D.			
EtFOSAA	-	584.0 -> 419.0	-	N.D.			
MeFOSAA	-	570.0 -> 419.0	-	N.D.			
PFBA	1.914	213.0 -> 169.0	1134	0.43	µg/L	100	
PFBS	4.466	299.0 -> 80.0	3360	2.22	µg/L	m 99	
PFDA	-	513.0 -> 469.0	-	N.D.			
PFDoDA	-	613.0 -> 569.0	-	N.D.			
PFHpA	6.464	363.0 -> 319.0	7085	1.25	µg/L	m 94	
PFHpS	-	449.0 -> 80.0	-	N.D.			
PFHxA	5.546	313.0 -> 269.0	19214	4.26	µg/L	100	
PFHxS	6.494	399.0 -> 80.0	5838	5.26	µg/L	m 93	
PFNA	-	463.0 -> 419.0	-	N.D.			
PFOA	7.129	413.0 -> 369.0	51797	8.56	µg/L	m 95	
PFOS	-	499.0 -> 80.0	-	N.D.			
PFPeA	4.112	263.0 -> 219.0	9345	3.40	µg/L	100	
PFTeDA	-	713.0 -> 669.0	-	N.D.			
PFTrDA	-	663.0 -> 619.0	-	N.D.			
PFUnDA	-	563.0 -> 519.0	-	N.D.			
ADONA	-	377.0 -> 251.0	-	N.D.			
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.			
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.			
HFPO-DA	5.840	285.0 -> 169.0	0	0.00	µg/L	m 1	

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

7.1.16  
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### Perfluorinated Compounds by LC/MS/MS

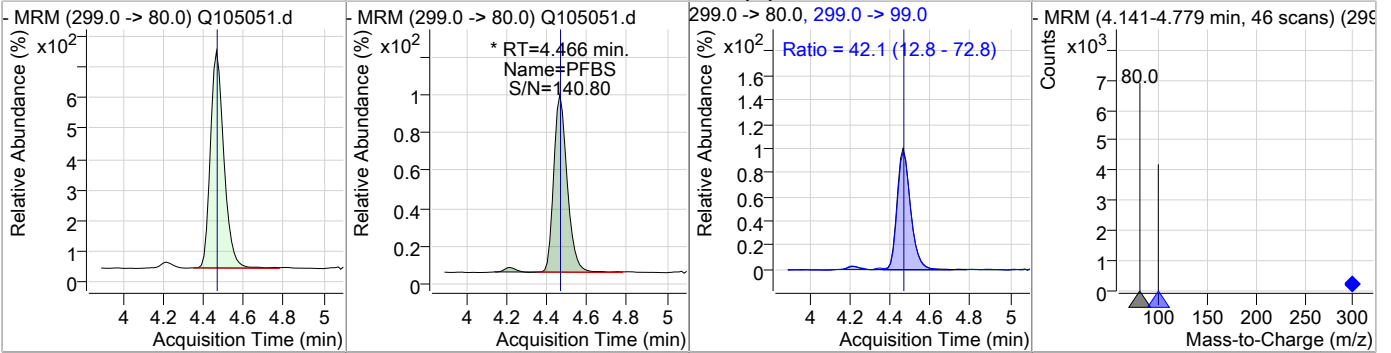


7.1.16  
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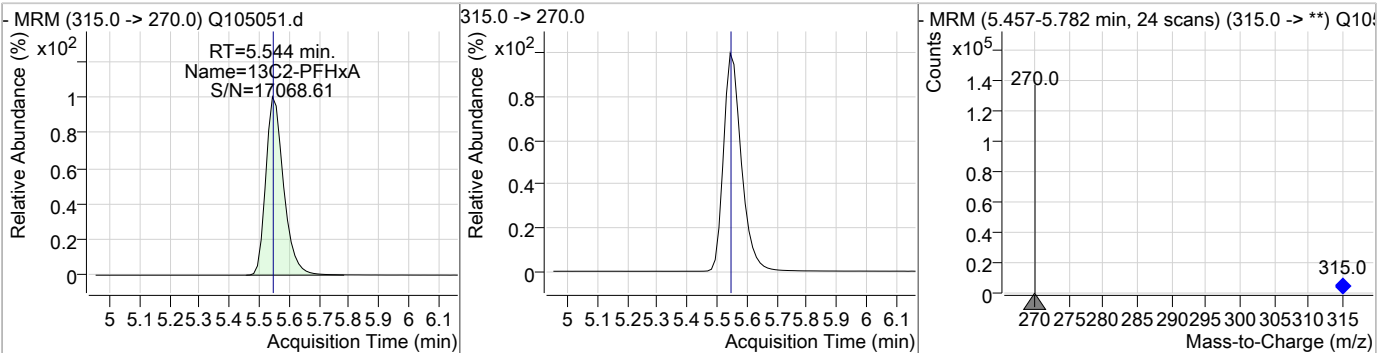


### Perfluorinated Compounds by LC/MS/MS

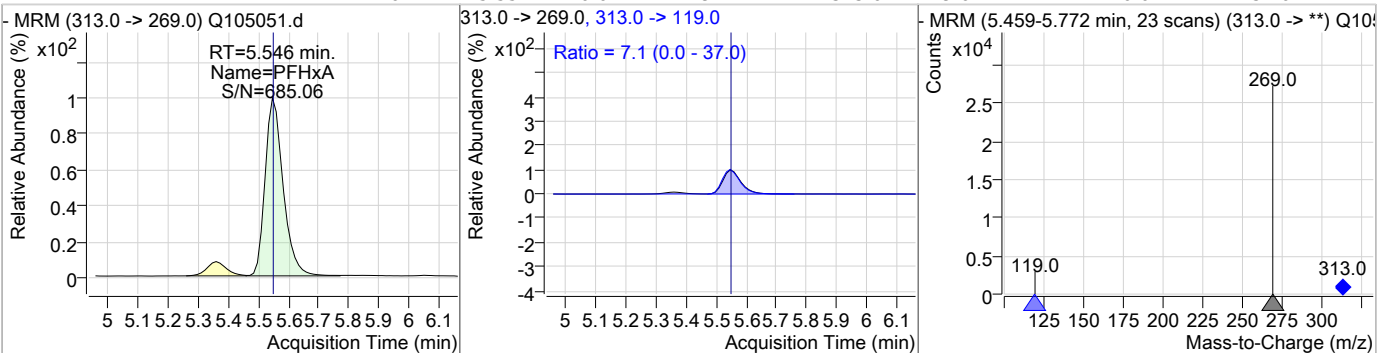
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.22	4.47	-0.01	3360 (m)	299.0 -> 99.0	42.1	12.8	72.8



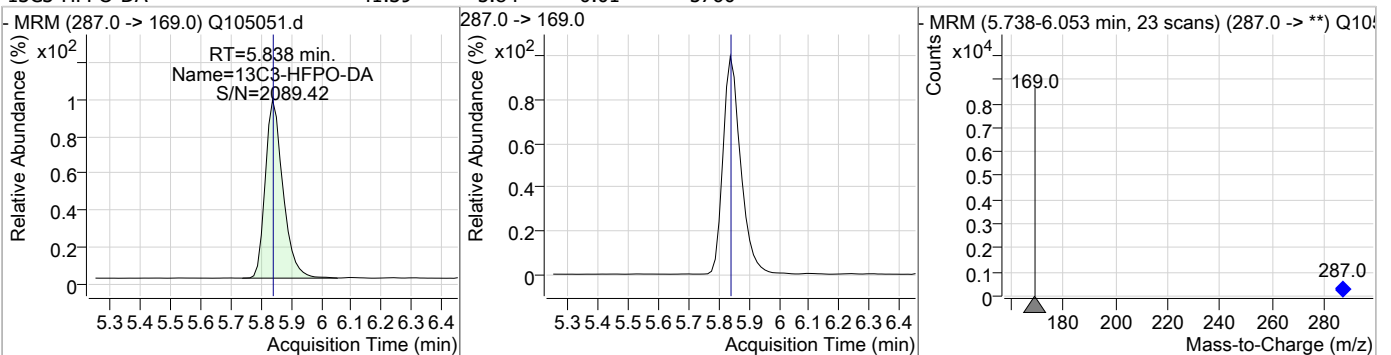
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	22.04	5.54	-0.01	101614				



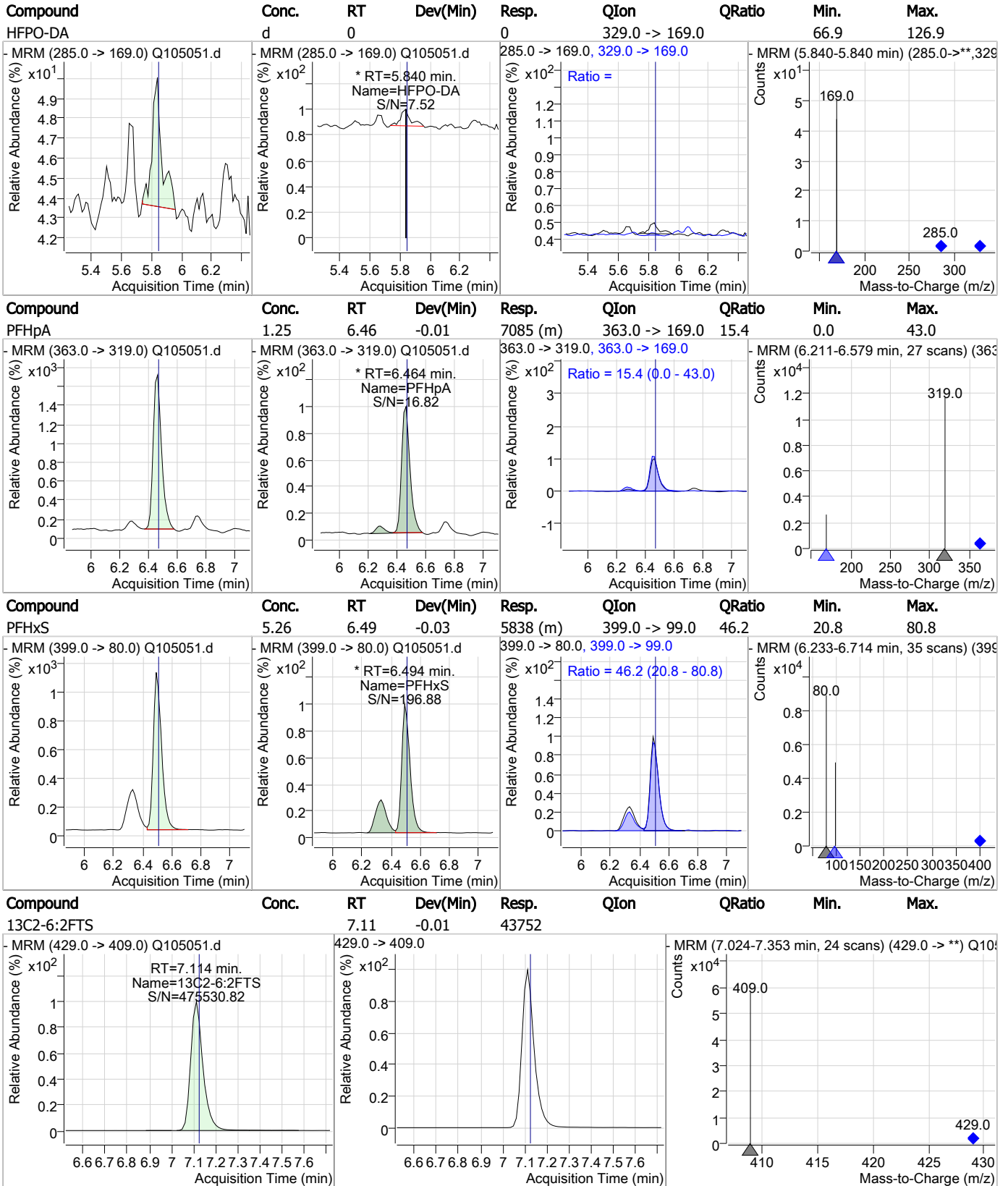
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.26	5.55	-0.01	19214	313.0 -> 119.0	7.1	0.0	37.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	41.39	5.84	-0.01	5760				



### Perfluorinated Compounds by LC/MS/MS

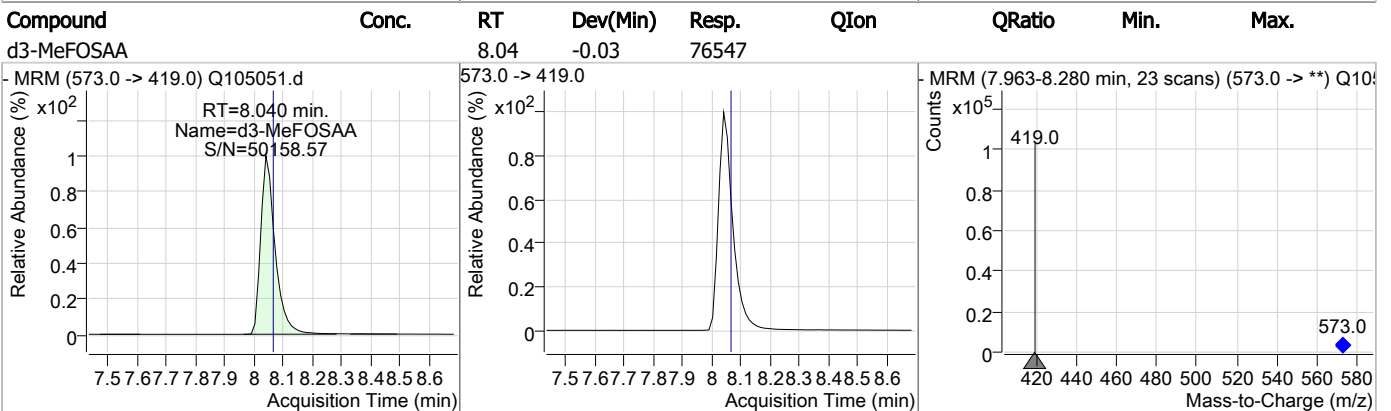
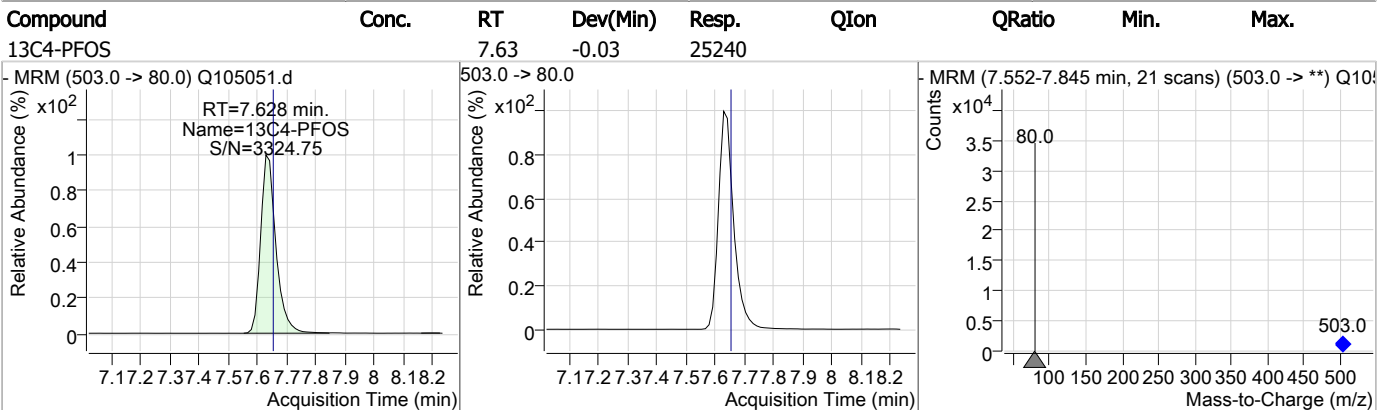
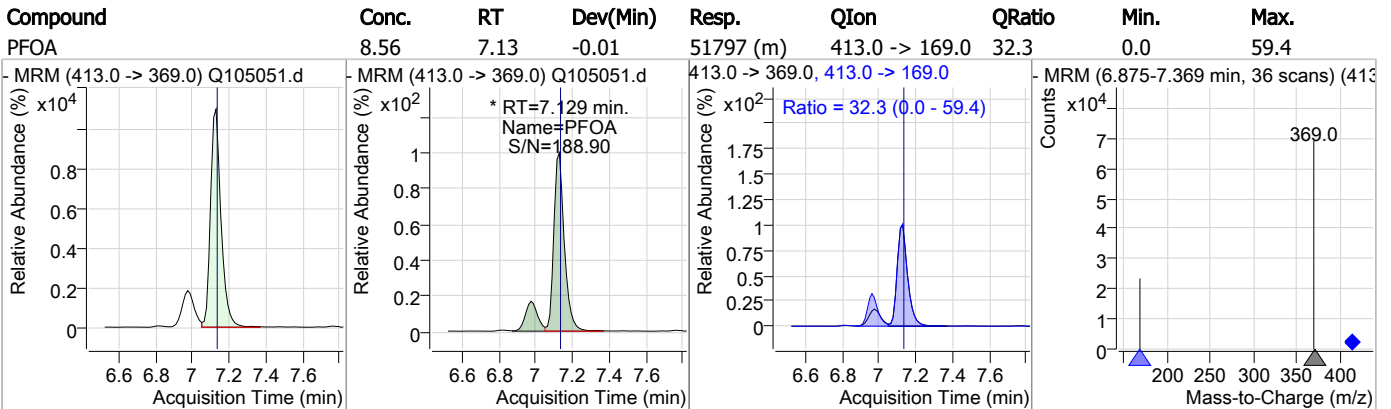
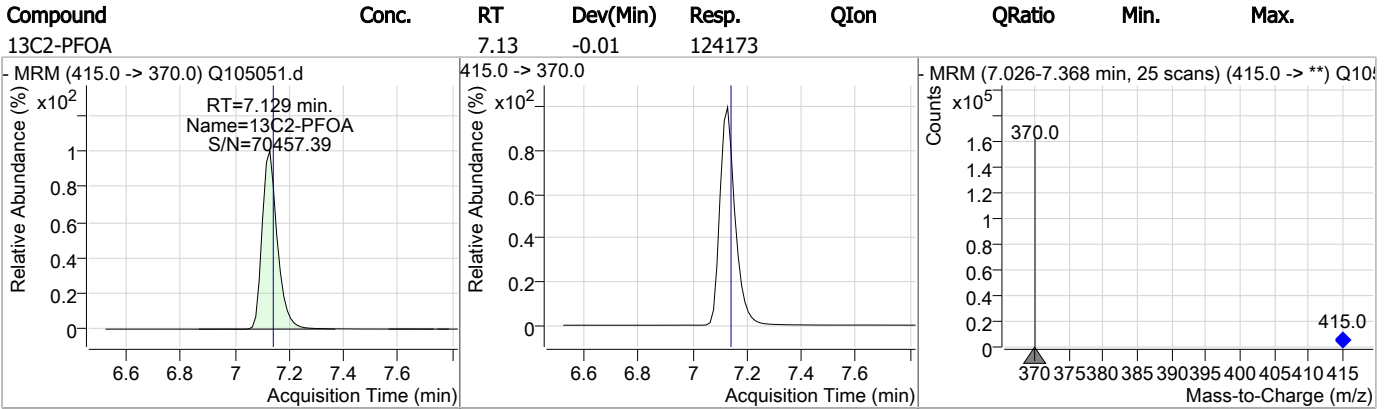


7.1.16

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### Perfluorinated Compounds by LC/MS/MS

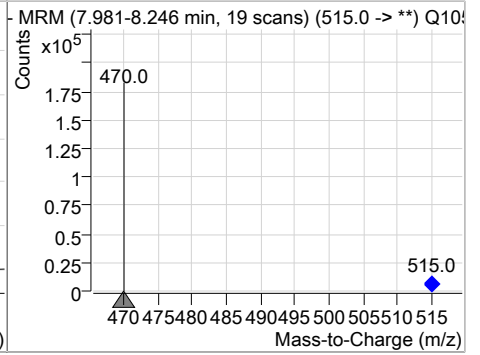
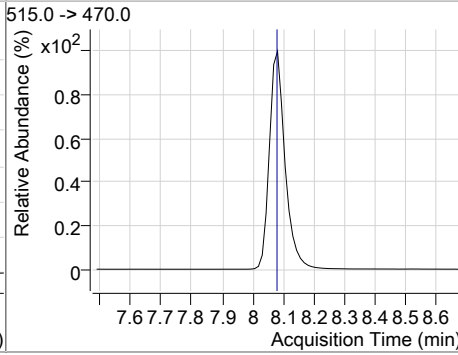
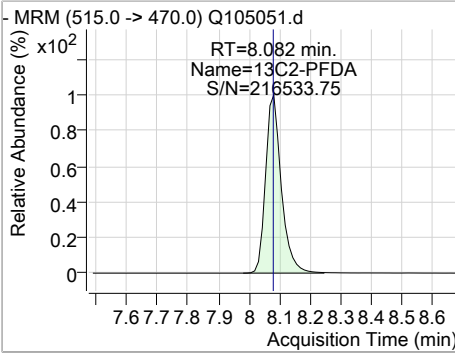


7.1.16  
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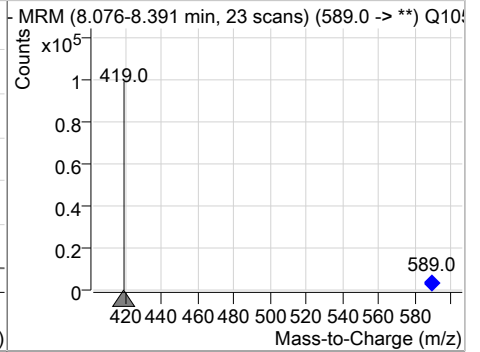
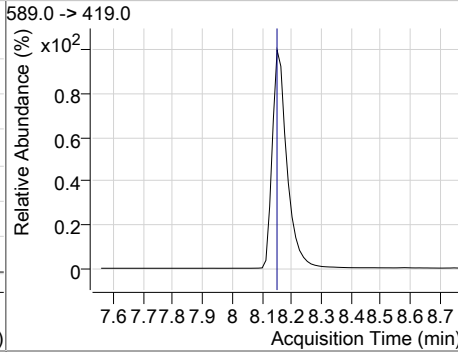
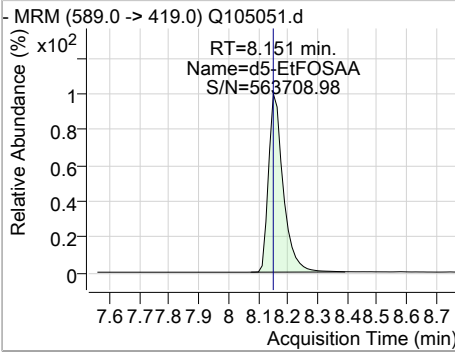


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	22.58	8.08	-0.01	136529				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	35.94	8.15	-0.03	73377				



7.1.16  
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# Manual Integration Approval Summary

Sample Number: FC9076-15                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105051.D                      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 22:09                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		4.47	Split peak
Perfluoroheptanoic acid	375-85-9		6.46	Split peak
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanoic acid	335-67-1		7.13	Split peak

7.1.16.1  
7

Perfluorinated Compounds by LC/MS/MS

Data File : Q105052.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 10:24:48 PM  
 Sample Name : fc9076-16  
 Vial : P1-D2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

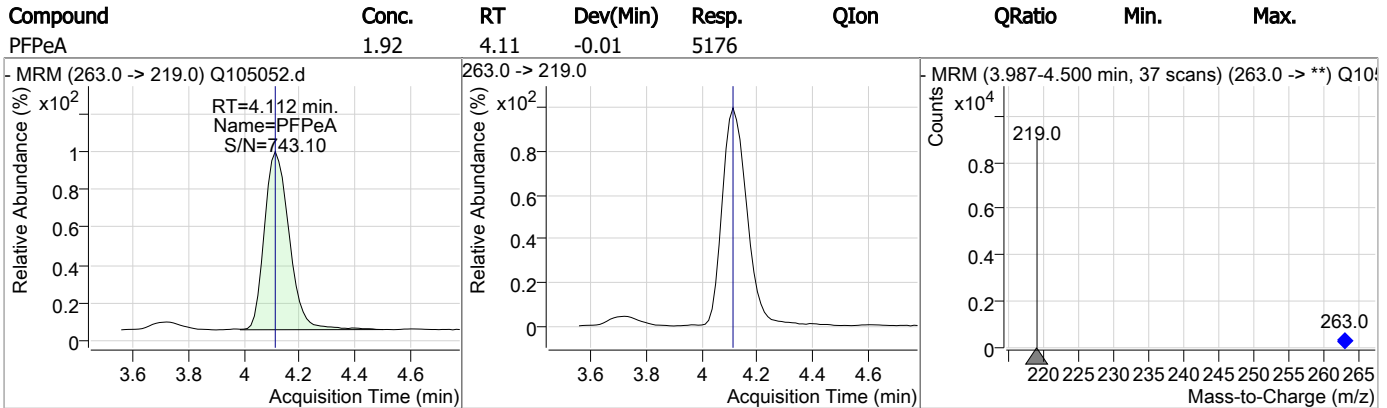
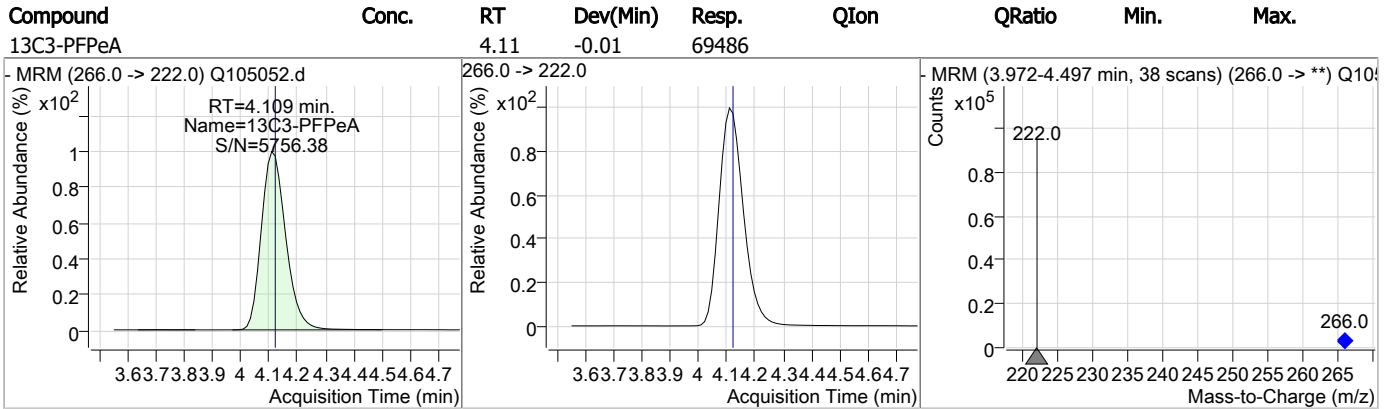
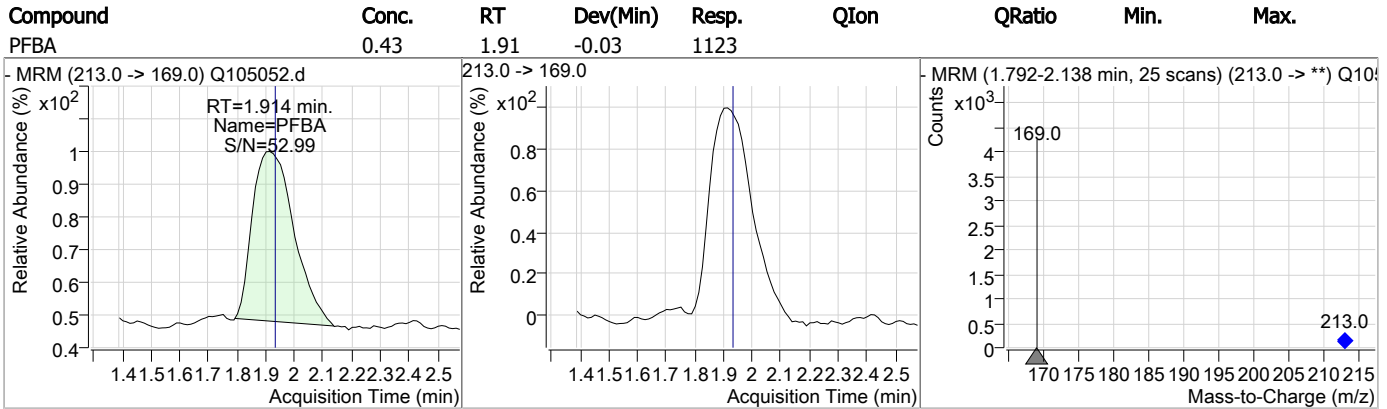
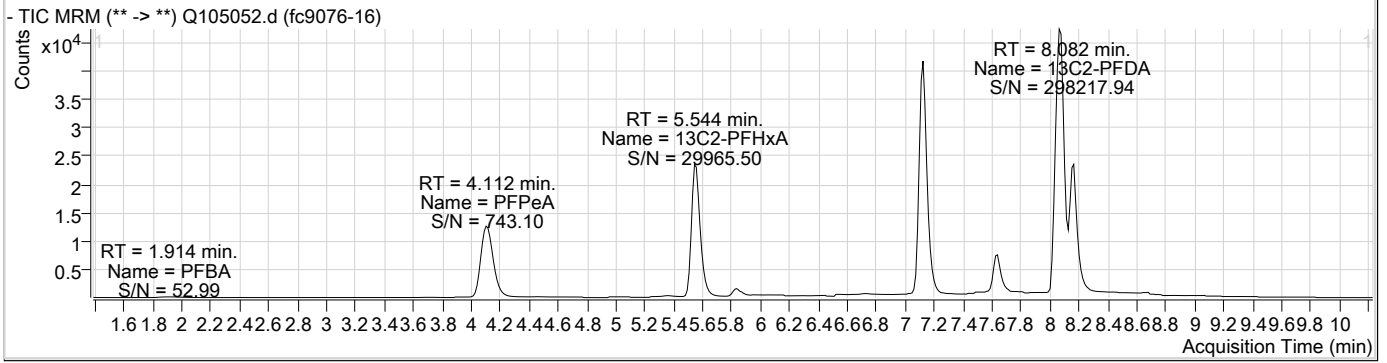
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.114	429.0 -> 409.0	42906	20.00 µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	118285	20.00 µg/L	-0.013
13C3-PFPeA	4.109	266.0 -> 222.0	69486	20.00 µg/L	-0.013
13C4-PFOS	7.641	503.0 -> 80.0	23475	20.00 µg/L	-0.013
d3-MeFOSAA	8.040	573.0 -> 419.0	74078	40.00 µg/L	-0.025
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	127374	22.12 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.6%	
13C2-PFHxA	5.544	315.0 -> 270.0	96201	21.91 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 109.5%	
d5-EtFOSAA	8.163	589.0 -> 419.0	72747	36.80 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 92.0%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	5573	42.04 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 105.1%	
<b>Target Compounds</b>					
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	1.914	213.0 -> 169.0	1123	0.43 µg/L	100
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	5.546	313.0 -> 269.0	2098	0.49 µg/L	99
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	4.112	263.0 -> 219.0	5176	1.92 µg/L	100
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

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

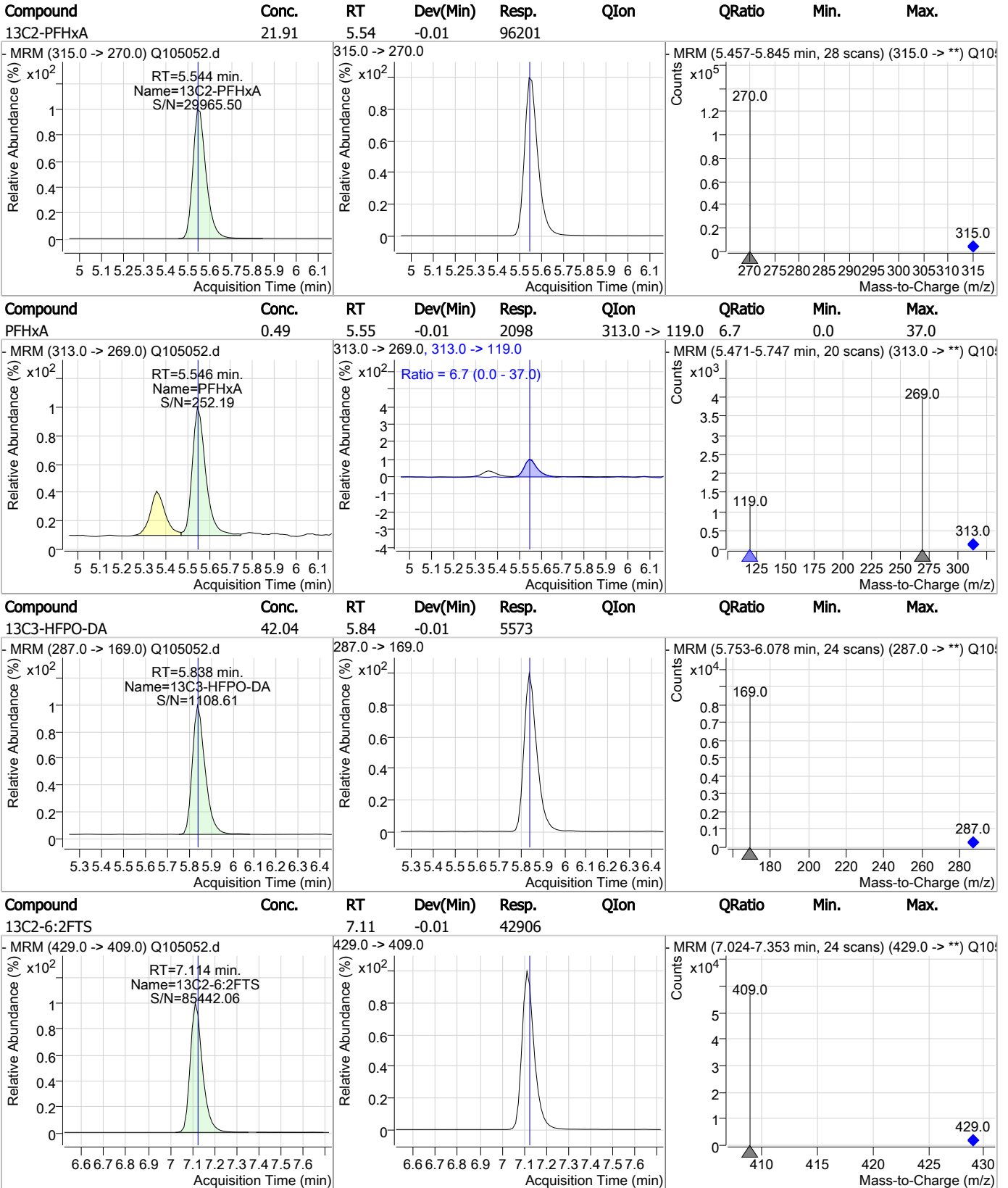
7.1.17  
7



### Perfluorinated Compounds by LC/MS/MS



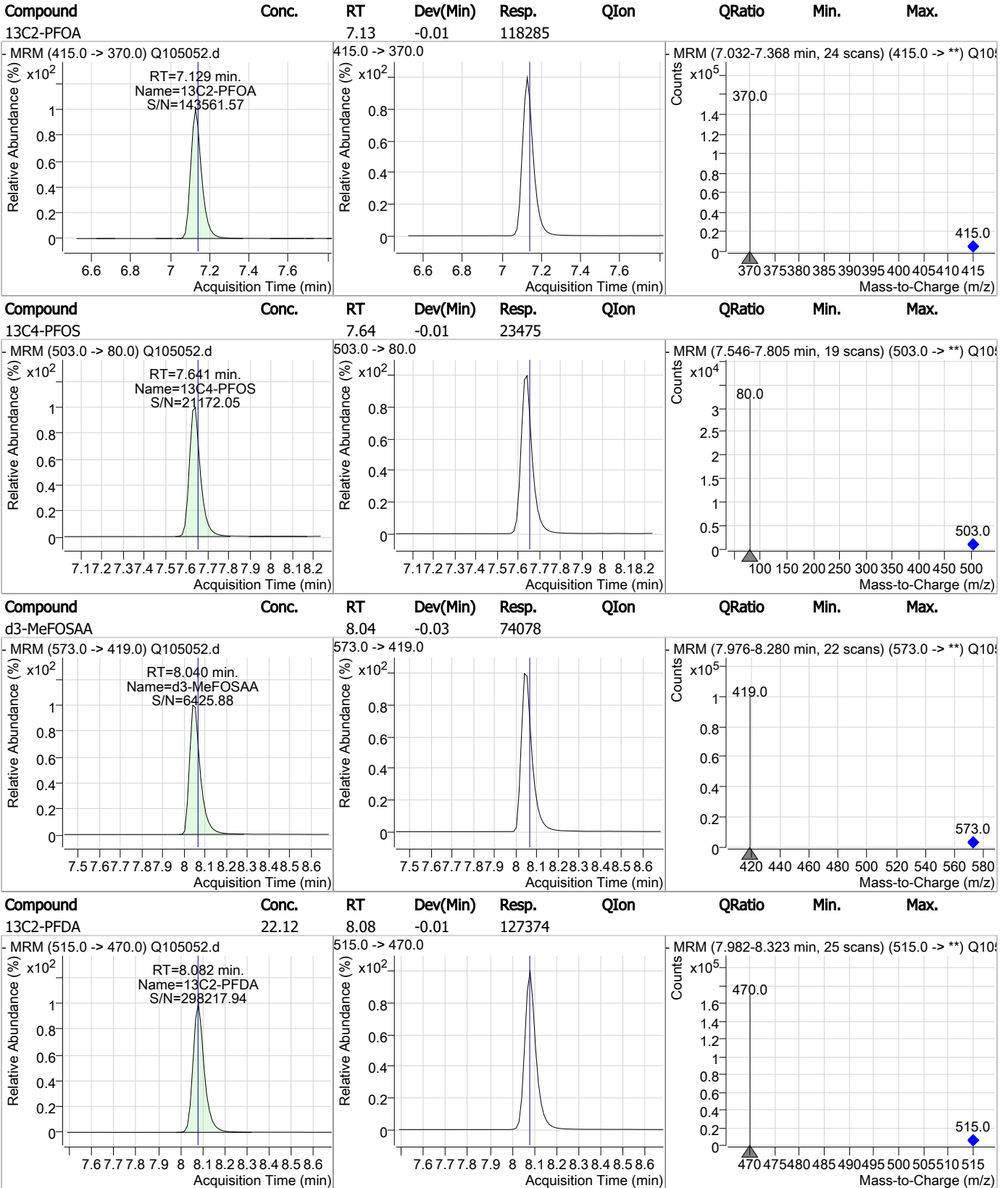
### Perfluorinated Compounds by LC/MS/MS



7.1.17



### Perfluorinated Compounds by LC/MS/MS

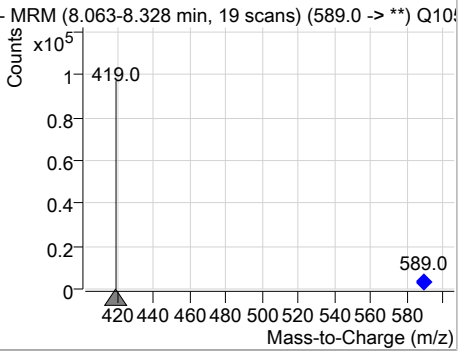
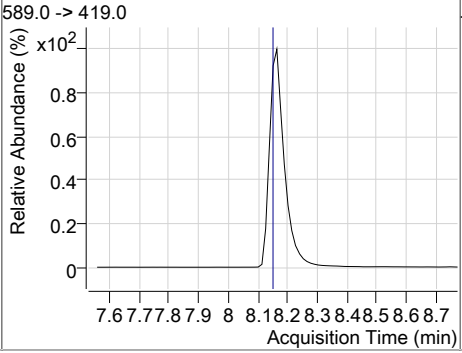
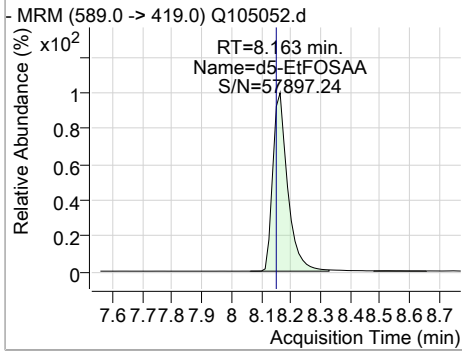


7.1.17



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	36.80	8.16	-0.01	72747				



7.1.17  
7



### Perfluorinated Compounds by LC/MS/MS

Data File : Q105057.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 11:43:40 PM  
 Sample Name : fc9076-17  
 Vial : P1-D5  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

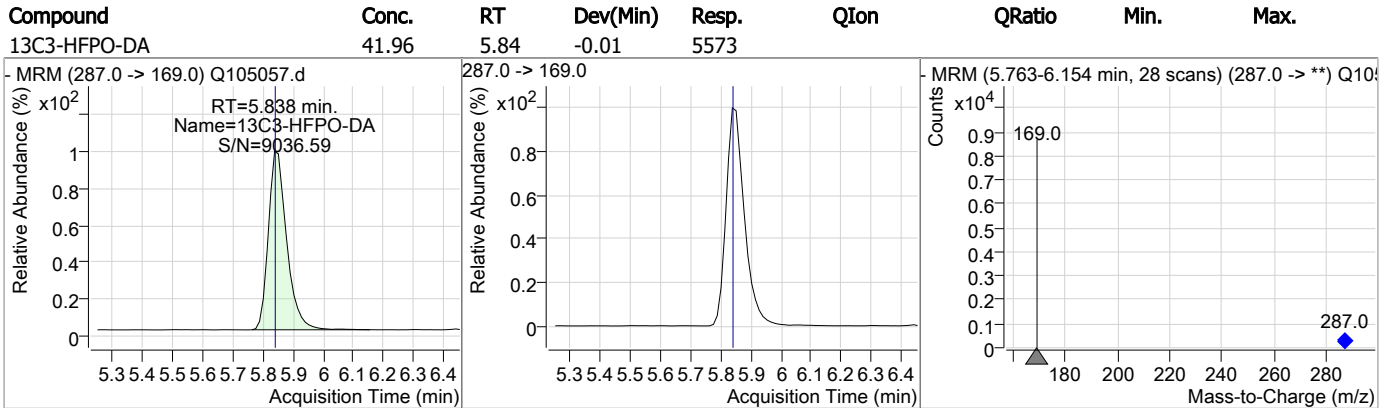
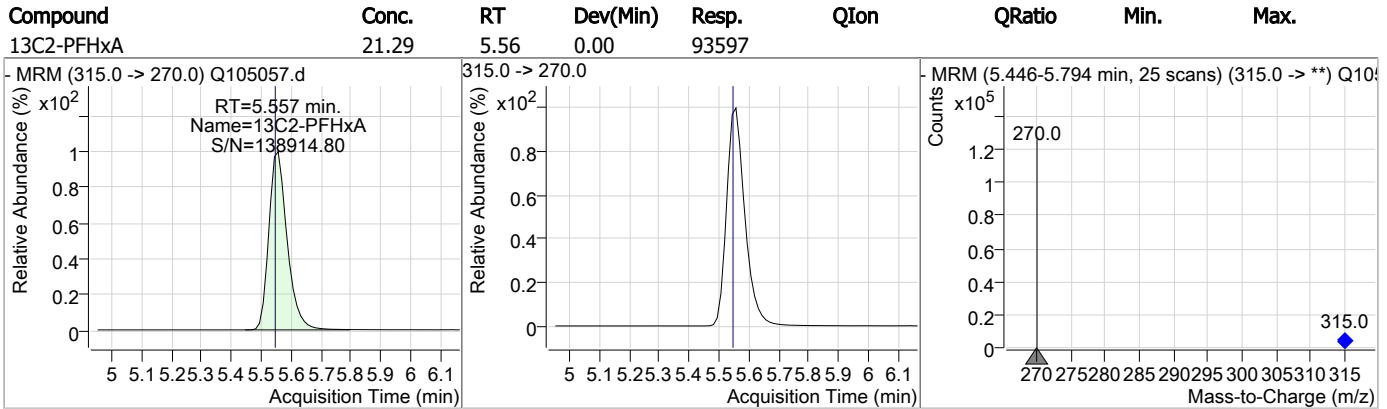
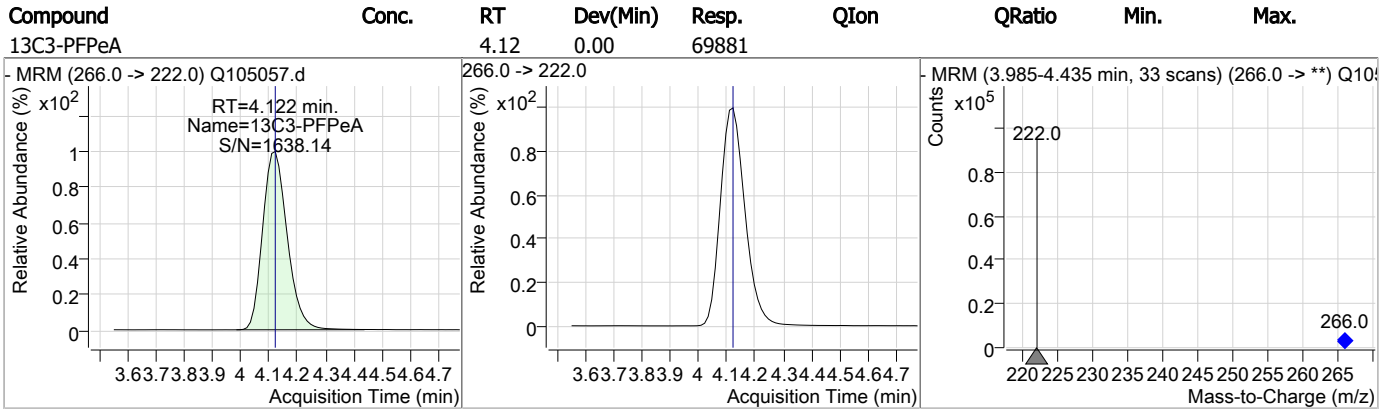
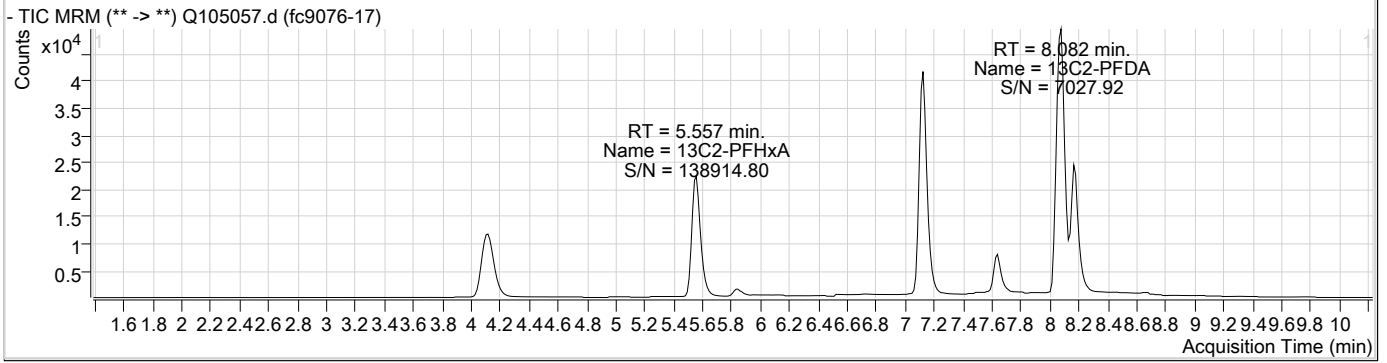
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.114	429.0 -> 409.0	42746	20.00	µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	118503	20.00	µg/L	-0.013
13C3-PFPeA	4.122	266.0 -> 222.0	69881	20.00	µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	24385	20.00	µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	75135	40.00	µg/L	-0.013
<b>System Monitoring Compounds</b>						
13C2-PFDA	8.082	515.0 -> 470.0	127518	22.10	µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.5%		
13C2-PFHxA	5.557	315.0 -> 270.0	93597	21.29	µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 106.4%		
d5-EtFOSAA	8.163	589.0 -> 419.0	75057	37.41	µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 93.5%		
13C3-HFPO-DA	5.838	287.0 -> 169.0	5573	41.96	µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 104.9%		
<b>Target Compounds</b>						
						<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFHpA	-	363.0 -> 319.0	-	N.D.		
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFOA	-	413.0 -> 369.0	-	N.D.		
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
HFPO-DA	5.840	285.0 -> 169.0	0	0.00	µg/L m	1

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

7.1.18  
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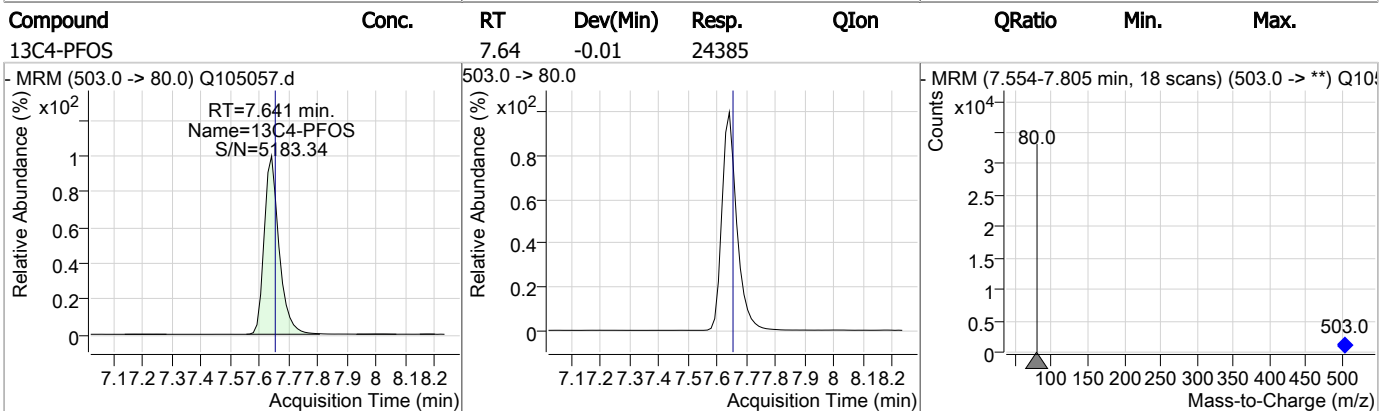
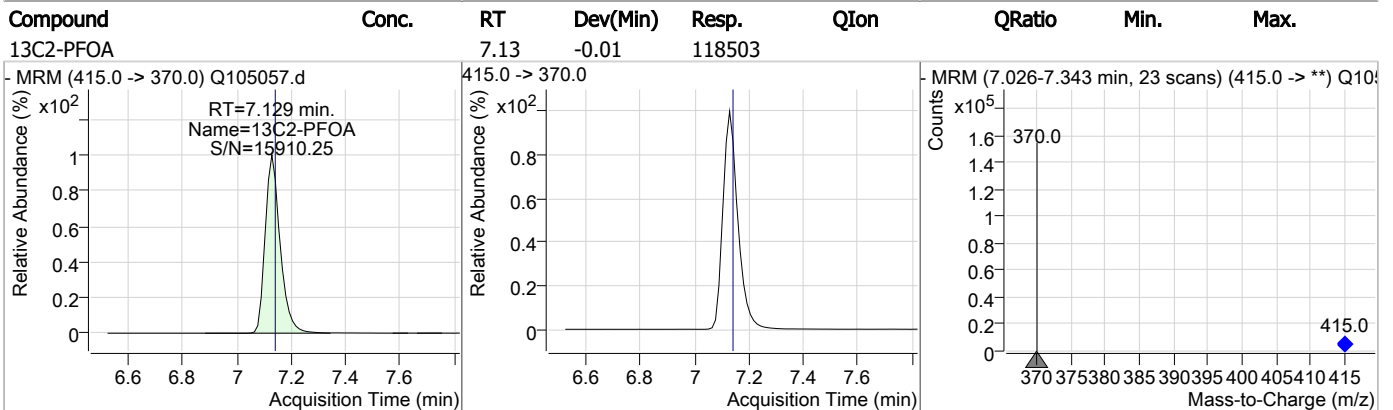
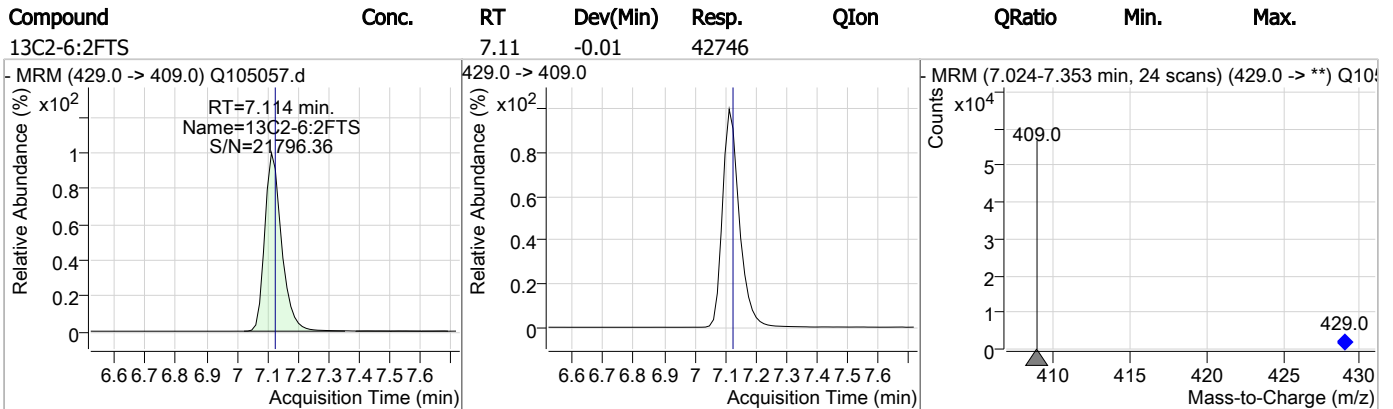
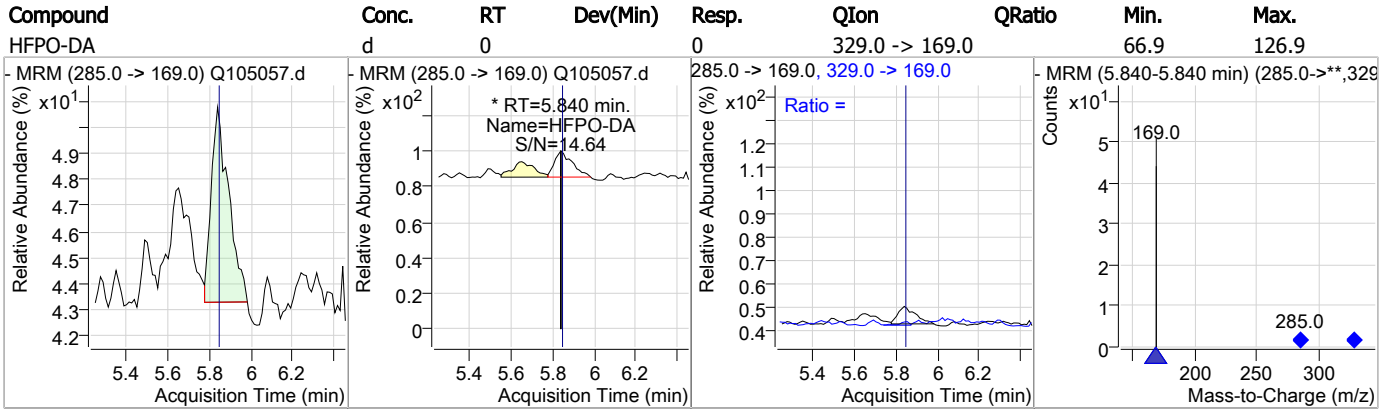


### Perfluorinated Compounds by LC/MS/MS



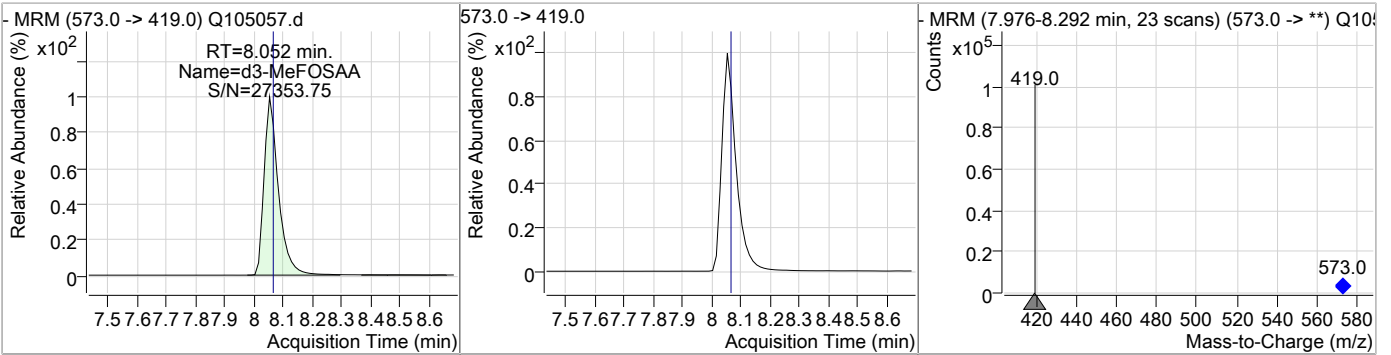


### Perfluorinated Compounds by LC/MS/MS

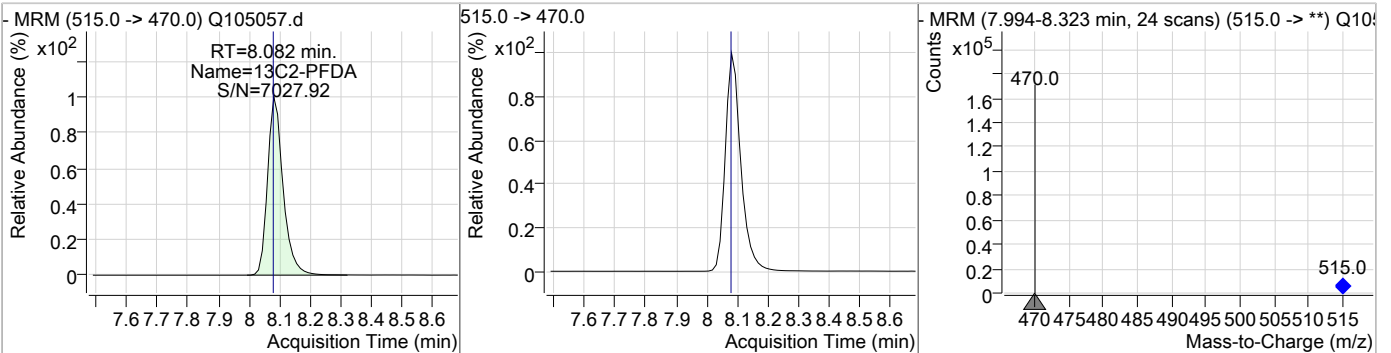


Perfluorinated Compounds by LC/MS/MS

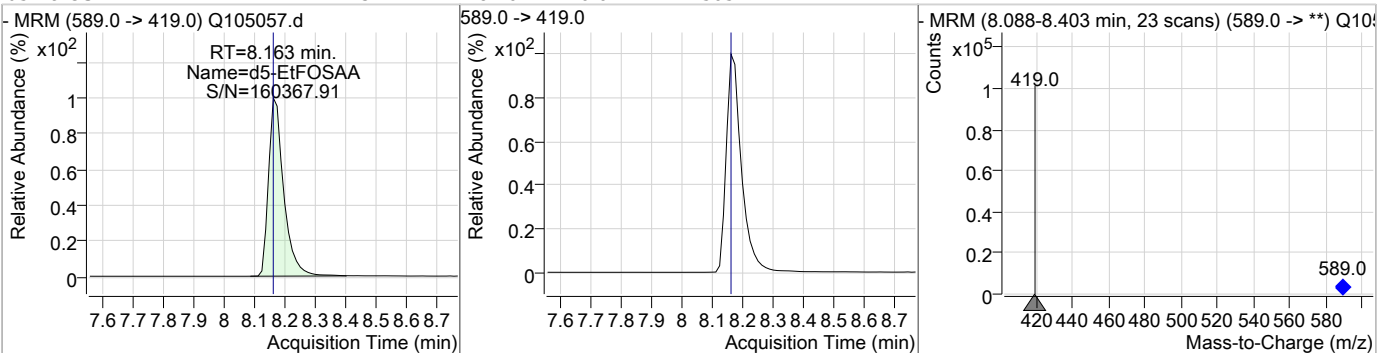
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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##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

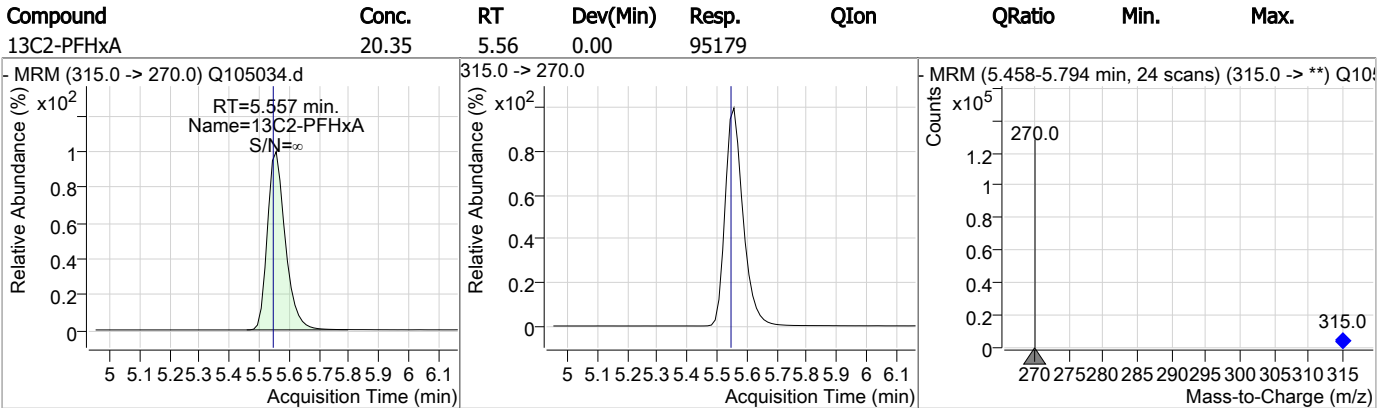
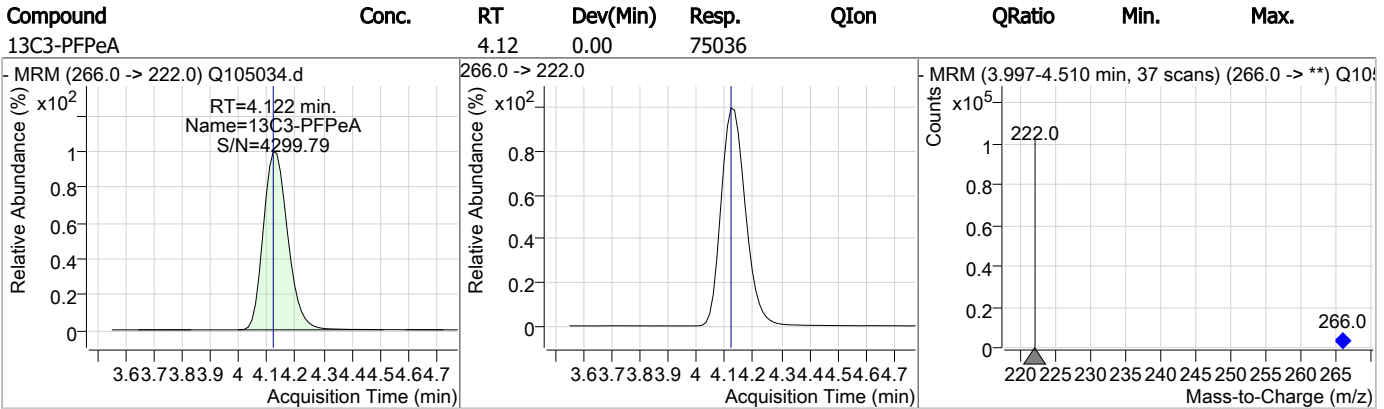
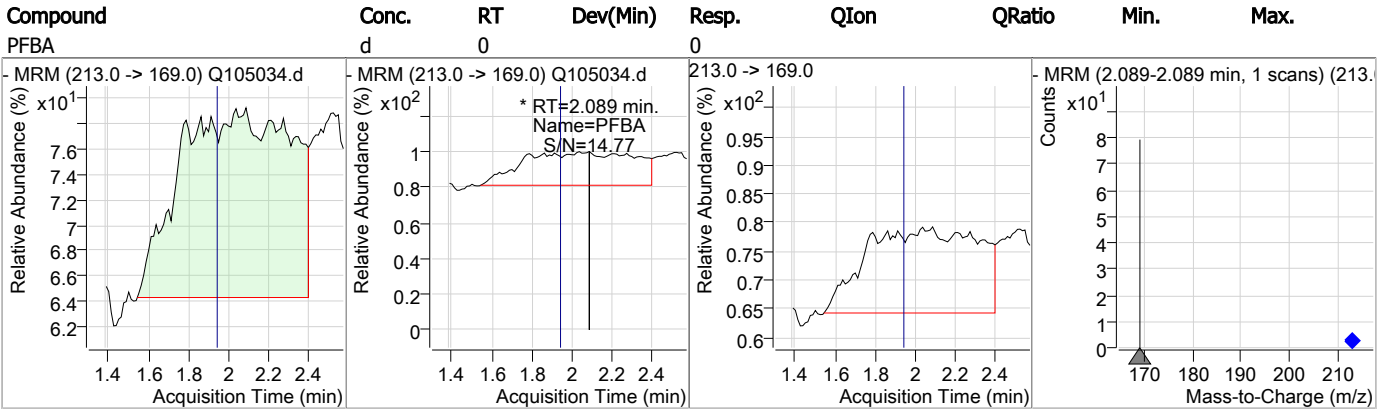
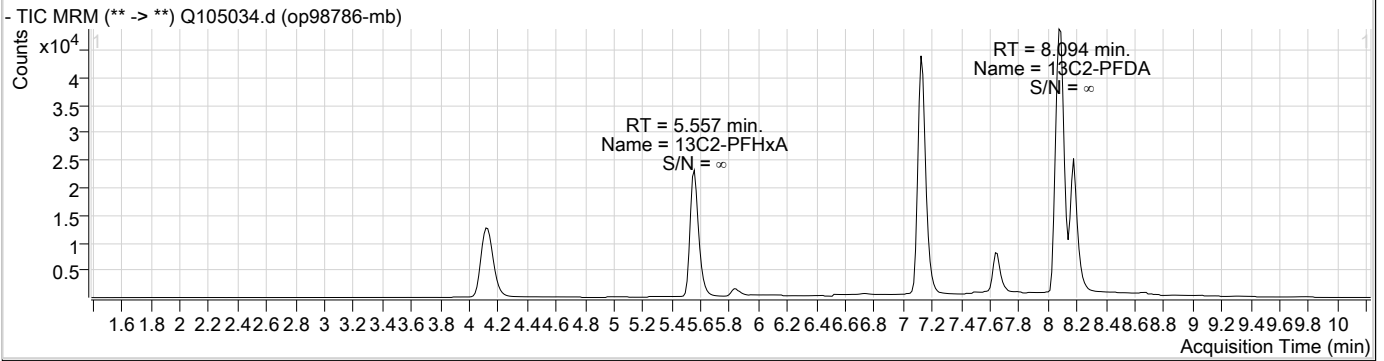
Data File : Q105034.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 5:40:46 PM  
 Sample Name : op98786-mb  
 Vial : P1-B4  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	44329	20.00 µg/L	0.000
13C2-PFOA	7.129	415.0 -> 370.0	126164	20.00 µg/L	-0.013
13C3-PFPeA	4.122	266.0 -> 222.0	75036	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	25553	20.00 µg/L	-0.013
d3-MeFOSAA	8.065	573.0 -> 419.0	78089	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	126438	20.58 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 102.9%	
13C2-PFHxA	5.557	315.0 -> 270.0	95179	20.35 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 101.8%	
d5-EtFOSAA	8.176	589.0 -> 419.0	75258	36.13 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 90.3%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	5691	40.25 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 100.6%	
<b>Target Compounds</b>					
					<b>QValue</b>
6:2FTS	-	427.0 -> 407.0	-	N.D.	
8:2FTS	-	527.0 -> 507.0	-	N.D.	
EtFOSAA	-	584.0 -> 419.0	-	N.D.	
MeFOSAA	-	570.0 -> 419.0	-	N.D.	
PFBA	2.089	213.0 -> 169.0	0	0.00 µg/L m	1
PFBS	-	299.0 -> 80.0	-	N.D.	
PFDA	-	513.0 -> 469.0	-	N.D.	
PFDoDA	-	613.0 -> 569.0	-	N.D.	
PFHpA	-	363.0 -> 319.0	-	N.D.	
PFHpS	-	449.0 -> 80.0	-	N.D.	
PFHxA	-	313.0 -> 269.0	-	N.D.	
PFHxS	-	399.0 -> 80.0	-	N.D.	
PFNA	-	463.0 -> 419.0	-	N.D.	
PFOA	-	413.0 -> 369.0	-	N.D.	
PFOS	-	499.0 -> 80.0	-	N.D.	
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFTeDA	-	713.0 -> 669.0	-	N.D.	
PFTrDA	-	663.0 -> 619.0	-	N.D.	
PFUnDA	-	563.0 -> 519.0	-	N.D.	
ADONA	-	377.0 -> 251.0	-	N.D.	
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.	
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.	
HFPO-DA	-	285.0 -> 169.0	-	N.D.	

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

7.2.1  
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### Perfluorinated Compounds by LC/MS/MS

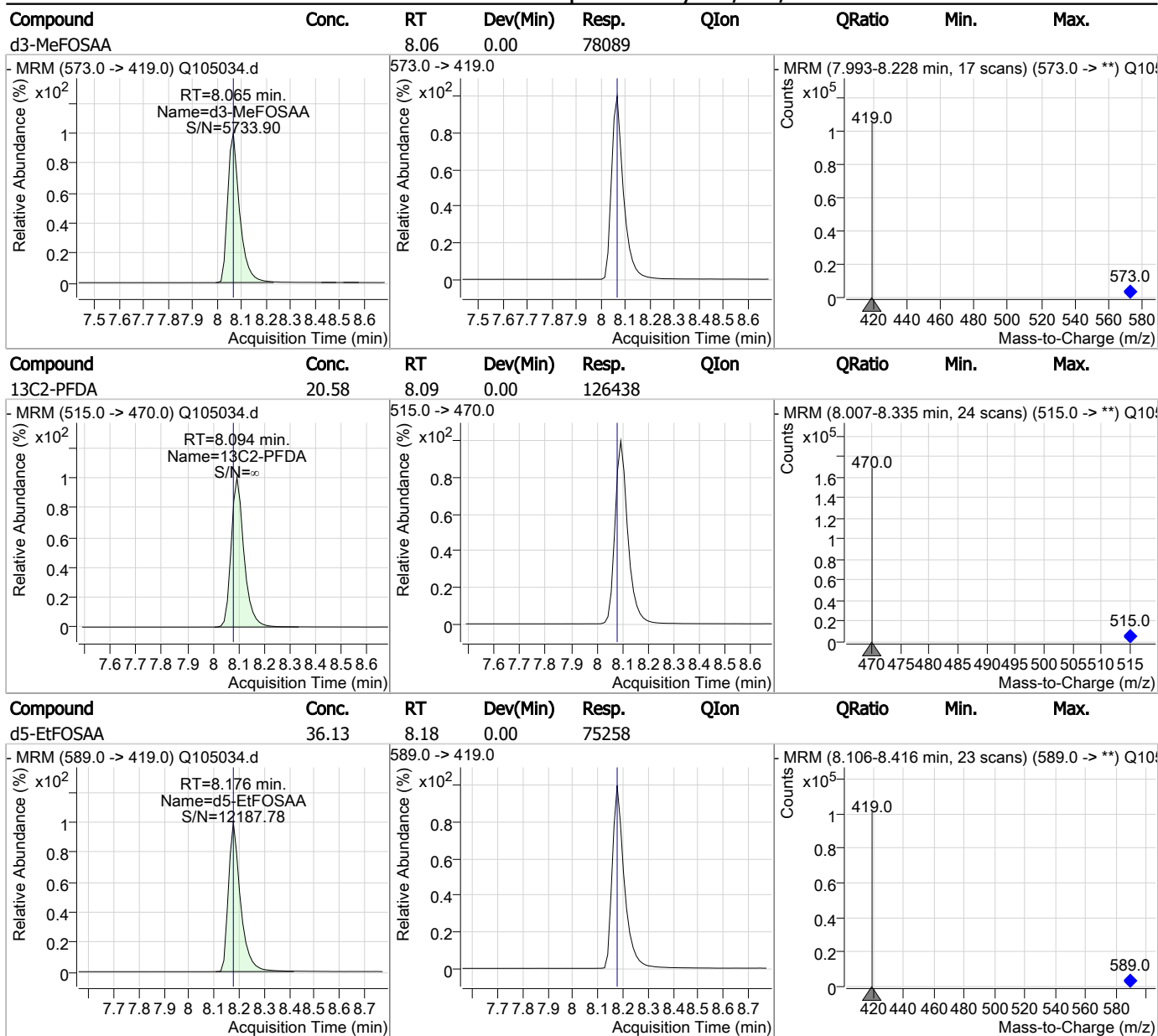


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	40.25	5.84	-0.01	5691				
-MRM (287.0 -> 169.0) Q105034.d RT=5.838 min. Name=13C3-HFPO-DA S/N=1238.29					287.0 -> 169.0 			
13C2-6:2FTS		7.13	0.00	44329				
-MRM (429.0 -> 409.0) Q105034.d RT=7.126 min. Name=13C2-6:2FTS S/N=554948.38					429.0 -> 409.0 			
13C2-PFOA		7.13	-0.01	126164				
-MRM (415.0 -> 370.0) Q105034.d RT=7.129 min. Name=13C2-PFOA S/N=894532.72					415.0 -> 370.0 			
13C4-PFOS		7.64	-0.01	25553				
-MRM (503.0 -> 80.0) Q105034.d RT=7.641 min. Name=13C4-PFOS S/N=15591.98					503.0 -> 80.0 			

7.2.1  
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### Perfluorinated Compounds by LC/MS/MS



7.2.1  
7

## Perfluorinated Compounds by LC/MS/MS

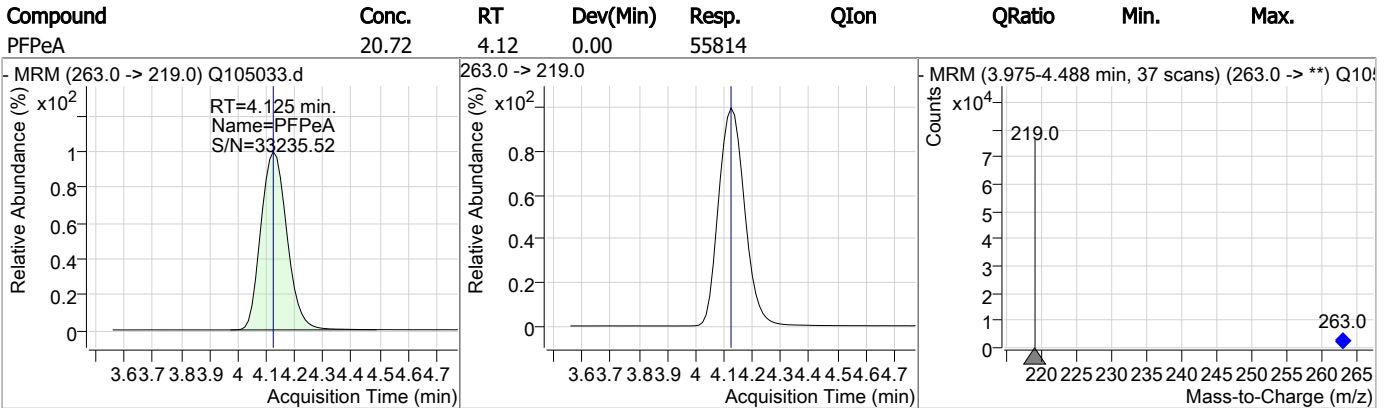
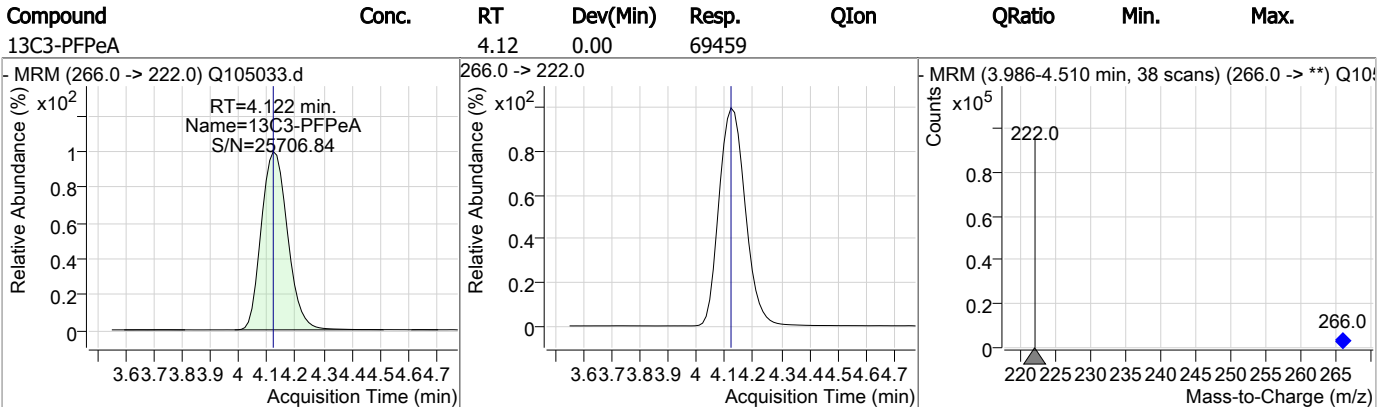
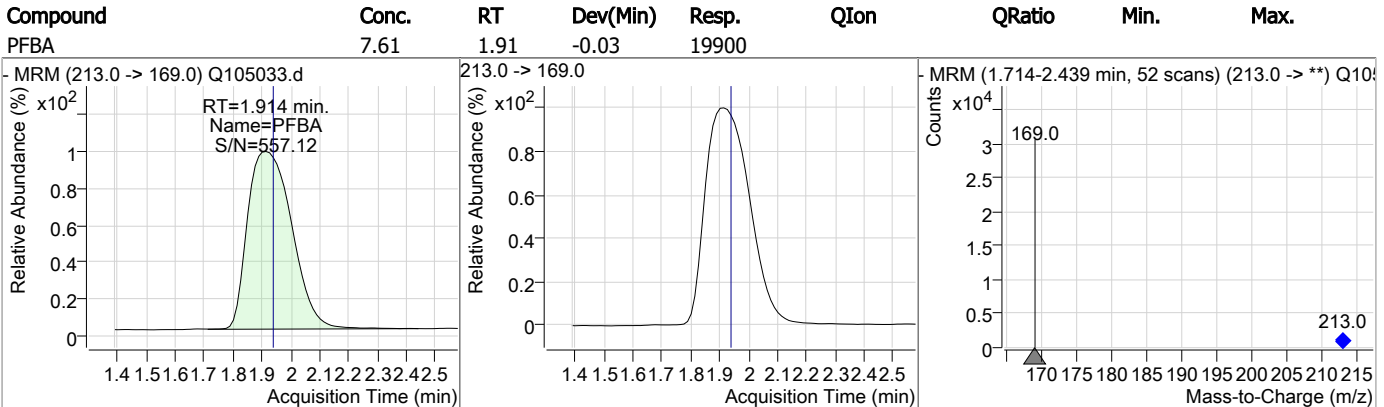
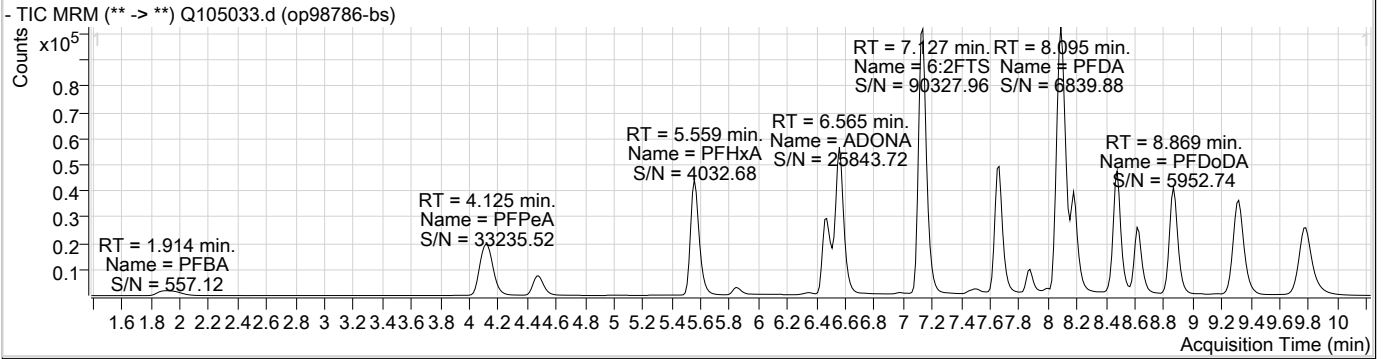
Data File : Q105033.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 5:24:59 PM  
 Sample Name : op98786-bs  
 Vial : P1-B3  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	43798	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	115805	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	69459	20.00 µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	23393	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	73458	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	123649	21.93 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 109.6%	
13C2-PFHxA	5.557	315.0 -> 270.0	95225	22.14 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 110.7%	
d5-EtFOSAA	8.176	589.0 -> 419.0	70226	35.85 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 89.6%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5596	43.12 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 107.8%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	45409	18.88 µg/L	100
8:2FTS	8.118	527.0 -> 507.0	45488	19.39 µg/L	99
EtFOSAA	8.177	584.0 -> 419.0	32460	18.19 µg/L	m 95
MeFOSAA	8.065	570.0 -> 419.0	33271	17.84 µg/L	m 88
PFBA	1.914	213.0 -> 169.0	19900	7.61 µg/L	100
PFBS	4.478	299.0 -> 80.0	26964	19.23 µg/L	100
PFDA	8.095	513.0 -> 469.0	123026	21.09 µg/L	100
PFDoDA	8.869	613.0 -> 569.0	162502	15.97 µg/L	100
PFHpA	6.464	363.0 -> 319.0	103645	19.59 µg/L	100
PFHpS	7.137	449.0 -> 80.0	19466	20.52 µg/L	99
PFHxA	5.559	313.0 -> 269.0	83118	19.74 µg/L	100
PFHxS	6.506	399.0 -> 80.0	20334	19.78 µg/L	m 97
PFNA	7.667	463.0 -> 419.0	107984	21.40 µg/L	100
PFOA	7.142	413.0 -> 369.0	118222	20.94 µg/L	100
PFOS	7.654	499.0 -> 80.0	24619	17.75 µg/L	m 85
PFPeA	4.125	263.0 -> 219.0	55814	20.72 µg/L	100
PFTeDA	9.777	713.0 -> 669.0	163360	15.61 µg/L	100
PFTrDA	9.319	663.0 -> 619.0	184732	15.55 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	137516	19.00 µg/L	99
ADONA	6.565	377.0 -> 251.0	151146	20.10 µg/L	99
9Cl-PF3ONS	7.879	531.0 -> 351.0	24530	19.18 µg/L	95
11Cl-PF3OUdS	8.614	631.0 -> 451.0	71780	15.52 µg/L	98
HFPO-DA	5.853	285.0 -> 169.0	3309	20.13 µg/L	96

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

7.3.1  
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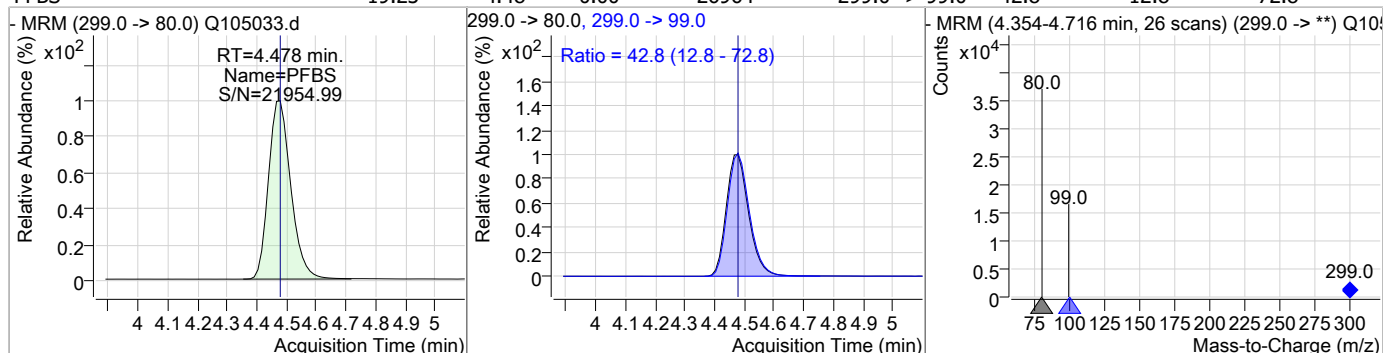
### Perfluorinated Compounds by LC/MS/MS



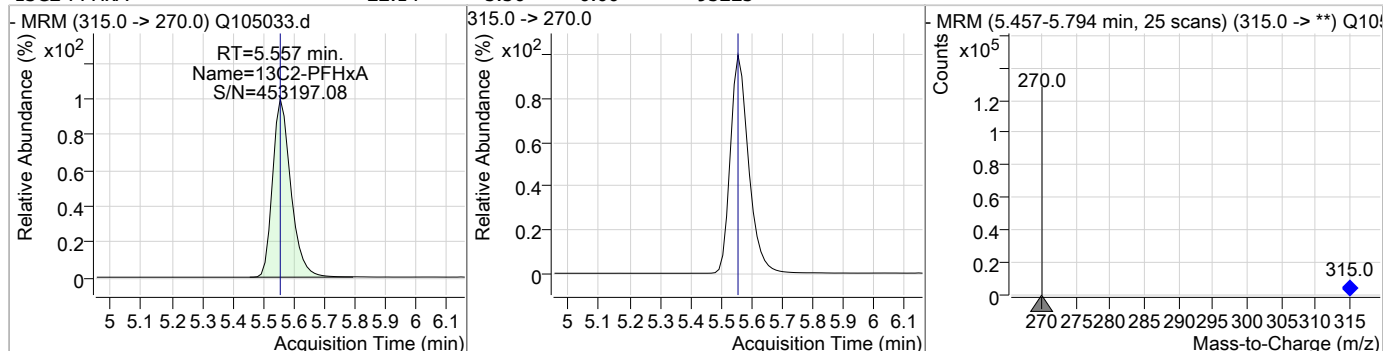


### Perfluorinated Compounds by LC/MS/MS

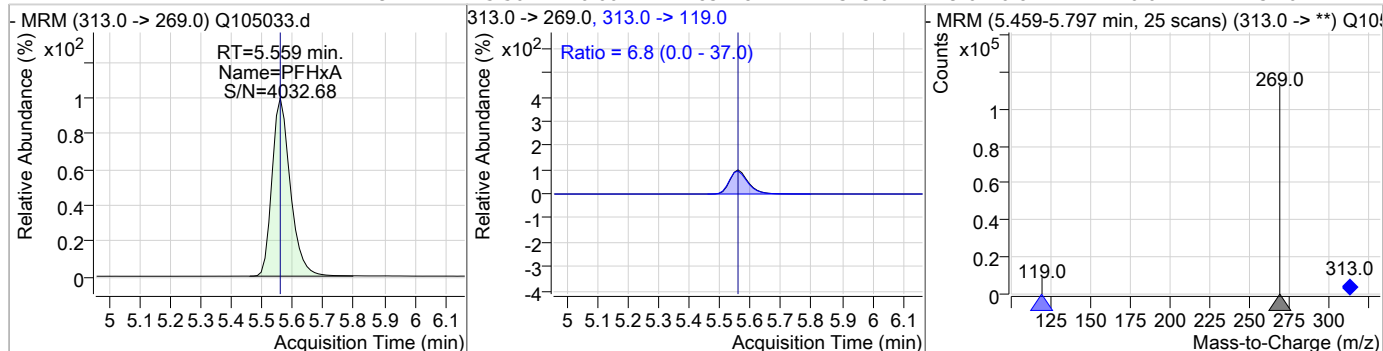
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.23	4.48	0.00	26964	299.0 -> 99.0	42.8	12.8	72.8



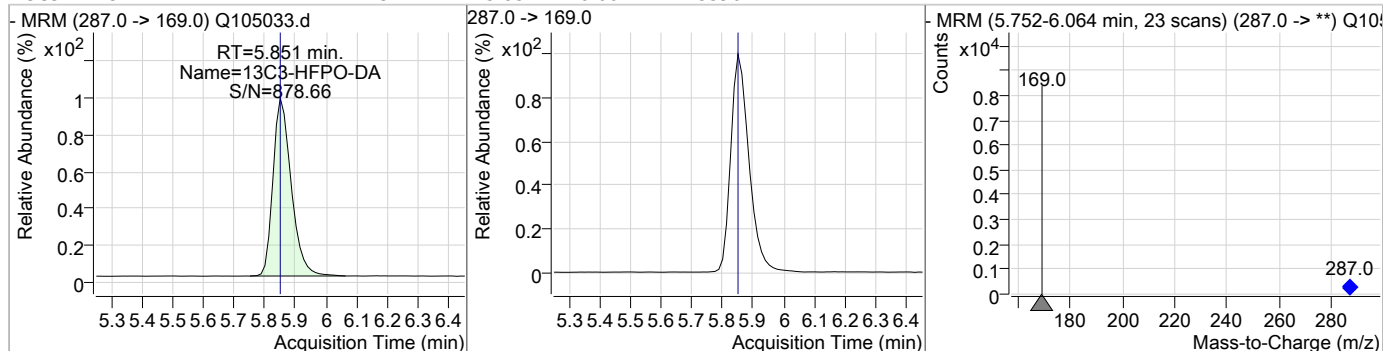
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	22.14	5.56	0.00	95225				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.74	5.56	0.00	83118	313.0 -> 119.0	6.8	0.0	37.0

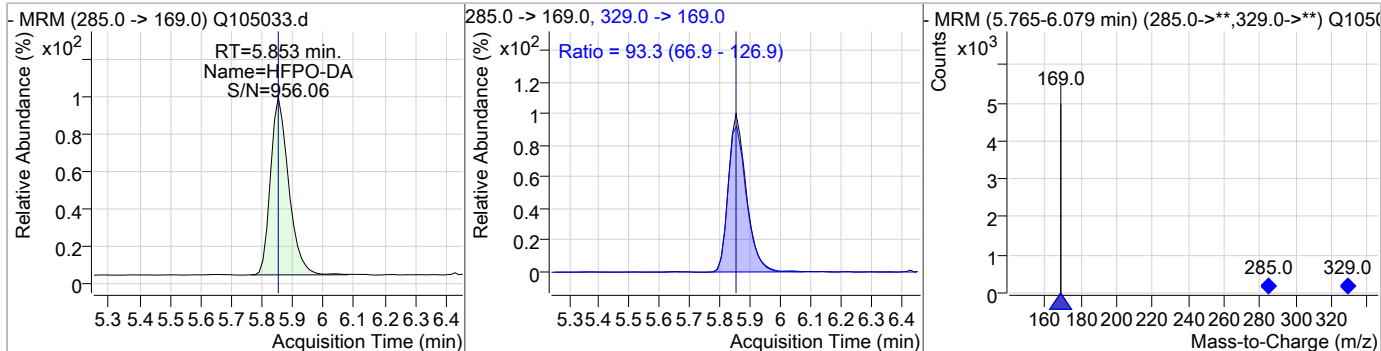


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	43.12	5.85	0.00	5596				

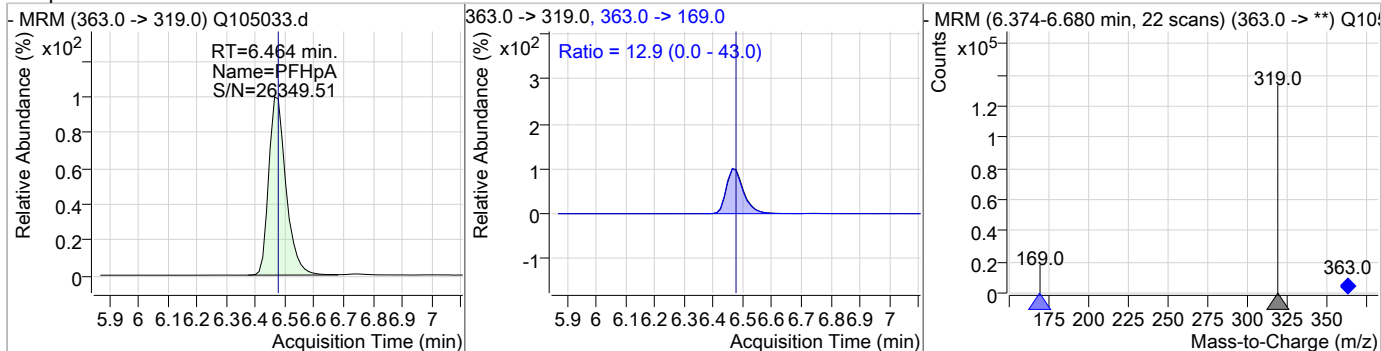


### Perfluorinated Compounds by LC/MS/MS

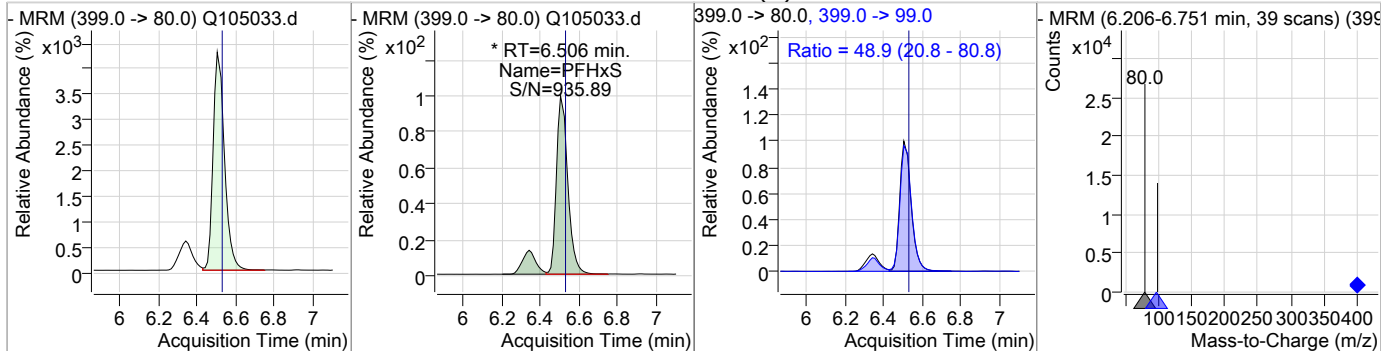
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.13	5.85	0.00	3309	329.0 -> 169.0	93.3	66.9	126.9



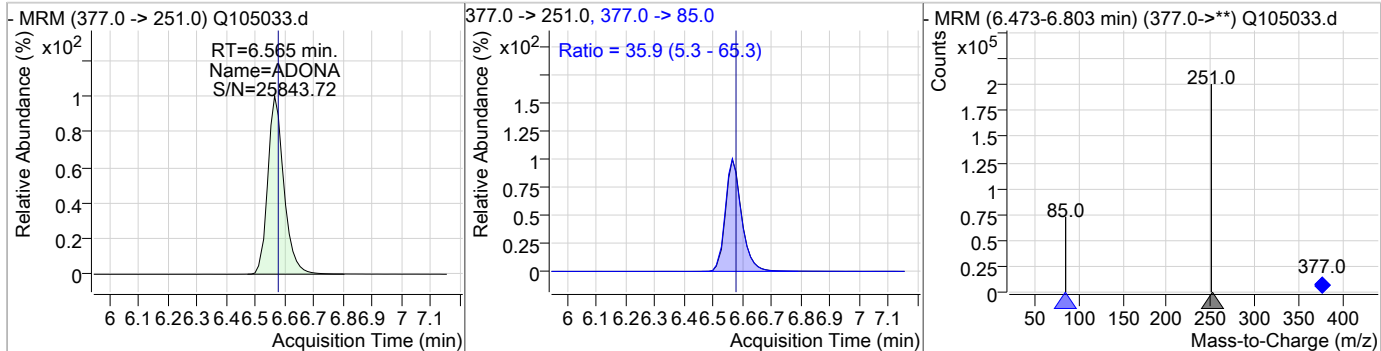
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.59	6.46	-0.01	103645	363.0 -> 169.0	12.9	0.0	43.0



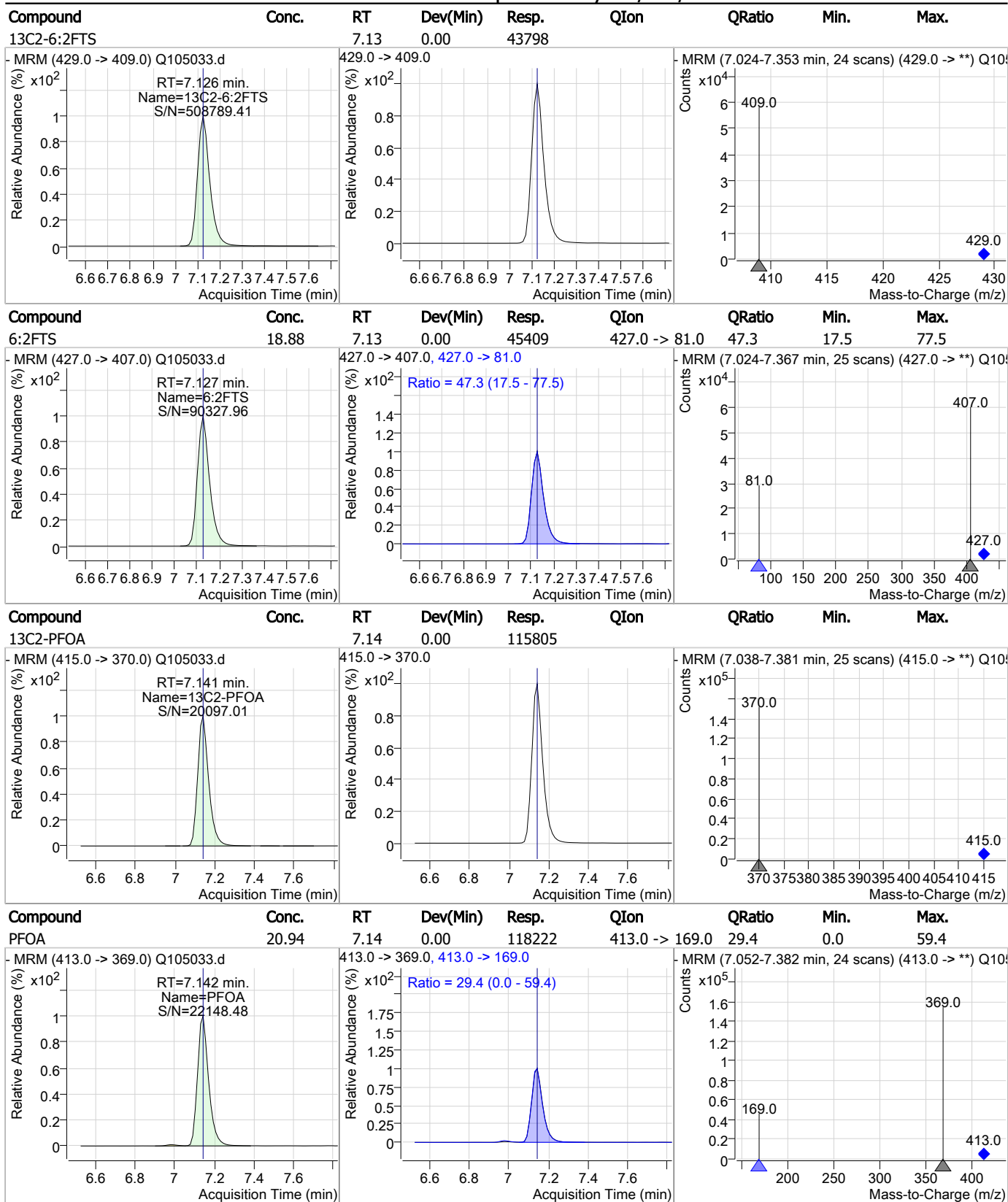
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.78	6.51	-0.02	20334 (m)	399.0 -> 99.0	48.9	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	20.10	6.57	-0.01	151146	377.0 -> 85.0	35.9	5.3	65.3

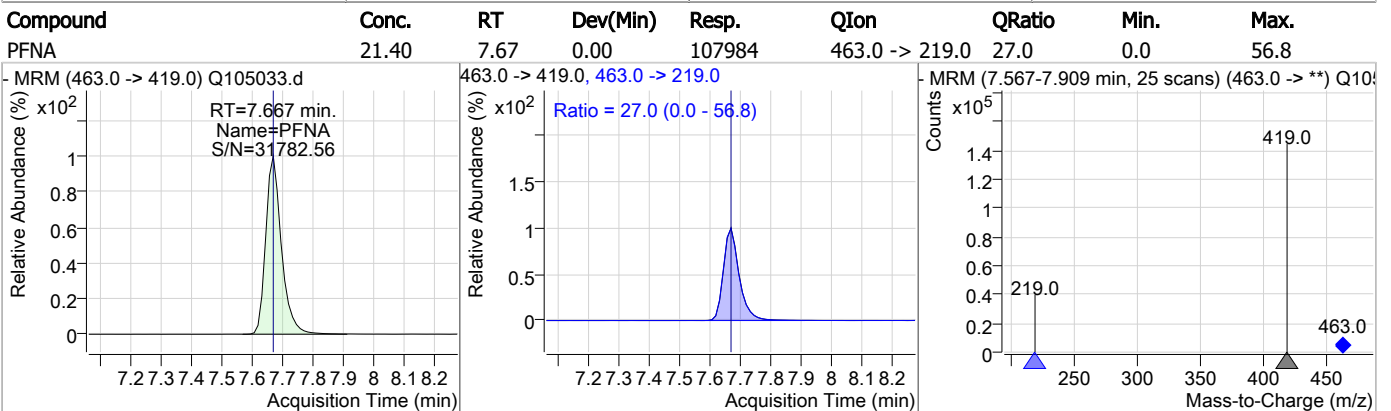
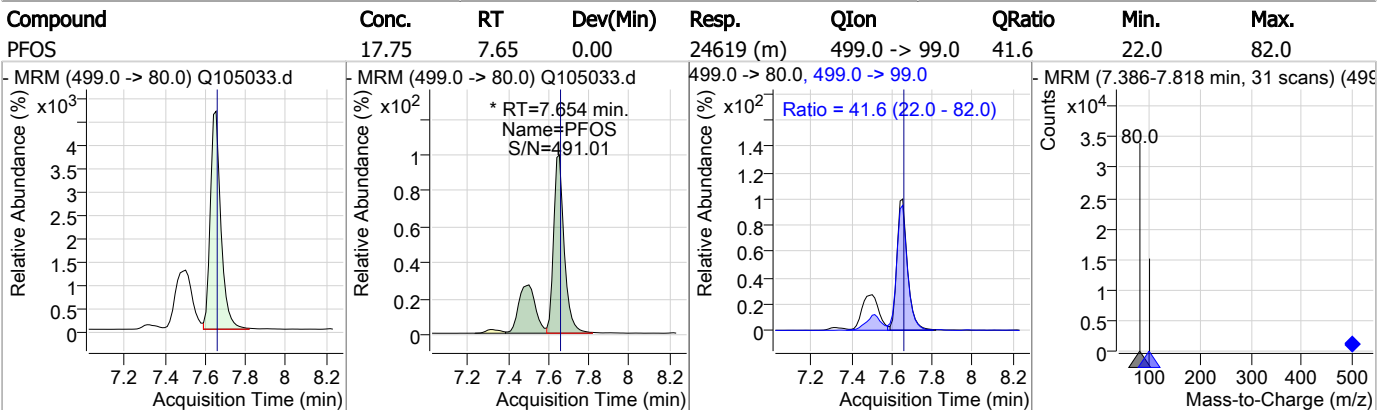
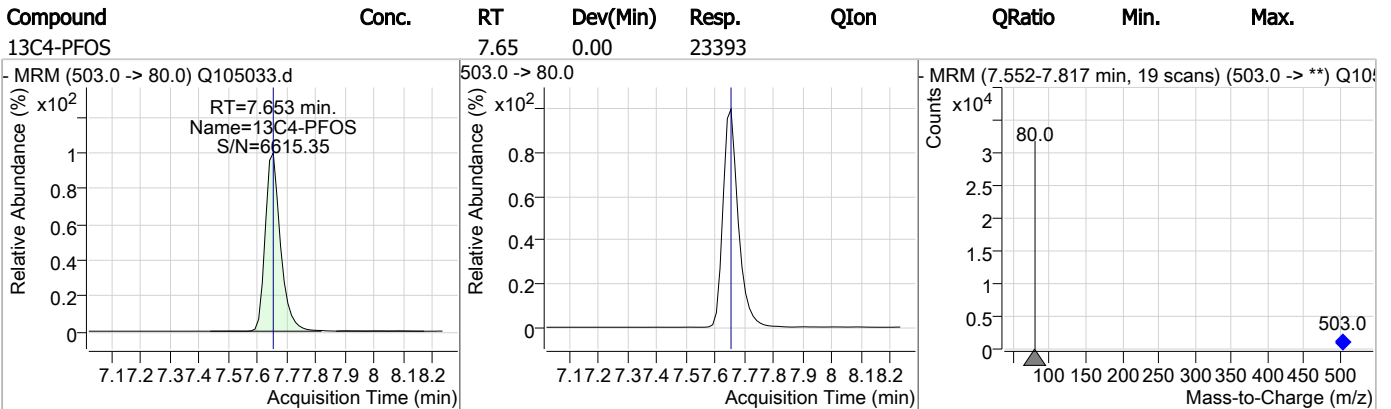
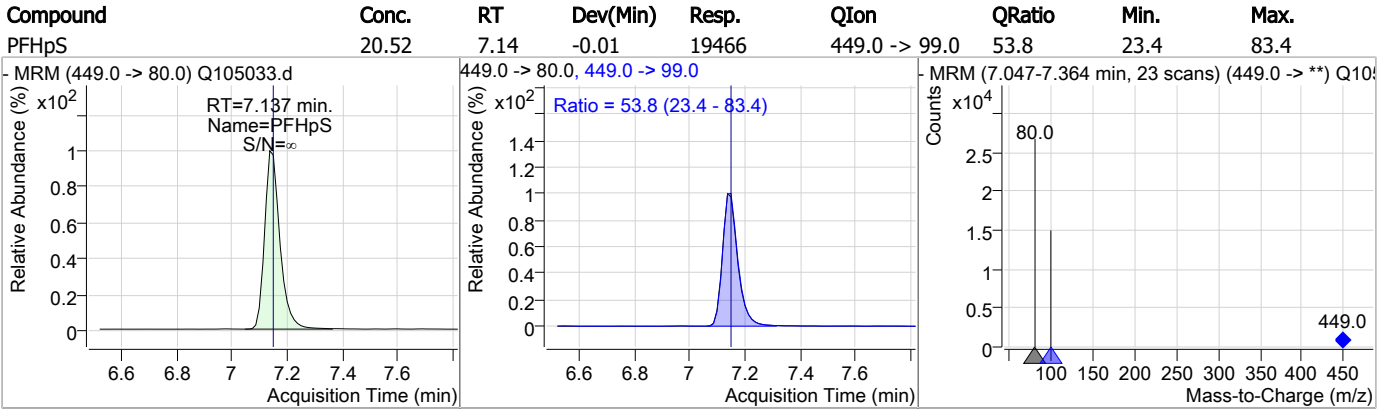


### Perfluorinated Compounds by LC/MS/MS



7.3.1  
7

### Perfluorinated Compounds by LC/MS/MS

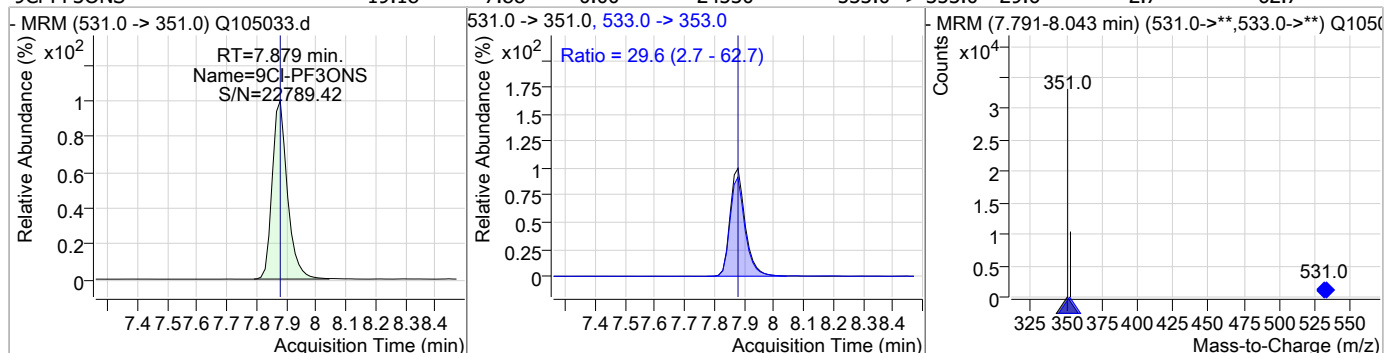


7.3.1

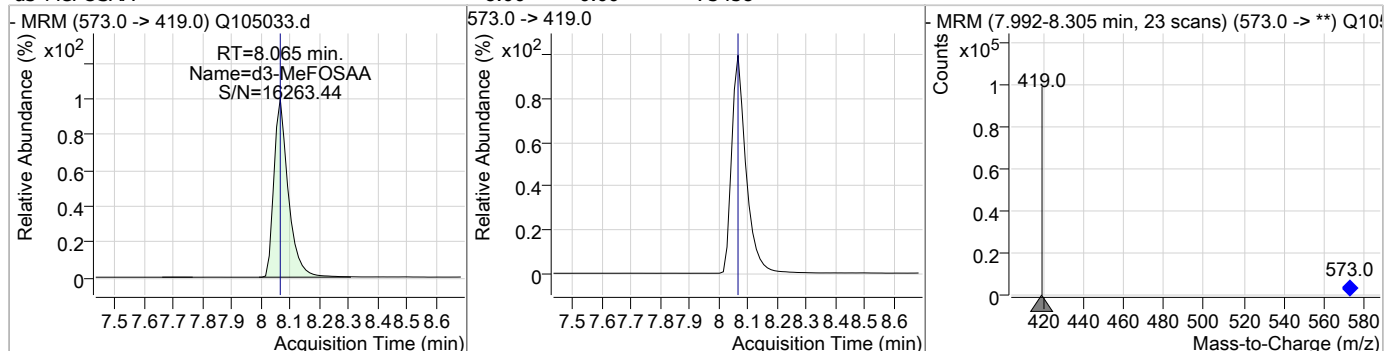
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### Perfluorinated Compounds by LC/MS/MS

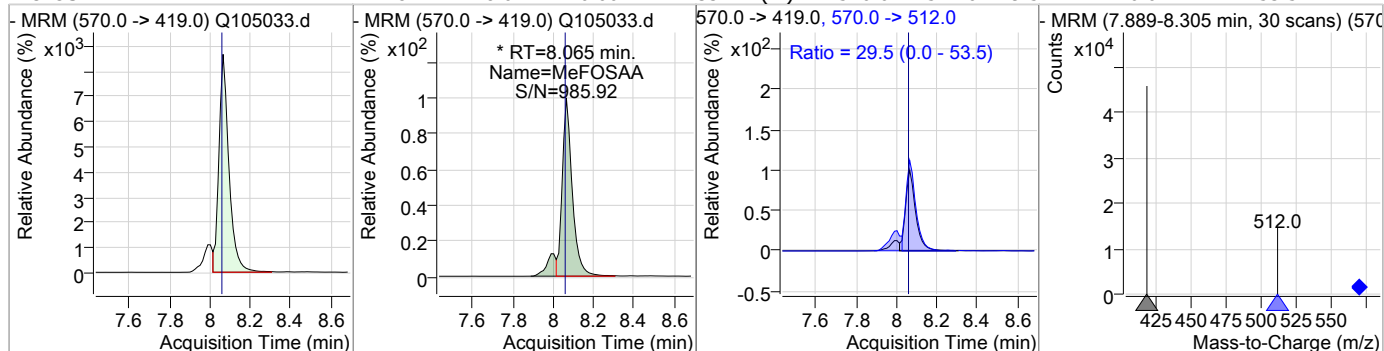
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	19.18	7.88	0.00	24530	533.0 -> 353.0	29.6	2.7	62.7



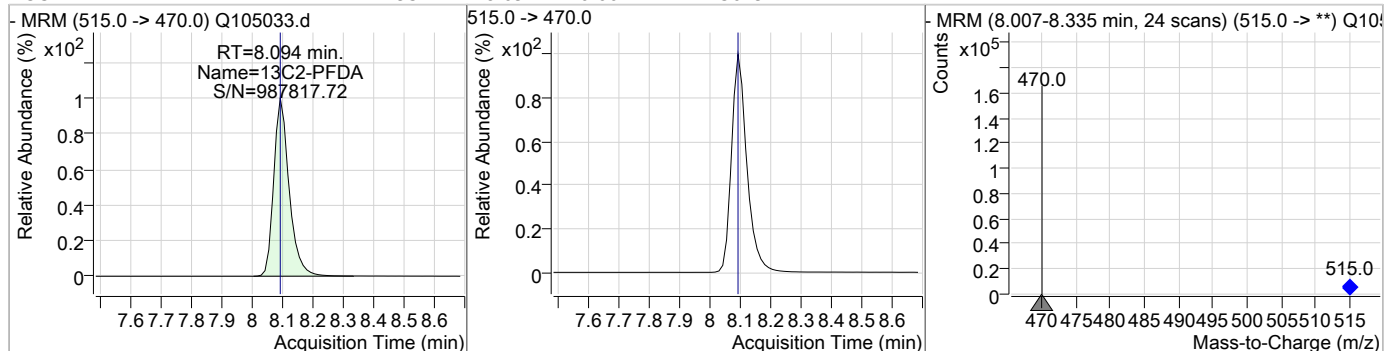
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	73458				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	17.84	8.07	0.00	33271 (m)	570.0 -> 512.0	29.5	0.0	53.5

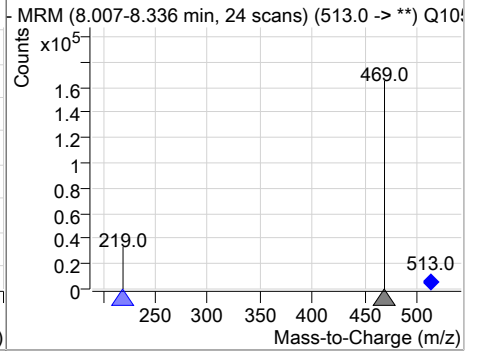
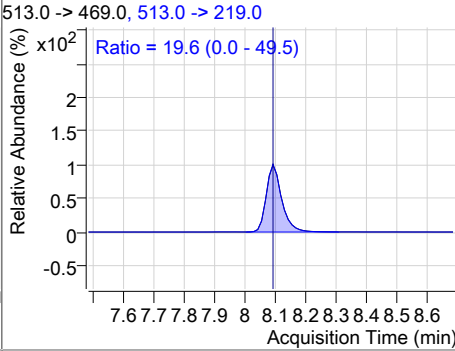
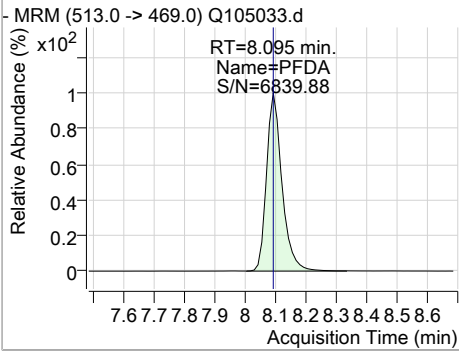


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.93	8.09	0.00	123649				

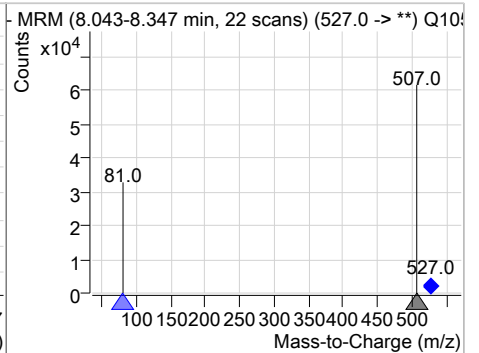
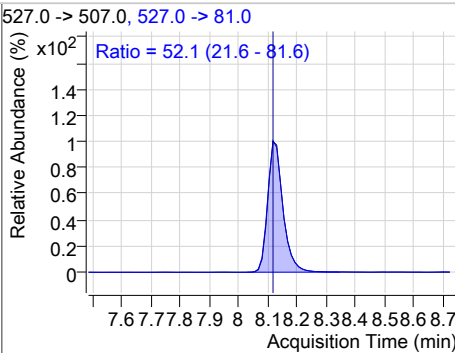
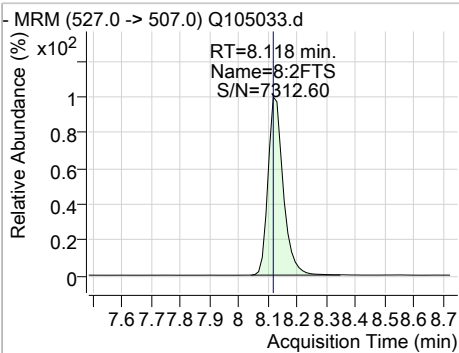


### Perfluorinated Compounds by LC/MS/MS

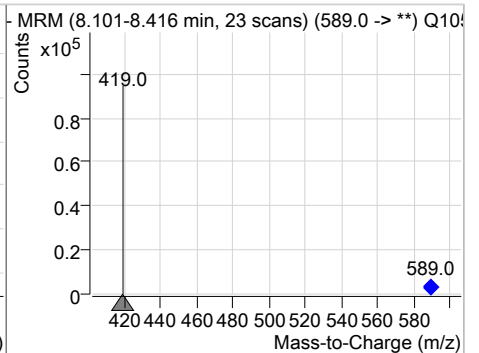
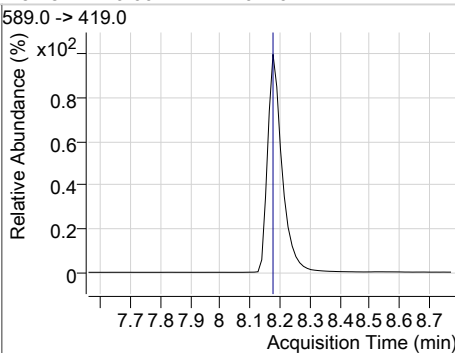
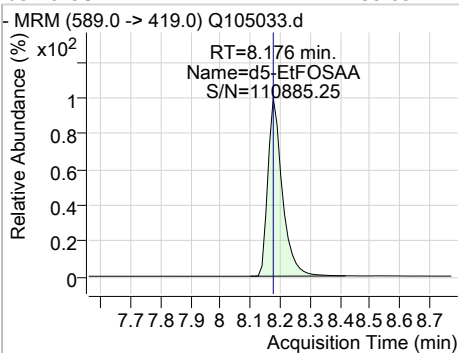
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.09	8.09	0.00	123026	513.0 -> 219.0	19.6	0.0	49.5



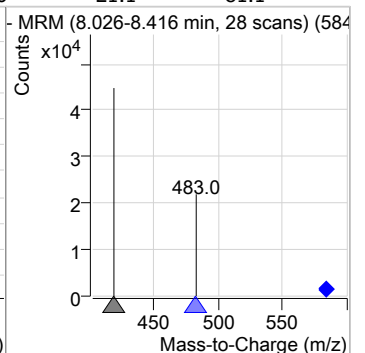
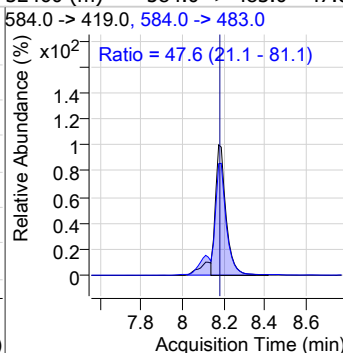
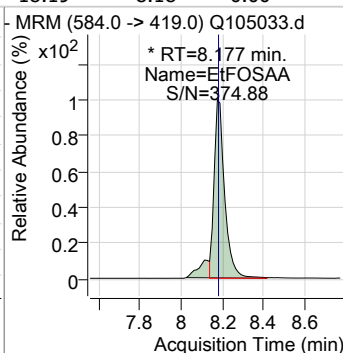
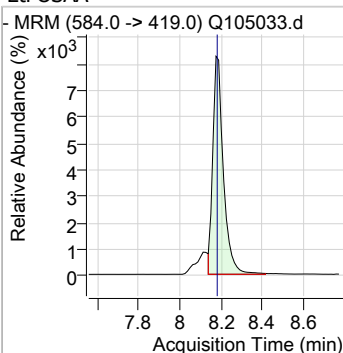
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.39	8.12	0.00	45488	527.0 -> 81.0	52.1	21.6	81.6



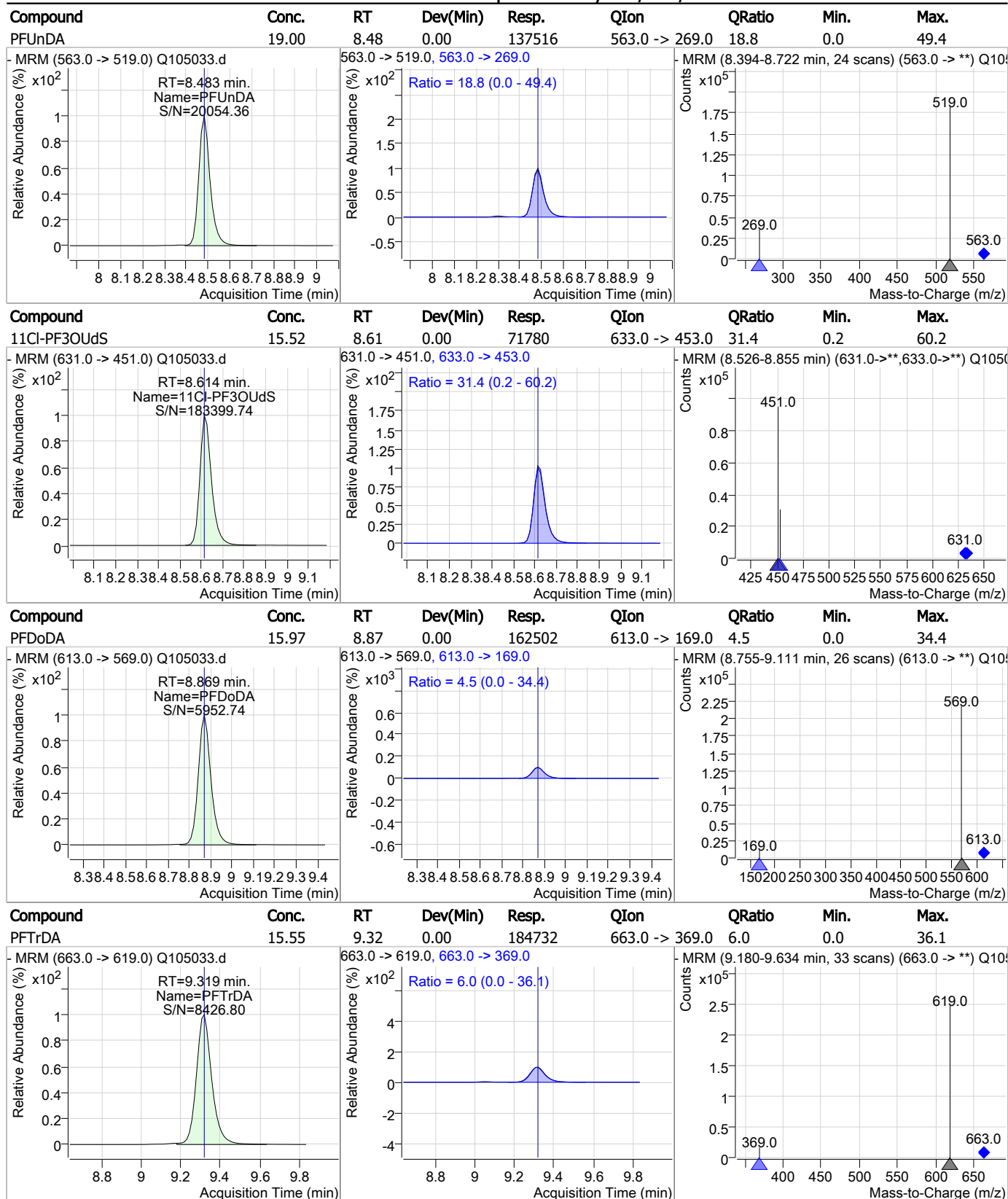
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	35.85	8.18	0.00	70226	589.0 -> 419.0	47.6	21.1	81.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	18.19	8.18	0.00	32460 (m)	584.0 -> 483.0	47.6	21.1	81.1



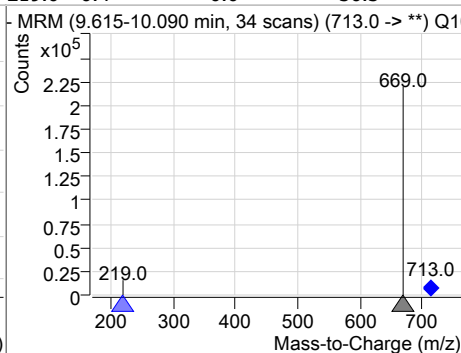
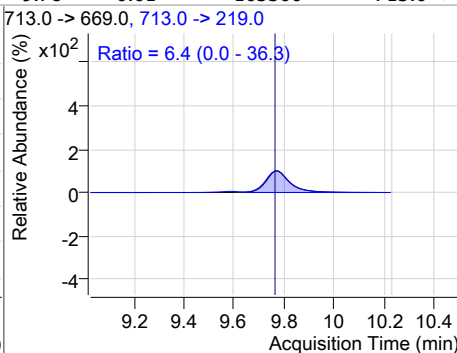
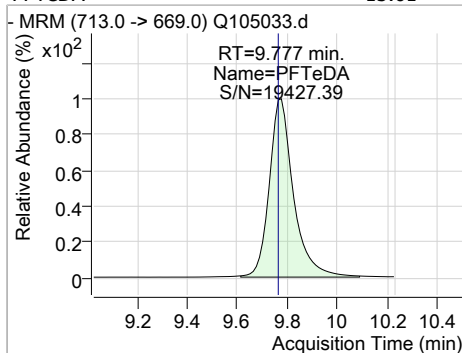
### Perfluorinated Compounds by LC/MS/MS



7.3.1

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	15.61	9.78	0.01	163360	713.0 -> 219.0	6.4	0.0	36.3



7.3.1

7



# Manual Integration Approval Summary

Sample Number: OP98786-BS                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105033.D                      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 17:24                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.3.1.1

7

## Perfluorinated Compounds by LC/MS/MS

Data File : Q105053.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 10:40:34 PM  
 Sample Name : op98786-ms  
 Vial : P1-D3  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

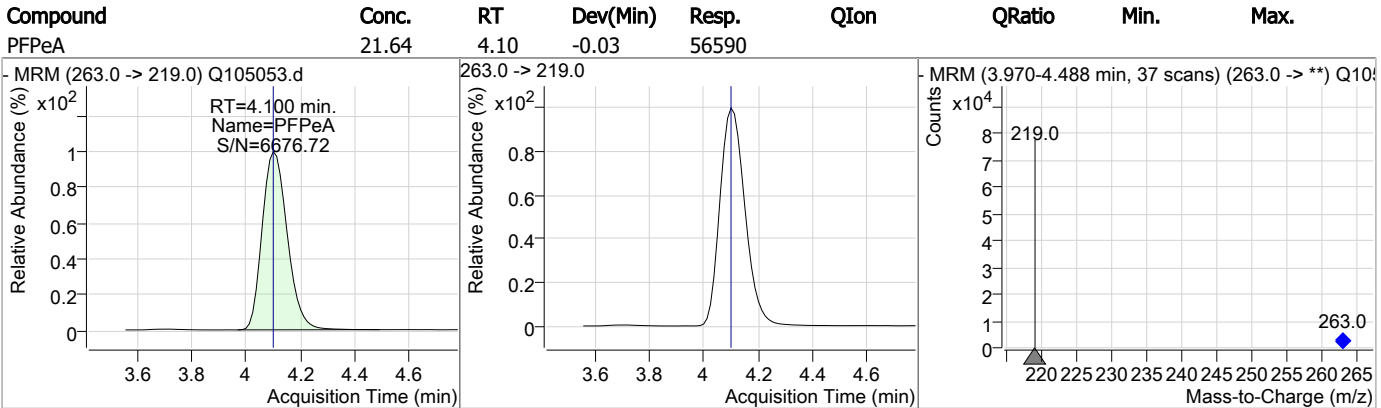
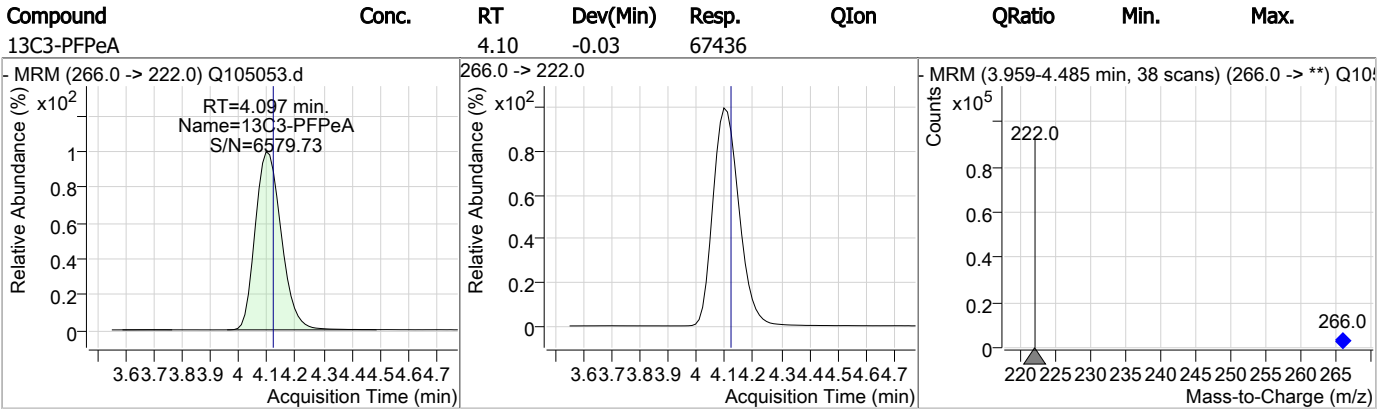
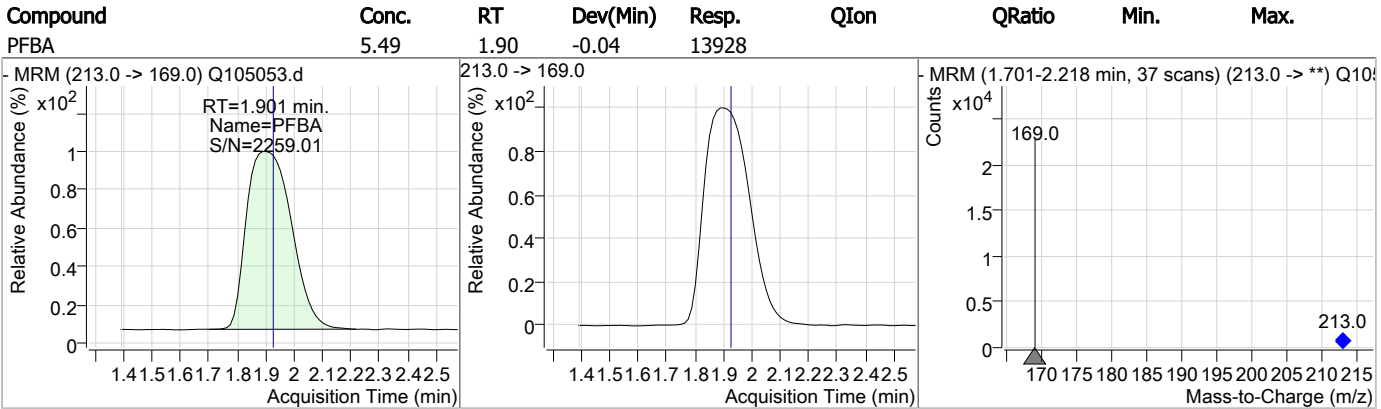
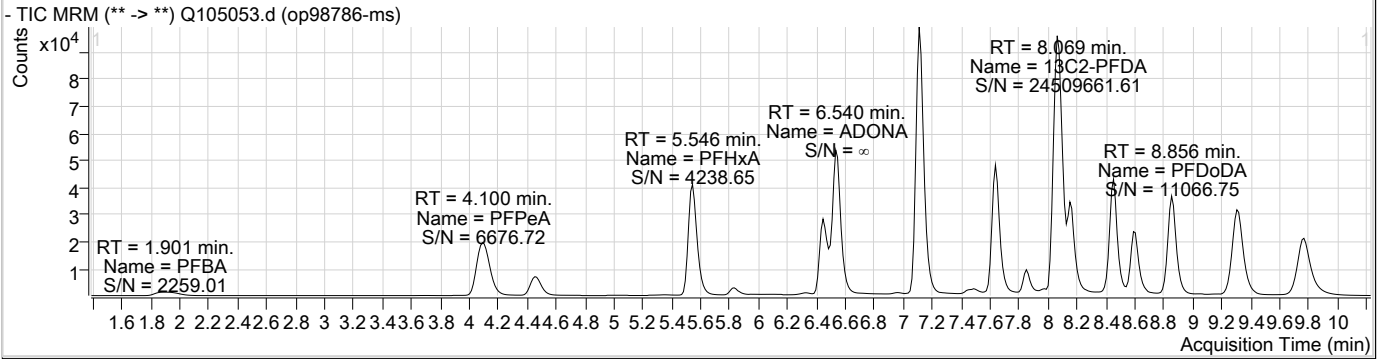
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.100	429.0 -> 409.0	41908	20.00 µg/L	-0.026
13C2-PFOA	7.116	415.0 -> 370.0	111739	20.00 µg/L	-0.025
13C3-PFPeA	4.097	266.0 -> 222.0	67436	20.00 µg/L	-0.025
13C4-PFOS	7.628	503.0 -> 80.0	22859	20.00 µg/L	-0.025
d3-MeFOSAA	8.040	573.0 -> 419.0	69347	40.00 µg/L	-0.025
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.069	515.0 -> 470.0	110725	20.35 µg/L	-0.025
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 101.8%	
13C2-PFHxA	5.544	315.0 -> 270.0	86384	20.85 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.2%	
d5-EtFOSAA	8.151	589.0 -> 419.0	59781	32.41 µg/L	-0.025
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 81.0%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	4742	37.87 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 94.7%	
<b>Target Compounds</b>					
6:2FTS	7.100	427.0 -> 407.0	43887	19.07 µg/L	QValue 98
8:2FTS	8.106	527.0 -> 507.0	43212	19.24 µg/L	100
EtFOSAA	8.164	584.0 -> 419.0	30135	17.90 µg/L	m 95
MeFOSAA	8.040	570.0 -> 419.0	31025	17.62 µg/L	m 88
PFBA	1.901	213.0 -> 169.0	13928	5.49 µg/L	100
PFBS	4.453	299.0 -> 80.0	25486	18.60 µg/L	99
PFDA	8.070	513.0 -> 469.0	118511	21.05 µg/L	100
PFDoDA	8.856	613.0 -> 569.0	145164	14.60 µg/L	100
PFHpA	6.449	363.0 -> 319.0	96092	18.82 µg/L	99
PFHpS	7.124	449.0 -> 80.0	18654	20.12 µg/L	98
PFHxA	5.546	313.0 -> 269.0	81767	20.13 µg/L	100
PFHxS	6.481	399.0 -> 80.0	19485	19.39 µg/L	m 95
PFNA	7.642	463.0 -> 419.0	102297	21.01 µg/L	99
PFOA	7.117	413.0 -> 369.0	111287	20.43 µg/L	100
PFOS	7.629	499.0 -> 80.0	23756	17.53 µg/L	m 86
PFPeA	4.100	263.0 -> 219.0	56590	21.64 µg/L	100
PFTeDA	9.765	713.0 -> 669.0	134517	13.16 µg/L	99
PFTTrDA	9.306	663.0 -> 619.0	164038	14.14 µg/L	100
PFUnDA	8.457	563.0 -> 519.0	122495	17.32 µg/L	99
ADONA	6.540	377.0 -> 251.0	149648	20.62 µg/L	100
9Cl-PF3ONS	7.853	531.0 -> 351.0	23087	18.71 µg/L	96
11Cl-PF3OUdS	8.589	631.0 -> 451.0	68301	15.31 µg/L	99
HFPO-DA	5.828	285.0 -> 169.0	3221	20.31 µg/L	100

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

7.4.1  
7



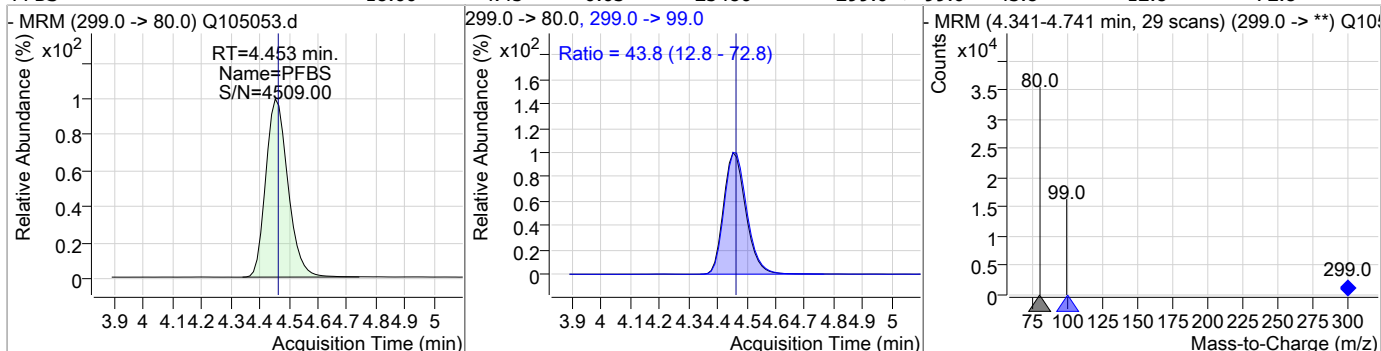
### Perfluorinated Compounds by LC/MS/MS



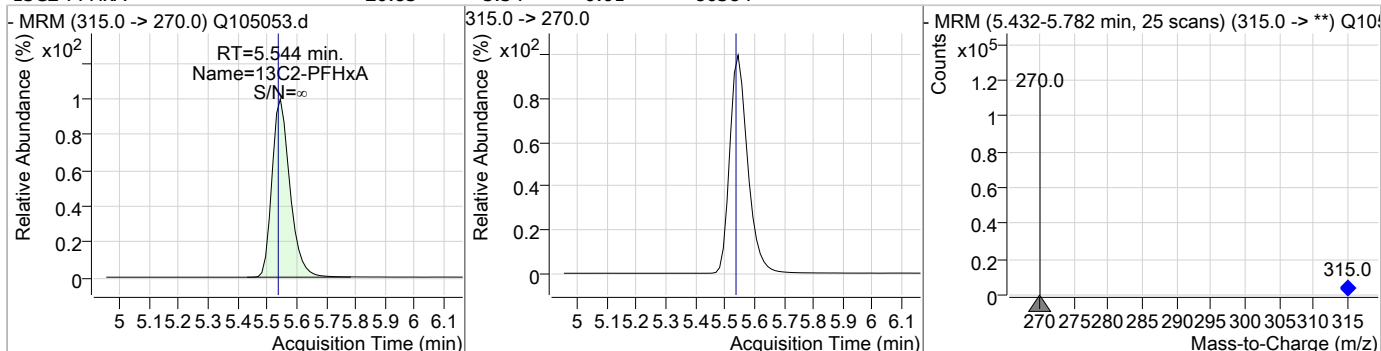
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS

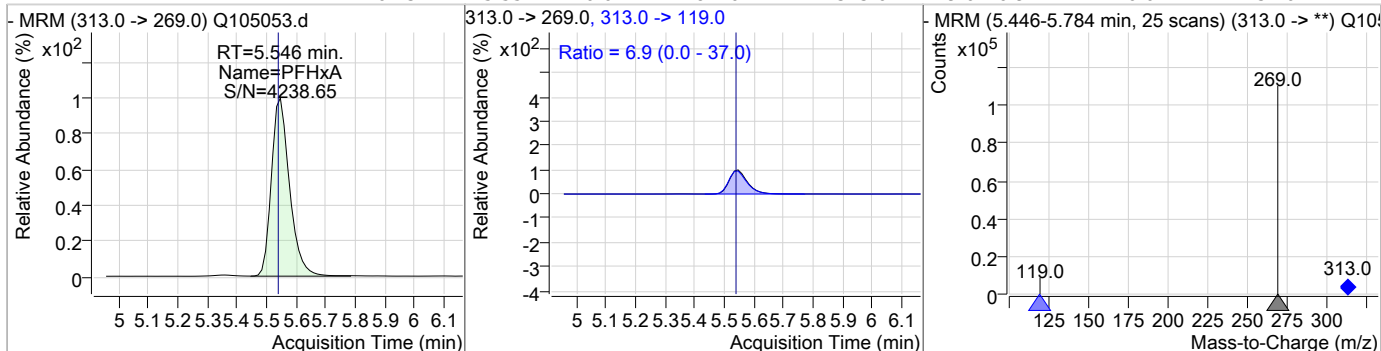
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.60	4.45	-0.03	25486	299.0 -> 99.0	43.8	12.8	72.8



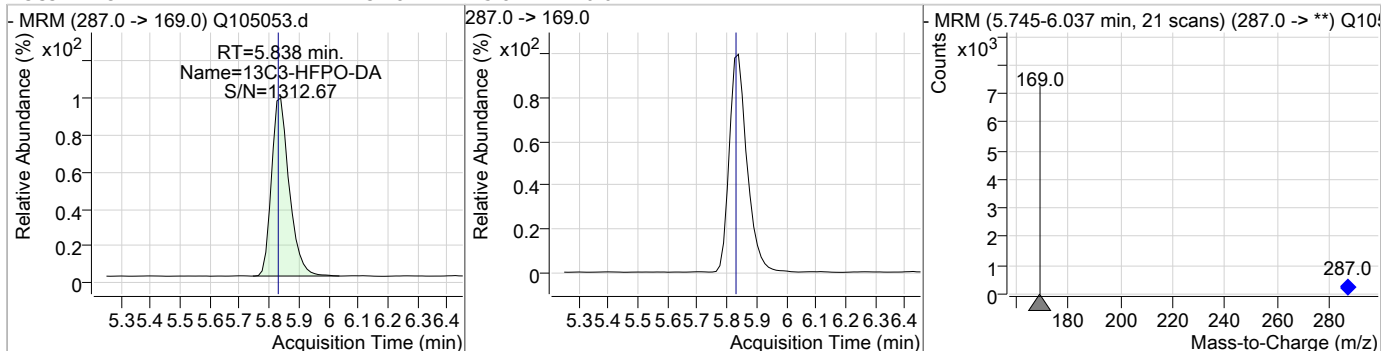
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	20.85	5.54	-0.01	86384				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	20.13	5.55	-0.01	81767	313.0 -> 119.0	6.9	0.0	37.0

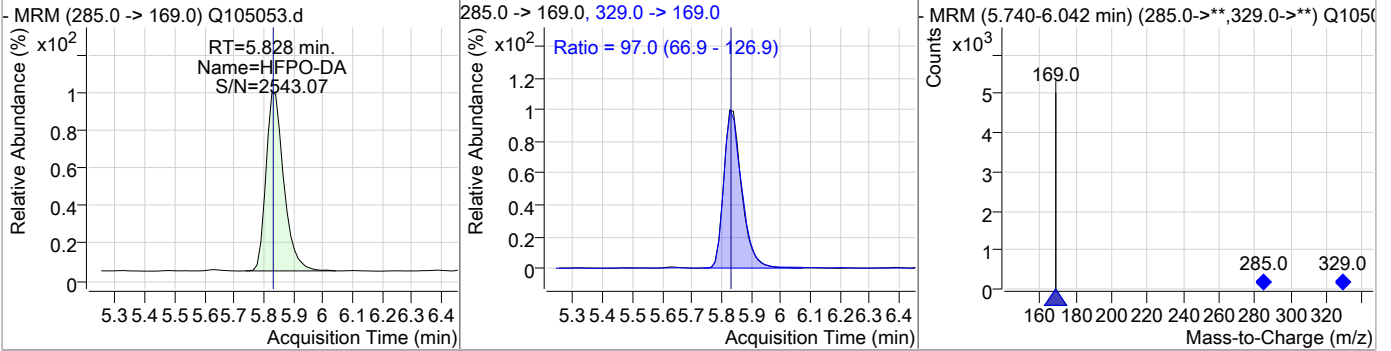


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	37.87	5.84	-0.01	4742				

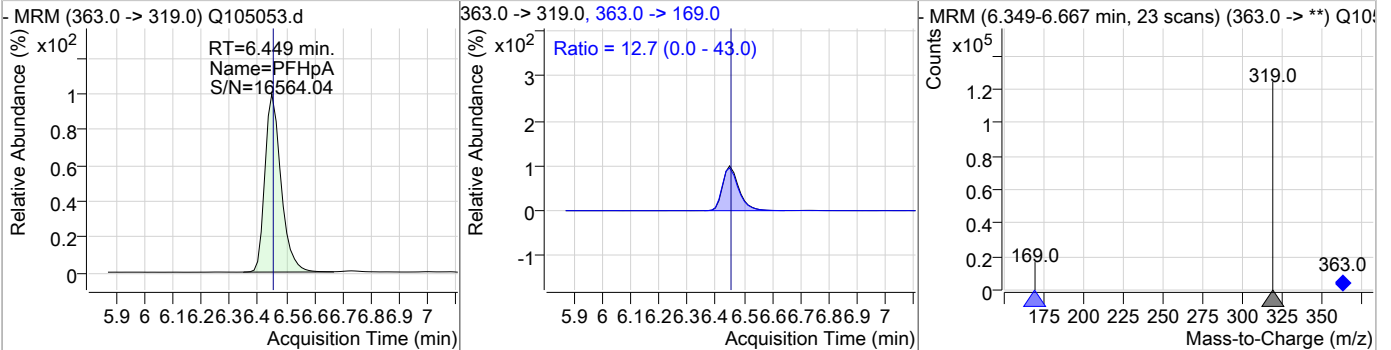


### Perfluorinated Compounds by LC/MS/MS

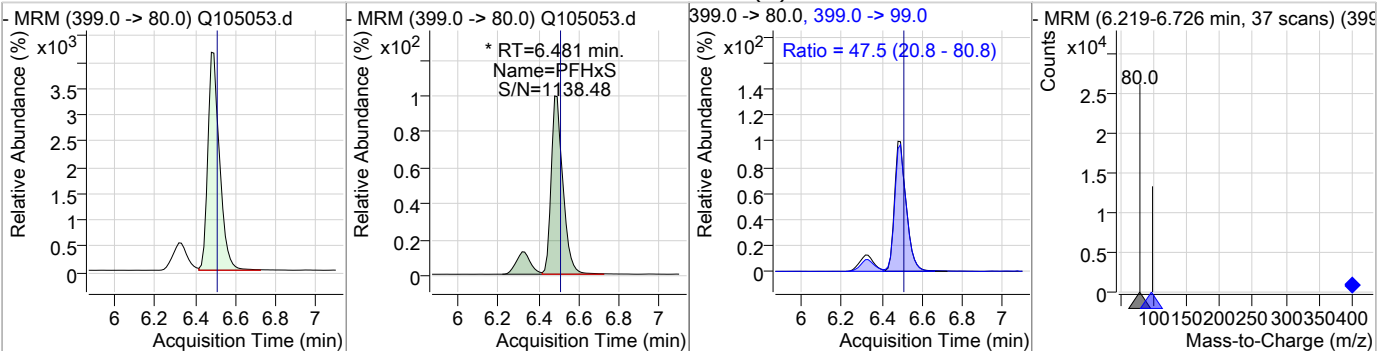
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.31	5.83	-0.03	3221	329.0 -> 169.0	97.0	66.9	126.9



