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## Technical Report for

**AECOM, INC.**

**N6274223F0104 RH Fire Suppression System**

**60697810**

**SGS Job Number: FC6141**

**Sampling Date: 05/16/23**



### Report to:

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**Total number of pages in report: 647**



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

**Norm Farmer**  
**Technical Director**

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

-1-

|  |           |
|--|-----------|
| <b>Section 1: Sample Summary .....</b>                         | <b>3</b>  |
| <b>Section 2: Case Narrative/Conformance Summary .....</b>     | <b>4</b>  |
| <b>Section 3: Summary of Hits .....</b>                        | <b>5</b>  |
| <b>Section 4: Sample Results .....</b>                         | <b>6</b>  |
| <b>4.1:</b> FC6141-1: AF-RHMW225401-WGN01B-2305W3 .....        | 7         |
| <b>4.2:</b> FC6141-2: AF-HDMW225303-WGN01LF-2305W3 .....       | 10        |
| <b>4.3:</b> FC6141-3: AF-RHMW10-WGN01LF-2305W3 .....           | 13        |
| <b>Section 5: Misc. Forms .....</b>                            | <b>16</b> |
| <b>5.1:</b> Chain of Custody .....                             | 17        |
| <b>5.2:</b> QC Evaluation: DOD QSM5.x Limits .....             | 21        |
| <b>Section 6: MS Semi-volatiles - QC Data Summaries .....</b>  | <b>22</b> |
| <b>6.1:</b> Method Blank Summary .....                         | 23        |
| <b>6.2:</b> Blank Spike Summary .....                          | 33        |
| <b>6.3:</b> Matrix Spike Summary .....                         | 37        |
| <b>6.4:</b> Duplicate Summary .....                            | 39        |
| <b>6.5:</b> Injection Standard Area Summaries .....            | 41        |
| <b>6.6:</b> TDCA Retention Time Checks .....                   | 45        |
| <b>6.7:</b> Ion Ratio Summaries .....                          | 47        |
| <b>6.8:</b> Isotope Dilution Standard Recovery Summaries ..... | 48        |
| <b>6.9:</b> Initial and Continuing Calibration Summaries ..... | 51        |
| <b>6.10:</b> Run Sequence Reports .....                        | 69        |
| <b>Section 7: MS Semi-volatiles - Raw Data .....</b>           | <b>71</b> |
| <b>7.1:</b> Samples .....                                      | 72        |
| <b>7.2:</b> Method Blanks .....                                | 108       |
| <b>7.3:</b> Blank Spikes .....                                 | 163       |
| <b>7.4:</b> Matrix Spikes .....                                | 206       |
| <b>7.5:</b> Duplicates .....                                   | 228       |
| <b>7.6:</b> Retention Time Markers .....                       | 241       |
| <b>7.7:</b> Initial and Continuing Calibrations .....          | 267       |
| <b>7.8:</b> Instrument Run Logs .....                          | 597       |
| <b>7.9:</b> Standard Prep Logs .....                           | 600       |
| <b>7.10:</b> Sample Prep Logs .....                            | 647       |



### Sample Summary

AECOM, INC.

Job No: FC6141

N6274223F0104 RH Fire Suppression System  
Project No: 60697810

| Sample Number | Collected Date | Time By    | Received | Matrix Code | Type         | Client Sample ID             |
|---------------|----------------|------------|----------|-------------|--------------|------------------------------|
| FC6141-1      | 05/16/23       | 10:20 MYAL | 05/17/23 | AQ          | Ground Water | AF-RHMW225401-WGN01B-2305W3  |
| FC6141-2      | 05/16/23       | 10:50 RS   | 05/17/23 | AQ          | Ground Water | AF-HDMW225303-WGN01LF-2305W3 |
| FC6141-3      | 05/16/23       | 12:25 RS   | 05/17/23 | AQ          | Ground Water | AF-RHMW10-WGN01LF-2305W3     |

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** AECOM, INC.

**Job No:** FC6141

**Site:** N6274223F0104 RH Fire Suppression System

**Report Date:** 5/24/2023 10:37:33 AM

On 05/17/2023, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 1.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6141 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### MS Semi-volatiles By Method EPA DRAFT 1633

**Matrix:** AQ

**Batch ID:** OP96959

Sample(s) FC5734-3MS, FC5734-4DUP were used as the QC samples indicated.

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

RPD(s) for Duplicate for Perfluorooctanoic acid are outside control limits for sample OP96959-DUP. Probable cause is due to sample non-homogeneity.

FC6141-1 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

FC6141-2 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

FC6141-3 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

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:

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



## Summary of Hits

**Job Number:** FC6141  
**Account:** AECOM, INC.  
**Project:** N6274223F0104 RH Fire Suppression System  
**Collected:** 05/16/23



| Lab Sample ID | Client Sample ID | Result/<br>Qual | LOQ | LOD | Units | Method |
|---------------|------------------|-----------------|-----|-----|-------|--------|
|---------------|------------------|-----------------|-----|-----|-------|--------|

FC6141-1      AF-RHMW225401-WGN01B-2305W3

|                              |        |     |      |      |                |
|------------------------------|--------|-----|------|------|----------------|
| Perfluoropentanoic acid      | 1.3 J  | 7.5 | 1.9  | ng/l | EPA DRAFT 1633 |
| Perfluorohexanoic acid       | 0.88 J | 3.8 | 1.9  | ng/l | EPA DRAFT 1633 |
| Perfluoroheptanoic acid      | 0.83 J | 3.8 | 1.9  | ng/l | EPA DRAFT 1633 |
| Perfluorooctanoic acid       | 1.5 J  | 3.8 | 0.94 | ng/l | EPA DRAFT 1633 |
| Perfluorobutanesulfonic acid | 0.66 J | 3.8 | 1.9  | ng/l | EPA DRAFT 1633 |
| Perfluorohexanesulfonic acid | 1.1 J  | 3.8 | 1.9  | ng/l | EPA DRAFT 1633 |

FC6141-2      AF-HDMW225303-WGN01LF-2305W3

|       |       |     |     |      |                |
|-------|-------|-----|-----|------|----------------|
| PFOSA | 1.1 J | 3.7 | 1.9 | ng/l | EPA DRAFT 1633 |
|-------|-------|-----|-----|------|----------------|

FC6141-3      AF-RHMW10-WGN01LF-2305W3

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 3

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW225401-WGN01B-2305W3              |                 |          |
| Lab Sample ID:    | FC6141-1                                 | Date Sampled:   | 05/16/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| Run #  | File ID   | DF | Analyzed       | By | Prep Date      | Prep Batch | Analytical Batch |
|--------|-----------|----|----------------|----|----------------|------------|------------------|
| Run #1 | 6Q18270.D | 1  | 05/23/23 07:50 | MV | 05/18/23 11:30 | OP96959    | S6Q274           |
| Run #2 |           |    |                |    |                |            |                  |

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

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

## PERFLUOROALKYL CARBOXYLIC ACIDS

|            |                             |       |     |      |      |      |   |
|------------|-----------------------------|-------|-----|------|------|------|---|
| 375-22-4   | Perfluorobutanoic acid      | 3.8 U | 15  | 3.8  | 1.8  | ng/l |   |
| 2706-90-3  | Perfluoropentanoic acid     | 1.3   | 7.5 | 1.9  | 0.89 | ng/l | J |
| 307-24-4   | Perfluorohexanoic acid      | 0.88  | 3.8 | 1.9  | 0.47 | ng/l | J |
| 375-85-9   | Perfluoroheptanoic acid     | 0.83  | 3.8 | 1.9  | 0.47 | ng/l | J |
| 335-67-1   | Perfluorooctanoic acid      | 1.5   | 3.8 | 0.94 | 0.47 | ng/l | J |
| 375-95-1   | Perfluorononanoic acid      | 1.9 U | 3.8 | 1.9  | 0.58 | ng/l |   |
| 335-76-2   | Perfluorodecanoic acid      | 1.9 U | 3.8 | 1.9  | 0.47 | ng/l |   |
| 2058-94-8  | Perfluoroundecanoic acid    | 1.9 U | 3.8 | 1.9  | 0.57 | ng/l |   |
| 307-55-1   | Perfluorododecanoic acid    | 1.9 U | 3.8 | 1.9  | 0.57 | ng/l |   |
| 72629-94-8 | Perfluorotridecanoic acid   | 1.9 U | 3.8 | 1.9  | 0.79 | ng/l |   |
| 376-06-7   | Perfluorotetradecanoic acid | 1.9 U | 3.8 | 1.9  | 0.47 | ng/l |   |

## PERFLUOROALKYL SULFONIC ACIDS

|            |                               |       |     |     |      |      |   |
|------------|-------------------------------|-------|-----|-----|------|------|---|
| 375-73-5   | Perfluorobutanesulfonic acid  | 0.66  | 3.8 | 1.9 | 0.47 | ng/l | J |
| 2706-91-4  | Perfluoropentanesulfonic acid | 3.8 U | 4.7 | 3.8 | 1.1  | ng/l |   |
| 355-46-4   | Perfluorohexanesulfonic acid  | 1.1   | 3.8 | 1.9 | 0.66 | ng/l | J |
| 375-92-8   | Perfluoroheptanesulfonic acid | 1.9 U | 3.8 | 1.9 | 0.47 | ng/l |   |
| 1763-23-1  | Perfluorooctanesulfonic acid  | 1.9 U | 3.8 | 1.9 | 0.51 | ng/l |   |
| 68259-12-1 | Perfluorononanesulfonic acid  | 1.9 U | 3.8 | 1.9 | 0.54 | ng/l |   |
| 335-77-3   | Perfluorodecanesulfonic acid  | 1.9 U | 3.8 | 1.9 | 0.60 | ng/l |   |
| 79780-39-5 | Perfluorododecanesulfonic aci | 3.8 U | 4.7 | 3.8 | 1.1  | ng/l |   |

## FLUOROTELOMER SULFONIC ACIDS

|             |                             |       |    |     |     |      |  |
|-------------|-----------------------------|-------|----|-----|-----|------|--|
| 757124-72-4 | 4:2 Fluorotelomer sulfonate | 7.5 U | 19 | 7.5 | 3.0 | ng/l |  |
| 27619-97-2  | 6:2 Fluorotelomer sulfonate | 7.5 U | 19 | 7.5 | 3.3 | ng/l |  |
| 39108-34-4  | 8:2 Fluorotelomer sulfonate | 7.5 U | 19 | 7.5 | 3.9 | ng/l |  |

## PERFLUOROOCCTANE SULFONAMIDES

|            |        |       |     |     |      |      |  |
|------------|--------|-------|-----|-----|------|------|--|
| 754-91-6   | PFOSA  | 1.9 U | 3.8 | 1.9 | 0.63 | ng/l |  |
| 31506-32-8 | MeFOSA | 3.8 U | 7.5 | 3.8 | 0.94 | ng/l |  |
| 4151-50-2  | EtFOSA | 3.8 U | 7.5 | 3.8 | 0.94 | ng/l |  |

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

# Report of Analysis

|                   |  |                         |
|-------------------|--|-------------------------|
| Client Sample ID: | AF-RHMW225401-WGN01B-2305W3              |                         |
| Lab Sample ID:    | FC6141-1                                 | Date Sampled: 05/16/23  |
| Matrix:           | AQ - Ground Water                        | Date Received: 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: n/a     |
| Project:          | N6274223F0104 RH Fire Suppression System |                         |

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

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

|           |         |       |     |     |      |      |  |
|-----------|---------|-------|-----|-----|------|------|--|
| 2355-31-9 | MeFOSAA | 3.8 U | 4.7 | 3.8 | 0.94 | ng/l |  |
| 2991-50-6 | EtFOSAA | 3.8 U | 4.7 | 3.8 | 1.3  | ng/l |  |

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

|            |        |      |    |    |     |      |  |
|------------|--------|------|----|----|-----|------|--|
| 24448-09-7 | MeFOSE | 19 U | 38 | 19 | 4.1 | ng/l |  |
| 1691-99-2  | EtFOSE | 19 U | 38 | 19 | 7.0 | ng/l |  |

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

|             |                |       |     |     |      |      |  |
|-------------|----------------|-------|-----|-----|------|------|--|
| 13252-13-6  | HFPO-DA (GenX) | 1.9 U | 3.8 | 1.9 | 0.94 | ng/l |  |
| 919005-14-4 | ADONA          | 3.8 U | 7.5 | 3.8 | 1.8  | ng/l |  |
| 377-73-1    | PFMPA          | 1.9 U | 7.5 | 1.9 | 0.94 | ng/l |  |
| 863090-89-5 | PFMBA          | 3.8 U | 7.5 | 3.8 | 1.1  | ng/l |  |
| 151772-58-6 | NFDHA          | 3.8 U | 7.5 | 3.8 | 1.1  | ng/l |  |

**PER and POLYFLUOROETHER SULFONIC ACIDS**

|             |                            |       |     |     |      |      |  |
|-------------|----------------------------|-------|-----|-----|------|------|--|
| 756426-58-1 | 9Cl-PF3ONS (F-53B Major)   | 3.8 U | 7.5 | 3.8 | 1.3  | ng/l |  |
| 763051-92-9 | 11Cl-PF3OUdS (F-53B Minor) | 3.8 U | 7.5 | 3.8 | 1.7  | ng/l |  |
| 113507-82-7 | PFEESA                     | 1.9 U | 7.5 | 1.9 | 0.74 | ng/l |  |

**FLUOROTELOMER CARBOXYLIC ACIDS**

|             |   |       |    |     |     |      |  |
|-------------|---|-------|----|-----|-----|------|--|
| 356-02-5    | 3:3 Fluorotelomer carboxylat <sup>a</sup> | 9.4 U | 19 | 9.4 | 4.3 | ng/l |  |
| 914637-49-3 | 5:3 Fluorotelomer carboxylate             | 19 U  | 94 | 19  | 8.2 | ng/l |  |
| 812-70-4    | 7:3 Fluorotelomer carboxylate             | 19 U  | 94 | 19  | 7.4 | ng/l |  |

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

|  |             |      |  |         |
|--|-------------|------|--|---------|
|  | 13C4-PFBA   | 104% |  | 20-150% |
|  | 13C5-PFPeA  | 114% |  | 20-150% |
|  | 13C5-PFHxA  | 110% |  | 20-150% |
|  | 13C4-PFHpA  | 113% |  | 20-150% |
|  | 13C8-PFOA   | 103% |  | 20-150% |
|  | 13C9-PFNA   | 104% |  | 20-150% |
|  | 13C6-PFDA   | 94%  |  | 20-150% |
|  | 13C7-PFUnDA | 100% |  | 20-150% |
|  | 13C2-PFDoDA | 85%  |  | 20-150% |
|  | 13C2-PFTeDA | 73%  |  | 20-150% |
|  | 13C3-PFBS   | 105% |  | 20-150% |
|  | 13C3-PFHxS  | 110% |  | 20-150% |

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

## Report of Analysis

|                   |  |                         |
|-------------------|--|-------------------------|
| Client Sample ID: | AF-RHMW225401-WGN01B-2305W3              |                         |
| Lab Sample ID:    | FC6141-1                                 | Date Sampled: 05/16/23  |
| Matrix:           | AQ - Ground Water                        | Date Received: 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: n/a     |
| Project:          | N6274223F0104 RH Fire Suppression System |                         |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C8-PFOS              | 105%   |        | 20-150% |
|         | 13C8-FOSA              | 97%    |        | 20-150% |
|         | d3-MeFOSA              | 81%    |        | 20-150% |
|         | d5-EtFOSA              | 85%    |        | 20-150% |
|         | d3-MeFOSAA             | 117%   |        | 20-150% |
|         | d5-EtFOSAA             | 108%   |        | 20-150% |
|         | d7-MeFOSE              | 76%    |        | 20-150% |
|         | d9-EtFOSE              | 81%    |        | 20-150% |
|         | 13C2-4:2FTS            | 130%   |        | 20-180% |
|         | 13C2-6:2FTS            | 126%   |        | 20-180% |
|         | 13C2-8:2FTS            | 129%   |        | 20-180% |
|         | 13C3-HFPO-DA           | 109%   |        | 20-150% |

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

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

SGS North America Inc.

## Report of Analysis

Page 1 of 3

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-HDMW225303-WGN01LF-2305W3             |                 |          |
| Lab Sample ID:    | FC6141-2                                 | Date Sampled:   | 05/16/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| Run #  | File ID   | DF | Analyzed       | By | Prep Date      | Prep Batch | Analytical Batch |
|--------|-----------|----|----------------|----|----------------|------------|------------------|
| Run #1 | 6Q18271.D | 1  | 05/23/23 08:04 | MV | 05/18/23 11:30 | OP96959    | S6Q274           |
| Run #2 |           |    |                |    |                |            |                  |

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

| CAS No.                                | Compound                      | Result | LOQ | LOD  | DL   | Units | Q |
|--|-------------------------------|--------|-----|------|------|-------|---|
| <b>PERFLUOROALKYL CARBOXYLIC ACIDS</b> |                               |        |     |      |      |       |   |
| 375-22-4                               | Perfluorobutanoic acid        | 3.7 U  | 15  | 3.7  | 1.8  | ng/l  |   |
| 2706-90-3                              | Perfluoropentanoic acid       | 1.9 U  | 7.4 | 1.9  | 0.87 | ng/l  |   |
| 307-24-4                               | Perfluorohexanoic acid        | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| 375-85-9                               | Perfluoroheptanoic acid       | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| 335-67-1                               | Perfluorooctanoic acid        | 0.93 U | 3.7 | 0.93 | 0.46 | ng/l  |   |
| 375-95-1                               | Perfluorononanoic acid        | 1.9 U  | 3.7 | 1.9  | 0.56 | ng/l  |   |
| 335-76-2                               | Perfluorodecanoic acid        | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| 2058-94-8                              | Perfluoroundecanoic acid      | 1.9 U  | 3.7 | 1.9  | 0.56 | ng/l  |   |
| 307-55-1                               | Perfluorododecanoic acid      | 1.9 U  | 3.7 | 1.9  | 0.56 | ng/l  |   |
| 72629-94-8                             | Perfluorotridecanoic acid     | 1.9 U  | 3.7 | 1.9  | 0.78 | ng/l  |   |
| 376-06-7                               | Perfluorotetradecanoic acid   | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| <b>PERFLUOROALKYL SULFONIC ACIDS</b>   |                               |        |     |      |      |       |   |
| 375-73-5                               | Perfluorobutanesulfonic acid  | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| 2706-91-4                              | Perfluoropentanesulfonic acid | 3.7 U  | 4.6 | 3.7  | 1.0  | ng/l  |   |
| 355-46-4                               | Perfluorohexanesulfonic acid  | 1.9 U  | 3.7 | 1.9  | 0.65 | ng/l  |   |
| 375-92-8                               | Perfluoroheptanesulfonic acid | 1.9 U  | 3.7 | 1.9  | 0.46 | ng/l  |   |
| 1763-23-1                              | Perfluorooctanesulfonic acid  | 1.9 U  | 3.7 | 1.9  | 0.50 | ng/l  |   |
| 68259-12-1                             | Perfluorononanesulfonic acid  | 1.9 U  | 3.7 | 1.9  | 0.53 | ng/l  |   |
| 335-77-3                               | Perfluorodecanesulfonic acid  | 1.9 U  | 3.7 | 1.9  | 0.59 | ng/l  |   |
| 79780-39-5                             | Perfluorododecanesulfonic aci | 3.7 U  | 4.6 | 3.7  | 1.1  | ng/l  |   |
| <b>FLUOROTELOMER SULFONIC ACIDS</b>    |                               |        |     |      |      |       |   |
| 757124-72-4                            | 4:2 Fluorotelomer sulfonate   | 7.4 U  | 19  | 7.4  | 3.0  | ng/l  |   |
| 27619-97-2                             | 6:2 Fluorotelomer sulfonate   | 7.4 U  | 19  | 7.4  | 3.2  | ng/l  |   |
| 39108-34-4                             | 8:2 Fluorotelomer sulfonate   | 7.4 U  | 19  | 7.4  | 3.8  | ng/l  |   |
| <b>PERFLUOROOCCTANE SULFONAMIDES</b>   |                               |        |     |      |      |       |   |
| 754-91-6                               | PFOSA                         | 1.1    | 3.7 | 1.9  | 0.62 | ng/l  | J |
| 31506-32-8                             | MeFOSA                        | 3.7 U  | 7.4 | 3.7  | 0.93 | ng/l  |   |
| 4151-50-2                              | EtFOSA                        | 3.7 U  | 7.4 | 3.7  | 0.93 | ng/l  |   |

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

# Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-HDMW225303-WGN01LF-2305W3             |                 |          |
| Lab Sample ID:    | FC6141-2                                 | Date Sampled:   | 05/16/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

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

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

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

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

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

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

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

**PER and POLYFLUOROETHER SULFONIC ACIDS**

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

**FLUOROTELOMER CARBOXYLIC ACIDS**

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

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

|  |             |      |  |         |
|--|-------------|------|--|---------|
|  | 13C4-PFBA   | 111% |  | 20-150% |
|  | 13C5-PFPeA  | 113% |  | 20-150% |
|  | 13C5-PFHxA  | 111% |  | 20-150% |
|  | 13C4-PFHpA  | 113% |  | 20-150% |
|  | 13C8-PFOA   | 106% |  | 20-150% |
|  | 13C9-PFNA   | 104% |  | 20-150% |
|  | 13C6-PFDA   | 103% |  | 20-150% |
|  | 13C7-PFUnDA | 91%  |  | 20-150% |
|  | 13C2-PFDoDA | 78%  |  | 20-150% |
|  | 13C2-PFTeDA | 74%  |  | 20-150% |
|  | 13C3-PFBS   | 117% |  | 20-150% |
|  | 13C3-PFHxS  | 117% |  | 20-150% |

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

## Report of Analysis

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-HDMW225303-WGN01LF-2305W3             |                 |          |
| Lab Sample ID:    | FC6141-2                                 | Date Sampled:   | 05/16/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C8-PFOS              | 103%   |        | 20-150% |
|         | 13C8-FOSA              | 80%    |        | 20-150% |
|         | d3-MeFOSA              | 76%    |        | 20-150% |
|         | d5-EtFOSA              | 74%    |        | 20-150% |
|         | d3-MeFOSAA             | 100%   |        | 20-150% |
|         | d5-EtFOSAA             | 104%   |        | 20-150% |
|         | d7-MeFOSE              | 63%    |        | 20-150% |
|         | d9-EtFOSE              | 73%    |        | 20-150% |
|         | 13C2-4:2FTS            | 134%   |        | 20-180% |
|         | 13C2-6:2FTS            | 142%   |        | 20-180% |
|         | 13C2-8:2FTS            | 138%   |        | 20-180% |
|         | 13C3-HFPO-DA           | 109%   |        | 20-150% |

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

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



SGS North America Inc.

## Report of Analysis

Page 1 of 3

|                   |  |                 |          |
|-------------------|--|-----------------|----------|
| Client Sample ID: | AF-RHMW10-WGN01LF-2305W3                 |                 |          |
| Lab Sample ID:    | FC6141-3                                 | Date Sampled:   | 05/16/23 |
| Matrix:           | AQ - Ground Water                        | Date Received:  | 05/17/23 |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            | Percent Solids: | n/a      |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |          |

| Run #  | File ID   | DF | Analyzed       | By | Prep Date      | Prep Batch | Analytical Batch |
|--------|-----------|----|----------------|----|----------------|------------|------------------|
| Run #1 | 6Q18272.D | 1  | 05/23/23 08:19 | MV | 05/18/23 11:30 | OP96959    | S6Q274           |
| Run #2 |           |    |                |    |                |            |                  |

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

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

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

# Report of Analysis

|                   |  |                 |               |          |
|-------------------|--|-----------------|---------------|----------|
| Client Sample ID: | AF-RHMW10-WGN01LF-2305W3                 |                 | Date Sampled: | 05/16/23 |
| Lab Sample ID:    | FC6141-3                                 | Date Received:  | 05/17/23      |          |
| Matrix:           | AQ - Ground Water                        | Percent Solids: | n/a           |          |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            |                 |               |          |
| Project:          | N6274223F0104 RH Fire Suppression System |                 |               |          |

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

**PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS**

|           |         |       |     |     |      |      |  |
|-----------|---------|-------|-----|-----|------|------|--|
| 2355-31-9 | MeFOSAA | 3.5 U | 4.4 | 3.5 | 0.88 | ng/l |  |
| 2991-50-6 | EtFOSAA | 3.5 U | 4.4 | 3.5 | 1.2  | ng/l |  |

**PERFLUOROOCCTANE SULFONAMIDO ETHANOLS**

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

**PER and POLYFLUOROETHER CARBOXYLIC ACIDS**

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

**PER and POLYFLUOROETHER SULFONIC ACIDS**

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

**FLUOROTELOMER CARBOXYLIC ACIDS**

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

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

|             |      |         |
|-------------|------|---------|
| 13C4-PFBA   | 101% | 20-150% |
| 13C5-PFPeA  | 107% | 20-150% |
| 13C5-PFHxA  | 107% | 20-150% |
| 13C4-PFHpA  | 106% | 20-150% |
| 13C8-PFOA   | 105% | 20-150% |
| 13C9-PFNA   | 105% | 20-150% |
| 13C6-PFDA   | 102% | 20-150% |
| 13C7-PFUnDA | 105% | 20-150% |
| 13C2-PFDoDA | 86%  | 20-150% |
| 13C2-PFTeDA | 79%  | 20-150% |
| 13C3-PFBS   | 107% | 20-150% |
| 13C3-PFHxS  | 108% | 20-150% |

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

## Report of Analysis

|                   |  |  |                 |          |
|-------------------|--|--|-----------------|----------|
| Client Sample ID: | AF-RHMW10-WGN01LF-2305W3                 |  | Date Sampled:   | 05/16/23 |
| Lab Sample ID:    | FC6141-3                                 |  | Date Received:  | 05/17/23 |
| Matrix:           | AQ - Ground Water                        |  | Percent Solids: | n/a      |
| Method:           | EPA DRAFT 1633 EPA 1633 DRAFT            |  |                 |          |
| Project:          | N6274223F0104 RH Fire Suppression System |  |                 |          |

| CAS No. | ID Standard Recoveries | Run# 1 | Run# 2 | Limits  |
|---------|------------------------|--------|--------|---------|
|         | 13C8-PFOS              | 110%   |        | 20-150% |
|         | 13C8-FOSA              | 87%    |        | 20-150% |
|         | d3-MeFOSA              | 78%    |        | 20-150% |
|         | d5-EtFOSA              | 79%    |        | 20-150% |
|         | d3-MeFOSAA             | 118%   |        | 20-150% |
|         | d5-EtFOSAA             | 117%   |        | 20-150% |
|         | d7-MeFOSE              | 65%    |        | 20-150% |
|         | d9-EtFOSE              | 74%    |        | 20-150% |
|         | 13C2-4:2FTS            | 125%   |        | 20-180% |
|         | 13C2-6:2FTS            | 134%   |        | 20-180% |
|         | 13C2-8:2FTS            | 124%   |        | 20-180% |
|         | 13C3-HFPO-DA           | 102%   |        | 20-150% |

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

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

**Misc. Forms**

**Custody Documents and Other Forms**

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**Includes the following where applicable:**

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits



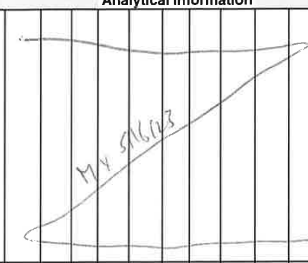
## SGS North America Inc - Orlando Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811  
TEL: 407-425-6700 FAX: 407-425-0717  
www.sgs.com

**FC6141**  
COC #: 2305W3AFSG07

SGS - ORLANDO JOB # :

PAGE 1 OF 1

| Client / Reporting Information   |                                | Project Information                                    |            |  |             |        |                       |           |      | Analytical Information   |              |  |  |                         |  |  |  | Matrix Codes  |      |
|--|--------------------------------|--|------------|--|-------------|--------|-----------------------|-----------|------|--|--------------|--|--|-------------------------|--|--|--|---|------|
| Company Name: AECOM  |                                | Project Name: N6274223F0104 RH Fire Suppression System |            |  |             |        |                       |           |      | <div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PFAS EPA Draft 1633</div>  </div> |              |  |  |                         |  |  |  | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL - Sludge<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid<br>WP - Wipe |      |
| Address: 1001 Bishop St. ste 1600  |                                | Street   |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| City: Honolulu State: HI Zip: 96813  |                                | City Honolulu State Hawaii                             |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| Project Contact: Katie Abbott Email: katie.abbott@aecom.com  |                                | Project # 60697810                                     |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| Project Manager: Watson Tanji Email: watson.tanji@aecom.com  |                                | Fax #  |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| Phone #: 303-796-4624 / 808-954-4512   |                                | Client Purchase Order #                                |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| Sampler(s) Name(s) (Printed)<br>Sampler 1: <u>Matt Yin</u> Sampler 2: <u>Anthony Loyock</u>                                |                                |  |            |  |             |        |                       |           |      |  |              |  |  |                         |  |  |  |   |      |
| SGS Orlando Sample #   | Field ID / Point of Collection |  | COLLECTION |  |             |        | CONTAINER INFORMATION |           |      |  | LAB USE ONLY |  |  |                         |  |  |  |   |      |
|  |                                |  | DATE       | TIME   | SAMPLED BY: | MATRIX | TOTAL # OF BOTTLES    | OTHER     | RINS | PNCB   |              |  |  |                         |  |  |  |   | PNCB |
| 1  | AF-RHMW225401-WGN01B-2305W3    |  | 5/16/23    | 1020   | MYAL        | GW     | 3                     |           | X    |  |              |  |  |                         |  |  |  |   |      |
| Turnaround Time ( Business days)   |                                | Data Deliverable Information                           |            |  |             |        |                       |           |      | Comments / Remarks   |              |  |  |                         |  |  |  |   |      |
| 10 Day (Business)<br>7 Day<br><input checked="" type="checkbox"/> 5 Day<br>3 Day RUSH<br>2 Day RUSH<br>1 Day RUSH<br>Other |                                | Approved By / Date:                                    |            | <input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY)<br><input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC)<br><input type="checkbox"/> REDT1 (EPA LEVEL 3)<br><input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4)<br><input checked="" type="checkbox"/> EDD'S |             |        |                       |           |      |  |              | EDMS upload database: JBPHE<br>EDMS Coverage: AFFF Assessment Sampling GW<br>United AWB 016-17895404 |  |                         |  |  |  |   |      |
| Rush T/A Data Available VIA Email or Lablink   |                                |  |            |  |             |        |                       |           |      | Sample Custody must be documented below each time samples change possession, including courier delivery.   |              |  |  |                         |  |  |  |   |      |
| Relinquished by Sampler/Affiliation  |                                | Date Time  |            | Received By/Affiliation  |             |        |                       | Date Time |      | Relinquished By/Affiliation  |              | Date Time  |  | Received By/Affiliation |  |  |  |   |      |
| 1 Matt Yin AECOM   |                                | 5/16/23  |            | 2 Alex Edmonds AECOM   |             |        |                       | 5/16/23   |      | 3 Alex Edmonds AECOM   |              | 5/16/23  |  | 4 United Cargo          |  |  |  |   |      |
| 5 United Cargo   |                                |  |            | 6 [Signature] 05/17/23   |             |        |                       |           |      | 7  |              |  |  | 8                       |  |  |  |   |      |
| Lab Use Only: Cooler Temperature (s) Celsius (corrected):  |                                |  |            |  |             |        |                       |           |      | <a href="http://www.sgs.com/en/terms-and-conditions">http://www.sgs.com/en/terms-and-conditions</a>  |              |  |  |                         |  |  |  |   |      |

1.2 IR#1  
PFAS\_COCs\_ALL.xls Rev 031318

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# SGS North America Inc - Orlando

## Chain of Custody

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

SGS - ORLANDO JOB # :

PAGE 1 OF 1

FC6141  
COC #: 2305W3AFSG04

| Client / Reporting Information   |                                |                               | Project Information                                    |                         |  | Analytical Information      |       |           |    |  |    |                             |    |                     |              | Matrix Codes  |               |    |    |
|--|--------------------------------|-------------------------------|--|-------------------------|--|-----------------------------|-------|-----------|----|--|----|-----------------------------|----|---------------------|--------------|---|---------------|----|----|
| Company Name: AECOM  |                                |                               | Project Name: N6274223F0104 RH Fire Suppression System |                         |  |                             |       |           |    |  |    |                             |    |                     |              | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL - Sludge<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid<br>WP - Wipe |               |    |    |
| Address: 1001 Bishop St. ste 1600  |                                |                               | Street   |                         |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| City: Honolulu   |                                | State: HI                     | Zip: 96813   |                         | City: Honolulu   |                             |       |           |    |  |    |                             |    |                     |              |   | State: Hawaii |    |    |
| Project Contact: Katie Abbott  |                                | Email: katie.abbott@aecom.com |  | Project # 60697810      |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| Project Manager: Watson Tani   |                                | Email: watson.tani@aecom.com  |  | Fax #                   |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| Phone #: 303-796-4624 / 808-954-4512   |                                |                               | Client Purchase Order #                                |                         |  | PFAS EPA Draft 1633         |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| Sampler(s) Name(s) (Printed)   |                                |                               | Sampler 1:   |                         |  | Sampler 2:                  |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| SGS Orlando Sample #   | Field ID / Point of Collection | COLLECTION                    |  |                         | CONTAINER INFORMATION  |                             |       |           |    |  |    |                             |    |                     | LAB USE ONLY |   |               |    |    |
|  |                                | DATE                          | TIME   | SAMPLED BY:             | MATRIX   | TOTAL # OF BOTTLES          | OTHER | NONE      | NO | NO   | NO | NO                          | NO | NO                  |              | NO  | NO            | NO | NO |
| 2  | AF-HDMW225303-WGN01LF-2305W3   | 5/14/23                       | 1050   | BS                      | GW   | 3                           |       | X         |    |  |    |                             |    |                     |              |   |               |    |    |
|  |                                |                               |  |                         |  |                             |       |           |    | S/16/23<br>NN  |    |                             |    |                     |              |   |               |    |    |
| Turnaround Time ( Business days)   |                                |                               |  |                         | Data Deliverable Information   |                             |       |           |    | Comments / Remarks   |    |                             |    |                     |              |   |               |    |    |
| 10 Day (Business) _____<br>7 Day _____<br><input checked="" type="checkbox"/> 5 Day _____<br>3 Day RUSH _____<br>2 Day RUSH _____<br>1 Day RUSH _____<br>Other _____ |                                |                               |  |                         | Approved By: / Date: _____<br><input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY)<br><input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC)<br><input type="checkbox"/> REDT1 (EPA LEVEL 3)<br><input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4)<br><input checked="" type="checkbox"/> EDD'S |                             |       |           |    | EDMS upload database: JBPHE<br>EDMS Coverage: AFFF Assessment Sampling GW<br>United AWE 816-17895404 |    |                             |    |                     |              |   |               |    |    |
| Rush T/A Data Available VIA Email or Lablink   |                                |                               |  |                         |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| Sample Custody must be documented below each time samples change possession, including courier delivery.   |                                |                               |  |                         |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |
| Relinquished by/Affiliation  |                                | Date/Time                     |  | Received By/Affiliation |  | Relinquished By/Affiliation |       | Date/Time |    | Received By/Affiliation  |    | Relinquished By/Affiliation |    | Date/Time           |              | Received By/Affiliation   |               |    |    |
| 1 WA AECOM   |                                | 5/16/23                       |  | 2 I. G. AECOM           |  | 3 I. G. AECOM               |       | 5/16/23   |    | 4 United Cargo   |    | 5 United Cargo              |    | 6 S. J. C. 05/17/23 |              | 7   |               | 8  |    |
| Lab Use Only: Cooler Temperature (s) Celsius (corrected):  |                                |                               |  |                         |  |                             |       |           |    |  |    |                             |    |                     |              |   |               |    |    |

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5



# SGS Sample Receipt Summary

Job Number: FC6141

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/17/2023 3:00:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-17895404

Therm ID: IR 1;

Therm CF: -0.1;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.3);

Cooler Temps (Corrected) °C: Cooler 1: (1.2);

**Cooler Information**

Y or N

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

**Trip Blank Information**

Y or N N/A

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

**Sample Information**

Y or N N/A

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

**Misc. Information**

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

Comments

SM001  
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 5/17/2023 3:00:00 PM

Reviewer: SP

Date: 5/18/2023

**FC6141: Chain of Custody**

**Page 4 of 4**



# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FC6141  
**Account:** AECOM, INC.  
**Project:** N6274223F0104 RH Fire Suppression System  
**Collected:** 05/16/23

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

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

---

\* Sample used for QC is not from job FC6141

5.2  
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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
- Injection Standard Area Summaries
- TDCA Retention Time Checks
- Ion Ratio Summaries
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

**Instrument Blank**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-IBLK | 6Q18235.D | 1  | 05/22/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

# Instrument Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-IBLK | 6Q18235.D | 1  | 05/22/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 100% 20-150% |
|         | 13C5-PFPeA             | 97% 20-150%  |
|         | 13C5-PFHxA             | 95% 20-150%  |
|         | 13C4-PFHpA             | 99% 20-150%  |
|         | 13C8-PFOA              | 98% 20-150%  |
|         | 13C9-PFNA              | 99% 20-150%  |
|         | 13C6-PFDA              | 97% 20-150%  |
|         | 13C7-PFUnDA            | 101% 20-150% |
|         | 13C2-PFDoDA            | 95% 20-150%  |
|         | 13C2-PFTeDA            | 95% 20-150%  |
|         | 13C3-PFBS              | 93% 20-150%  |
|         | 13C3-PFHxS             | 97% 20-150%  |
|         | 13C8-PFOS              | 102% 20-150% |
|         | 13C8-FOSA              | 103% 20-150% |
|         | d3-MeFOSA              | 99% 20-150%  |
|         | d5-EtFOSA              | 100% 20-150% |
|         | d3-MeFOSAA             | 101% 20-150% |
|         | d5-EtFOSAA             | 103% 20-150% |
|         | d7-MeFOSE              | 90% 20-150%  |
|         | d9-EtFOSE              | 96% 20-150%  |
|         | 13C2-4:2FTS            | 96% 20-180%  |
|         | 13C2-6:2FTS            | 101% 20-180% |
|         | 13C2-8:2FTS            | 100% 20-180% |
|         | 13C3-HFPO-DA           | 94% 20-150%  |

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6

## Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-ICCB | 6Q18263.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

# Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-ICCB | 6Q18263.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 101% 20-150% |
|         | 13C5-PFPeA             | 106% 20-150% |
|         | 13C5-PFHxA             | 102% 20-150% |
|         | 13C4-PFHpA             | 107% 20-150% |
|         | 13C8-PFOA              | 100% 20-150% |
|         | 13C9-PFNA              | 91% 20-150%  |
|         | 13C6-PFDA              | 101% 20-150% |
|         | 13C7-PFUnDA            | 103% 20-150% |
|         | 13C2-PFDoDA            | 93% 20-150%  |
|         | 13C2-PFTeDA            | 98% 20-150%  |
|         | 13C3-PFBS              | 96% 20-150%  |
|         | 13C3-PFHxS             | 99% 20-150%  |
|         | 13C8-PFOS              | 102% 20-150% |
|         | 13C8-FOSA              | 108% 20-150% |
|         | d3-MeFOSA              | 96% 20-150%  |
|         | d5-EtFOSA              | 100% 20-150% |
|         | d3-MeFOSAA             | 113% 20-150% |
|         | d5-EtFOSAA             | 115% 20-150% |
|         | d7-MeFOSE              | 92% 20-150%  |
|         | d9-EtFOSE              | 95% 20-150%  |
|         | 13C2-4:2FTS            | 117% 20-180% |
|         | 13C2-6:2FTS            | 118% 20-180% |
|         | 13C2-8:2FTS            | 116% 20-180% |
|         | 13C3-HFPO-DA           | 100% 20-150% |

## Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-ICCB | 6Q18274.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

# Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|             |           |    |          |    |           |            |                  |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
| S6Q274-ICCB | 6Q18274.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 100% 20-150% |
|         | 13C5-PFPeA             | 105% 20-150% |
|         | 13C5-PFHxA             | 100% 20-150% |
|         | 13C4-PFHpA             | 107% 20-150% |
|         | 13C8-PFOA              | 100% 20-150% |
|         | 13C9-PFNA              | 97% 20-150%  |
|         | 13C6-PFDA              | 104% 20-150% |
|         | 13C7-PFUnDA            | 105% 20-150% |
|         | 13C2-PFDoDA            | 103% 20-150% |
|         | 13C2-PFTeDA            | 98% 20-150%  |
|         | 13C3-PFBS              | 104% 20-150% |
|         | 13C3-PFHxS             | 104% 20-150% |
|         | 13C8-PFOS              | 102% 20-150% |
|         | 13C8-FOSA              | 103% 20-150% |
|         | d3-MeFOSA              | 96% 20-150%  |
|         | d5-EtFOSA              | 93% 20-150%  |
|         | d3-MeFOSAA             | 112% 20-150% |
|         | d5-EtFOSAA             | 116% 20-150% |
|         | d7-MeFOSE              | 86% 20-150%  |
|         | d9-EtFOSE              | 92% 20-150%  |
|         | 13C2-4:2FTS            | 122% 20-180% |
|         | 13C2-6:2FTS            | 125% 20-180% |
|         | 13C2-8:2FTS            | 126% 20-180% |
|         | 13C3-HFPO-DA           | 100% 20-150% |

6.1.3

6



**Method Blank Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-MB | 6Q18255.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

# Method Blank Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-MB | 6Q18255.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

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

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 106% 20-150% |
|         | 13C5-PFPeA             | 104% 20-150% |
|         | 13C5-PFHxA             | 104% 20-150% |
|         | 13C4-PFHpA             | 107% 20-150% |
|         | 13C8-PFOA              | 105% 20-150% |
|         | 13C9-PFNA              | 99% 20-150%  |
|         | 13C6-PFDA              | 101% 20-150% |
|         | 13C7-PFUnDA            | 96% 20-150%  |
|         | 13C2-PFDoDA            | 83% 20-150%  |
|         | 13C2-PFTeDA            | 76% 20-150%  |
|         | 13C3-PFBS              | 99% 20-150%  |
|         | 13C3-PFHxS             | 101% 20-150% |
|         | 13C8-PFOS              | 105% 20-150% |
|         | 13C8-FOSA              | 64% 20-150%  |
|         | d3-MeFOSA              | 62% 20-150%  |
|         | d5-EtFOSA              | 69% 20-150%  |
|         | d3-MeFOSAA             | 100% 20-150% |
|         | d5-EtFOSAA             | 96% 20-150%  |
|         | d7-MeFOSE              | 51% 20-150%  |
|         | d9-EtFOSE              | 62% 20-150%  |
|         | 13C2-4:2FTS            | 120% 20-180% |
|         | 13C2-6:2FTS            | 117% 20-180% |
|         | 13C2-8:2FTS            | 118% 20-180% |
|         | 13C3-HFPO-DA           | 102% 20-150% |

6.1.4  
6

## Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-ICCB | 6Q18251.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP96959-BS, OP96959-LLBS, OP96959-DUP, OP96959-MB, OP96959-MS

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

# Continuing Calibration Blank

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| S6Q274-ICCB | 6Q18251.D | 1  | 05/23/23 | MV | n/a       | n/a        | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP96959-BS, OP96959-LLBS, OP96959-DUP, OP96959-MB, OP96959-MS

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

| CAS No. | ID Standard Recoveries | Limits       |
|---------|------------------------|--------------|
|         | 13C4-PFBA              | 100% 20-150% |
|         | 13C5-PFPeA             | 102% 20-150% |
|         | 13C5-PFHxA             | 100% 20-150% |
|         | 13C4-PFHpA             | 102% 20-150% |
|         | 13C8-PFOA              | 98% 20-150%  |
|         | 13C9-PFNA              | 101% 20-150% |
|         | 13C6-PFDA              | 104% 20-150% |
|         | 13C7-PFUnDA            | 112% 20-150% |
|         | 13C2-PFDoDA            | 98% 20-150%  |
|         | 13C2-PFTeDA            | 101% 20-150% |
|         | 13C3-PFBS              | 97% 20-150%  |
|         | 13C3-PFHxS             | 102% 20-150% |
|         | 13C8-PFOS              | 96% 20-150%  |
|         | 13C8-FOSA              | 105% 20-150% |
|         | d3-MeFOSA              | 95% 20-150%  |
|         | d5-EtFOSA              | 96% 20-150%  |
|         | d3-MeFOSAA             | 110% 20-150% |
|         | d5-EtFOSAA             | 108% 20-150% |
|         | d7-MeFOSE              | 89% 20-150%  |
|         | d9-EtFOSE              | 93% 20-150%  |
|         | 13C2-4:2FTS            | 117% 20-180% |
|         | 13C2-6:2FTS            | 111% 20-180% |
|         | 13C2-8:2FTS            | 111% 20-180% |
|         | 13C3-HFPO-DA           | 98% 20-150%  |

6.1.5

6

**Blank Spike Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample       | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-LLBS | 6Q18254.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|----------------|-------------------------------|---------------|-------------|----------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.03          | 0.0287      | 96       | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.015         | 0.0143      | 95       | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.0075        | 0.0076      | 101      | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.0075        | 0.0072      | 96       | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.0075        | 0.0069      | 92       | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.0075        | 0.0068      | 91       | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.0075        | 0.0076      | 101      | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0075        | 0.0073      | 97       | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.0075        | 0.0069      | 92       | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0075        | 0.0074      | 99       | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0075        | 0.0071      | 95       | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.00665       | 0.0061      | 92       | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.00706       | 0.0071      | 101      | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.00686       | 0.0066      | 96       | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.00715       | 0.0078      | 109      | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.00696       | 0.0073      | 105      | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.00722       | 0.0077      | 107      | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.00724       | 0.0073      | 101      | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.00728       | 0.0061      | 84       | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.0281        | 0.0287      | 102      | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.0285        | 0.0274      | 96       | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.0288        | 0.0301      | 105      | 40-150 |
| 754-91-6       | PFOSA                         | 0.0075        | 0.0077      | 103      | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.015         | 0.0151      | 101      | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.015         | 0.0150      | 100      | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.0075        | 0.0075      | 100      | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.0075        | 0.0075      | 100      | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.0375        | 0.0348      | 93       | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.0375        | 0.0361      | 96       | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.015         | 0.0141      | 94       | 40-150 |
| 919005-14-4    | ADONA                         | 0.0142        | 0.0144      | 102      | 40-150 |
| 377-73-1       | PFMPA                         | 0.015         | 0.0141      | 94       | 40-150 |
| 863090-89-5    | PFMBA                         | 0.015         | 0.0141      | 94       | 40-150 |
| 151772-58-6    | NFDHA                         | 0.015         | 0.0149      | 99       | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.014         | 0.0136      | 97       | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0142        | 0.0123      | 87       | 40-150 |

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample       | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-LLBS | 6Q18254.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | Spike ug/l | BSP ug/l | BSP % | Limits |
|----------------|-------------------------------|------------|----------|-------|--------|
| 113507-82-7    | PFEESA                        | 0.0134     | 0.0124   | 93    | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.0375     | 0.0233   | 62    | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.188      | 0.170    | 91    | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.188      | 0.170    | 91    | 40-150 |

| CAS No. | ID Standard Recoveries | BSP  | Limits  |
|---------|------------------------|------|---------|
|         | 13C4-PFBA              | 102% | 20-150% |
|         | 13C5-PFPeA             | 106% | 20-150% |
|         | 13C5-PFHxA             | 106% | 20-150% |
|         | 13C4-PFHpA             | 103% | 20-150% |
|         | 13C8-PFOA              | 101% | 20-150% |
|         | 13C9-PFNA              | 104% | 20-150% |
|         | 13C6-PFDA              | 102% | 20-150% |
|         | 13C7-PFUnDA            | 100% | 20-150% |
|         | 13C2-PFDoDA            | 93%  | 20-150% |
|         | 13C2-PFTeDA            | 83%  | 20-150% |
|         | 13C3-PFBS              | 111% | 20-150% |
|         | 13C3-PFHxS             | 109% | 20-150% |
|         | 13C8-PFOS              | 93%  | 20-150% |
|         | 13C8-FOSA              | 78%  | 20-150% |
|         | d3-MeFOSA              | 69%  | 20-150% |
|         | d5-EtFOSA              | 71%  | 20-150% |
|         | d3-MeFOSAA             | 108% | 20-150% |
|         | d5-EtFOSAA             | 104% | 20-150% |
|         | d7-MeFOSE              | 57%  | 20-150% |
|         | d9-EtFOSE              | 66%  | 20-150% |
|         | 13C2-4:2FTS            | 116% | 20-180% |
|         | 13C2-6:2FTS            | 129% | 20-180% |
|         | 13C2-8:2FTS            | 124% | 20-180% |
|         | 13C3-HFPO-DA           | 107% | 20-150% |

\* = Outside of Control Limits.

**Blank Spike Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-BS | 6Q18253.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|----------------|-------------------------------|---------------|-------------|----------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.1           | 0.0964      | 96       | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.05          | 0.0472      | 94       | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.025         | 0.0232      | 93       | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.025         | 0.0232      | 93       | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.025         | 0.0241      | 96       | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.025         | 0.0244      | 98       | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.025         | 0.0226      | 90       | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.025         | 0.0223      | 89       | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.025         | 0.0233      | 93       | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.025         | 0.0236      | 94       | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.025         | 0.0261      | 104      | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0222        | 0.0213      | 96       | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0235        | 0.0223      | 95       | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0229        | 0.0214      | 94       | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0238        | 0.0227      | 95       | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0232        | 0.0217      | 94       | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0241        | 0.0236      | 98       | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0241        | 0.0232      | 96       | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0243        | 0.0213      | 88       | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.0938        | 0.0970      | 103      | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.095         | 0.0937      | 99       | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.096         | 0.0994      | 104      | 40-150 |
| 754-91-6       | PFOSA                         | 0.025         | 0.0251      | 100      | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.05          | 0.0511      | 102      | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.05          | 0.0498      | 100      | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.025         | 0.0244      | 98       | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.025         | 0.0253      | 101      | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.125         | 0.120       | 96       | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.125         | 0.115       | 92       | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.05          | 0.0501      | 100      | 40-150 |
| 919005-14-4    | ADONA                         | 0.0473        | 0.0477      | 101      | 40-150 |
| 377-73-1       | PFMPA                         | 0.05          | 0.0204      | 41       | 40-150 |
| 863090-89-5    | PFMBA                         | 0.05          | 0.0498      | 100      | 40-150 |
| 151772-58-6    | NFDHA                         | 0.05          | 0.0490      | 98       | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0468        | 0.0448      | 96       | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0473        | 0.0461      | 98       | 40-150 |

\* = Outside of Control Limits.

# Blank Spike Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-BS | 6Q18253.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | Spike ug/l | BSP ug/l | BSP % | Limits |
|----------------|-------------------------------|------------|----------|-------|--------|
| 113507-82-7    | PFEESA                        | 0.0445     | 0.0405   | 91    | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.125      | 0.0364   | 29*   | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.625      | 0.537    | 86    | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.625      | 0.570    | 91    | 40-150 |

| CAS No. | ID Standard Recoveries | BSP  | Limits  |
|---------|------------------------|------|---------|
|         | 13C4-PFBA              | 22%  | 20-150% |
|         | 13C5-PFPeA             | 99%  | 20-150% |
|         | 13C5-PFHxA             | 108% | 20-150% |
|         | 13C4-PFHpA             | 106% | 20-150% |
|         | 13C8-PFOA              | 101% | 20-150% |
|         | 13C9-PFNA              | 104% | 20-150% |
|         | 13C6-PFDA              | 102% | 20-150% |
|         | 13C7-PFUnDA            | 101% | 20-150% |
|         | 13C2-PFDoDA            | 95%  | 20-150% |
|         | 13C2-PFTeDA            | 83%  | 20-150% |
|         | 13C3-PFBS              | 112% | 20-150% |
|         | 13C3-PFHxS             | 113% | 20-150% |
|         | 13C8-PFOS              | 103% | 20-150% |
|         | 13C8-FOSA              | 85%  | 20-150% |
|         | d3-MeFOSA              | 80%  | 20-150% |
|         | d5-EtFOSA              | 80%  | 20-150% |
|         | d3-MeFOSAA             | 113% | 20-150% |
|         | d5-EtFOSAA             | 103% | 20-150% |
|         | d7-MeFOSE              | 67%  | 20-150% |
|         | d9-EtFOSE              | 80%  | 20-150% |
|         | 13C2-4:2FTS            | 117% | 20-180% |
|         | 13C2-6:2FTS            | 134% | 20-180% |
|         | 13C2-8:2FTS            | 125% | 20-180% |
|         | 13C3-HFPO-DA           | 104% | 20-150% |

\* = Outside of Control Limits.



**Matrix Spike Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-MS | 6Q18259.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |
| FC5734-3   | 6Q18258.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | FC5734-3<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | Limits |        |
|----------------|-------------------------------|------------------|------------|------------|---------|--------|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.015 U          |            | 0.0909     | 0.0872  | 96     | 40-150 |
| 2706-90-3      | Perfluoropentanoic acid       | 0.0076 U         |            | 0.0455     | 0.0432  | 95     | 40-150 |
| 307-24-4       | Perfluorohexanoic acid        | 0.0011 J         |            | 0.0227     | 0.0223  | 93     | 40-150 |
| 375-85-9       | Perfluoroheptanoic acid       | 0.00090 J        |            | 0.0227     | 0.0213  | 90     | 40-150 |
| 335-67-1       | Perfluorooctanoic acid        | 0.0017 J         |            | 0.0227     | 0.0238  | 97     | 40-150 |
| 375-95-1       | Perfluorononanoic acid        | 0.0038 U         |            | 0.0227     | 0.0232  | 102    | 40-150 |
| 335-76-2       | Perfluorodecanoic acid        | 0.0038 U         |            | 0.0227     | 0.0229  | 101    | 40-150 |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0038 U         |            | 0.0227     | 0.0214  | 94     | 40-150 |
| 307-55-1       | Perfluorododecanoic acid      | 0.0038 U         |            | 0.0227     | 0.0213  | 94     | 40-150 |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0038 U         |            | 0.0227     | 0.0185  | 81     | 40-150 |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0038 U         |            | 0.0227     | 0.0219  | 96     | 40-150 |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0024 J         |            | 0.0202     | 0.0210  | 92     | 40-150 |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0048 U         |            | 0.0214     | 0.0203  | 95     | 40-150 |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0017 J         |            | 0.0208     | 0.0200  | 88     | 40-150 |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0038 U         |            | 0.0217     | 0.0211  | 97     | 40-150 |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0038 U         |            | 0.0211     | 0.0204  | 97     | 40-150 |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0038 U         |            | 0.0219     | 0.0183  | 84     | 40-150 |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0038 U         |            | 0.0219     | 0.0148  | 67     | 40-150 |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0048 U         |            | 0.022      | 0.0112  | 51     | 40-150 |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.019 U          |            | 0.0852     | 0.0871  | 102    | 40-150 |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.019 U          |            | 0.0864     | 0.0832  | 96     | 40-150 |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.019 U          |            | 0.0873     | 0.0801  | 92     | 40-150 |
| 754-91-6       | PFOSA                         | 0.0038 U         |            | 0.0227     | 0.0202  | 89     | 40-150 |
| 31506-32-8     | MeFOSA                        | 0.0076 U         |            | 0.0455     | 0.0457  | 101    | 40-150 |
| 4151-50-2      | EtFOSA                        | 0.0076 U         |            | 0.0455     | 0.0437  | 96     | 40-150 |
| 2355-31-9      | MeFOSAA                       | 0.0048 U         |            | 0.0227     | 0.0240  | 106    | 40-150 |
| 2991-50-6      | EtFOSAA                       | 0.0048 U         |            | 0.0227     | 0.0227  | 100    | 40-150 |
| 24448-09-7     | MeFOSE                        | 0.038 U          |            | 0.114      | 0.111   | 98     | 40-150 |
| 1691-99-2      | EtFOSE                        | 0.038 U          |            | 0.114      | 0.106   | 93     | 40-150 |
| 13252-13-6     | HFPO-DA (GenX)                | 0.0038 U         |            | 0.0455     | 0.0444  | 98     | 40-150 |
| 919005-14-4    | ADONA                         | 0.0076 U         |            | 0.043      | 0.0432  | 101    | 40-150 |
| 377-73-1       | PFMPA                         | 0.0076 U         |            | 0.0455     | 0.0188  | 41     | 40-150 |
| 863090-89-5    | PFMBA                         | 0.0076 U         |            | 0.0455     | 0.0448  | 99     | 40-150 |
| 151772-58-6    | NFDHA                         | 0.0076 U         |            | 0.0455     | 0.0430  | 95     | 40-150 |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0076 U         |            | 0.0425     | 0.0371  | 87     | 40-150 |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0076 U         |            | 0.043      | 0.0289  | 67     | 40-150 |

\* = Outside of Control Limits.

# Matrix Spike Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample     | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-MS | 6Q18259.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |
| FC5734-3   | 6Q18258.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | FC5734-3<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | Limits |
|----------------|-------------------------------|------------------|------------|------------|---------|--------|
| 113507-82-7    | PFEESA                        | 0.0076 U         | 0.0405     | 0.0368     | 91      | 40-150 |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.019 U          | 0.114      | 0.0507     | 45      | 40-150 |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.095 U          | 0.568      | 0.535      | 94      | 40-150 |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.095 U          | 0.568      | 0.522      | 92      | 40-150 |

| CAS No. | ID Standard Recoveries | MS   | FC5734-3 | Limits  |
|---------|------------------------|------|----------|---------|
|         | 13C4-PFBA              | 20%  | 41%      | 20-150% |
|         | 13C5-PFPeA             | 101% | 109%     | 20-150% |
|         | 13C5-PFHxA             | 107% | 107%     | 20-150% |
|         | 13C4-PFHpA             | 108% | 111%     | 20-150% |
|         | 13C8-PFOA              | 106% | 104%     | 20-150% |
|         | 13C9-PFNA              | 95%  | 110%     | 20-150% |
|         | 13C6-PFDA              | 91%  | 94%      | 20-150% |
|         | 13C7-PFUnDA            | 84%  | 87%      | 20-150% |
|         | 13C2-PFDoDA            | 71%  | 72%      | 20-150% |
|         | 13C2-PFTeDA            | 50%  | 51%      | 20-150% |
|         | 13C3-PFBS              | 107% | 109%     | 20-150% |
|         | 13C3-PFHxS             | 105% | 108%     | 20-150% |
|         | 13C8-PFOS              | 102% | 94%      | 20-150% |
|         | 13C8-FOSA              | 102% | 90%      | 20-150% |
|         | d3-MeFOSA              | 86%  | 84%      | 20-150% |
|         | d5-EtFOSA              | 86%  | 80%      | 20-150% |
|         | d3-MeFOSAA             | 101% | 102%     | 20-150% |
|         | d5-EtFOSAA             | 97%  | 96%      | 20-150% |
|         | d7-MeFOSE              | 71%  | 67%      | 20-150% |
|         | d9-EtFOSE              | 76%  | 71%      | 20-150% |
|         | 13C2-4:2FTS            | 115% | 121%     | 20-180% |
|         | 13C2-6:2FTS            | 119% | 118%     | 20-180% |
|         | 13C2-8:2FTS            | 117% | 113%     | 20-180% |
|         | 13C3-HFPO-DA           | 105% | 105%     | 20-150% |

\* = Outside of Control Limits.