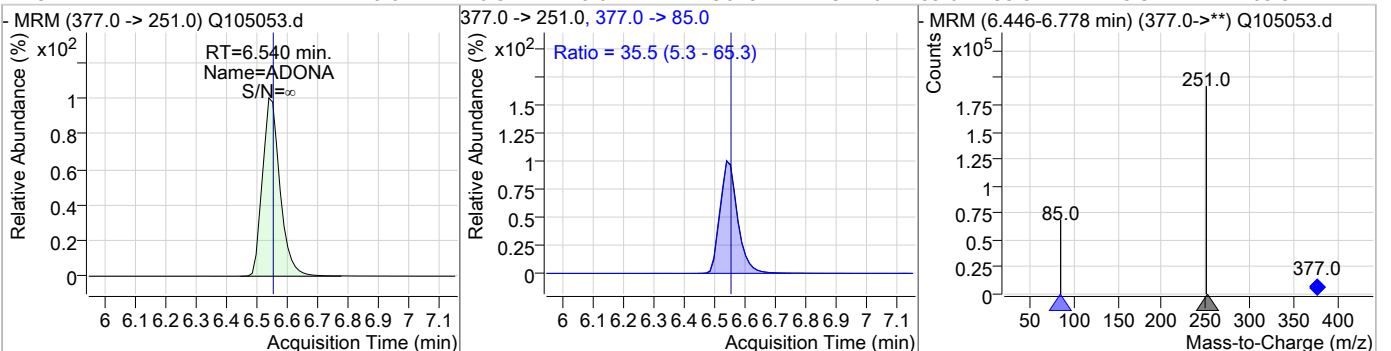
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.82	6.45	-0.03	96092	363.0 -> 169.0	12.7	0.0	43.0



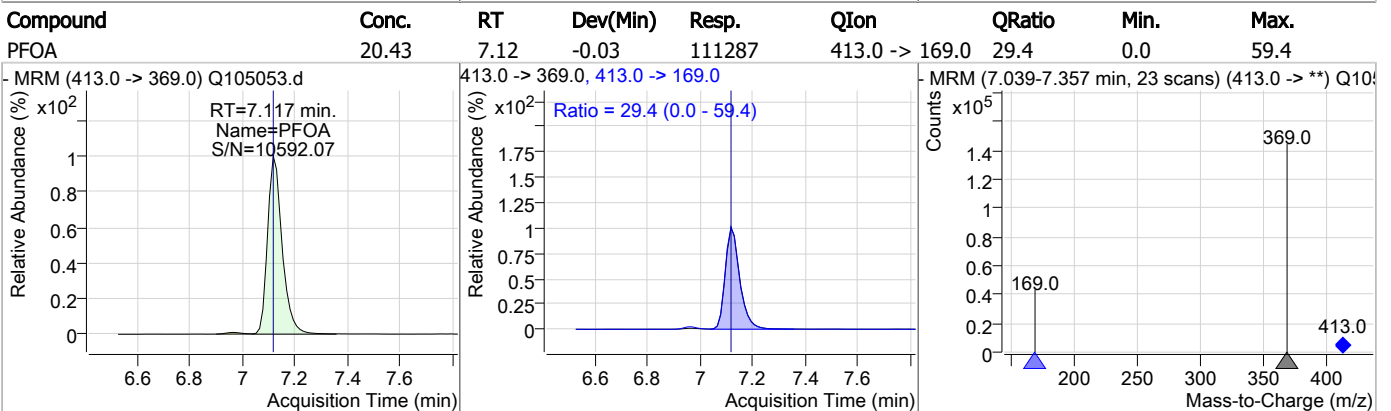
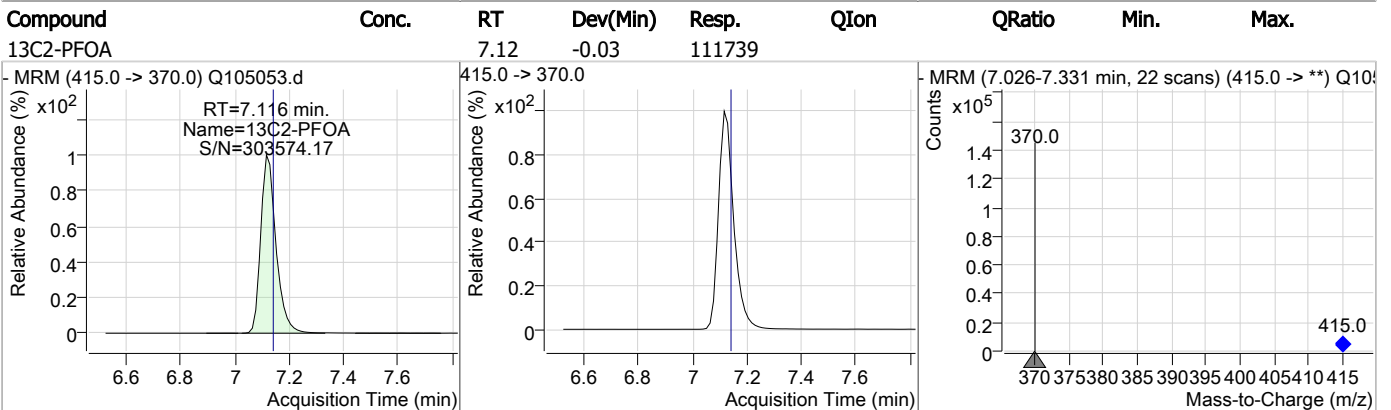
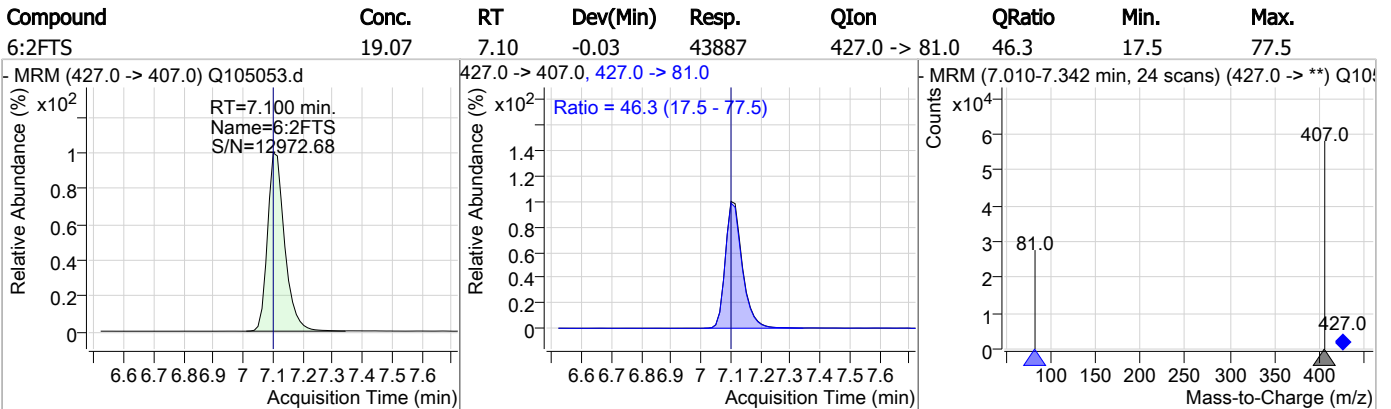
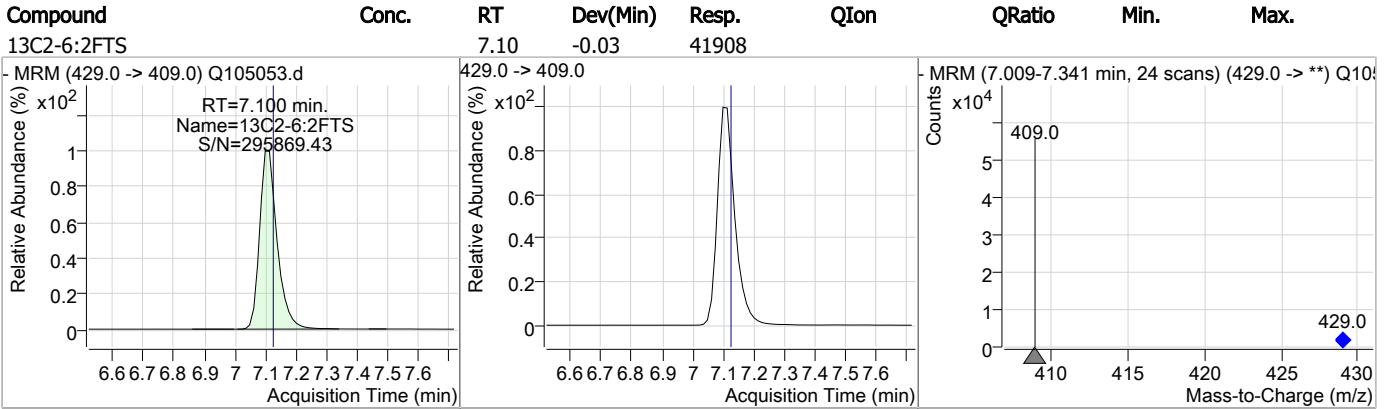
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.39	6.48	-0.04	19485 (m)	399.0 -> 99.0	47.5	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	20.62	6.54	-0.04	149648	377.0 -> 85.0	35.5	5.3	65.3



### Perfluorinated Compounds by LC/MS/MS

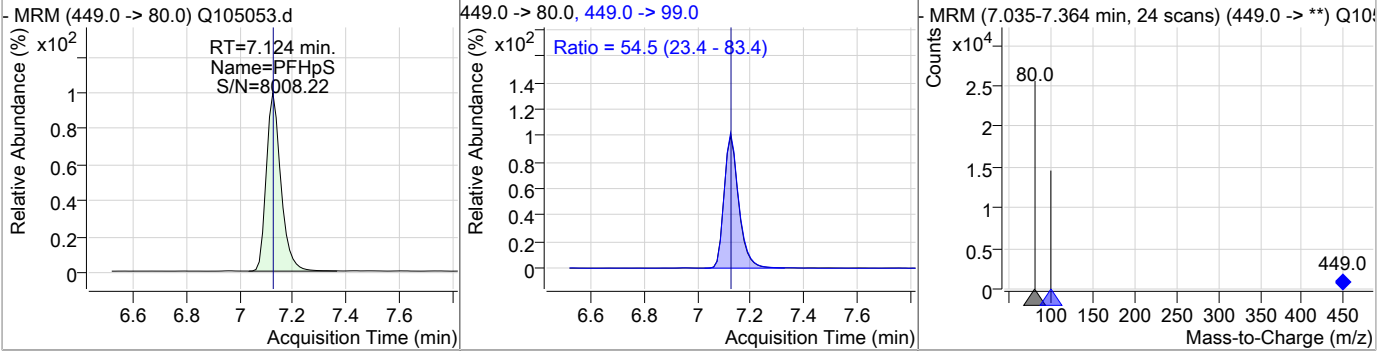


7.4.1

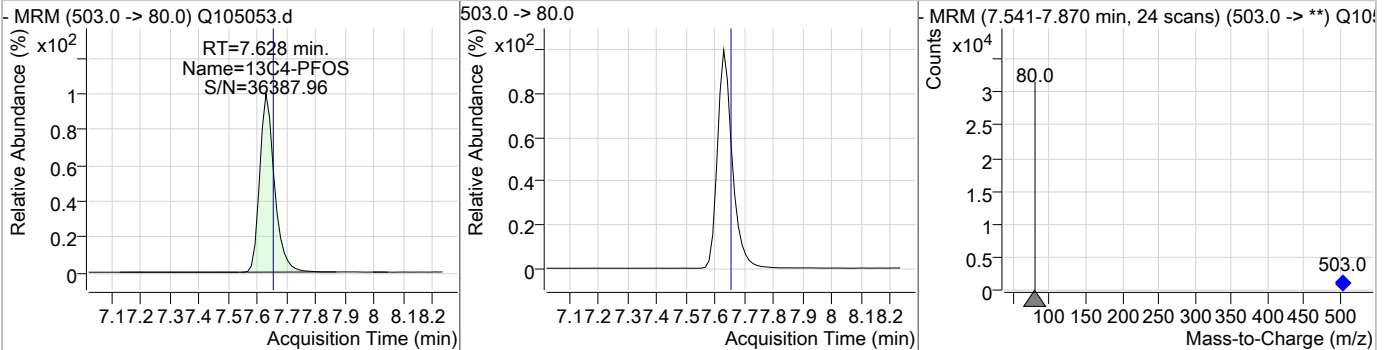
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### Perfluorinated Compounds by LC/MS/MS

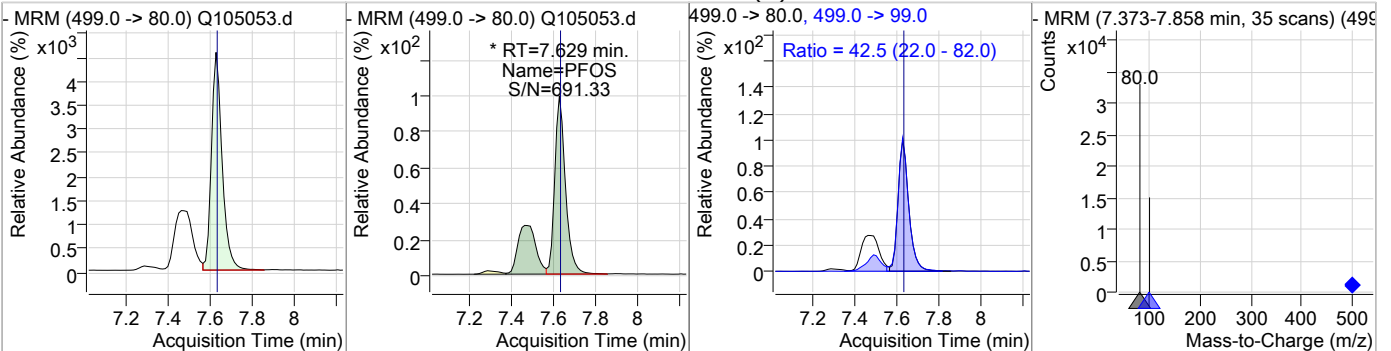
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.12	7.12	-0.03	18654	449.0 -> 99.0	54.5	23.4	83.4



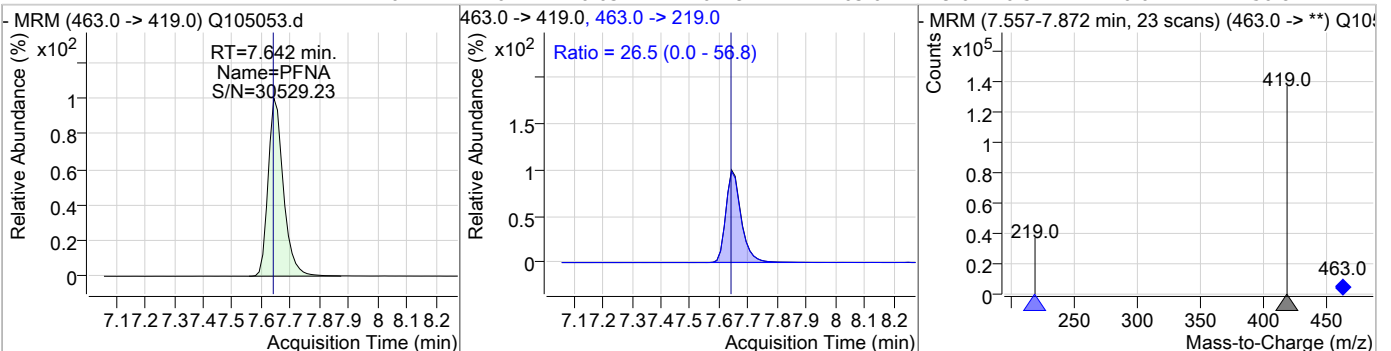
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.63	-0.03	22859				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.53	7.63	-0.03	23756 (m)	499.0 -> 99.0	42.5	22.0	82.0

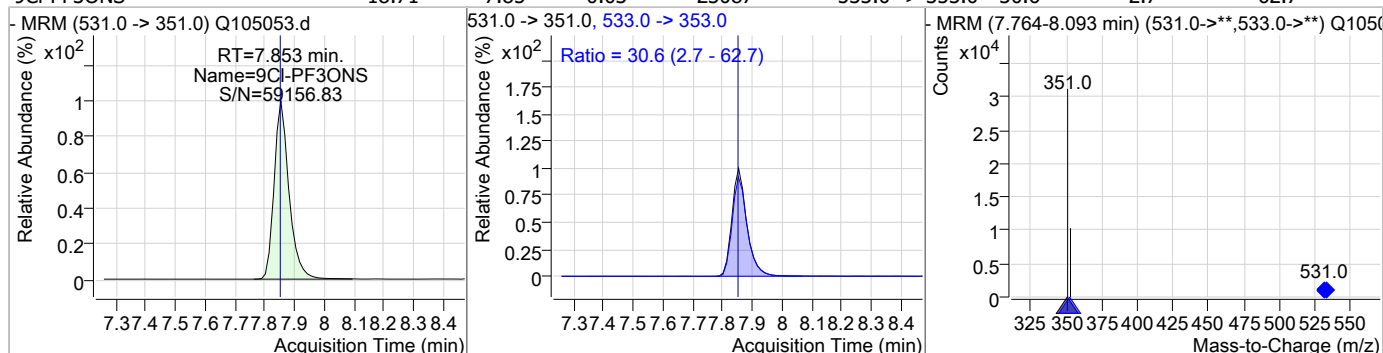


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	21.01	7.64	-0.03	102297	463.0 -> 219.0	26.5	0.0	56.8

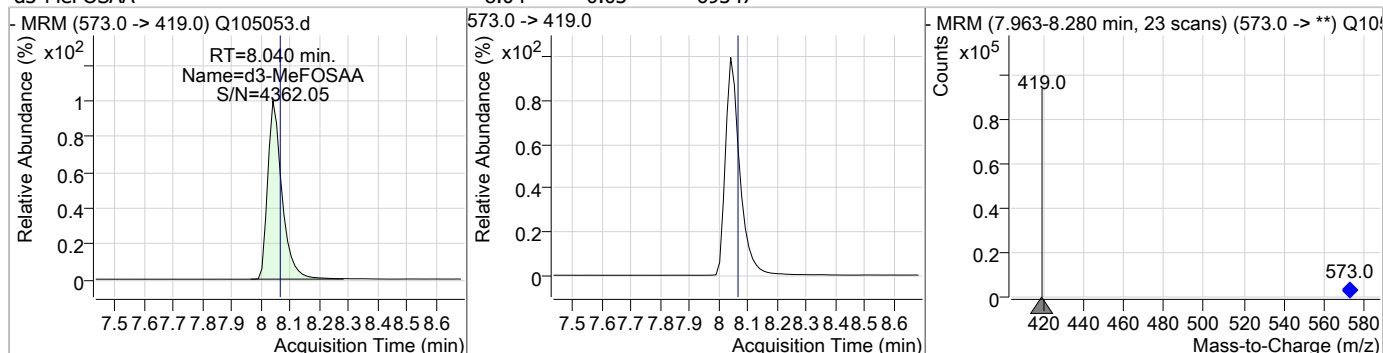


### Perfluorinated Compounds by LC/MS/MS

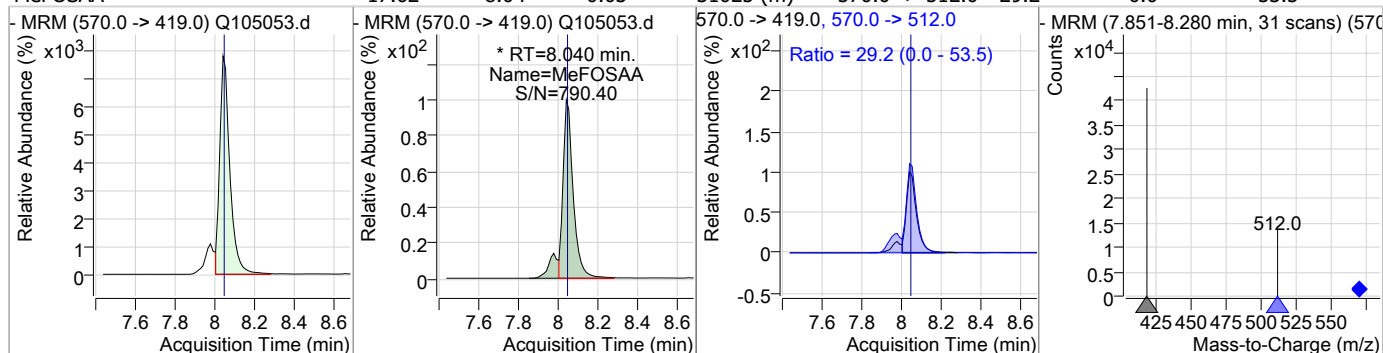
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	18.71	7.85	-0.03	23087	533.0 -> 353.0	30.6	2.7	62.7



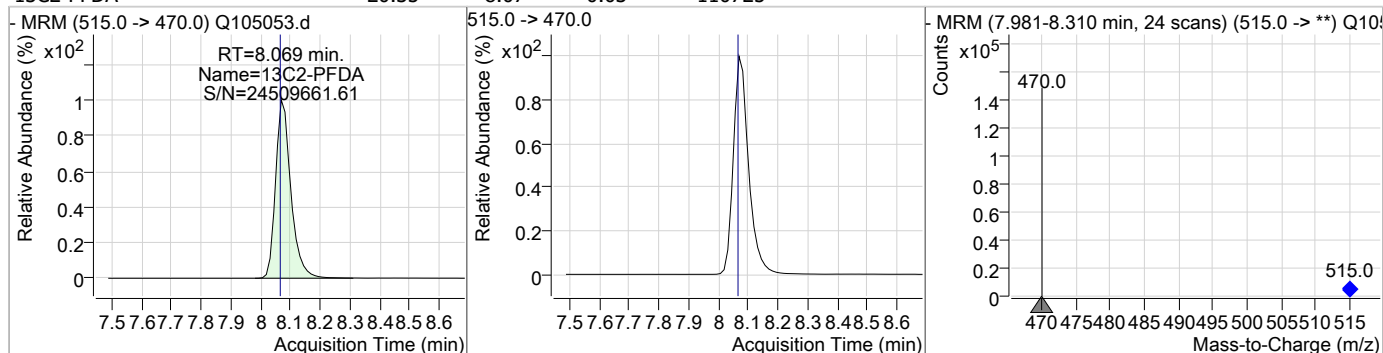
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.04	-0.03	69347				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	17.62	8.04	-0.03	31025 (m)	570.0 -> 512.0	29.2	0.0	53.5



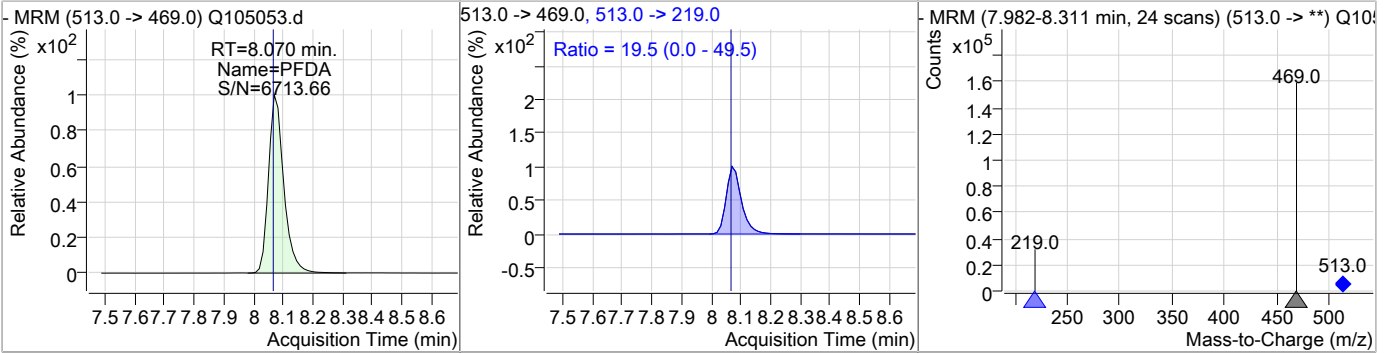
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	20.35	8.07	-0.03	110725				



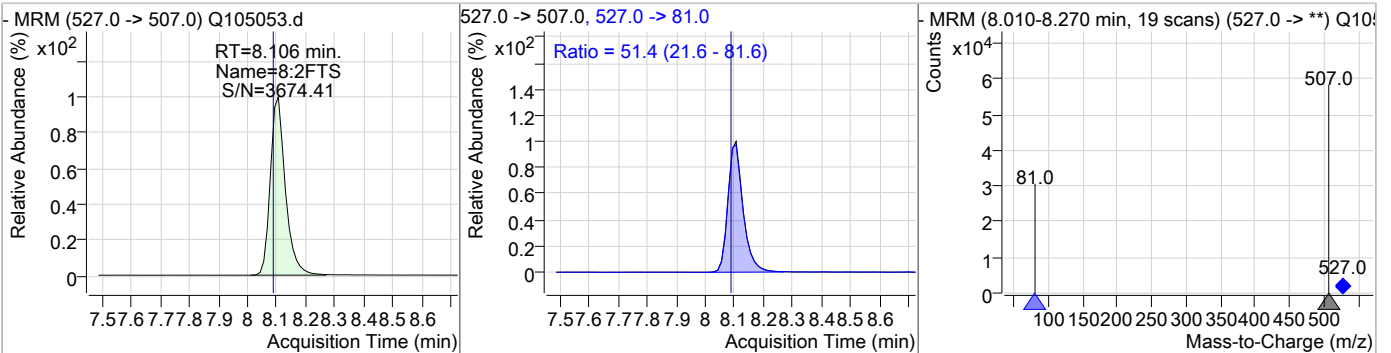


### Perfluorinated Compounds by LC/MS/MS

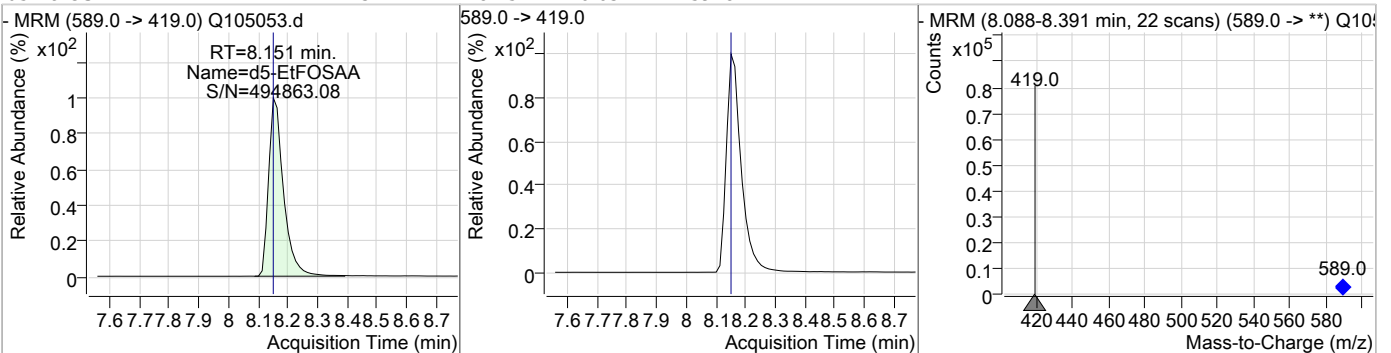
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.05	8.07	-0.03	118511	513.0 -> 219.0	19.5	0.0	49.5



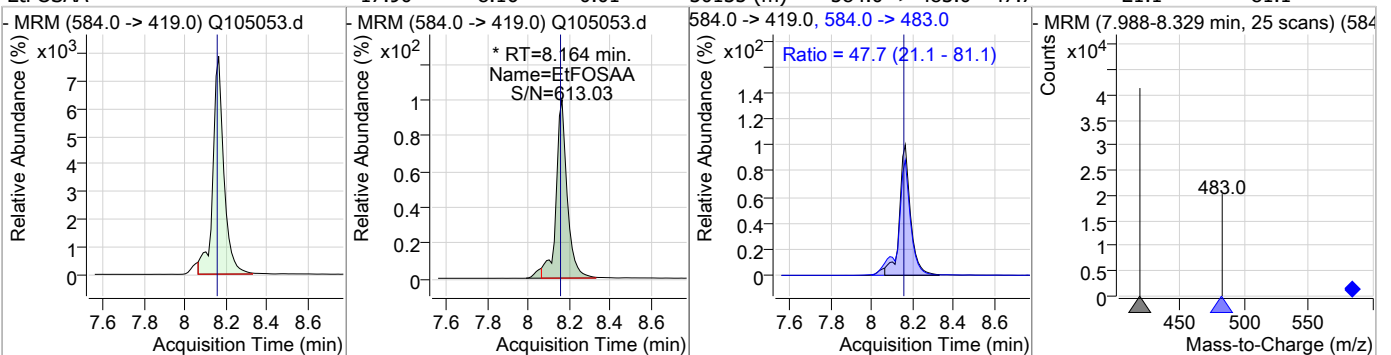
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	19.24	8.11	-0.01	43212	527.0 -> 81.0	51.4	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	32.41	8.15	-0.03	59781	589.0 -> 419.0			

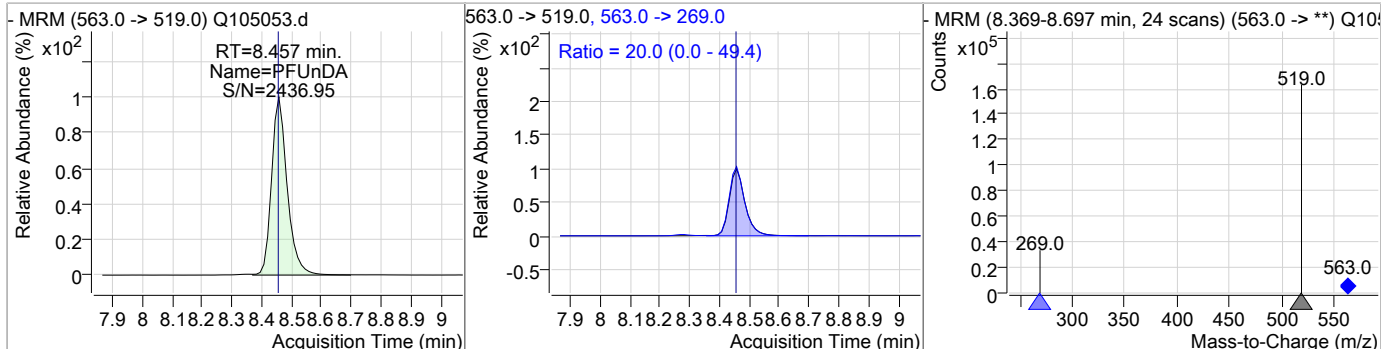


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	17.90	8.16	-0.01	30135 (m)	584.0 -> 483.0	47.7	21.1	81.1

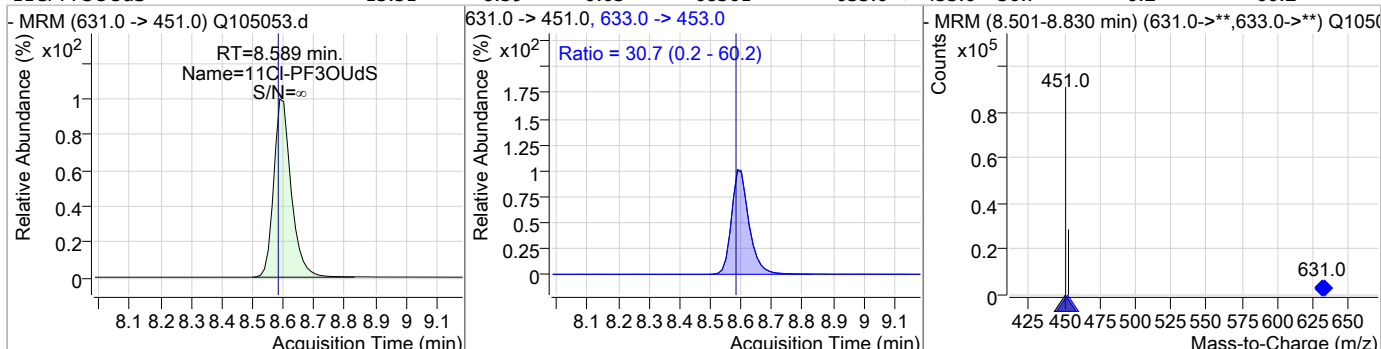


### Perfluorinated Compounds by LC/MS/MS

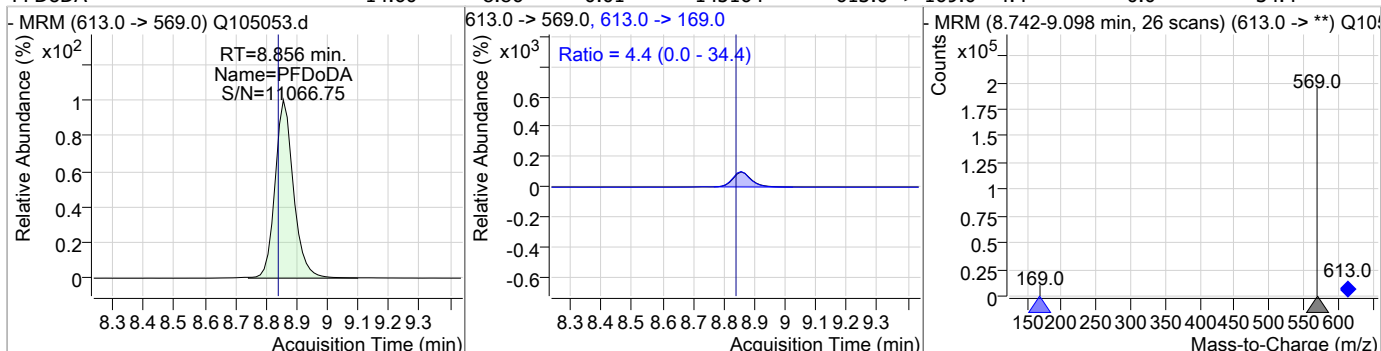
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	17.32	8.46	-0.03	122495	563.0 -> 269.0	20.0	0.0	49.4



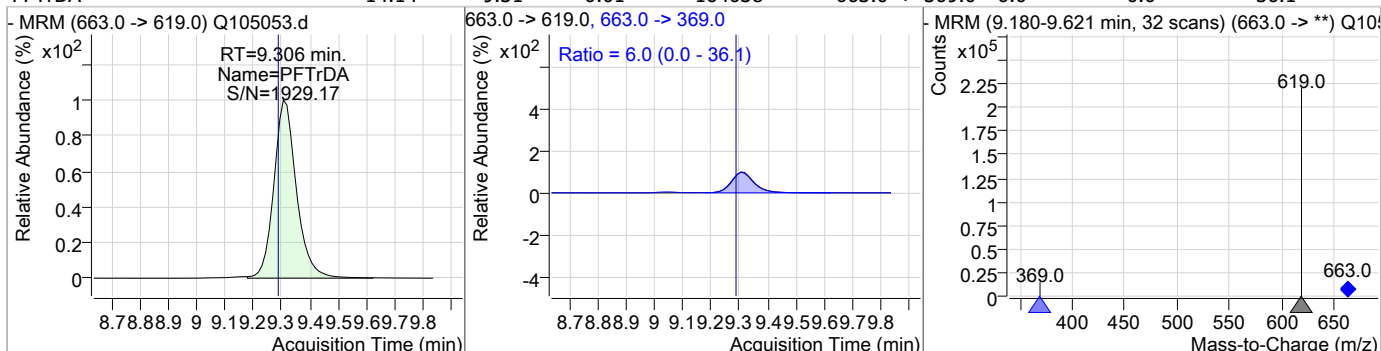
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	15.31	8.59	-0.03	68301	633.0 -> 453.0	30.7	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	14.60	8.86	-0.01	145164	613.0 -> 169.0	4.4	0.0	34.4

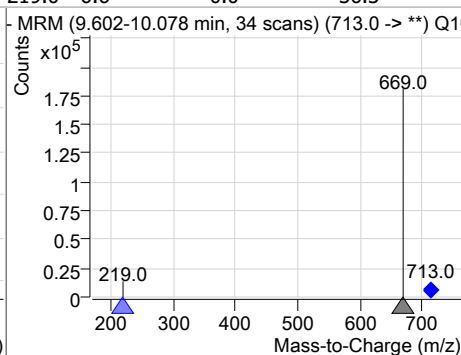
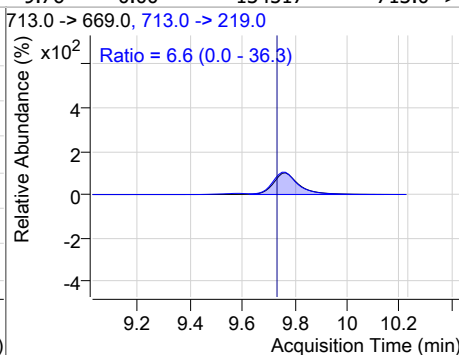
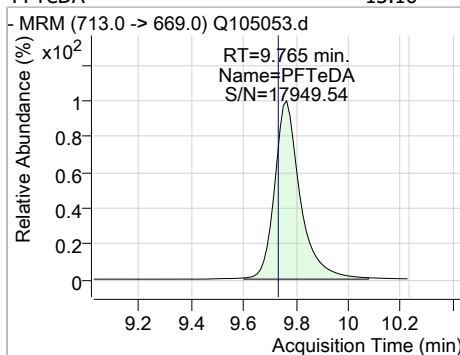


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	14.14	9.31	-0.01	164038	663.0 -> 369.0	6.0	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	13.16	9.76	0.00	134517	713.0 -> 219.0	6.6	0.0	36.3



7.4.1  
7

# Manual Integration Approval Summary

Sample Number: OP98786-MS      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105053.D      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 22:40      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.48	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.63	Split peak
MeFOSAA	2355-31-9		8.04	Split peak
EtFOSAA	2991-50-6		8.16	Split peak

7.4.1.1  
7

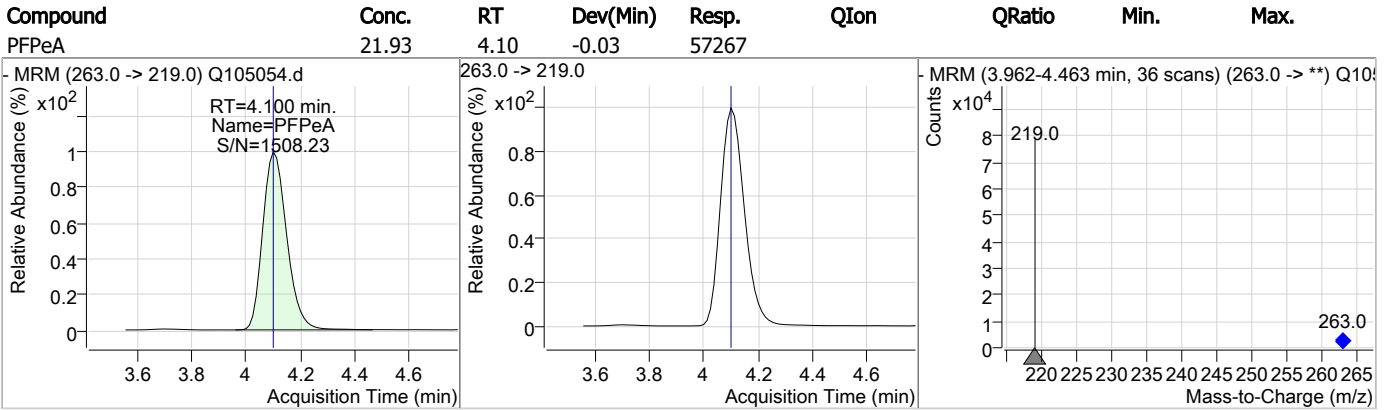
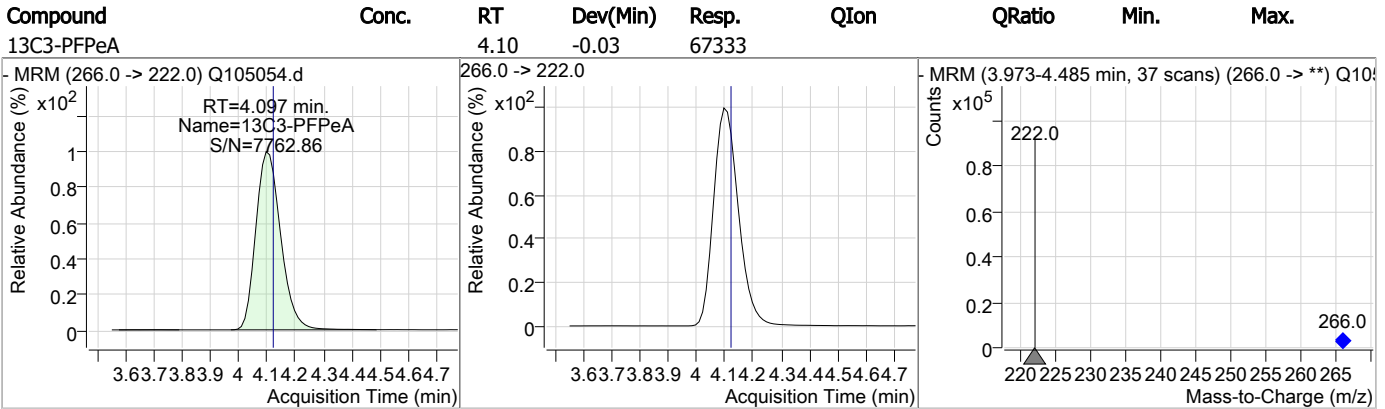
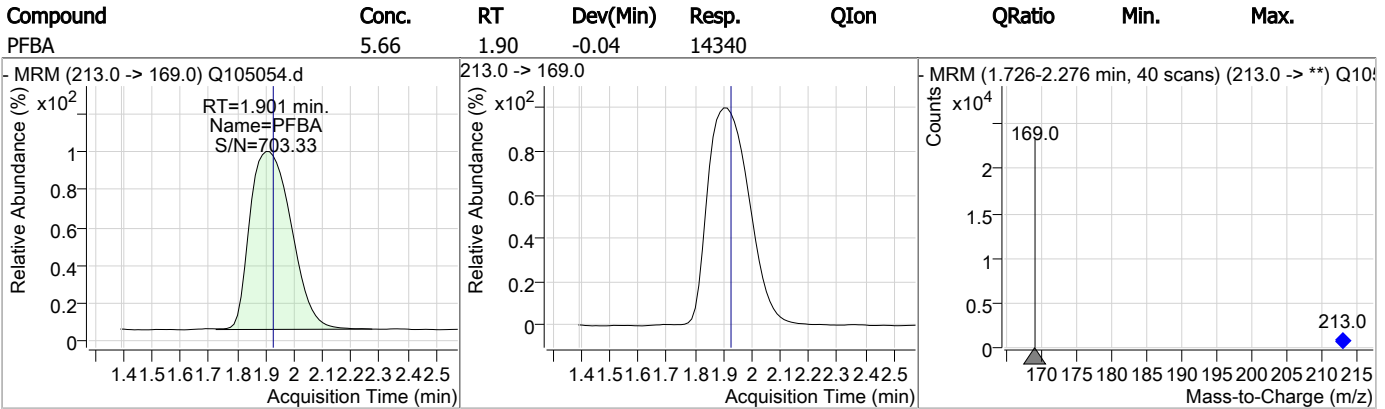
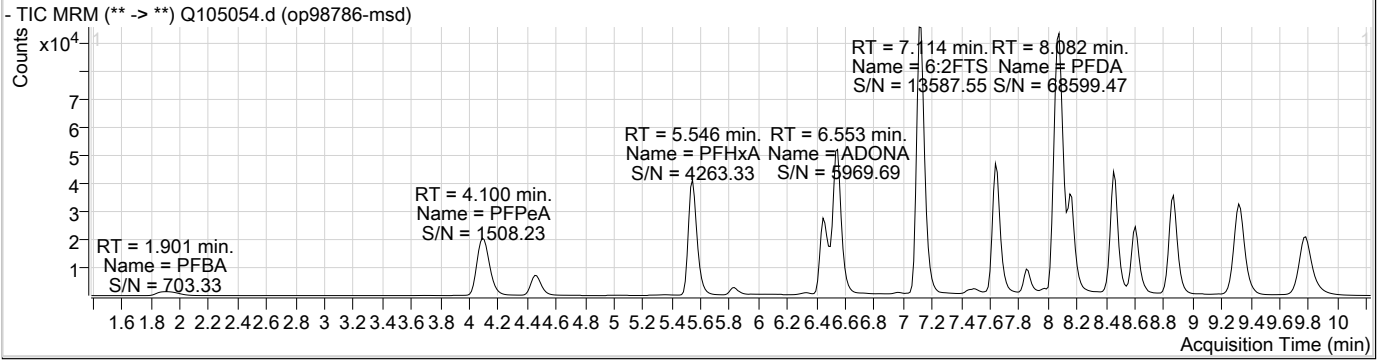
## Perfluorinated Compounds by LC/MS/MS

Data File : Q105054.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 10:56:20 PM  
 Sample Name : op98786-msd  
 Vial : P1-D4  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op98786,SQ2238,270,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)	
<b>Internal Standards</b>						
13C2-6:2FTS	7.114	429.0 -> 409.0	41573	20.00 µg/L	-0.013	
13C2-PFOA	7.129	415.0 -> 370.0	110461	20.00 µg/L	-0.013	
13C3-PFPeA	4.097	266.0 -> 222.0	67333	20.00 µg/L	-0.025	
13C4-PFOS	7.628	503.0 -> 80.0	22519	20.00 µg/L	-0.025	
d3-MeFOSAA	8.040	573.0 -> 419.0	69356	40.00 µg/L	-0.025	
<b>System Monitoring Compounds</b>						
13C2-PFDA	8.082	515.0 -> 470.0	112209	20.86 µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.3%		
13C2-PFHxA	5.544	315.0 -> 270.0	86144	21.03 µg/L	-0.013	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 105.1%		
d5-EtFOSAA	8.163	589.0 -> 419.0	63348	34.29 µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 85.7%		
13C3-HFPO-DA	5.838	287.0 -> 169.0	4913	39.68 µg/L	-0.013	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 99.2%		
<b>Target Compounds</b>						
6:2FTS	7.114	427.0 -> 407.0	43963	19.27 µg/L		QValue
8:2FTS	8.106	527.0 -> 507.0	44157	19.85 µg/L		99
EtFOSAA	8.164	584.0 -> 419.0	30482	18.09 µg/L	m	94
MeFOSAA	8.053	570.0 -> 419.0	31218	17.73 µg/L	m	87
PFBA	1.901	213.0 -> 169.0	14340	5.66 µg/L		100
PFBS	4.453	299.0 -> 80.0	25382	18.80 µg/L		99
PFDA	8.082	513.0 -> 469.0	116793	20.99 µg/L		100
PFDoDA	8.869	613.0 -> 569.0	143457	14.64 µg/L		100
PFHpA	6.449	363.0 -> 319.0	94136	18.65 µg/L		100
PFHpS	7.124	449.0 -> 80.0	18611	20.38 µg/L		99
PFHxA	5.546	313.0 -> 269.0	81162	20.21 µg/L		99
PFHxS	6.494	399.0 -> 80.0	19519	19.72 µg/L	m	96
PFNA	7.655	463.0 -> 419.0	100960	20.97 µg/L		100
PFOA	7.129	413.0 -> 369.0	111934	20.78 µg/L		99
PFOS	7.629	499.0 -> 80.0	23061	17.27 µg/L	m	86
PFPeA	4.100	263.0 -> 219.0	57267	21.93 µg/L		100
PFTeDA	9.777	713.0 -> 669.0	132062	13.11 µg/L		100
PFTrDA	9.319	663.0 -> 619.0	166347	14.55 µg/L		100
PFUnDA	8.457	563.0 -> 519.0	127365	18.28 µg/L		100
ADONA	6.553	377.0 -> 251.0	147512	20.57 µg/L		99
9Cl-PF3ONS	7.853	531.0 -> 351.0	22900	18.78 µg/L		100
11Cl-PF3OUdS	8.601	631.0 -> 451.0	69926	15.85 µg/L		99
HFPO-DA	5.828	285.0 -> 169.0	3103	19.79 µg/L		98

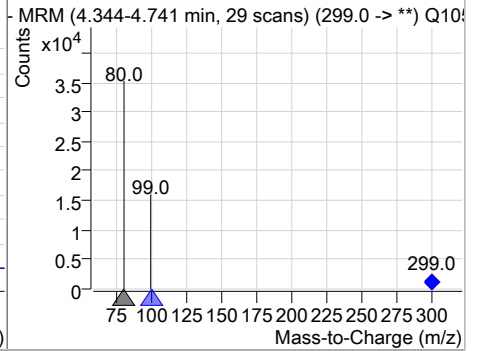
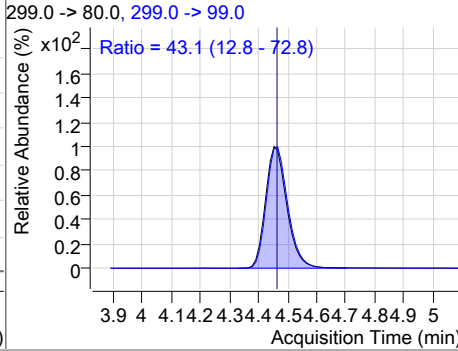
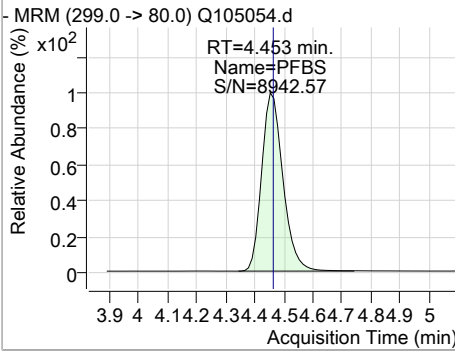
# = Qualifier out of range, m = manually integrated, + = Area summed

### Perfluorinated Compounds by LC/MS/MS

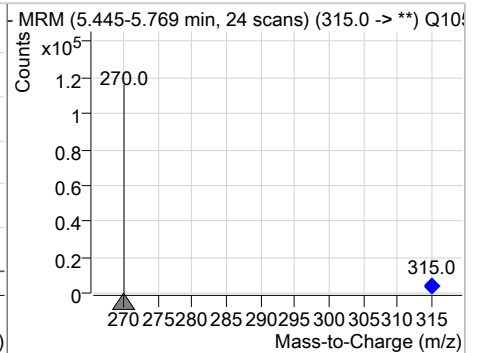
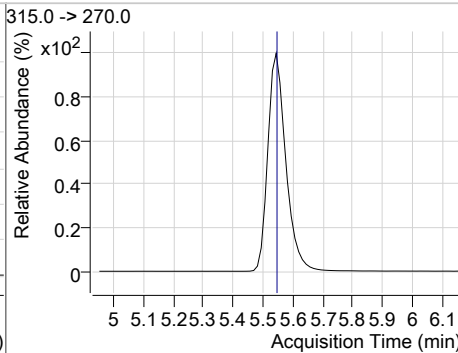
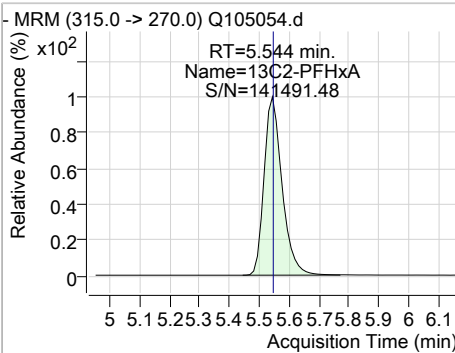


### Perfluorinated Compounds by LC/MS/MS

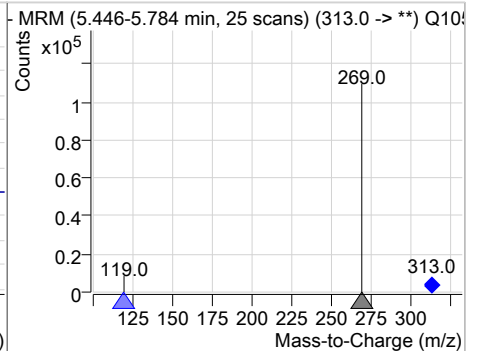
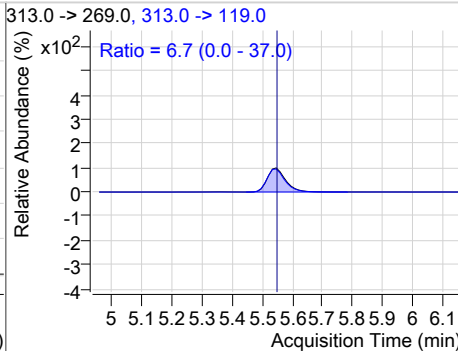
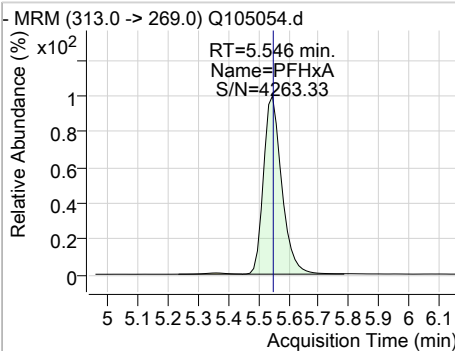
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.80	4.45	-0.03	25382	299.0 -> 99.0	43.1	12.8	72.8



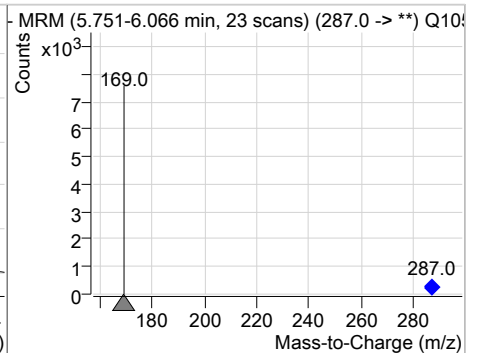
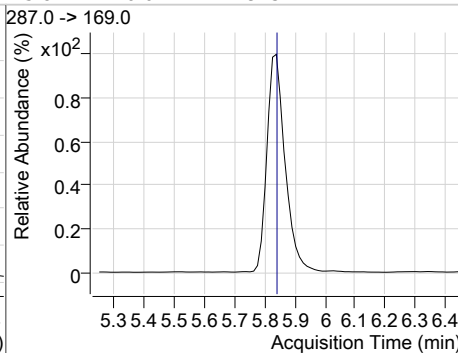
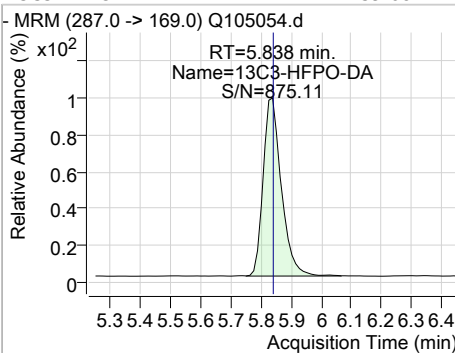
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	21.03	5.54	-0.01	86144	315.0 -> 270.0	6.7	0.0	37.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	20.21	5.55	-0.01	81162	313.0 -> 119.0	6.7	0.0	37.0

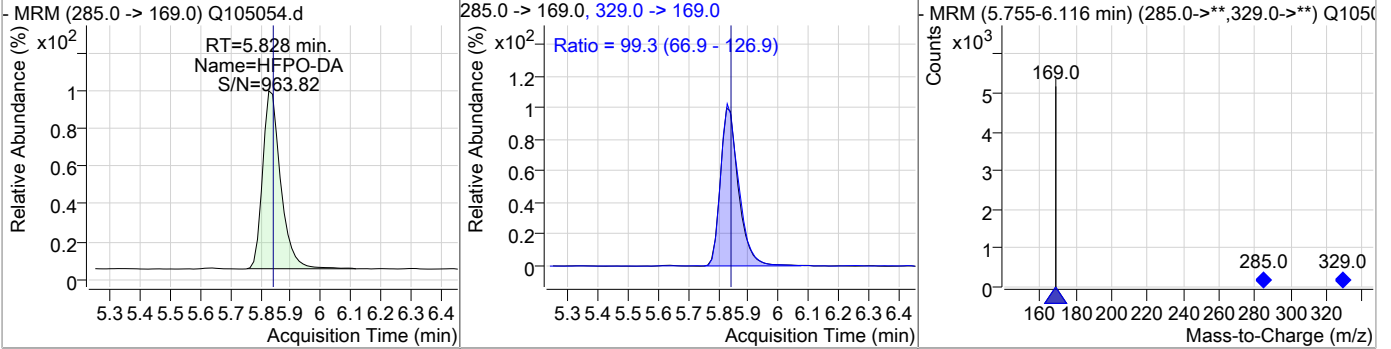


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	39.68	5.84	-0.01	4913	287.0 -> 169.0	6.7	0.0	37.0

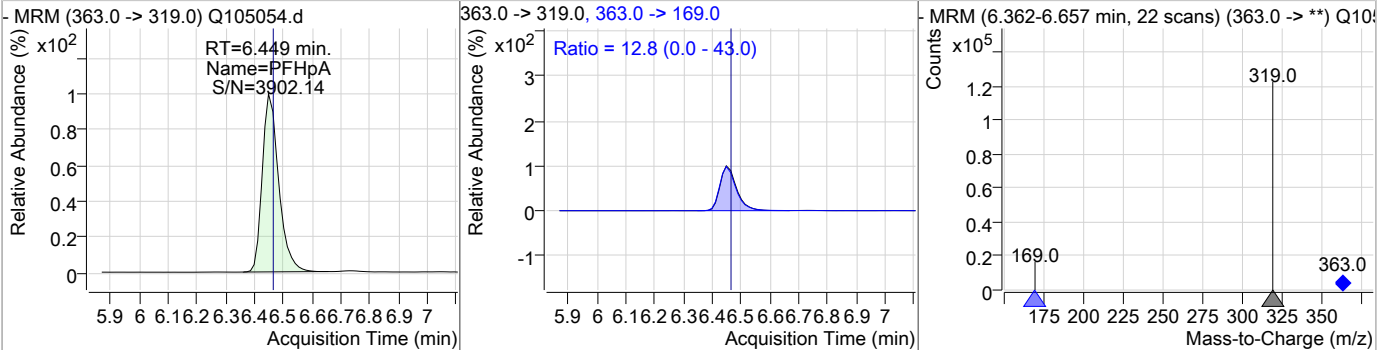


### Perfluorinated Compounds by LC/MS/MS

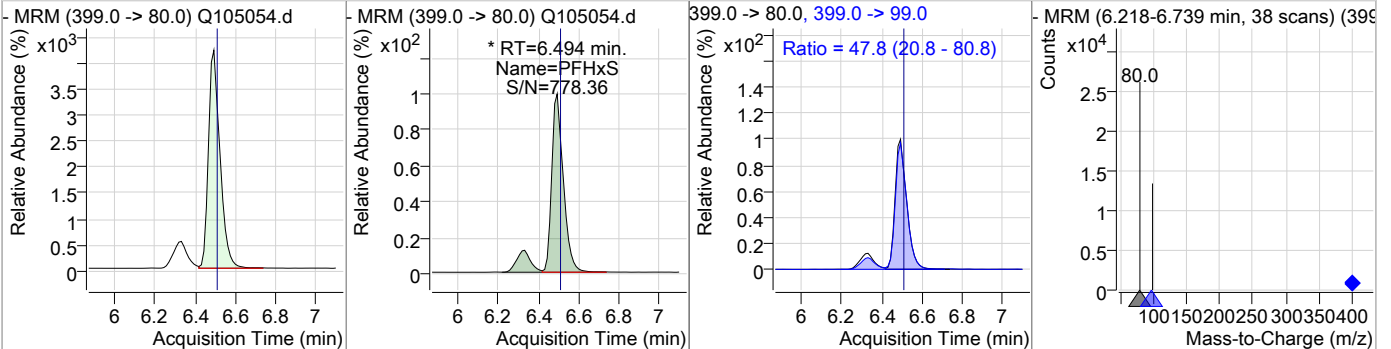
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.79	5.83	-0.03	3103	329.0 -> 169.0	99.3	66.9	126.9



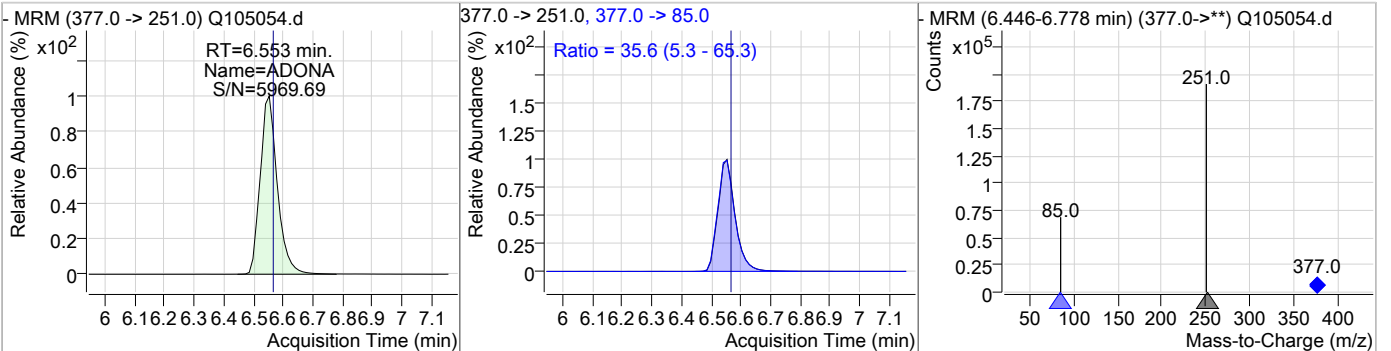
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.65	6.45	-0.03	94136	363.0 -> 169.0	12.8	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.72	6.49	-0.03	19519 (m)	399.0 -> 99.0	47.8	20.8	80.8

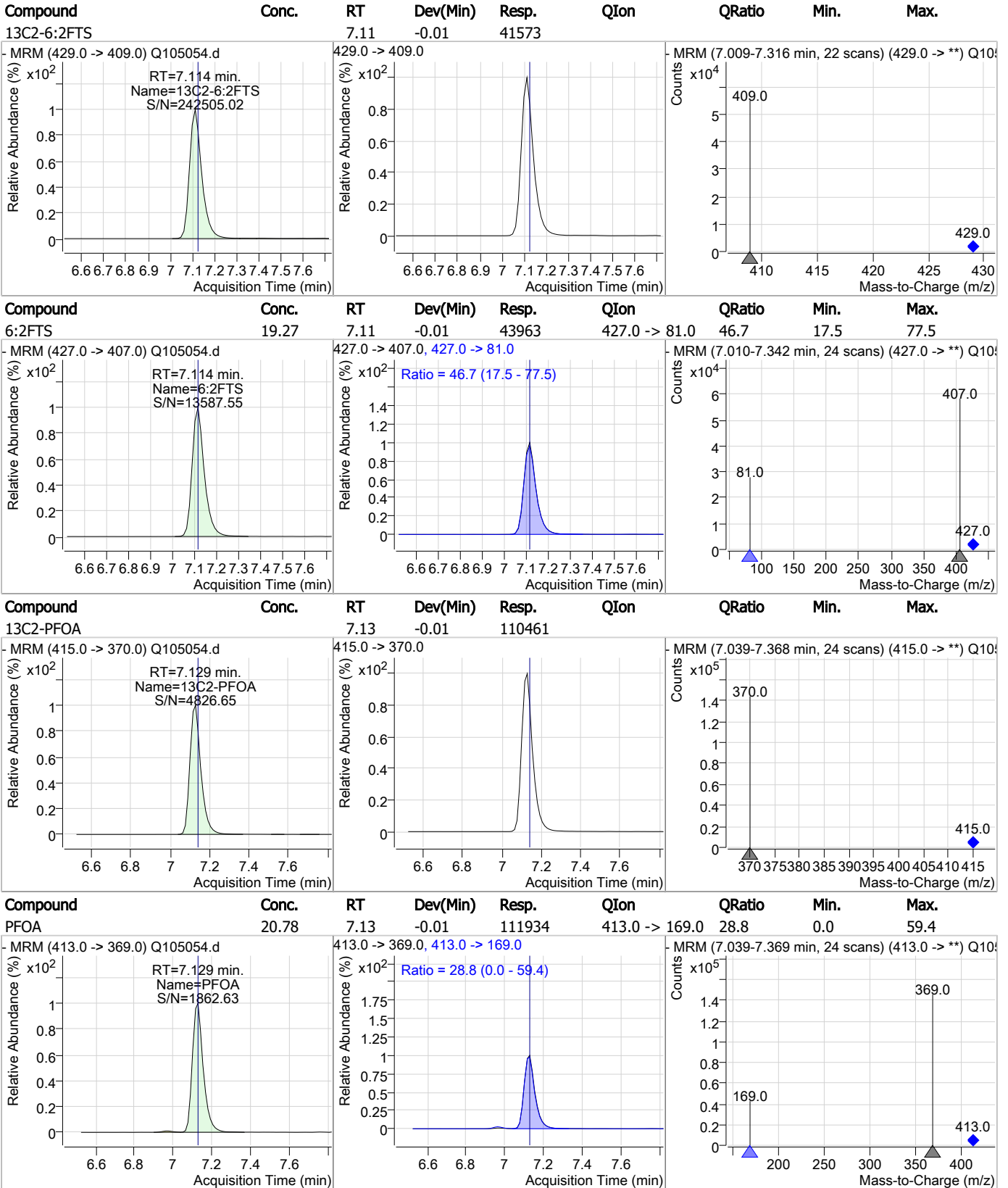


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	20.57	6.55	-0.03	147512	377.0 -> 85.0	35.6	5.3	65.3





### Perfluorinated Compounds by LC/MS/MS

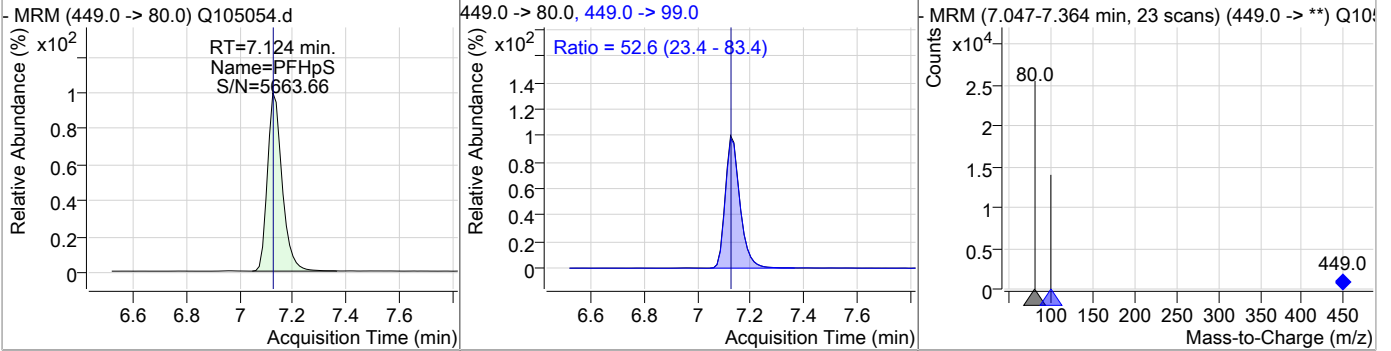


7.4.2

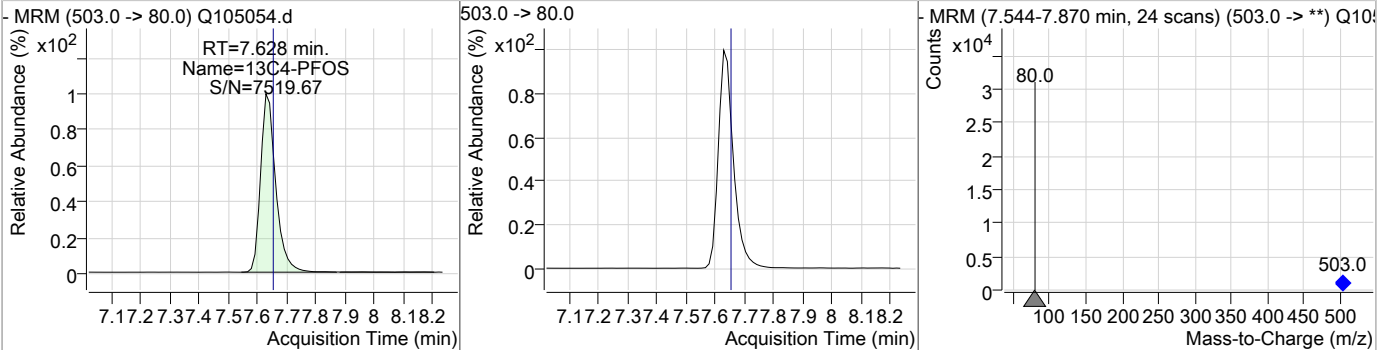
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### Perfluorinated Compounds by LC/MS/MS

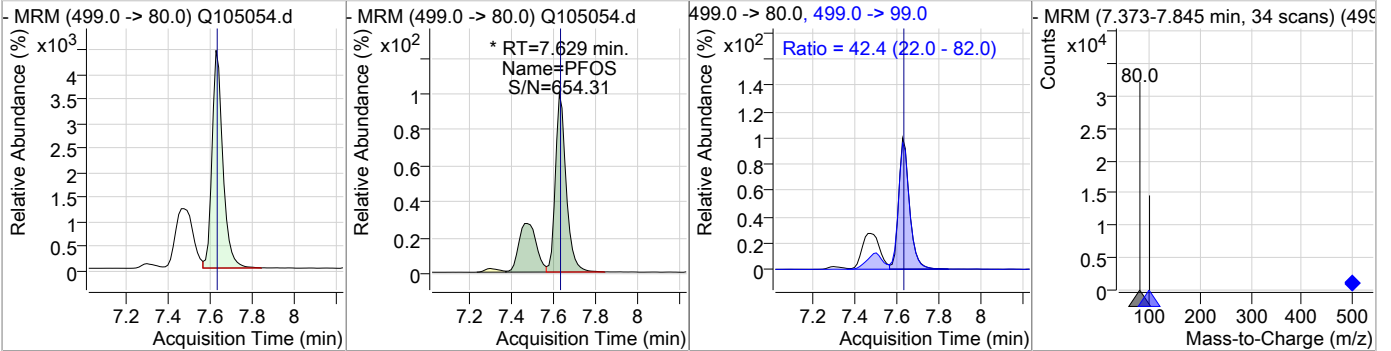
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.38	7.12	-0.03	18611	449.0 -> 99.0	52.6	23.4	83.4



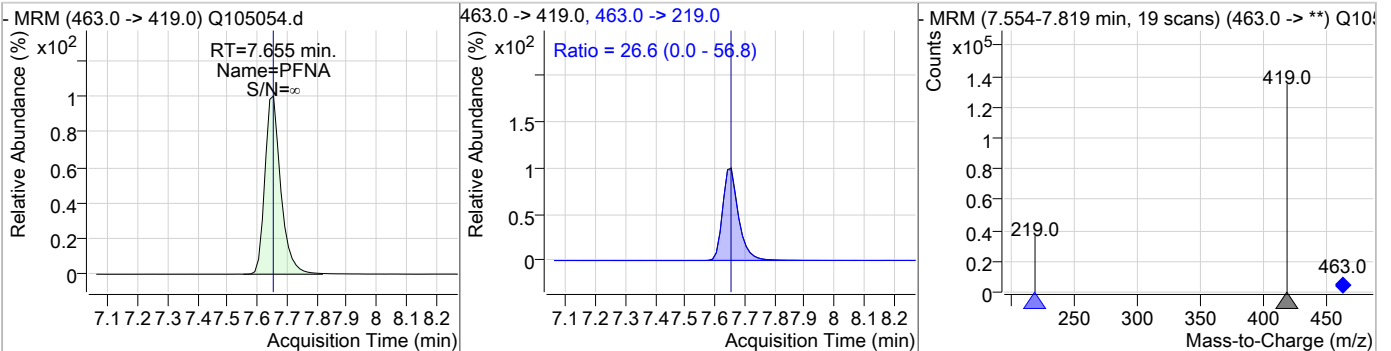
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.63	-0.03	22519				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.27	7.63	-0.03	23061 (m)	499.0 -> 99.0	42.4	22.0	82.0

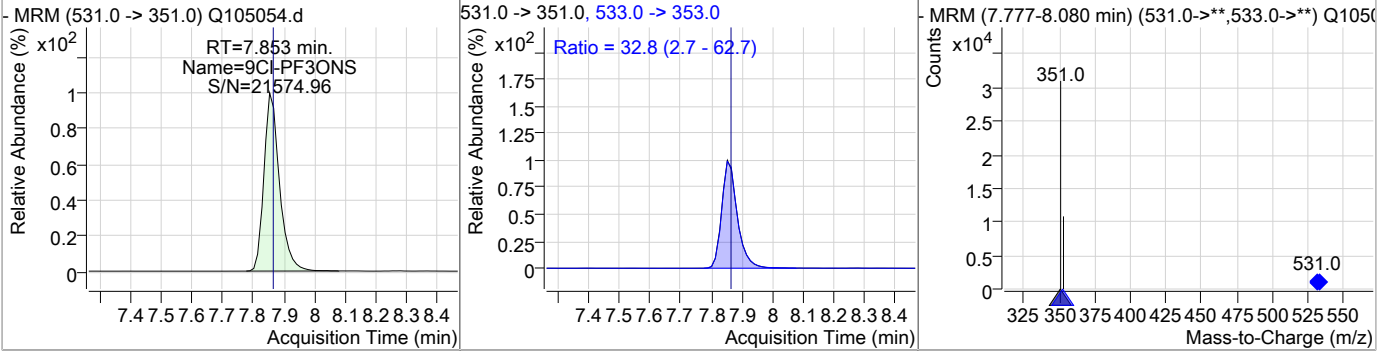


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	20.97	7.65	-0.01	100960	463.0 -> 219.0	26.6	0.0	56.8

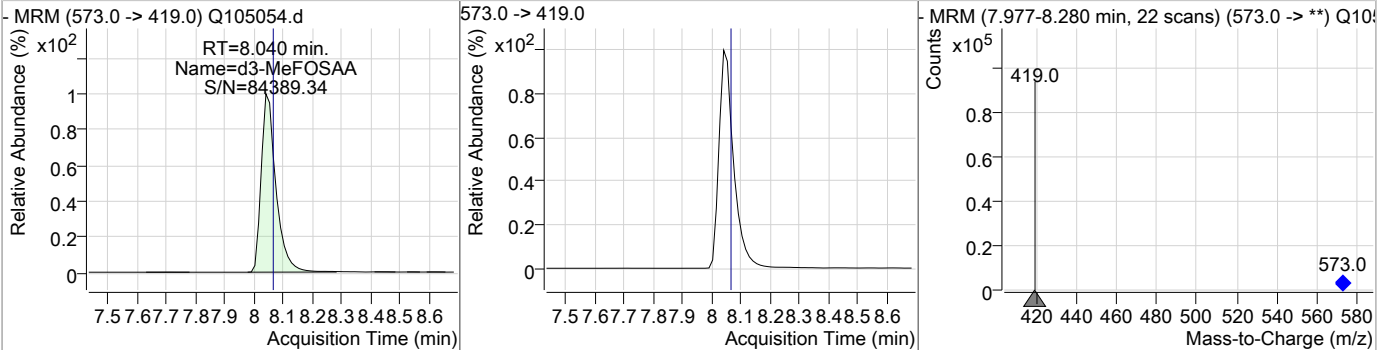


### Perfluorinated Compounds by LC/MS/MS

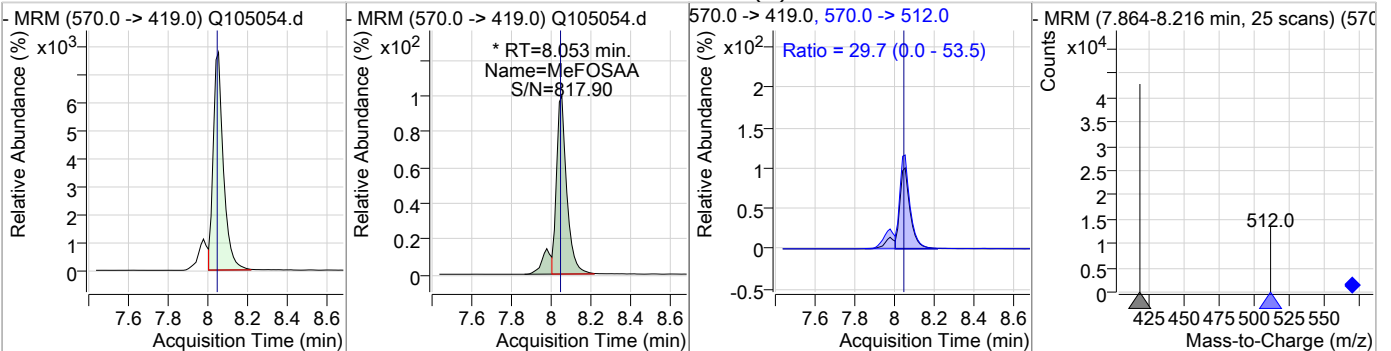
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	18.78	7.85	-0.03	22900	533.0 -> 353.0	32.8	2.7	62.7



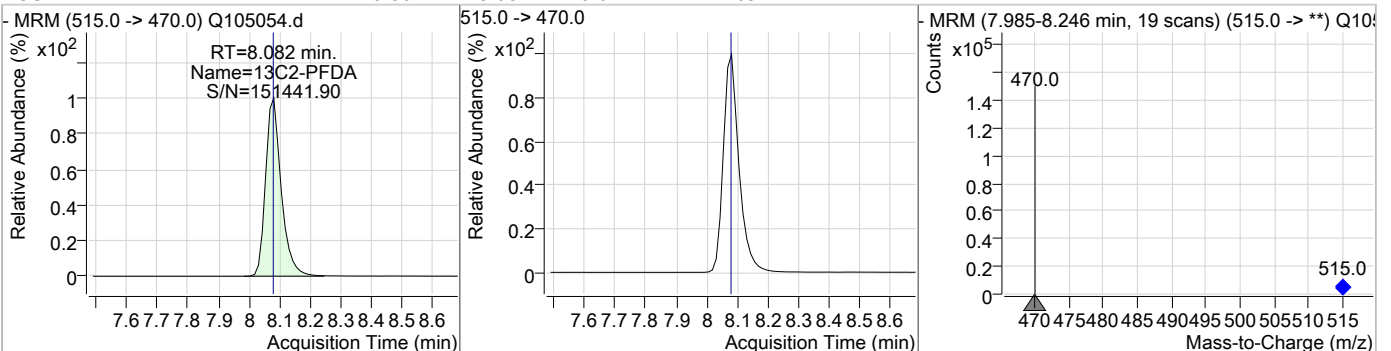
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.04	-0.03	69356				



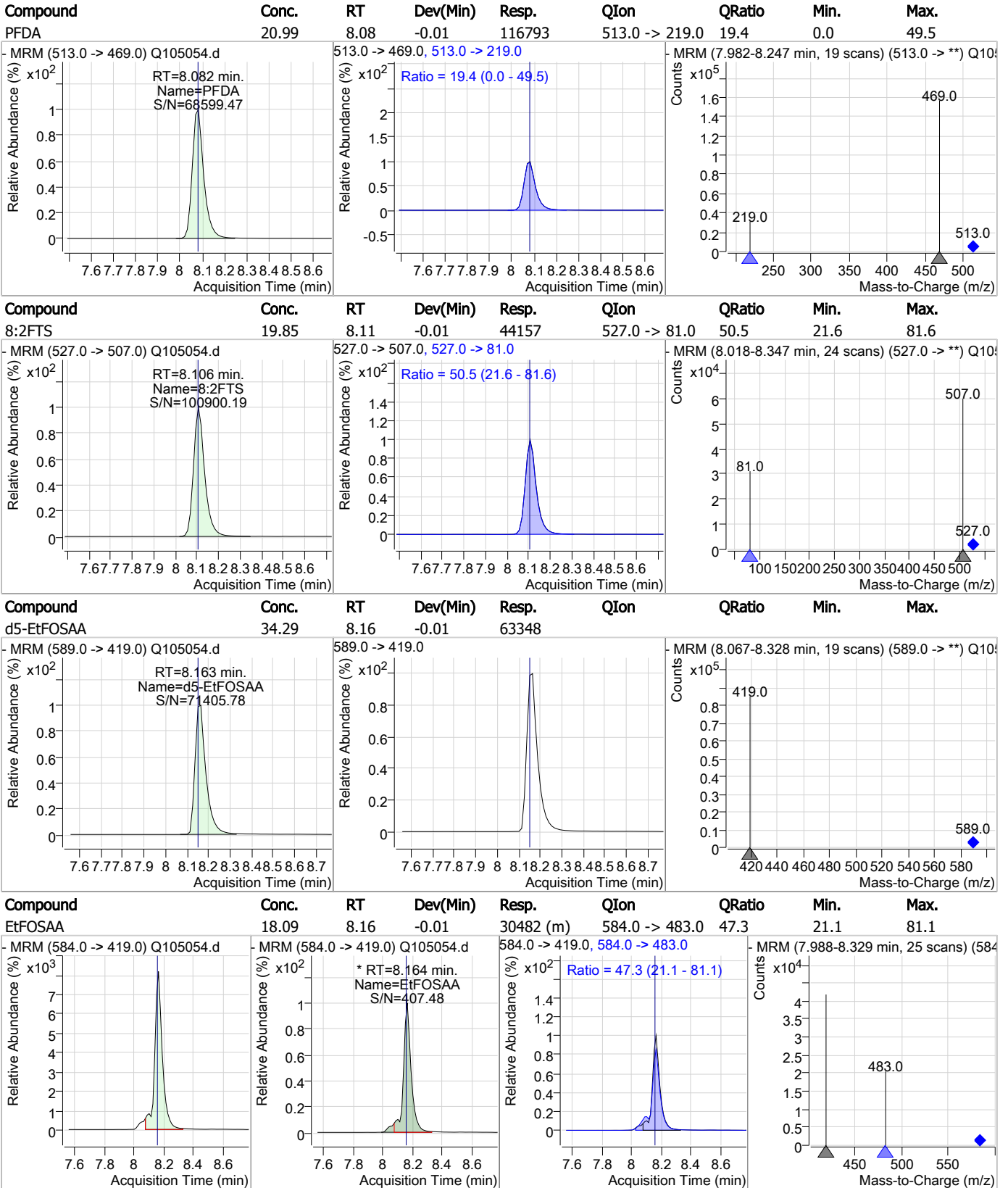
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	17.73	8.05	-0.01	31218 (m)	570.0 -> 512.0	29.7	0.0	53.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	20.86	8.08	-0.01	112209				



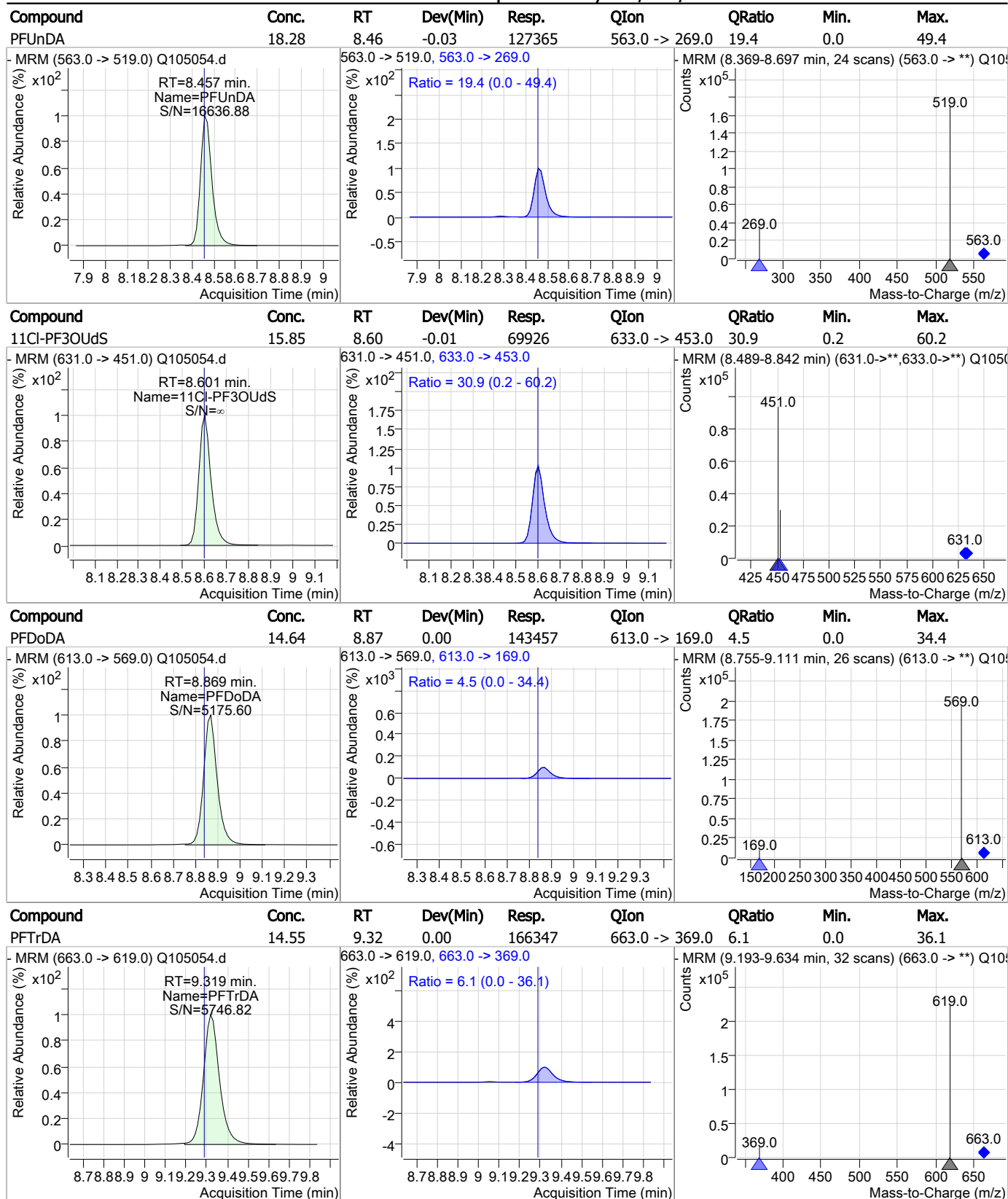
### Perfluorinated Compounds by LC/MS/MS



7.4.2

7

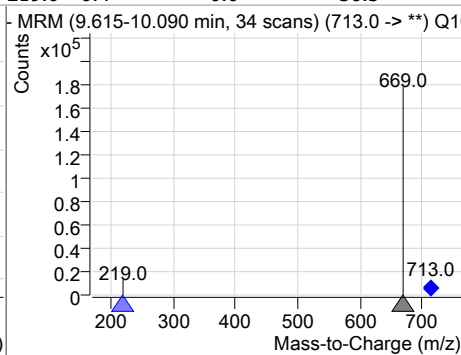
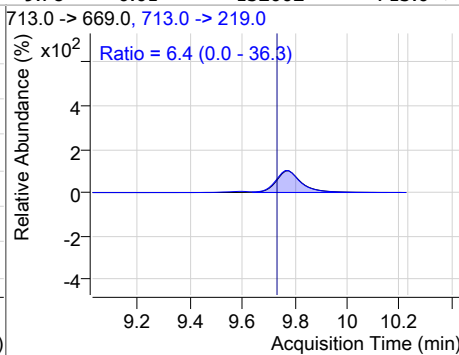
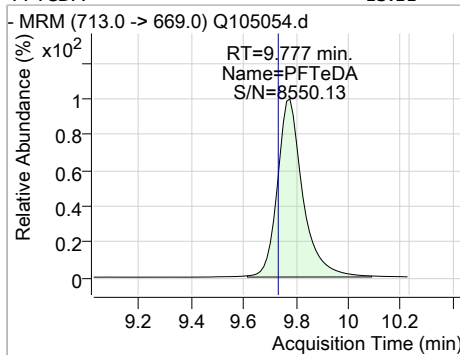
### Perfluorinated Compounds by LC/MS/MS



7.4.2  
7

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	13.11	9.78	0.01	132062	713.0 -> 219.0	6.4	0.0	36.3



7.4.2

7

# Manual Integration Approval Summary

Sample Number: OP98786-MSD      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105054.D      Analyst approved: 09/11/23 10:58 Anna Ludwig  
Injection Time: 09/08/23 22:56      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.63	Split peak
MeFOSAA	2355-31-9		8.05	Split peak
EtFOSAA	2991-50-6		8.16	Split peak

7.4.2.1

7

## Perfluorinated Compounds by LC/MS/MS

Data File : Q105029.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 4:21:52 PM  
 Sample Name : RT  
 Vial : P1-B1  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

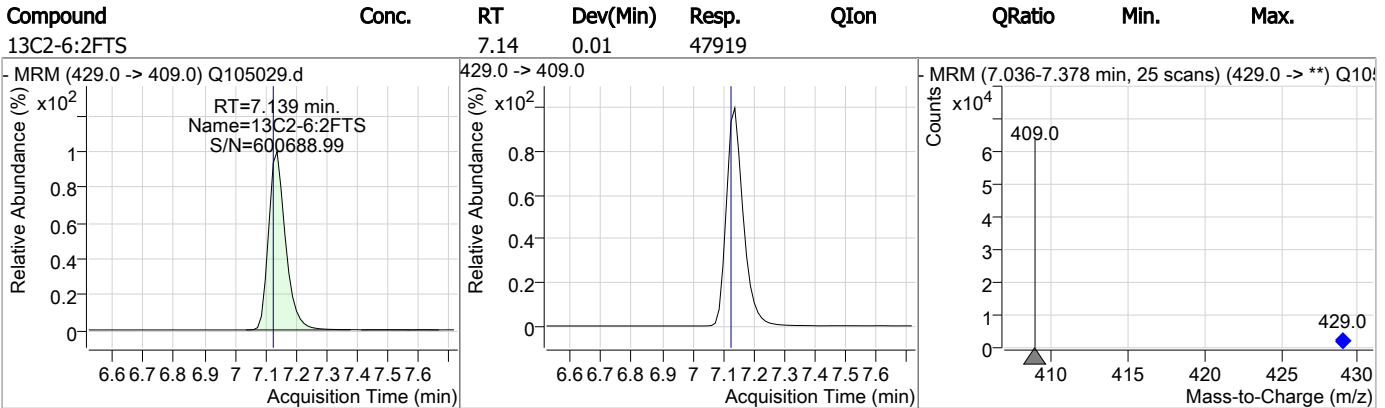
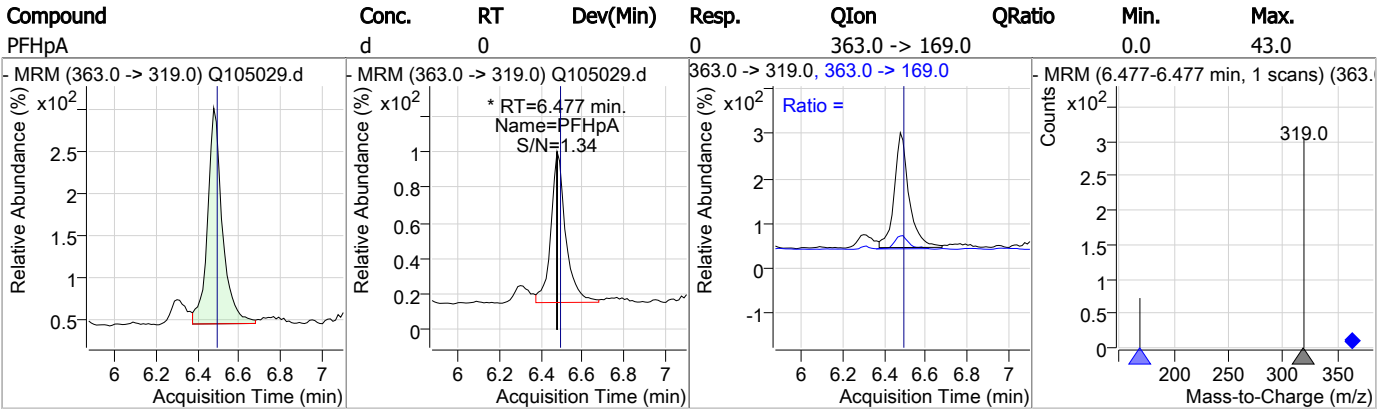
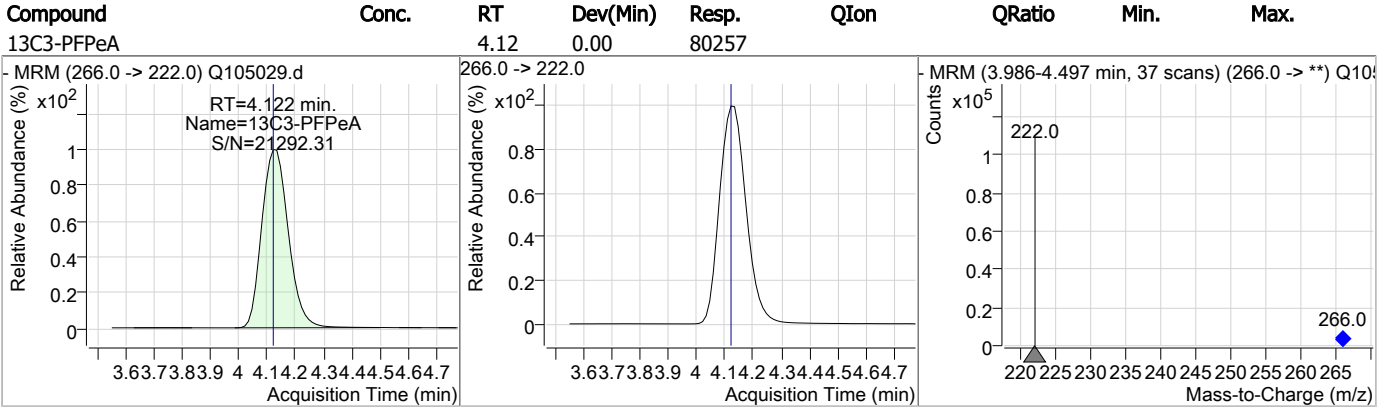
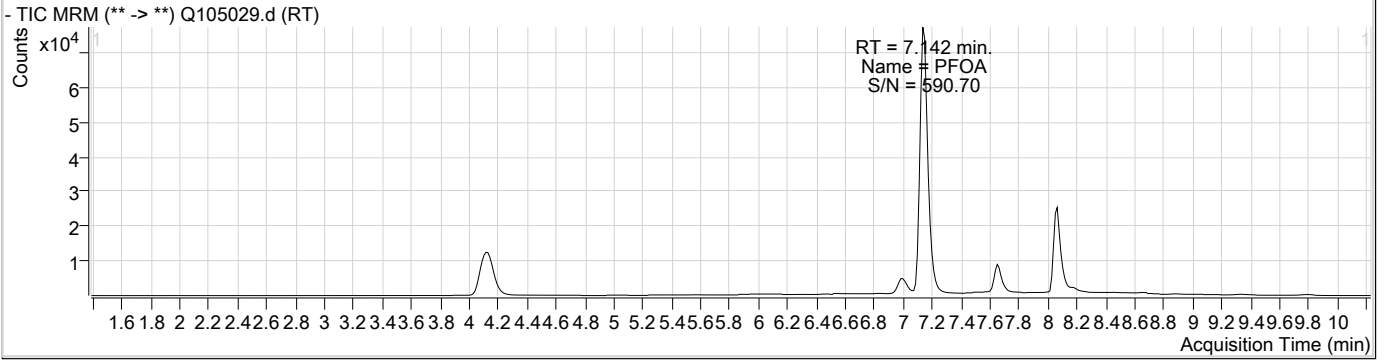
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.139	429.0 -> 409.0	47919	20.00	µg/L	0.013
13C2-PFOA	7.154	415.0 -> 370.0	133309	20.00	µg/L	0.012
13C3-PFPeA	4.122	266.0 -> 222.0	80257	20.00	µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	27783	20.00	µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	83498	40.00	µg/L	0.000
<b>System Monitoring Compounds</b>						
13C2-PFDA	-	515.0 -> 470.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = NA%		
13C2-PFHxA	-	315.0 -> 270.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = NA%		
d5-EtFOSAA	8.176	589.0 -> 419.0	0	0.00	µg/L m	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = NA%		
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = NA%		
<b>Target Compounds</b>						
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	8.177	584.0 -> 419.0	0	0.00	µg/L m	1
MeFOSAA	8.065	570.0 -> 419.0	0	0.00	µg/L m	1
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFHpA	6.477	363.0 -> 319.0	0	0.00	µg/L m	1
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFOA	7.142	413.0 -> 369.0	106746	16.42	µg/L m	94
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
HFPO-DA	-	285.0 -> 169.0	-	N.D.		

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

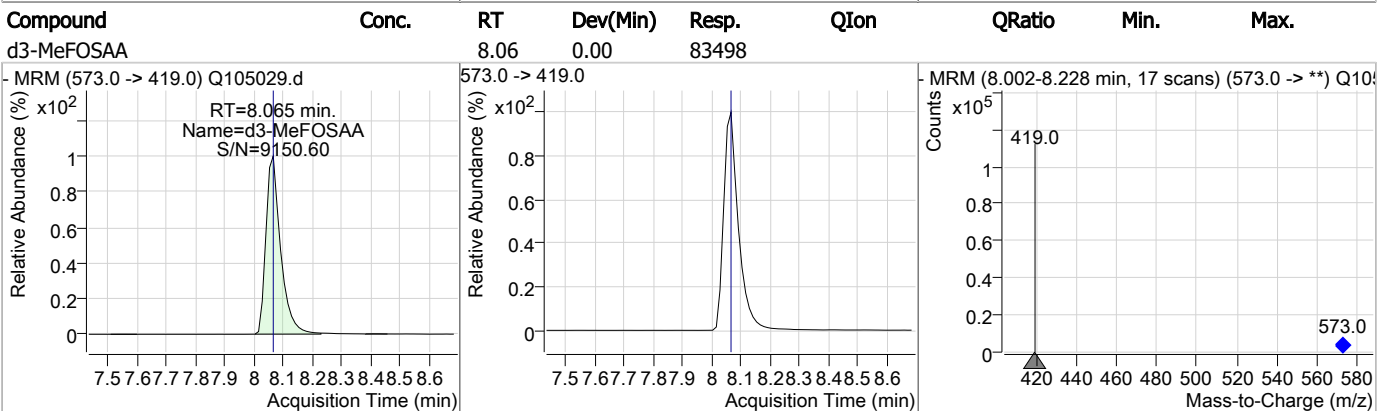
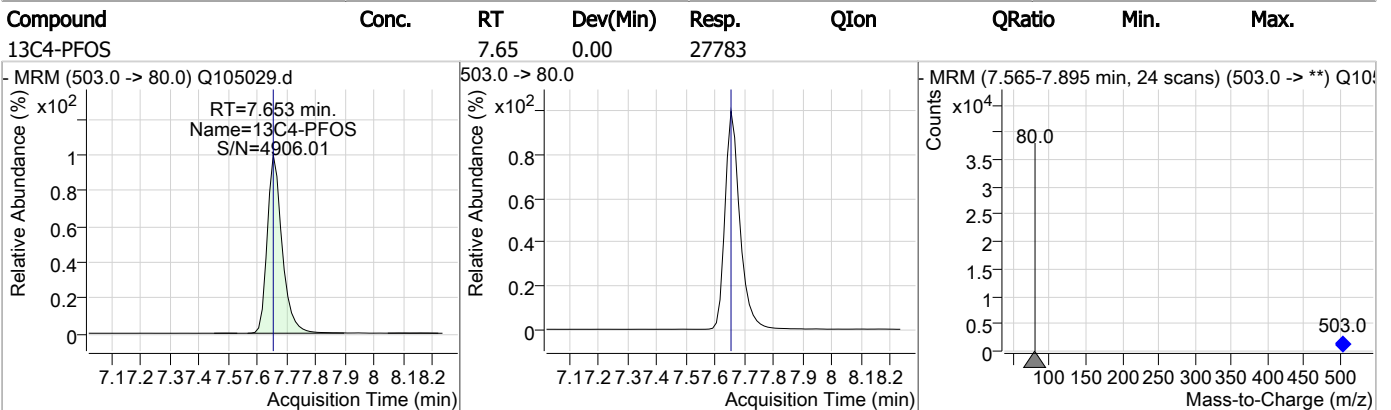
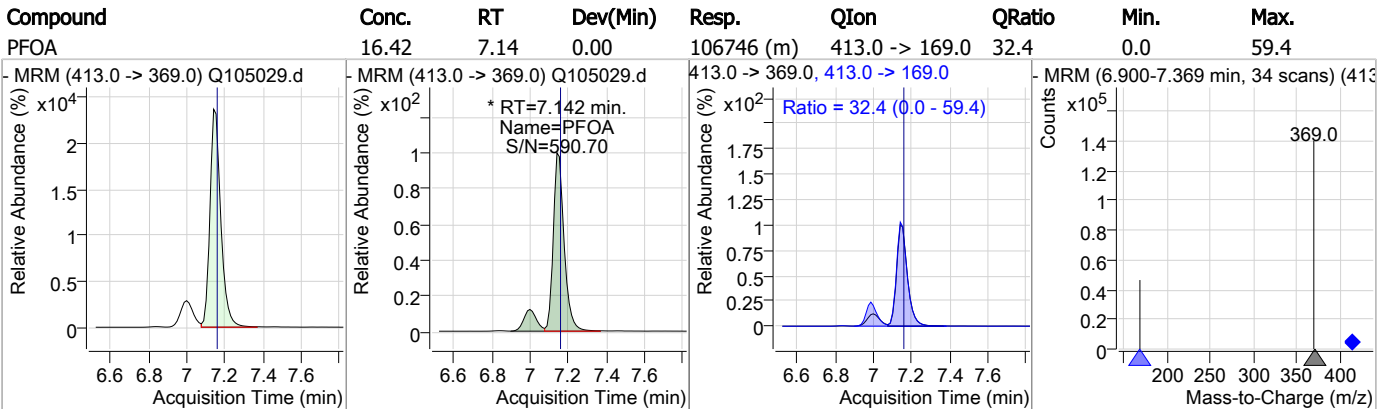
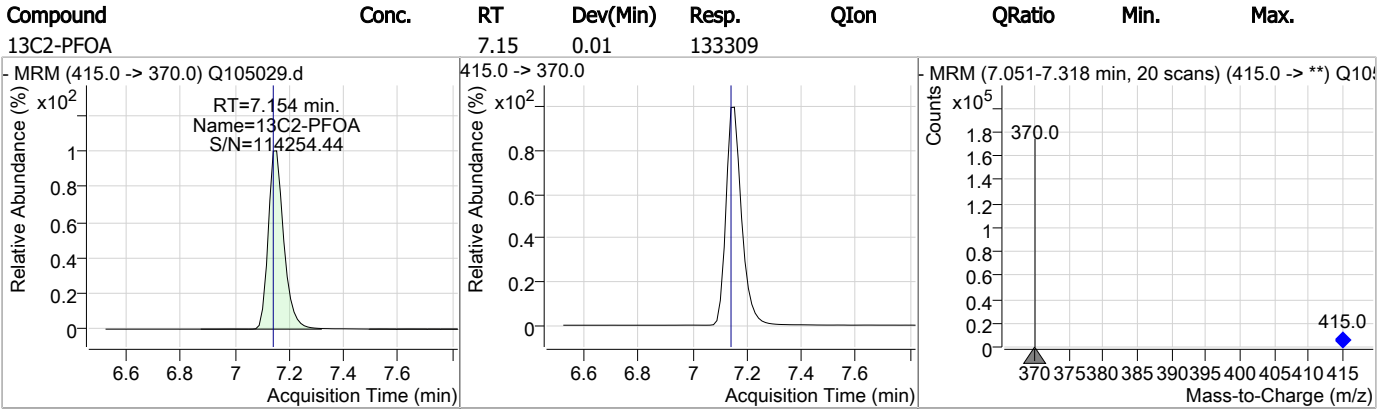
7.5.1  
7



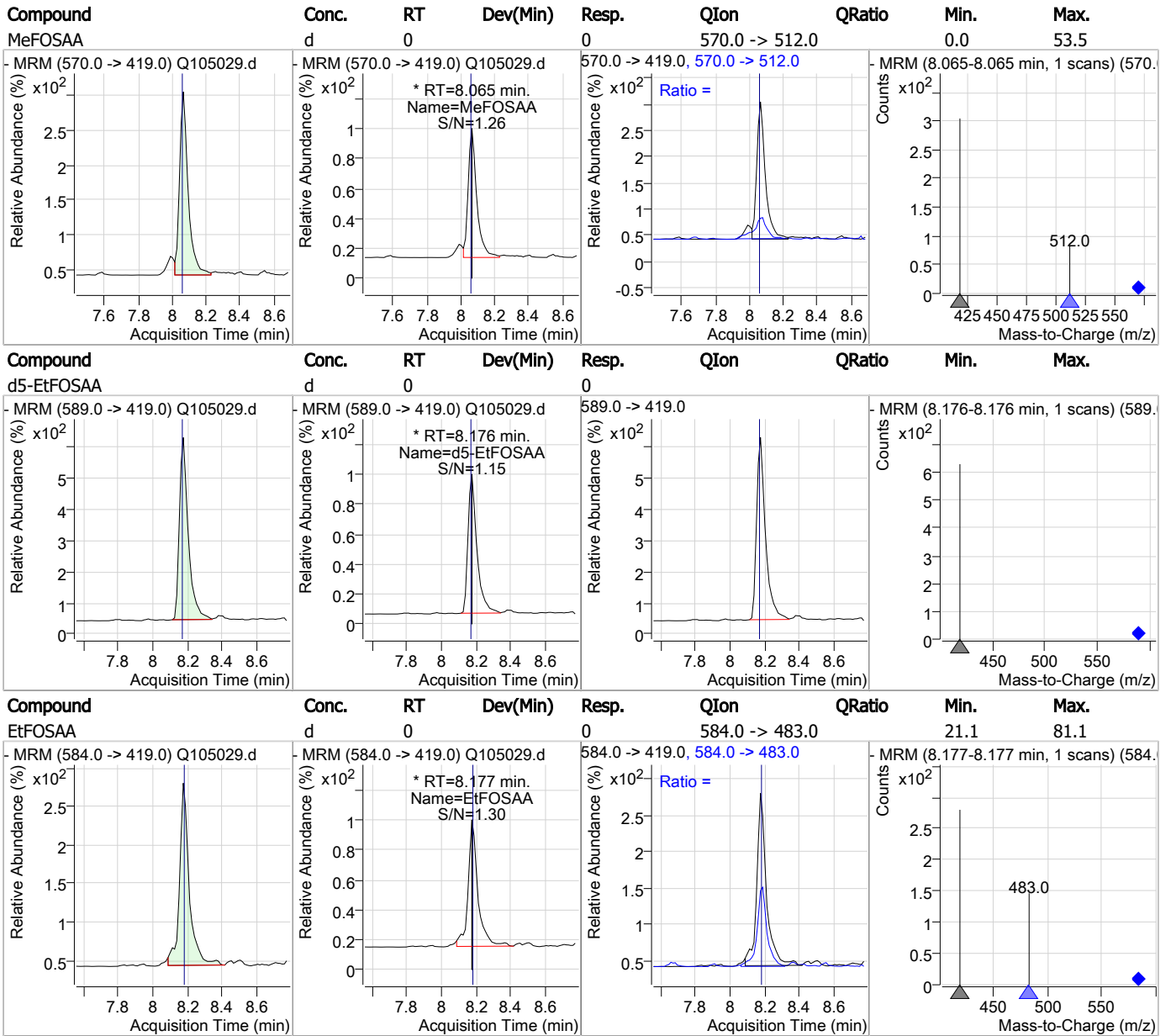
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



7.5.1

7

# Manual Integration Approval Summary

Sample Number: SQ2238-RT                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105029.D                      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 16:21                      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.14	Split peak

## Perfluorinated Compounds by LC/MS/MS

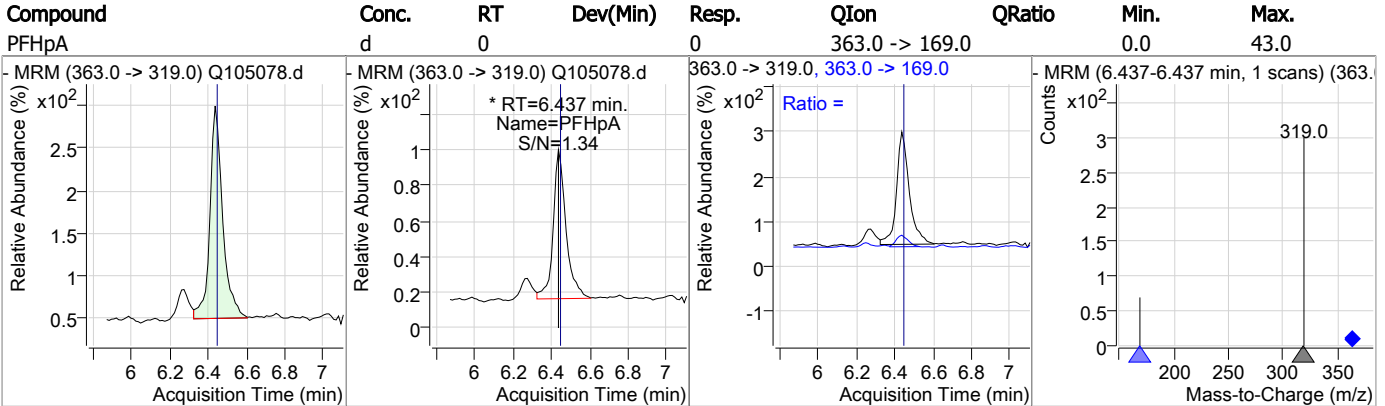
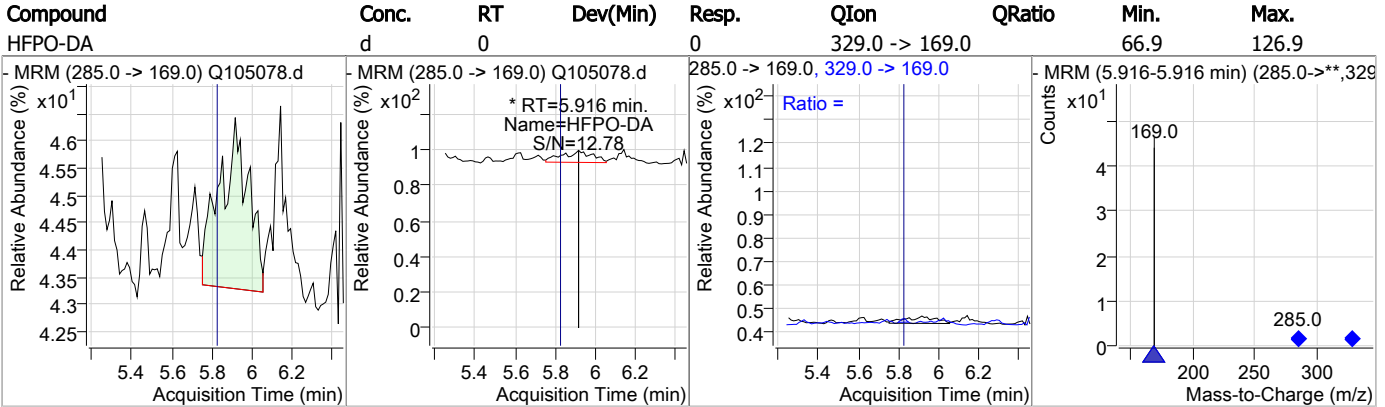
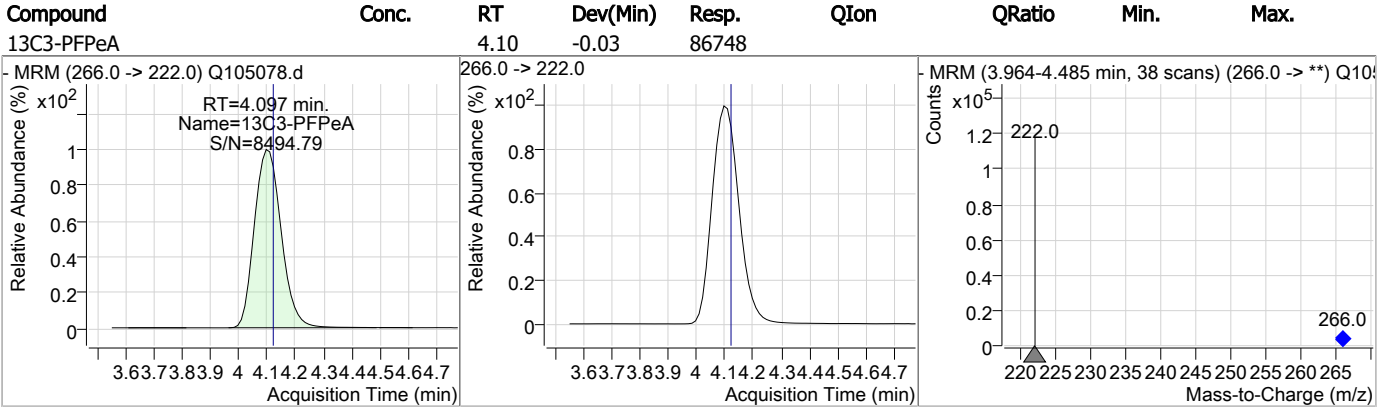
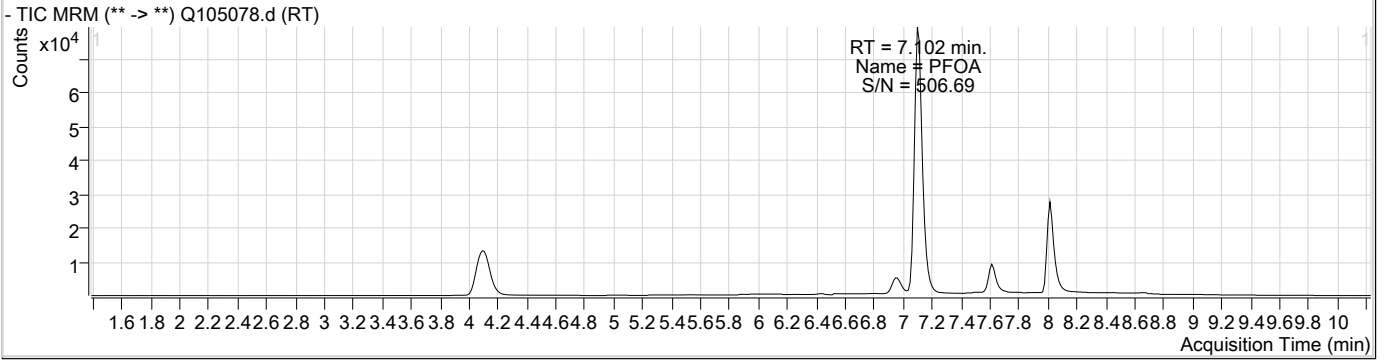
Data File : Q105078.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/11/2023 12:12:55 PM  
 Sample Name : RT  
 Vial : P1-B1  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2239.batch.bin  
 Sample Information : op97472,SQ2239,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.100	429.0 -> 409.0	50954	20.00	µg/L	-0.026
13C2-PFOA	7.102	415.0 -> 370.0	139043	20.00	µg/L	-0.039
13C3-PFPeA	4.097	266.0 -> 222.0	86748	20.00	µg/L	-0.025
13C4-PFOS	7.616	503.0 -> 80.0	28850	20.00	µg/L	-0.038
d3-MeFOSAA	8.015	573.0 -> 419.0	91761	40.00	µg/L	-0.050
<b>System Monitoring Compounds</b>						
13C2-PFDA	-	515.0 -> 470.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%		Recovery = NA%			
13C2-PFHxA	-	315.0 -> 270.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%		Recovery = NA%			
d5-EtFOSAA	-	589.0 -> 419.0	-	N.D.		
Spiked Amount: 40.00	Range: 70.0 - 130.0%		Recovery = NA%			
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 40.00	Range: 70.0 - 130.0%		Recovery = NA%			
<b>Target Compounds</b>						
6:2FTS	-	427.0 -> 407.0	-	N.D.		
8:2FTS	-	527.0 -> 507.0	-	N.D.		
EtFOSAA	-	584.0 -> 419.0	-	N.D.		
MeFOSAA	-	570.0 -> 419.0	-	N.D.		
PFBA	-	213.0 -> 169.0	-	N.D.		
PFBS	-	299.0 -> 80.0	-	N.D.		
PFDA	-	513.0 -> 469.0	-	N.D.		
PFDoDA	-	613.0 -> 569.0	-	N.D.		
PFHpA	6.437	363.0 -> 319.0	0	0.00	µg/L	m 1
PFHpS	-	449.0 -> 80.0	-	N.D.		
PFHxA	-	313.0 -> 269.0	-	N.D.		
PFHxS	-	399.0 -> 80.0	-	N.D.		
PFNA	-	463.0 -> 419.0	-	N.D.		
PFOA	7.102	413.0 -> 369.0	110114	16.24	µg/L	m 94
PFOS	-	499.0 -> 80.0	-	N.D.		
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFTeDA	-	713.0 -> 669.0	-	N.D.		
PFTrDA	-	663.0 -> 619.0	-	N.D.		
PFUnDA	-	563.0 -> 519.0	-	N.D.		
ADONA	-	377.0 -> 251.0	-	N.D.		
9Cl-PF3ONS	-	531.0 -> 351.0	-	N.D.		
11Cl-PF3OUdS	-	631.0 -> 451.0	-	N.D.		
HFPO-DA	5.916	285.0 -> 169.0	0	0.00	µg/L	m 1

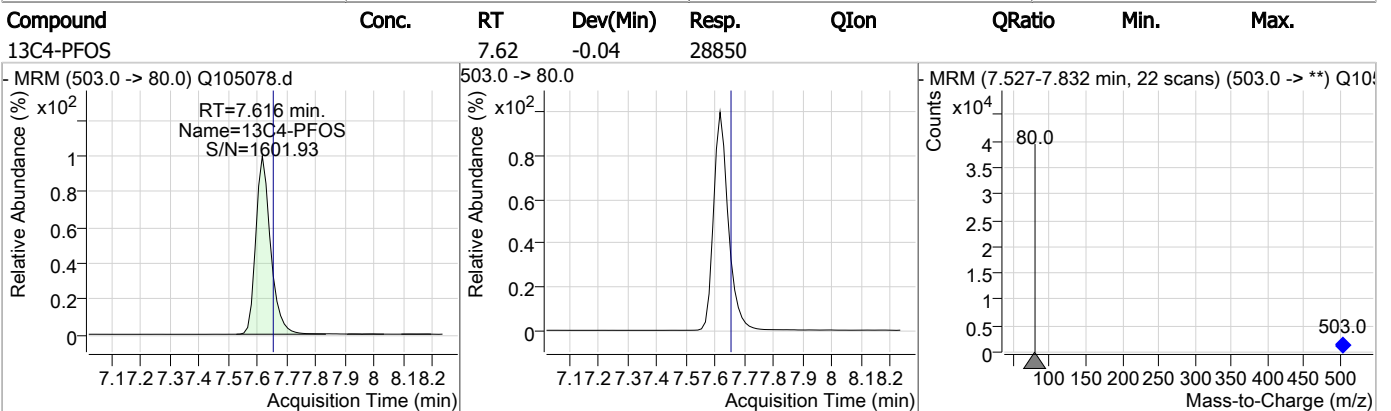
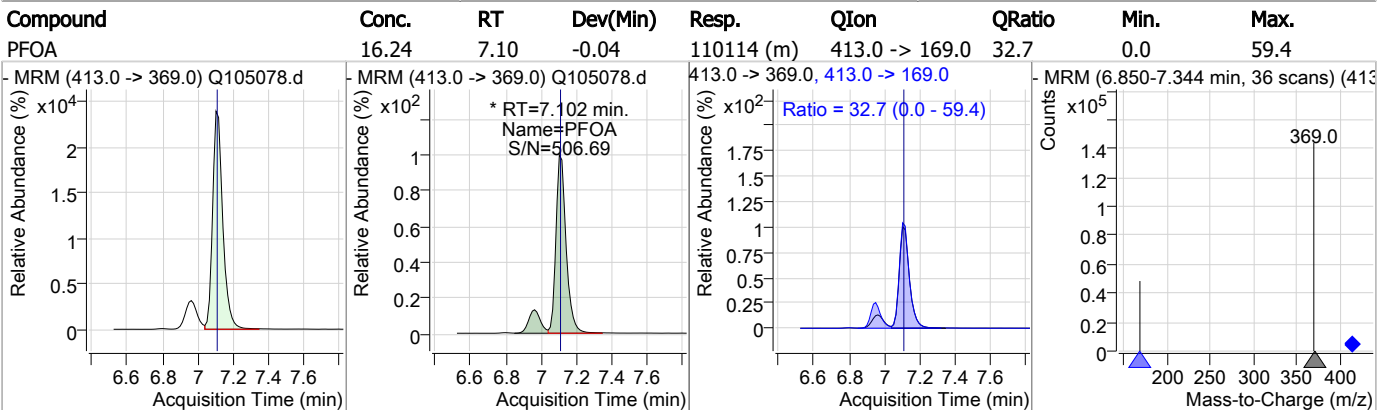
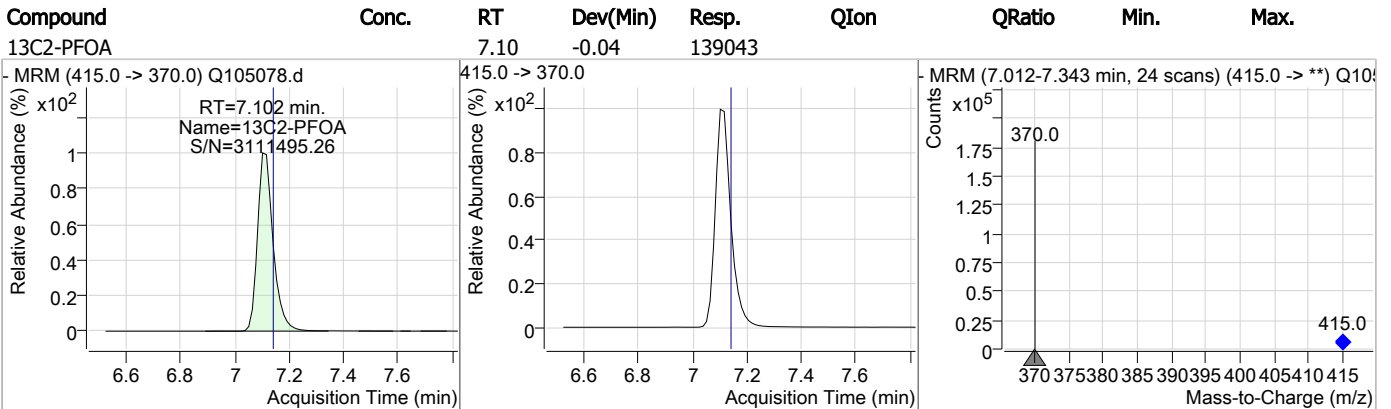
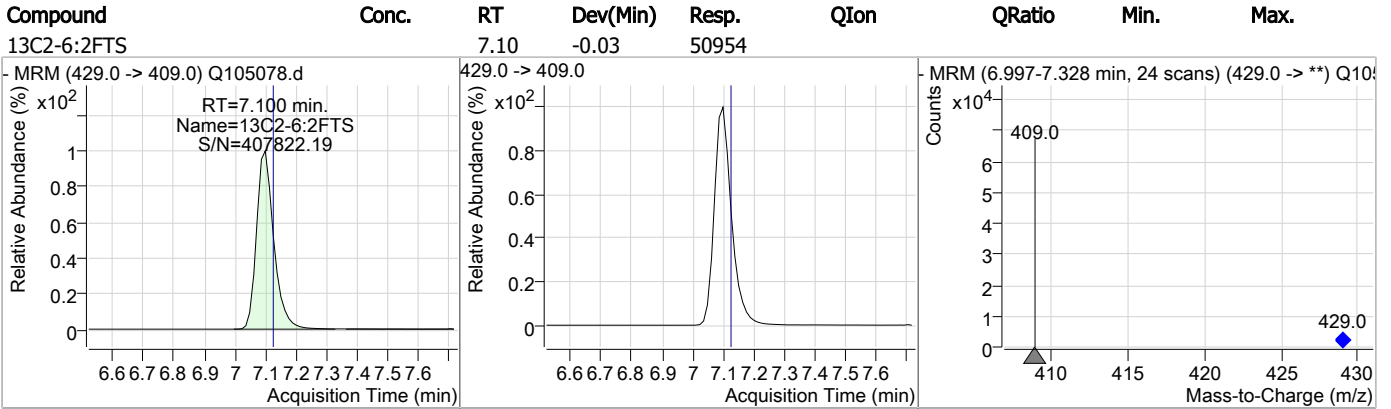
# = Qualifier out of range, m = manually integrated, + = Area summed

7.5.2  
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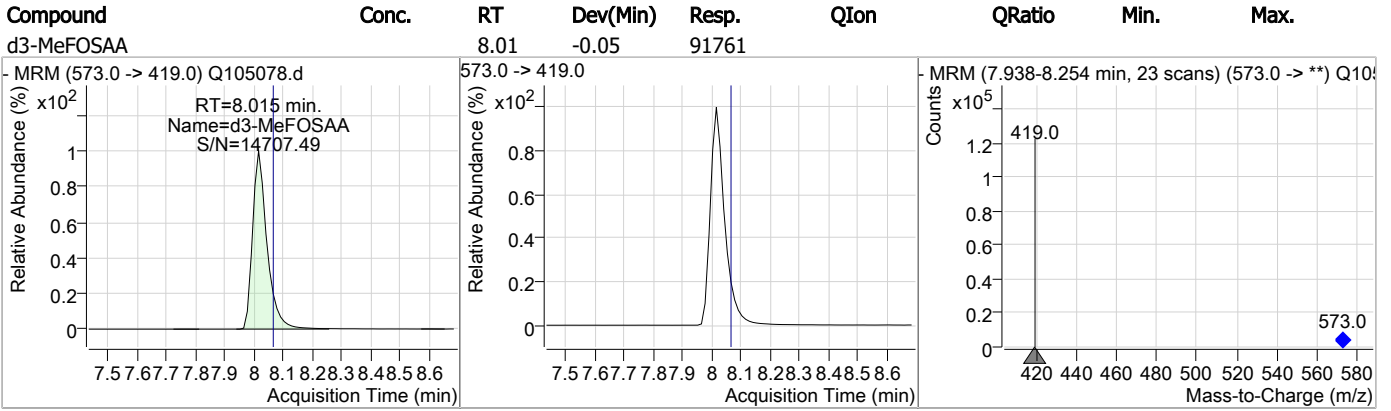
# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS



7.5.2

7



# Manual Integration Approval Summary

Sample Number: SQ2239-RT                      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105078.D                      Analyst approved: 09/12/23 11:44 Anna Ludwig  
Injection Time: 09/11/23 12:12                      Supervisor approved: 09/12/23 16:20 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.10	Split peak

7.5.2.1

7

## QQQ Check Tune Report



**Instrument Name** Instrument 1  
**MS Model** G6460A  
**MS Instrument Serial** SG10447001  
**Software\_Firmware Version** B.08.02.B8260.0, FW: A.00.08.62  
**Tune Date & Time** 05 September 2023 12:51:39  
**Data Path** D:\MassHunter\Tune\QQQ\G6460A\atunes.TUNE.XML  
**Ion Source** AJS ESI  
**Ionization Mode** AJS ESI  
**Tuned Resolution** All  
**Vacuum Pressure** 1.51E+0[R]; 2.23E-5[H]

**Source Parameters**

Parameter	Value
Gas Temp	300
Gas Flow	10
Nebulizer	15
Capillary	4000
Nozzle Voltage	1500
Sheath Gas Temp	250
Sheath Gas Flow	7

7.6.1

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	113.01	0.02	Pass	0.70	0.65	-0.05	Pass	70265
302.00	302.01	0.01	Pass	0.70	0.69	-0.01	Pass	13131
601.98	602.01	0.03	Pass	0.70	0.70	0.00	Pass	25463
1033.99	1034.02	0.03	Pass	0.70	0.69	-0.01	Pass	109845
1633.95	1634.00	0.05	Pass	0.70	0.69	-0.01	Pass	297101
2233.91	2234.01	0.10	Pass	0.70	0.66	-0.04	Pass	103136

**Analyzer: MS2 Polarity: Negative Width: Unit**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.05	0.05	Pass	0.70	0.69	-0.01	Pass	25479
112.99	113.00	0.01	Pass	0.70	0.72	0.02	Pass	175734
302.00	301.99	-0.01	Pass	0.70	0.72	0.02	Pass	40149
601.98	601.97	-0.01	Pass	0.70	0.69	-0.01	Pass	70293
1033.99	1034.00	0.01	Pass	0.70	0.70	0.00	Pass	222790
1633.95	1633.99	0.04	Pass	0.70	0.66	-0.04	Pass	342846
2233.91	2234.02	0.11	Pass	0.70	0.73	0.03	Pass	265695

**Analyzer: MS1 Polarity: Negative Width: Wide**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.99	0.00	Pass	1.20	1.08	-0.12	Pass	99197
302.00	302.09	0.09	Pass	1.20	1.20	0.00	Pass	20546
601.98	602.08	0.10	Pass	1.20	1.25	0.05	Pass	38922
1033.99	1034.07	0.08	Pass	1.20	1.28	0.08	Pass	196243
1633.95	1633.92	-0.03	Pass	1.20	1.21	0.01	Pass	564070
2233.91	2233.81	-0.10	Pass	1.20	1.12	-0.08	Pass	484447

**Analyzer: MS2 Polarity: Negative Width: Wide**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.11	0.11	Pass	1.20	1.15	-0.05	Pass	31215
112.99	113.04	0.05	Pass	1.20	1.23	0.03	Pass	203632
302.00	302.00	0.00	Pass	1.20	1.32	0.12	Pass	59957
601.98	601.91	-0.07	Pass	1.20	1.26	0.06	Pass	106039
1033.99	1033.82	-0.17	Pass	1.20	1.06	-0.14	Pass	397830
1633.95	1633.71	-0.24	Pass	1.20	1.11	-0.09	Pass	1070338
2233.91	2233.50	-0.41	Pass	1.20	1.32	0.12	Pass	1177374

**Analyzer: MS1 Polarity: Negative Width: Widest**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.73	-0.26	Pass	2.50	2.52	0.02	Pass	148348
302.00	302.07	0.07	Pass	2.50	2.56	0.06	Pass	32152
601.98	602.09	0.11	Pass	2.50	2.55	0.05	Pass	57765
1033.99	1034.06	0.07	Pass	2.50	2.51	0.01	Pass	312071
1633.95	1633.95	0.00	Pass	2.50	2.28	-0.22	Pass	954723
2233.91	2233.78	-0.13	Pass	2.50	2.07	-0.43	Pass	906143

**Analyzer: MS2 Polarity: Negative Width: Widest**

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.07	0.07	Pass	2.50	2.45	-0.05	Pass	38422
112.99	112.99	0.00	Pass	2.50	2.56	0.06	Pass	236082
302.00	301.95	-0.05	Pass	2.50	2.67	0.17	Pass	70889
601.98	601.85	-0.13	Pass	2.50	2.67	0.17	Pass	146587
1033.99	1033.78	-0.21	Pass	2.50	2.45	-0.05	Pass	748620
1633.95	1633.65	-0.30	Pass	2.50	2.53	0.03	Pass	2607040
2233.91	2233.40	-0.51	Pass	2.50	2.75	0.25	Pass	3103270

7.6.1  
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Perfluorinated Compounds by LC/MS/MS

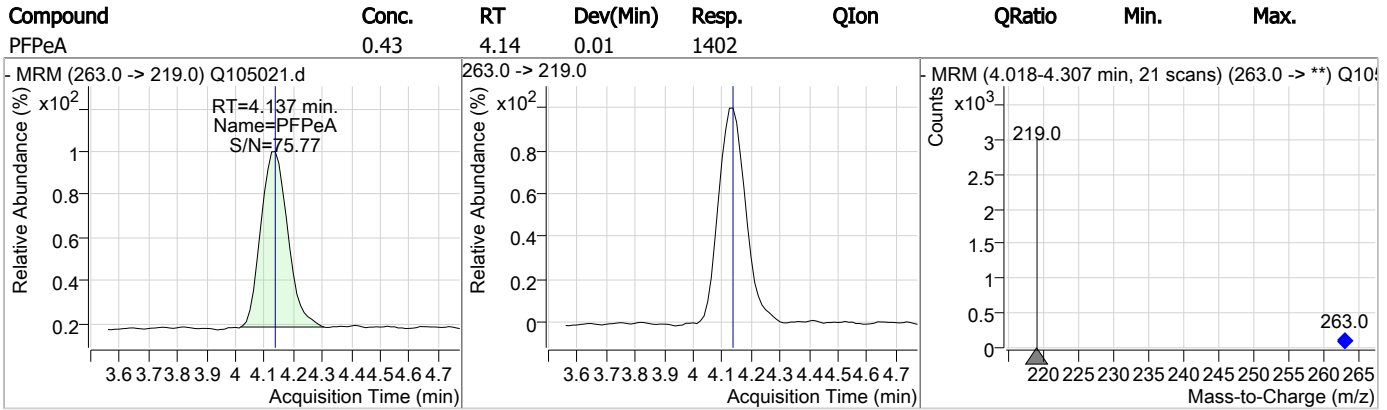
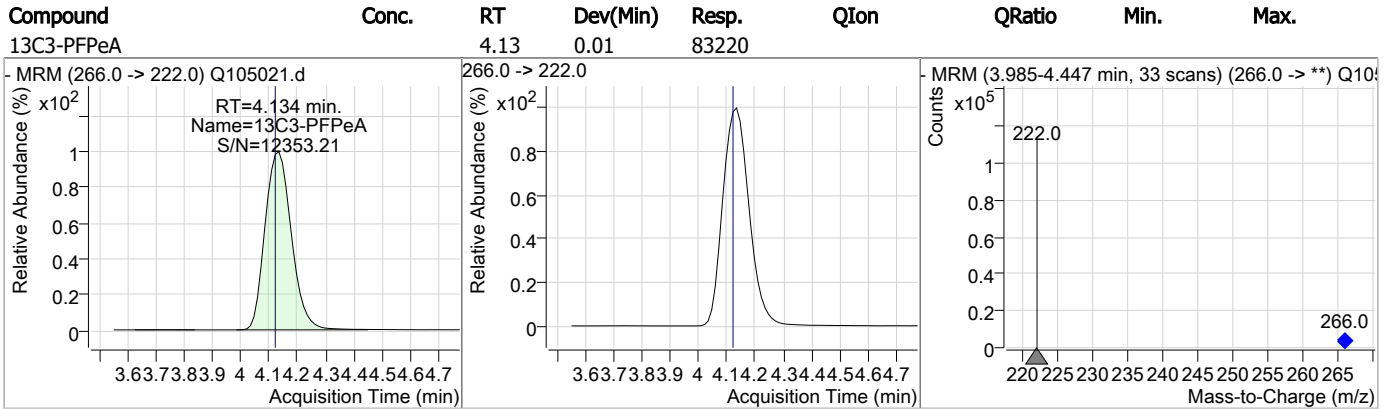
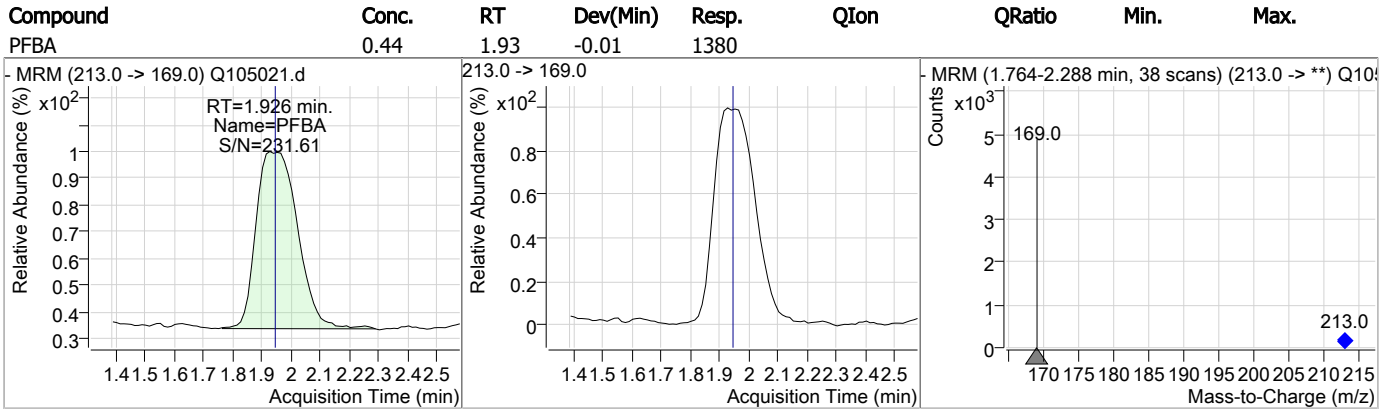
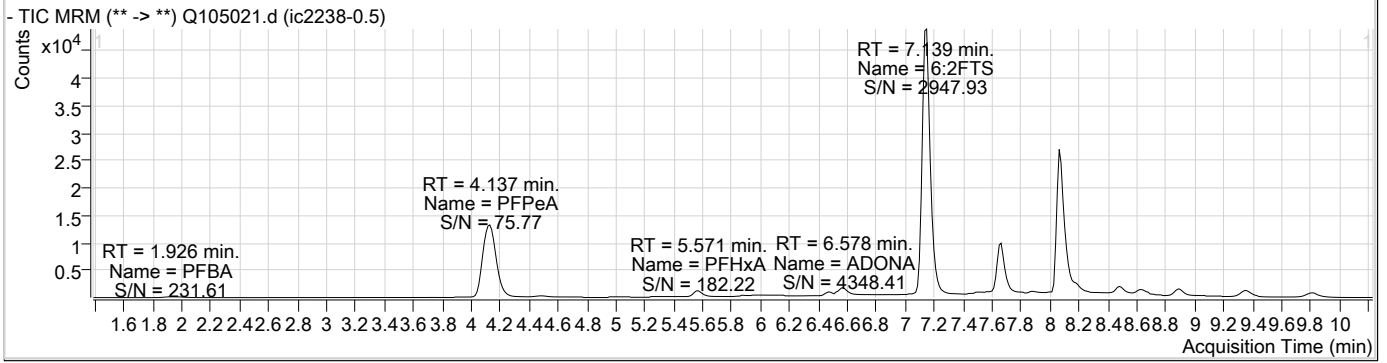
Data File : Q105021.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 2:15:36 PM  
 Sample Name : ic2238-0.5  
 Vial : P1-A2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.139	429.0 -> 409.0	49245	20.00	µg/L	0.013
13C2-PFOA	7.154	415.0 -> 370.0	138560	20.00	µg/L	0.012
13C3-PFPeA	4.134	266.0 -> 222.0	83220	20.00	µg/L	0.013
13C4-PFOS	7.666	503.0 -> 80.0	28660	20.00	µg/L	0.013
d3-MeFOSAA	8.065	573.0 -> 419.0	86528	40.00	µg/L	0.000
<b>System Monitoring Compounds</b>						
13C2-PFDA	8.107	515.0 -> 470.0	3327	0.49	µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.5%		
13C2-PFHxA	5.569	315.0 -> 270.0	2394	0.48	µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.4%		
d5-EtFOSAA	8.176	589.0 -> 419.0	2529	1.13	µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 2.8%		
13C3-HFPO-DA	5.851	287.0 -> 169.0	147	0.95	µg/L m	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 2.4%		
<b>Target Compounds</b>						
6:2FTS	7.139	427.0 -> 407.0	1314	0.47	µg/L	92
8:2FTS	8.131	527.0 -> 507.0	1421	0.52	µg/L	92
EtFOSAA	8.189	584.0 -> 419.0	799	0.39	µg/L m	79
MeFOSAA	8.065	570.0 -> 419.0	977	0.44	µg/L m	81
PFBA	1.926	213.0 -> 169.0	1380	0.44	µg/L	100
PFBS	4.478	299.0 -> 80.0	703	0.41	µg/L	94
PFDA	8.108	513.0 -> 469.0	3308	0.47	µg/L	94
PFDoDA	8.894	613.0 -> 569.0	5118	0.41	µg/L	99
PFHpA	6.477	363.0 -> 319.0	3192	0.50	µg/L	96
PFHpS	7.149	449.0 -> 80.0	513	0.44	µg/L	97
PFHxA	5.571	313.0 -> 269.0	2073	0.41	µg/L	97
PFHxS	6.526	399.0 -> 80.0	509	0.40	µg/L m	97
PFNA	7.680	463.0 -> 419.0	2714	0.45	µg/L	100
PFOA	7.155	413.0 -> 369.0	2931	0.43	µg/L	94
PFOS	7.654	499.0 -> 80.0	649	0.38	µg/L m	96
PFPeA	4.137	263.0 -> 219.0	1402	0.43	µg/L	100
PFTeDA	9.802	713.0 -> 669.0	4803	0.37	µg/L	99
PFTrDA	9.356	663.0 -> 619.0	5680	0.39	µg/L	99
PFUnDA	8.483	563.0 -> 519.0	3826	0.43	µg/L	91
ADONA	6.578	377.0 -> 251.0	3460	0.38	µg/L	97
9Cl-PF3ONS	7.879	531.0 -> 351.0	650	0.43	µg/L	95
11Cl-PF3OUdS	8.626	631.0 -> 451.0	2191	0.40	µg/L	96
HFPO-DA	5.865	285.0 -> 169.0	98	0.50	µg/L	83

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

7.6.2  
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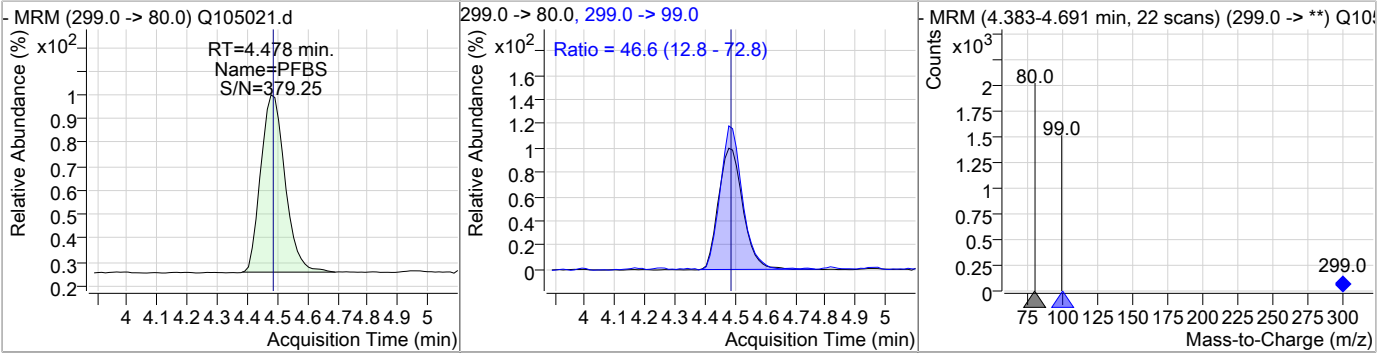
### Perfluorinated Compounds by LC/MS/MS



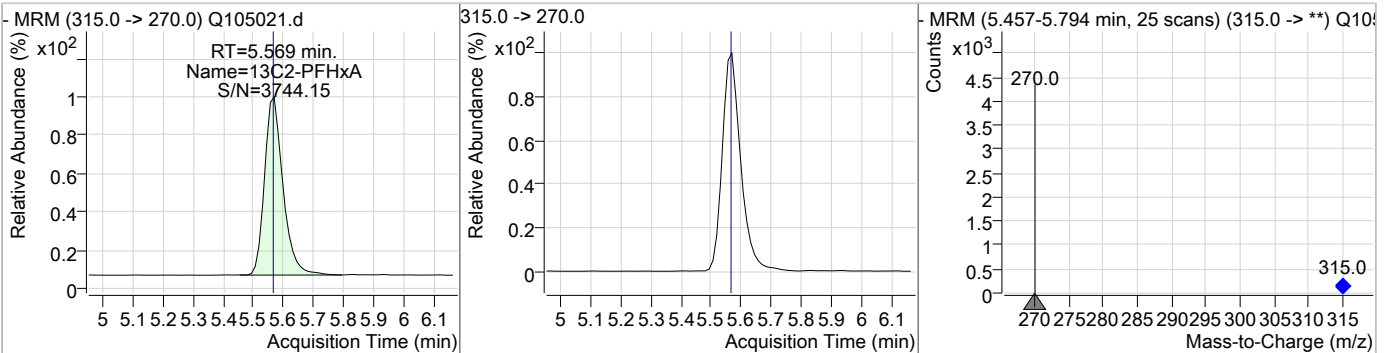
7.6.2  
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### Perfluorinated Compounds by LC/MS/MS

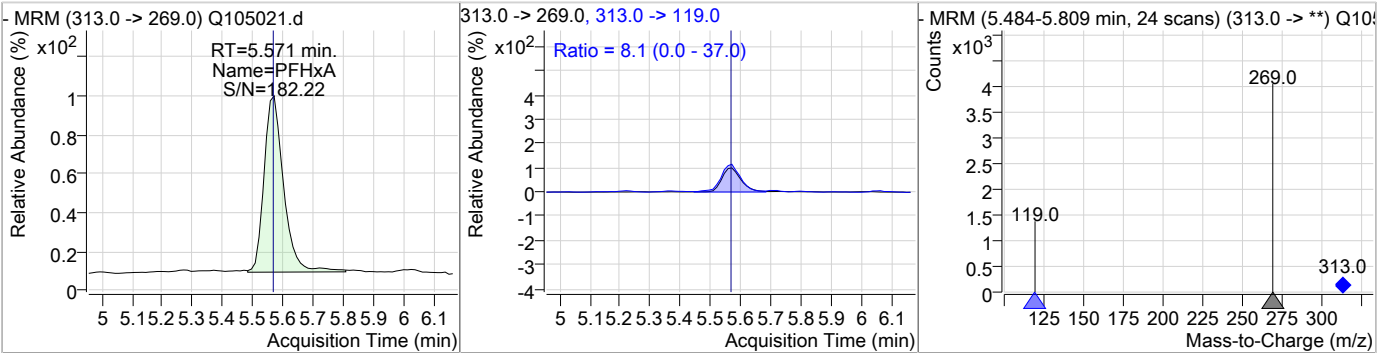
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.41	4.48	0.00	703	299.0 -> 99.0	46.6	12.8	72.8



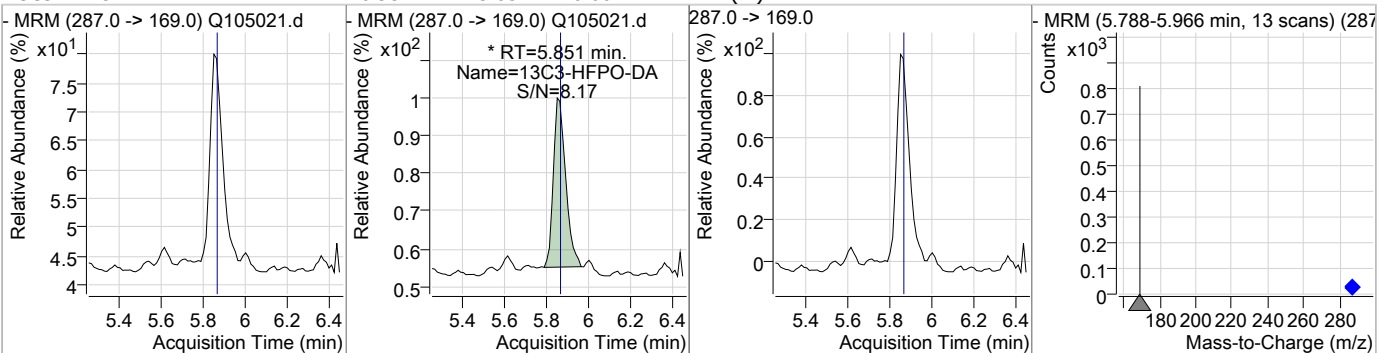
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	0.48	5.57	0.01	2394				



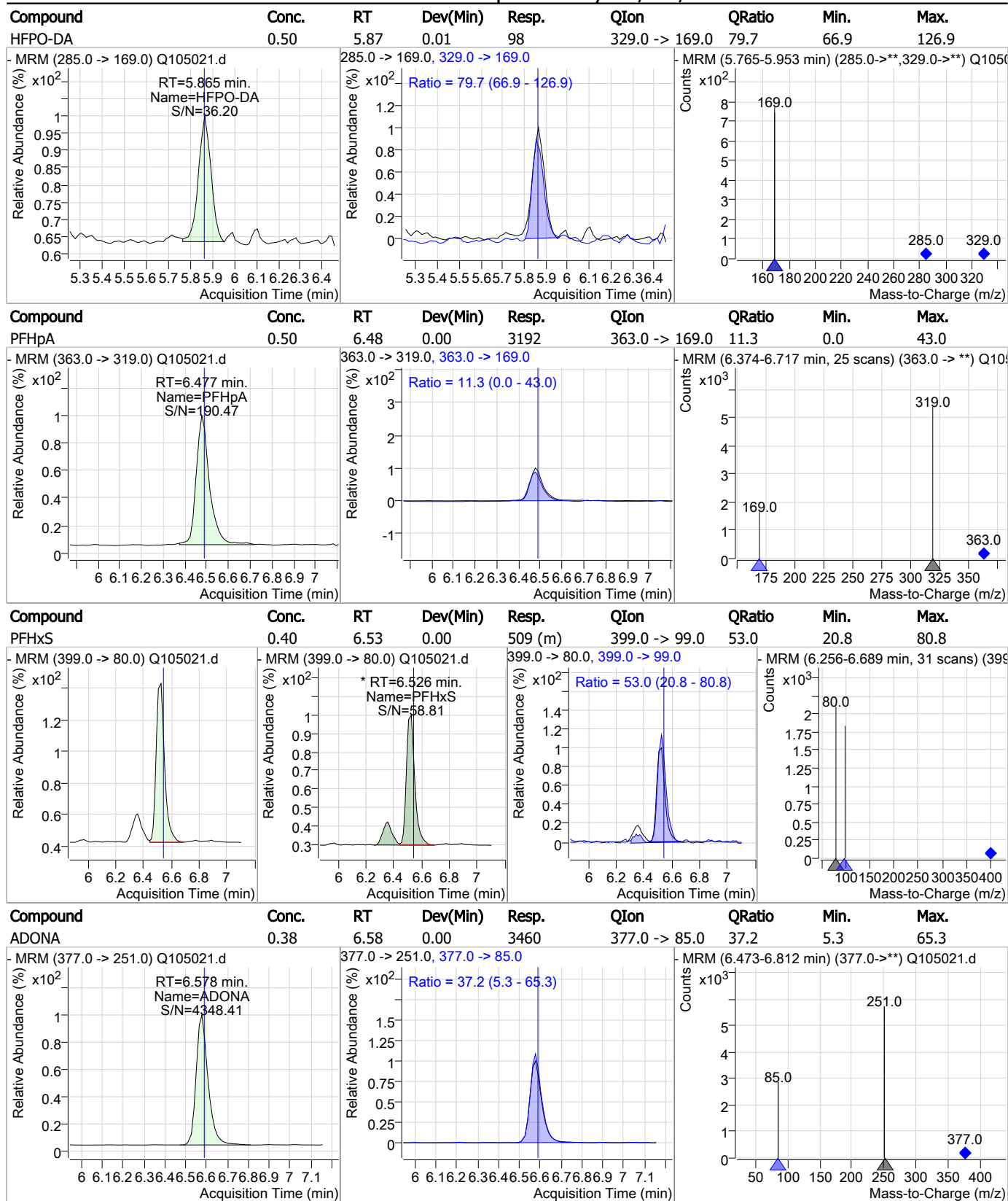
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.41	5.57	0.01	2073	313.0 -> 119.0	8.1	0.0	37.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	0.95	5.85	0.00	147 (m)				

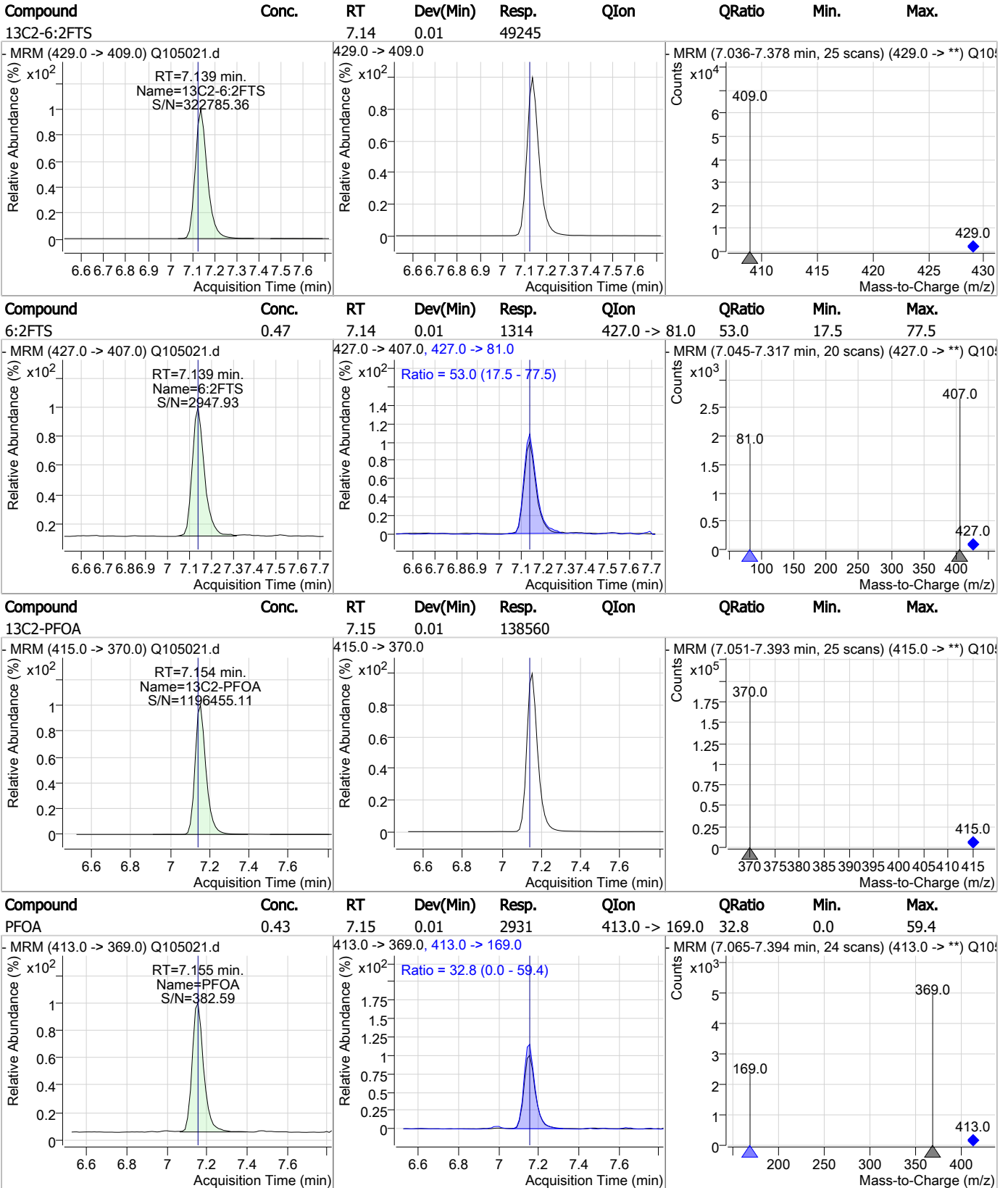


### Perfluorinated Compounds by LC/MS/MS



7.6.2  
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### Perfluorinated Compounds by LC/MS/MS



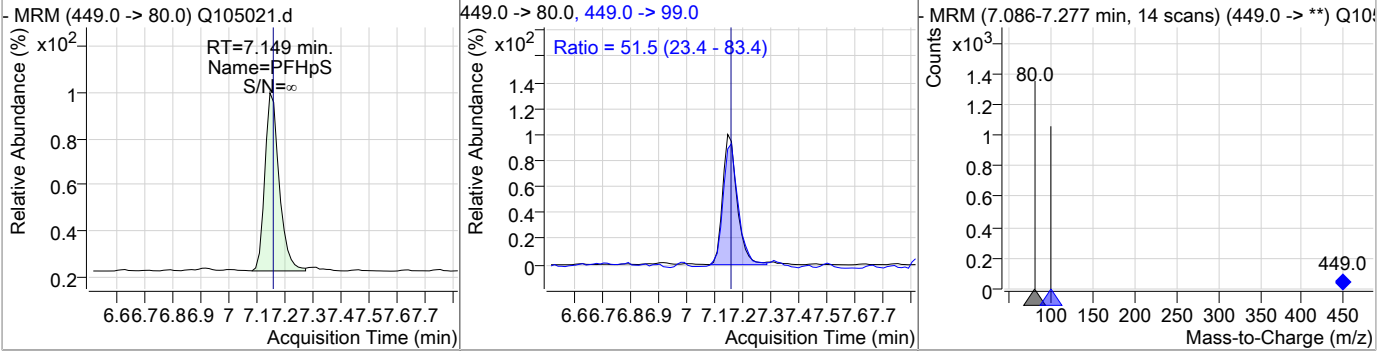
7.6.2

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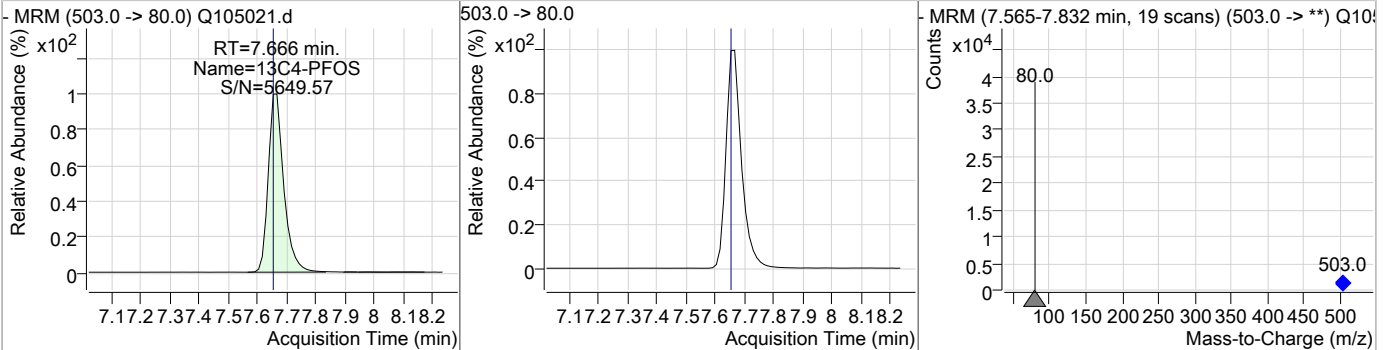


### Perfluorinated Compounds by LC/MS/MS

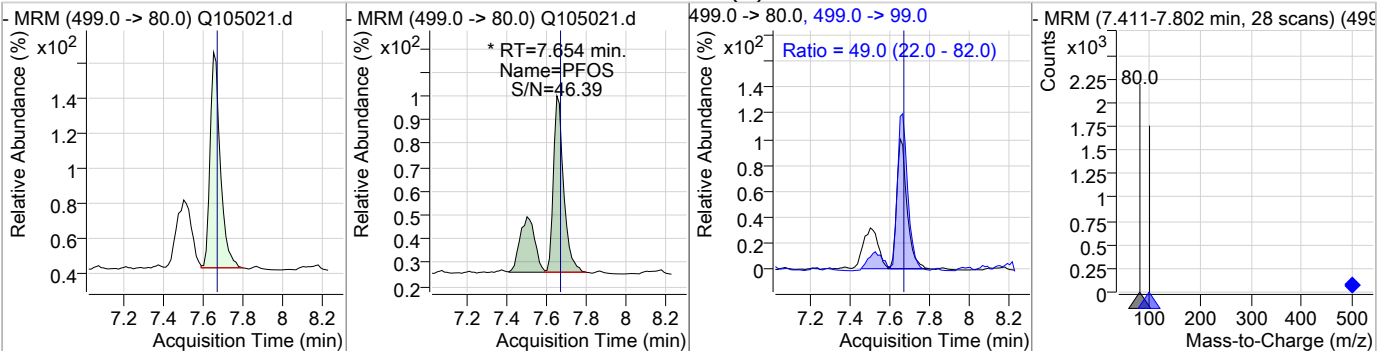
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.44	7.15	0.00	513	449.0 -> 99.0	51.5	23.4	83.4



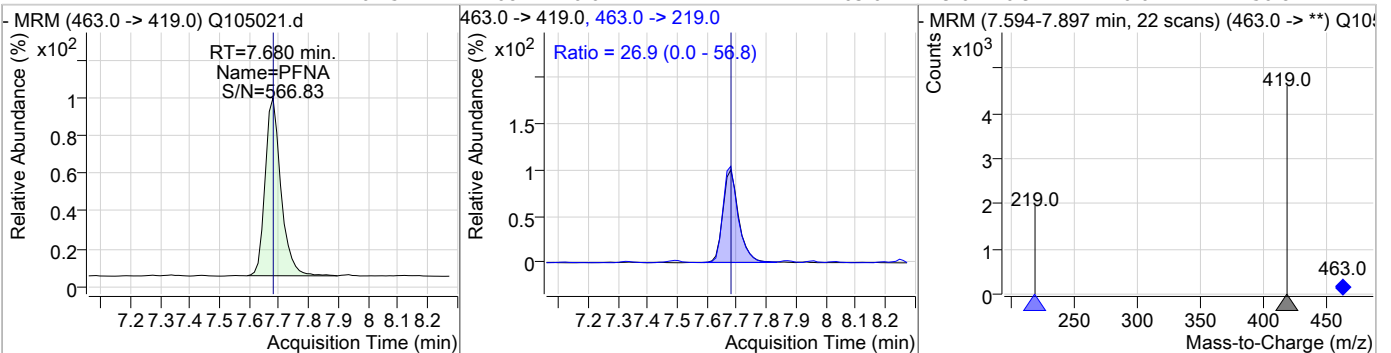
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.67	0.01	28660				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.38	7.65	0.00	649 (m)	499.0 -> 99.0	49.0	22.0	82.0

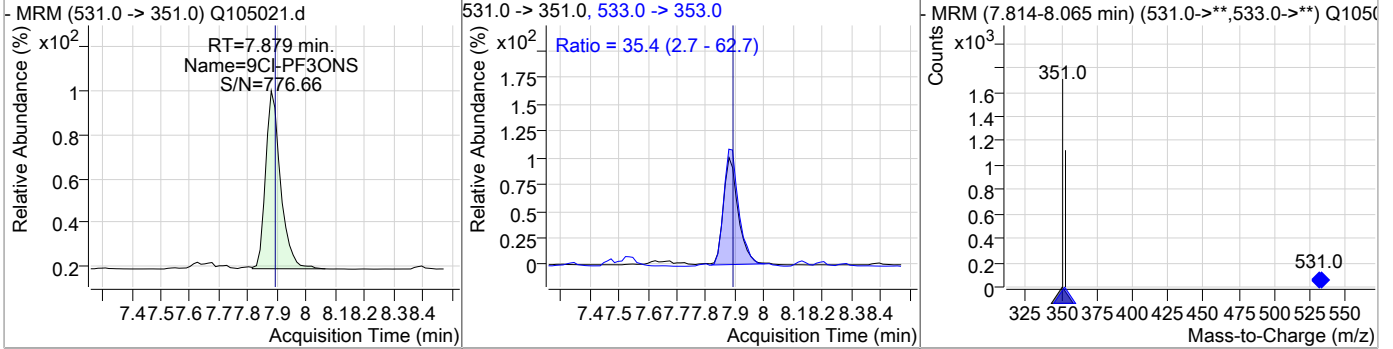


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.45	7.68	0.01	2714	463.0 -> 219.0	26.9	0.0	56.8

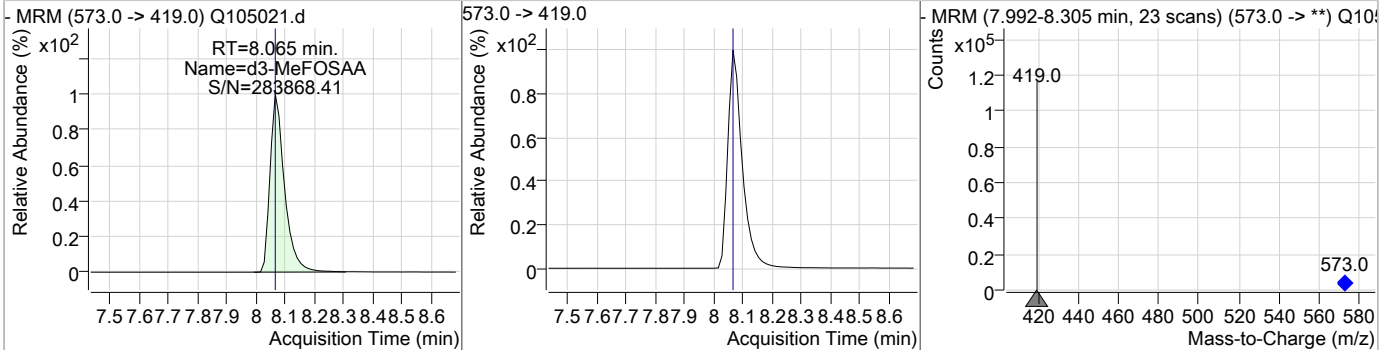


### Perfluorinated Compounds by LC/MS/MS

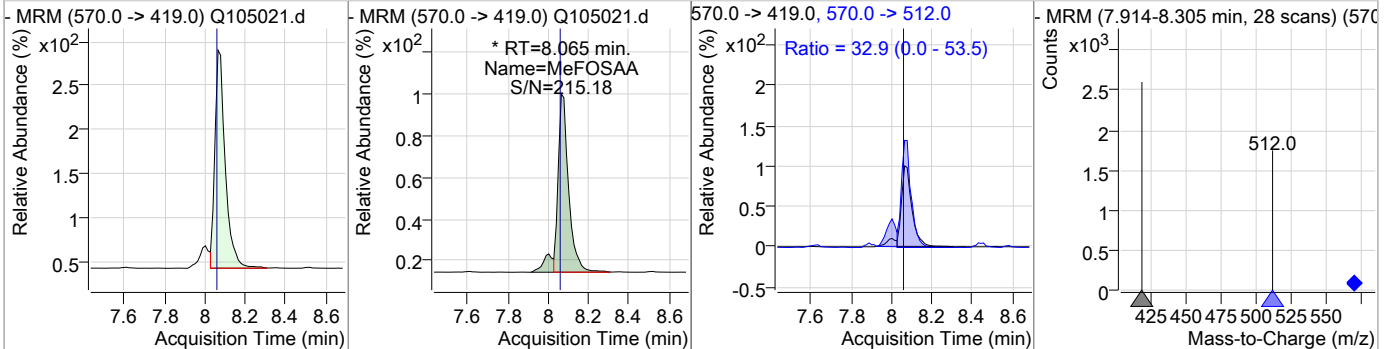
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.43	7.88	0.00	650	533.0 -> 353.0	35.4	2.7	62.7



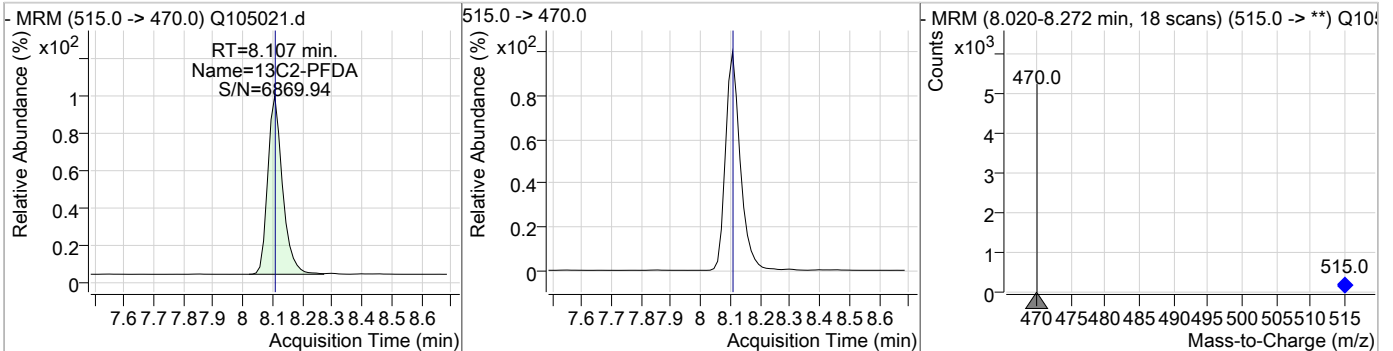
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	86528				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.44	8.07	0.00	977 (m)	570.0 -> 512.0	32.9	0.0	53.5

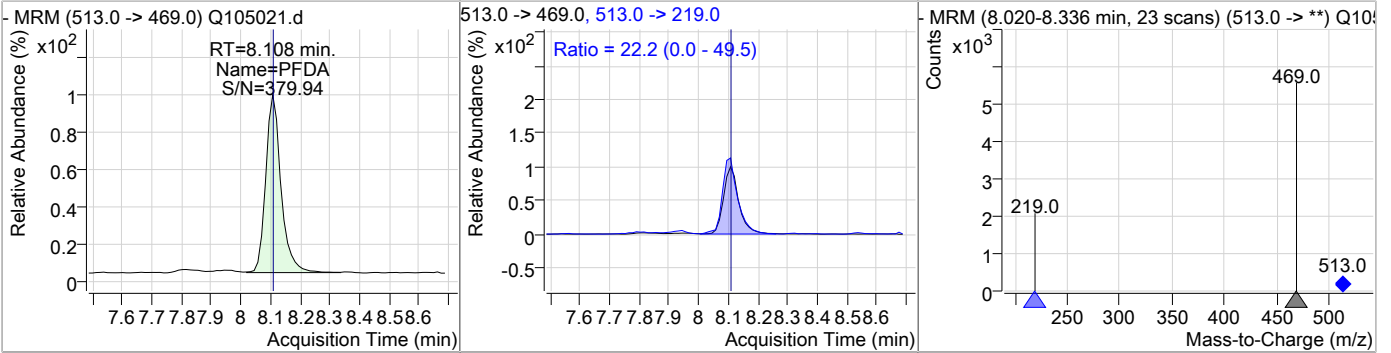


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	0.49	8.11	0.01	3327				

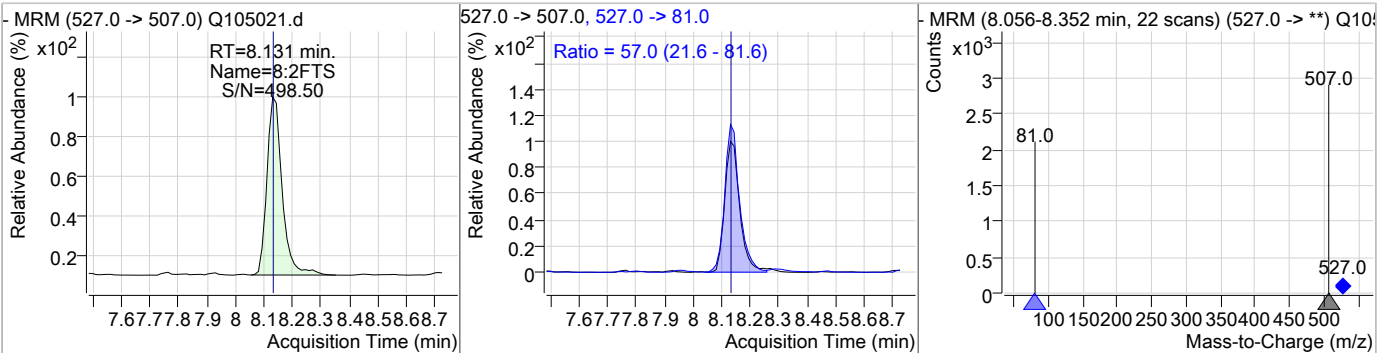


### Perfluorinated Compounds by LC/MS/MS

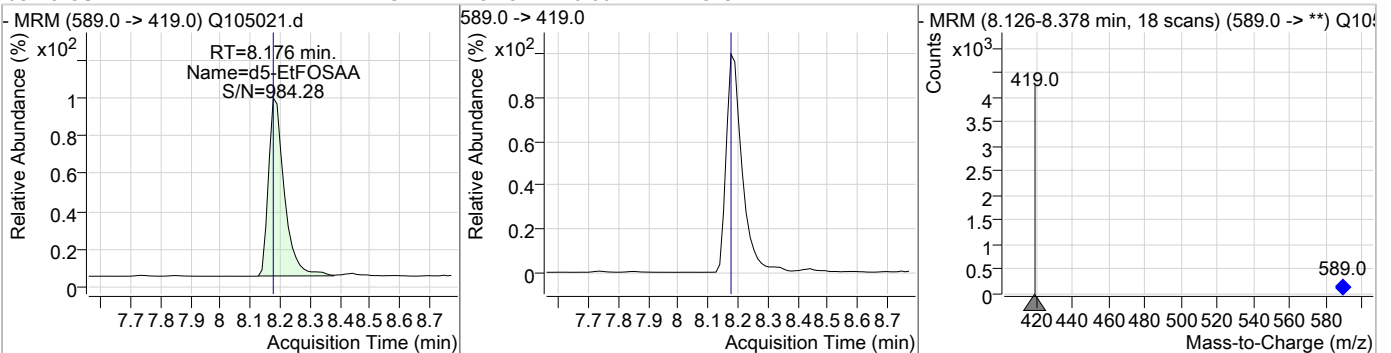
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.47	8.11	0.01	3308	513.0 -> 219.0	22.2	0.0	49.5



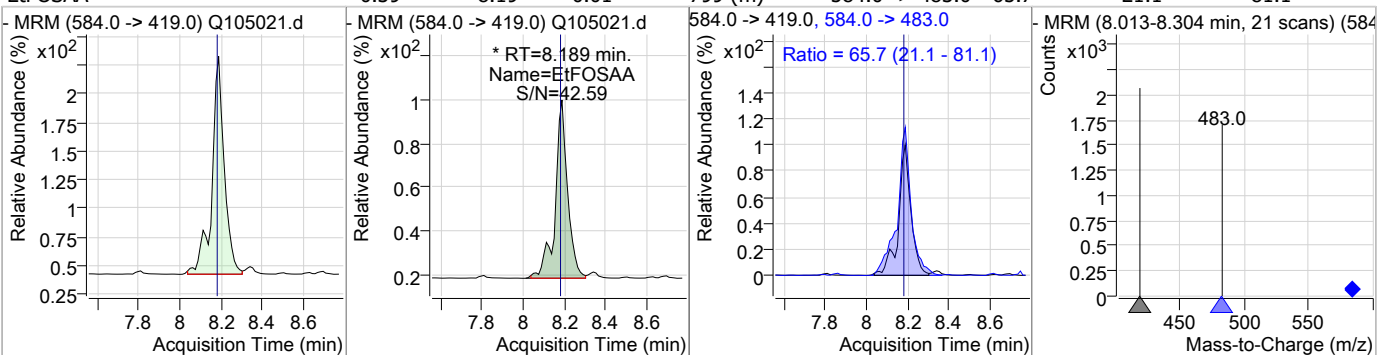
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.52	8.13	0.01	1421	527.0 -> 81.0	57.0	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	1.13	8.18	0.00	2529	589.0 -> 419.0			

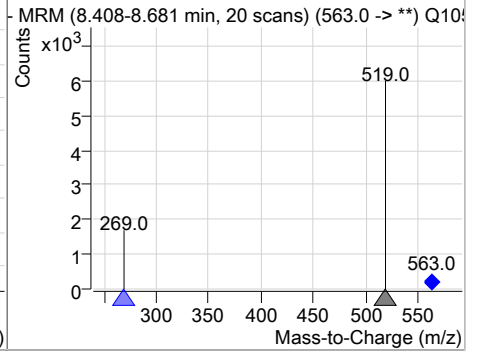
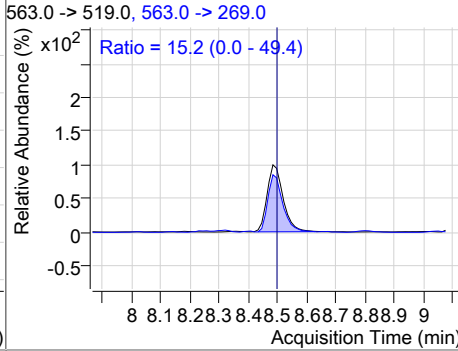
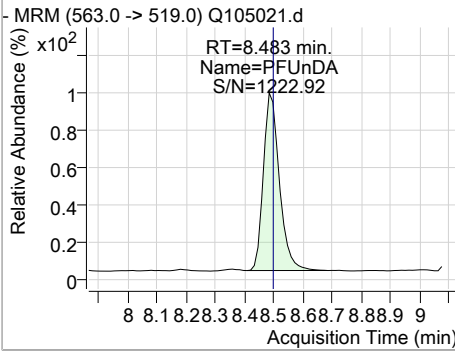


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.39	8.19	0.01	799 (m)	584.0 -> 483.0	65.7	21.1	81.1

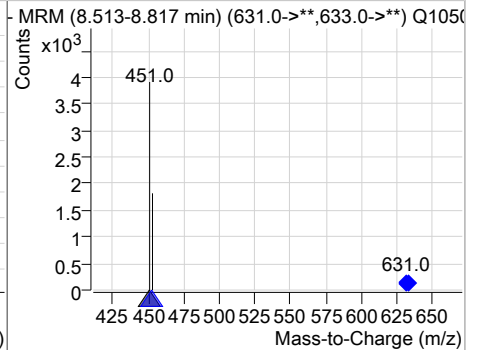
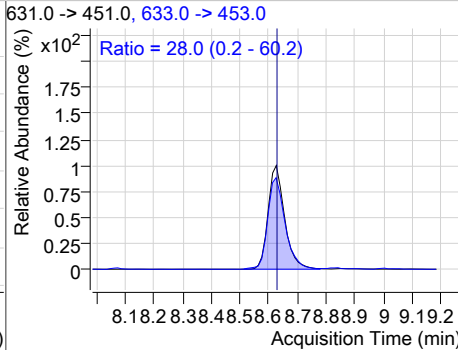
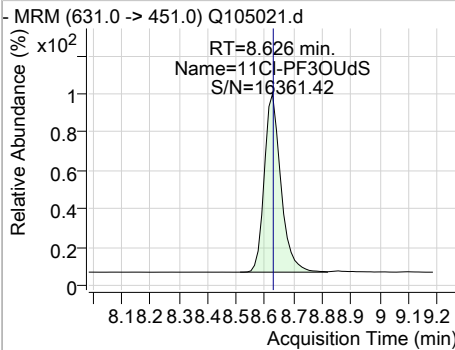


### Perfluorinated Compounds by LC/MS/MS

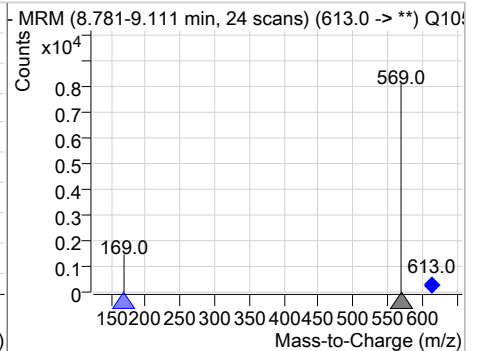
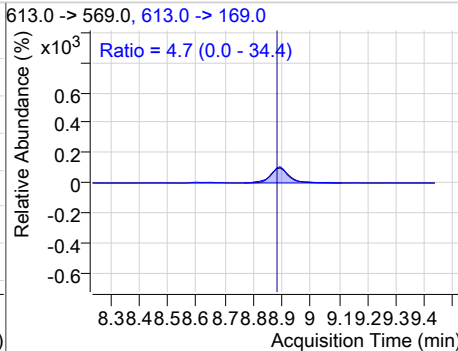
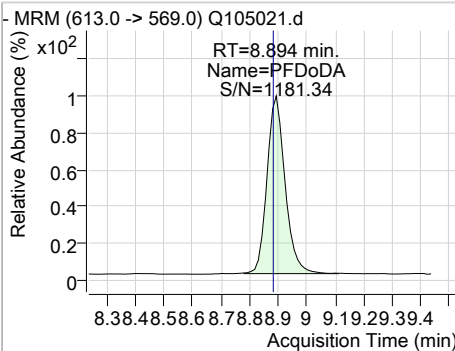
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.43	8.48	0.00	3826	563.0 -> 269.0	15.2	0.0	49.4



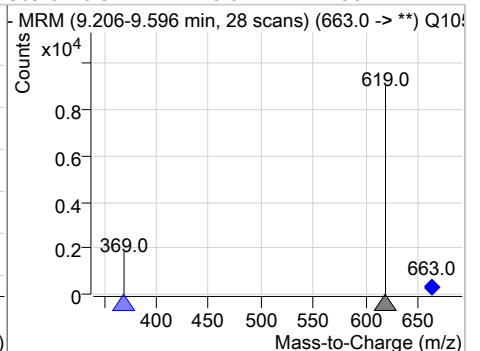
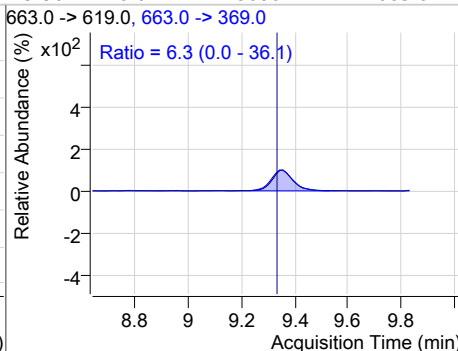
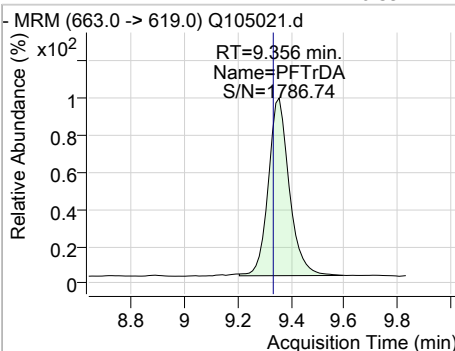
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.40	8.63	0.01	2191	633.0 -> 453.0	28.0	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	0.41	8.89	0.02	5118	613.0 -> 169.0	4.7	0.0	34.4

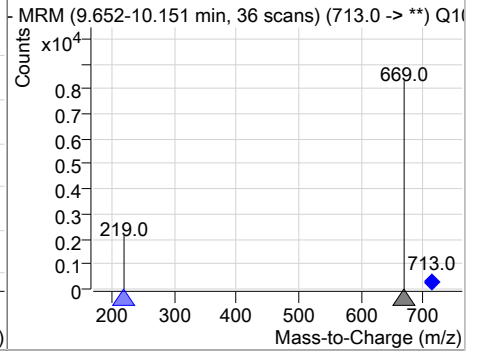
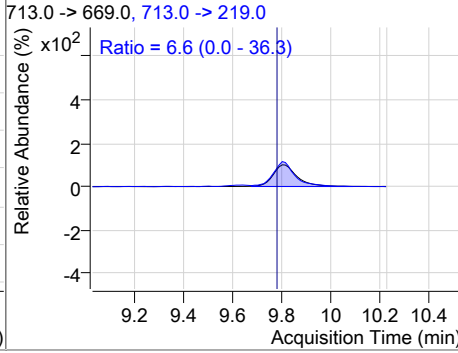
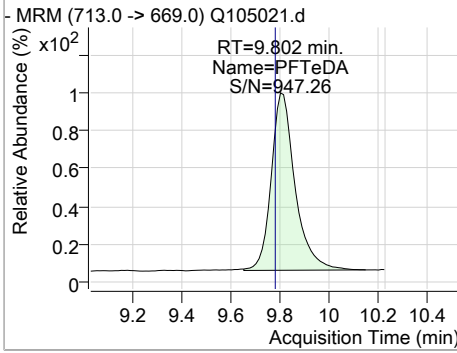


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	0.39	9.36	0.04	5680	663.0 -> 369.0	6.3	0.0	36.1



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.37	9.80	0.04	4803	713.0 -> 219.0	6.6	0.0	36.3



7.6.2

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# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105021.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 14:15      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
13C3-HFPO-DA			5.85	Missed peak
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.19	Split peak

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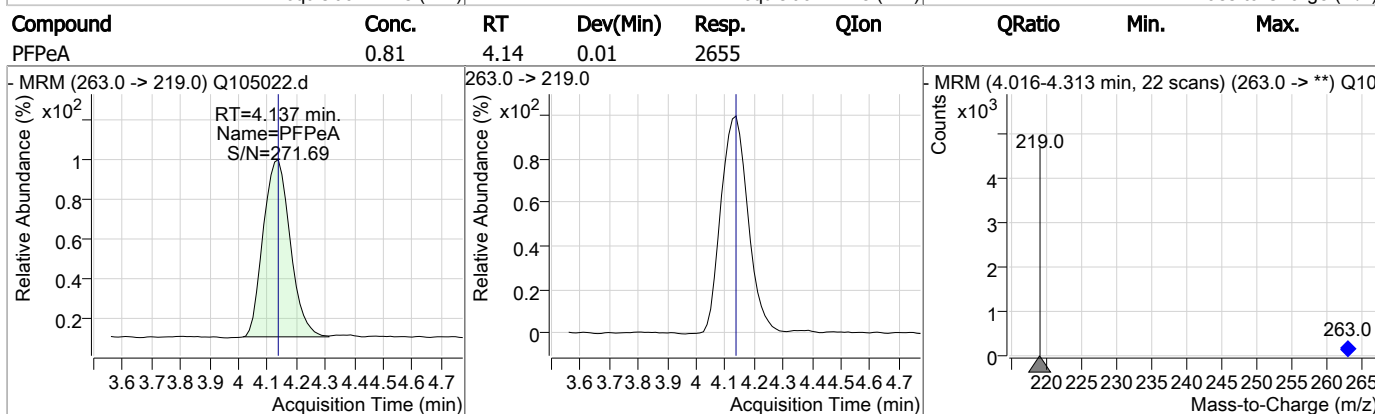
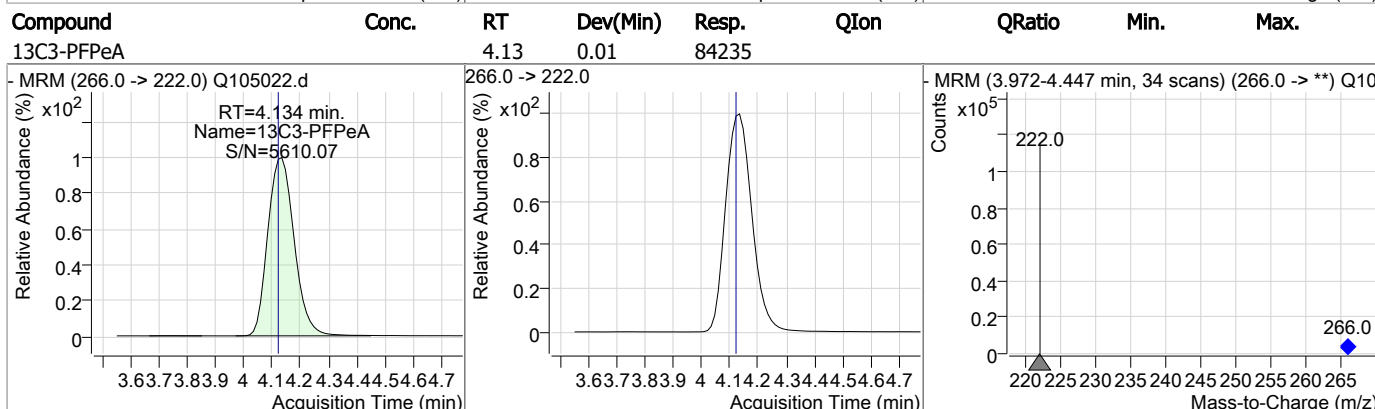
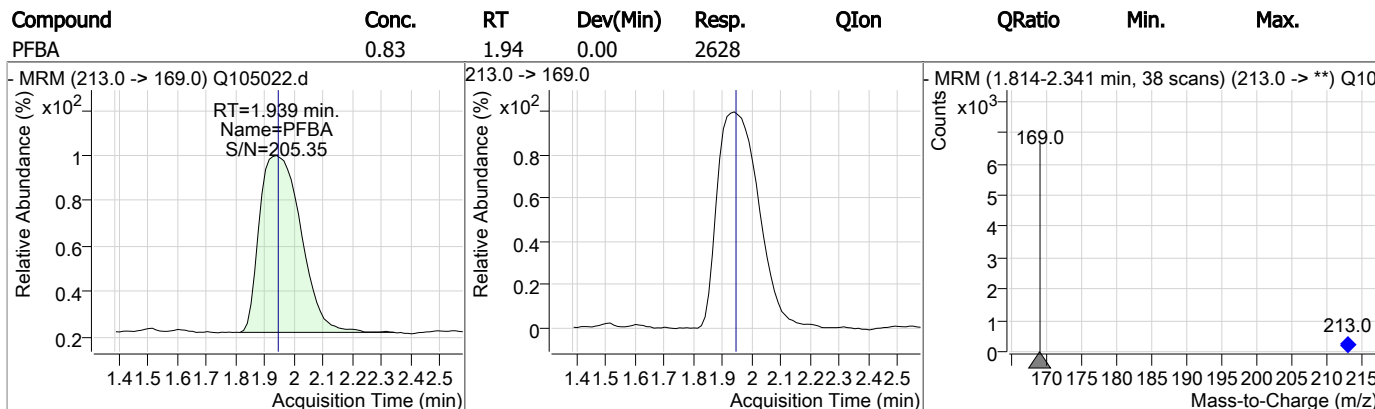
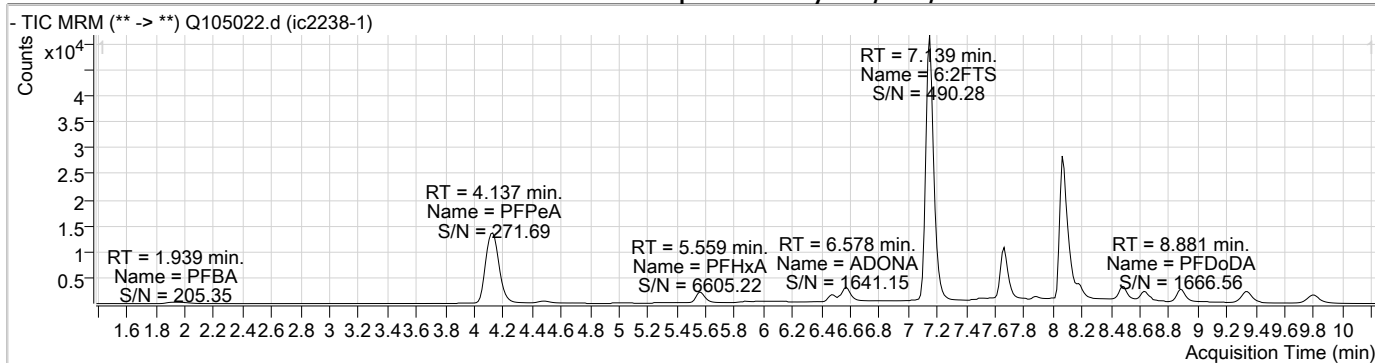
## Perfluorinated Compounds by LC/MS/MS

Data File : Q105022.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 2:31:23 PM  
 Sample Name : ic2238-1  
 Vial : P1-A3  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.139	429.0 -> 409.0	48955	20.00 µg/L	0.013
13C2-PFOA	7.154	415.0 -> 370.0	138353	20.00 µg/L	0.013
13C3-PFPeA	4.134	266.0 -> 222.0	84235	20.00 µg/L	0.013
13C4-PFOS	7.666	503.0 -> 80.0	27772	20.00 µg/L	0.013
d3-MeFOSAA	8.065	573.0 -> 419.0	87761	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.107	515.0 -> 470.0	6346	0.94 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 4.7%	
13C2-PFHxA	5.557	315.0 -> 270.0	4381	0.87 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 4.4%	
d5-EtFOSAA	8.176	589.0 -> 419.0	4304	1.89 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 4.7%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	278	1.79 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 4.5%	
<b>Target Compounds</b>					
6:2FTS	7.139	427.0 -> 407.0	2549	0.91 µg/L	QValue 97
8:2FTS	8.131	527.0 -> 507.0	2723	1.00 µg/L	99
EtFOSAA	8.189	584.0 -> 419.0	1842	0.89 µg/L	99
MeFOSAA	8.065	570.0 -> 419.0	2066	0.93 µg/L	m 99
PFBA	1.939	213.0 -> 169.0	2628	0.83 µg/L	100
PFBS	4.478	299.0 -> 80.0	1336	0.80 µg/L	99
PFDA	8.108	513.0 -> 469.0	6314	0.91 µg/L	98
PFDoDA	8.881	613.0 -> 569.0	9762	0.81 µg/L	99
PFHpA	6.477	363.0 -> 319.0	5703	0.90 µg/L	98
PFHpS	7.163	449.0 -> 80.0	946	0.84 µg/L	95
PFHxA	5.559	313.0 -> 269.0	4132	0.82 µg/L	100
PFHxS	6.526	399.0 -> 80.0	1077	0.88 µg/L	m 94
PFNA	7.680	463.0 -> 419.0	4993	0.83 µg/L	99
PFOA	7.155	413.0 -> 369.0	5695	0.84 µg/L	97
PFOS	7.654	499.0 -> 80.0	1422	0.86 µg/L	m 79
PFPeA	4.137	263.0 -> 219.0	2655	0.81 µg/L	100
PFTeDA	9.790	713.0 -> 669.0	9564	0.77 µg/L	100
PFTrDA	9.344	663.0 -> 619.0	10981	0.78 µg/L	99
PFUnDA	8.495	563.0 -> 519.0	7616	0.89 µg/L	98
ADONA	6.578	377.0 -> 251.0	7257	0.81 µg/L	98
9Cl-PF3ONS	7.879	531.0 -> 351.0	1145	0.76 µg/L	91
11Cl-PF3OUdS	8.626	631.0 -> 451.0	4584	0.83 µg/L	99
HFPO-DA	5.853	285.0 -> 169.0	190	0.97 µg/L	79

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

### Perfluorinated Compounds by LC/MS/MS

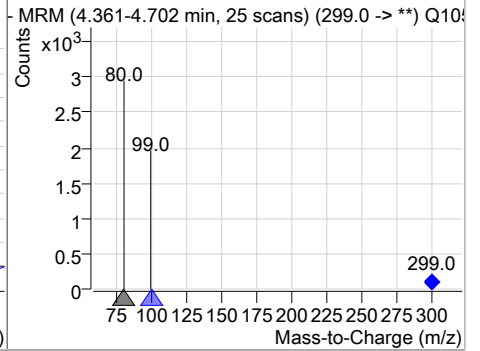
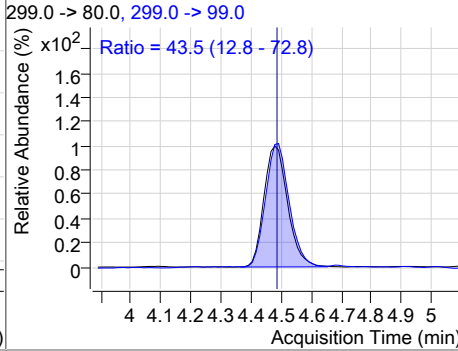
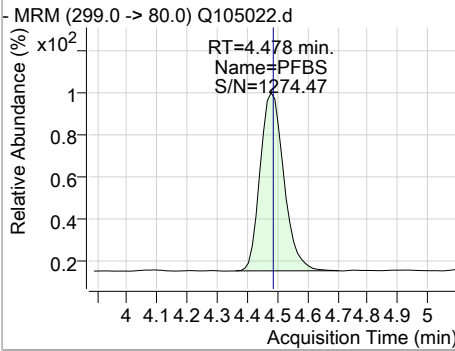


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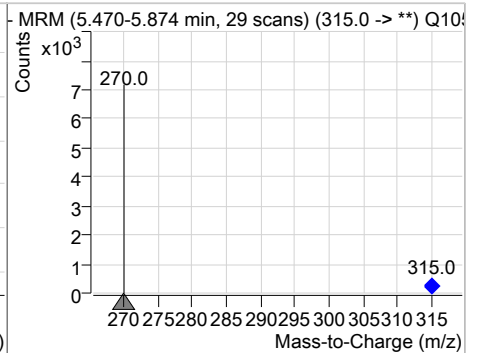
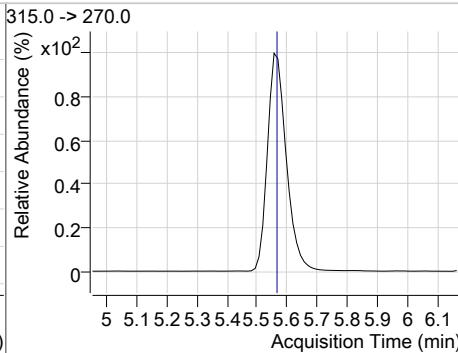
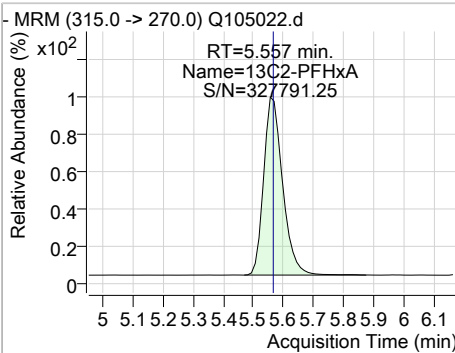


### Perfluorinated Compounds by LC/MS/MS

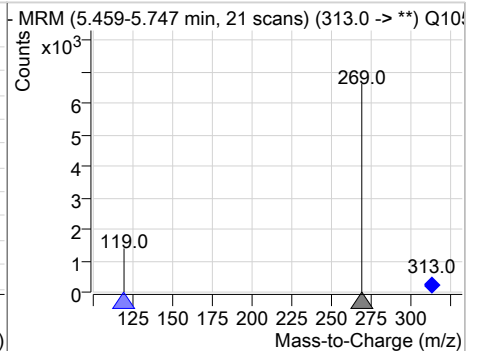
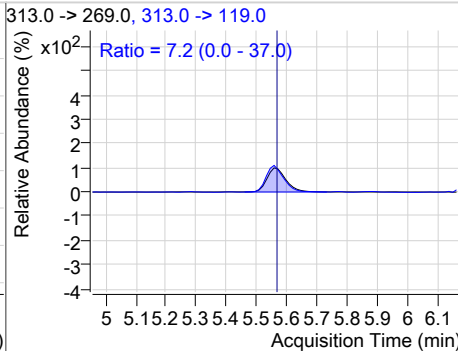
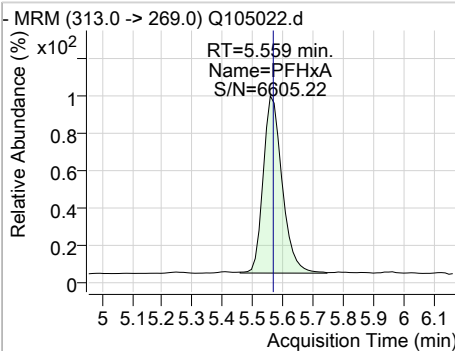
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.80	4.48	0.00	1336	299.0 -> 99.0	43.5	12.8	72.8



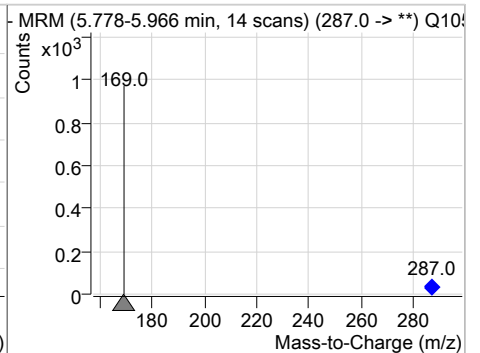
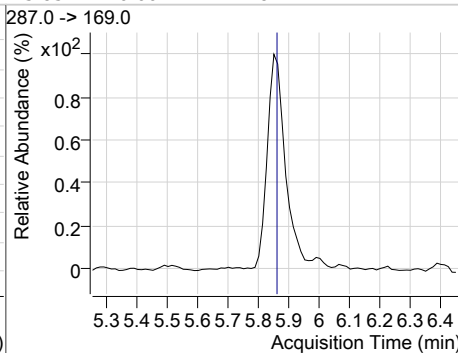
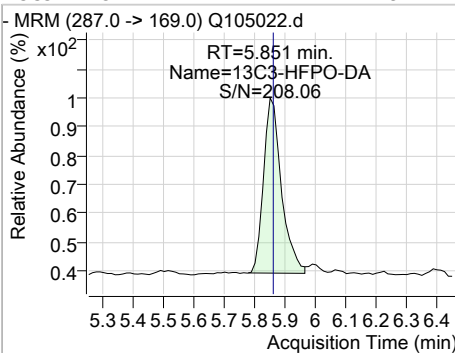
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	0.87	5.56	0.00	4381				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.82	5.56	0.00	4132	313.0 -> 119.0	7.2	0.0	37.0

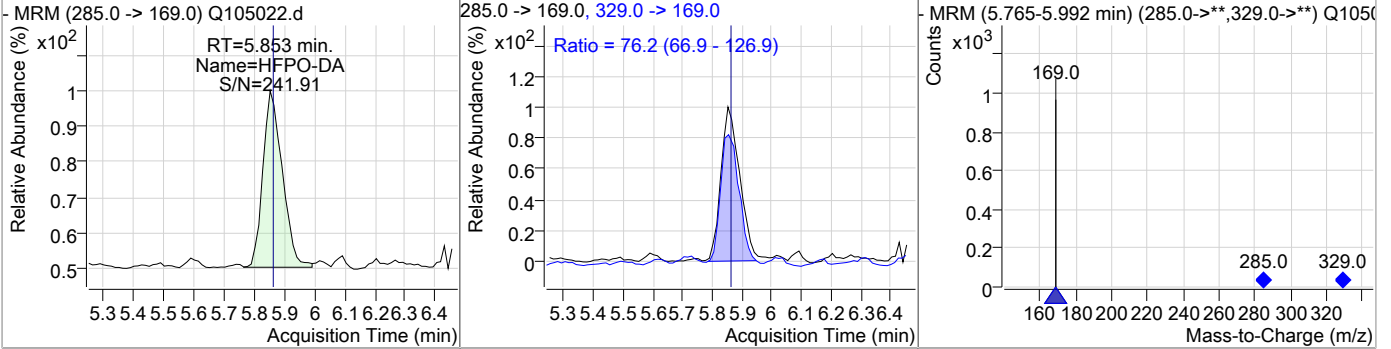


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	1.79	5.85	0.00	278				

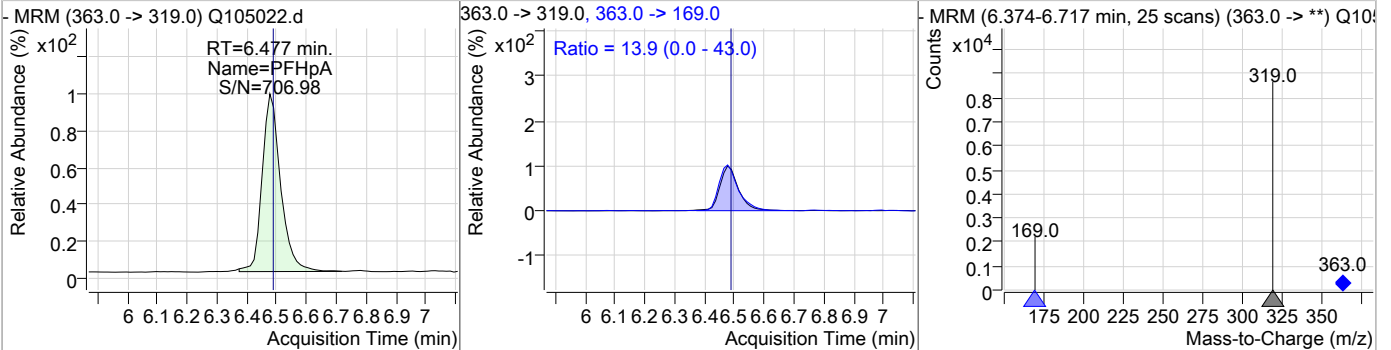


### Perfluorinated Compounds by LC/MS/MS

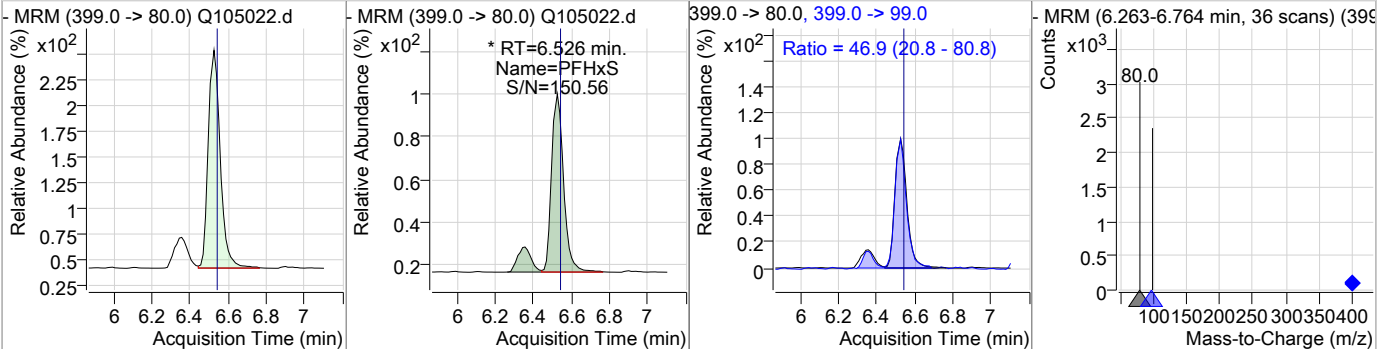
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.97	5.85	0.00	190	329.0 -> 169.0	76.2	66.9	126.9



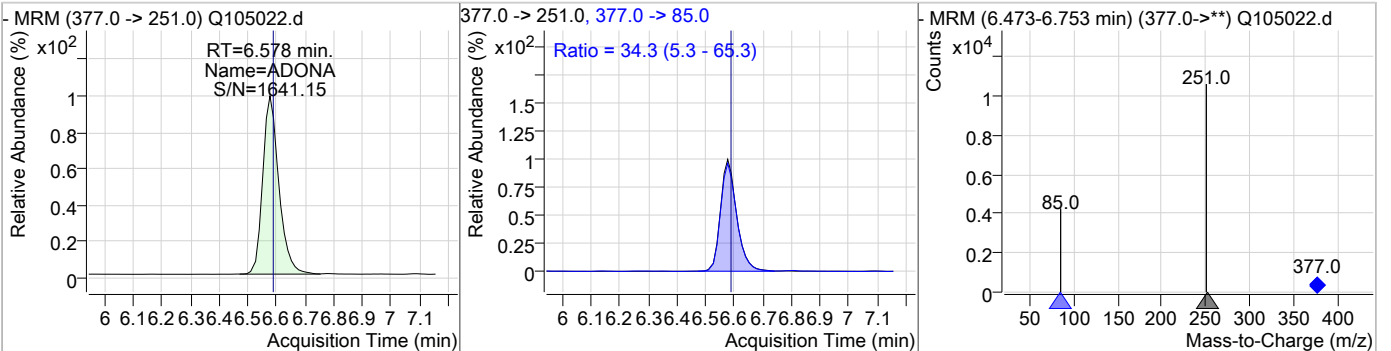
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.90	6.48	0.00	5703	363.0 -> 169.0	13.9	0.0	43.0



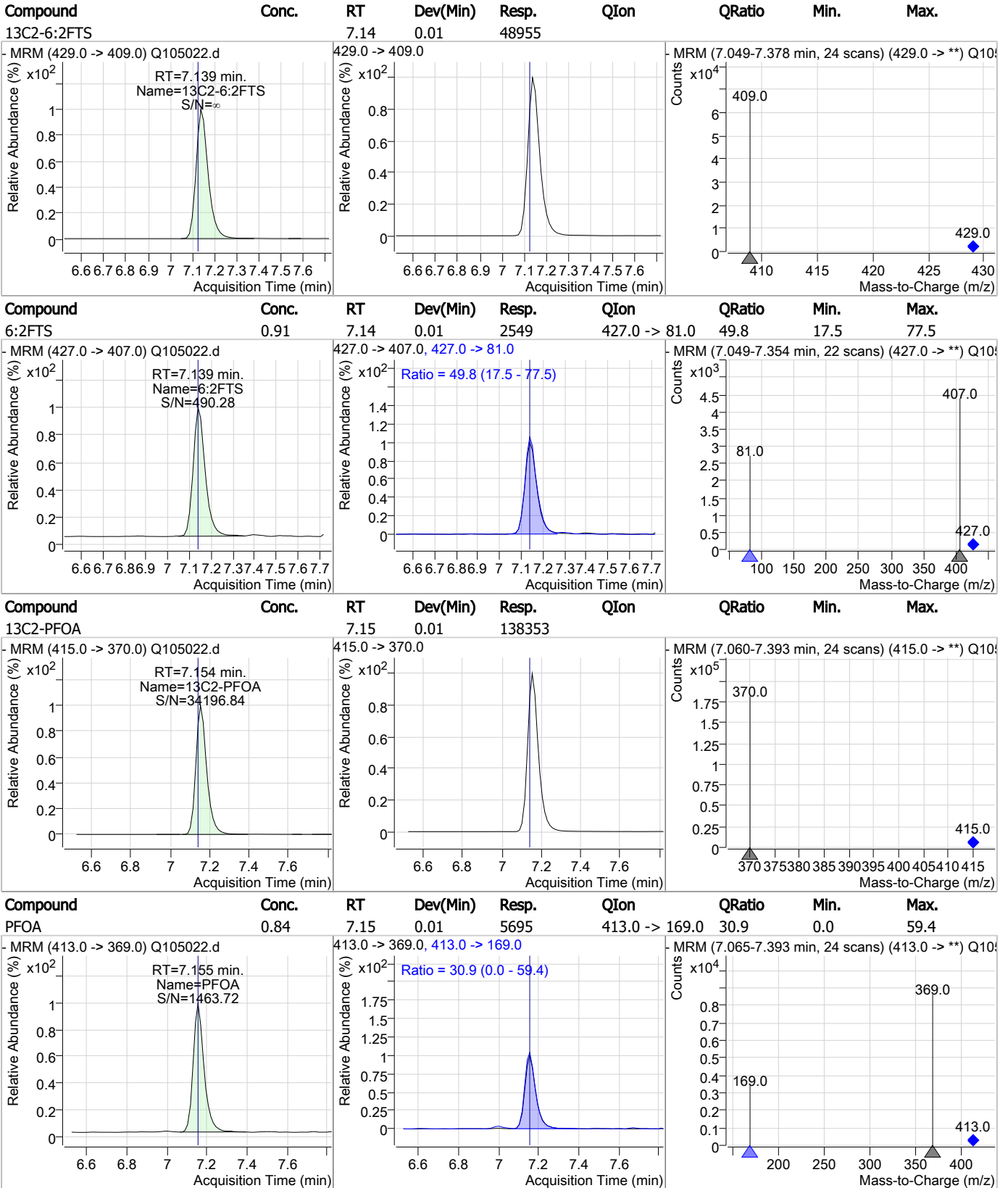
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.88	6.53	0.00	1077 (m)	399.0 -> 99.0	46.9	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.81	6.58	0.00	7257	377.0 -> 85.0	34.3	5.3	65.3



### Perfluorinated Compounds by LC/MS/MS

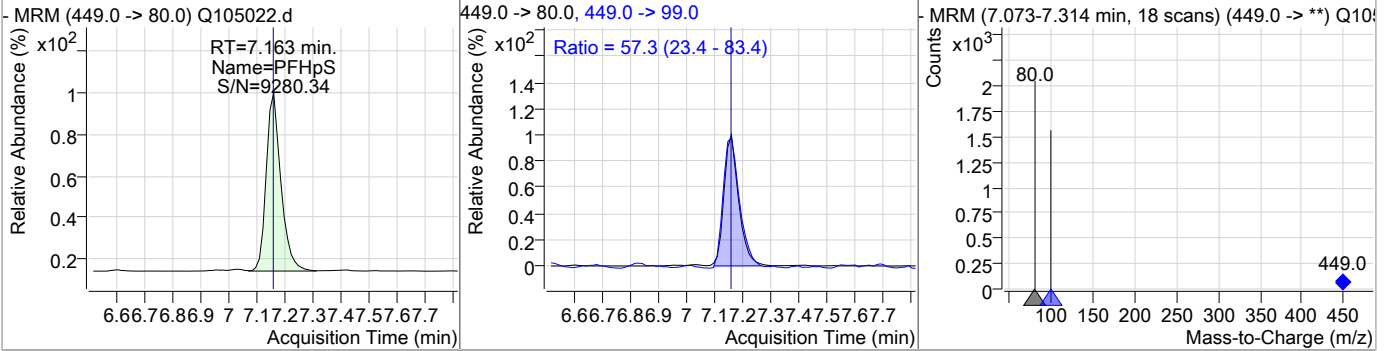


7.6.3

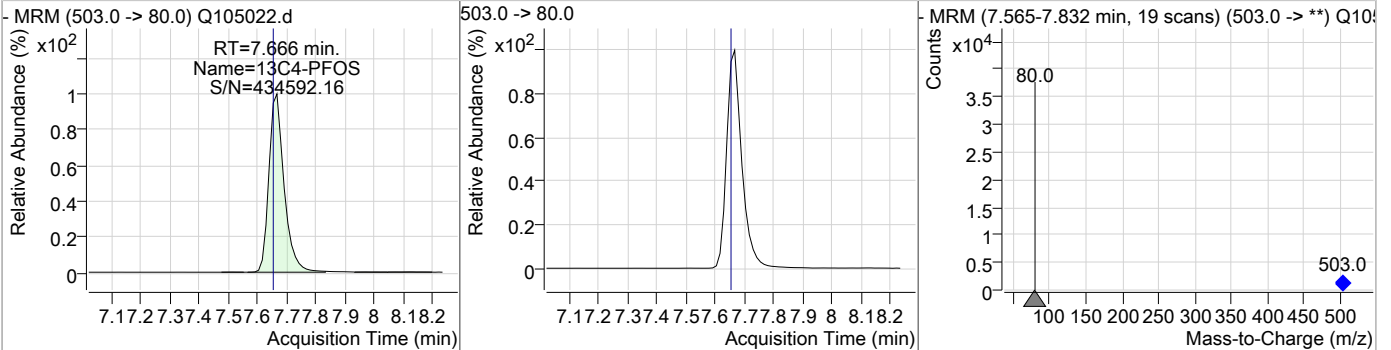
7

### Perfluorinated Compounds by LC/MS/MS

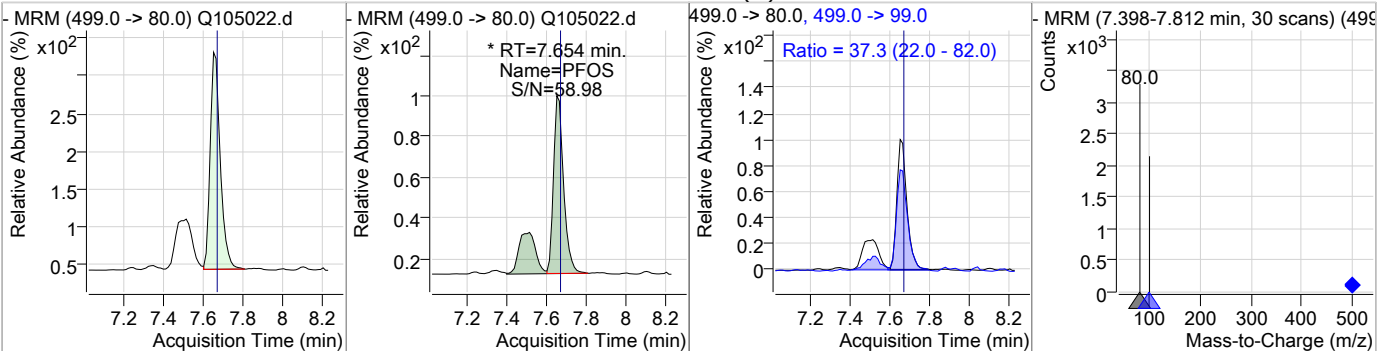
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.84	7.16	0.01	946	449.0 -> 99.0	57.3	23.4	83.4



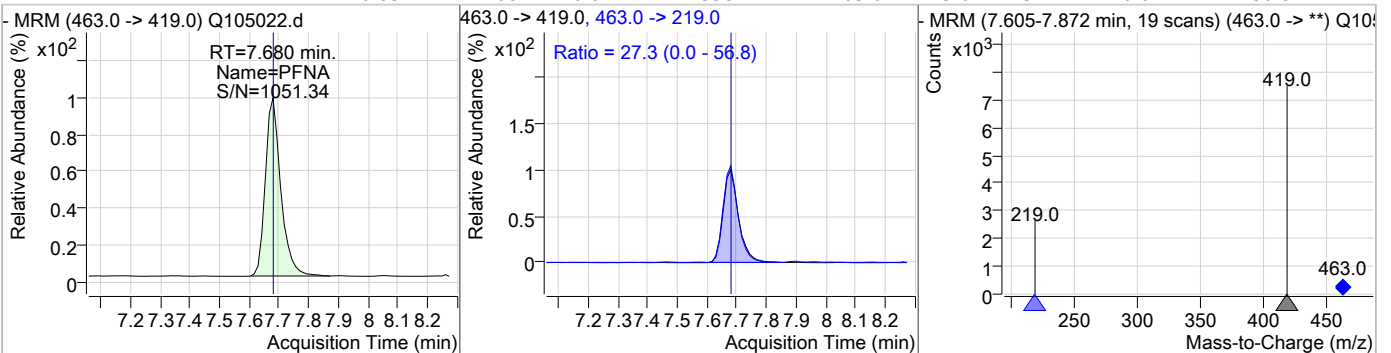
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.67	0.01	27772				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.86	7.65	0.00	1422 (m)	499.0 -> 99.0	37.3	22.0	82.0

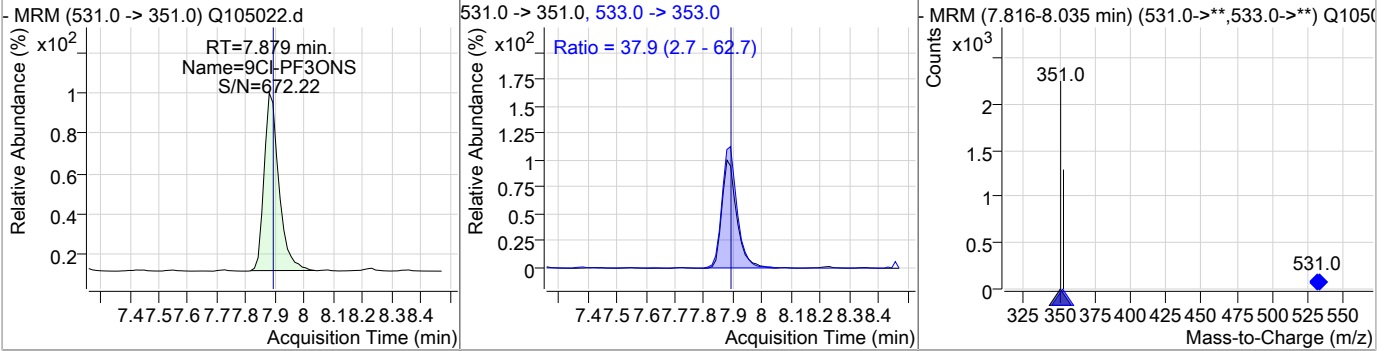


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.83	7.68	0.01	4993	463.0 -> 219.0	27.3	0.0	56.8

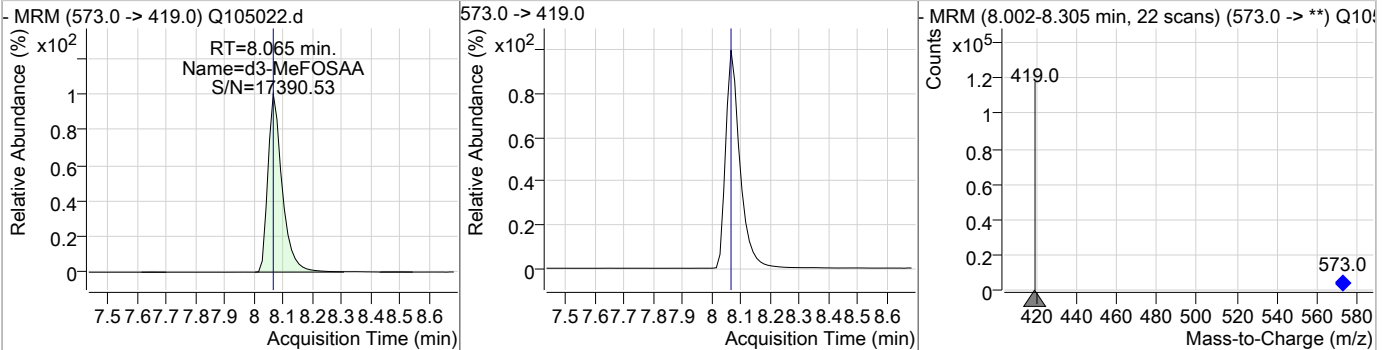


### Perfluorinated Compounds by LC/MS/MS

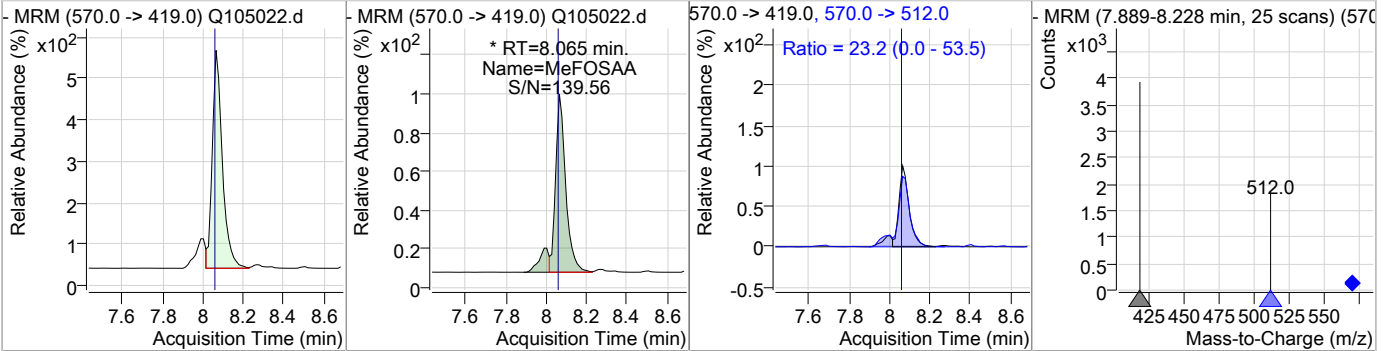
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.76	7.88	0.00	1145	533.0 -> 353.0	37.9	2.7	62.7



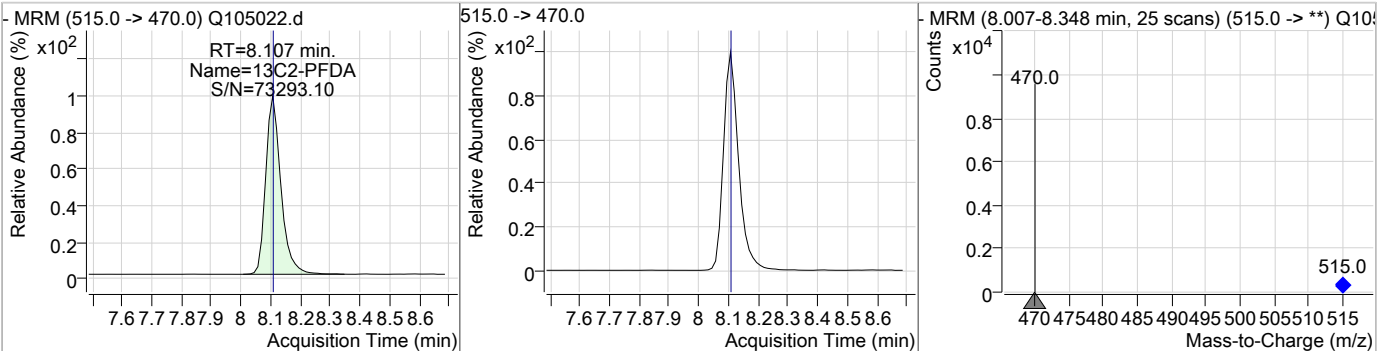
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	87761				



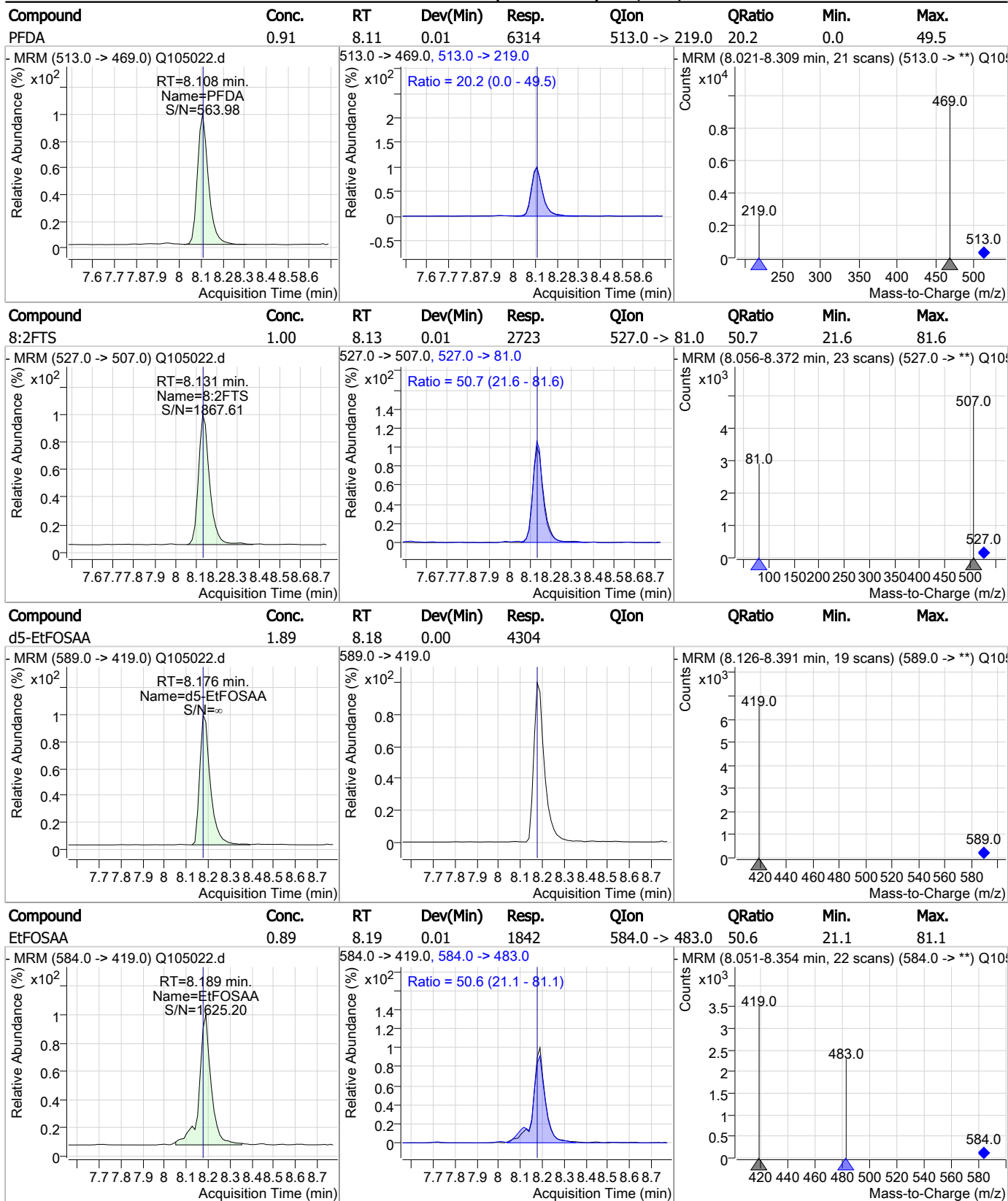
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.93	8.07	0.00	2066 (m)	570.0 -> 512.0	23.2	0.0	53.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	0.94	8.11	0.01	6346				



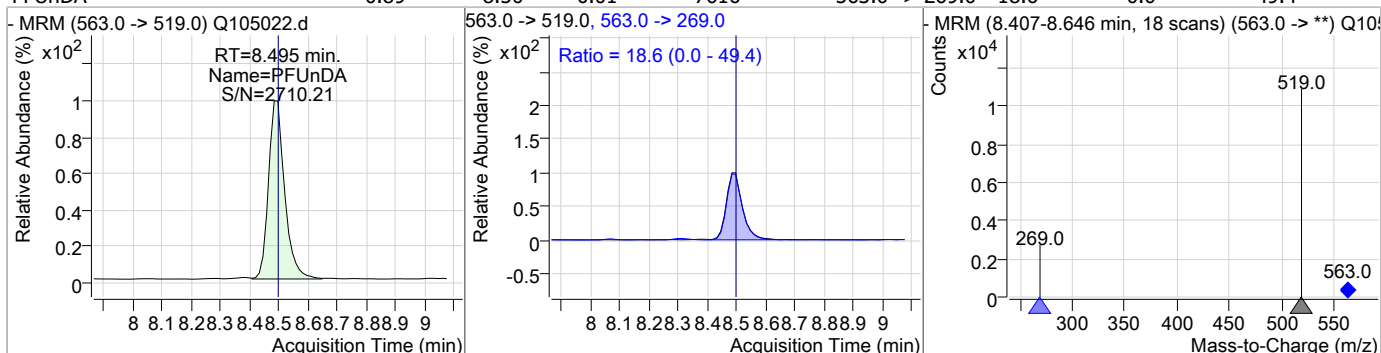
### Perfluorinated Compounds by LC/MS/MS



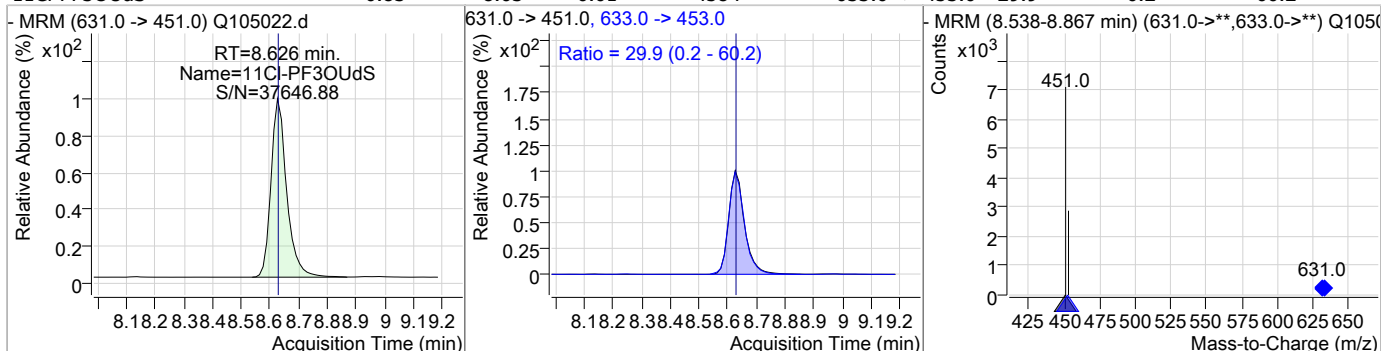
7.6.3  
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### Perfluorinated Compounds by LC/MS/MS

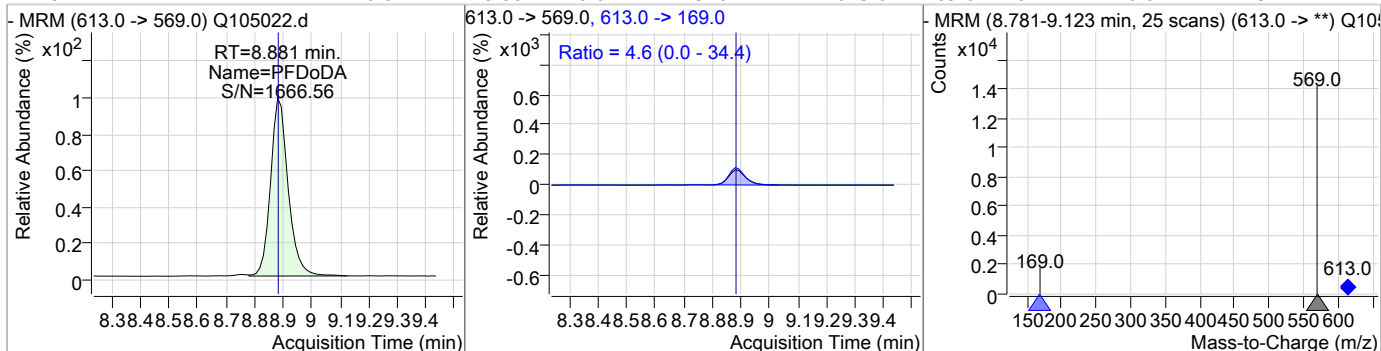
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.89	8.50	0.01	7616	563.0 -> 269.0	18.6	0.0	49.4



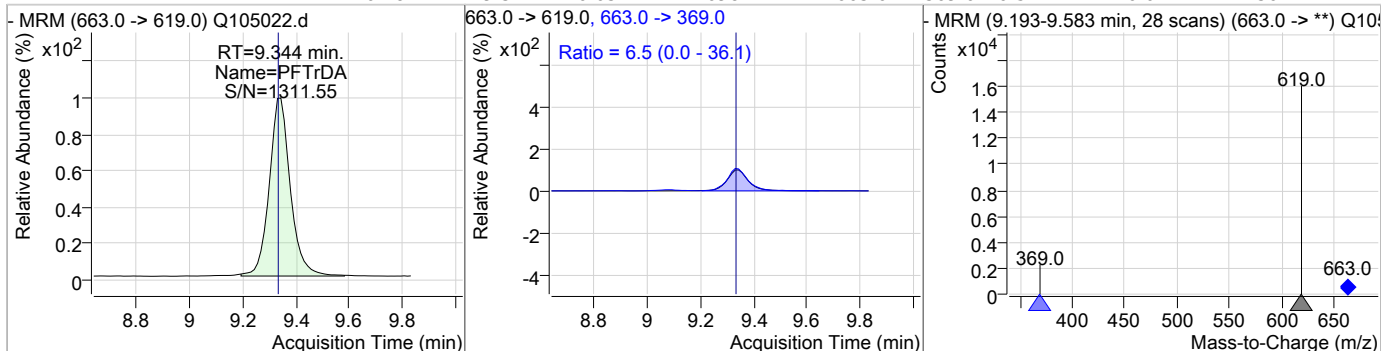
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.83	8.63	0.01	4584	633.0 -> 453.0	29.9	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	0.81	8.88	0.01	9762	613.0 -> 169.0	4.6	0.0	34.4

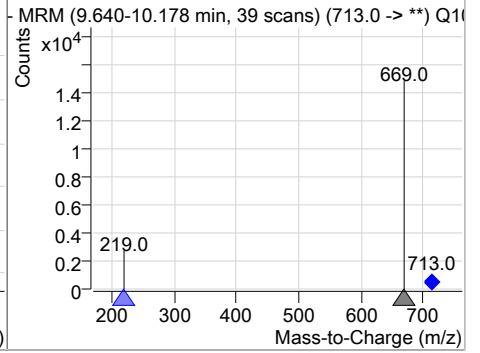
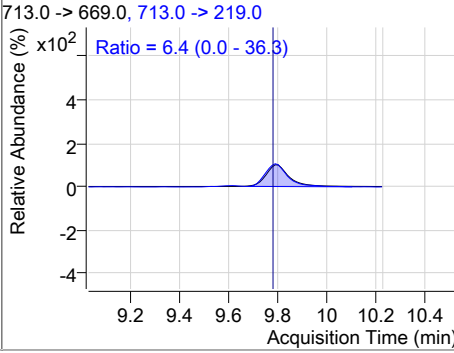
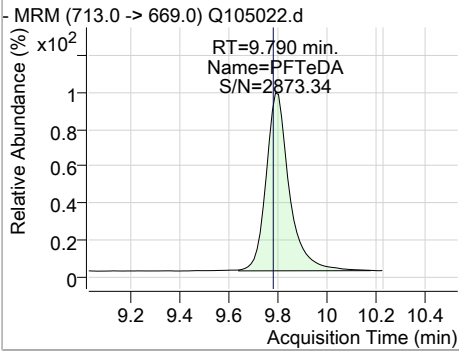


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.78	9.34	0.03	10981	663.0 -> 369.0	6.5	0.0	36.1



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.77	9.79	0.02	9564	713.0 -> 219.0	6.4	0.0	36.3



7.6.3

7



# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105022.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 14:31      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak

7.6.3.1

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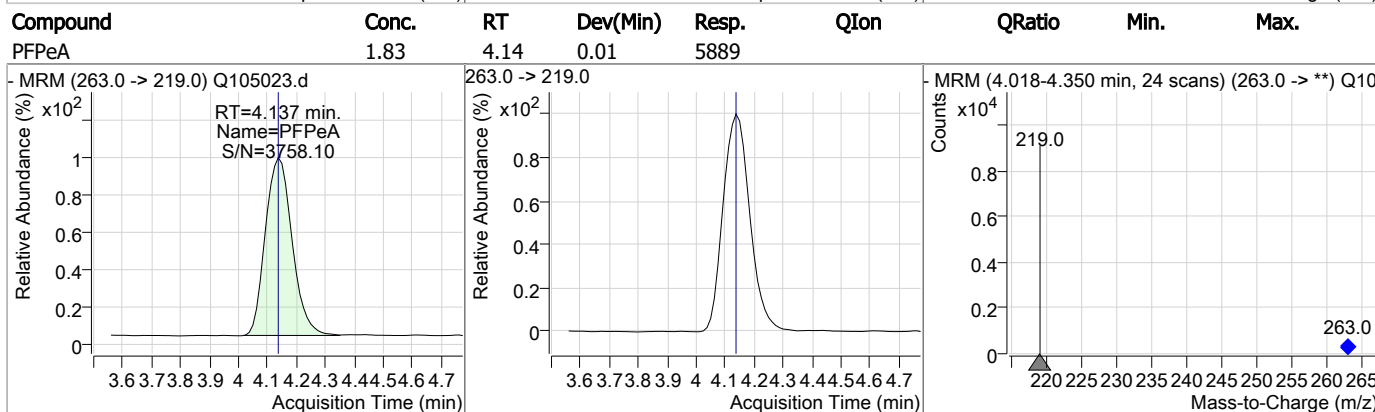
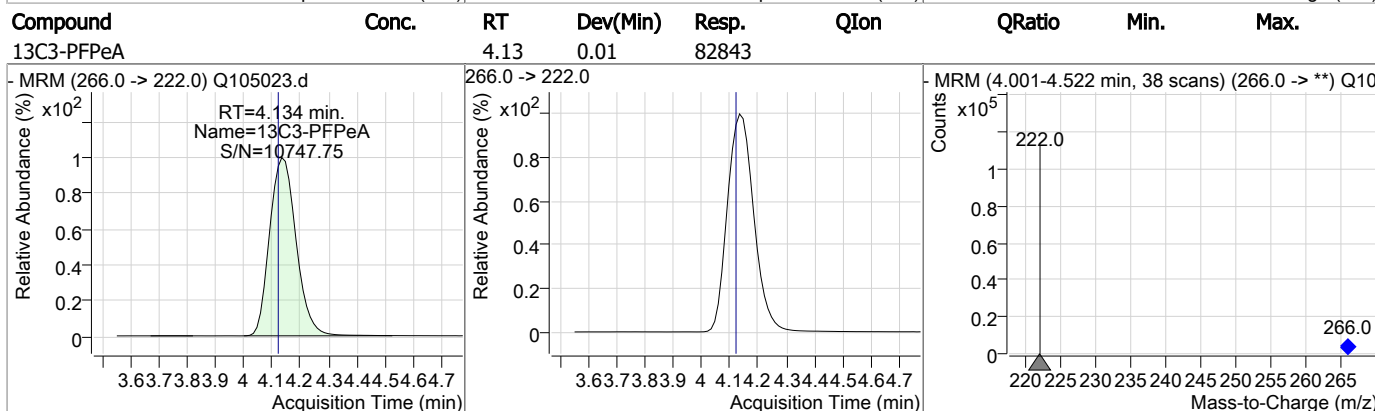
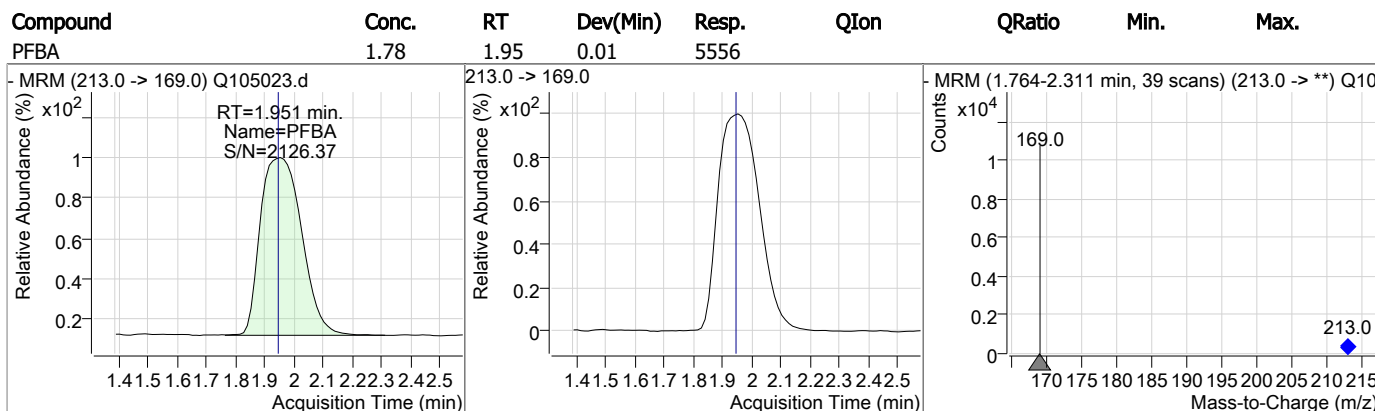
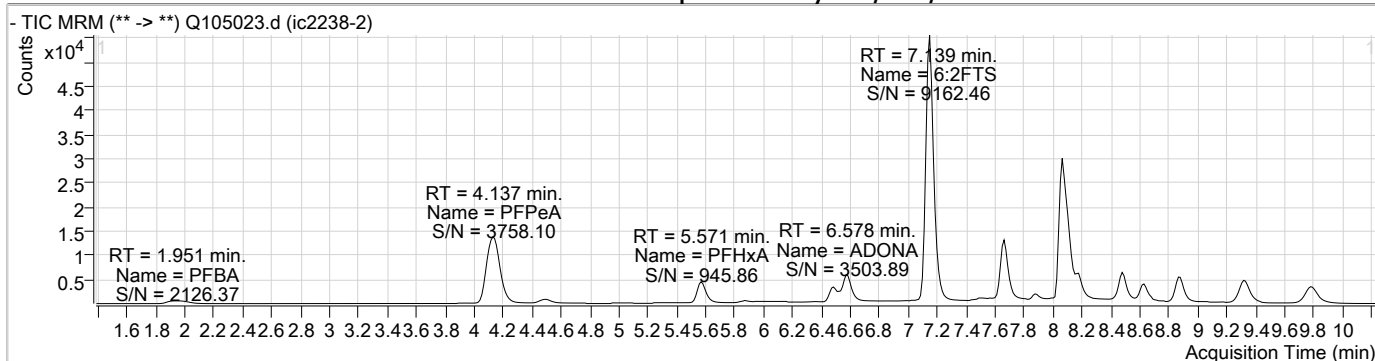
## Perfluorinated Compounds by LC/MS/MS

Data File : Q105023.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 2:47:10 PM  
 Sample Name : ic2238-2  
 Vial : P1-A4  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

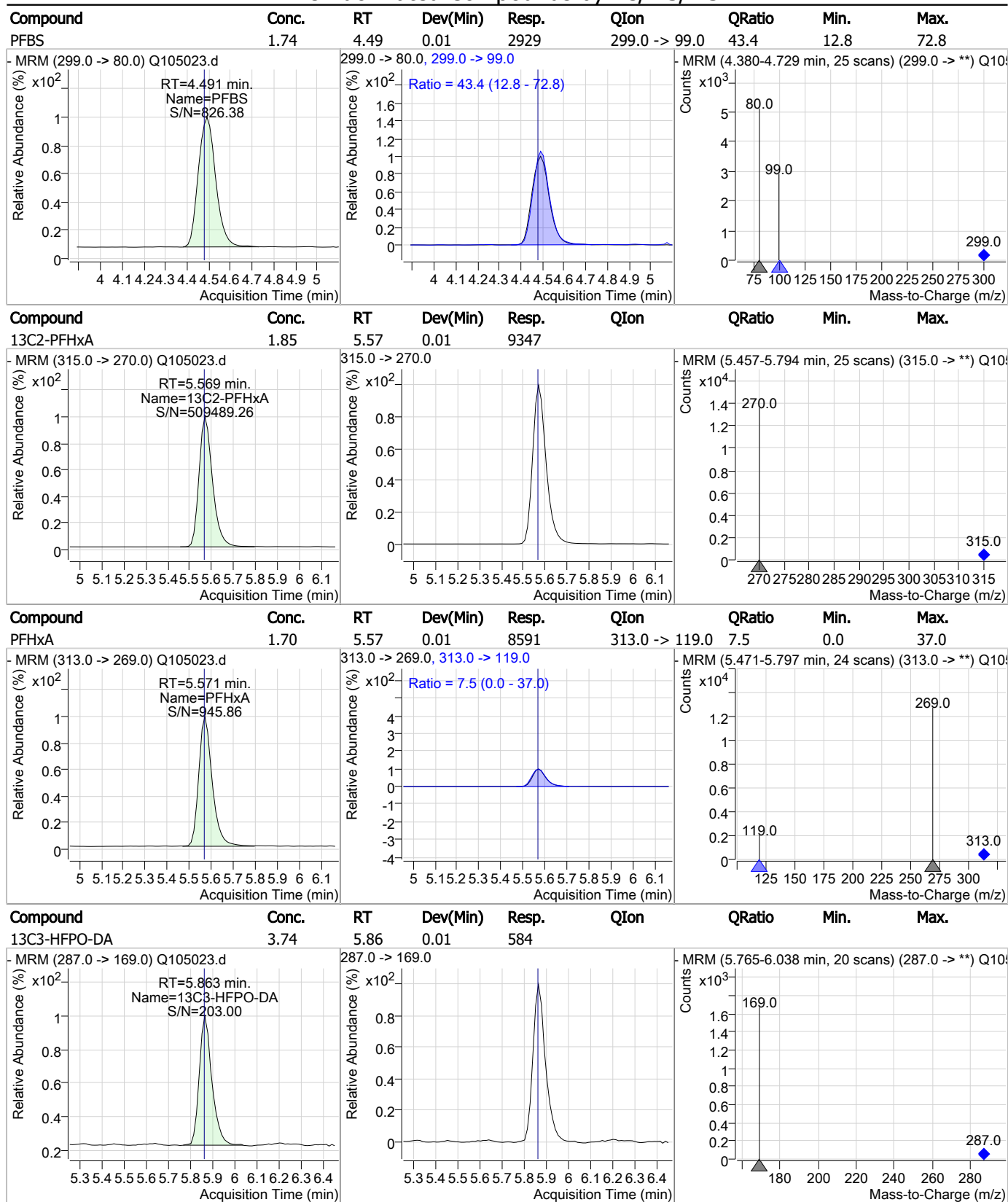
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.139	429.0 -> 409.0	49083	20.00 µg/L	0.013
13C2-PFOA	7.154	415.0 -> 370.0	139308	20.00 µg/L	0.013
13C3-PFPeA	4.134	266.0 -> 222.0	82843	20.00 µg/L	0.013
13C4-PFOS	7.653	503.0 -> 80.0	28083	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	87218	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.107	515.0 -> 470.0	13330	1.97 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 9.8%	
13C2-PFHxA	5.569	315.0 -> 270.0	9347	1.85 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 9.2%	
d5-EtFOSAA	8.176	589.0 -> 419.0	8104	3.57 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 8.9%	
13C3-HFPO-DA	5.863	287.0 -> 169.0	584	3.74 µg/L	0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 9.4%	
<b>Target Compounds</b>					
6:2FTS	7.139	427.0 -> 407.0	5227	1.86 µg/L	100
8:2FTS	8.131	527.0 -> 507.0	5524	2.02 µg/L	99
EtFOSAA	8.177	584.0 -> 419.0	4278	2.08 µg/L	m 97
MeFOSAA	8.065	570.0 -> 419.0	3785	1.71 µg/L	m 88
PFBA	1.951	213.0 -> 169.0	5556	1.78 µg/L	100
PFBS	4.491	299.0 -> 80.0	2929	1.74 µg/L	99
PFDA	8.108	513.0 -> 469.0	14054	2.00 µg/L	99
PFDoDA	8.869	613.0 -> 569.0	21083	1.73 µg/L	100
PFHpA	6.490	363.0 -> 319.0	11435	1.80 µg/L	97
PFHpS	7.163	449.0 -> 80.0	2170	1.91 µg/L	94
PFHxA	5.571	313.0 -> 269.0	8591	1.70 µg/L	99
PFHxS	6.526	399.0 -> 80.0	2324	1.88 µg/L	m 94
PFNA	7.680	463.0 -> 419.0	11180	1.84 µg/L	98
PFOA	7.155	413.0 -> 369.0	11956	1.76 µg/L	99
PFOS	7.654	499.0 -> 80.0	2888	1.73 µg/L	m 86
PFPeA	4.137	263.0 -> 219.0	5889	1.83 µg/L	100
PFTeDA	9.777	713.0 -> 669.0	20968	1.67 µg/L	99
PFTrDA	9.319	663.0 -> 619.0	23805	1.67 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	16442	1.89 µg/L	100
ADONA	6.578	377.0 -> 251.0	14883	1.65 µg/L	96
9Cl-PF3ONS	7.879	531.0 -> 351.0	2922	1.93 µg/L	92
11Cl-PF3OUdS	8.626	631.0 -> 451.0	9490	1.71 µg/L	99
HFPO-DA	5.865	285.0 -> 169.0	378	1.91 µg/L	95

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

### Perfluorinated Compounds by LC/MS/MS



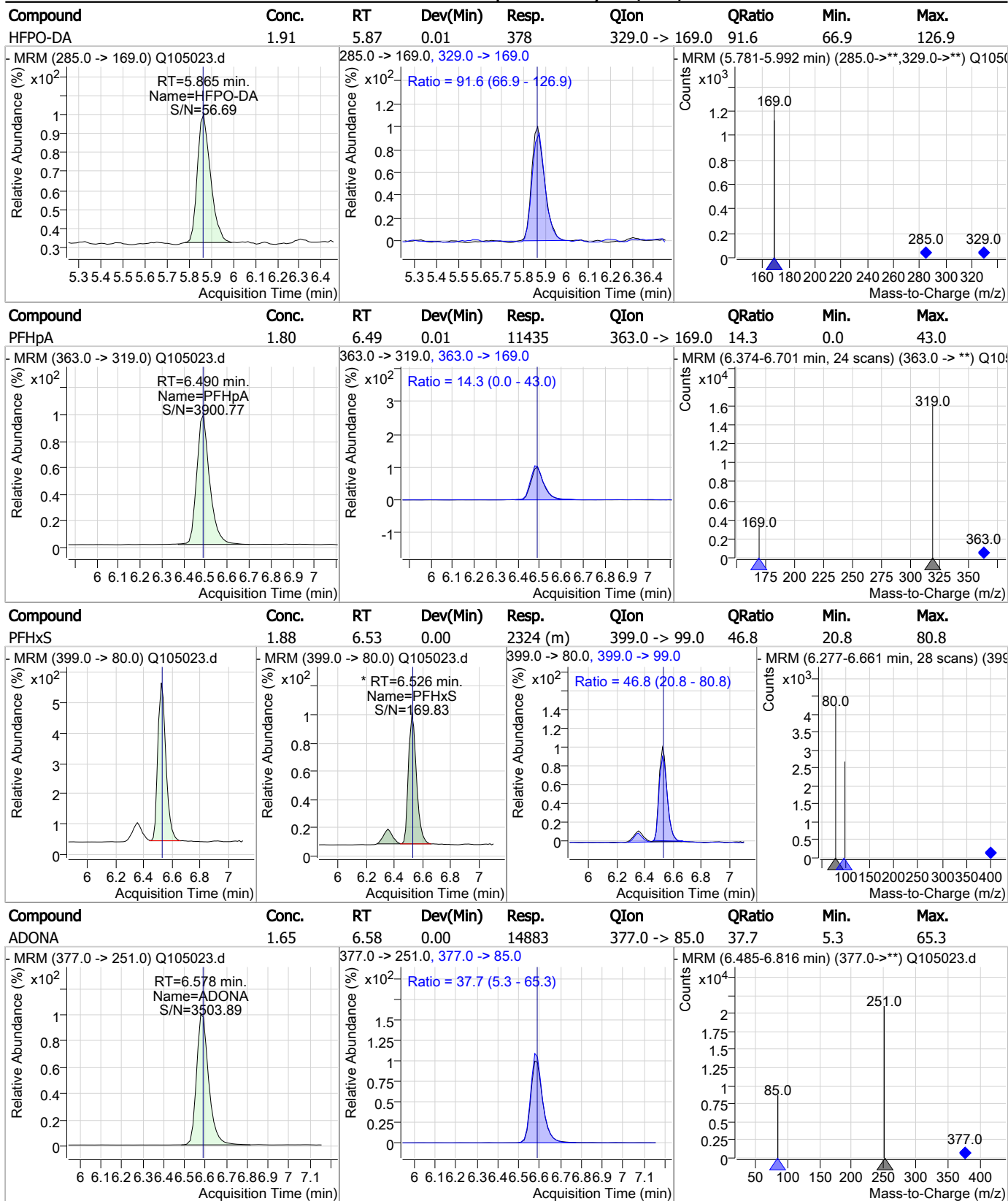
### Perfluorinated Compounds by LC/MS/MS



7.6.4

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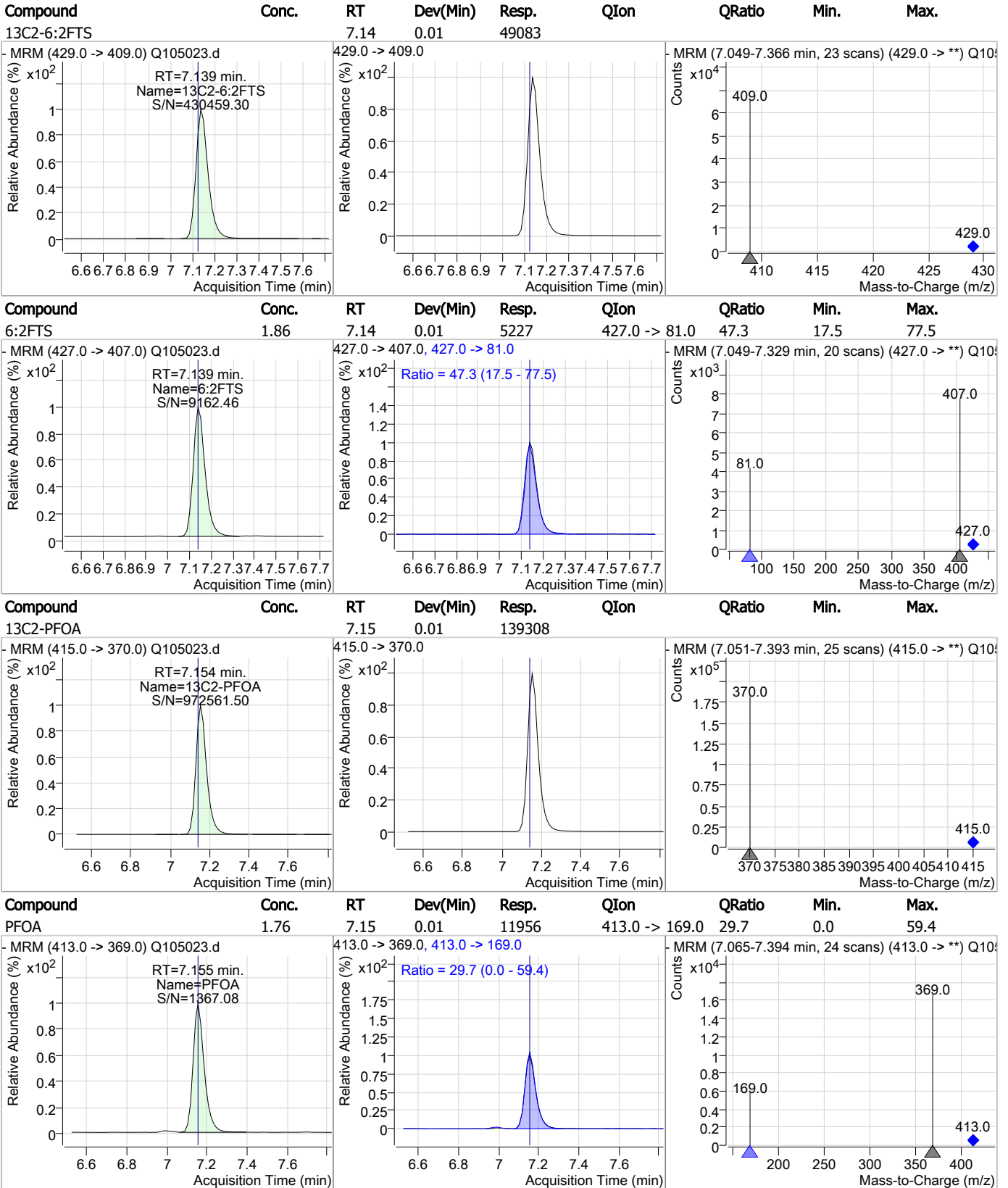
### Perfluorinated Compounds by LC/MS/MS



7.6.4

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### Perfluorinated Compounds by LC/MS/MS

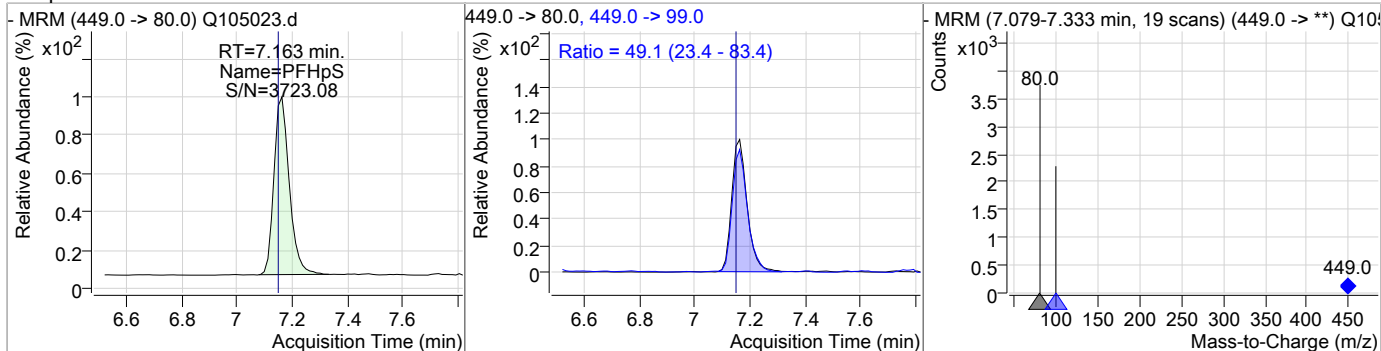


7.6.4

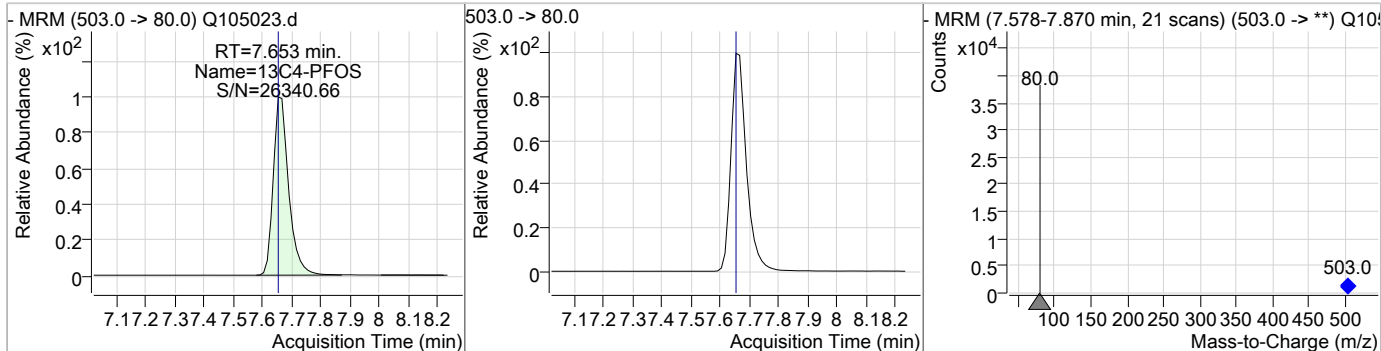
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### Perfluorinated Compounds by LC/MS/MS

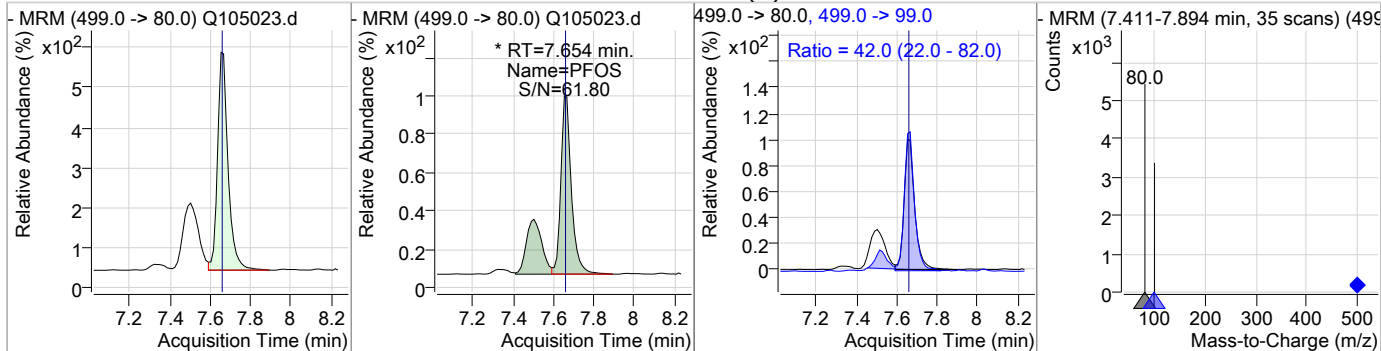
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.91	7.16	0.01	2170	449.0 -> 99.0	49.1	23.4	83.4



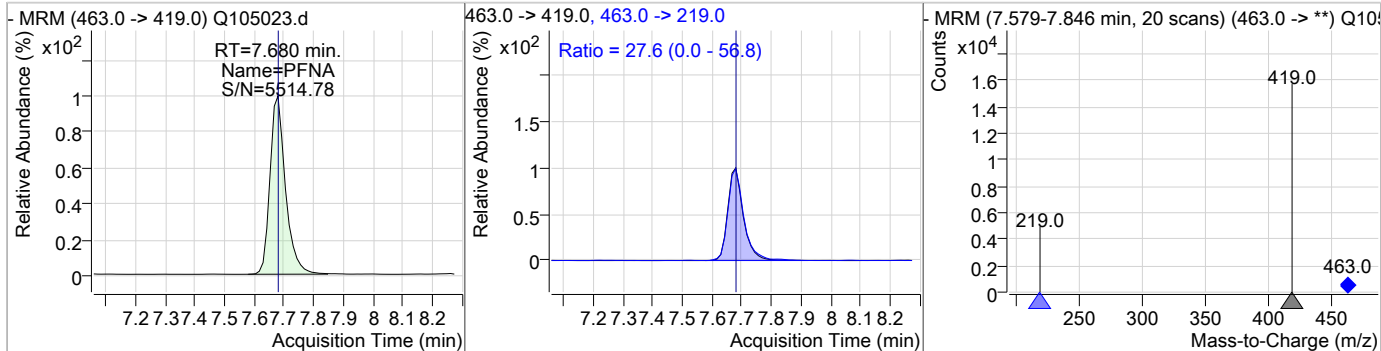
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	28083				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.73	7.65	0.00	2888 (m)	499.0 -> 99.0	42.0	22.0	82.0



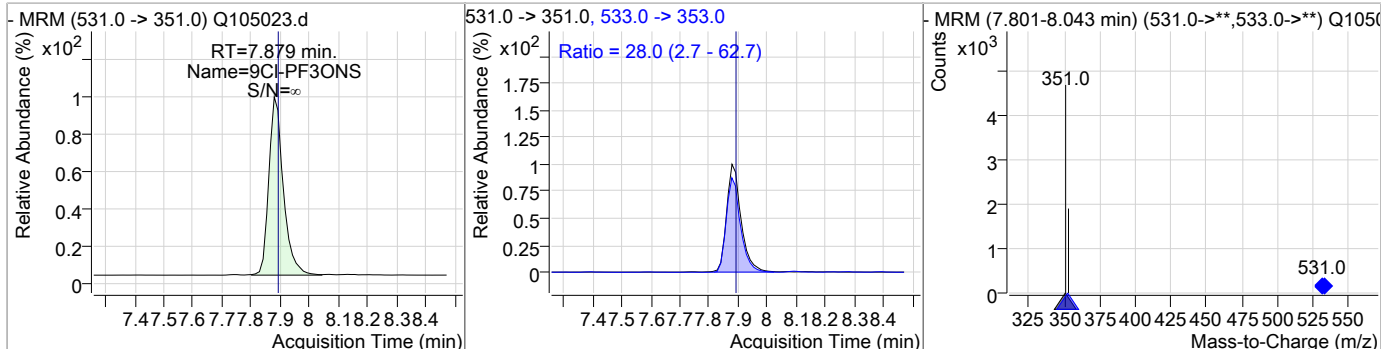
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.84	7.68	0.01	11180	463.0 -> 219.0	27.6	0.0	56.8



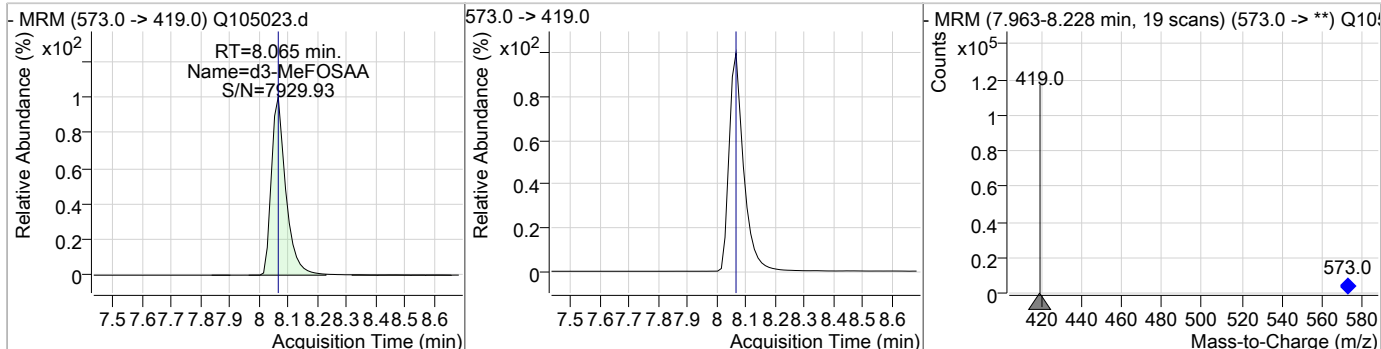
7.6.4  
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### Perfluorinated Compounds by LC/MS/MS

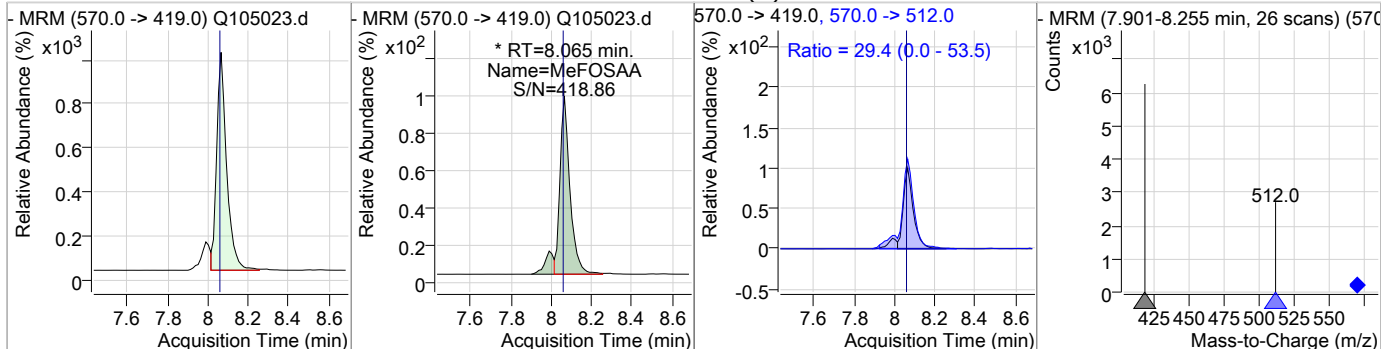
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	1.93	7.88	0.00	2922	533.0 -> 353.0	28.0	2.7	62.7



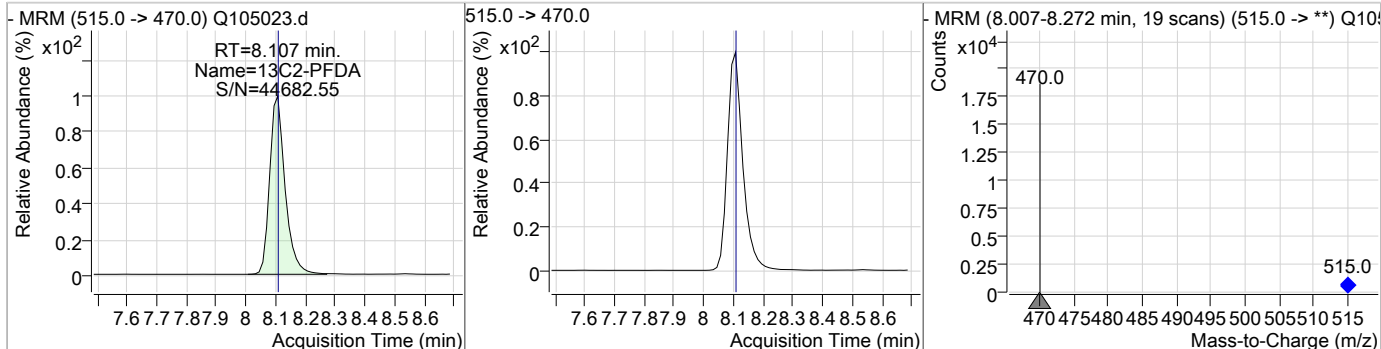
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	87218				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.71	8.07	0.00	3785 (m)	570.0 -> 512.0	29.4	0.0	53.5



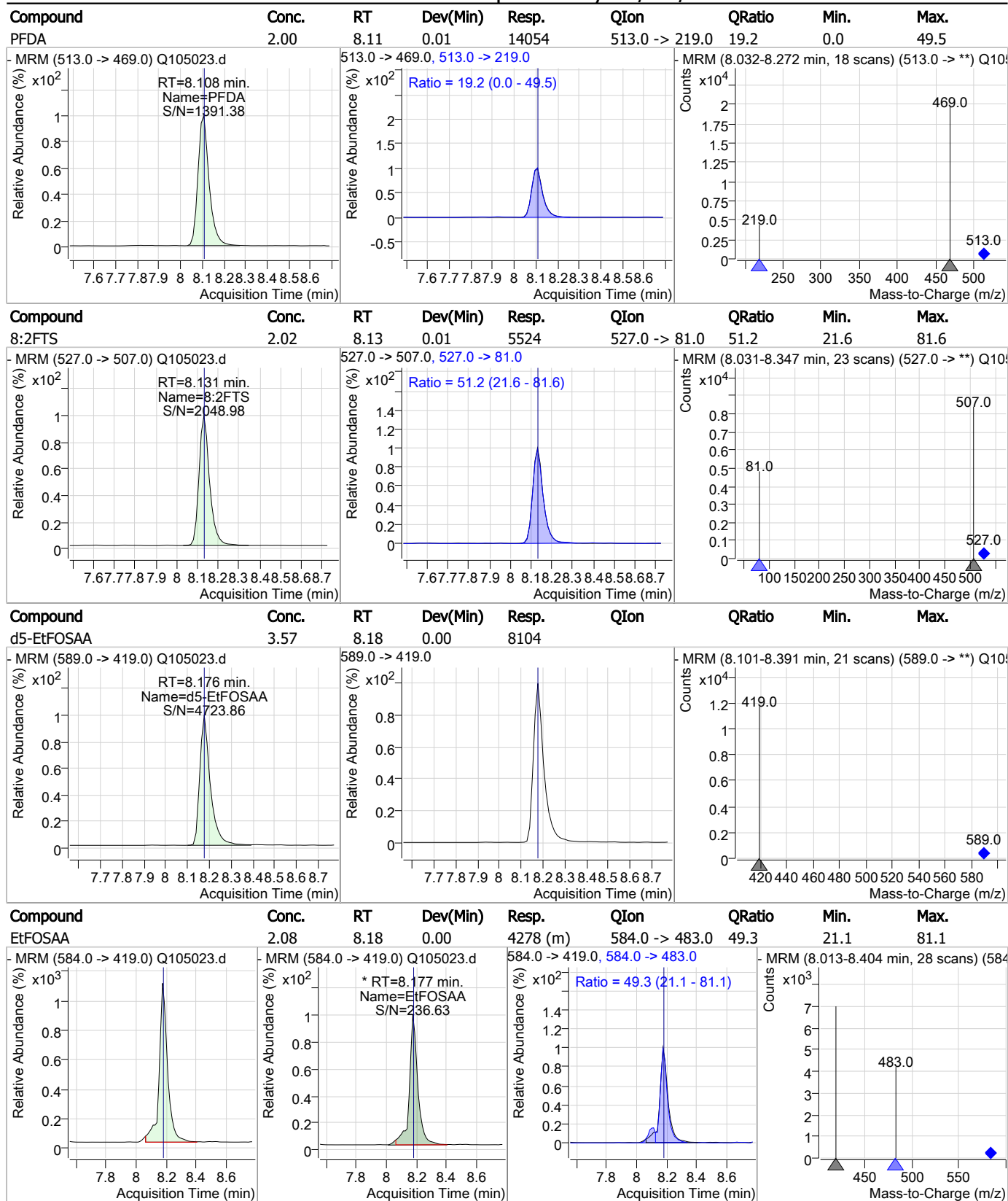
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	1.97	8.11	0.01	13330				



7.6.4



### Perfluorinated Compounds by LC/MS/MS

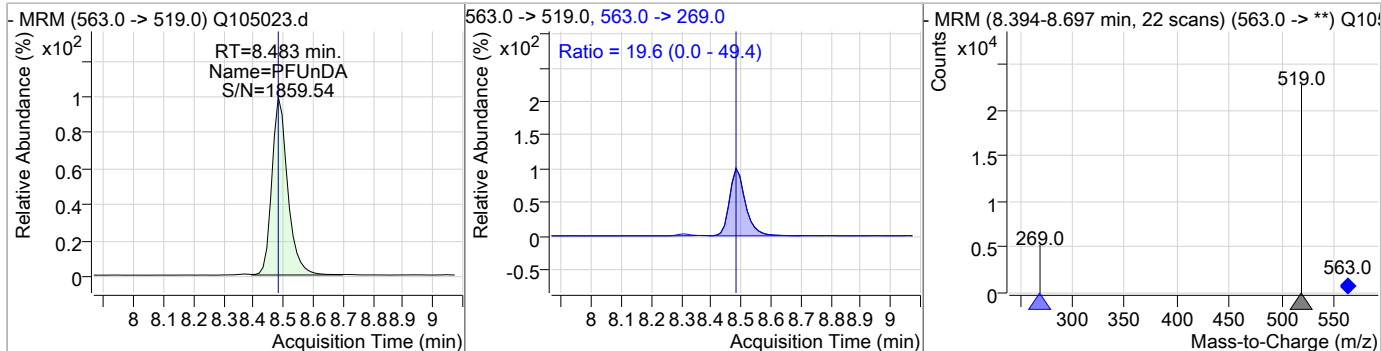


7.6.4

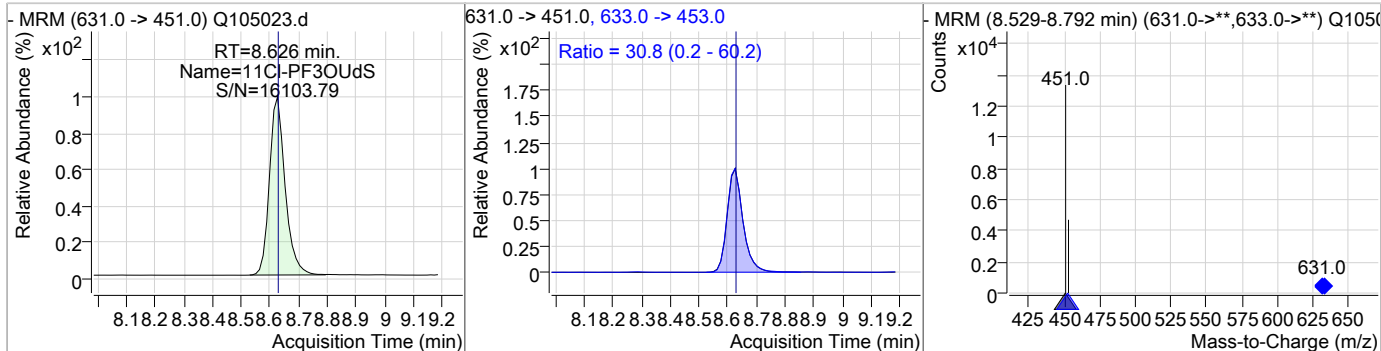
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### Perfluorinated Compounds by LC/MS/MS

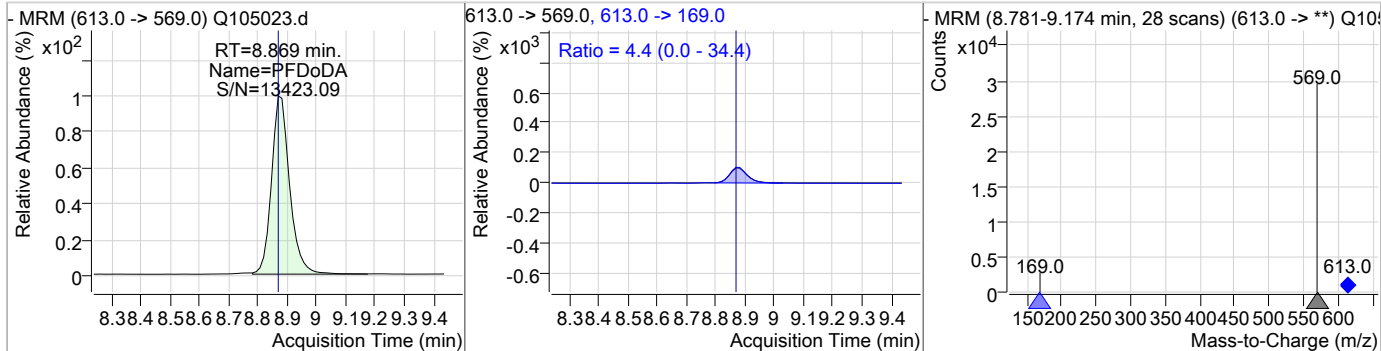
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.89	8.48	0.00	16442	563.0 -> 269.0	19.6	0.0	49.4



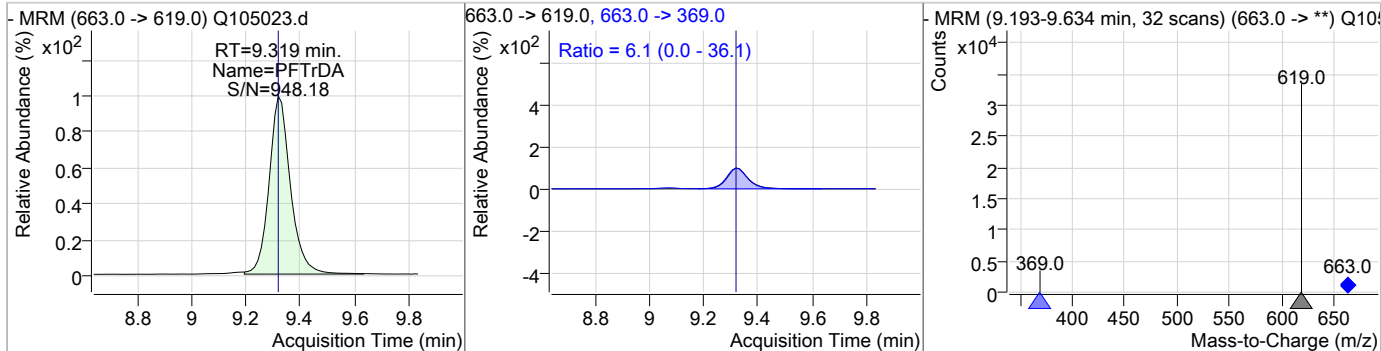
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	1.71	8.63	0.01	9490	633.0 -> 453.0	30.8	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.73	8.87	0.00	21083	613.0 -> 169.0	4.4	0.0	34.4

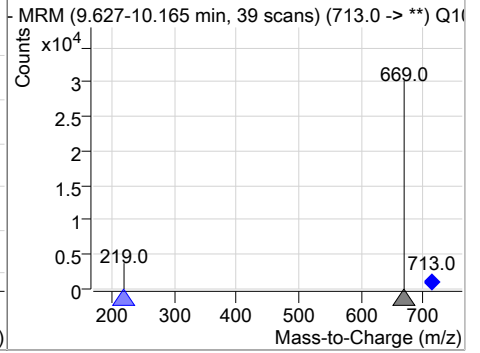
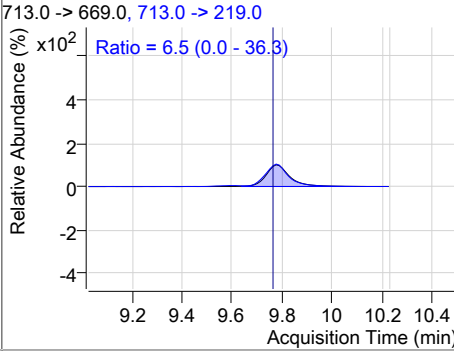
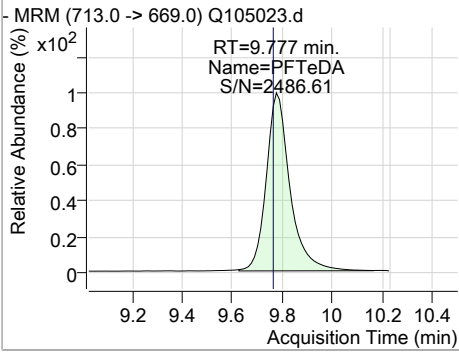


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	1.67	9.32	0.00	23805	663.0 -> 369.0	6.1	0.0	36.1



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.67	9.78	0.01	20968	713.0 -> 219.0	6.5	0.0	36.3



7.6.4  
7

# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105023.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 14:47      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.4.1

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

**Norman Farmer**  
 09/11/23 11:37

Perfluorinated Compounds by LC/MS/MS

Data File : Q105024.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 3:02:58 PM  
 Sample Name : ic2238-5  
 Vial : P1-A5  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

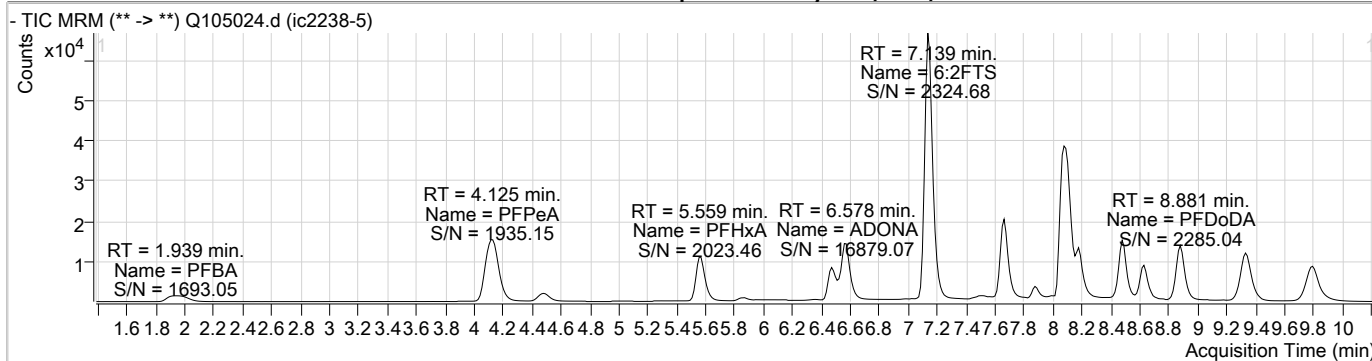
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.139	429.0 -> 409.0	50976	20.00 µg/L	0.013
13C2-PFOA	7.141	415.0 -> 370.0	141290	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	84259	20.00 µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	28130	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	88328	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.107	515.0 -> 470.0	33647	4.89 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 24.5%	
13C2-PFHxA	5.557	315.0 -> 270.0	24503	4.76 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 23.8%	
d5-EtFOSAA	8.176	589.0 -> 419.0	21652	9.39 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 23.5%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	1425	9.00 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 22.5%	
<b>Target Compounds</b>					
6:2FTS	7.139	427.0 -> 407.0	13618	4.71 µg/L	99
8:2FTS	8.131	527.0 -> 507.0	13546	4.80 µg/L	100
EtFOSAA	8.177	584.0 -> 419.0	10362	4.95 µg/L	m 95
MeFOSAA	8.065	570.0 -> 419.0	9751	4.35 µg/L	m 88
PFBA	1.939	213.0 -> 169.0	14271	4.50 µg/L	100
PFBS	4.478	299.0 -> 80.0	7404	4.39 µg/L	98
PFDA	8.108	513.0 -> 469.0	33530	4.71 µg/L	99
PFDoDA	8.881	613.0 -> 569.0	55018	4.50 µg/L	99
PFHpA	6.477	363.0 -> 319.0	29170	4.52 µg/L	99
PFHpS	7.149	449.0 -> 80.0	5369	4.71 µg/L	97
PFHxA	5.559	313.0 -> 269.0	22131	4.31 µg/L	99
PFHxS	6.526	399.0 -> 80.0	5782	4.68 µg/L	m 94
PFNA	7.667	463.0 -> 419.0	30188	4.90 µg/L	99
PFOA	7.142	413.0 -> 369.0	31937	4.64 µg/L	99
PFOS	7.654	499.0 -> 80.0	7845	4.70 µg/L	m 83
PFPeA	4.125	263.0 -> 219.0	15130	4.63 µg/L	100
PFTeDA	9.790	713.0 -> 669.0	54308	4.32 µg/L	99
PFTTrDA	9.331	663.0 -> 619.0	61563	4.31 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	42438	4.88 µg/L	98
ADONA	6.578	377.0 -> 251.0	39401	4.29 µg/L	99
9Cl-PF3ONS	7.879	531.0 -> 351.0	7764	5.05 µg/L	91
11Cl-PF3OUdS	8.626	631.0 -> 451.0	24552	4.35 µg/L	99
HFPO-DA	5.853	285.0 -> 169.0	910	4.54 µg/L	100

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

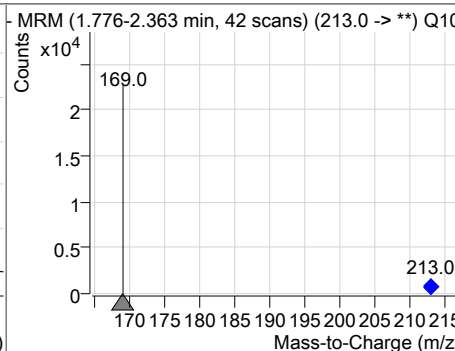
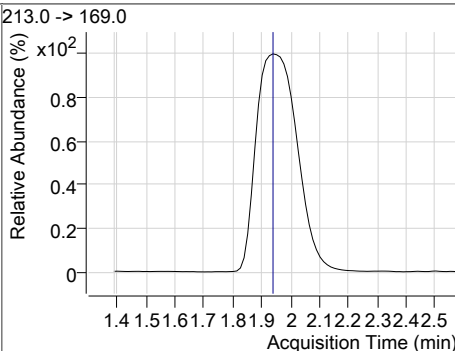
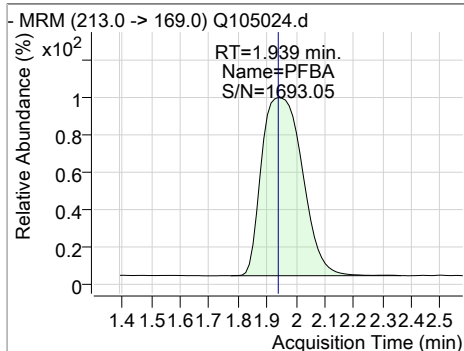
7.6.5  
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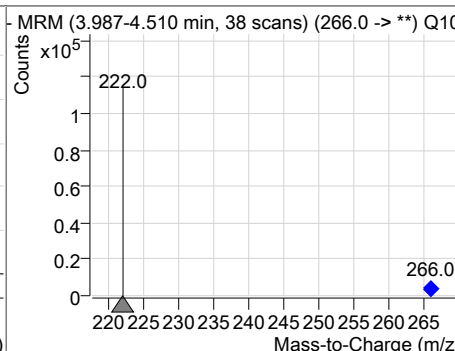
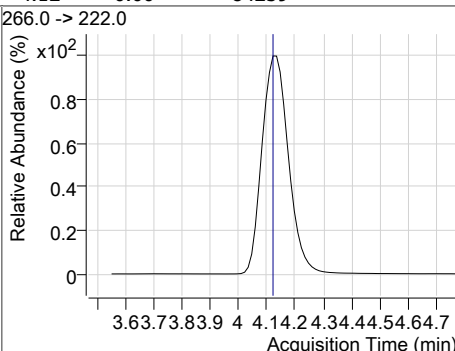
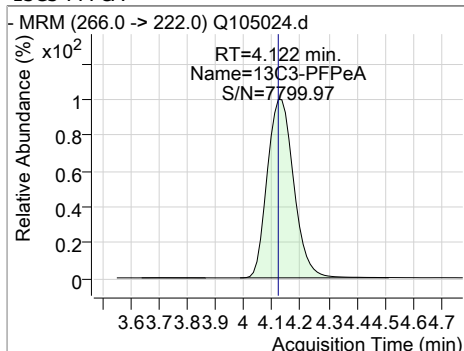
### Perfluorinated Compounds by LC/MS/MS



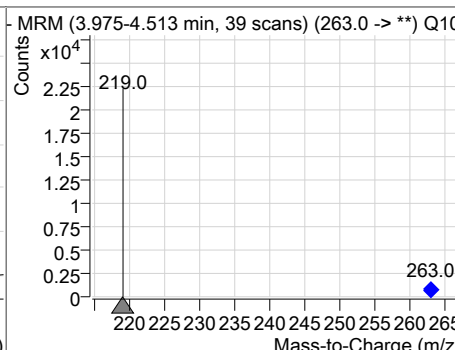
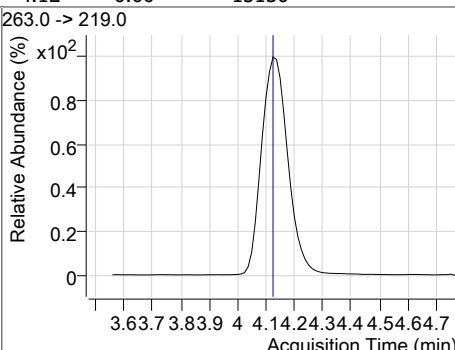
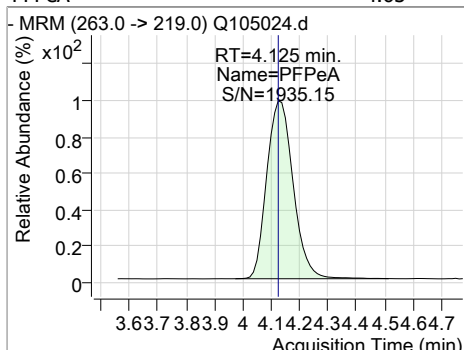
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	4.50	1.94	0.00	14271				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.12	0.00	84259				



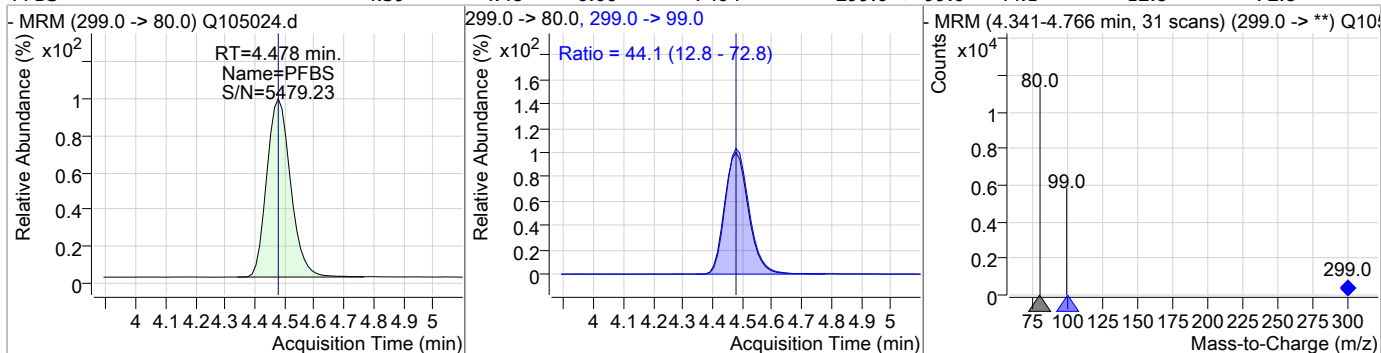
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.63	4.12	0.00	15130				



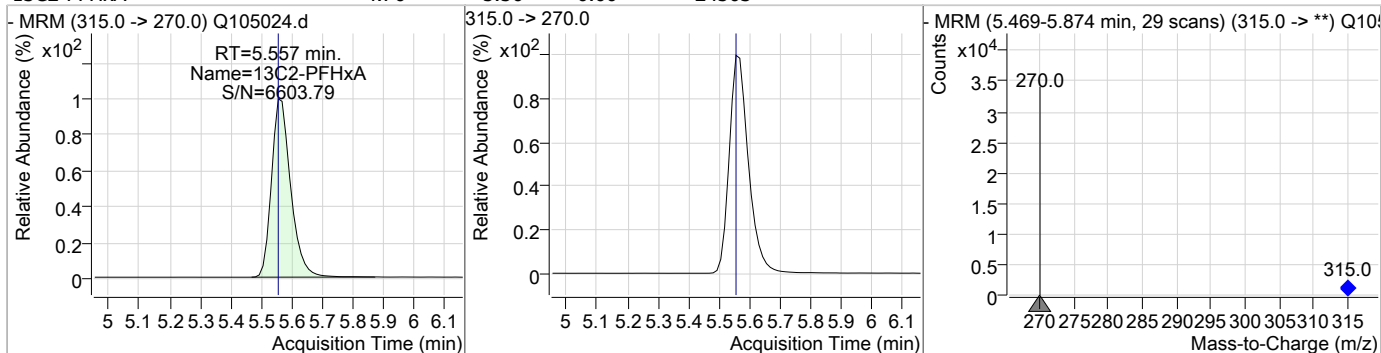
7.6.5  
7

### Perfluorinated Compounds by LC/MS/MS

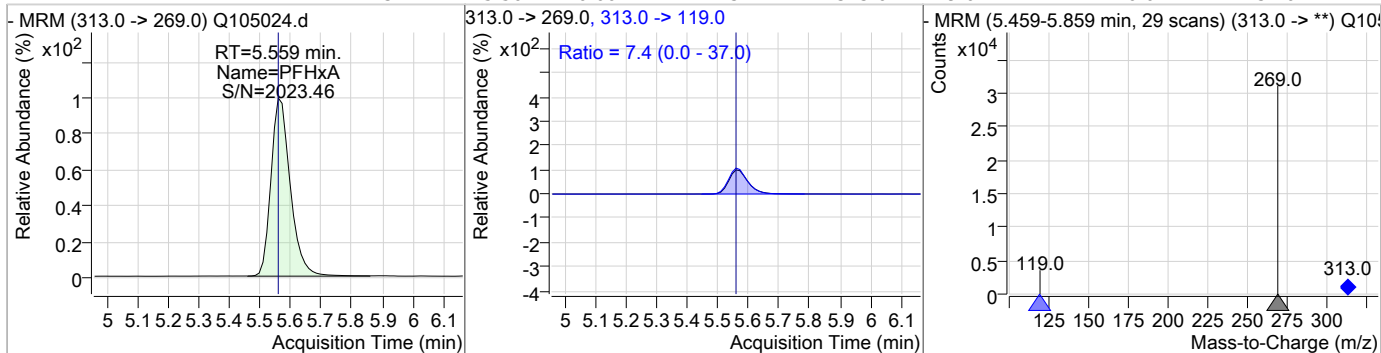
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.39	4.48	0.00	7404	299.0 -> 99.0	44.1	12.8	72.8