## Duplicate Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-DUP | 6Q18261.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |
| FC5734-4    | 6Q18260.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | FC5734-4<br>ug/l | DUP<br>Q  | ug/l | Q   | RPD | Limits |
|----------------|-------------------------------|------------------|-----------|------|-----|-----|--------|
| 375-22-4       | Perfluorobutanoic acid        | 0.015 U          | ND        |      | nc  |     | 30     |
| 2706-90-3      | Perfluoropentanoic acid       | 0.0075 U         | ND        |      | nc  |     | 30     |
| 307-24-4       | Perfluorohexanoic acid        | 0.00093 J        | 0.0011 J  |      | 17  |     | 30     |
| 375-85-9       | Perfluoroheptanoic acid       | 0.00087 J        | 0.00088 J |      | 1   |     | 30     |
| 335-67-1       | Perfluorooctanoic acid        | 0.0021 J         | 0.0015 J  |      | 33* |     | 30     |
| 375-95-1       | Perfluorononanoic acid        | 0.0038 U         | ND        |      | nc  |     | 30     |
| 335-76-2       | Perfluorodecanoic acid        | 0.0038 U         | ND        |      | nc  |     | 30     |
| 2058-94-8      | Perfluoroundecanoic acid      | 0.0038 U         | ND        |      | nc  |     | 30     |
| 307-55-1       | Perfluorododecanoic acid      | 0.0038 U         | ND        |      | nc  |     | 30     |
| 72629-94-8     | Perfluorotridecanoic acid     | 0.0038 U         | ND        |      | nc  |     | 30     |
| 376-06-7       | Perfluorotetradecanoic acid   | 0.0038 U         | ND        |      | nc  |     | 30     |
| 375-73-5       | Perfluorobutanesulfonic acid  | 0.0025 J         | 0.0025 J  |      | 0   |     | 30     |
| 2706-91-4      | Perfluoropentanesulfonic acid | 0.0047 U         | ND        |      | nc  |     | 30     |
| 355-46-4       | Perfluorohexanesulfonic acid  | 0.0018 J         | 0.0017 J  |      | 6   |     | 30     |
| 375-92-8       | Perfluoroheptanesulfonic acid | 0.0038 U         | ND        |      | nc  |     | 30     |
| 1763-23-1      | Perfluorooctanesulfonic acid  | 0.0012 J         | 0.0015 J  |      | 22  |     | 30     |
| 68259-12-1     | Perfluorononanesulfonic acid  | 0.0038 U         | ND        |      | nc  |     | 30     |
| 335-77-3       | Perfluorodecanesulfonic acid  | 0.0038 U         | ND        |      | nc  |     | 30     |
| 79780-39-5     | Perfluorododecanesulfonic aci | 0.0047 U         | ND        |      | nc  |     | 30     |
| 757124-72-44:2 | Fluorotelomer sulfonate       | 0.019 U          | ND        |      | nc  |     | 30     |
| 27619-97-2     | 6:2 Fluorotelomer sulfonate   | 0.019 U          | ND        |      | nc  |     | 30     |
| 39108-34-4     | 8:2 Fluorotelomer sulfonate   | 0.019 U          | ND        |      | nc  |     | 30     |
| 754-91-6       | PFOSA                         | 0.0038 U         | ND        |      | nc  |     | 30     |
| 31506-32-8     | MeFOSA                        | 0.0075 U         | ND        |      | nc  |     | 30     |
| 4151-50-2      | EtFOSA                        | 0.0075 U         | ND        |      | nc  |     | 30     |
| 2355-31-9      | MeFOSAA                       | 0.0047 U         | ND        |      | nc  |     | 30     |
| 2991-50-6      | EtFOSAA                       | 0.0047 U         | ND        |      | nc  |     | 30     |
| 24448-09-7     | MeFOSE                        | 0.038 U          | ND        |      | nc  |     | 30     |
| 1691-99-2      | EtFOSE                        | 0.038 U          | ND        |      | nc  |     | 30     |
| 13252-13-6     | HFPO-DA (GenX)                | 0.0038 U         | ND        |      | nc  |     | 30     |
| 919005-14-4    | ADONA                         | 0.0075 U         | ND        |      | nc  |     | 30     |
| 377-73-1       | PFMPA                         | 0.0075 U         | ND        |      | nc  |     | 30     |
| 863090-89-5    | PFMBA                         | 0.0075 U         | ND        |      | nc  |     | 30     |
| 151772-58-6    | NFDHA                         | 0.0075 U         | ND        |      | nc  |     | 30     |
| 756426-58-19   | Cl-PF3ONS (F-53B Major)       | 0.0075 U         | ND        |      | nc  |     | 30     |
| 763051-92-91   | Cl-PF3OUdS (F-53B Minor)      | 0.0075 U         | ND        |      | nc  |     | 30     |

\* = Outside of Control Limits.

# Duplicate Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| OP96959-DUP | 6Q18261.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |
| FC5734-4    | 6Q18260.D | 1  | 05/23/23 | MV | 05/18/23  | OP96959    | S6Q274           |

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6141-1, FC6141-2, FC6141-3

| CAS No.        | Compound                      | FC5734-4<br>ug/l | DUP<br>Q | ug/l | Q | RPD | Limits |
|----------------|-------------------------------|------------------|----------|------|---|-----|--------|
| 113507-82-7    | PFEESA                        | 0.0075 U         | ND       |      |   | nc  | 30     |
| 356-02-5       | 3:3 Fluorotelomer carboxylate | 0.019 U          | ND       |      |   | nc  | 30     |
| 914637-49-35:3 | Fluorotelomer carboxylate     | 0.094 U          | ND       |      |   | nc  | 30     |
| 812-70-4       | 7:3 Fluorotelomer carboxylate | 0.094 U          | ND       |      |   | nc  | 30     |

| CAS No. | ID Standard Recoveries | DUP  | FC5734-4 | Limits  |
|---------|------------------------|------|----------|---------|
|         | 13C4-PFBA              | 76%  | 65%      | 20-150% |
|         | 13C5-PFPeA             | 108% | 104%     | 20-150% |
|         | 13C5-PFHxA             | 103% | 107%     | 20-150% |
|         | 13C4-PFHpA             | 104% | 104%     | 20-150% |
|         | 13C8-PFOA              | 103% | 97%      | 20-150% |
|         | 13C9-PFNA              | 84%  | 96%      | 20-150% |
|         | 13C6-PFDA              | 83%  | 83%      | 20-150% |
|         | 13C7-PFUnDA            | 74%  | 72%      | 20-150% |
|         | 13C2-PFDoDA            | 58%  | 64%      | 20-150% |
|         | 13C2-PFTeDA            | 52%  | 51%      | 20-150% |
|         | 13C3-PFBS              | 103% | 100%     | 20-150% |
|         | 13C3-PFHxS             | 104% | 97%      | 20-150% |
|         | 13C8-PFOS              | 90%  | 82%      | 20-150% |
|         | 13C8-FOSA              | 84%  | 77%      | 20-150% |
|         | d3-MeFOSA              | 73%  | 72%      | 20-150% |
|         | d5-EtFOSA              | 68%  | 72%      | 20-150% |
|         | d3-MeFOSAA             | 86%  | 83%      | 20-150% |
|         | d5-EtFOSAA             | 80%  | 81%      | 20-150% |
|         | d7-MeFOSE              | 63%  | 64%      | 20-150% |
|         | d9-EtFOSE              | 66%  | 69%      | 20-150% |
|         | 13C2-4:2FTS            | 122% | 117%     | 20-180% |
|         | 13C2-6:2FTS            | 128% | 118%     | 20-180% |
|         | 13C2-8:2FTS            | 117% | 106%     | 20-180% |
|         | 13C3-HFPO-DA           | 101% | 99%      | 20-150% |

\* = Outside of Control Limits.

# Injection Standard Area Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |              |                 |                |
|----------------|--------------|-----------------|----------------|
| Check Std:     | S6Q274-CC274 | Injection Date: | 05/23/23       |
| Lab File ID:   | 6Q18250.D    | Injection Time: | 03:00          |
| Instrument ID: | GCMS6Q       | Method:         | EPA DRAFT 1633 |

|                          | IS 1<br>AREA | RT   | IS 2<br>AREA | RT   | IS 3<br>AREA | RT   | IS 4<br>AREA | RT   | IS 5<br>AREA | RT   |
|--------------------------|--------------|------|--------------|------|--------------|------|--------------|------|--------------|------|
| Initial Cal <sup>b</sup> | 95676        | 2.88 | 79285        | 5.43 | 116802       | 7.04 | 53675        | 7.57 | 35858        | 8.05 |
| Check Std <sup>c</sup>   | 105198       | 2.88 | 82456        | 5.43 | 121544       | 7.04 | 58145        | 7.57 | 39850        | 8.04 |
| Upper Limit <sup>d</sup> | 191352       | 3.28 | 158570       | 5.83 | 233604       | 7.44 | 107350       | 7.97 | 71716        | 8.44 |
| Lower Limit <sup>e</sup> | 28703        | 2.48 | 23786        | 5.03 | 35041        | 6.64 | 16103        | 7.17 | 10757        | 7.64 |

| Lab<br>Sample ID | IS 1<br>AREA | RT   | IS 2<br>AREA | RT   | IS 3<br>AREA | RT   | IS 4<br>AREA | RT   | IS 5<br>AREA | RT   | DF <sup>a</sup> |
|------------------|--------------|------|--------------|------|--------------|------|--------------|------|--------------|------|-----------------|
| S6Q274-ICCB      | 96978        | 2.83 | 82254        | 5.43 | 119180       | 7.04 | 55847        | 7.57 | 36082        | 8.04 | 1               |
| ZZZZZZ           | 122075       | 2.88 | 94970        | 5.43 | 135960       | 7.04 | 70770        | 7.57 | 41695        | 8.04 | 5               |
| OP96959-BS       | 88996        | 2.88 | 70883        | 5.43 | 105231       | 7.04 | 48236        | 7.57 | 34413        | 8.04 | 1               |
| OP96959-LLBS     | 88666        | 2.88 | 71120        | 5.43 | 106630       | 7.04 | 51099        | 7.57 | 33093        | 8.04 | 1               |
| OP96959-MB       | 83507        | 2.88 | 68673        | 5.43 | 101530       | 7.04 | 49382        | 7.56 | 32738        | 8.04 | 1               |
| ZZZZZZ           | 89905        | 2.89 | 68879        | 5.44 | 110836       | 7.04 | 51254        | 7.56 | 32854        | 8.04 | 1               |
| ZZZZZZ           | 87011        | 2.89 | 71557        | 5.44 | 103815       | 7.04 | 52137        | 7.57 | 33143        | 8.04 | 1               |
| FC5734-3         | 83594        | 2.88 | 66886        | 5.44 | 98619        | 7.04 | 47328        | 7.57 | 30510        | 8.05 | 1               |
| OP96959-MS       | 81772        | 2.89 | 65349        | 5.43 | 96162        | 7.04 | 45996        | 7.57 | 30208        | 8.04 | 1               |
| FC5734-4         | 85472        | 2.88 | 69406        | 5.43 | 105786       | 7.04 | 47221        | 7.57 | 32957        | 8.04 | 1               |
| OP96959-DUP      | 85616        | 2.89 | 68955        | 5.43 | 103081       | 7.04 | 51890        | 7.57 | 32880        | 8.04 | 1               |

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q274-ICCB 6Q18230.D 05/22/23 22:10. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1  
6

# Injection Standard Area Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |              |                 |                |
|----------------|--------------|-----------------|----------------|
| Check Std:     | S6Q274-CC274 | Injection Date: | 05/23/23       |
| Lab File ID:   | 6Q18250.D    | Injection Time: | 03:00          |
| Instrument ID: | GCMS6Q       | Method:         | EPA DRAFT 1633 |

|                          | IS 6<br>AREA | RT   | IS 7<br>AREA | RT   |
|--------------------------|--------------|------|--------------|------|
| Initial Cal <sup>b</sup> | 12775        | 7.15 | 21526        | 8.20 |
| Check Std <sup>c</sup>   | 13764        | 7.15 | 23530        | 8.20 |
| Upper Limit <sup>d</sup> | 25550        | 7.55 | 43052        | 8.60 |
| Lower Limit <sup>e</sup> | 3833         | 6.75 | 6458         | 7.80 |

| Lab<br>Sample ID | IS 6<br>AREA | RT   | IS 7<br>AREA | RT   | DF <sup>a</sup> |
|------------------|--------------|------|--------------|------|-----------------|
| S6Q274-ICCB      | 13182        | 7.15 | 21919        | 8.20 | 1               |
| ZZZZZZ           | 15715        | 7.15 | 27010        | 8.20 | 5               |
| OP96959-BS       | 10713        | 7.15 | 19679        | 8.20 | 1               |
| OP96959-LLBS     | 10973        | 7.14 | 19718        | 8.19 | 1               |
| OP96959-MB       | 11314        | 7.14 | 19303        | 8.19 | 1               |
| ZZZZZZ           | 11823        | 7.15 | 19100        | 8.19 | 1               |
| ZZZZZZ           | 11514        | 7.15 | 19184        | 8.19 | 1               |
| FC5734-3         | 10824        | 7.15 | 18100        | 8.20 | 1               |
| OP96959-MS       | 10518        | 7.15 | 16950        | 8.20 | 1               |
| FC5734-4         | 11293        | 7.14 | 18851        | 8.19 | 1               |
| OP96959-DUP      | 10958        | 7.14 | 18176        | 8.20 | 1               |

IS 6 = 1802-PFHXS  
 IS 7 = 13C4-PFOS

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q274-ICC274 6Q18230.D 05/22/23 22:10. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to + 100% of initial cal area.
- (d) Upper Limit = + 100% of initial standard area; Retention time + 0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1  
6

# Injection Standard Area Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |              |                 |                |
|----------------|--------------|-----------------|----------------|
| Check Std:     | S6Q274-CC274 | Injection Date: | 05/23/23       |
| Lab File ID:   | 6Q18262.D    | Injection Time: | 05:54          |
| Instrument ID: | GCMS6Q       | Method:         | EPA DRAFT 1633 |

|                          | IS 1<br>AREA | RT   | IS 2<br>AREA | RT   | IS 3<br>AREA | RT   | IS 4<br>AREA | RT   | IS 5<br>AREA | RT   |
|--------------------------|--------------|------|--------------|------|--------------|------|--------------|------|--------------|------|
| Initial Cal <sup>b</sup> | 95676        | 2.88 | 79285        | 5.43 | 116802       | 7.04 | 53675        | 7.57 | 35858        | 8.05 |
| Check Std <sup>c</sup>   | 104066       | 2.88 | 80670        | 5.43 | 123097       | 7.04 | 61541        | 7.56 | 41304        | 8.04 |
| Upper Limit <sup>d</sup> | 191352       | 3.28 | 158570       | 5.83 | 233604       | 7.44 | 107350       | 7.96 | 71716        | 8.44 |
| Lower Limit <sup>e</sup> | 28703        | 2.48 | 23786        | 5.03 | 35041        | 6.64 | 16103        | 7.16 | 10757        | 7.64 |

| Lab<br>Sample ID | IS 1<br>AREA | RT   | IS 2<br>AREA | RT   | IS 3<br>AREA | RT   | IS 4<br>AREA | RT   | IS 5<br>AREA | RT   | DF <sup>a</sup> |
|------------------|--------------|------|--------------|------|--------------|------|--------------|------|--------------|------|-----------------|
| S6Q274-ICCB      | 98565        | 2.84 | 79606        | 5.43 | 122253       | 7.04 | 61192        | 7.57 | 38776        | 8.04 | 1               |
| ZZZZZZ           | 89252        | 2.88 | 70453        | 5.43 | 105477       | 7.04 | 49728        | 7.57 | 33213        | 8.04 | 1               |
| ZZZZZZ           | 90491        | 2.88 | 73439        | 5.43 | 111736       | 7.04 | 51686        | 7.57 | 36037        | 8.04 | 1               |
| ZZZZZZ           | 82582        | 2.88 | 67163        | 5.43 | 101355       | 7.04 | 49358        | 7.57 | 30407        | 8.04 | 1               |
| ZZZZZZ           | 88220        | 2.88 | 72229        | 5.43 | 105482       | 7.04 | 52279        | 7.57 | 34453        | 8.04 | 1               |
| ZZZZZZ           | 86099        | 2.88 | 66639        | 5.44 | 98897        | 7.04 | 48819        | 7.56 | 33834        | 8.04 | 1               |
| ZZZZZZ           | 88722        | 2.88 | 69505        | 5.43 | 105592       | 7.04 | 50145        | 7.57 | 33444        | 8.04 | 1               |
| FC6141-1         | 89202        | 2.88 | 70560        | 5.43 | 109174       | 7.04 | 50129        | 7.57 | 35325        | 8.04 | 1               |
| FC6141-2         | 87407        | 2.88 | 70779        | 5.43 | 103035       | 7.04 | 49721        | 7.57 | 32877        | 8.04 | 1               |
| FC6141-3         | 91912        | 2.88 | 74995        | 5.43 | 111232       | 7.04 | 52495        | 7.57 | 33910        | 8.04 | 1               |
| S6Q274-ECC274    | 104656       | 2.88 | 85374        | 5.43 | 122948       | 7.04 | 60114        | 7.56 | 40959        | 8.04 | 1               |

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q274-ICCB 6Q18262.D 05/22/23 22:10. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.2  
6

# Injection Standard Area Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |              |                 |                |
|----------------|--------------|-----------------|----------------|
| Check Std:     | S6Q274-CC274 | Injection Date: | 05/23/23       |
| Lab File ID:   | 6Q18262.D    | Injection Time: | 05:54          |
| Instrument ID: | GCMS6Q       | Method:         | EPA DRAFT 1633 |

|                          | IS 6<br>AREA | RT   | IS 7<br>AREA | RT   |
|--------------------------|--------------|------|--------------|------|
| Initial Cal <sup>b</sup> | 12775        | 7.15 | 21526        | 8.20 |
| Check Std <sup>c</sup>   | 13619        | 7.14 | 22783        | 8.19 |
| Upper Limit <sup>d</sup> | 25550        | 7.54 | 43052        | 8.59 |
| Lower Limit <sup>e</sup> | 3833         | 6.74 | 6458         | 7.79 |

| Lab<br>Sample ID | IS 6<br>AREA | RT   | IS 7<br>AREA | RT   | DF <sup>a</sup> |
|------------------|--------------|------|--------------|------|-----------------|
| S6Q274-ICCB      | 13418        | 7.14 | 21398        | 8.19 | 1               |
| ZZZZZZ           | 12496        | 7.15 | 19310        | 8.19 | 1               |
| ZZZZZZ           | 11627        | 7.14 | 19881        | 8.20 | 1               |
| ZZZZZZ           | 10864        | 7.14 | 18488        | 8.19 | 1               |
| ZZZZZZ           | 11594        | 7.14 | 18455        | 8.19 | 1               |
| ZZZZZZ           | 10875        | 7.15 | 18655        | 8.20 | 1               |
| ZZZZZZ           | 11520        | 7.14 | 18867        | 8.19 | 1               |
| FC6141-1         | 11956        | 7.15 | 19697        | 8.20 | 1               |
| FC6141-2         | 10704        | 7.15 | 19184        | 8.19 | 1               |
| FC6141-3         | 11962        | 7.14 | 19404        | 8.19 | 1               |
| S6Q274-ECC274    | 13940        | 7.14 | 22254        | 8.19 | 1               |

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q274-ICC274 6Q18230.D 05/22/23 22:10. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to + 100% of initial cal area.
- (d) Upper Limit = + 100% of initial standard area; Retention time + 0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.



**TDCA Retention Time Check**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |           |                 |          |
|----------------|-----------|-----------------|----------|
| Sample:        | S6Q274-RT | Injection Date: | 05/22/23 |
| Lab File ID:   | 6Q18224.D | Injection Time: | 20:43    |
| Instrument ID: | GCMS6Q    |                 |          |

| Compound | RT<br>(min) | RT<br>Difference | Low<br>Limit |
|----------|-------------|------------------|--------------|
| PFOS     | 8.203       | --               | --           |
| TDCA     | 6.762       | 1.441            | 1.000        |
| TCDCA    | 6.613       | 1.590            | 1.000        |
| TUDCA    | 5.748       | 2.455            | 1.000        |

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

| Lab<br>Sample ID | Lab<br>File ID | Date<br>Analyzed | Time<br>Analyzed | Hours<br>Lapsed | Client<br>Sample ID                        |
|------------------|----------------|------------------|------------------|-----------------|--|
| S6Q274-IC274     | 6Q18226.D      | 05/22/23         | 21:12            | 00:29           | Mass Calibration Verification              |
| S6Q274-IC274     | 6Q18227.D      | 05/22/23         | 21:27            | 00:44           | Initial cal 1                              |
| S6Q274-IC274     | 6Q18228.D      | 05/22/23         | 21:41            | 00:58           | Initial cal 2                              |
| S6Q274-IC274     | 6Q18229.D      | 05/22/23         | 21:56            | 01:13           | Initial cal 3                              |
| S6Q274-ICC274    | 6Q18230.D      | 05/22/23         | 22:10            | 01:27           | Initial cal 4                              |
| S6Q274-IC274     | 6Q18231.D      | 05/22/23         | 22:25            | 01:42           | Initial cal 5                              |
| S6Q274-IC274     | 6Q18232.D      | 05/22/23         | 22:39            | 01:56           | Initial cal 6                              |
| S6Q274-IC274     | 6Q18233.D      | 05/22/23         | 22:54            | 02:11           | Initial cal 7                              |
| S6Q274-IC274     | 6Q18234.D      | 05/22/23         | 23:08            | 02:25           | Initial cal 8                              |
| S6Q274-IBLK      | 6Q18235.D      | 05/22/23         | 23:23            | 02:40           | Instrument Blank                           |
| S6Q274-IBLK      | 6Q18235.D      | 05/22/23         | 23:23            | 02:40           | Instrument Blank                           |
| S6Q274-ICV274    | 6Q18236.D      | 05/22/23         | 23:37            | 02:54           | Initial cal verification 4                 |
| S6Q274-ICV274    | 6Q18237.D      | 05/22/23         | 23:52            | 03:09           | Initial cal verification 20                |
| S6Q274-CC274     | 6Q18238.D      | 05/23/23         | 00:06            | 03:23           | Continuing cal 4                           |
| S6Q274-CC274     | 6Q18239.D      | 05/23/23         | 00:21            | 03:38           | Continuing cal 1.0LL                       |
| OP96984-BS       | 6Q18240.D      | 05/23/23         | 00:35            | 03:52           | Blank Spike                                |
| OP96984-LLBS     | 6Q18241.D      | 05/23/23         | 00:50            | 04:07           | Blank Spike                                |
| OP96984-MB       | 6Q18242.D      | 05/23/23         | 01:04            | 04:21           | Method Blank                               |
| ZZZZZZ           | 6Q18243.D      | 05/23/23         | 01:19            | 04:36           | (unrelated sample)                         |
| ZZZZZZ           | 6Q18244.D      | 05/23/23         | 01:33            | 04:50           | (unrelated sample)                         |
| ZZZZZZ           | 6Q18245.D      | 05/23/23         | 01:48            | 05:05           | (unrelated sample)                         |
| FC5501-12        | 6Q18246.D      | 05/23/23         | 02:02            | 05:19           | (used for QC only; not part of job FC6141) |
| OP96916-DUP      | 6Q18247.D      | 05/23/23         | 02:17            | 05:34           | Duplicate                                  |
| ZZZZZZ           | 6Q18248.D      | 05/23/23         | 02:31            | 05:48           | (unrelated sample)                         |
| ZZZZZZ           | 6Q18249.D      | 05/23/23         | 02:46            | 06:03           | (unrelated sample)                         |
| S6Q274-CC274     | 6Q18250.D      | 05/23/23         | 03:00            | 06:17           | Continuing cal 4                           |
| S6Q274-ICCB      | 6Q18251.D      | 05/23/23         | 03:15            | 06:32           | Continuing Calibration Blank               |
| ZZZZZZ           | 6Q18252.D      | 05/23/23         | 03:29            | 06:46           | (unrelated sample)                         |
| OP96959-BS       | 6Q18253.D      | 05/23/23         | 03:43            | 07:00           | Blank Spike                                |
| OP96959-LLBS     | 6Q18254.D      | 05/23/23         | 03:58            | 07:15           | Blank Spike                                |
| OP96959-MB       | 6Q18255.D      | 05/23/23         | 04:13            | 07:30           | Method Blank                               |
| ZZZZZZ           | 6Q18256.D      | 05/23/23         | 04:27            | 07:44           | (unrelated sample)                         |
| ZZZZZZ           | 6Q18257.D      | 05/23/23         | 04:41            | 07:58           | (unrelated sample)                         |
| FC5734-3         | 6Q18258.D      | 05/23/23         | 04:56            | 08:13           | (used for QC only; not part of job FC6141) |

# TDCA Retention Time Check

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |           |                 |          |
|----------------|-----------|-----------------|----------|
| Sample:        | S6Q274-RT | Injection Date: | 05/22/23 |
| Lab File ID:   | 6Q18224.D | Injection Time: | 20:43    |
| Instrument ID: | GCMS6Q    |                 |          |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID                           |
|---------------|-------------|---------------|---------------|--------------|--|
| OP96959-MS    | 6Q18259.D   | 05/23/23      | 05:10         | 08:27        | Matrix Spike                               |
| FC5734-4      | 6Q18260.D   | 05/23/23      | 05:25         | 08:42        | (used for QC only; not part of job FC6141) |
| OP96959-DUP   | 6Q18261.D   | 05/23/23      | 05:39         | 08:56        | Duplicate                                  |
| S6Q274-CC274  | 6Q18262.D   | 05/23/23      | 05:54         | 09:11        | Continuing cal 4                           |
| S6Q274-ICCB   | 6Q18263.D   | 05/23/23      | 06:08         | 09:25        | Continuing Calibration Blank               |
| ZZZZZZ        | 6Q18264.D   | 05/23/23      | 06:23         | 09:40        | (unrelated sample)                         |
| ZZZZZZ        | 6Q18265.D   | 05/23/23      | 06:37         | 09:54        | (unrelated sample)                         |
| ZZZZZZ        | 6Q18266.D   | 05/23/23      | 06:52         | 10:09        | (unrelated sample)                         |
| ZZZZZZ        | 6Q18267.D   | 05/23/23      | 07:06         | 10:23        | (unrelated sample)                         |
| ZZZZZZ        | 6Q18268.D   | 05/23/23      | 07:21         | 10:38        | (unrelated sample)                         |
| ZZZZZZ        | 6Q18269.D   | 05/23/23      | 07:35         | 10:52        | (unrelated sample)                         |
| FC6141-1      | 6Q18270.D   | 05/23/23      | 07:50         | 11:07        | AF-RHMW225401-WGN01B-2305W3                |
| FC6141-2      | 6Q18271.D   | 05/23/23      | 08:04         | 11:21        | AF-HDMW225303-WGN01LF-2305W3               |
| FC6141-3      | 6Q18272.D   | 05/23/23      | 08:19         | 11:36        | AF-RHMW10-WGN01LF-2305W3                   |
| S6Q274-ECC274 | 6Q18273.D   | 05/23/23      | 08:33         | 11:50        | Ending cal 4                               |
| S6Q274-ICCB   | 6Q18274.D   | 05/23/23      | 08:48         | 12:05        | Continuing Calibration Blank               |

6.6.1

6

# Ion Ratio Summary

Job Number: FC6141  
Account: AECOMCOD AECOM, INC.  
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q274 Method: EPA DRAFT 1633

| Lab Sample ID | Lab File ID | Ion Ratios |       |       |      |      |       |      |
|---------------|-------------|------------|-------|-------|------|------|-------|------|
|               |             | PFPeA      | PFHxA | PFHpA | PFOA | PFBS | PFHxS | FOSA |
| S6Q274-ICC274 | 6Q18230.D   | 0          | 5.3   | 16.2  | 18.9 | 38.1 | 48.2  | 2.9  |
| FC6141-1      | 6Q18270.D   | 0          | 4.4   | 15.6  | 12.1 | 38.2 | 55    |      |
| FC6141-2      | 6Q18271.D   |            |       |       |      |      |       | 2.8  |
| FC6141-3      | 6Q18272.D   |            |       |       |      |      |       |      |

6.7.1

6

# Isotope Dilution Standard Recovery Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                        |            |
|------------------------|------------|
| Method: EPA DRAFT 1633 | Matrix: AQ |
|------------------------|------------|

Samples and QC shown here apply to the above method

| Lab Sample ID | Lab File ID | S1  | S2  | S3  | S4  | S5  | S6  | S7  | S8  |
|---------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| FC6141-1      | 6Q18270.D   | 104 | 114 | 110 | 113 | 103 | 104 | 94  | 100 |
| FC6141-2      | 6Q18271.D   | 111 | 113 | 111 | 113 | 106 | 104 | 103 | 91  |
| FC6141-3      | 6Q18272.D   | 101 | 107 | 107 | 106 | 105 | 105 | 102 | 105 |
| OP96959-BS    | 6Q18253.D   | 22  | 99  | 108 | 106 | 101 | 104 | 102 | 101 |
| OP96959-DUP   | 6Q18261.D   | 76  | 108 | 103 | 104 | 103 | 84  | 83  | 74  |
| OP96959-LLBS  | 6Q18254.D   | 102 | 106 | 106 | 103 | 101 | 104 | 102 | 100 |
| OP96959-MB    | 6Q18255.D   | 106 | 104 | 104 | 107 | 105 | 99  | 101 | 96  |
| OP96959-MS    | 6Q18259.D   | 20  | 101 | 107 | 108 | 106 | 95  | 91  | 84  |
| S6Q274-IBLK   | 6Q18235.D   | 100 | 97  | 95  | 99  | 98  | 99  | 97  | 101 |
| S6Q274-ICCB   | 6Q18263.D   | 101 | 106 | 102 | 107 | 100 | 91  | 101 | 103 |
| S6Q274-ICCB   | 6Q18274.D   | 100 | 105 | 100 | 107 | 100 | 97  | 104 | 105 |
| S6Q274-ICCB   | 6Q18251.D   | 100 | 102 | 100 | 102 | 98  | 101 | 104 | 112 |

**Isotope Dilution Standards**                      **Recovery Limits**

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

6.8.1  
6

# Isotope Dilution Standard Recovery Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                        |            |
|------------------------|------------|
| Method: EPA DRAFT 1633 | Matrix: AQ |
|------------------------|------------|

Samples and QC shown here apply to the above method

| Lab Sample ID | Lab File ID | S9  | S10 | S11 | S12 | S13 | S14 | S15 | S16 |
|---------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| FC6141-1      | 6Q18270.D   | 85  | 73  | 105 | 110 | 105 | 97  | 81  | 85  |
| FC6141-2      | 6Q18271.D   | 78  | 74  | 117 | 117 | 103 | 80  | 76  | 74  |
| FC6141-3      | 6Q18272.D   | 86  | 79  | 107 | 108 | 110 | 87  | 78  | 79  |
| OP96959-BS    | 6Q18253.D   | 95  | 83  | 112 | 113 | 103 | 85  | 80  | 80  |
| OP96959-DUP   | 6Q18261.D   | 58  | 52  | 103 | 104 | 90  | 84  | 73  | 68  |
| OP96959-LLBS  | 6Q18254.D   | 93  | 83  | 111 | 109 | 93  | 78  | 69  | 71  |
| OP96959-MB    | 6Q18255.D   | 83  | 76  | 99  | 101 | 105 | 64  | 62  | 69  |
| OP96959-MS    | 6Q18259.D   | 71  | 50  | 107 | 105 | 102 | 102 | 86  | 86  |
| S6Q274-IBLK   | 6Q18235.D   | 95  | 95  | 93  | 97  | 102 | 103 | 99  | 100 |
| S6Q274-ICCB   | 6Q18263.D   | 93  | 98  | 96  | 99  | 102 | 108 | 96  | 100 |
| S6Q274-ICCB   | 6Q18274.D   | 103 | 98  | 104 | 104 | 102 | 103 | 96  | 93  |
| S6Q274-ICCB   | 6Q18251.D   | 98  | 101 | 97  | 102 | 96  | 105 | 95  | 96  |

**Isotope Dilution Standards**                      **Recovery Limits**

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

6.8.1  
6

# Isotope Dilution Standard Recovery Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                        |            |
|------------------------|------------|
| Method: EPA DRAFT 1633 | Matrix: AQ |
|------------------------|------------|

Samples and QC shown here apply to the above method

| Lab Sample ID | Lab File ID | S17 | S18 | S19 | S20 | S21 | S22 | S23 | S24 |
|---------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| FC6141-1      | 6Q18270.D   | 117 | 108 | 76  | 81  | 130 | 126 | 129 | 109 |
| FC6141-2      | 6Q18271.D   | 100 | 104 | 63  | 73  | 134 | 142 | 138 | 109 |
| FC6141-3      | 6Q18272.D   | 118 | 117 | 65  | 74  | 125 | 134 | 124 | 102 |
| OP96959-BS    | 6Q18253.D   | 113 | 103 | 67  | 80  | 117 | 134 | 125 | 104 |
| OP96959-DUP   | 6Q18261.D   | 86  | 80  | 63  | 66  | 122 | 128 | 117 | 101 |
| OP96959-LLBS  | 6Q18254.D   | 108 | 104 | 57  | 66  | 116 | 129 | 124 | 107 |
| OP96959-MB    | 6Q18255.D   | 100 | 96  | 51  | 62  | 120 | 117 | 118 | 102 |
| OP96959-MS    | 6Q18259.D   | 101 | 97  | 71  | 76  | 115 | 119 | 117 | 105 |
| S6Q274-IBLK   | 6Q18235.D   | 101 | 103 | 90  | 96  | 96  | 101 | 100 | 94  |
| S6Q274-ICCB   | 6Q18263.D   | 113 | 115 | 92  | 95  | 117 | 118 | 116 | 100 |
| S6Q274-ICCB   | 6Q18274.D   | 112 | 116 | 86  | 92  | 122 | 125 | 126 | 100 |
| S6Q274-ICCB   | 6Q18251.D   | 110 | 108 | 89  | 93  | 117 | 111 | 111 | 98  |

**Isotope Dilution Standards**                      **Recovery Limits**

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

6.8.1

6

# Initial Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICC274  
 Lab FileID: 6Q18230.D

## Initial Calibration Report

| Method Path                                     | Method File                        | Batch Name  | Last Calib Update    | Calibration Files                               | Curve Fit | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | Avg RF | %RSD                 | Level Last Update Time |
|---|------------------------------------|---|----------------------|---|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|------------------------|
| D:\MassHunter\Methods                           | 1633_052423_S6Q275.quantmethod.xml | D:\MassHunter\Data\052323_1633_S6Q275\QuantResults\s6q275.batch.bin | 5/24/2023 9:46:19 AM | D:\MassHunter\Data\052323_1633_S6Q275\6Q18227.d | Avg RF    | 0.3679 | 0.3710 | 0.3787 | 0.3736 | 0.4160 | 0.4112 | 0.4081 | 0.3925 | 0.3899 | 5.040                | 5/23/2023 4:11:38 PM   |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18228.d | Avg RF                             | 0.6907  | 0.6964               | 0.7167  | 0.6874    | 0.7619 | 0.7573 | 0.7576 | 0.7319 | 0.7250 | 0.7250 | 0.7319 | 0.7250 | 4.357  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18229.d | Avg RF                             | 0.0917  | 0.0961               | 0.0952  | 0.0903    | 0.1010 | 0.1023 | 0.1016 | 0.0998 | 0.0973 | 0.0973 | 0.0998 | 0.0973 | 4.736  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18230.d | Avg RF                             | 1.2716  | 1.2887               | 1.3368  | 1.2861    | 1.4324 | 1.4177 | 1.4078 | 1.3449 | 1.3482 | 1.3482 | 1.3449 | 1.3482 | 4.764  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18231.d | Avg RF                             | 0.9043  | 0.9071               | 0.9422  | 0.9069    | 1.0123 | 1.0006 | 0.9899 | 0.9602 | 0.9529 | 0.9529 | 0.9602 | 0.9529 | 4.679  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18232.d | Avg RF                             | 0.1132  | 0.1195               | 0.1207  | 0.1111    | 0.1267 | 0.1284 | 0.1243 | 0.1152 | 0.1199 | 0.1199 | 0.1152 | 0.1199 | 5.292  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18233.d | Avg RF                             | 0.9888  | 0.9396               | 0.9267  | 0.8890    | 1.0464 | 1.0137 | 1.0343 | 0.9246 | 0.9704 | 0.9704 | 0.9246 | 0.9704 | 5.988  | 5/24/2023 9:46:19 AM |                        |
| D:\MassHunter\Data\052323_1633_S6Q275\6Q18234.d | Avg RF                             | 1.2058  | 1.2308               | 1.2879  | 1.2397    | 1.3875 | 1.3376 | 1.4388 | 1.3105 | 1.3048 | 1.3048 | 1.3105 | 1.3048 | 6.191  | 5/24/2023 9:46:19 AM |                        |
| I M5-PFHxA                                      | Avg RF                             | 0.1845  | 0.1783               | 0.1748  | 0.1648    | 0.1856 | 0.1825 | 0.1804 | 0.1753 | 0.1783 | 0.1783 | 0.1753 | 0.1783 | 3.785  | 5/24/2023 9:46:19 AM |                        |
| I M4-PFHpA                                      | Avg RF                             | 0.1163  | 0.1089               | 0.1165  | 0.1096    | 0.1194 | 0.1183 | 0.1188 | 0.1139 | 0.1152 | 0.1152 | 0.1139 | 0.1152 | 3.534  | 5/24/2023 9:46:19 AM |                        |
| I M8-PFOA                                       | Avg RF                             | 1.2200  | 1.2784               | 1.2309  | 1.2251    | 1.4385 | 1.3381 | 1.2733 | 1.3079 | 1.2890 | 1.2890 | 1.3079 | 1.2890 | 5.694  | 5/24/2023 9:46:19 AM |                        |
| I M9-PFNA                                       | Avg RF                             | 1.0761  | 1.1677               | 1.1662  | 1.1179    | 1.2350 | 1.1469 | 1.2089 | 1.2330 | 1.1690 | 1.1690 | 1.2330 | 1.1690 | 4.773  | 5/24/2023 9:46:19 AM |                        |
| I M6-PFDA                                       | Avg RF                             | 0.9224  | 1.0079               | 0.9801  | 1.0356    | 1.1162 | 1.0711 | 1.0959 | 1.0269 | 1.0320 | 1.0320 | 1.0269 | 1.0320 | 6.132  | 5/24/2023 9:46:19 AM |                        |
| I M7-PFUnDA                                     | Avg RF                             | 1.6474  | 1.5724               | 1.6302  | 1.6612    | 1.7721 | 1.7960 | 1.7589 | 1.7908 | 1.7036 | 1.7036 | 1.7908 | 1.7036 | 5.033  | 5/24/2023 9:46:19 AM |                        |
| I M2-PFDdA                                      | Avg RF                             | 0.7401  | 0.9008               | 0.9048  | 0.8834    | 0.9775 | 0.9427 | 0.9274 | 0.8712 | 0.8935 | 0.8935 | 0.8712 | 0.8935 | 7.908  | 5/24/2023 9:46:19 AM |                        |

Generated at 9:46 AM on 5/24/2023

Page 1 of 4

# Initial Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICC274  
 Lab FileID: 6Q18230.D

## Initial Calibration Report

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

Generated at 9:46 AM on 5/24/2023

Page 2 of 4



# Initial Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICC274  
 Lab FileID: 6Q18230.D

## Initial Calibration Report

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

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

# Initial Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICC274  
 Lab FileID: 6Q18230.D

## Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

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

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

**Initial Calibration Verification**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICV274  
 Lab FileID: 6Q18236.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18236  
 Type : QC  
 Level : 4

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.210      | 4.2   | 104.2  |
| 13C2-6:2FTS | 5.000     | 5.201      | 4.0   | 104.0  |
| 13C2-8:2FTS | 5.000     | 5.461      | 9.2   | 109.2  |
| 13C2-PFDoDA | 1.250     | 1.207      | -3.4  | 96.6   |
| 13C2-PFTeDA | 1.250     | 1.099      | -12.1 | 87.9   |
| 13C3-PFBS   | 2.500     | 2.549      | 2.0   | 102.0  |
| 13C3-PFHxS  | 2.500     | 2.448      | -2.1  | 97.9   |
| 13C4-PFBA   | 10.000    | 9.946      | -0.5  | 99.5   |
| 13C4-PFHpA  | 2.500     | 2.602      | 4.1   | 104.1  |
| 13C5-PFHxA  | 2.500     | 2.572      | 2.9   | 102.9  |
| 13C5-PFPeA  | 5.000     | 5.201      | 4.0   | 104.0  |
| 13C6-PFDA   | 1.250     | 1.182      | -5.4  | 94.6   |
| 13C7-PFUnDA | 1.250     | 1.231      | -1.5  | 98.5   |
| 13C8-FOSA   | 2.500     | 2.444      | -2.2  | 97.8   |
| 13C8-PFOA   | 2.500     | 2.512      | 0.5   | 100.5  |
| 13C8-PFOS   | 2.500     | 2.445      | -2.2  | 97.8   |
| 13C9-PFNA   | 1.250     | 1.163      | -6.9  | 93.1   |
| 4:2FTS      | 9.375     | 8.378      | -10.6 | 89.4   |
| 6:2FTS      | 9.500     | 8.452      | -11.0 | 89.0   |
| 8:2FTS      | 9.600     | 8.109      | -15.5 | 84.5   |
| d3-MeFOSAA  | 5.000     | 4.890      | -2.2  | 97.8   |
| EtFOSAA     | 2.500     | 2.281      | -8.8  | 91.2   |
| FOSA        | 2.500     | 2.187      | -12.5 | 87.5   |
| MeFOSAA     | 2.500     | 2.461      | -1.6  | 98.4   |
| PFBA        | 10.000    | 8.865      | -11.3 | 88.7   |
| PFBS        | 2.218     | 1.927      | -13.1 | 86.9   |
| PFDA        | 2.500     | 2.339      | -6.4  | 93.6   |
| PFDoDA      | 2.500     | 2.184      | -12.6 | 87.4   |
| PFDS        | 2.413     | 2.068      | -14.3 | 85.7   |
| PFHpA       | 2.500     | 2.088      | -16.5 | 83.5   |
| PFHpS       | 2.383     | 2.085      | -12.5 | 87.5   |
| PFHxA       | 2.500     | 2.079      | -16.8 | 83.2   |
| PFHxS       | 2.285     | 2.088      | -8.6  | 91.4   |
| PFNA        | 2.500     | 2.372      | -5.1  | 94.9   |
| PFNS        | 2.405     | 2.193      | -8.8  | 91.2   |
| PFOA        | 2.500     | 2.197      | -12.1 | 87.9   |
| PFOS        | 2.320     | 2.033      | -12.3 | 87.7   |

# Initial Calibration Verification

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICV274  
 Lab FileID: 6Q18236.D

|              |        |          |       |       |
|--------------|--------|----------|-------|-------|
| PFPeA        | 5.000  | 4.300    | -14.0 | 86.0  |
| PFPeS        | 2.353  | 2.119    | -9.9  | 90.1  |
| PFTeDA       | 2.500  | 2.330    | -6.8  | 93.2  |
| PFTrDA       | 2.500  | 2.175    | -13.0 | 87.0  |
| PFUnDA       | 2.500  | 2.122    | -15.1 | 84.9  |
| M4-PFBA      | ---    | --ISTD-- |       |       |
| M5-PFPeA     | ---    | --ISTD-- |       |       |
| M5-PFHxA     | ---    | --ISTD-- |       |       |
| M4-PFHpA     | ---    | --ISTD-- |       |       |
| M8-PFOA      | ---    | --ISTD-- |       |       |
| M9-PFNA      | ---    | --ISTD-- |       |       |
| M6-PFDA      | ---    | --ISTD-- |       |       |
| M7-PFUnDA    | ---    | --ISTD-- |       |       |
| M2-PFDoDA    | ---    | --ISTD-- |       |       |
| M2-PFTeDA    | ---    | --ISTD-- |       |       |
| M8-FOSA      | ---    | --ISTD-- |       |       |
| M3-PFBS      | ---    | --ISTD-- |       |       |
| M3-PFHxS     | ---    | --ISTD-- |       |       |
| M8-PFOS      | ---    | --ISTD-- |       |       |
| M2-4:2FTS    | ---    | --ISTD-- |       |       |
| M2-6:2FTS    | ---    | --ISTD-- |       |       |
| M2-8:2FTS    | ---    | --ISTD-- |       |       |
| M3-MeFOSAA   | ---    | --ISTD-- |       |       |
| 11C1-PF3OUdS | 4.725  | 4.031    | -14.7 | 85.3  |
| 13C3-HFPO-DA | 10.000 | 10.187   | 1.9   | 101.9 |
| 9C1-PF3ONS   | 4.675  | 4.061    | -13.1 | 86.9  |
| ADONA        | 4.725  | 4.267    | -9.7  | 90.3  |
| HFPO-DA      | 5.000  | 4.330    | -13.4 | 86.6  |
| M3-HFPO-DA   | ---    | --ISTD-- |       |       |
| 3:3FTCA      | 12.480 | 10.562   | -15.4 | 84.6  |
| 5:3FTCA      | 62.400 | 55.664   | -10.8 | 89.2  |
| 7:3FTCA      | 62.400 | 55.391   | -11.2 | 88.8  |
| d3-MeFOSA    | 2.500  | 2.400    | -4.0  | 96.0  |
| M5-EtFOSAA   | ---    | --ISTD-- |       |       |
| M7-MeFOSE    | ---    | --ISTD-- |       |       |
| M9-EtFOSE    | ---    | --ISTD-- |       |       |
| M5-EtFOSA    | ---    | --ISTD-- |       |       |
| EtFOSA       | 5.000  | 4.329    | -13.4 | 86.6  |
| EtFOSE       | 12.500 | 11.459   | -8.3  | 91.7  |
| MeFOSA       | 5.000  | 4.354    | -12.9 | 87.1  |
| MeFOSE       | 12.500 | 11.379   | -9.0  | 91.0  |
| PFDoDS       | 2.425  | 2.045    | -15.7 | 84.3  |
| M3-MeFOSA    | ---    | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000  | 4.748    | -5.0  | 95.0  |
| d7-MeFOSE    | 25.000 | 21.178   | -15.3 | 84.7  |
| d9-EtFOSE    | 25.000 | 22.059   | -11.8 | 88.2  |
| d5-EtFOSA    | 2.500  | 2.362    | -5.5  | 94.5  |
| NFDHA        | 5.000  | 4.344    | -13.1 | 86.9  |
| PFMBA        | 5.000  | 4.140    | -17.2 | 82.8  |
| PFMPA        | 5.000  | 4.184    | -16.3 | 83.7  |
| 13C4-PFOS    | ---    | --ISTD-- |       |       |
| 13C3-PFBA    | ---    | --ISTD-- |       |       |
| 18O2-PFHxS   | ---    | --ISTD-- |       |       |
| 13C4-PFOA    | ---    | --ISTD-- |       |       |
| 13C2-PFDA    | ---    | --ISTD-- |       |       |
| 13C5-PFNA    | ---    | --ISTD-- |       |       |
| 13C2-PFHxA   | ---    | --ISTD-- |       |       |
| PFEESA       | 4.450  | 3.718    | -16.5 | 83.5  |

CC Criteria: +/- 30%

**Initial Calibration Verification**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICV274  
 Lab FileID: 6Q18237.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18237  
 Type : QC  
 Level : 20

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.010      | 0.2   | 100.2  |
| 13C2-6:2FTS | 5.000     | 4.788      | -4.2  | 95.8   |
| 13C2-8:2FTS | 5.000     | 5.070      | 1.4   | 101.4  |
| 13C2-PFDoDA | 1.250     | 1.349      | 8.0   | 108.0  |
| 13C2-PFTeDA | 1.250     | 1.284      | 2.7   | 102.7  |
| 13C3-PFBS   | 2.500     | 2.436      | -2.5  | 97.5   |
| 13C3-PFHxS  | 2.500     | 2.546      | 1.9   | 101.9  |
| 13C4-PFBA   | 10.000    | 9.977      | -0.2  | 99.8   |
| 13C4-PFHpA  | 2.500     | 2.568      | 2.7   | 102.7  |
| 13C5-PFHxA  | 2.500     | 2.509      | 0.4   | 100.4  |
| 13C5-PFPeA  | 5.000     | 5.196      | 3.9   | 103.9  |
| 13C6-PFDA   | 1.250     | 1.398      | 11.9  | 111.9  |
| 13C7-PFUnDA | 1.250     | 1.369      | 9.5   | 109.5  |
| 13C8-FOSA   | 2.500     | 2.403      | -3.9  | 96.1   |
| 13C8-PFOA   | 2.500     | 2.528      | 1.1   | 101.1  |
| 13C8-PFOS   | 2.500     | 2.558      | 2.3   | 102.3  |
| 13C9-PFNA   | 1.250     | 1.224      | -2.1  | 97.9   |
| 4:2FTS      | 20.000    | 22.280     | 11.4  | 111.4  |
| 6:2FTS      | 20.000    | 21.565     | 7.8   | 107.8  |
| 8:2FTS      | 20.000    | 21.172     | 5.9   | 105.9  |
| d3-MeFOSAA  | 5.000     | 5.023      | 0.5   | 100.5  |
| EtFOSAA     | 20.000    | 22.235     | 11.2  | 111.2  |
| FOSA        | 20.000    | 22.728     | 13.6  | 113.6  |
| MeFOSAA     | 20.000    | 22.920     | 14.6  | 114.6  |
| PFBA        | 20.000    | 21.268     | 6.3   | 106.3  |
| PFBS        | 20.000    | 22.510     | 12.6  | 112.6  |
| PFDA        | 20.000    | 20.236     | 1.2   | 101.2  |
| PFDoDA      | 20.000    | 17.831     | -10.8 | 89.2   |
| PFDS        | 20.000    | 20.554     | 2.8   | 102.8  |
| PFHpA       | 20.000    | 21.548     | 7.7   | 107.7  |
| PFHpS       | 20.000    | 22.008     | 10.0  | 110.0  |
| PFHxA       | 20.000    | 22.846     | 14.2  | 114.2  |
| PFHxS       | 20.000    | 21.627     | 8.1   | 108.1  |
| PFNA        | 20.000    | 24.334     | 21.7  | 121.7  |
| PFNS        | 20.000    | 22.021     | 10.1  | 110.1  |
| PFOA        | 20.000    | 22.375     | 11.9  | 111.9  |
| PFOS        | 20.000    | 18.333     | -8.3  | 91.7   |

# Initial Calibration Verification

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ICV274  
 Lab FileID: 6Q18237.D

|              |         |          |       |       |
|--------------|---------|----------|-------|-------|
| PFPeA        | 20.000  | 23.126   | 15.6  | 115.6 |
| PFPeS        | 20.000  | 21.949   | 9.7   | 109.7 |
| PFTeDA       | 20.000  | 23.562   | 17.8  | 117.8 |
| PFTTrDA      | 20.000  | 19.267   | -3.7  | 96.3  |
| PFUnDA       | 20.000  | 20.304   | 1.5   | 101.5 |
| M4-PFBA      | ---     | --ISTD-- |       |       |
| M5-PFPeA     | ---     | --ISTD-- |       |       |
| M5-PFHxA     | ---     | --ISTD-- |       |       |
| M4-PFHpA     | ---     | --ISTD-- |       |       |
| M8-PFOA      | ---     | --ISTD-- |       |       |
| M9-PFNA      | ---     | --ISTD-- |       |       |
| M6-PFDA      | ---     | --ISTD-- |       |       |
| M7-PFUnDA    | ---     | --ISTD-- |       |       |
| M2-PFDoDA    | ---     | --ISTD-- |       |       |
| M2-PFTeDA    | ---     | --ISTD-- |       |       |
| M8-FOSA      | ---     | --ISTD-- |       |       |
| M3-PFBS      | ---     | --ISTD-- |       |       |
| M3-PFHxS     | ---     | --ISTD-- |       |       |
| M8-PFOS      | ---     | --ISTD-- |       |       |
| M2-4:2FTS    | ---     | --ISTD-- |       |       |
| M2-6:2FTS    | ---     | --ISTD-- |       |       |
| M2-8:2FTS    | ---     | --ISTD-- |       |       |
| M3-MeFOSAA   | ---     | --ISTD-- |       |       |
| 11C1-PF3OUdS | 20.000  | 22.063   | 10.3  | 110.3 |
| 13C3-HFPO-DA | 10.000  | 10.536   | 5.4   | 105.4 |
| 9C1-PF3ONS   | 20.000  | 21.300   | 6.5   | 106.5 |
| ADONA        | 20.000  | 21.338   | 6.7   | 106.7 |
| HFPO-DA      | 20.000  | 20.175   | 0.9   | 100.9 |
| M3-HFPO-DA   | ---     | --ISTD-- |       |       |
| 3:3FTCA      | 20.000  | 21.251   | 6.3   | 106.3 |
| 5:3FTCA      | 20.000  | 22.882   | 14.4  | 114.4 |
| 7:3FTCA      | 20.000  | 23.227   | 16.1  | 116.1 |
| d3-MeFOSA    | 2.500   | 2.555    | 2.2   | 102.2 |
| M5-EtFOSAA   | ---     | --ISTD-- |       |       |
| M7-MeFOSE    | ---     | --ISTD-- |       |       |
| M9-EtFOSE    | ---     | --ISTD-- |       |       |
| M5-EtFOSA    | ---     | --ISTD-- |       |       |
| EtFOSA       | 20.000  | 21.748   | 8.7   | 108.7 |
| EtFOSE       | 100.000 | 110.991  | 11.0  | 111.0 |
| MeFOSA       | 20.000  | 20.051   | 0.3   | 100.3 |
| MeFOSE       | 100.000 | 113.458  | 13.5  | 113.5 |
| PFDoDS       | 20.000  | 19.044   | -4.8  | 95.2  |
| M3-MeFOSA    | ---     | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000   | 4.950    | -1.0  | 99.0  |
| d7-MeFOSE    | 25.000  | 22.453   | -10.2 | 89.8  |
| d9-EtFOSE    | 25.000  | 24.194   | -3.2  | 96.8  |
| d5-EtFOSA    | 2.500   | 2.366    | -5.4  | 94.6  |
| NFDHA        | 20.000  | 22.874   | 14.4  | 114.4 |
| PFMBA        | 20.000  | 22.002   | 10.0  | 110.0 |
| PFMPA        | 20.000  | 21.742   | 8.7   | 108.7 |
| 13C4-PFOS    | ---     | --ISTD-- |       |       |
| 13C3-PFBA    | ---     | --ISTD-- |       |       |
| 18O2-PFHxS   | ---     | --ISTD-- |       |       |
| 13C4-PFOA    | ---     | --ISTD-- |       |       |
| 13C2-PFDA    | ---     | --ISTD-- |       |       |
| 13C5-PFNA    | ---     | --ISTD-- |       |       |
| 13C2-PFHxA   | ---     | --ISTD-- |       |       |
| PFEEESA      | 20.000  | 19.364   | -3.2  | 96.8  |

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18238.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18238  
 Type : QC  
 Level : 4

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.021      | 0.4   | 100.4  |
| 13C2-6:2FTS | 5.000     | 5.180      | 3.6   | 103.6  |
| 13C2-8:2FTS | 5.000     | 5.293      | 5.9   | 105.9  |
| 13C2-PFDoDA | 1.250     | 1.206      | -3.5  | 96.5   |
| 13C2-PFTeDA | 1.250     | 1.126      | -9.9  | 90.1   |
| 13C3-PFBS   | 2.500     | 2.472      | -1.1  | 98.9   |
| 13C3-PFHxS  | 2.500     | 2.388      | -4.5  | 95.5   |
| 13C4-PFBA   | 10.000    | 9.995      | -0.1  | 99.9   |
| 13C4-PFHpA  | 2.500     | 2.511      | 0.4   | 100.4  |
| 13C5-PFHxA  | 2.500     | 2.597      | 3.9   | 103.9  |
| 13C5-PFPeA  | 5.000     | 5.177      | 3.5   | 103.5  |
| 13C6-PFDA   | 1.250     | 1.214      | -2.9  | 97.1   |
| 13C7-PFUnDA | 1.250     | 1.327      | 6.1   | 106.1  |
| 13C8-FOSA   | 2.500     | 2.498      | -0.1  | 99.9   |
| 13C8-PFOA   | 2.500     | 2.455      | -1.8  | 98.2   |
| 13C8-PFOS   | 2.500     | 2.508      | 0.3   | 100.3  |
| 13C9-PFNA   | 1.250     | 1.154      | -7.7  | 92.3   |
| 4:2FTS      | 9.375     | 9.424      | 0.5   | 100.5  |
| 6:2FTS      | 9.500     | 9.135      | -3.8  | 96.2   |
| 8:2FTS      | 9.600     | 9.375      | -2.3  | 97.7   |
| d3-MeFOSAA  | 5.000     | 4.762      | -4.8  | 95.2   |
| EtFOSAA     | 2.500     | 2.420      | -3.2  | 96.8   |
| FOSA        | 2.500     | 2.408      | -3.7  | 96.3   |
| MeFOSAA     | 2.500     | 2.537      | 1.5   | 101.5  |
| PFBA        | 10.000    | 9.680      | -3.2  | 96.8   |
| PFBS        | 2.218     | 2.141      | -3.5  | 96.5   |
| PFDA        | 2.500     | 2.547      | 1.9   | 101.9  |
| PFDoDA      | 2.500     | 2.397      | -4.1  | 95.9   |
| PFDS        | 2.413     | 2.298      | -4.8  | 95.2   |
| PFHpA       | 2.500     | 2.396      | -4.1  | 95.9   |
| PFHpS       | 2.383     | 2.177      | -8.6  | 91.4   |
| PFHxA       | 2.500     | 2.329      | -6.8  | 93.2   |
| PFHxS       | 2.285     | 2.241      | -1.9  | 98.1   |
| PFNA        | 2.500     | 2.434      | -2.7  | 97.3   |
| PFNS        | 2.405     | 2.356      | -2.1  | 97.9   |
| PFOA        | 2.500     | 2.505      | 0.2   | 100.2  |
| PFOS        | 2.320     | 2.141      | -7.7  | 92.3   |