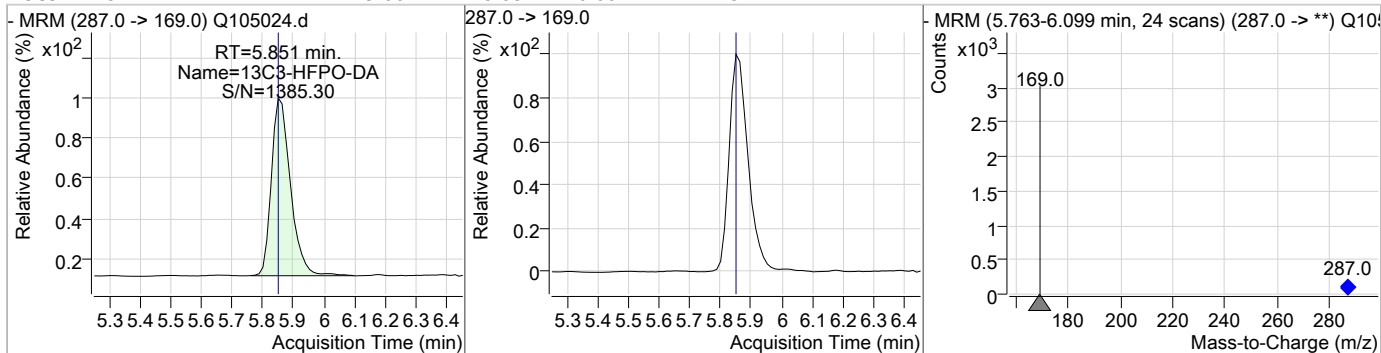
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	4.76	5.56	0.00	24503				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.31	5.56	0.00	22131	313.0 -> 119.0	7.4	0.0	37.0

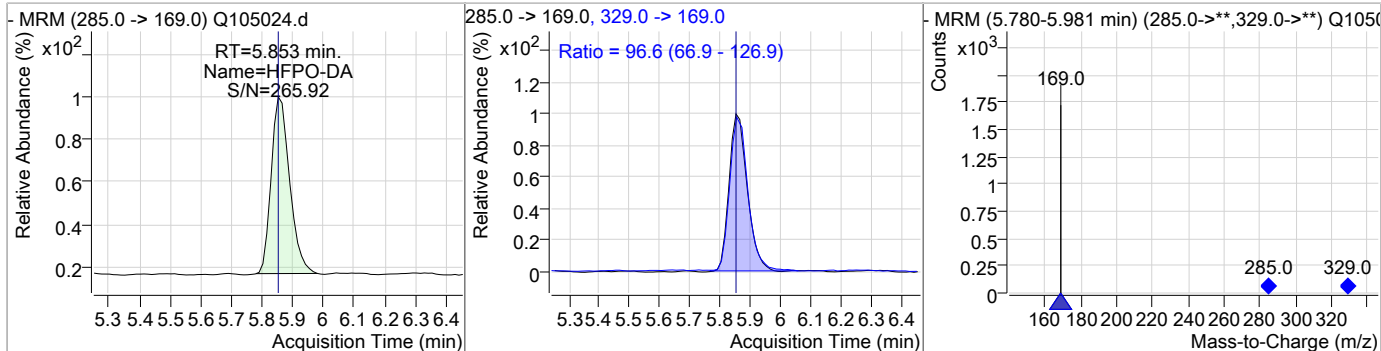


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.00	5.85	0.00	1425				

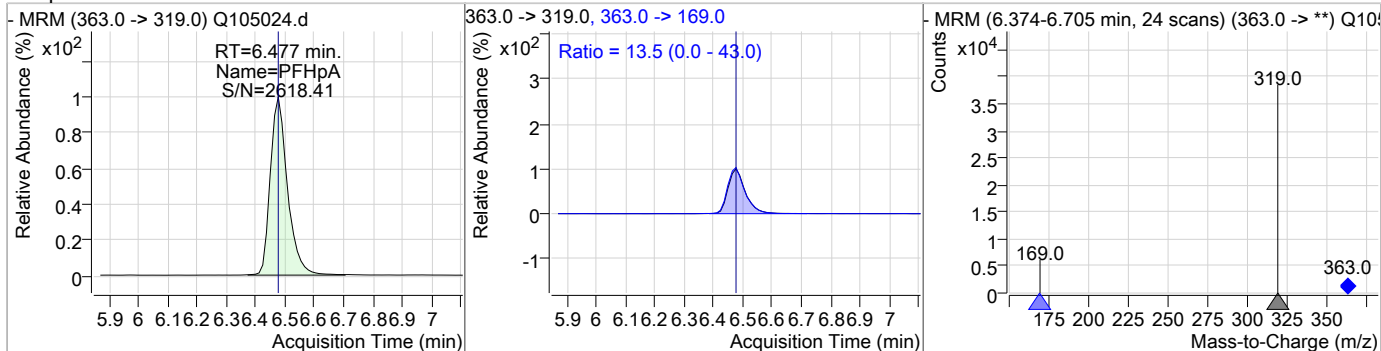


### Perfluorinated Compounds by LC/MS/MS

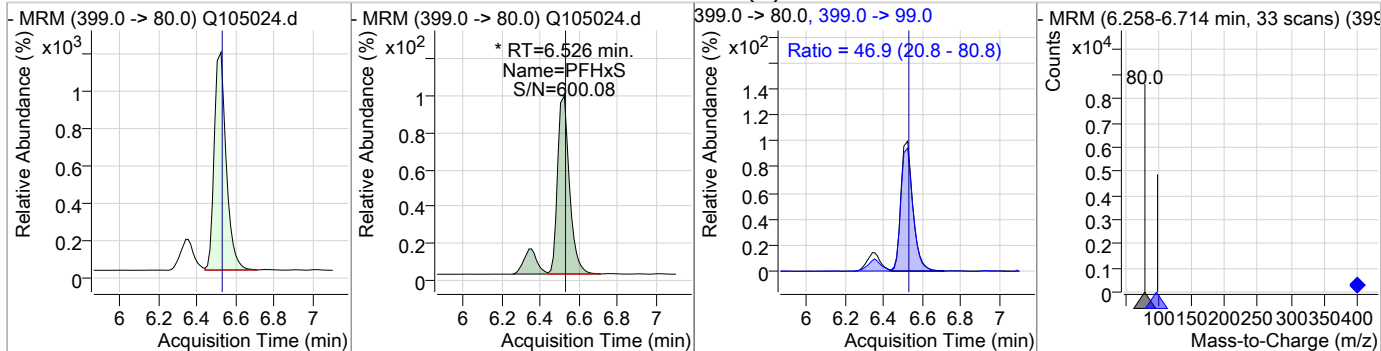
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.54	5.85	0.00	910	329.0 -> 169.0	96.6	66.9	126.9



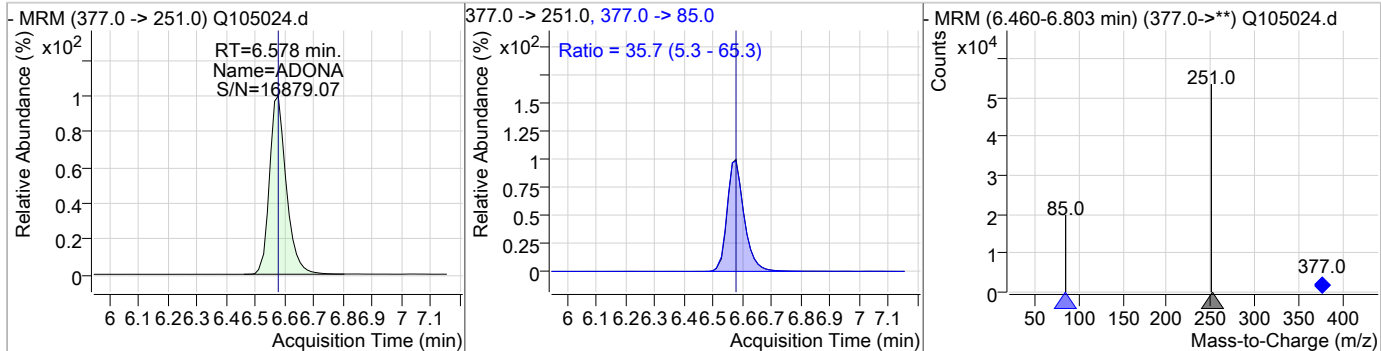
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	4.52	6.48	0.00	29170	363.0 -> 169.0	13.5	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	4.68	6.53	0.00	5782 (m)	399.0 -> 99.0	46.9	20.8	80.8



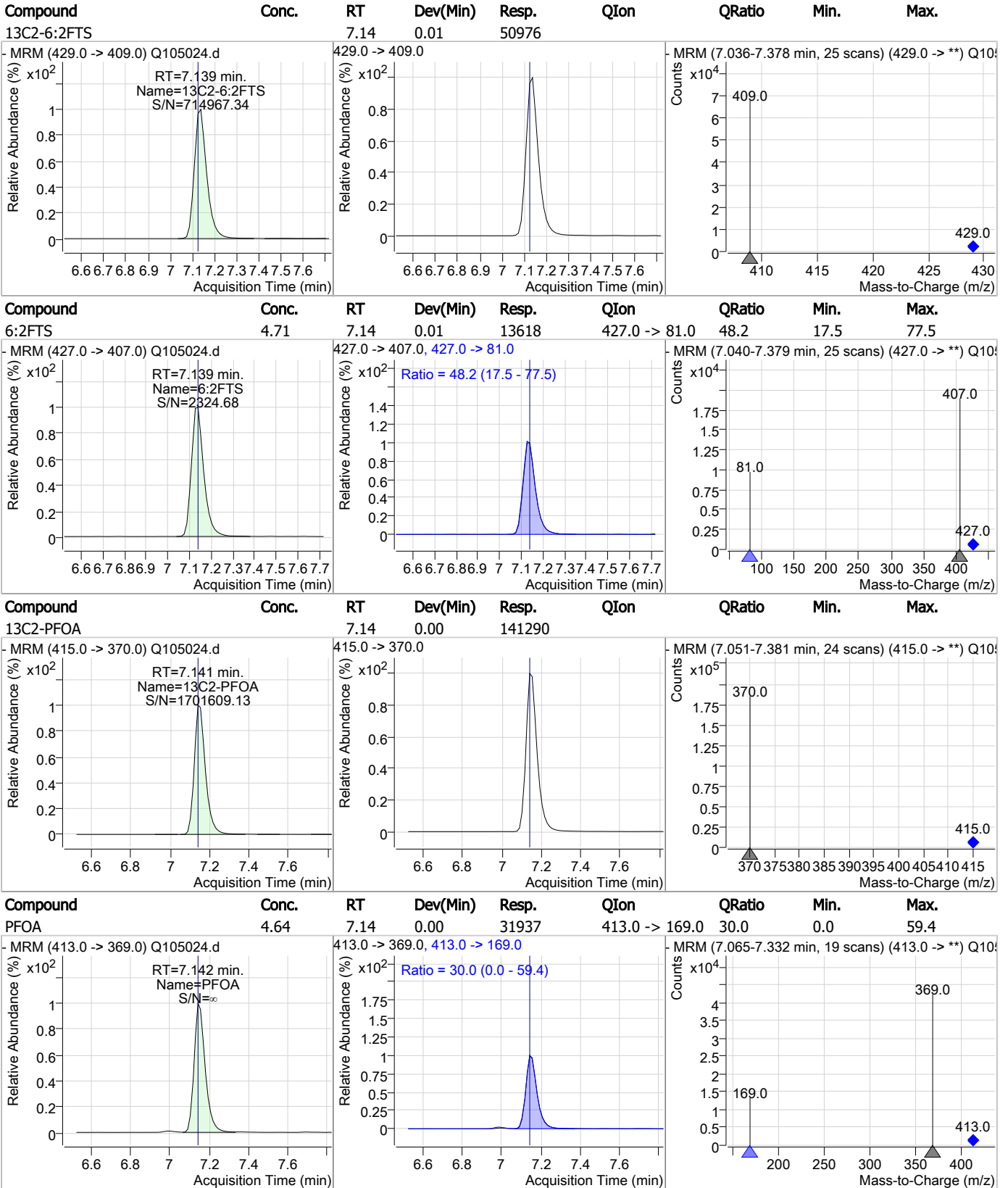
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.29	6.58	0.00	39401	377.0 -> 85.0	35.7	5.3	65.3



7.6.5  
7



### Perfluorinated Compounds by LC/MS/MS

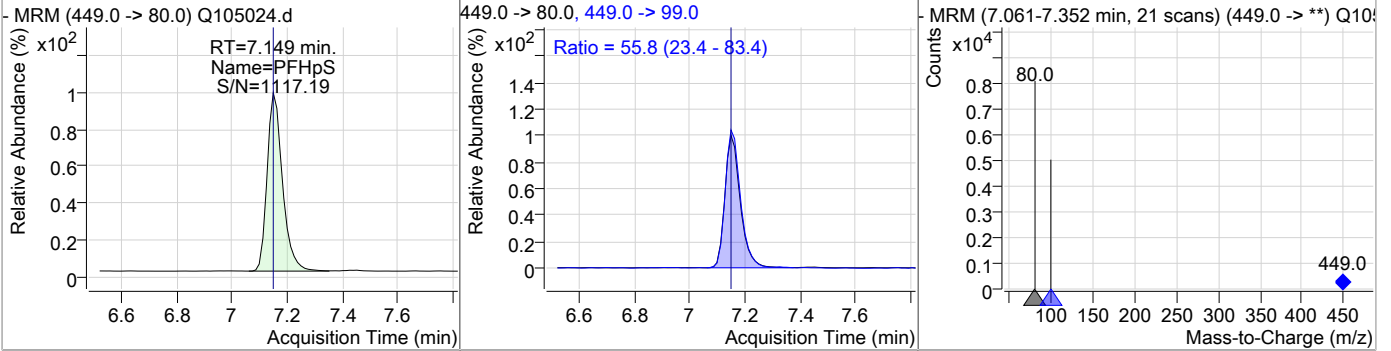


7.6.5

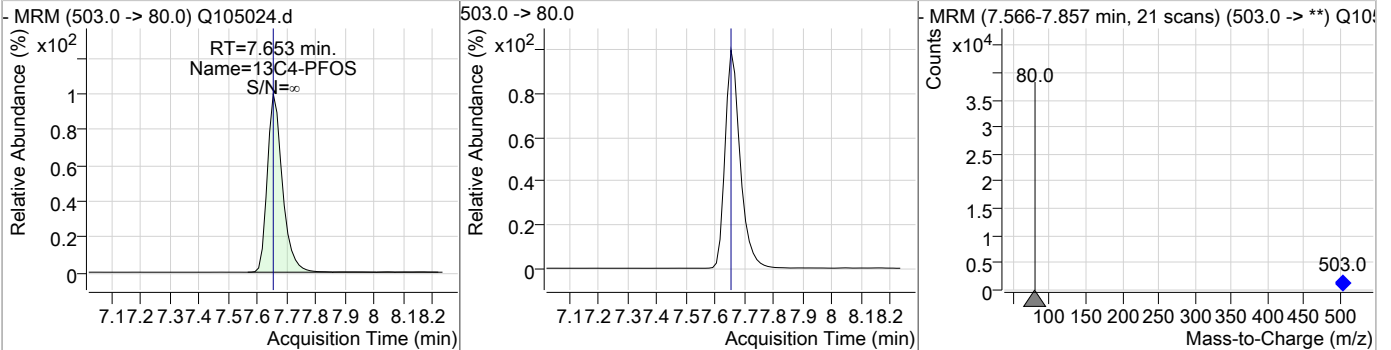
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### Perfluorinated Compounds by LC/MS/MS

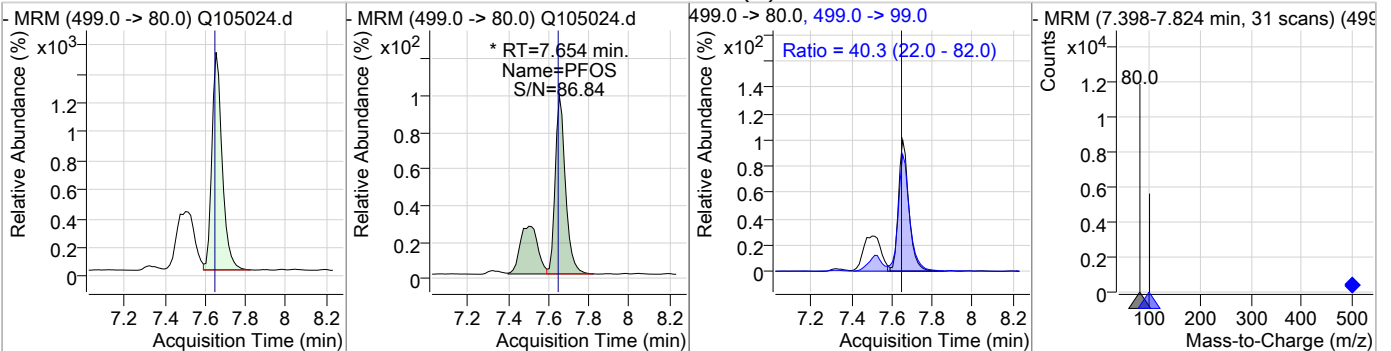
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	4.71	7.15	0.00	5369	449.0 -> 99.0	55.8	23.4	83.4



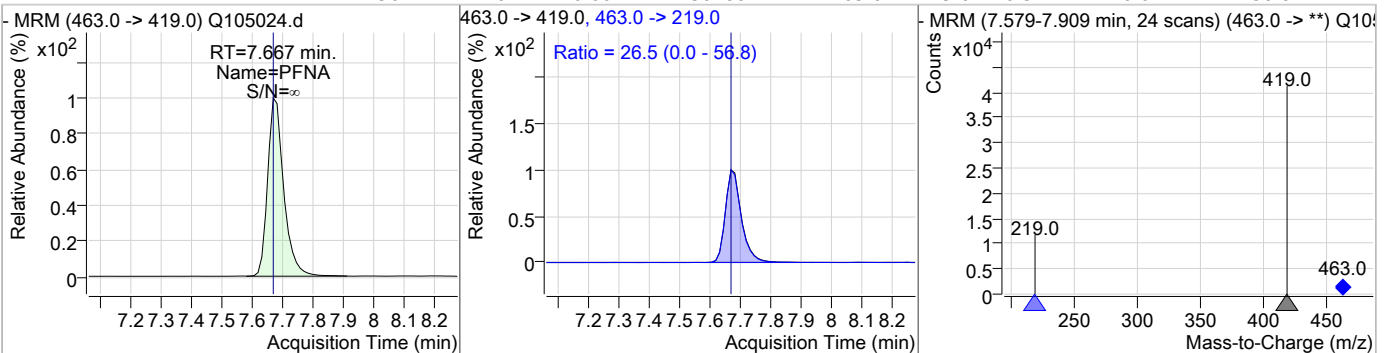
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	28130				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.70	7.65	0.00	7845 (m)	499.0 -> 99.0	40.3	22.0	82.0

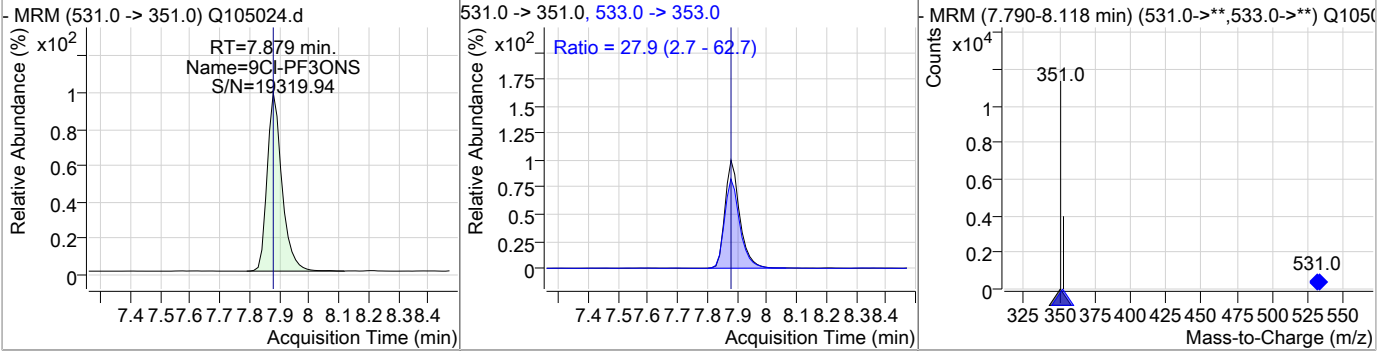


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	4.90	7.67	0.00	30188	463.0 -> 219.0	26.5	0.0	56.8

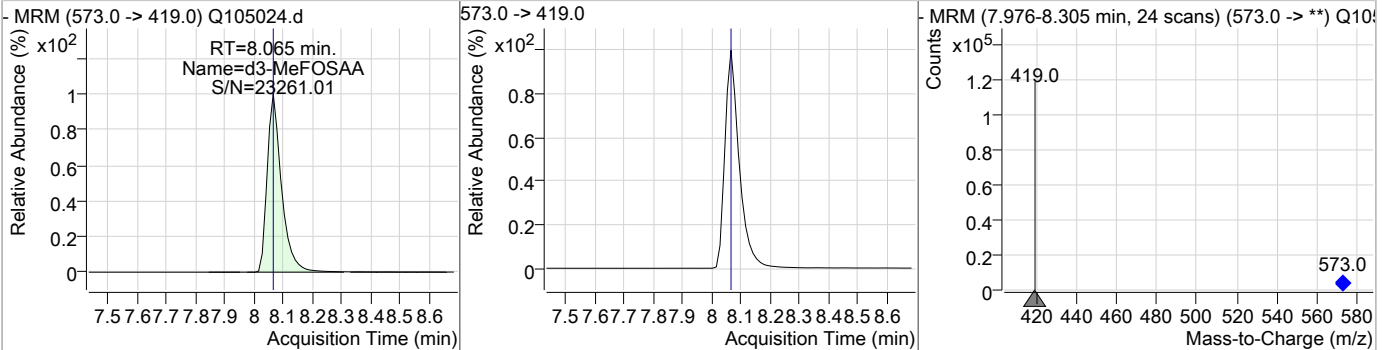


### Perfluorinated Compounds by LC/MS/MS

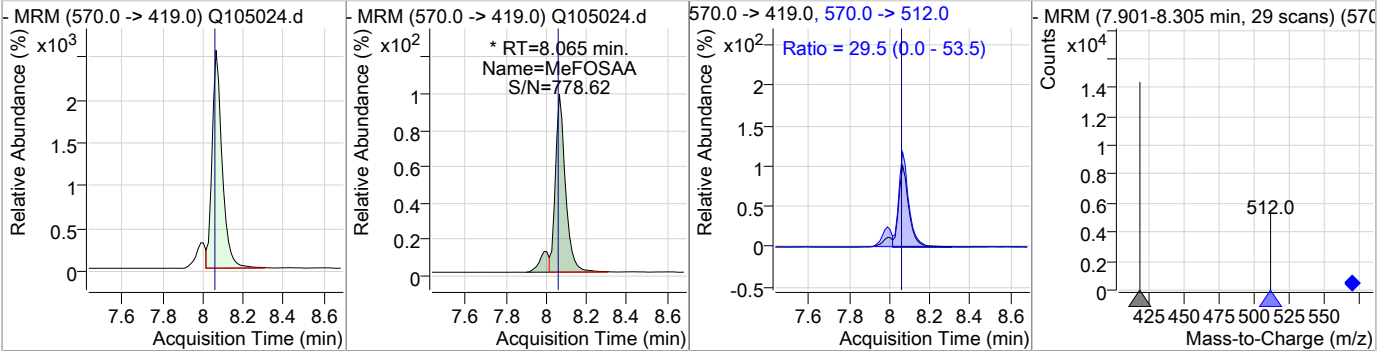
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	5.05	7.88	0.00	7764	533.0 -> 353.0	27.9	2.7	62.7



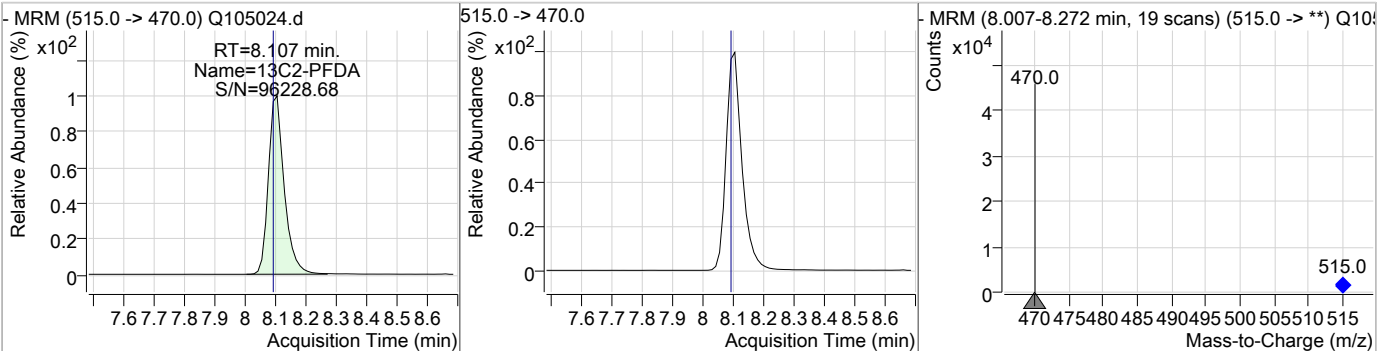
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	88328				



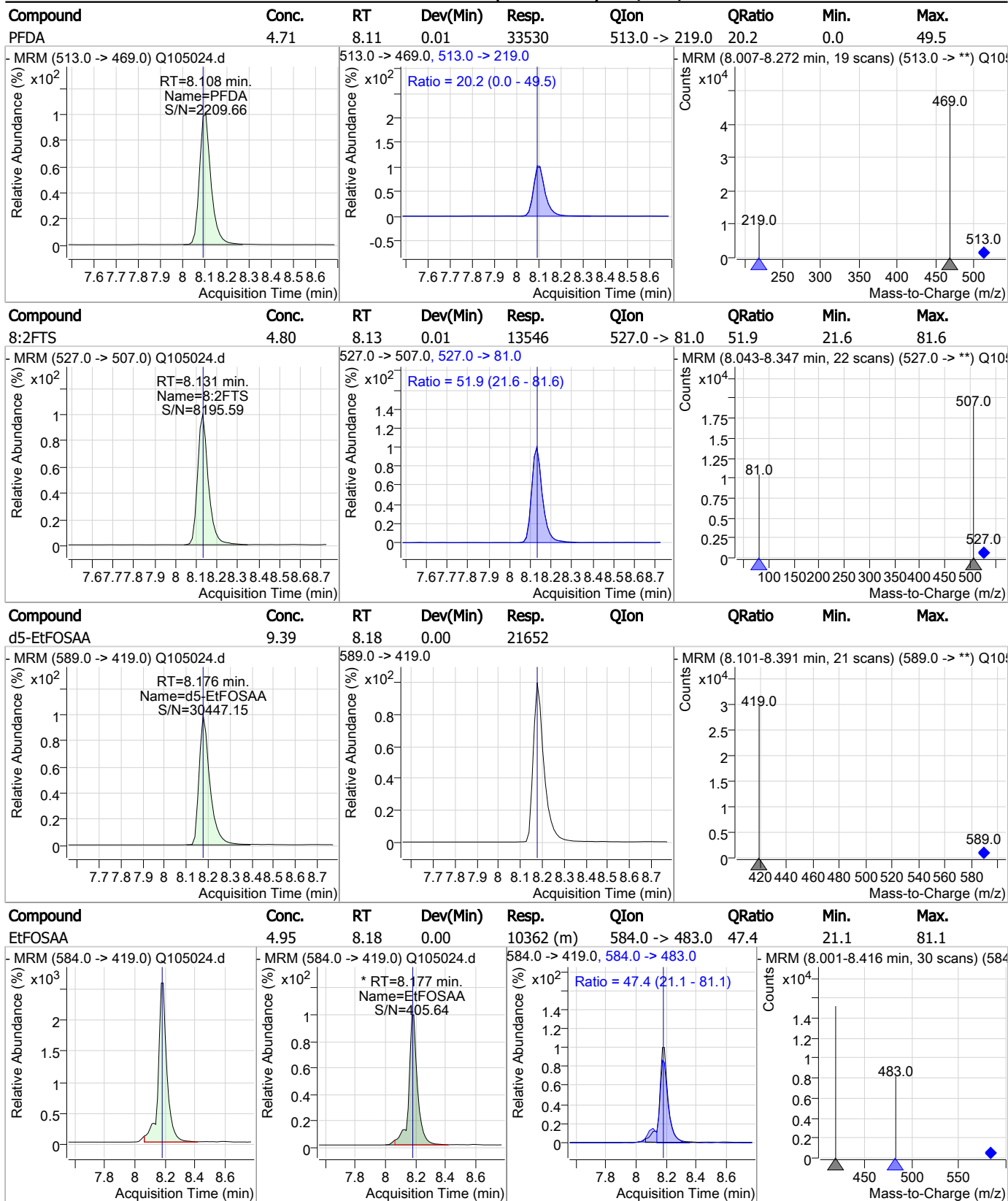
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.35	8.07	0.00	9751 (m)	570.0 -> 512.0	29.5	0.0	53.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	4.89	8.11	0.01	33647				



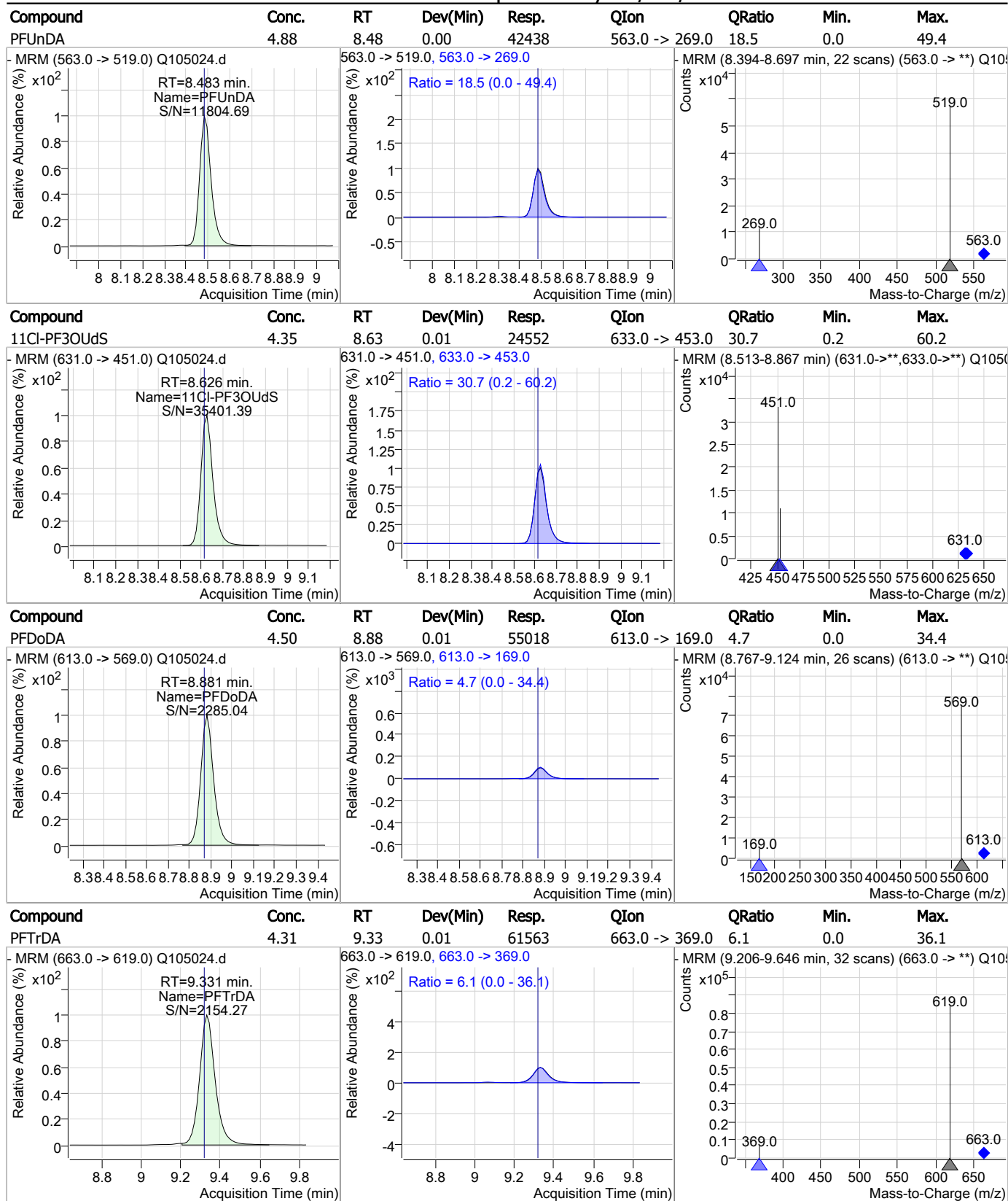
### Perfluorinated Compounds by LC/MS/MS



7.6.5

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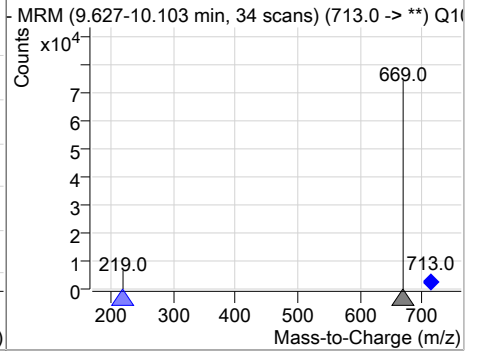
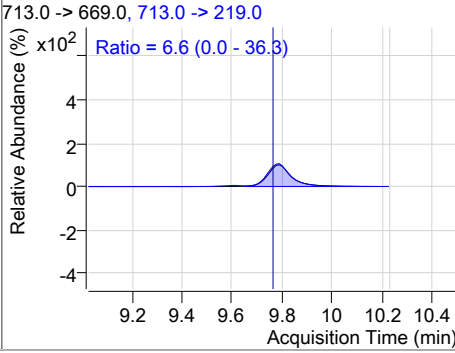
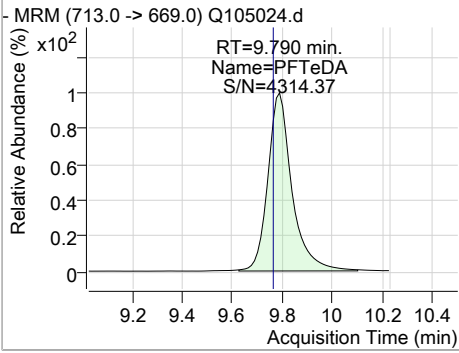
### Perfluorinated Compounds by LC/MS/MS



7.6.5  
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	4.32	9.79	0.03	54308	713.0 -> 219.0	6.6	0.0	36.3



7.6.5

7

# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105024.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 15:02      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.5.1  
7

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

**Norman Farmer**  
 09/11/23 11:37

### Perfluorinated Compounds by LC/MS/MS

Data File : Q105025.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 3:18:45 PM  
 Sample Name : ic2238-10  
 Vial : P1-A6  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

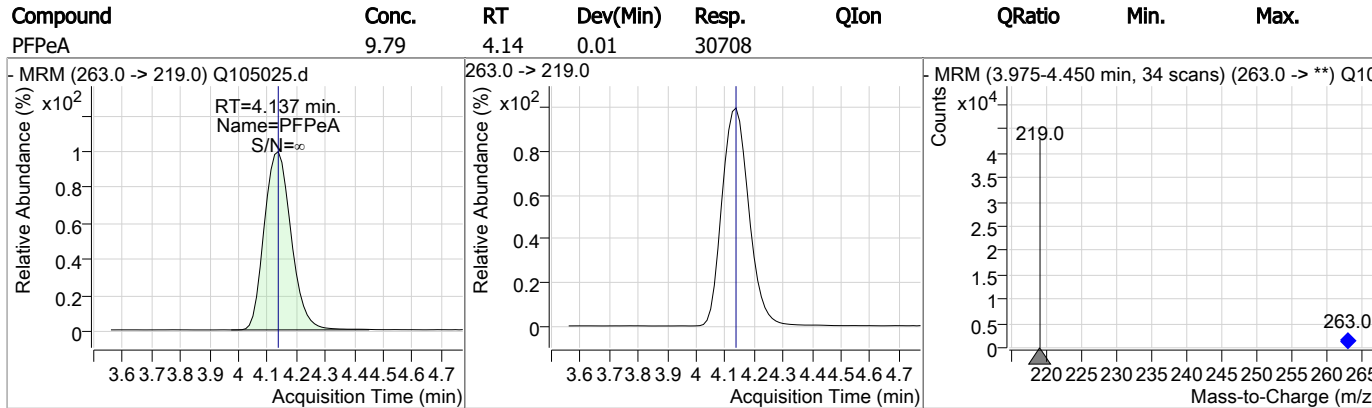
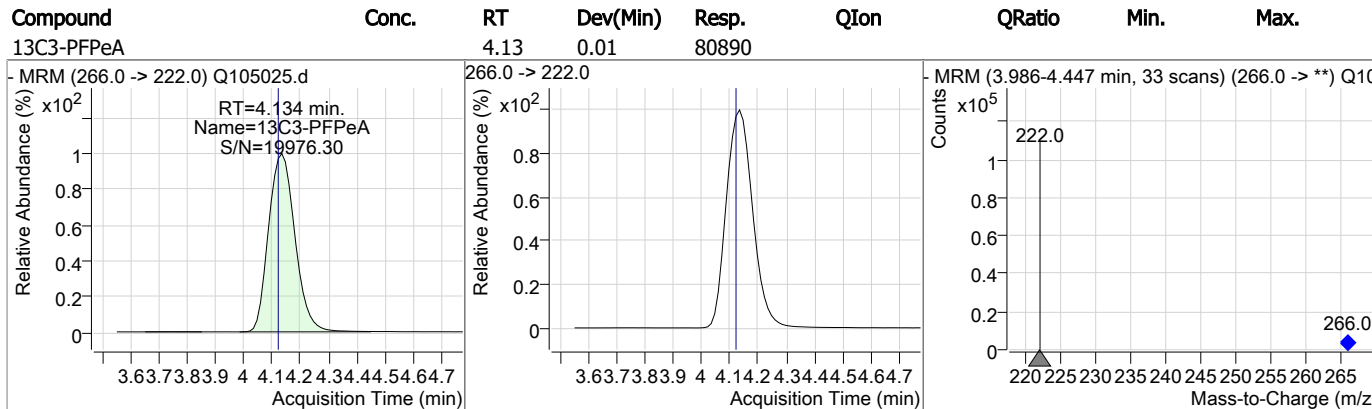
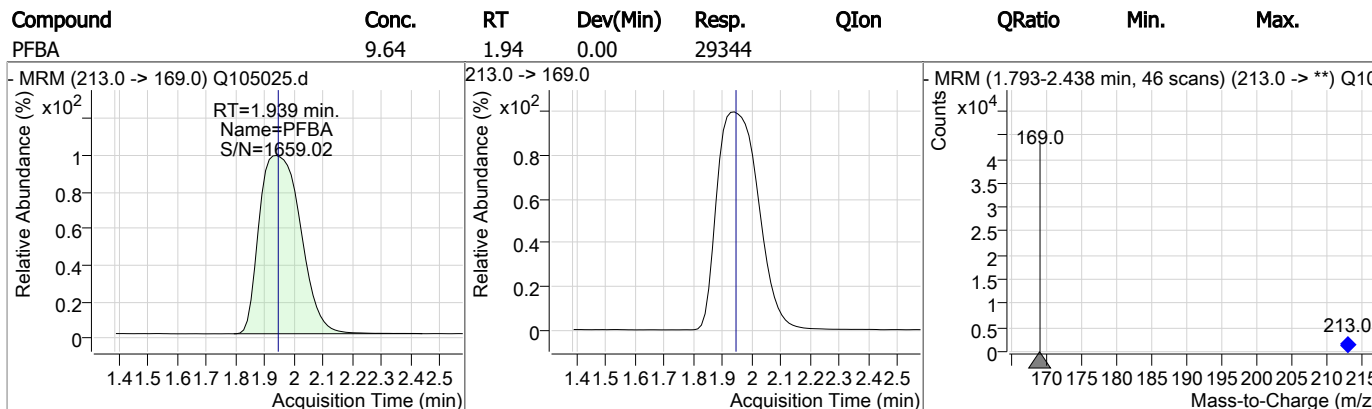
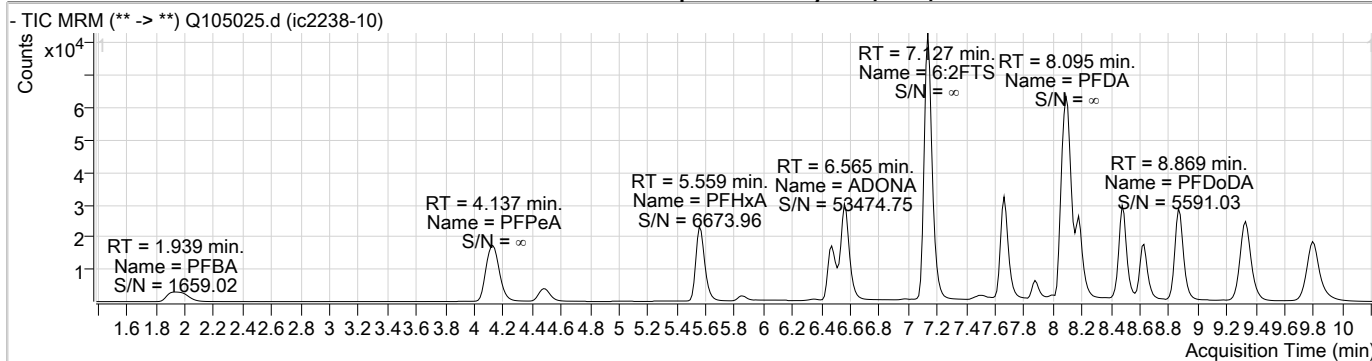
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	49329	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	135945	20.00 µg/L	0.000
13C3-PFPeA	4.134	266.0 -> 222.0	80890	20.00 µg/L	0.013
13C4-PFOS	7.653	503.0 -> 80.0	27045	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	84757	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	70099	10.59 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 53.0%	
13C2-PFHxA	5.557	315.0 -> 270.0	50086	10.05 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 50.3%	
d5-EtFOSAA	8.176	589.0 -> 419.0	45213	20.25 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 50.6%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	2949	19.35 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 48.4%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	27692	10.01 µg/L	100
8:2FTS	8.131	527.0 -> 507.0	27061	10.03 µg/L	97
EtFOSAA	8.177	584.0 -> 419.0	21206	10.45 µg/L	m 92
MeFOSAA	8.065	570.0 -> 419.0	21458	9.97 µg/L	m 90
PFBA	1.939	213.0 -> 169.0	29344	9.64 µg/L	100
PFBS	4.478	299.0 -> 80.0	15179	9.36 µg/L	100
PFDA	8.095	513.0 -> 469.0	70619	10.31 µg/L	99
PFDoDA	8.869	613.0 -> 569.0	114666	9.75 µg/L	100
PFHpA	6.477	363.0 -> 319.0	59980	9.66 µg/L	100
PFHpS	7.149	449.0 -> 80.0	11088	10.11 µg/L	99
PFHxA	5.559	313.0 -> 269.0	45633	9.23 µg/L	100
PFHxS	6.506	399.0 -> 80.0	11485	9.66 µg/L	m 98
PFNA	7.667	463.0 -> 419.0	59564	10.05 µg/L	99
PFOA	7.142	413.0 -> 369.0	63978	9.65 µg/L	99
PFOS	7.654	499.0 -> 80.0	15751	9.82 µg/L	m 87
PFPeA	4.137	263.0 -> 219.0	30708	9.79 µg/L	100
PFTeDA	9.790	713.0 -> 669.0	113988	9.42 µg/L	100
PFTTrDA	9.331	663.0 -> 619.0	127783	9.31 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	85724	10.25 µg/L	98
ADONA	6.565	377.0 -> 251.0	81797	9.27 µg/L	100
9CI-PF3ONS	7.879	531.0 -> 351.0	15074	10.14 µg/L	98
11CI-PF3OUdS	8.626	631.0 -> 451.0	49517	9.12 µg/L	98
HFPO-DA	5.853	285.0 -> 169.0	1960	10.16 µg/L	95

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

7.6.6  
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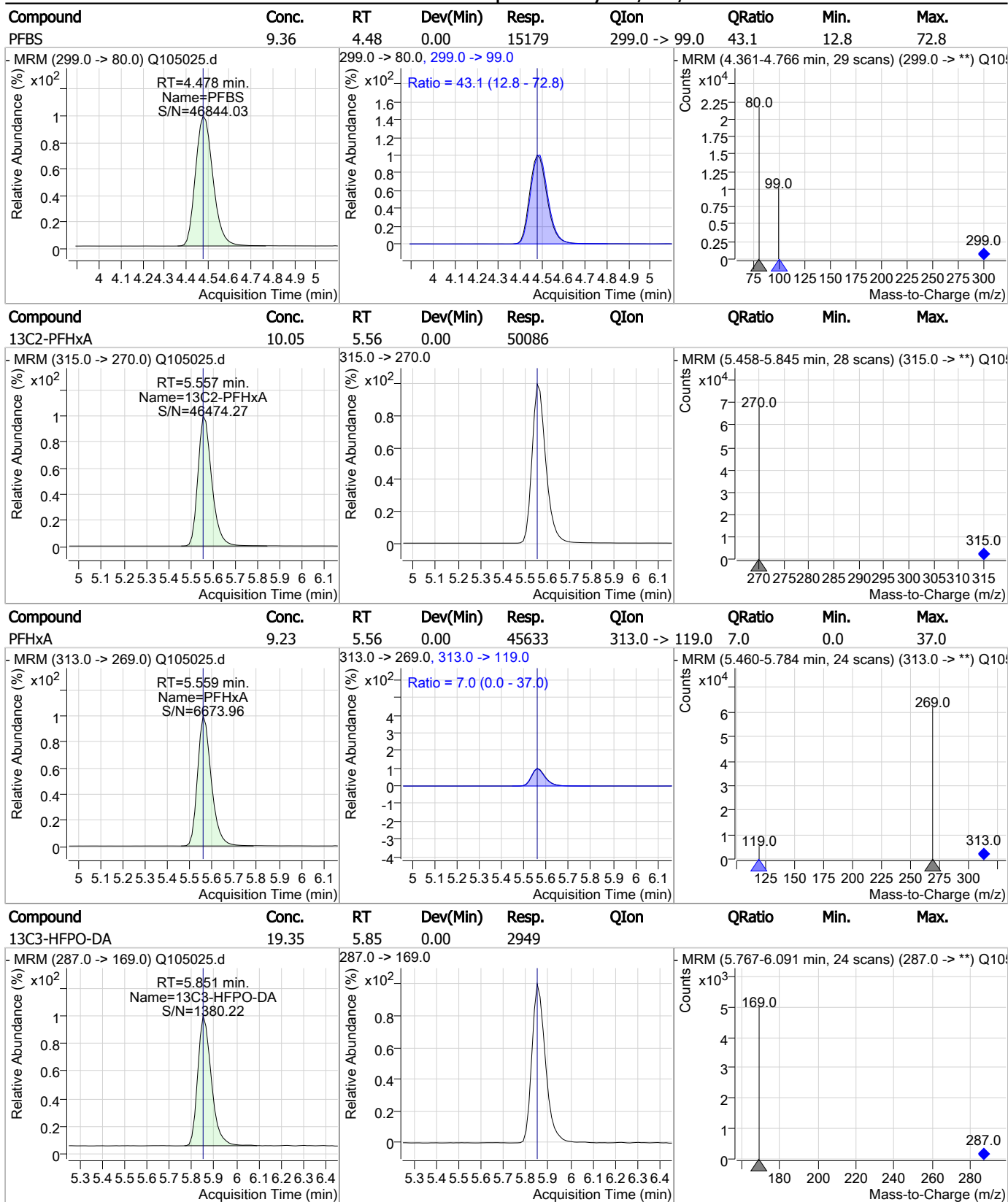


### Perfluorinated Compounds by LC/MS/MS



7.6.6  
7

### Perfluorinated Compounds by LC/MS/MS

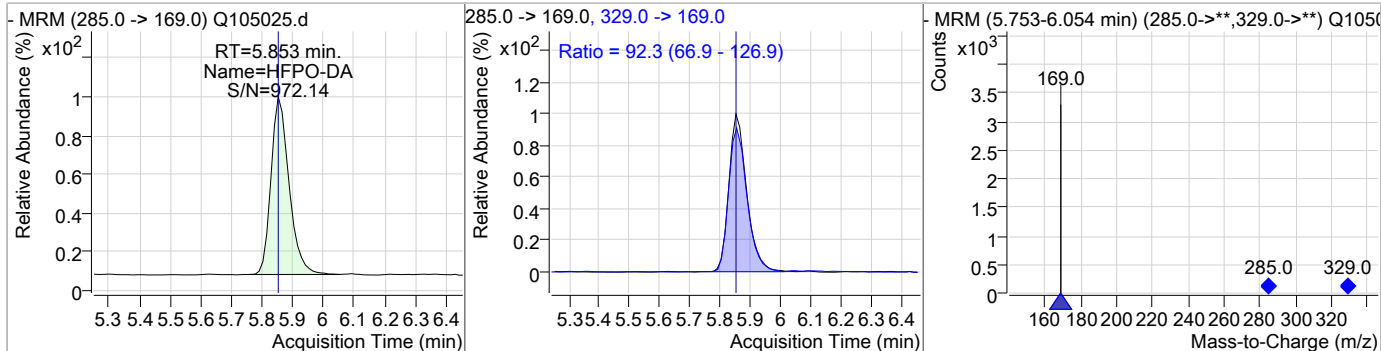


7.6.6

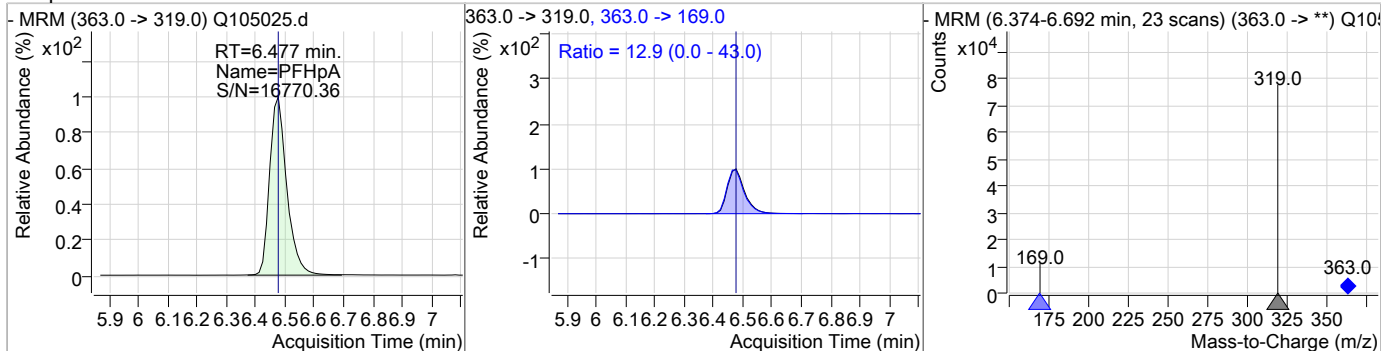
7

### Perfluorinated Compounds by LC/MS/MS

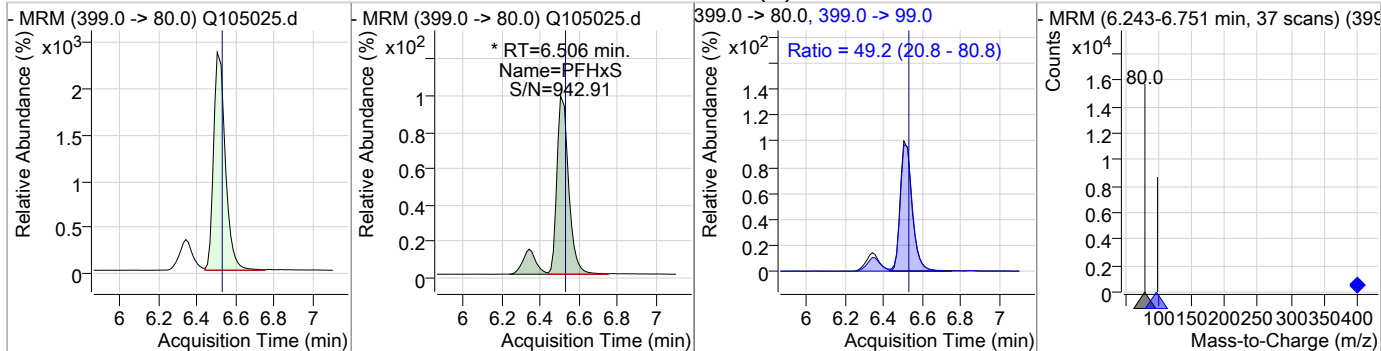
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	10.16	5.85	0.00	1960	329.0 -> 169.0	92.3	66.9	126.9



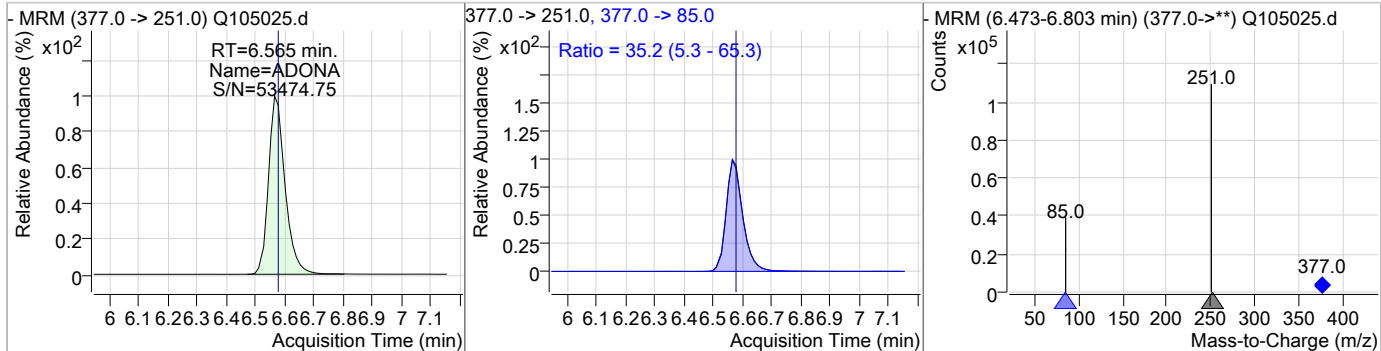
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	9.66	6.48	0.00	59980	363.0 -> 169.0	12.9	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	9.66	6.51	-0.02	11485 (m)	399.0 -> 99.0	49.2	20.8	80.8

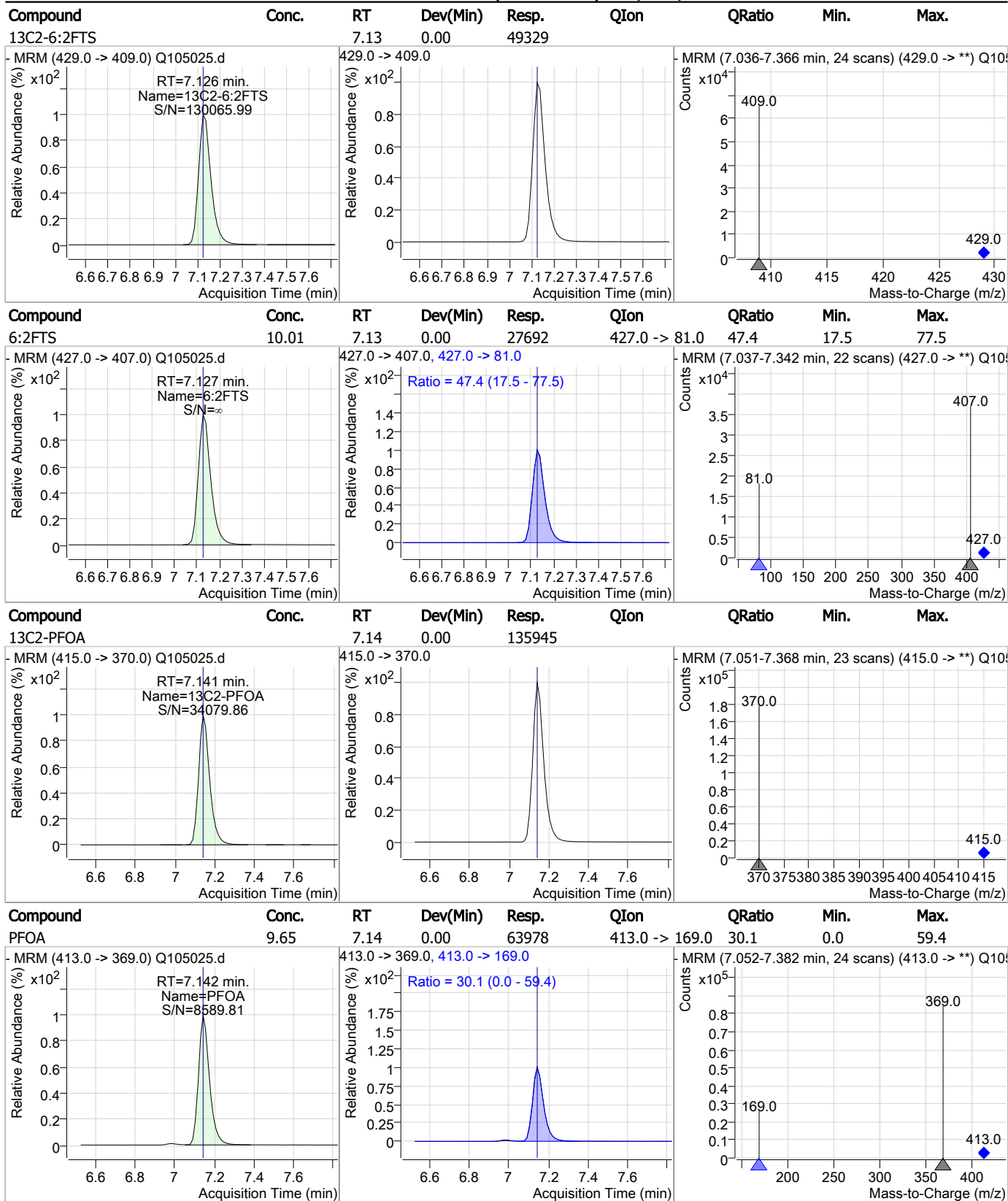


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	9.27	6.57	-0.01	81797	377.0 -> 85.0	35.2	5.3	65.3



7.6.6  
7

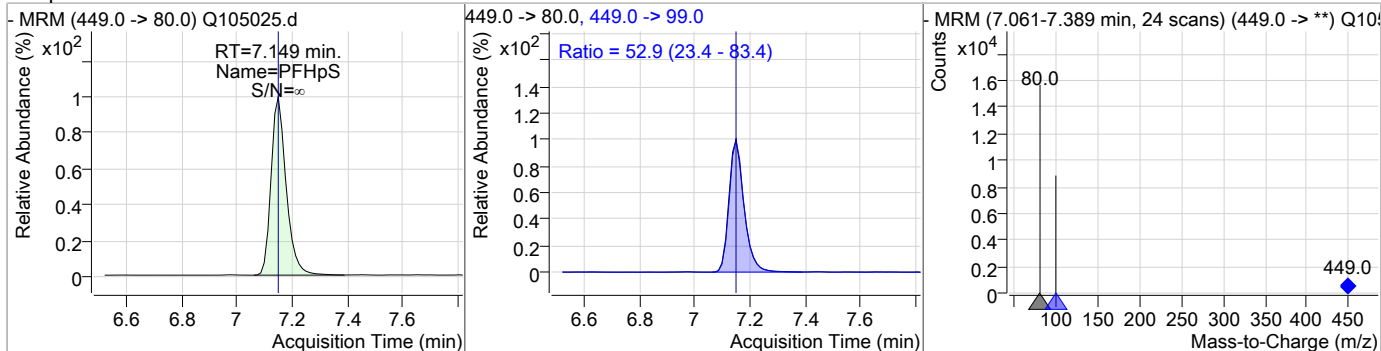
### Perfluorinated Compounds by LC/MS/MS



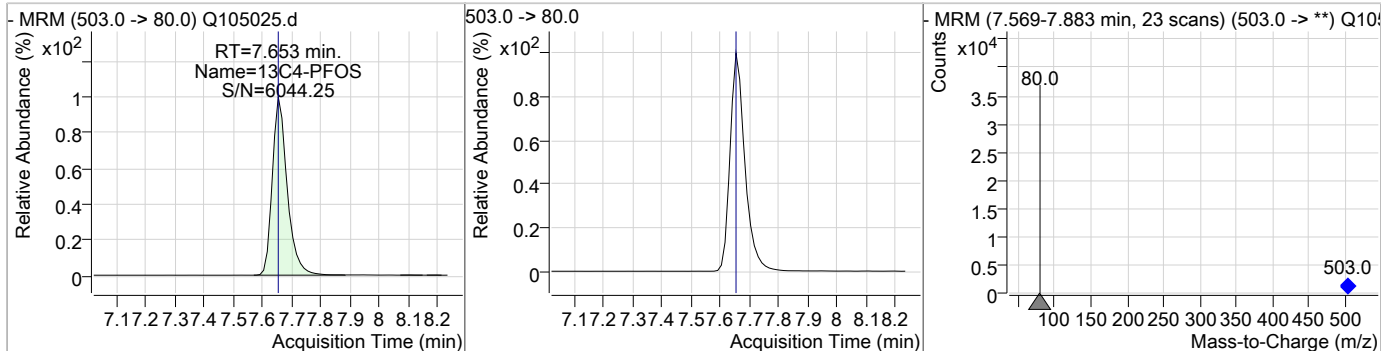
7.6.6  
7

### Perfluorinated Compounds by LC/MS/MS

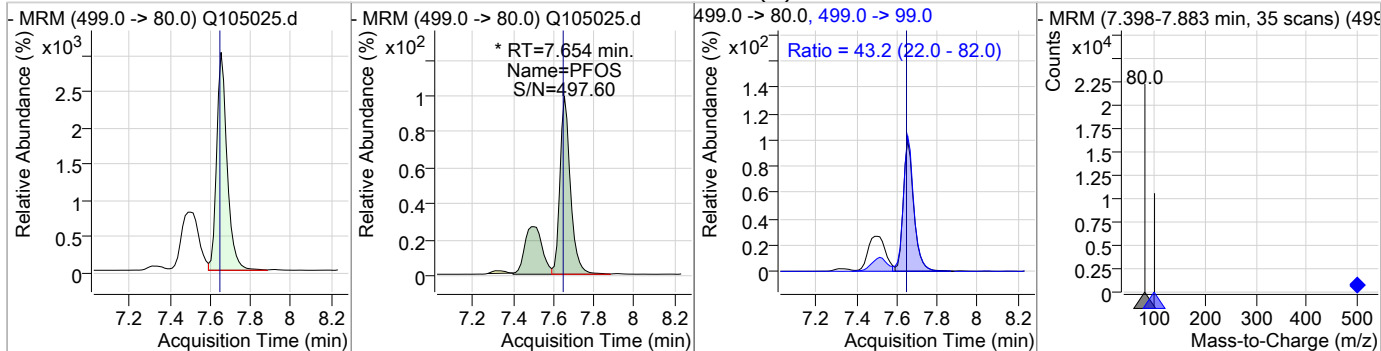
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	10.11	7.15	0.00	11088	449.0 -> 99.0	52.9	23.4	83.4



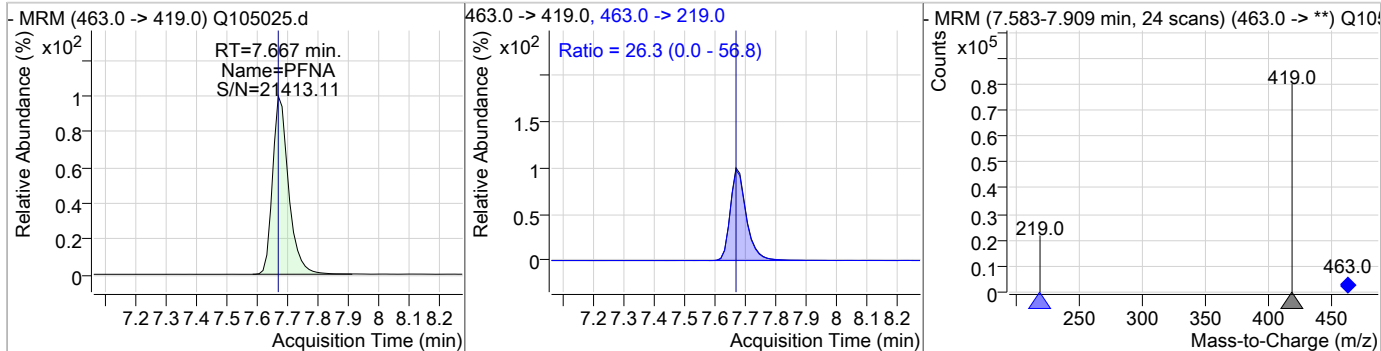
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	27045				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	9.82	7.65	0.00	15751 (m)	499.0 -> 99.0	43.2	22.0	82.0



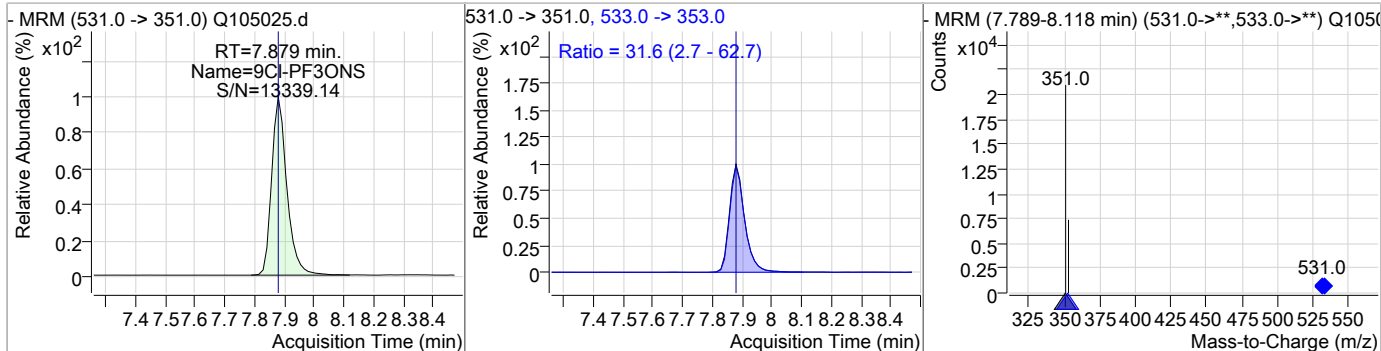
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	10.05	7.67	0.00	59564	463.0 -> 219.0	26.3	0.0	56.8



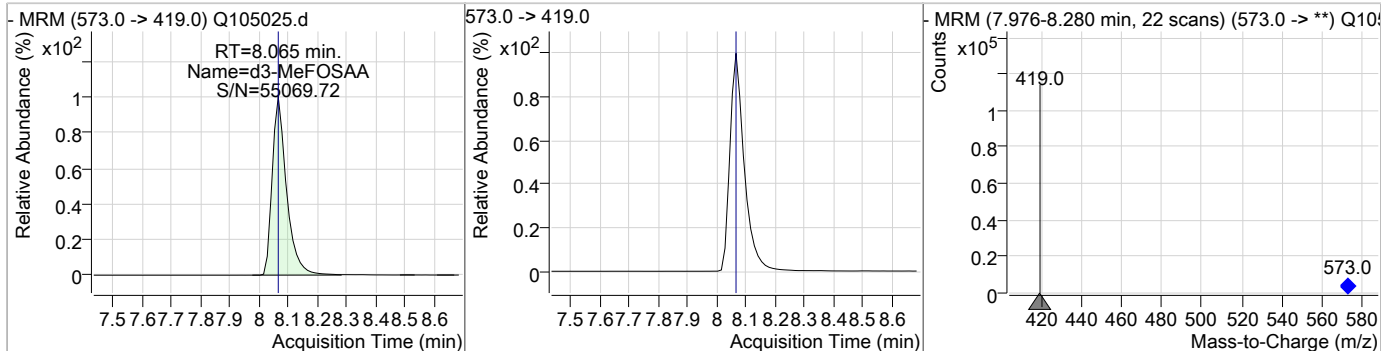
7.6.6  
7

### Perfluorinated Compounds by LC/MS/MS

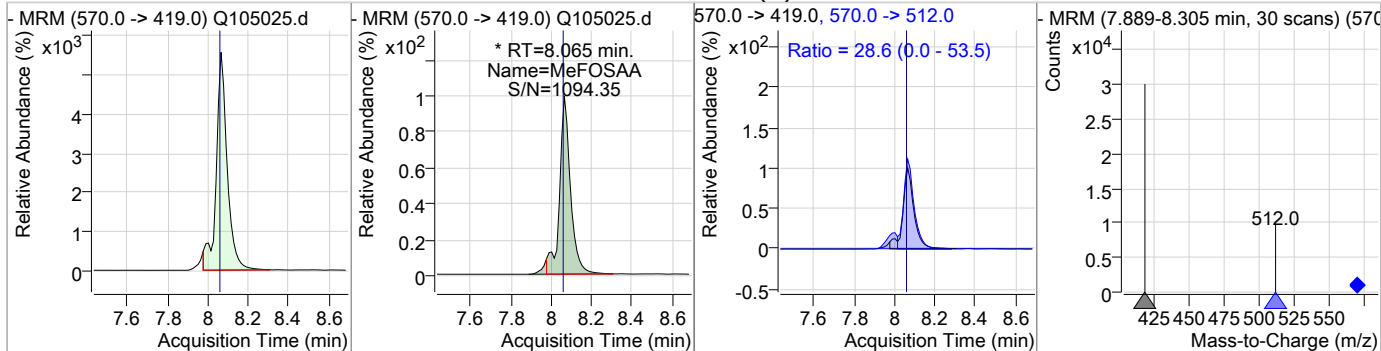
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	10.14	7.88	0.00	15074	533.0 -> 353.0	31.6	2.7	62.7



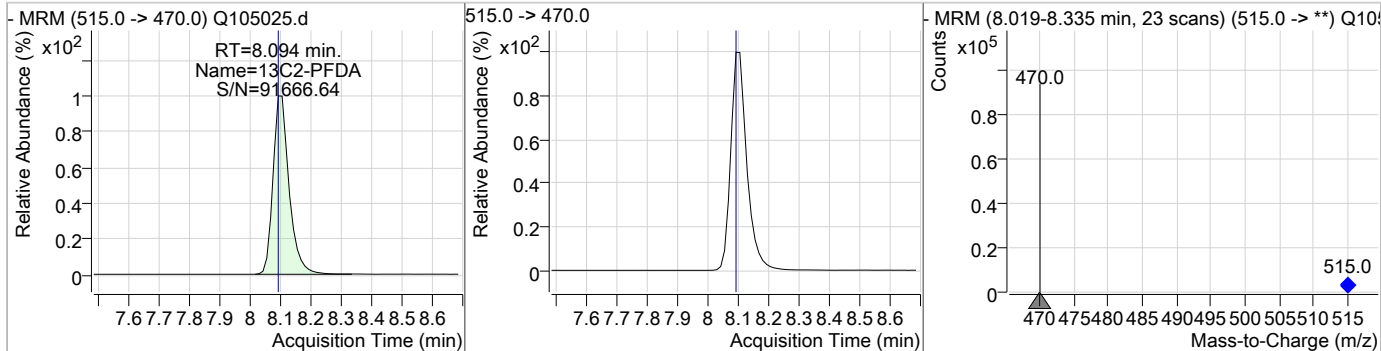
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	84757				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	9.97	8.07	0.00	21458 (m)	570.0 -> 512.0	28.6	0.0	53.5



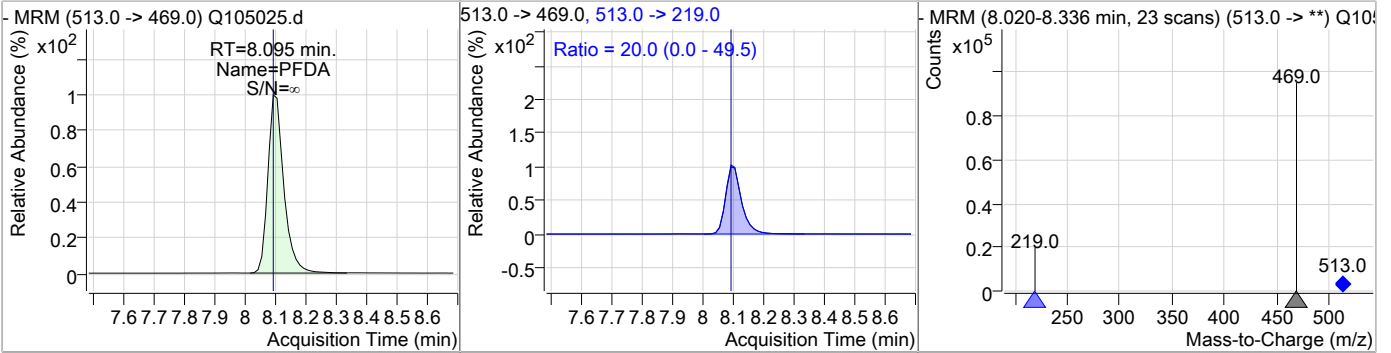
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	10.59	8.09	0.00	70099				



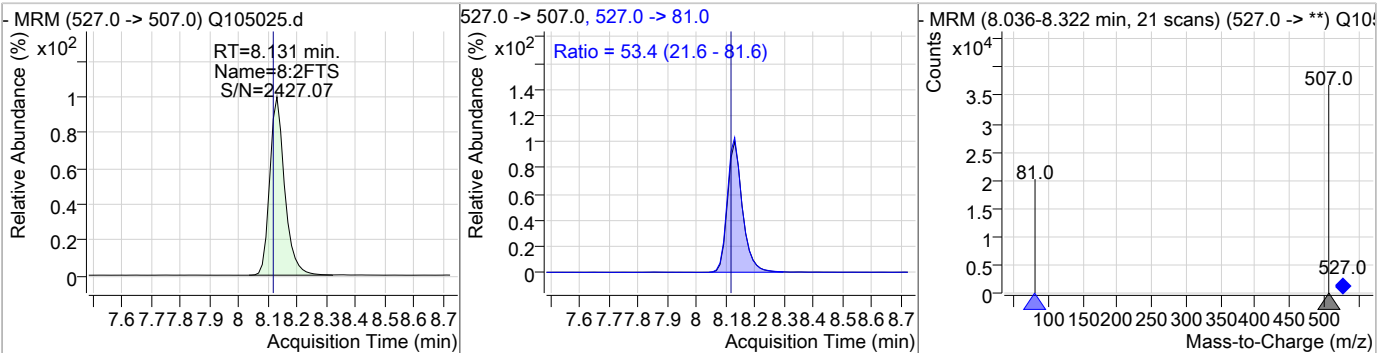
7.6.6  
7

### Perfluorinated Compounds by LC/MS/MS

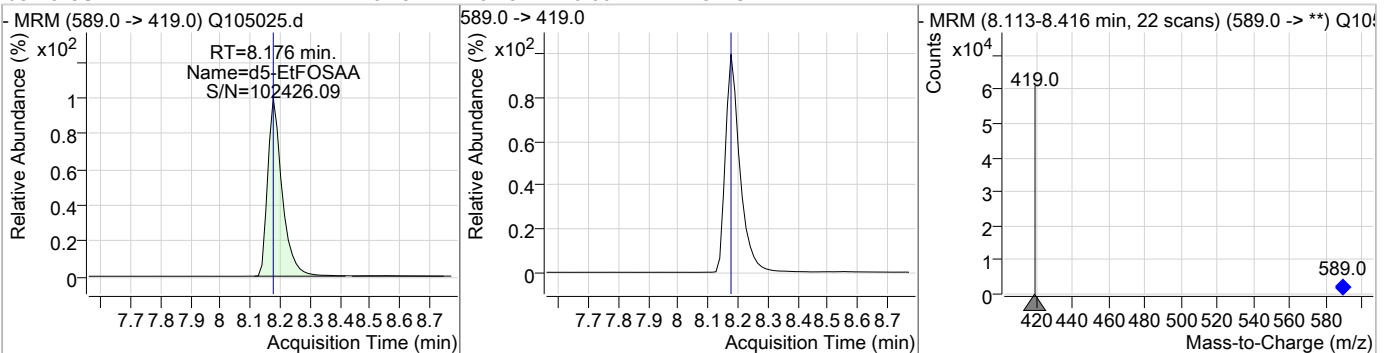
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	10.31	8.09	0.00	70619	513.0 -> 219.0	20.0	0.0	49.5



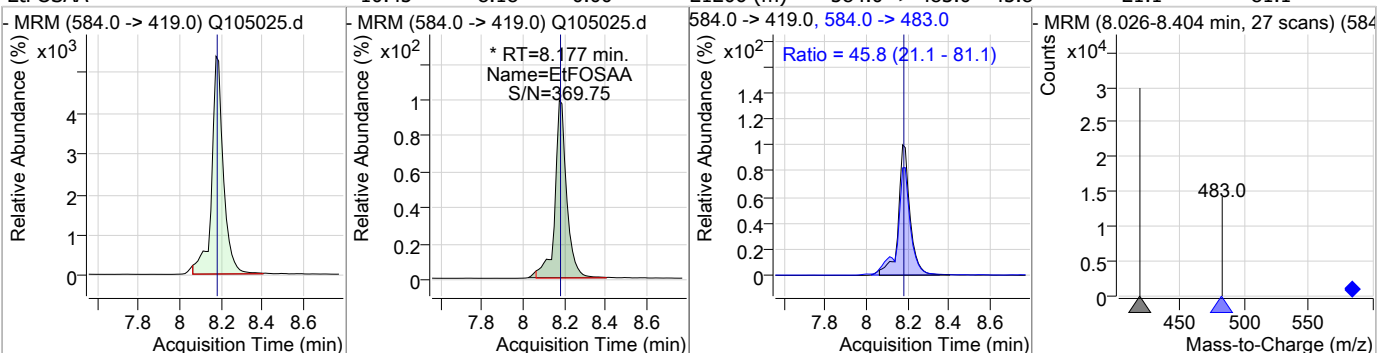
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.03	8.13	0.01	27061	527.0 -> 81.0	53.4	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	20.25	8.18	0.00	45213	589.0 -> 419.0			

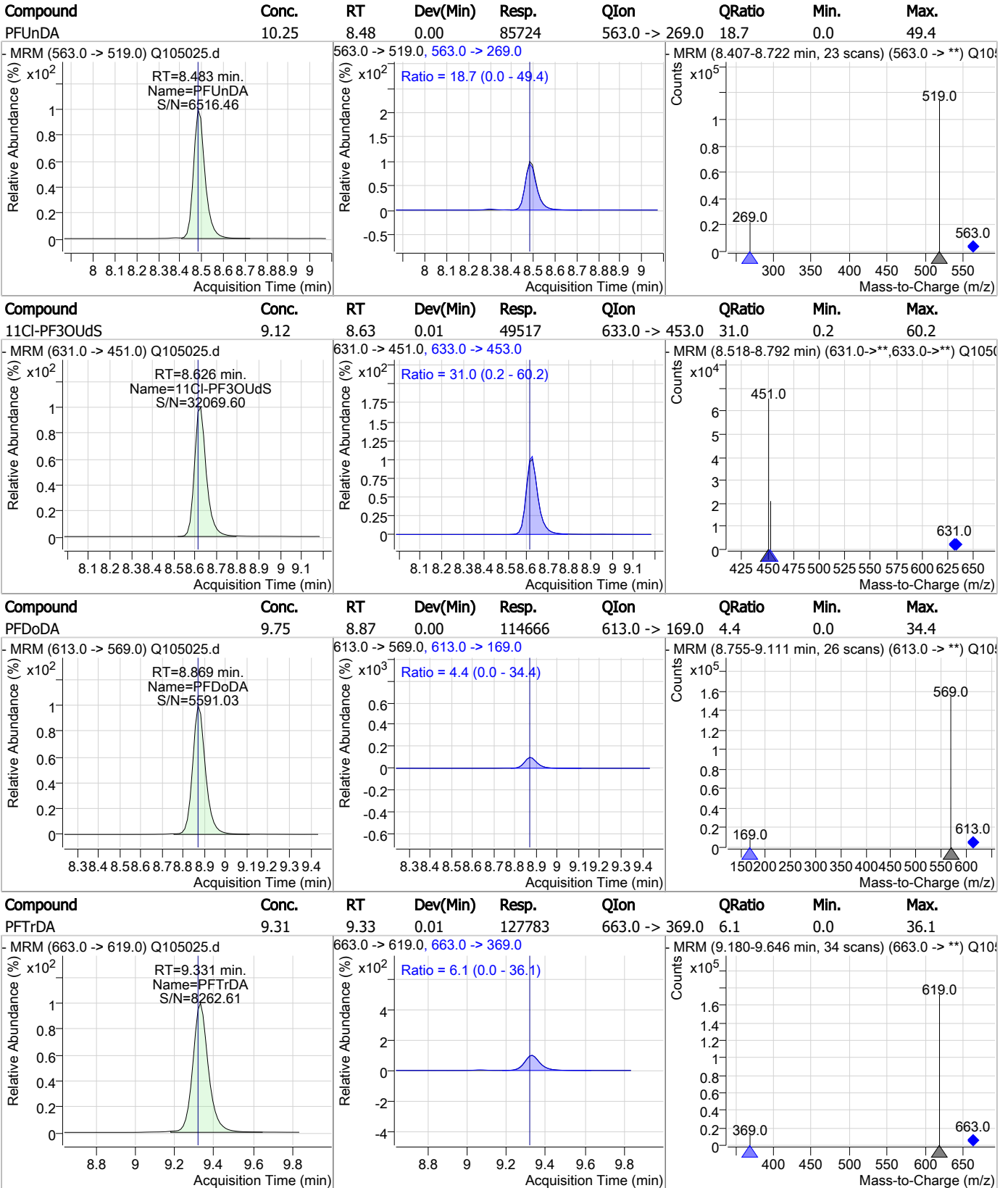


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	10.45	8.18	0.00	21206 (m)	584.0 -> 483.0	45.8	21.1	81.1





### Perfluorinated Compounds by LC/MS/MS

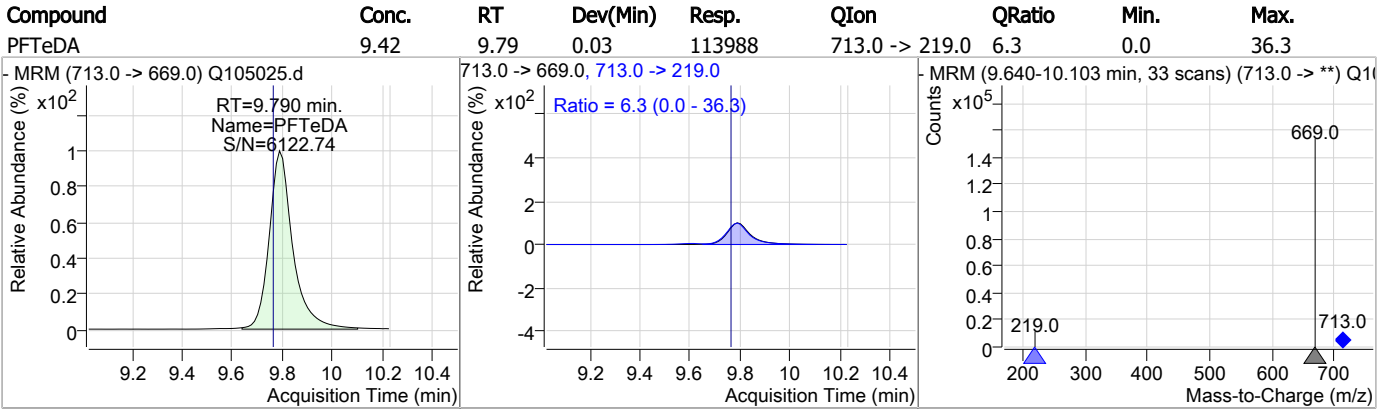


7.6.6  
7





### Perfluorinated Compounds by LC/MS/MS



7.6.6

7

# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105025.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 15:18      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.6.1

7

Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

**Norman Farmer**  
 09/11/23 11:37

## Perfluorinated Compounds by LC/MS/MS

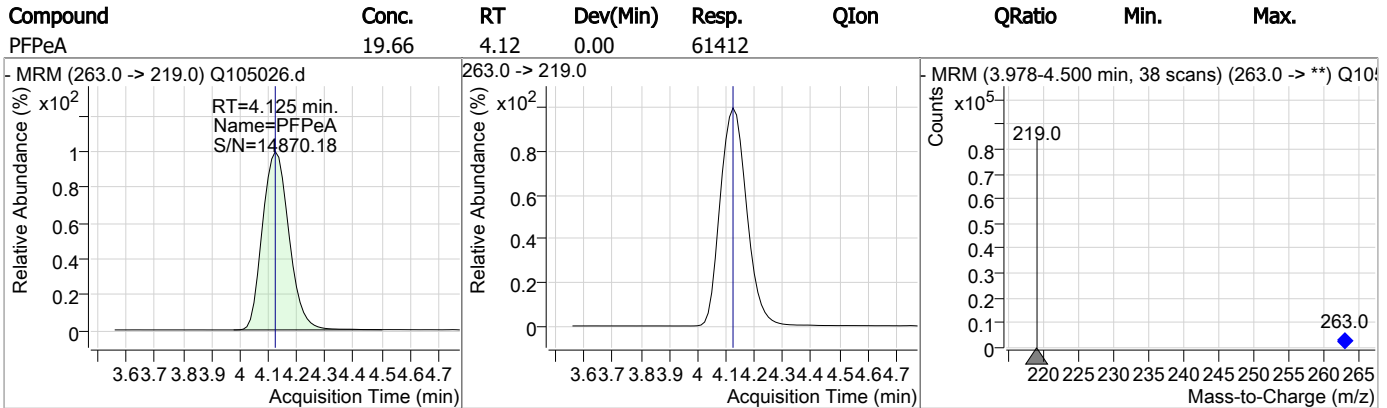
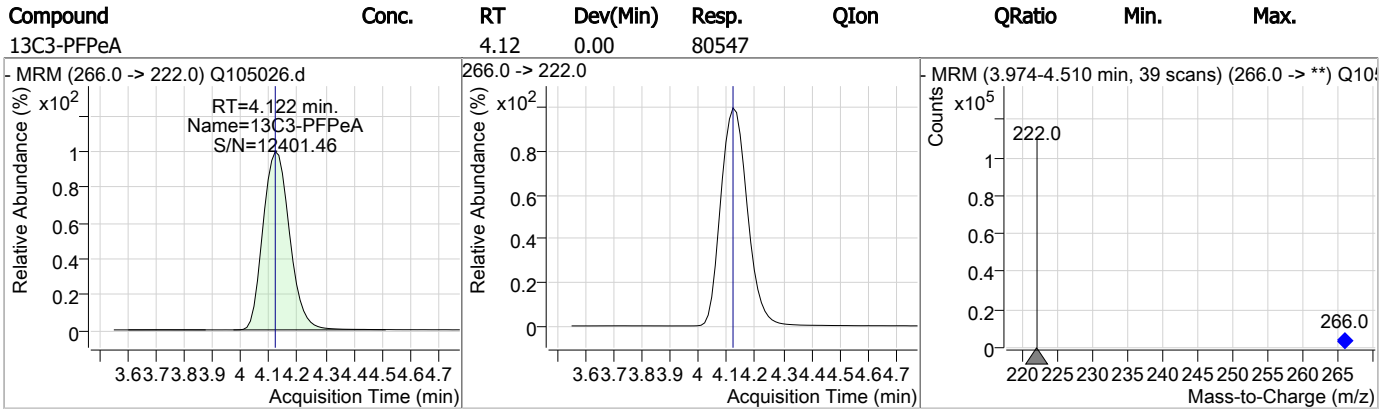
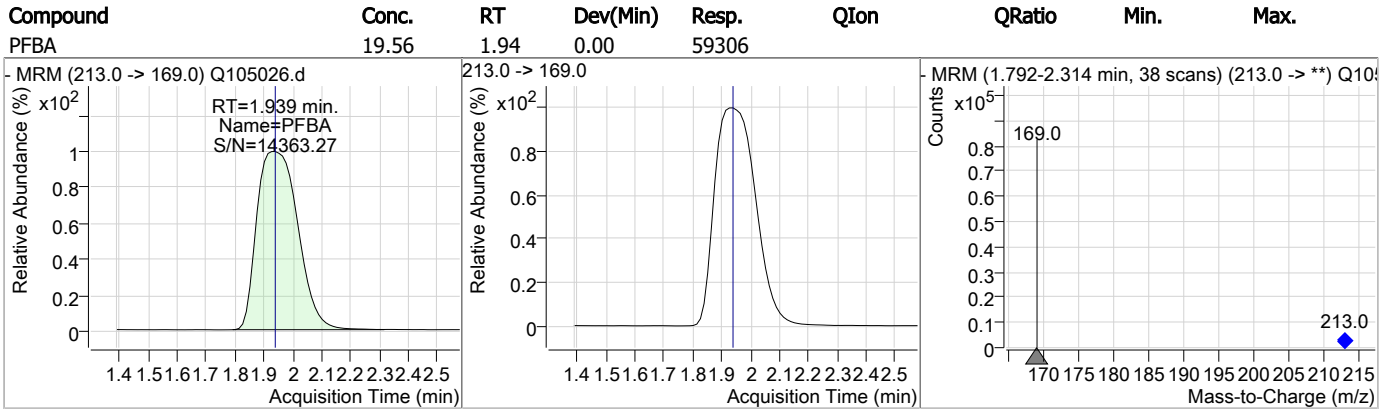
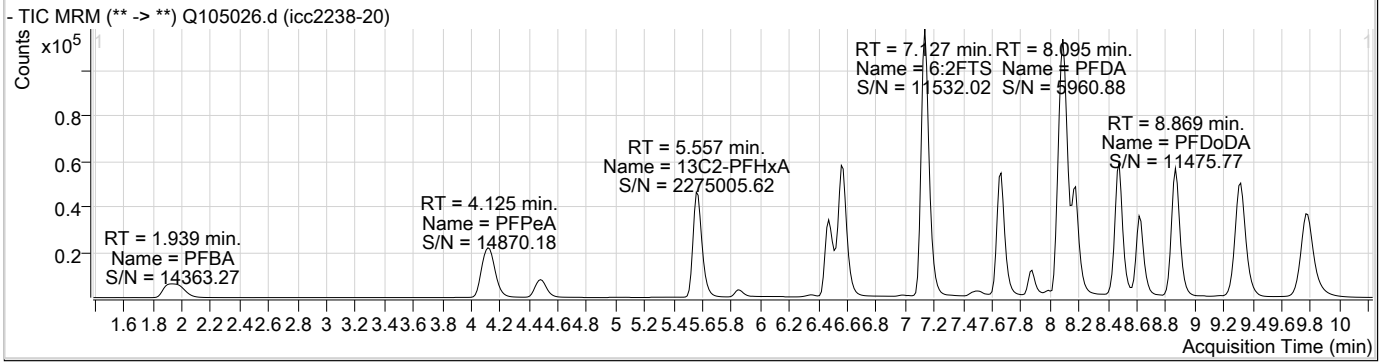
Data File : Q105026.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 3:34:32 PM  
 Sample Name : icc2238-20  
 Vial : P1-A7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	49591	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	133066	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	80547	20.00 µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	26909	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	81564	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	135854	20.97 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.8%	
13C2-PFHxA	5.557	315.0 -> 270.0	101258	20.53 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 102.6%	
d5-EtFOSAA	8.176	589.0 -> 419.0	87638	40.15 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 100.4%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	6000	40.23 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 100.6%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	55037	20.27 µg/L	100
8:2FTS	8.119	527.0 -> 507.0	54543	20.59 µg/L	100
EtFOSAA	8.177	584.0 -> 419.0	40497	20.35 µg/L	m 98
MeFOSAA	8.065	570.0 -> 419.0	41793	20.18 µg/L	m 90
PFBA	1.939	213.0 -> 169.0	59306	19.56 µg/L	100
PFBS	4.478	299.0 -> 80.0	30452	18.88 µg/L	100
PFDA	8.095	513.0 -> 469.0	140214	20.92 µg/L	100
PFDoDA	8.869	613.0 -> 569.0	225372	19.25 µg/L	100
PFHpA	6.477	363.0 -> 319.0	118996	19.57 µg/L	100
PFHpS	7.150	449.0 -> 80.0	21720	19.90 µg/L	100
PFHxA	5.559	313.0 -> 269.0	92243	19.07 µg/L	100
PFHxS	6.526	399.0 -> 80.0	23055	19.49 µg/L	m 97
PFNA	7.667	463.0 -> 419.0	117105	20.19 µg/L	100
PFOA	7.142	413.0 -> 369.0	128836	19.86 µg/L	100
PFOS	7.654	499.0 -> 80.0	31167	19.54 µg/L	m 85
PFPeA	4.125	263.0 -> 219.0	61412	19.66 µg/L	100
PFTeDA	9.765	713.0 -> 669.0	227899	18.94 µg/L	100
PFTTrDA	9.319	663.0 -> 619.0	253449	18.55 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	173211	20.81 µg/L	100
ADONA	6.578	377.0 -> 251.0	162844	18.85 µg/L	100
9CI-PF3ONS	7.879	531.0 -> 351.0	29625	20.13 µg/L	100
11CI-PF3OUdS	8.614	631.0 -> 451.0	101359	19.08 µg/L	100
HFPO-DA	5.853	285.0 -> 169.0	3859	20.43 µg/L	100

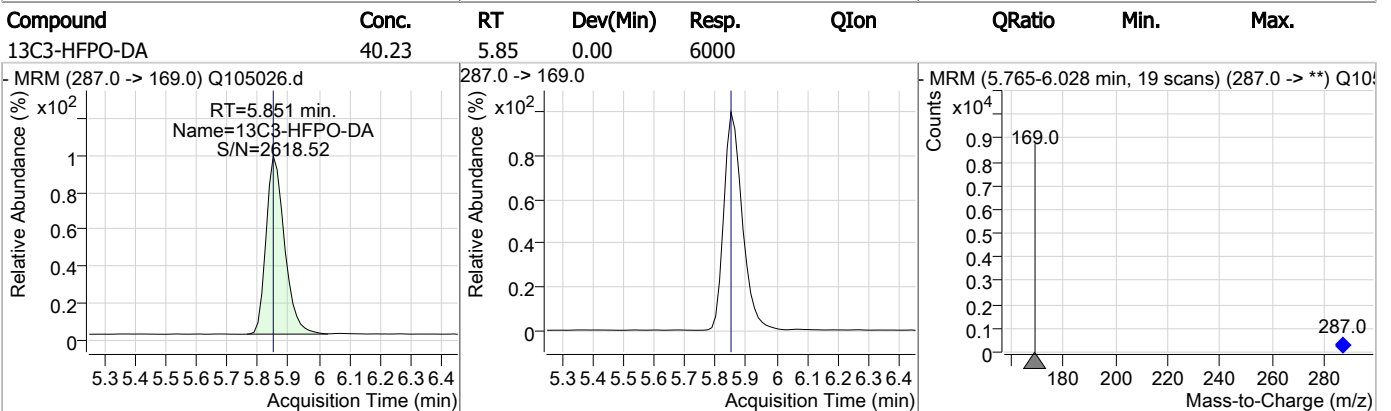
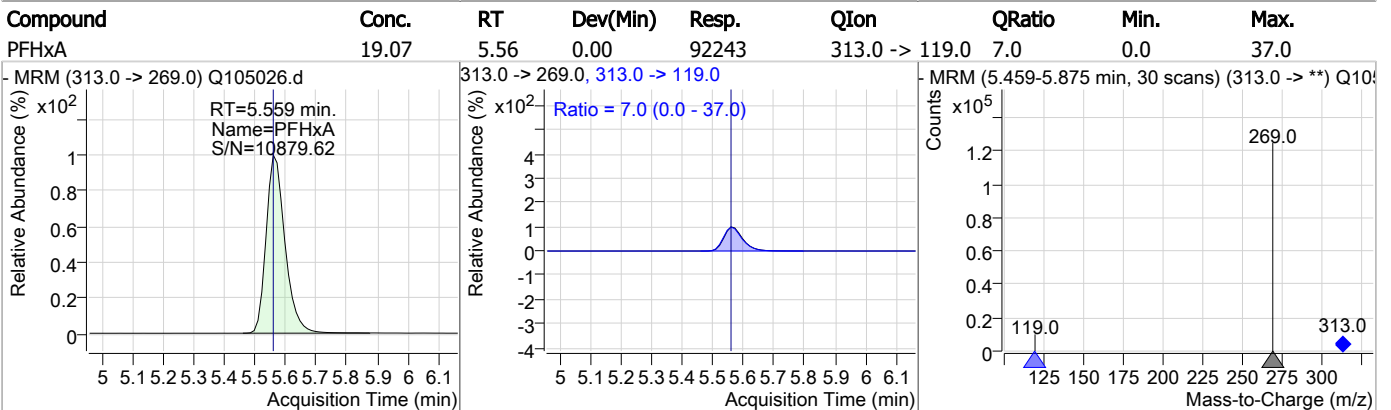
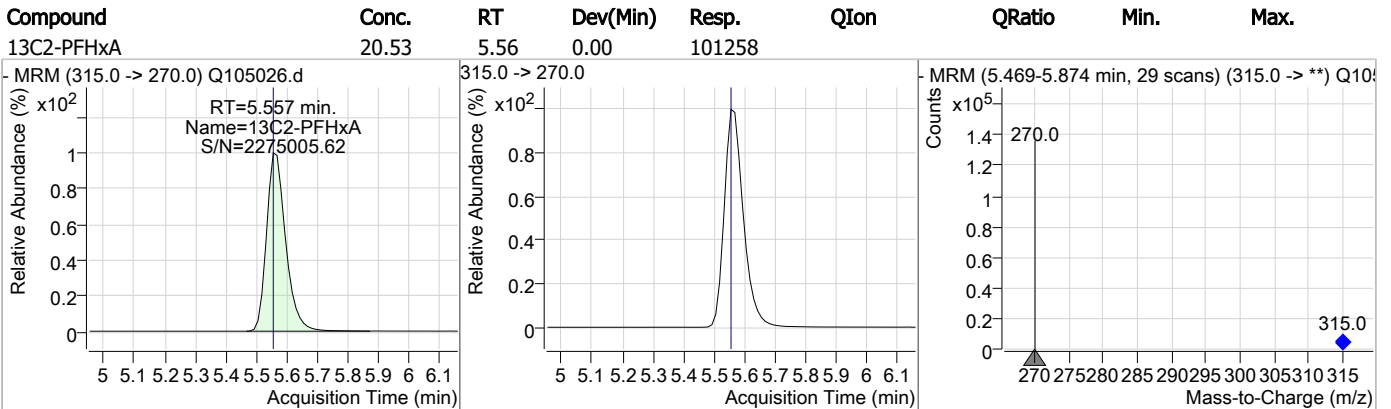
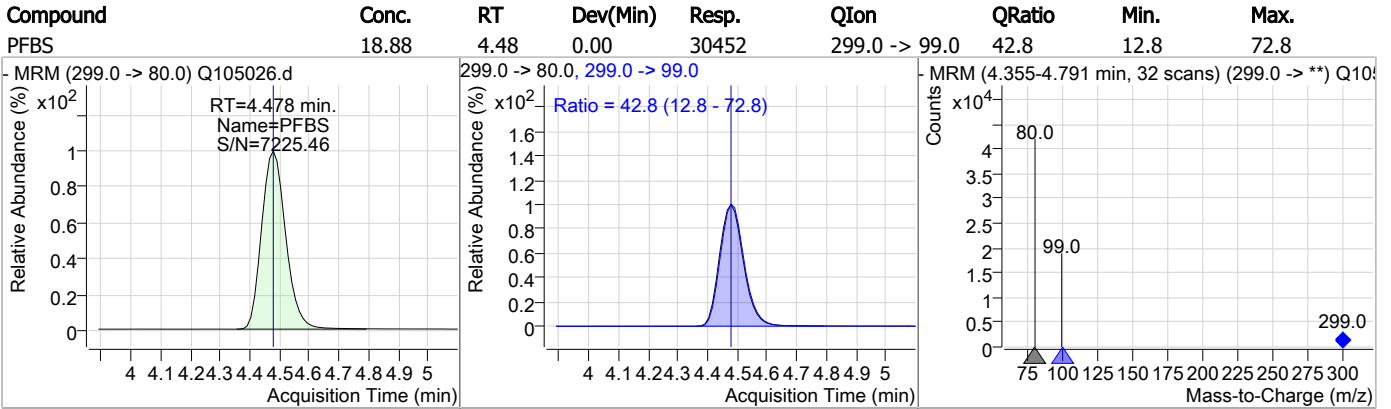
# = Qualifier out of range, m = manually integrated, + = Area summed

7.6.7  
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### Perfluorinated Compounds by LC/MS/MS

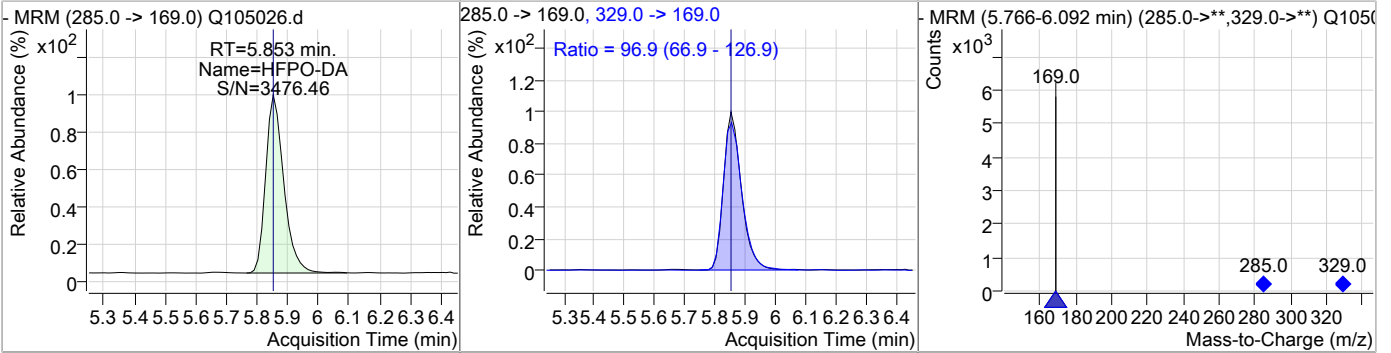


### Perfluorinated Compounds by LC/MS/MS

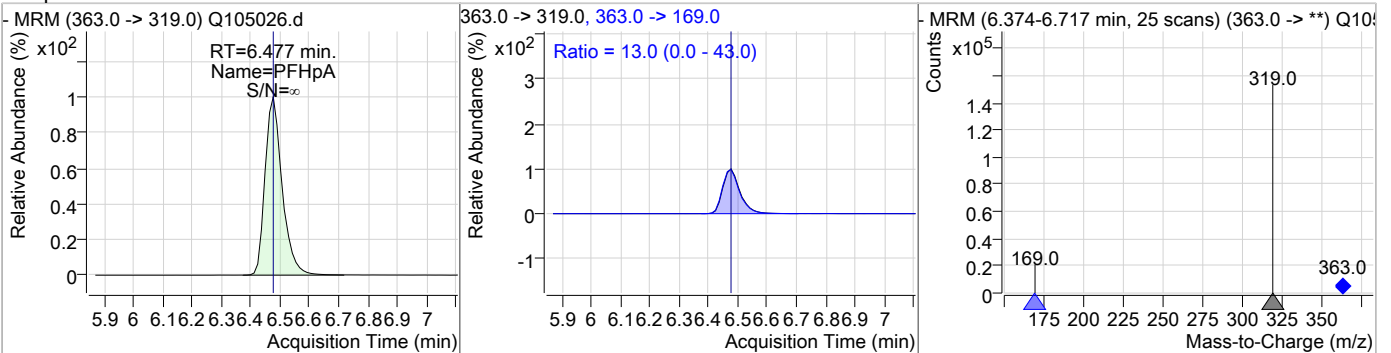


### Perfluorinated Compounds by LC/MS/MS

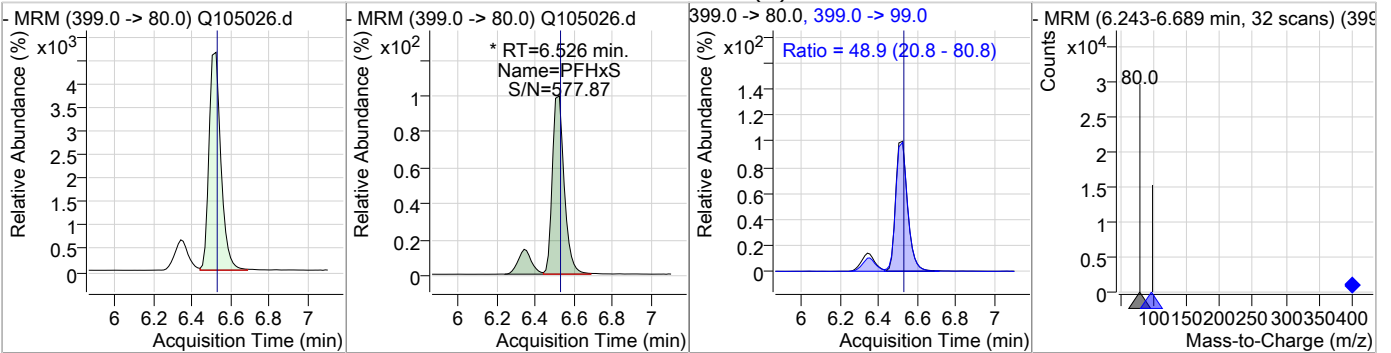
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.43	5.85	0.00	3859	329.0 -> 169.0	96.9	66.9	126.9



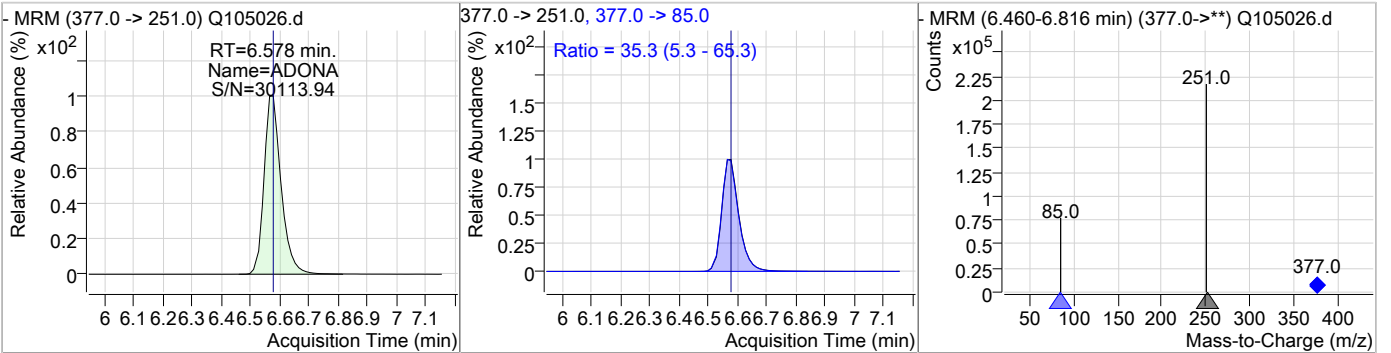
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.57	6.48	0.00	118996	363.0 -> 169.0	13.0	0.0	43.0



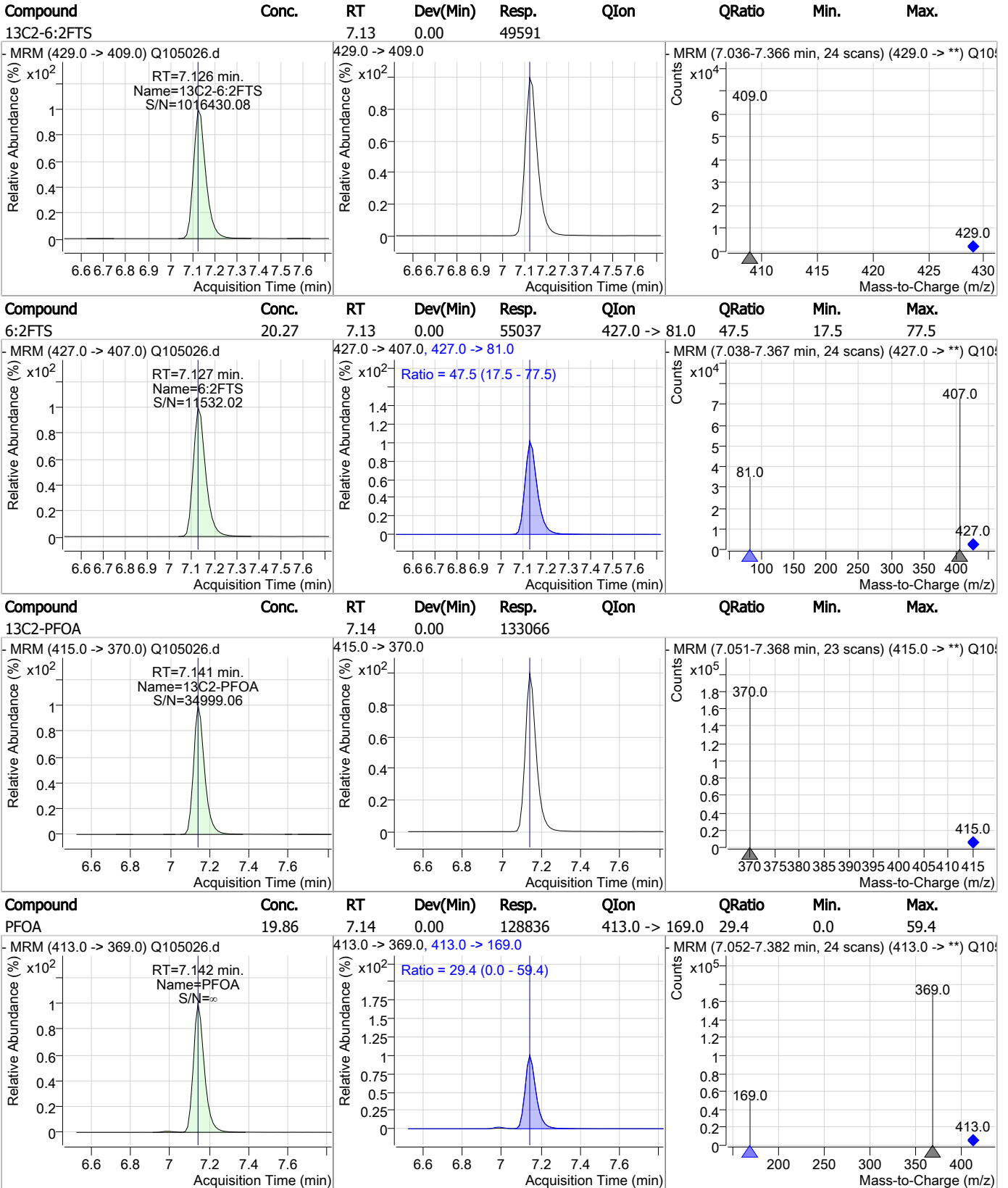
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.49	6.53	0.00	23055 (m)	399.0 -> 99.0	48.9	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.85	6.58	0.00	162844	377.0 -> 85.0	35.3	5.3	65.3



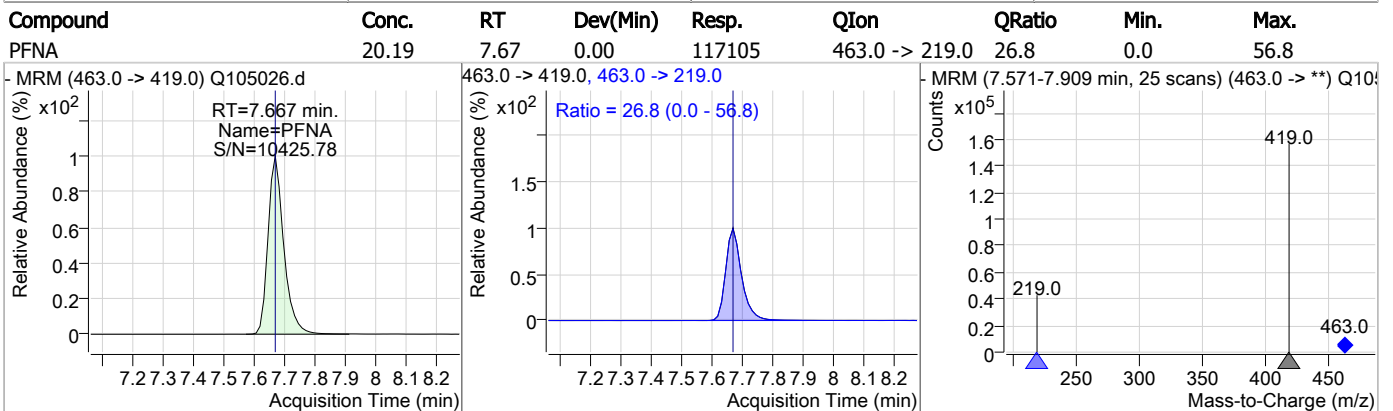
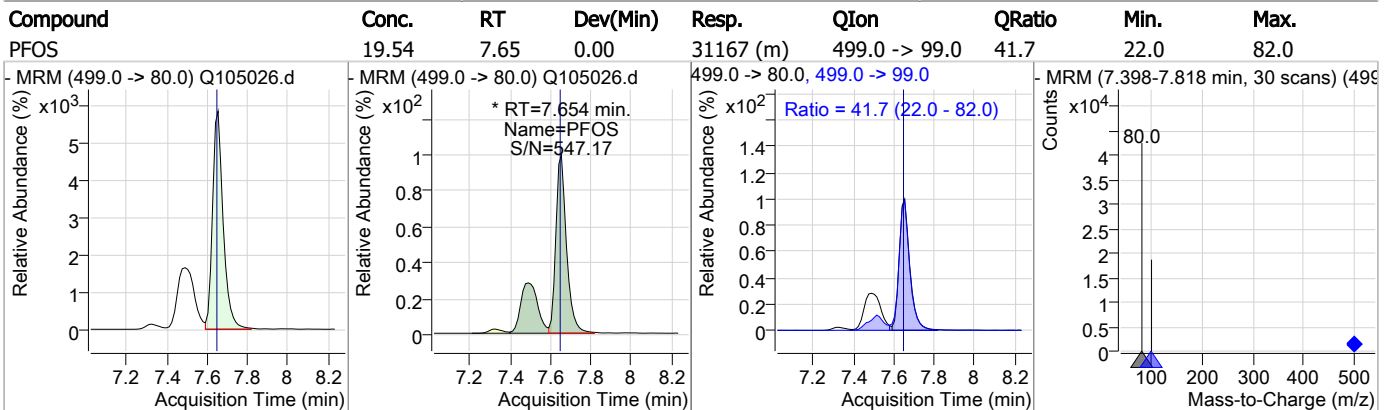
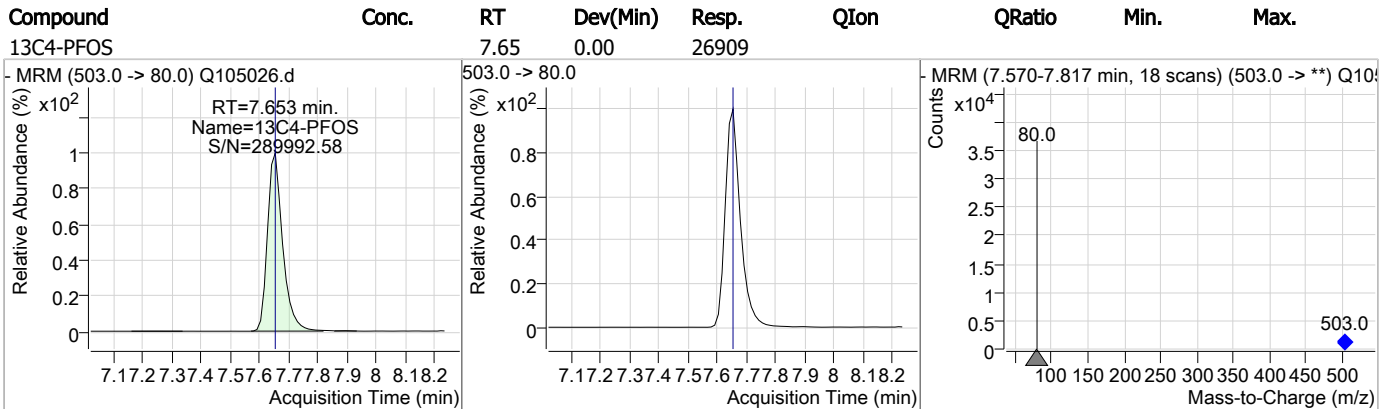
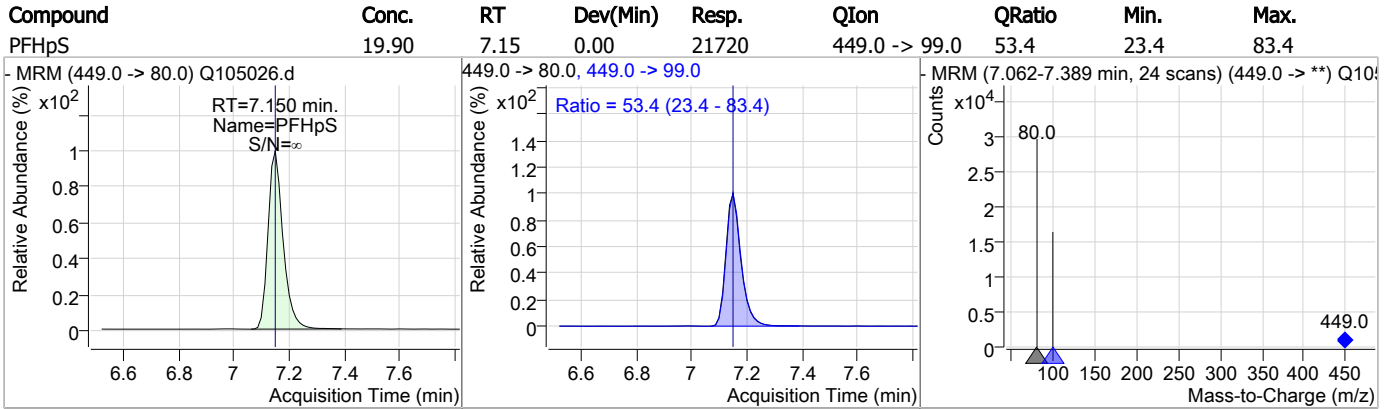
### Perfluorinated Compounds by LC/MS/MS



7.67

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### Perfluorinated Compounds by LC/MS/MS



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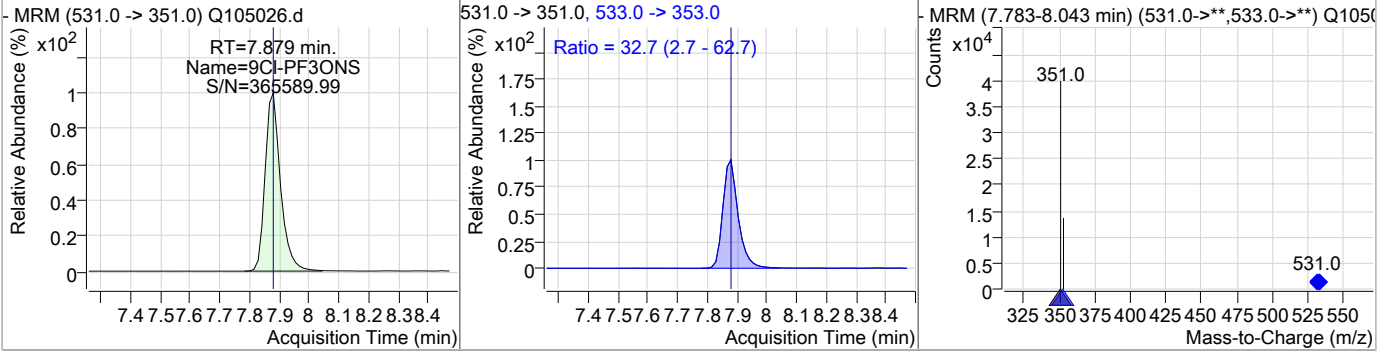
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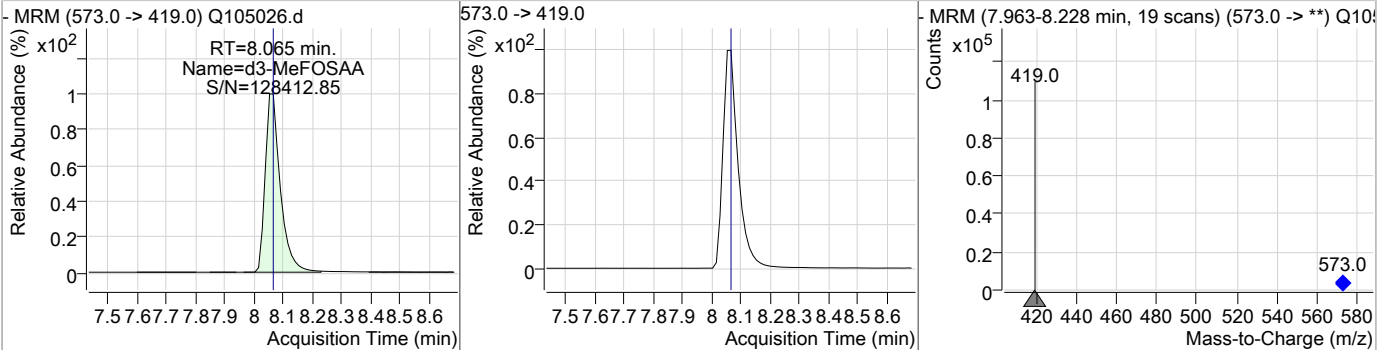


### Perfluorinated Compounds by LC/MS/MS

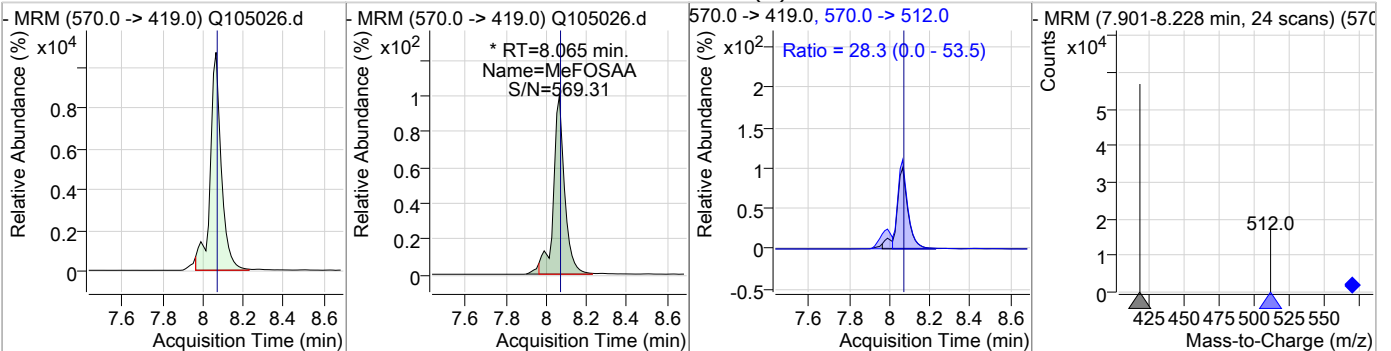
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	20.13	7.88	0.00	29625	533.0 -> 353.0	32.7	2.7	62.7



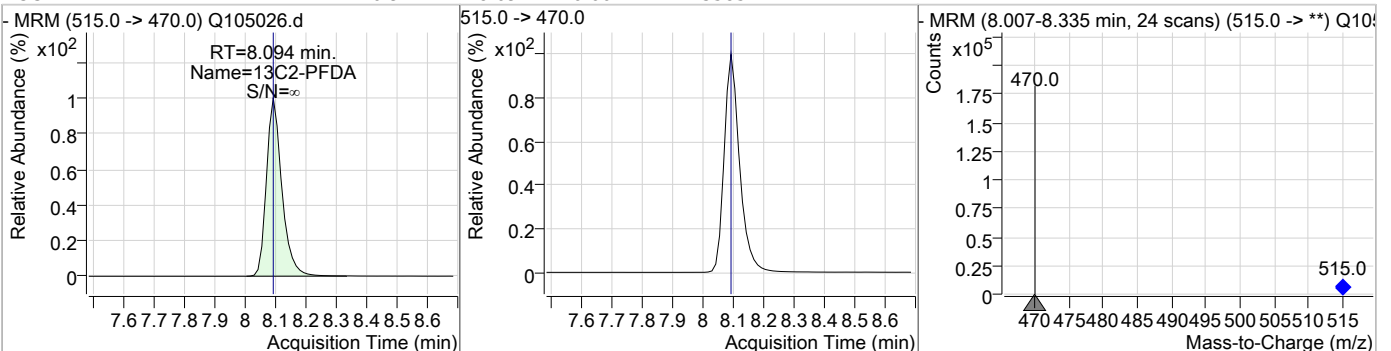
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	81564				



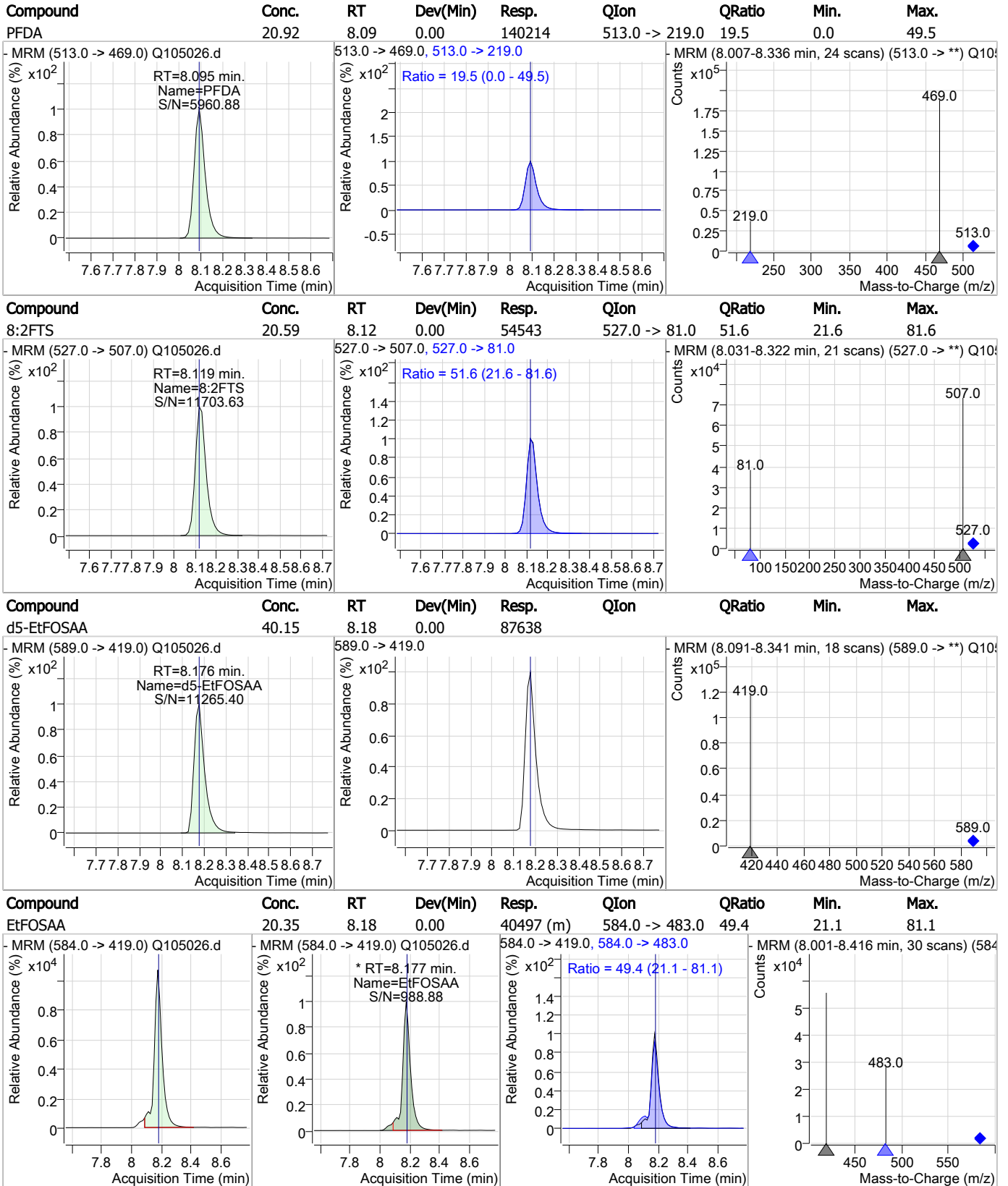
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.18	8.07	0.00	41793 (m)	570.0 -> 512.0	28.3	0.0	53.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	20.97	8.09	0.00	135854				



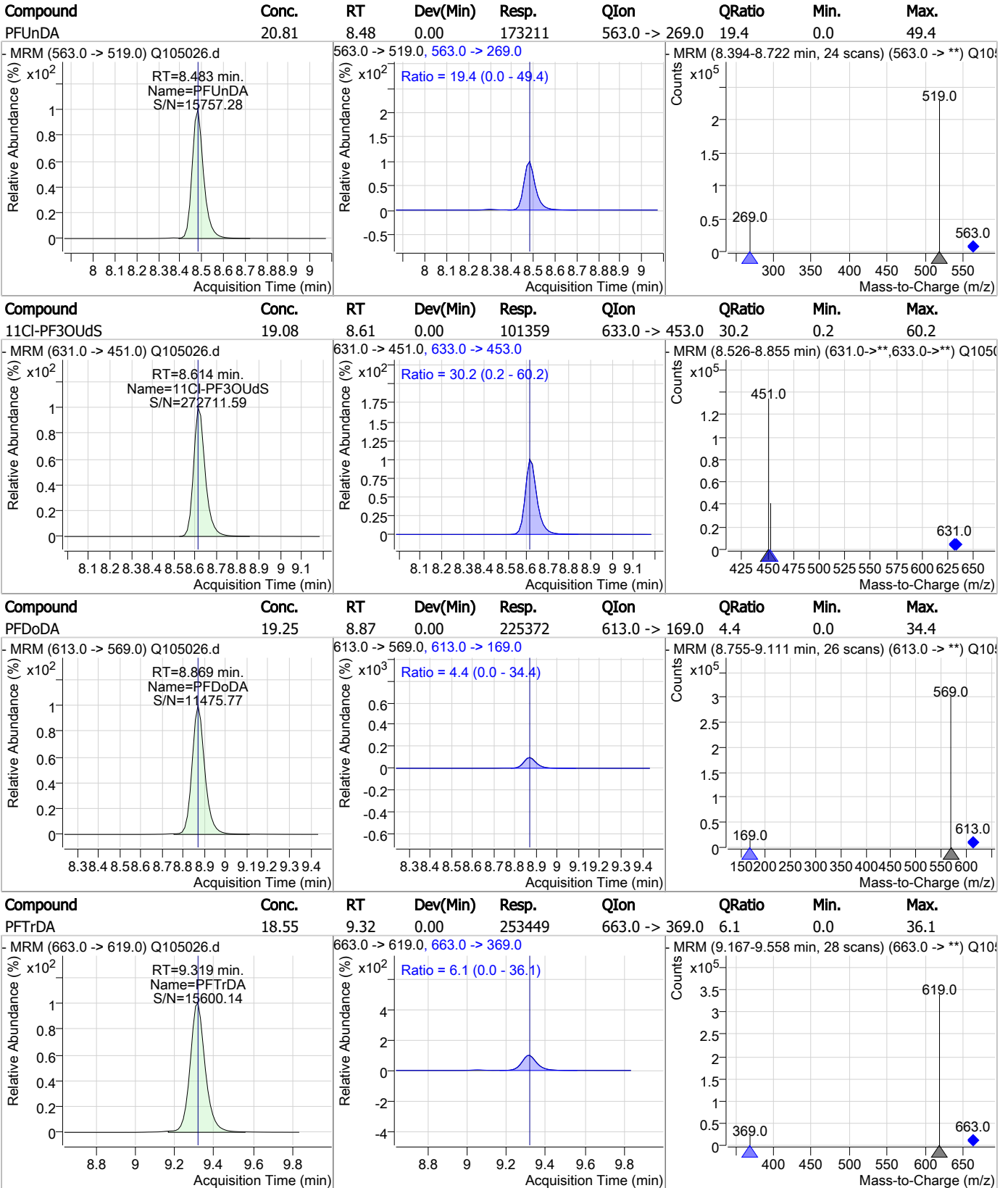
### Perfluorinated Compounds by LC/MS/MS



7.67

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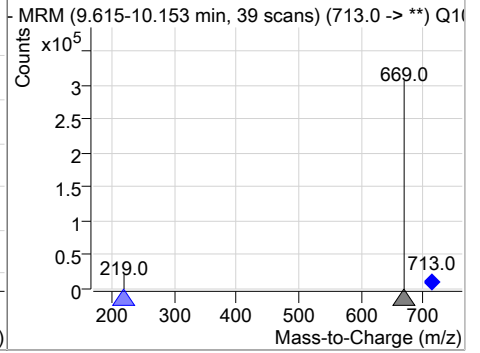
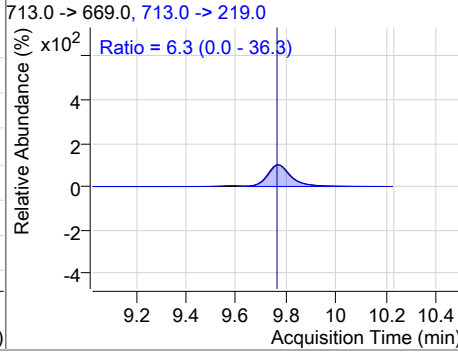
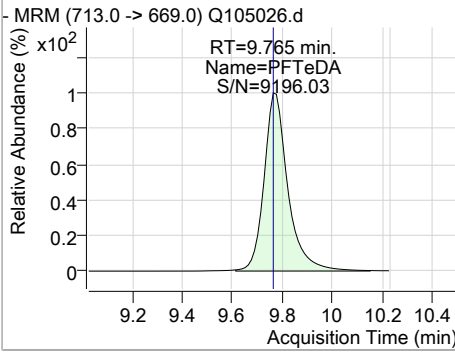
### Perfluorinated Compounds by LC/MS/MS



7.67  
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.94	9.76	0.00	227899	713.0 -> 219.0	6.3	0.0	36.3



7.6.7  
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# Manual Integration Approval Summary

Sample Number: SQ2238-ICC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105026.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 15:34      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.7.1

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)

**Norman Farmer**  
 09/11/23 11:37

## Perfluorinated Compounds by LC/MS/MS

Data File : Q105027.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 3:50:20 PM  
 Sample Name : ic2238-50  
 Vial : P1-A8  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

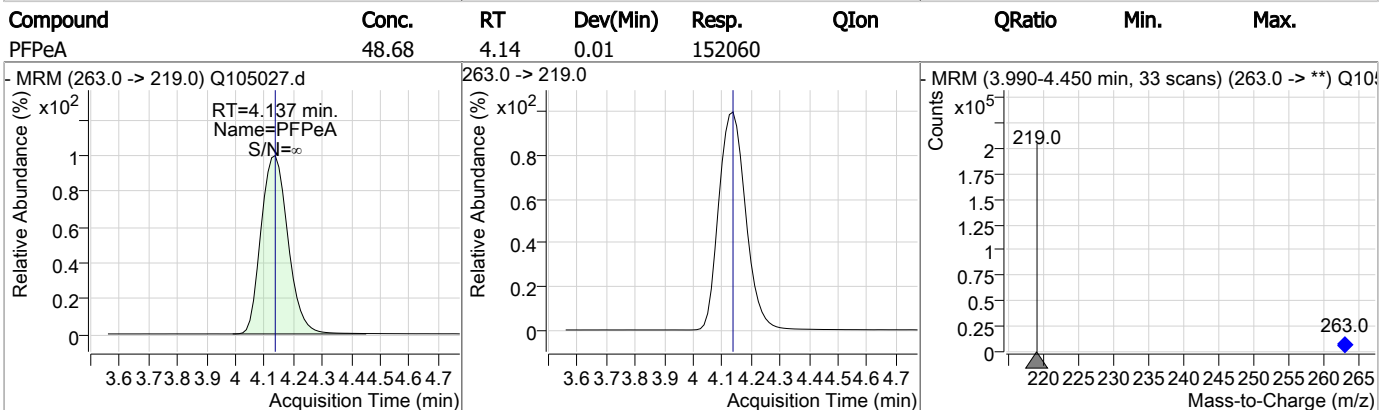
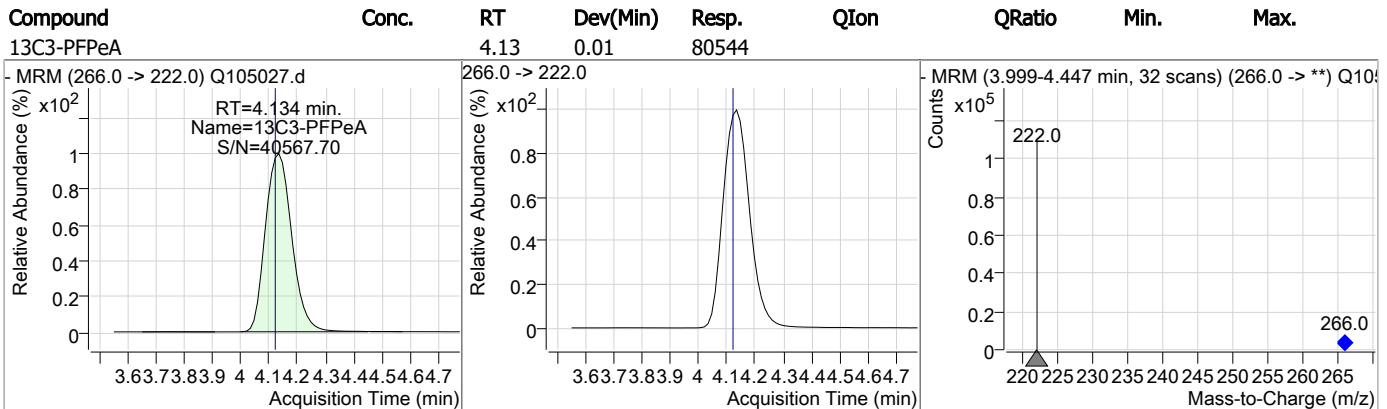
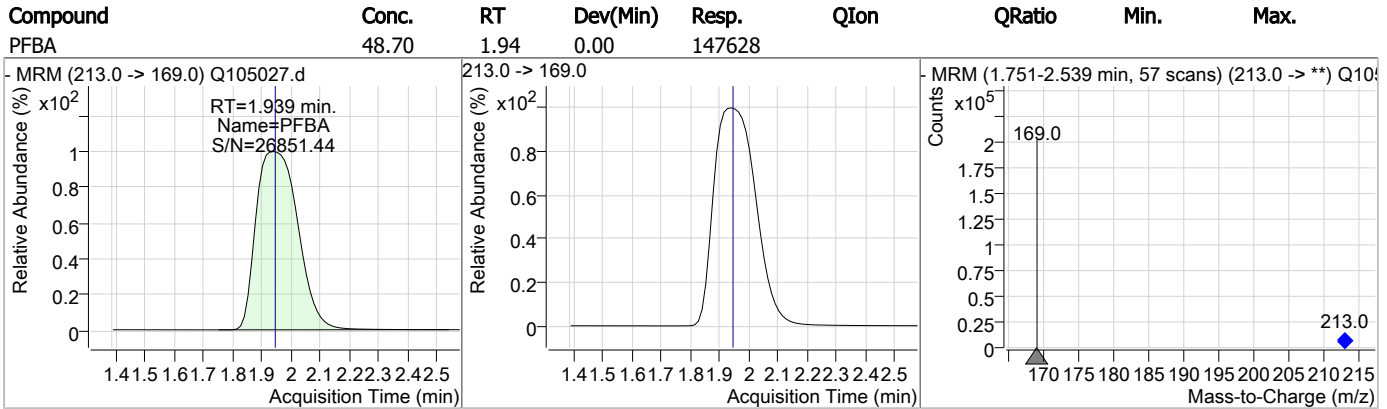
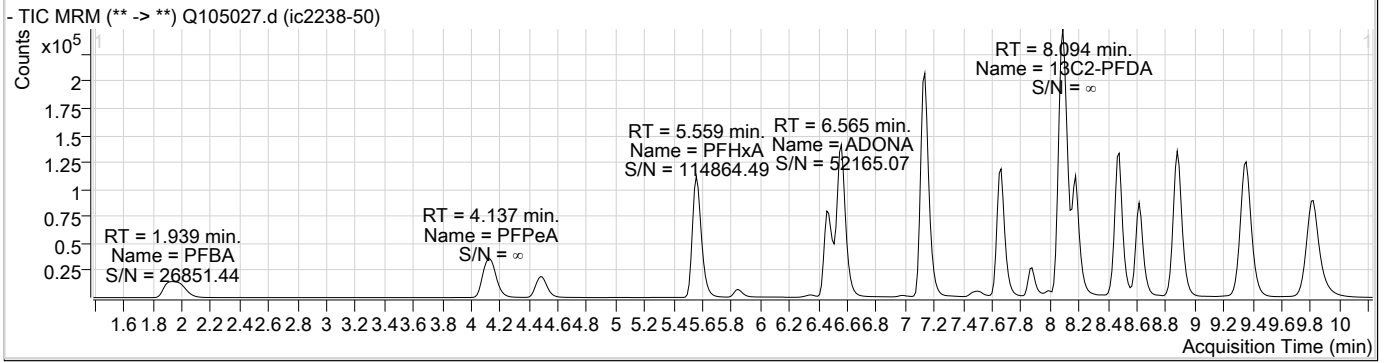
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	50881	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	129858	20.00 µg/L	0.000
13C3-PFPeA	4.134	266.0 -> 222.0	80544	20.00 µg/L	0.013
13C4-PFOS	7.653	503.0 -> 80.0	26917	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	75470	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	320761	50.73 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 253.7%	
13C2-PFHxA	5.557	315.0 -> 270.0	246879	49.72 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 248.6%	
d5-EtFOSAA	8.176	589.0 -> 419.0	211355	99.96 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 249.9%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	13712	94.22 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 235.5%	
<b>Target Compounds</b>					
					<b>QValue</b>
6:2FTS	7.127	427.0 -> 407.0	129254	49.88 µg/L	99
8:2FTS	8.119	527.0 -> 507.0	125339	49.33 µg/L	99
EtFOSAA	8.177	584.0 -> 419.0	96337	49.66 µg/L	m 96
MeFOSAA	8.065	570.0 -> 419.0	96125	50.16 µg/L	m 92
PFBA	1.939	213.0 -> 169.0	147628	48.70 µg/L	100
PFBS	4.478	299.0 -> 80.0	74435	46.14 µg/L	99
PFDA	8.095	513.0 -> 469.0	323367	49.43 µg/L	99
PFDoDA	8.881	613.0 -> 569.0	562972	48.08 µg/L	100
PFHpA	6.464	363.0 -> 319.0	280758	47.32 µg/L	100
PFHpS	7.149	449.0 -> 80.0	52311	47.92 µg/L	99
PFHxA	5.559	313.0 -> 269.0	223333	47.31 µg/L	99
PFHxS	6.506	399.0 -> 80.0	54562	46.12 µg/L	m 96
PFNA	7.667	463.0 -> 419.0	275376	48.66 µg/L	99
PFOA	7.142	413.0 -> 369.0	305421	48.24 µg/L	99
PFOS	7.654	499.0 -> 80.0	75673	47.42 µg/L	m 82
PFPeA	4.137	263.0 -> 219.0	152060	48.68 µg/L	100
PFTeDA	9.815	713.0 -> 669.0	560097	46.53 µg/L	100
PFTTrDA	9.356	663.0 -> 619.0	649308	47.52 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	398007	47.80 µg/L	99
ADONA	6.565	377.0 -> 251.0	395543	46.91 µg/L	99
9Cl-PF3ONS	7.879	531.0 -> 351.0	73946	49.88 µg/L	94
11Cl-PF3OUdS	8.614	631.0 -> 451.0	243730	47.01 µg/L	97
HFPO-DA	5.853	285.0 -> 169.0	8903	48.30 µg/L	100

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

7.6.8  
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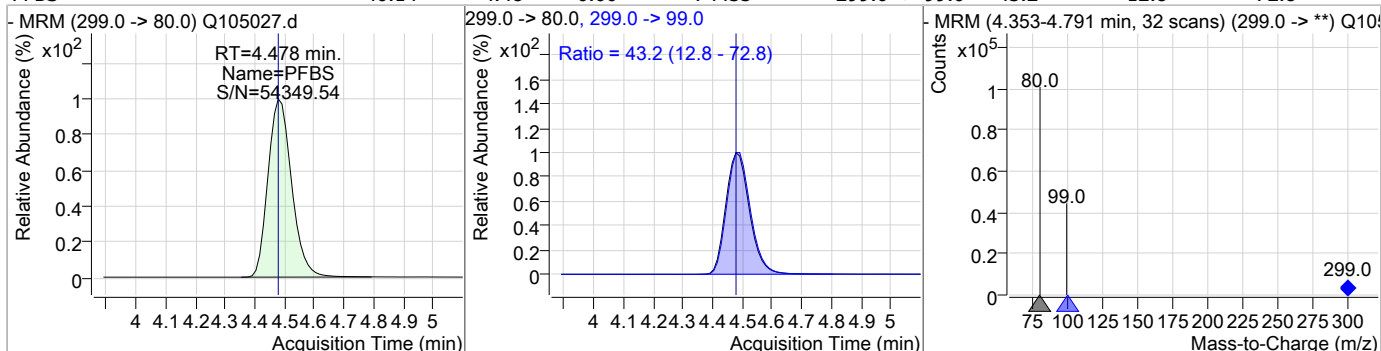
### Perfluorinated Compounds by LC/MS/MS



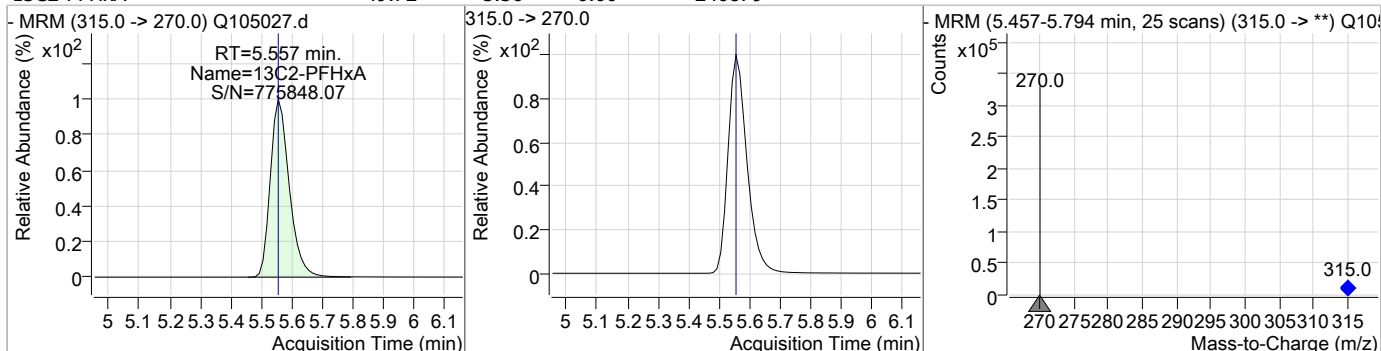
7.6.8

### Perfluorinated Compounds by LC/MS/MS

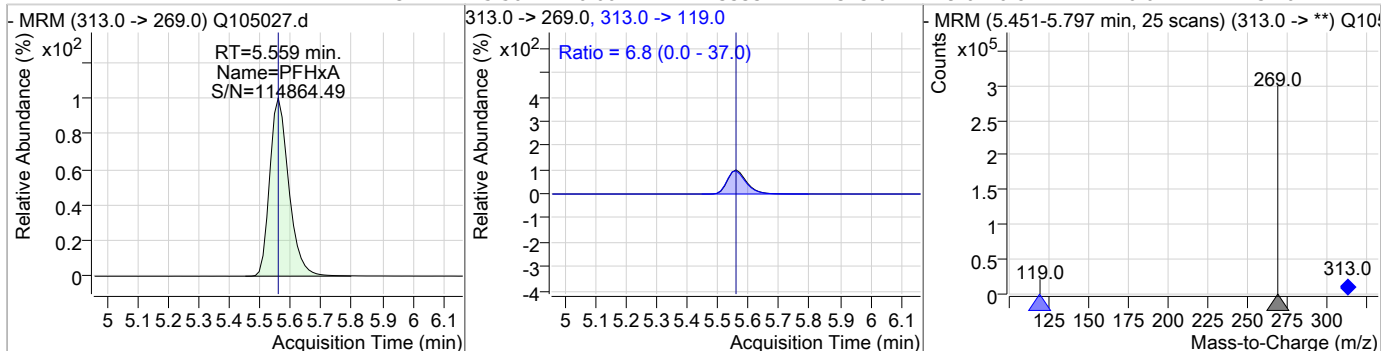
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	46.14	4.48	0.00	74435	299.0 -> 99.0	43.2	12.8	72.8



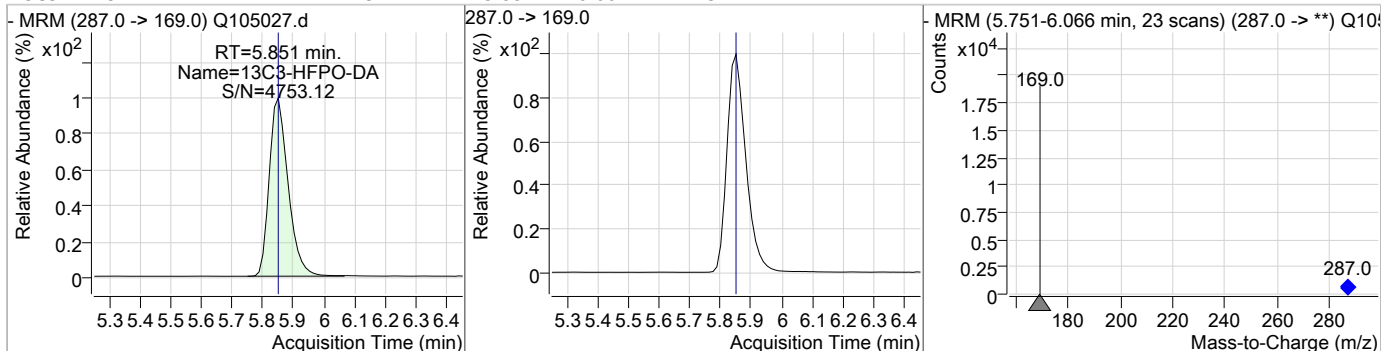
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	49.72	5.56	0.00	246879				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	47.31	5.56	0.00	223333	313.0 -> 119.0	6.8	0.0	37.0



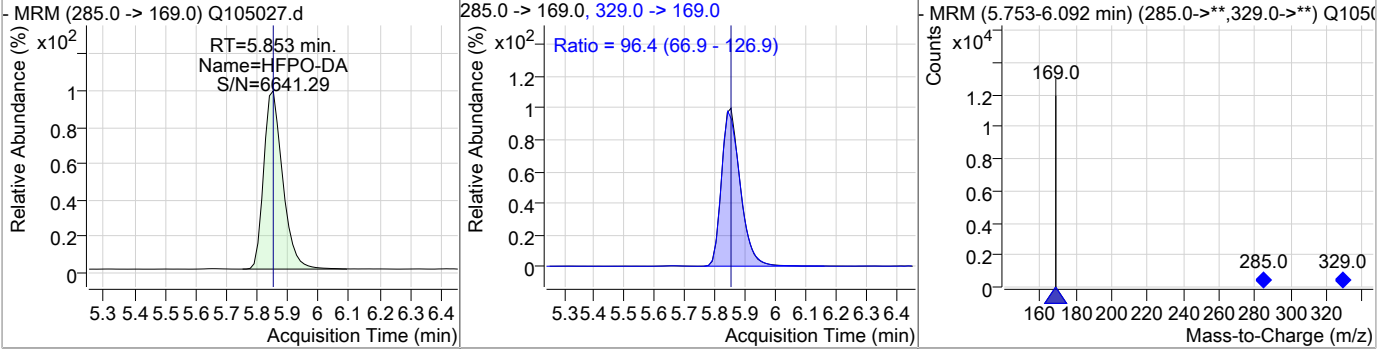
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	94.22	5.85	0.00	13712				



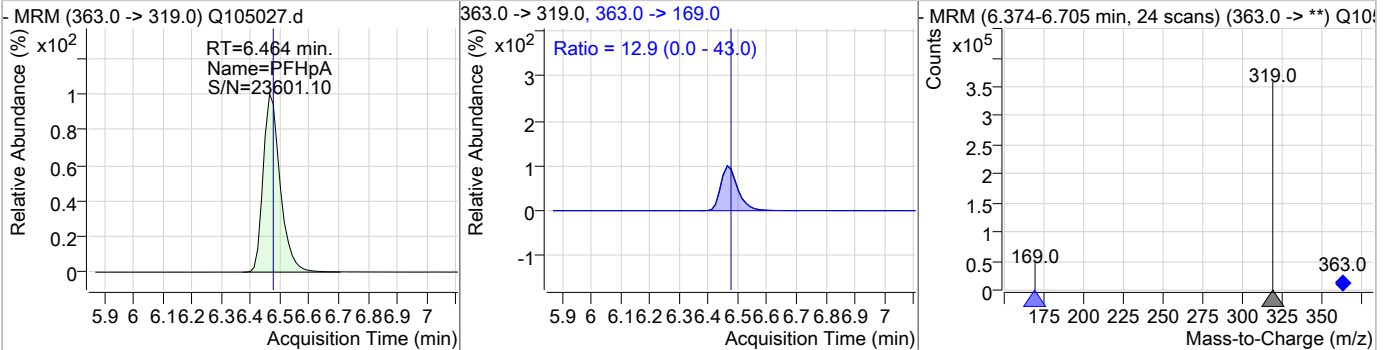


### Perfluorinated Compounds by LC/MS/MS

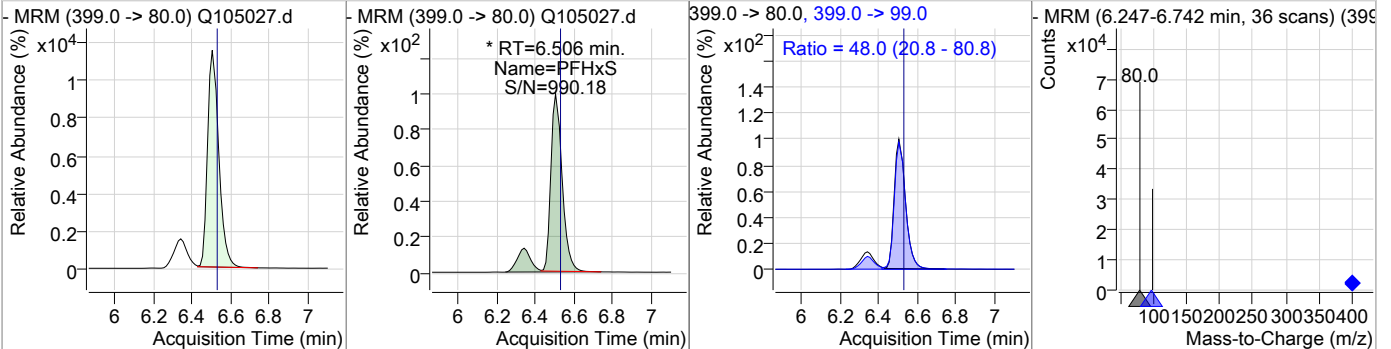
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	48.30	5.85	0.00	8903	329.0 -> 169.0	96.4	66.9	126.9



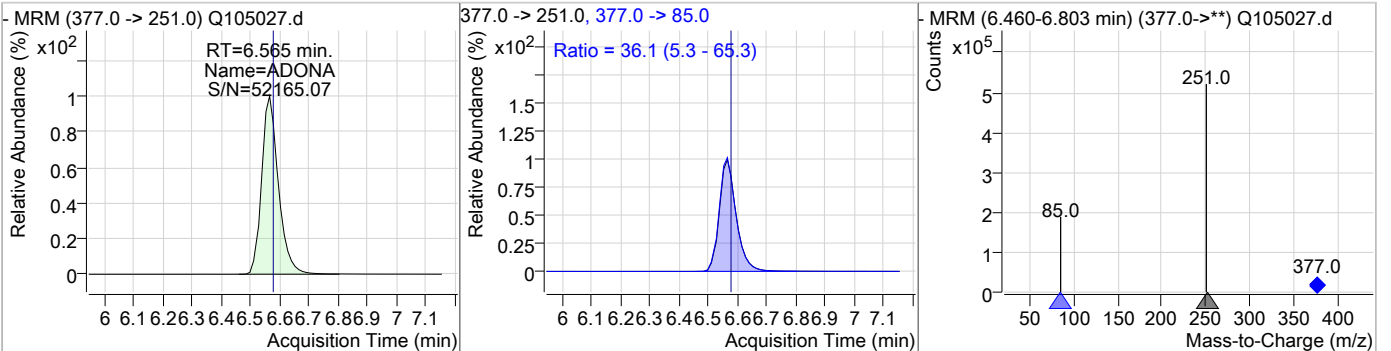
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	47.32	6.46	-0.01	280758	363.0 -> 169.0	12.9	0.0	43.0



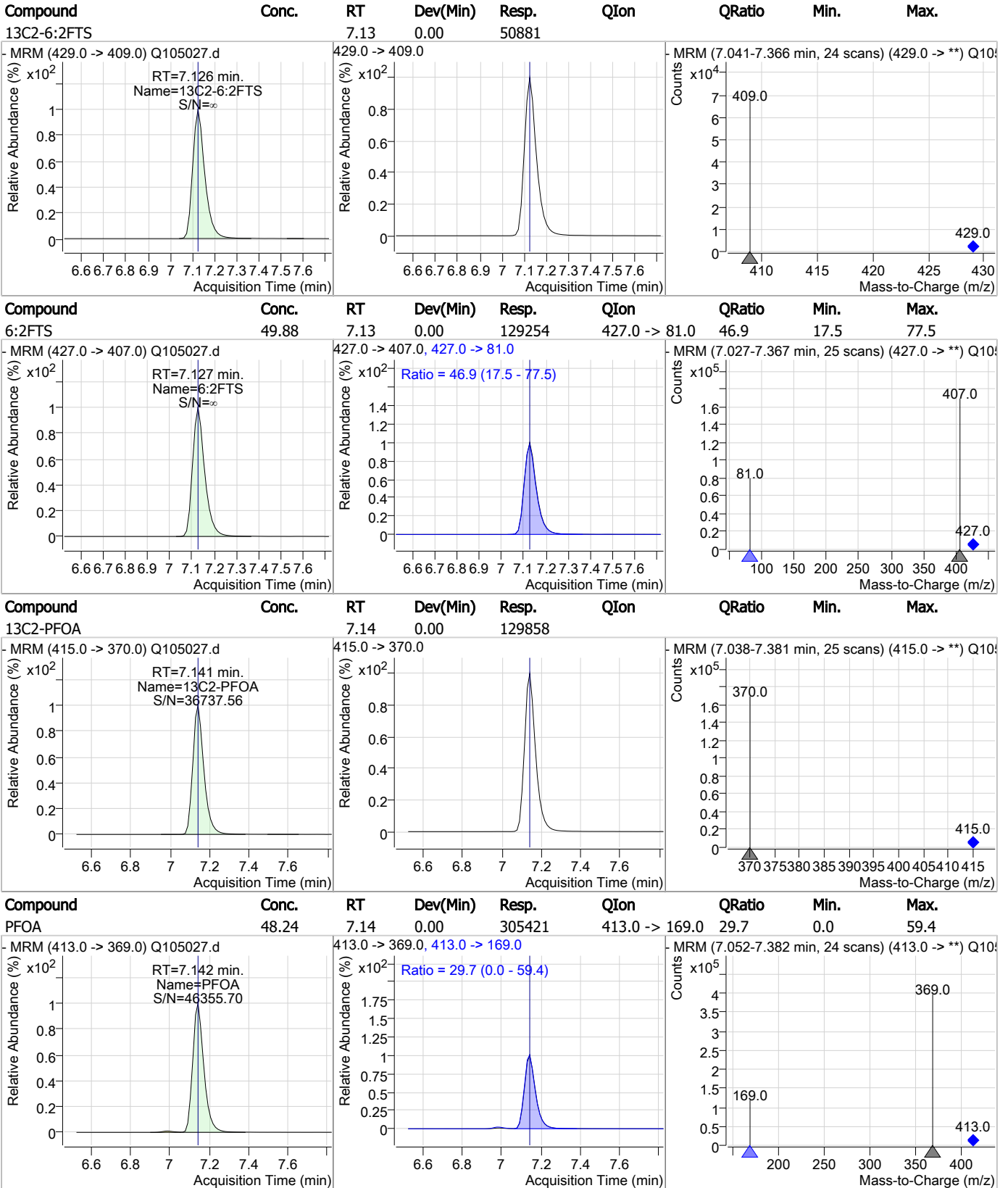
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	46.12	6.51	-0.02	54562 (m)	399.0 -> 99.0	48.0	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	46.91	6.57	-0.01	395543	377.0 -> 85.0	36.1	5.3	65.3



### Perfluorinated Compounds by LC/MS/MS



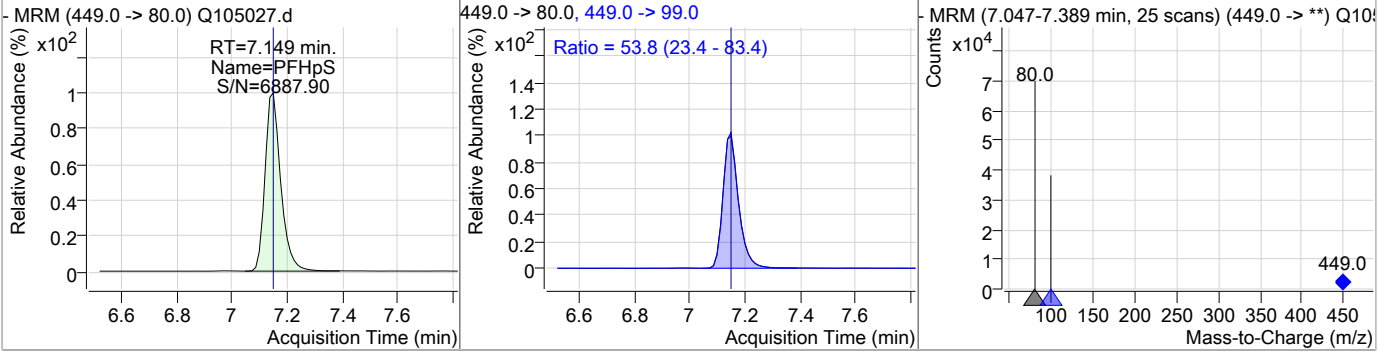
7.6.8

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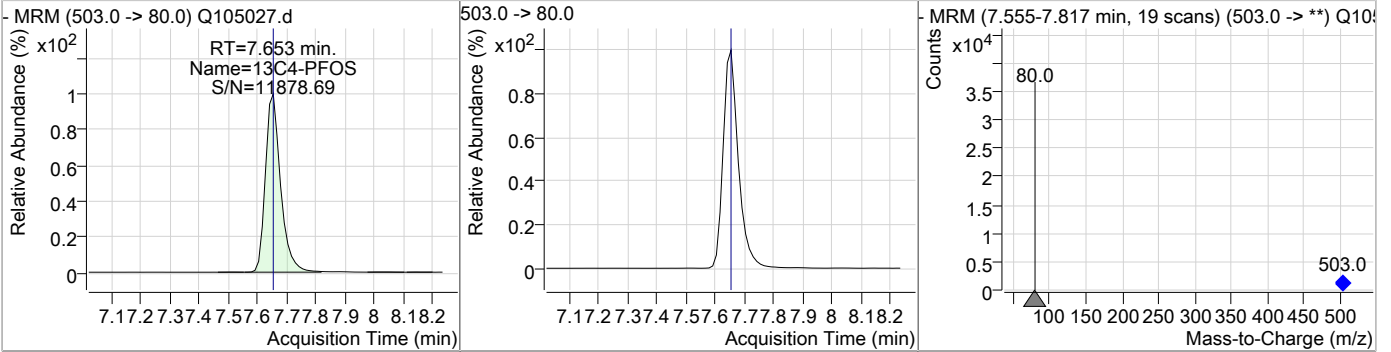


### Perfluorinated Compounds by LC/MS/MS

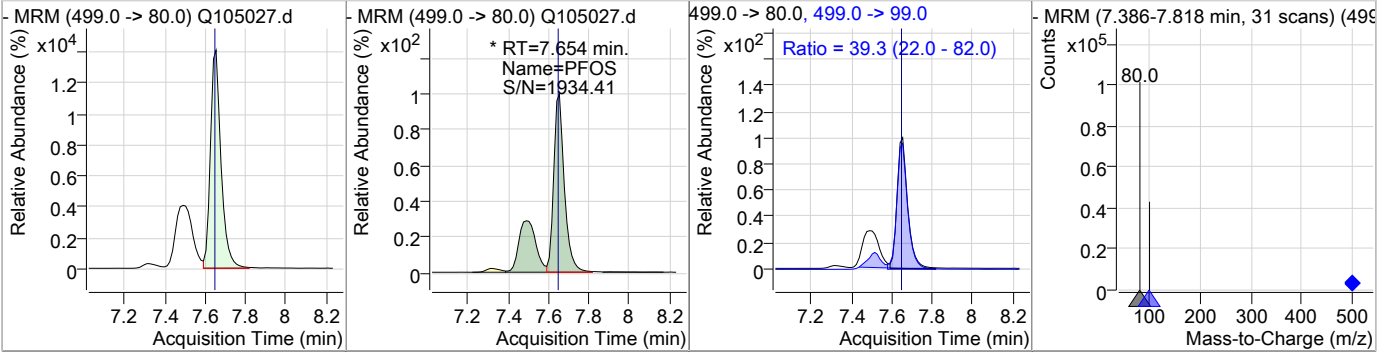
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	47.92	7.15	0.00	52311	449.0 -> 99.0	53.8	23.4	83.4



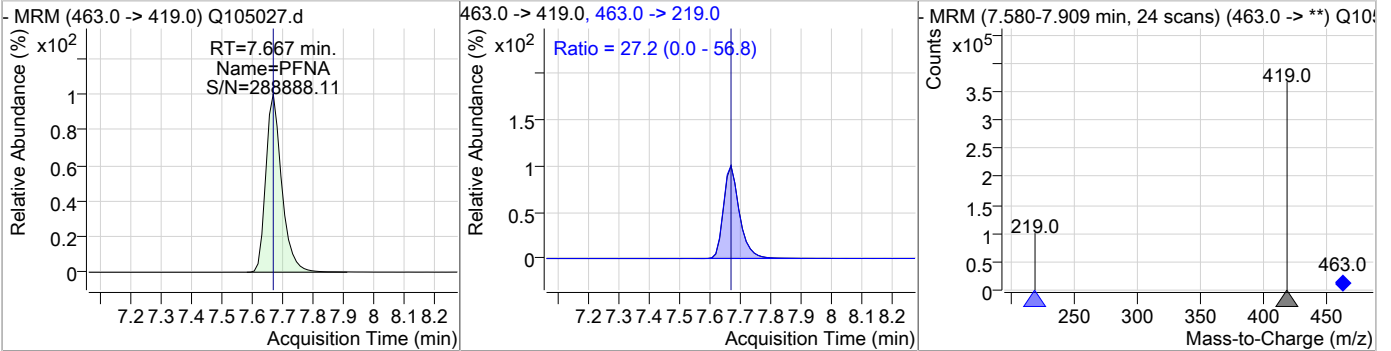
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	26917				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	47.42	7.65	0.00	75673 (m)	499.0 -> 99.0	39.3	22.0	82.0

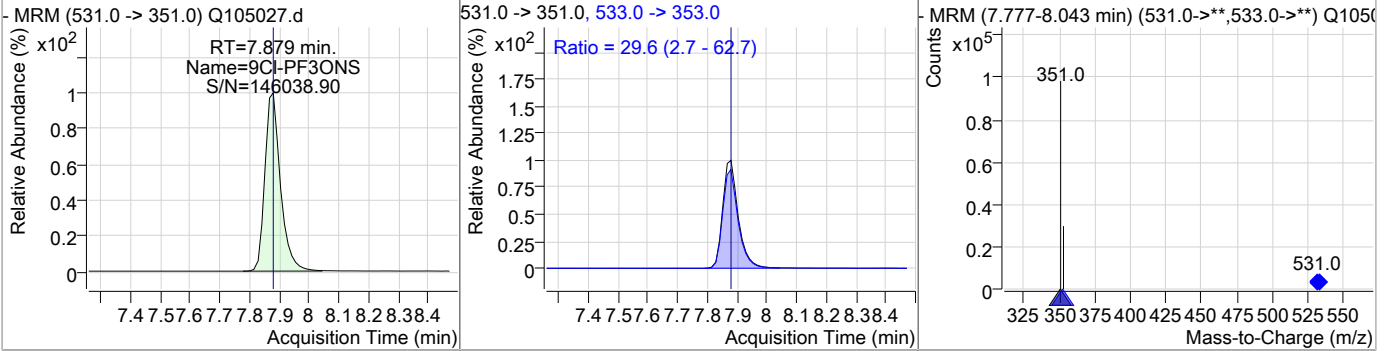


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	48.66	7.67	0.00	275376	463.0 -> 219.0	27.2	0.0	56.8

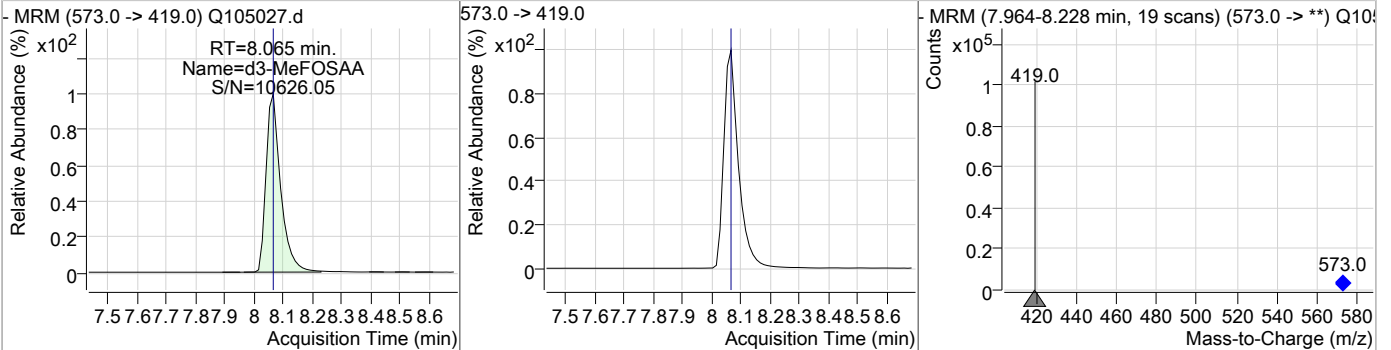


### Perfluorinated Compounds by LC/MS/MS

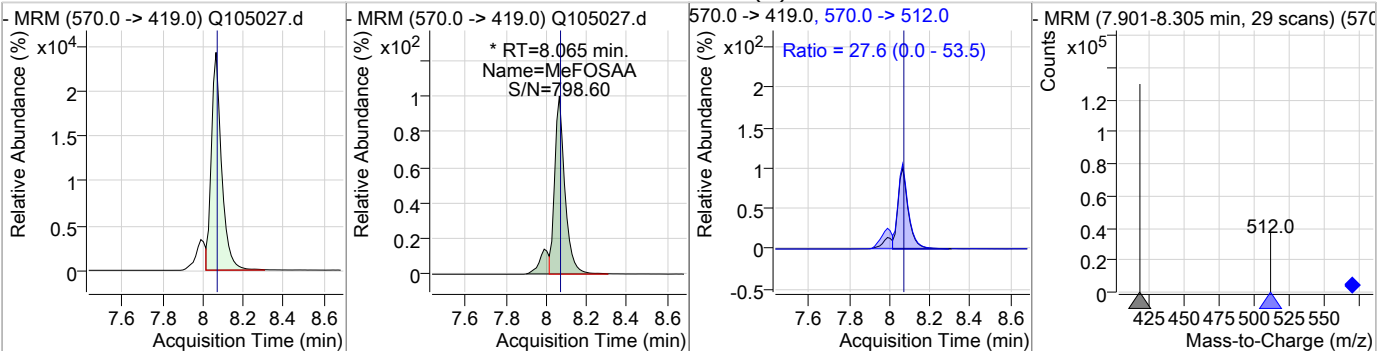
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	49.88	7.88	0.00	73946	533.0 -> 353.0	29.6	2.7	62.7



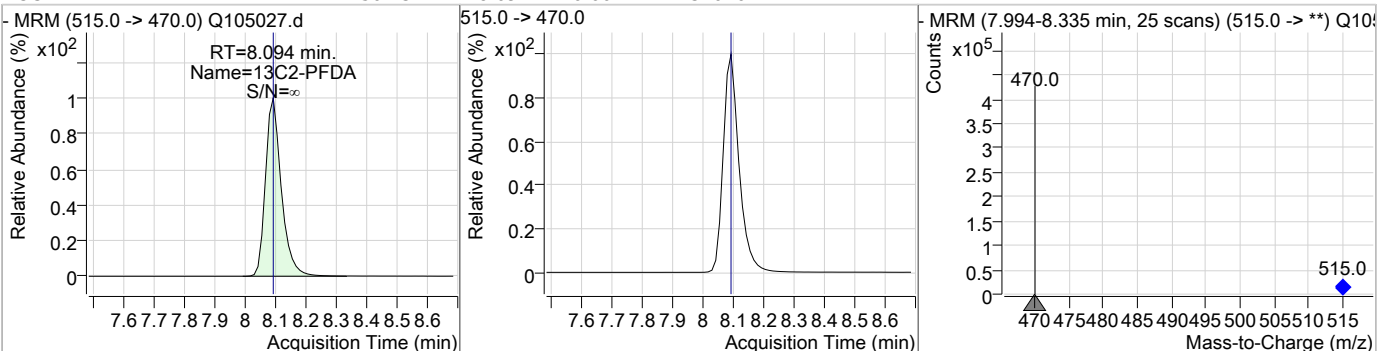
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	75470				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	50.16	8.07	0.00	96125 (m)	570.0 -> 512.0	27.6	0.0	53.5

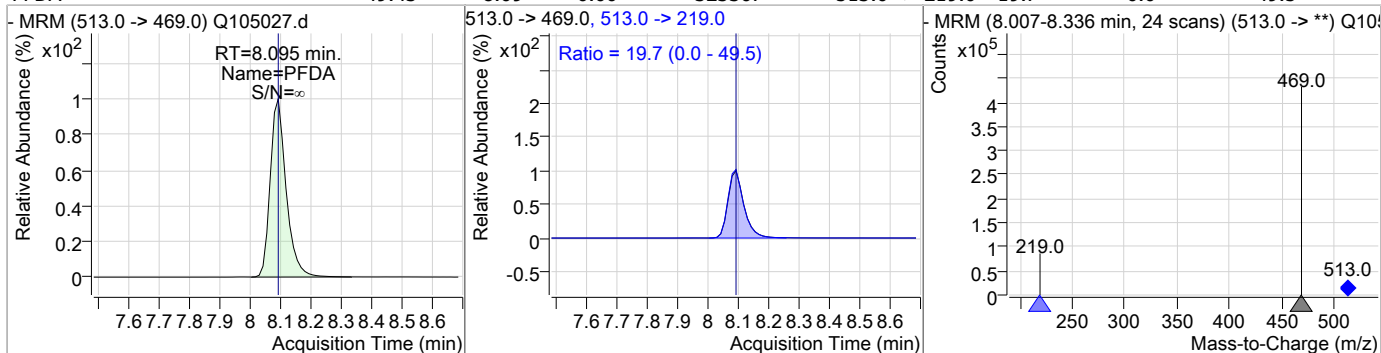


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	50.73	8.09	0.00	320761				

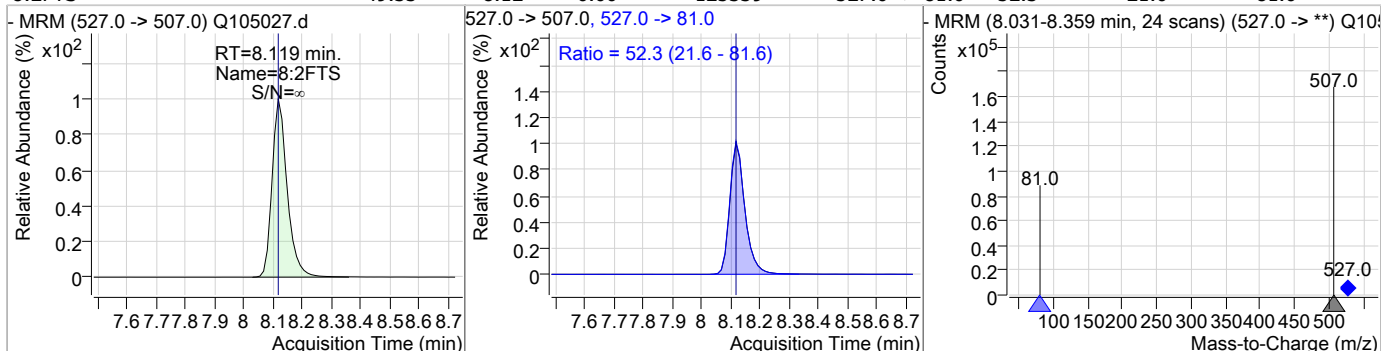


### Perfluorinated Compounds by LC/MS/MS

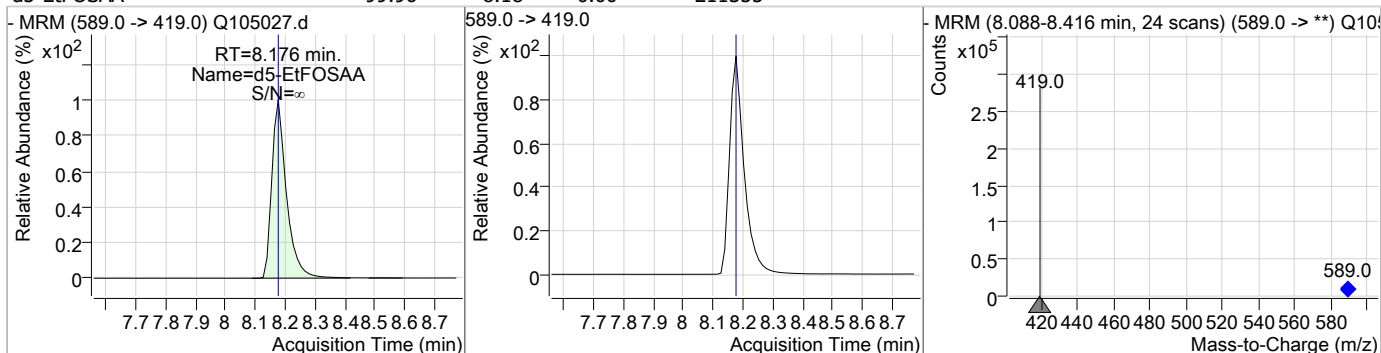
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	49.43	8.09	0.00	323367	513.0 -> 219.0	19.7	0.0	49.5



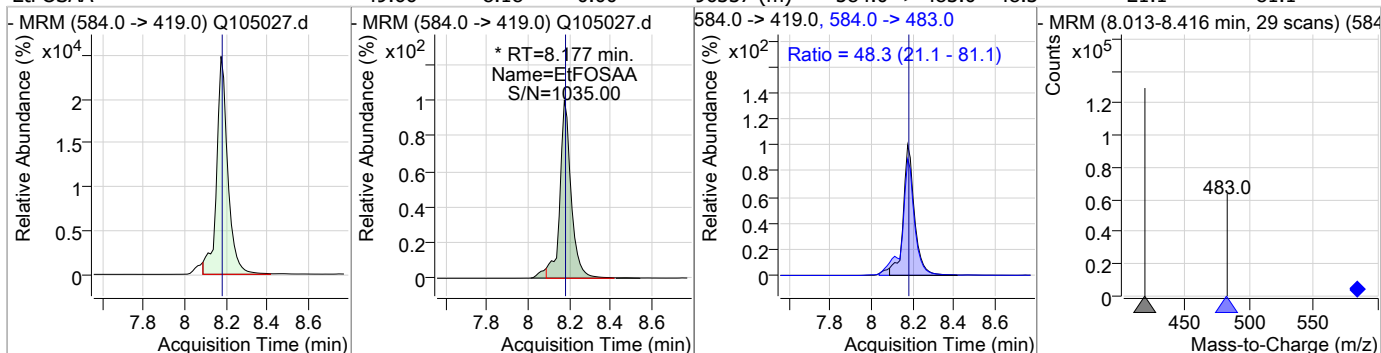
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	49.33	8.12	0.00	125339	527.0 -> 81.0	52.3	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	99.96	8.18	0.00	211355	589.0 -> 419.0			

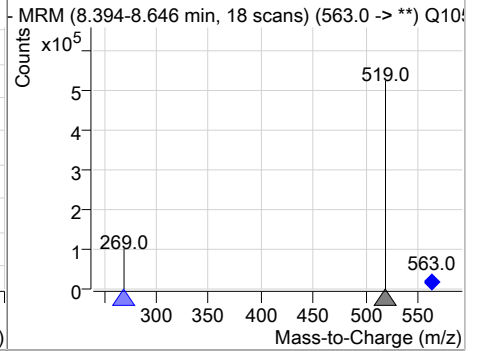
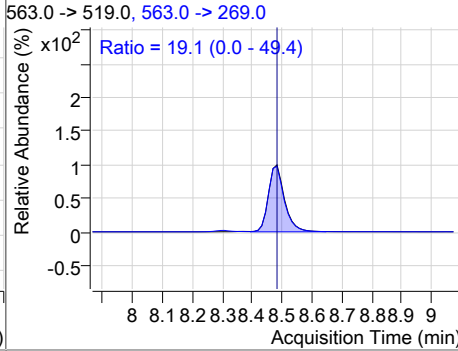
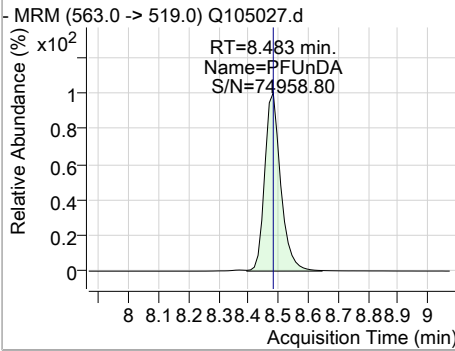


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	49.66	8.18	0.00	96337 (m)	584.0 -> 483.0	48.3	21.1	81.1

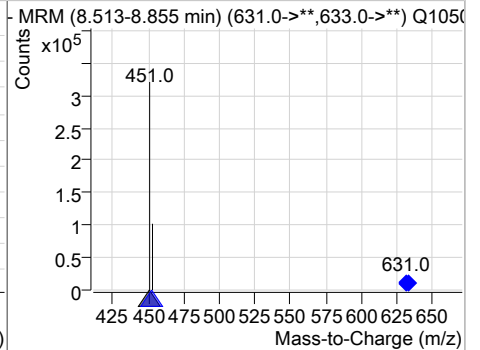
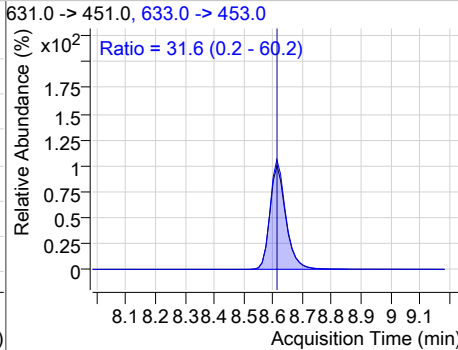
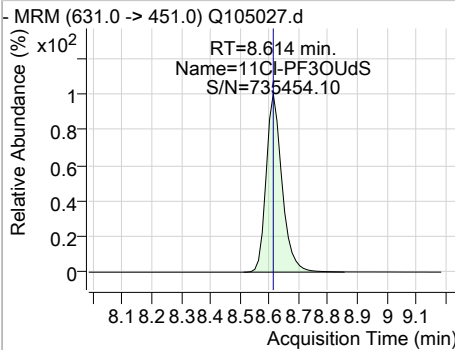


### Perfluorinated Compounds by LC/MS/MS

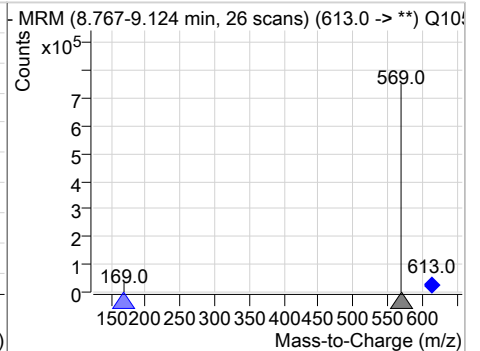
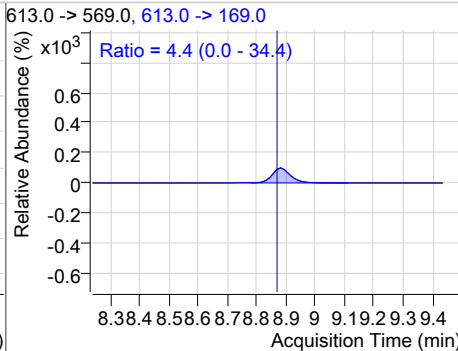
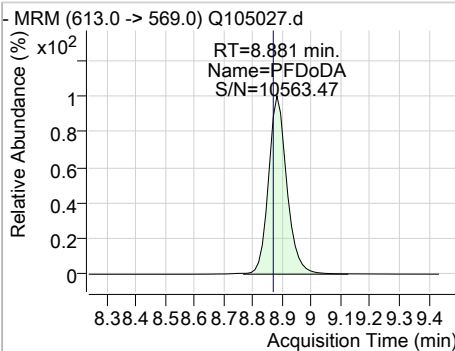
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	47.80	8.48	0.00	398007	563.0 -> 269.0	19.1	0.0	49.4



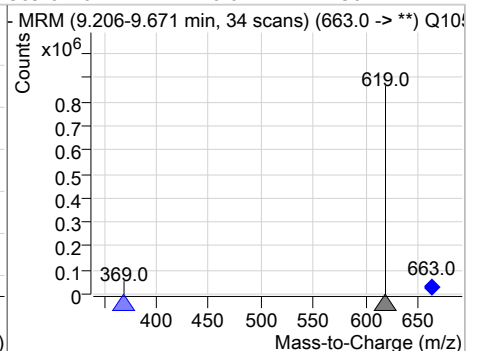
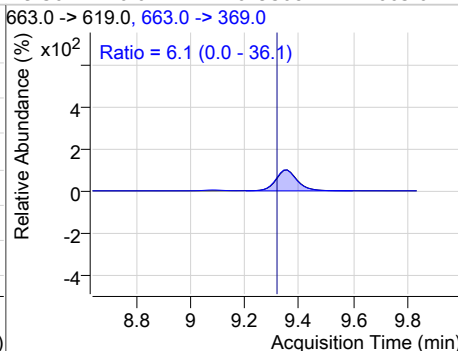
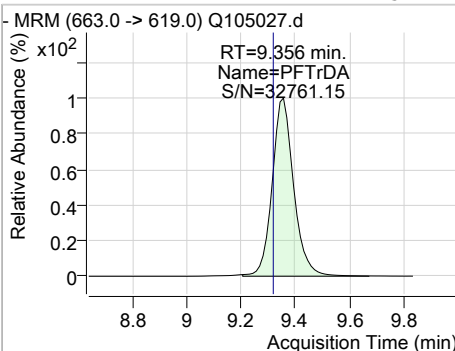
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	47.01	8.61	0.00	243730	633.0 -> 453.0	31.6	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	48.08	8.88	0.01	562972	613.0 -> 169.0	4.4	0.0	34.4

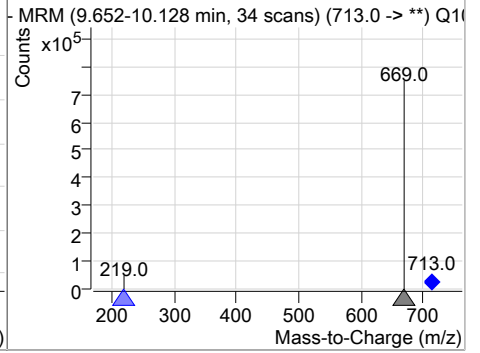
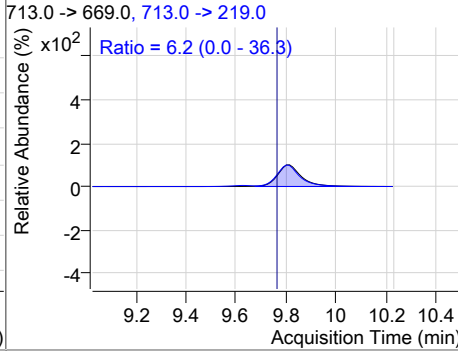
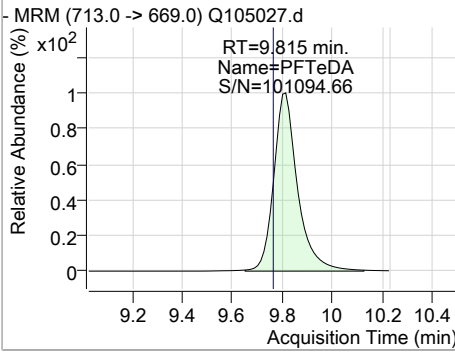


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	47.52	9.36	0.04	649308	663.0 -> 369.0	6.1	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	46.53	9.81	0.05	560097	713.0 -> 219.0	6.2	0.0	36.3



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# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105027.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 15:50      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

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## Perfluorinated Compounds by LC/MS/MS

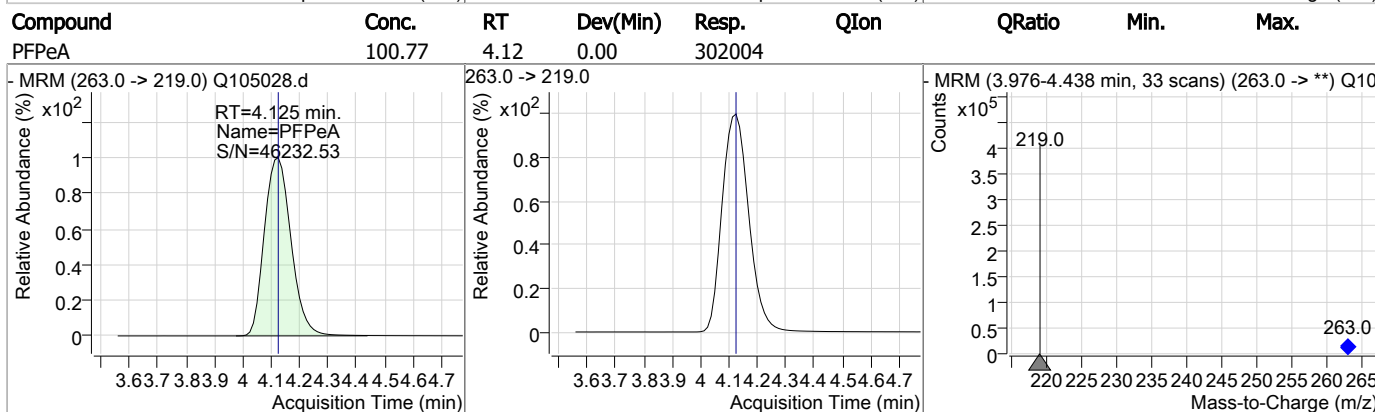
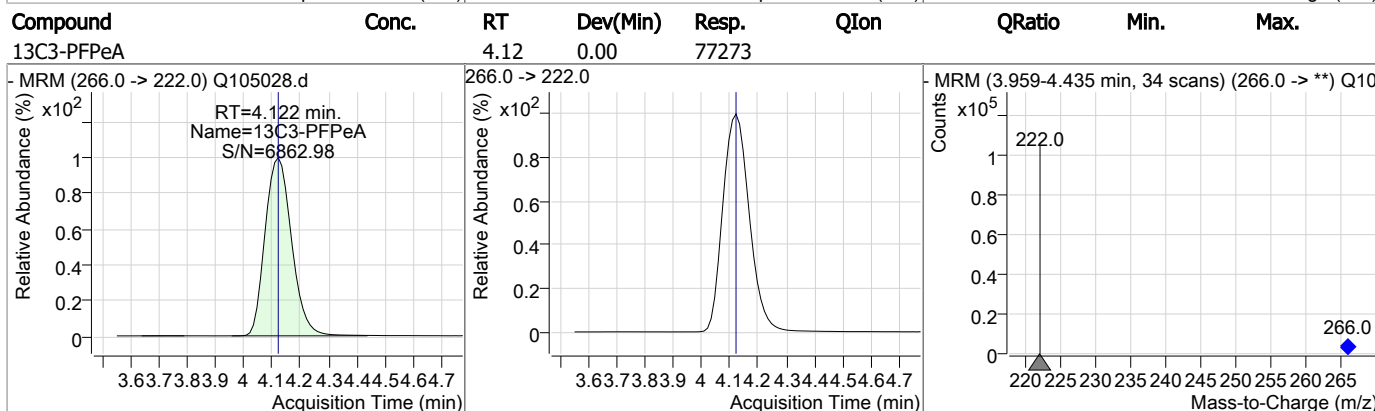
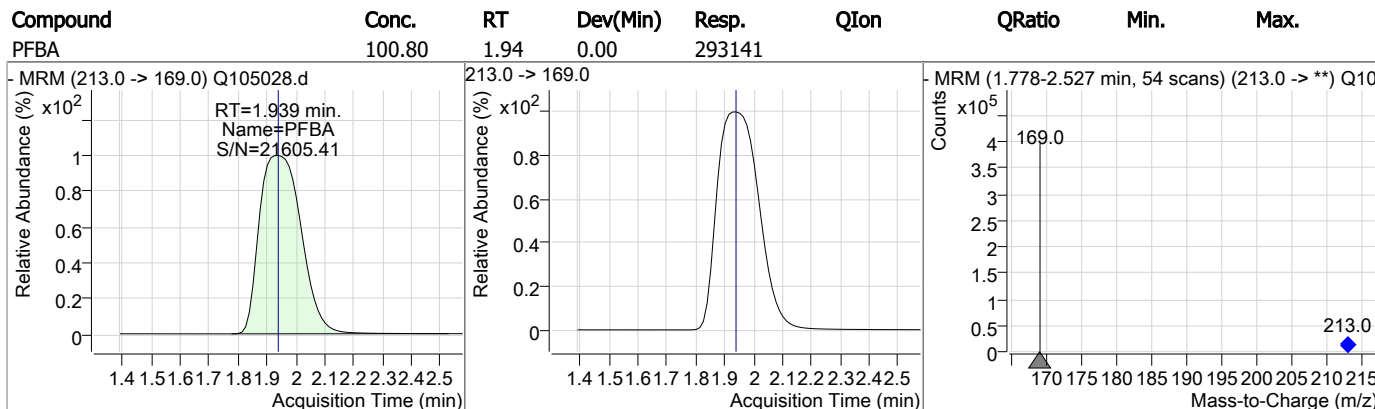
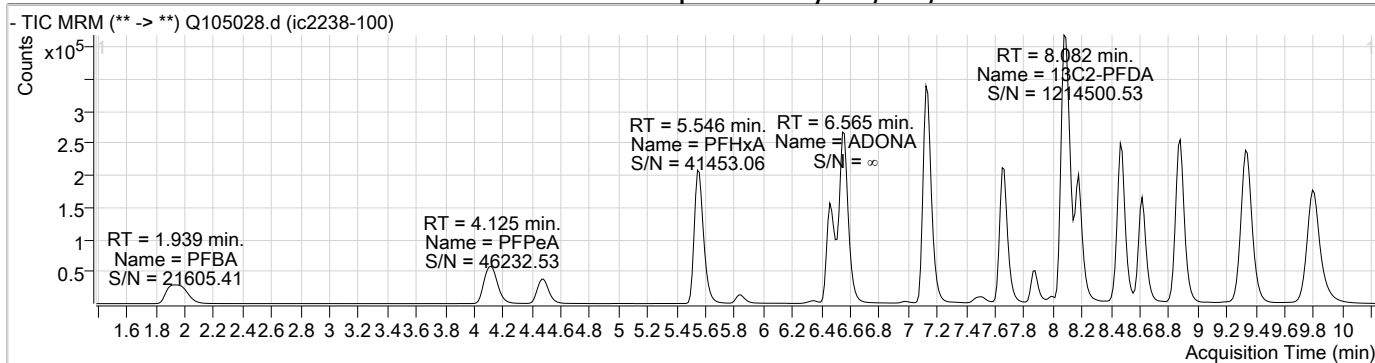
Data File : Q105028.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 4:06:06 PM  
 Sample Name : ic2238-100  
 Vial : P1-A9  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	52511	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	116923	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	77273	20.00 µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	24117	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	63784	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	565803	99.39 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 496.9%	
13C2-PFHxA	5.544	315.0 -> 270.0	470714	100.05 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 500.2%	
d5-EtFOSAA	8.176	589.0 -> 419.0	384221	200.00 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 500.0%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	26596	202.97 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 507.4%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	233524	100.03 µg/L	100
8:2FTS	8.119	527.0 -> 507.0	230359	100.27 µg/L	98
EtFOSAA	8.177	584.0 -> 419.0	178419	100.06 µg/L	m 96
MeFOSAA	8.065	570.0 -> 419.0	161857	99.93 µg/L	88
PFBA	1.939	213.0 -> 169.0	293141	100.80 µg/L	100
PFBS	4.466	299.0 -> 80.0	147823	102.26 µg/L	99
PFDA	8.082	513.0 -> 469.0	589492	100.08 µg/L	99
PFDoDA	8.881	613.0 -> 569.0	1061480	101.17 µg/L	100
PFHpA	6.464	363.0 -> 319.0	542182	101.49 µg/L	100
PFHpS	7.137	449.0 -> 80.0	98862	101.07 µg/L	99
PFHxA	5.546	313.0 -> 269.0	432101	101.65 µg/L	100
PFHxS	6.506	399.0 -> 80.0	108229	102.10 µg/L	m 94
PFNA	7.667	463.0 -> 419.0	512818	100.64 µg/L	98
PFOA	7.142	413.0 -> 369.0	575578	100.97 µg/L	100
PFOS	7.641	499.0 -> 80.0	145020	101.42 µg/L	m 84
PFPeA	4.125	263.0 -> 219.0	302004	100.77 µg/L	100
PFTeDA	9.790	713.0 -> 669.0	1100748	102.05 µg/L	100
PFTrDA	9.331	663.0 -> 619.0	1244514	101.64 µg/L	100
PFUnDA	8.470	563.0 -> 519.0	752970	100.92 µg/L	100
ADONA	6.565	377.0 -> 251.0	773627	101.89 µg/L	98
9Cl-PF3ONS	7.879	531.0 -> 351.0	140578	100.02 µg/L	97
11Cl-PF3OUdS	8.614	631.0 -> 451.0	475323	101.81 µg/L	99
HFPO-DA	5.840	285.0 -> 169.0	16882	101.71 µg/L	99

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

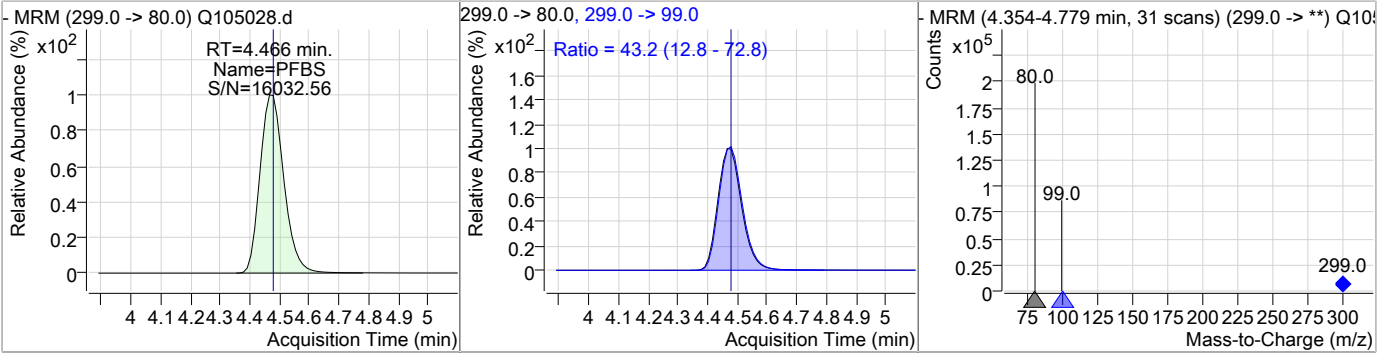
7.6.9  
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### Perfluorinated Compounds by LC/MS/MS

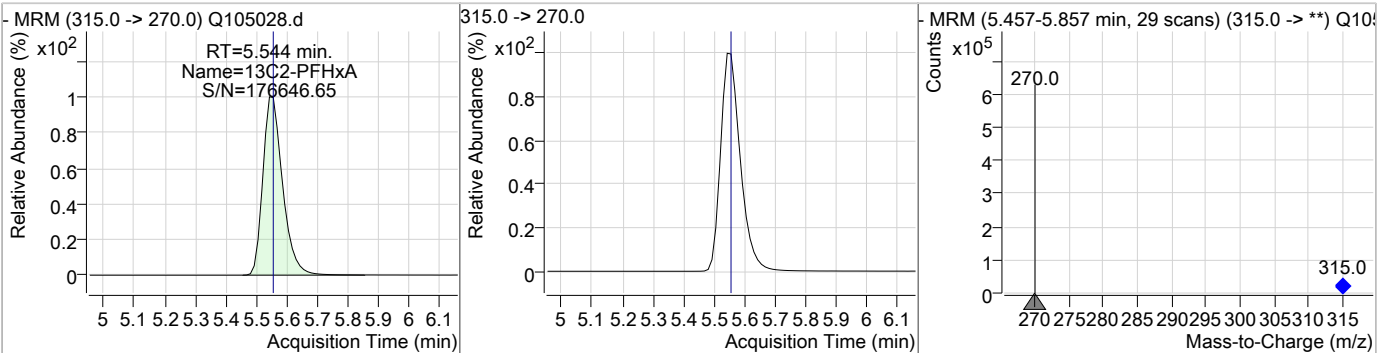


### Perfluorinated Compounds by LC/MS/MS

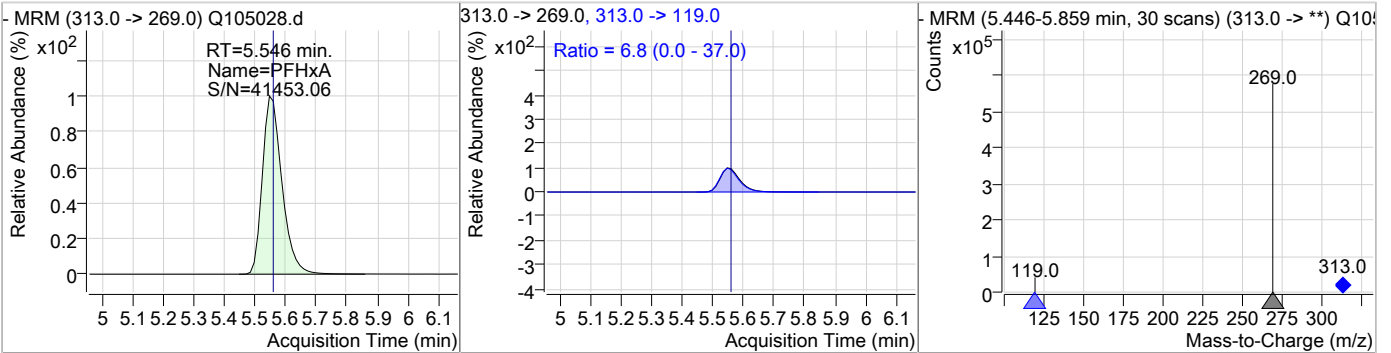
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	102.26	4.47	-0.01	147823	299.0 -> 99.0	43.2	12.8	72.8



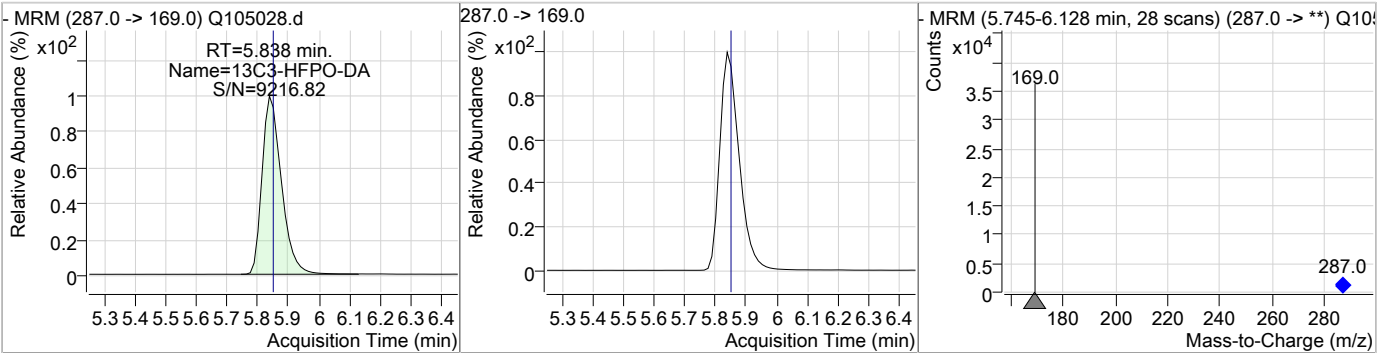
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	100.05	5.54	-0.01	470714				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	101.65	5.55	-0.01	432101	313.0 -> 119.0	6.8	0.0	37.0

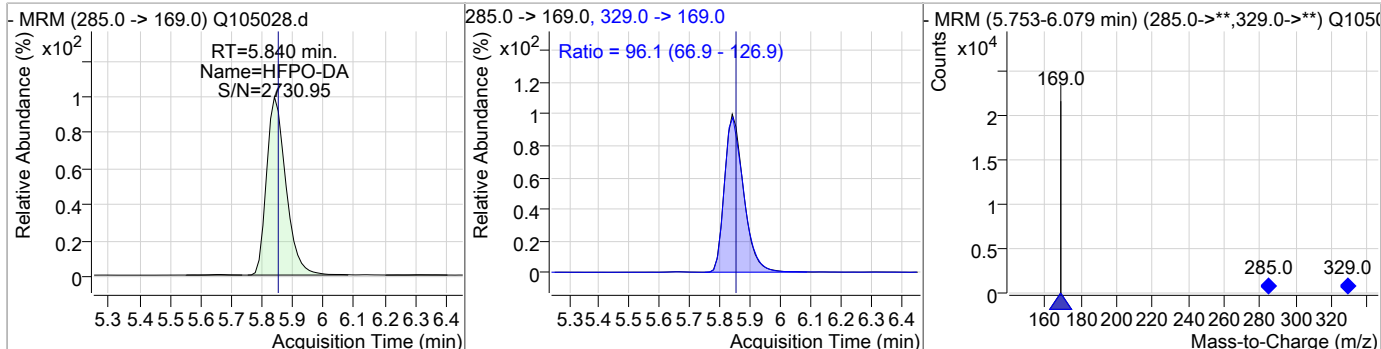


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	202.97	5.84	-0.01	26596				

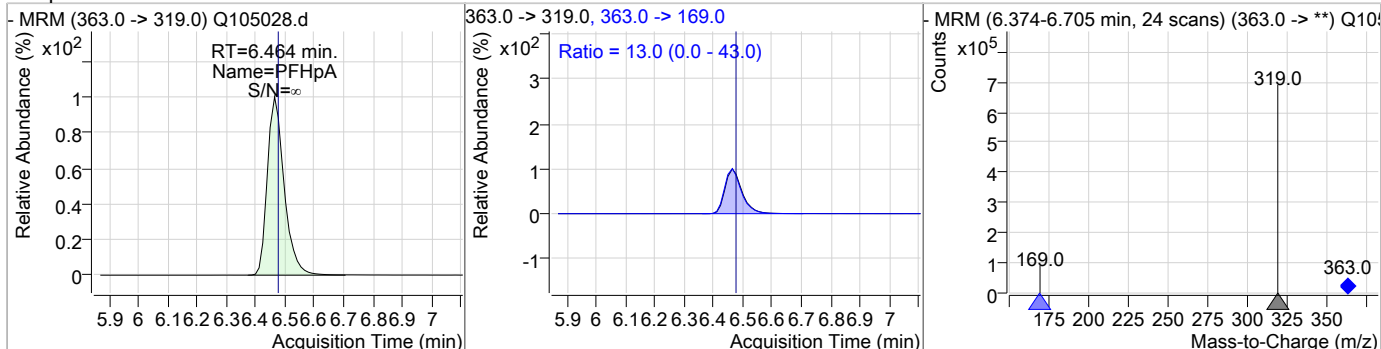


### Perfluorinated Compounds by LC/MS/MS

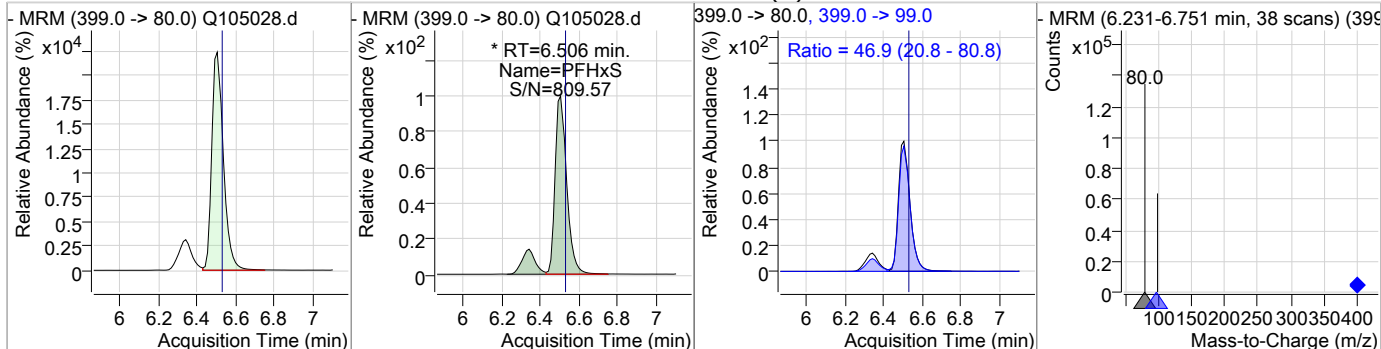
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	101.71	5.84	-0.01	16882	329.0 -> 169.0	96.1	66.9	126.9



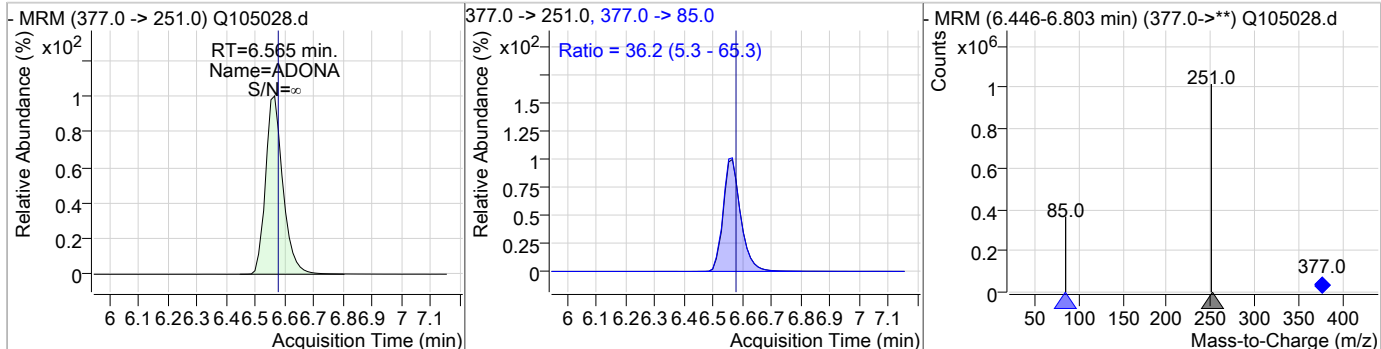
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	101.49	6.46	-0.01	542182	363.0 -> 169.0	13.0	0.0	43.0



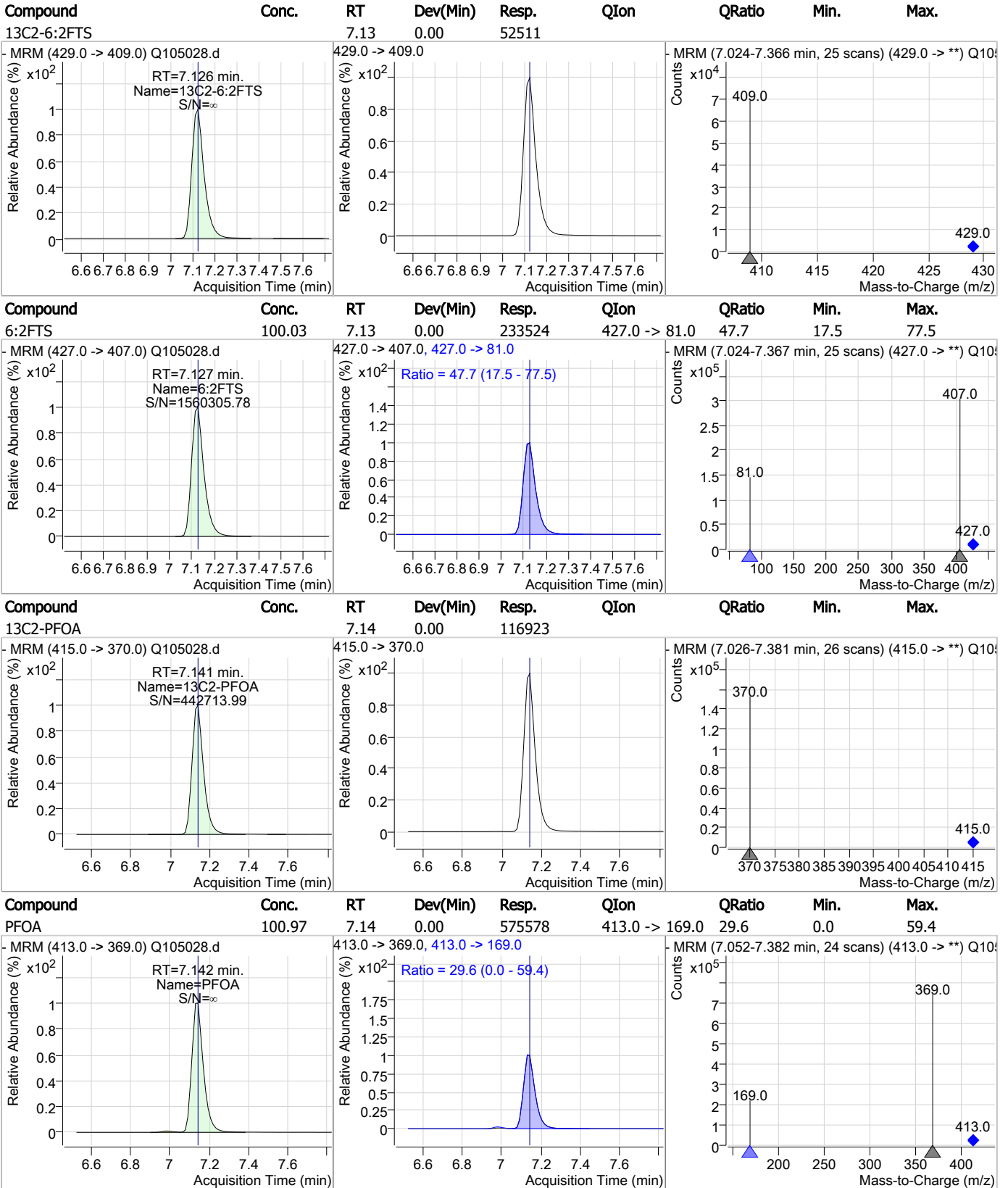
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	102.10	6.51	-0.02	108229 (m)	399.0 -> 99.0	46.9	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	101.89	6.57	-0.01	773627	377.0 -> 85.0	36.2	5.3	65.3



### Perfluorinated Compounds by LC/MS/MS

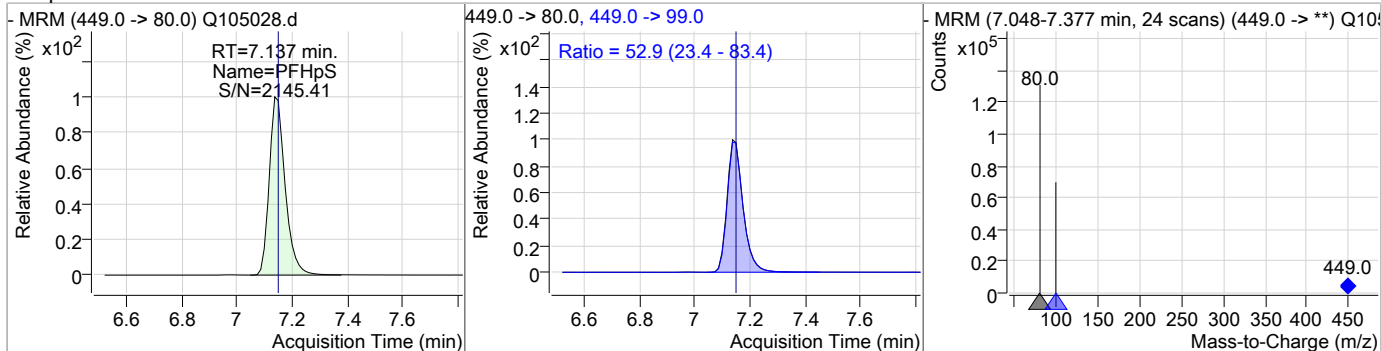


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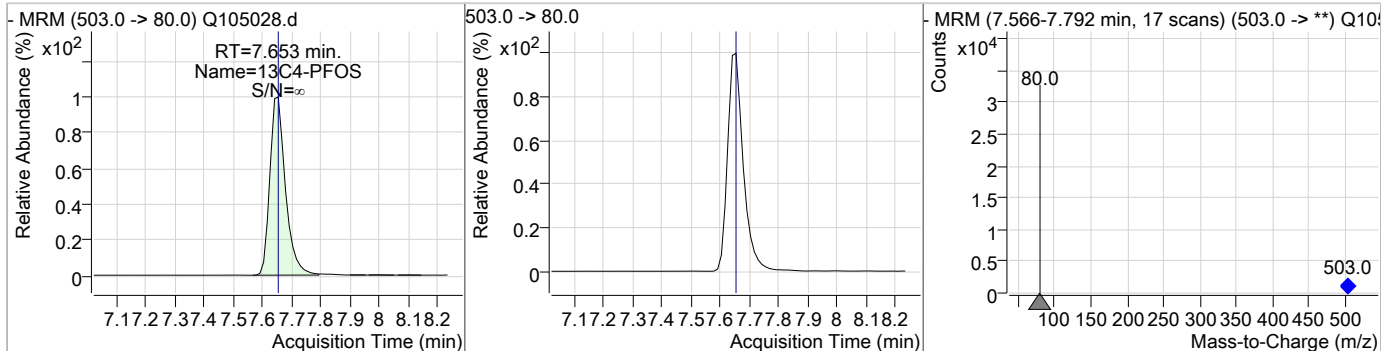
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### Perfluorinated Compounds by LC/MS/MS

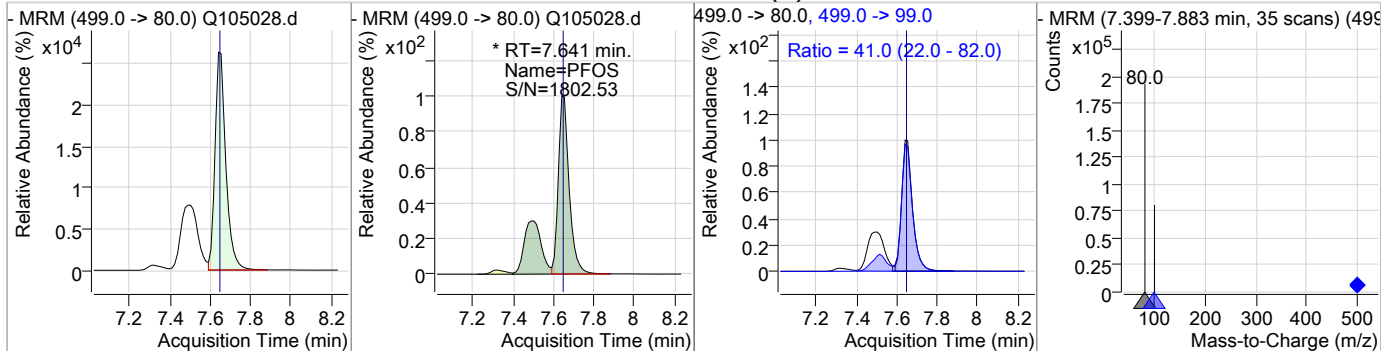
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	101.07	7.14	-0.01	98862	449.0 -> 99.0	52.9	23.4	83.4



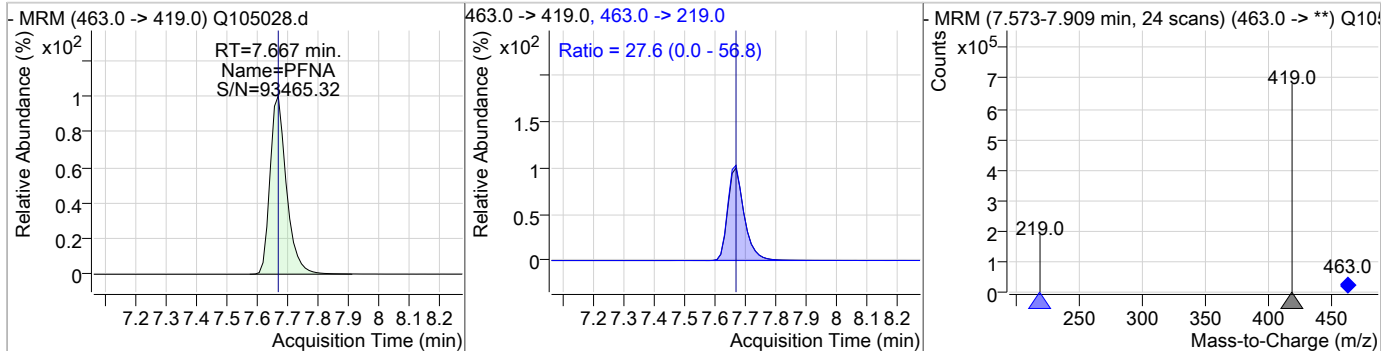
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	24117				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	101.42	7.64	-0.01	145020 (m)	499.0 -> 99.0	41.0	22.0	82.0

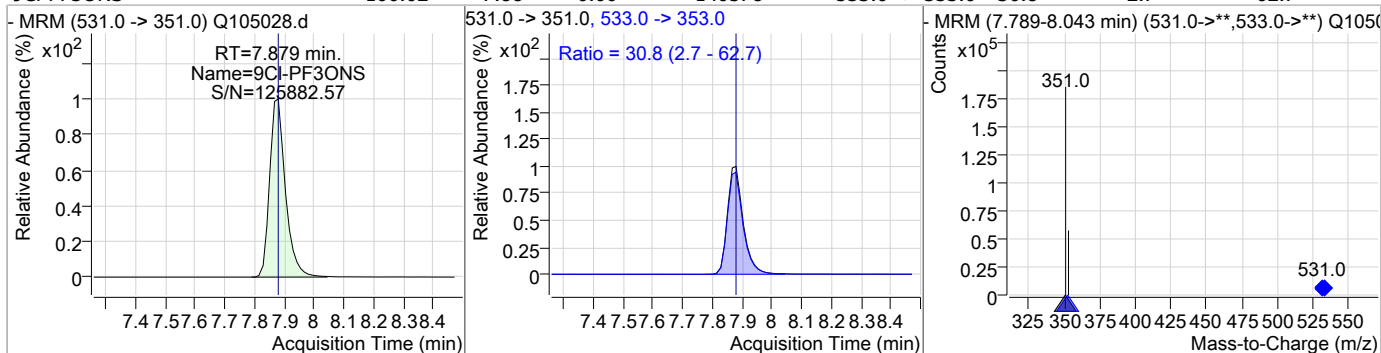


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	100.64	7.67	0.00	512818	463.0 -> 219.0	27.6	0.0	56.8

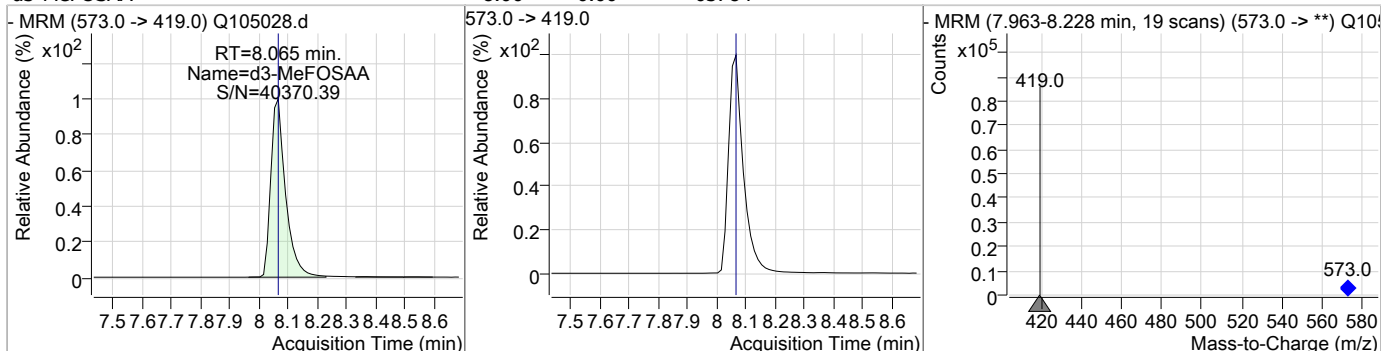


### Perfluorinated Compounds by LC/MS/MS

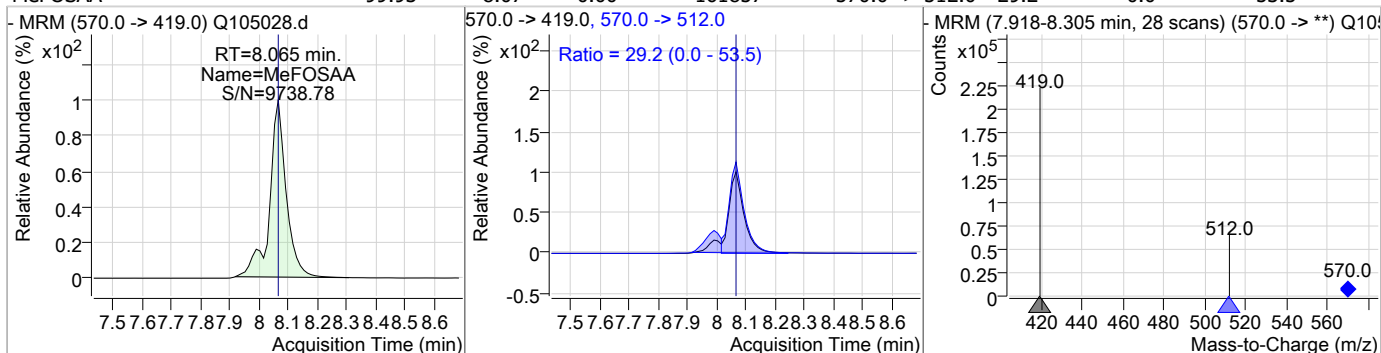
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	100.02	7.88	0.00	140578	533.0 -> 353.0	30.8	2.7	62.7



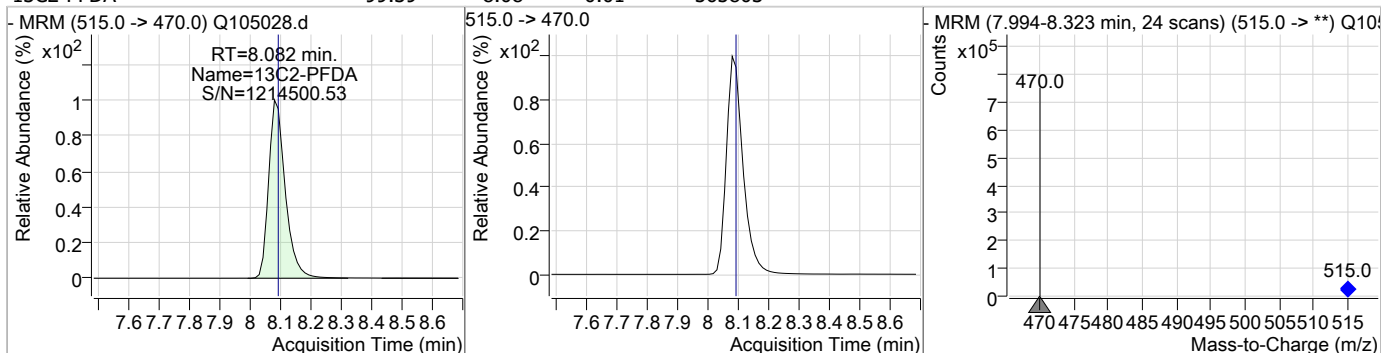
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	63784				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	99.93	8.07	0.00	161857	570.0 -> 512.0	29.2	0.0	53.5



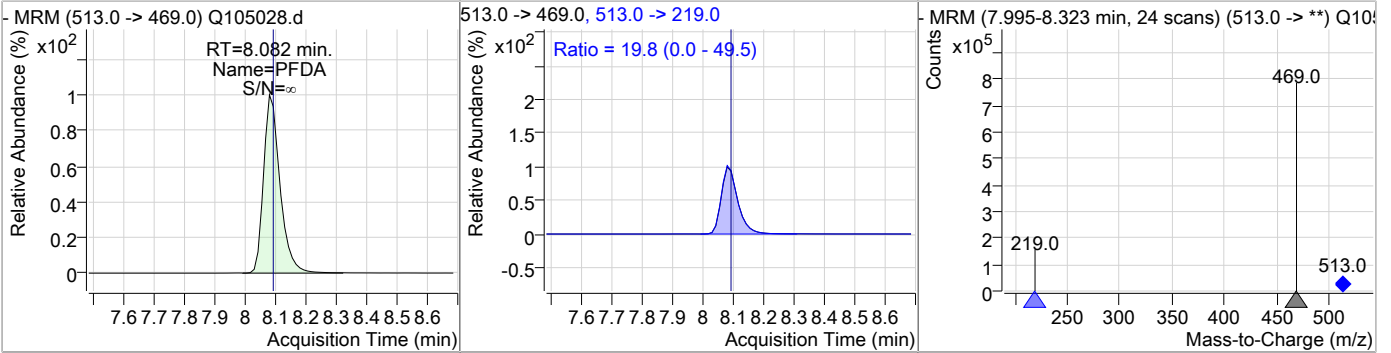
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	99.39	8.08	-0.01	565803				



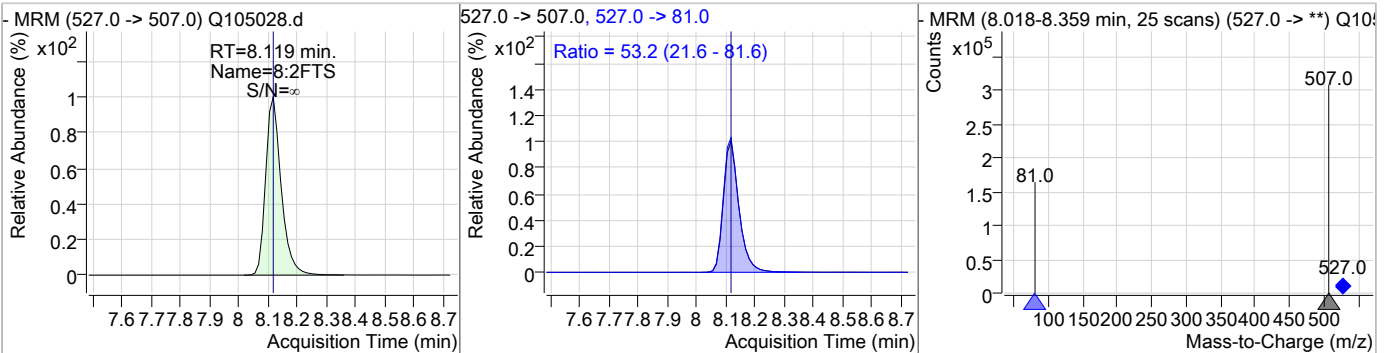


### Perfluorinated Compounds by LC/MS/MS

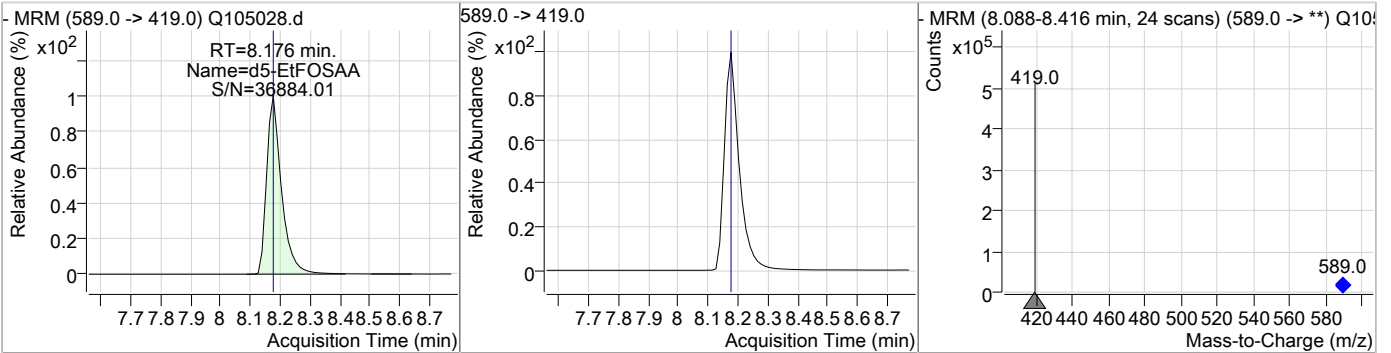
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	100.08	8.08	-0.01	589492	513.0 -> 219.0	19.8	0.0	49.5



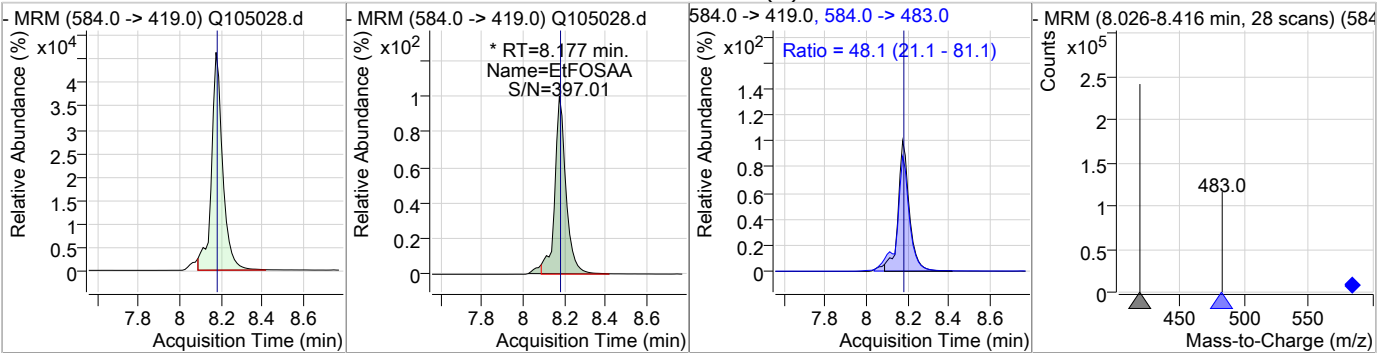
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	100.27	8.12	0.00	230359	527.0 -> 81.0	53.2	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	200.00	8.18	0.00	384221	589.0 -> 419.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	100.06	8.18	0.00	178419 (m)	584.0 -> 483.0	48.1	21.1	81.1

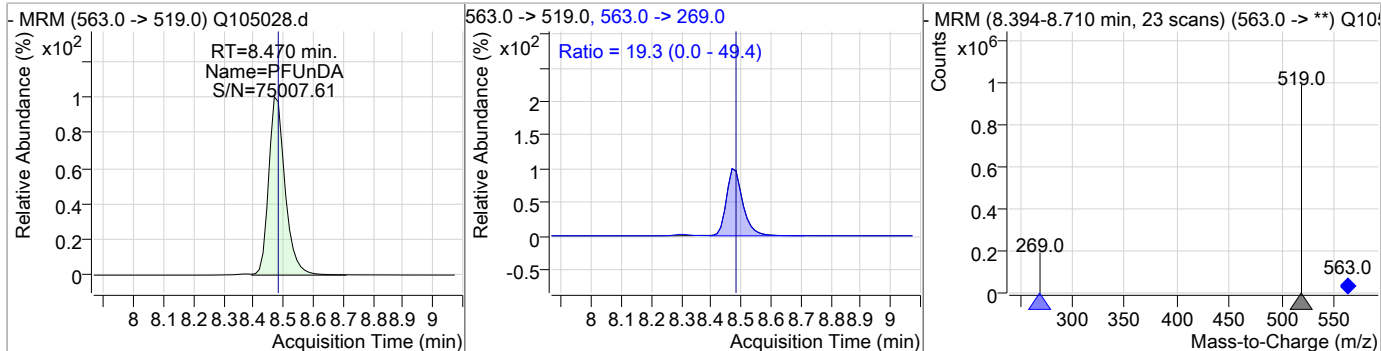


7.6.9  
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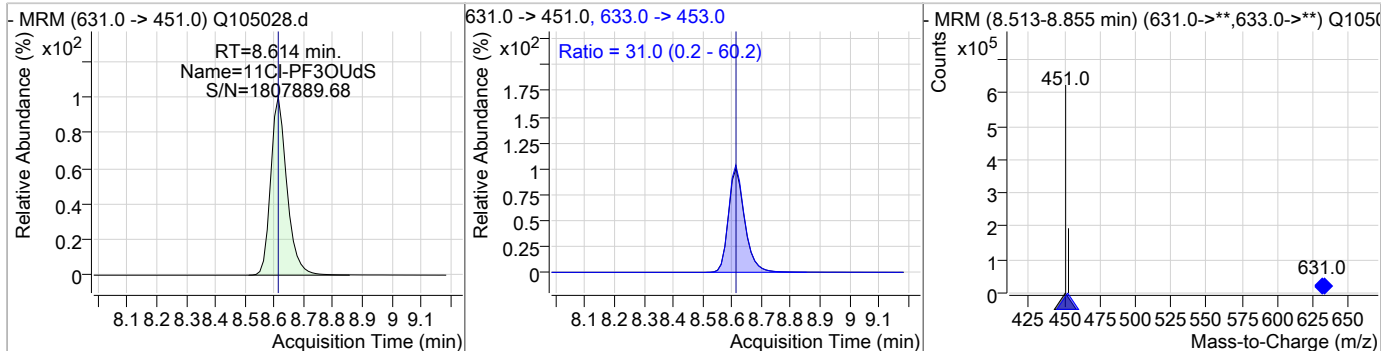


### Perfluorinated Compounds by LC/MS/MS

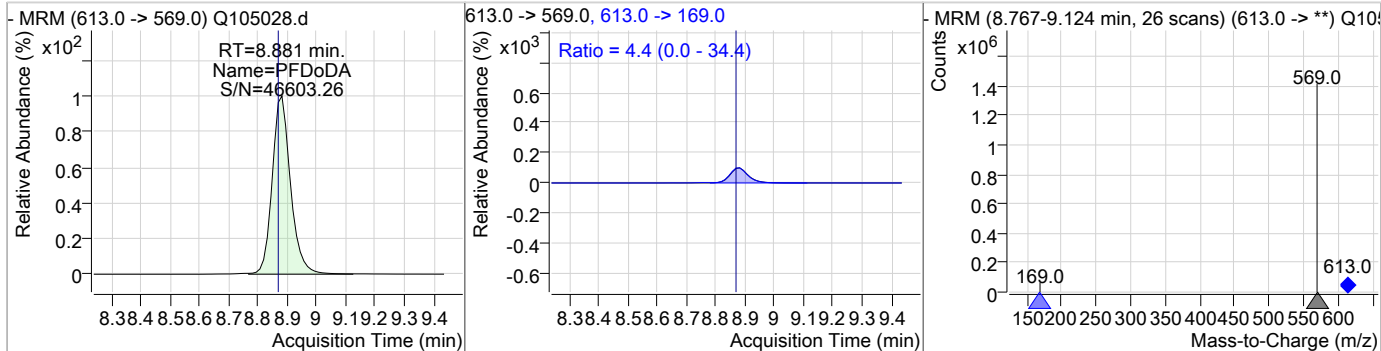
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	100.92	8.47	-0.01	752970	563.0 -> 269.0	19.3	0.0	49.4



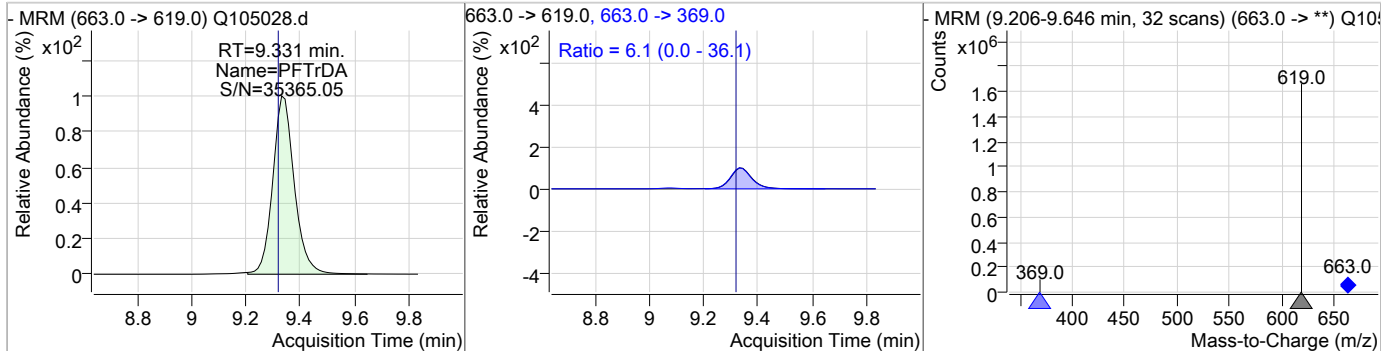
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	101.81	8.61	0.00	475323	633.0 -> 453.0	31.0	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	101.17	8.88	0.01	1061480	613.0 -> 169.0	4.4	0.0	34.4



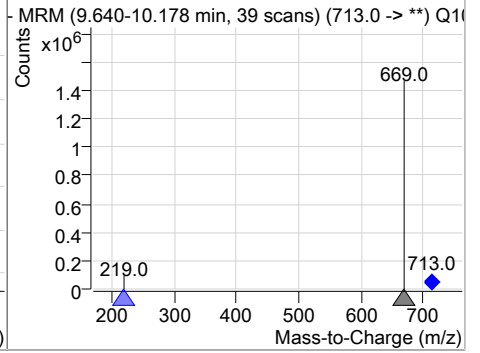
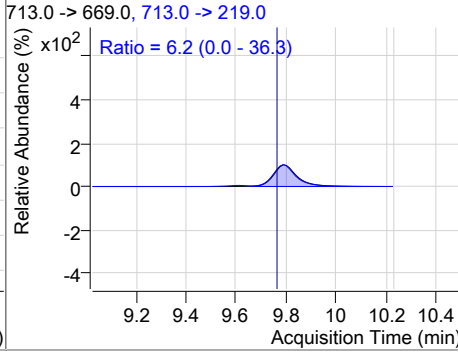
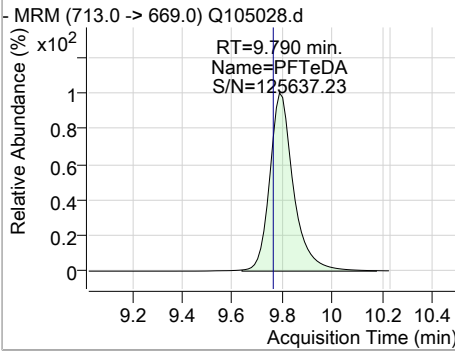
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	101.64	9.33	0.01	1244514	663.0 -> 369.0	6.1	0.0	36.1



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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	102.05	9.79	0.03	1100748	713.0 -> 219.0	6.2	0.0	36.3



7.6.9

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# Manual Integration Approval Summary

Sample Number: SQ2238-IC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105028.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 16:06      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.64	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.9.1

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## Perfluorinated Compounds by LC/MS/MS

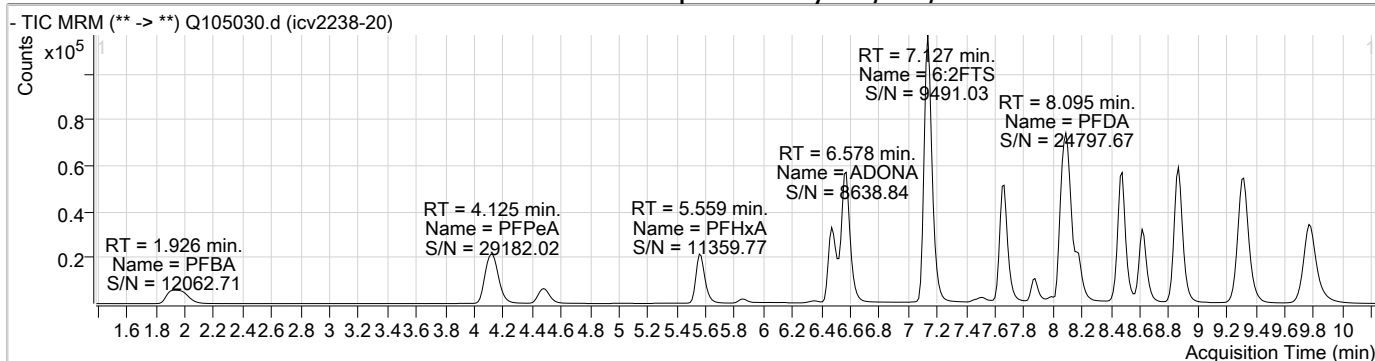
Data File : Q105030.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 4:37:39 PM  
 Sample Name : icv2238-20  
 Vial : P1-B2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
<b>Internal Standards</b>						
13C2-6:2FTS	7.126	429.0 -> 409.0	50521	20.00	µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	137485	20.00	µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	82203	20.00	µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	27384	20.00	µg/L	0.000
d3-MeFOSAA	8.052	573.0 -> 419.0	82996	40.00	µg/L	-0.013
<b>System Monitoring Compounds</b>						
13C2-PFDA	-	515.0 -> 470.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%		Recovery = NA%			
13C2-PFHxA	-	315.0 -> 270.0	-	N.D.		
Spiked Amount: 20.00	Range: 70.0 - 130.0%		Recovery = NA%			
d5-EtFOSAA	8.176	589.0 -> 419.0	0	0.00	µg/L	m 0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%		Recovery = NA%			
13C3-HFPO-DA	-	287.0 -> 169.0	-	N.D.		
Spiked Amount: 40.00	Range: 70.0 - 130.0%		Recovery = NA%			
<b>Target Compounds</b>						
6:2FTS	7.127	427.0 -> 407.0	47773	17.15	µg/L	QValue 100
8:2FTS	8.118	527.0 -> 507.0	49957	18.42	µg/L	99
EtFOSAA	8.177	584.0 -> 419.0	42117	20.79	µg/L	m 94
MeFOSAA	8.065	570.0 -> 419.0	40659	19.29	µg/L	m 92
PFBA	1.926	213.0 -> 169.0	57942	18.73	µg/L	100
PFBS	4.478	299.0 -> 80.0	24863	15.15	µg/L	99
PFDA	8.095	513.0 -> 469.0	137557	19.86	µg/L	99
PFDoDA	8.869	613.0 -> 569.0	236107	19.82	µg/L	100
PFHpA	6.477	363.0 -> 319.0	114908	18.29	µg/L	100
PFHpS	7.149	449.0 -> 80.0	20304	18.28	µg/L	97
PFHxA	5.559	313.0 -> 269.0	86296	17.27	µg/L	100
PFHxS	6.526	399.0 -> 80.0	19456	16.16	µg/L	m 94
PFNA	7.667	463.0 -> 419.0	107674	17.97	µg/L	100
PFOA	7.142	413.0 -> 369.0	131619	19.64	µg/L	100
PFOS	7.654	499.0 -> 80.0	30019	18.49	µg/L	m 87
PFPeA	4.125	263.0 -> 219.0	56814	17.82	µg/L	100
PFTeDA	9.765	713.0 -> 669.0	211420	17.26	µg/L	100
PFTrDA	9.319	663.0 -> 619.0	279846	20.13	µg/L	100
PFUnDA	8.483	563.0 -> 519.0	169588	20.02	µg/L	100
ADONA	6.578	377.0 -> 251.0	159851	17.91	µg/L	99
9Cl-PF3ONS	7.879	531.0 -> 351.0	27167	17.91	µg/L	95
11Cl-PF3OUdS	8.614	631.0 -> 451.0	90413	16.47	µg/L	99
HFPO-DA	5.853	285.0 -> 169.0	3919	20.08	µg/L	99

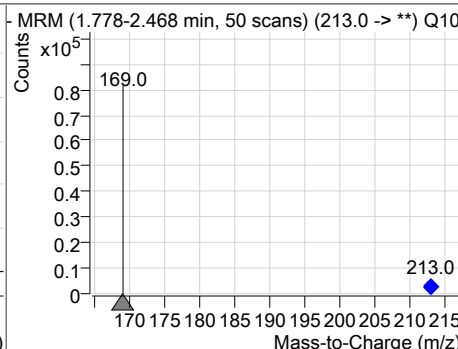
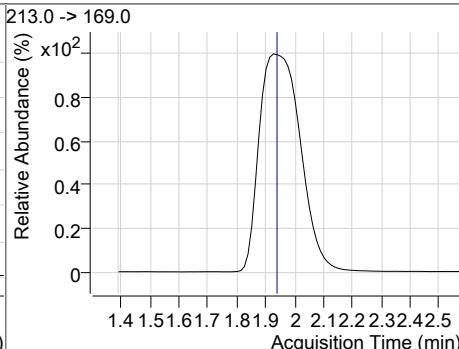
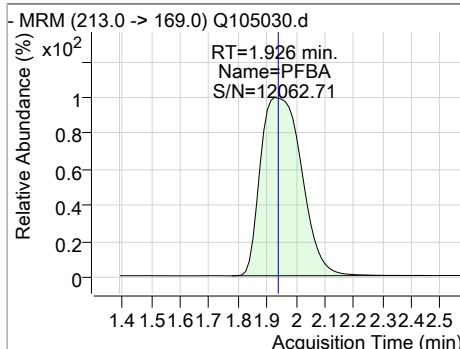
# = Qualifier out of range, m = manually integrated, + = Area summed

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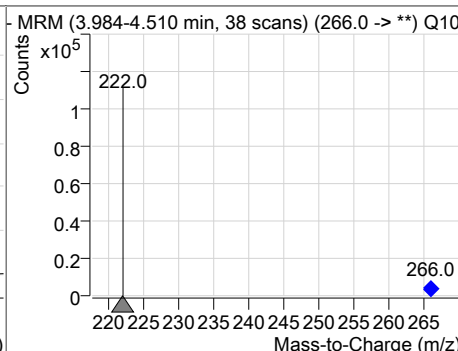
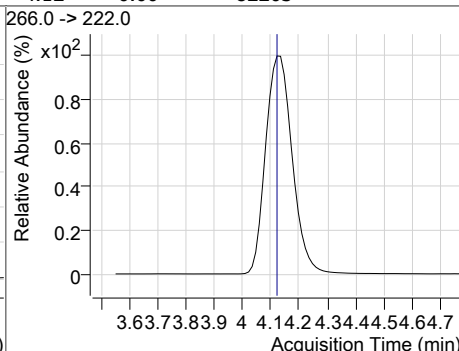
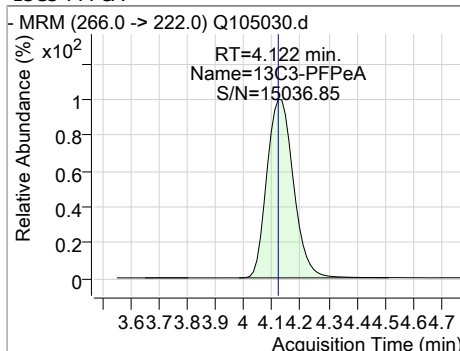
### Perfluorinated Compounds by LC/MS/MS



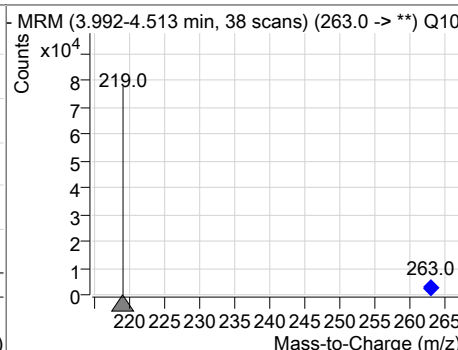
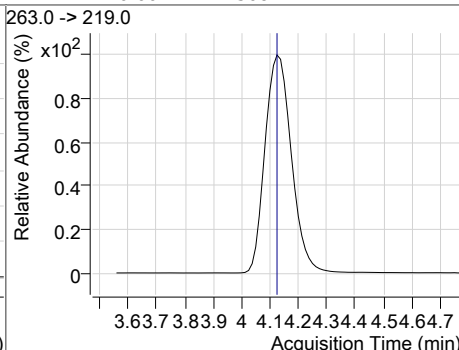
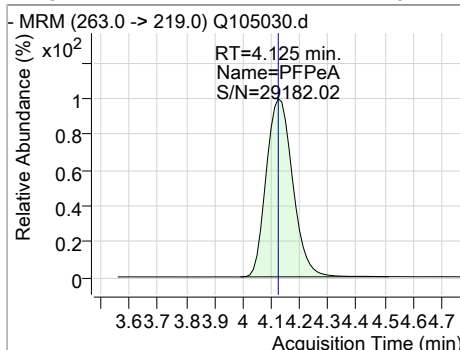
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.73	1.93	-0.01	57942				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.12	0.00	82203				

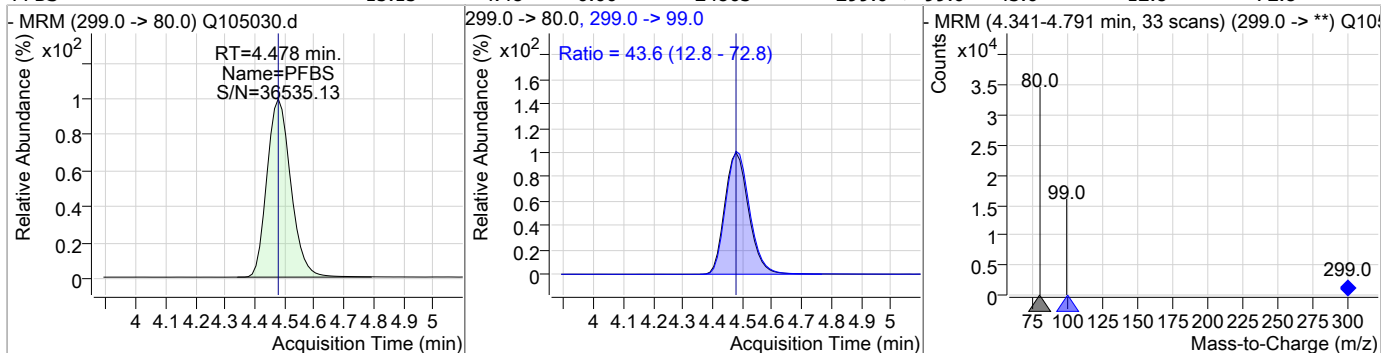


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	17.82	4.12	0.00	56814				

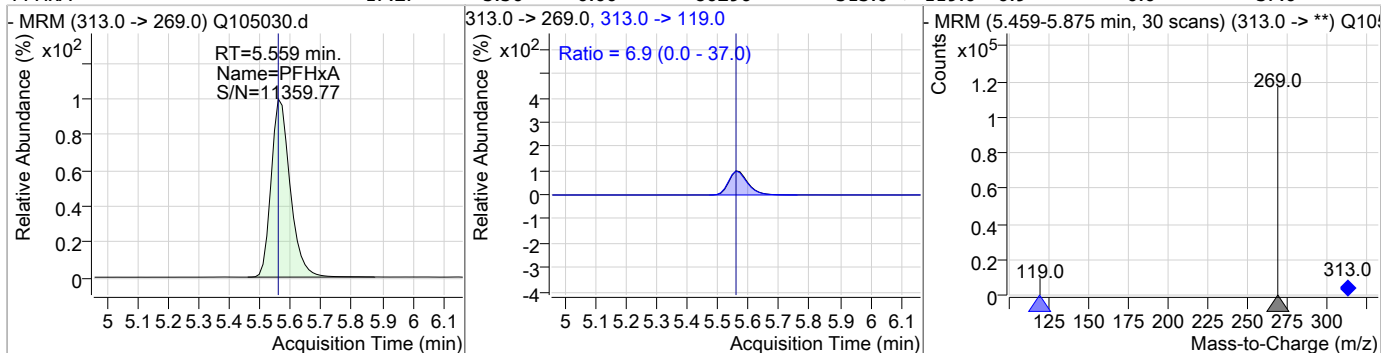


### Perfluorinated Compounds by LC/MS/MS

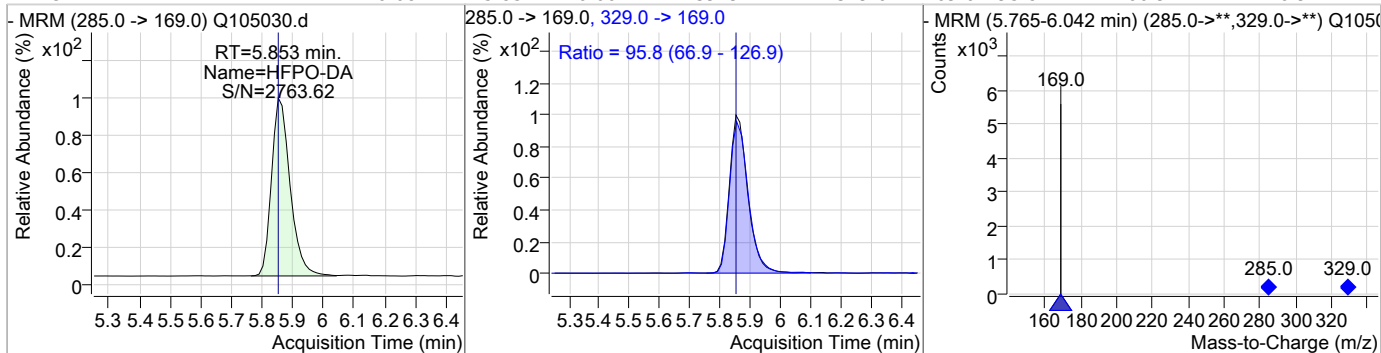
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	15.15	4.48	0.00	24863	299.0 -> 99.0	43.6	12.8	72.8



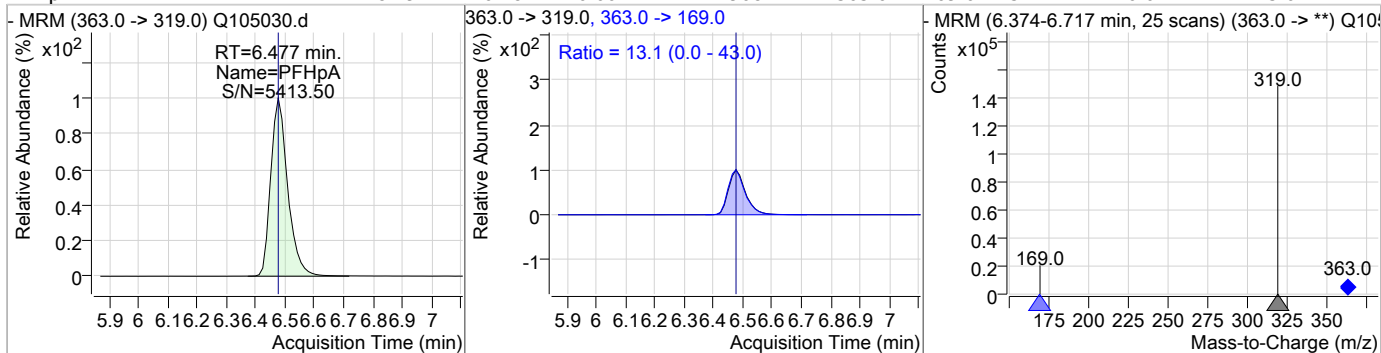
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	17.27	5.56	0.00	86296	313.0 -> 119.0	6.9	0.0	37.0



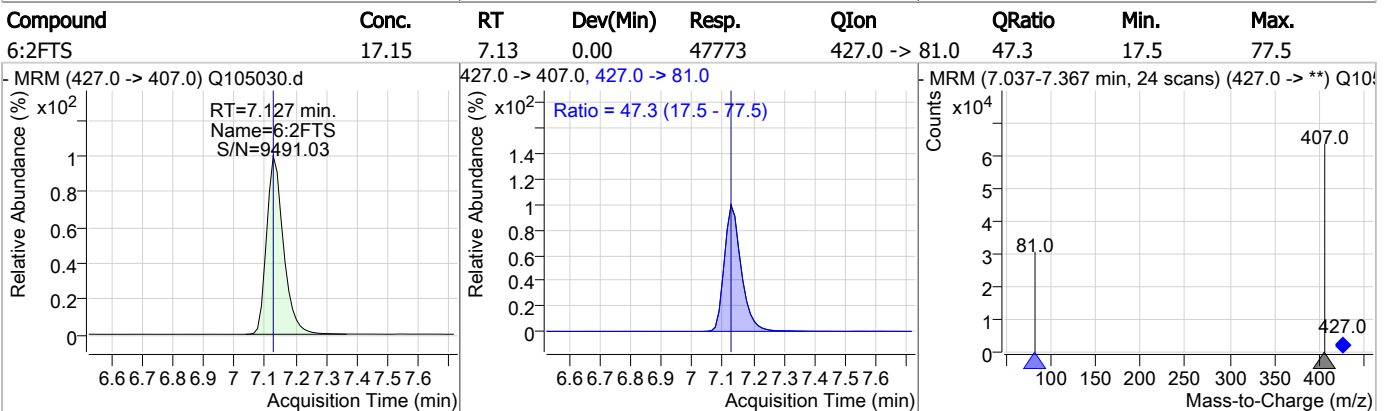
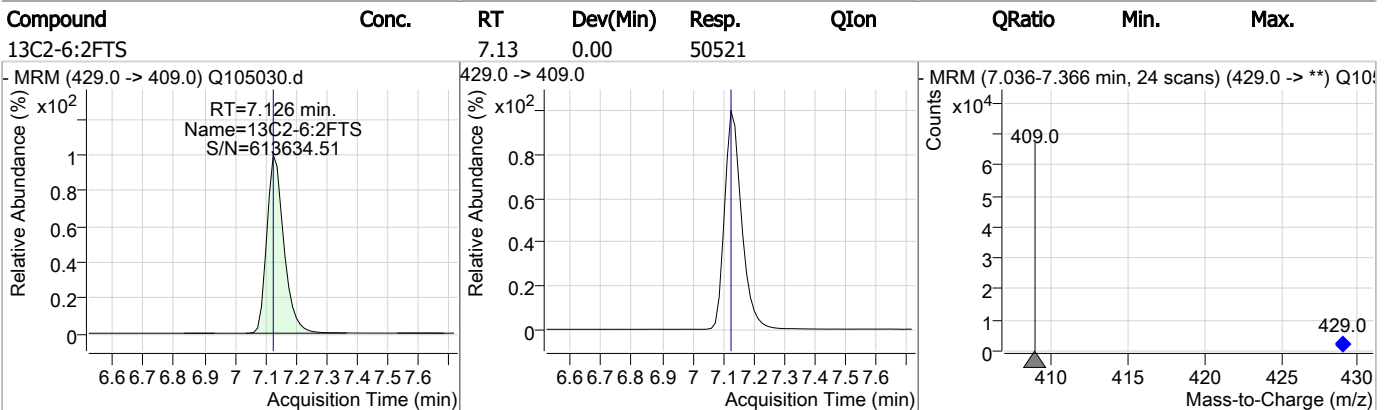
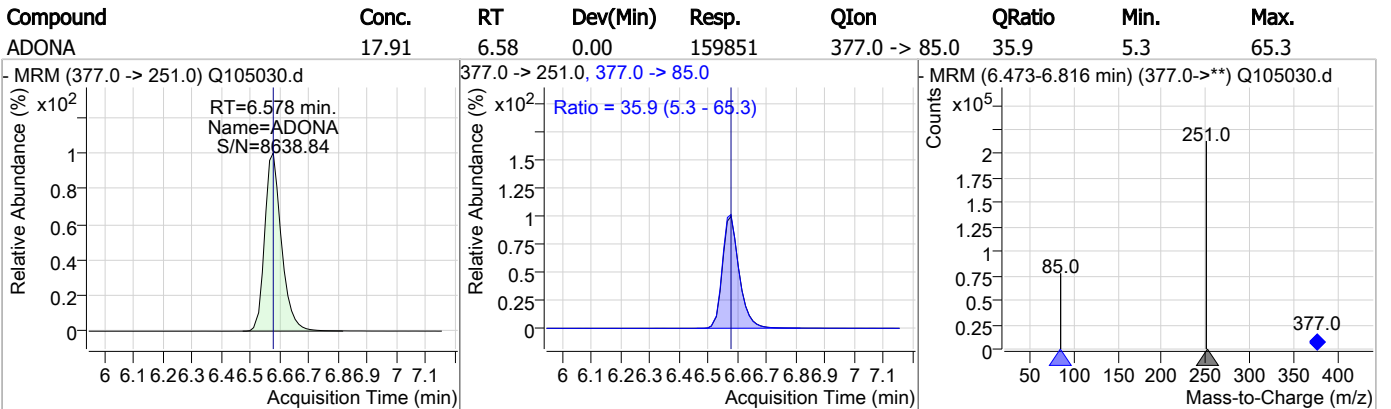
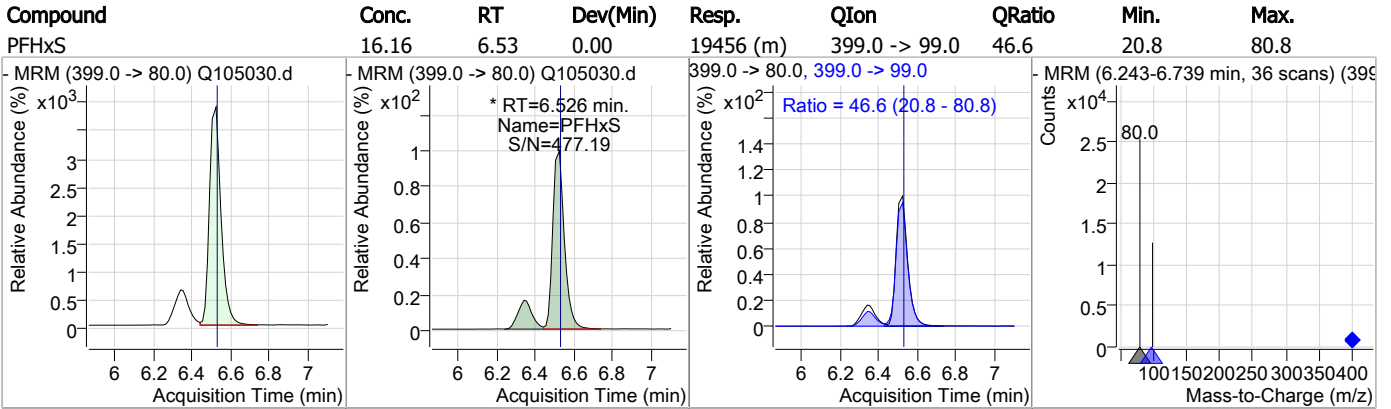
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.08	5.85	0.00	3919	329.0 -> 169.0	95.8	66.9	126.9



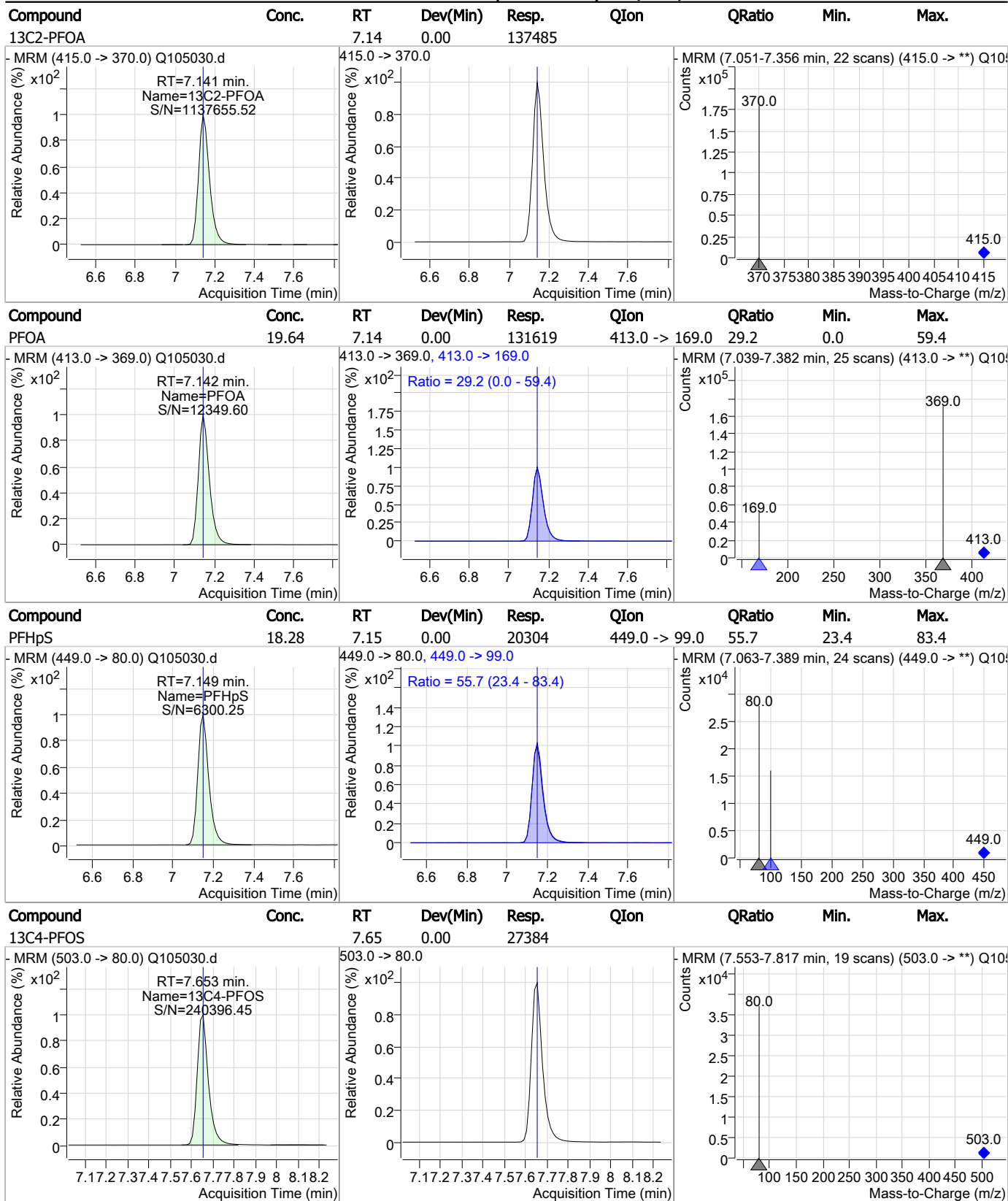
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.29	6.48	0.00	114908	363.0 -> 169.0	13.1	0.0	43.0



### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

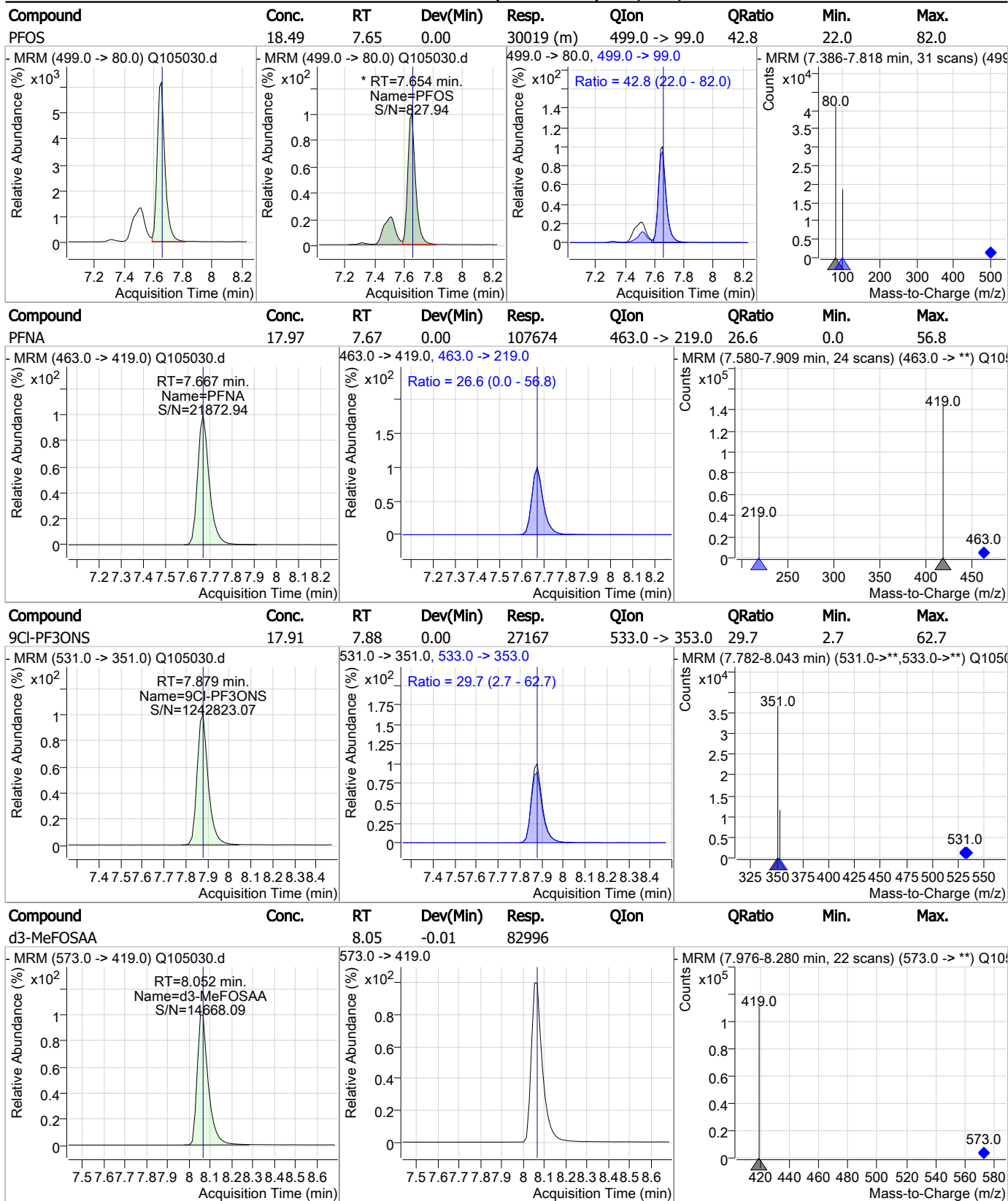


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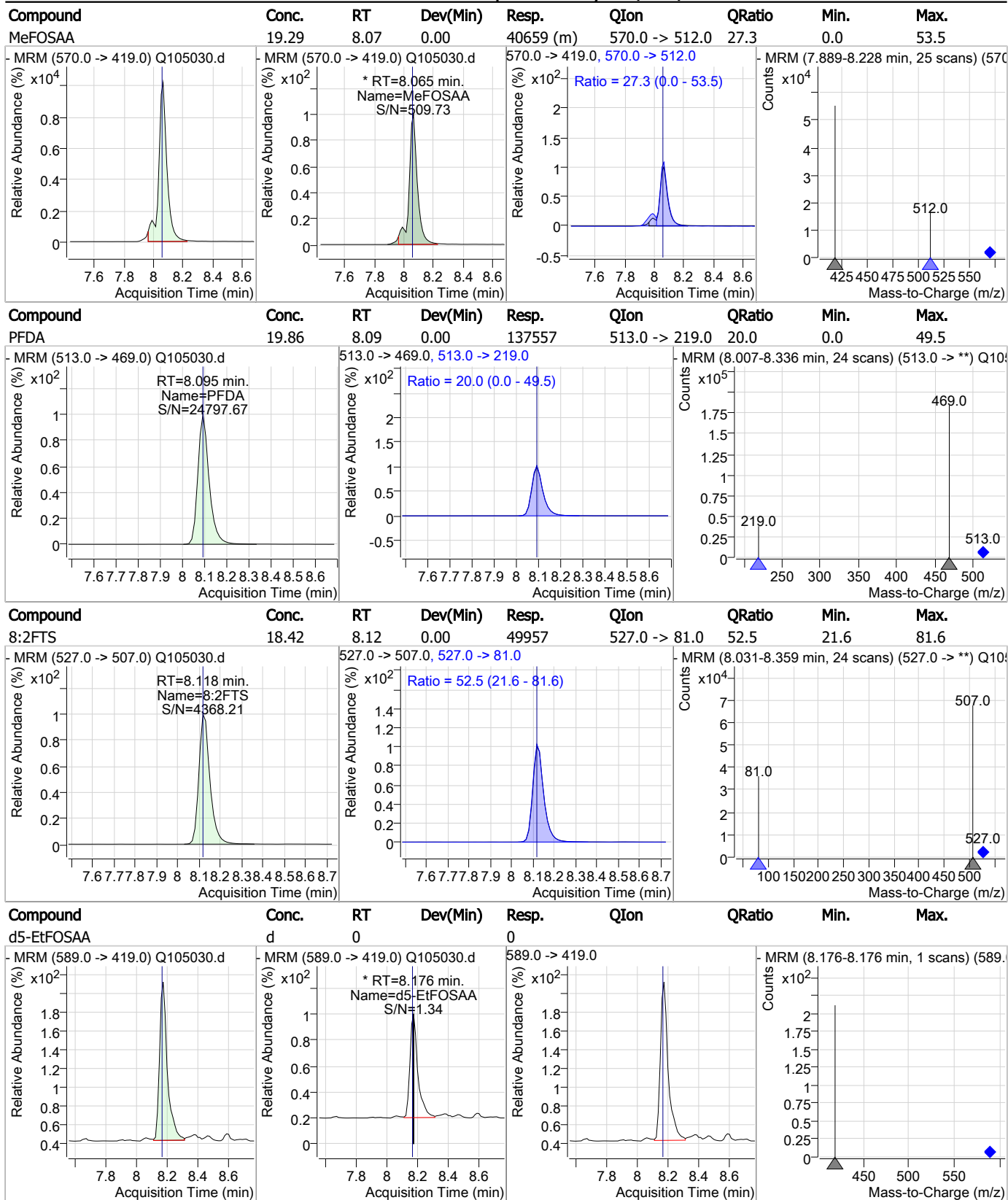


### Perfluorinated Compounds by LC/MS/MS



7.6.10  
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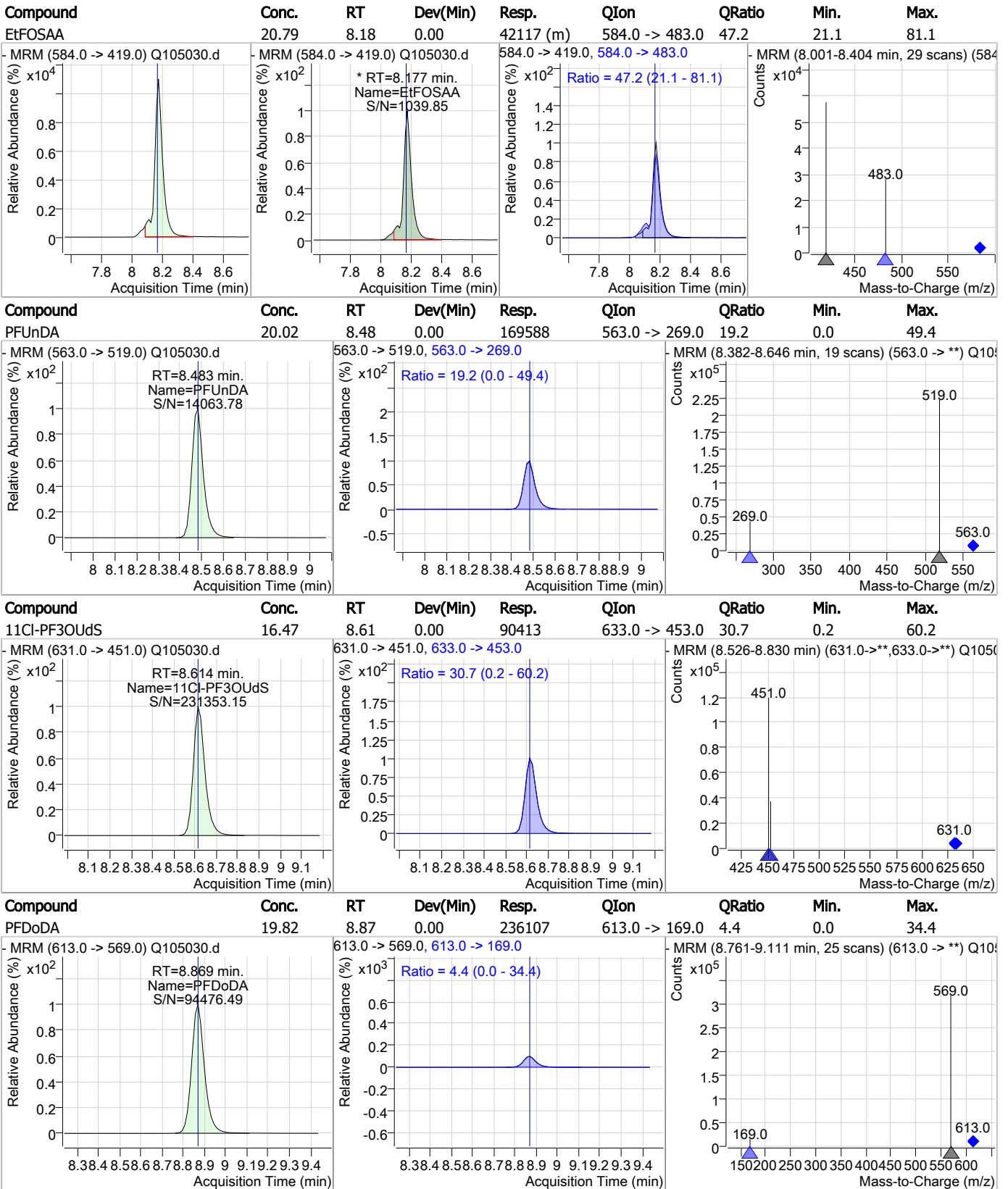
### Perfluorinated Compounds by LC/MS/MS



7.6-10  
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### Perfluorinated Compounds by LC/MS/MS

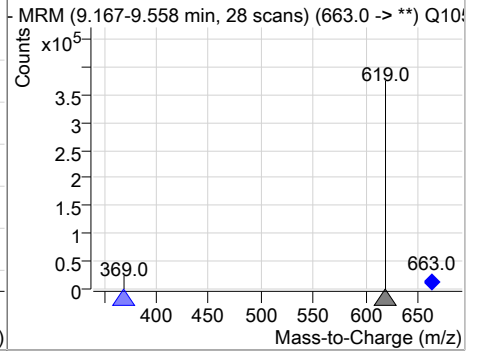
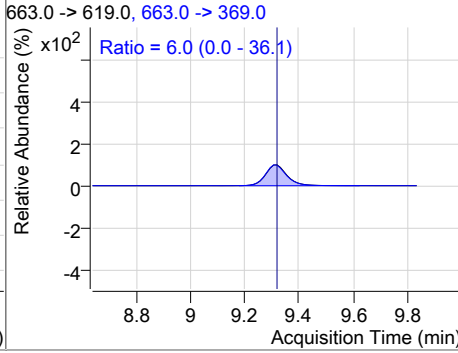
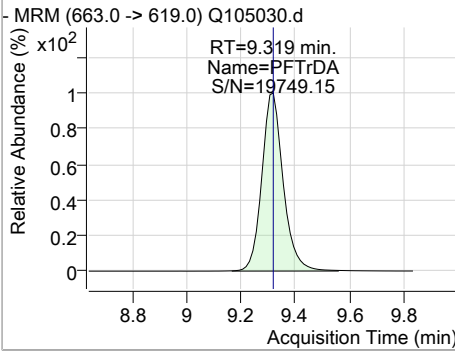


7.6.10 7

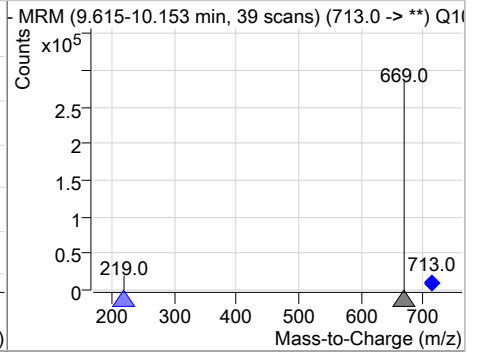
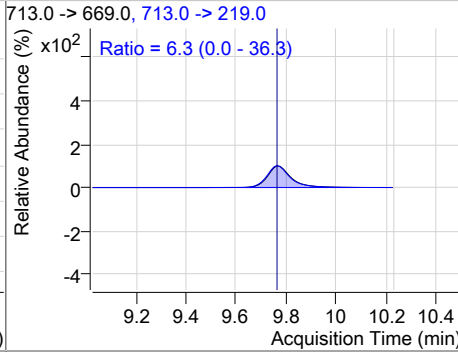
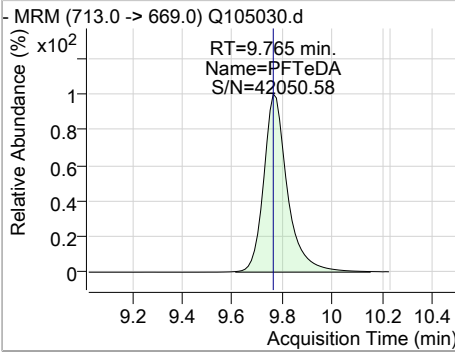


### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	20.13	9.32	0.00	279846	663.0 -> 369.0	6.0	0.0	36.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	17.26	9.76	0.00	211420	713.0 -> 219.0	6.3	0.0	36.3



7.6.10  
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# Manual Integration Approval Summary

Sample Number: SQ2238-ICV2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105030.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 16:37      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.53	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

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### Perfluorinated Compounds by LC/MS/MS

Data File : Q105031.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 4:53:26 PM  
 Sample Name : cc2238-20  
 Vial : P1-A7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

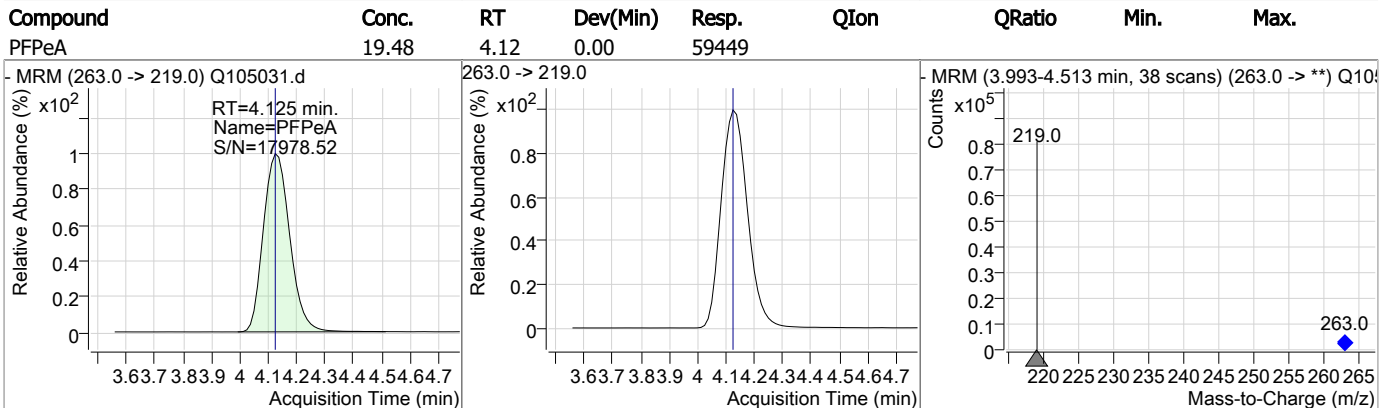
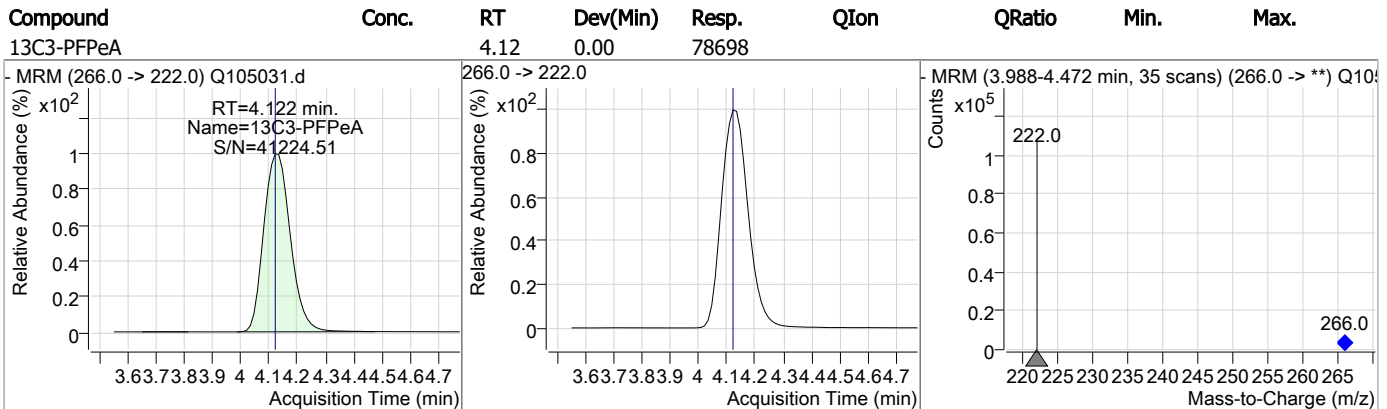
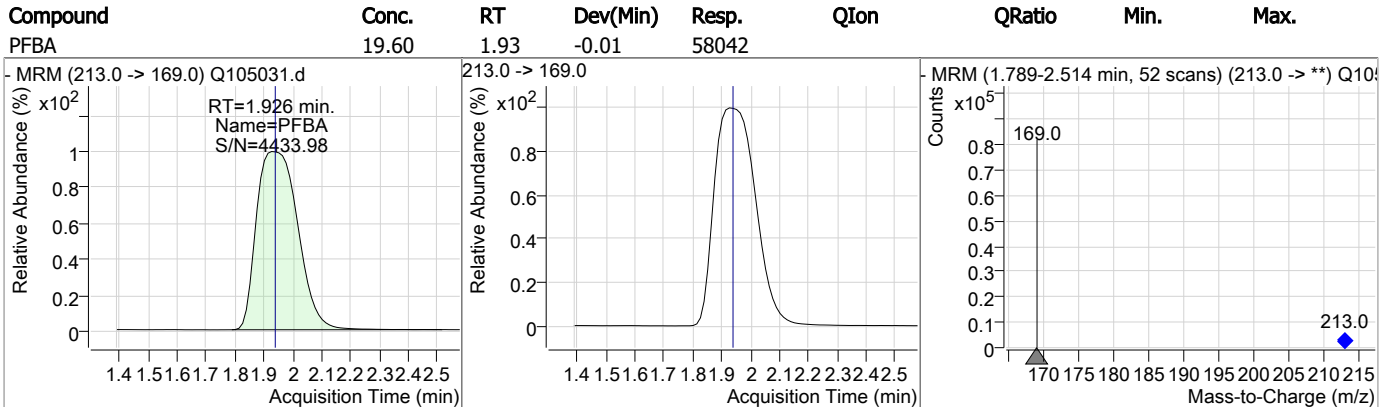
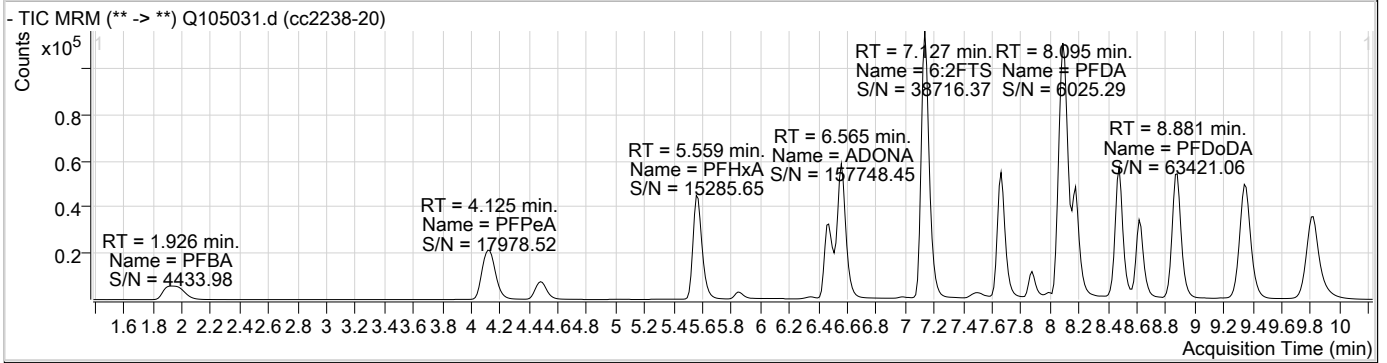
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	49374	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	131930	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	78698	20.00 µg/L	0.000
13C4-PFOS	7.653	503.0 -> 80.0	26753	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	78287	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	132043	20.56 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 102.8%	
13C2-PFHxA	5.557	315.0 -> 270.0	98934	20.23 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 101.2%	
d5-EtFOSAA	8.176	589.0 -> 419.0	86822	41.40 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 103.5%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	5752	38.90 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 97.3%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	54216	20.05 µg/L	QValue 97
8:2FTS	8.131	527.0 -> 507.0	52987	20.06 µg/L	100
EtFOSAA	8.177	584.0 -> 419.0	40484	21.17 µg/L	m 94
MeFOSAA	8.065	570.0 -> 419.0	40817	20.53 µg/L	m 90
PFBA	1.926	213.0 -> 169.0	58042	19.60 µg/L	100
PFBS	4.478	299.0 -> 80.0	29602	18.46 µg/L	100
PFDA	8.095	513.0 -> 469.0	137304	20.66 µg/L	99
PFDoDA	8.881	613.0 -> 569.0	230048	19.77 µg/L	100
PFHpA	6.464	363.0 -> 319.0	115617	19.18 µg/L	100
PFHpS	7.150	449.0 -> 80.0	21474	19.79 µg/L	99
PFHxA	5.559	313.0 -> 269.0	90056	18.78 µg/L	100
PFHxS	6.506	399.0 -> 80.0	22332	18.99 µg/L	m 94
PFNA	7.667	463.0 -> 419.0	114067	19.84 µg/L	100
PFOA	7.142	413.0 -> 369.0	126590	19.68 µg/L	99
PFOS	7.654	499.0 -> 80.0	31545	19.89 µg/L	m 85
PFPeA	4.125	263.0 -> 219.0	59449	19.48 µg/L	100
PFTeDA	9.815	713.0 -> 669.0	223398	18.67 µg/L	100
PFTrDA	9.344	663.0 -> 619.0	258472	19.03 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	165608	20.01 µg/L	99
ADONA	6.565	377.0 -> 251.0	159696	18.64 µg/L	99
9CI-PF3ONS	7.879	531.0 -> 351.0	29537	20.24 µg/L	98
11CI-PF3OUdS	8.614	631.0 -> 451.0	95180	18.07 µg/L	98
HFPO-DA	5.853	285.0 -> 169.0	3643	19.45 µg/L	100