# Continuing Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18238.D

|              |        |          |       |       |
|--------------|--------|----------|-------|-------|
| PFPeA        | 5.000  | 4.793    | -4.1  | 95.9  |
| PFPeS        | 2.353  | 2.340    | -0.6  | 99.4  |
| PFTeDA       | 2.500  | 2.555    | 2.2   | 102.2 |
| PFTTrDA      | 2.500  | 2.450    | -2.0  | 98.0  |
| PFUnDA       | 2.500  | 2.214    | -11.4 | 88.6  |
| M4-PFBA      | ---    | --ISTD-- |       |       |
| M5-PFPeA     | ---    | --ISTD-- |       |       |
| M5-PFHxA     | ---    | --ISTD-- |       |       |
| M4-PFHpA     | ---    | --ISTD-- |       |       |
| M8-PFOA      | ---    | --ISTD-- |       |       |
| M9-PFNA      | ---    | --ISTD-- |       |       |
| M6-PFDA      | ---    | --ISTD-- |       |       |
| M7-PFUnDA    | ---    | --ISTD-- |       |       |
| M2-PFDoDA    | ---    | --ISTD-- |       |       |
| M2-PFTeDA    | ---    | --ISTD-- |       |       |
| M8-FOSA      | ---    | --ISTD-- |       |       |
| M3-PFBS      | ---    | --ISTD-- |       |       |
| M3-PFHxS     | ---    | --ISTD-- |       |       |
| M8-PFOS      | ---    | --ISTD-- |       |       |
| M2-4:2FTS    | ---    | --ISTD-- |       |       |
| M2-6:2FTS    | ---    | --ISTD-- |       |       |
| M2-8:2FTS    | ---    | --ISTD-- |       |       |
| M3-MeFOSAA   | ---    | --ISTD-- |       |       |
| 11C1-PF3OUdS | 4.725  | 4.648    | -1.6  | 98.4  |
| 13C3-HFPO-DA | 10.000 | 9.954    | -0.5  | 99.5  |
| 9C1-PF3ONS   | 4.675  | 4.642    | -0.7  | 99.3  |
| ADONA        | 4.725  | 4.782    | 1.2   | 101.2 |
| HFPO-DA      | 5.000  | 4.949    | -1.0  | 99.0  |
| M3-HFPO-DA   | ---    | --ISTD-- |       |       |
| 3:3FTCA      | 12.480 | 11.881   | -4.8  | 95.2  |
| 5:3FTCA      | 62.400 | 59.348   | -4.9  | 95.1  |
| 7:3FTCA      | 62.400 | 60.128   | -3.6  | 96.4  |
| d3-MeFOSA    | 2.500  | 2.435    | -2.6  | 97.4  |
| M5-EtFOSAA   | ---    | --ISTD-- |       |       |
| M7-MeFOSE    | ---    | --ISTD-- |       |       |
| M9-EtFOSE    | ---    | --ISTD-- |       |       |
| M5-EtFOSA    | ---    | --ISTD-- |       |       |
| EtFOSA       | 5.000  | 4.849    | -3.0  | 97.0  |
| EtFOSE       | 12.500 | 12.110   | -3.1  | 96.9  |
| MeFOSA       | 5.000  | 4.677    | -6.5  | 93.5  |
| MeFOSE       | 12.500 | 12.080   | -3.4  | 96.6  |
| PFDoDS       | 2.425  | 2.271    | -6.4  | 93.6  |
| M3-MeFOSA    | ---    | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000  | 4.921    | -1.6  | 98.4  |
| d7-MeFOSE    | 25.000 | 23.527   | -5.9  | 94.1  |
| d9-EtFOSE    | 25.000 | 23.875   | -4.5  | 95.5  |
| d5-EtFOSA    | 2.500  | 2.393    | -4.3  | 95.7  |
| NFDHA        | 5.000  | 4.855    | -2.9  | 97.1  |
| PFMBA        | 5.000  | 4.795    | -4.1  | 95.9  |
| PFMPA        | 5.000  | 4.767    | -4.7  | 95.3  |
| 13C4-PFOS    | ---    | --ISTD-- |       |       |
| 13C3-PFBA    | ---    | --ISTD-- |       |       |
| 18O2-PFHxS   | ---    | --ISTD-- |       |       |
| 13C4-PFOA    | ---    | --ISTD-- |       |       |
| 13C2-PFDA    | ---    | --ISTD-- |       |       |
| 13C5-PFNA    | ---    | --ISTD-- |       |       |
| 13C2-PFHxA   | ---    | --ISTD-- |       |       |
| PFEEESA      | 4.450  | 4.199    | -5.6  | 94.4  |

CC Criteria: +/- 30%



**Continuing Calibration Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18239.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18239  
 Type : QC  
 Level : 1

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.567      | 11.3  | 111.3  |
| 13C2-6:2FTS | 5.000     | 5.652      | 13.0  | 113.0  |
| 13C2-8:2FTS | 5.000     | 5.888      | 17.8  | 117.8  |
| 13C2-PFDoDA | 1.250     | 1.233      | -1.4  | 98.6   |
| 13C2-PFTeDA | 1.250     | 1.137      | -9.0  | 91.0   |
| 13C3-PFBS   | 2.500     | 2.760      | 10.4  | 110.4  |
| 13C3-PFHxS  | 2.500     | 2.710      | 8.4   | 108.4  |
| 13C4-PFBA   | 10.000    | 9.903      | -1.0  | 99.0   |
| 13C4-PFHpA  | 2.500     | 2.571      | 2.8   | 102.8  |
| 13C5-PFHxA  | 2.500     | 2.577      | 3.1   | 103.1  |
| 13C5-PFPeA  | 5.000     | 5.179      | 3.6   | 103.6  |
| 13C6-PFDA   | 1.250     | 1.113      | -10.9 | 89.1   |
| 13C7-PFUnDA | 1.250     | 1.277      | 2.2   | 102.2  |
| 13C8-FOSA   | 2.500     | 2.476      | -1.0  | 99.0   |
| 13C8-PFOA   | 2.500     | 2.408      | -3.7  | 96.3   |
| 13C8-PFOS   | 2.500     | 2.513      | 0.5   | 100.5  |
| 13C9-PFNA   | 1.250     | 1.344      | 7.5   | 107.5  |
| 4:2FTS      | 0.750     | 0.664      | -11.5 | 88.5   |
| 6:2FTS      | 0.760     | 0.746      | -1.9  | 98.1   |
| 8:2FTS      | 0.768     | 0.766      | -0.3  | 99.7   |
| d3-MeFOSAA  | 5.000     | 5.216      | 4.3   | 104.3  |
| EtFOSAA     | 0.200     | 0.152      | -24.0 | 76.0   |
| FOSA        | 0.200     | 0.199      | -0.3  | 99.7   |
| MeFOSAA     | 0.200     | 0.197      | -1.3  | 98.7   |
| PFBA        | 0.800     | 0.750      | -6.2  | 93.8   |
| PFBS        | 0.177     | 0.161      | -8.8  | 91.2   |
| PFDA        | 0.200     | 0.202      | 1.1   | 101.1  |
| PFDoDA      | 0.200     | 0.207      | 3.5   | 103.5  |
| PFDS        | 0.193     | 0.177      | -8.2  | 91.8   |
| PFHpA       | 0.200     | 0.194      | -2.9  | 97.1   |
| PFHpS       | 0.191     | 0.195      | 2.3   | 102.3  |
| PFHxA       | 0.200     | 0.196      | -1.8  | 98.2   |
| PFHxS       | 0.183     | 0.167      | -9.0  | 91.0   |
| PFNA        | 0.200     | 0.177      | -11.3 | 88.7   |
| PFNS        | 0.192     | 0.191      | -0.3  | 99.7   |
| PFOA        | 0.200     | 0.186      | -6.8  | 93.2   |
| PFOS        | 0.186     | 0.177      | -5.0  | 95.0   |

# Continuing Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18239.D

|              |        |          |      |       |
|--------------|--------|----------|------|-------|
| PFPeA        | 0.400  | 0.383    | -4.3 | 95.7  |
| PFPeS        | 0.188  | 0.186    | -1.0 | 99.0  |
| PFTeDA       | 0.200  | 0.221    | 10.6 | 110.6 |
| PFTTrDA      | 0.200  | 0.190    | -5.2 | 94.8  |
| PFUnDA       | 0.200  | 0.181    | -9.3 | 90.7  |
| M4-PFBA      | ---    | --ISTD-- |      |       |
| M5-PFPeA     | ---    | --ISTD-- |      |       |
| M5-PFHxA     | ---    | --ISTD-- |      |       |
| M4-PFHpA     | ---    | --ISTD-- |      |       |
| M8-PFOA      | ---    | --ISTD-- |      |       |
| M9-PFNA      | ---    | --ISTD-- |      |       |
| M6-PFDA      | ---    | --ISTD-- |      |       |
| M7-PFUnDA    | ---    | --ISTD-- |      |       |
| M2-PFDoDA    | ---    | --ISTD-- |      |       |
| M2-PFTeDA    | ---    | --ISTD-- |      |       |
| M8-FOSA      | ---    | --ISTD-- |      |       |
| M3-PFBS      | ---    | --ISTD-- |      |       |
| M3-PFHxS     | ---    | --ISTD-- |      |       |
| M8-PFOS      | ---    | --ISTD-- |      |       |
| M2-4:2FTS    | ---    | --ISTD-- |      |       |
| M2-6:2FTS    | ---    | --ISTD-- |      |       |
| M2-8:2FTS    | ---    | --ISTD-- |      |       |
| M3-MeFOSAA   | ---    | --ISTD-- |      |       |
| 11C1-PF3OUdS | 0.378  | 0.384    | 1.6  | 101.6 |
| 13C3-HFPO-DA | 10.000 | 10.124   | 1.2  | 101.2 |
| 9C1-PF3ONS   | 0.367  | 0.373    | 1.5  | 101.5 |
| ADONA        | 0.378  | 0.366    | -3.1 | 96.9  |
| HFPO-DA      | 0.400  | 0.389    | -2.8 | 97.2  |
| M3-HFPO-DA   | ---    | --ISTD-- |      |       |
| 3:3FTCA      | 0.998  | 0.985    | -1.4 | 98.6  |
| 5:3FTCA      | 4.992  | 5.126    | 2.7  | 102.7 |
| 7:3FTCA      | 4.992  | 5.192    | 4.0  | 104.0 |
| d3-MeFOSA    | 2.500  | 2.454    | -1.9 | 98.1  |
| M5-EtFOSAA   | ---    | --ISTD-- |      |       |
| M7-MeFOSE    | ---    | --ISTD-- |      |       |
| M9-EtFOSE    | ---    | --ISTD-- |      |       |
| M5-EtFOSA    | ---    | --ISTD-- |      |       |
| EtFOSA       | 0.400  | 0.395    | -1.2 | 98.8  |
| EtFOSE       | 1.000  | 0.931    | -6.9 | 93.1  |
| MeFOSA       | 0.400  | 0.402    | 0.6  | 100.6 |
| MeFOSE       | 1.000  | 1.002    | 0.2  | 100.2 |
| PFDoDS       | 0.194  | 0.183    | -5.7 | 94.3  |
| M3-MeFOSA    | ---    | --ISTD-- |      |       |
| d5-EtFOSAA   | 5.000  | 5.225    | 4.5  | 104.5 |
| d7-MeFOSE    | 25.000 | 23.625   | -5.5 | 94.5  |
| d9-EtFOSE    | 25.000 | 25.370   | 1.5  | 101.5 |
| d5-EtFOSA    | 2.500  | 2.515    | 0.6  | 100.6 |
| NFDHA        | 0.400  | 0.402    | 0.6  | 100.6 |
| PFMBA        | 0.400  | 0.378    | -5.4 | 94.6  |
| PFMPA        | 0.400  | 0.381    | -4.9 | 95.1  |
| 13C4-PFOS    | ---    | --ISTD-- |      |       |
| 13C3-PFBA    | ---    | --ISTD-- |      |       |
| 18O2-PFHxS   | ---    | --ISTD-- |      |       |
| 13C4-PFOA    | ---    | --ISTD-- |      |       |
| 13C2-PFDA    | ---    | --ISTD-- |      |       |
| 13C5-PFNA    | ---    | --ISTD-- |      |       |
| 13C2-PFHxA   | ---    | --ISTD-- |      |       |
| PFEEESA      | 0.356  | 0.338    | -5.0 | 95.0  |

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18250.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18250  
 Type : QC  
 Level : 4

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.205      | 4.1   | 104.1  |
| 13C2-6:2FTS | 5.000     | 5.287      | 5.7   | 105.7  |
| 13C2-8:2FTS | 5.000     | 5.750      | 15.0  | 115.0  |
| 13C2-PFDoDA | 1.250     | 1.245      | -0.4  | 99.6   |
| 13C2-PFTeDA | 1.250     | 1.137      | -9.0  | 91.0   |
| 13C3-PFBS   | 2.500     | 2.433      | -2.7  | 97.3   |
| 13C3-PFHxS  | 2.500     | 2.472      | -1.1  | 98.9   |
| 13C4-PFBA   | 10.000    | 9.870      | -1.3  | 98.7   |
| 13C4-PFHpA  | 2.500     | 2.586      | 3.4   | 103.4  |
| 13C5-PFHxA  | 2.500     | 2.609      | 4.3   | 104.3  |
| 13C5-PFPeA  | 5.000     | 5.222      | 4.4   | 104.4  |
| 13C6-PFDA   | 1.250     | 1.229      | -1.7  | 98.3   |
| 13C7-PFUnDA | 1.250     | 1.200      | -4.0  | 96.0   |
| 13C8-FOSA   | 2.500     | 2.439      | -2.5  | 97.5   |
| 13C8-PFOA   | 2.500     | 2.505      | 0.2   | 100.2  |
| 13C8-PFOS   | 2.500     | 2.243      | -10.3 | 89.7   |
| 13C9-PFNA   | 1.250     | 1.346      | 7.7   | 107.7  |
| 4:2FTS      | 9.375     | 9.396      | 0.2   | 100.2  |
| 6:2FTS      | 9.500     | 9.266      | -2.5  | 97.5   |
| 8:2FTS      | 9.600     | 9.076      | -5.5  | 94.5   |
| d3-MeFOSAA  | 5.000     | 5.128      | 2.6   | 102.6  |
| EtFOSAA     | 2.500     | 2.293      | -8.3  | 91.7   |
| FOSA        | 2.500     | 2.448      | -2.1  | 97.9   |
| MeFOSAA     | 2.500     | 2.575      | 3.0   | 103.0  |
| PFBA        | 10.000    | 9.699      | -3.0  | 97.0   |
| PFBS        | 2.218     | 2.046      | -7.7  | 92.3   |
| PFDA        | 2.500     | 2.276      | -9.0  | 91.0   |
| PFDoDA      | 2.500     | 2.296      | -8.2  | 91.8   |
| PFDS        | 2.413     | 2.437      | 1.0   | 101.0  |
| PFHpA       | 2.500     | 2.266      | -9.4  | 90.6   |
| PFHpS       | 2.383     | 2.455      | 3.0   | 103.0  |
| PFHxA       | 2.500     | 2.409      | -3.6  | 96.4   |
| PFHxS       | 2.285     | 2.143      | -6.2  | 93.8   |
| PFNA        | 2.500     | 2.276      | -8.9  | 91.1   |
| PFNS        | 2.405     | 2.452      | 1.9   | 101.9  |
| PFOA        | 2.500     | 2.444      | -2.2  | 97.8   |
| PFOS        | 2.320     | 2.360      | 1.7   | 101.7  |

# Continuing Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18250.D

|              |        |          |       |       |
|--------------|--------|----------|-------|-------|
| PFPeA        | 5.000  | 4.729    | -5.4  | 94.6  |
| PFPeS        | 2.353  | 2.240    | -4.8  | 95.2  |
| PFTeDA       | 2.500  | 2.545    | 1.8   | 101.8 |
| PFTTrDA      | 2.500  | 2.292    | -8.3  | 91.7  |
| PFUnDA       | 2.500  | 2.445    | -2.2  | 97.8  |
| M4-PFBA      | ---    | --ISTD-- |       |       |
| M5-PFPeA     | ---    | --ISTD-- |       |       |
| M5-PFHxA     | ---    | --ISTD-- |       |       |
| M4-PFHpA     | ---    | --ISTD-- |       |       |
| M8-PFOA      | ---    | --ISTD-- |       |       |
| M9-PFNA      | ---    | --ISTD-- |       |       |
| M6-PFDA      | ---    | --ISTD-- |       |       |
| M7-PFUnDA    | ---    | --ISTD-- |       |       |
| M2-PFDoDA    | ---    | --ISTD-- |       |       |
| M2-PFTeDA    | ---    | --ISTD-- |       |       |
| M8-FOSA      | ---    | --ISTD-- |       |       |
| M3-PFBS      | ---    | --ISTD-- |       |       |
| M3-PFHxS     | ---    | --ISTD-- |       |       |
| M8-PFOS      | ---    | --ISTD-- |       |       |
| M2-4:2FTS    | ---    | --ISTD-- |       |       |
| M2-6:2FTS    | ---    | --ISTD-- |       |       |
| M2-8:2FTS    | ---    | --ISTD-- |       |       |
| M3-MeFOSAA   | ---    | --ISTD-- |       |       |
| 11C1-PF3OUdS | 4.725  | 4.780    | 1.2   | 101.2 |
| 13C3-HFPO-DA | 10.000 | 10.102   | 1.0   | 101.0 |
| 9C1-PF3ONS   | 4.675  | 4.521    | -3.3  | 96.7  |
| ADONA        | 4.725  | 4.740    | 0.3   | 100.3 |
| HFPO-DA      | 5.000  | 4.836    | -3.3  | 96.7  |
| M3-HFPO-DA   | ---    | --ISTD-- |       |       |
| 3:3FTCA      | 12.480 | 11.698   | -6.3  | 93.7  |
| 5:3FTCA      | 62.400 | 59.544   | -4.6  | 95.4  |
| 7:3FTCA      | 62.400 | 62.170   | -0.4  | 99.6  |
| d3-MeFOSA    | 2.500  | 2.260    | -9.6  | 90.4  |
| M5-EtFOSAA   | ---    | --ISTD-- |       |       |
| M7-MeFOSE    | ---    | --ISTD-- |       |       |
| M9-EtFOSE    | ---    | --ISTD-- |       |       |
| M5-EtFOSA    | ---    | --ISTD-- |       |       |
| EtFOSA       | 5.000  | 4.627    | -7.5  | 92.5  |
| EtFOSE       | 12.500 | 12.276   | -1.8  | 98.2  |
| MeFOSA       | 5.000  | 5.028    | 0.6   | 100.6 |
| MeFOSE       | 12.500 | 12.240   | -2.1  | 97.9  |
| PFDoDS       | 2.425  | 2.382    | -1.8  | 98.2  |
| M3-MeFOSA    | ---    | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000  | 5.194    | 3.9   | 103.9 |
| d7-MeFOSE    | 25.000 | 21.625   | -13.5 | 86.5  |
| d9-EtFOSE    | 25.000 | 22.359   | -10.6 | 89.4  |
| d5-EtFOSA    | 2.500  | 2.385    | -4.6  | 95.4  |
| NFDHA        | 5.000  | 4.774    | -4.5  | 95.5  |
| PFMBA        | 5.000  | 4.756    | -4.9  | 95.1  |
| PFMPA        | 5.000  | 4.717    | -5.7  | 94.3  |
| 13C4-PFOS    | ---    | --ISTD-- |       |       |
| 13C3-PFBA    | ---    | --ISTD-- |       |       |
| 18O2-PFHxS   | ---    | --ISTD-- |       |       |
| 13C4-PFOA    | ---    | --ISTD-- |       |       |
| 13C2-PFDA    | ---    | --ISTD-- |       |       |
| 13C5-PFNA    | ---    | --ISTD-- |       |       |
| 13C2-PFHxA   | ---    | --ISTD-- |       |       |
| PFEEESA      | 4.450  | 4.149    | -6.8  | 93.2  |

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18262.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18262  
 Type : QC  
 Level : 4

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.526      | 10.5  | 110.5  |
| 13C2-6:2FTS | 5.000     | 5.613      | 12.3  | 112.3  |
| 13C2-8:2FTS | 5.000     | 5.984      | 19.7  | 119.7  |
| 13C2-PFDoDA | 1.250     | 1.176      | -5.9  | 94.1   |
| 13C2-PFTeDA | 1.250     | 1.145      | -8.4  | 91.6   |
| 13C3-PFBS   | 2.500     | 2.463      | -1.5  | 98.5   |
| 13C3-PFHxS  | 2.500     | 2.487      | -0.5  | 99.5   |
| 13C4-PFBA   | 10.000    | 10.038     | 0.4   | 100.4  |
| 13C4-PFHpA  | 2.500     | 2.645      | 5.8   | 105.8  |
| 13C5-PFHxA  | 2.500     | 2.607      | 4.3   | 104.3  |
| 13C5-PFPeA  | 5.000     | 5.252      | 5.0   | 105.0  |
| 13C6-PFDA   | 1.250     | 1.209      | -3.3  | 96.7   |
| 13C7-PFUnDA | 1.250     | 1.252      | 0.2   | 100.2  |
| 13C8-FOSA   | 2.500     | 2.495      | -0.2  | 99.8   |
| 13C8-PFOA   | 2.500     | 2.501      | 0.1   | 100.1  |
| 13C8-PFOS   | 2.500     | 2.535      | 1.4   | 101.4  |
| 13C9-PFNA   | 1.250     | 1.171      | -6.3  | 93.7   |
| 4:2FTS      | 9.375     | 9.641      | 2.8   | 102.8  |
| 6:2FTS      | 9.500     | 9.894      | 4.1   | 104.1  |
| 8:2FTS      | 9.600     | 9.753      | 1.6   | 101.6  |
| d3-MeFOSAA  | 5.000     | 5.905      | 18.1  | 118.1  |
| EtFOSAA     | 2.500     | 2.419      | -3.2  | 96.8   |
| FOSA        | 2.500     | 2.364      | -5.4  | 94.6   |
| MeFOSAA     | 2.500     | 2.327      | -6.9  | 93.1   |
| PFBA        | 10.000    | 9.658      | -3.4  | 96.6   |
| PFBS        | 2.218     | 2.085      | -6.0  | 94.0   |
| PFDA        | 2.500     | 2.335      | -6.6  | 93.4   |
| PFDoDA      | 2.500     | 2.324      | -7.1  | 92.9   |
| PFDS        | 2.413     | 2.252      | -6.7  | 93.3   |
| PFHpA       | 2.500     | 2.381      | -4.8  | 95.2   |
| PFHpS       | 2.383     | 2.245      | -5.8  | 94.2   |
| PFHxA       | 2.500     | 2.344      | -6.2  | 93.8   |
| PFHxS       | 2.285     | 2.241      | -1.9  | 98.1   |
| PFNA        | 2.500     | 2.507      | 0.3   | 100.3  |
| PFNS        | 2.405     | 2.280      | -5.2  | 94.8   |
| PFOA        | 2.500     | 2.440      | -2.4  | 97.6   |
| PFOS        | 2.320     | 2.140      | -7.7  | 92.3   |

# Continuing Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-CC274  
 Lab FileID: 6Q18262.D

|              |        |          |       |       |
|--------------|--------|----------|-------|-------|
| PFPeA        | 5.000  | 4.809    | -3.8  | 96.2  |
| PFPeS        | 2.353  | 2.290    | -2.7  | 97.3  |
| PFTeDA       | 2.500  | 2.439    | -2.4  | 97.6  |
| PFTTrDA      | 2.500  | 2.365    | -5.4  | 94.6  |
| PFUnDA       | 2.500  | 2.223    | -11.1 | 88.9  |
| M4-PFBA      | ---    | --ISTD-- |       |       |
| M5-PFPeA     | ---    | --ISTD-- |       |       |
| M5-PFHxA     | ---    | --ISTD-- |       |       |
| M4-PFHpA     | ---    | --ISTD-- |       |       |
| M8-PFOA      | ---    | --ISTD-- |       |       |
| M9-PFNA      | ---    | --ISTD-- |       |       |
| M6-PFDA      | ---    | --ISTD-- |       |       |
| M7-PFUnDA    | ---    | --ISTD-- |       |       |
| M2-PFDoDA    | ---    | --ISTD-- |       |       |
| M2-PFTeDA    | ---    | --ISTD-- |       |       |
| M8-FOSA      | ---    | --ISTD-- |       |       |
| M3-PFBS      | ---    | --ISTD-- |       |       |
| M3-PFHxS     | ---    | --ISTD-- |       |       |
| M8-PFOS      | ---    | --ISTD-- |       |       |
| M2-4:2FTS    | ---    | --ISTD-- |       |       |
| M2-6:2FTS    | ---    | --ISTD-- |       |       |
| M2-8:2FTS    | ---    | --ISTD-- |       |       |
| M3-MeFOSAA   | ---    | --ISTD-- |       |       |
| 11C1-PF3OUdS | 4.725  | 4.594    | -2.8  | 97.2  |
| 13C3-HFPO-DA | 10.000 | 10.421   | 4.2   | 104.2 |
| 9C1-PF3ONS   | 4.675  | 4.631    | -0.9  | 99.1  |
| ADONA        | 4.725  | 4.756    | 0.7   | 100.7 |
| HFPO-DA      | 5.000  | 4.764    | -4.7  | 95.3  |
| M3-HFPO-DA   | ---    | --ISTD-- |       |       |
| 3:3FTCA      | 12.480 | 11.864   | -4.9  | 95.1  |
| 5:3FTCA      | 62.400 | 59.787   | -4.2  | 95.8  |
| 7:3FTCA      | 62.400 | 60.330   | -3.3  | 96.7  |
| d3-MeFOSA    | 2.500  | 2.471    | -1.2  | 98.8  |
| M5-EtFOSAA   | ---    | --ISTD-- |       |       |
| M7-MeFOSE    | ---    | --ISTD-- |       |       |
| M9-EtFOSE    | ---    | --ISTD-- |       |       |
| M5-EtFOSA    | ---    | --ISTD-- |       |       |
| EtFOSA       | 5.000  | 4.830    | -3.4  | 96.6  |
| EtFOSE       | 12.500 | 12.211   | -2.3  | 97.7  |
| MeFOSA       | 5.000  | 4.678    | -6.4  | 93.6  |
| MeFOSE       | 12.500 | 12.043   | -3.7  | 96.3  |
| PFDoDS       | 2.425  | 2.179    | -10.1 | 89.9  |
| M3-MeFOSA    | ---    | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000  | 5.645    | 12.9  | 112.9 |
| d7-MeFOSE    | 25.000 | 22.664   | -9.3  | 90.7  |
| d9-EtFOSE    | 25.000 | 22.696   | -9.2  | 90.8  |
| d5-EtFOSA    | 2.500  | 2.351    | -6.0  | 94.0  |
| NFDHA        | 5.000  | 5.034    | 0.7   | 100.7 |
| PFMBA        | 5.000  | 4.818    | -3.6  | 96.4  |
| PFMPA        | 5.000  | 4.801    | -4.0  | 96.0  |
| 13C4-PFOS    | ---    | --ISTD-- |       |       |
| 13C3-PFBA    | ---    | --ISTD-- |       |       |
| 18O2-PFHxS   | ---    | --ISTD-- |       |       |
| 13C4-PFOA    | ---    | --ISTD-- |       |       |
| 13C2-PFDA    | ---    | --ISTD-- |       |       |
| 13C5-PFNA    | ---    | --ISTD-- |       |       |
| 13C2-PFHxA   | ---    | --ISTD-- |       |       |
| PFEEESA      | 4.450  | 4.175    | -6.2  | 93.8  |

CC Criteria: +/- 30%

**Continuing Calibration Summary**

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ECC274  
 Lab FileID: 6Q18273.D

## Continuing Calibration Report

Batch: D:\MassHunter\Data\052223\_1633\_S6Q274\s6q274.batch.bin

## Level ID: Calibration File

1:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18227.d  
 2:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18228.d  
 3:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18229.d  
 4:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18230.d  
 5:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18231.d  
 6:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18232.d  
 7:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18233.d  
 8:D:\MassHunter\Data\052223\_1633\_S6Q274\6Q18234.d

Data File: 6Q18273  
 Type : QC  
 Level : 4

| Cpnd Name   | Exp. Conc | Final Conc | Dev % | Area % |
|-------------|-----------|------------|-------|--------|
| 13C2-4:2FTS | 5.000     | 5.535      | 10.7  | 110.7  |
| 13C2-6:2FTS | 5.000     | 5.961      | 19.2  | 119.2  |
| 13C2-8:2FTS | 5.000     | 6.380      | 27.6  | 127.6  |
| 13C2-PFDoDA | 1.250     | 1.163      | -6.9  | 93.1   |
| 13C2-PFTeDA | 1.250     | 1.168      | -6.5  | 93.5   |
| 13C3-PFBS   | 2.500     | 2.367      | -5.3  | 94.7   |
| 13C3-PFHxS  | 2.500     | 2.503      | 0.1   | 100.1  |
| 13C4-PFBA   | 10.000    | 9.998      | 0.0   | 100.0  |
| 13C4-PFHpA  | 2.500     | 2.426      | -3.0  | 97.0   |
| 13C5-PFHxA  | 2.500     | 2.489      | -0.4  | 99.6   |
| 13C5-PFPeA  | 5.000     | 5.037      | 0.7   | 100.7  |
| 13C6-PFDA   | 1.250     | 1.205      | -3.6  | 96.4   |
| 13C7-PFUnDA | 1.250     | 1.334      | 6.7   | 106.7  |
| 13C8-FOSA   | 2.500     | 2.628      | 5.1   | 105.1  |
| 13C8-PFOA   | 2.500     | 2.551      | 2.0   | 102.0  |
| 13C8-PFOS   | 2.500     | 2.546      | 1.9   | 101.9  |
| 13C9-PFNA   | 1.250     | 1.191      | -4.7  | 95.3   |
| 4:2FTS      | 9.375     | 9.462      | 0.9   | 100.9  |
| 6:2FTS      | 9.500     | 9.393      | -1.1  | 98.9   |
| 8:2FTS      | 9.600     | 8.436      | -12.1 | 87.9   |
| d3-MeFOSAA  | 5.000     | 5.751      | 15.0  | 115.0  |
| EtFOSAA     | 2.500     | 2.496      | -0.1  | 99.9   |
| FOSA        | 2.500     | 2.358      | -5.7  | 94.3   |
| MeFOSAA     | 2.500     | 2.502      | 0.1   | 100.1  |
| PFBA        | 10.000    | 9.680      | -3.2  | 96.8   |
| PFBS        | 2.218     | 2.129      | -4.0  | 96.0   |
| PFDA        | 2.500     | 2.294      | -8.2  | 91.8   |
| PFDoDA      | 2.500     | 2.439      | -2.4  | 97.6   |
| PFDS        | 2.413     | 2.307      | -4.4  | 95.6   |
| PFHpA       | 2.500     | 2.415      | -3.4  | 96.6   |
| PFHpS       | 2.383     | 2.402      | 0.8   | 100.8  |
| PFHxA       | 2.500     | 2.435      | -2.6  | 97.4   |
| PFHxS       | 2.285     | 2.036      | -10.9 | 89.1   |
| PFNA        | 2.500     | 2.560      | 2.4   | 102.4  |
| PFNS        | 2.405     | 2.237      | -7.0  | 93.0   |
| PFOA        | 2.500     | 2.497      | -0.1  | 99.9   |
| PFOS        | 2.320     | 2.229      | -3.9  | 96.1   |

# Continuing Calibration Summary

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q274-ECC274  
 Lab FileID: 6Q18273.D

|              |        |          |       |       |
|--------------|--------|----------|-------|-------|
| PFPeA        | 5.000  | 4.666    | -6.7  | 93.3  |
| PFPeS        | 2.353  | 2.205    | -6.3  | 93.7  |
| PFTeDA       | 2.500  | 2.299    | -8.1  | 91.9  |
| PFTTrDA      | 2.500  | 2.376    | -5.0  | 95.0  |
| PFUnDA       | 2.500  | 2.118    | -15.3 | 84.7  |
| M4-PFBA      | ---    | --ISTD-- |       |       |
| M5-PFPeA     | ---    | --ISTD-- |       |       |
| M5-PFHxA     | ---    | --ISTD-- |       |       |
| M4-PFHpA     | ---    | --ISTD-- |       |       |
| M8-PFOA      | ---    | --ISTD-- |       |       |
| M9-PFNA      | ---    | --ISTD-- |       |       |
| M6-PFDA      | ---    | --ISTD-- |       |       |
| M7-PFUnDA    | ---    | --ISTD-- |       |       |
| M2-PFDoDA    | ---    | --ISTD-- |       |       |
| M2-PFTeDA    | ---    | --ISTD-- |       |       |
| M8-FOSA      | ---    | --ISTD-- |       |       |
| M3-PFBS      | ---    | --ISTD-- |       |       |
| M3-PFHxS     | ---    | --ISTD-- |       |       |
| M8-PFOS      | ---    | --ISTD-- |       |       |
| M2-4:2FTS    | ---    | --ISTD-- |       |       |
| M2-6:2FTS    | ---    | --ISTD-- |       |       |
| M2-8:2FTS    | ---    | --ISTD-- |       |       |
| M3-MeFOSAA   | ---    | --ISTD-- |       |       |
| 11C1-PF3OUdS | 4.725  | 4.489    | -5.0  | 95.0  |
| 13C3-HFPO-DA | 10.000 | 10.044   | 0.4   | 100.4 |
| 9C1-PF3ONS   | 4.675  | 4.378    | -6.3  | 93.7  |
| ADONA        | 4.725  | 4.650    | -1.6  | 98.4  |
| HFPO-DA      | 5.000  | 4.632    | -7.4  | 92.6  |
| M3-HFPO-DA   | ---    | --ISTD-- |       |       |
| 3:3FTCA      | 12.480 | 11.635   | -6.8  | 93.2  |
| 5:3FTCA      | 62.400 | 59.503   | -4.6  | 95.4  |
| 7:3FTCA      | 62.400 | 60.868   | -2.5  | 97.5  |
| d3-MeFOSA    | 2.500  | 2.408    | -3.7  | 96.3  |
| M5-EtFOSAA   | ---    | --ISTD-- |       |       |
| M7-MeFOSE    | ---    | --ISTD-- |       |       |
| M9-EtFOSE    | ---    | --ISTD-- |       |       |
| M5-EtFOSA    | ---    | --ISTD-- |       |       |
| EtFOSA       | 5.000  | 4.806    | -3.9  | 96.1  |
| EtFOSE       | 12.500 | 12.505   | 0.0   | 100.0 |
| MeFOSA       | 5.000  | 4.840    | -3.2  | 96.8  |
| MeFOSE       | 12.500 | 11.899   | -4.8  | 95.2  |
| PFDoDS       | 2.425  | 2.272    | -6.3  | 93.7  |
| M3-MeFOSA    | ---    | --ISTD-- |       |       |
| d5-EtFOSAA   | 5.000  | 5.641    | 12.8  | 112.8 |
| d7-MeFOSE    | 25.000 | 23.447   | -6.2  | 93.8  |
| d9-EtFOSE    | 25.000 | 23.321   | -6.7  | 93.3  |
| d5-EtFOSA    | 2.500  | 2.497    | -0.1  | 99.9  |
| NFDHA        | 5.000  | 5.103    | 2.1   | 102.1 |
| PFMBA        | 5.000  | 4.668    | -6.6  | 93.4  |
| PFMPA        | 5.000  | 4.743    | -5.1  | 94.9  |
| 13C4-PFOS    | ---    | --ISTD-- |       |       |
| 13C3-PFBA    | ---    | --ISTD-- |       |       |
| 18O2-PFHxS   | ---    | --ISTD-- |       |       |
| 13C4-PFOA    | ---    | --ISTD-- |       |       |
| 13C2-PFDA    | ---    | --ISTD-- |       |       |
| 13C5-PFNA    | ---    | --ISTD-- |       |       |
| 13C2-PFHxA   | ---    | --ISTD-- |       |       |
| PFEESA       | 4.450  | 4.138    | -7.0  | 93.0  |

CC Criteria: +/- 30%



## Run Sequence Report

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |                        |                       |
|----------------|------------------------|-----------------------|
| Run ID: S6Q274 | Method: EPA DRAFT 1633 | Instrument ID: GCMS6Q |
|----------------|------------------------|-----------------------|

| Lab Sample ID | Lab File ID | Date/Time Analyzed | Prep QC Batch | Client Sample ID                           |
|---------------|-------------|--------------------|---------------|--|
| S6Q274-RT     | 6Q18224.D   | 05/22/23 20:43     | n/a           | Retention Time Marker                      |
| S6Q274-RT     | 6Q18225.D   | 05/22/23 20:58     | n/a           | Retention Time Marker                      |
| S6Q274-IC274  | 6Q18226.D   | 05/22/23 21:12     | n/a           | Mass Calibration Verification              |
| S6Q274-IC274  | 6Q18227.D   | 05/22/23 21:27     | n/a           | Initial cal 1                              |
| S6Q274-IC274  | 6Q18228.D   | 05/22/23 21:41     | n/a           | Initial cal 2                              |
| S6Q274-IC274  | 6Q18229.D   | 05/22/23 21:56     | n/a           | Initial cal 3                              |
| S6Q274-ICC274 | 6Q18230.D   | 05/22/23 22:10     | n/a           | Initial cal 4                              |
| S6Q274-IC274  | 6Q18231.D   | 05/22/23 22:25     | n/a           | Initial cal 5                              |
| S6Q274-IC274  | 6Q18232.D   | 05/22/23 22:39     | n/a           | Initial cal 6                              |
| S6Q274-IC274  | 6Q18233.D   | 05/22/23 22:54     | n/a           | Initial cal 7                              |
| S6Q274-IC274  | 6Q18234.D   | 05/22/23 23:08     | n/a           | Initial cal 8                              |
| S6Q274-IBLK   | 6Q18235.D   | 05/22/23 23:23     | n/a           | Instrument Blank                           |
| S6Q274-IBLK   | 6Q18235.D   | 05/22/23 23:23     | n/a           | Instrument Blank                           |
| S6Q274-ICV274 | 6Q18236.D   | 05/22/23 23:37     | n/a           | Initial cal verification 4                 |
| S6Q274-ICV274 | 6Q18237.D   | 05/22/23 23:52     | n/a           | Initial cal verification 20                |
| S6Q274-CC274  | 6Q18238.D   | 05/23/23 00:06     | n/a           | Continuing cal 4                           |
| S6Q274-CC274  | 6Q18239.D   | 05/23/23 00:21     | n/a           | Continuing cal 1.0LL                       |
| OP96984-BS    | 6Q18240.D   | 05/23/23 00:35     | OP96984       | Blank Spike                                |
| OP96984-LLBS  | 6Q18241.D   | 05/23/23 00:50     | OP96984       | Blank Spike                                |
| OP96984-MB    | 6Q18242.D   | 05/23/23 01:04     | OP96984       | Method Blank                               |
| ZZZZZZ        | 6Q18243.D   | 05/23/23 01:19     | OP96984       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18244.D   | 05/23/23 01:33     | OP96984       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18245.D   | 05/23/23 01:48     | OP96940       | (unrelated sample)                         |
| FC5501-12     | 6Q18246.D   | 05/23/23 02:02     | OP96916       | (used for QC only; not part of job FC6141) |
| OP96916-DUP   | 6Q18247.D   | 05/23/23 02:17     | OP96916       | Duplicate                                  |
| ZZZZZZ        | 6Q18248.D   | 05/23/23 02:31     | OP96917       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18249.D   | 05/23/23 02:46     | OP96917       | (unrelated sample)                         |
| S6Q274-CC274  | 6Q18250.D   | 05/23/23 03:00     | n/a           | Continuing cal 4                           |
| S6Q274-ICCB   | 6Q18251.D   | 05/23/23 03:15     | n/a           | Continuing Calibration Blank               |
| ZZZZZZ        | 6Q18252.D   | 05/23/23 03:29     | OP96917       | (unrelated sample)                         |
| OP96959-BS    | 6Q18253.D   | 05/23/23 03:43     | OP96959       | Blank Spike                                |
| OP96959-LLBS  | 6Q18254.D   | 05/23/23 03:58     | OP96959       | Blank Spike                                |
| OP96959-MB    | 6Q18255.D   | 05/23/23 04:13     | OP96959       | Method Blank                               |
| ZZZZZZ        | 6Q18256.D   | 05/23/23 04:27     | OP96959       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18257.D   | 05/23/23 04:41     | OP96959       | (unrelated sample)                         |
| FC5734-3      | 6Q18258.D   | 05/23/23 04:56     | OP96959       | (used for QC only; not part of job FC6141) |
| OP96959-MS    | 6Q18259.D   | 05/23/23 05:10     | OP96959       | Matrix Spike                               |
| FC5734-4      | 6Q18260.D   | 05/23/23 05:25     | OP96959       | (used for QC only; not part of job FC6141) |
| OP96959-DUP   | 6Q18261.D   | 05/23/23 05:39     | OP96959       | Duplicate                                  |
| S6Q274-CC274  | 6Q18262.D   | 05/23/23 05:54     | n/a           | Continuing cal 4                           |
| S6Q274-ICCB   | 6Q18263.D   | 05/23/23 06:08     | n/a           | Continuing Calibration Blank               |
| ZZZZZZ        | 6Q18264.D   | 05/23/23 06:23     | OP96959       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18265.D   | 05/23/23 06:37     | OP96959       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18266.D   | 05/23/23 06:52     | OP96959       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18267.D   | 05/23/23 07:06     | OP96959       | (unrelated sample)                         |
| ZZZZZZ        | 6Q18268.D   | 05/23/23 07:21     | OP96959       | (unrelated sample)                         |

# Run Sequence Report

Job Number: FC6141  
 Account: AECOMCOD AECOM, INC.  
 Project: N6274223F0104 RH Fire Suppression System

|                |                        |                       |
|----------------|------------------------|-----------------------|
| Run ID: S6Q274 | Method: EPA DRAFT 1633 | Instrument ID: GCMS6Q |
|----------------|------------------------|-----------------------|

| Lab Sample ID | Lab File ID | Date/Time Analyzed | Prep QC Batch | Client Sample ID             |
|---------------|-------------|--------------------|---------------|------------------------------|
| ZZZZZZ        | 6Q18269.D   | 05/23/23 07:35     | OP96959       | (unrelated sample)           |
| FC6141-1      | 6Q18270.D   | 05/23/23 07:50     | OP96959       | AF-RHMW225401-WGN01B-2305W3  |
| FC6141-2      | 6Q18271.D   | 05/23/23 08:04     | OP96959       | AF-HDMW225303-WGN01LF-2305W3 |
| FC6141-3      | 6Q18272.D   | 05/23/23 08:19     | OP96959       | AF-RHMW10-WGN01LF-2305W3     |
| S6Q274-ECC274 | 6Q18273.D   | 05/23/23 08:33     | n/a           | Ending cal 4                 |
| S6Q274-ICCB   | 6Q18274.D   | 05/23/23 08:48     | n/a           | Continuing Calibration Blank |

6.10.1  
6

**MS Semi-volatiles**

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**Raw Data**

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Norman Farmer  
 05/23/23 16:27

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18270.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 7:50:16 AM  
 Sample Name : FC6141-1  
 Vial : P2-C9  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,530,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 219718            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 75119             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 78162             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 73983             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 112097            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 44404             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 25503             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 34569             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 27176             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 12188             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 33383             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 29829             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17950             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 16123             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3970              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5420              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5327              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 30624             | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 118620            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 25151             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 101066            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 131686            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 13212             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 12699             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 19697             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 89202             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 11956             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 109174            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 35325             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 50129             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 70560             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3970              | 6.52 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 130.4% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5420              | 6.32 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 126.4% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5327              | 6.46 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 129.1% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 27176             | 1.06 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 84.7%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 12188             | 0.91 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 72.7%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 29829             | 2.62 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 104.8% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17950             | 2.75 µg/L   | -0.012   |

Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 110.0% |          |
| 13C4-PFBA            | 2.888                | 216.8 -> 171.9 | 219718   | 10.44 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 104.4% |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 73983    | 2.81 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 112.5% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 78162    | 2.76 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 110.5% |          |
| 13C5-PFPeA           | 4.235                | 268.3 -> 223.0 | 75119    | 5.68 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 113.6% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 25503    | 1.17 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 93.5%  |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 34569    | 1.25 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 33383    | 2.43 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 97.4%  |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 112097   | 2.57 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.0% |          |
| 13C8-PFOS            | 8.202                | 507.1 -> 79.9  | 16123    | 2.64 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 105.5% |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 44404    | 1.30 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 103.6% |          |
| d3-MeFOSAA           | 8.108                | 573.2 -> 419.0 | 30624    | 5.87 µg/L         | 0.012    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 117.4% |          |
| 13C3-HFPO-DA         | 5.807                | 286.9 -> 168.9 | 118620   | 10.95 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 109.5% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 12699    | 2.04 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 81.4%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 25151    | 5.42 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 108.3% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 101066   | 18.90 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 75.6%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 131686   | 20.24 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 80.9%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 13212    | 2.14 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 85.5%  |          |

Target Compounds

| Compound | RT    | Transition     | Response | Conc. Units | QValue |
|----------|-------|----------------|----------|-------------|--------|
| 4:2FTS   | -     | 327.1 -> 307.0 | -        | N.D.        |        |
|          |       | 327.1 -> 80.9  |          |             |        |
| 6:2FTS   | -     | 427.1 -> 407.0 | -        | N.D.        |        |
|          |       | 427.1 -> 80.9  |          |             |        |
| 8:2FTS   | -     | 527.1 -> 507.0 | -        | N.D.        |        |
|          |       | 527.1 -> 80.8  |          |             |        |
| EtFOSAA  | -     | 584.2 -> 419.1 | -        | N.D.        |        |
|          |       | 584.2 -> 526.0 |          |             |        |
| FOSA     | -     | 498.1 -> 77.9  | -        | N.D.        |        |
|          |       | 498.1 -> 478.0 |          |             |        |
| MeFOSAA  | -     | 570.1 -> 419.0 | -        | N.D.        |        |
|          |       | 570.1 -> 483.0 |          |             |        |
| PFBA     | -     | 212.8 -> 168.9 | -        | N.D.        |        |
| PFBS     | 5.360 | 298.7 -> 79.9  | 833      | 0.07 µg/L   | 97     |
|          |       | 298.7 -> 98.8  | 318      |             |        |
| PFDA     | 8.608 | 512.9 -> 469.0 | 0        | µg/L        | m 1    |
|          |       | 512.9 -> 219.0 | 0        |             |        |
| PFDODA   | 8.849 | 613.1 -> 569.0 | 0        | µg/L        | m 1    |
|          |       | 613.1 -> 319.0 |          |             |        |
| PFDS     | -     | 599.0 -> 79.9  | -        | N.D.        |        |

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT    | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|-------|----------------|----------|-------|-------|----------|
|              |       | 599.0 -> 98.8  |          |       |       |          |
| PFHpA        | 6.396 | 363.1 -> 319.0 | 3470     | 0.09  | µg/L  | 99       |
|              |       | 363.1 -> 169.0 | 542      |       |       |          |
| PFHpS        | -     | 449.0 -> 79.9  | -        | N.D.  |       |          |
|              |       | 449.0 -> 98.9  |          |       |       |          |
| PFHxA        | 5.432 | 313.0 -> 269.0 | 2847     | 0.09  | µg/L  | 100      |
|              |       | 313.0 -> 118.9 | 125      |       |       |          |
| PFHxS        | 7.143 | 398.7 -> 79.9  | 1134     | 0.11  | µg/L  | m 89     |
|              |       | 398.7 -> 98.9  | 624      |       |       |          |
| PFNA         | -     | 463.0 -> 419.0 | -        | N.D.  |       |          |
|              |       | 463.0 -> 219.0 |          |       |       |          |
| PFNS         | -     | 548.8 -> 79.9  | -        | N.D.  |       |          |
|              |       | 548.8 -> 98.9  |          |       |       |          |
| PFOA         | 7.040 | 413.0 -> 369.0 | 8456     | 0.16  | µg/L  | m 88     |
|              |       | 413.0 -> 169.0 | 1024     |       |       |          |
| PFOS         | -     | 498.9 -> 79.9  | -        | N.D.  |       |          |
|              |       | 498.9 -> 98.8  |          |       |       |          |
| PFPeA        | 4.249 | 263.0 -> 219.0 | 2907     | 0.14  | µg/L  | 100      |
| PFPeS        | -     | 349.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 349.1 -> 98.9  |          |       |       |          |
| PFTeDA       | -     | 713.1 -> 669.0 | -        | N.D.  |       |          |
|              |       | 713.1 -> 168.9 |          |       |       |          |
| PFTrDA       | -     | 663.0 -> 619.0 | -        | N.D.  |       |          |
|              |       | 663.0 -> 168.9 |          |       |       |          |
| PFUnDA       | -     | 563.1 -> 519.0 | -        | N.D.  |       |          |
|              |       | 563.1 -> 269.1 |          |       |       |          |
| 11Cl-PF3OUdS | -     | 630.9 -> 450.9 | -        | N.D.  |       |          |
|              |       | 632.9 -> 452.9 |          |       |       |          |
| 9Cl-PF3ONS   | -     | 530.8 -> 351.0 | -        | N.D.  |       |          |
|              |       | 532.8 -> 353.0 |          |       |       |          |
| ADONA        | -     | 376.9 -> 250.9 | -        | N.D.  |       |          |
|              |       | 376.9 -> 84.8  |          |       |       |          |
| HFPO-DA      | -     | 284.9 -> 168.9 | -        | N.D.  |       |          |
|              |       | 284.9 -> 184.9 |          |       |       |          |
| 3:3FTCA      | -     | 241.0 -> 177.0 | -        | N.D.  |       |          |
|              |       | 241.0 -> 117.0 |          |       |       |          |
| 5:3FTCA      | -     | 341.0 -> 237.1 | -        | N.D.  |       |          |
|              |       | 341.0 -> 217.0 |          |       |       |          |
| 7:3FTCA      | -     | 441.0 -> 316.9 | -        | N.D.  |       |          |
|              |       | 441.0 -> 336.9 |          |       |       |          |
| EtFOSA       | -     | 526.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 526.0 -> 169.0 |          |       |       |          |
| EtFOSE       | -     | 630.0 -> 58.9  | -        | N.D.  |       |          |
| MeFOSA       | -     | 511.9 -> 219.0 | -        | N.D.  |       |          |
|              |       | 511.9 -> 169.0 |          |       |       |          |
| MeFOSE       | -     | 616.1 -> 58.9  | -        | N.D.  |       |          |
| PFDoDS       | -     | 699.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 699.1 -> 98.8  |          |       |       |          |
| NFDHA        | -     | 295.0 -> 201.0 | -        | N.D.  |       |          |
|              |       | 295.0 -> 84.9  |          |       |       |          |
| PFMBA        | -     | 279.0 -> 85.1  | -        | N.D.  |       |          |
| PFMPA        | -     | 229.0 -> 84.9  | -        | N.D.  |       |          |
| PFEESA       | -     | 314.8 -> 134.9 | -        | N.D.  |       |          |
|              |       | 314.8 -> 82.9  |          |       |       |          |

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



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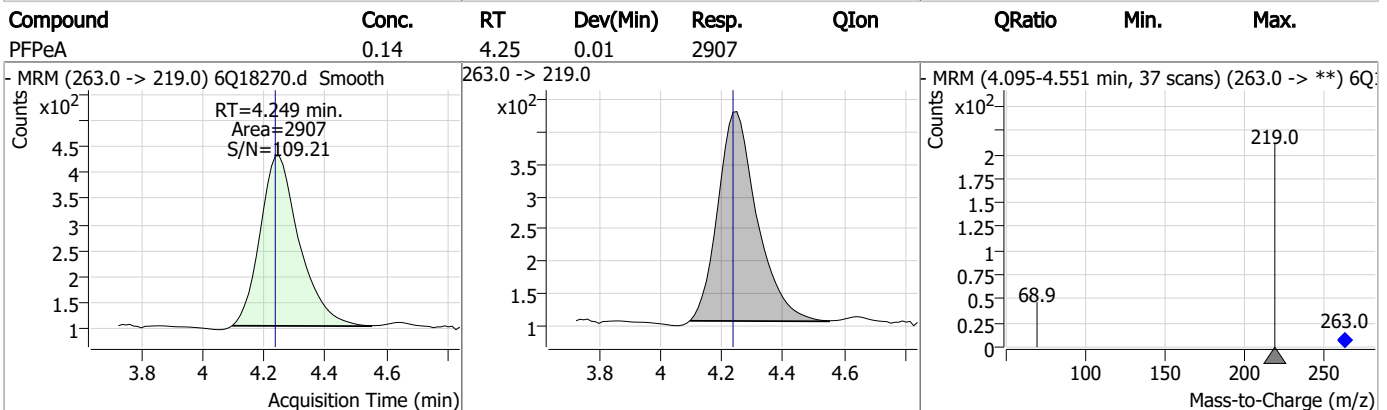
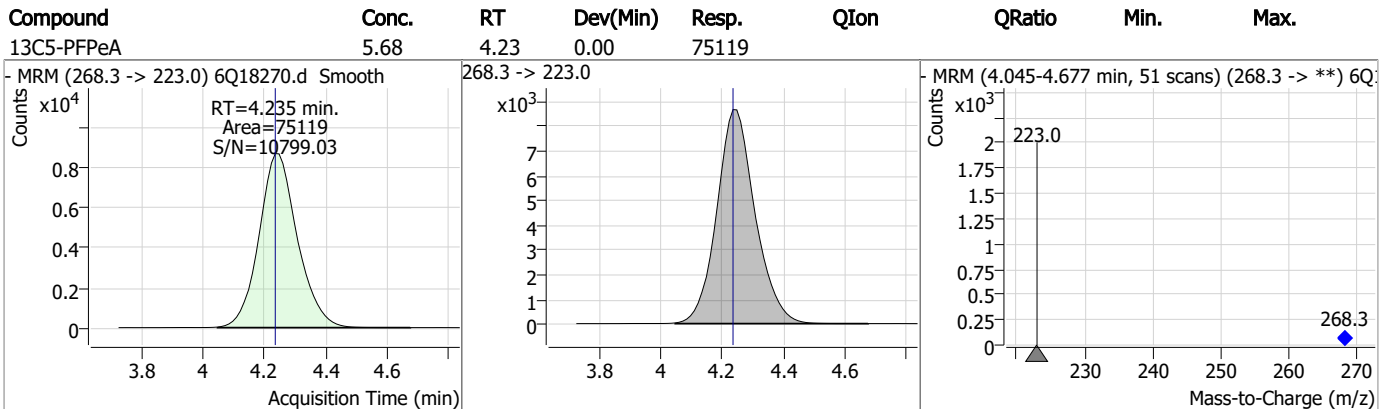
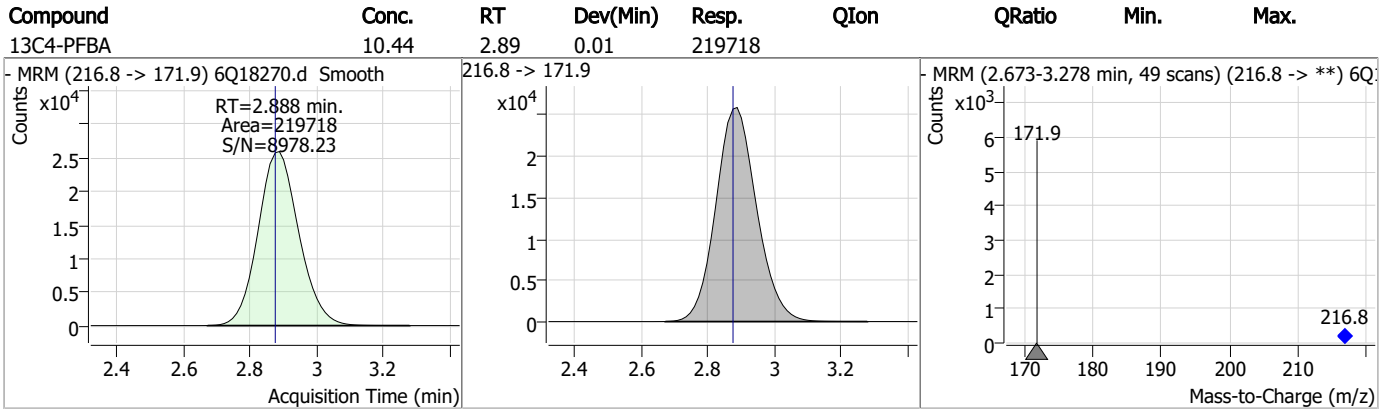
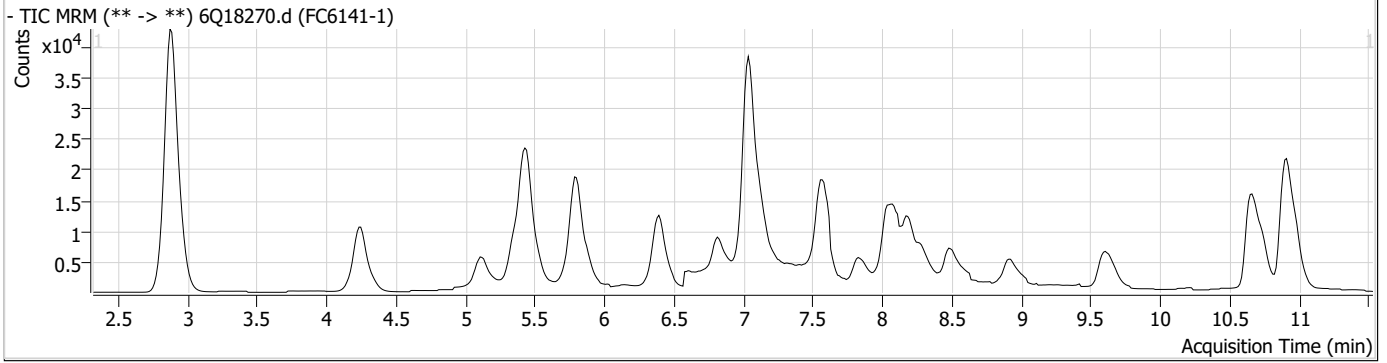
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