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

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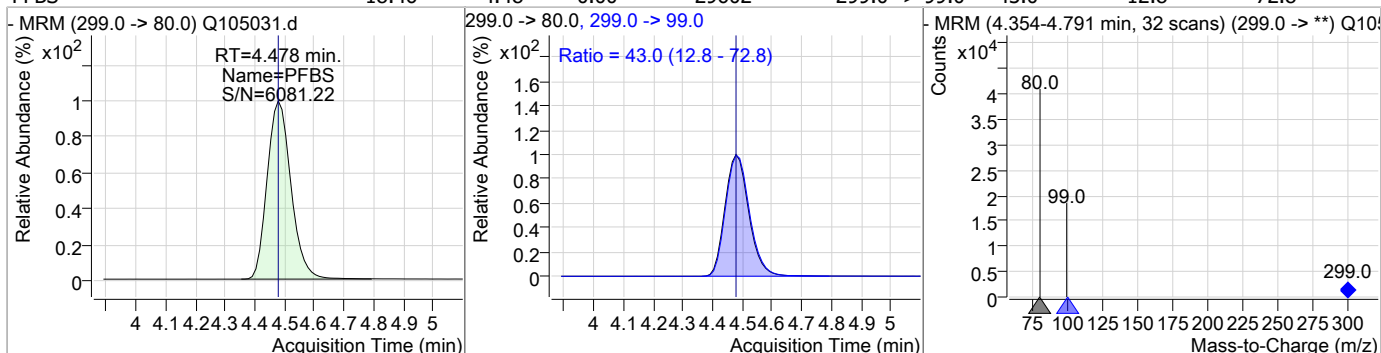


### Perfluorinated Compounds by LC/MS/MS

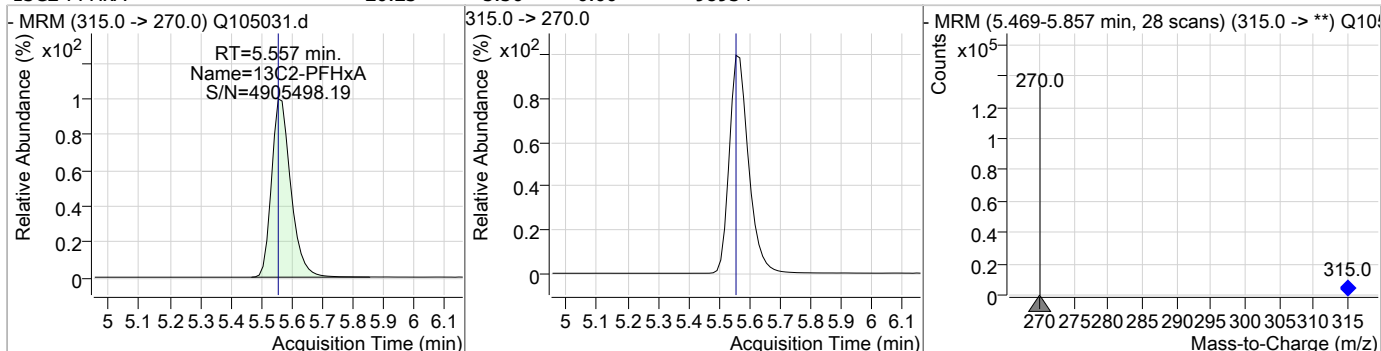


### Perfluorinated Compounds by LC/MS/MS

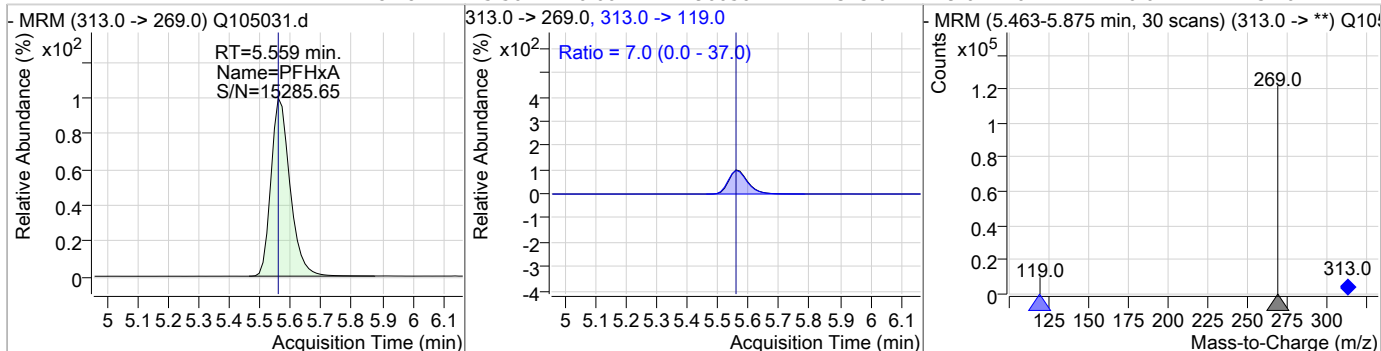
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.46	4.48	0.00	29602	299.0 -> 99.0	43.0	12.8	72.8



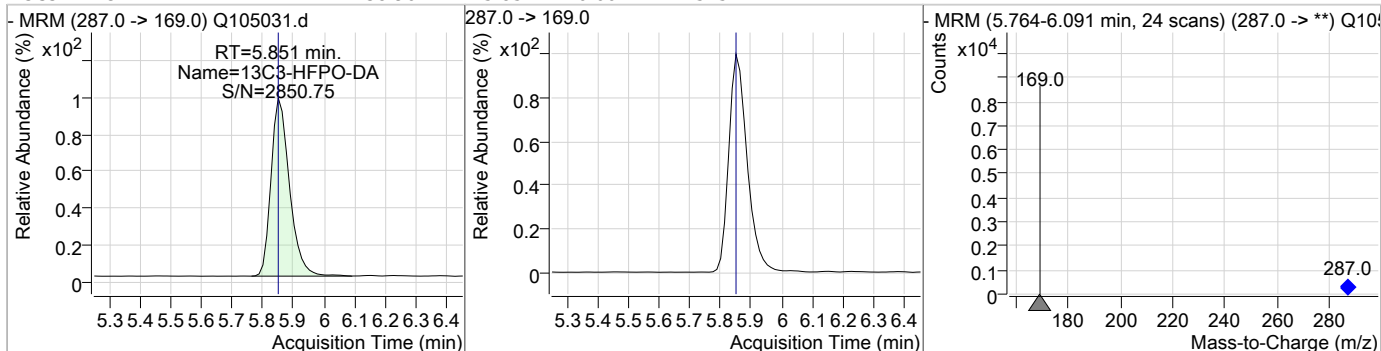
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	20.23	5.56	0.00	98934				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	18.78	5.56	0.00	90056	313.0 -> 119.0	7.0	0.0	37.0



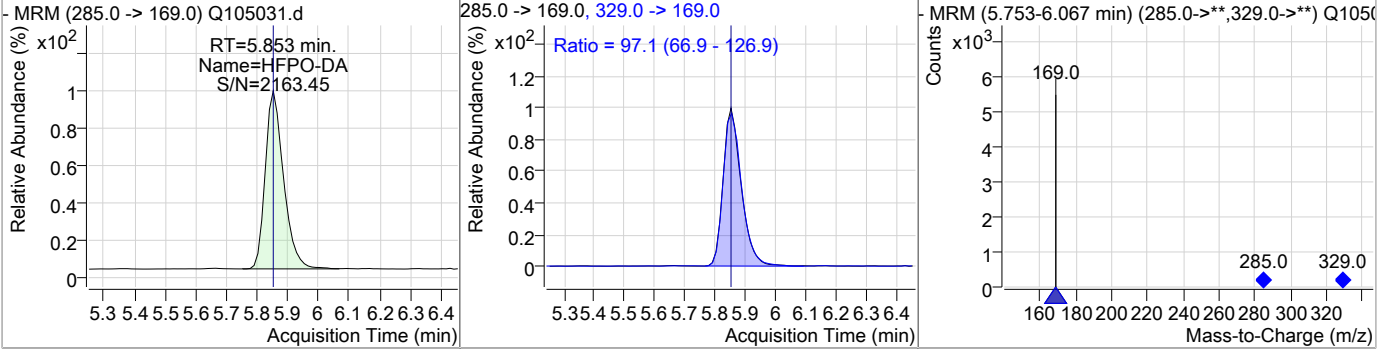
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	38.90	5.85	0.00	5752				



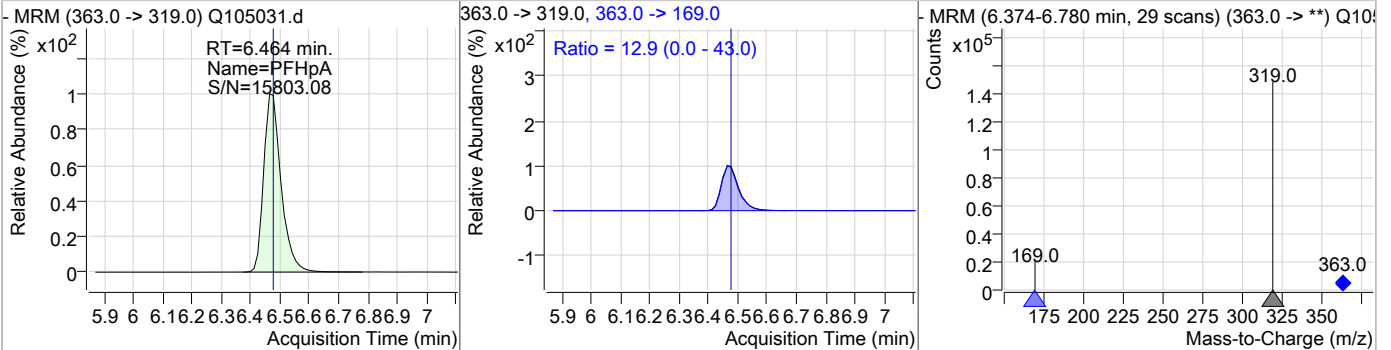


### Perfluorinated Compounds by LC/MS/MS

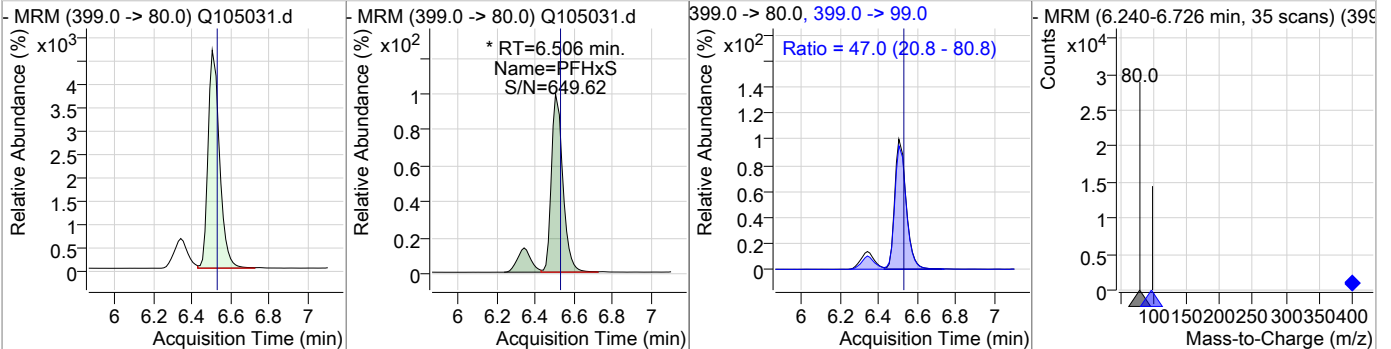
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.45	5.85	0.00	3643	329.0 -> 169.0	97.1	66.9	126.9



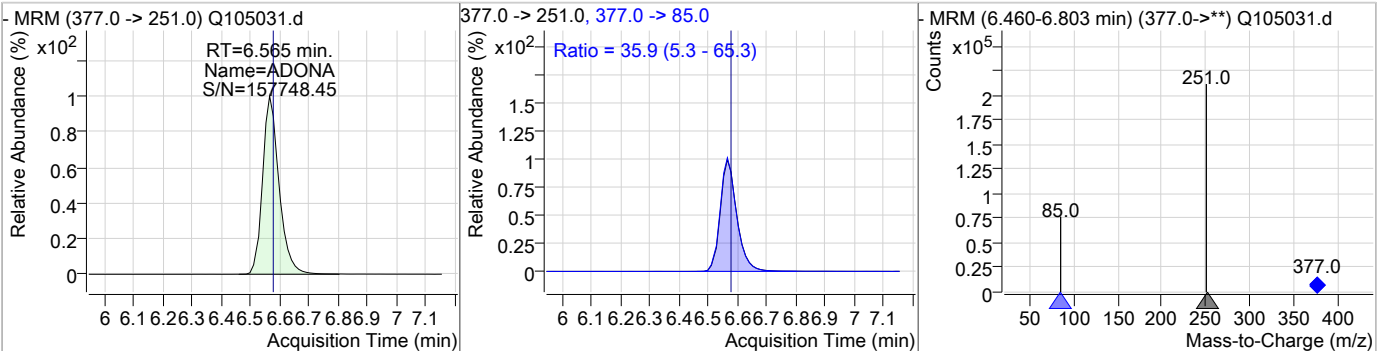
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.18	6.46	-0.01	115617	363.0 -> 169.0	12.9	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	18.99	6.51	-0.02	22332 (m)	399.0 -> 99.0	47.0	20.8	80.8

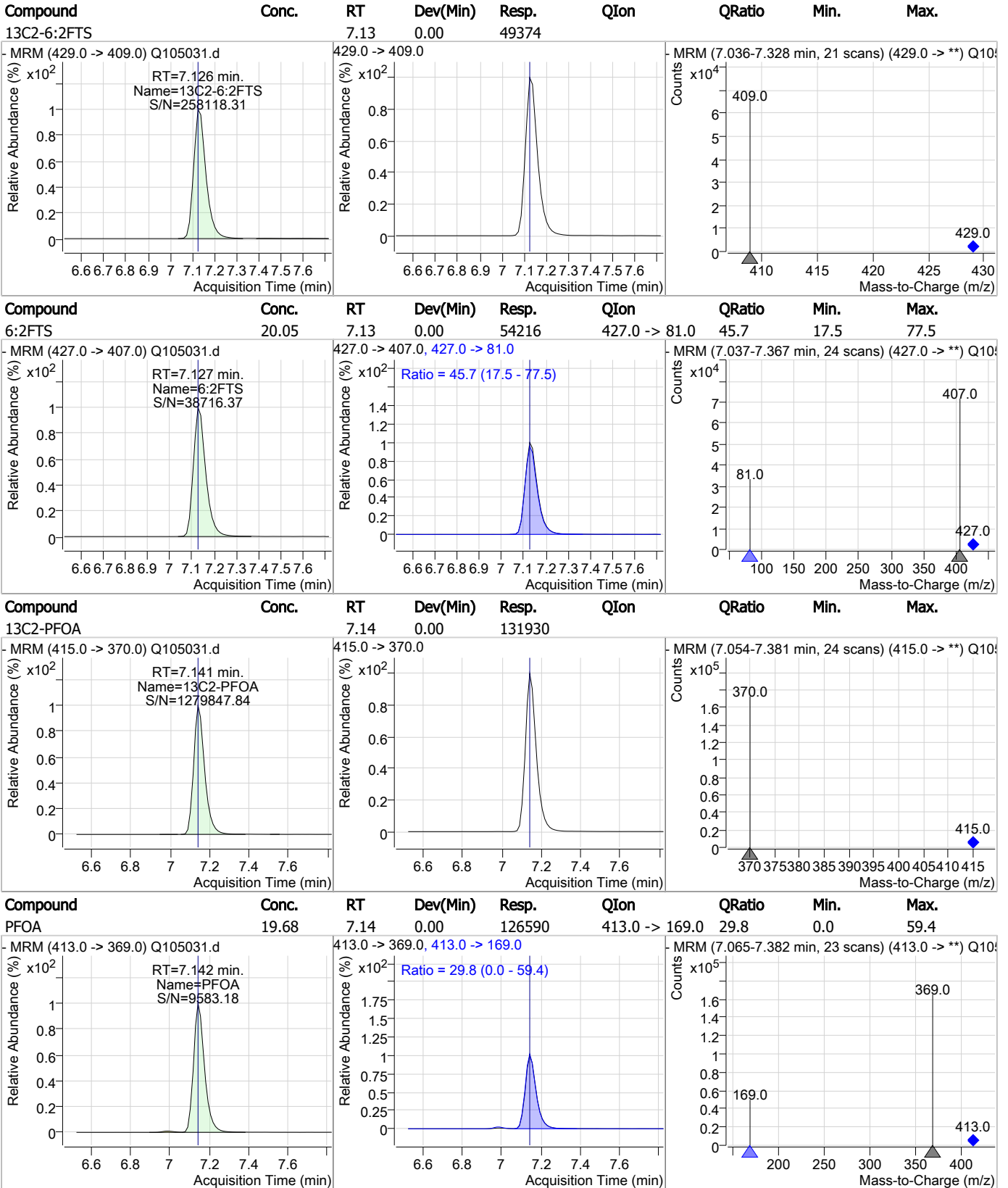


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.64	6.57	-0.01	159696	377.0 -> 85.0	35.9	5.3	65.3



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### Perfluorinated Compounds by LC/MS/MS

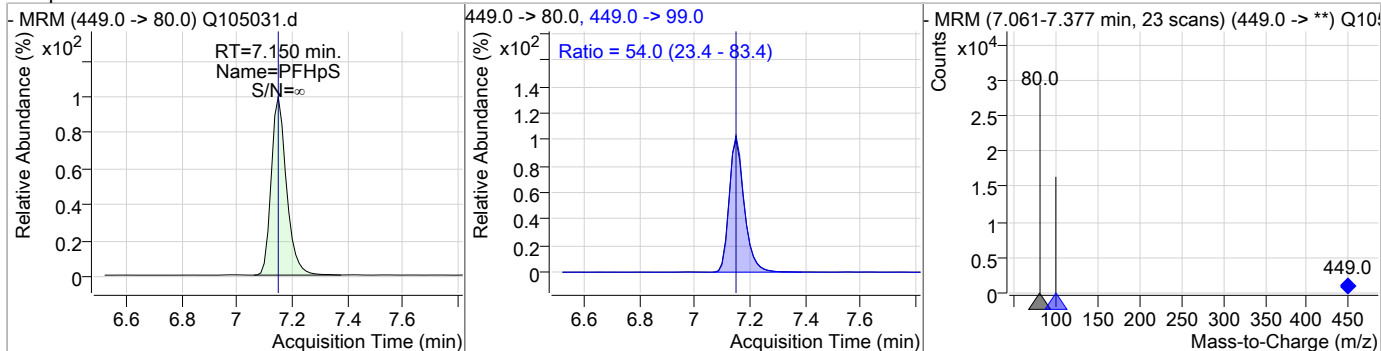


7.6.11

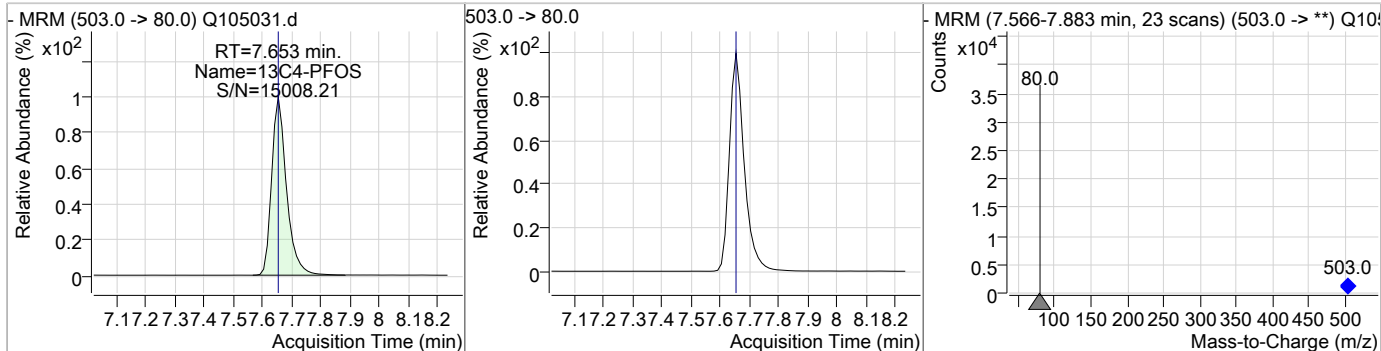
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### Perfluorinated Compounds by LC/MS/MS

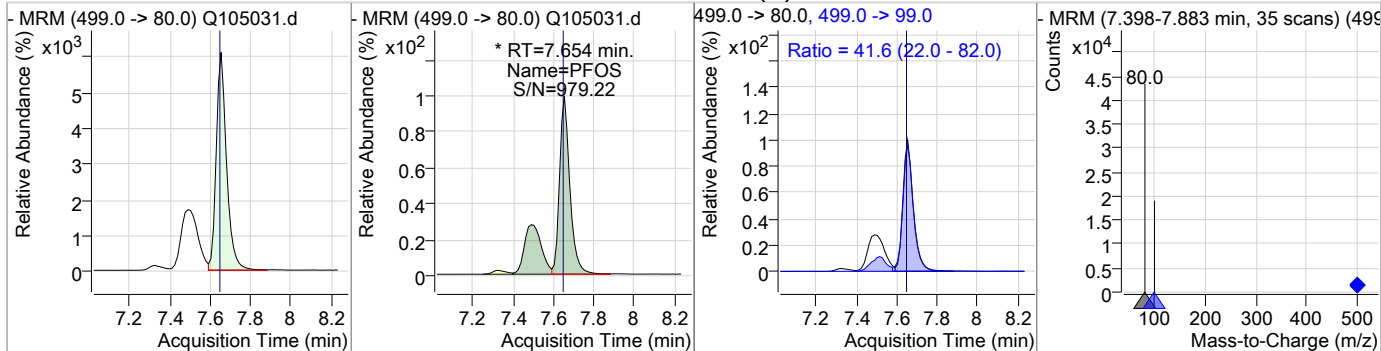
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	19.79	7.15	0.00	21474	449.0 -> 99.0	54.0	23.4	83.4



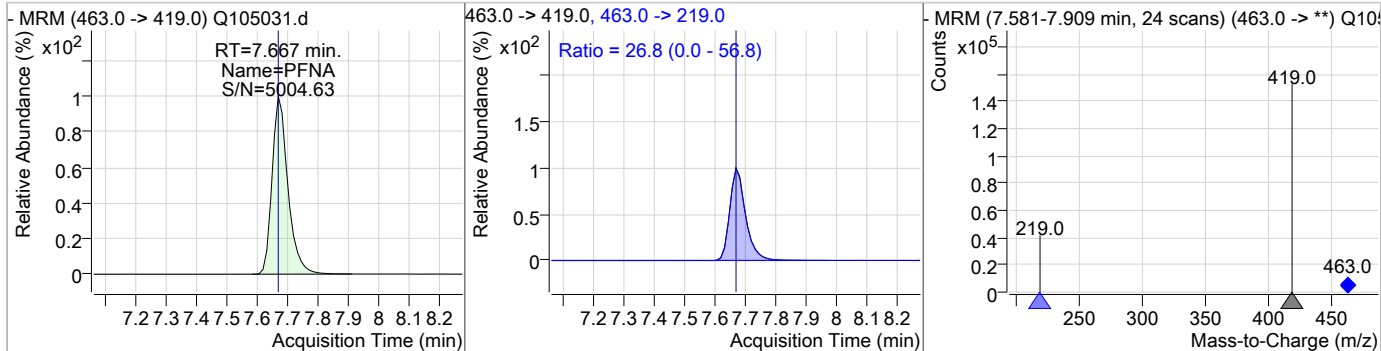
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	26753				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.89	7.65	0.00	31545 (m)	499.0 -> 99.0	41.6	22.0	82.0

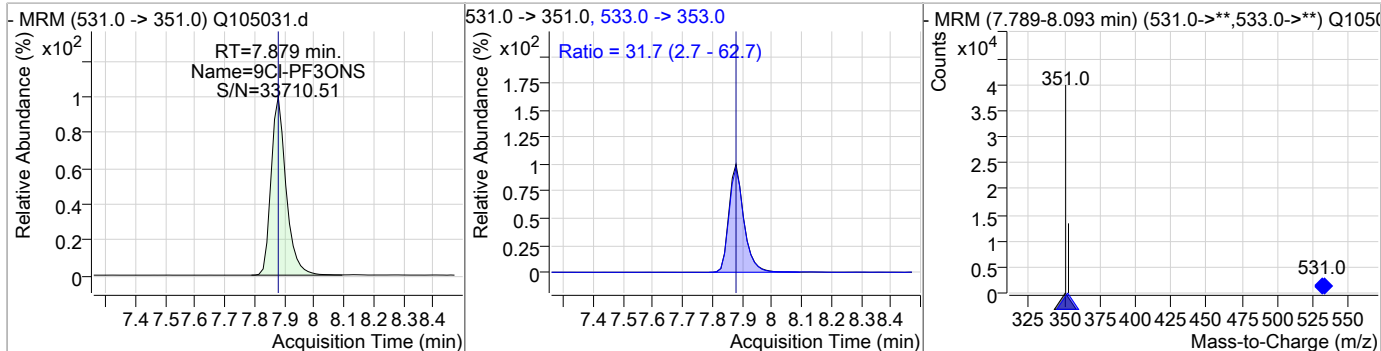


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.84	7.67	0.00	114067	463.0 -> 219.0	26.8	0.0	56.8

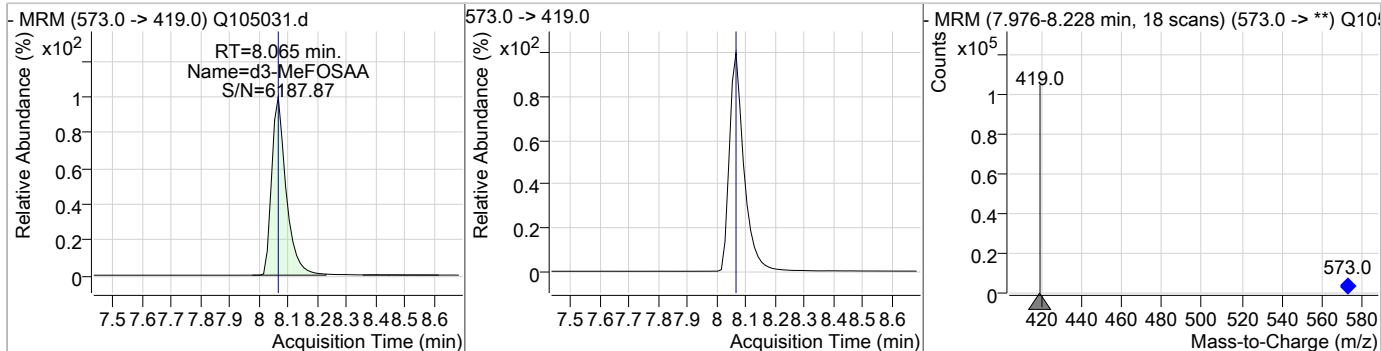


### Perfluorinated Compounds by LC/MS/MS

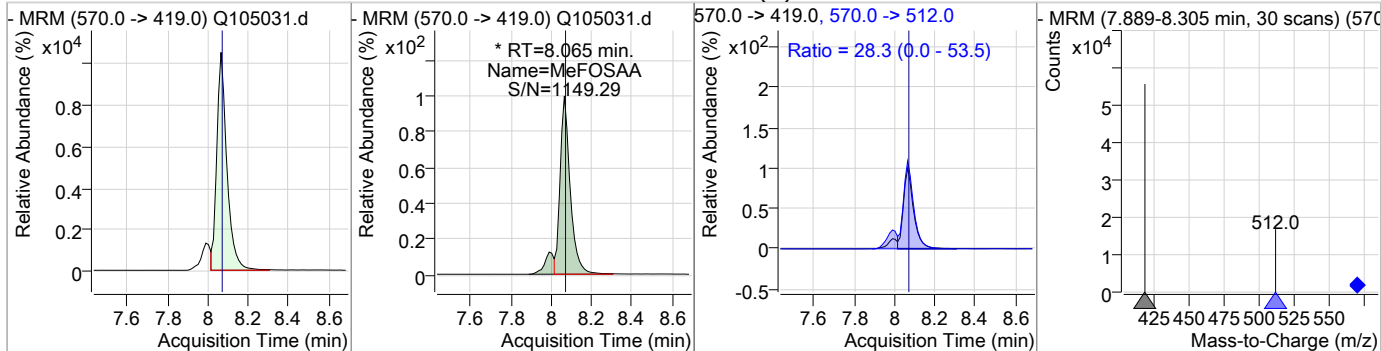
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	20.24	7.88	0.00	29537	533.0 -> 353.0	31.7	2.7	62.7



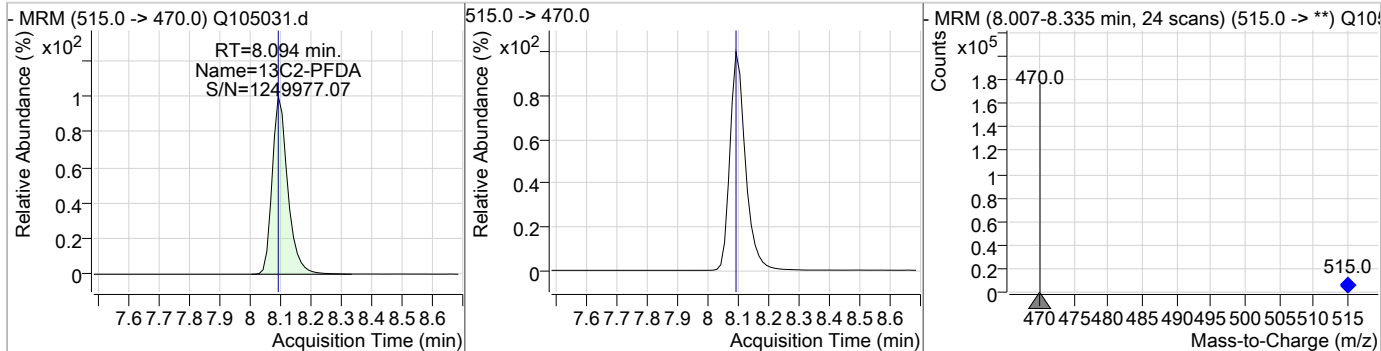
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	78287				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.53	8.07	0.00	40817 (m)	570.0 -> 512.0	28.3	0.0	53.5

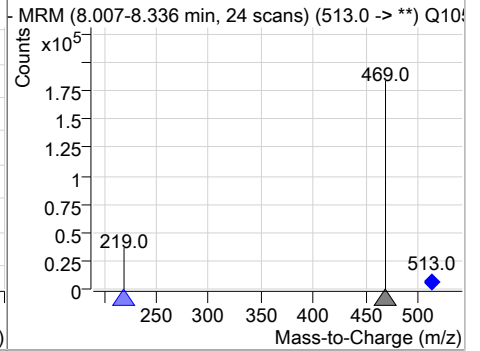
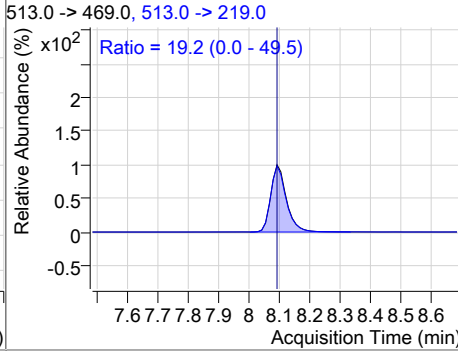
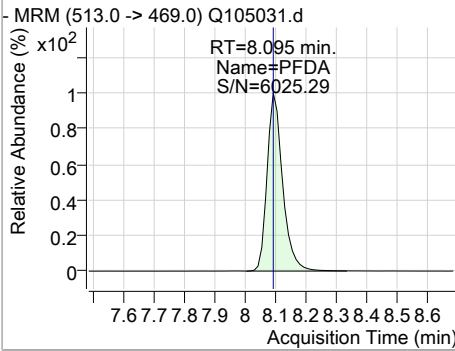


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	20.56	8.09	0.00	132043				

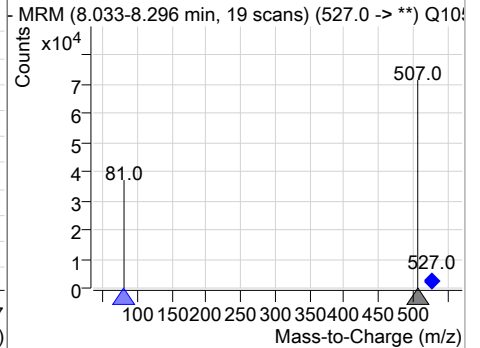
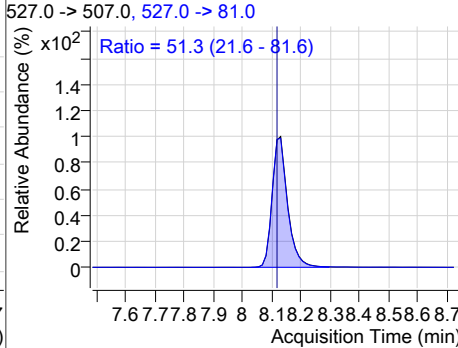
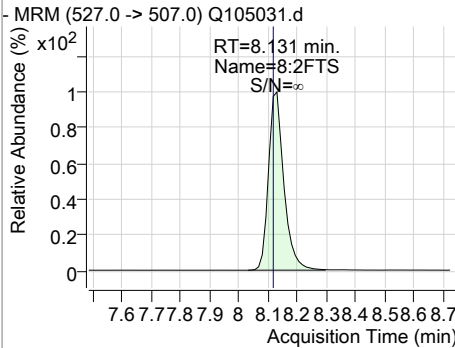


### Perfluorinated Compounds by LC/MS/MS

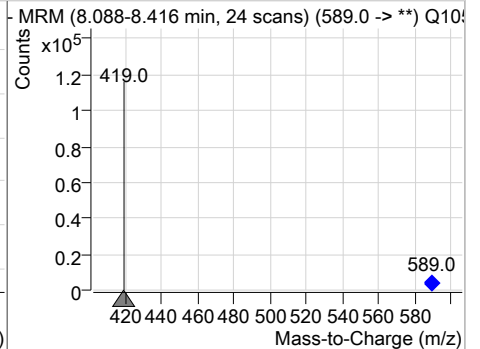
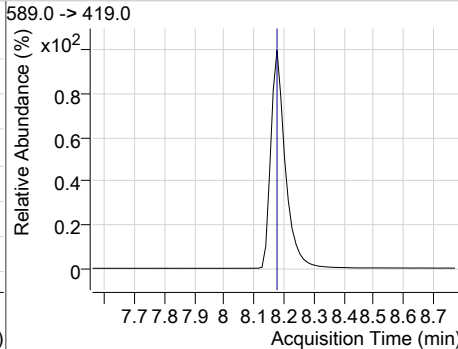
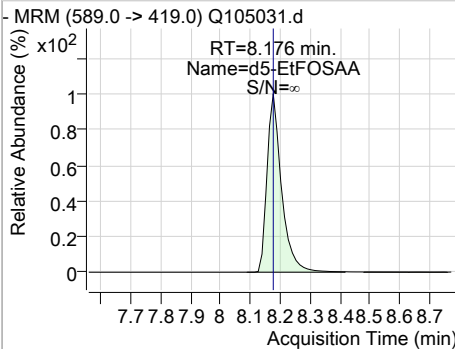
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	20.66	8.09	0.00	137304	513.0 -> 219.0	19.2	0.0	49.5



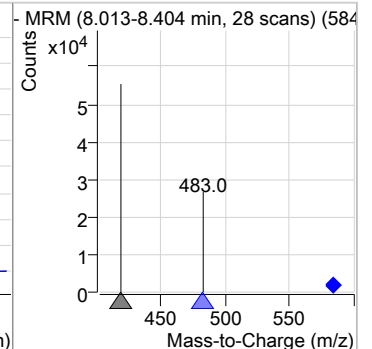
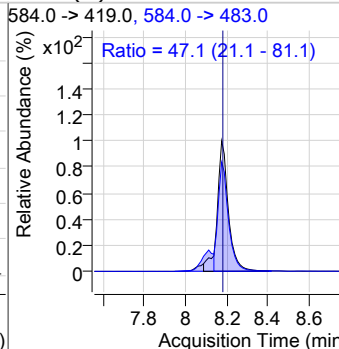
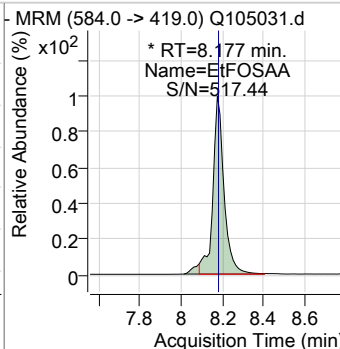
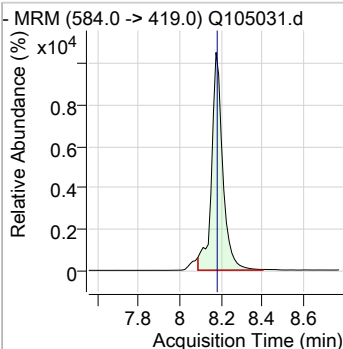
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.06	8.13	0.01	52987	527.0 -> 81.0	51.3	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	41.40	8.18	0.00	86822	589.0 -> 419.0	47.1	21.1	81.1

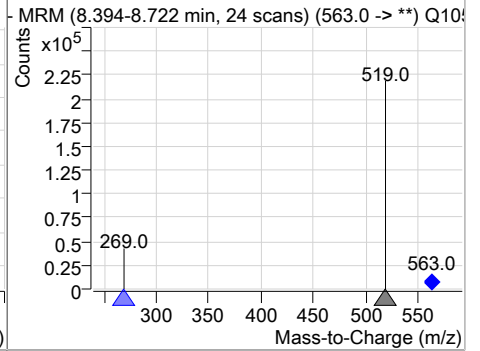
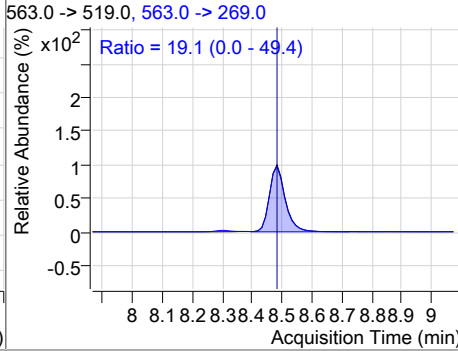
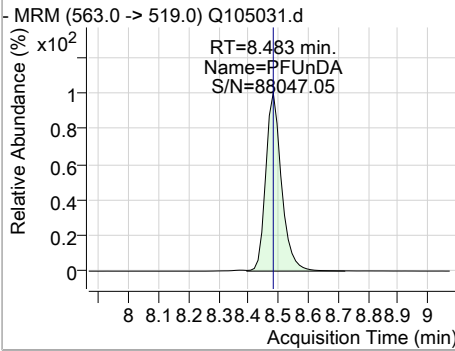


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	21.17	8.18	0.00	40484 (m)	584.0 -> 483.0	47.1	21.1	81.1

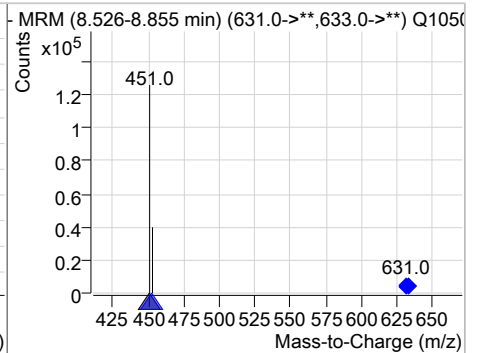
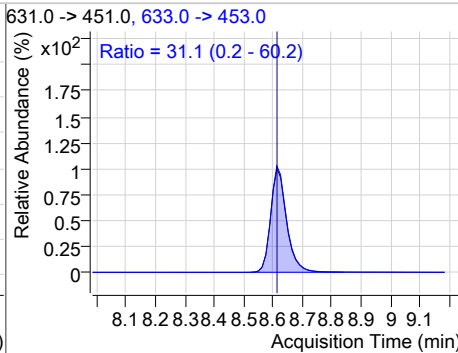
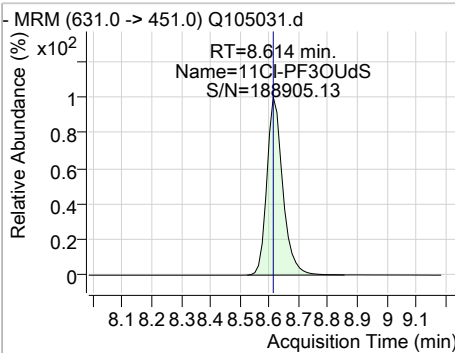


### Perfluorinated Compounds by LC/MS/MS

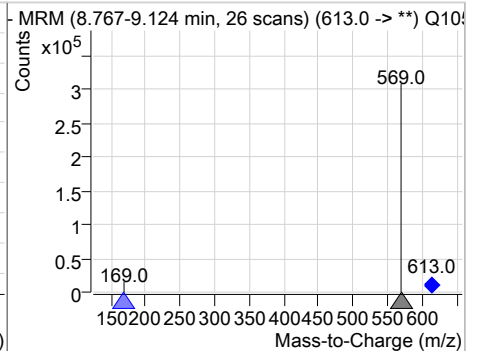
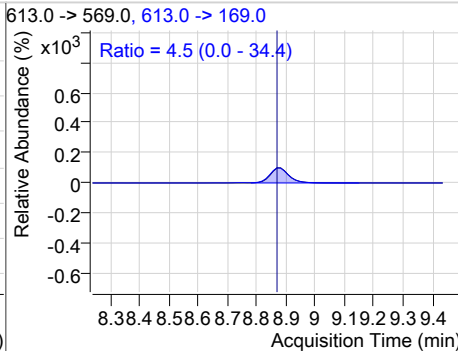
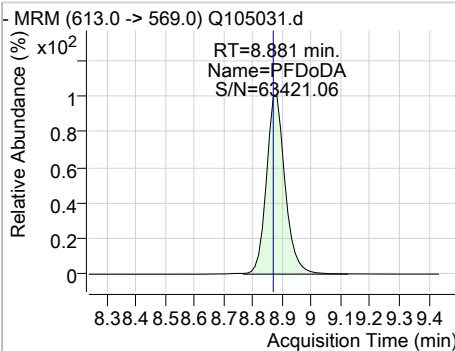
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	20.01	8.48	0.00	165608	563.0 -> 269.0	19.1	0.0	49.4



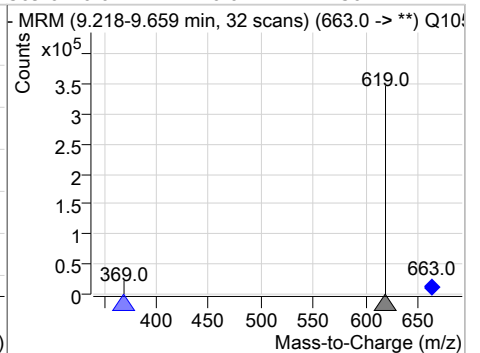
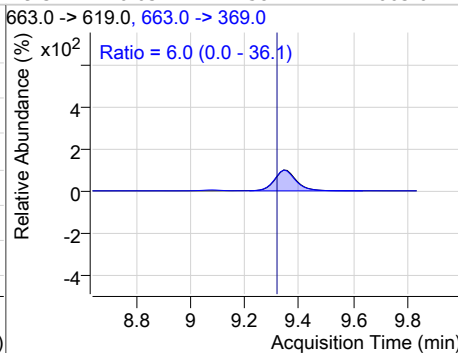
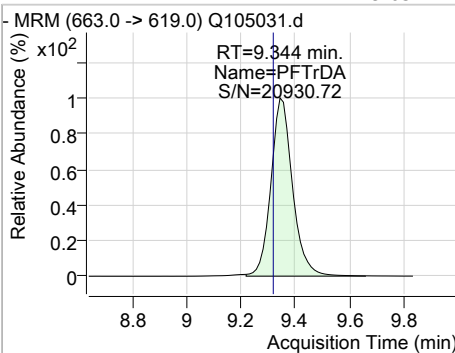
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.07	8.61	0.00	95180	633.0 -> 453.0	31.1	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	19.77	8.88	0.01	230048	613.0 -> 169.0	4.5	0.0	34.4



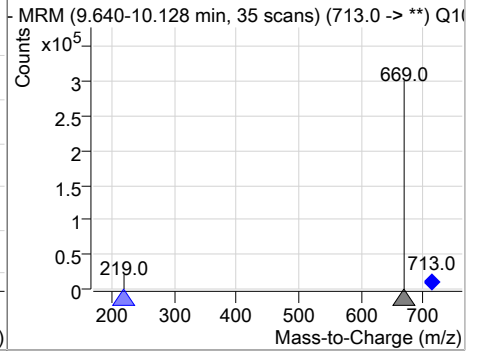
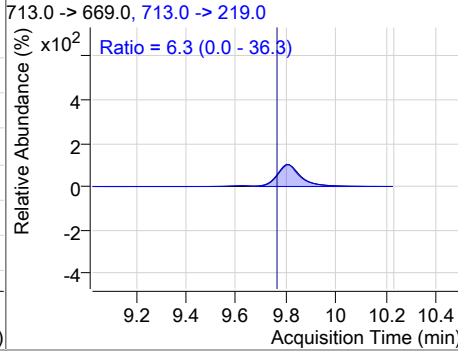
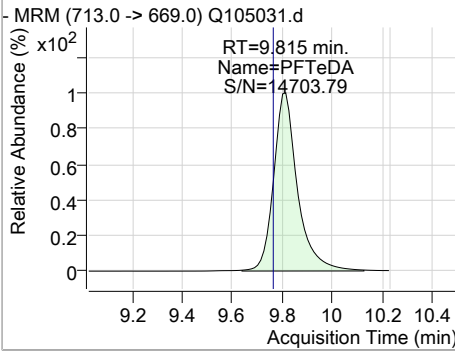
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	19.03	9.34	0.03	258472	663.0 -> 369.0	6.0	0.0	36.1



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### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.67	9.81	0.05	223398	713.0 -> 219.0	6.3	0.0	36.3



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# Manual Integration Approval Summary

Sample Number: SQ2238-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105031.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 16:53      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

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## Perfluorinated Compounds by LC/MS/MS

Data File : Q105032.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 5:09:13 PM  
 Sample Name : cc2238-0.5  
 Vial : P1-A2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

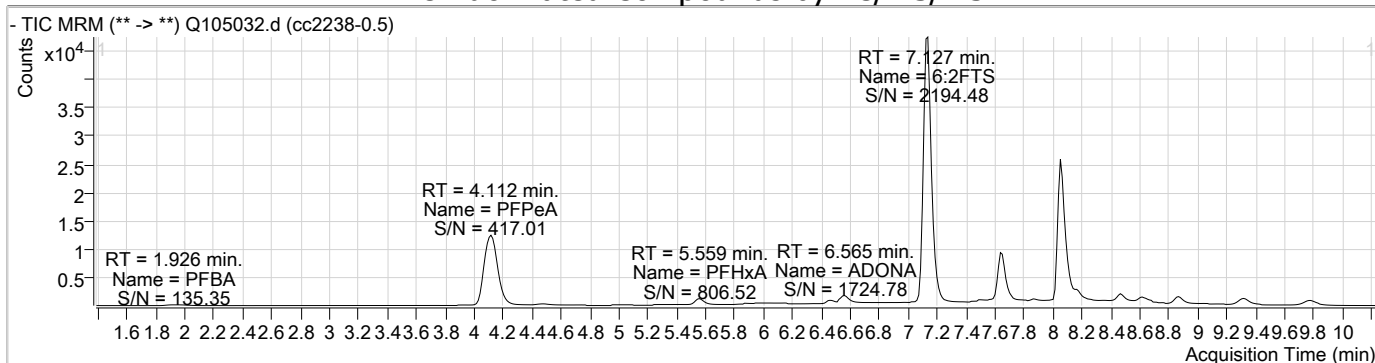
Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	48312	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	133950	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	78846	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	27060	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	81891	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	3226	0.49 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.5%	
13C2-PFHxA	5.557	315.0 -> 270.0	2309	0.48 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.4%	
d5-EtFOSAA	8.163	589.0 -> 419.0	2684	1.26 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 3.2%	
13C3-HFPO-DA	5.851	287.0 -> 169.0	154	1.02 µg/L	m 0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 2.6%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	1278	0.46 µg/L	QValue 95
8:2FTS	8.118	527.0 -> 507.0	1364	0.51 µg/L	96
EtFOSAA	8.177	584.0 -> 419.0	1220	0.63 µg/L	94
MeFOSAA	8.053	570.0 -> 419.0	1250	0.60 µg/L	85
PFBA	1.926	213.0 -> 169.0	1270	0.43 µg/L	100
PFBS	4.478	299.0 -> 80.0	694	0.43 µg/L	99
PFDA	8.095	513.0 -> 469.0	2884	0.43 µg/L	96
PFDoDA	8.869	613.0 -> 569.0	5093	0.43 µg/L	99
PFHpA	6.464	363.0 -> 319.0	2840	0.46 µg/L	99
PFHpS	7.137	449.0 -> 80.0	466	0.42 µg/L	95
PFHxA	5.559	313.0 -> 269.0	1987	0.41 µg/L	97
PFHxS	6.506	399.0 -> 80.0	504	0.42 µg/L	m 91
PFNA	7.655	463.0 -> 419.0	2581	0.44 µg/L	98
PFOA	7.142	413.0 -> 369.0	2735	0.42 µg/L	99
PFOS	7.641	499.0 -> 80.0	698	0.44 µg/L	m 80
PFPeA	4.112	263.0 -> 219.0	1359	0.44 µg/L	100
PFTeDA	9.777	713.0 -> 669.0	5136	0.42 µg/L	98
PFTTrDA	9.319	663.0 -> 619.0	5525	0.40 µg/L	99
PFUnDA	8.470	563.0 -> 519.0	3548	0.42 µg/L	95
ADONA	6.565	377.0 -> 251.0	3502	0.40 µg/L	98
9CI-PF3ONS	7.867	531.0 -> 351.0	763	0.53 µg/L	88
11CI-PF3OUdS	8.614	631.0 -> 451.0	2197	0.41 µg/L	99
HFPO-DA	5.840	285.0 -> 169.0	93	0.49 µg/L	86

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

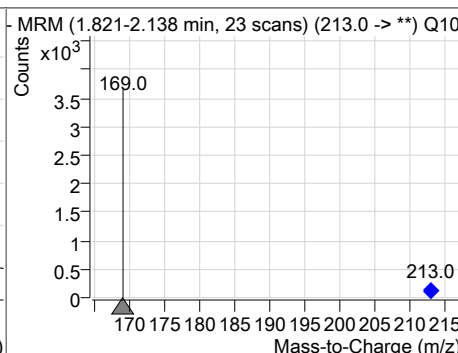
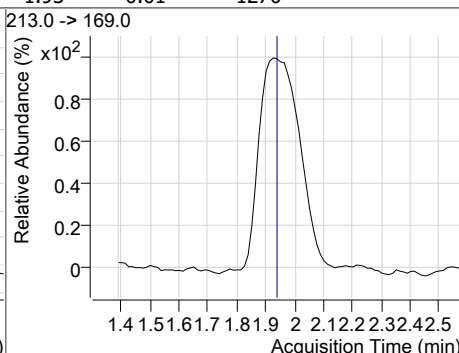
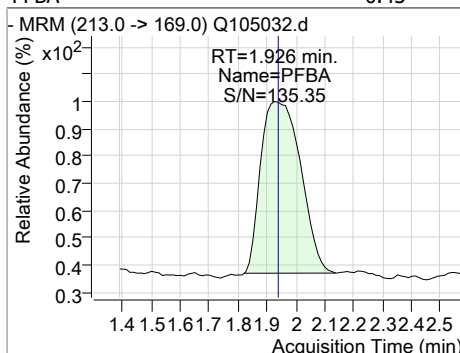
7.6.12  
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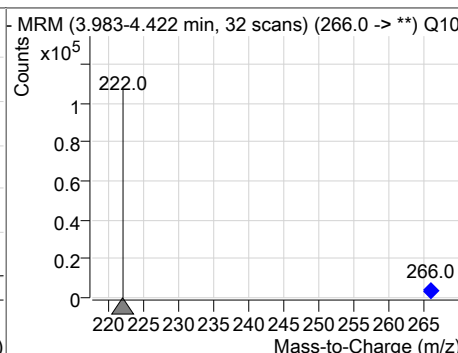
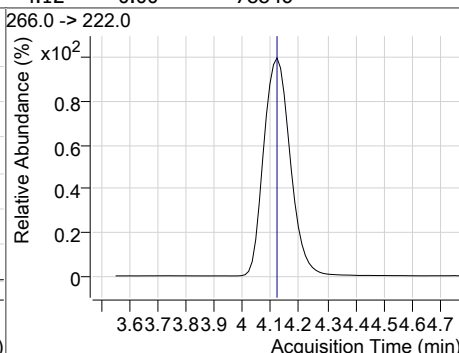
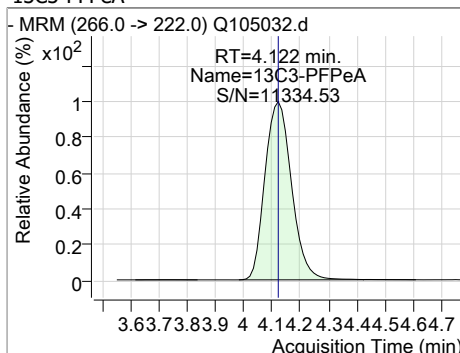
### Perfluorinated Compounds by LC/MS/MS



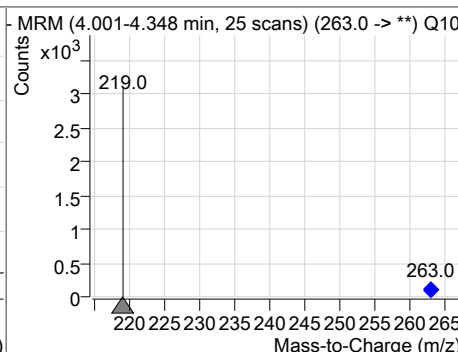
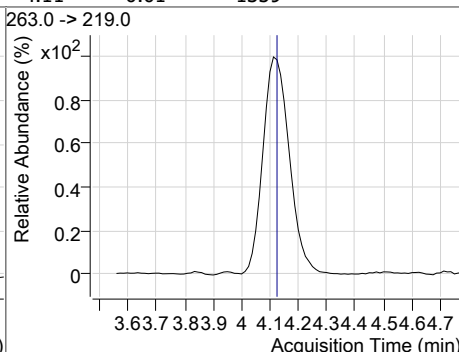
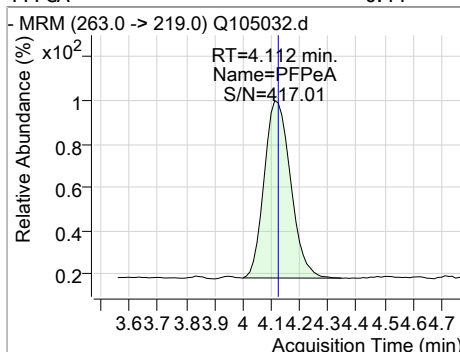
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.43	1.93	-0.01	1270				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.12	0.00	78846				

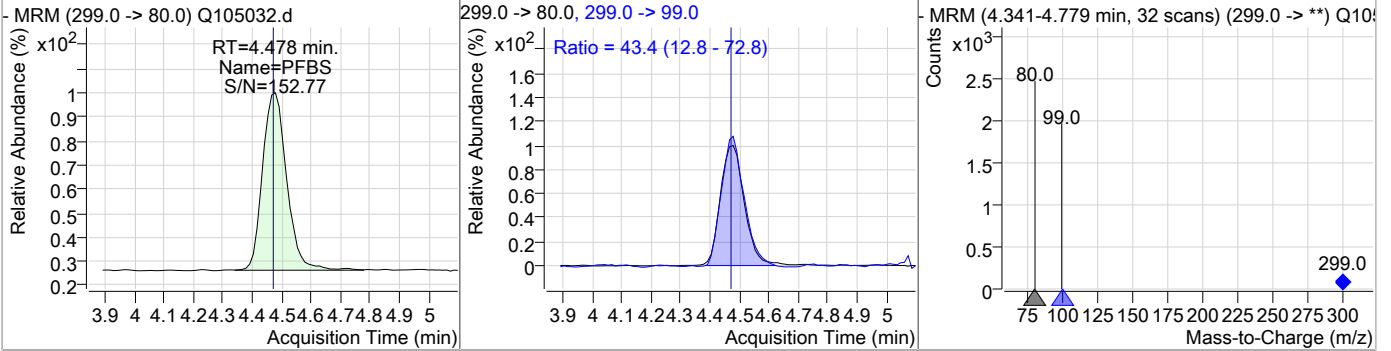


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.44	4.11	-0.01	1359				

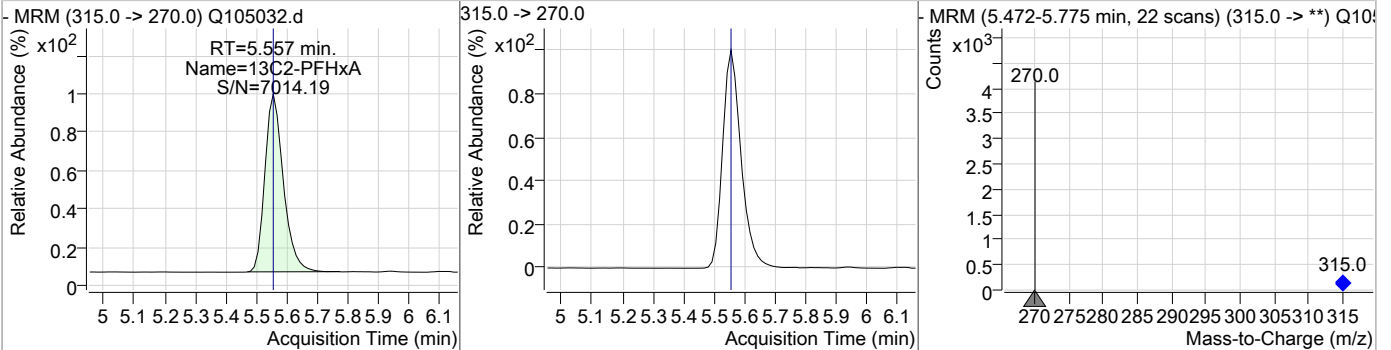


### Perfluorinated Compounds by LC/MS/MS

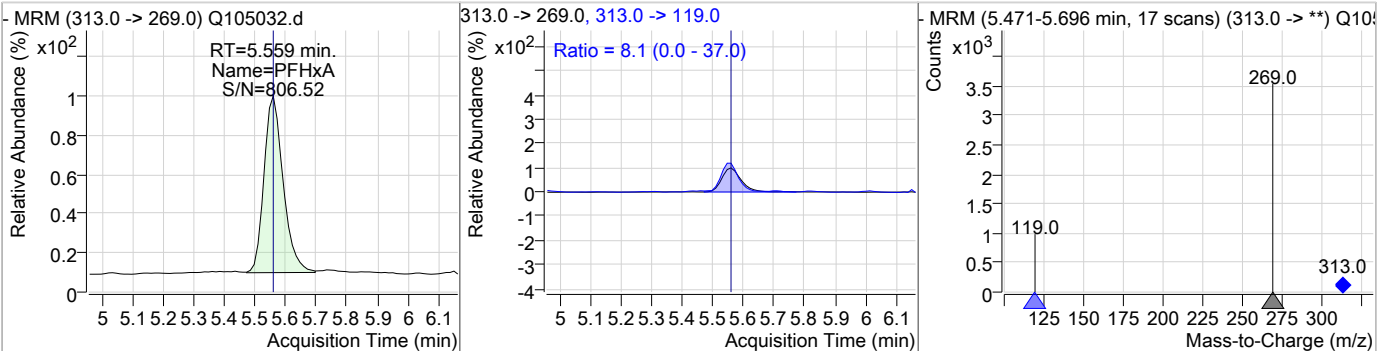
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.43	4.48	0.00	694	299.0 -> 99.0	43.4	12.8	72.8



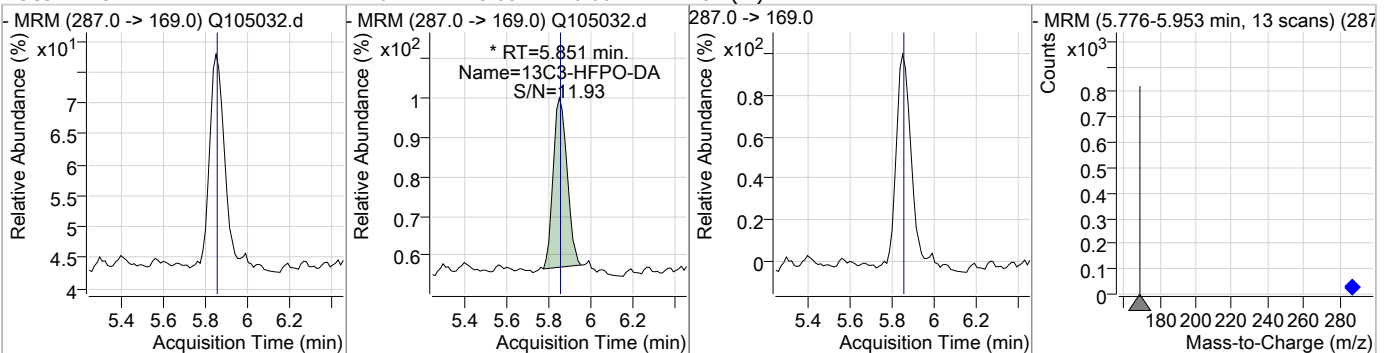
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	0.48	5.56	0.00	2309				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.41	5.56	0.00	1987	313.0 -> 119.0	8.1	0.0	37.0

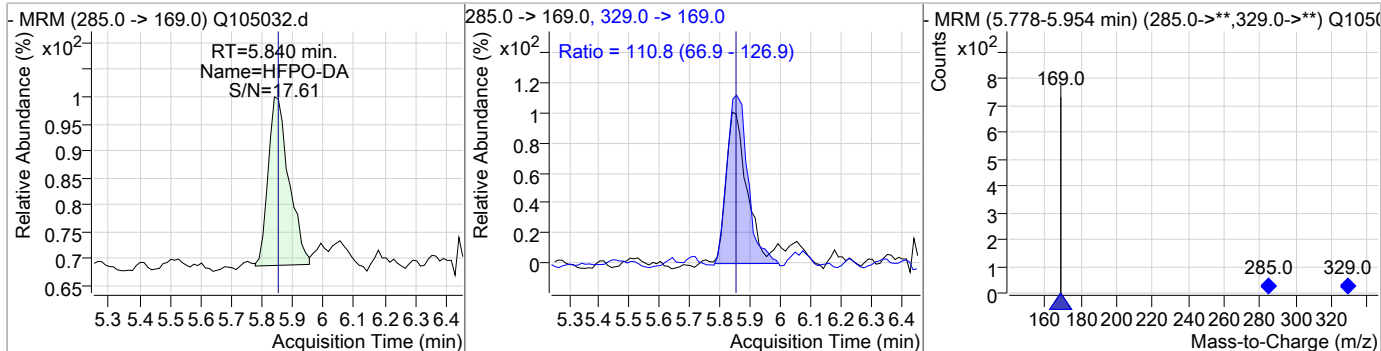


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	1.02	5.85	0.00	154 (m)				

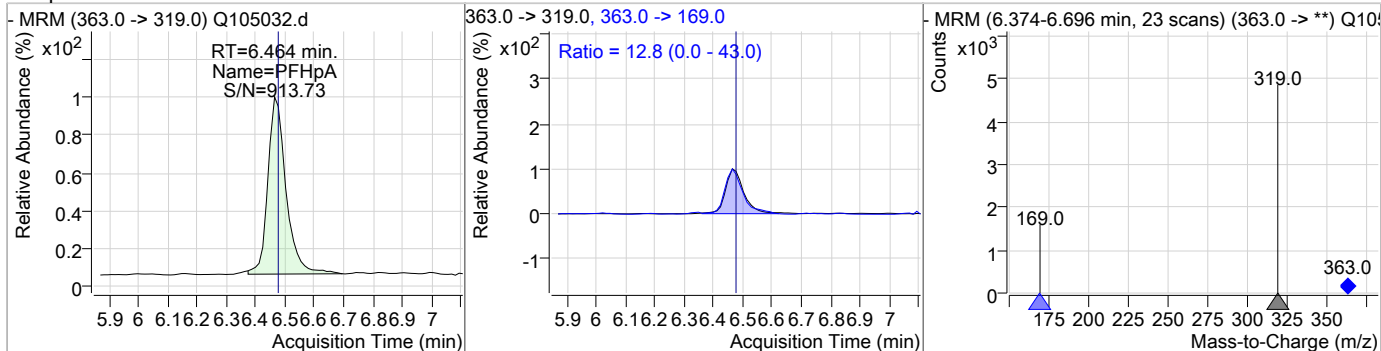


### Perfluorinated Compounds by LC/MS/MS

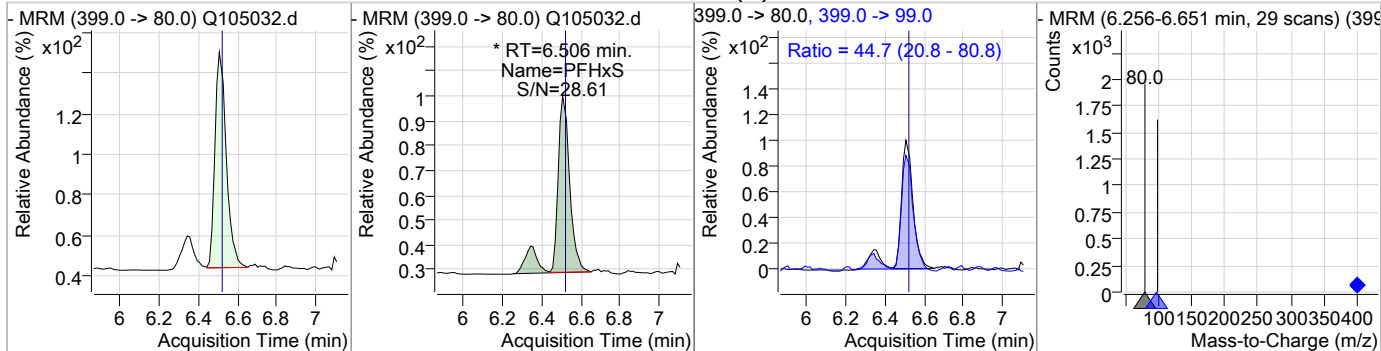
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.49	5.84	-0.01	93	329.0 -> 169.0	110.8	66.9	126.9



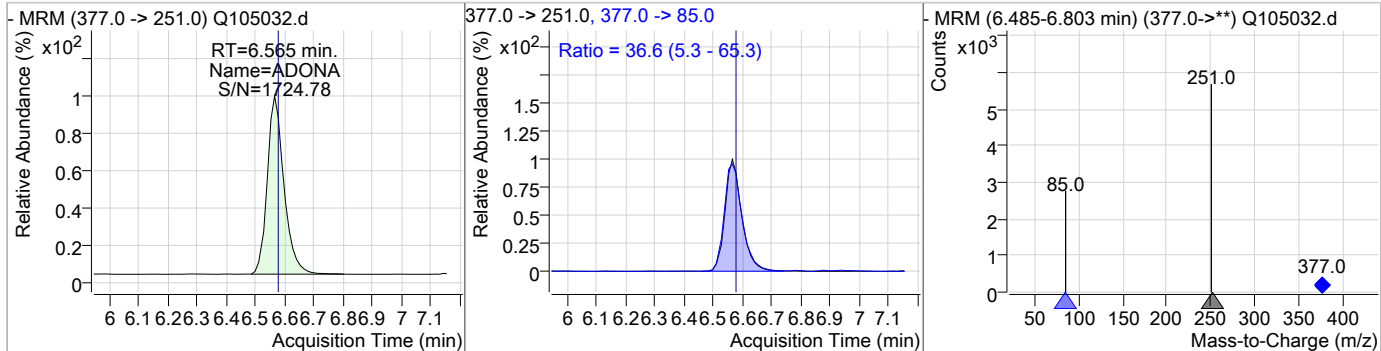
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.46	6.46	-0.01	2840	363.0 -> 169.0	12.8	0.0	43.0



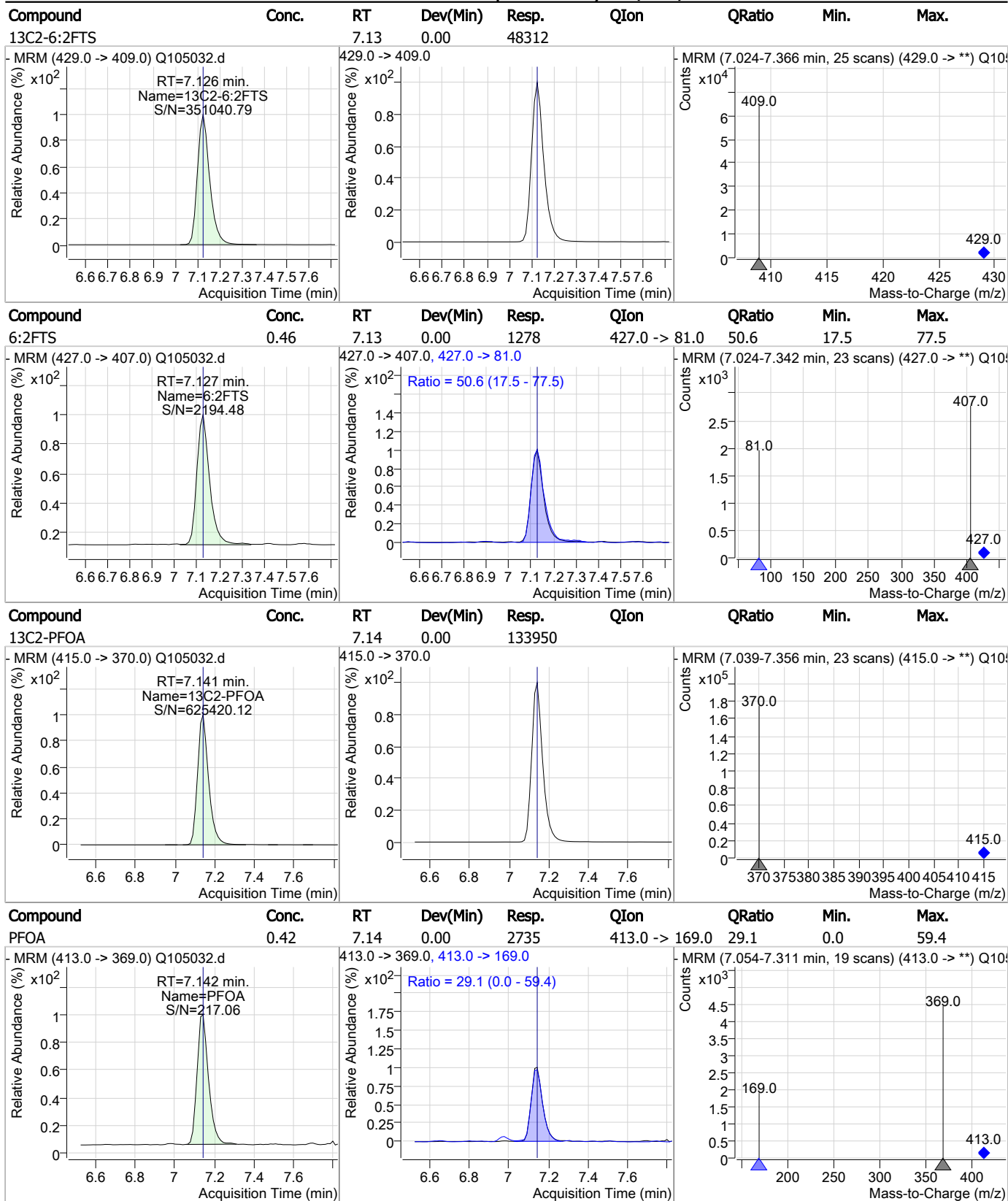
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.42	6.51	-0.02	504 (m)	399.0 -> 99.0	44.7	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.40	6.57	-0.01	3502	377.0 -> 85.0	36.6	5.3	65.3



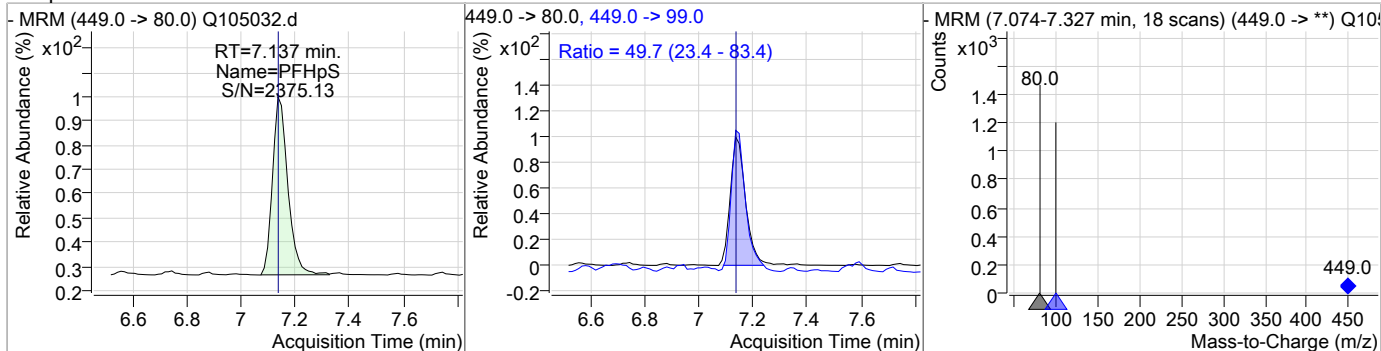
### Perfluorinated Compounds by LC/MS/MS



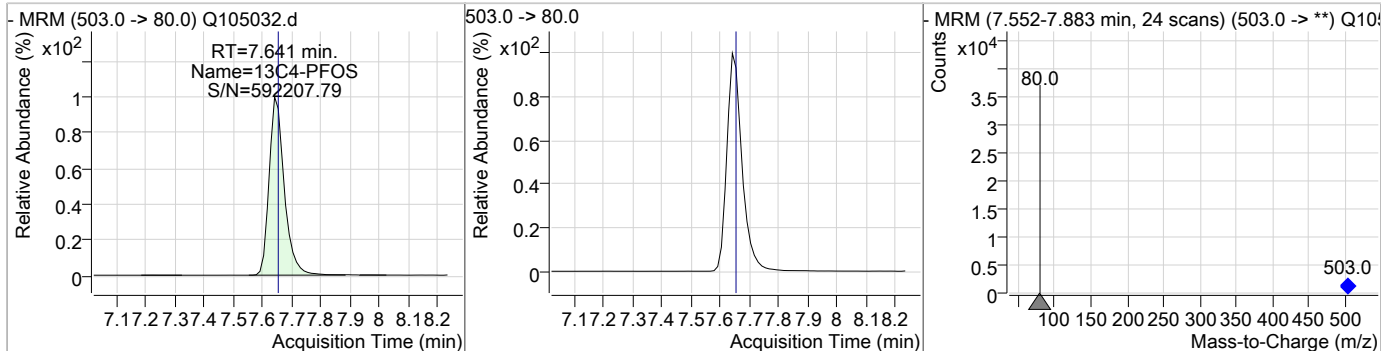
7.6.12  
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### Perfluorinated Compounds by LC/MS/MS

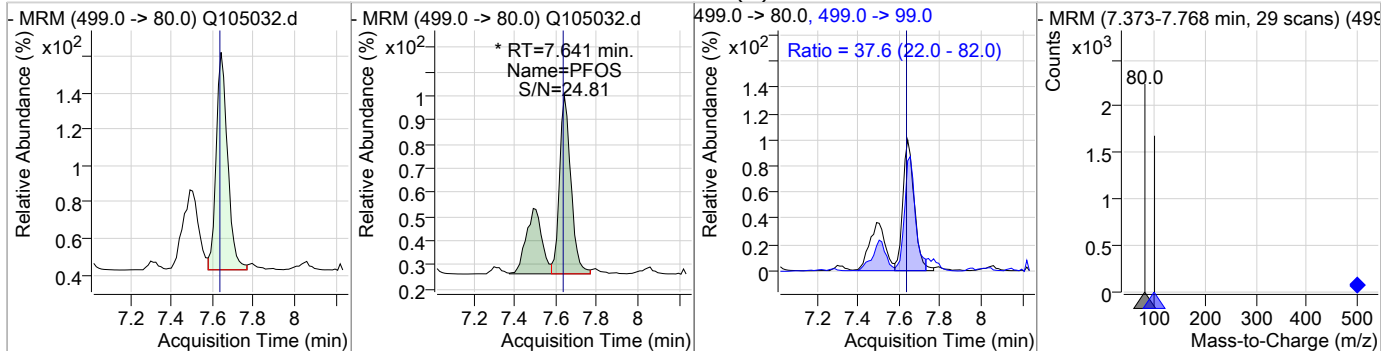
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.42	7.14	-0.01	466	449.0 -> 99.0	49.7	23.4	83.4



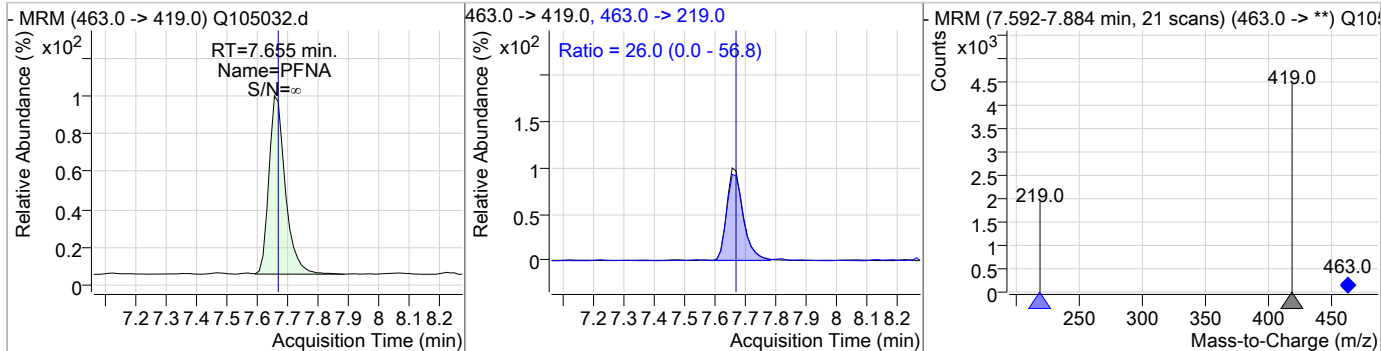
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.64	-0.01	27060				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.44	7.64	-0.01	698 (m)	499.0 -> 99.0	37.6	22.0	82.0

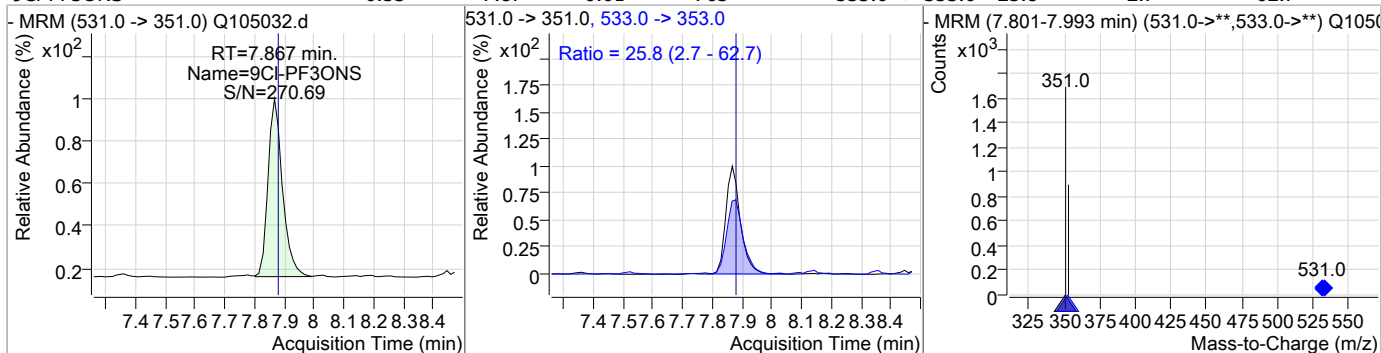


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.44	7.65	-0.01	2581	463.0 -> 219.0	26.0	0.0	56.8

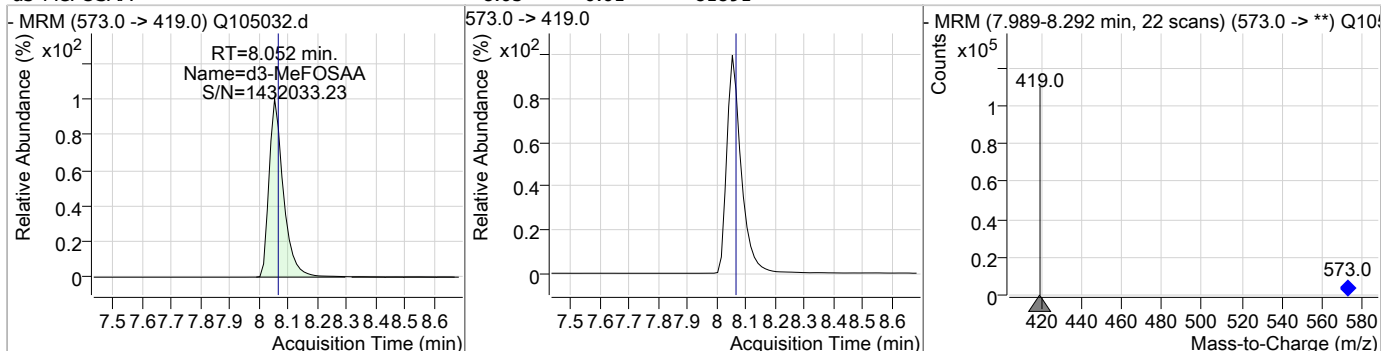


### Perfluorinated Compounds by LC/MS/MS

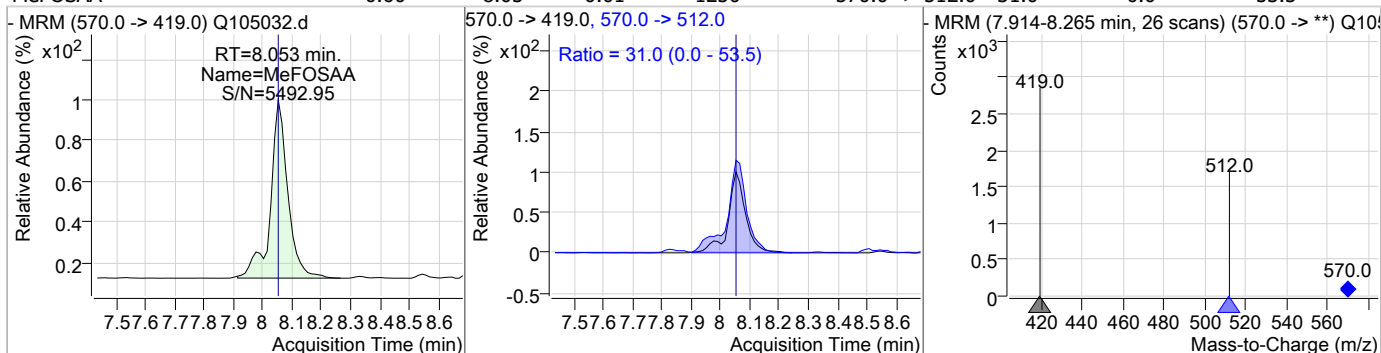
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.53	7.87	-0.01	763	533.0 -> 353.0	25.8	2.7	62.7



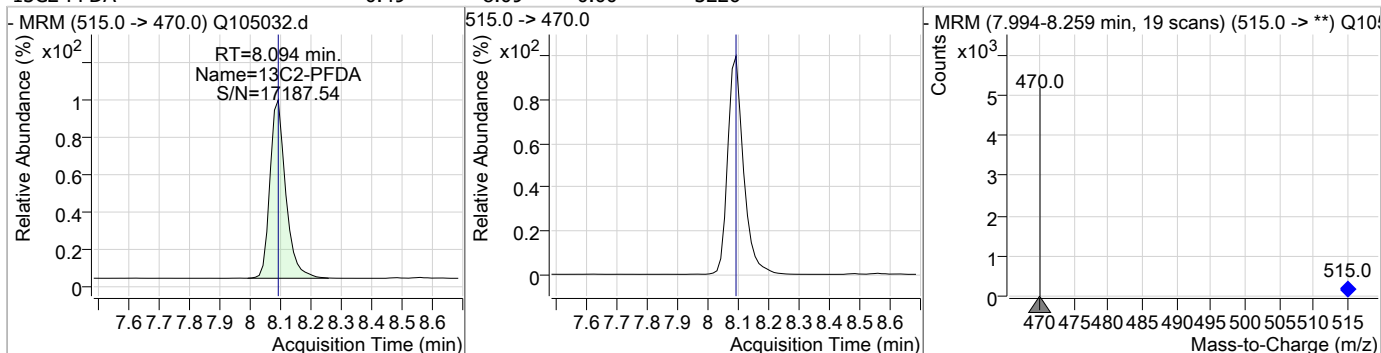
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.05	-0.01	81891				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.60	8.05	-0.01	1250	570.0 -> 512.0	31.0	0.0	53.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	0.49	8.09	0.00	3226				

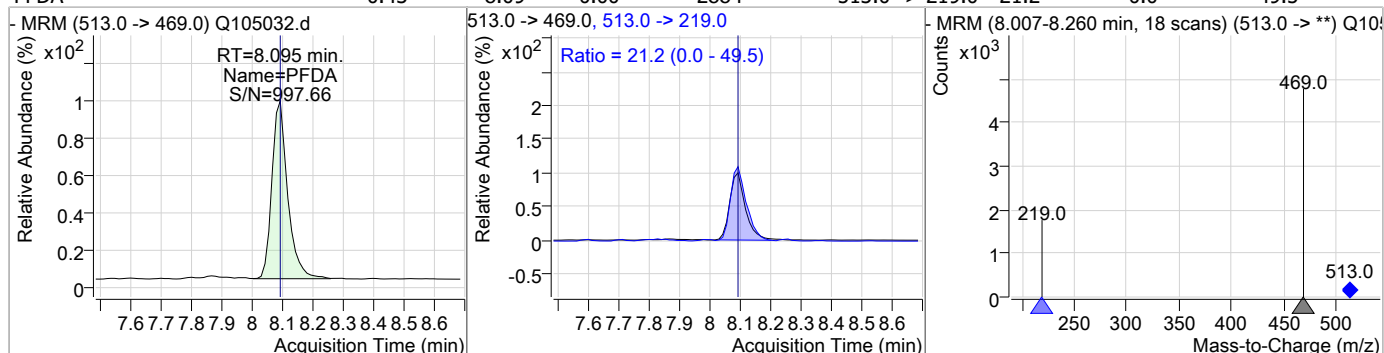


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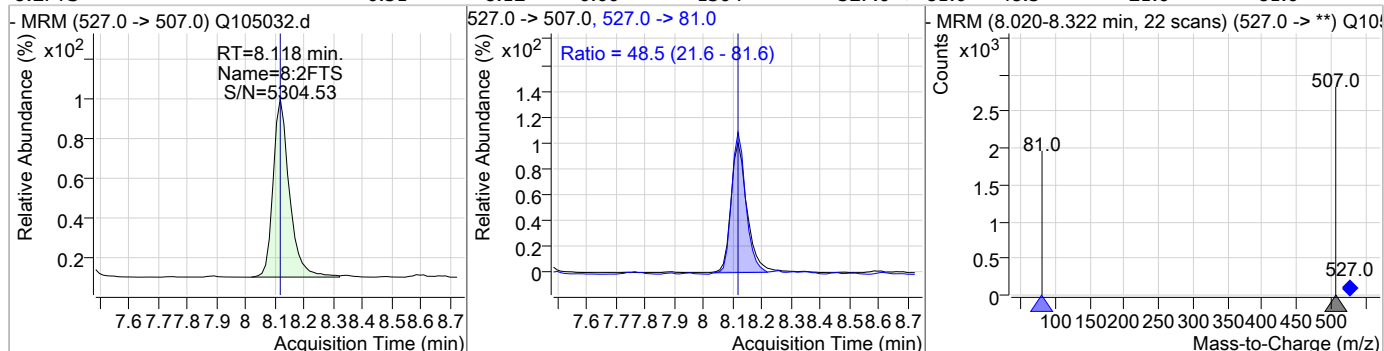


### Perfluorinated Compounds by LC/MS/MS

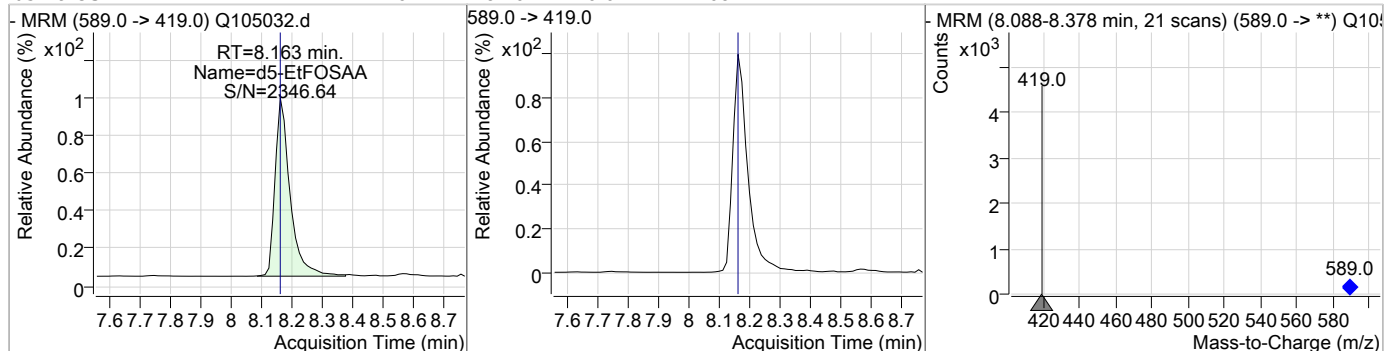
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.43	8.09	0.00	2884	513.0 -> 219.0	21.2	0.0	49.5



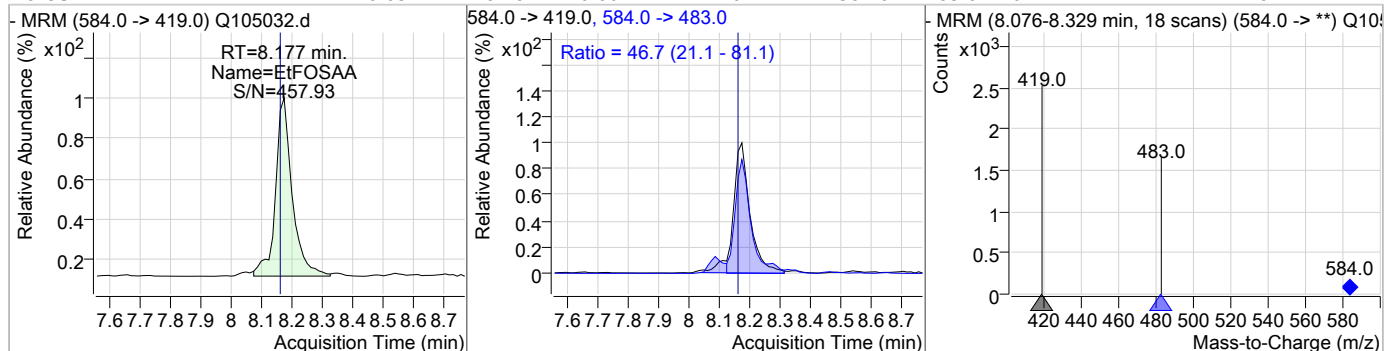
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.51	8.12	0.00	1364	527.0 -> 81.0	48.5	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	1.26	8.16	-0.01	2684	589.0 -> 419.0	46.7	21.1	81.1



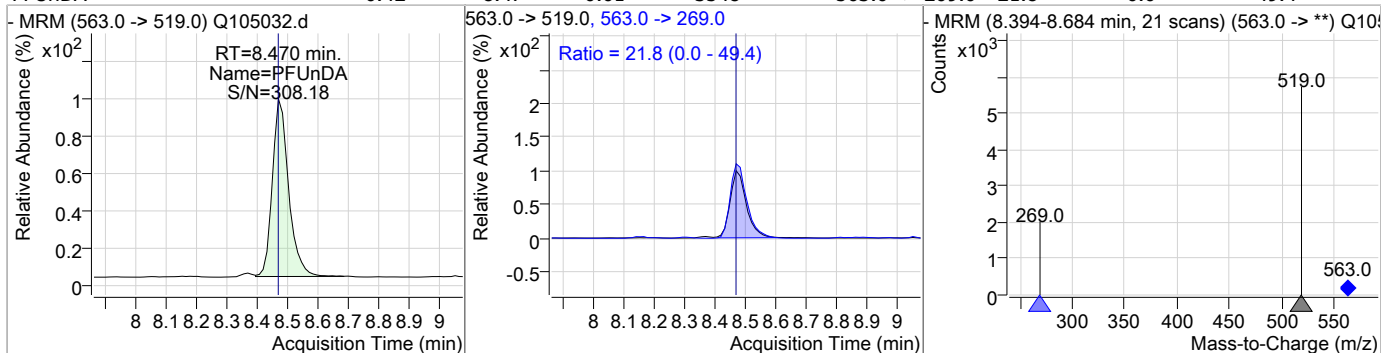
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.63	8.18	0.00	1220	584.0 -> 483.0	46.7	21.1	81.1



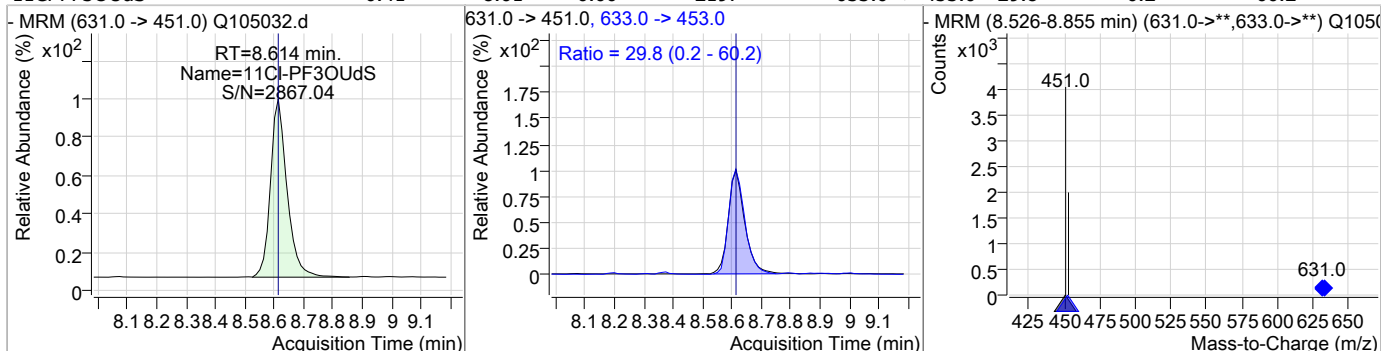


### Perfluorinated Compounds by LC/MS/MS

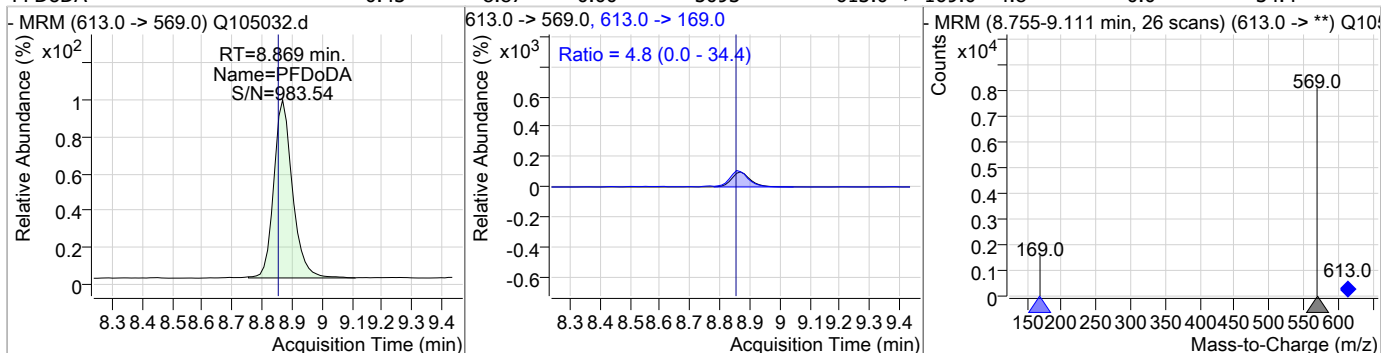
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.42	8.47	-0.01	3548	563.0 -> 269.0	21.8	0.0	49.4



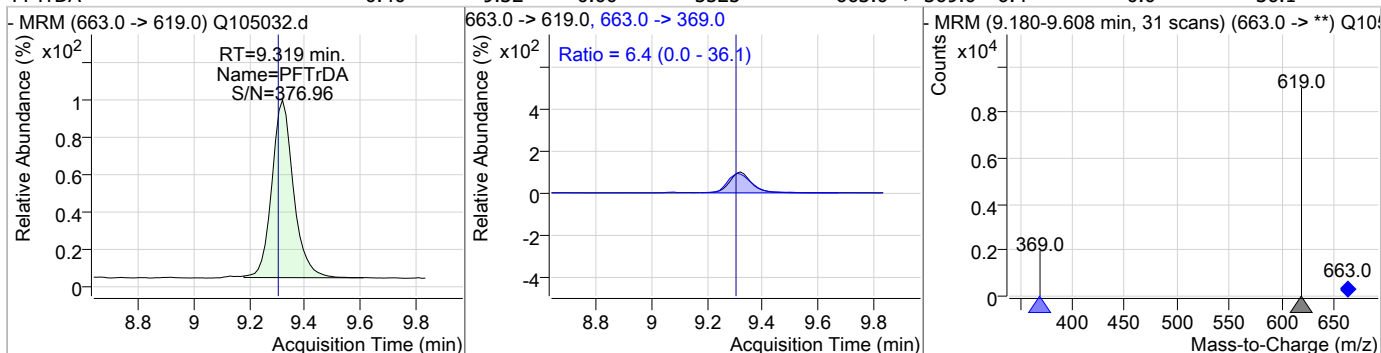
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.41	8.61	0.00	2197	633.0 -> 453.0	29.8	0.2	60.2



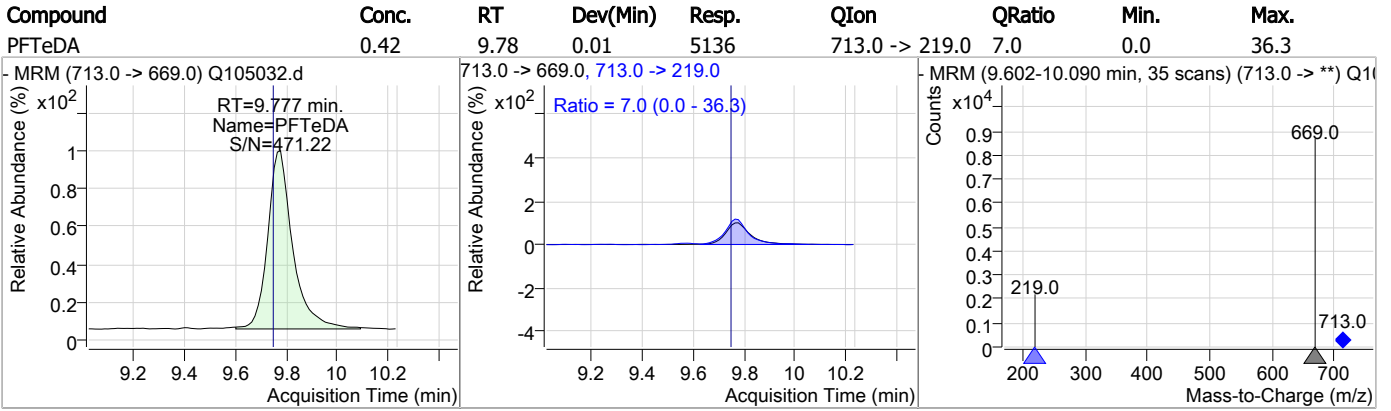
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	0.43	8.87	0.00	5093	613.0 -> 169.0	4.8	0.0	34.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	0.40	9.32	0.00	5525	663.0 -> 369.0	6.4	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: SQ2238-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105032.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 17:09      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
13C3-HFPO-DA			5.85	Missed peak
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.64	Split peak

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## Perfluorinated Compounds by LC/MS/MS

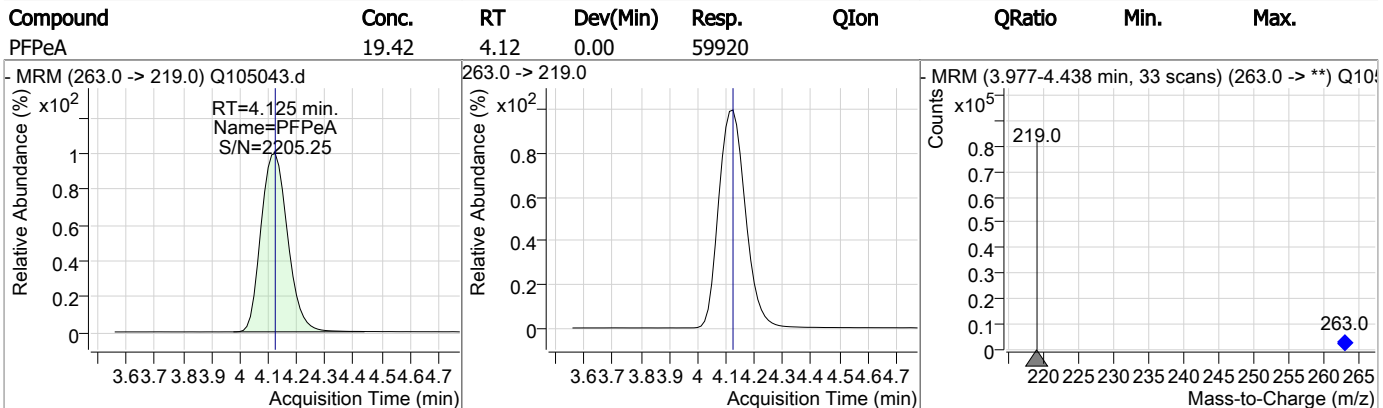
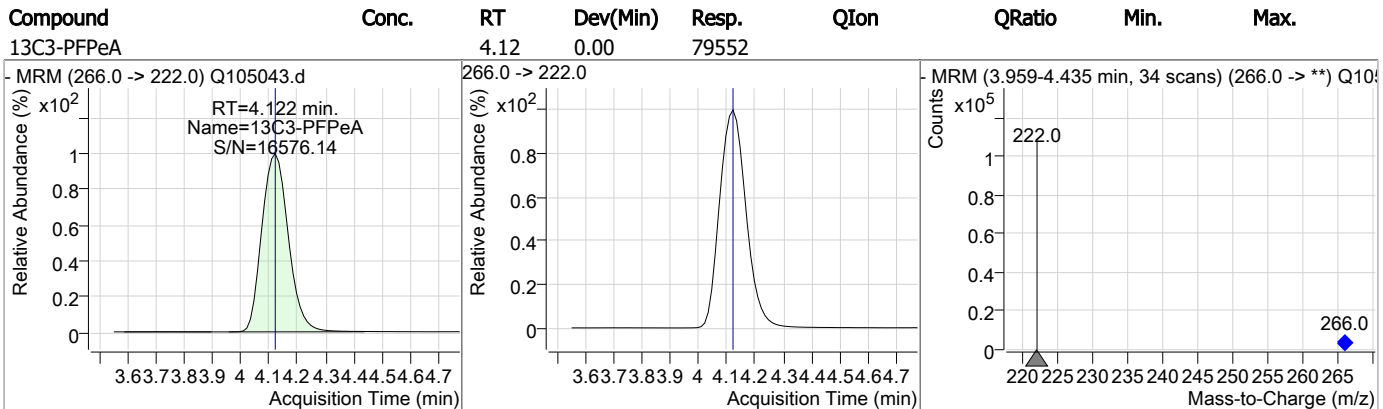
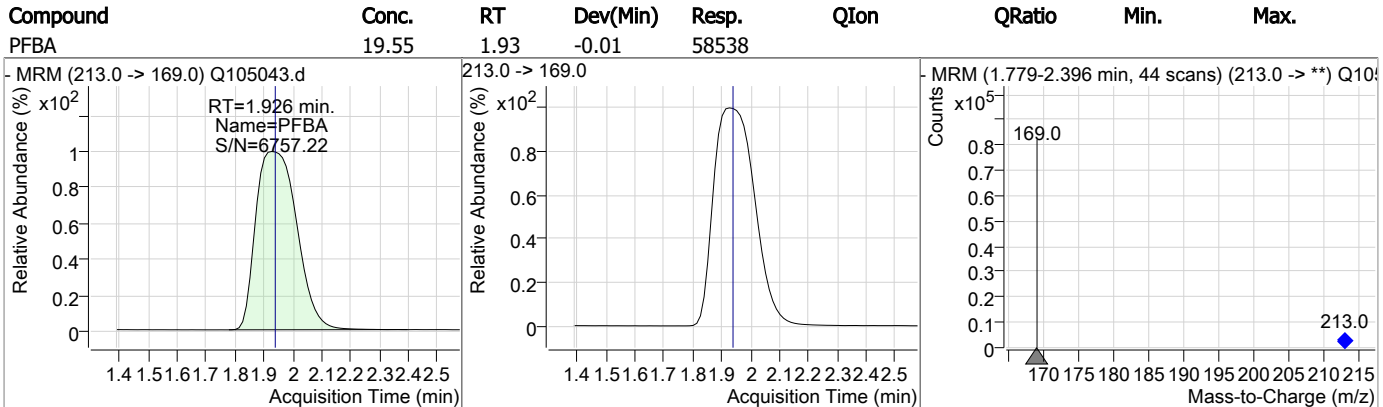
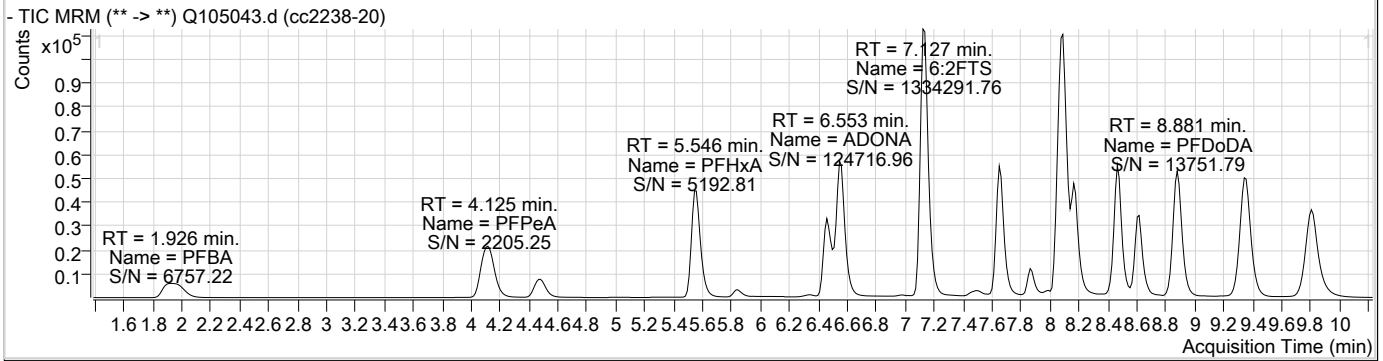
Data File : Q105043.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 8:02:46 PM  
 Sample Name : cc2238-20  
 Vial : P1-A7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.126	429.0 -> 409.0	48566	20.00 µg/L	0.000
13C2-PFOA	7.141	415.0 -> 370.0	129940	20.00 µg/L	0.000
13C3-PFPeA	4.122	266.0 -> 222.0	79552	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	26043	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	78597	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.094	515.0 -> 470.0	132713	20.98 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 104.9%	
13C2-PFHxA	5.557	315.0 -> 270.0	98880	20.53 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 102.6%	
d5-EtFOSAA	8.163	589.0 -> 419.0	84757	40.30 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 100.7%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	5672	38.95 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 97.4%	
<b>Target Compounds</b>					
6:2FTS	7.127	427.0 -> 407.0	53949	20.29 µg/L	QValue 99
8:2FTS	8.119	527.0 -> 507.0	52480	20.21 µg/L	98
EtFOSAA	8.177	584.0 -> 419.0	39605	20.65 µg/L	m 96
MeFOSAA	8.053	570.0 -> 419.0	41538	20.81 µg/L	m 91
PFBA	1.926	213.0 -> 169.0	58538	19.55 µg/L	100
PFBS	4.466	299.0 -> 80.0	29733	19.05 µg/L	100
PFDA	8.095	513.0 -> 469.0	138119	21.10 µg/L	100
PFDoDA	8.881	613.0 -> 569.0	223360	19.71 µg/L	100
PFHpA	6.464	363.0 -> 319.0	113247	19.07 µg/L	99
PFHpS	7.137	449.0 -> 80.0	21584	20.43 µg/L	97
PFHxA	5.546	313.0 -> 269.0	90671	19.19 µg/L	99
PFHxS	6.506	399.0 -> 80.0	22322	19.50 µg/L	m 96
PFNA	7.667	463.0 -> 419.0	115029	20.31 µg/L	99
PFOA	7.142	413.0 -> 369.0	126937	20.04 µg/L	100
PFOS	7.641	499.0 -> 80.0	30081	19.48 µg/L	m 88
PFPeA	4.125	263.0 -> 219.0	59920	19.42 µg/L	100
PFTeDA	9.802	713.0 -> 669.0	222210	19.08 µg/L	100
PFTrDA	9.344	663.0 -> 619.0	258024	19.52 µg/L	100
PFUnDA	8.470	563.0 -> 519.0	159793	19.83 µg/L	99
ADONA	6.553	377.0 -> 251.0	160523	19.02 µg/L	99
9CI-PF3ONS	7.867	531.0 -> 351.0	29862	20.77 µg/L	97
11CI-PF3OUdS	8.614	631.0 -> 451.0	97983	18.88 µg/L	99
HFPO-DA	5.840	285.0 -> 169.0	3565	19.33 µg/L	96

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

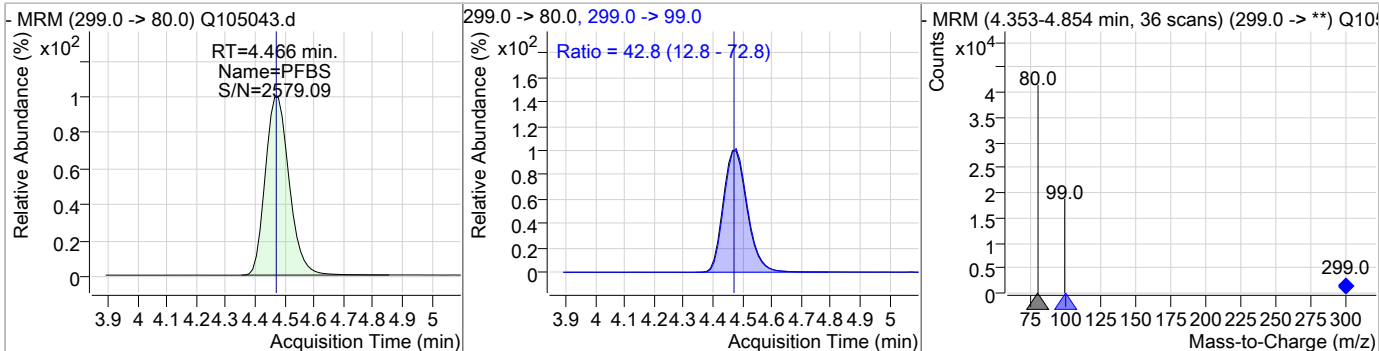
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### Perfluorinated Compounds by LC/MS/MS

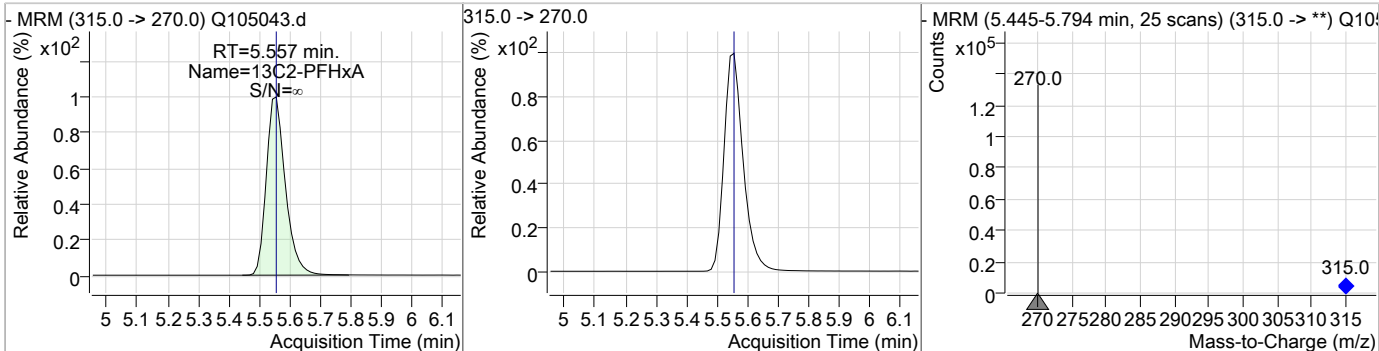


### Perfluorinated Compounds by LC/MS/MS

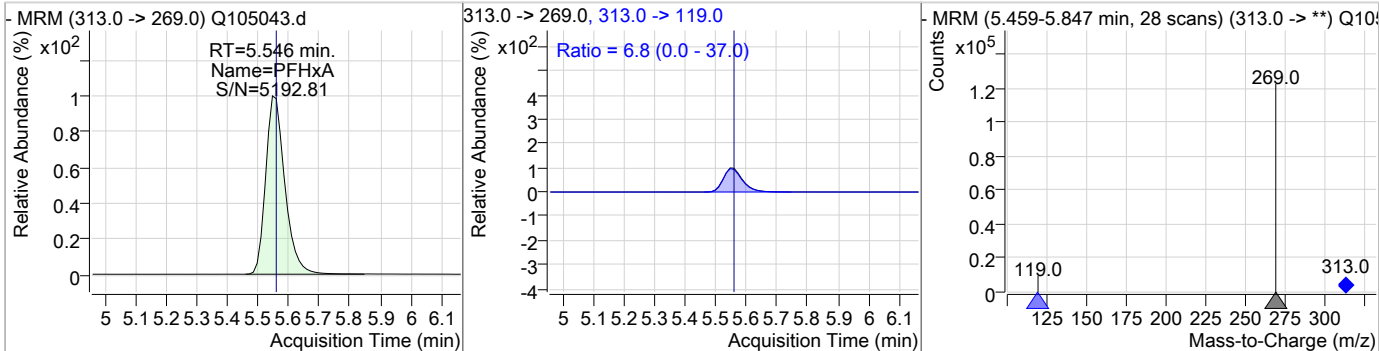
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.05	4.47	-0.01	29733	299.0 -> 99.0	42.8	12.8	72.8



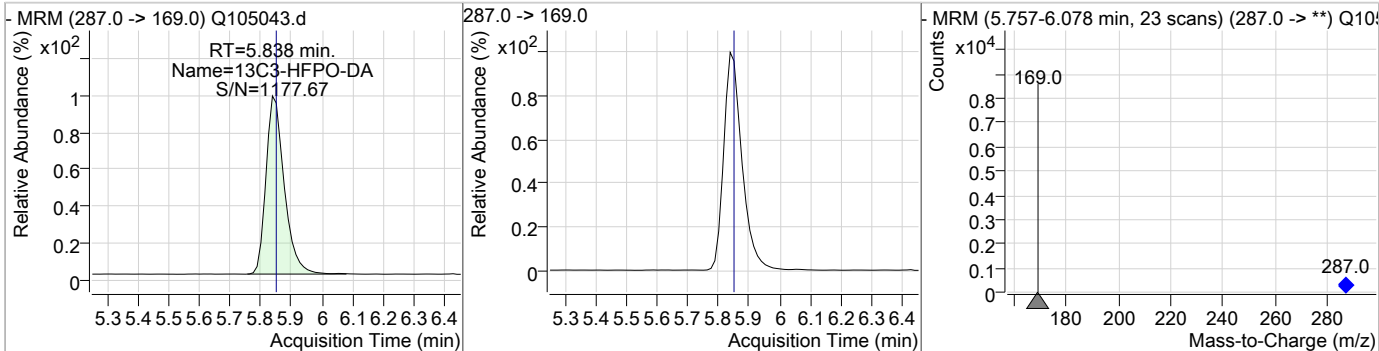
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	20.53	5.56	0.00	98880				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.19	5.55	-0.01	90671	313.0 -> 119.0	6.8	0.0	37.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	38.95	5.84	-0.01	5672				

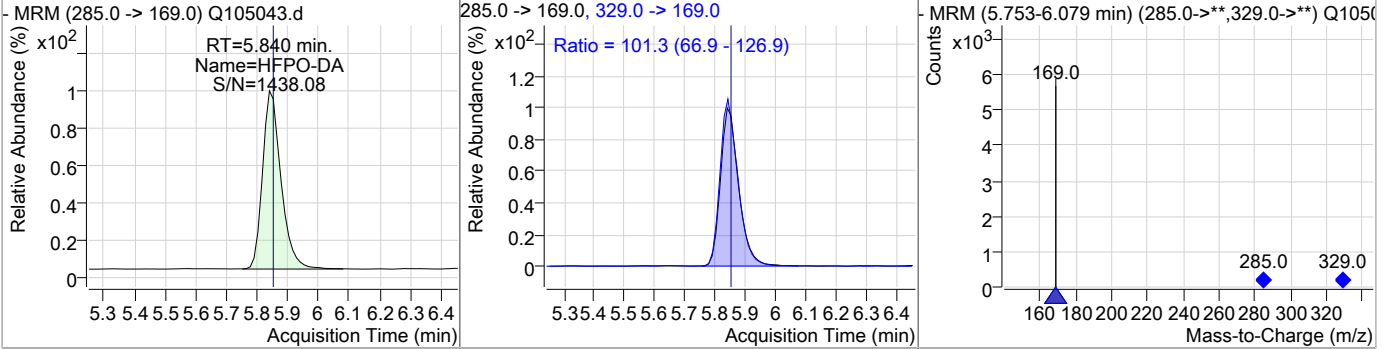


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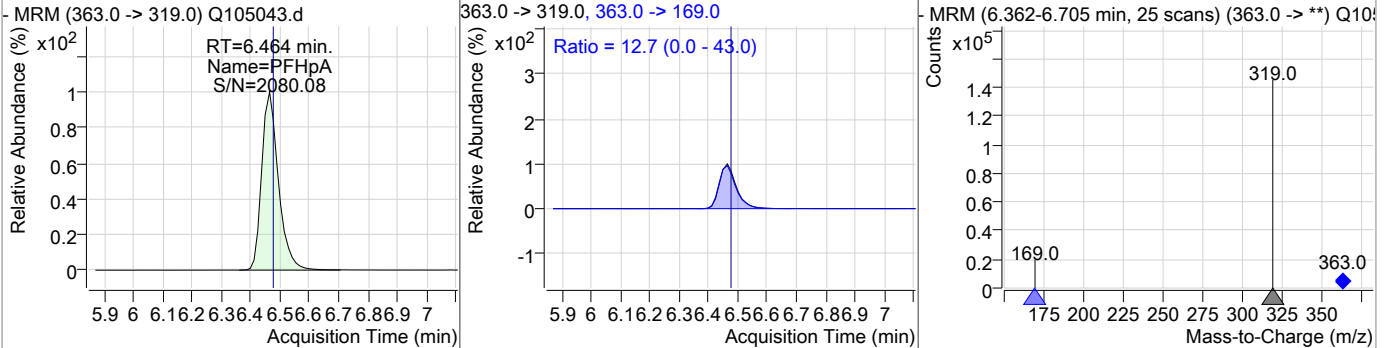


### Perfluorinated Compounds by LC/MS/MS

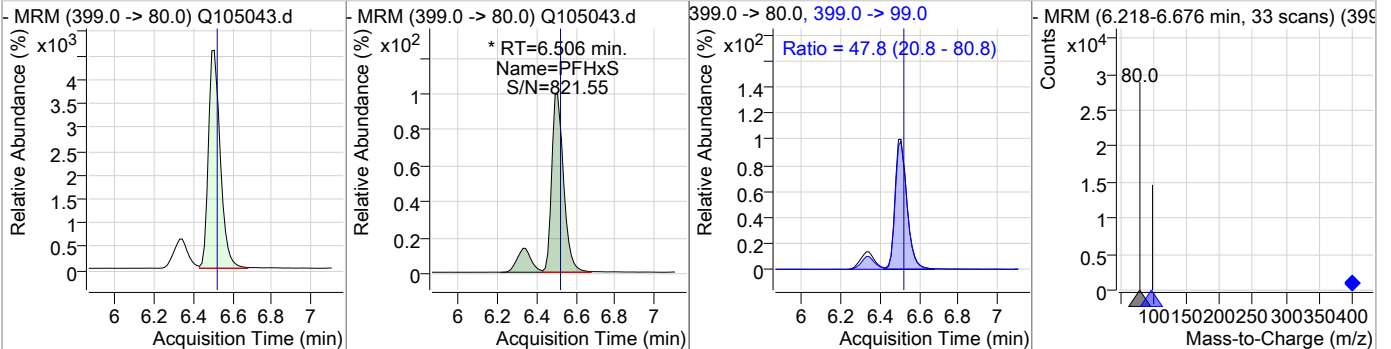
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.33	5.84	-0.01	3565	329.0 -> 169.0	101.3	66.9	126.9



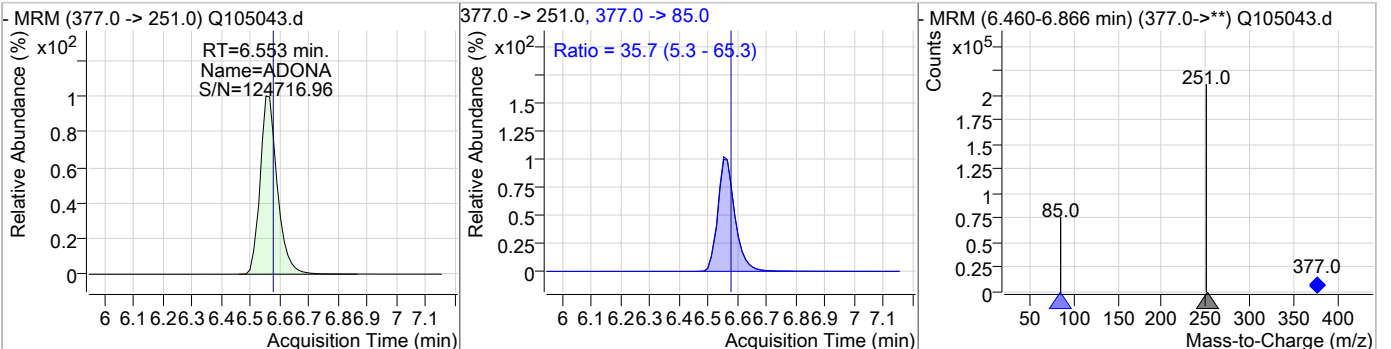
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.07	6.46	-0.01	113247	363.0 -> 169.0	12.7	0.0	43.0



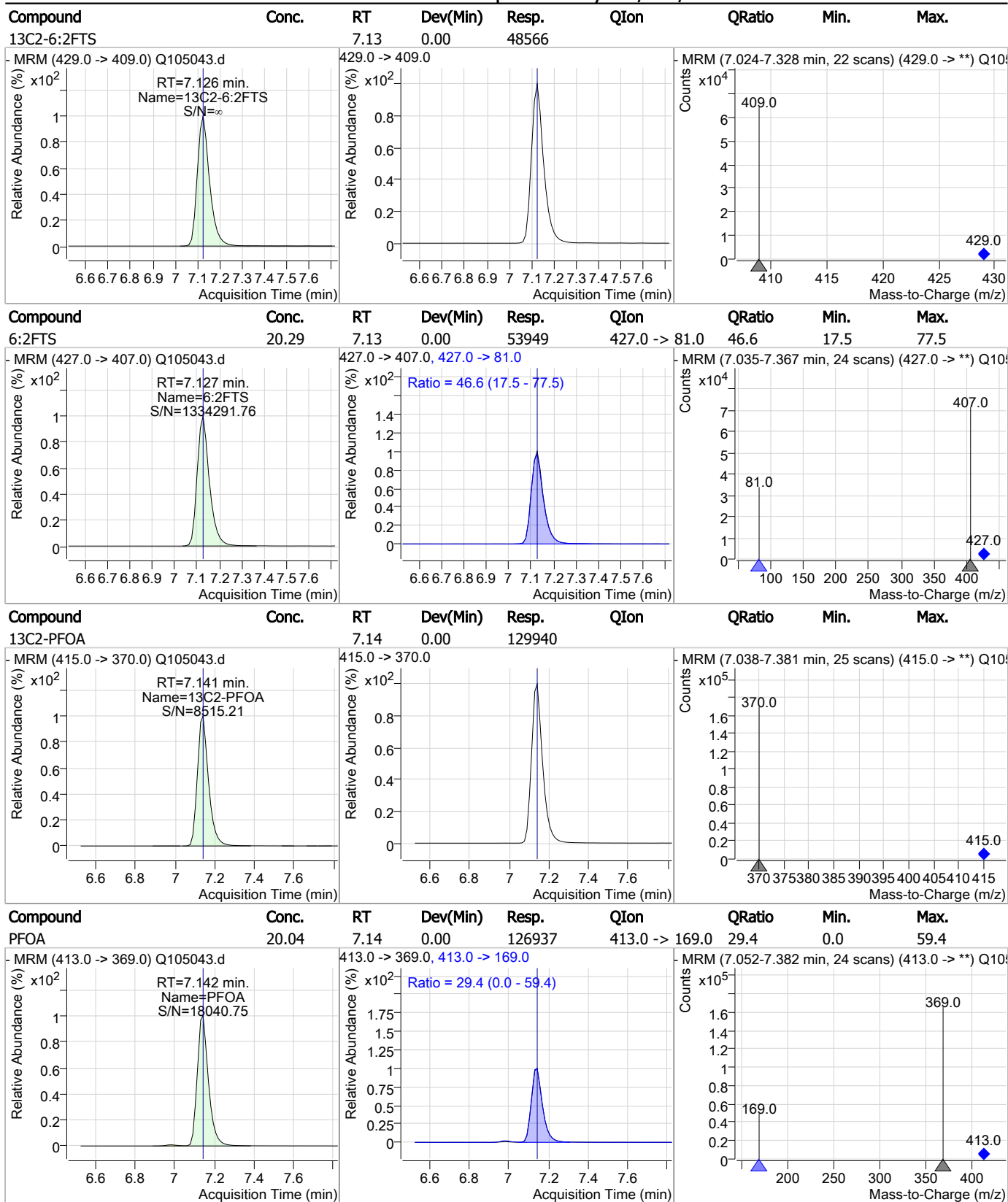
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	19.50	6.51	-0.02	22322 (m)	399.0 -> 99.0	47.8	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	19.02	6.55	-0.03	160523	377.0 -> 85.0	35.7	5.3	65.3



### Perfluorinated Compounds by LC/MS/MS



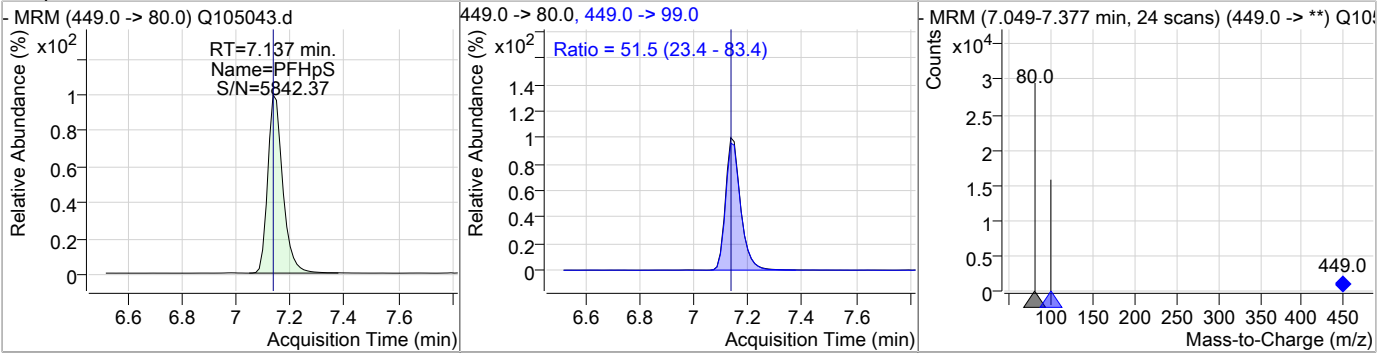
7.6.13

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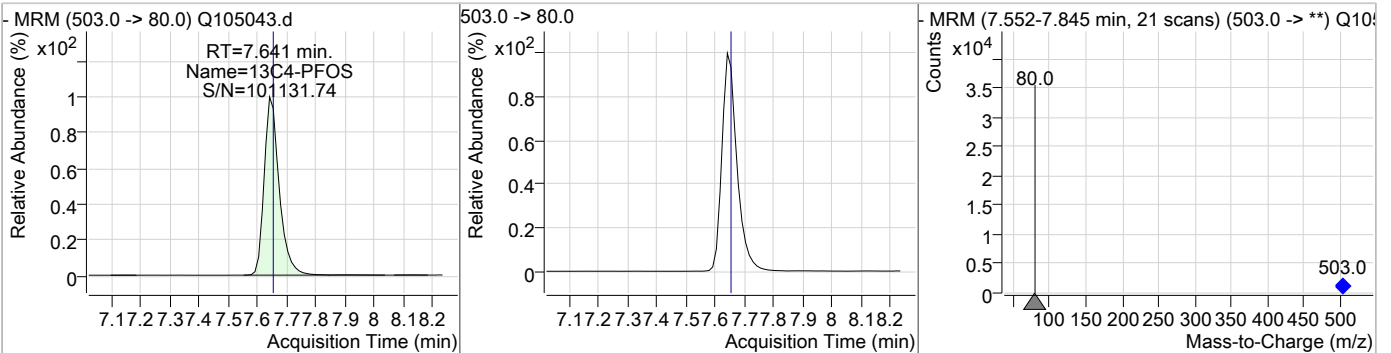


### Perfluorinated Compounds by LC/MS/MS

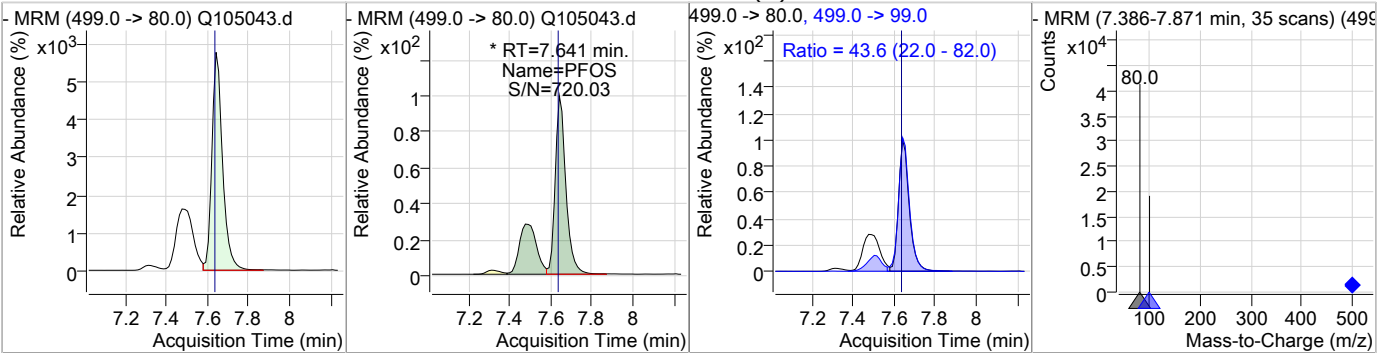
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.43	7.14	-0.01	21584	449.0 -> 99.0	51.5	23.4	83.4



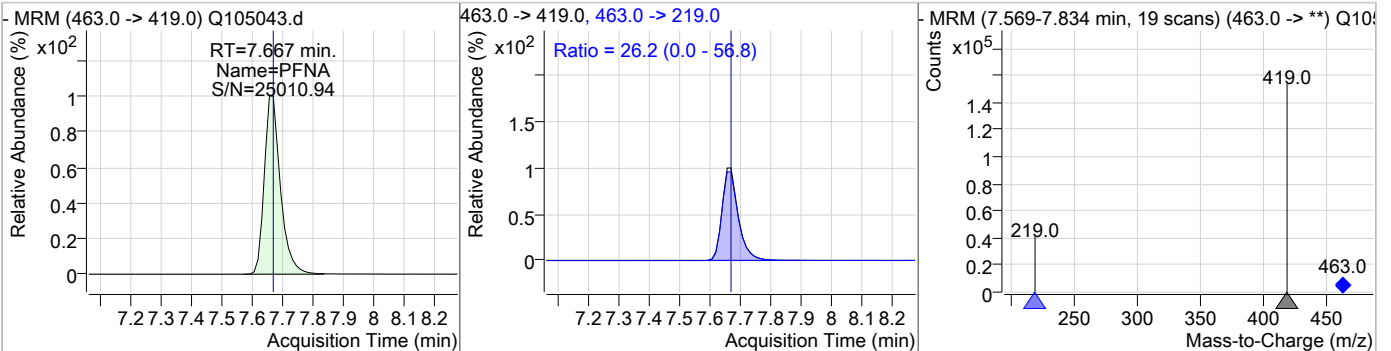
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.64	-0.01	26043				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.48	7.64	-0.01	30081 (m)	499.0 -> 99.0	43.6	22.0	82.0

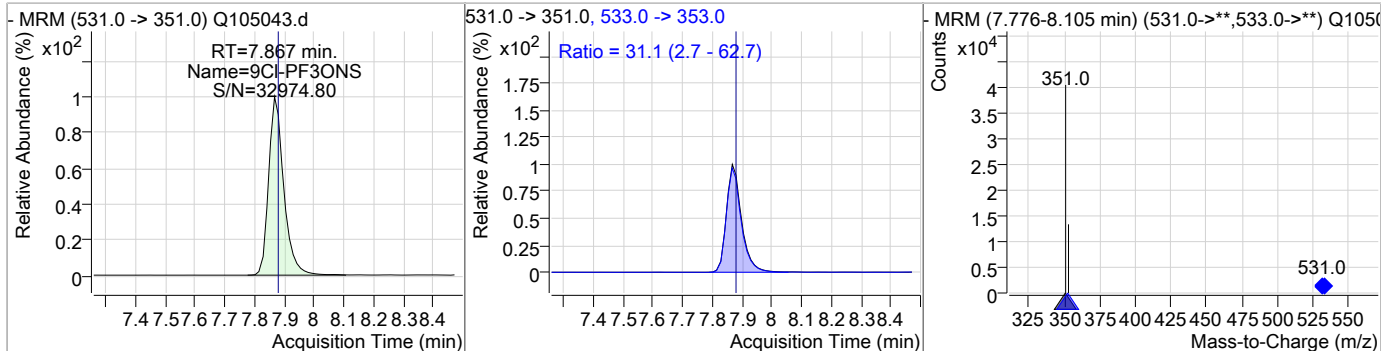


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	20.31	7.67	0.00	115029	463.0 -> 219.0	26.2	0.0	56.8

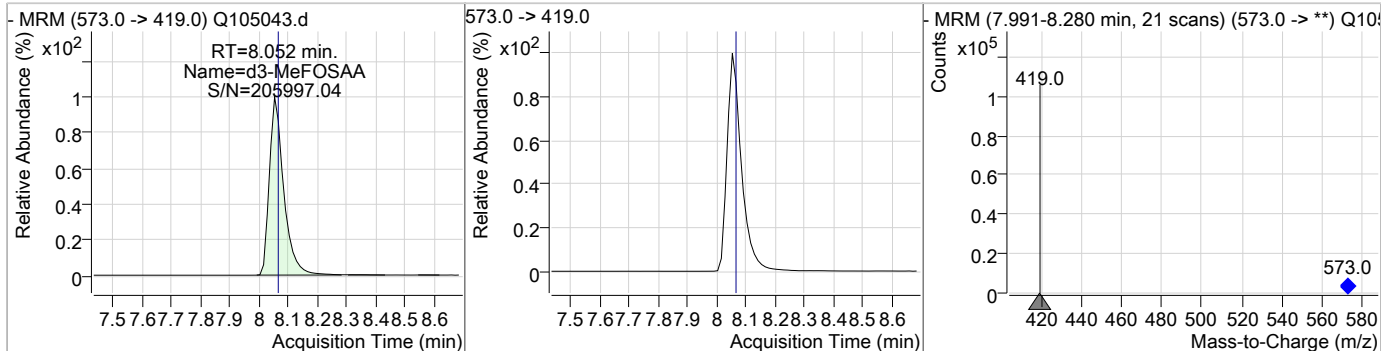


### Perfluorinated Compounds by LC/MS/MS

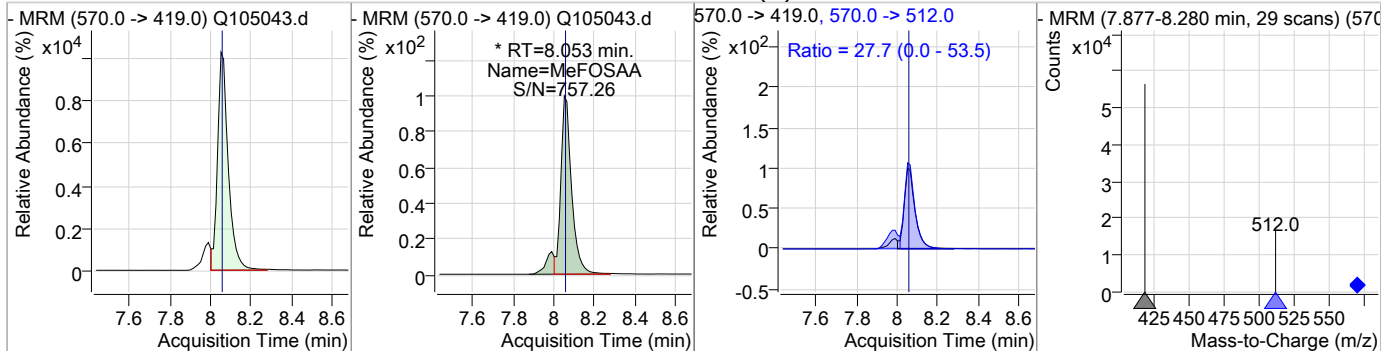
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	20.77	7.87	-0.01	29862	533.0 -> 353.0	31.1	2.7	62.7



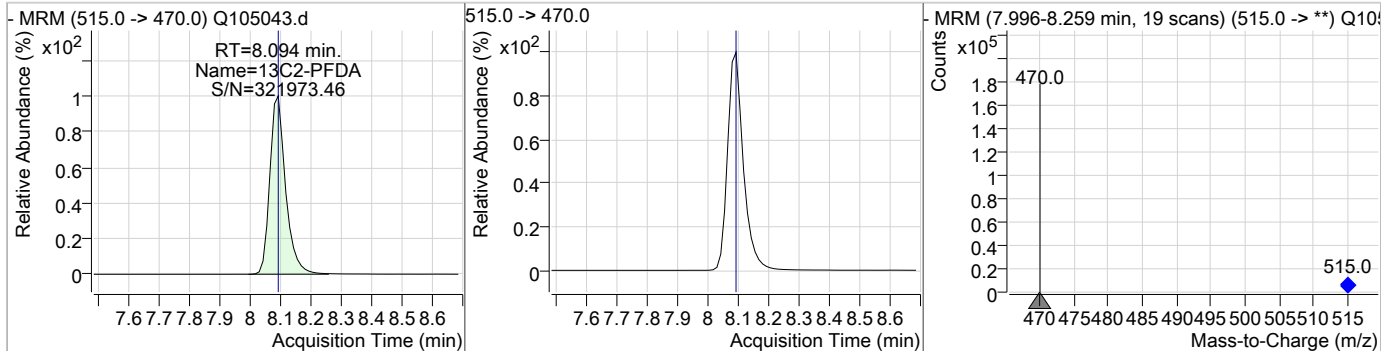
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.05	-0.01	78597				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.81	8.05	-0.01	41538 (m)	570.0 -> 512.0	27.7	0.0	53.5

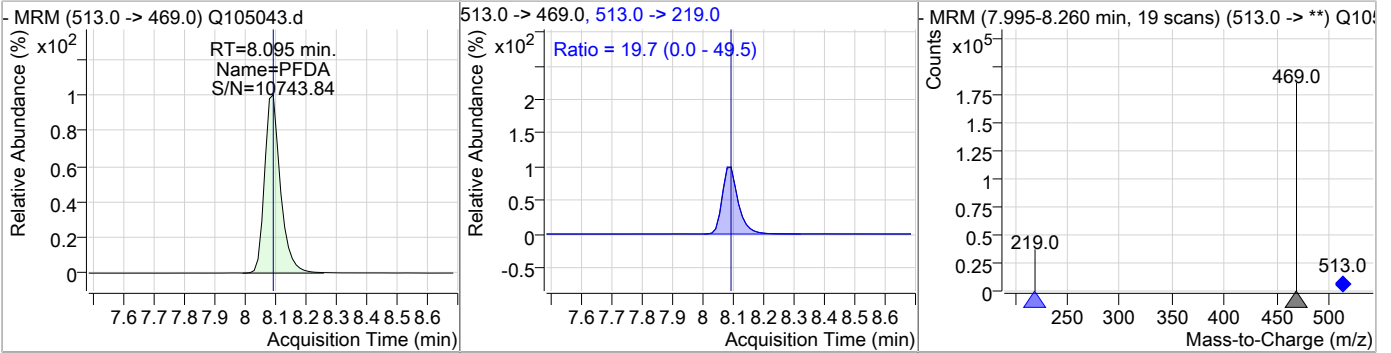


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	20.98	8.09	0.00	132713				

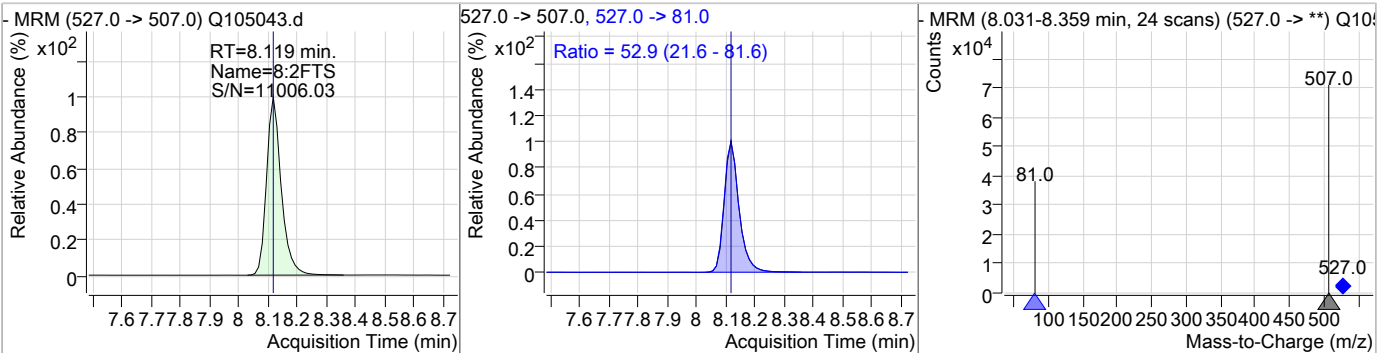


### Perfluorinated Compounds by LC/MS/MS

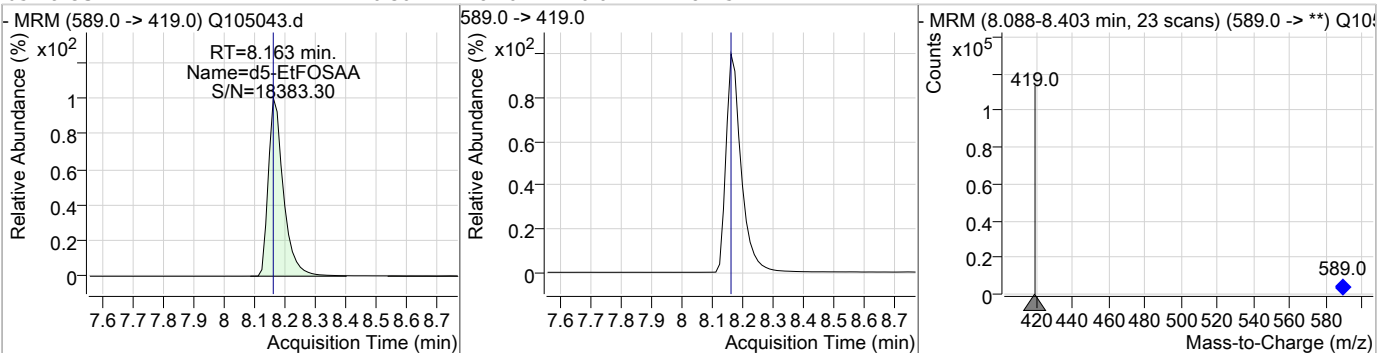
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.10	8.09	0.00	138119	513.0 -> 219.0	19.7	0.0	49.5



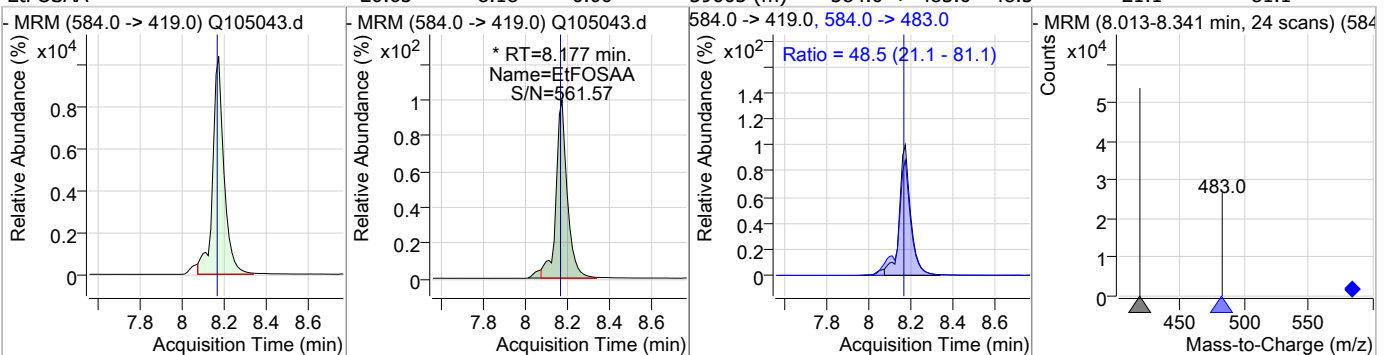
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.21	8.12	0.00	52480	527.0 -> 81.0	52.9	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	40.30	8.16	-0.01	84757				

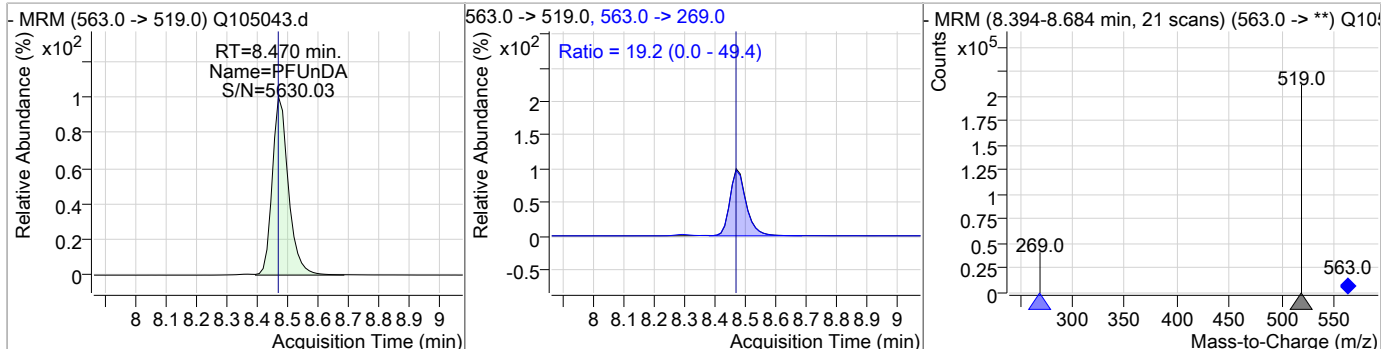


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	20.65	8.18	0.00	39605 (m)	584.0 -> 483.0	48.5	21.1	81.1

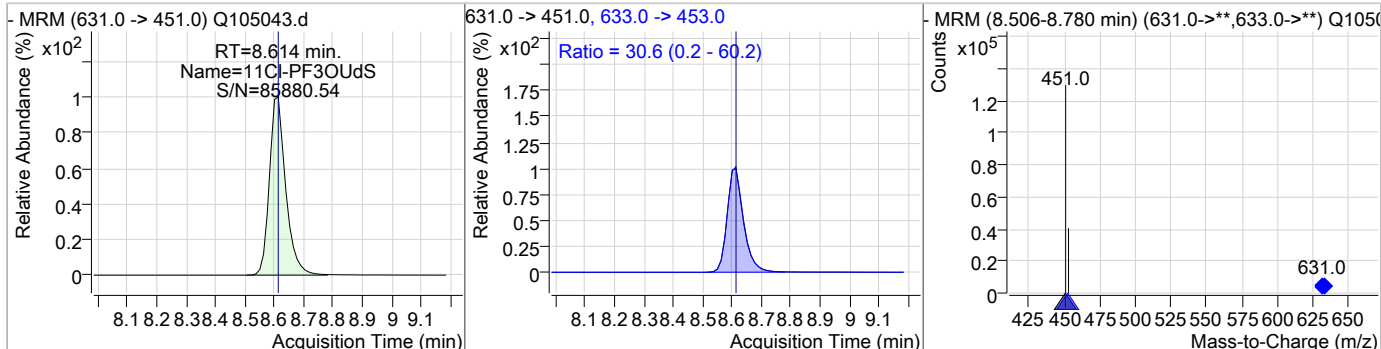


### Perfluorinated Compounds by LC/MS/MS

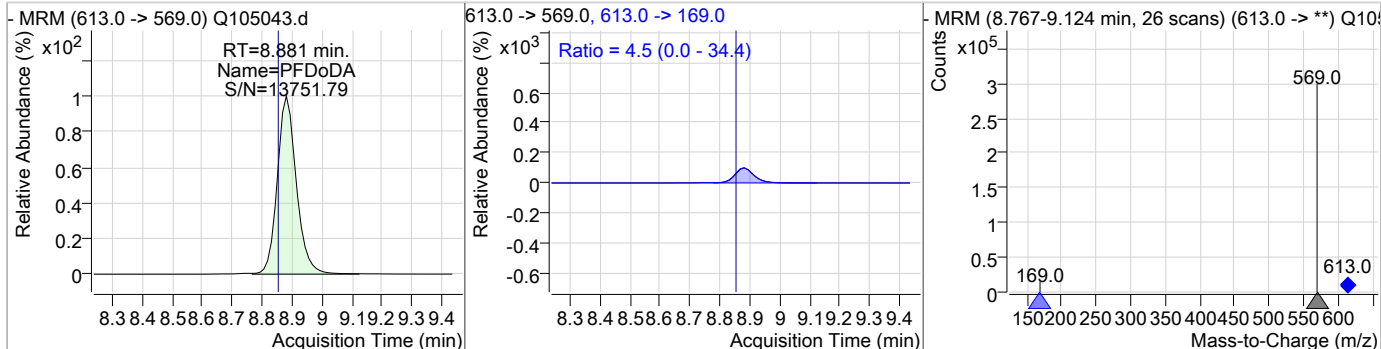
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.83	8.47	-0.01	159793	563.0 -> 269.0	19.2	0.0	49.4



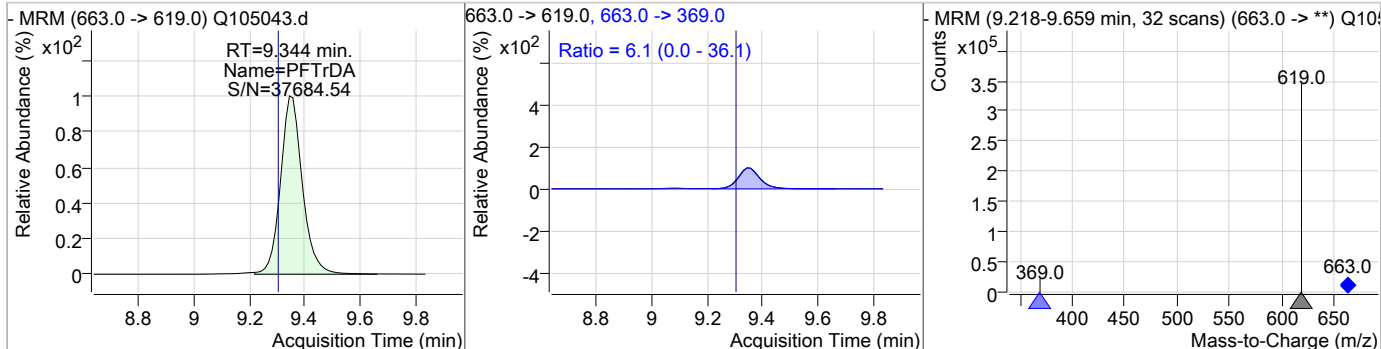
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.88	8.61	0.00	97983	633.0 -> 453.0	30.6	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	19.71	8.88	0.01	223360	613.0 -> 169.0	4.5	0.0	34.4



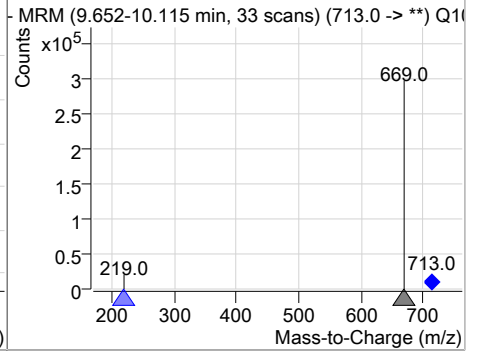
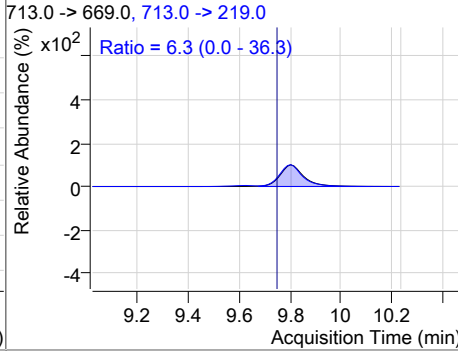
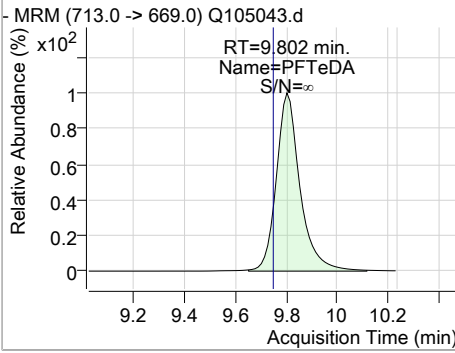
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	19.52	9.34	0.03	258024	663.0 -> 369.0	6.1	0.0	36.1



7.6.13  
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.08	9.80	0.04	222210	713.0 -> 219.0	6.3	0.0	36.3



7.6.13

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# Manual Integration Approval Summary

Sample Number: SQ2238-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105043.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 20:02      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.51	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.64	Split peak
MeFOSAA	2355-31-9		8.05	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

7.6.13.1

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### Perfluorinated Compounds by LC/MS/MS

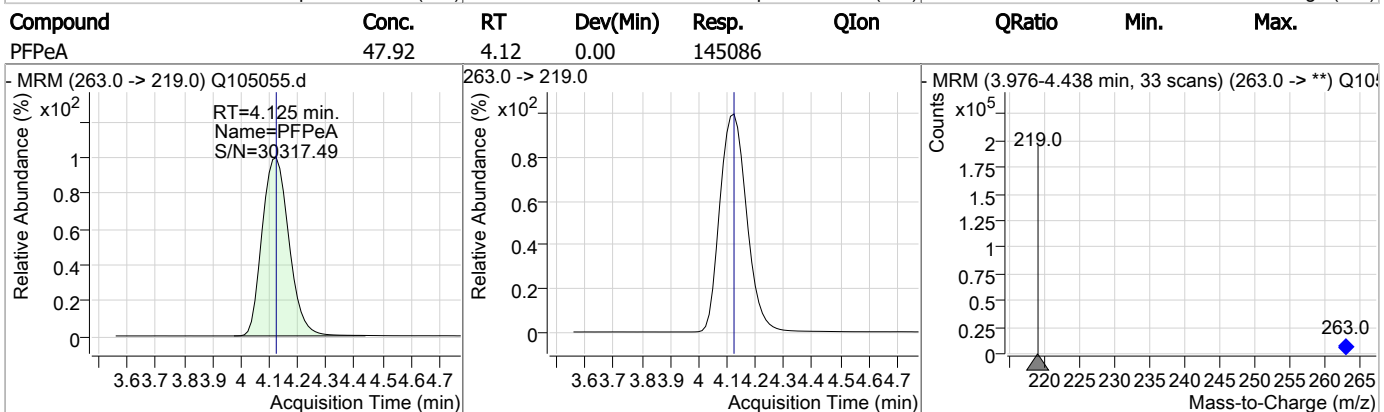
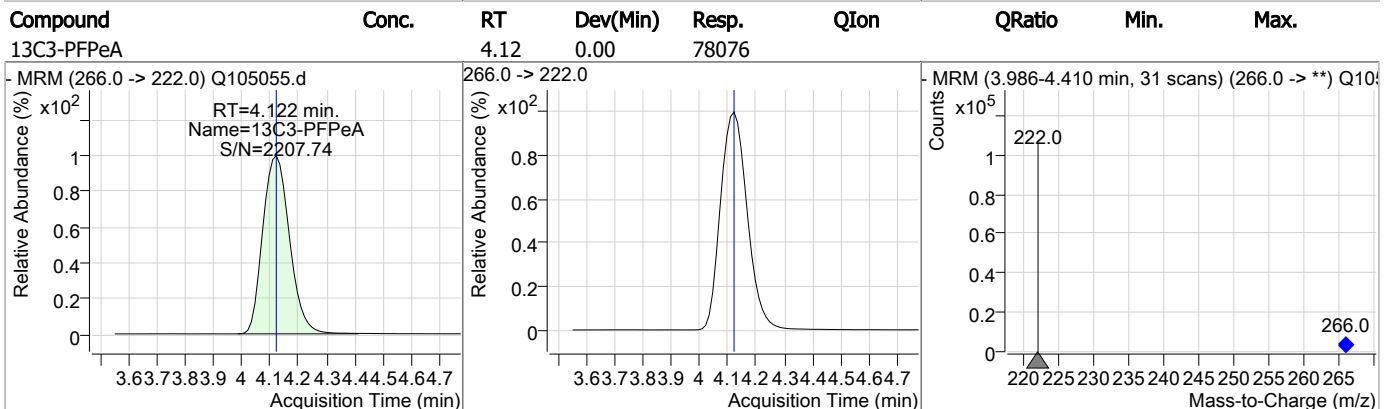
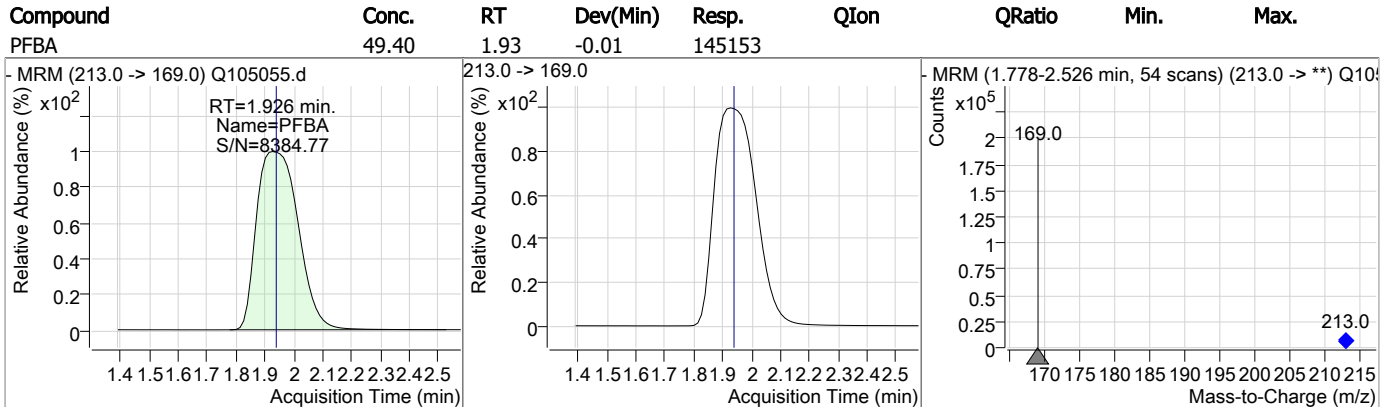
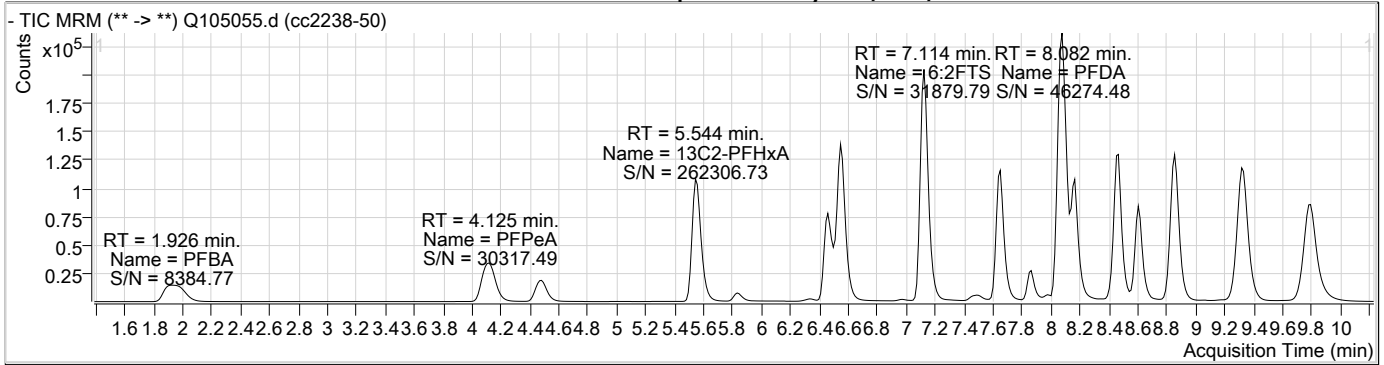
Data File : Q105055.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/8/2023 11:12:07 PM  
 Sample Name : cc2238-50  
 Vial : P1-A8  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.114	429.0 -> 409.0	50153	20.00 µg/L	-0.013
13C2-PFOA	7.129	415.0 -> 370.0	125217	20.00 µg/L	-0.013
13C3-PFPeA	4.122	266.0 -> 222.0	78076	20.00 µg/L	0.000
13C4-PFOS	7.641	503.0 -> 80.0	25471	20.00 µg/L	-0.013
d3-MeFOSAA	8.052	573.0 -> 419.0	73631	40.00 µg/L	-0.013
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.082	515.0 -> 470.0	303091	49.71 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 248.6%	
13C2-PFHxA	5.544	315.0 -> 270.0	238040	49.72 µg/L	-0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 248.6%	
d5-EtFOSAA	8.163	589.0 -> 419.0	199033	96.72 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 241.8%	
13C3-HFPO-DA	5.838	287.0 -> 169.0	13689	97.55 µg/L	-0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 243.9%	
<b>Target Compounds</b>					
6:2FTS	7.114	427.0 -> 407.0	124561	48.61 µg/L	QValue 99
8:2FTS	8.106	527.0 -> 507.0	119902	47.68 µg/L	98
EtFOSAA	8.164	584.0 -> 419.0	92980	49.17 µg/L	m 95
MeFOSAA	8.053	570.0 -> 419.0	92948	49.71 µg/L	m 91
PFBA	1.926	213.0 -> 169.0	145153	49.40 µg/L	100
PFBS	4.478	299.0 -> 80.0	72465	47.46 µg/L	100
PFDA	8.082	513.0 -> 469.0	310730	49.26 µg/L	99
PFDoDA	8.856	613.0 -> 569.0	533548	48.15 µg/L	100
PFHpA	6.464	363.0 -> 319.0	269856	47.17 µg/L	99
PFHpS	7.137	449.0 -> 80.0	51318	49.68 µg/L	100
PFHxA	5.546	313.0 -> 269.0	218532	48.00 µg/L	99
PFHxS	6.494	399.0 -> 80.0	54648	48.81 µg/L	m 95
PFNA	7.655	463.0 -> 419.0	266325	48.80 µg/L	100
PFOA	7.129	413.0 -> 369.0	295219	48.36 µg/L	99
PFOS	7.641	499.0 -> 80.0	72592	48.07 µg/L	m 85
PFPeA	4.125	263.0 -> 219.0	145086	47.92 µg/L	100
PFTeDA	9.790	713.0 -> 669.0	537517	47.19 µg/L	99
PFTTrDA	9.319	663.0 -> 619.0	608807	47.08 µg/L	100
PFUnDA	8.470	563.0 -> 519.0	392099	49.76 µg/L	100
ADONA	6.553	377.0 -> 251.0	387814	47.70 µg/L	100
9Cl-PF3ONS	7.867	531.0 -> 351.0	72289	50.53 µg/L	95
11Cl-PF3OUdS	8.601	631.0 -> 451.0	233895	46.78 µg/L	99
HFPO-DA	5.840	285.0 -> 169.0	8879	49.95 µg/L	99

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

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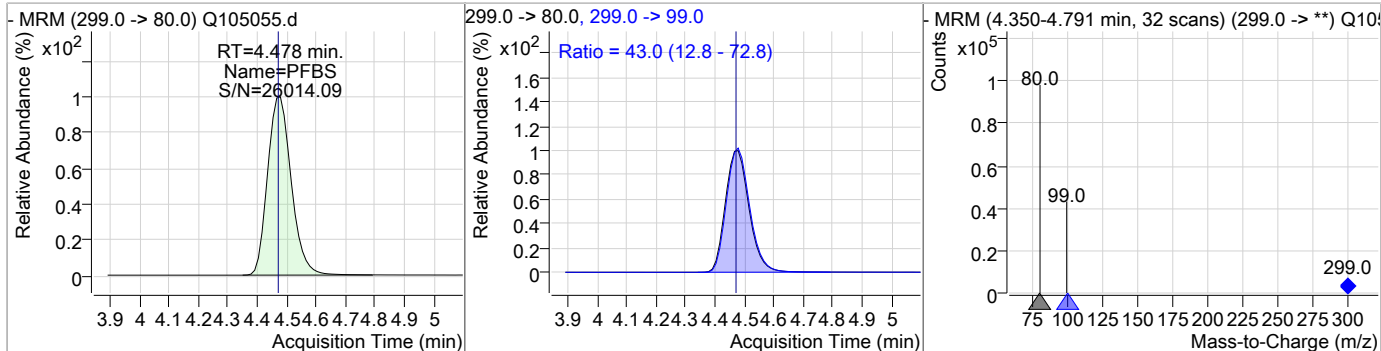
### Perfluorinated Compounds by LC/MS/MS



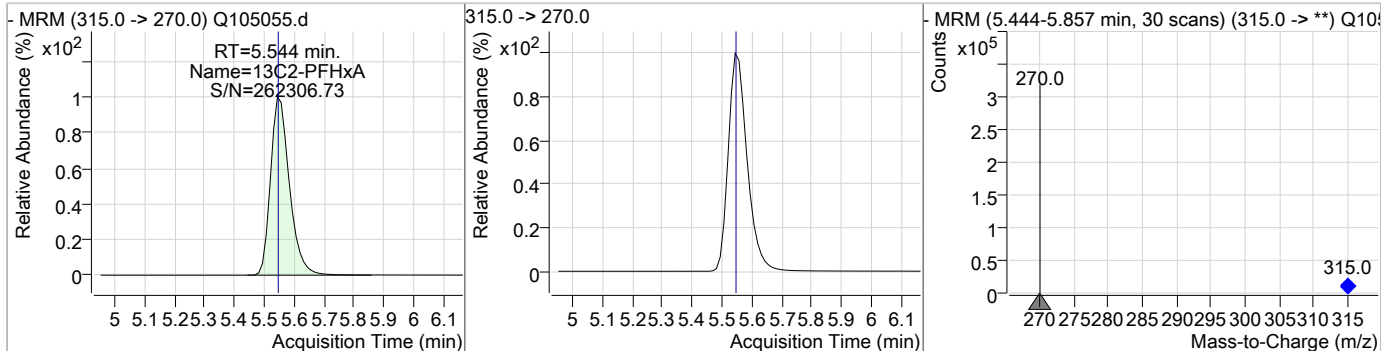


### Perfluorinated Compounds by LC/MS/MS

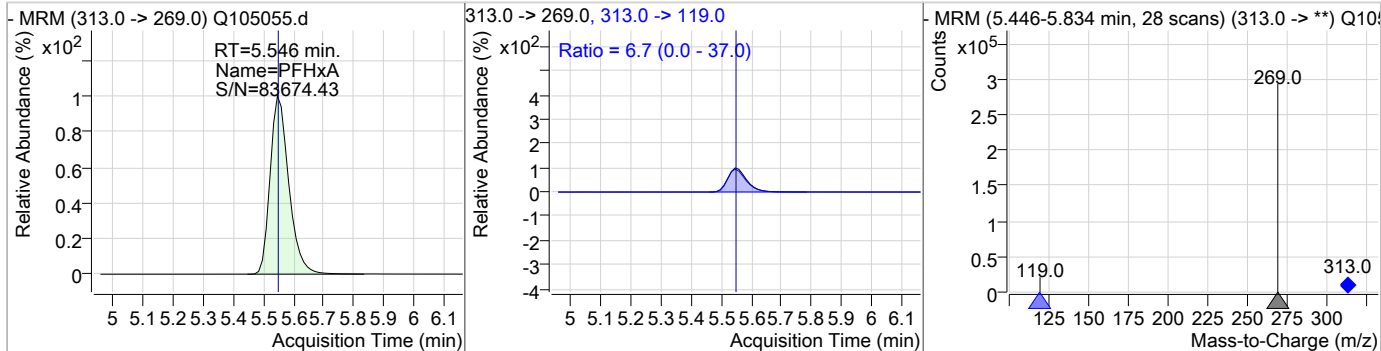
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	47.46	4.48	0.00	72465	299.0 -> 99.0	43.0	12.8	72.8



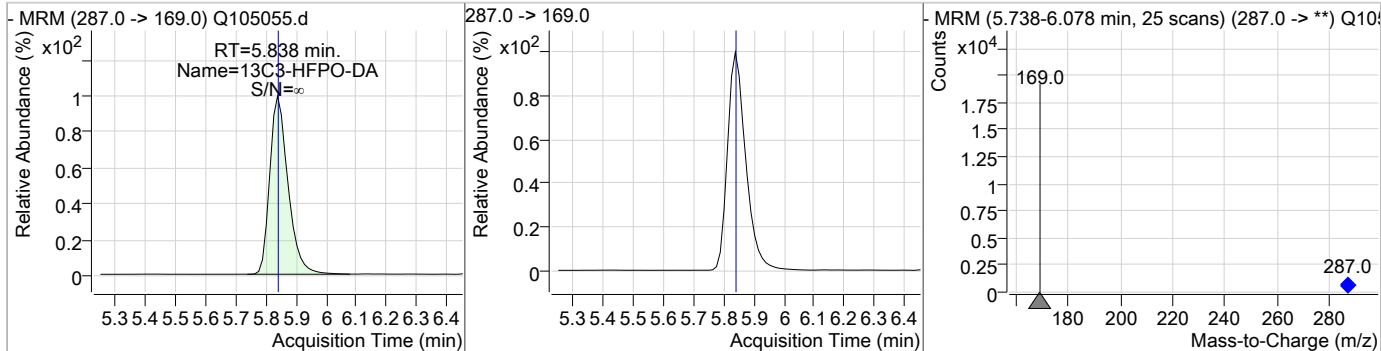
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	49.72	5.54	-0.01	238040				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	48.00	5.55	-0.01	218532	313.0 -> 119.0	6.7	0.0	37.0



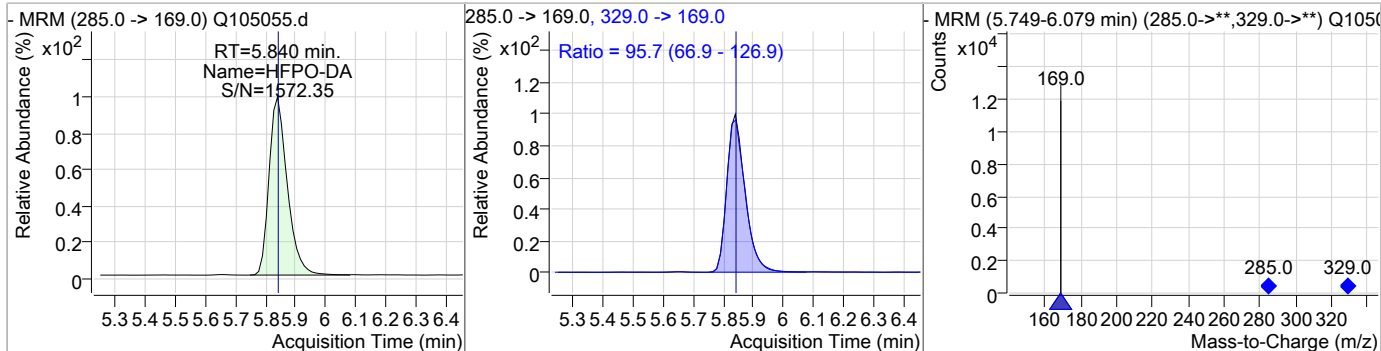
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	97.55	5.84	-0.01	13689				



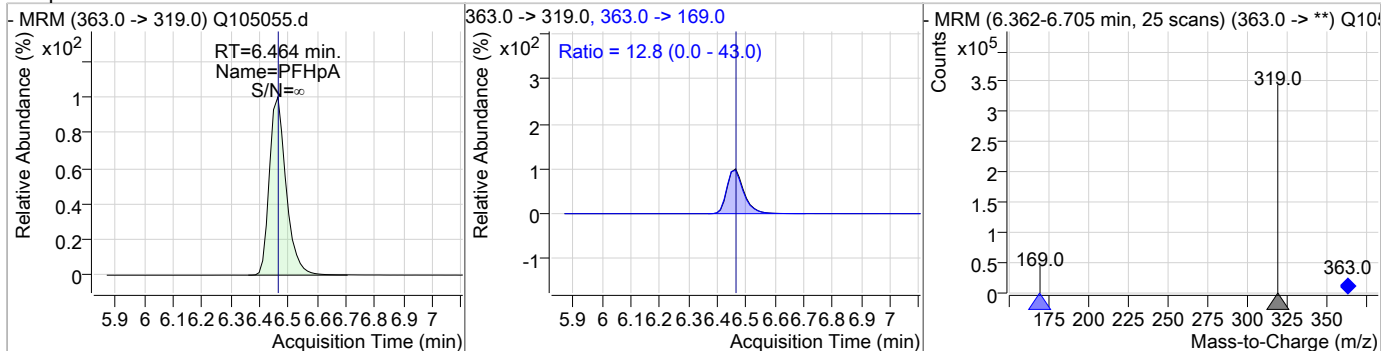
7.6.14  
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### Perfluorinated Compounds by LC/MS/MS

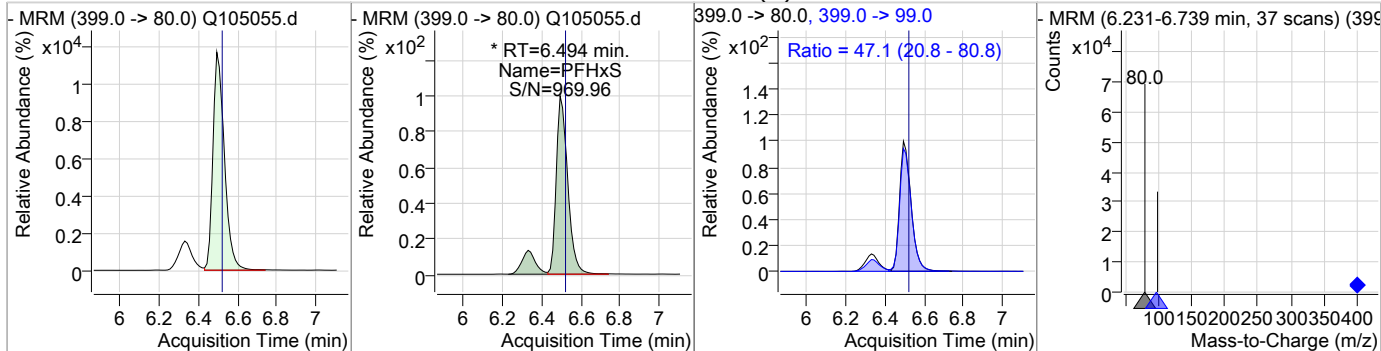
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	49.95	5.84	-0.01	8879	329.0 -> 169.0	95.7	66.9	126.9



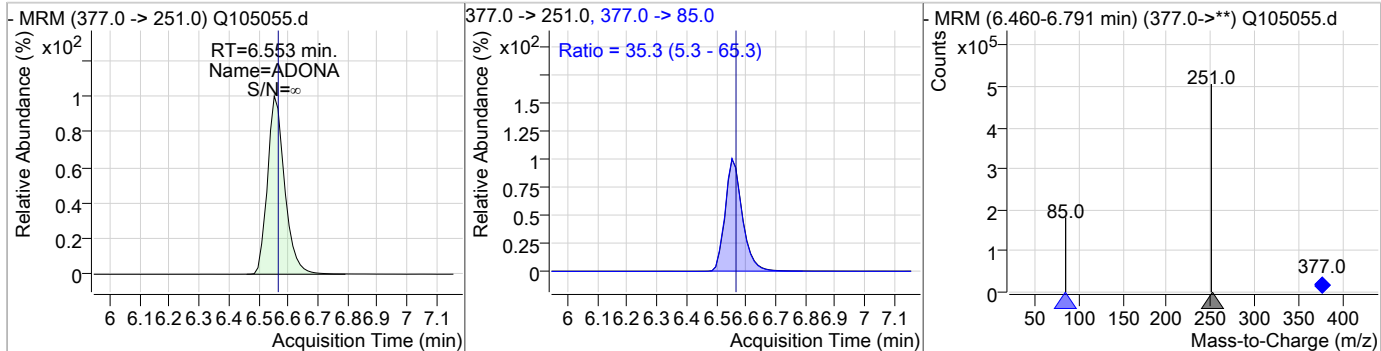
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	47.17	6.46	-0.01	269856	363.0 -> 169.0	12.8	0.0	43.0



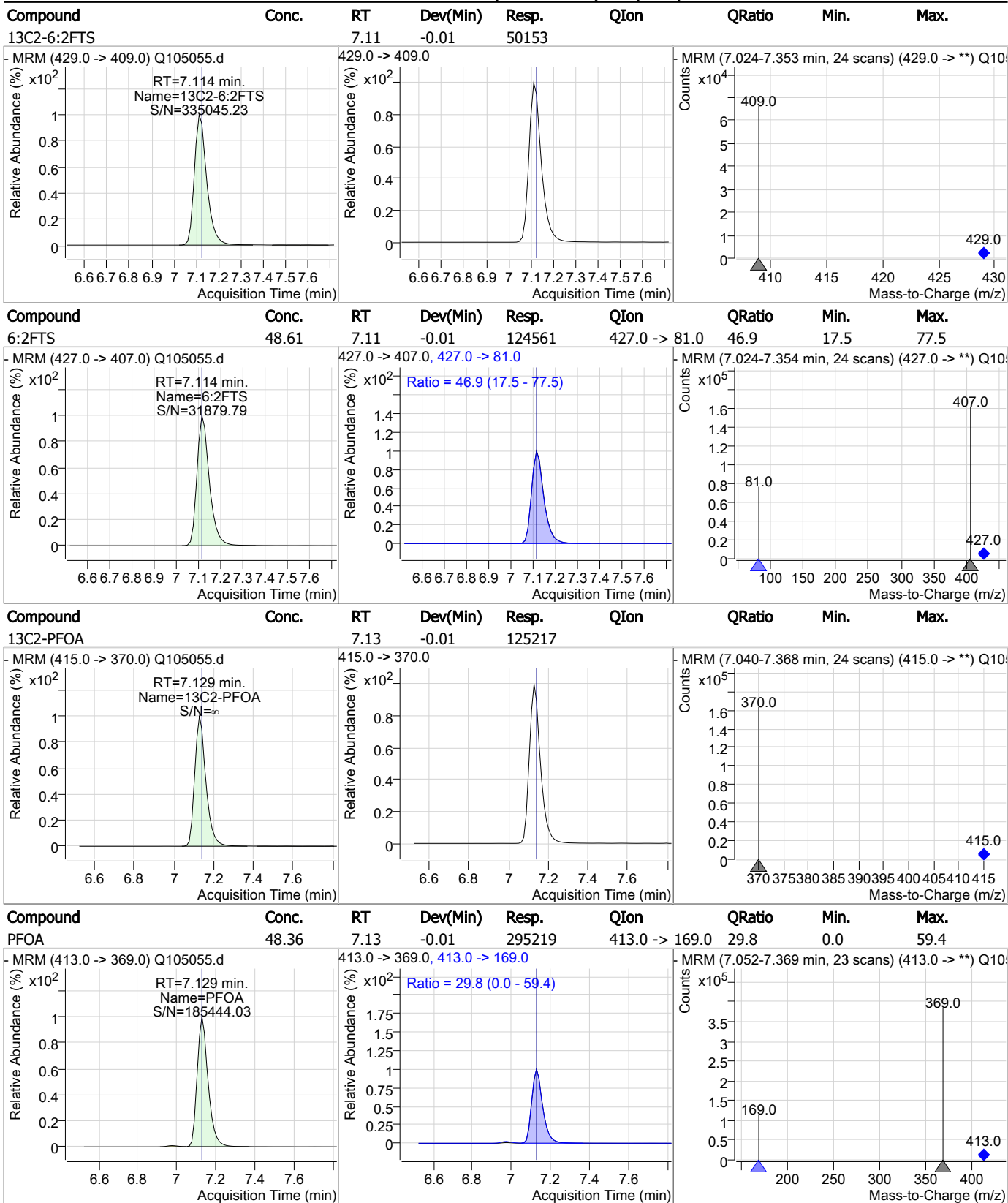
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	48.81	6.49	-0.03	54648 (m)	399.0 -> 99.0	47.1	20.8	80.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	47.70	6.55	-0.03	387814	377.0 -> 85.0	35.3	5.3	65.3



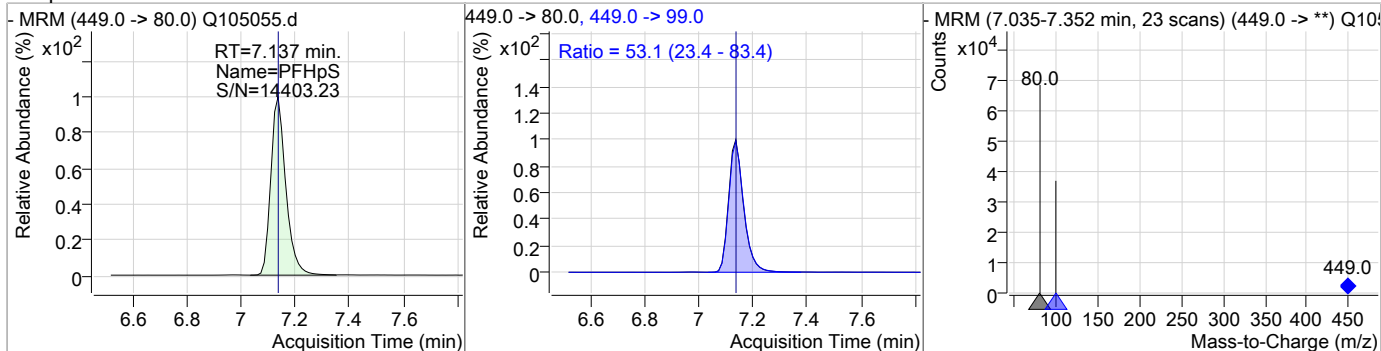
### Perfluorinated Compounds by LC/MS/MS



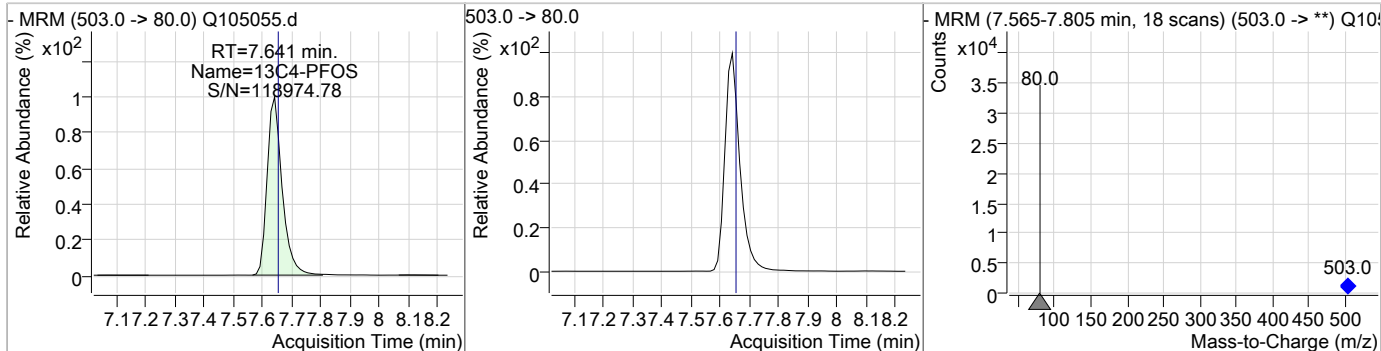
7.6.14

### Perfluorinated Compounds by LC/MS/MS

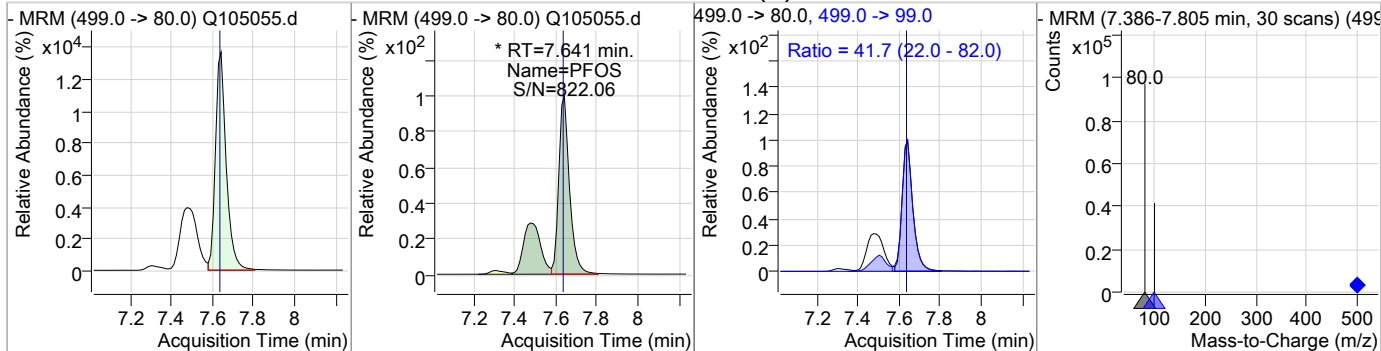
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	49.68	7.14	-0.01	51318	449.0 -> 99.0	53.1	23.4	83.4



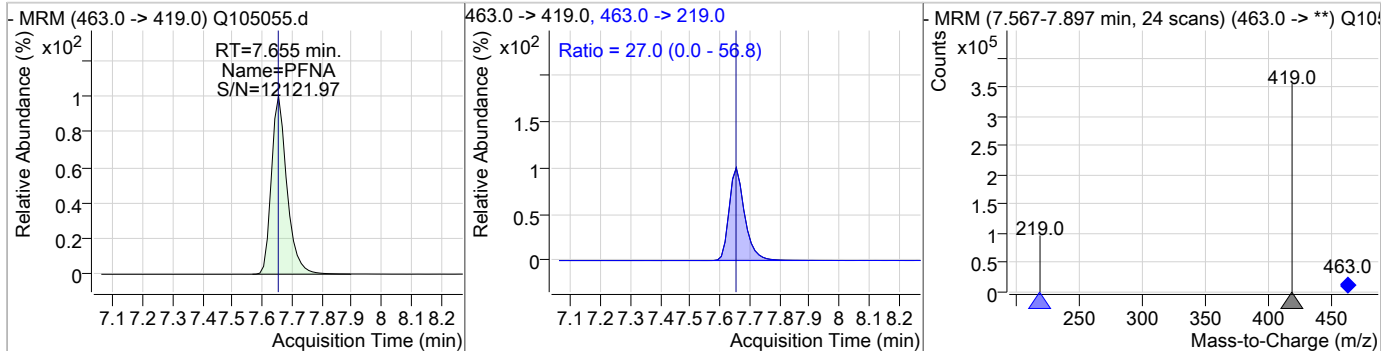
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS	49.68	7.64	-0.01	25471	449.0 -> 99.0	53.1	23.4	83.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	48.07	7.64	-0.01	72592 (m)	499.0 -> 99.0	41.7	22.0	82.0



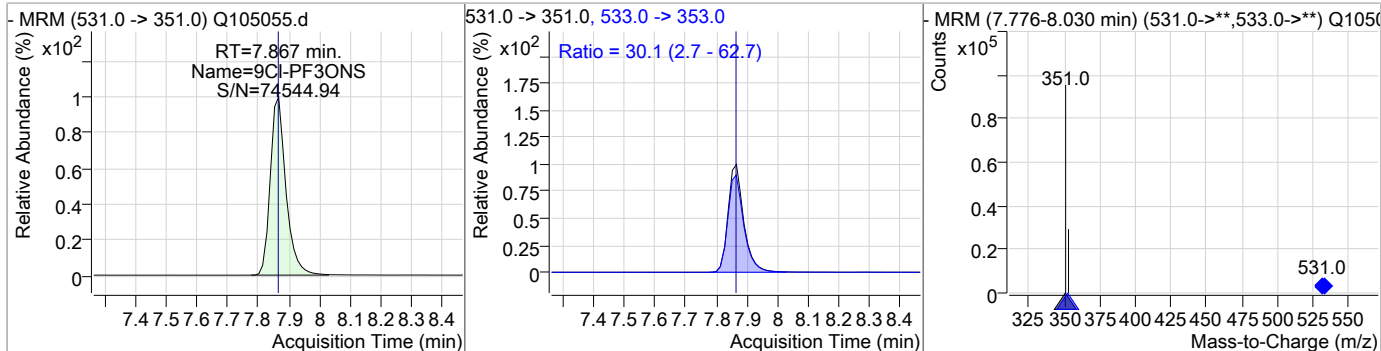
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	48.80	7.65	-0.01	266325	463.0 -> 219.0	27.0	0.0	56.8



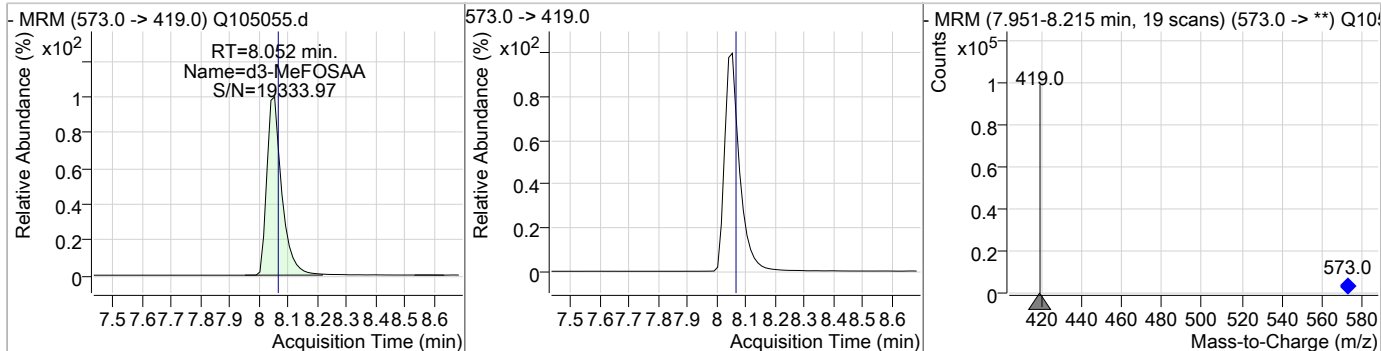
7.6.14  
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### Perfluorinated Compounds by LC/MS/MS

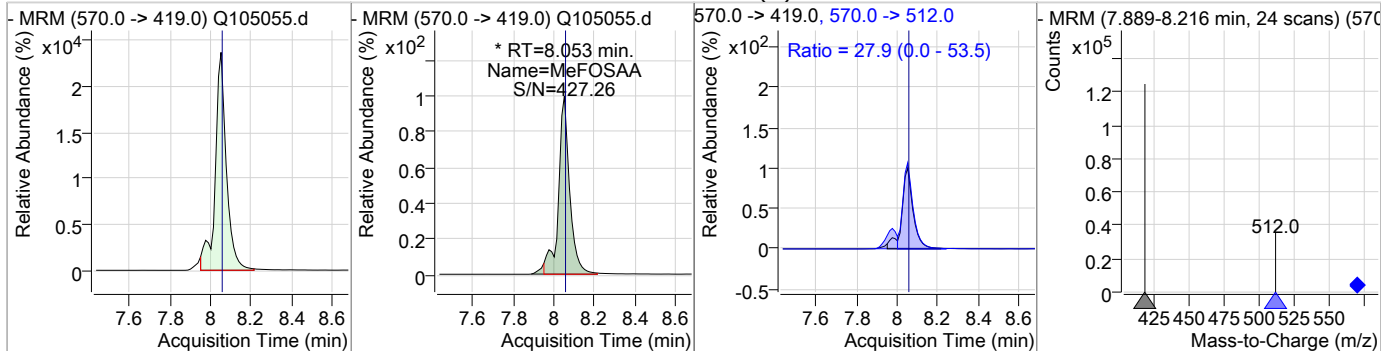
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	50.53	7.87	-0.01	72289	533.0 -> 353.0	30.1	2.7	62.7



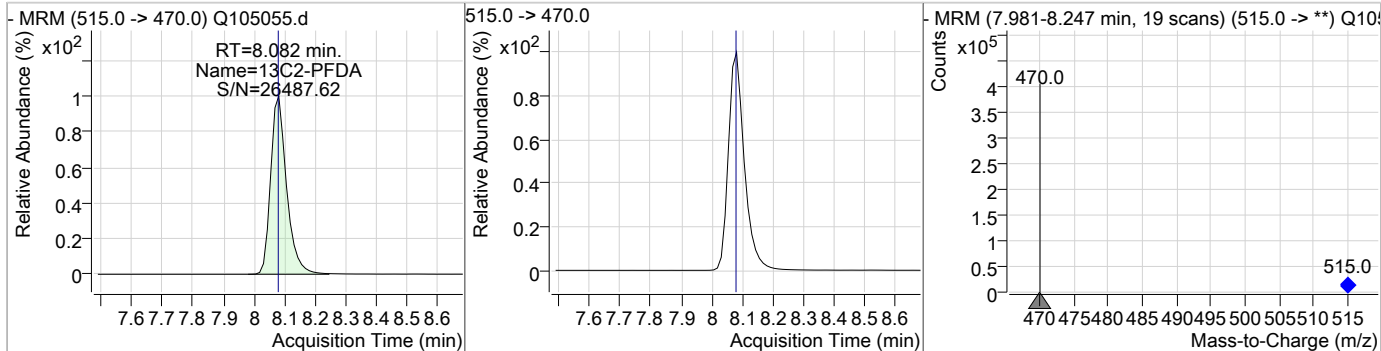
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.05	-0.01	73631				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	49.71	8.05	-0.01	92948 (m)	570.0 -> 512.0	27.9	0.0	53.5

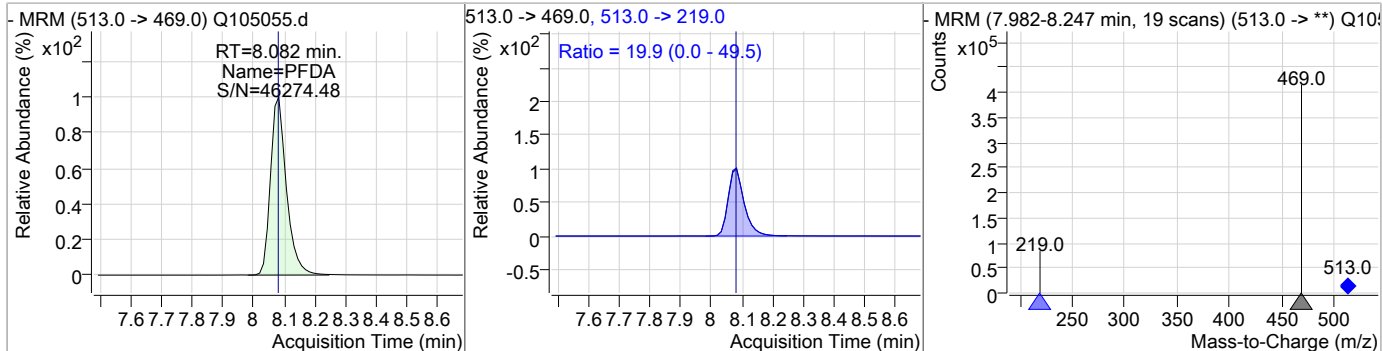


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	49.71	8.08	-0.01	303091				

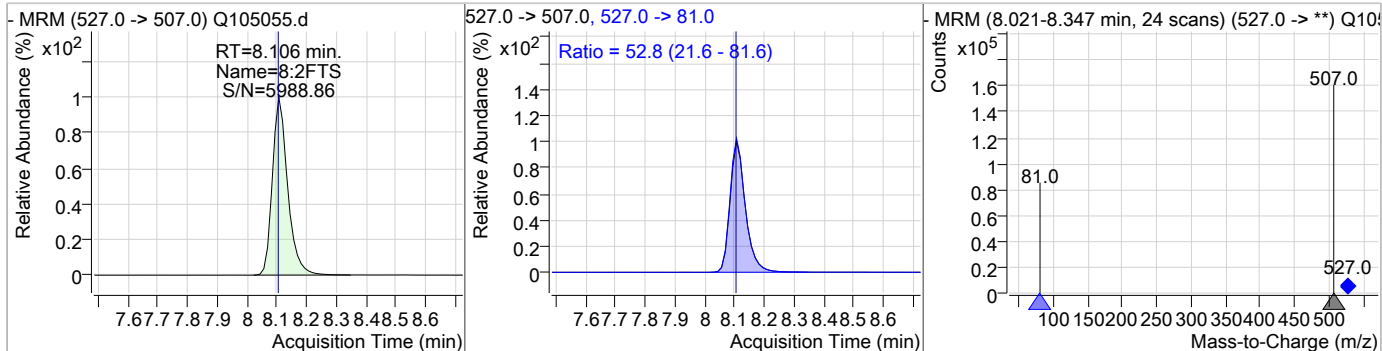


### Perfluorinated Compounds by LC/MS/MS

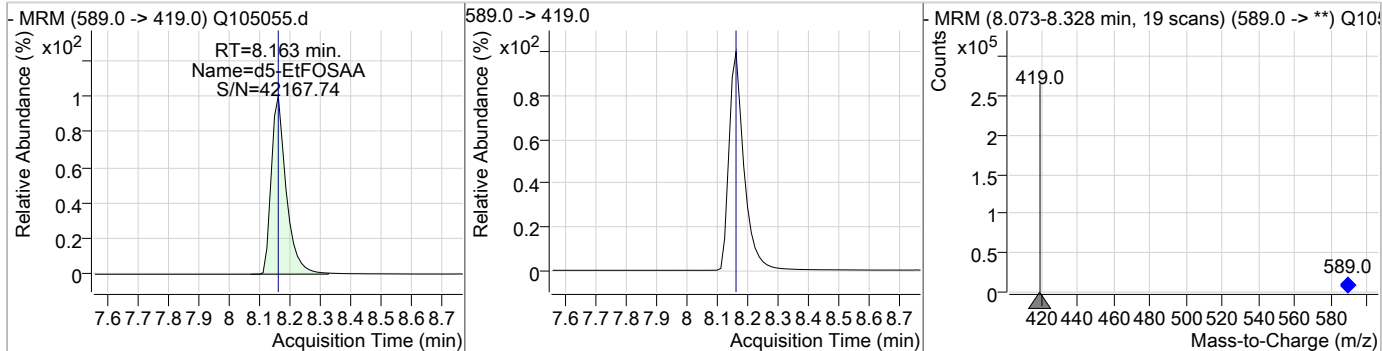
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	49.26	8.08	-0.01	310730	513.0 -> 219.0	19.9	0.0	49.5



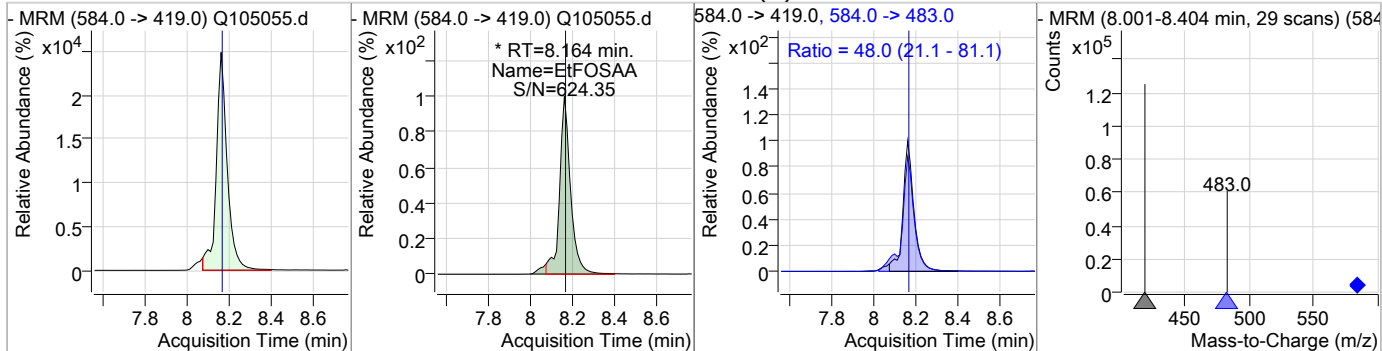
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	47.68	8.11	-0.01	119902	527.0 -> 81.0	52.8	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	96.72	8.16	-0.01	199033	589.0 -> 419.0	48.0	21.1	81.1



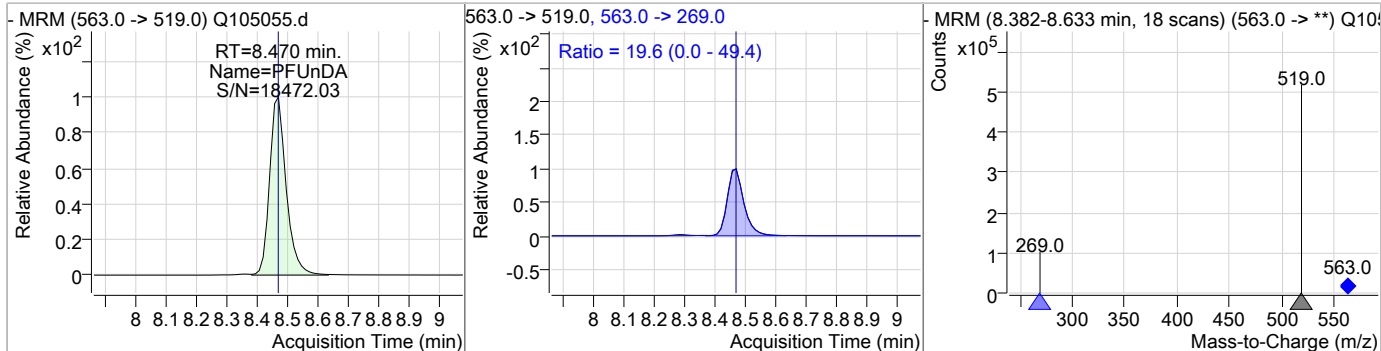
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	49.17	8.16	-0.01	92980 (m)	584.0 -> 483.0	48.0	21.1	81.1



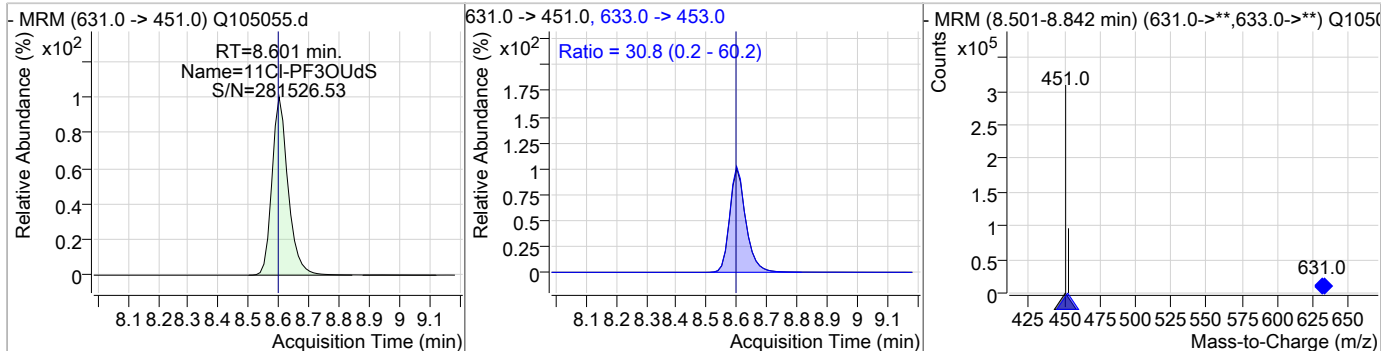
7.6.14 7

### Perfluorinated Compounds by LC/MS/MS

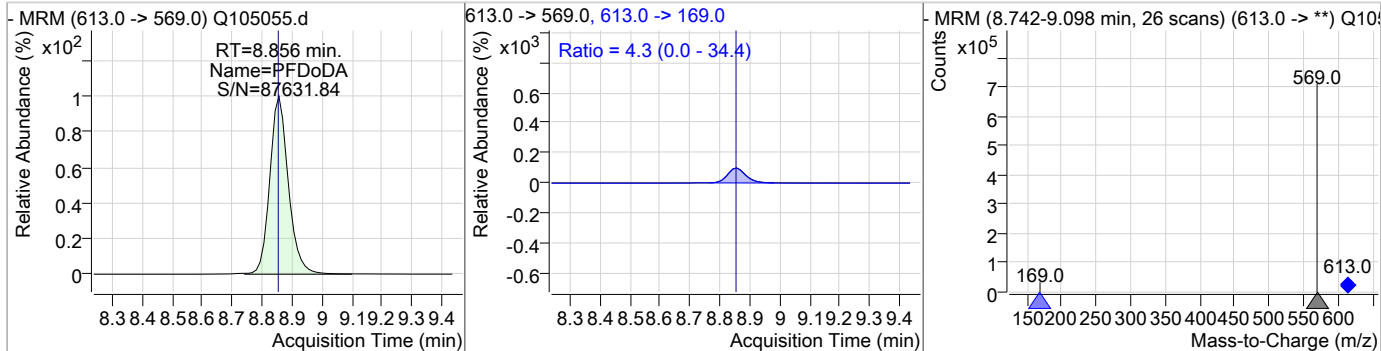
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	49.76	8.47	-0.01	392099	563.0 -> 269.0	19.6	0.0	49.4



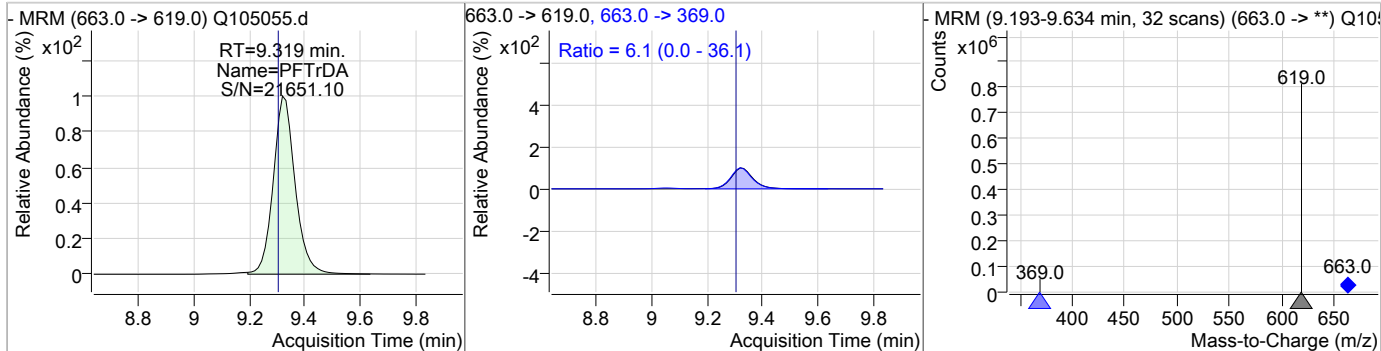
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	46.78	8.60	-0.01	233895	633.0 -> 453.0	30.8	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	48.15	8.86	-0.01	533548	613.0 -> 169.0	4.3	0.0	34.4

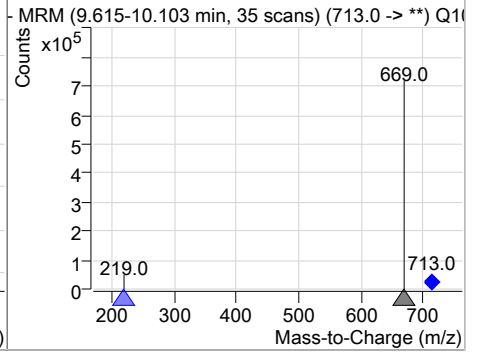
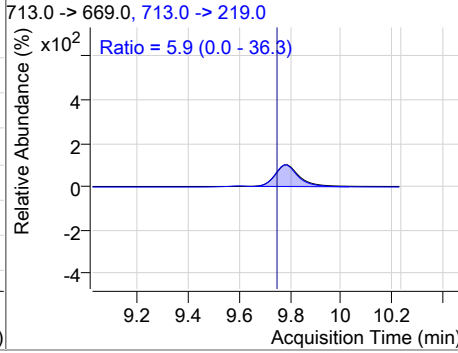
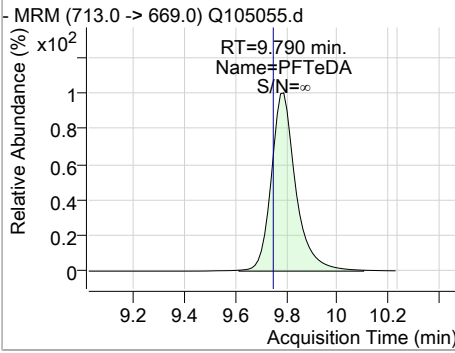


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	47.08	9.32	0.00	608807	663.0 -> 369.0	6.1	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	47.19	9.79	0.03	537517	713.0 -> 219.0	5.9	0.0	36.3



7.6.14

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# Manual Integration Approval Summary

Sample Number: SQ2238-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105055.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/08/23 23:12      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.49	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.64	Split peak
MeFOSAA	2355-31-9		8.05	Split peak
EtFOSAA	2991-50-6		8.16	Split peak

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## Perfluorinated Compounds by LC/MS/MS

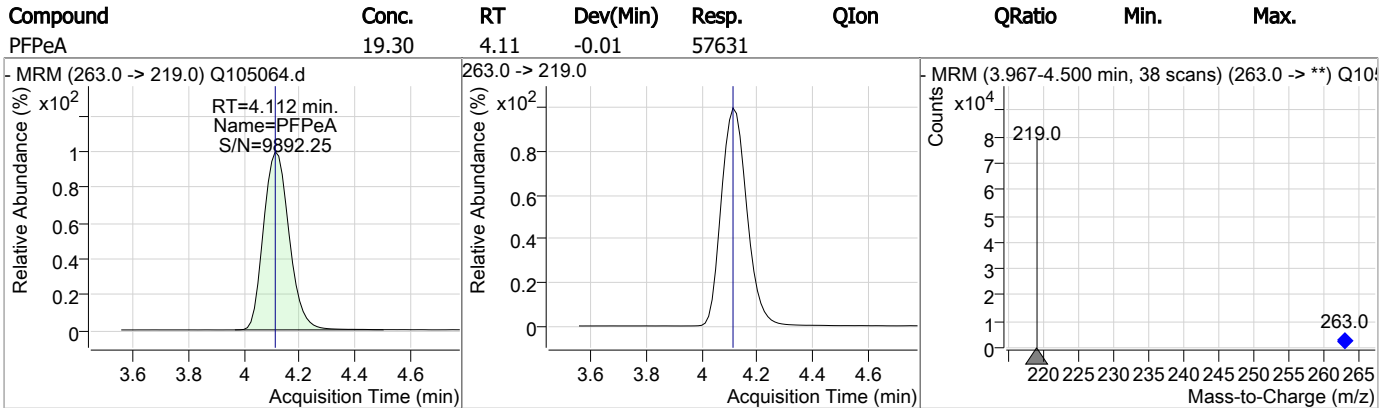
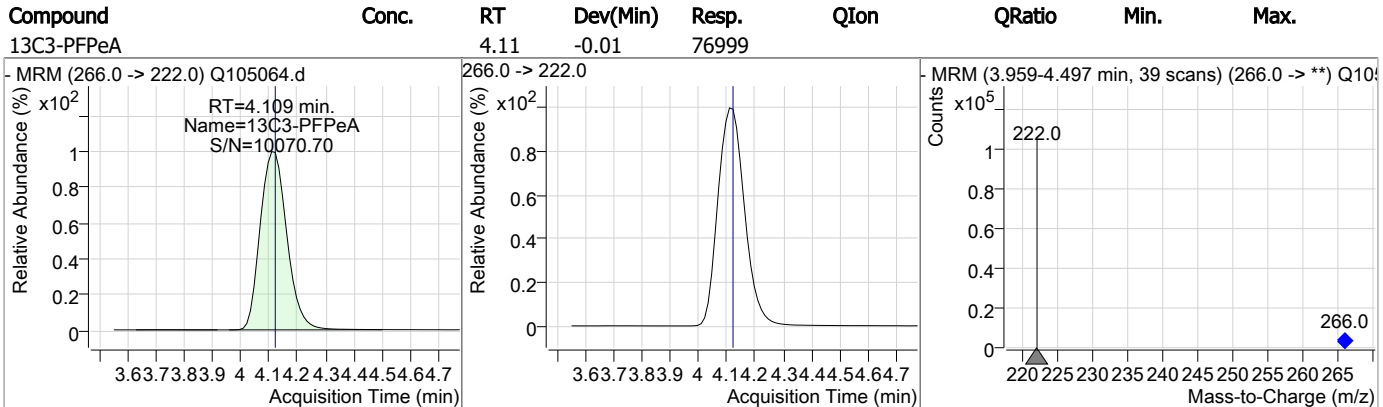
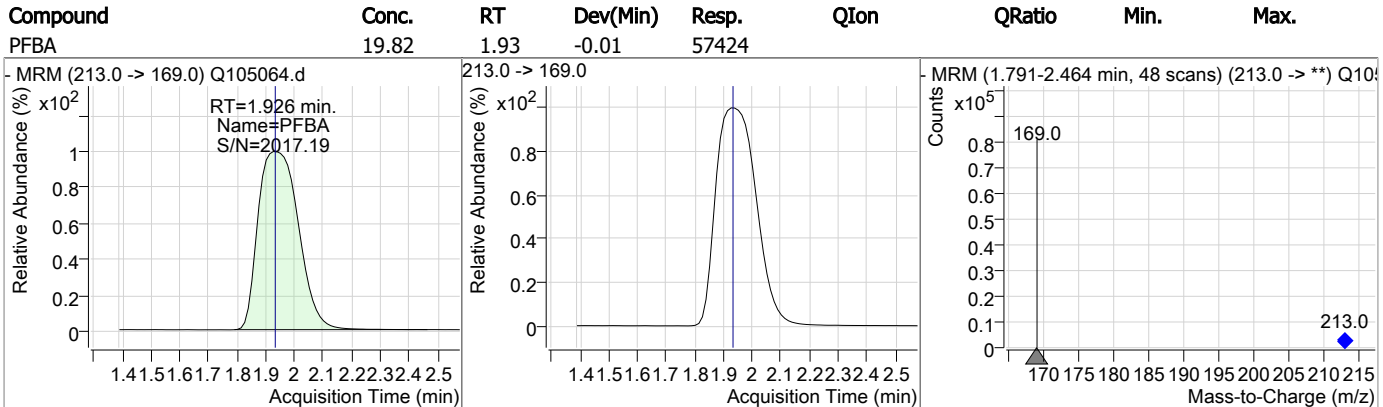
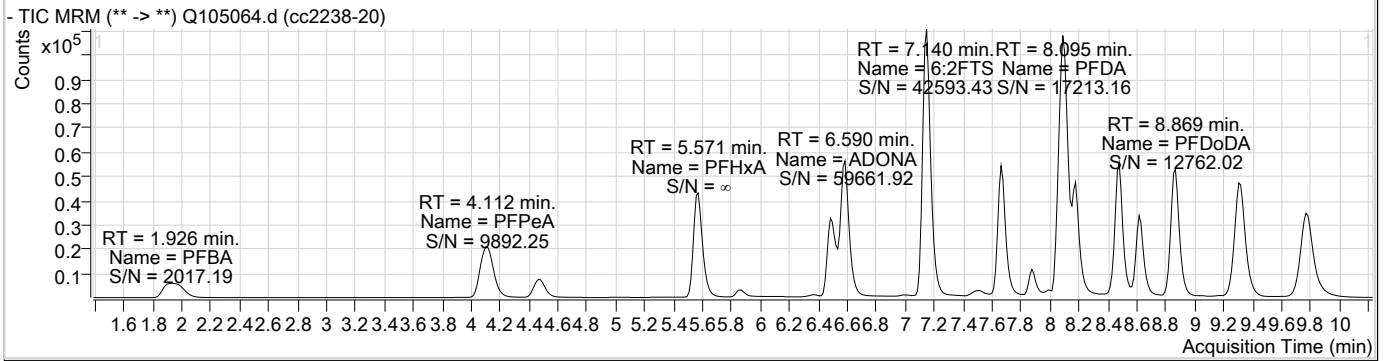
Data File : Q105064.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/9/2023 1:34:08 AM  
 Sample Name : cc2238-20  
 Vial : P1-A7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2238.batch.bin  
 Sample Information : op97472,SQ2238,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.139	429.0 -> 409.0	48338	20.00 µg/L	0.013
13C2-PFOA	7.154	415.0 -> 370.0	125757	20.00 µg/L	0.013
13C3-PFPeA	4.109	266.0 -> 222.0	76999	20.00 µg/L	-0.013
13C4-PFOS	7.653	503.0 -> 80.0	25920	20.00 µg/L	0.000
d3-MeFOSAA	8.065	573.0 -> 419.0	76827	40.00 µg/L	0.000
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.095	515.0 -> 470.0	130813	21.36 µg/L	0.000
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 106.8%	
13C2-PFHxA	5.569	315.0 -> 270.0	95003	20.38 µg/L	0.013
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 101.9%	
d5-EtFOSAA	8.176	589.0 -> 419.0	84858	41.24 µg/L	0.000
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 103.1%	
13C3-HFPO-DA	5.863	287.0 -> 169.0	5536	39.28 µg/L	0.013
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 98.2%	
<b>Target Compounds</b>					
6:2FTS	7.140	427.0 -> 407.0	52491	19.81 µg/L	100
8:2FTS	8.131	527.0 -> 507.0	51709	20.00 µg/L	99
EtFOSAA	8.177	584.0 -> 419.0	38498	20.54 µg/L	m 96
MeFOSAA	8.065	570.0 -> 419.0	39763	20.38 µg/L	m 92
PFBA	1.926	213.0 -> 169.0	57424	19.82 µg/L	100
PFBS	4.466	299.0 -> 80.0	28697	18.47 µg/L	99
PFDA	8.095	513.0 -> 469.0	134265	21.19 µg/L	100
PFDoDA	8.869	613.0 -> 569.0	212982	18.89 µg/L	100
PFHpA	6.490	363.0 -> 319.0	113754	19.80 µg/L	99
PFHpS	7.163	449.0 -> 80.0	21182	20.15 µg/L	98
PFHxA	5.571	313.0 -> 269.0	86936	19.02 µg/L	99
PFHxS	6.538	399.0 -> 80.0	23037	20.22 µg/L	m 97
PFNA	7.667	463.0 -> 419.0	113672	20.74 µg/L	100
PFOA	7.155	413.0 -> 369.0	121999	19.90 µg/L	100
PFOS	7.654	499.0 -> 80.0	29954	19.49 µg/L	m 87
PFPeA	4.112	263.0 -> 219.0	57631	19.30 µg/L	100
PFTeDA	9.765	713.0 -> 669.0	215873	18.62 µg/L	100
PFTrDA	9.306	663.0 -> 619.0	240648	18.29 µg/L	100
PFUnDA	8.483	563.0 -> 519.0	162054	20.21 µg/L	100
ADONA	6.590	377.0 -> 251.0	155416	19.03 µg/L	100
9Cl-PF3ONS	7.879	531.0 -> 351.0	28535	20.51 µg/L	95
11Cl-PF3OUdS	8.614	631.0 -> 451.0	94325	18.78 µg/L	99
HFPO-DA	5.865	285.0 -> 169.0	3637	20.37 µg/L	99

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

7.6.15  
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### Perfluorinated Compounds by LC/MS/MS

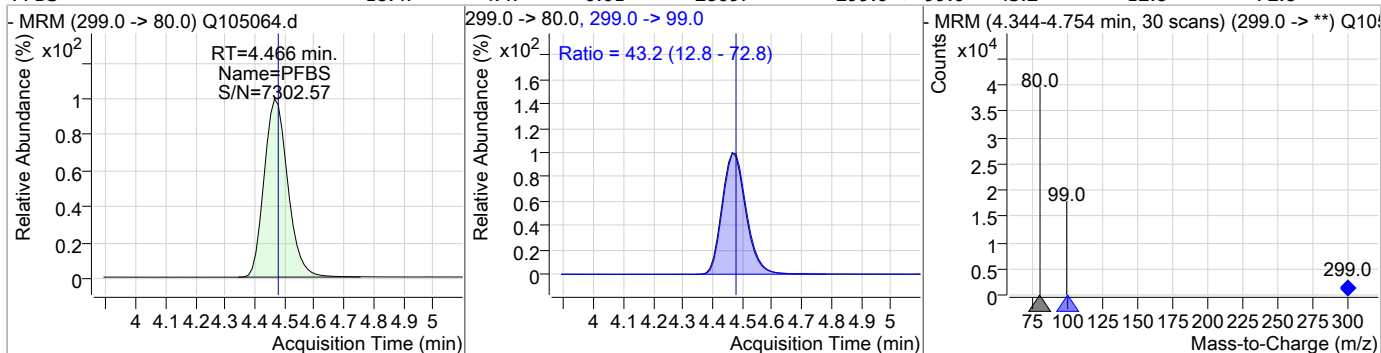


7.6.15  
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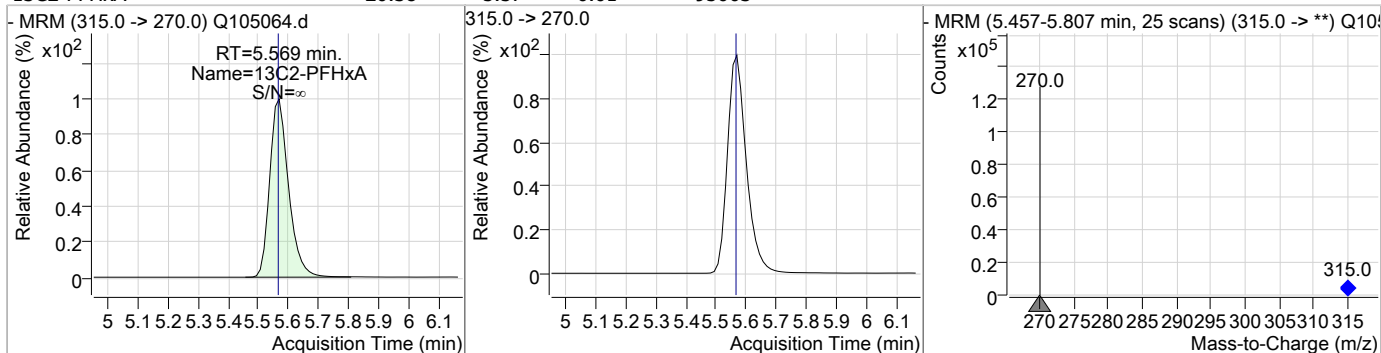


### Perfluorinated Compounds by LC/MS/MS

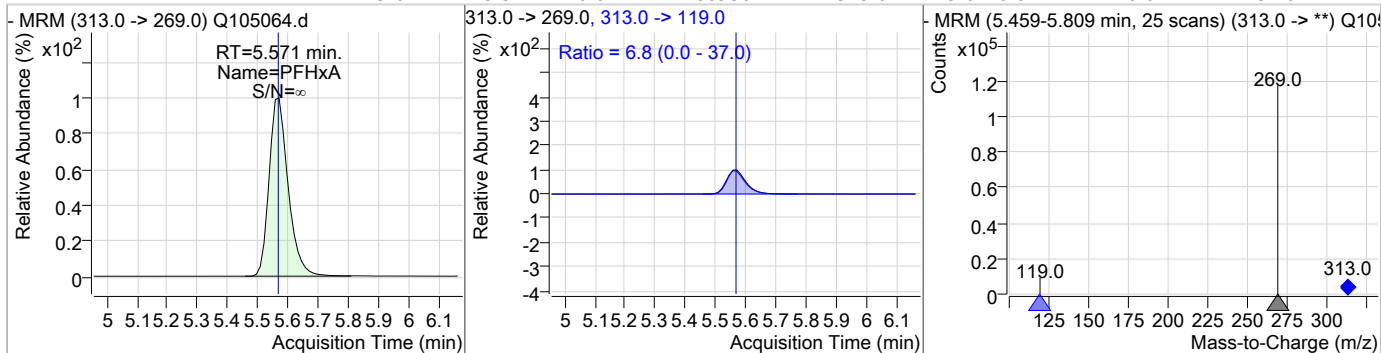
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	18.47	4.47	-0.01	28697	299.0 -> 99.0	43.2	12.8	72.8



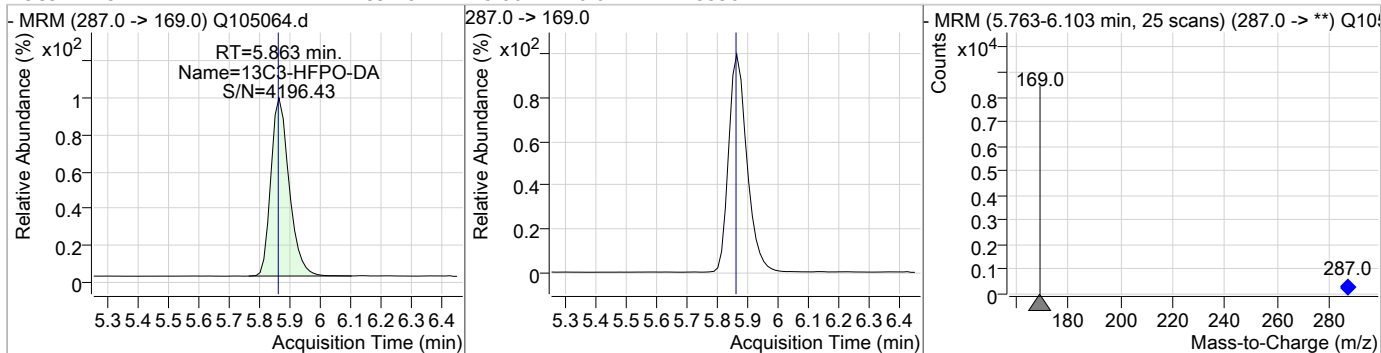
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	20.38	5.57	0.01	95003				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.02	5.57	0.01	86936	313.0 -> 119.0	6.8	0.0	37.0



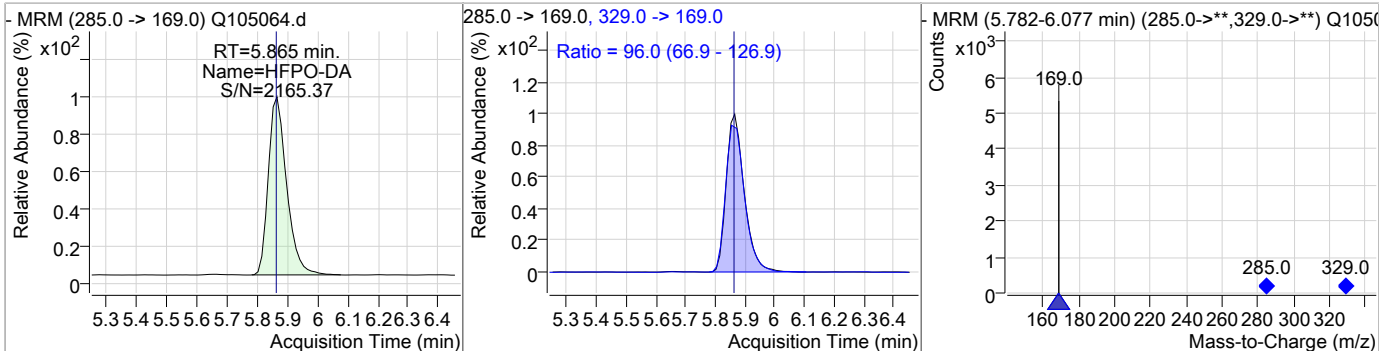
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	39.28	5.86	0.01	5536				



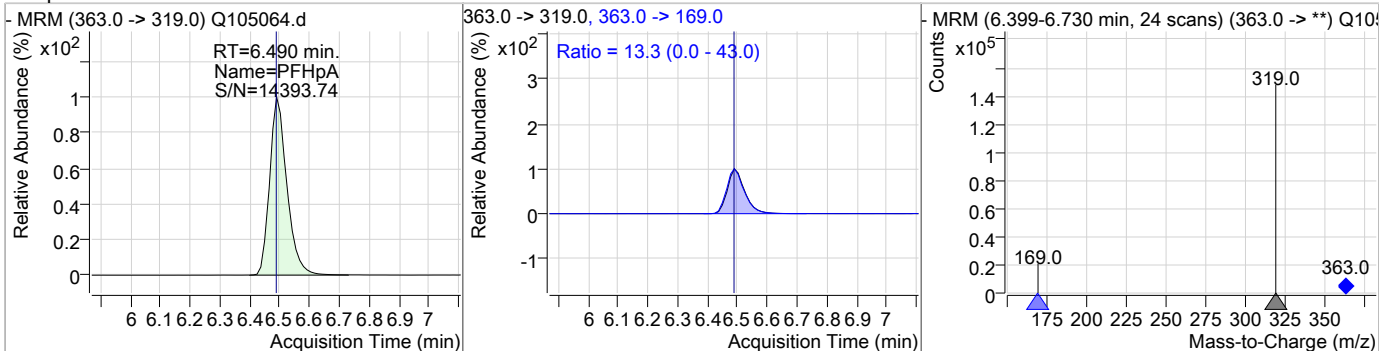
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### Perfluorinated Compounds by LC/MS/MS

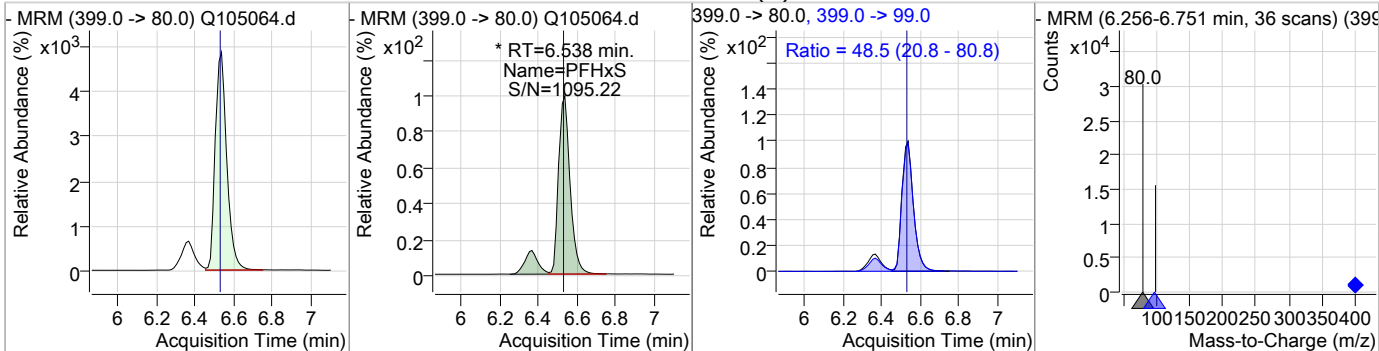
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.37	5.87	0.01	3637	329.0 -> 169.0	96.0	66.9	126.9



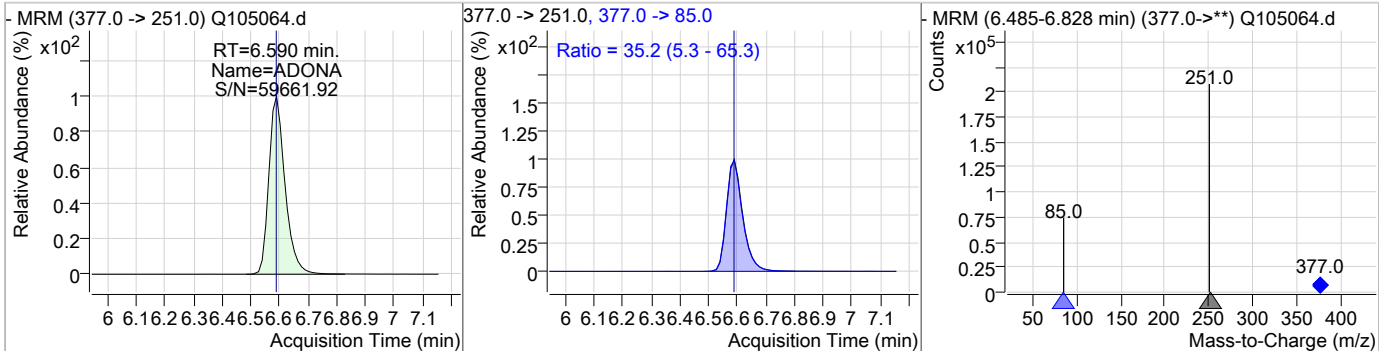
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.80	6.49	0.01	113754	363.0 -> 169.0	13.3	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	20.22	6.54	0.01	23037 (m)	399.0 -> 99.0	48.5	20.8	80.8

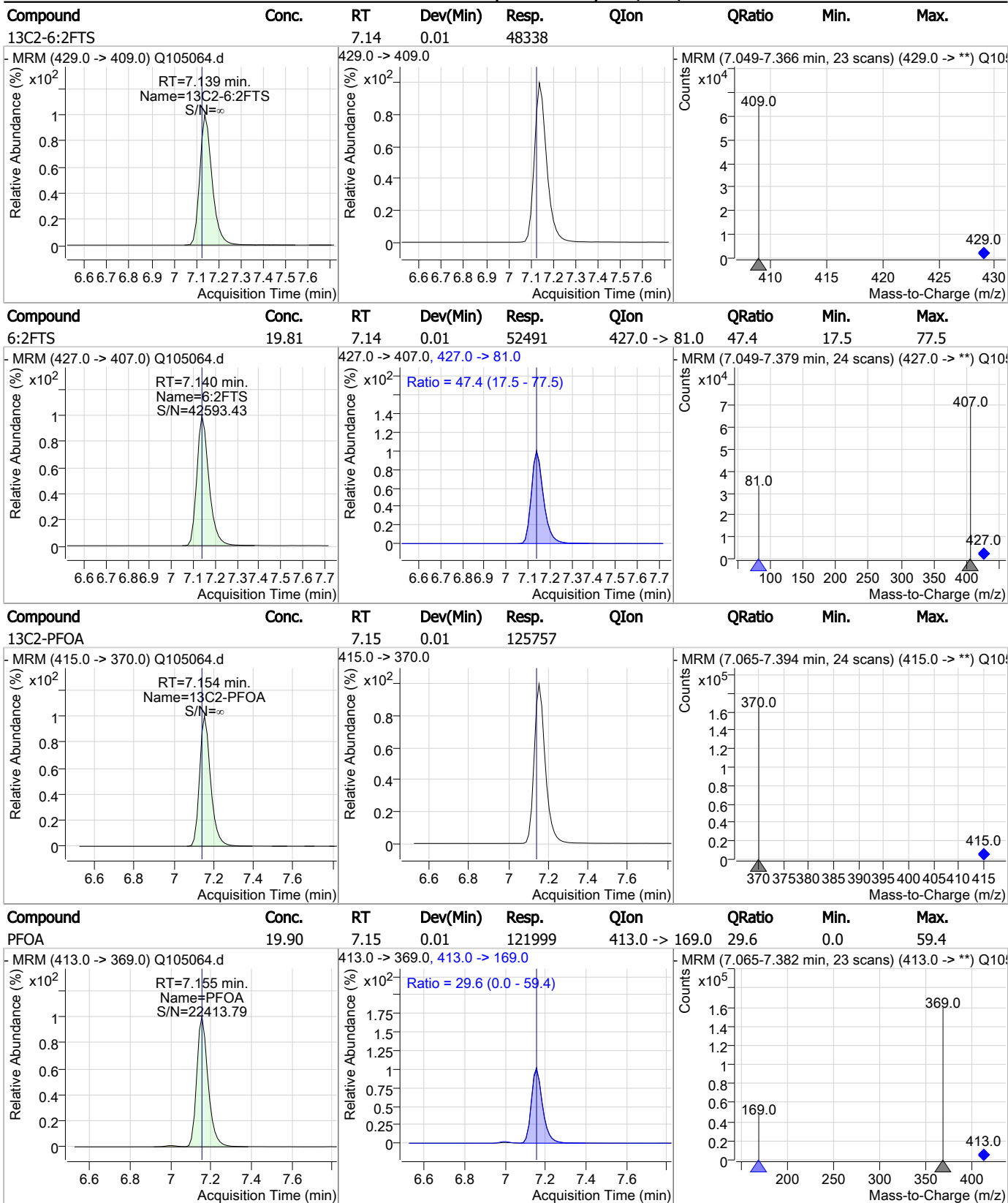


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	19.03	6.59	0.01	155416	377.0 -> 85.0	35.2	5.3	65.3



7.6.15

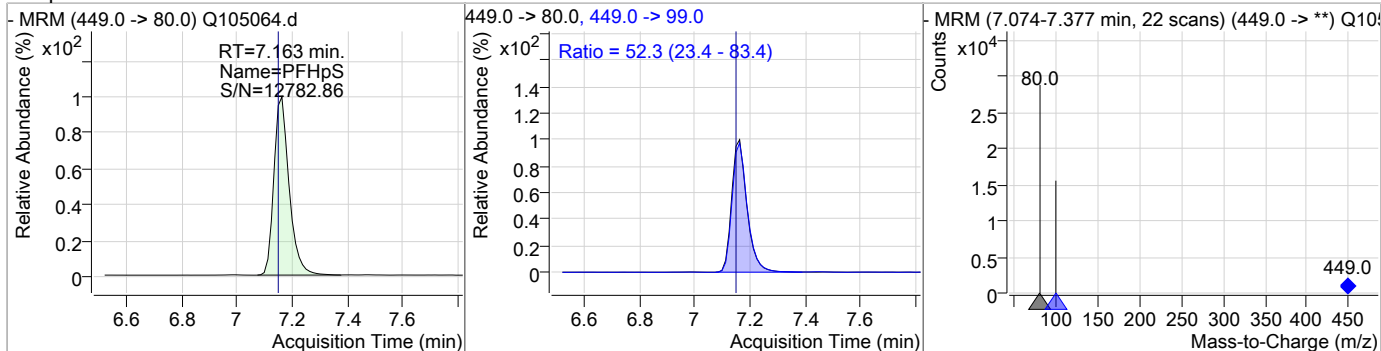
### Perfluorinated Compounds by LC/MS/MS



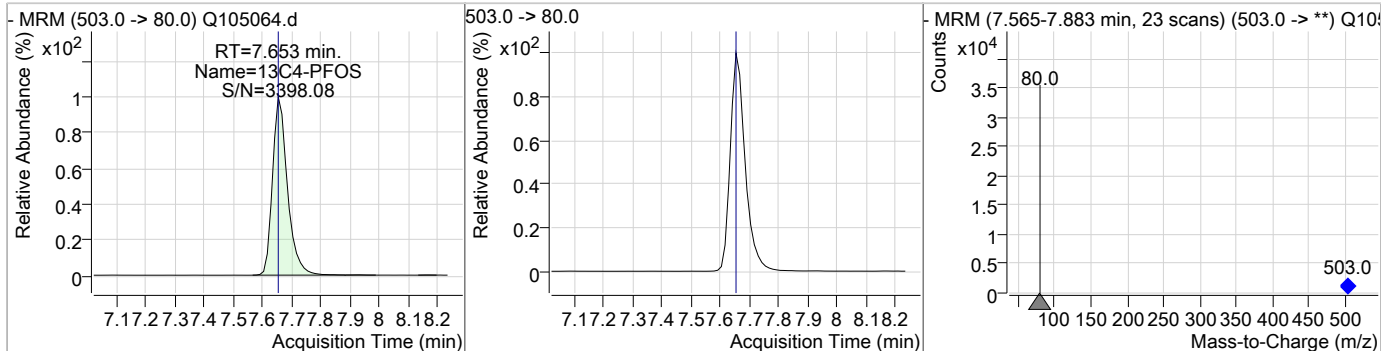
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### Perfluorinated Compounds by LC/MS/MS

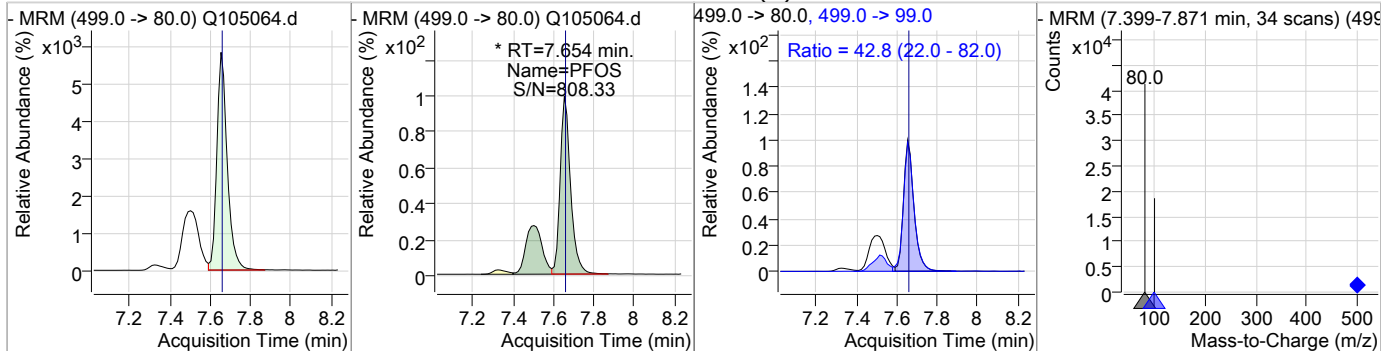
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.15	7.16	0.01	21182	449.0 -> 99.0	52.3	23.4	83.4



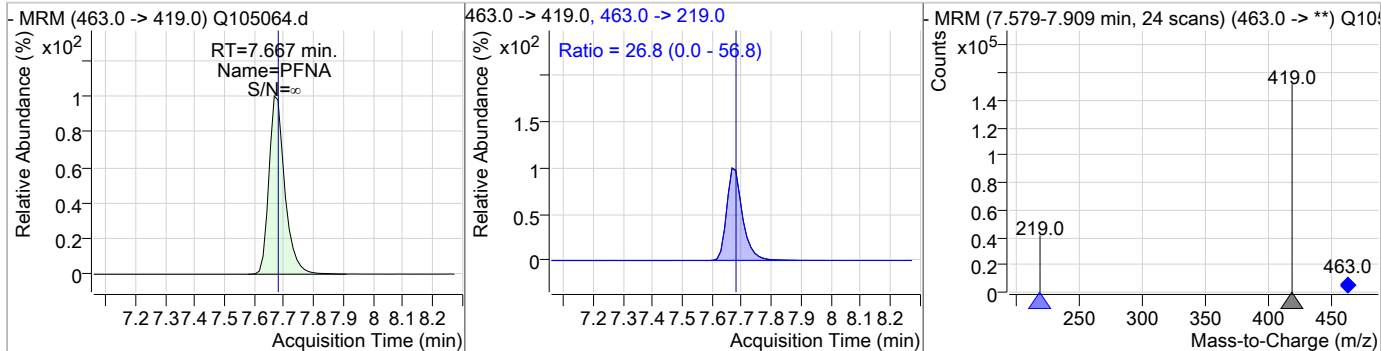
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.65	0.00	25920				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.49	7.65	0.00	29954 (m)	499.0 -> 99.0	42.8	22.0	82.0

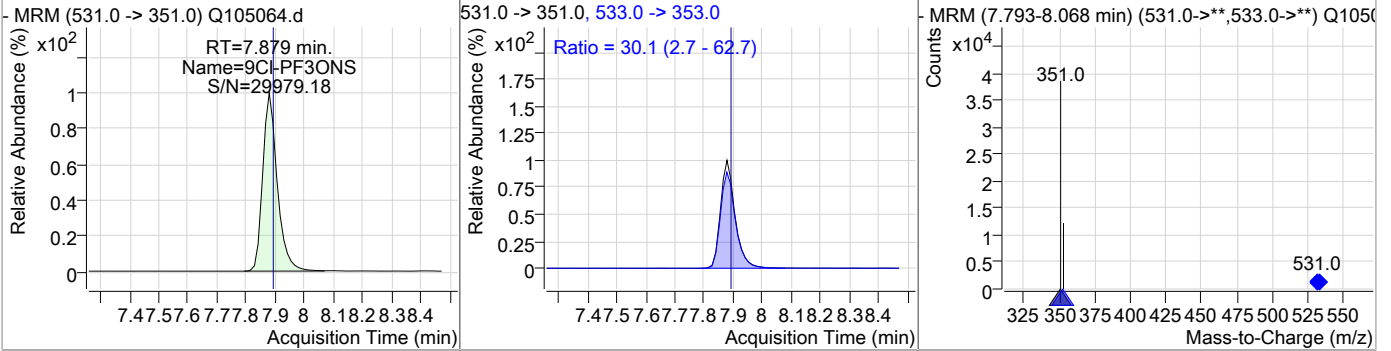


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	20.74	7.67	0.00	113672	463.0 -> 219.0	26.8	0.0	56.8

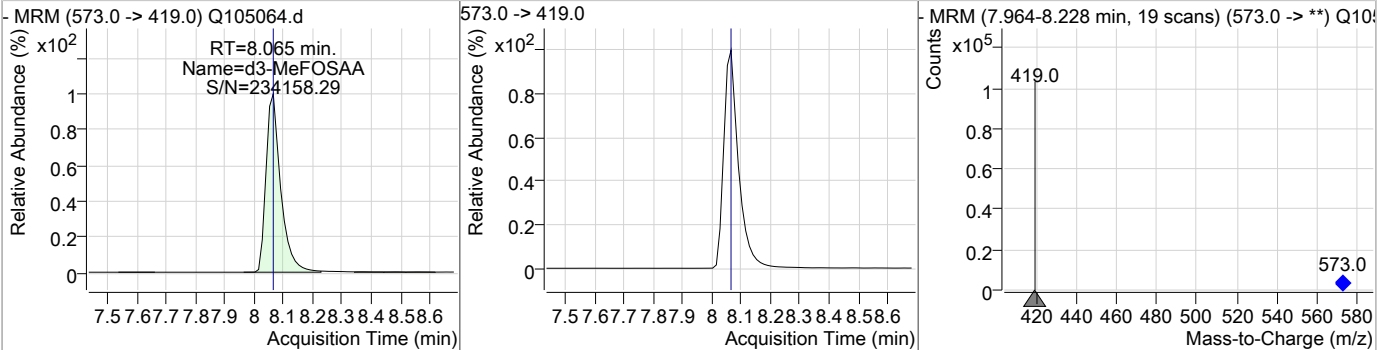


### Perfluorinated Compounds by LC/MS/MS

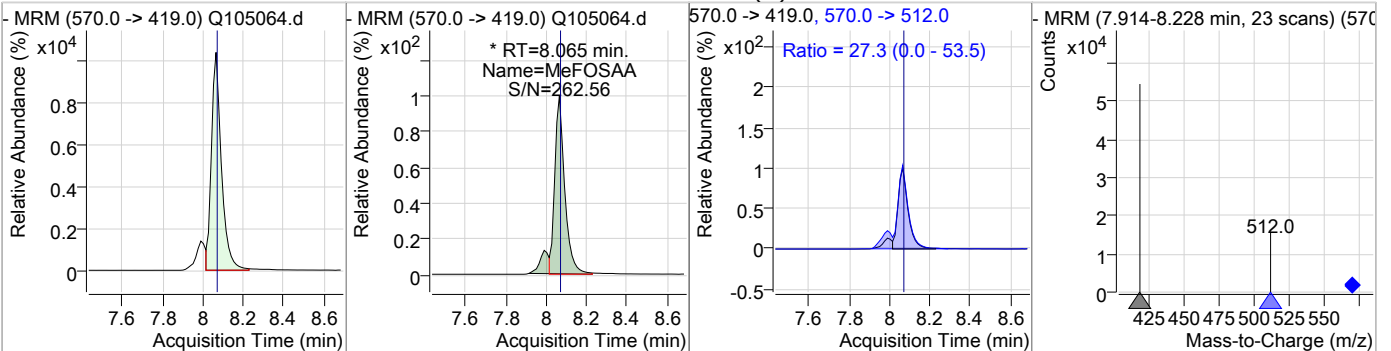
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	20.51	7.88	0.00	28535	533.0 -> 353.0	30.1	2.7	62.7



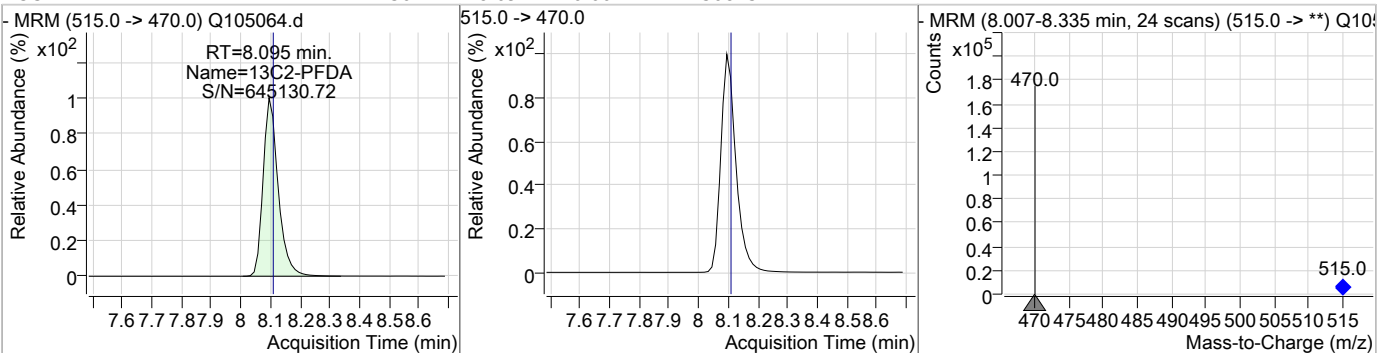
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.06	0.00	76827				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.38	8.07	0.00	39763 (m)	570.0 -> 512.0	27.3	0.0	53.5



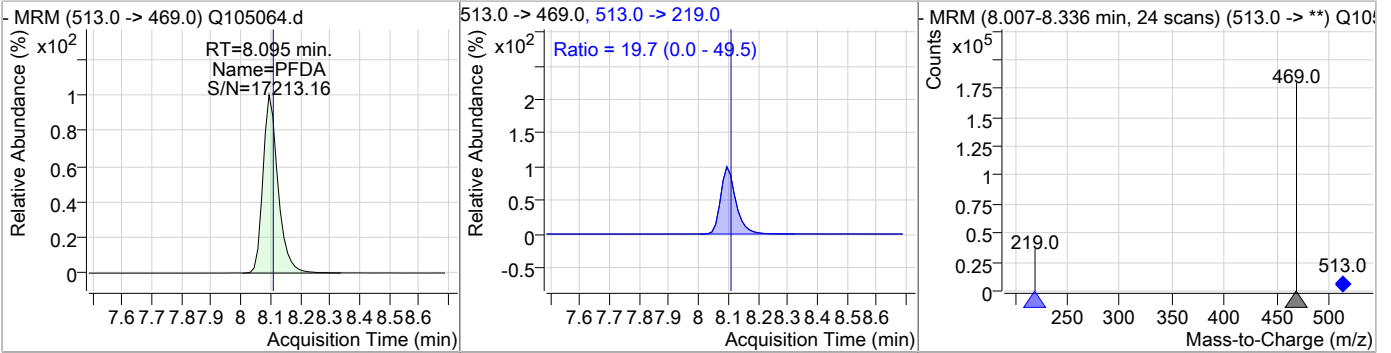
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	21.36	8.09	0.00	130813				



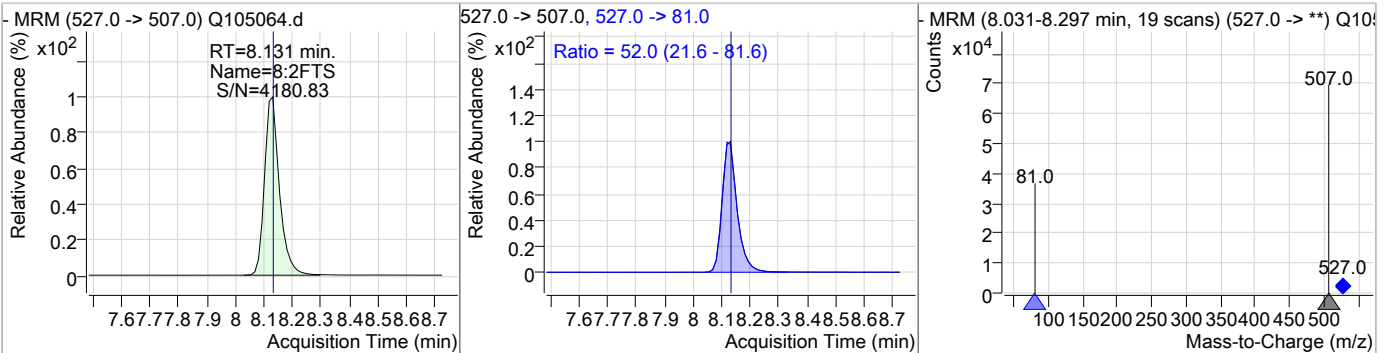


### Perfluorinated Compounds by LC/MS/MS

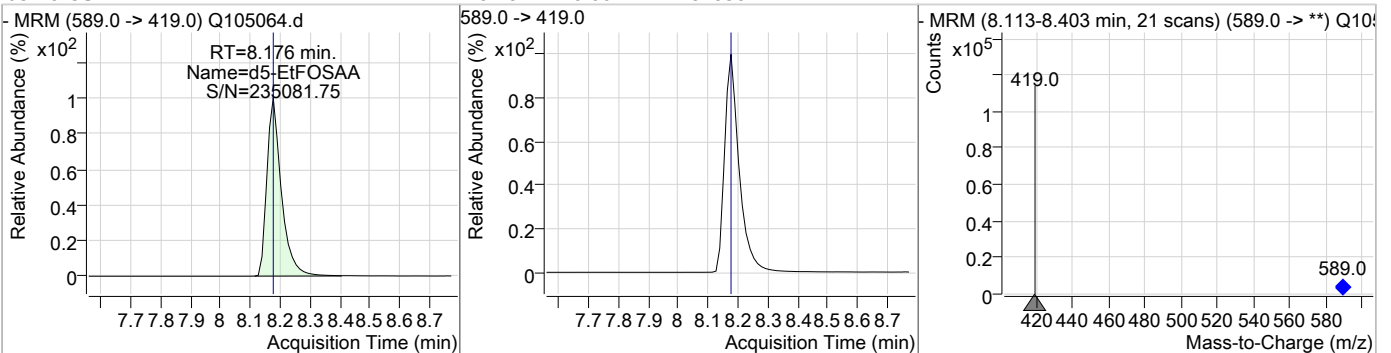
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.19	8.10	0.00	134265	513.0 -> 219.0	19.7	0.0	49.5



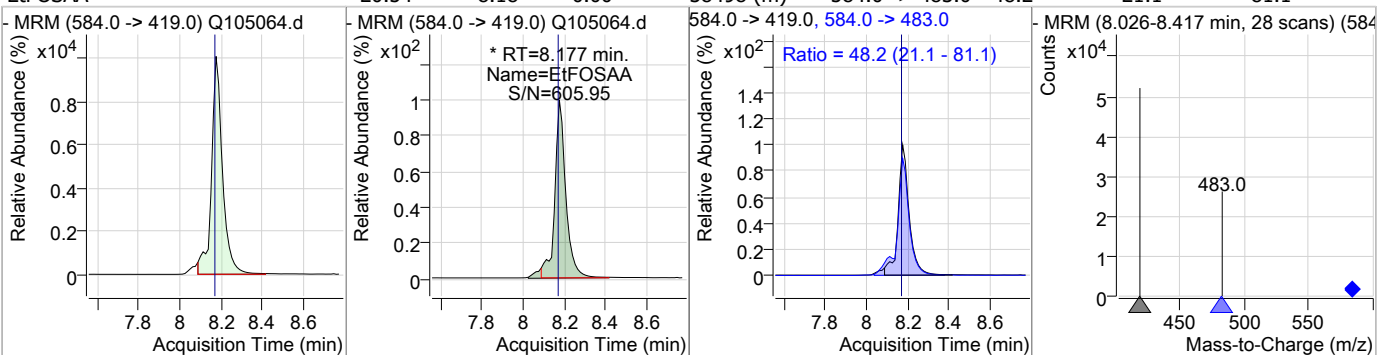
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.00	8.13	0.01	51709	527.0 -> 81.0	52.0	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	41.24	8.18	0.00	84858	589.0 -> 419.0	48.2	21.1	81.1



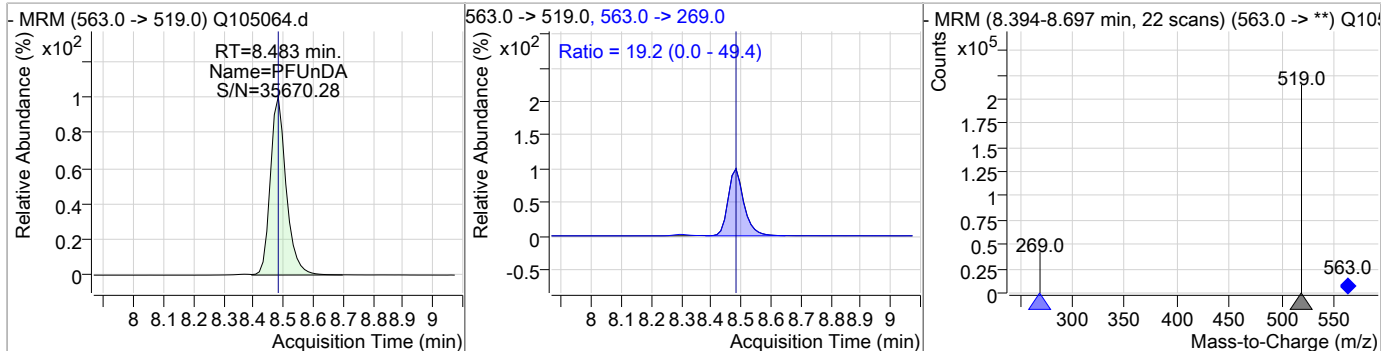
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	20.54	8.18	0.00	38498 (m)	584.0 -> 483.0	48.2	21.1	81.1



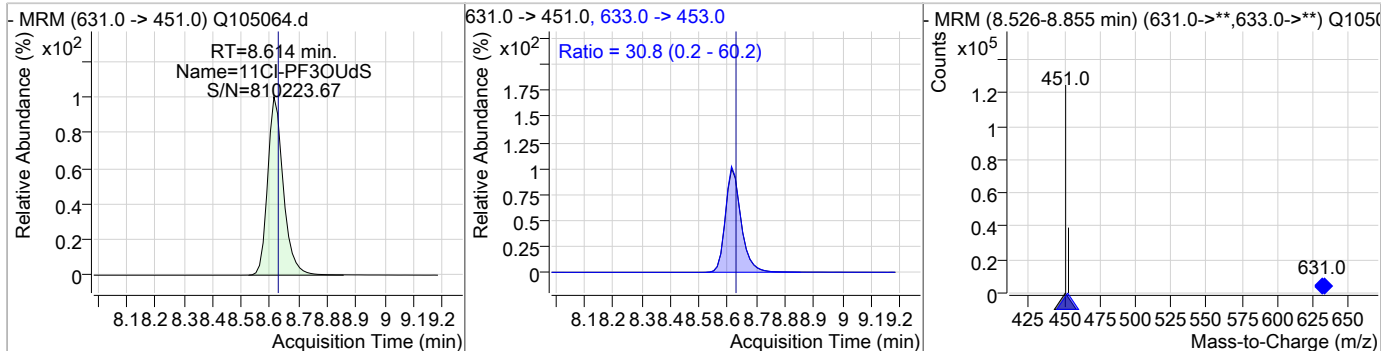
7.6.15 7

### Perfluorinated Compounds by LC/MS/MS

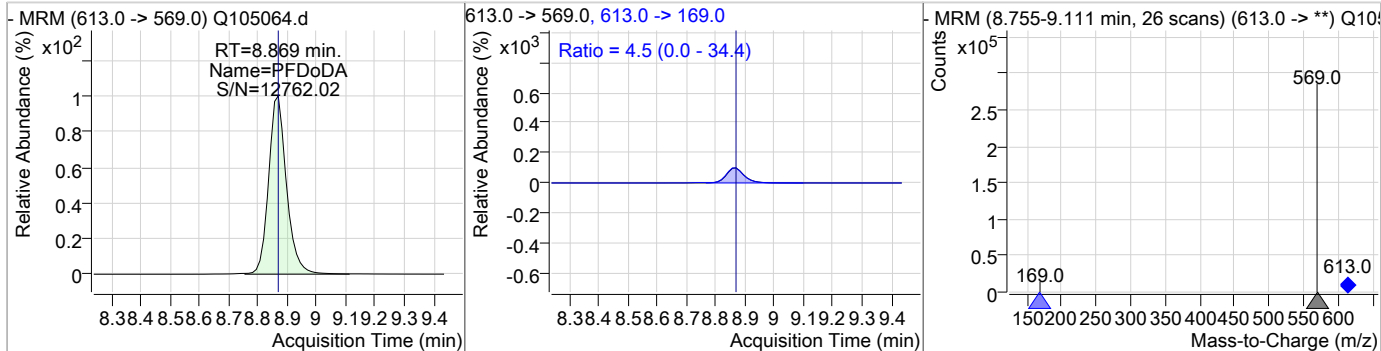
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	20.21	8.48	0.00	162054	563.0 -> 269.0	19.2	0.0	49.4



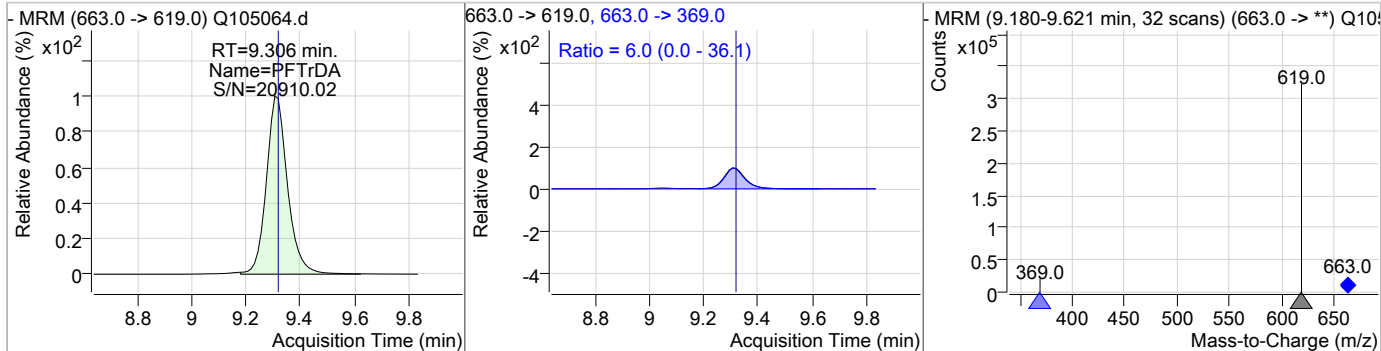
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	18.78	8.61	0.00	94325	633.0 -> 453.0	30.8	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	18.89	8.87	0.00	212982	613.0 -> 169.0	4.5	0.0	34.4

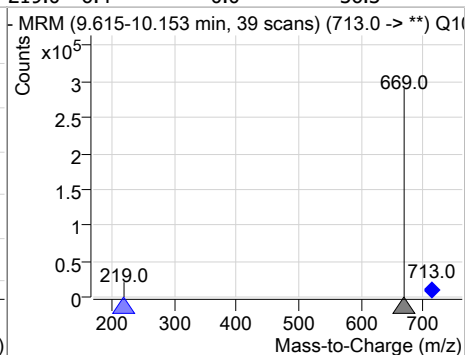
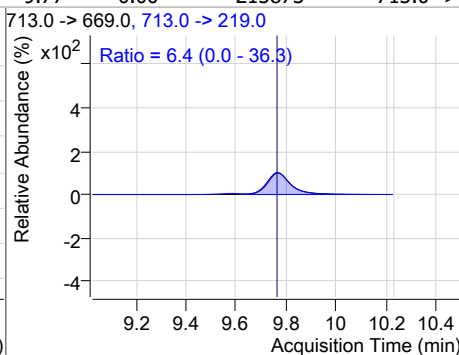
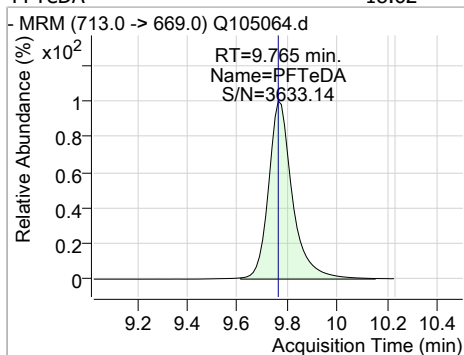


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	18.29	9.31	-0.01	240648	663.0 -> 369.0	6.0	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.62	9.77	0.00	215873	713.0 -> 219.0	6.4	0.0	36.3



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# Manual Integration Approval Summary

Sample Number: SQ2238-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105064.D      Analyst approved: 09/11/23 10:56 Anna Ludwig  
Injection Time: 09/09/23 01:34      Supervisor approved: 09/11/23 11:37 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.54	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.65	Split peak
MeFOSAA	2355-31-9		8.06	Split peak
EtFOSAA	2991-50-6		8.18	Split peak

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### Perfluorinated Compounds by LC/MS/MS

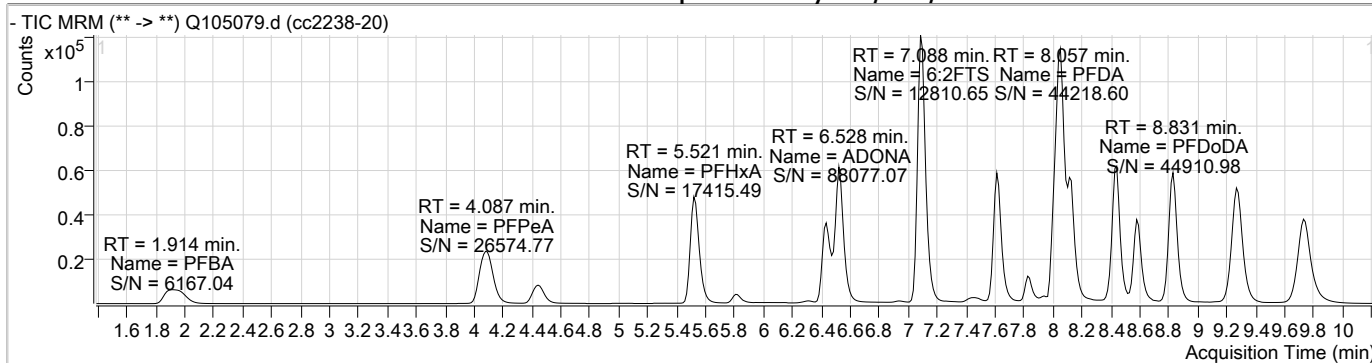
Data File : Q105079.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/11/2023 12:28:42 PM  
 Sample Name : cc2238-20  
 Vial : P1-A7  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2239.batch.bin  
 Sample Information : op97472,SQ2239,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.087	429.0 -> 409.0	53924	20.00 µg/L	-0.039
13C2-PFOA	7.102	415.0 -> 370.0	137139	20.00 µg/L	-0.039
13C3-PFPeA	4.084	266.0 -> 222.0	85728	20.00 µg/L	-0.038
13C4-PFOS	7.603	503.0 -> 80.0	27957	20.00 µg/L	-0.050
d3-MeFOSAA	8.002	573.0 -> 419.0	89322	40.00 µg/L	-0.063
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.057	515.0 -> 470.0	148489	22.24 µg/L	-0.038
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 111.2%	
13C2-PFHxA	5.519	315.0 -> 270.0	105660	20.78 µg/L	-0.038
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 103.9%	
d5-EtFOSAA	8.126	589.0 -> 419.0	96713	40.45 µg/L	-0.050
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 101.1%	
13C3-HFPO-DA	5.813	287.0 -> 169.0	7184	46.74 µg/L	-0.038
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 116.9%	
<b>Target Compounds</b>					
6:2FTS	7.088	427.0 -> 407.0	58097	19.65 µg/L	QValue 99
8:2FTS	8.081	527.0 -> 507.0	58657	20.35 µg/L	100
EtFOSAA	8.126	584.0 -> 419.0	44425	20.39 µg/L	m 96
MeFOSAA	8.015	570.0 -> 419.0	45436	20.03 µg/L	m 91
PFBA	1.914	213.0 -> 169.0	62213	19.28 µg/L	100
PFBS	4.441	299.0 -> 80.0	32483	19.38 µg/L	100
PFDA	8.057	513.0 -> 469.0	149592	21.65 µg/L	99
PFDoDA	8.831	613.0 -> 569.0	237180	19.50 µg/L	100
PFHpA	6.437	363.0 -> 319.0	124175	19.82 µg/L	100
PFHpS	7.098	449.0 -> 80.0	23049	20.33 µg/L	97
PFHxA	5.521	313.0 -> 269.0	95893	19.23 µg/L	99
PFHxS	6.469	399.0 -> 80.0	25154	20.47 µg/L	m 97
PFNA	7.617	463.0 -> 419.0	128495	21.50 µg/L	96
PFOA	7.090	413.0 -> 369.0	134204	20.07 µg/L	99
PFOS	7.604	499.0 -> 80.0	31992	19.30 µg/L	m 83
PFPeA	4.087	263.0 -> 219.0	69189	20.81 µg/L	100
PFTeDA	9.727	713.0 -> 669.0	241284	19.30 µg/L	98
PFTTrDA	9.269	663.0 -> 619.0	267653	18.86 µg/L	100
PFUnDA	8.445	563.0 -> 519.0	188420	21.79 µg/L	97
ADONA	6.528	377.0 -> 251.0	169600	19.05 µg/L	96
9Cl-PF3ONS	7.828	531.0 -> 351.0	31661	20.86 µg/L	96
11Cl-PF3OUdS	8.576	631.0 -> 451.0	108030	19.73 µg/L	98
HFPO-DA	5.815	285.0 -> 169.0	4608	23.67 µg/L	82

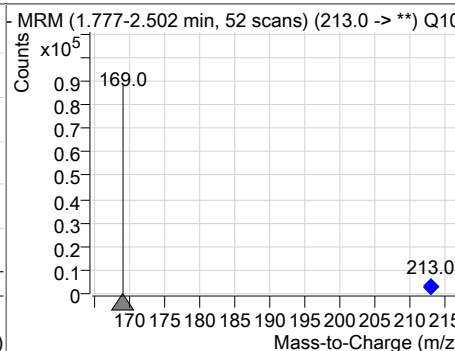
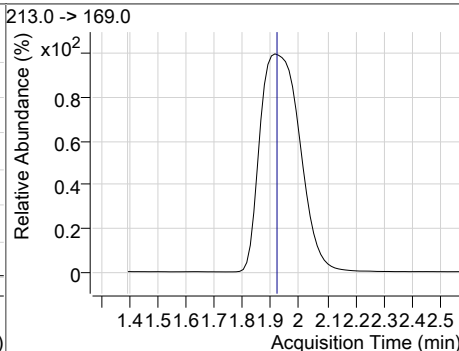
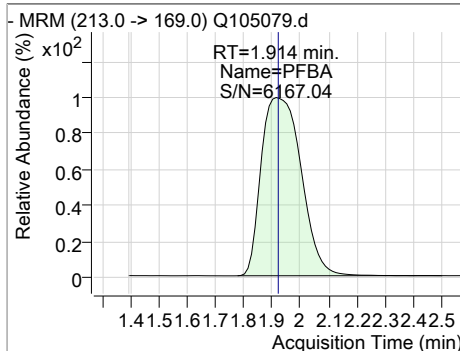
# = Qualifier out of range, m = manually integrated, + = Area summed

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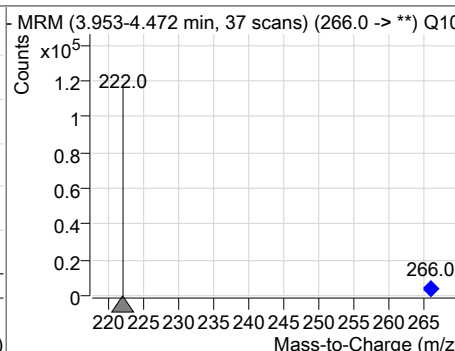
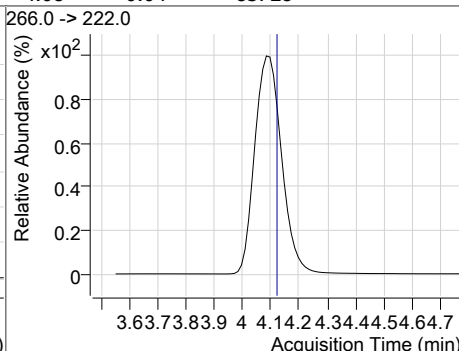
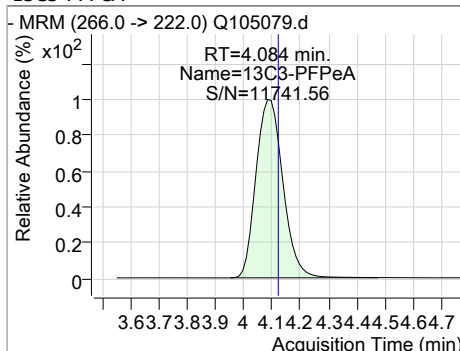
### Perfluorinated Compounds by LC/MS/MS



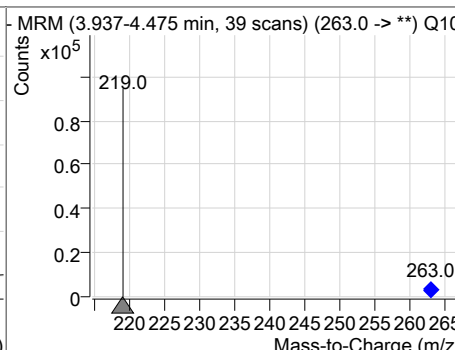
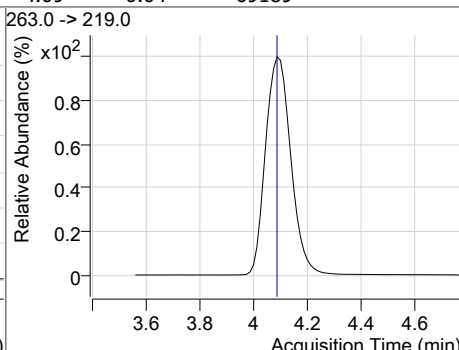
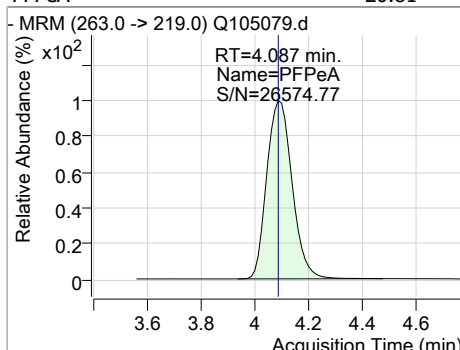
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.28	1.91	-0.03	62213				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.08	-0.04	85728				

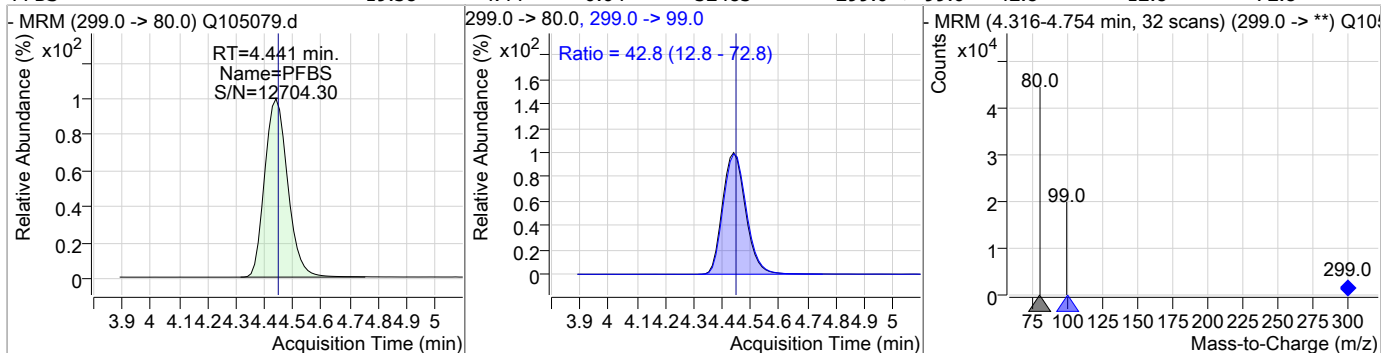


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	20.81	4.09	-0.04	69189				

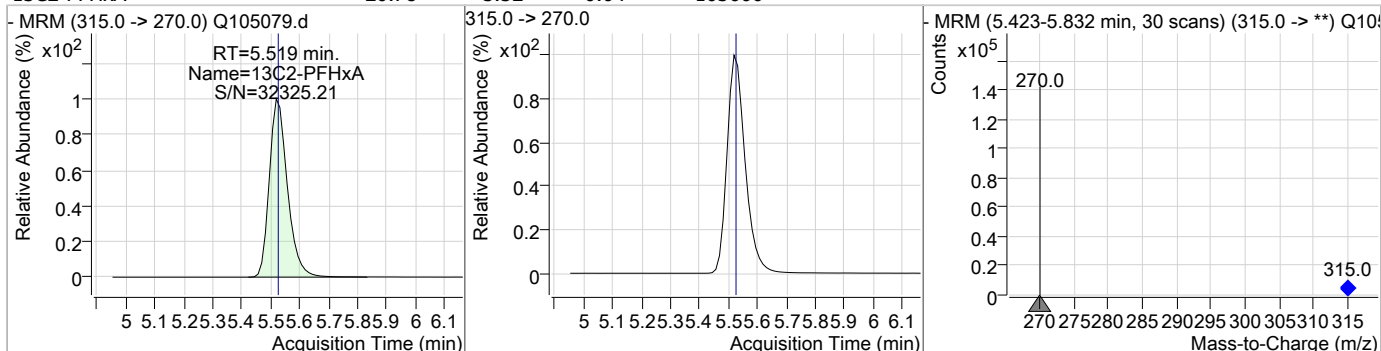


### Perfluorinated Compounds by LC/MS/MS

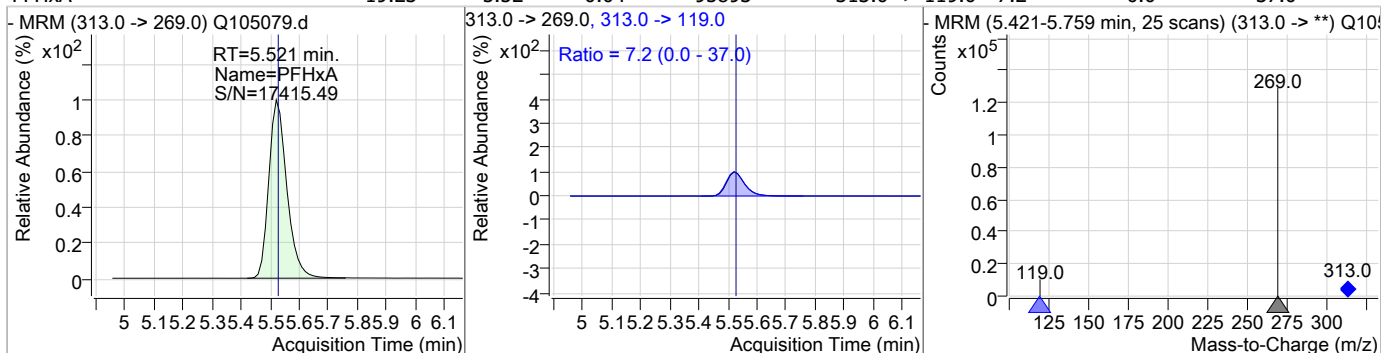
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	19.38	4.44	-0.04	32483	299.0 -> 99.0	42.8	12.8	72.8



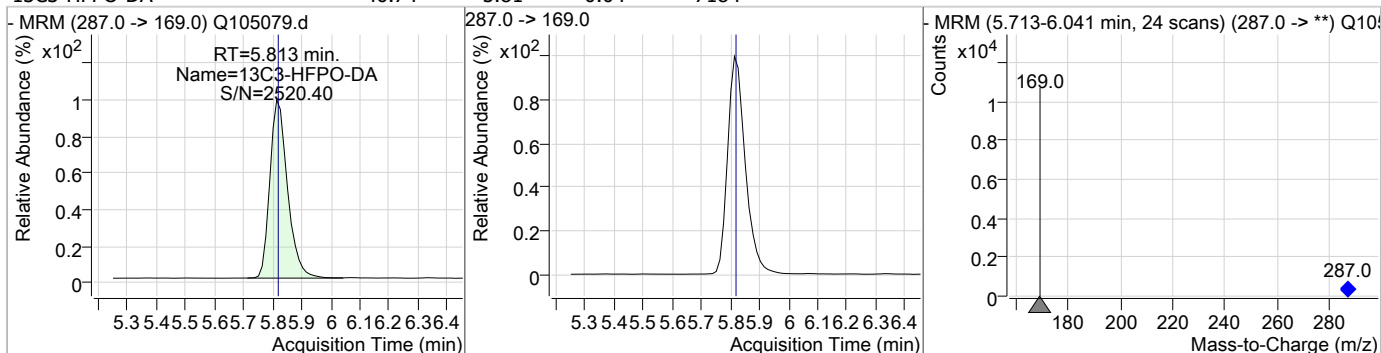
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	20.78	5.52	-0.04	105660				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.23	5.52	-0.04	95893	313.0 -> 119.0	7.2	0.0	37.0



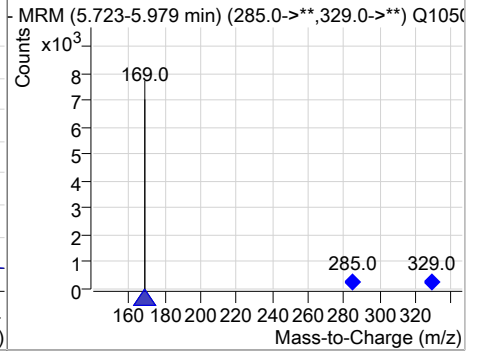
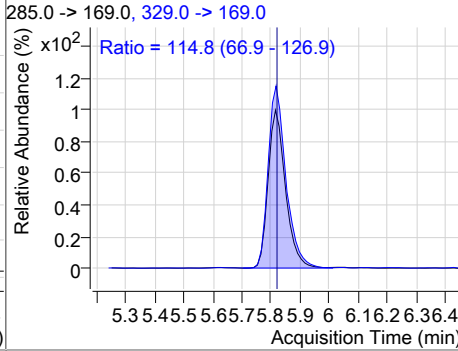
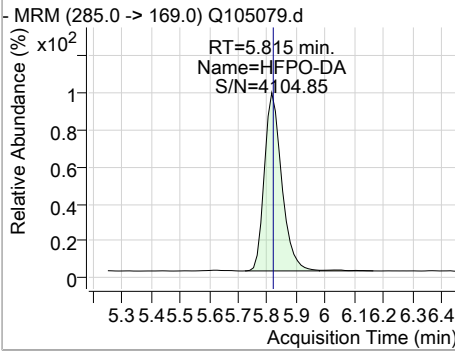
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	46.74	5.81	-0.04	7184				



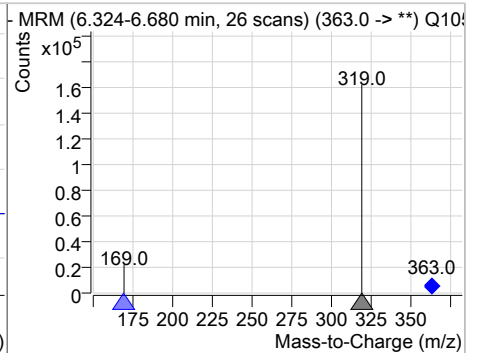
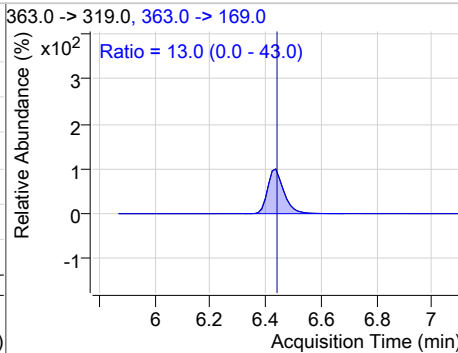
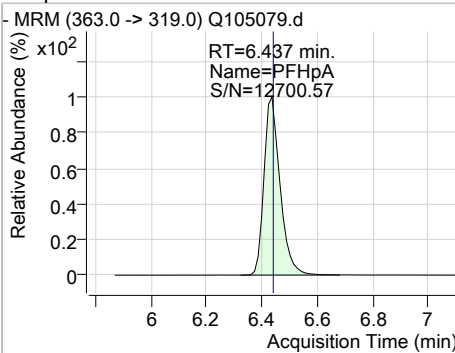
7.6.16  
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### Perfluorinated Compounds by LC/MS/MS

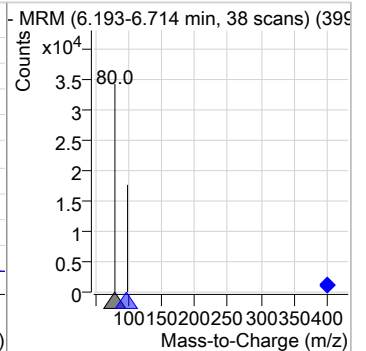
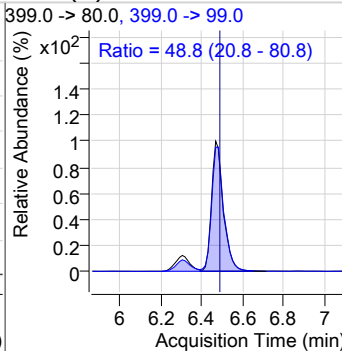
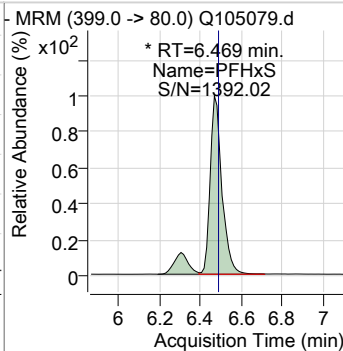
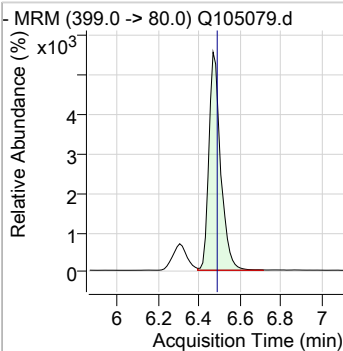
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	23.67	5.82	-0.04	4608	329.0 -> 169.0	114.8	66.9	126.9



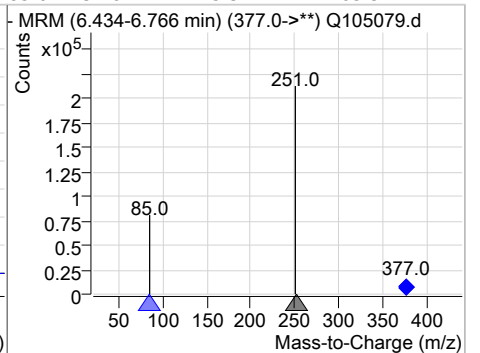
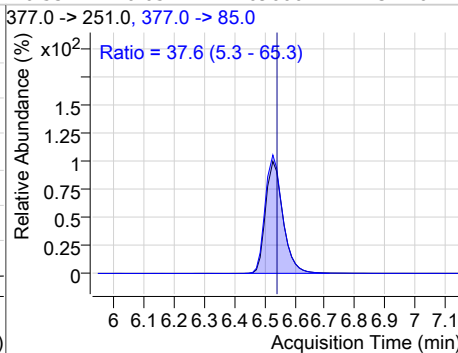
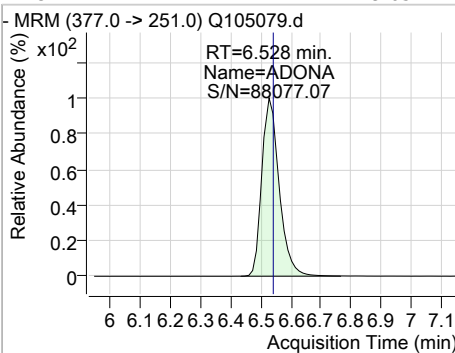
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	19.82	6.44	-0.04	124175	363.0 -> 169.0	13.0	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	20.47	6.47	-0.06	25154 (m)	399.0 -> 99.0	48.8	20.8	80.8



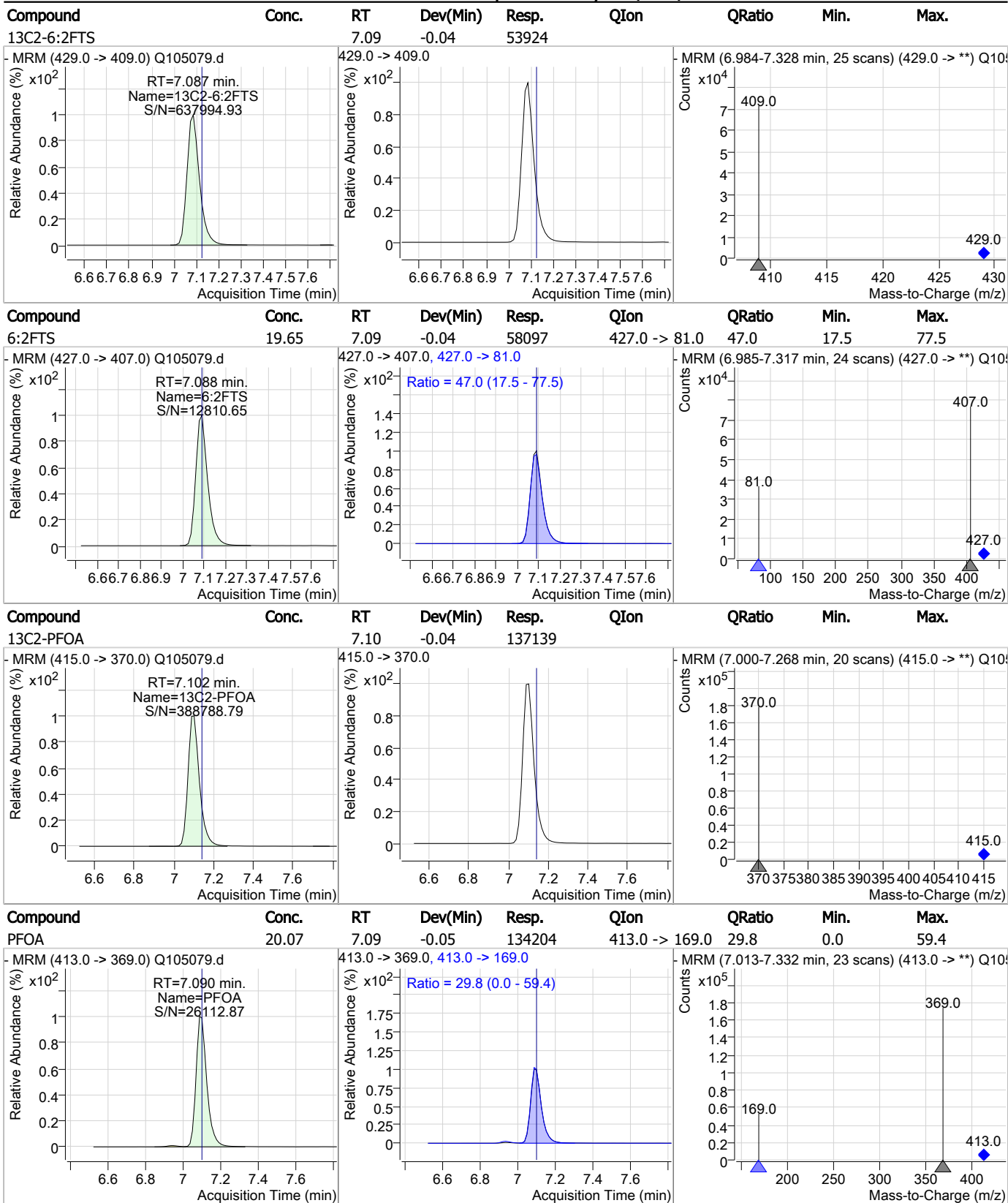
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	19.05	6.53	-0.05	169600	377.0 -> 85.0	37.6	5.3	65.3



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### Perfluorinated Compounds by LC/MS/MS

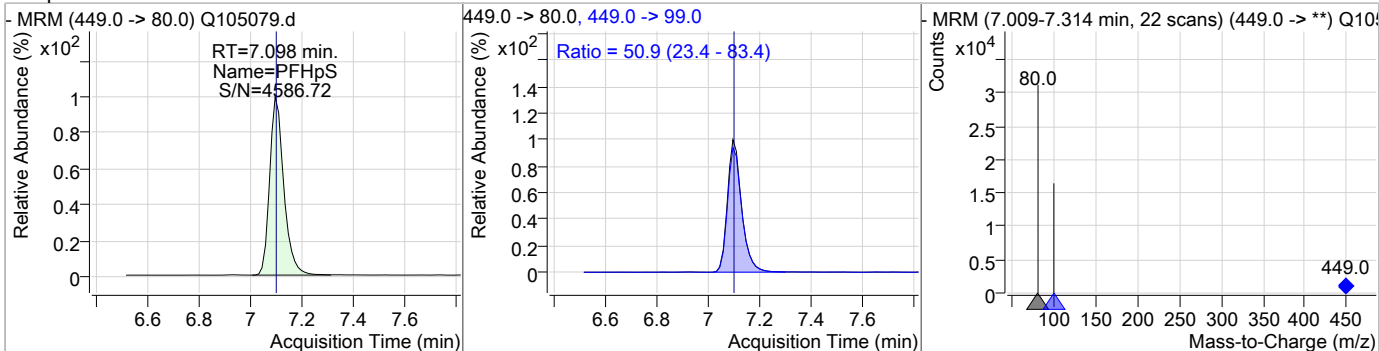


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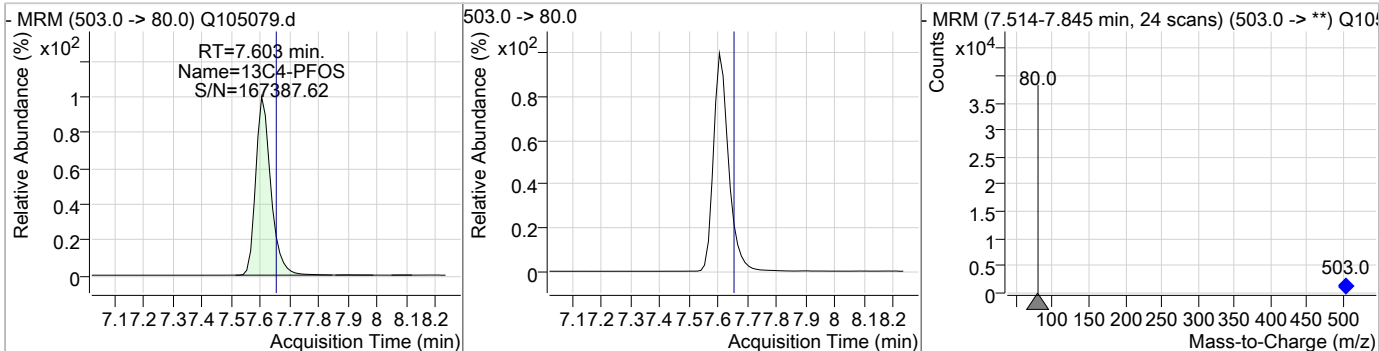
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### Perfluorinated Compounds by LC/MS/MS