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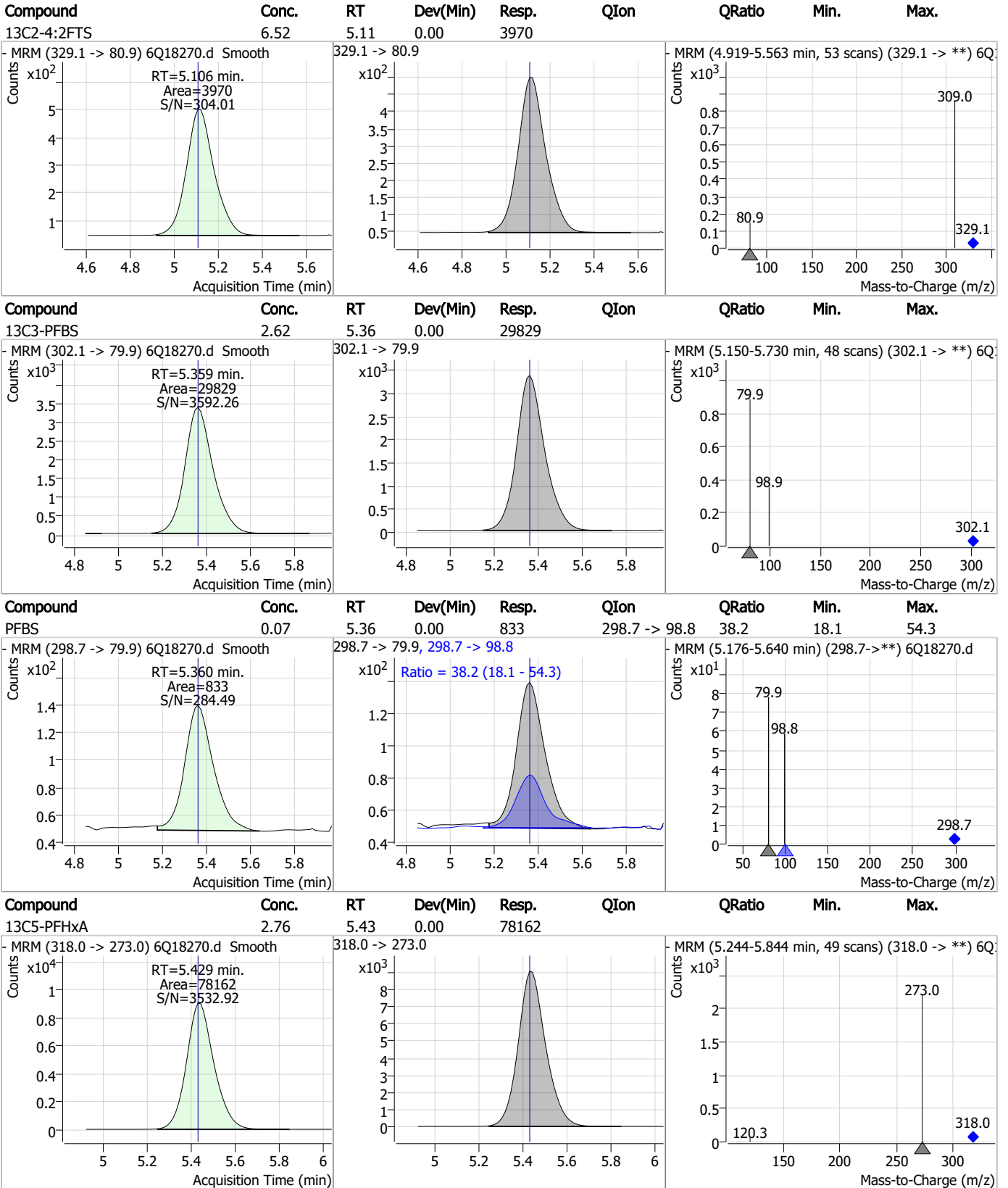


### Perfluorinated Compounds by LC/MS/MS



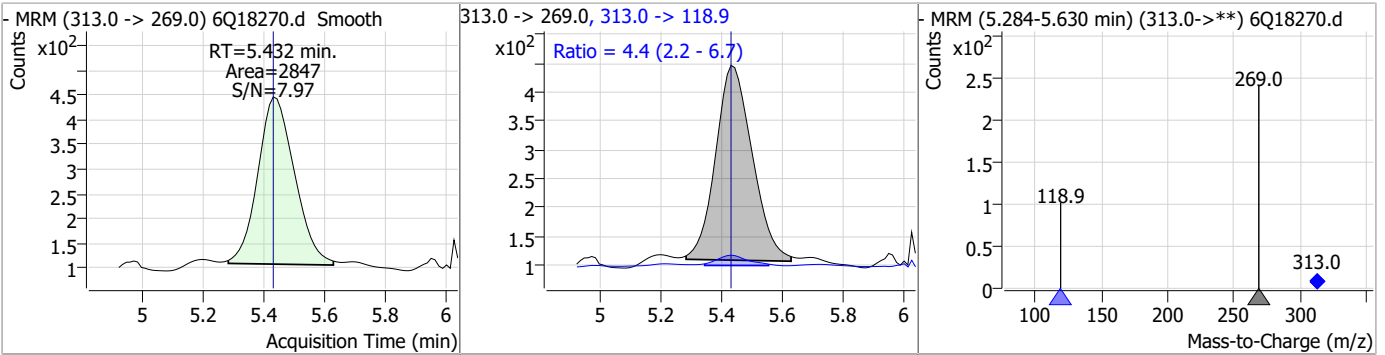


### Perfluorinated Compounds by LC/MS/MS

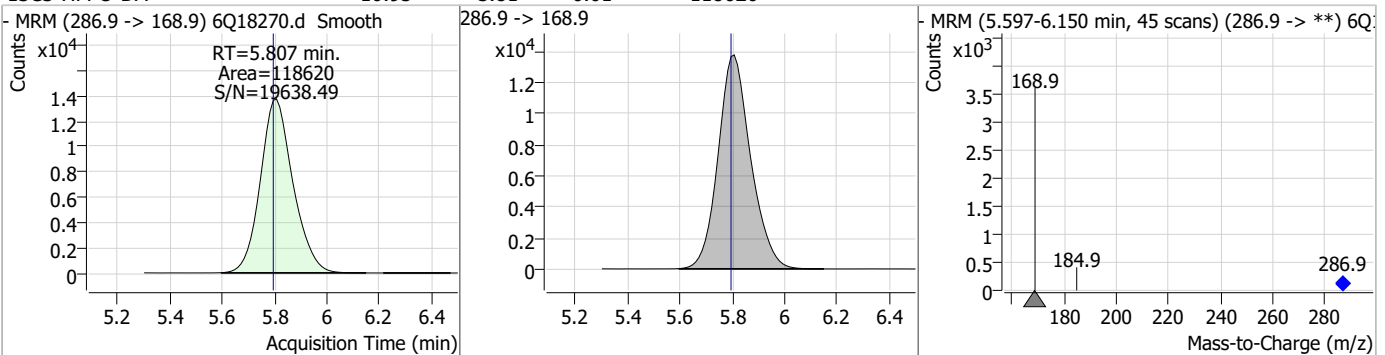


### Perfluorinated Compounds by LC/MS/MS

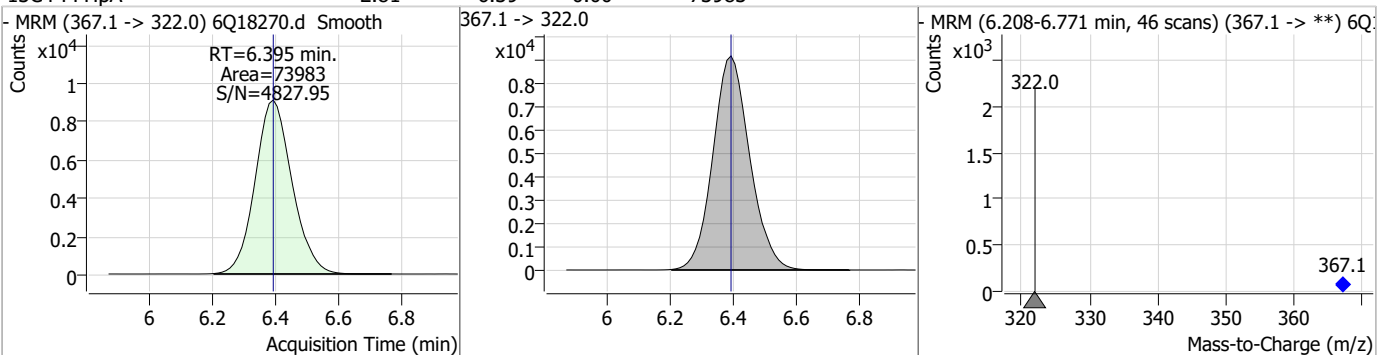
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHxA    | 0.09  | 5.43 | 0.00     | 2847  | 313.0 -> 118.9 | 4.4    | 2.2  | 6.7  |



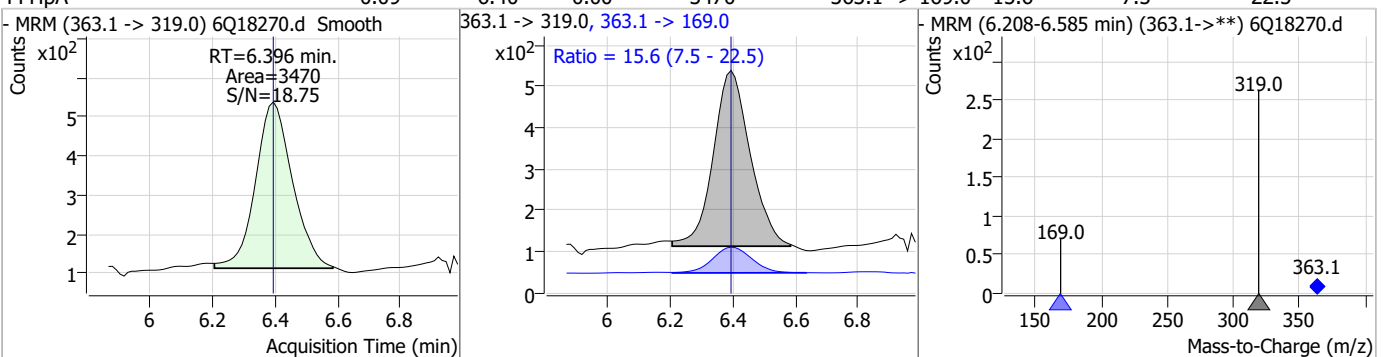
| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|------|--------|------|------|
| 13C3-HFPO-DA | 10.95 | 5.81 | 0.01     | 118620 |      |        |      |      |



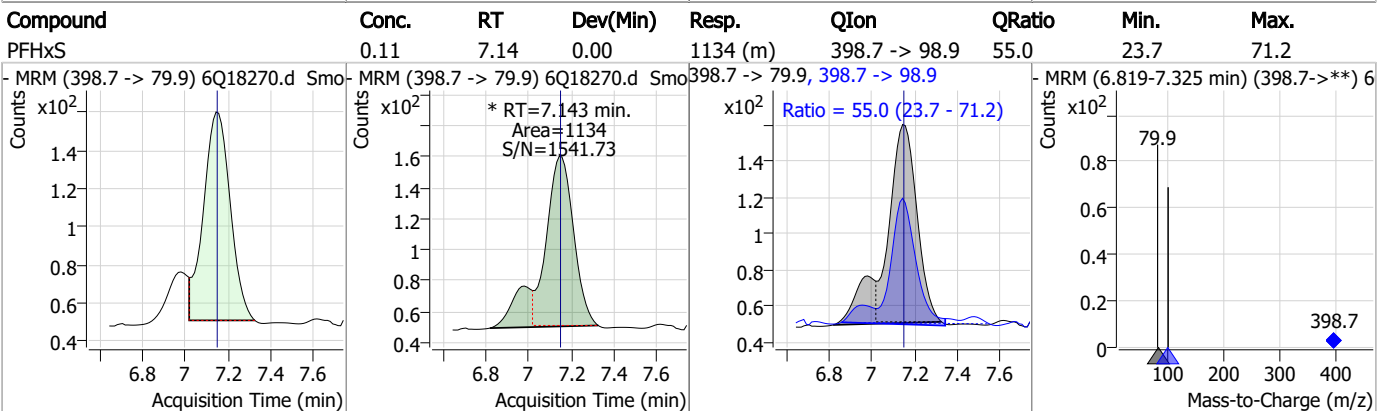
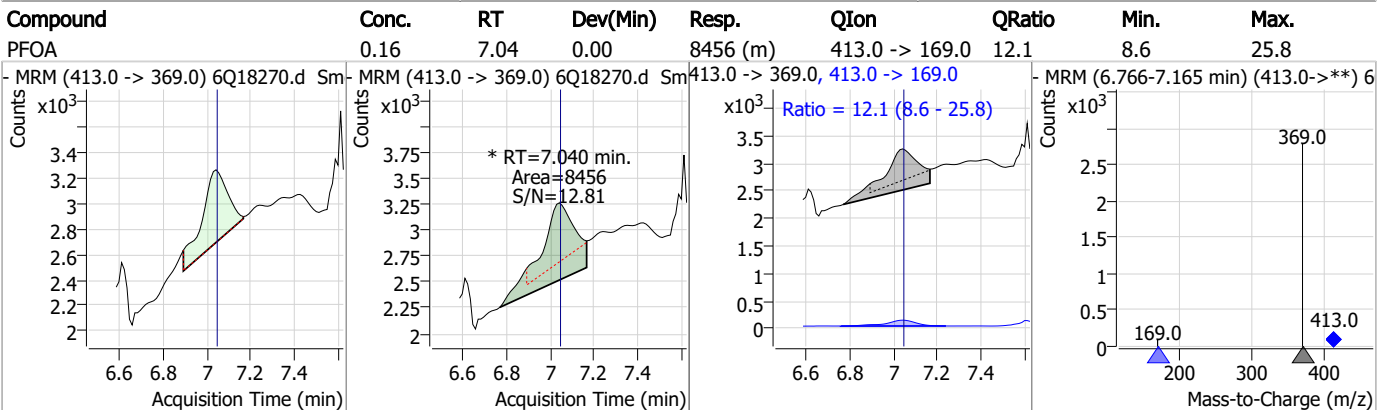
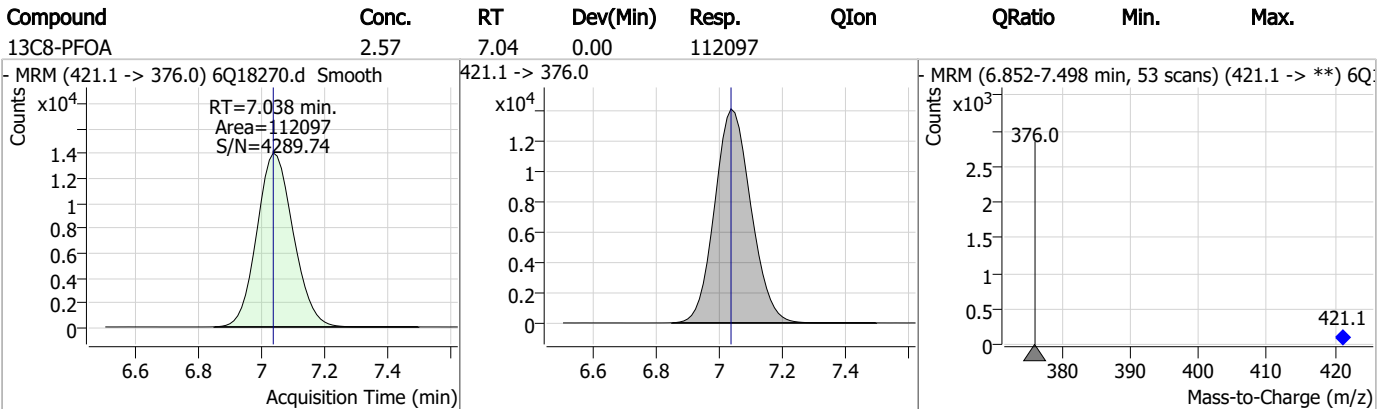
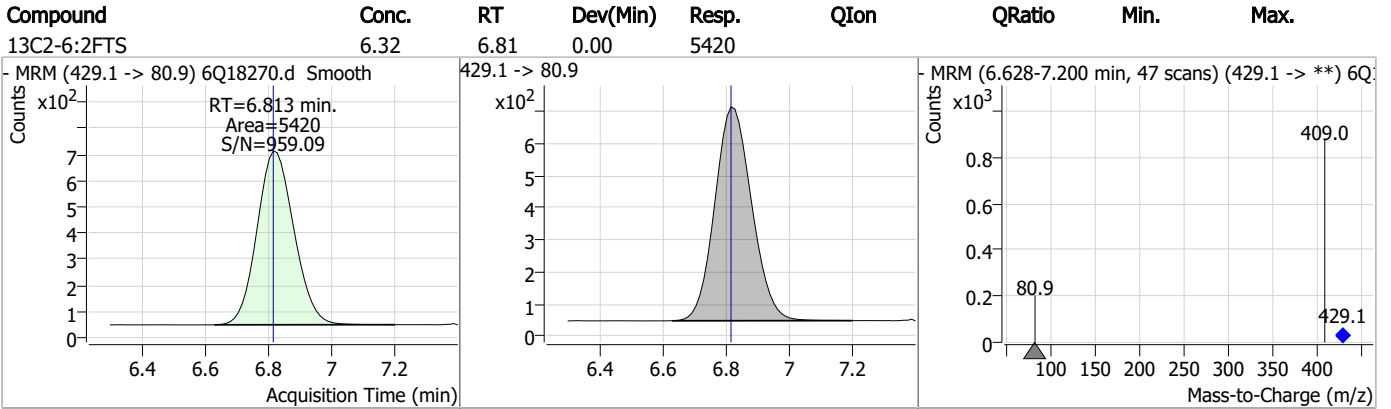
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C4-PFHpA | 2.81  | 6.39 | 0.00     | 73983 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHpA    | 0.09  | 6.40 | 0.00     | 3470  | 363.1 -> 169.0 | 15.6   | 7.5  | 22.5 |



### Perfluorinated Compounds by LC/MS/MS



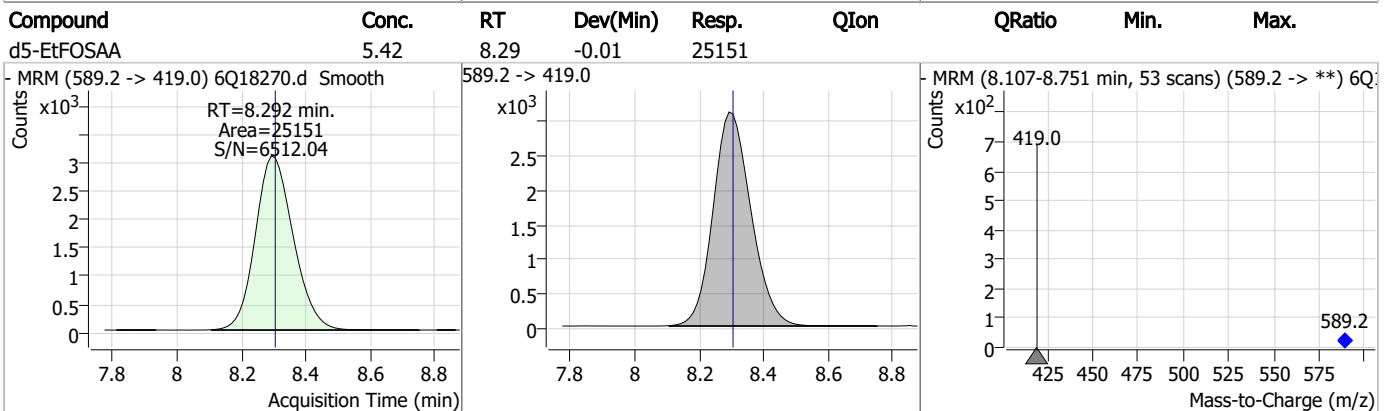
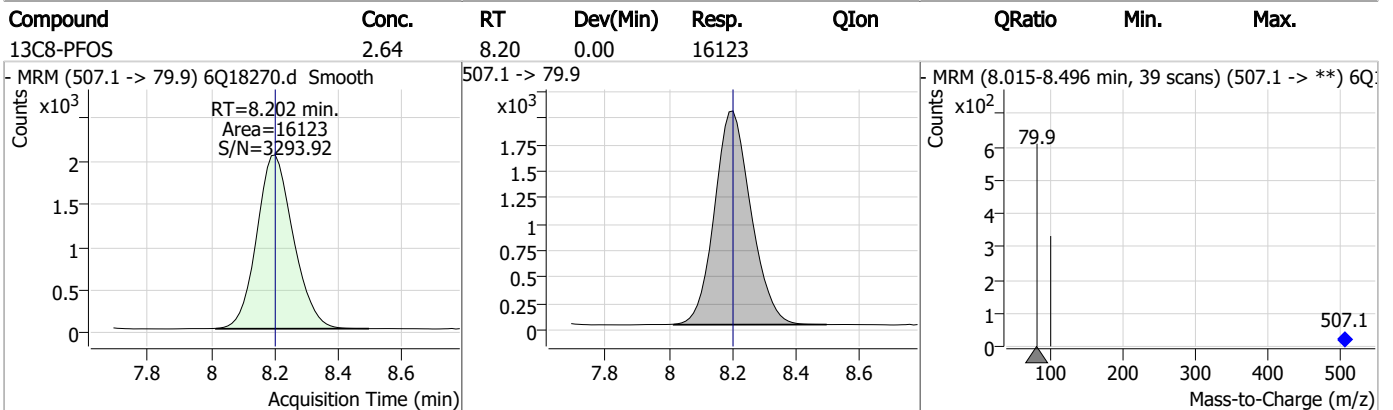
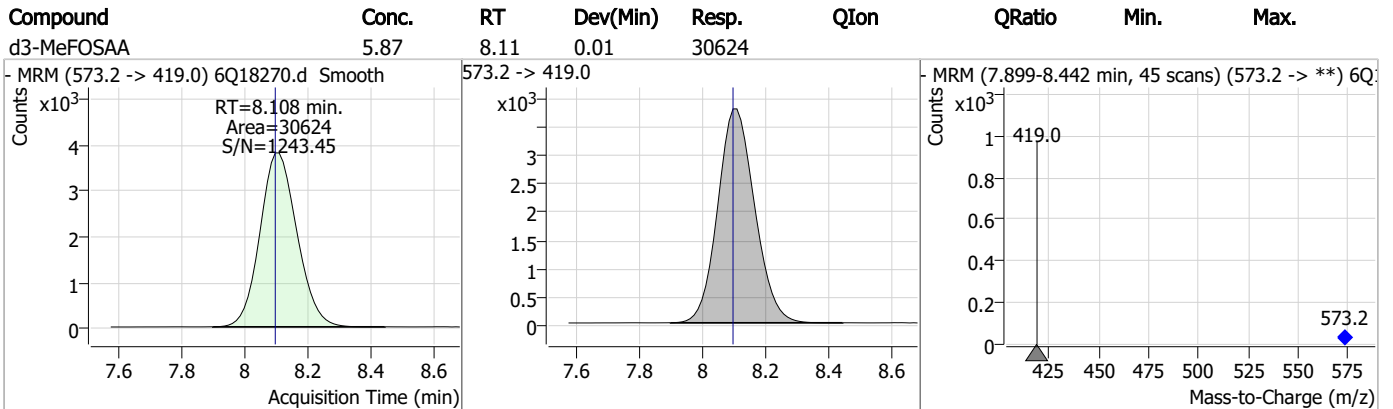
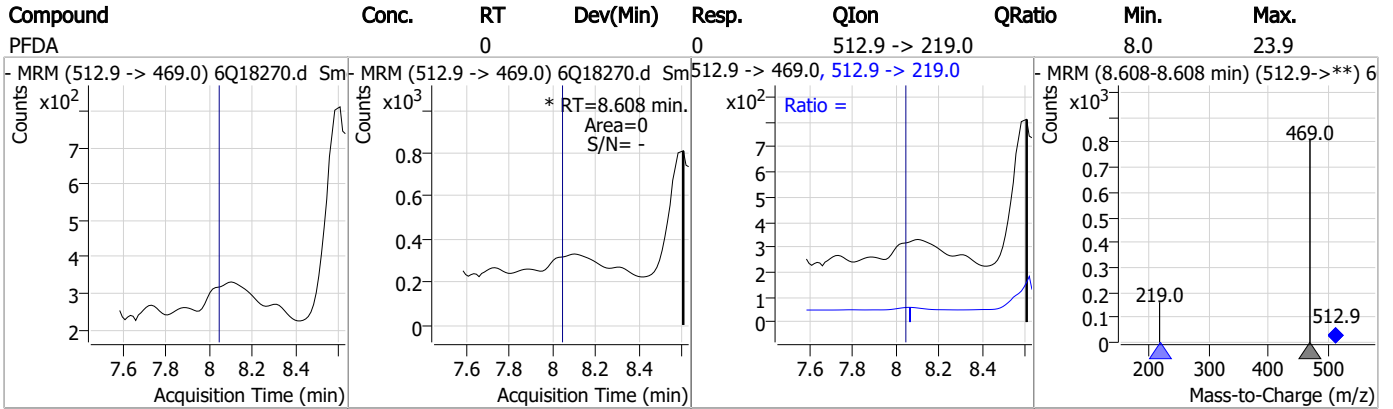
Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C3-PFHxS  | 2.75  | 7.14 | -0.01    | 17950 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| 13C9-PFNA   | 1.30  | 7.57 | 0.00     | 44404 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| 13C2-8:2FTS | 6.46  | 7.84 | 0.00     | 5327  |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| 13C6-PFDA   | 1.17  | 8.04 | 0.00     | 25503 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |

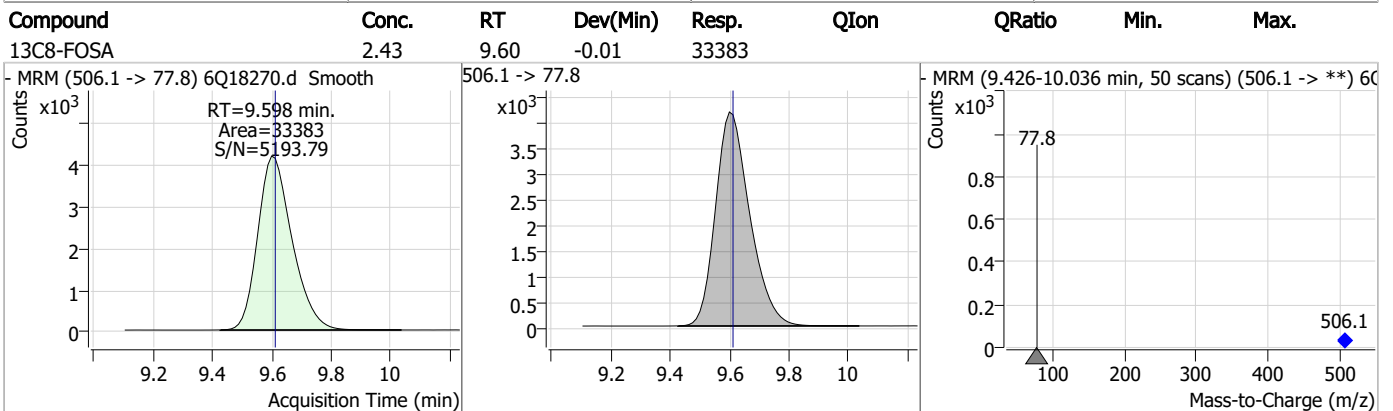
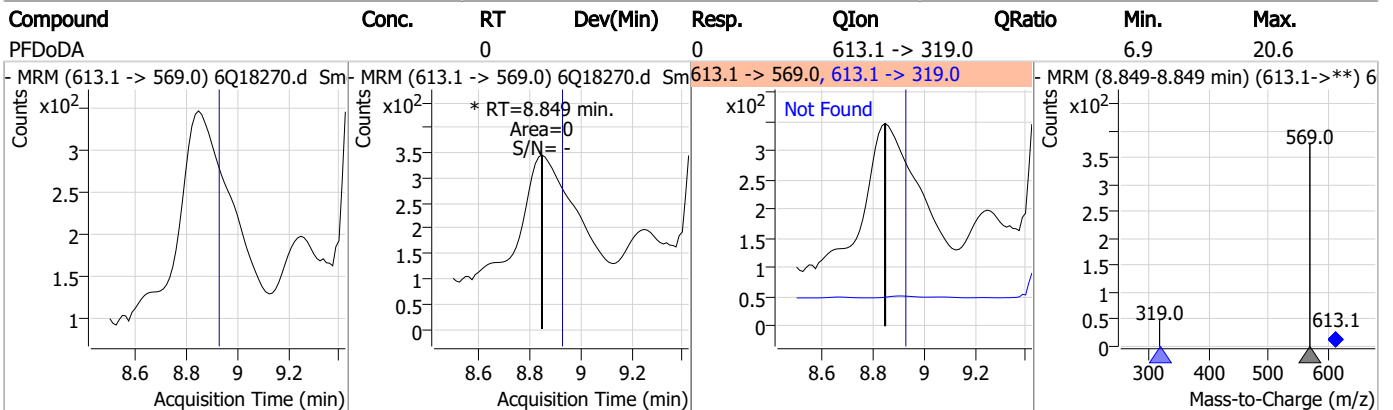
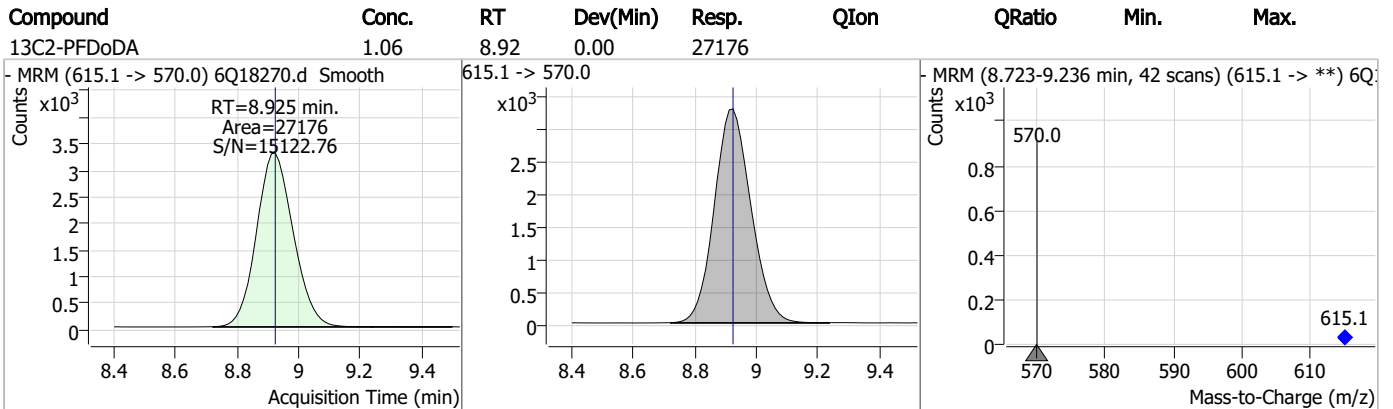
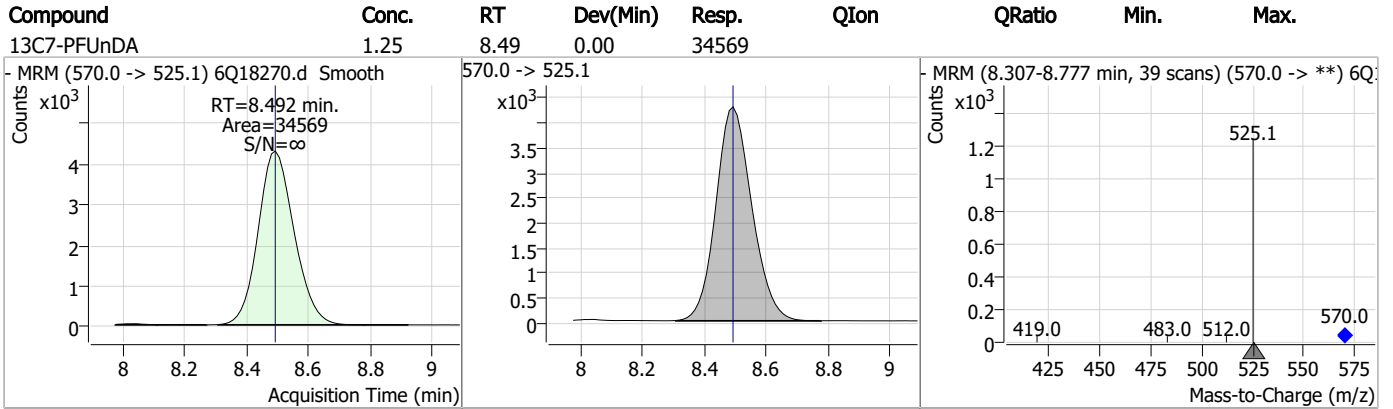
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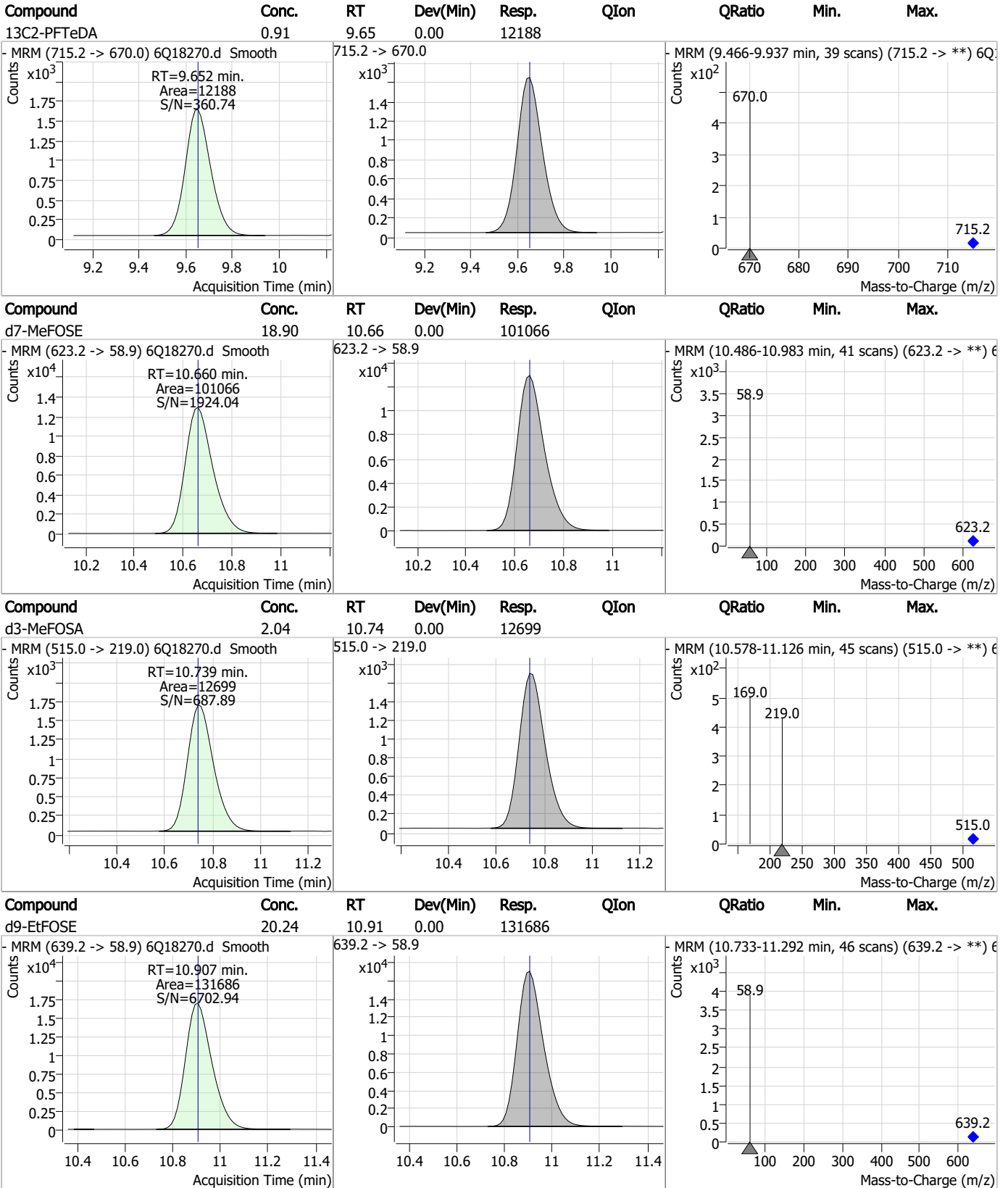
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

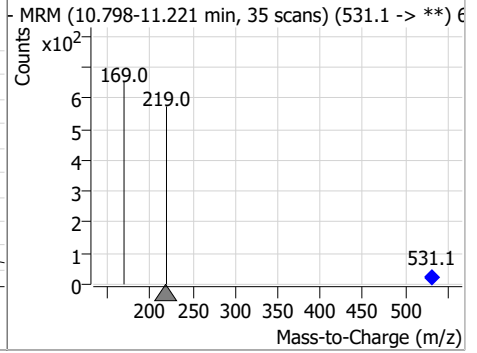
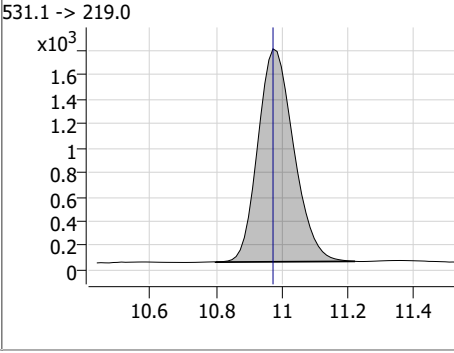
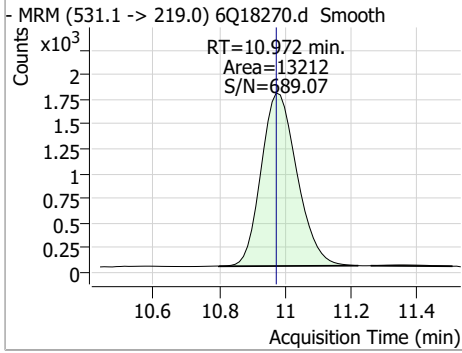


### Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.14  | 10.97 | 0.00     | 13212 |      |        |      |      |



7.1.1  
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# Manual Integration Approval Summary

Sample Number: FC6141-1                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18270.D                      Analyst approved: 05/23/23 11:49 Martha Valls  
Injection Time: 05/23/23 07:50                      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS      | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|----------|------|----------------|------------|
| Perfluorooctanoic acid       | 335-67-1 |      | 7.04           | Split peak |
| Perfluorohexanesulfonic acid | 355-46-4 |      | 7.14           | Split peak |

7.1.1.1  
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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18271.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 8:04:45 AM  
 Sample Name : FC6141-2  
 Vial : P2-D1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,540,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 228528            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 75110             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 78502             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 74717             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 108819            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 44124             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 26148             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 29256             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 23219             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 11605             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 26601             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 29771             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17086             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15325             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3659              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5462              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5097              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 25523             | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 118357            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 23575             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 82273             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 115320            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 11147             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 11487             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 19184             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 87407             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 10704             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 103035            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 32877             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 49721             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 70779             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3659              | 6.71 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 134.3% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5462              | 7.11 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 142.3% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5097              | 6.90 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 138.0% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 23219             | 0.97 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 77.8%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 11605             | 0.93 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 74.4%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 29771             | 2.92 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 116.8% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17086             | 2.92 µg/L   | -0.012   |

7.12  
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Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 116.9% |          |
| 13C4-PFBA            | 2.888                | 216.8 -> 171.9 | 228528   | 11.08 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 110.8% |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 74717    | 2.83 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 113.3% |          |
| 13C5-PFHxA           | 5.441                | 318.0 -> 273.0 | 78502    | 2.77 µg/L         | 0.012    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 110.6% |          |
| 13C5-PFPeA           | 4.235                | 268.3 -> 223.0 | 75110    | 5.66 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 113.3% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 26148    | 1.29 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 103.0% |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 29256    | 1.14 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 91.0%  |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 26601    | 1.99 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 79.7%  |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 108819   | 2.65 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 105.9% |          |
| 13C8-PFOS            | 8.202                | 507.1 -> 79.9  | 15325    | 2.57 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.9% |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 44124    | 1.30 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 103.8% |          |
| d3-MeFOSAA           | 8.108                | 573.2 -> 419.0 | 25523    | 5.02 µg/L         | 0.012    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |          |
| 13C3-HFPO-DA         | 5.807                | 286.9 -> 168.9 | 118357   | 10.89 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 108.9% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 11487    | 1.89 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 75.6%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 23575    | 5.21 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 104.2% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 82273    | 15.80 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 63.2%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 115320   | 18.20 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 72.8%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 11147    | 1.85 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 74.1%  |          |

7.12  
7

| Target Compounds | RT    | Transition     | Response | Conc. Units | QValue |
|------------------|-------|----------------|----------|-------------|--------|
| 4:2FTS           | -     | 327.1 -> 307.0 | -        | N.D.        |        |
|                  |       | 327.1 -> 80.9  |          |             |        |
| 6:2FTS           | -     | 427.1 -> 407.0 | -        | N.D.        |        |
|                  |       | 427.1 -> 80.9  |          |             |        |
| 8:2FTS           | -     | 527.1 -> 507.0 | -        | N.D.        |        |
|                  |       | 527.1 -> 80.8  |          |             |        |
| EtFOSAA          | -     | 584.2 -> 419.1 | -        | N.D.        |        |
|                  |       | 584.2 -> 526.0 |          |             |        |
| FOSA             | 9.602 | 498.1 -> 77.9  | 1250     | 0.12 µg/L   | 99     |
|                  |       | 498.1 -> 478.0 | 35       |             |        |
| MeFOSAA          | -     | 570.1 -> 419.0 | -        | N.D.        |        |
|                  |       | 570.1 -> 483.0 |          |             |        |
| PFBA             | -     | 212.8 -> 168.9 | -        | N.D.        |        |
| PFBS             | -     | 298.7 -> 79.9  | -        | N.D.        |        |
|                  |       | 298.7 -> 98.8  |          |             |        |
| PFDA             | -     | 512.9 -> 469.0 | -        | N.D.        |        |
|                  |       | 512.9 -> 219.0 |          |             |        |
| PFDODA           | -     | 613.1 -> 569.0 | -        | N.D.        |        |
|                  |       | 613.1 -> 319.0 |          |             |        |
| PFDS             | -     | 599.0 -> 79.9  | -        | N.D.        |        |



Perfluorinated Compounds by LC/MS/MS

| Compound     | RT    | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|-------|----------------|----------|-------|-------|----------|
| PFHpA        | -     | 599.0 -> 98.8  | -        | N.D.  |       |          |
|              |       | 363.1 -> 319.0 |          |       |       |          |
| PFHpS        | -     | 363.1 -> 169.0 | -        | N.D.  |       |          |
|              |       | 449.0 -> 79.9  |          |       |       |          |
| PFHxA        | -     | 449.0 -> 98.9  | -        | N.D.  |       |          |
|              |       | 313.0 -> 269.0 |          |       |       |          |
| PFHxS        | -     | 313.0 -> 118.9 | -        | N.D.  |       |          |
|              |       | 398.7 -> 79.9  |          |       |       |          |
| PFNA         | -     | 398.7 -> 98.9  | -        | N.D.  |       |          |
|              |       | 463.0 -> 419.0 |          |       |       |          |
| PFNS         | -     | 463.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 548.8 -> 79.9  |          |       |       |          |
| PFOA         | 7.015 | 548.8 -> 98.9  | 0        | µg/L  | m     | 1        |
|              |       | 413.0 -> 369.0 |          |       |       |          |
| PFOS         | -     | 413.0 -> 169.0 | -        | N.D.  |       |          |
|              |       | 498.9 -> 79.9  |          |       |       |          |
| PFPeA        | -     | 498.9 -> 98.8  | -        | N.D.  |       |          |
|              |       | 263.0 -> 219.0 |          |       |       |          |
| PFPeS        | -     | 349.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 349.1 -> 98.9  |          |       |       |          |
| PFTeDA       | -     | 713.1 -> 669.0 | -        | N.D.  |       |          |
|              |       | 713.1 -> 168.9 |          |       |       |          |
| PFTrDA       | -     | 663.0 -> 619.0 | -        | N.D.  |       |          |
|              |       | 663.0 -> 168.9 |          |       |       |          |
| PFUnDA       | -     | 563.1 -> 519.0 | -        | N.D.  |       |          |
|              |       | 563.1 -> 269.1 |          |       |       |          |
| 11Cl-PF3OUdS | -     | 630.9 -> 450.9 | -        | N.D.  |       |          |
|              |       | 632.9 -> 452.9 |          |       |       |          |
| 9Cl-PF3ONS   | -     | 530.8 -> 351.0 | -        | N.D.  |       |          |
|              |       | 532.8 -> 353.0 |          |       |       |          |
| ADONA        | -     | 376.9 -> 250.9 | -        | N.D.  |       |          |
|              |       | 376.9 -> 84.8  |          |       |       |          |
| HFPO-DA      | -     | 284.9 -> 168.9 | -        | N.D.  |       |          |
|              |       | 284.9 -> 184.9 |          |       |       |          |
| 3:3FTCA      | -     | 241.0 -> 177.0 | -        | N.D.  |       |          |
|              |       | 241.0 -> 117.0 |          |       |       |          |
| 5:3FTCA      | -     | 341.0 -> 237.1 | -        | N.D.  |       |          |
|              |       | 341.0 -> 217.0 |          |       |       |          |
| 7:3FTCA      | -     | 441.0 -> 316.9 | -        | N.D.  |       |          |
|              |       | 441.0 -> 336.9 |          |       |       |          |
| EtFOSA       | -     | 526.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 526.0 -> 169.0 |          |       |       |          |
| EtFOSE       | -     | 630.0 -> 58.9  | -        | N.D.  |       |          |
|              |       | 511.9 -> 219.0 |          |       |       |          |
| MeFOSA       | -     | 511.9 -> 169.0 | -        | N.D.  |       |          |
|              |       | 616.1 -> 58.9  |          |       |       |          |
| MeFOSE       | -     | 699.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 699.1 -> 98.8  |          |       |       |          |
| PFDoDS       | -     | 295.0 -> 201.0 | -        | N.D.  |       |          |
|              |       | 295.0 -> 84.9  |          |       |       |          |
| NFDHA        | -     | 279.0 -> 85.1  | -        | N.D.  |       |          |
|              |       | 229.0 -> 84.9  |          |       |       |          |
| PFMBA        | -     | 314.8 -> 134.9 | -        | N.D.  |       |          |
|              |       | 314.8 -> 82.9  |          |       |       |          |

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

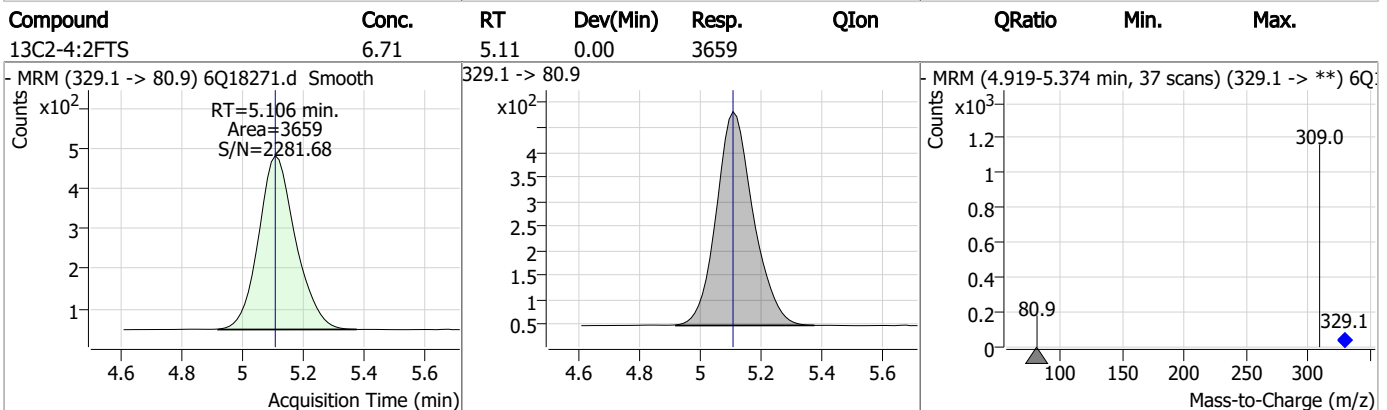
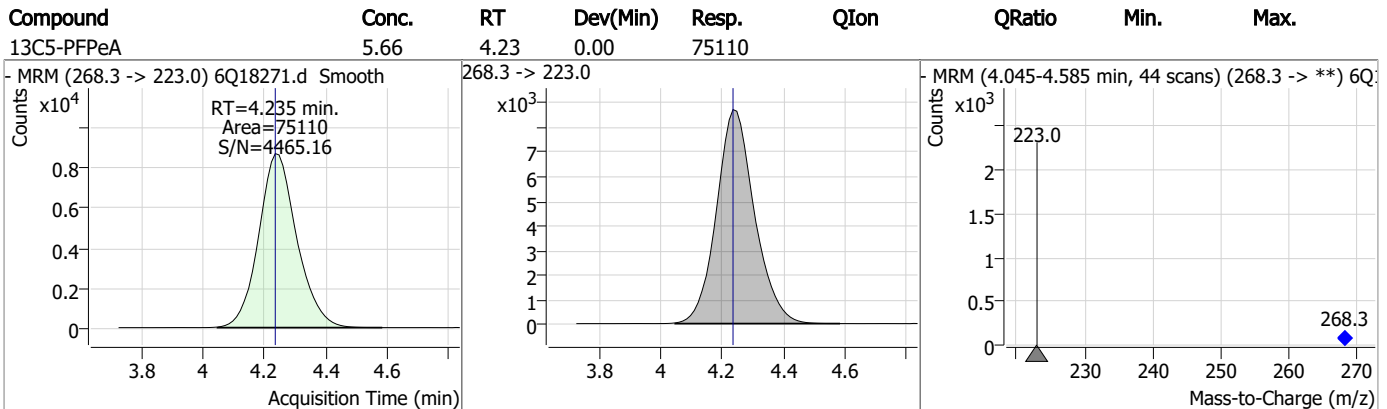
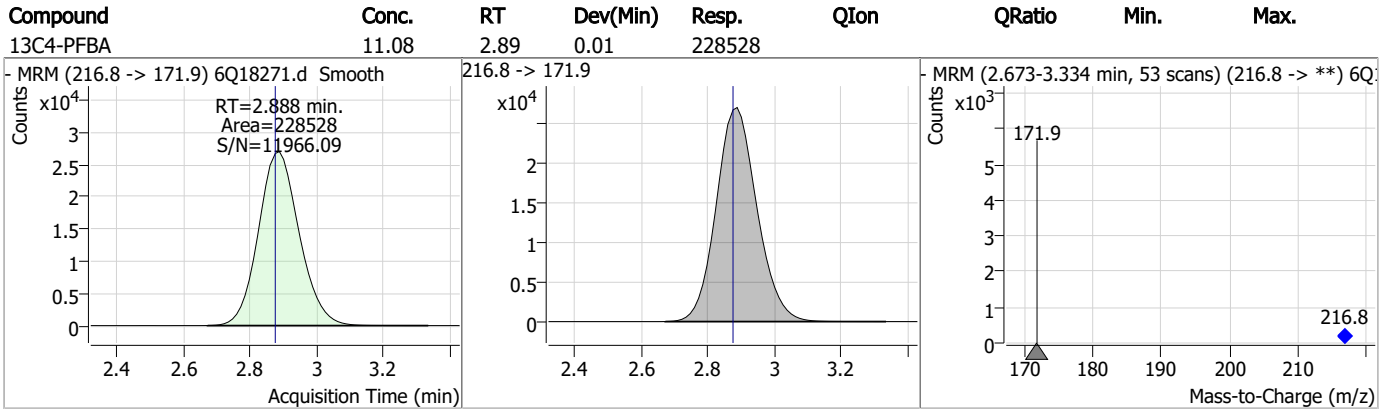
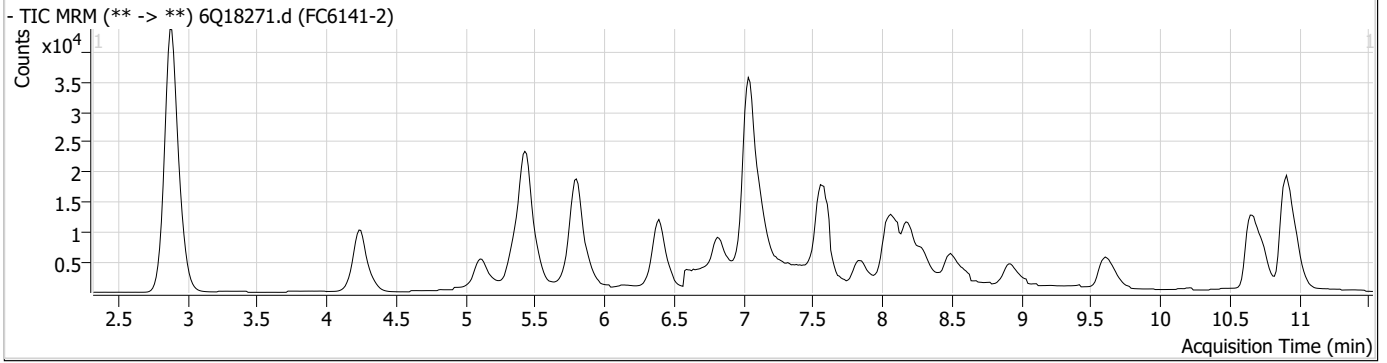
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

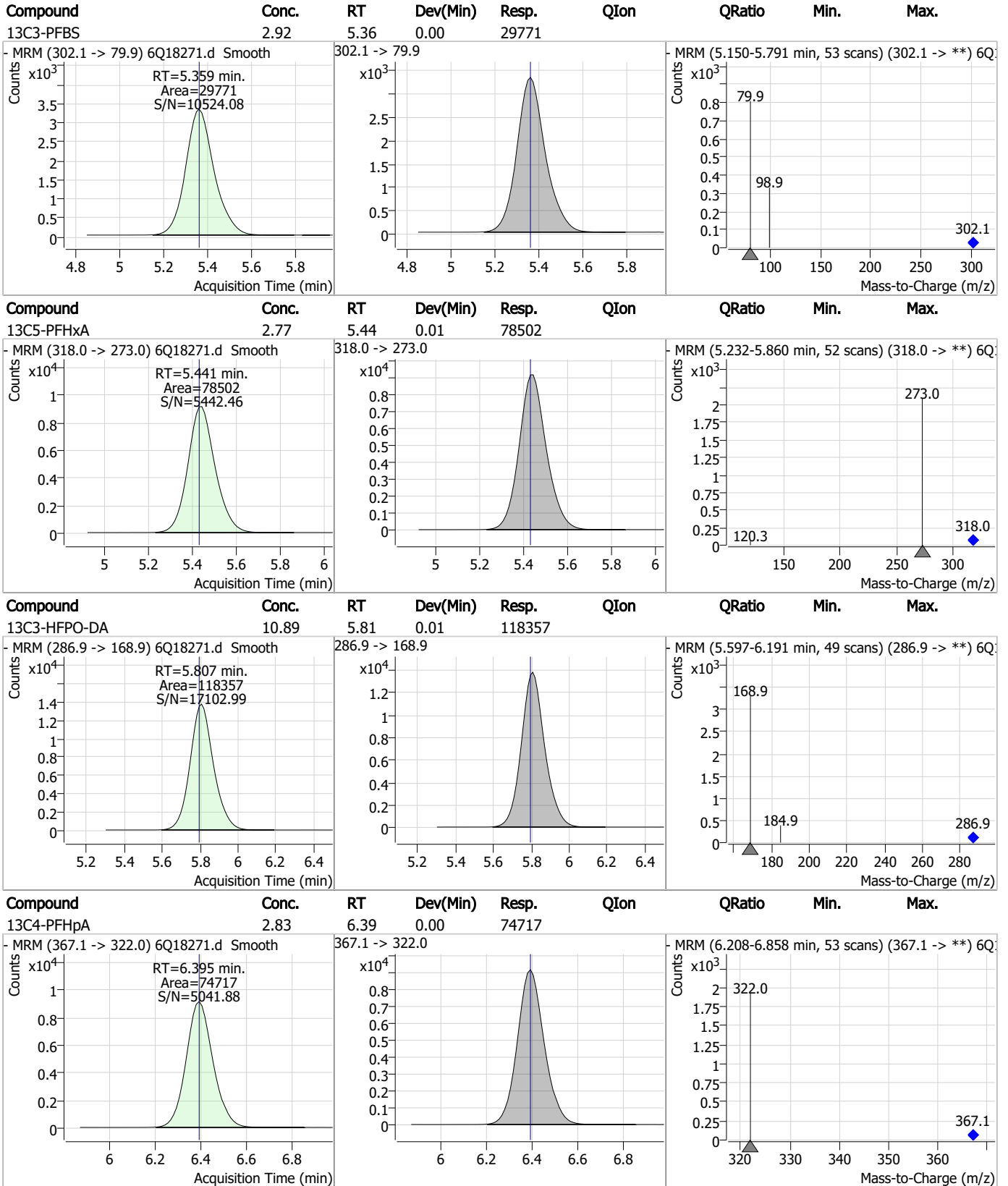
7.1.2

7

### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

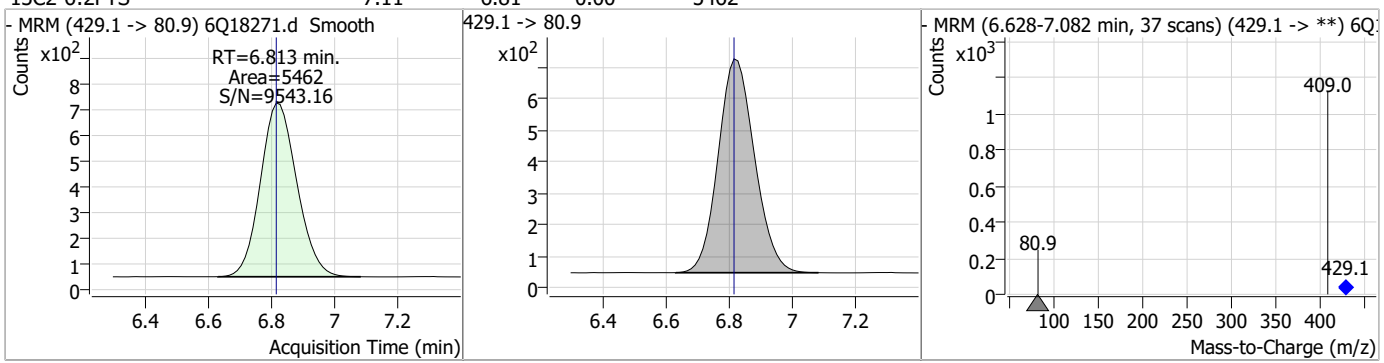


7.1.2

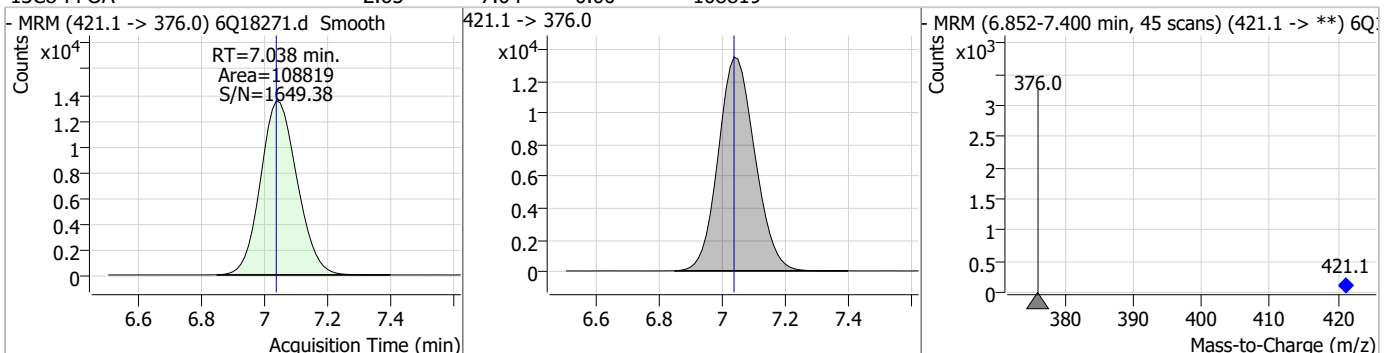
7

### Perfluorinated Compounds by LC/MS/MS

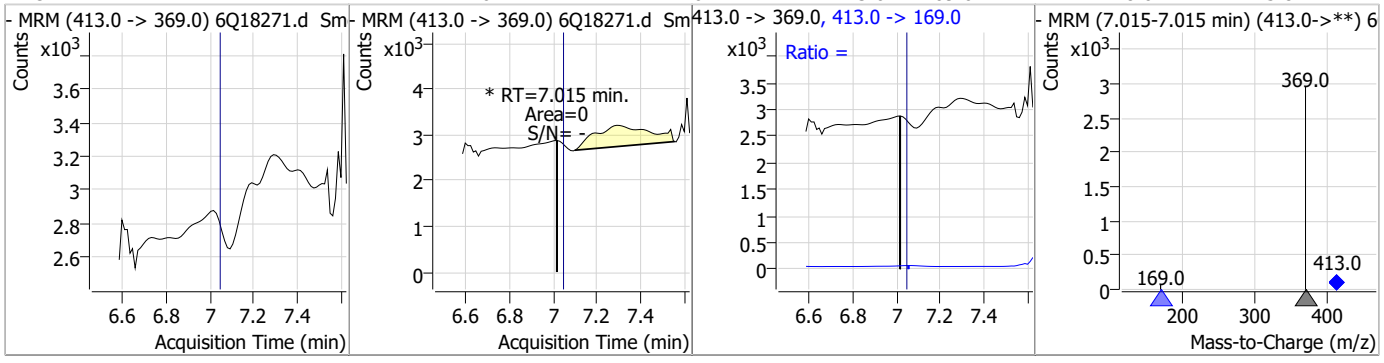
| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



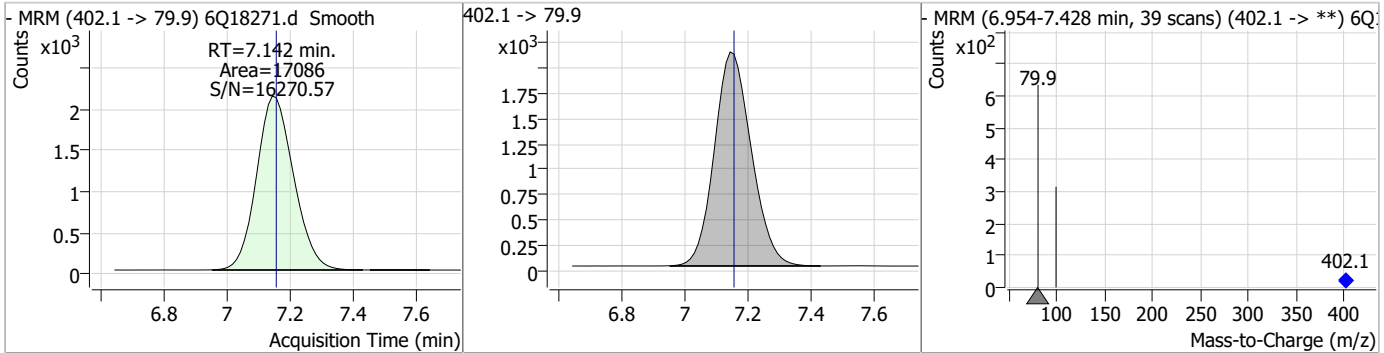
| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



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



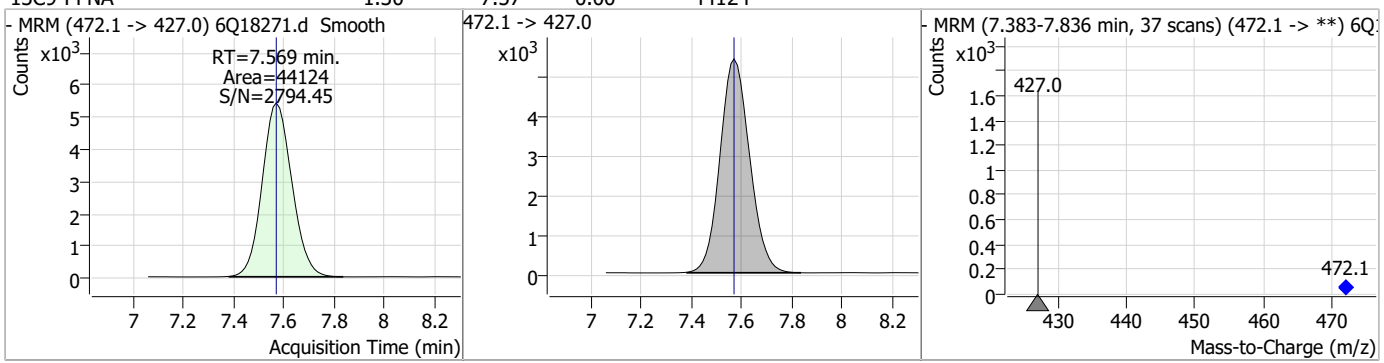
| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



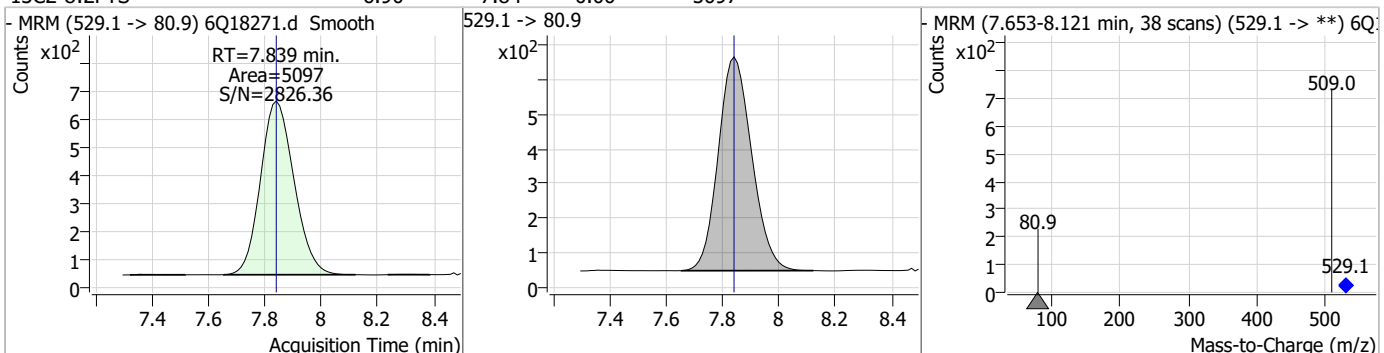


### Perfluorinated Compounds by LC/MS/MS

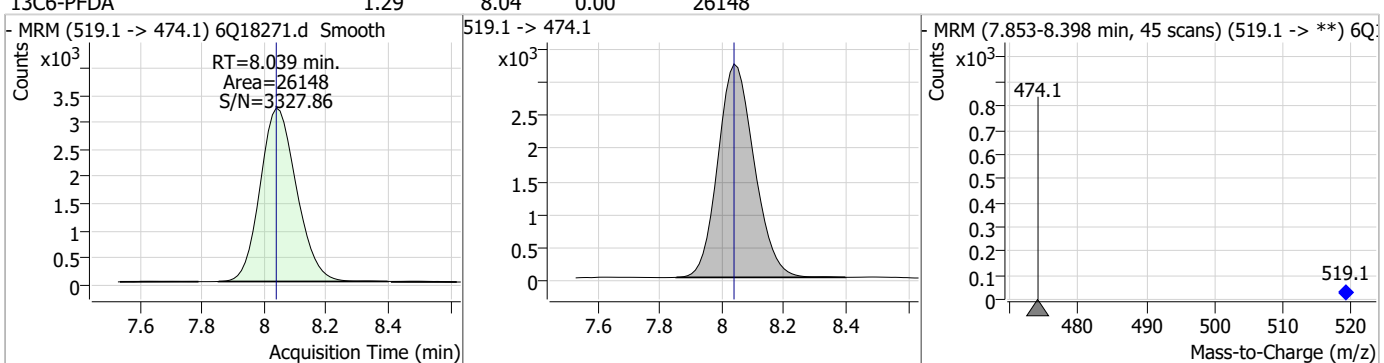
| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



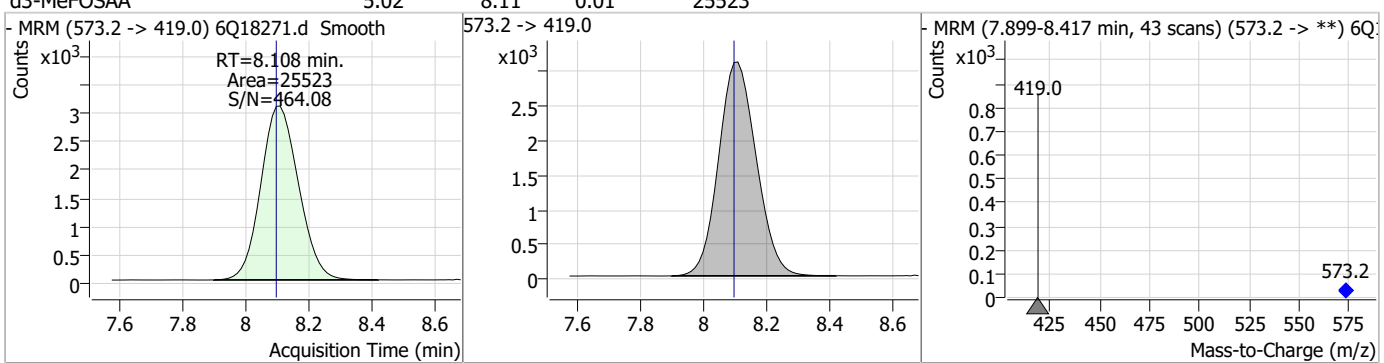
| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



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

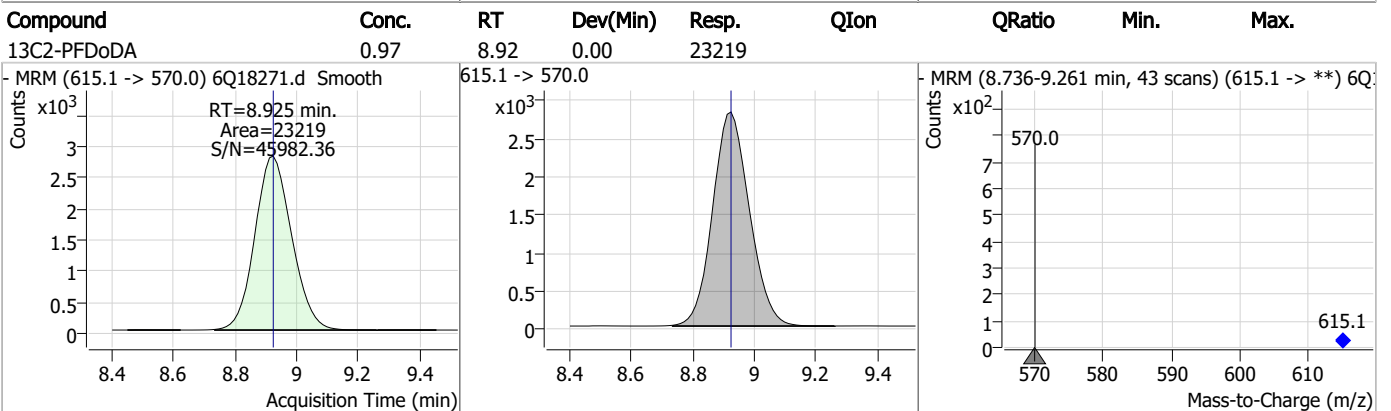
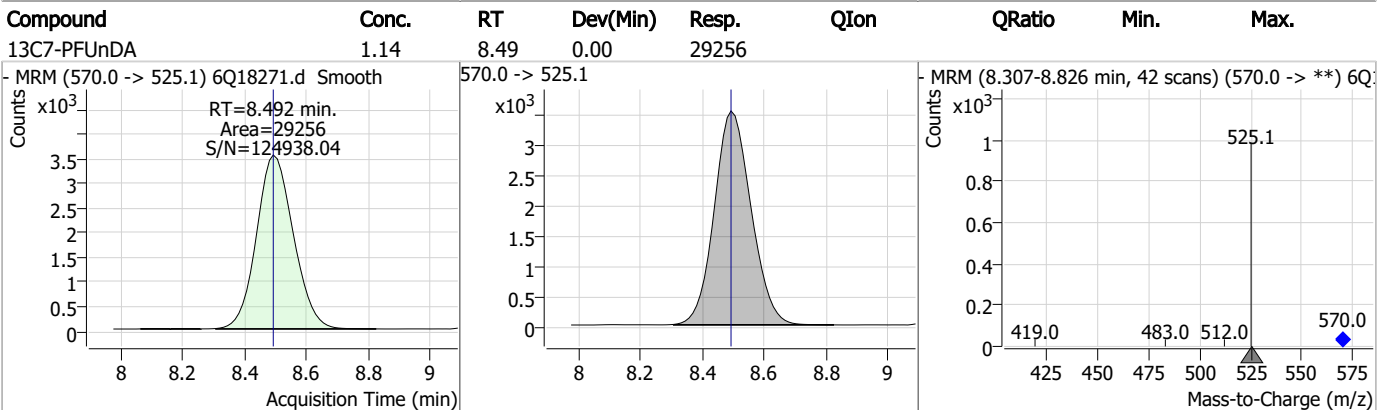
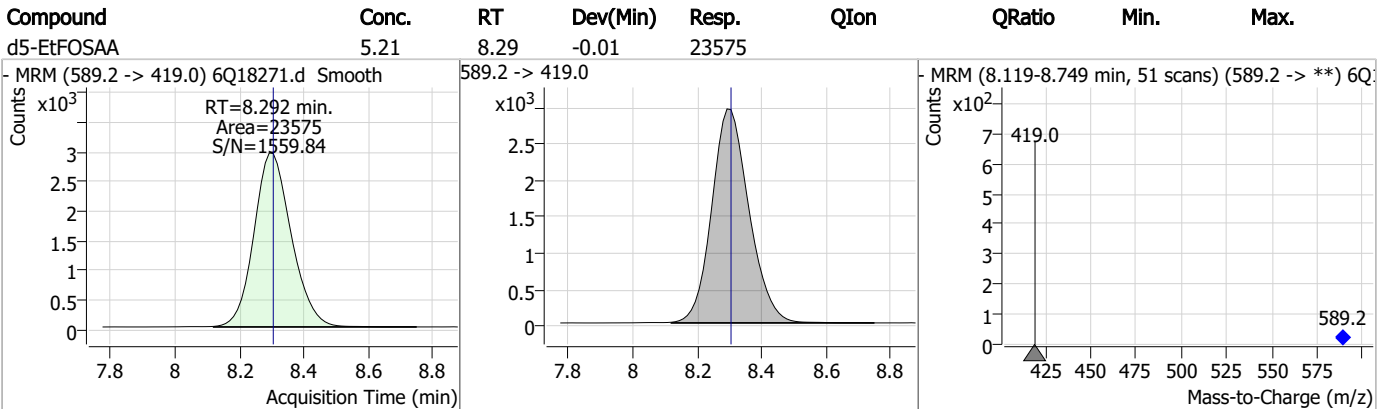
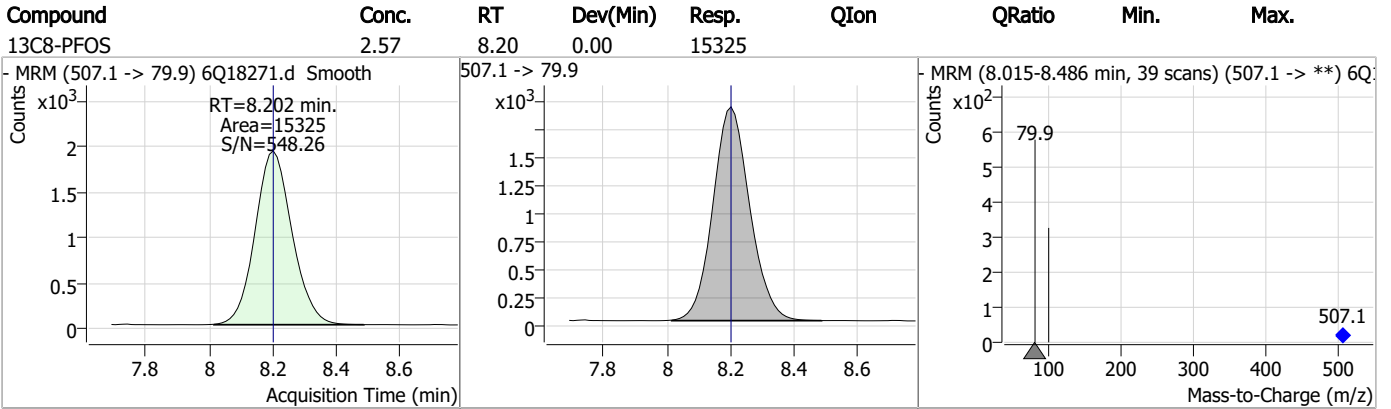


| Compound | Conc. | RT | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|----|----------|-------|------|--------|------|------|
|----------|-------|----|----------|-------|------|--------|------|------|



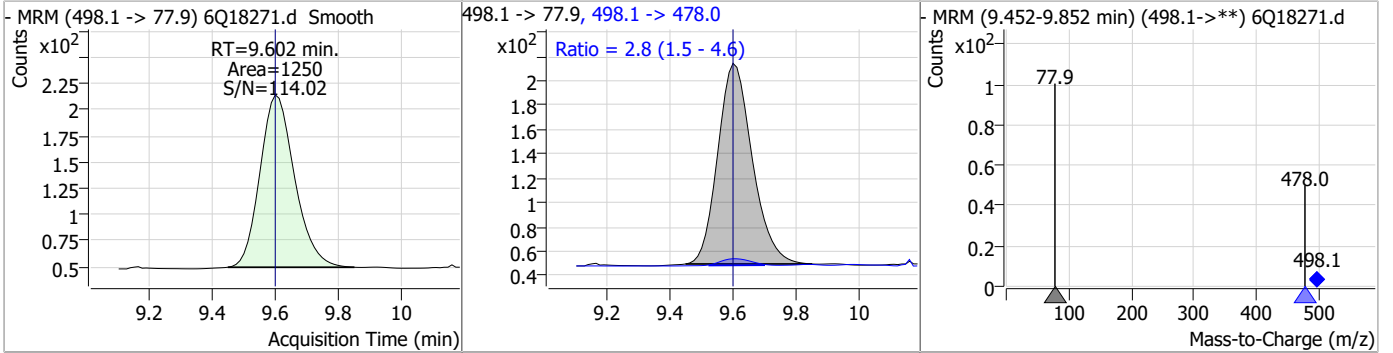
7.1.2  
7

Perfluorinated Compounds by LC/MS/MS

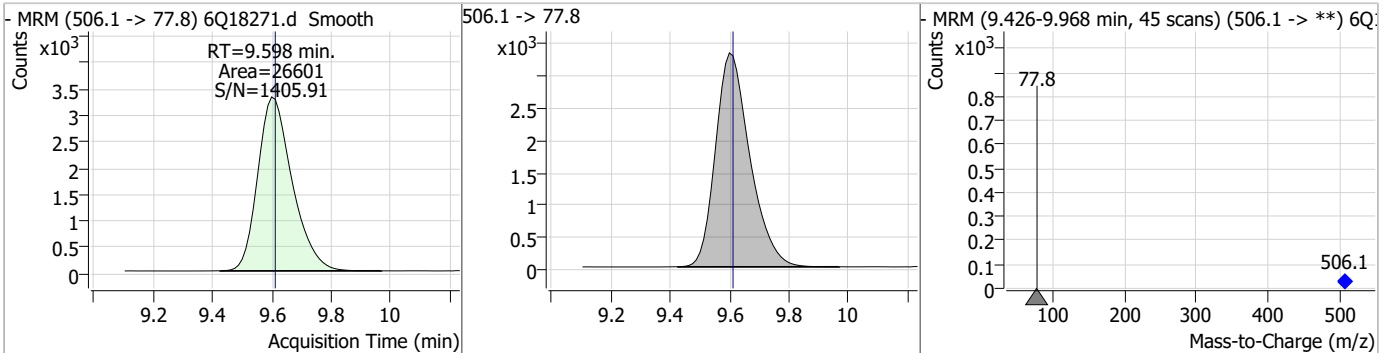


### Perfluorinated Compounds by LC/MS/MS

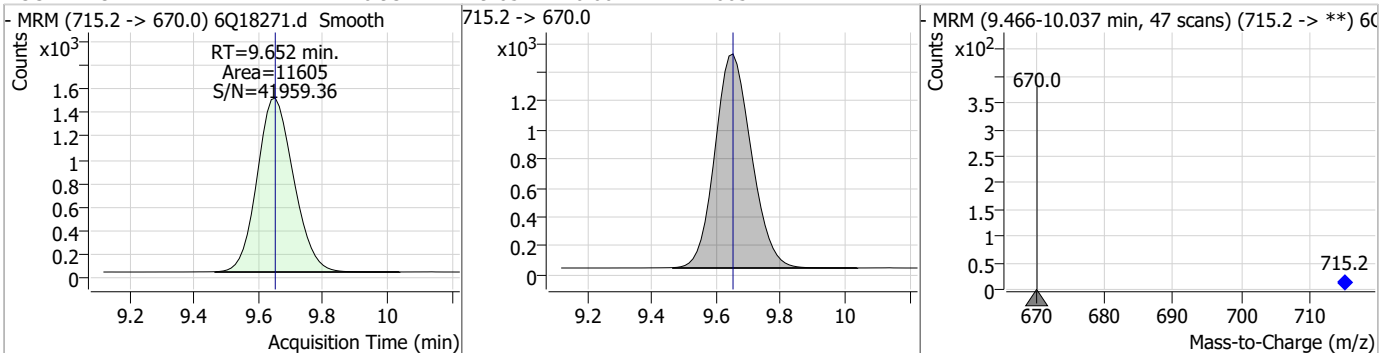
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 0.12  | 9.60 | 0.00     | 1250  | 498.1 -> 478.0 | 2.8    | 1.5  | 4.6  |



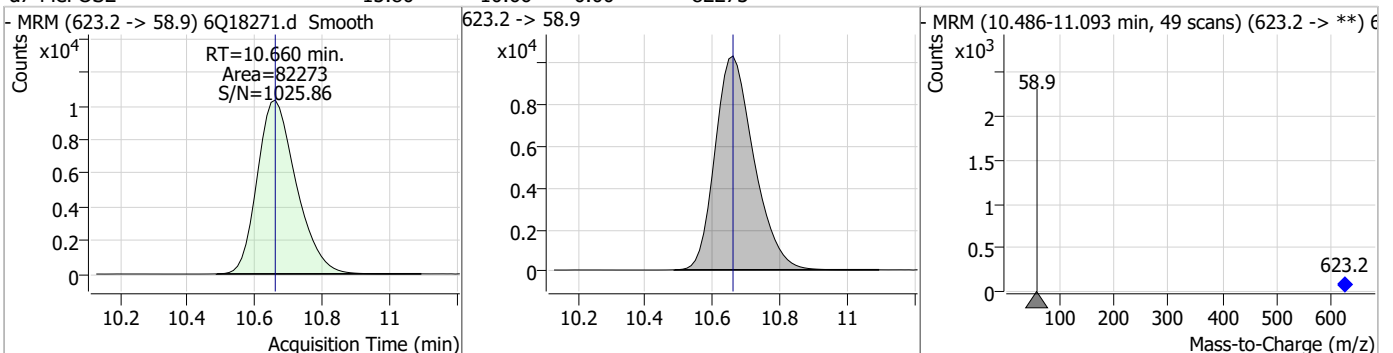
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 1.99  | 9.60 | -0.01    | 26601 |      |        |      |      |



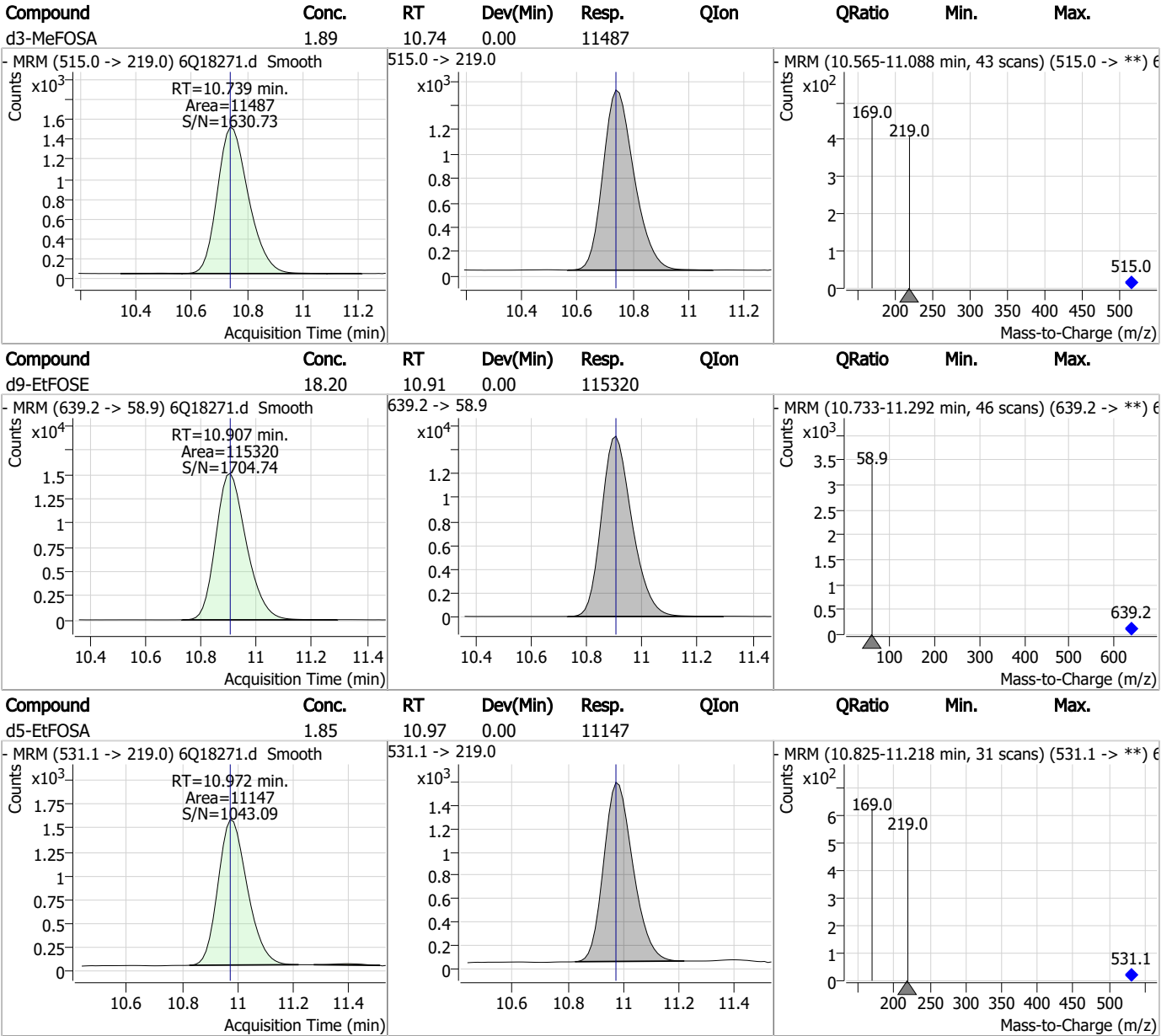
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 0.93  | 9.65 | 0.00     | 11605 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d7-MeFOSE | 15.80 | 10.66 | 0.00     | 82273 |      |        |      |      |



Perfluorinated Compounds by LC/MS/MS



7.1.2

7



### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18272.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 8:19:13 AM  
 Sample Name : FC6141-3  
 Vial : P2-D2  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,570,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 219879            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 75501             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 80686             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.382                | 367.1 -> 322.0 | 73920             | 2.50 µg/L   | -0.013   |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 116923            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 47159             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 26823             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 34803             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 26622             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 12723             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 29285             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 30402             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17565             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 16564             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3808              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5770              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5105              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 30341             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 117879            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 26686             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 85612             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 118426            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 11978             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 11963             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 19404             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 91912             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 11962             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 111232            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 33910             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 52495             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 74995             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3808              | 6.25 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 125.1% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5770              | 6.72 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 134.5% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5105              | 6.18 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 123.7% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 26622             | 1.08 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 86.4%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 12723             | 0.99 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 79.1%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 30402             | 2.67 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 106.7% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17565             | 2.69 µg/L   | -0.012   |

7.1.3  
7

Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 107.5% |          |
| 13C4-PFBA            | 2.888                | 216.8 -> 171.9 | 219879   | 10.14 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 101.4% |          |
| 13C4-PFHpA           | 6.382                | 367.1 -> 322.0 | 73920    | 2.64 µg/L         | -0.013   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 105.8% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 80686    | 2.68 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 107.3% |          |
| 13C5-PFPeA           | 4.235                | 268.3 -> 223.0 | 75501    | 5.37 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 107.5% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 26823    | 1.28 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 102.5% |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 34803    | 1.31 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 104.9% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 29285    | 2.17 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 86.7%  |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 116923   | 2.64 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 105.4% |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 16564    | 2.75 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 110.0% |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 47159    | 1.31 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 105.1% |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 30341    | 5.90 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 118.0% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 117879   | 10.24 µg/L        | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 102.4% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 11963    | 1.95 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 77.9%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 26686    | 5.83 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 116.7% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 85612    | 16.25 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 65.0%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 118426   | 18.48 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 73.9%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 11978    | 1.97 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 78.7%  |          |

Target Compounds

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

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT    | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|-------|----------------|----------|-------|-------|----------|
| PFHpA        | -     | 599.0 -> 98.8  | -        | N.D.  |       |          |
|              |       | 363.1 -> 319.0 |          |       |       |          |
| PFHpS        | -     | 363.1 -> 169.0 | -        | N.D.  |       |          |
|              |       | 449.0 -> 79.9  |          |       |       |          |
| PFHxA        | -     | 449.0 -> 98.9  | -        | N.D.  |       |          |
|              |       | 313.0 -> 269.0 |          |       |       |          |
| PFHxS        | -     | 313.0 -> 118.9 | -        | N.D.  |       |          |
|              |       | 398.7 -> 79.9  |          |       |       |          |
| PFNA         | -     | 398.7 -> 98.9  | -        | N.D.  |       |          |
|              |       | 463.0 -> 419.0 |          |       |       |          |
| PFNS         | -     | 463.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 548.8 -> 79.9  |          |       |       |          |
| PFOA         | 7.612 | 548.8 -> 98.9  | 0        | µg/L  | m     | 1        |
|              |       | 413.0 -> 369.0 |          |       |       |          |
| PFOS         | -     | 413.0 -> 169.0 | -        | N.D.  |       |          |
|              |       | 498.9 -> 79.9  |          |       |       |          |
| PFPeA        | -     | 498.9 -> 98.8  | -        | N.D.  |       |          |
|              |       | 263.0 -> 219.0 |          |       |       |          |
| PFPeS        | -     | 349.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 349.1 -> 98.9  |          |       |       |          |
| PFTeDA       | -     | 713.1 -> 669.0 | -        | N.D.  |       |          |
|              |       | 713.1 -> 168.9 |          |       |       |          |
| PFTrDA       | -     | 663.0 -> 619.0 | -        | N.D.  |       |          |
|              |       | 663.0 -> 168.9 |          |       |       |          |
| PFUnDA       | -     | 563.1 -> 519.0 | -        | N.D.  |       |          |
|              |       | 563.1 -> 269.1 |          |       |       |          |
| 11Cl-PF3OUdS | -     | 630.9 -> 450.9 | -        | N.D.  |       |          |
|              |       | 632.9 -> 452.9 |          |       |       |          |
| 9Cl-PF3ONS   | -     | 530.8 -> 351.0 | -        | N.D.  |       |          |
|              |       | 532.8 -> 353.0 |          |       |       |          |
| ADONA        | -     | 376.9 -> 250.9 | -        | N.D.  |       |          |
|              |       | 376.9 -> 84.8  |          |       |       |          |
| HFPO-DA      | -     | 284.9 -> 168.9 | -        | N.D.  |       |          |
|              |       | 284.9 -> 184.9 |          |       |       |          |
| 3:3FTCA      | -     | 241.0 -> 177.0 | -        | N.D.  |       |          |
|              |       | 241.0 -> 117.0 |          |       |       |          |
| 5:3FTCA      | -     | 341.0 -> 237.1 | -        | N.D.  |       |          |
|              |       | 341.0 -> 217.0 |          |       |       |          |
| 7:3FTCA      | -     | 441.0 -> 316.9 | -        | N.D.  |       |          |
|              |       | 441.0 -> 336.9 |          |       |       |          |
| EtFOSA       | -     | 526.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 526.0 -> 169.0 |          |       |       |          |
| EtFOSE       | -     | 630.0 -> 58.9  | -        | N.D.  |       |          |
|              |       | 511.9 -> 219.0 |          |       |       |          |
| MeFOSA       | -     | 511.9 -> 169.0 | -        | N.D.  |       |          |
|              |       | 616.1 -> 58.9  |          |       |       |          |
| MeFOSE       | -     | 699.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 699.1 -> 98.8  |          |       |       |          |
| PFDoDS       | -     | 295.0 -> 201.0 | -        | N.D.  |       |          |
|              |       | 295.0 -> 84.9  |          |       |       |          |
| NFDHA        | -     | 279.0 -> 85.1  | -        | N.D.  |       |          |
|              |       | 229.0 -> 84.9  |          |       |       |          |
| PFMBA        | -     | 314.8 -> 134.9 | -        | N.D.  |       |          |
|              |       | 314.8 -> 82.9  |          |       |       |          |

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

### Perfluorinated Compounds by LC/MS/MS

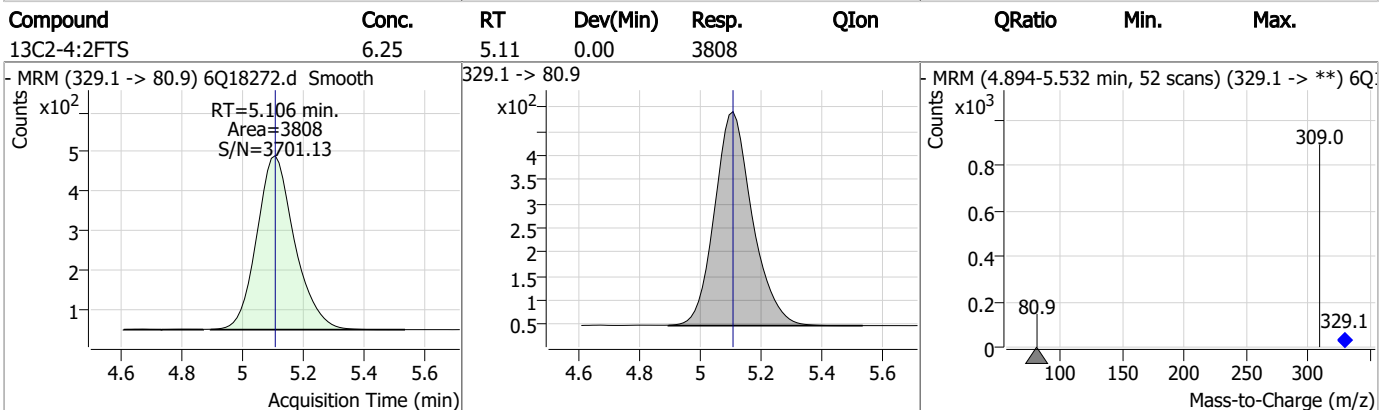
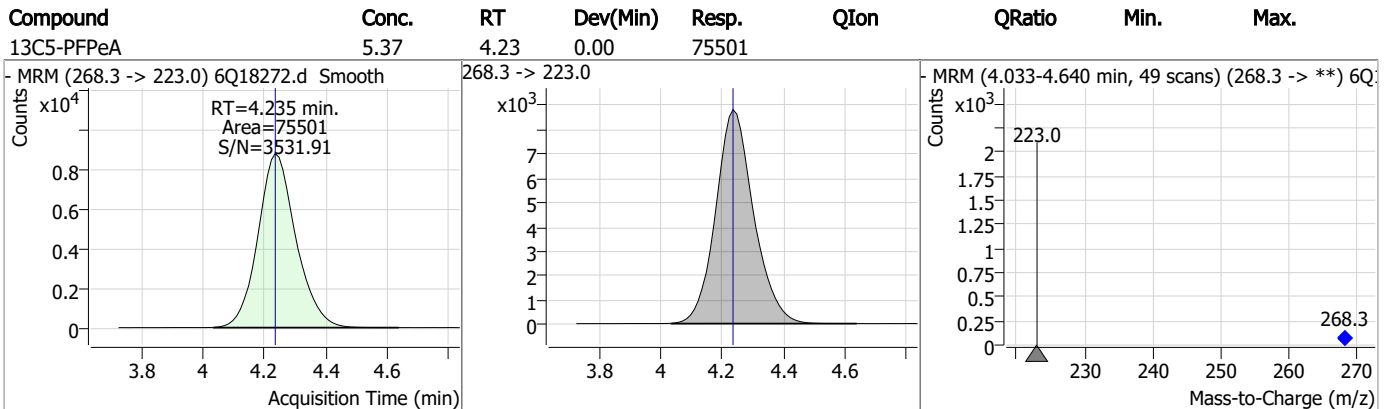
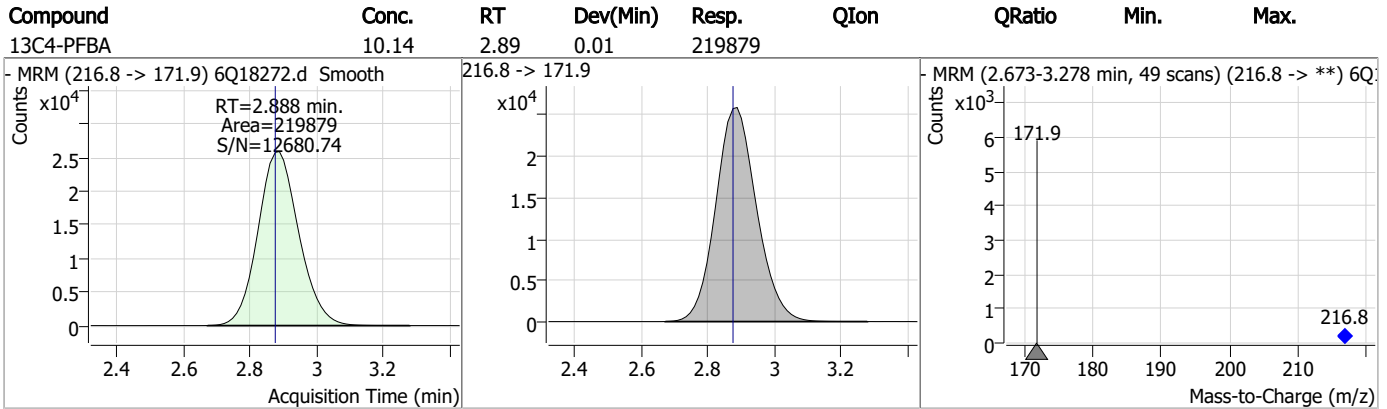
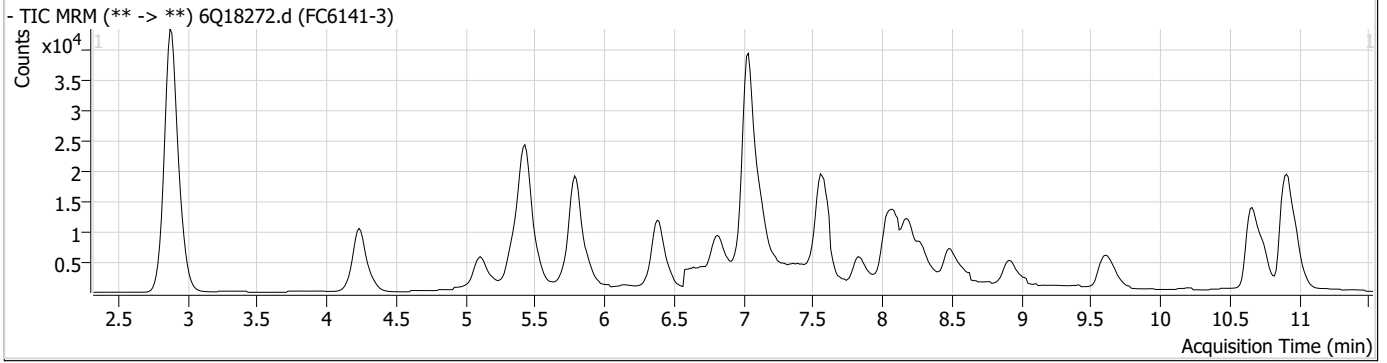
| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.1.3  
7

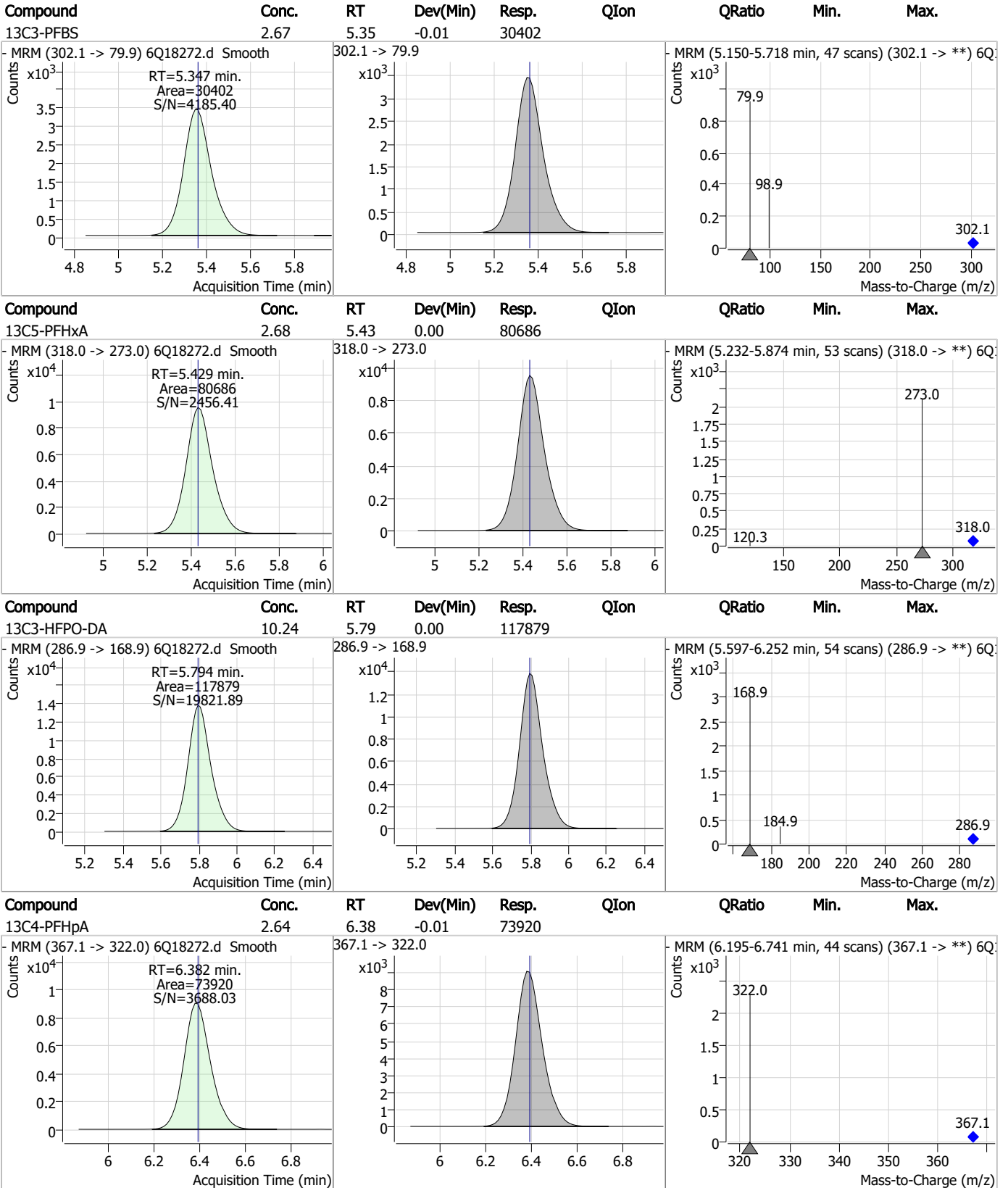




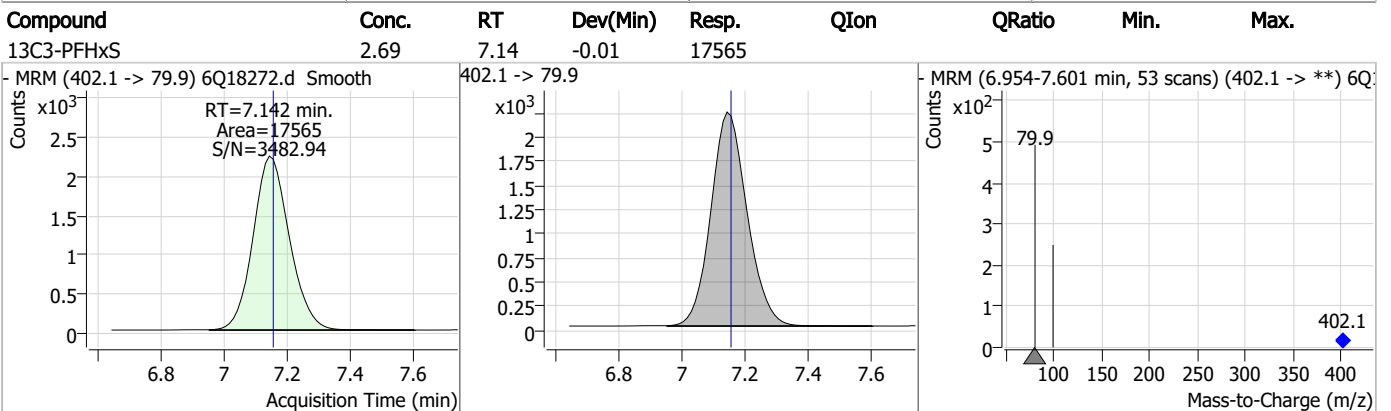
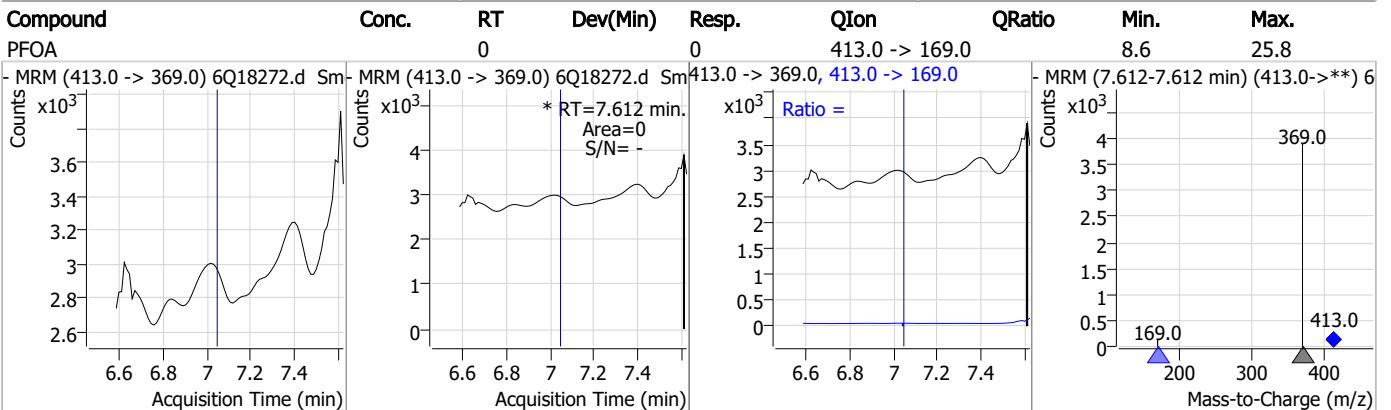
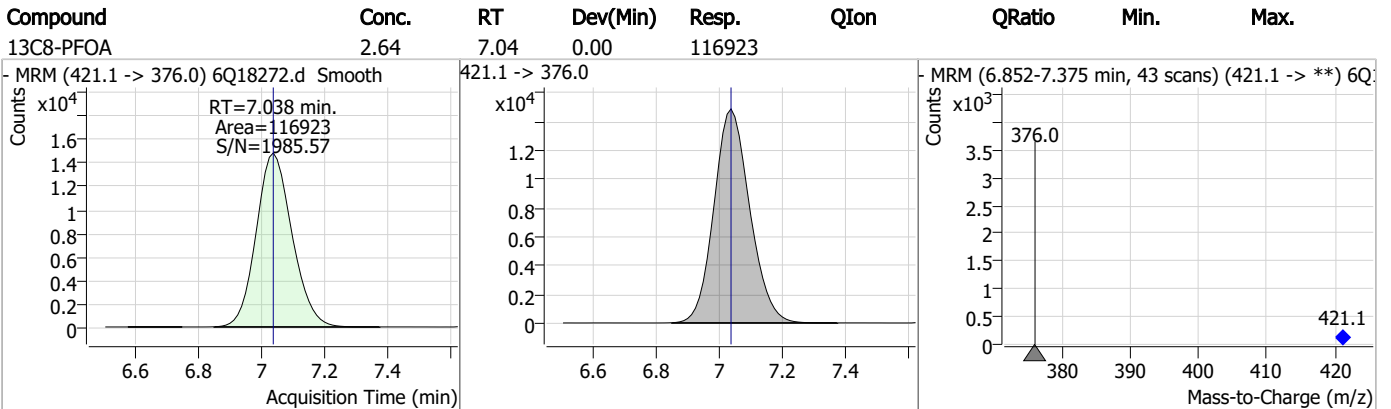
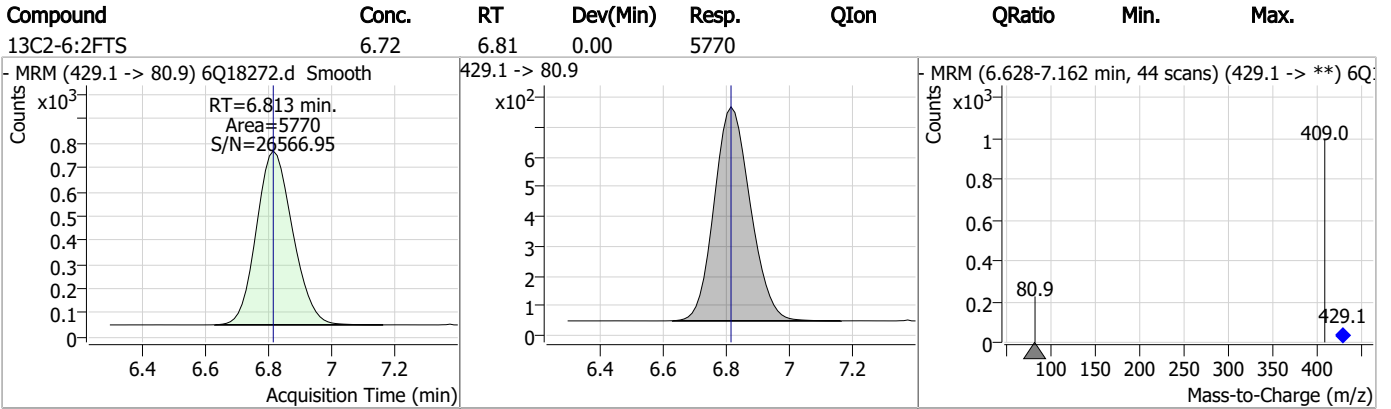
### Perfluorinated Compounds by LC/MS/MS



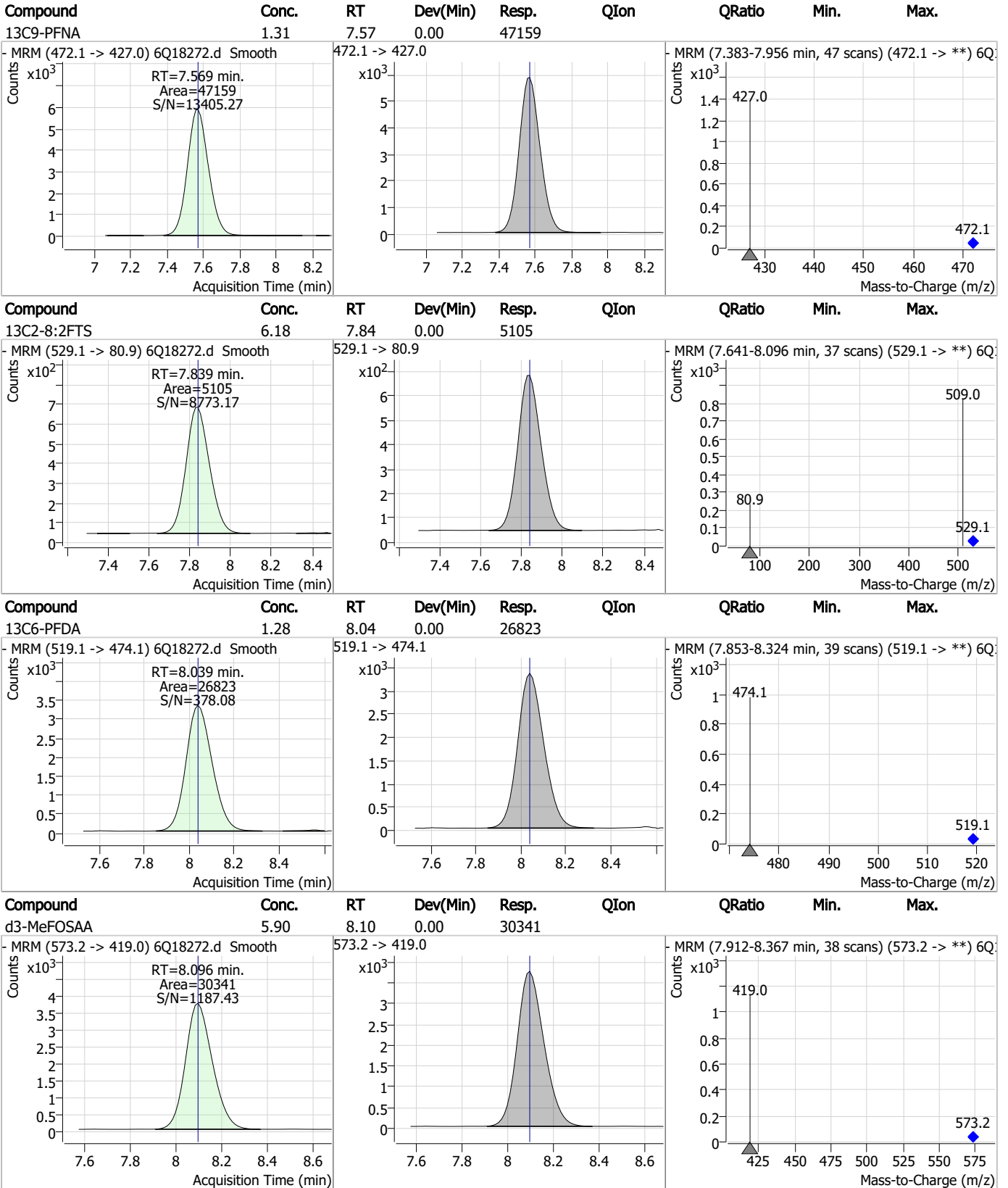
### Perfluorinated Compounds by LC/MS/MS