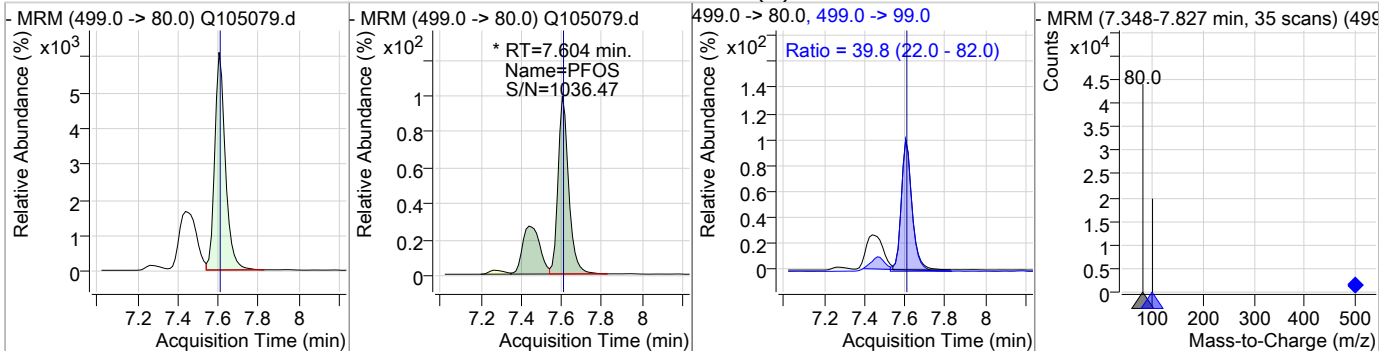
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.33	7.10	-0.05	23049	449.0 -> 99.0	50.9	23.4	83.4



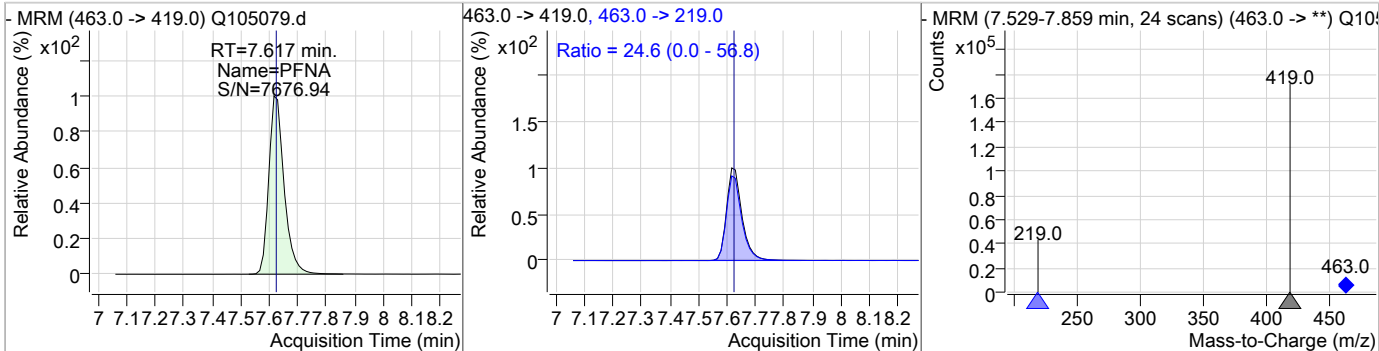
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.60	-0.05	27957				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	19.30	7.60	-0.05	31992 (m)	499.0 -> 99.0	39.8	22.0	82.0



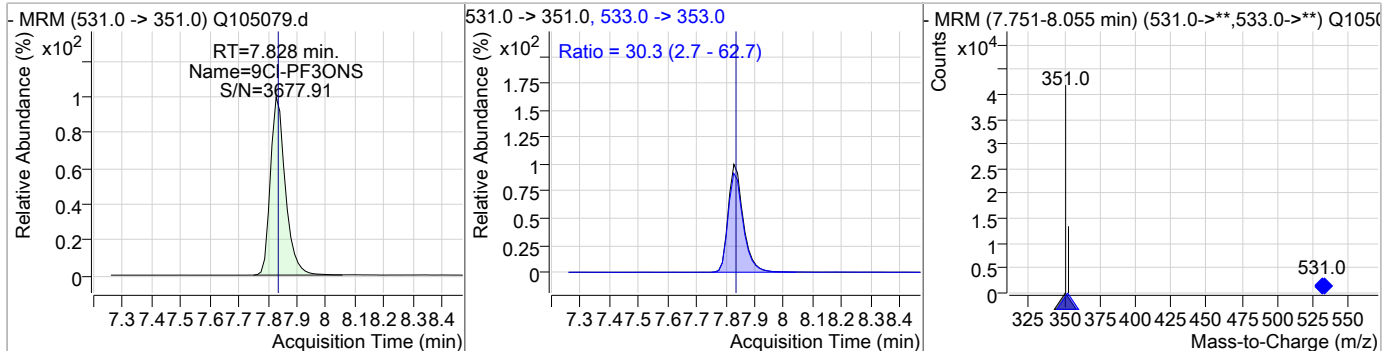
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	21.50	7.62	-0.05	128495	463.0 -> 219.0	24.6	0.0	56.8



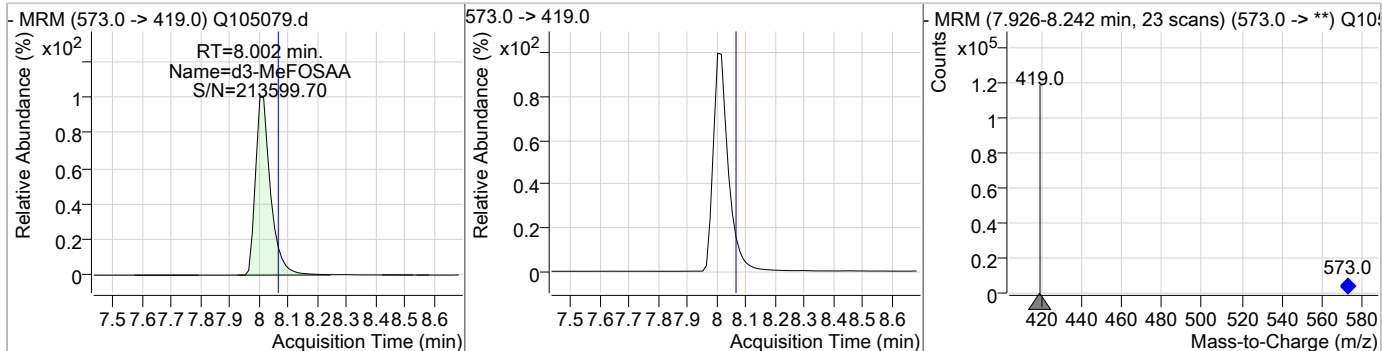
7.6.16  
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### Perfluorinated Compounds by LC/MS/MS

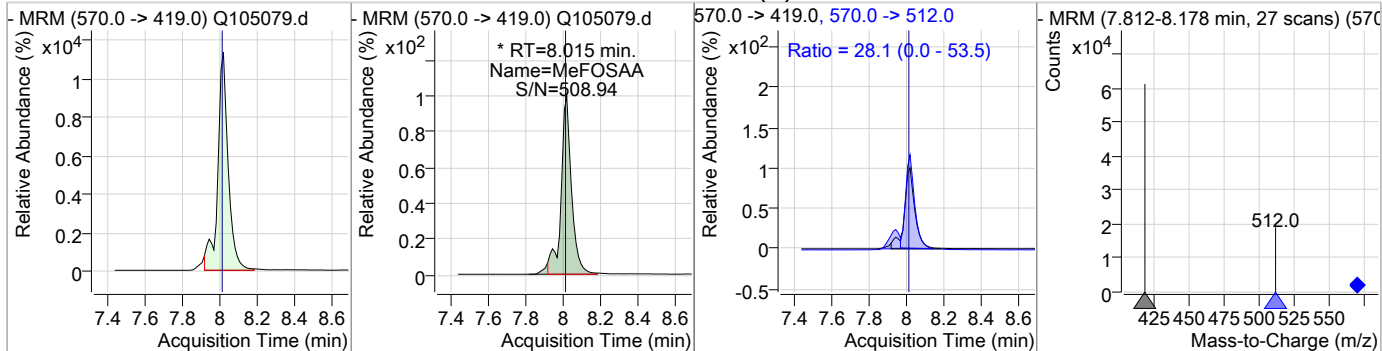
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	20.86	7.83	-0.05	31661	533.0 -> 353.0	30.3	2.7	62.7



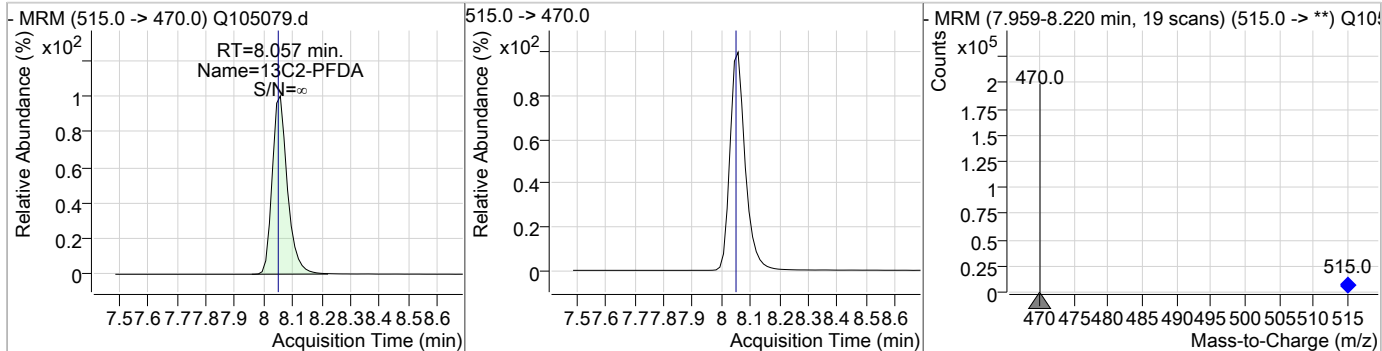
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.00	-0.06	89322				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.03	8.02	-0.05	45436 (m)	570.0 -> 512.0	28.1	0.0	53.5

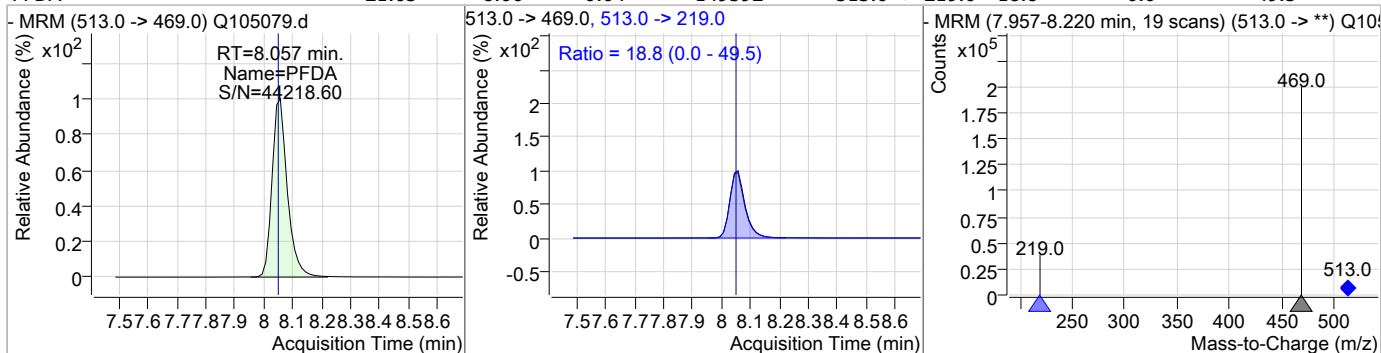


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	22.24	8.06	-0.04	148489				

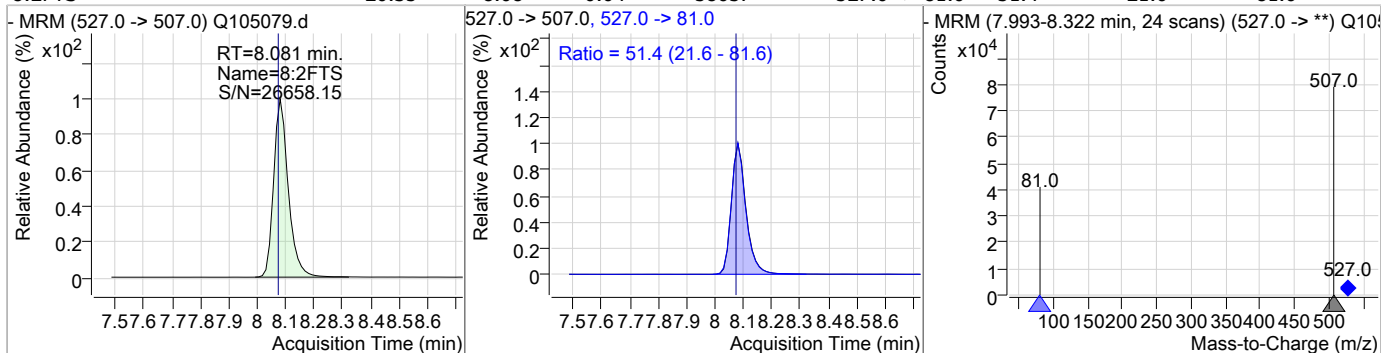


### Perfluorinated Compounds by LC/MS/MS

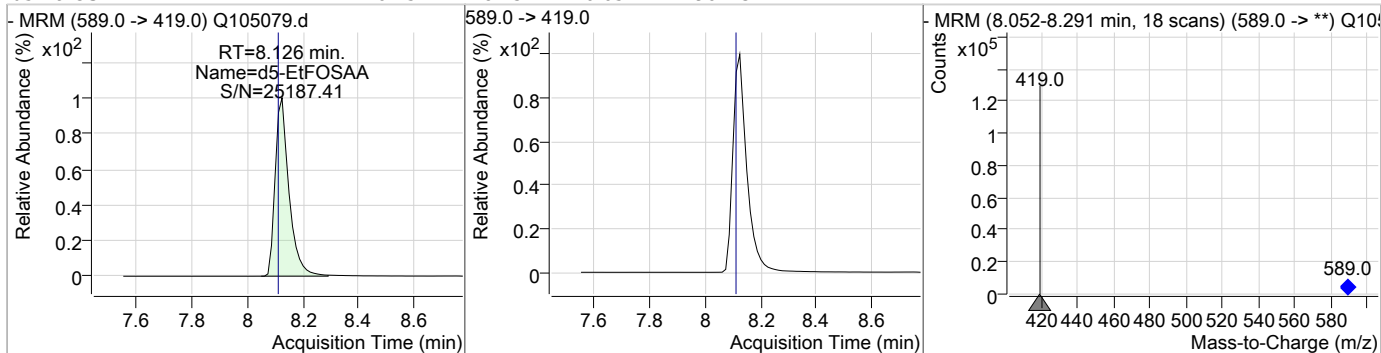
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	21.65	8.06	-0.04	149592	513.0 -> 219.0	18.8	0.0	49.5



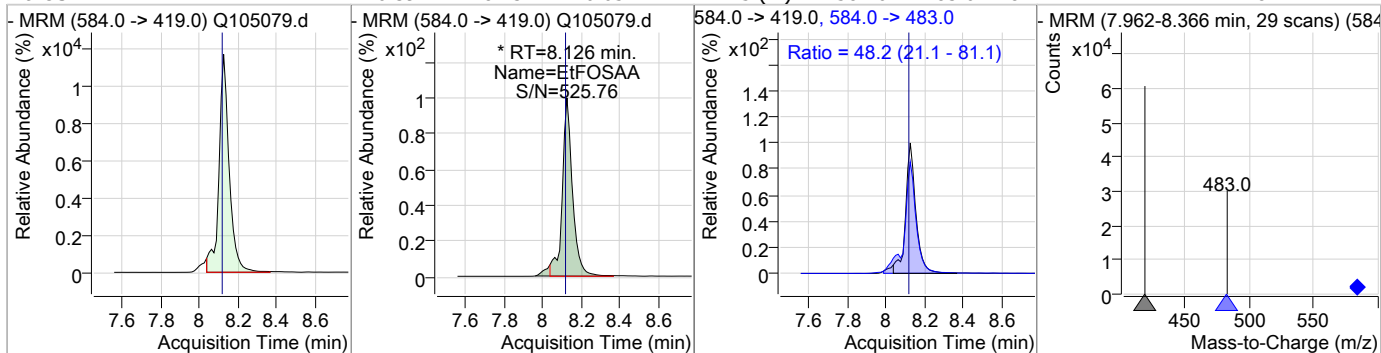
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	20.35	8.08	-0.04	58657	527.0 -> 81.0	51.4	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	40.45	8.13	-0.05	96713	589.0 -> 419.0			



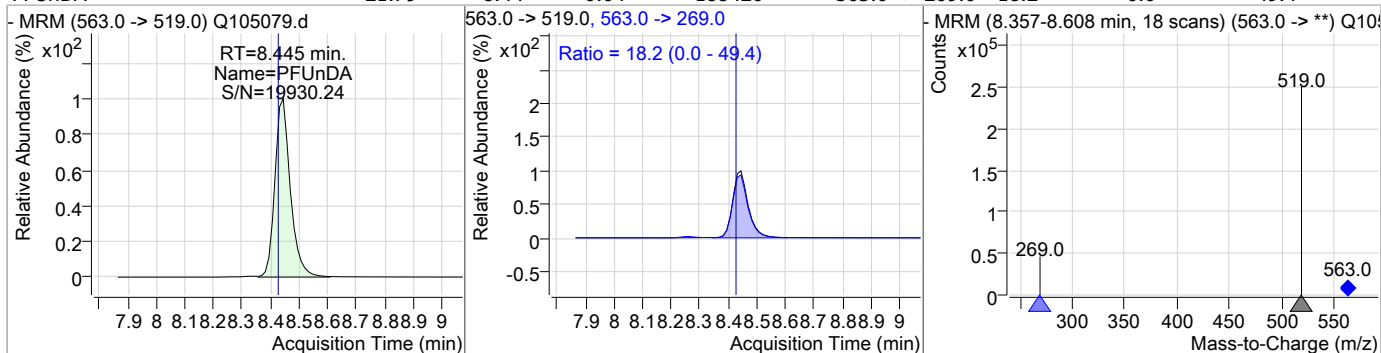
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	20.39	8.13	-0.05	44425 (m)	584.0 -> 483.0	48.2	21.1	81.1



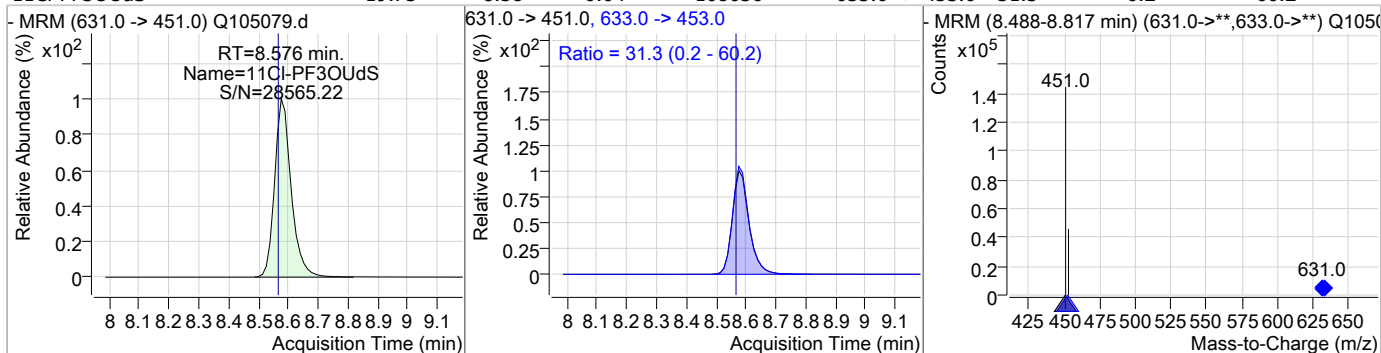
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### Perfluorinated Compounds by LC/MS/MS

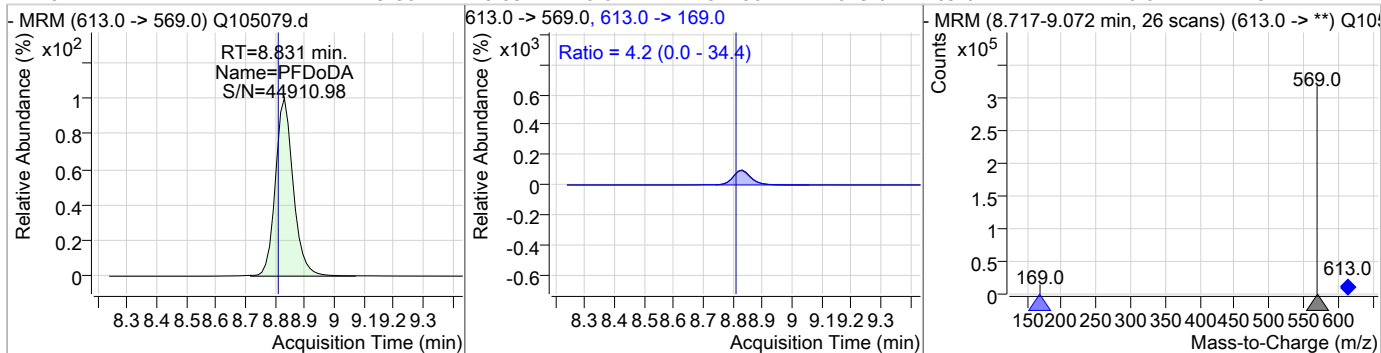
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	21.79	8.44	-0.04	188420	563.0 -> 269.0	18.2	0.0	49.4



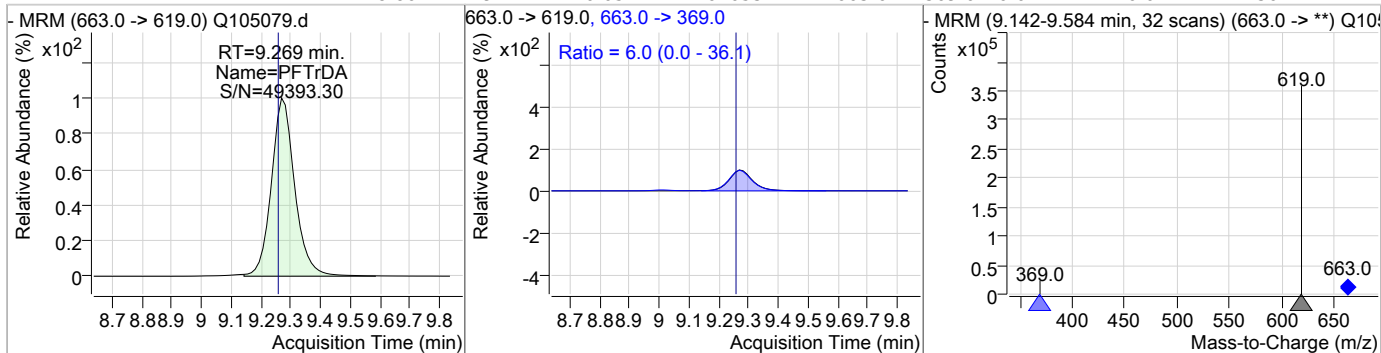
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	19.73	8.58	-0.04	108030	633.0 -> 453.0	31.3	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	19.50	8.83	-0.04	237180	613.0 -> 169.0	4.2	0.0	34.4

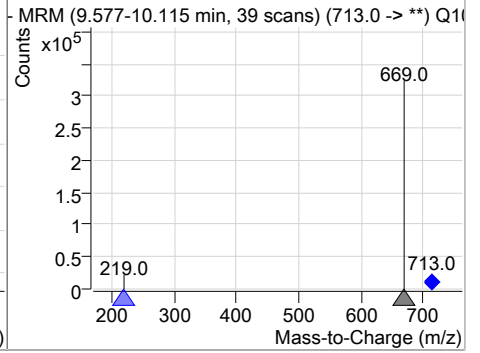
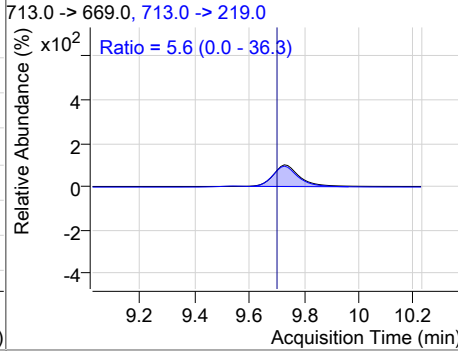
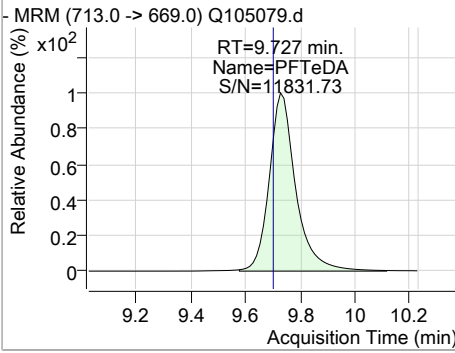


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	18.86	9.27	-0.05	267653	663.0 -> 369.0	6.0	0.0	36.1



### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	19.30	9.73	-0.04	241284	713.0 -> 219.0	5.6	0.0	36.3



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# Manual Integration Approval Summary

Sample Number: SQ2239-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105079.D      Analyst approved: 09/12/23 11:44 Anna Ludwig  
Injection Time: 09/11/23 12:28      Supervisor approved: 09/12/23 16:20 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.47	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.60	Split peak
MeFOSAA	2355-31-9		8.02	Split peak
EtFOSAA	2991-50-6		8.13	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : Q105080.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/11/2023 12:44:29 PM  
 Sample Name : cc2238-0.5  
 Vial : P1-A2  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2239.batch.bin  
 Sample Information : op97472,SQ2239,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)	
<b>Internal Standards</b>						
13C2-6:2FTS	7.087	429.0 -> 409.0	52115	20.00 µg/L	-0.039	
13C2-PFOA	7.102	415.0 -> 370.0	141185	20.00 µg/L	-0.039	
13C3-PFPeA	4.097	266.0 -> 222.0	86176	20.00 µg/L	-0.025	
13C4-PFOS	7.603	503.0 -> 80.0	28612	20.00 µg/L	-0.050	
d3-MeFOSAA	8.002	573.0 -> 419.0	94904	40.00 µg/L	-0.063	
<b>System Monitoring Compounds</b>						
13C2-PFDA	8.057	515.0 -> 470.0	3373	0.49 µg/L	-0.038	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.5%		
13C2-PFHxA	5.532	315.0 -> 270.0	2476	0.48 µg/L	-0.025	
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 2.4%		
d5-EtFOSAA	8.126	589.0 -> 419.0	2594	1.05 µg/L	-0.050	
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 2.6%		
13C3-HFPO-DA	5.813	287.0 -> 169.0	172	1.09 µg/L	-0.038	m
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 2.7%		
<b>Target Compounds</b>						
6:2FTS	7.088	427.0 -> 407.0	1274	0.43 µg/L		QValue 94
8:2FTS	8.081	527.0 -> 507.0	1467	0.50 µg/L		98
EtFOSAA	8.126	584.0 -> 419.0	1074	0.48 µg/L	m	90
MeFOSAA	8.015	570.0 -> 419.0	1286	0.53 µg/L		99
PFBA	1.951	213.0 -> 169.0	1416	0.44 µg/L		100
PFBS	4.453	299.0 -> 80.0	724	0.42 µg/L		93
PFDA	8.057	513.0 -> 469.0	3263	0.46 µg/L		93
PFDoDA	8.831	613.0 -> 569.0	5053	0.41 µg/L		99
PFHpA	6.437	363.0 -> 319.0	3158	0.49 µg/L		100
PFHpS	7.098	449.0 -> 80.0	473	0.41 µg/L		91
PFHxA	5.534	313.0 -> 269.0	2109	0.41 µg/L		97
PFHxS	6.481	399.0 -> 80.0	542	0.43 µg/L	m	97
PFNA	7.630	463.0 -> 419.0	2781	0.45 µg/L		99
PFOA	7.102	413.0 -> 369.0	3092	0.45 µg/L		96
PFOS	7.604	499.0 -> 80.0	769	0.45 µg/L	m	78
PFPeA	4.100	263.0 -> 219.0	1550	0.46 µg/L		100
PFTeDA	9.740	713.0 -> 669.0	5314	0.42 µg/L		100
PFTrDA	9.281	663.0 -> 619.0	5746	0.40 µg/L		98
PFUnDA	8.445	563.0 -> 519.0	3976	0.45 µg/L		100
ADONA	6.528	377.0 -> 251.0	3655	0.40 µg/L		94
9CI-PF3ONS	7.828	531.0 -> 351.0	704	0.46 µg/L		83
11CI-PF3OUdS	8.576	631.0 -> 451.0	2038	0.36 µg/L		89
HFPO-DA	5.828	285.0 -> 169.0	90	0.45 µg/L	#	61

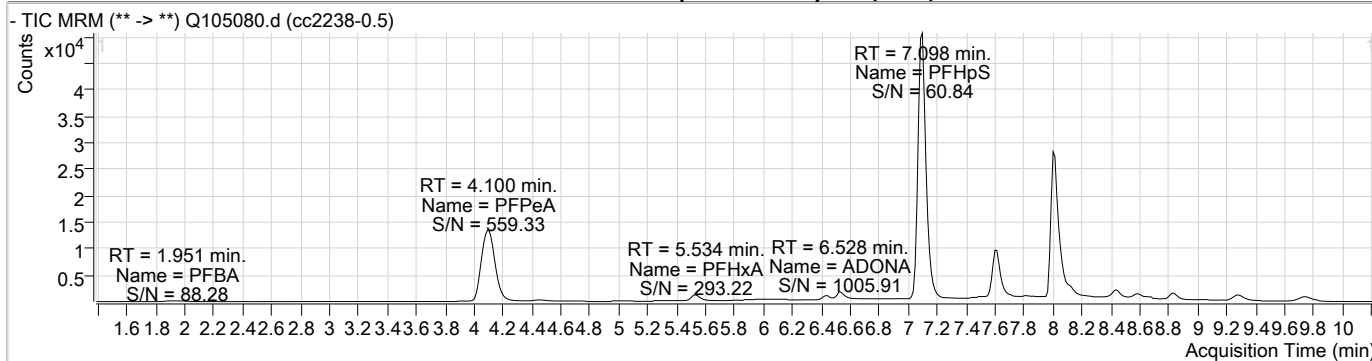
# = Qualifier out of range, m = manually integrated, + = Area summed

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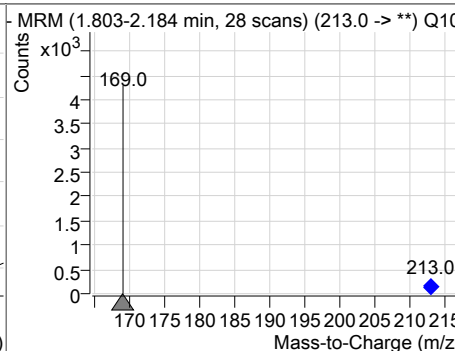
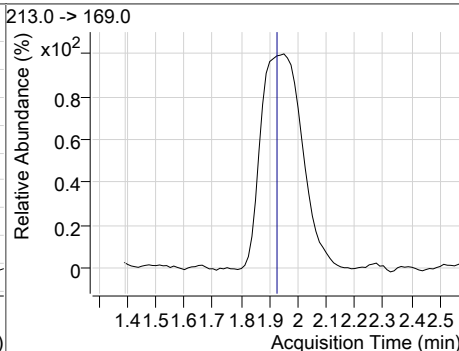
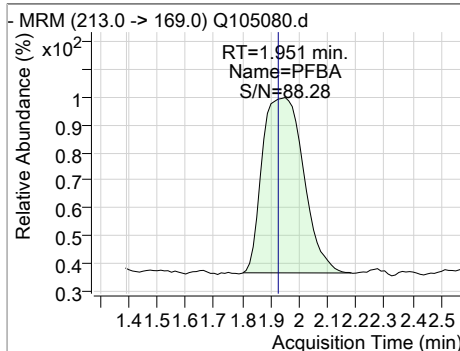




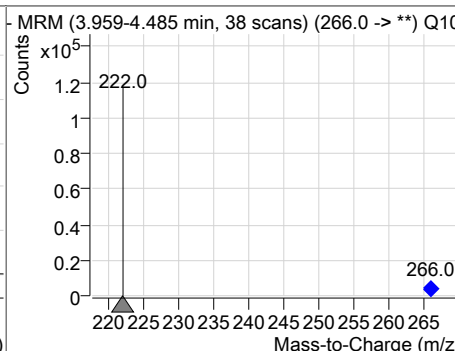
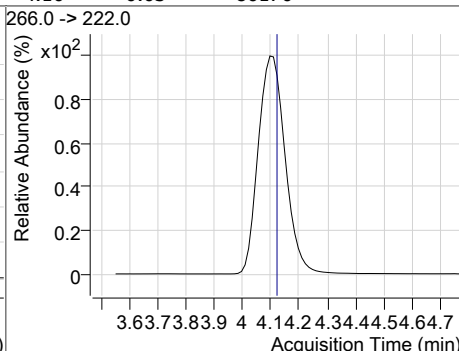
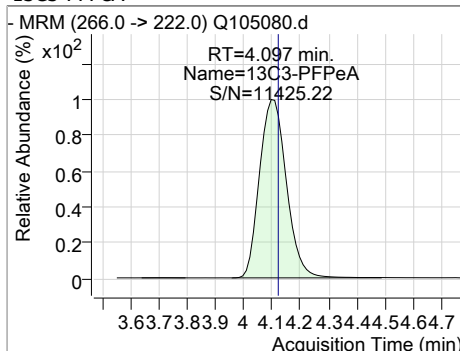
### Perfluorinated Compounds by LC/MS/MS



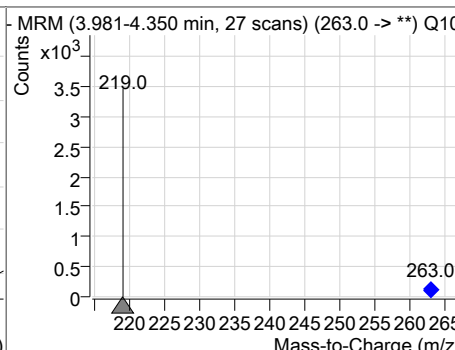
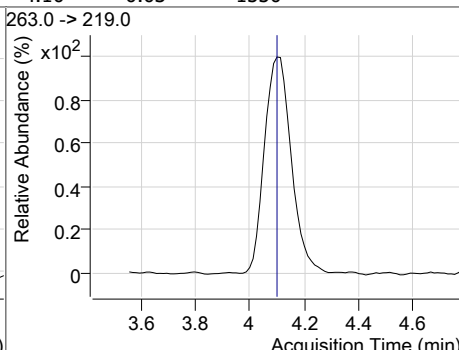
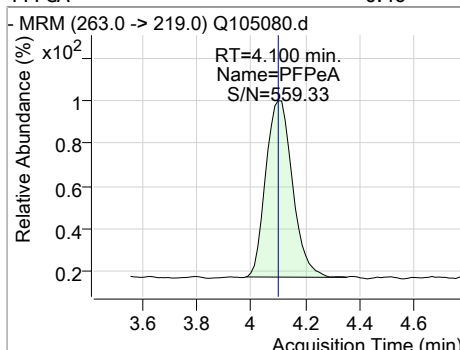
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.44	1.95	0.01	1416				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFPeA		4.10	-0.03	86176				



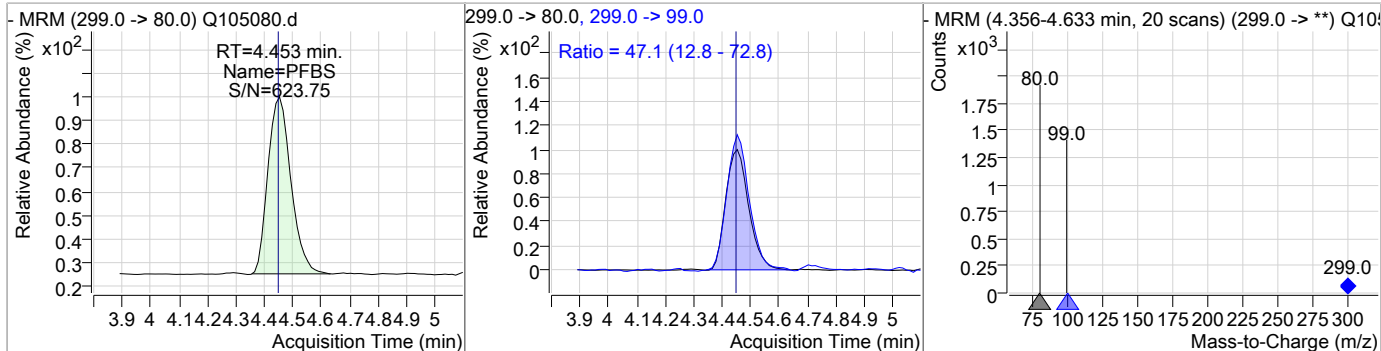
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.46	4.10	-0.03	1550				



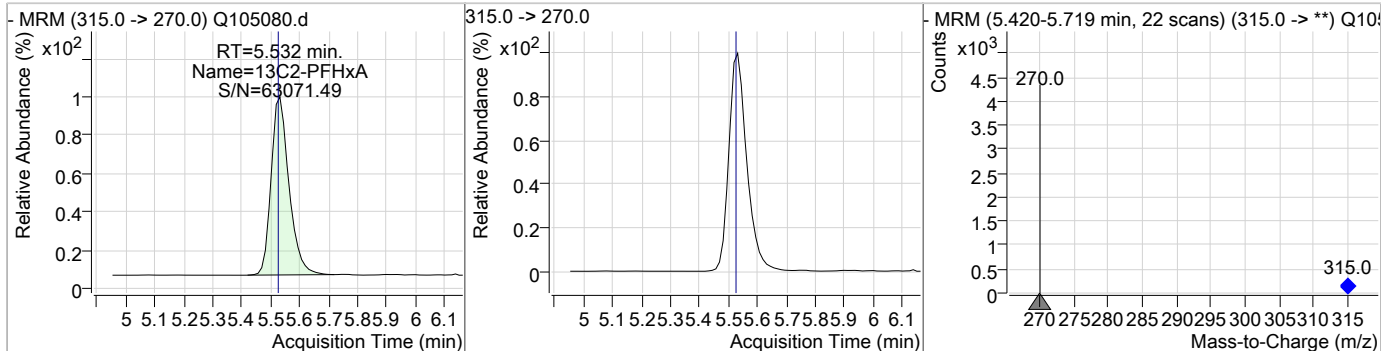
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### Perfluorinated Compounds by LC/MS/MS

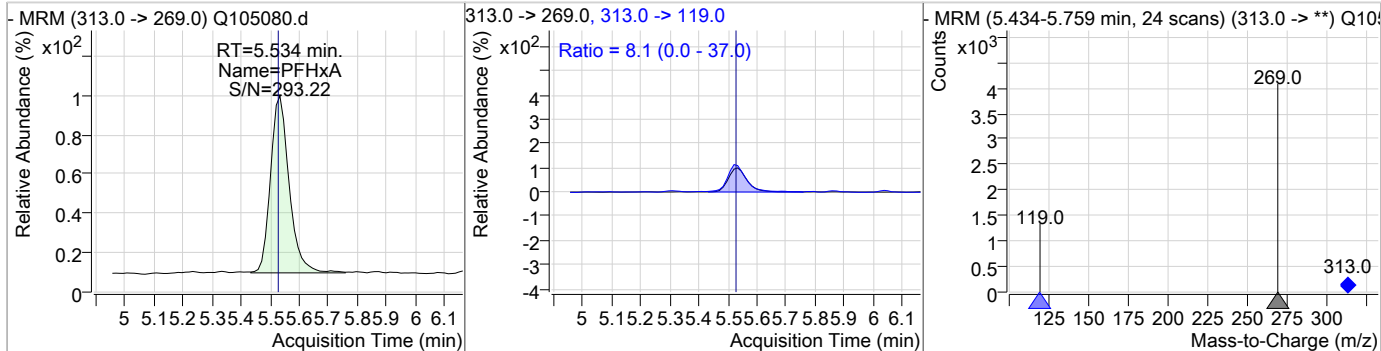
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.42	4.45	-0.03	724	299.0 -> 99.0	47.1	12.8	72.8



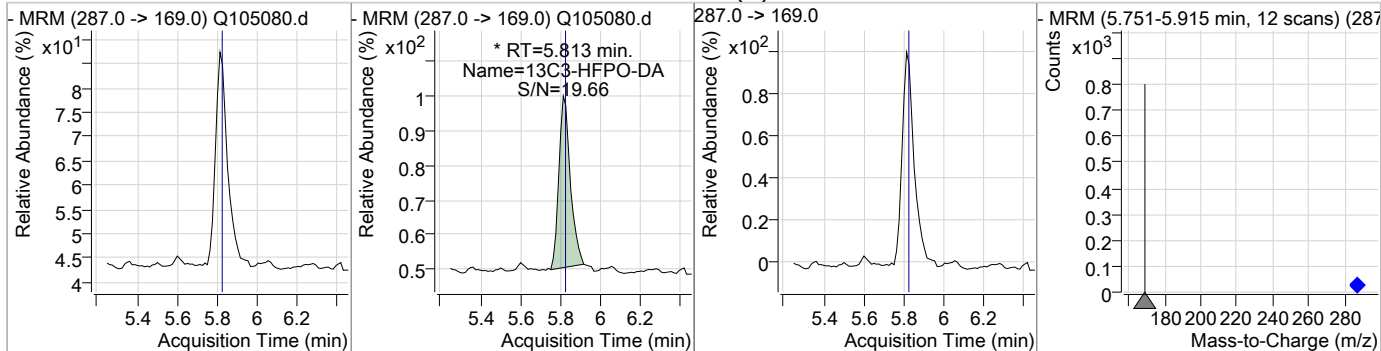
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	0.48	5.53	-0.03	2476				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.41	5.53	-0.03	2109	313.0 -> 119.0	8.1	0.0	37.0



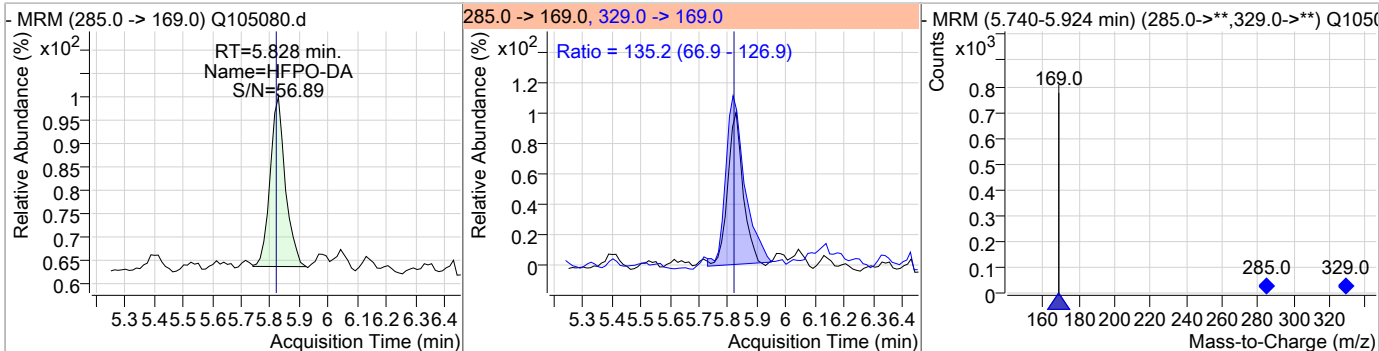
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	1.09	5.81	-0.04	172 (m)				



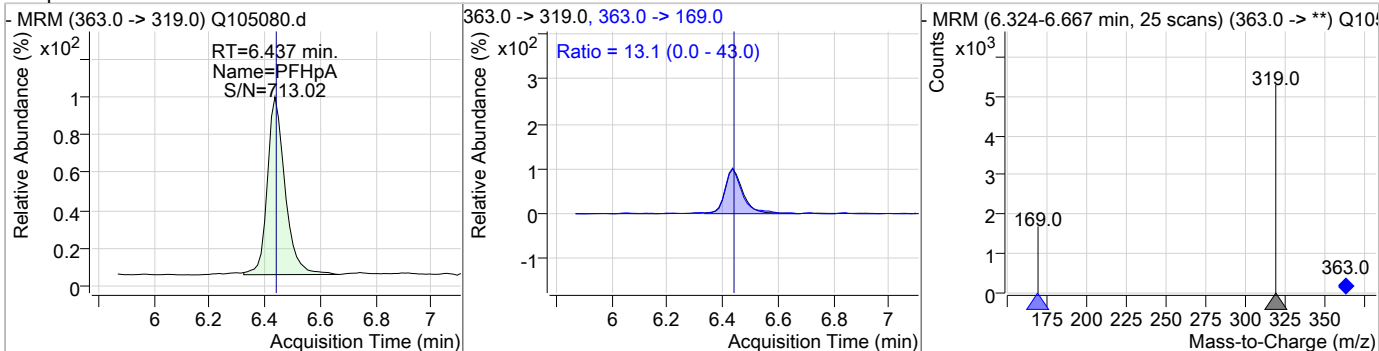
7.6.17  
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### Perfluorinated Compounds by LC/MS/MS

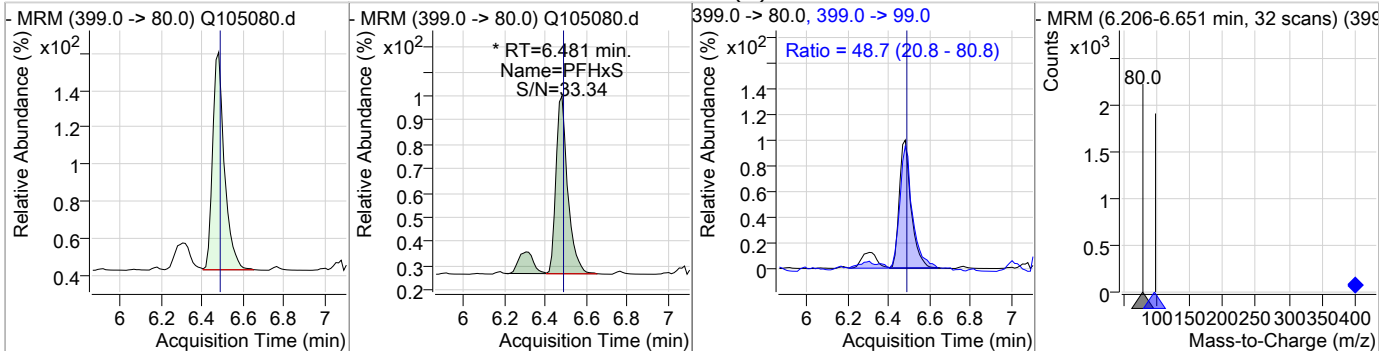
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.45	5.83	-0.03	90	329.0 -> 169.0	135.2	66.9	126.9



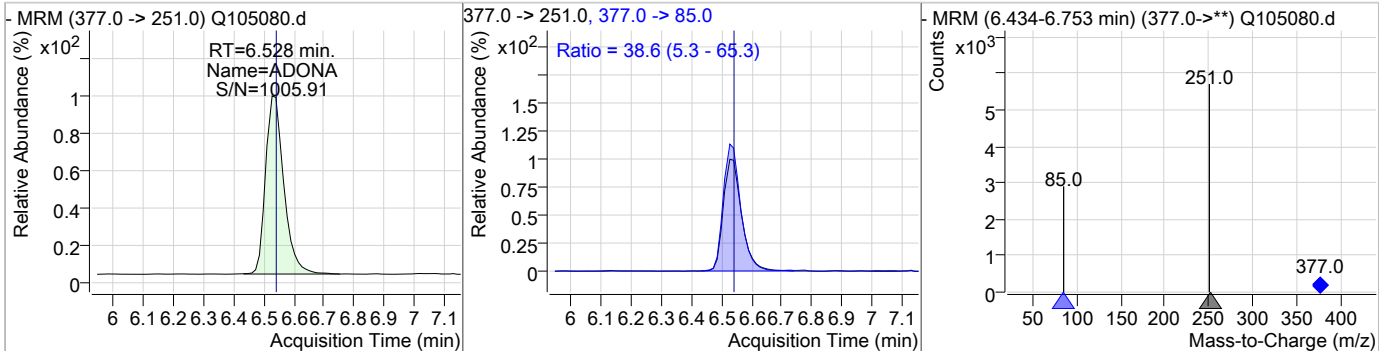
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.49	6.44	-0.04	3158	363.0 -> 169.0	13.1	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.43	6.48	-0.04	542 (m)	399.0 -> 99.0	48.7	20.8	80.8

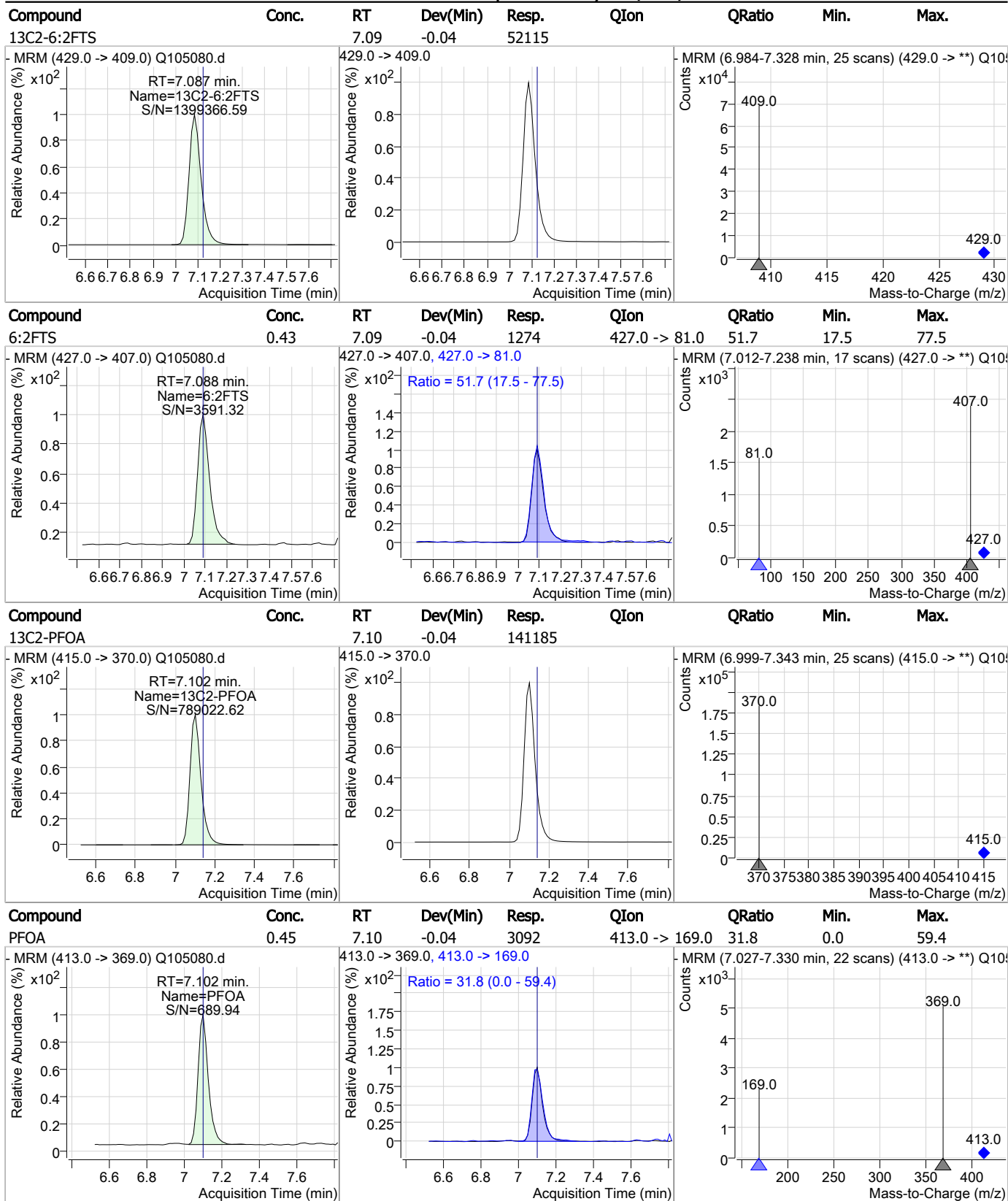


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.40	6.53	-0.05	3655	377.0 -> 85.0	38.6	5.3	65.3



7.6.17

### Perfluorinated Compounds by LC/MS/MS

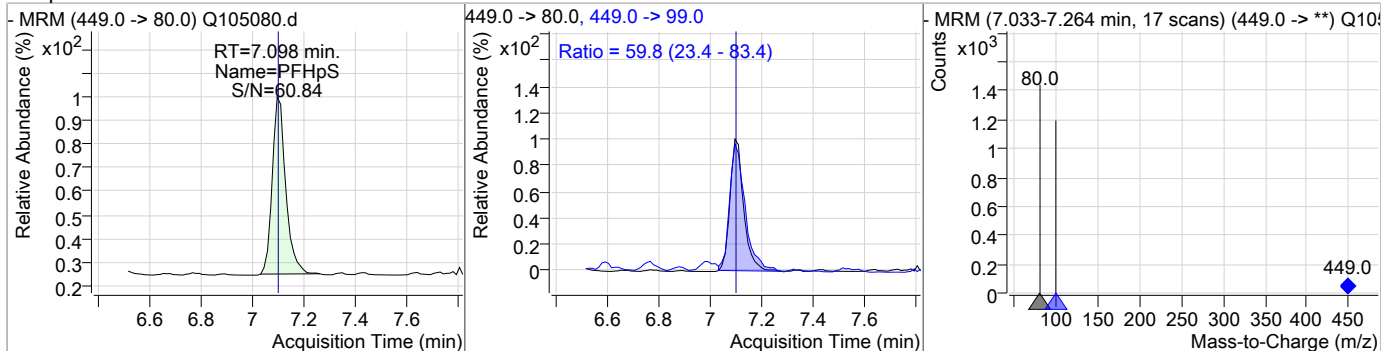


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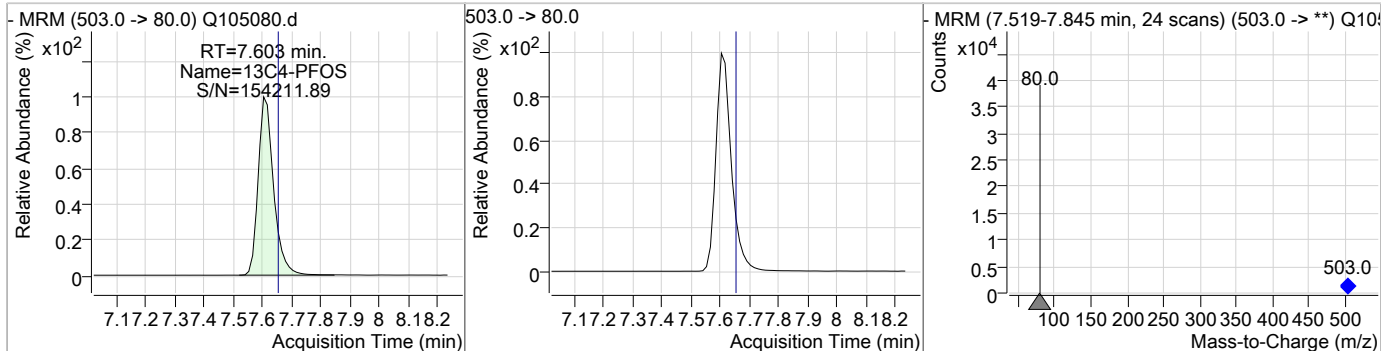
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### Perfluorinated Compounds by LC/MS/MS

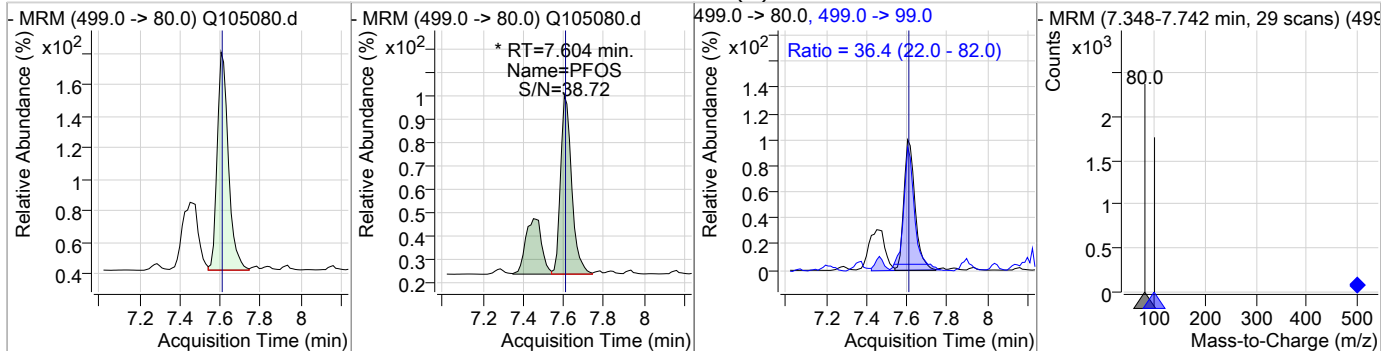
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.41	7.10	-0.05	473	449.0 -> 99.0	59.8	23.4	83.4



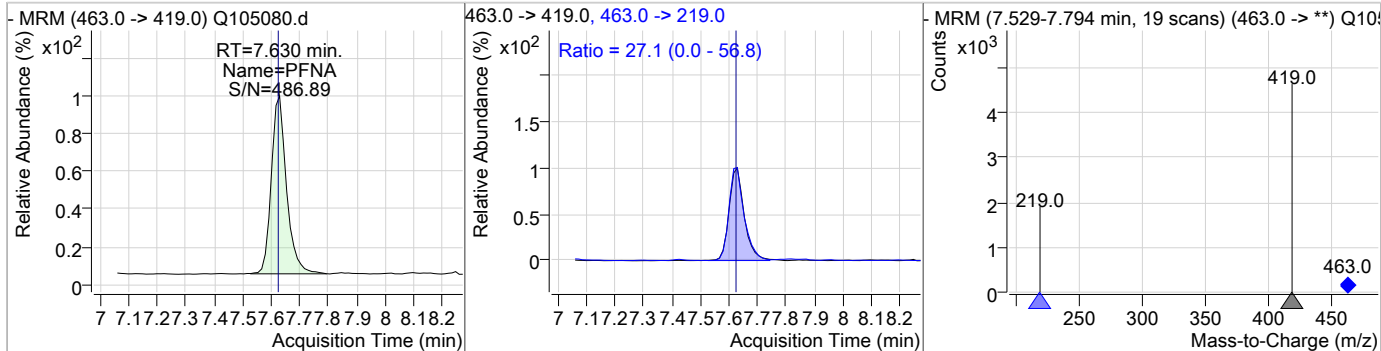
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
<sup>13</sup> C4-PFOS		7.60	-0.05	28612				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.45	7.60	-0.05	769 (m)	499.0 -> 99.0	36.4	22.0	82.0



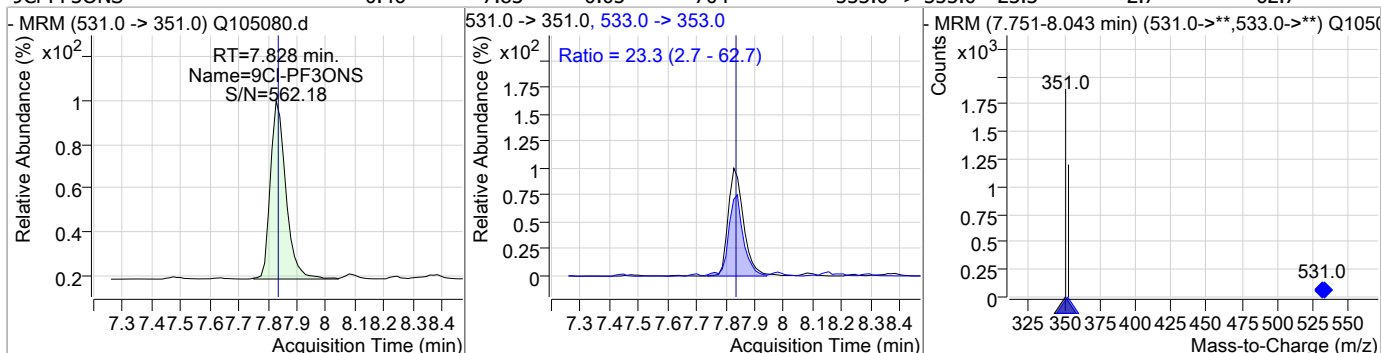
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.45	7.63	-0.04	2781	463.0 -> 219.0	27.1	0.0	56.8



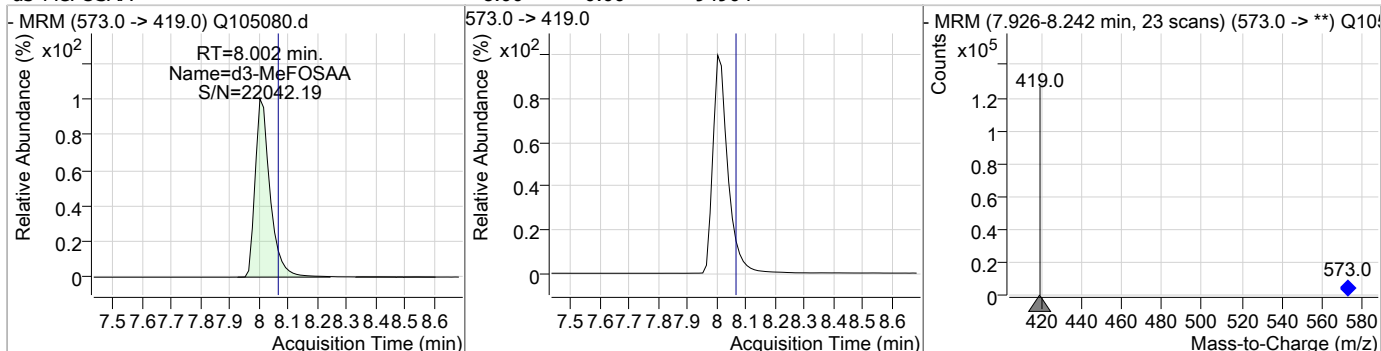
7.6.17  
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### Perfluorinated Compounds by LC/MS/MS

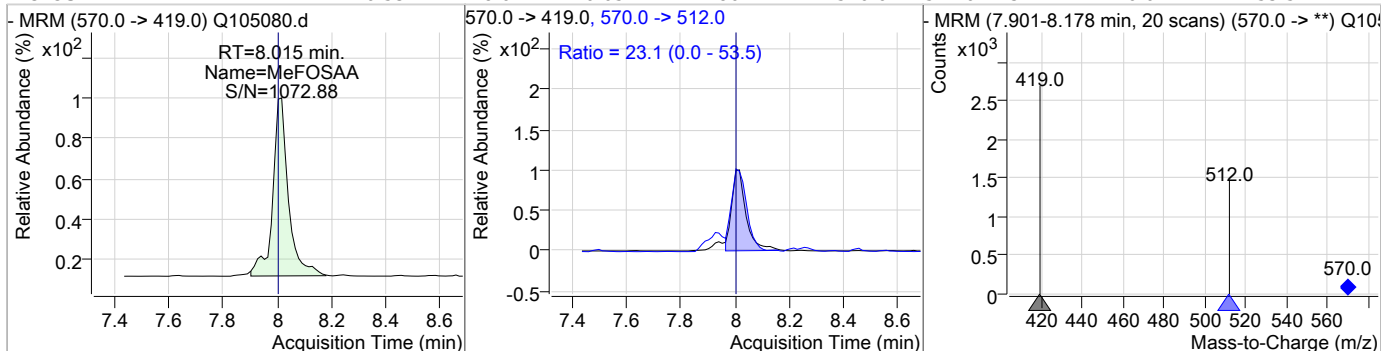
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.46	7.83	-0.05	704	533.0 -> 353.0	23.3	2.7	62.7



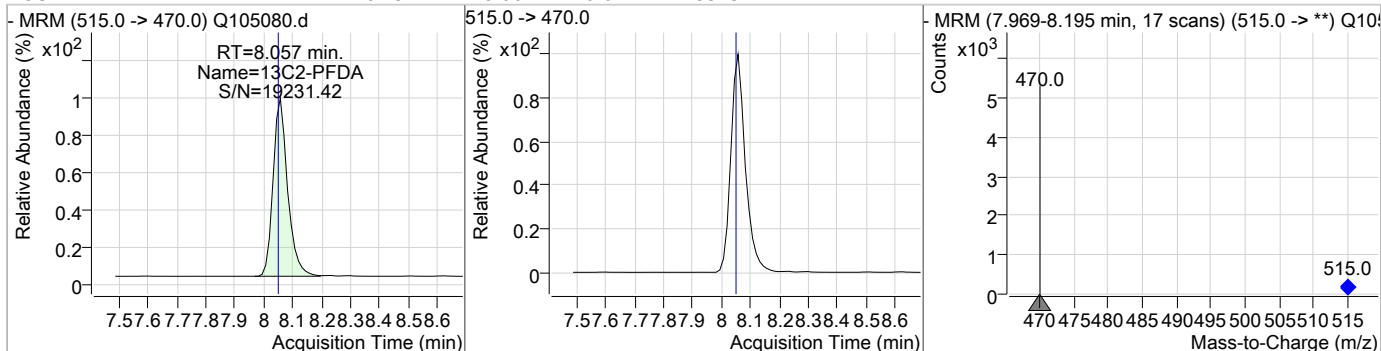
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.00	-0.06	94904				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.53	8.02	-0.05	1286	570.0 -> 512.0	23.1	0.0	53.5

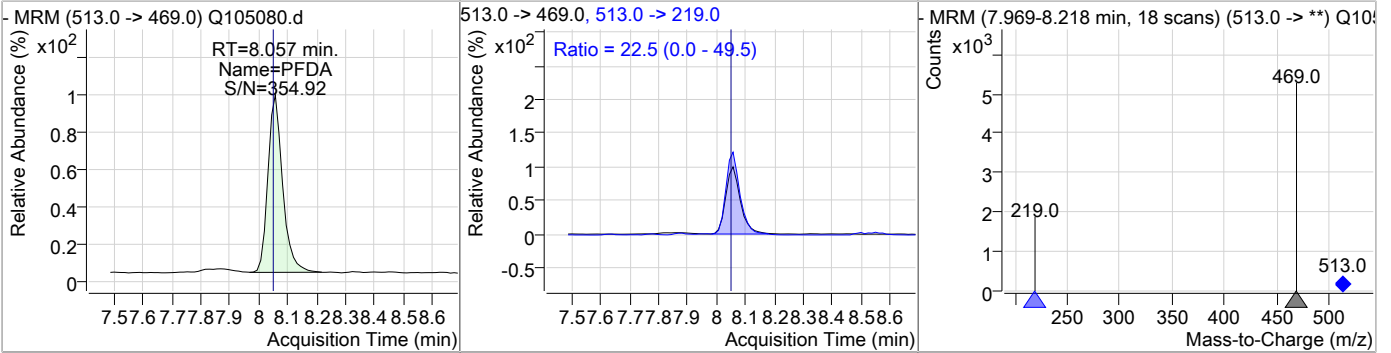


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	0.49	8.06	-0.04	3373				

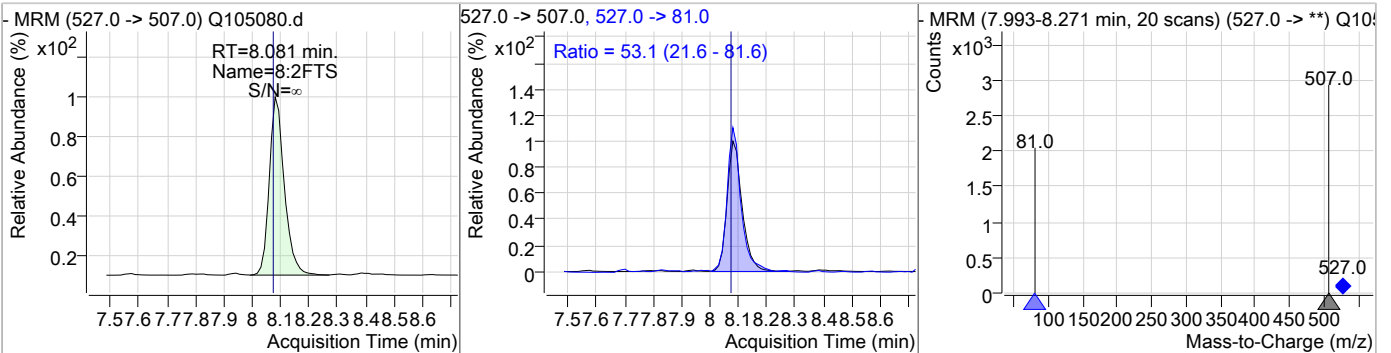


### Perfluorinated Compounds by LC/MS/MS

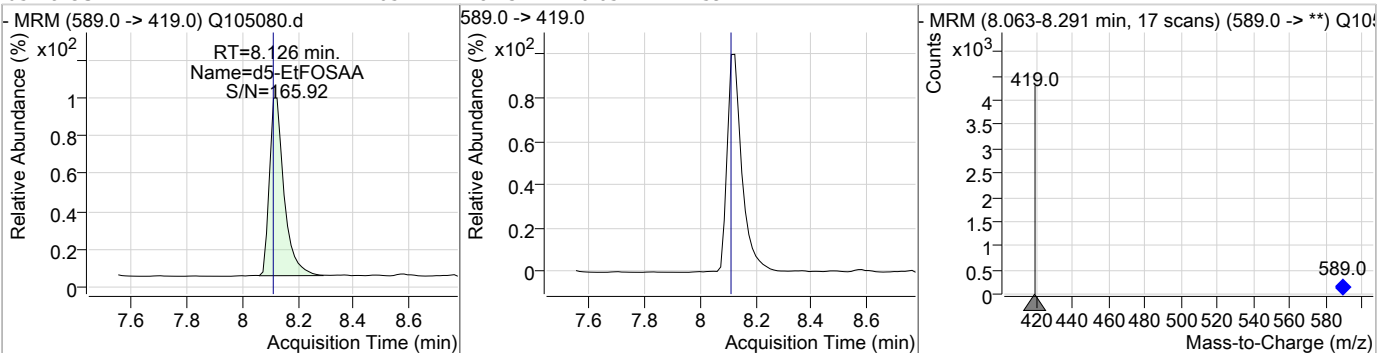
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.46	8.06	-0.04	3263	513.0 -> 219.0	22.5	0.0	49.5



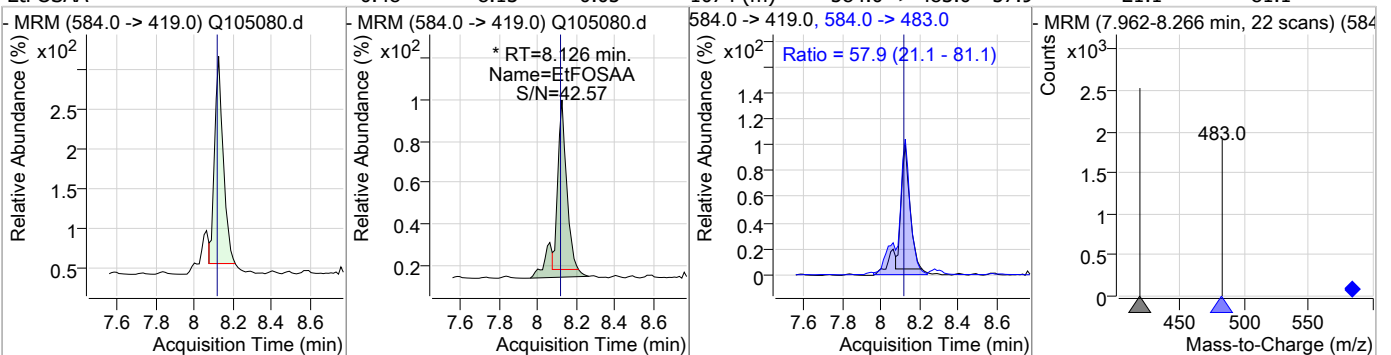
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.50	8.08	-0.04	1467	527.0 -> 81.0	53.1	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	1.05	8.13	-0.05	2594	589.0 -> 419.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.48	8.13	-0.05	1074 (m)	584.0 -> 483.0	57.9	21.1	81.1

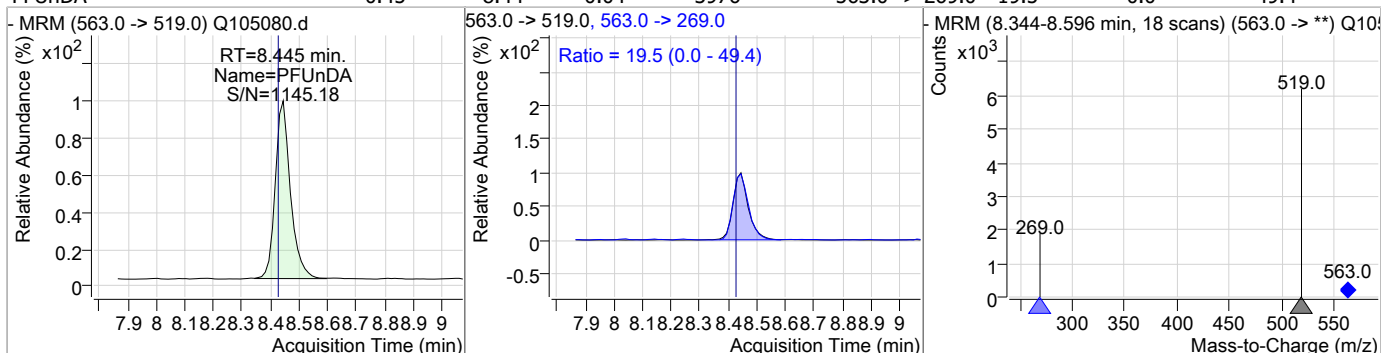


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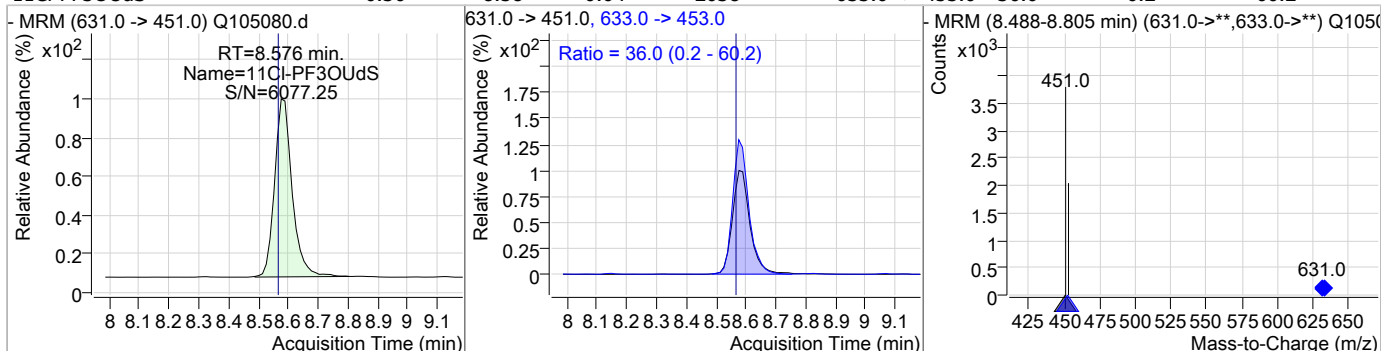


### Perfluorinated Compounds by LC/MS/MS

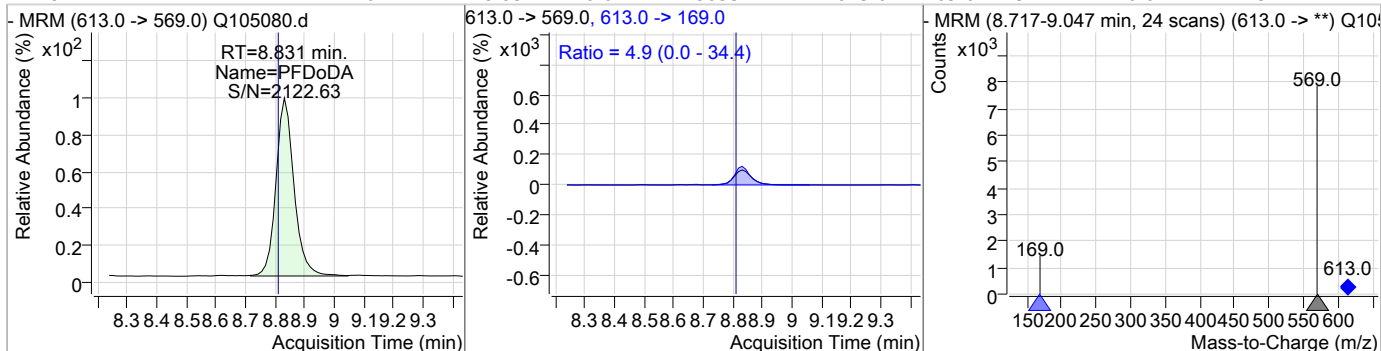
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.45	8.44	-0.04	3976	563.0 -> 269.0	19.5	0.0	49.4



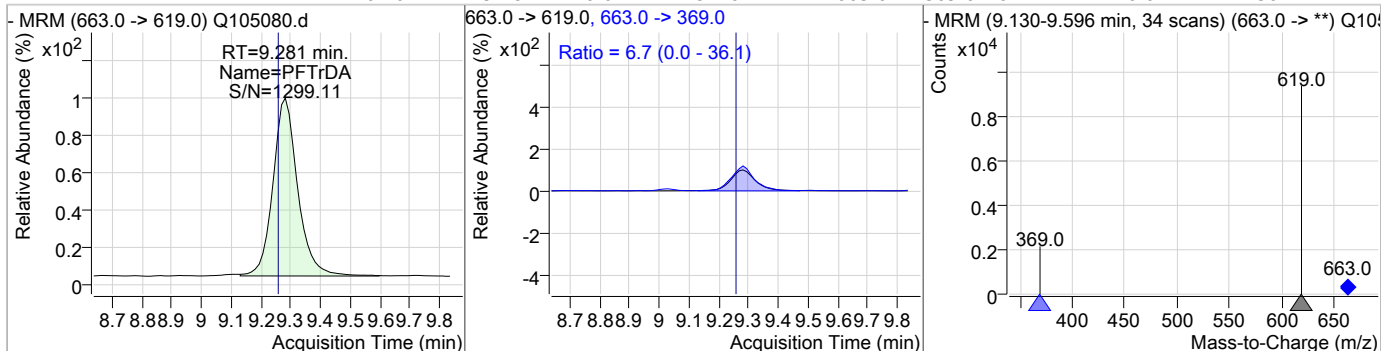
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.36	8.58	-0.04	2038	633.0 -> 453.0	36.0	0.2	60.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.41	8.83	-0.04	5053	613.0 -> 169.0	4.9	0.0	34.4



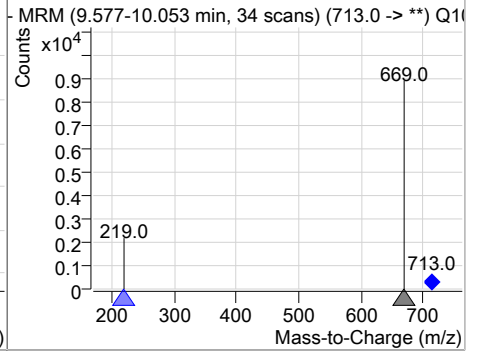
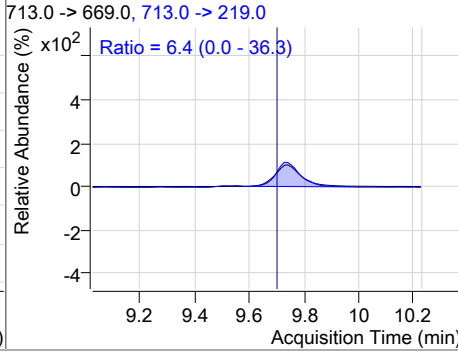
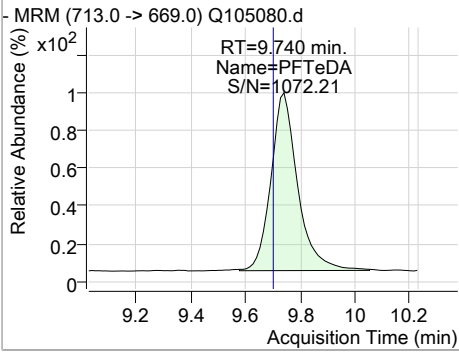
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTTrDA	0.40	9.28	-0.04	5746	663.0 -> 369.0	6.7	0.0	36.1





### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.42	9.74	-0.02	5314	713.0 -> 219.0	6.4	0.0	36.3



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# Manual Integration Approval Summary

Sample Number: SQ2239-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105080.D      Analyst approved: 09/12/23 11:44 Anna Ludwig  
Injection Time: 09/11/23 12:44      Supervisor approved: 09/12/23 16:20 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
13C3-HFPO-DA			5.81	Poor instrument integration
Perfluorohexanesulfonic acid	355-46-4		6.48	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.60	Split peak
EtFOSAA	2991-50-6		8.13	Split peak

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### Perfluorinated Compounds by LC/MS/MS

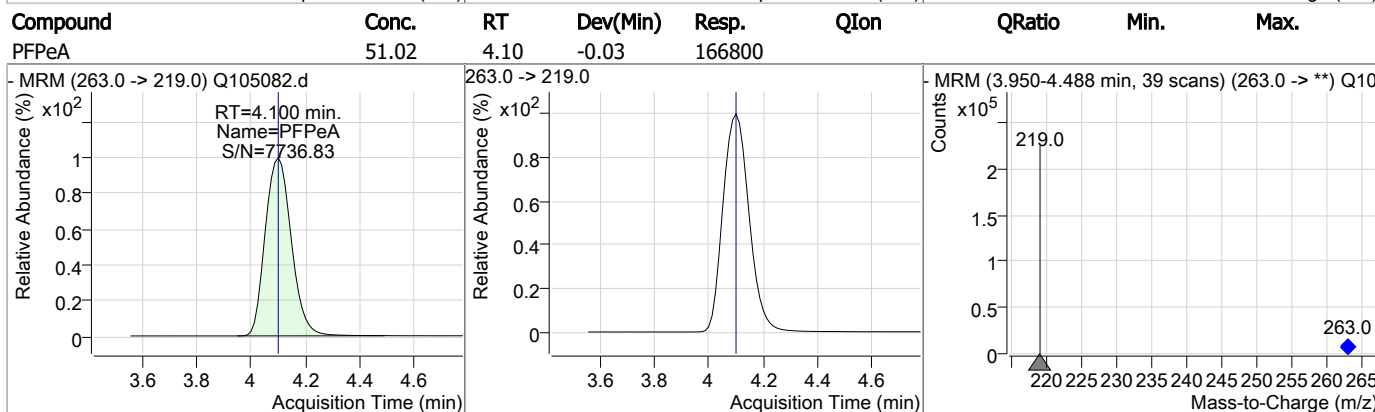
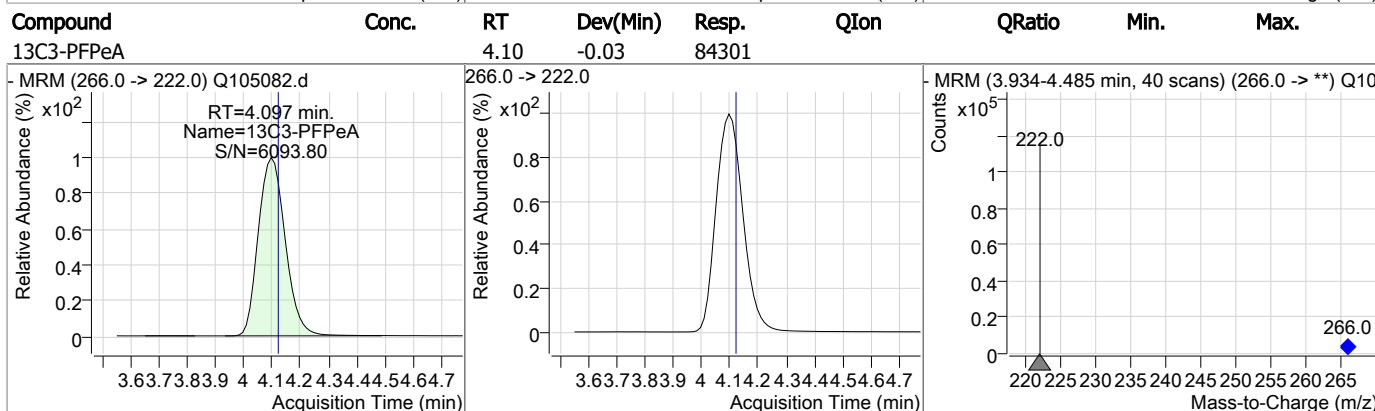
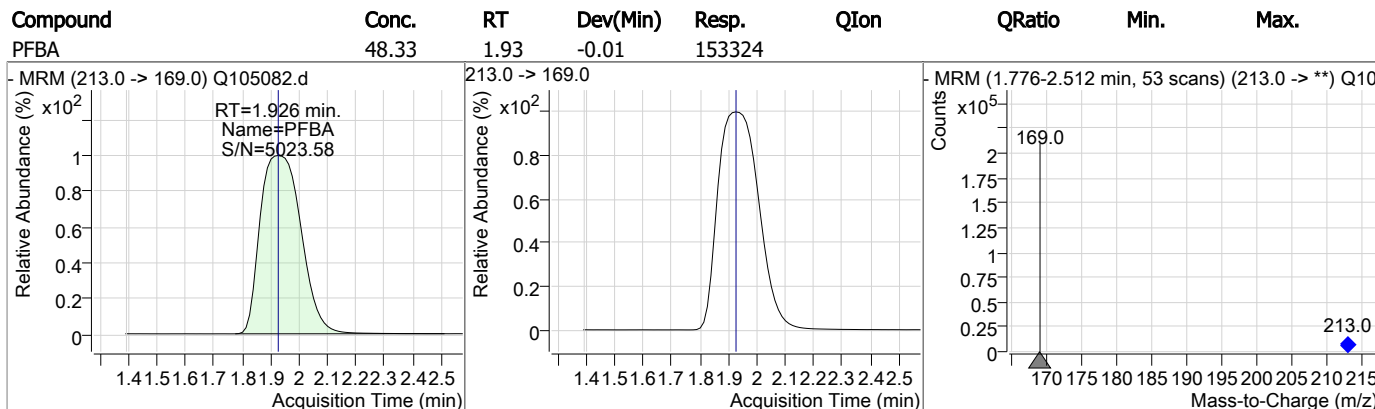
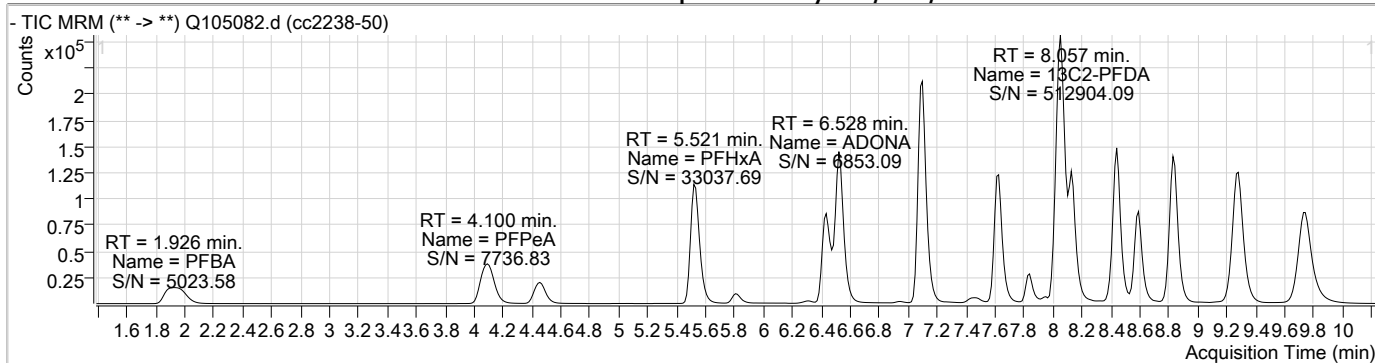
Data File : Q105082.d  
 Operator : annal  
 Acq. Method : 537.m  
 Acq. Date-Time : 9/11/2023 1:16:02 PM  
 Sample Name : cc2238-50  
 Vial : P1-A8  
 DA Method File : 537\_090823\_SQ2238.quantmethod.xml  
 Batch Name : sq2239.batch.bin  
 Sample Information : op97472,SQ2239,250,,,,1.0,1,water

Compound	RT	QIon	Resp.	Conc. Units	Dev(Min)
<b>Internal Standards</b>					
13C2-6:2FTS	7.087	429.0 -> 409.0	54400	20.00 µg/L	-0.039
13C2-PFOA	7.102	415.0 -> 370.0	132058	20.00 µg/L	-0.039
13C3-PFPeA	4.097	266.0 -> 222.0	84301	20.00 µg/L	-0.025
13C4-PFOS	7.616	503.0 -> 80.0	27846	20.00 µg/L	-0.038
d3-MeFOSAA	8.015	573.0 -> 419.0	82190	40.00 µg/L	-0.050
<b>System Monitoring Compounds</b>					
13C2-PFDA	8.057	515.0 -> 470.0	343406	53.41 µg/L	-0.038
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 267.0%	
13C2-PFHxA	5.519	315.0 -> 270.0	251678	49.84 µg/L	-0.038
Spiked Amount: 20.00	Range: 70.0 - 130.0%			Recovery = 249.2%	
d5-EtFOSAA	8.126	589.0 -> 419.0	223121	97.11 µg/L	-0.050
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 242.8%	
13C3-HFPO-DA	5.813	287.0 -> 169.0	16730	113.04 µg/L	-0.038
Spiked Amount: 40.00	Range: 70.0 - 130.0%			Recovery = 282.6%	
<b>Target Compounds</b>					
6:2FTS	7.088	427.0 -> 407.0	135058	48.59 µg/L	100
8:2FTS	8.081	527.0 -> 507.0	134208	49.41 µg/L	99
EtFOSAA	8.139	584.0 -> 419.0	103020	48.84 µg/L	m 96
MeFOSAA	8.015	570.0 -> 419.0	103589	49.63 µg/L	m 90
PFBA	1.926	213.0 -> 169.0	153324	48.33 µg/L	100
PFBS	4.453	299.0 -> 80.0	78780	47.20 µg/L	100
PFDA	8.057	513.0 -> 469.0	344953	51.85 µg/L	99
PFDoDA	8.831	613.0 -> 569.0	564932	46.63 µg/L	99
PFHpA	6.437	363.0 -> 319.0	296073	49.07 µg/L	100
PFHpS	7.098	449.0 -> 80.0	54220	48.01 µg/L	100
PFHxA	5.521	313.0 -> 269.0	231850	48.29 µg/L	100
PFHxS	6.469	399.0 -> 80.0	61143	49.96 µg/L	m 96
PFNA	7.630	463.0 -> 419.0	294028	51.09 µg/L	99
PFOA	7.102	413.0 -> 369.0	313275	48.66 µg/L	99
PFOS	7.616	499.0 -> 80.0	77905	47.19 µg/L	m 84
PFPeA	4.100	263.0 -> 219.0	166800	51.02 µg/L	100
PFTeDA	9.740	713.0 -> 669.0	568256	45.63 µg/L	100
PFTTrDA	9.281	663.0 -> 619.0	645057	45.63 µg/L	100
PFUnDA	8.445	563.0 -> 519.0	444698	51.62 µg/L	97
ADONA	6.528	377.0 -> 251.0	405942	47.34 µg/L	96
9Cl-PF3ONS	7.841	531.0 -> 351.0	75515	50.08 µg/L	97
11Cl-PF3OUdS	8.589	631.0 -> 451.0	254383	48.24 µg/L	98
HFPO-DA	5.815	285.0 -> 169.0	10920	58.25 µg/L	89

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

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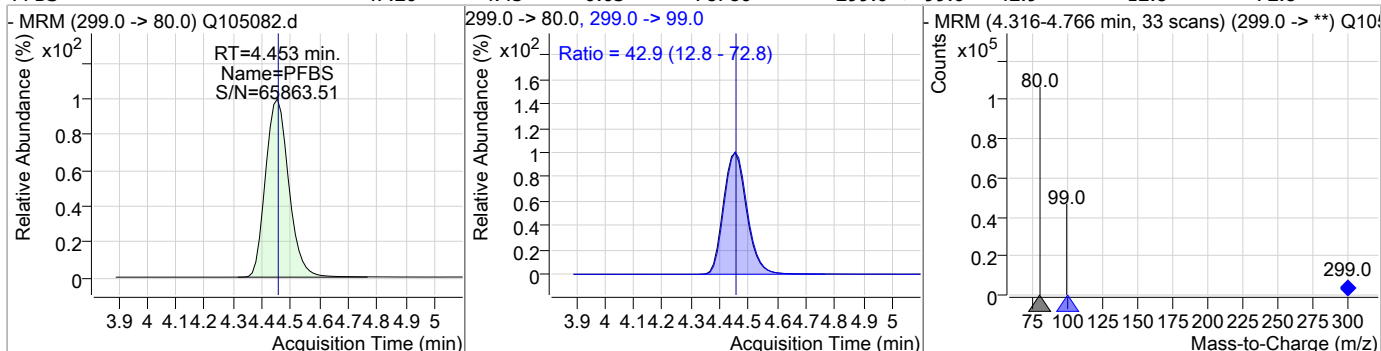
### Perfluorinated Compounds by LC/MS/MS



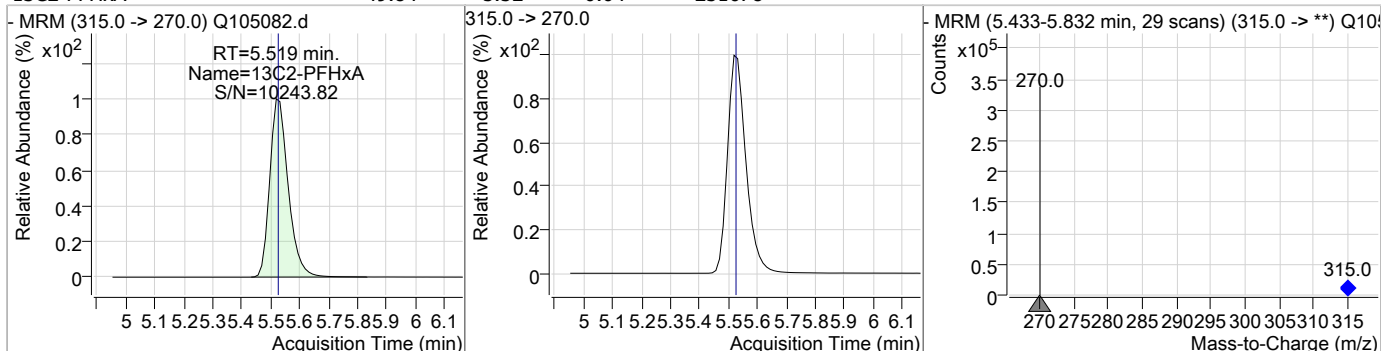
7.6.18  
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### Perfluorinated Compounds by LC/MS/MS

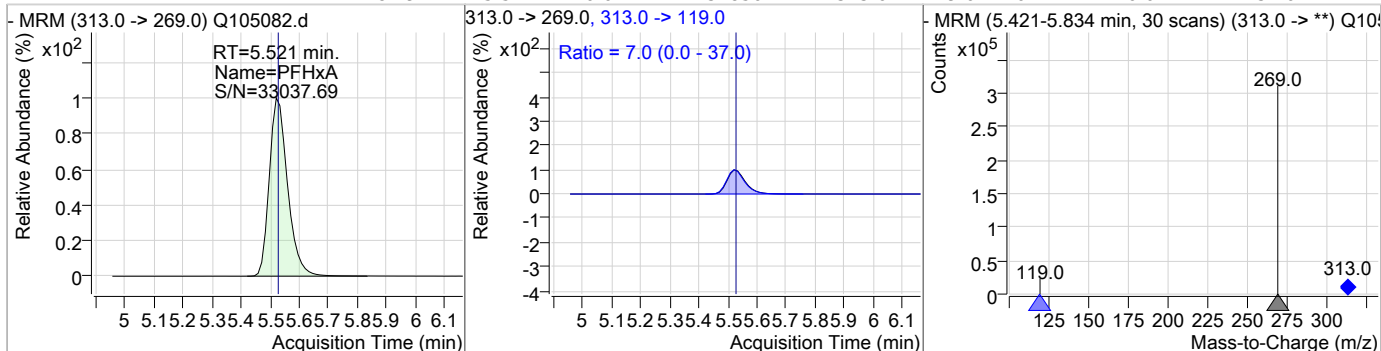
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	47.20	4.45	-0.03	78780	299.0 -> 99.0	42.9	12.8	72.8



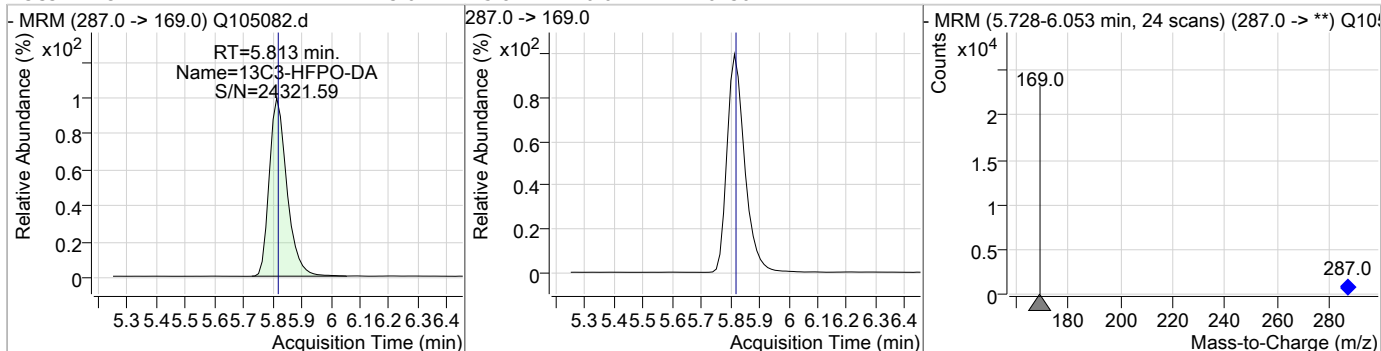
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFHxA	49.84	5.52	-0.04	251678	315.0 -> 270.0	7.0	0.0	37.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	48.29	5.52	-0.04	231850	313.0 -> 119.0	7.0	0.0	37.0

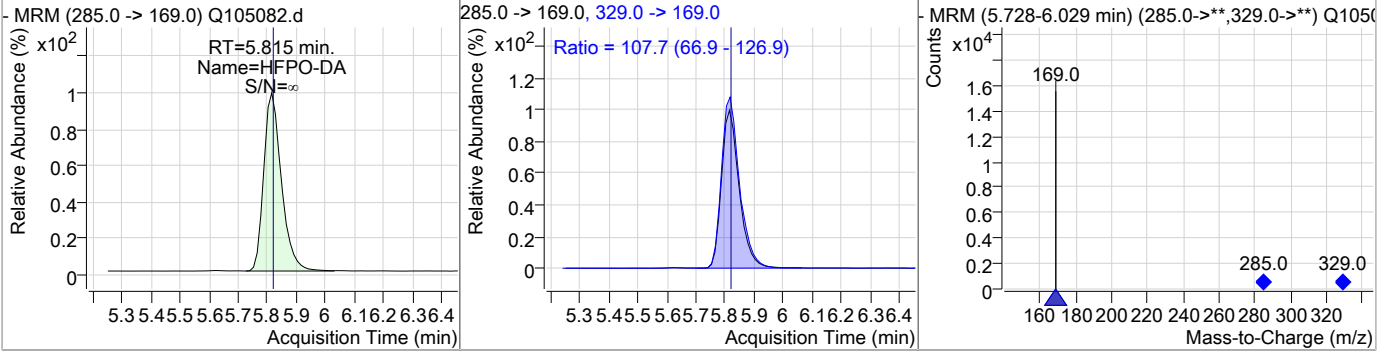


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	113.04	5.81	-0.04	16730	287.0 -> 169.0	7.0	0.0	37.0

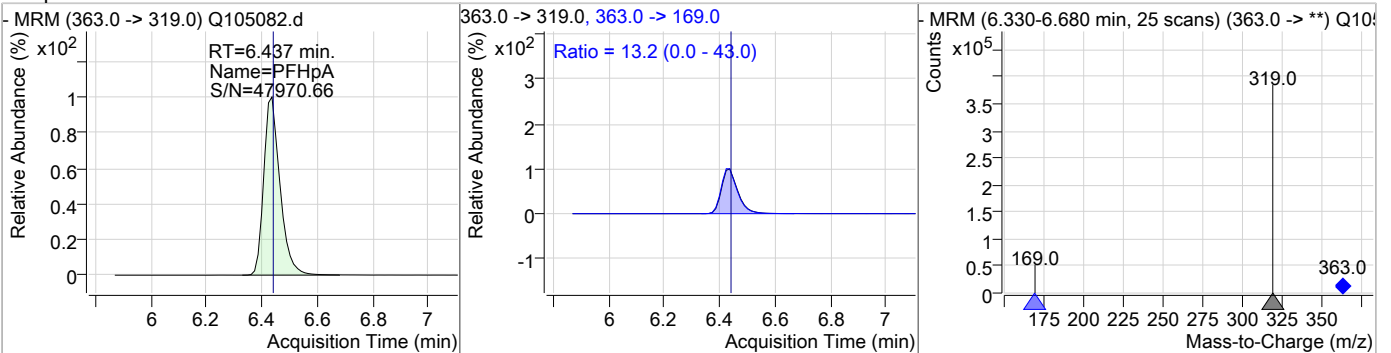


### Perfluorinated Compounds by LC/MS/MS

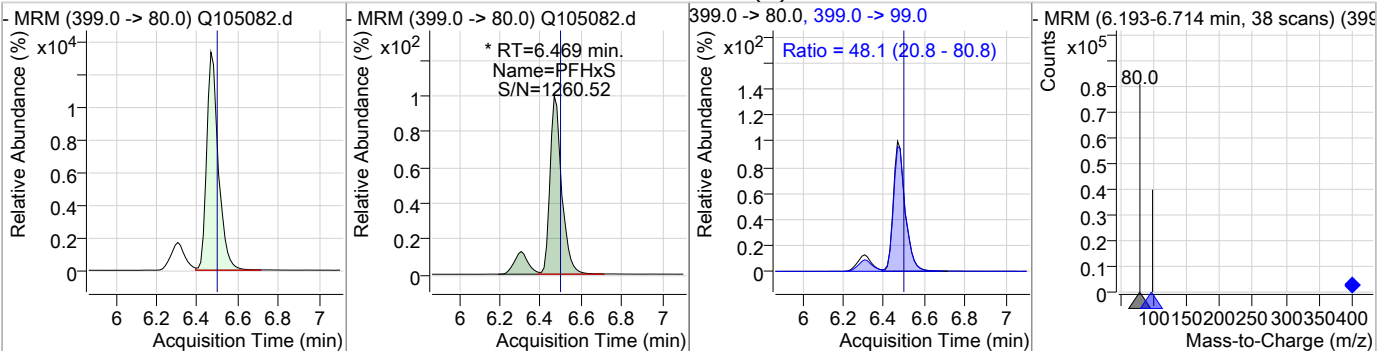
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	58.25	5.82	-0.04	10920	329.0 -> 169.0	107.7	66.9	126.9



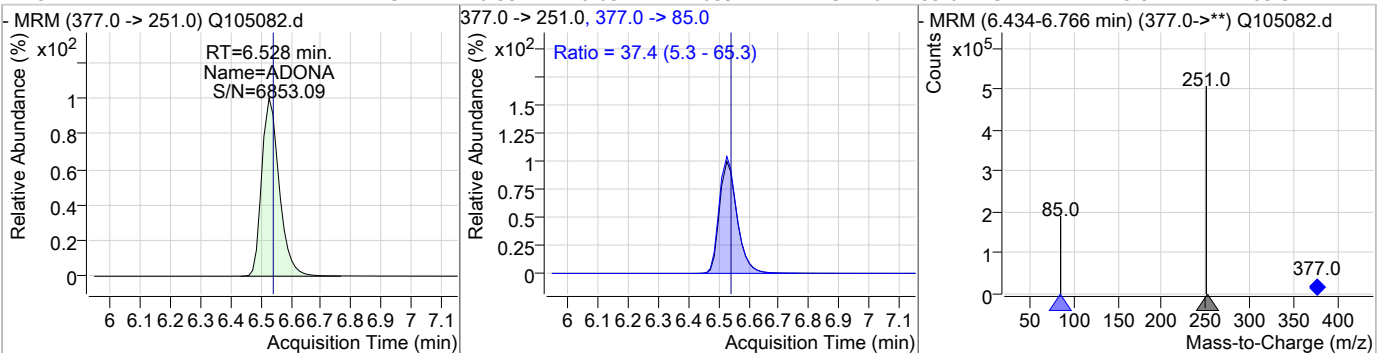
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	49.07	6.44	-0.04	296073	363.0 -> 169.0	13.2	0.0	43.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	49.96	6.47	-0.06	61143 (m)	399.0 -> 99.0	48.1	20.8	80.8

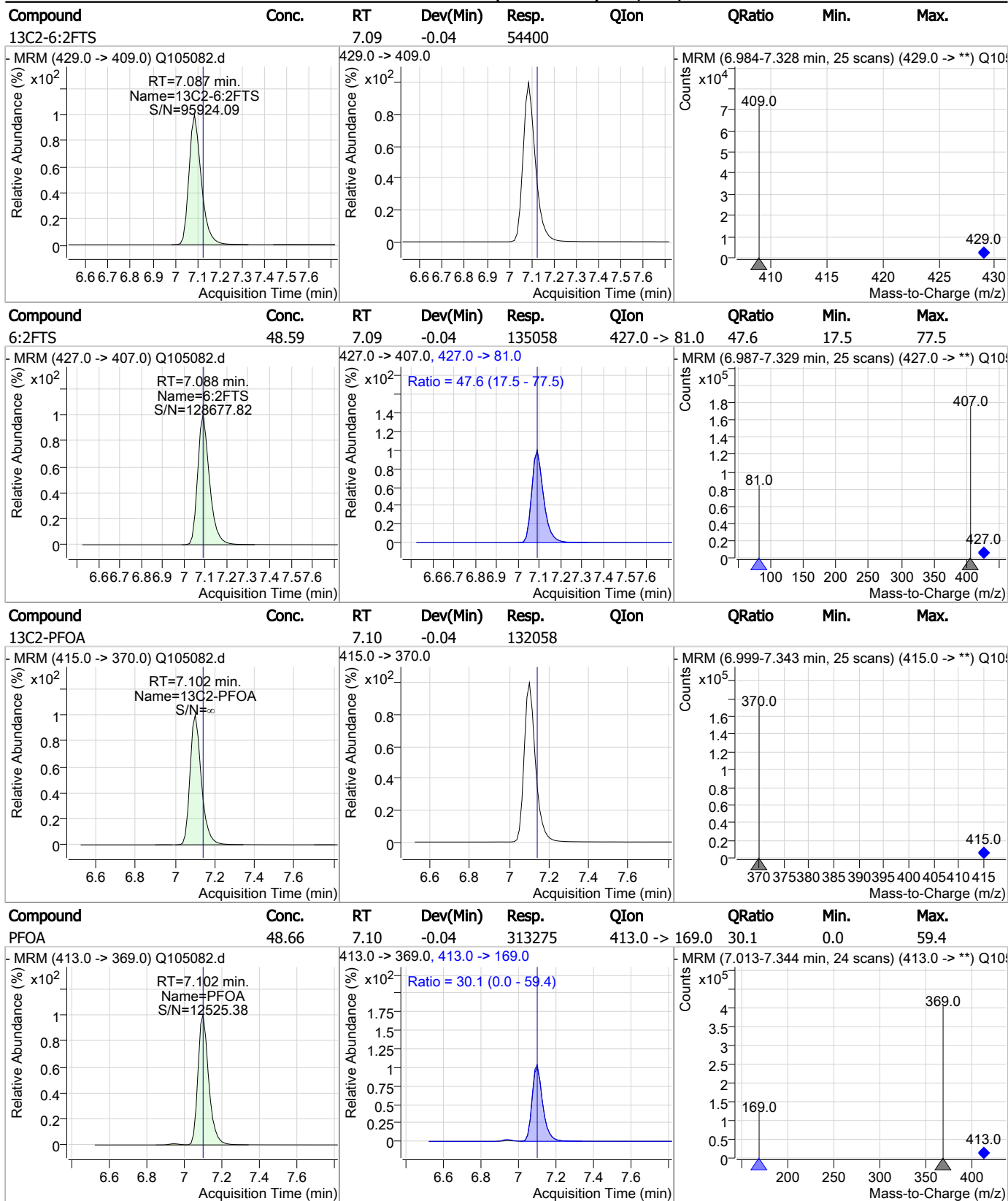


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	47.34	6.53	-0.05	405942	377.0 -> 85.0	37.4	5.3	65.3



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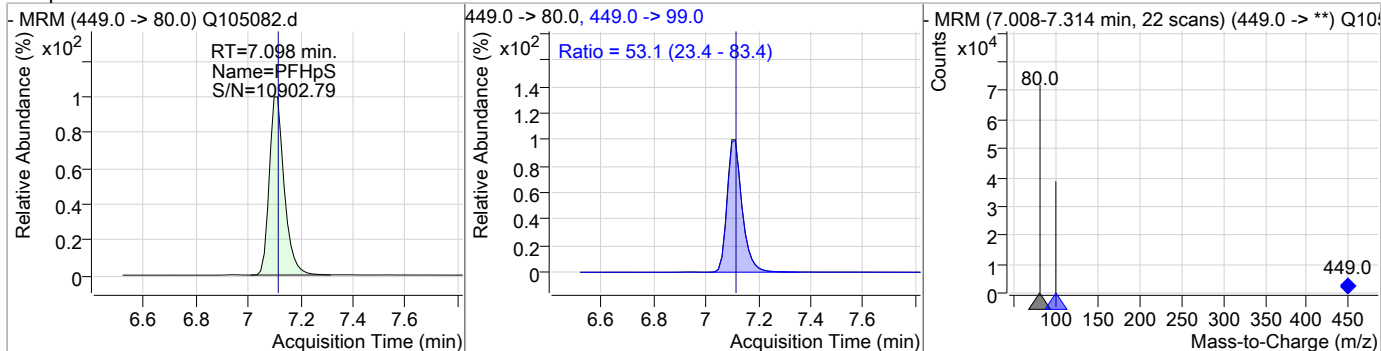
### Perfluorinated Compounds by LC/MS/MS



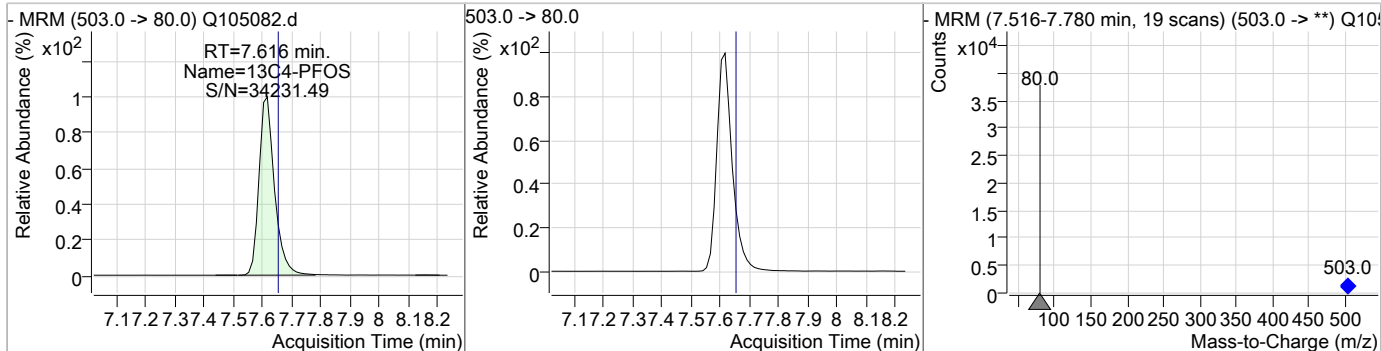
7.6.18  
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### Perfluorinated Compounds by LC/MS/MS

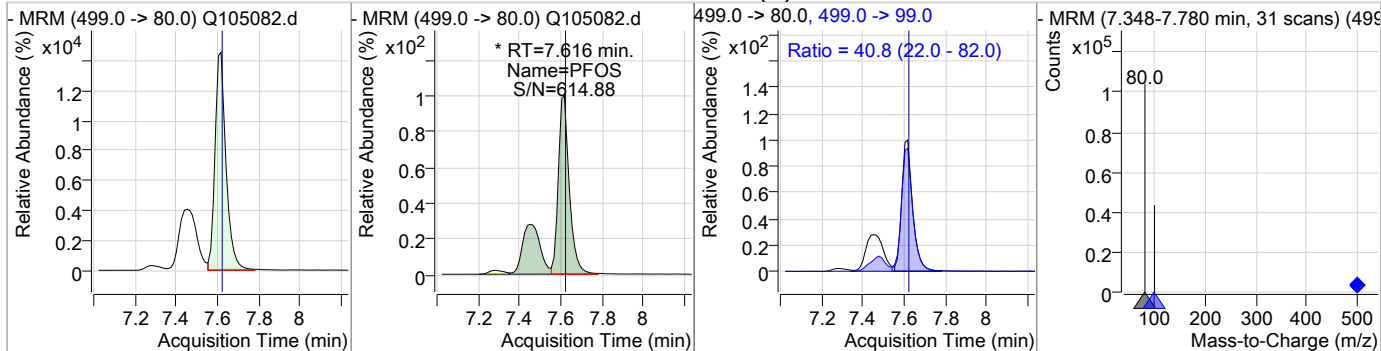
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	48.01	7.10	-0.05	54220	449.0 -> 99.0	53.1	23.4	83.4



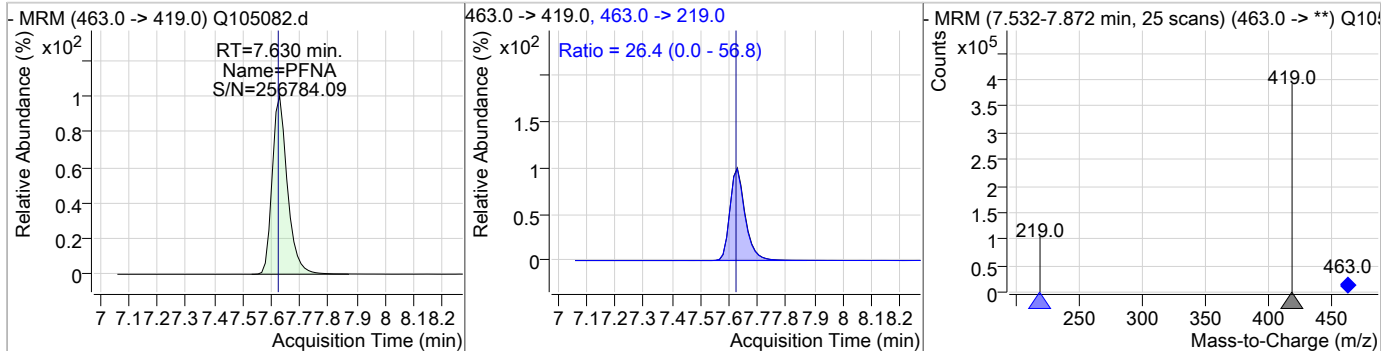
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFOS		7.62	-0.04	27846				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	47.19	7.62	-0.04	77905 (m)	499.0 -> 99.0	40.8	22.0	82.0



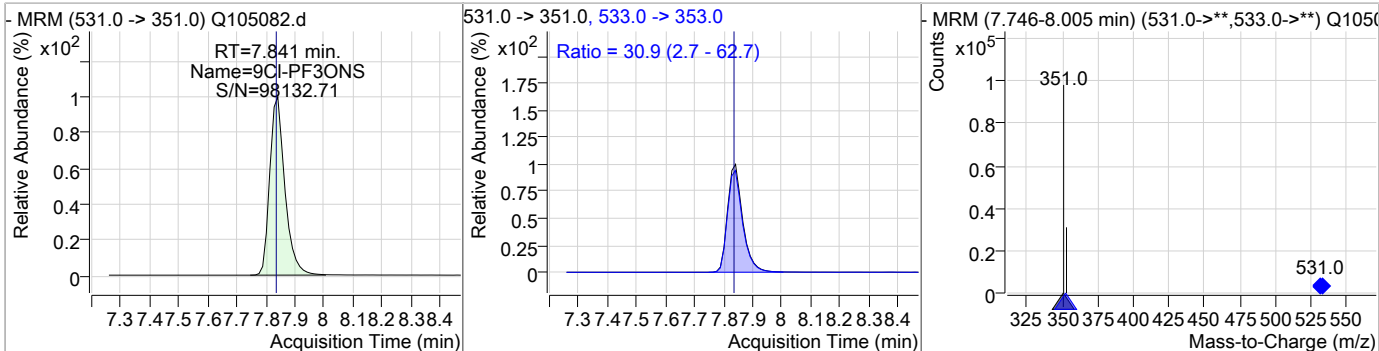
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	51.09	7.63	-0.04	294028	463.0 -> 219.0	26.4	0.0	56.8



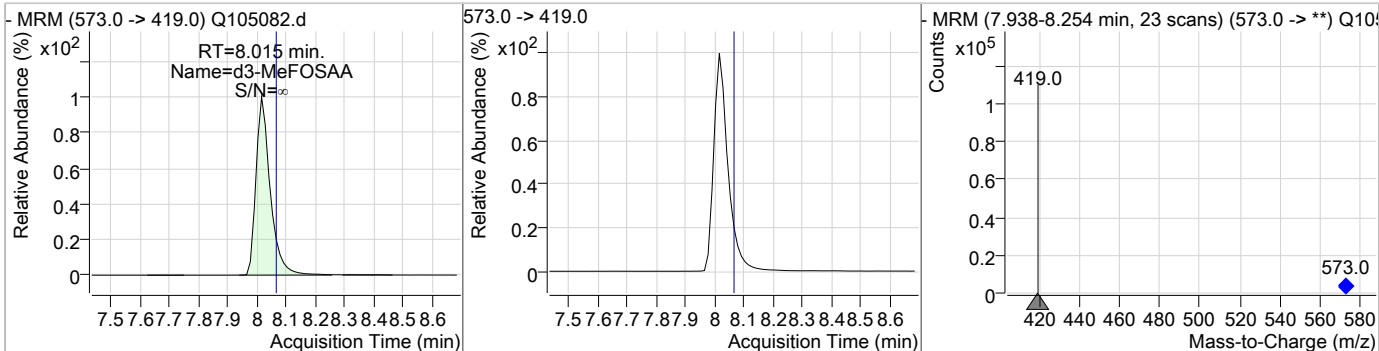


### Perfluorinated Compounds by LC/MS/MS

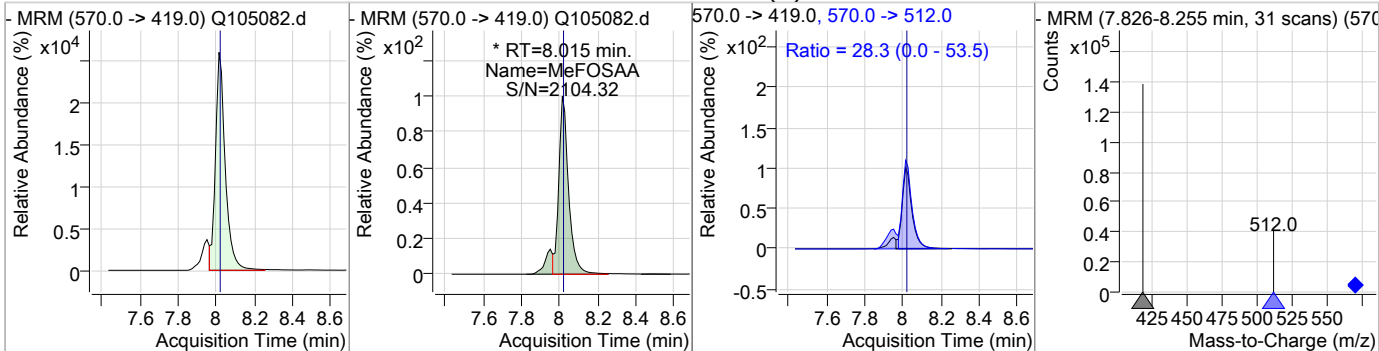
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	50.08	7.84	-0.04	75515	533.0 -> 353.0	30.9	2.7	62.7



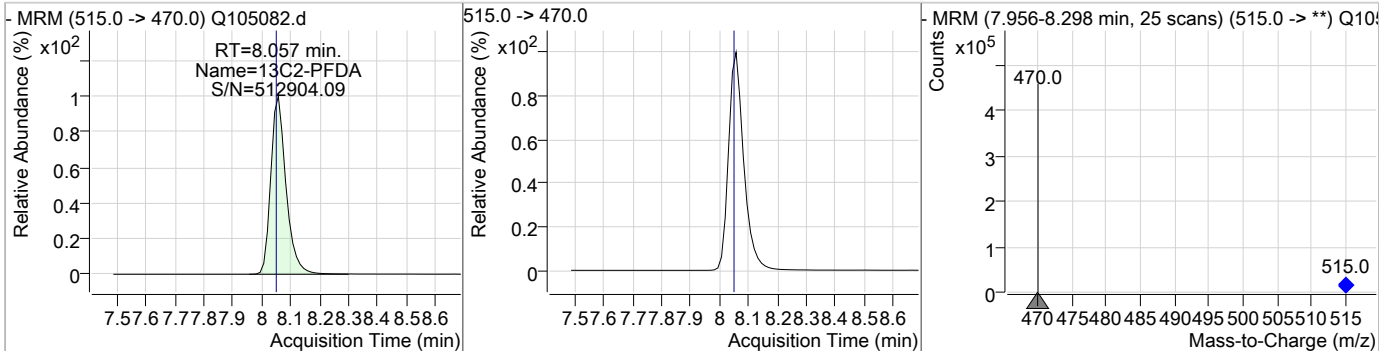
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA		8.01	-0.05	82190				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	49.63	8.02	-0.05	103589 (m)	570.0 -> 512.0	28.3	0.0	53.5



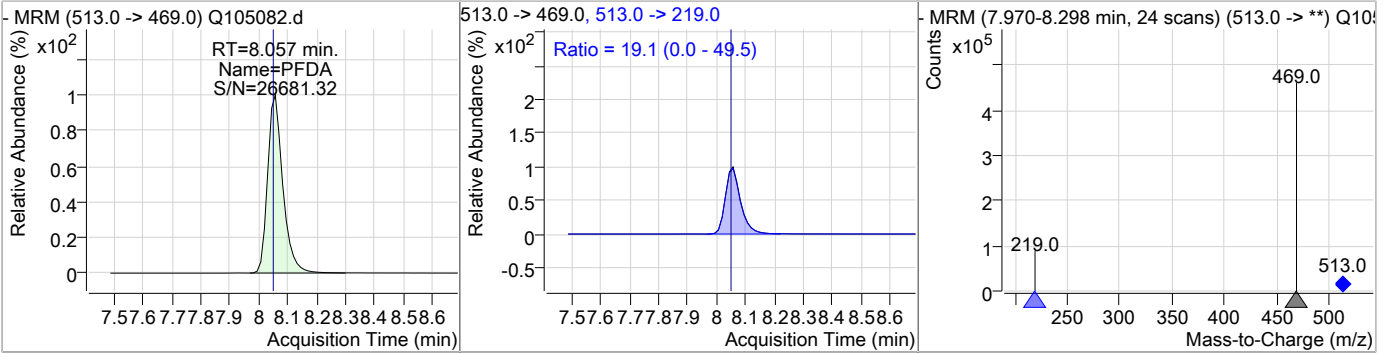
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDA	53.41	8.06	-0.04	343406				



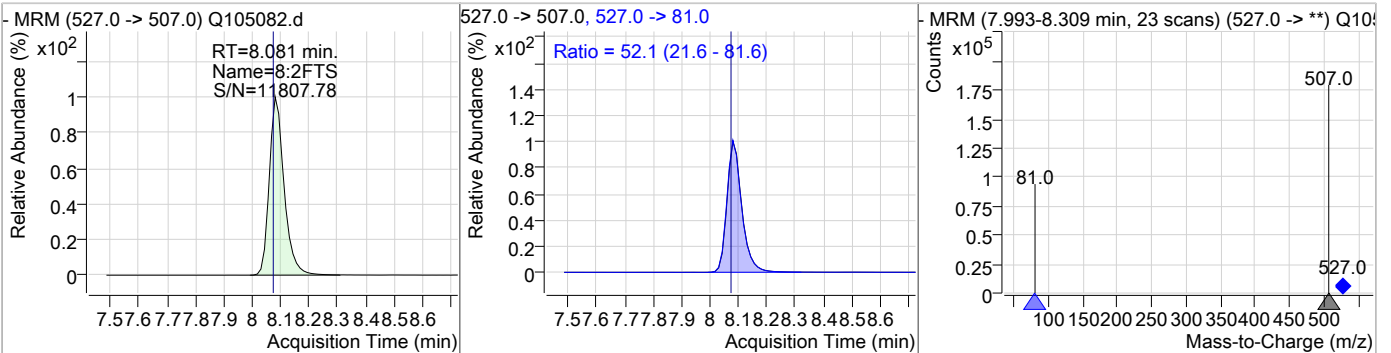
7.6.18  
7

### Perfluorinated Compounds by LC/MS/MS

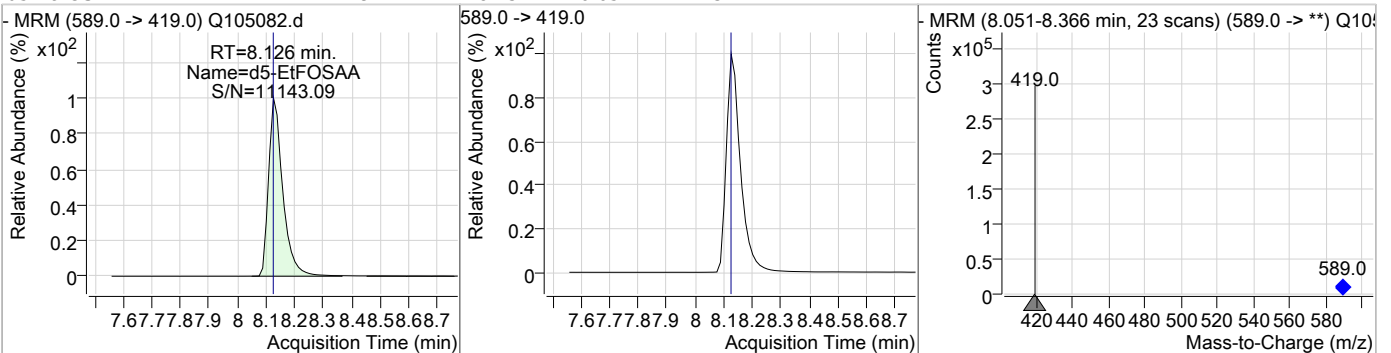
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	51.85	8.06	-0.04	344953	513.0 -> 219.0	19.1	0.0	49.5



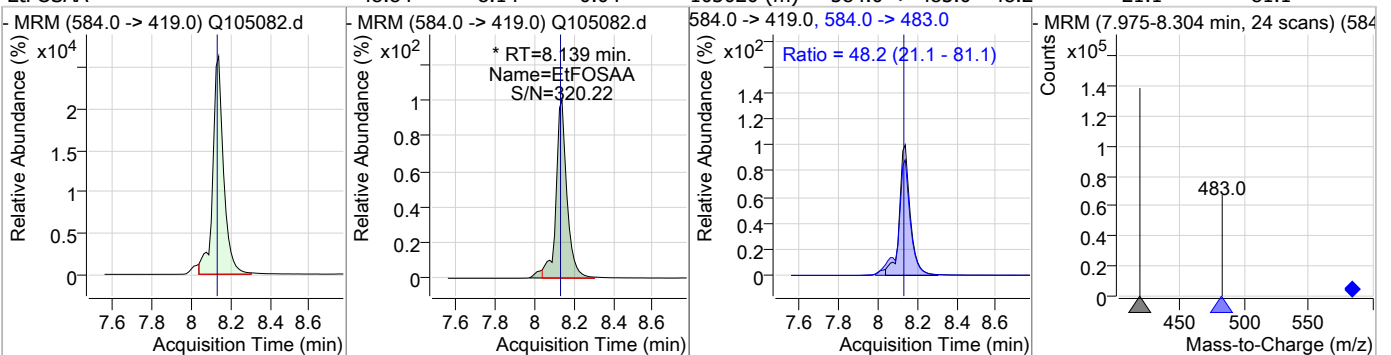
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	49.41	8.08	-0.04	134208	527.0 -> 81.0	52.1	21.6	81.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	97.11	8.13	-0.05	223121	589.0 -> 419.0	48.2	21.1	81.1

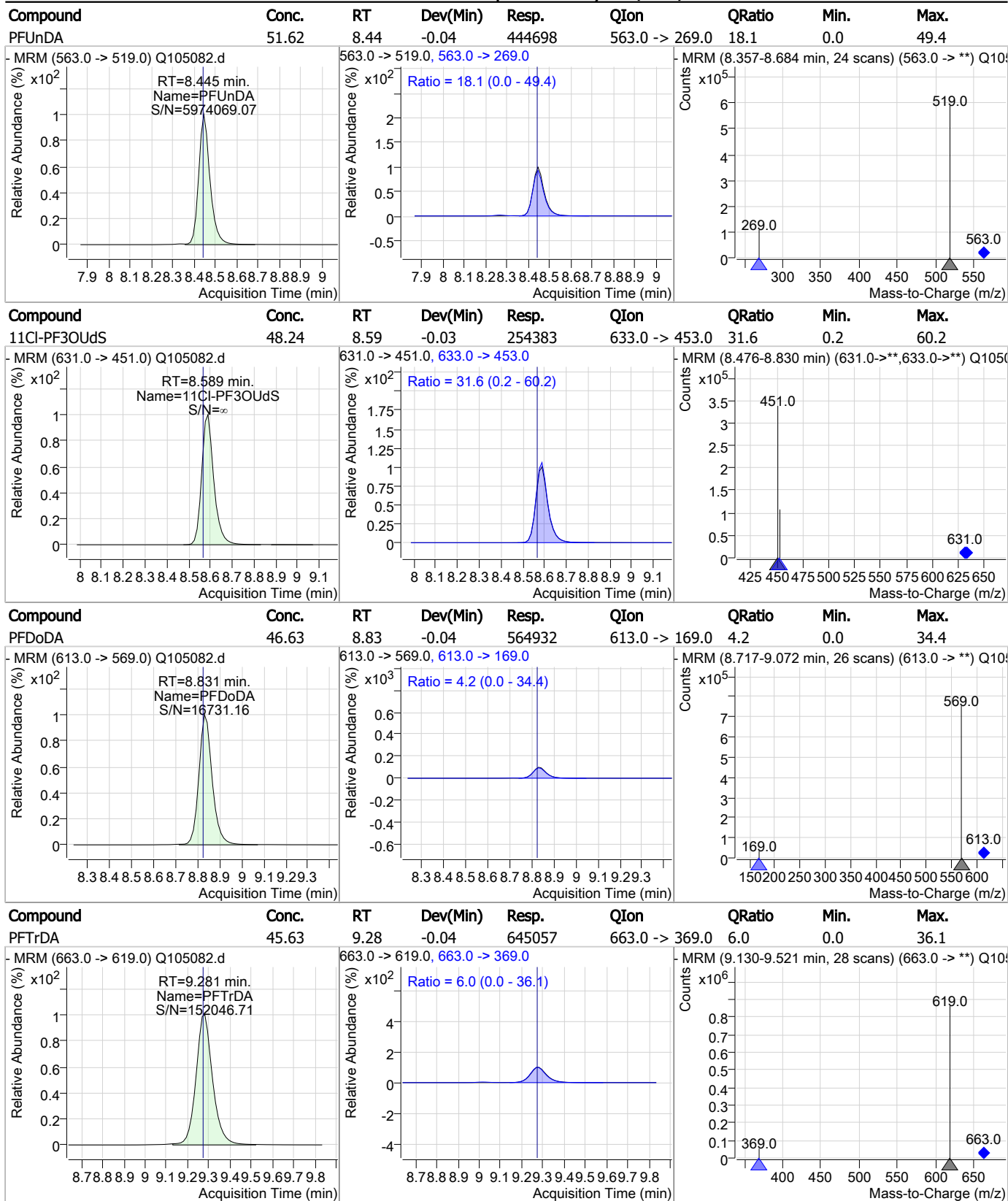


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	48.84	8.14	-0.04	103020 (m)	584.0 -> 483.0	48.2	21.1	81.1



7.6.18  
7

### Perfluorinated Compounds by LC/MS/MS

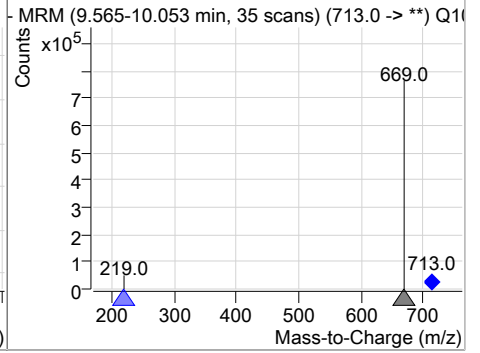
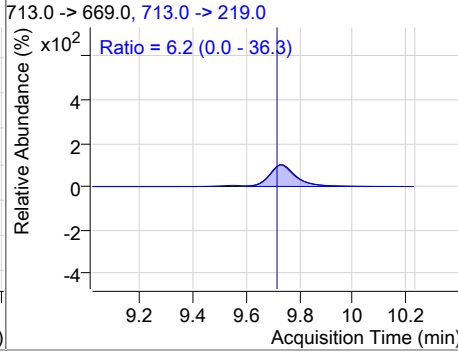
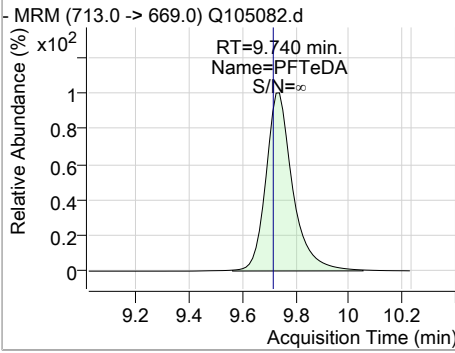


7.6.18

7

### Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	45.63	9.74	-0.02	568256	713.0 -> 219.0	6.2	0.0	36.3



7.6.18  
7

# Manual Integration Approval Summary

Sample Number: SQ2239-CC2238      Method: EPA 537.1 REV 1.0  
Lab FileID: Q105082.D      Analyst approved: 09/12/23 11:44 Anna Ludwig  
Injection Time: 09/11/23 13:16      Supervisor approved: 09/12/23 16:20 Natasha Guntie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		6.47	Split peak
Perfluorooctanesulfonic acid	1763-23-1		7.62	Split peak
MeFOSAA	2355-31-9		8.02	Split peak
EtFOSAA	2991-50-6		8.14	Split peak

7.6.18.1

7

SGS ORLANDO

DATE:	09/07/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS1-Q

LCMS1-Q ANALYSIS LOG

METHODS:	537.1 DW
PROC. METH:	DW_090723_SQ2238
CAL DATE:	09/07/23
ANALYST:	AL
RUN BATCH:	SQ2238

ELUENT A LOT #:	225380 W/0.1% AA 194003
ELUENT B LOT #:	231331 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS 2170
ICV STD LOT #:	11598
ISTD/ID STD LOT #:	LCMS 2171

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q105009.d	P1-A8	update rt	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
2	Q105010.d	P1-A1	ccb	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	nd
3	Q105011.d	P1-A1	ccb	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	nd
4	Q105012.d	P1-A1	ccb	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	nd
5	Q105013.d	P1-A1	ccb	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	nd
6	Q105014.d	P1-A1	ccb	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	nd
7	Q105015.d	P1-F2	test DW spike 2182	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
8	Q105016.d	P1-F1	test DW sid 2183	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
9	Q105017.d	P1-F3	test DW surr 2181	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
10	Q105018.d	P1-F4	test DW spike 2182	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
11	Q105019.d	P1-F5	test DW surr 2181	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	ok
12	Q105020.d	P1-A1	ic2238-0	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	check tune file
13	Q105021.d	P1-A2	ic2238-0.5	537.m	Calibration	2.5/500	op97472,SQ2238,250,,1.0,1,water	pass
14	Q105022.d	P1-A3	ic2238-1	537.m	Calibration	5/500	op97472,SQ2238,250,,1.0,1,water	pass
15	Q105023.d	P1-A4	ic2238-2	537.m	Calibration	10/500	op97472,SQ2238,250,,1.0,1,water	pass
16	Q105024.d	P1-A5	ic2238-5	537.m	Calibration	25/500	op97472,SQ2238,250,,1.0,1,water	pass
17	Q105025.d	P1-A6	ic2238-10	537.m	Calibration	50/500	op97472,SQ2238,250,,1.0,1,water	pass
18	Q105026.d	P1-A7	ic2238-20	537.m	Calibration	100/500	op97472,SQ2238,250,,1.0,1,water	pass
19	Q105027.d	P1-A8	ic2238-50	537.m	Calibration	250/500	op97472,SQ2238,250,,1.0,1,water	pass
20	Q105028.d	P1-A9	ic2238-100	537.m	Calibration	1x	op97472,SQ2238,250,,1.0,1,water	pass
21	Q105029.d	P1-B1	RT	537.m	Sample		op97472,SQ2238,250,,1.0,1,water	pass
22	Q105030.d	P1-B2	ic2238-20	537.m	QC	100/500	op97472,SQ2238,250,,1.0,1,water	pass
23	Q105031.d	P1-A7	cc2238-20	537.m	QC	100/500	op97472,SQ2238,250,,1.0,1,water	pass
24	Q105032.d	P1-A2	cc2238-0.5	537.m	QC	5/500	op97472,SQ2238,250,,1.0,1,water	pass
25	Q105033.d	P1-B3	op98786-bs	537.m	Sample		op98786,SQ2238,250,,1.0,1,water	✓
26	Q105034.d	P1-B4	op98786-mb	537.m	Sample		op98786,SQ2238,250,,1.0,1,water	✓
27	Q105035.d	P1-B5	fc9076-1	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
28	Q105036.d	P1-B6	fc9076-2	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
29	Q105037.d	P1-B7	fc9076-3	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
30	Q105038.d	P1-B8	fc9076-4	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
31	Q105039.d	P1-B9	fc9076-5	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	rr 1x
32	Q105040.d	P1-C1	fc9076-6	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
33	Q105041.d	P1-C2	fc9076-7	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
34	Q105042.d	P1-C3	fc9076-8	537.m	Sample		op98786,SQ2238,270,,1.0,1,water	✓
35	Q105043.d	P1-A7	cc2238-20	537.m	QC	100/50	op97472,SQ2238,250,,1.0,1,water	pass

LCMS1-Q ANALYSIS LOG

SGS ORLANDO

36	Q105044.d	P1-A1	ccb	537.m	Sample	op97472,SQ2238,250,,1.0,1,water	nd
37	Q105045.d	P1-C4	fc9076-9	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
38	Q105046.d	P1-C5	fc9076-10	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
39	Q105047.d	P1-C6	fc9076-11	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
40	Q105048.d	P1-C7	fc9076-12	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
41	Q105049.d	P1-C8	fc9076-13	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
42	Q105050.d	P1-C9	fc9076-14	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
43	Q105051.d	P1-D1	fc9076-15	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
44	Q105052.d	P1-D2	fc9076-16	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
45	Q105053.d	P1-D3	op98786-ms	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
46	Q105054.d	P1-D4	op98786-msd	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
47	Q105055.d	P1-A8	cc2238-50	537.m	QC	250/500	pass
48	Q105056.d	P1-A1	ccb	537.m	Sample	op97472,SQ2238,250,,1.0,1,water	nd
49	Q105057.d	P1-D5	fc9076-17	537.m	Sample	op98786,SQ2238,270,,1.0,1,water	✓
50	Q105058.d	P1-D6	op98787-bs	537.m	Sample	op98787,SQ2238,250,,1.0,1,water	✓
51	Q105059.d	P1-D7	op98787-mb	537.m	Sample	op98787,SQ2238,250,,1.0,1,water	rr hit in MB > 1/3 RL
52	Q105060.d	P1-D8	fc9120-1	537.m	Sample	op98787,SQ2238,235,,1.0,1,water	rr 5x low eis
53	Q105061.d	P1-D9	fc9120-2	537.m	Sample	op98787,SQ2238,265,,1.0,1,water	✓
54	Q105062.d	P1-E1	fc9120-3	537.m	Sample	op98787,SQ2238,250,,1.0,1,water	✓
55	Q105063.d	P1-E2	fc9120-4	537.m	Sample	op98787,SQ2238,270,,1.0,1,water	✓
56	Q105064.d	P1-A7	cc2238-20	537.m	QC	100/500	pass
57	Q105065.d	P1-A1	ccb	537.m	Sample	op97472,SQ2238,250,,1.0,1,water	nd
58	Q105066.d	P1-E3	fc9120-5	537.m	Sample	op98787,SQ2238,255,,1.0,1,water	✓
59	Q105067.d	P1-E4	op98787-ms	537.m	Sample	op98787,SQ2238,255,,1.0,1,water	✓
60	Q105068.d	P1-E5	op98787-msd	537.m	Sample	op98787,SQ2238,245,,1.0,1,water	✓
61	Q105069.d	P1-A8	cc2238-50	537.m	QC	250/500	pass
62	Q105070.d	P1-A1	ccb	537.m	Sample	op97472,SQ2238,250,,1.0,1,water	nd
63	Q105071.d	P1-E6	fc9120-6	537.m	Sample	op98787,SQ2238,270,,1.0,1,water	✓
64	Q105072.d	P1-A7	ecc2238-20	537.m	QC	100/500	pass
65	Q105073.d	P1-A1	ccb	537.m	Sample	op97472,SQ2238,250,,1.0,1,water	nd



SGS ORLANDO

DATE:	09/11/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS1-Q

LCMS1-Q ANALYSIS LOG

METHODS:	537.1 DW
PROC. METH:	DW_090723_SQ2238
CAL DATE:	09/07/23
ANALYST:	AL
RUN BATCH:	SQ2239

ELUENT A LOT #:	225380 W/0.1% AA 194003
ELUENT B LOT #:	231331 W/0.1% AA 194003
IC/CC STD LOT #:	LCMS 2170
ICV STD LOT #:	11598
ISTD/ID STD LOT #:	LCMS 2171

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	Q105074.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd
2	Q105075.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd
3	Q105076.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd
4	Q105077.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd
5	Q105078.d	P1-B1	RT	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	pass
6	Q105079.d	P1-A7	cc2238-20	537.m	QC	100/500	op97472,SQ2239,250,,,1.0,1,water	pass
7	Q105080.d	P1-A2	cc2238-0.5	537.m	QC	2.5/500	op97472,SQ2239,250,,,1.0,1,water	pass
8	Q105081.d	P1-B9	fc9076-5	537.m	Sample		op98786,SQ2239,270,,,1.0,1,water	✓
9	Q105082.d	P1-A8	cc238-50	537.m	QC	250/500	op97472,SQ2239,250,,,1.0,1,water	pass
10	Q105083.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd
11	Q105084.d	P1-D7	op98787-mb	537.m	Sample		op98787,SQ2239,250,,,1.0,1,water	✓
12	Q105085.d	P1-F9	fc9120-1	537.m	Sample		op98787,SQ2239,235,,,1.0,1,water	✓
13	Q105086.d	P1-D8	fc9120-1	537.m	Sample	100/500	op98787,SQ2239,235,,,1.0,5,water	✓
14	Q105087.d	P1-A7	ecc2238-20	537.m	QC	100/500	op97472,SQ2239,250,,,1.0,1,water	pass
15	Q105088.d	P1-A1	ccb	537.m	Sample		op97472,SQ2239,250,,,1.0,1,water	nd



SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 09/01/23 08:50  
 Started (mm/dd/yy 24:00)  
 Date/Time: 9/2/23 6:30  
 Finished (mm/dd/yy 24:00)  
 Batch#: OP98786 Ext. By: GH

Prep Method: 3535A or 537 or 537MOD (circle)  
 Analytical Method: LC537(DW)

Conc. By: PM Viald By: \_\_\_\_\_

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Manifold ID	Comments
OP 98786 MB	/	250	7.2	N/A	20		1.0ml	A4	
OP 98786 BS	/	250	7.2			100			
FC9076-1	1	270	6.8						
2	1	270							
3	1	270							
4	1	270							
5	1	270							
6	1	270							
7	1	270							V
8	1	270							A4
9	1	270							A6
10	1	270							
11	1	270							
12	1	270							
13	1	270							
14	1	270							
15	1	270							
16	1	270	V	V	V				V
17	1	270	6.8	N/A	20				A6
GH 09/01/23									
FC9076-16MS	3	270	6.8	N/A	20	100	1.0ml	A4	
FC9076-16MSD	4	270	6.8	N/A	20	100	↓	A4	
DUP									

Comments:

Surr.1 ID: LEMS 2120 Conc: 2011.0 PPM Exp. Date: 09/07/23 Inj. By: GH Ver. By: AG HG  
 Spk.1 ID: LEMS 2114 Conc: 200 PPB Exp. Date: 11/04/23 Inj. By: GH Ver. By: AG MKG  
 Spk.2 ID: \_\_\_\_\_ Conc: \_\_\_\_\_ Exp. Date: \_\_\_\_\_ Inj. By: \_\_\_\_\_ Ver. By: \_\_\_\_\_  
 Spk.3 ID: \_\_\_\_\_ Conc: \_\_\_\_\_ Exp. Date: \_\_\_\_\_ Inj. By: \_\_\_\_\_ Ver. By: \_\_\_\_\_

TurboVap Temp (Therm ID): xcel-Vap1 N-Evap Temp (Therm ID): \_\_\_\_\_  
 Observed Temp °C: 55 Corr. Temp °C: \_\_\_\_\_ Observed Temp °C: \_\_\_\_\_ Corr. Temp °C: \_\_\_\_\_

Methanol Lot # 230916 SPE Lot # 6710719-02 pH Paper # 2117183  
 Acetonitrile Lot # \_\_\_\_\_ Syringe filter Lot # \_\_\_\_\_ Reagent # \_\_\_\_\_  
 Water Lot# OP98726 Pre-filter Lot# \_\_\_\_\_ Reagent # \_\_\_\_\_  
 Solvent# \_\_\_\_\_ Carbon Lot# \_\_\_\_\_ Other \_\_\_\_\_

Relinquished By: Patricia Mas hells Date: 9/2/23  
 Accepted By: Patricia Mas hells Date: 9/2/23

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