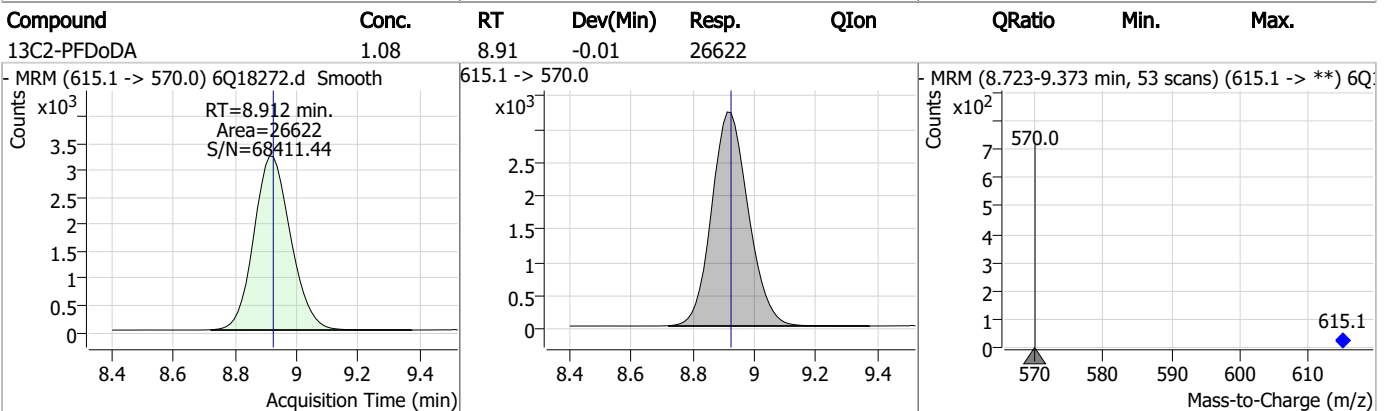
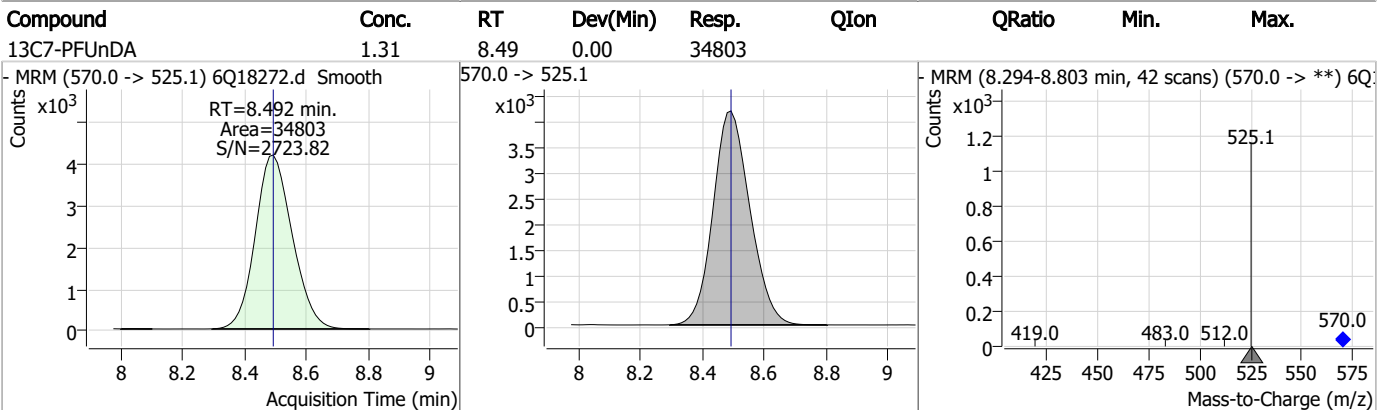
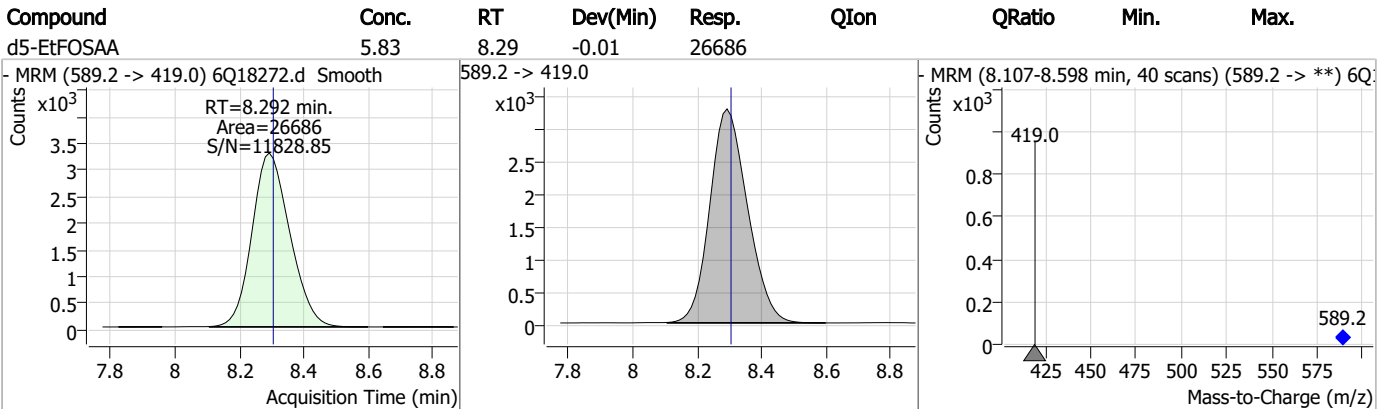
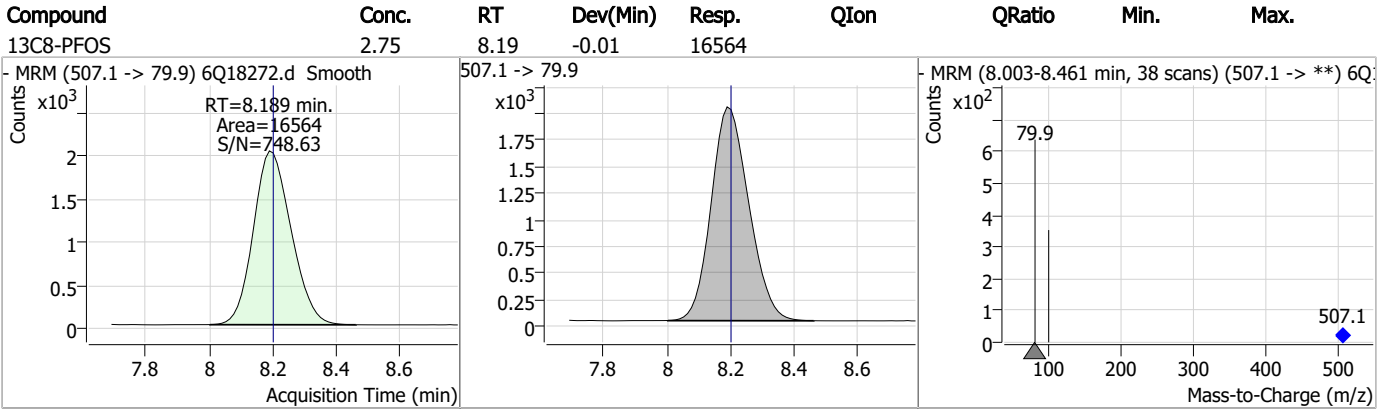
### Perfluorinated Compounds by LC/MS/MS



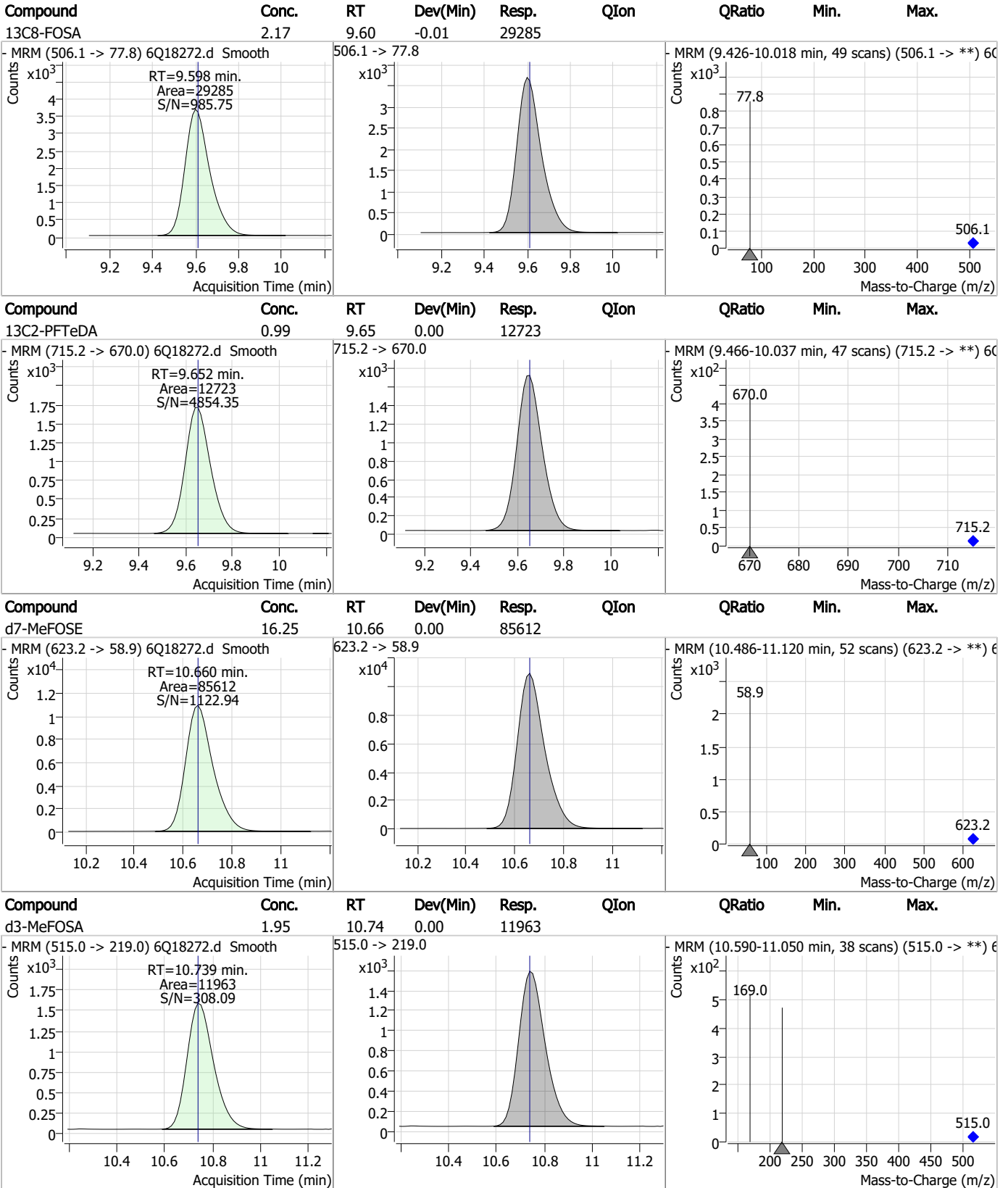
### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

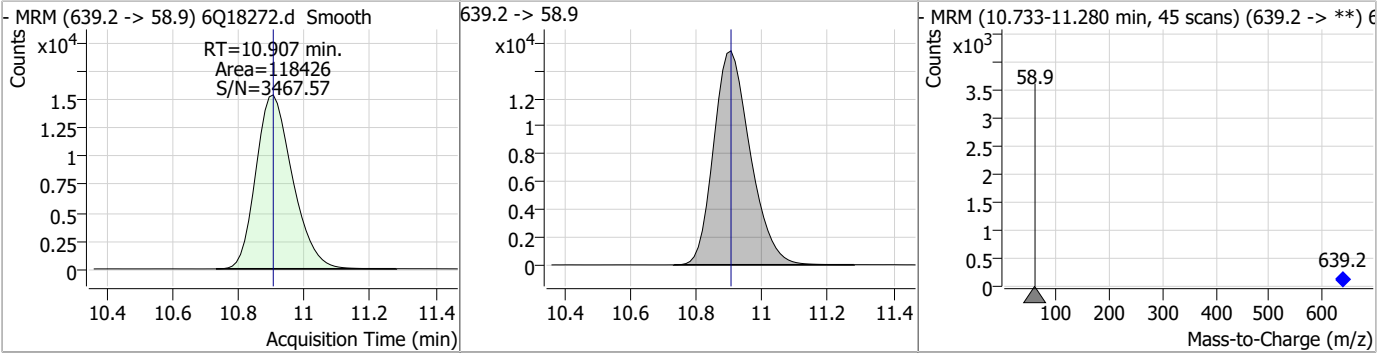


### Perfluorinated Compounds by LC/MS/MS

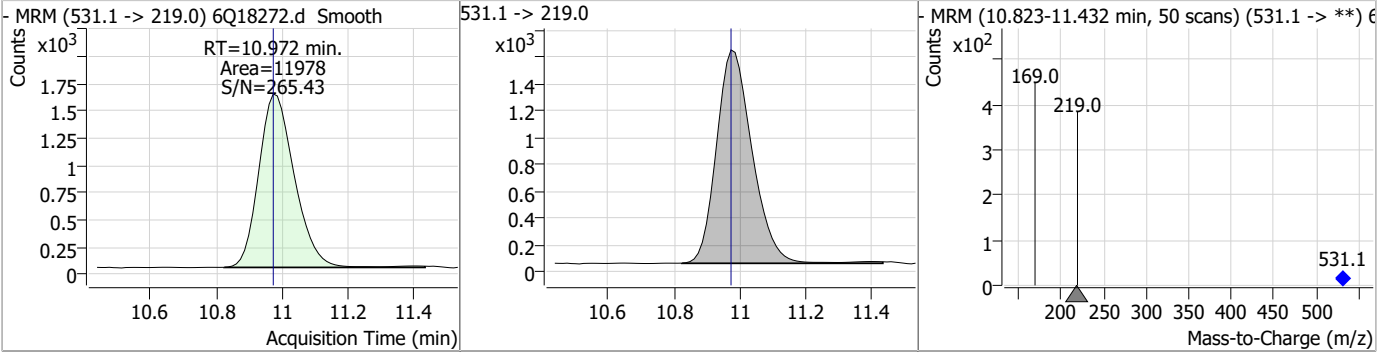


Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 18.48 | 10.91 | 0.00     | 118426 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOFA | 1.97  | 10.97 | 0.00     | 11978 |      |        |      |      |



7.1.3

7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18255.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 4:13:00 AM  
 Sample Name : op96959-mb  
 Vial : P2-B5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 208916            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 66646             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 71447             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.382                | 367.1 -> 322.0 | 68364             | 2.50 µg/L   | -0.013   |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 106008            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 41993             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 25529             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 30722             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 24581             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 11860             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 21392             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 26723             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 15676             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 15783             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3451              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4729              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4611              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 25564             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 107431            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 21947             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 66546             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 98292             | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 10510             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 9478              | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 19303             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 83507             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 11314             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 101530            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 32738             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 49382             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 68673             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3451              | 5.99 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 119.8% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4729              | 5.83 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 116.6% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4611              | 5.91 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 118.1% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 24581             | 1.03 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 82.7%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 11860             | 0.95 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 76.4%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 26723             | 2.48 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 99.2%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 15676             | 2.54 µg/L   | -0.012   |

7.2.1  
7





Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 101.5% |          |
| 13C4-PFBA            | 2.888                | 216.8 -> 171.9 | 208916   | 10.61 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 106.1% |          |
| 13C4-PFHpA           | 6.382                | 367.1 -> 322.0 | 68364    | 2.67 µg/L         | -0.013   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 106.8% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 71447    | 2.59 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.8% |          |
| 13C5-PFPeA           | 4.235                | 268.3 -> 223.0 | 66646    | 5.18 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 103.6% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 25529    | 1.26 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 101.0% |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 30722    | 1.20 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 95.9%  |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 21392    | 1.59 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 63.7%  |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 106008   | 2.62 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 104.7% |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 15783    | 2.63 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 105.3% |          |
| 13C9-PFNA            | 7.557                | 472.1 -> 427.0 | 41993    | 1.24 µg/L         | -0.012   |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 25564    | 5.00 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 107431   | 10.19 µg/L        | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 9478     | 1.55 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 62.0%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 21947    | 4.82 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 96.4%  |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 66546    | 12.70 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 50.8%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 98292    | 15.41 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 61.7%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 10510    | 1.73 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 69.4%  |          |

Target Compounds

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



7.2.1  
7

Perfluorinated Compounds by LC/MS/MS

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

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

7.2.1  
7

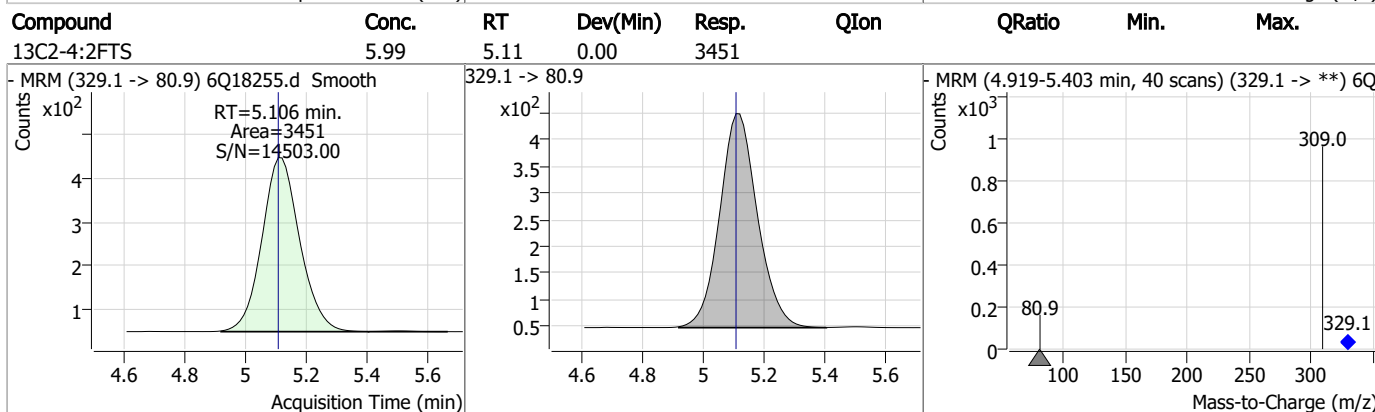
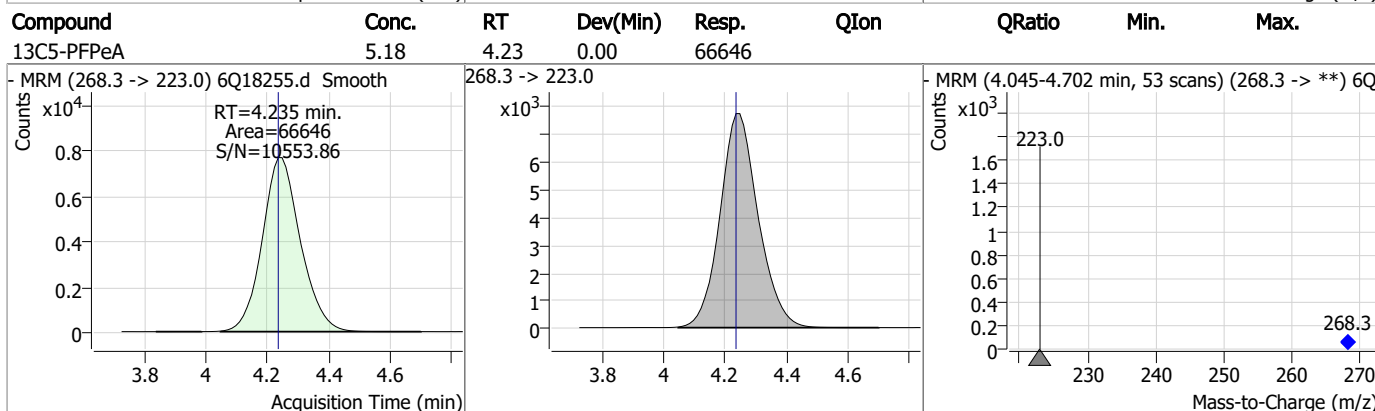
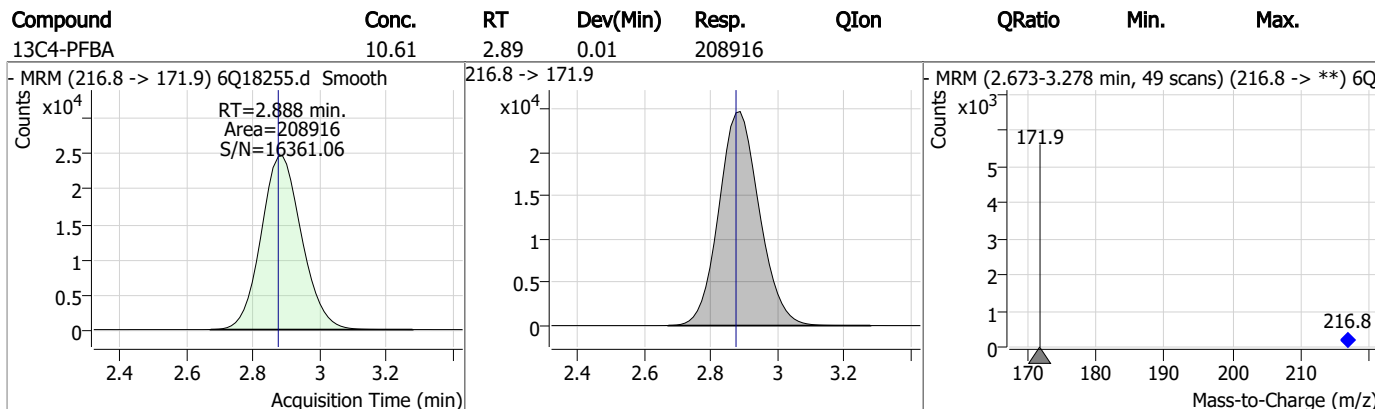
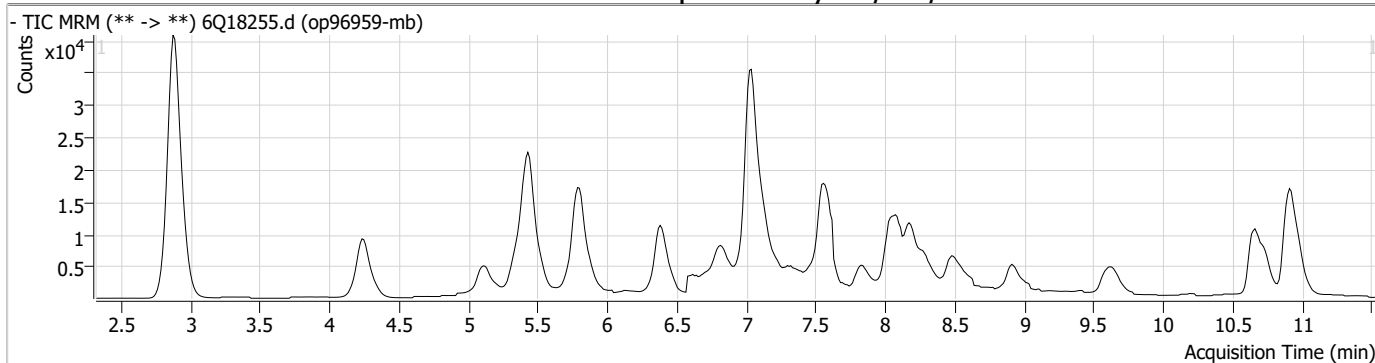
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.2.1

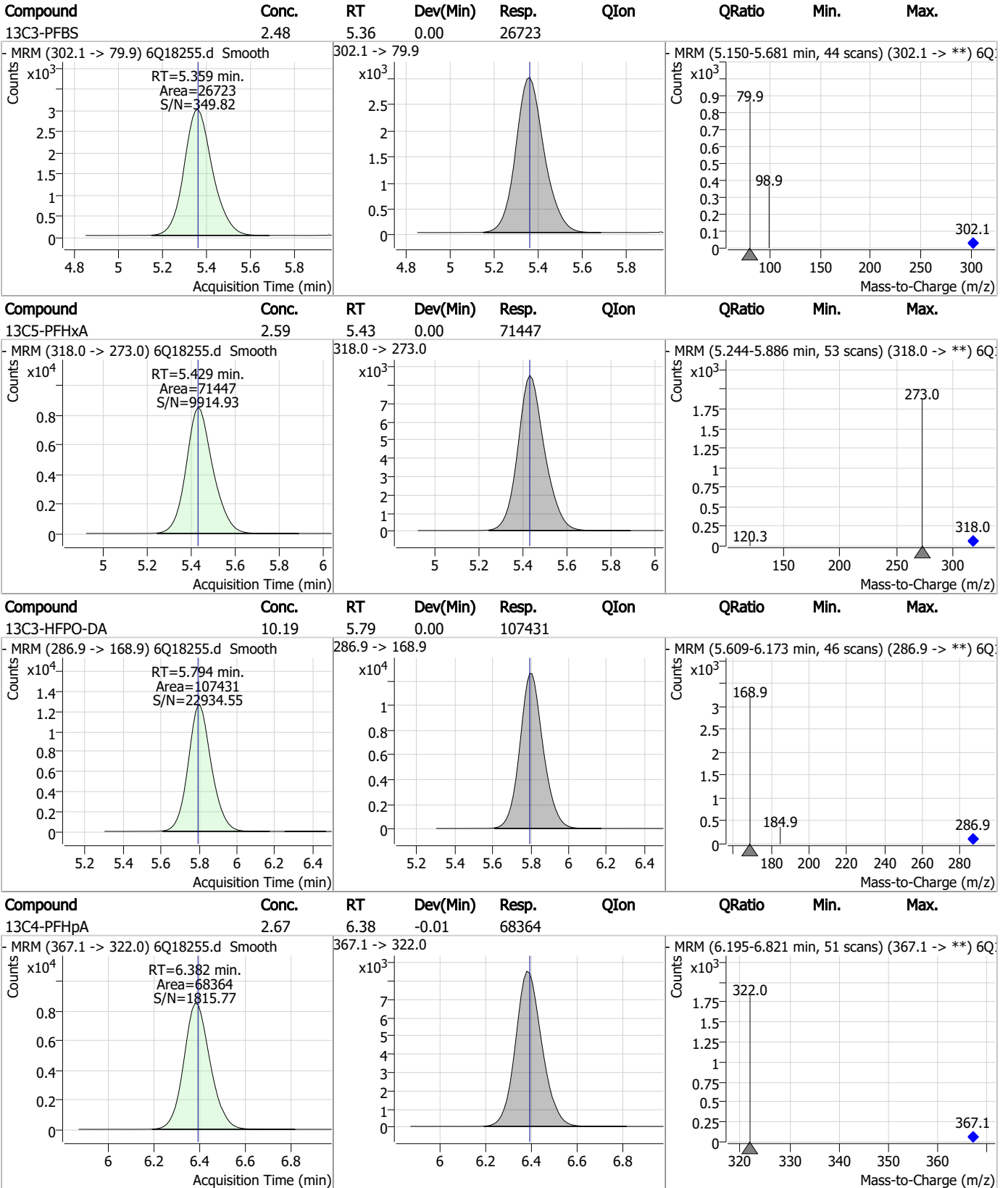
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### Perfluorinated Compounds by LC/MS/MS



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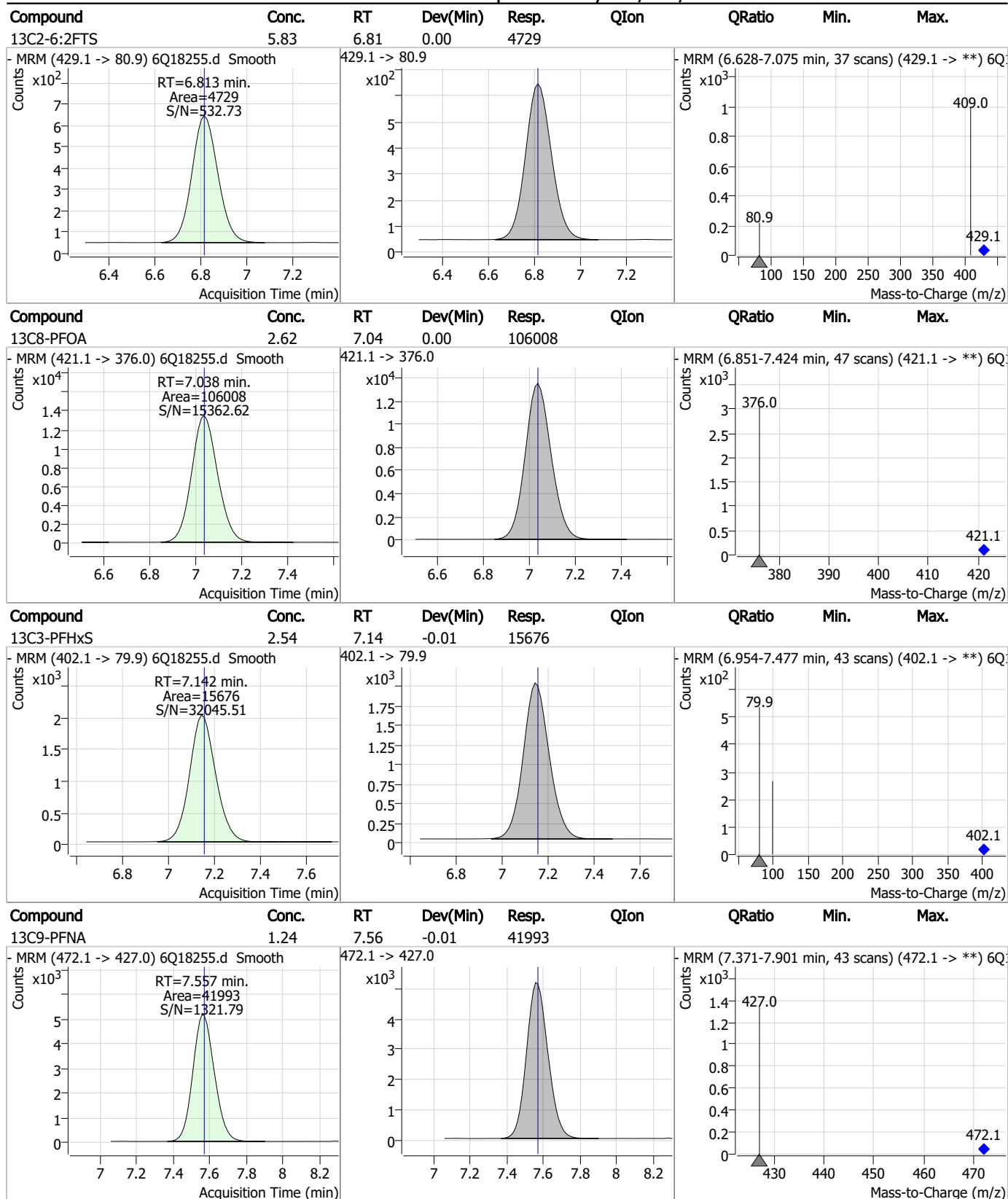
### Perfluorinated Compounds by LC/MS/MS



7.2.1

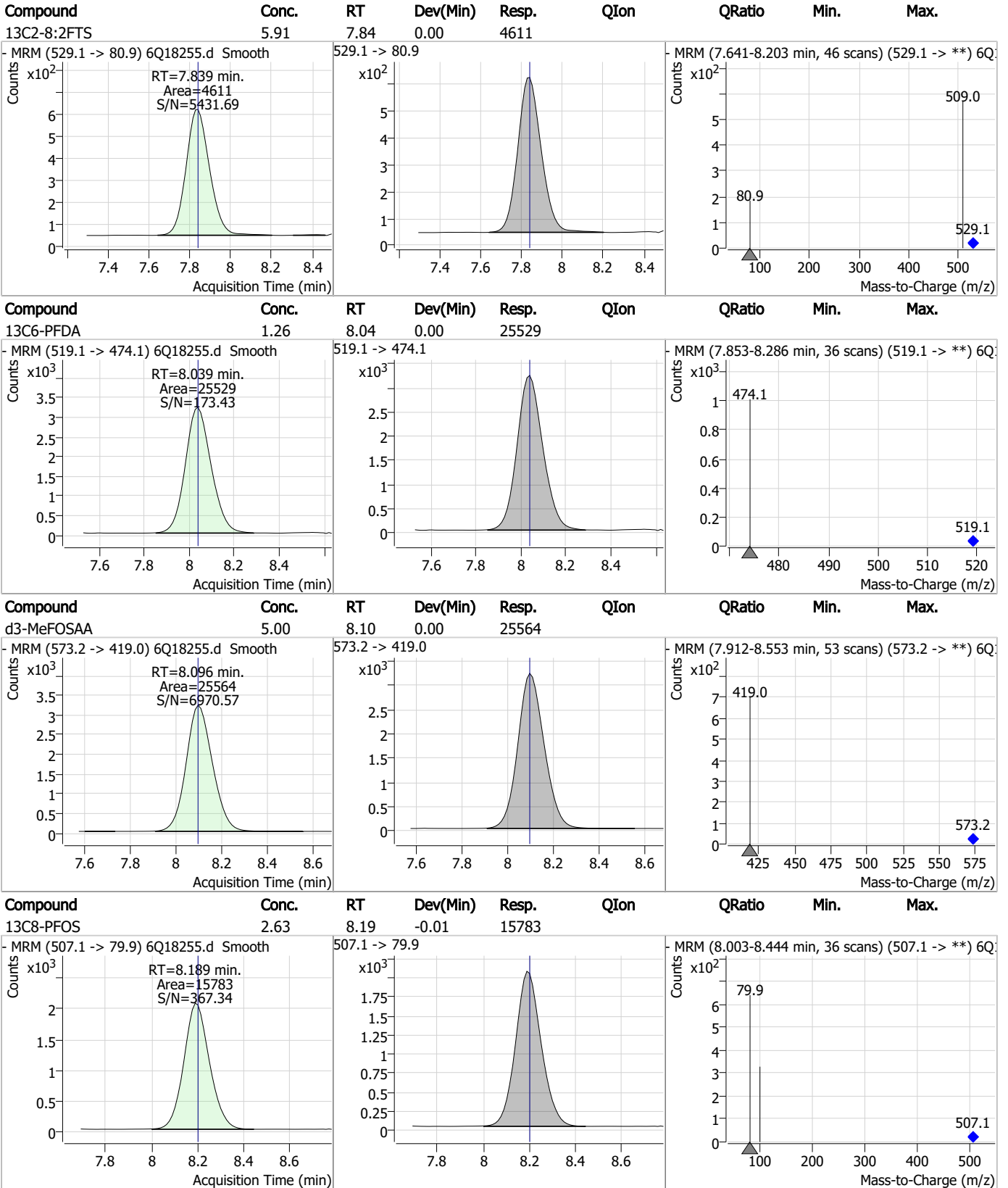
7

### Perfluorinated Compounds by LC/MS/MS



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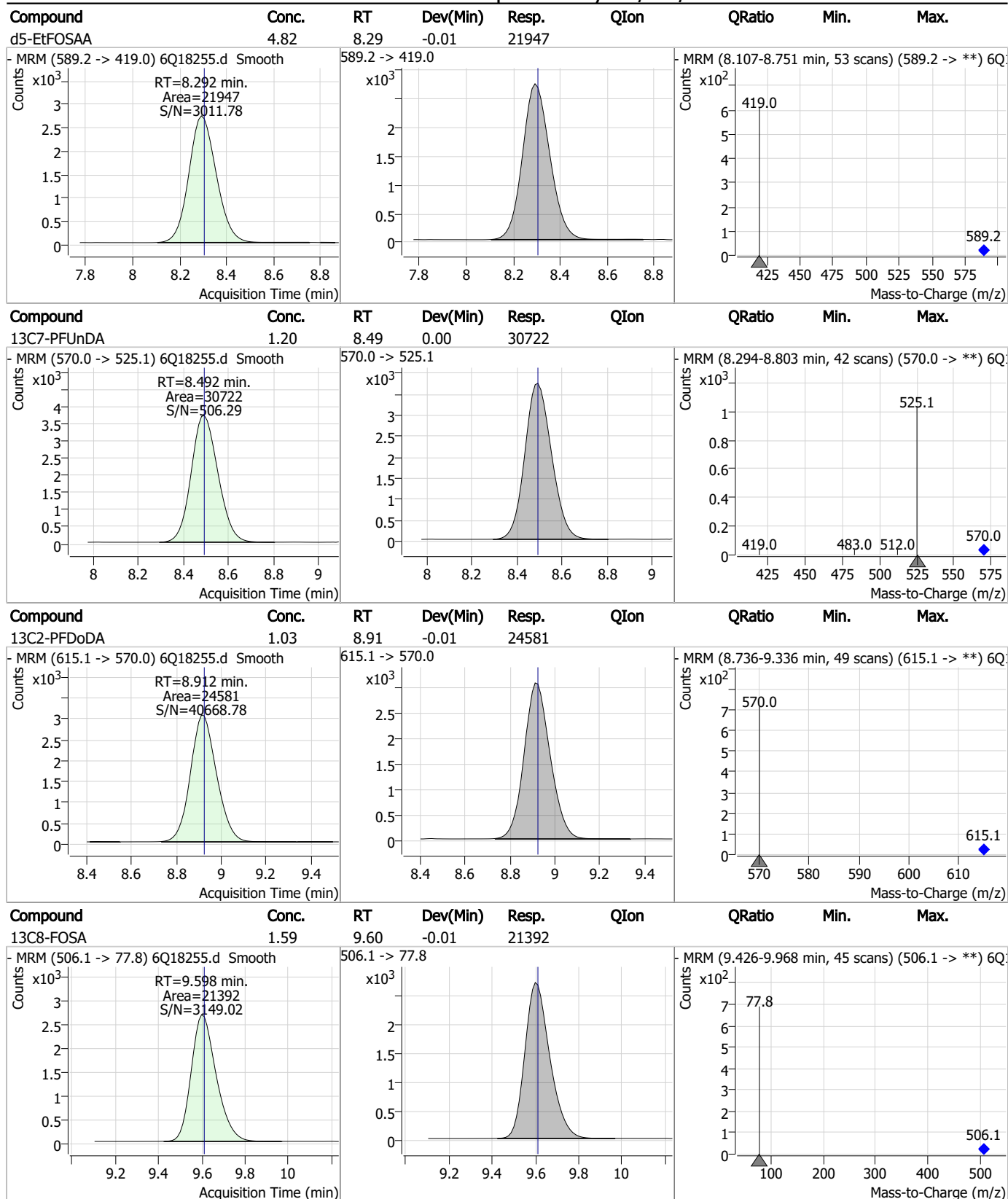
### Perfluorinated Compounds by LC/MS/MS



7.2.1

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### Perfluorinated Compounds by LC/MS/MS



7.2.1  
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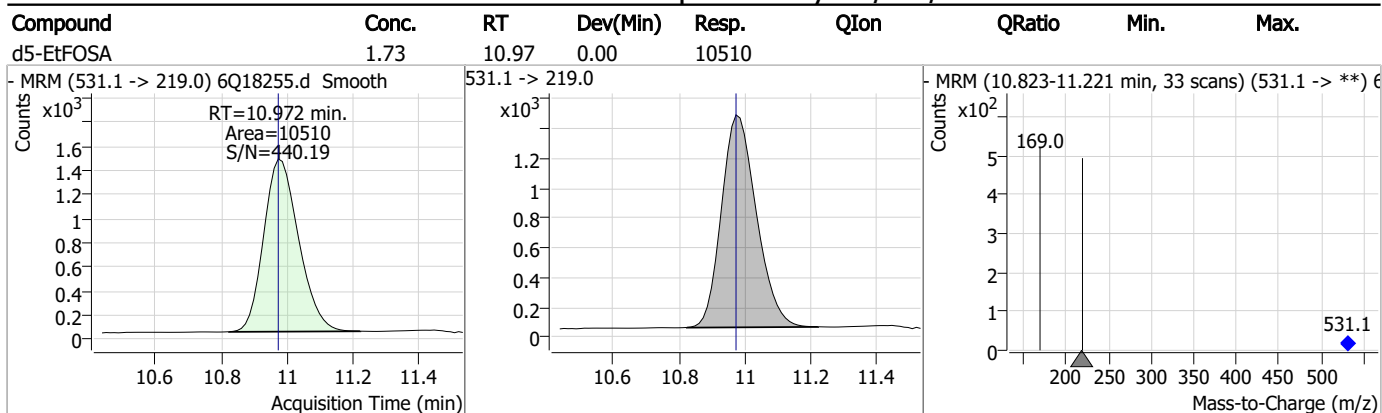


### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|-------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 0.95  | 9.65  | 0.00     | 11860 |      |        |      |      |
|             |       |       |          |       |      |        |      |      |
| d7-MeFOSE   | 12.70 | 10.66 | 0.00     | 66546 |      |        |      |      |
|             |       |       |          |       |      |        |      |      |
| d3-MeFOSA   | 1.55  | 10.74 | 0.00     | 9478  |      |        |      |      |
|             |       |       |          |       |      |        |      |      |
| d9-EtFOSE   | 15.41 | 10.91 | 0.00     | 98292 |      |        |      |      |
|             |       |       |          |       |      |        |      |      |

7.2.1  
7

### Perfluorinated Compounds by LC/MS/MS



7.2.1

7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18235.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 11:23:21 PM  
 Sample Name : iblk  
 Vial : P1-A1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.835                | 216.8 -> 171.9 | 211470            | 10.00 µg/L  | -0.041   |
| M5-PFPeA                           | 4.222                | 268.3 -> 223.0 | 72317             | 5.00 µg/L   | -0.012   |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 75518             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 73064             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 108192            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 44762             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 26271             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 34788             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 30223             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 15933             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 35973             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 28494             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17031             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15953             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3161              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4653              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4445              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 26951             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 114094            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 24413             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 122562            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 158713            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 15773             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 15741             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 20091             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.827                | 216.0 -> 172.0 | 89999             | 5.00 µg/L   | -0.052   |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 12878             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 110496            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 35179             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 52619             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 79248             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3161              | 4.82 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 96.4%  |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4653              | 5.04 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.8% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4445              | 5.00 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.0% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 30223             | 1.18 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 94.6%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 15933             | 1.19 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 95.5%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 28494             | 2.32 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 92.9%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17031             | 2.42 µg/L   | -0.012   |

7.22  
7

### Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 96.9%  |          |
| 13C4-PFBA            | 2.835                | 216.8 -> 171.9 | 211470   | 9.96 µg/L         | -0.041   |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 99.6%  |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 73064    | 2.47 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 98.9%  |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 75518    | 2.38 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 95.0%  |          |
| 13C5-PFPeA           | 4.222                | 268.3 -> 223.0 | 72317    | 4.87 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 97.4%  |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 26271    | 1.21 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 96.7%  |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 34788    | 1.26 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 35973    | 2.57 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.9% |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 108192   | 2.45 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 98.2%  |          |
| 13C8-PFOS            | 8.202                | 507.1 -> 79.9  | 15953    | 2.56 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.3% |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 44762    | 1.24 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 26951    | 5.06 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 101.3% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 114094   | 9.38 µg/L         | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 93.8%  |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 15741    | 2.47 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 98.9%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 24413    | 5.15 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 103.1% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 122562   | 22.47 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 89.9%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 158713   | 23.91 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 95.7%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 15773    | 2.50 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 100.1% |          |

**Target Compounds**

**QValue**

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



7.2.2  
7

## Perfluorinated Compounds by LC/MS/MS

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

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

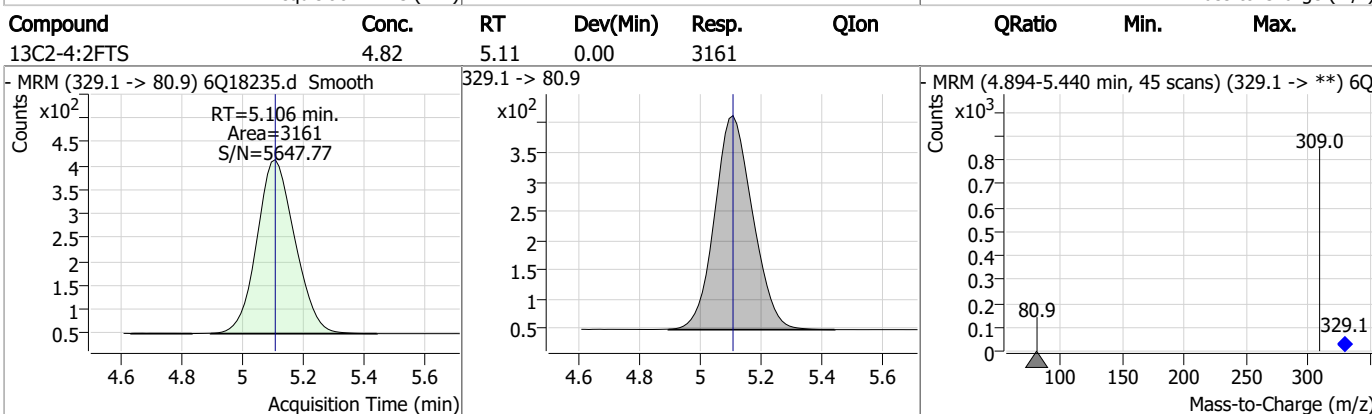
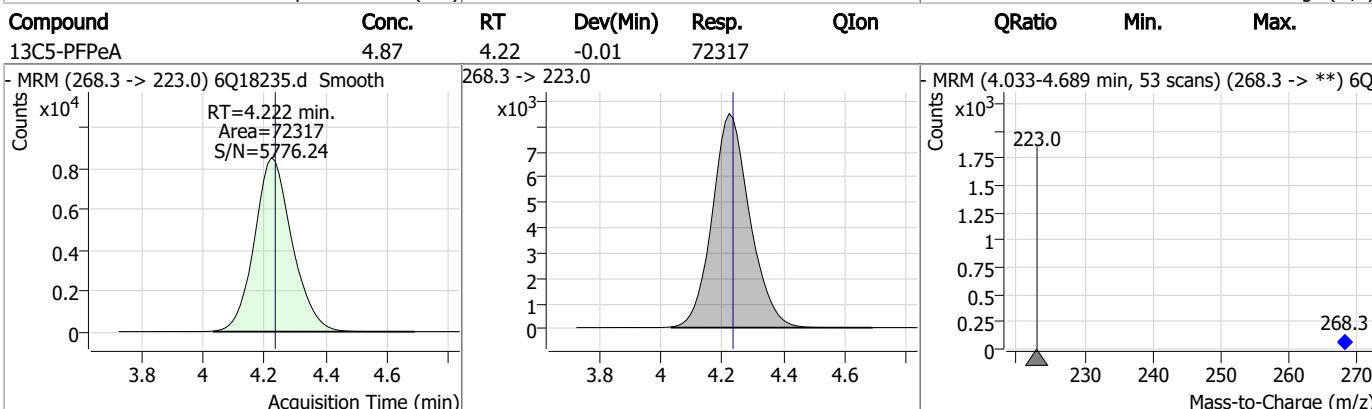
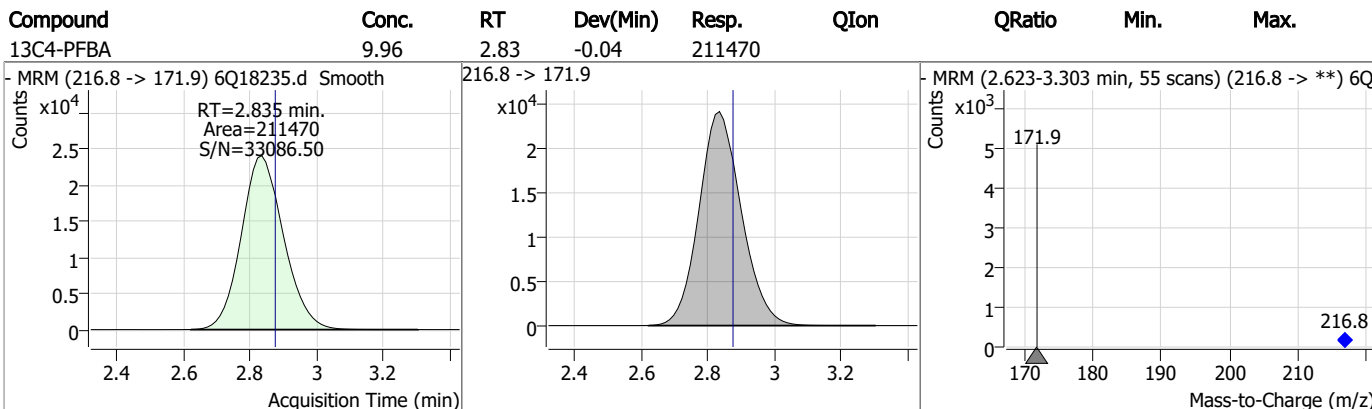
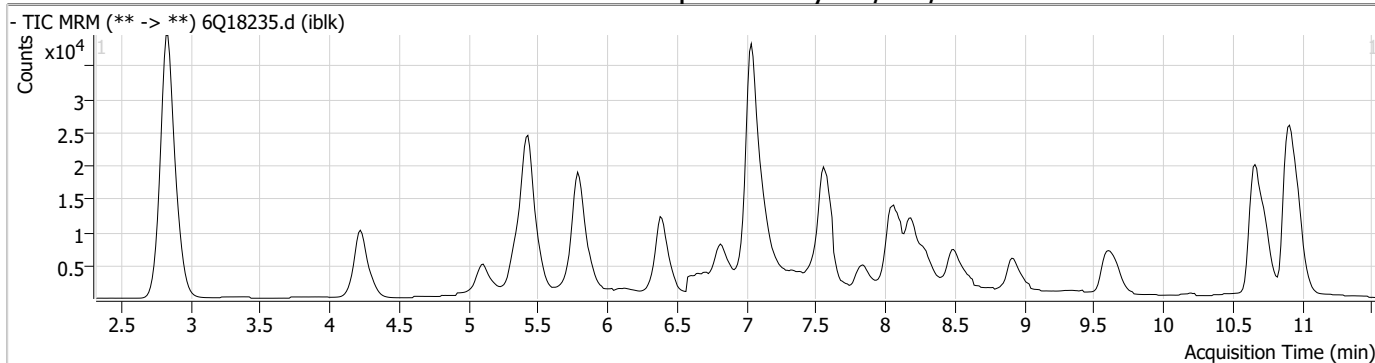
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.2.2

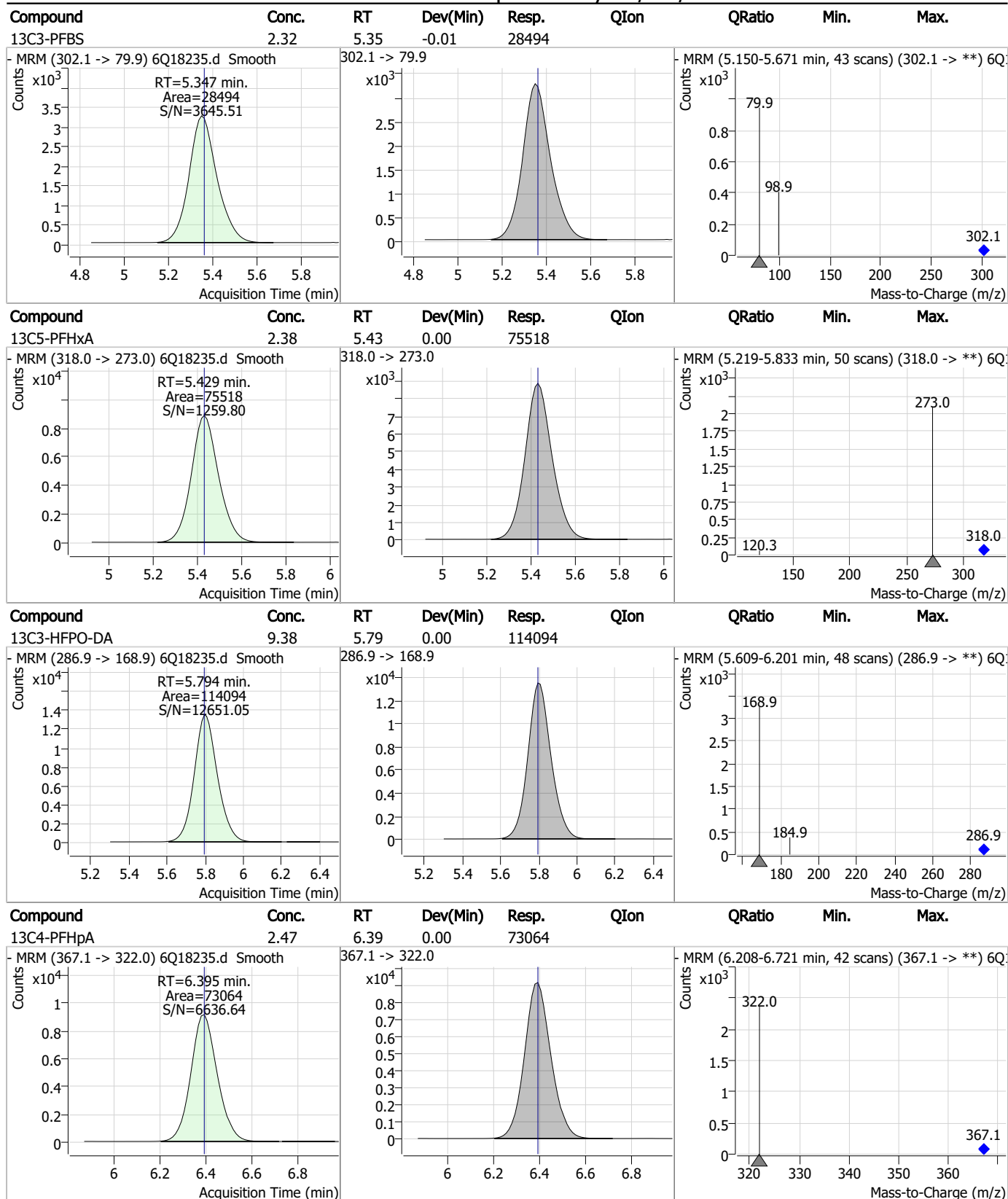
7

### Perfluorinated Compounds by LC/MS/MS



7.2.2  
7

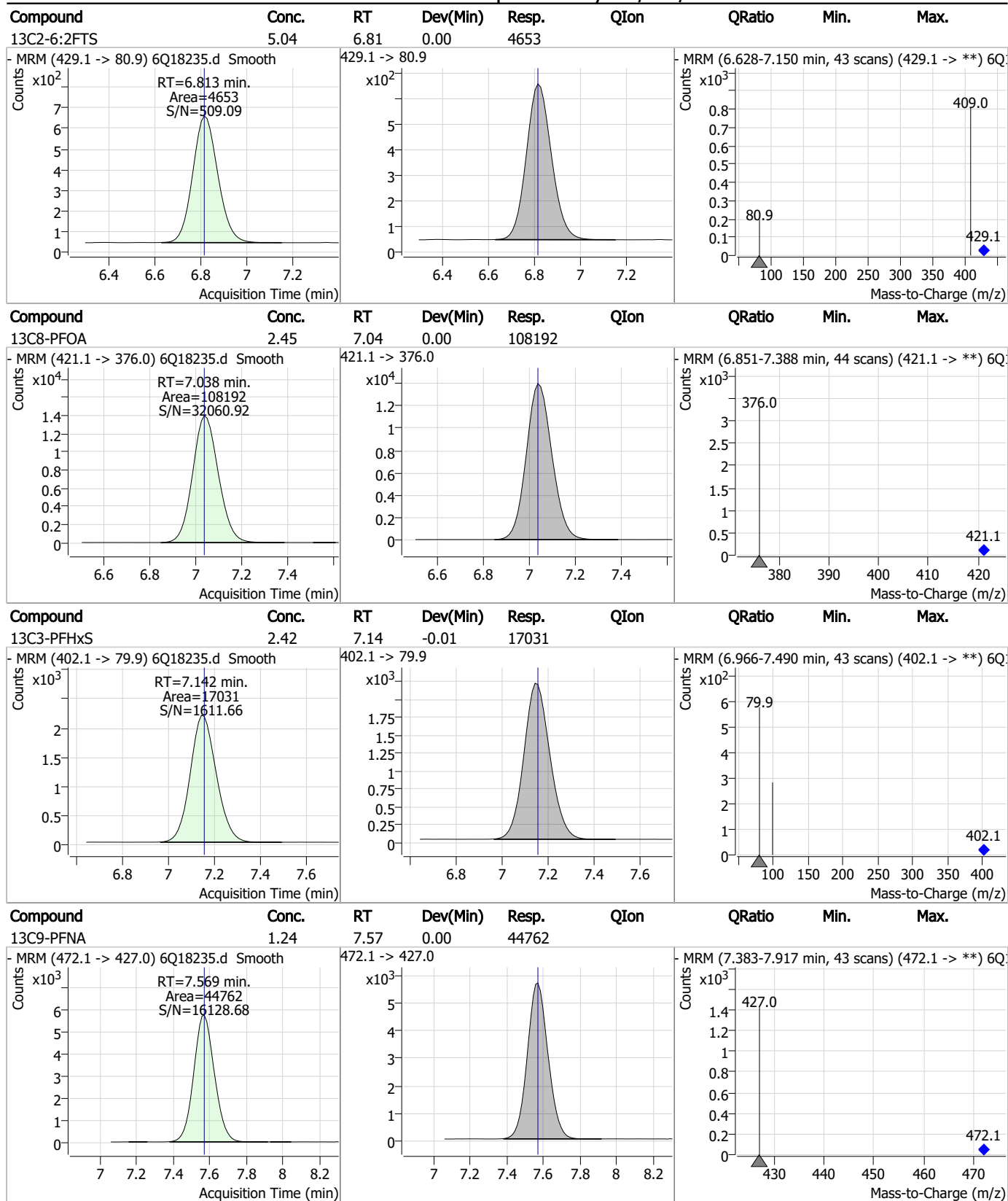
### Perfluorinated Compounds by LC/MS/MS



7.22  
7

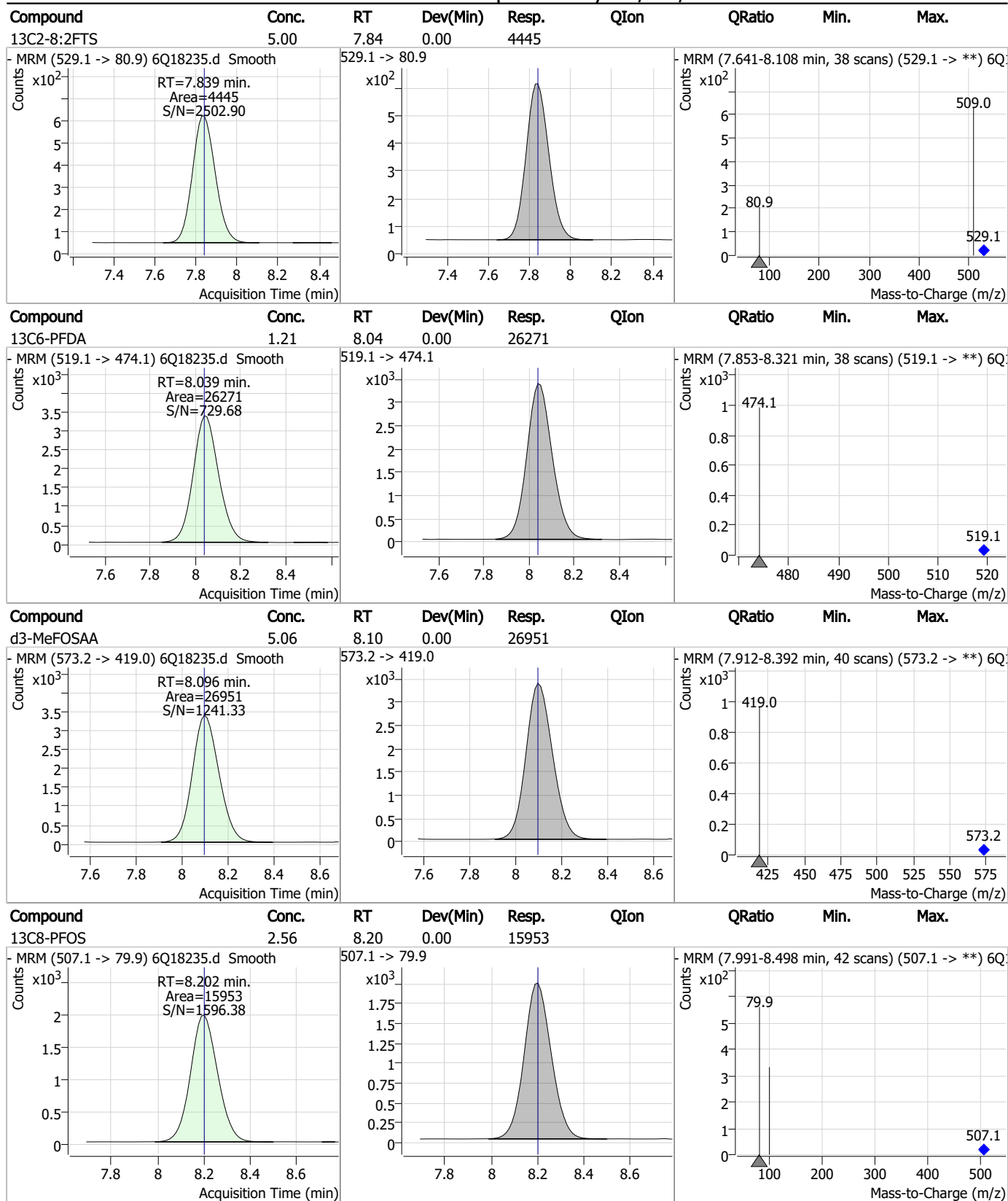


### Perfluorinated Compounds by LC/MS/MS



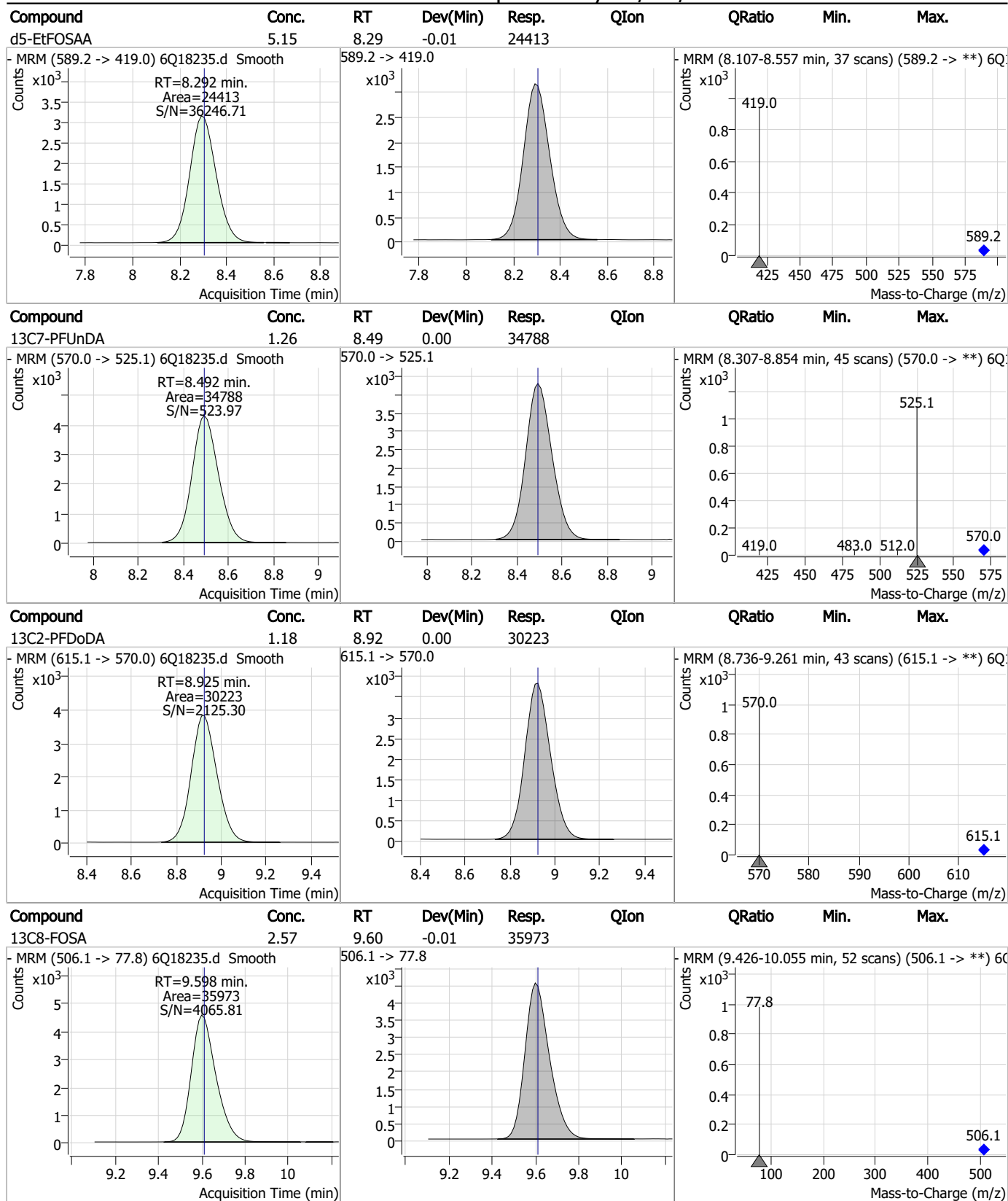
7.22  
7

### Perfluorinated Compounds by LC/MS/MS



7.2.2  
7

### Perfluorinated Compounds by LC/MS/MS



7.22  
7

### Perfluorinated Compounds by LC/MS/MS

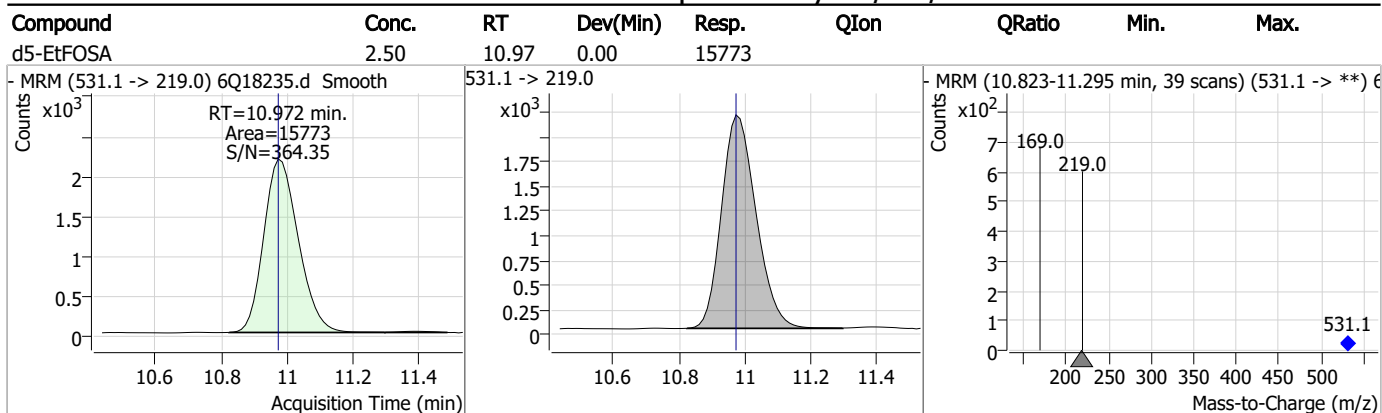
| Compound    | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-------------|-------|-------|----------|--------|------|--------|------|------|
| 13C2-PFTeDA | 1.19  | 9.65  | 0.00     | 15933  |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d7-MeFOSE   | 22.47 | 10.66 | 0.00     | 122562 |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d3-MeFOSA   | 2.47  | 10.74 | 0.00     | 15741  |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d9-EtFOSE   | 23.91 | 10.91 | 0.00     | 158713 |      |        |      |      |
|             |       |       |          |        |      |        |      |      |

7.2.2

7



### Perfluorinated Compounds by LC/MS/MS



7.22  
7

## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18263.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 6:08:52 AM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.835                | 216.8 -> 171.9 | 234292            | 10.00 µg/L  | -0.041   |
| M5-PFPeA                           | 4.222                | 268.3 -> 223.0 | 78939             | 5.00 µg/L   | -0.012   |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 81081             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 79523             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 121524            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 47806             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 30309             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 38988             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 32929             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.639                | 715.2 -> 670.0 | 17980             | 1.25 µg/L   | -0.012   |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 40330             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 30686             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 18193             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 16904             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 4000              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5676              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5367              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 32030             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 122174            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 28998             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 133923            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 167808            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16731             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16351             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 21398             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.839                | 216.0 -> 172.0 | 98565             | 5.00 µg/L   | -0.040   |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 13418             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 122253            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 38776             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 61192             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 79606             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 4000              | 5.86 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 117.1% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5676              | 5.90 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 118.0% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5367              | 5.80 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 115.9% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 32929             | 1.17 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 93.5%  |             |          |
| 13C2-PFTeDA                        | 9.639                | 715.2 -> 670.0 | 17980             | 1.22 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 97.7%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 30686             | 2.40 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 96.0%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 18193             | 2.48 µg/L   | -0.012   |

7.2.3  
7



Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 99.3%  |          |
| 13C4-PFBA            | 2.835                | 216.8 -> 171.9 | 234292   | 10.08 µg/L        | -0.041   |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 100.8% |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 79523    | 2.68 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 107.2% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 81081    | 2.54 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 101.6% |          |
| 13C5-PFPeA           | 4.222                | 268.3 -> 223.0 | 78939    | 5.29 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 105.8% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 30309    | 1.27 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 101.3% |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 38988    | 1.28 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 102.8% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 40330    | 2.71 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 108.3% |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 121524   | 2.49 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 16904    | 2.54 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 101.8% |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 47806    | 1.14 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 91.4%  |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 32030    | 5.65 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 113.0% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 122174   | 10.00 µg/L        | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 16351    | 2.41 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 96.5%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 28998    | 5.75 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 114.9% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 133923   | 23.05 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 92.2%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 167808   | 23.74 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 95.0%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 16731    | 2.49 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |          |

Target Compounds

| Compound | RT    | Transition     | Response | Conc. Units | QValue |
|----------|-------|----------------|----------|-------------|--------|
| 4:2FTS   | -     | 327.1 -> 307.0 | -        | N.D.        |        |
|          |       | 327.1 -> 80.9  |          |             |        |
| 6:2FTS   | -     | 427.1 -> 407.0 | -        | N.D.        |        |
|          |       | 427.1 -> 80.9  |          |             |        |
| 8:2FTS   | -     | 527.1 -> 507.0 | -        | N.D.        |        |
|          |       | 527.1 -> 80.8  |          |             |        |
| EtFOSAA  | -     | 584.2 -> 419.1 | -        | N.D.        |        |
|          |       | 584.2 -> 526.0 |          |             |        |
| FOSA     | -     | 498.1 -> 77.9  | -        | N.D.        |        |
|          |       | 498.1 -> 478.0 |          |             |        |
| MeFOSAA  | -     | 570.1 -> 419.0 | -        | N.D.        |        |
|          |       | 570.1 -> 483.0 |          |             |        |
| PFBA     | -     | 212.8 -> 168.9 | -        | N.D.        |        |
| PFBS     | -     | 298.7 -> 79.9  | -        | N.D.        |        |
|          |       | 298.7 -> 98.8  |          |             |        |
| PFDA     | 8.620 | 512.9 -> 469.0 | 0        | µg/L m      | 1      |
|          |       | 512.9 -> 219.0 | 0        |             |        |
| PFDODA   | -     | 613.1 -> 569.0 | -        | N.D.        |        |
|          |       | 613.1 -> 319.0 |          |             |        |
| PFDS     | -     | 599.0 -> 79.9  | -        | N.D.        |        |

7.2.3  
7

Perfluorinated Compounds by LC/MS/MS

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

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



7.2.3  
7



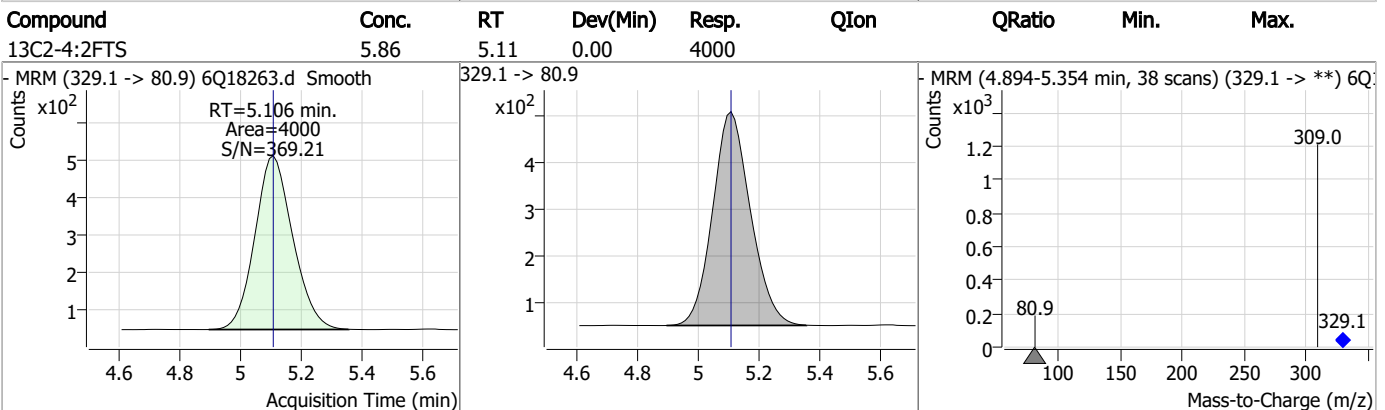
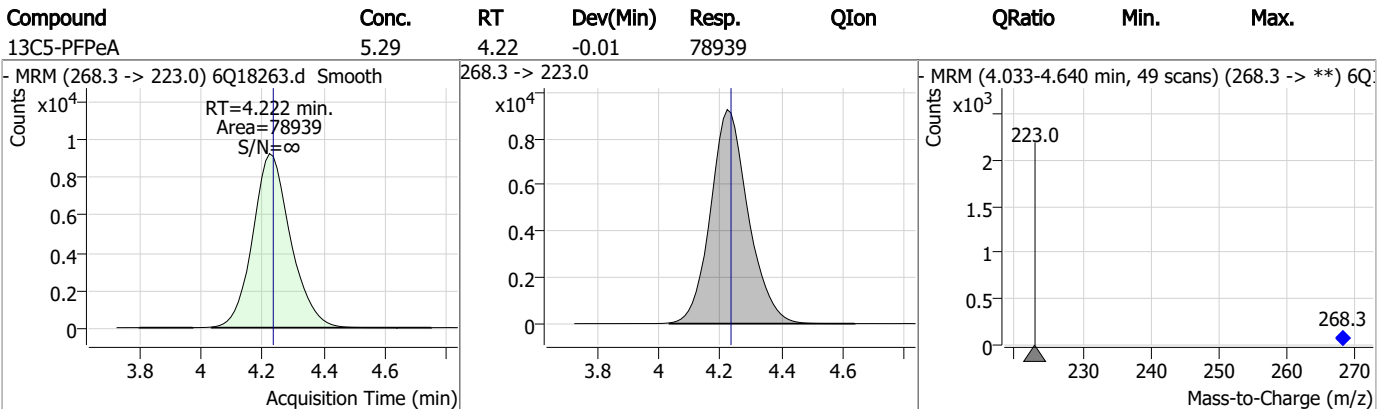
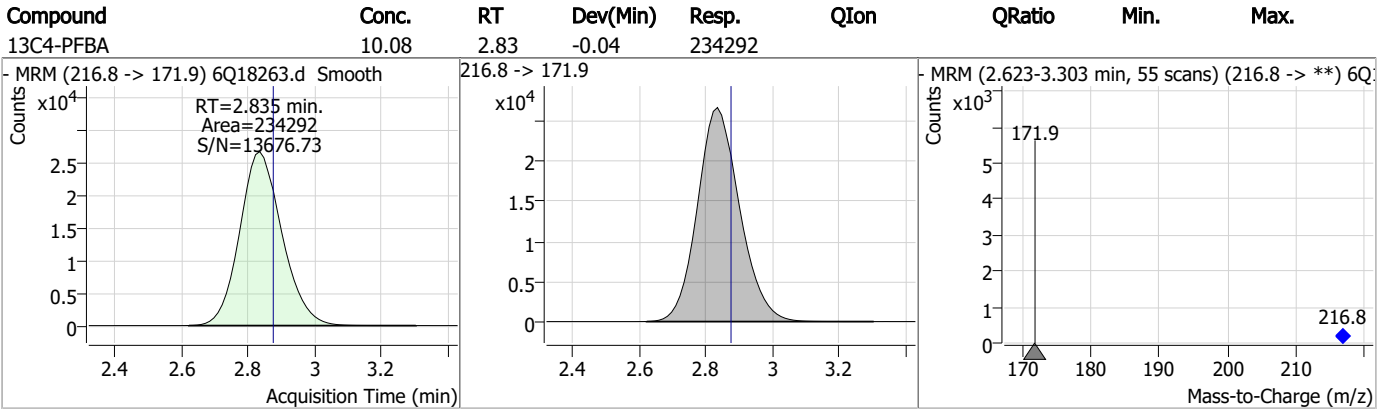
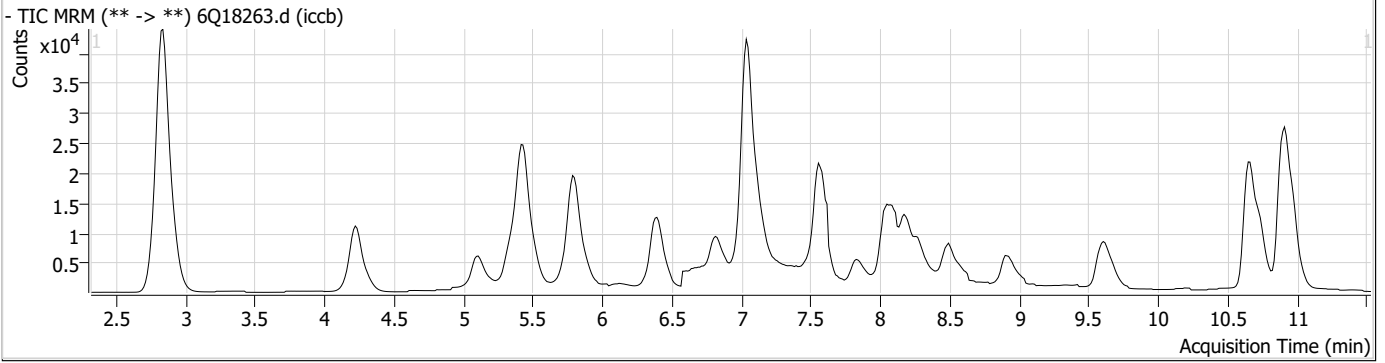
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

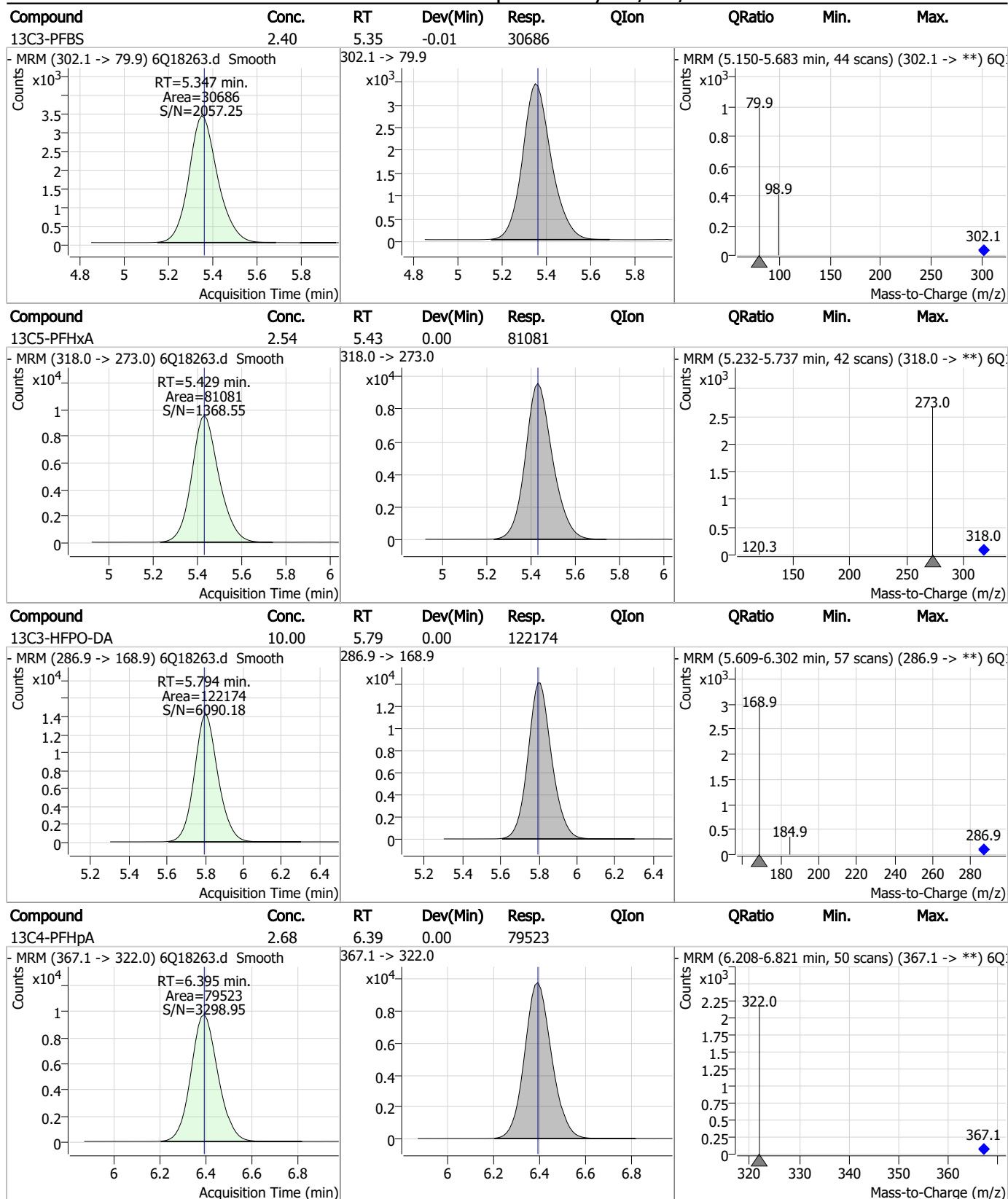
7.2.3

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### Perfluorinated Compounds by LC/MS/MS

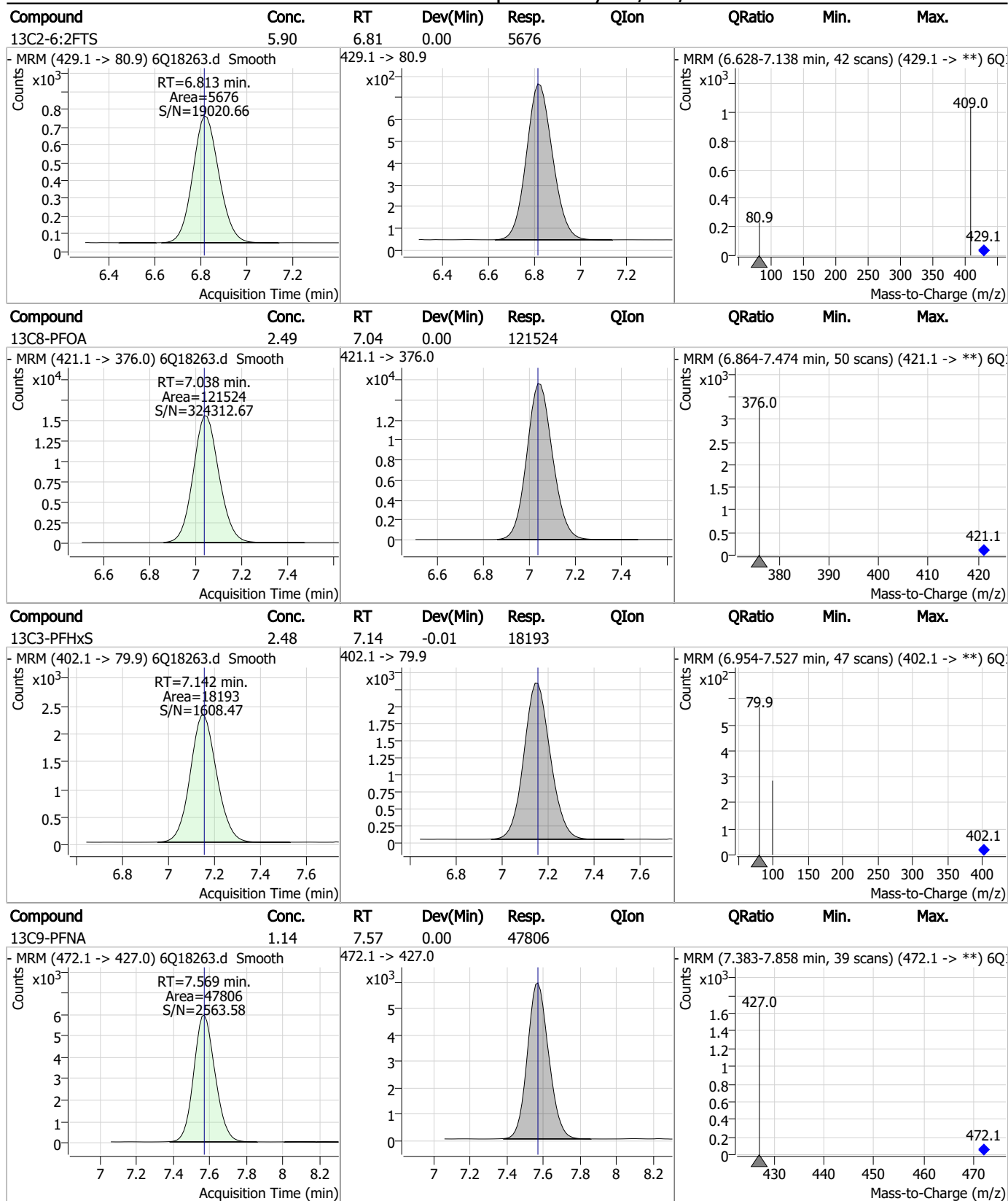


### Perfluorinated Compounds by LC/MS/MS



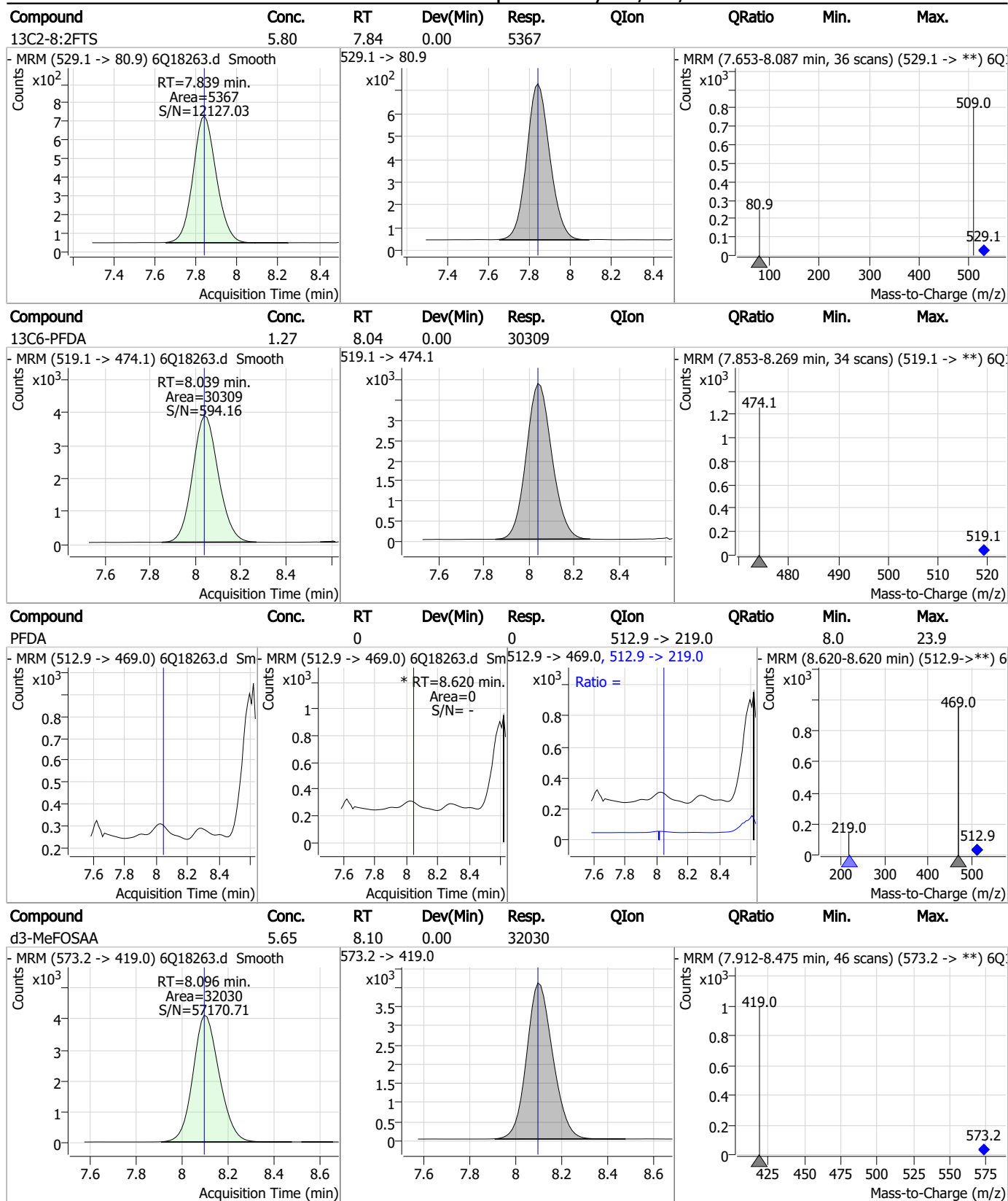
7.2.3  
7

### Perfluorinated Compounds by LC/MS/MS



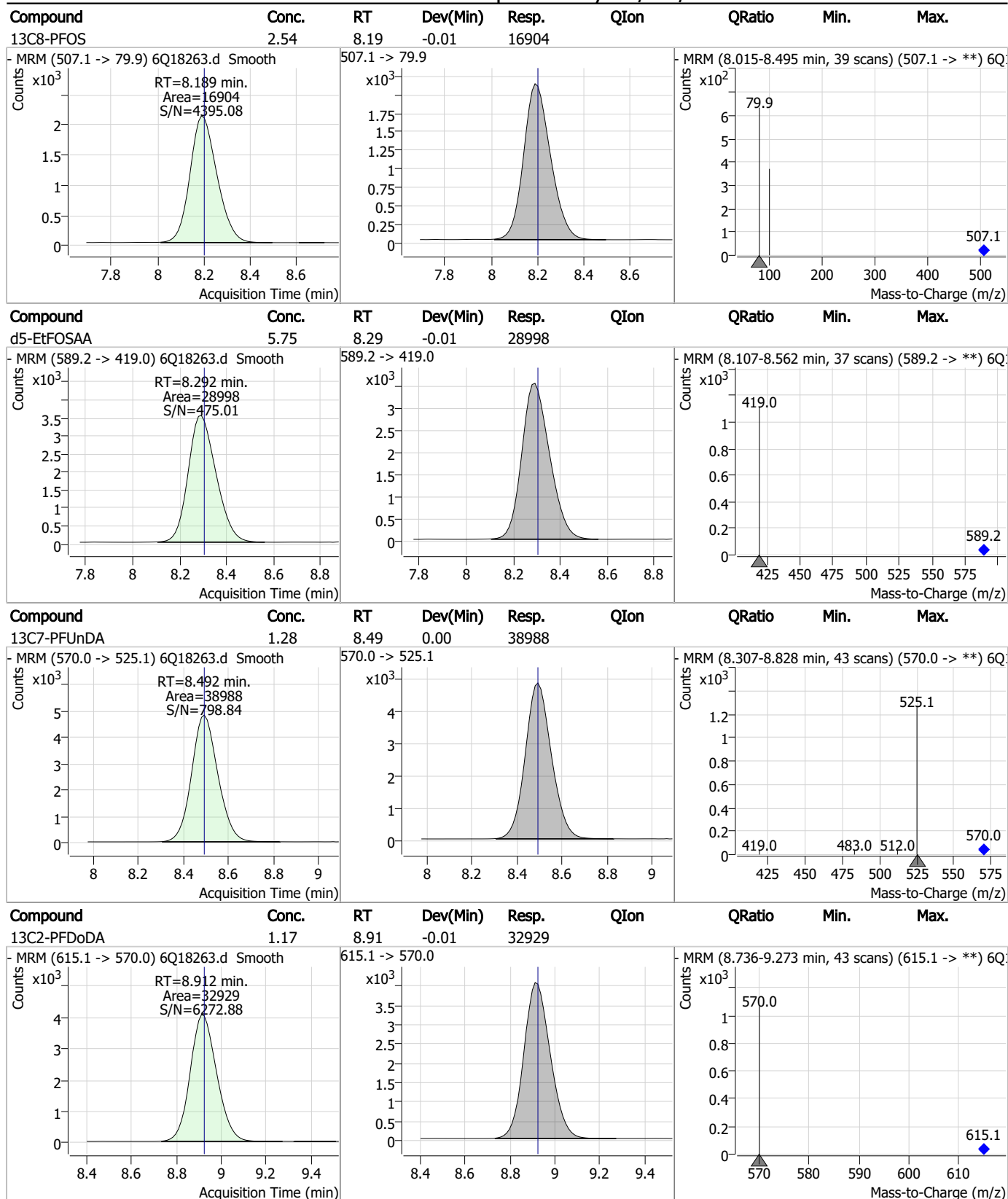
7.2.3  
7

### Perfluorinated Compounds by LC/MS/MS



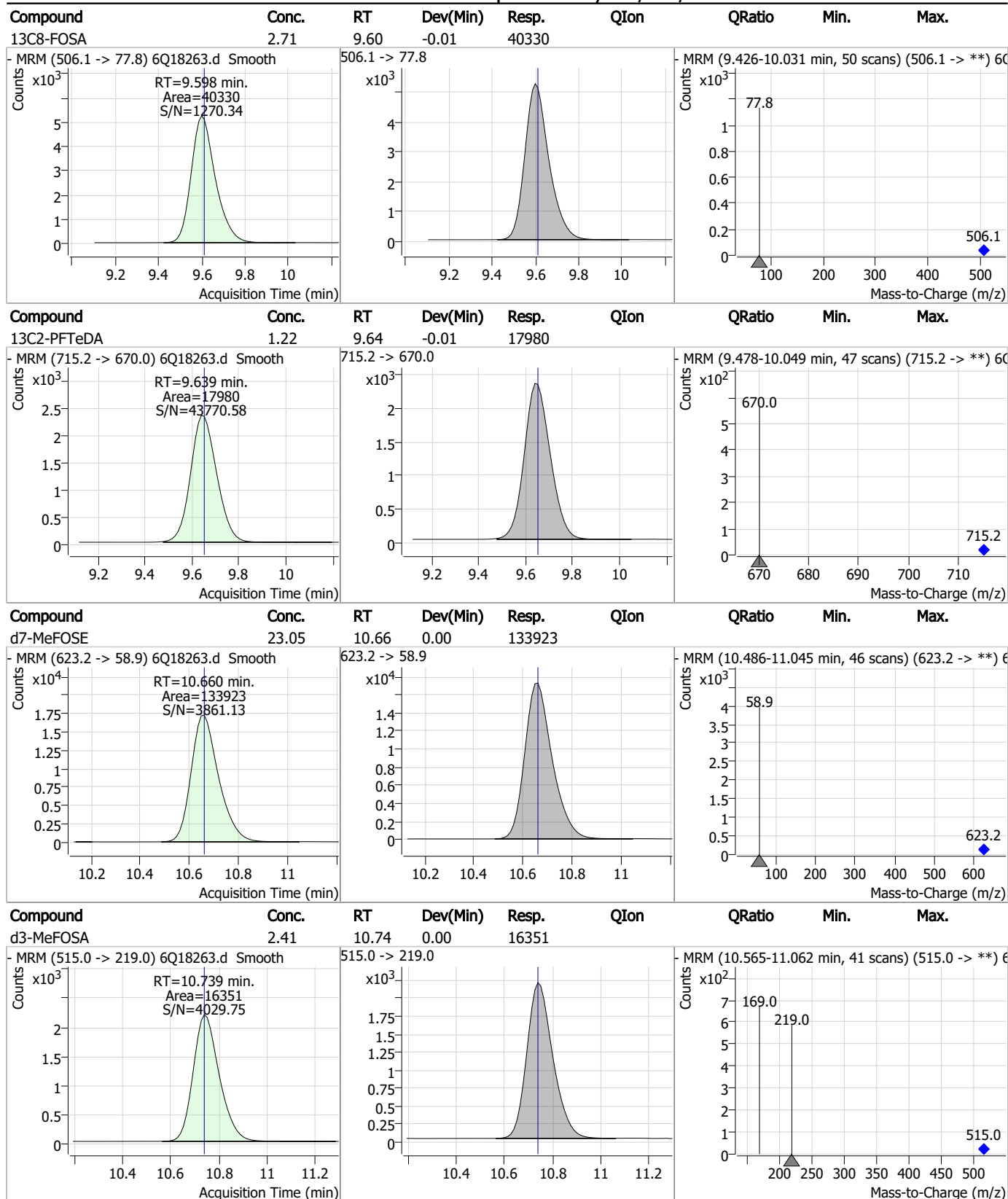
7.2.3  
7

### Perfluorinated Compounds by LC/MS/MS



7.2.3  
7

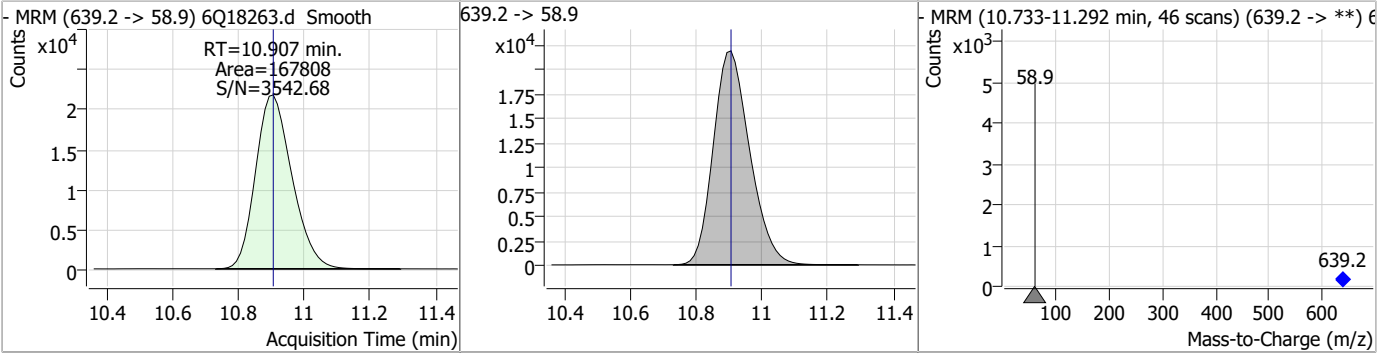
### Perfluorinated Compounds by LC/MS/MS



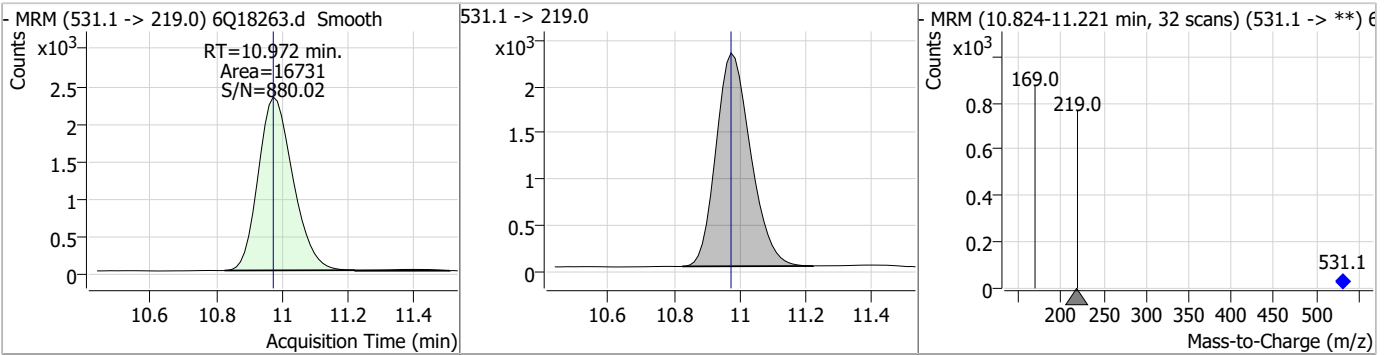
7.2.3  
7

### Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 23.74 | 10.91 | 0.00     | 167808 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.49  | 10.97 | 0.00     | 16731 |      |        |      |      |



7.2.3

7



### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18274.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 8:48:10 AM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.835                | 216.8 -> 171.9 | 234818            | 10.00 µg/L  | -0.041   |
| M5-PFPeA                           | 4.222                | 268.3 -> 223.0 | 79936             | 5.00 µg/L   | -0.012   |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 81536             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.382                | 367.1 -> 322.0 | 81052             | 2.50 µg/L   | -0.013   |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 120890            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 49240             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 30333             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.480                | 570.0 -> 525.1 | 38935             | 1.25 µg/L   | -0.012   |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 35488             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17568             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 40461             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 32032             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 18416             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 17863             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 4046              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5819              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5661              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 33350             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 125427            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 30643             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 131746            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 170544            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16331             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17072             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 22482             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.839                | 216.0 -> 172.0 | 99790             | 5.00 µg/L   | -0.040   |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 12995             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 120710            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 37832             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 59287             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 81333             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 4046              | 6.12 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 122.3% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5819              | 6.24 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 124.9% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5661              | 6.31 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 126.3% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 35488             | 1.29 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 103.3% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17568             | 1.22 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 97.9%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 32032             | 2.59 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 103.5% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 18416             | 2.59 µg/L   | -0.012   |

7.24  
7

Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.8% |          |
| 13C4-PFBA            | 2.835                | 216.8 -> 171.9 | 234818   | 9.98 µg/L         | -0.041   |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 99.8%  |          |
| 13C4-PFHpA           | 6.382                | 367.1 -> 322.0 | 81052    | 2.67 µg/L         | -0.013   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 107.0% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 81536    | 2.50 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |          |
| 13C5-PFPeA           | 4.222                | 268.3 -> 223.0 | 79936    | 5.24 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 104.9% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 30333    | 1.30 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |          |
| 13C7-PFUnDA          | 8.480                | 570.0 -> 525.1 | 38935    | 1.32 µg/L         | -0.012   |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 105.2% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 40461    | 2.59 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.4% |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 120890   | 2.51 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 17863    | 2.56 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.4% |          |
| 13C9-PFNA            | 7.557                | 472.1 -> 427.0 | 49240    | 1.21 µg/L         | -0.012   |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 97.1%  |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 33350    | 5.60 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 112.0% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 125427   | 10.04 µg/L        | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 17072    | 2.40 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 95.9%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 30643    | 5.78 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 115.6% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 131746   | 21.59 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 86.3%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 170544   | 22.96 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 91.9%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 16331    | 2.31 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 92.6%  |          |

Target Compounds

| Compound | RT    | Transition     | Response | Conc. Units | QValue |
|----------|-------|----------------|----------|-------------|--------|
| 4:2FTS   | -     | 327.1 -> 307.0 | -        | N.D.        |        |
|          |       | 327.1 -> 80.9  |          |             |        |
| 6:2FTS   | -     | 427.1 -> 407.0 | -        | N.D.        |        |
|          |       | 427.1 -> 80.9  |          |             |        |
| 8:2FTS   | -     | 527.1 -> 507.0 | -        | N.D.        |        |
|          |       | 527.1 -> 80.8  |          |             |        |
| EtFOSAA  | -     | 584.2 -> 419.1 | -        | N.D.        |        |
|          |       | 584.2 -> 526.0 |          |             |        |
| FOSA     | -     | 498.1 -> 77.9  | -        | N.D.        |        |
|          |       | 498.1 -> 478.0 |          |             |        |
| MeFOSAA  | -     | 570.1 -> 419.0 | -        | N.D.        |        |
|          |       | 570.1 -> 483.0 |          |             |        |
| PFBA     | -     | 212.8 -> 168.9 | -        | N.D.        |        |
| PFBS     | -     | 298.7 -> 79.9  | -        | N.D.        |        |
|          |       | 298.7 -> 98.8  |          |             |        |
| PFDA     | 8.608 | 512.9 -> 469.0 | 0        | µg/L m      | 1      |
|          |       | 512.9 -> 219.0 | 0        |             |        |
| PFDODA   | -     | 613.1 -> 569.0 | -        | N.D.        |        |
|          |       | 613.1 -> 319.0 |          |             |        |
| PFDS     | -     | 599.0 -> 79.9  | -        | N.D.        |        |

7.24  
7

Perfluorinated Compounds by LC/MS/MS

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

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

7.2.4  
7

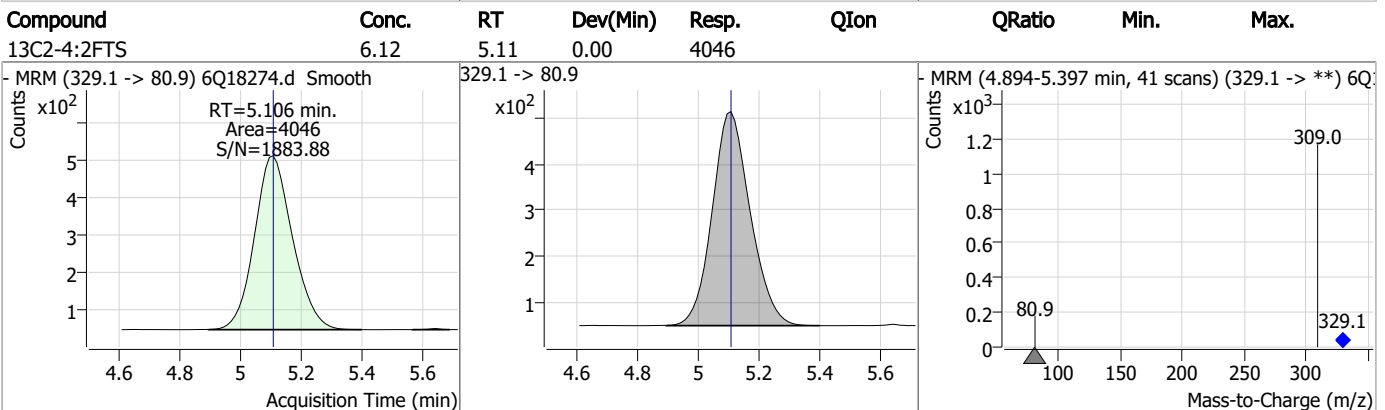
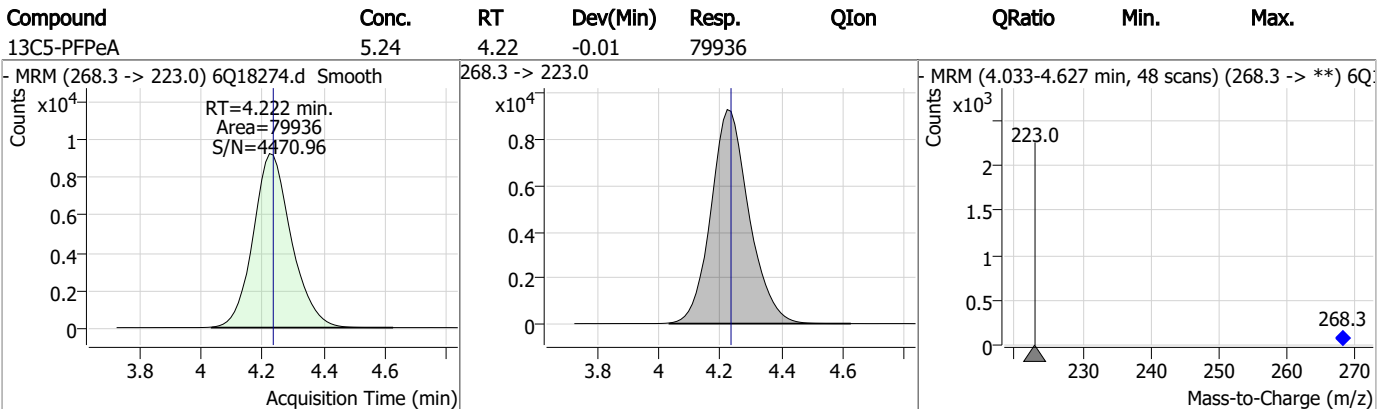
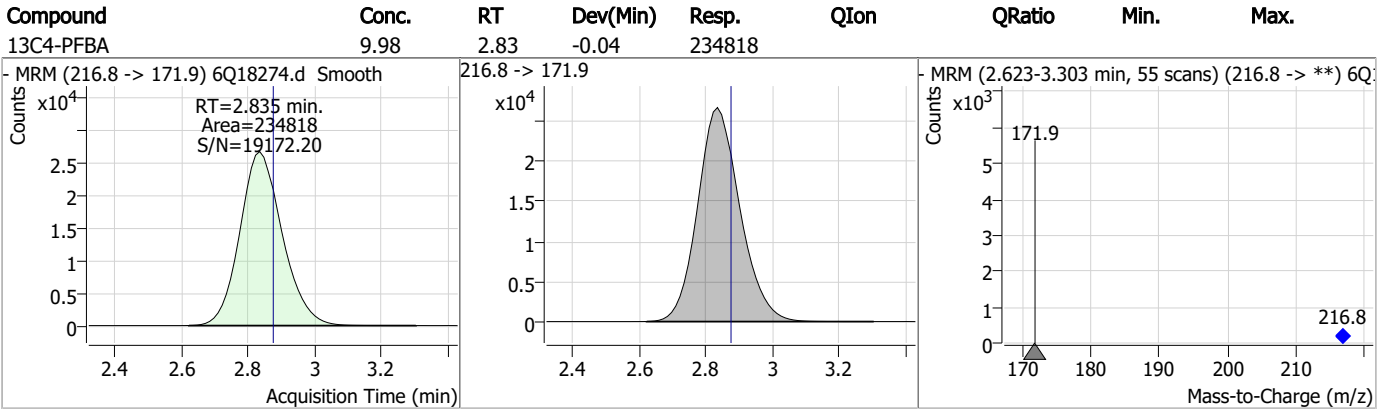
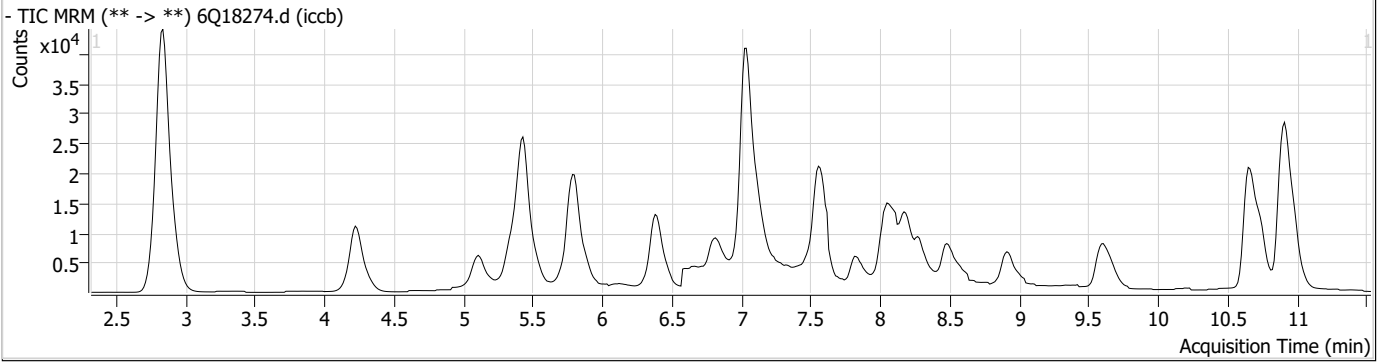
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.2.4

7

### Perfluorinated Compounds by LC/MS/MS



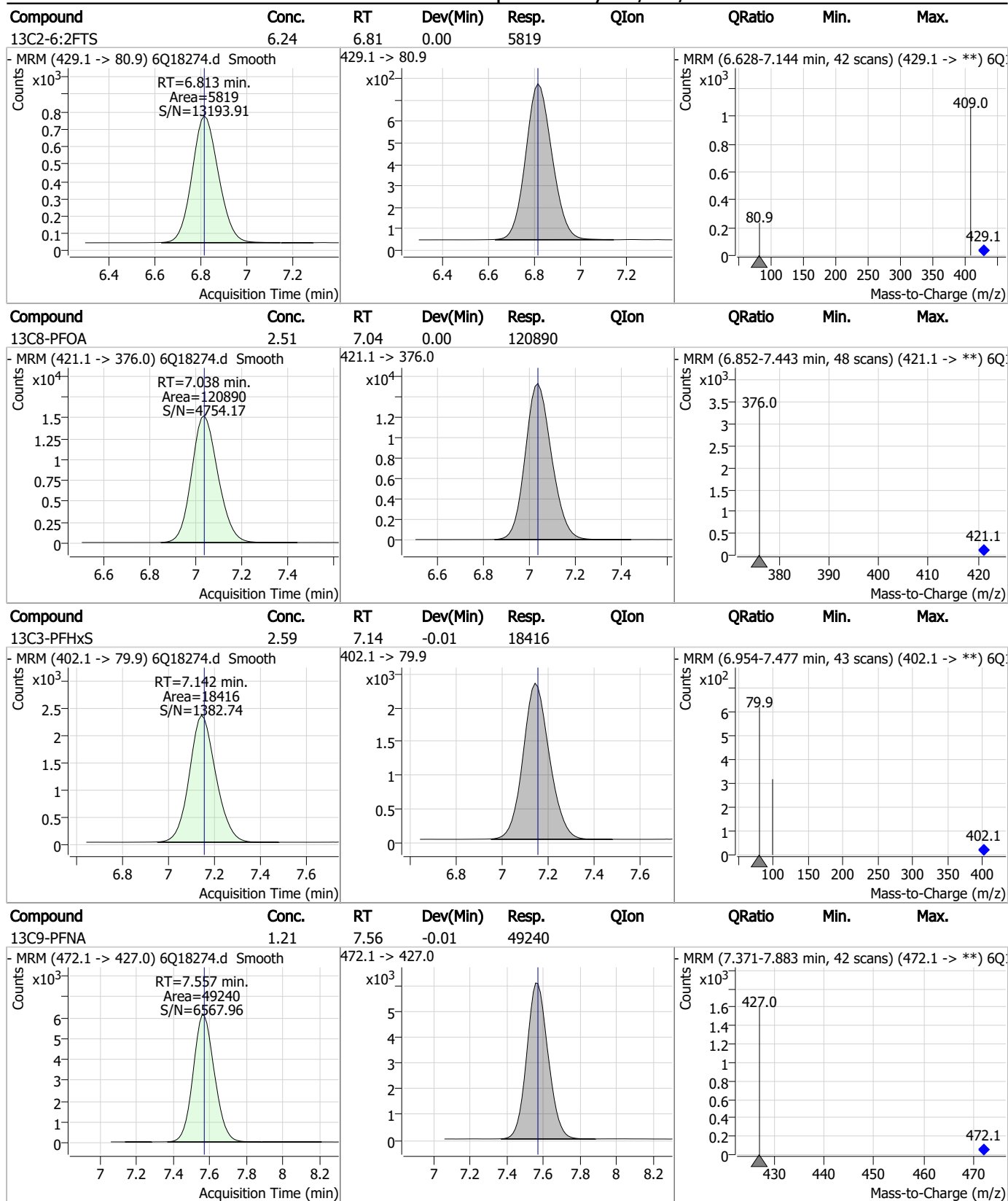
### Perfluorinated Compounds by LC/MS/MS

| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|------|--------|------|------|
| 13C3-PFBS    | 2.59  | 5.35 | -0.01    | 32032  |      |        |      |      |
|              |       |      |          |        |      |        |      |      |
| 13C5-PFHxA   | 2.50  | 5.43 | 0.00     | 81536  |      |        |      |      |
|              |       |      |          |        |      |        |      |      |
| 13C3-HFPO-DA | 10.04 | 5.79 | 0.00     | 125427 |      |        |      |      |
|              |       |      |          |        |      |        |      |      |
| 13C4-PFHpA   | 2.67  | 6.38 | -0.01    | 81052  |      |        |      |      |
|              |       |      |          |        |      |        |      |      |

7.2.4

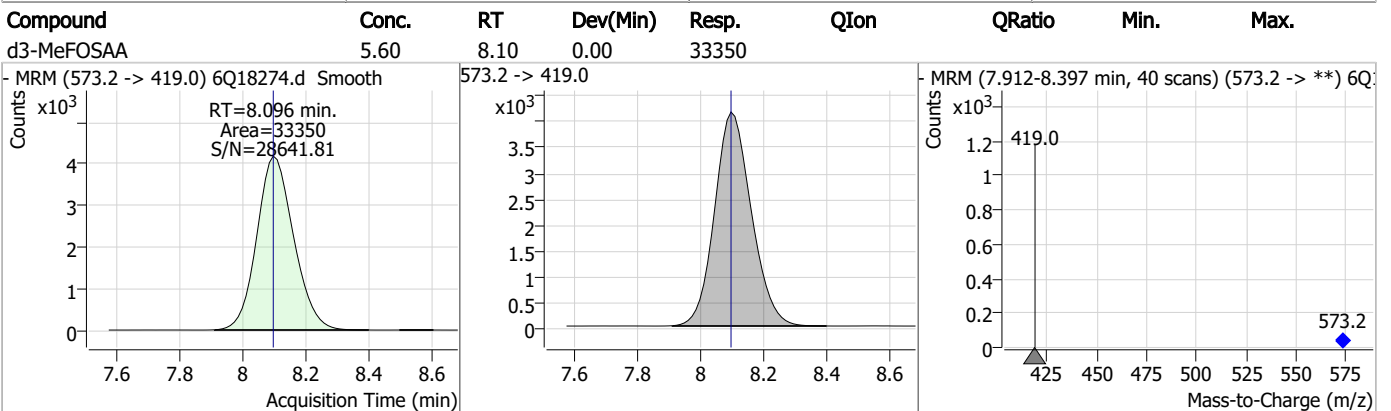
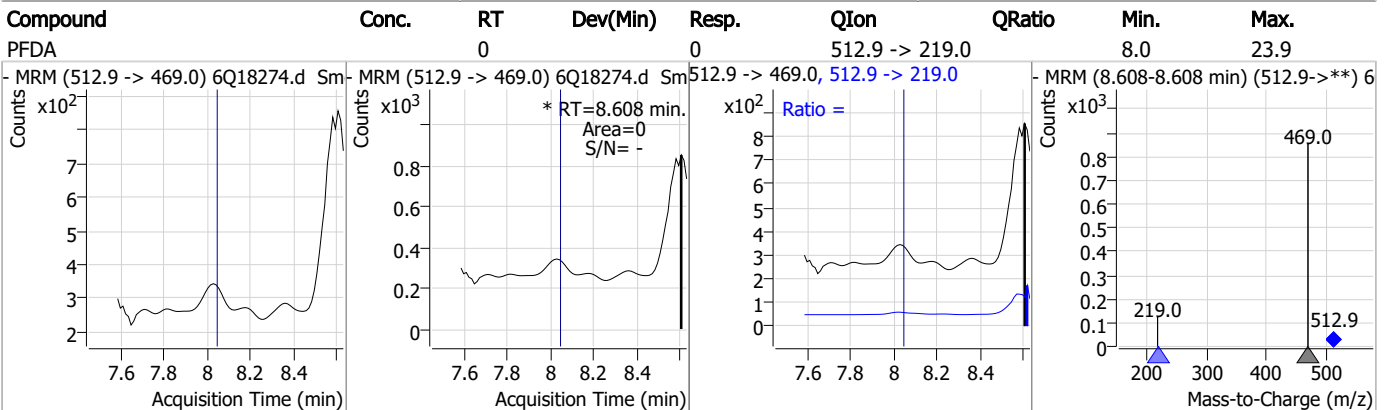
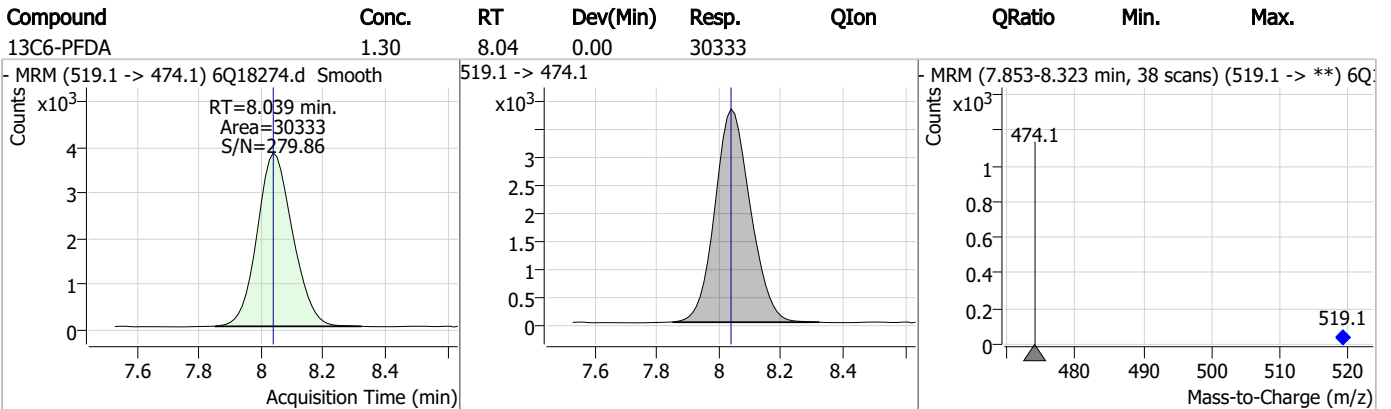
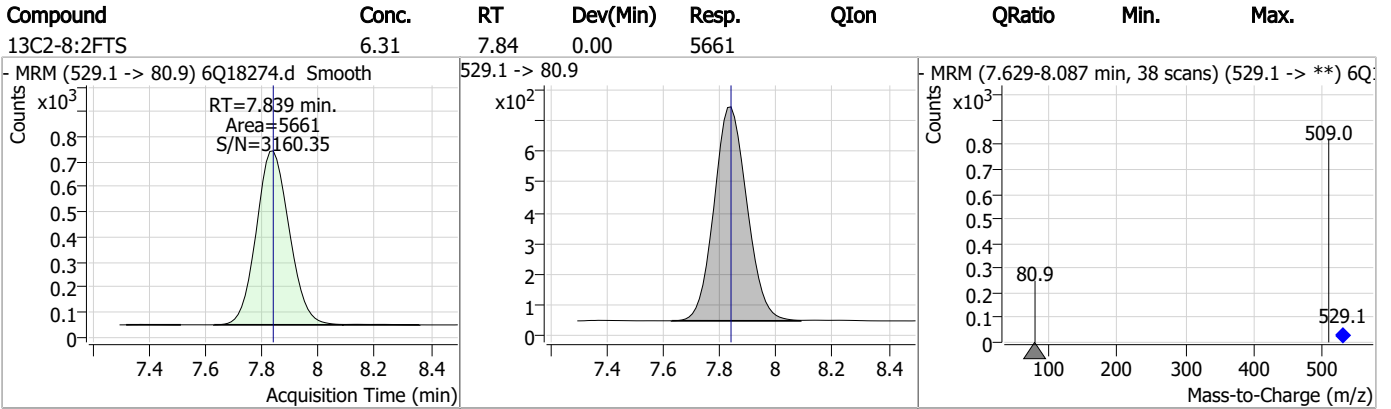
7

### Perfluorinated Compounds by LC/MS/MS



7.2.4  
7

### Perfluorinated Compounds by LC/MS/MS



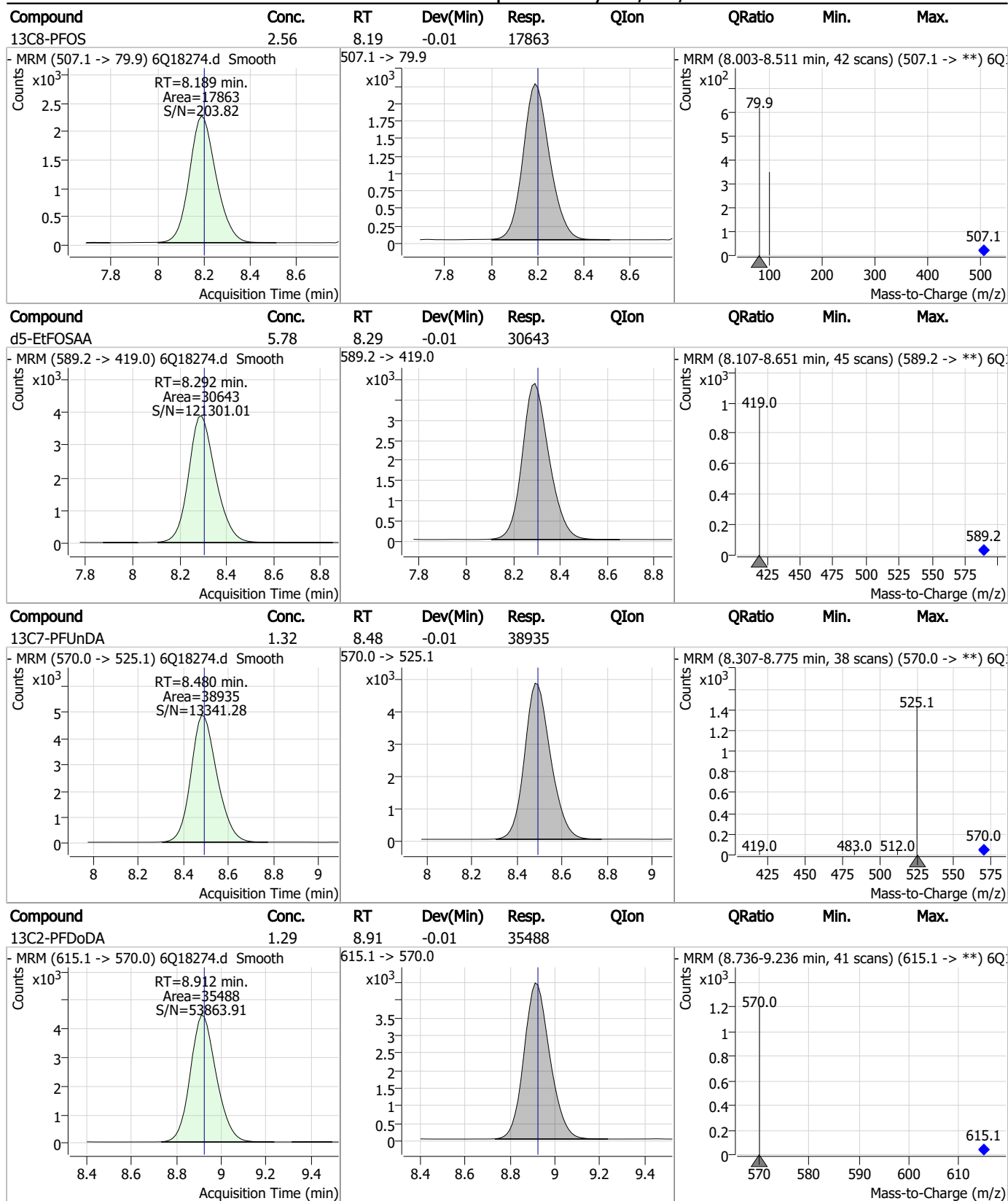
7.2.4

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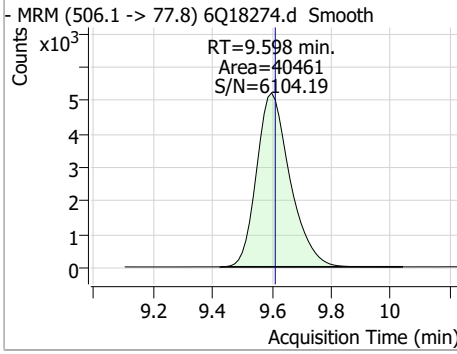
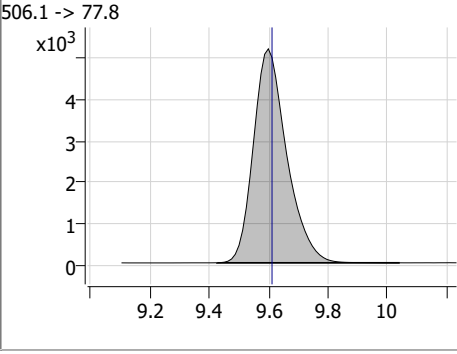
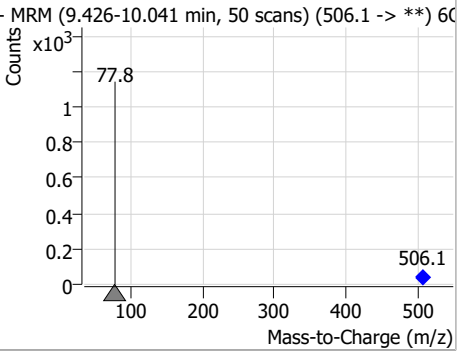
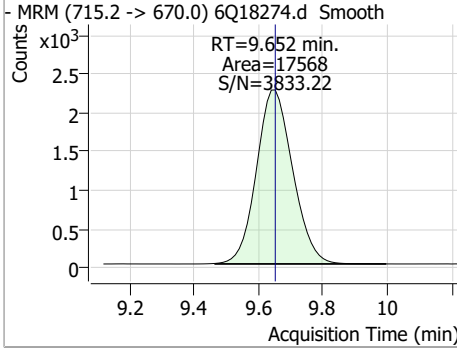
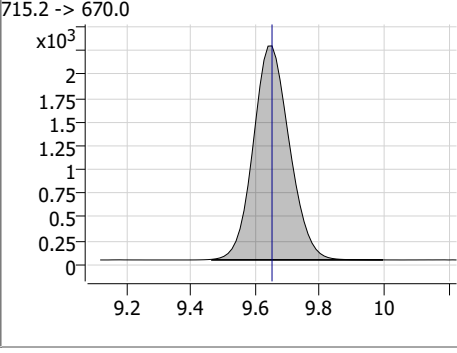
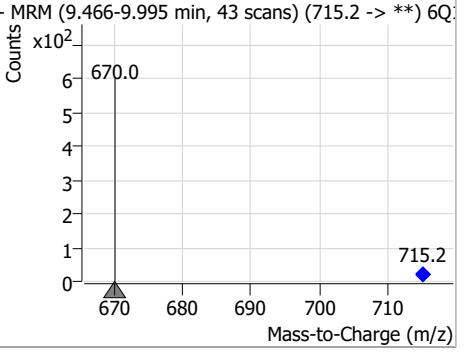
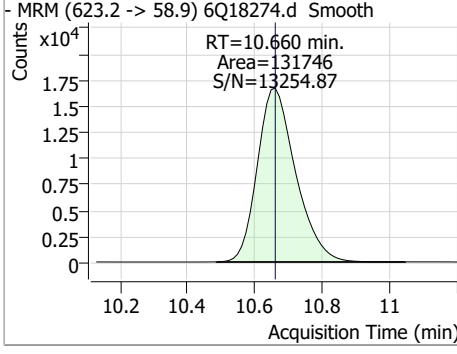
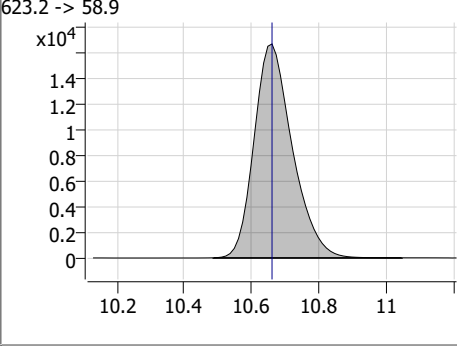
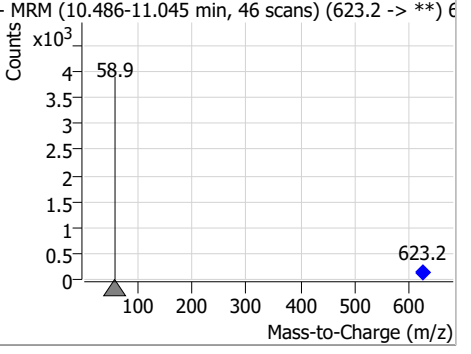
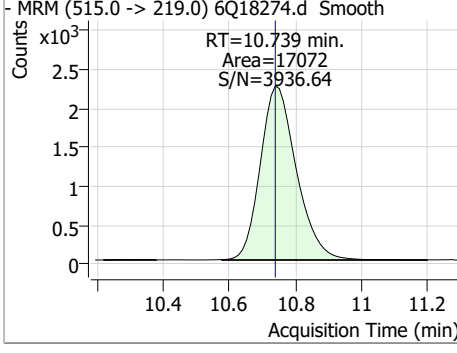
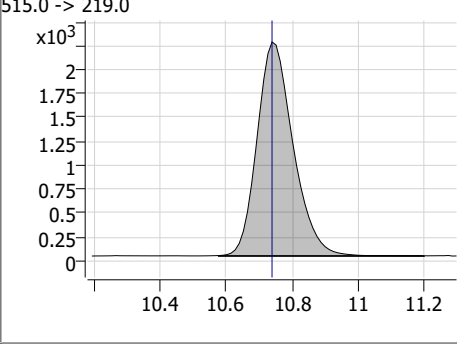
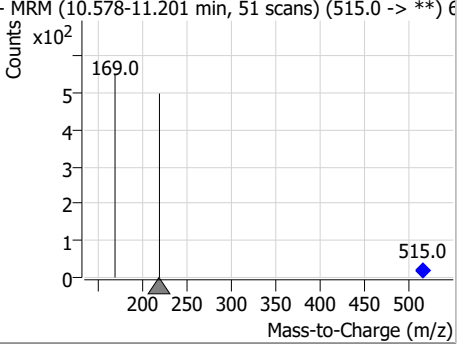


### Perfluorinated Compounds by LC/MS/MS



7.2.4  
7

### Perfluorinated Compounds by LC/MS/MS

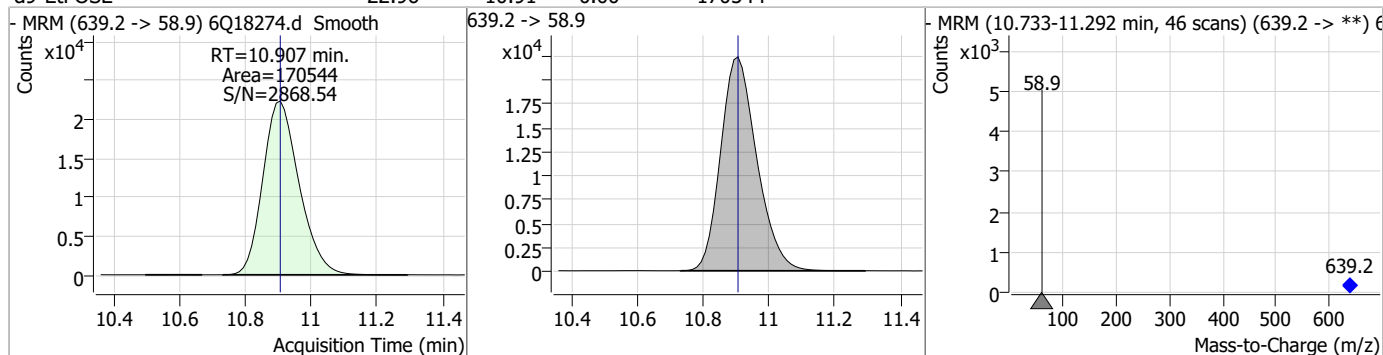
| Compound  | Conc. | RT    | Dev(Min)  | Resp.  | QIon | QRatio  | Min. | Max. |
|---|-------|-------|---|--------|------|---|------|------|
| 13C8-FOSA   | 2.59  | 9.60  | -0.01   | 40461  |      |   |      |      |
| - MRM (506.1 -> 77.8) 6Q18274.d Smooth<br>    |       |       | 506.1 -> 77.8<br>    |        |      | - MRM (9.426-10.041 min, 50 scans) (506.1 -> **) 6Q<br>    |      |      |
| 13C2-PFTeDA   | 1.22  | 9.65  | 0.00  | 17568  |      |   |      |      |
| - MRM (715.2 -> 670.0) 6Q18274.d Smooth<br>   |       |       | 715.2 -> 670.0<br>   |        |      | - MRM (9.466-9.995 min, 43 scans) (715.2 -> **) 6Q<br>     |      |      |
| d7-MeFOSE   | 21.59 | 10.66 | 0.00  | 131746 |      |   |      |      |
| - MRM (623.2 -> 58.9) 6Q18274.d Smooth<br>  |       |       | 623.2 -> 58.9<br>  |        |      | - MRM (10.486-11.045 min, 46 scans) (623.2 -> **) 6Q<br> |      |      |
| d3-MeFOSA   | 2.40  | 10.74 | 0.00  | 17072  |      |   |      |      |
| - MRM (515.0 -> 219.0) 6Q18274.d Smooth<br> |       |       | 515.0 -> 219.0<br> |        |      | - MRM (10.578-11.201 min, 51 scans) (515.0 -> **) 6Q<br> |      |      |

7.2.4

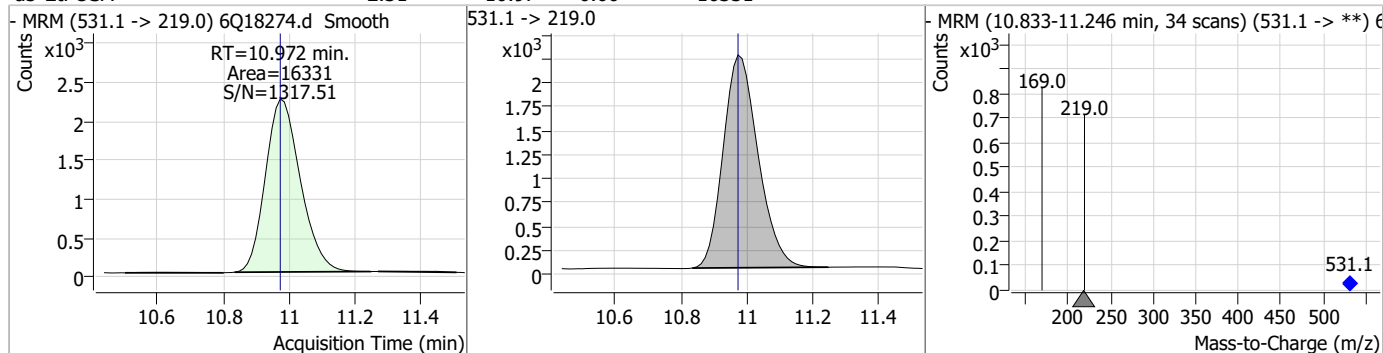
7

### Perfluorinated Compounds by LC/MS/MS

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



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



7.2.4

7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18251.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 3:15:02 AM  
 Sample Name : iccb  
 Vial : P1-A1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.835                | 216.8 -> 171.9 | 229660            | 10.00 µg/L  | -0.041   |
| M5-PFPeA                           | 4.222                | 268.3 -> 223.0 | 78531             | 5.00 µg/L   | -0.012   |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 82286             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 78466             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 116911            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 48220             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 28979             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 39701             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 32003             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17241             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 39948             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 30536             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 18337             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 16341             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3909              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5269              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5045              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 31811             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 123866            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 27986             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 132713            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 168101            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16497             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16539             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 21919             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.827                | 216.0 -> 172.0 | 96978             | 5.00 µg/L   | -0.052   |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13182             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 119180            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 36082             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 55847             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 82254             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3909              | 5.83 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 116.5% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5269              | 5.57 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 111.5% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5045              | 5.55 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 110.9% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 32003             | 1.22 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 97.7%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17241             | 1.26 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 100.7% |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 30536             | 2.43 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 97.3%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 18337             | 2.55 µg/L   | -0.012   |

7.2.5  
7

Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |          |
| 13C4-PFBA            | 2.835                | 216.8 -> 171.9 | 229660   | 10.04 µg/L        | -0.041   |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 78466    | 2.56 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.4% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 82286    | 2.49 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 99.8%  |          |
| 13C5-PFPeA           | 4.222                | 268.3 -> 223.0 | 78531    | 5.09 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 28979    | 1.30 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 104.0% |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 39701    | 1.41 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 112.5% |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 39948    | 2.62 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 104.7% |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 116911   | 2.46 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 98.4%  |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 16341    | 2.40 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 96.0%  |          |
| 13C9-PFNA            | 7.557                | 472.1 -> 427.0 | 48220    | 1.26 µg/L         | -0.012   |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 101.0% |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 31811    | 5.48 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 109.6% |          |
| 13C3-HFPO-DA         | 5.794                | 286.9 -> 168.9 | 123866   | 9.81 µg/L         | 0.000    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 98.1%  |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 16539    | 2.38 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 95.3%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 27986    | 5.41 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 108.3% |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 132713   | 22.30 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 89.2%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 168101   | 23.21 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 92.9%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 16497    | 2.40 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 95.9%  |          |

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

7.25  
7

## Perfluorinated Compounds by LC/MS/MS

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

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

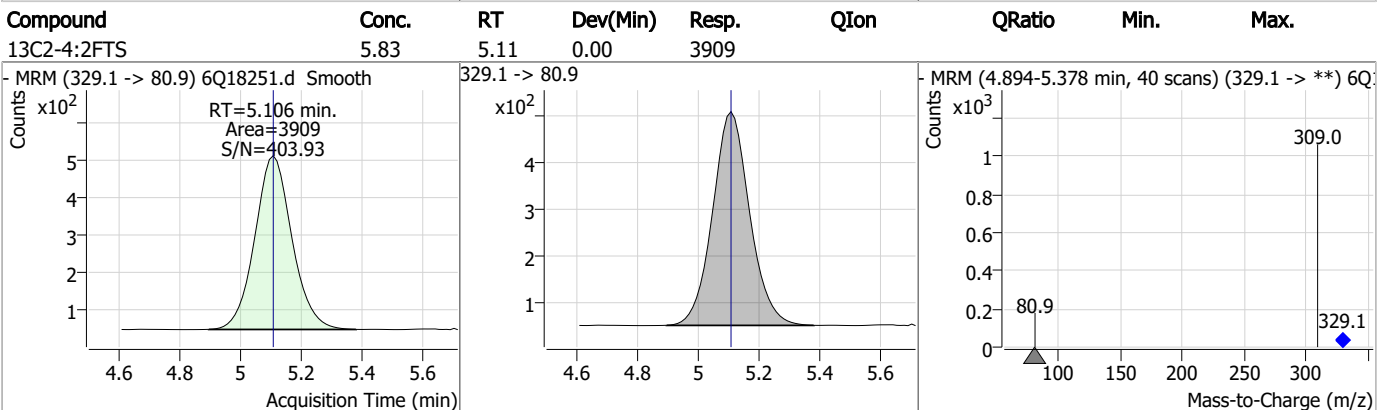
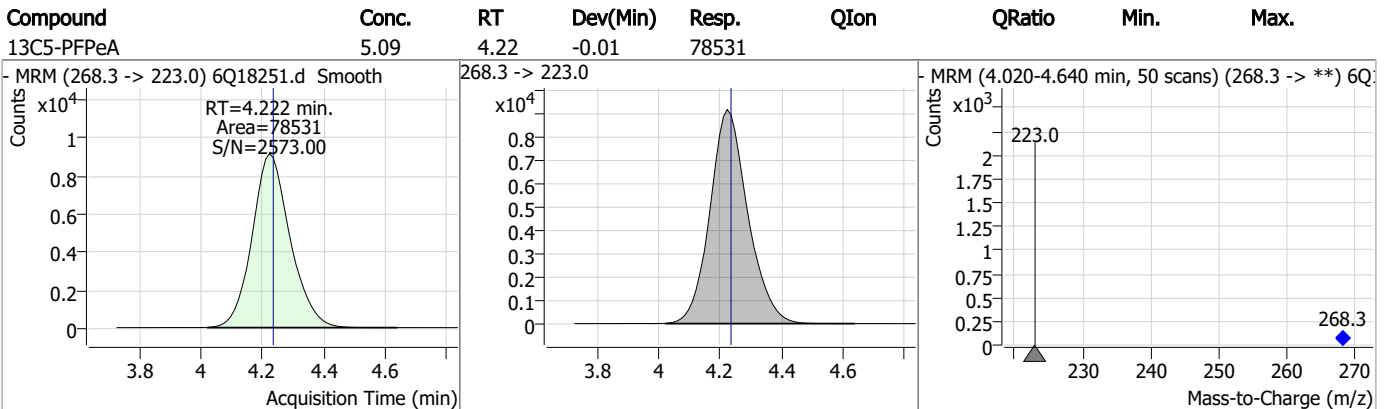
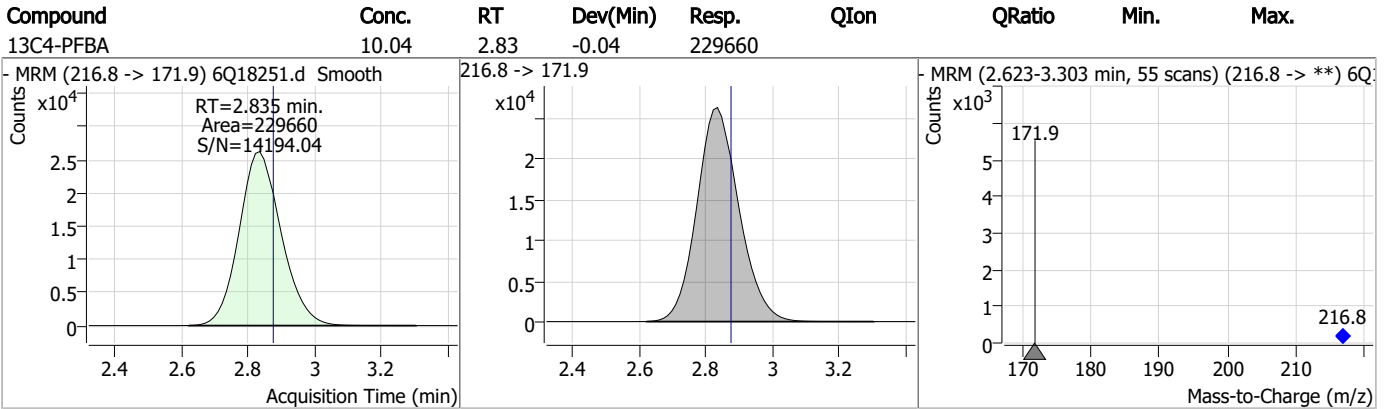
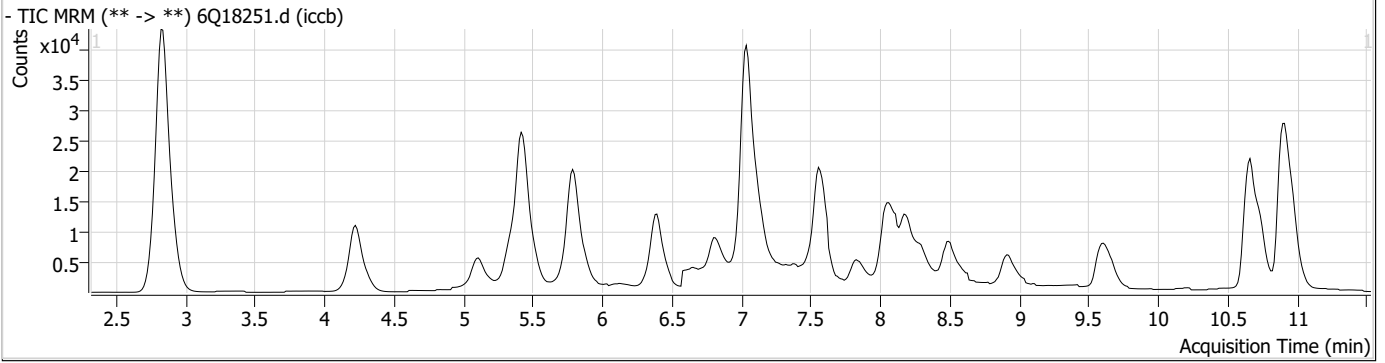
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.2.5

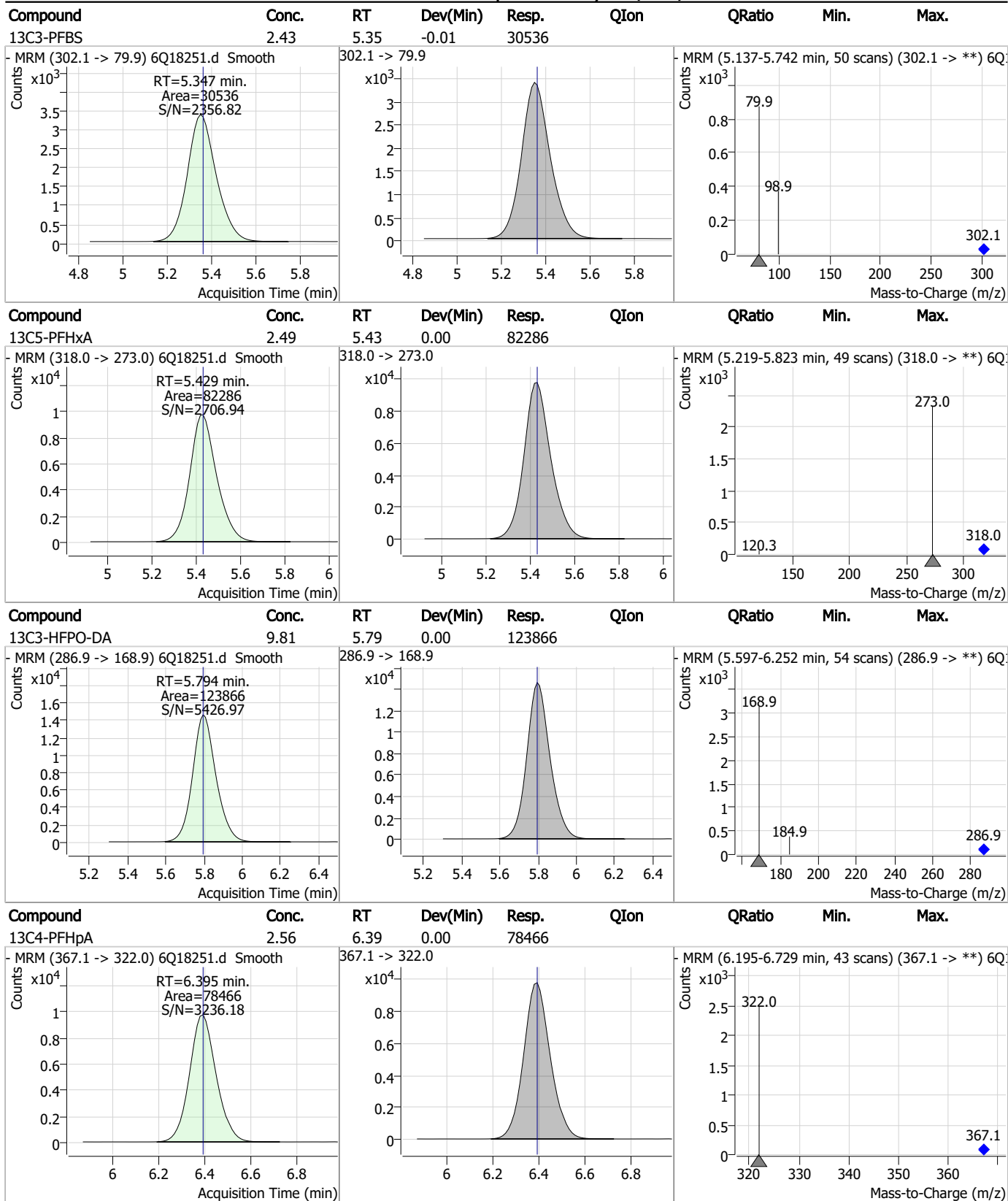
7

### Perfluorinated Compounds by LC/MS/MS



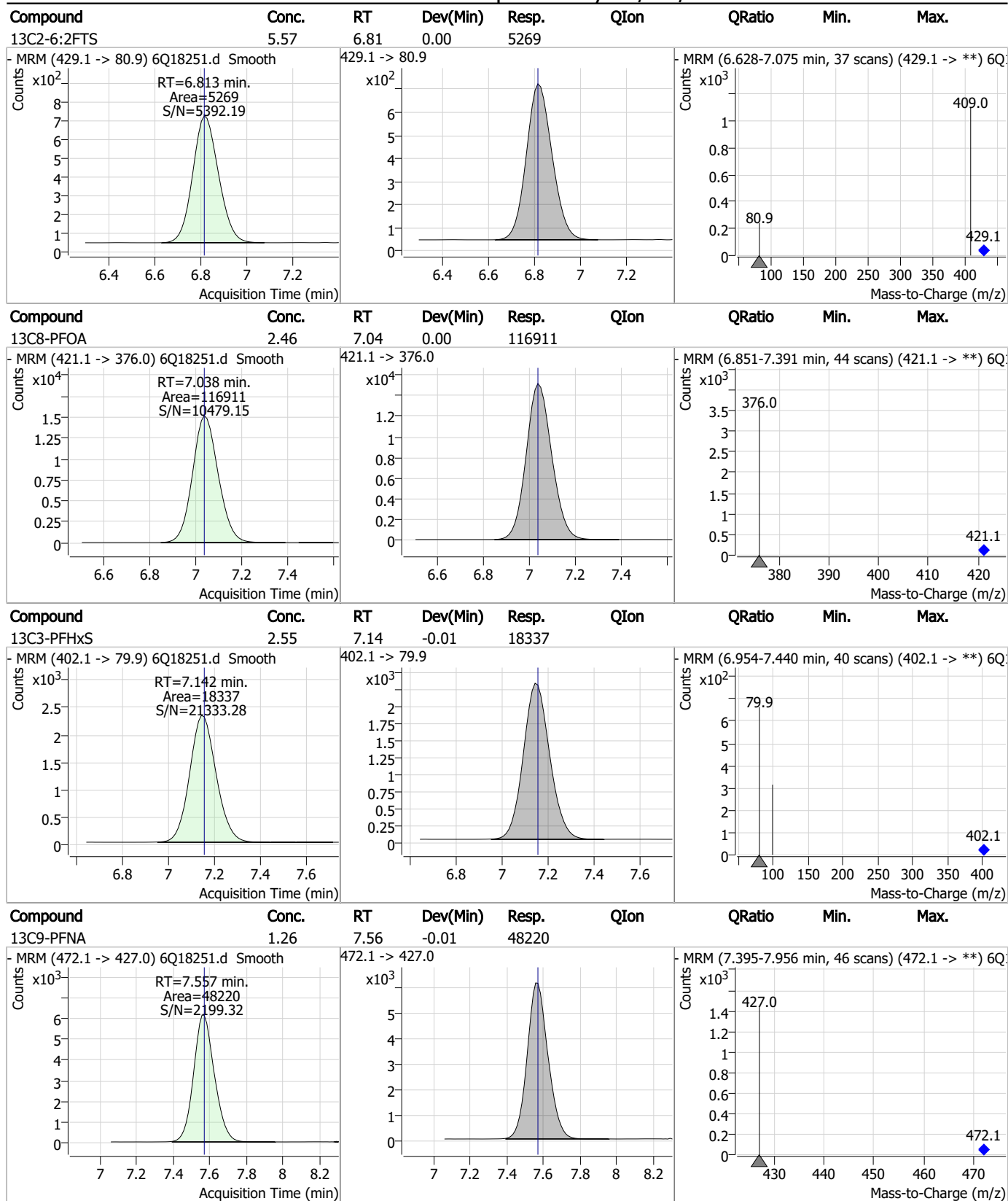


### Perfluorinated Compounds by LC/MS/MS



7.25  
7

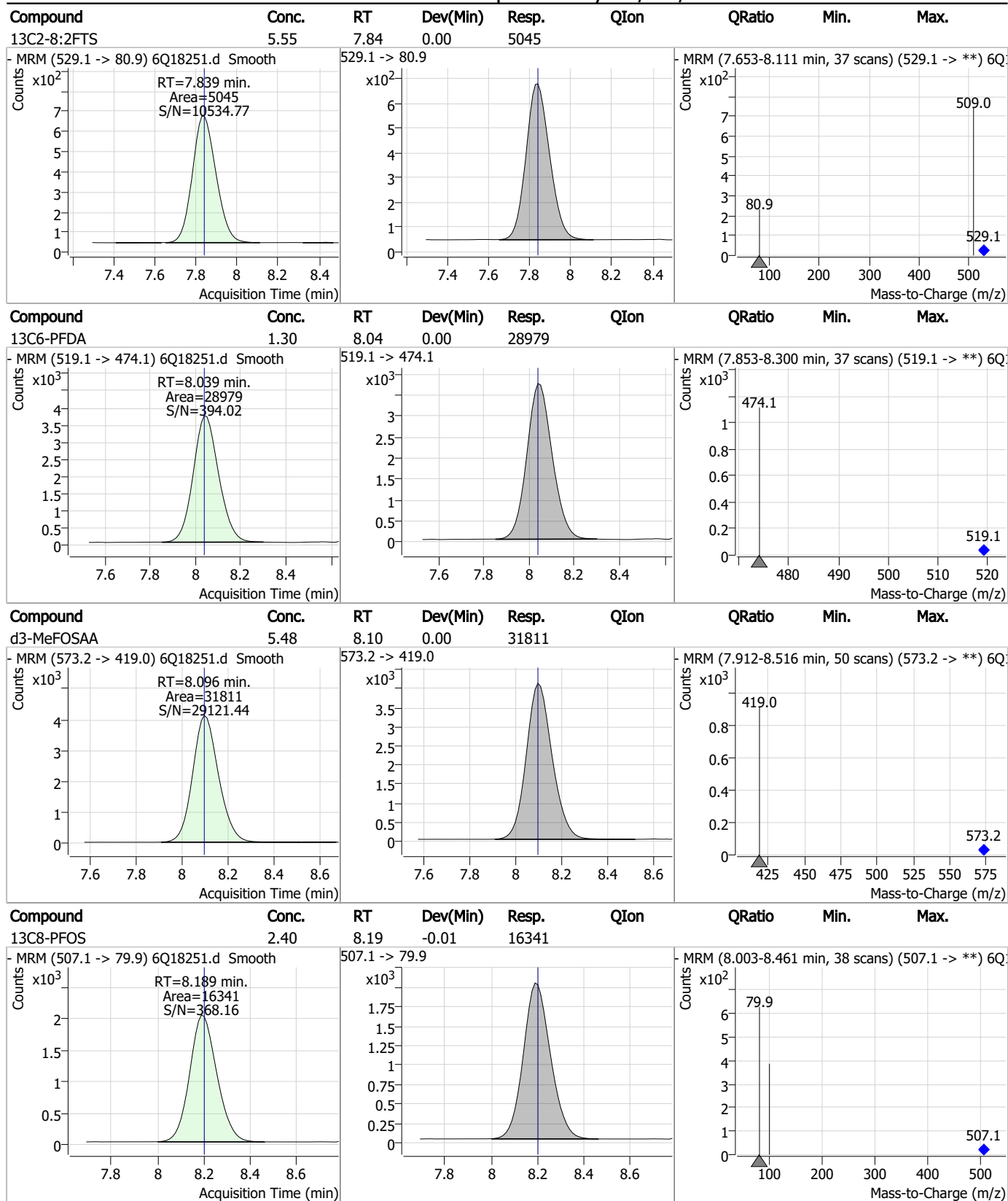
### Perfluorinated Compounds by LC/MS/MS



7.25  
7

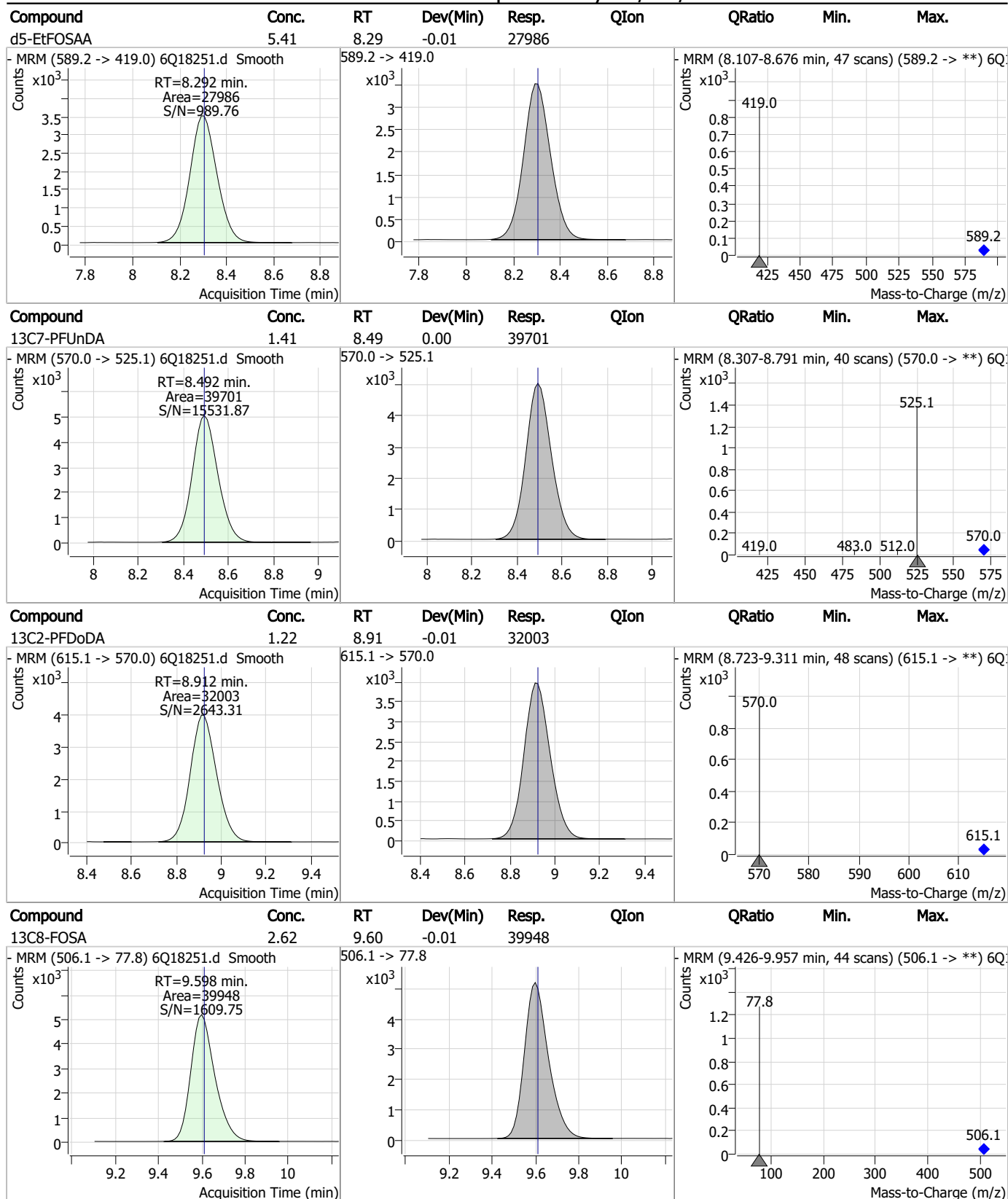


### Perfluorinated Compounds by LC/MS/MS



7.25  
7

### Perfluorinated Compounds by LC/MS/MS



7.25  
7

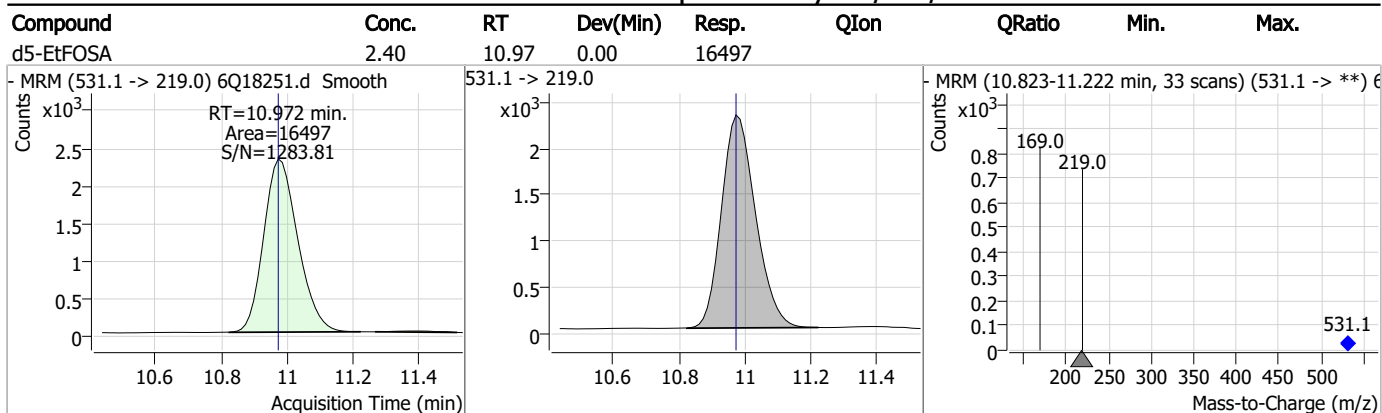
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-------------|-------|-------|----------|--------|------|--------|------|------|
| 13C2-PFTeDA | 1.26  | 9.65  | 0.00     | 17241  |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d7-MeFOSE   | 22.30 | 10.66 | 0.00     | 132713 |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d3-MeFOSA   | 2.38  | 10.74 | 0.00     | 16539  |      |        |      |      |
|             |       |       |          |        |      |        |      |      |
| d9-EtFOSE   | 23.21 | 10.91 | 0.00     | 168101 |      |        |      |      |
|             |       |       |          |        |      |        |      |      |

7.2.5

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### Perfluorinated Compounds by LC/MS/MS



7.2.5  
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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18253.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 3:43:59 AM  
 Sample Name : op96959-bs  
 Vial : P2-B3  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 46826             | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 65799             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 76973             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 70063             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 106401            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 43094             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 27030             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 33912             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 29810             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 13558             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.611                | 506.1 -> 77.8  | 29222             | 2.50 µg/L   | 0.000    |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 28543             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 16502             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15724             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3197              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5136              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4623              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 29426             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 113696            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 23960             | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 90049             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 129369            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 12351             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 12485             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 19679             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 88996             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 10713             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 105231            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 34413             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 48236             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 70883             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3197              | 5.86 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 117.2% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5136              | 6.68 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 133.7% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4623              | 6.25 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 125.1% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 29810             | 1.19 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 95.4%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 13558             | 1.04 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 83.0%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 28543             | 2.80 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 111.9% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 16502             | 2.82 µg/L   | -0.012   |

7.31  
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### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 112.8% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 46826    | 2.23 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 22.3%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 70063    | 2.65 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 106.1% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 76973    | 2.71 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 108.3% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 65799    | 4.95 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.1%  |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 27030    | 1.27 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 101.8% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 33912    | 1.26 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 100.7% |               |
| 13C8-FOSA               | 9.611                | 506.1 -> 77.8  | 29222    | 2.13 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 85.3%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 106401   | 2.54 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.4% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 15724    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.9% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 43094    | 1.31 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 104.5% |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 29426    | 5.64 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 112.9% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 113696   | 10.45 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 104.5% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 12485    | 2.00 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 80.1%  |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0 | 23960    | 5.16 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.3% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 90049    | 16.86 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 67.4%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 129369   | 19.90 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 79.6%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 12351    | 2.00 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 80.0%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 54691    | 9.70 µg/L         | 93            |
|                         |                      | 327.1 -> 80.9  | 19147    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 53501    | 9.37 µg/L         | 97            |
|                         |                      | 427.1 -> 80.9  | 17235    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 27400    | 9.94 µg/L         | 98            |
|                         |                      | 527.1 -> 80.8  | 11433    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 9264     | 2.53 µg/L         | 96            |
|                         |                      | 584.2 -> 526.0 | 4783     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 28532    | 2.51 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 914      |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 16289    | 2.44 µg/L         | 99            |
|                         |                      | 570.1 -> 483.0 | 3080     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 17516    | 9.64 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 24384    | 2.13 µg/L         | 98            |
|                         |                      | 298.7 -> 98.8  | 9183     |                   |               |
| PFDA                    | 8.052                | 512.9 -> 469.0 | 84257    | 2.26 µg/L         | 97            |
|                         |                      | 512.9 -> 219.0 | 14503    |                   |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 55807    | 2.33 µg/L         | 93            |
|                         |                      | 613.1 -> 319.0 | 9268     |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 10330    | 2.32 µg/L         | 96            |

7.3.1  
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Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
|              |        | 599.0 -> 98.8  | 4753     |       |       |          |
| PFHpA        | 6.396  | 363.1 -> 319.0 | 86696    | 2.32  | µg/L  | 95       |
|              |        | 363.1 -> 169.0 | 14929    |       |       |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 19167    | 2.27  | µg/L  | 95       |
|              |        | 449.0 -> 98.9  | 10140    |       |       |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 69733    | 2.32  | µg/L  | 97       |
|              |        | 313.0 -> 118.9 | 3873     |       |       |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 19777    | 2.14  | µg/L  | m 99     |
|              |        | 398.7 -> 98.9  | 9280     |       |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 83999    | 2.44  | µg/L  | 98       |
|              |        | 463.0 -> 219.0 | 17325    |       |       |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 17447    | 2.36  | µg/L  | 93       |
|              |        | 548.8 -> 98.9  | 9349     |       |       |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 117649   | 2.41  | µg/L  | 97       |
|              |        | 413.0 -> 169.0 | 21534    |       |       |          |
| PFOS         | 8.191  | 498.9 -> 79.9  | 18625    | 2.17  | µg/L  | 93       |
|              |        | 498.9 -> 98.8  | 9005     |       |       |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 85990    | 4.72  | µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 19633    | 2.23  | µg/L  | 98       |
|              |        | 349.1 -> 98.9  | 9008     |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 39498    | 2.61  | µg/L  | 96       |
|              |        | 713.1 -> 168.9 | 3518     |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 55701    | 2.36  | µg/L  | 94       |
|              |        | 663.0 -> 168.9 | 6306     |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 55649    | 2.23  | µg/L  | 92       |
|              |        | 563.1 -> 269.1 | 10275    |       |       |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 85885    | 4.61  | µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 26740    |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 141889   | 4.48  | µg/L  | 96       |
|              |        | 532.8 -> 353.0 | 43830    |       |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 340317   | 4.77  | µg/L  | 99       |
|              |        | 376.9 -> 84.8  | 89187    |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 56349    | 5.01  | µg/L  | 92       |
|              |        | 284.9 -> 184.9 | 5884     |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 4686     | 3.64  | µg/L  | 99       |
|              |        | 241.0 -> 117.0 | 663      |       |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 292375   | 53.71 | µg/L  | 92       |
|              |        | 341.0 -> 217.0 | 225457   |       |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 199845   | 57.01 | µg/L  | 100      |
|              |        | 441.0 -> 336.9 | 441054   |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 30667    | 4.98  | µg/L  | 94       |
|              |        | 526.0 -> 169.0 | 40207    |       |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 73063    | 11.53 | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 27226    | 5.11  | µg/L  | 94       |
|              |        | 511.9 -> 169.0 | 37966    |       |       |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 47592    | 12.00 | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 4163     | 2.13  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2226     |       |       |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 18585    | 4.90  | µg/L  | 97       |
|              |        | 295.0 -> 84.9  | 4740     |       |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 64092    | 4.98  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 19751    | 2.04  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 169258   | 4.05  | µg/L  | 99       |
|              |        | 314.8 -> 82.9  | 5832     |       |       |          |

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

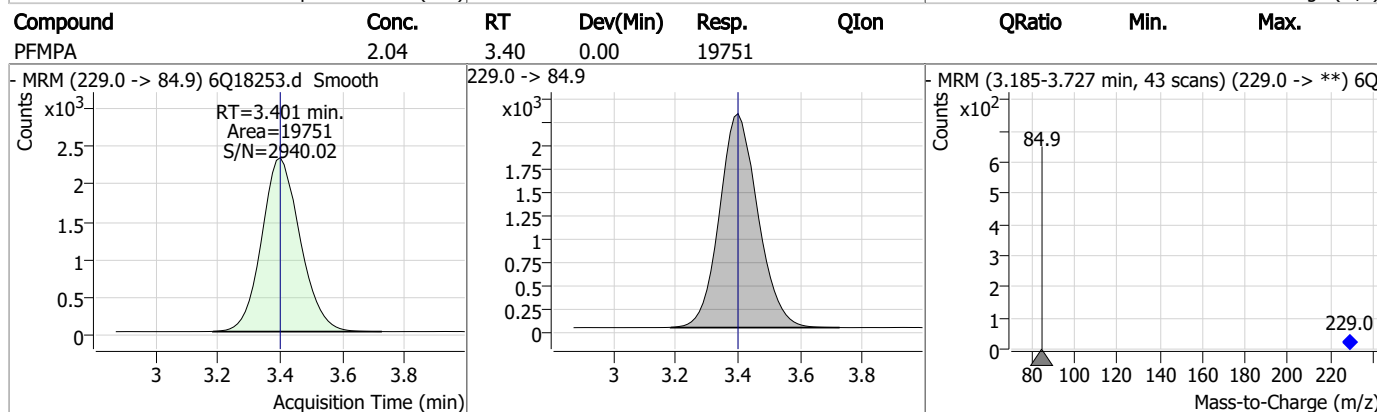
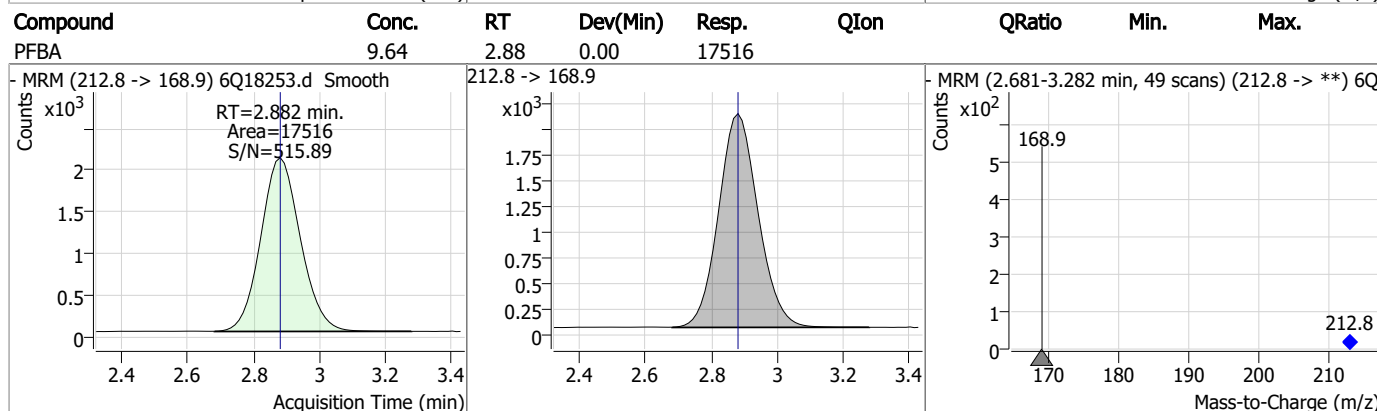
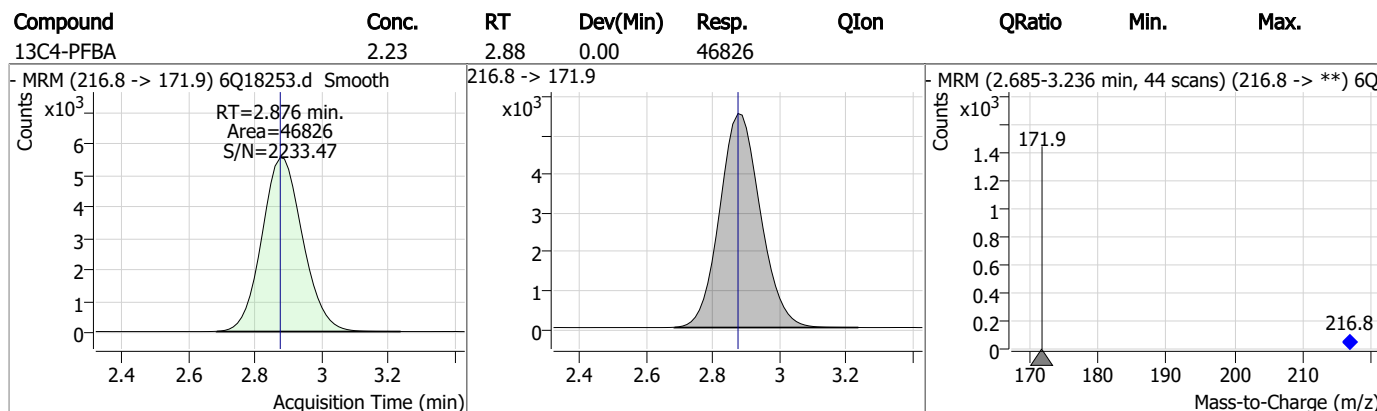
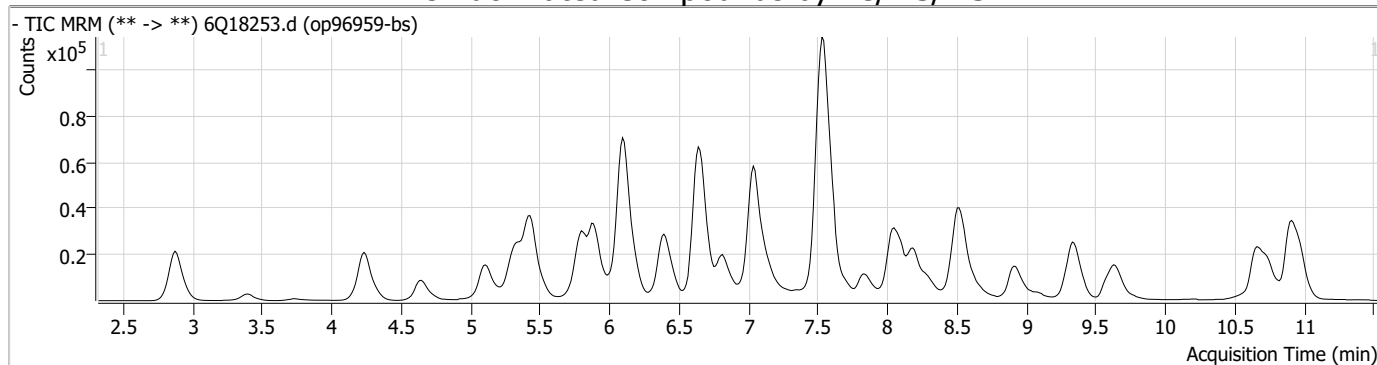
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

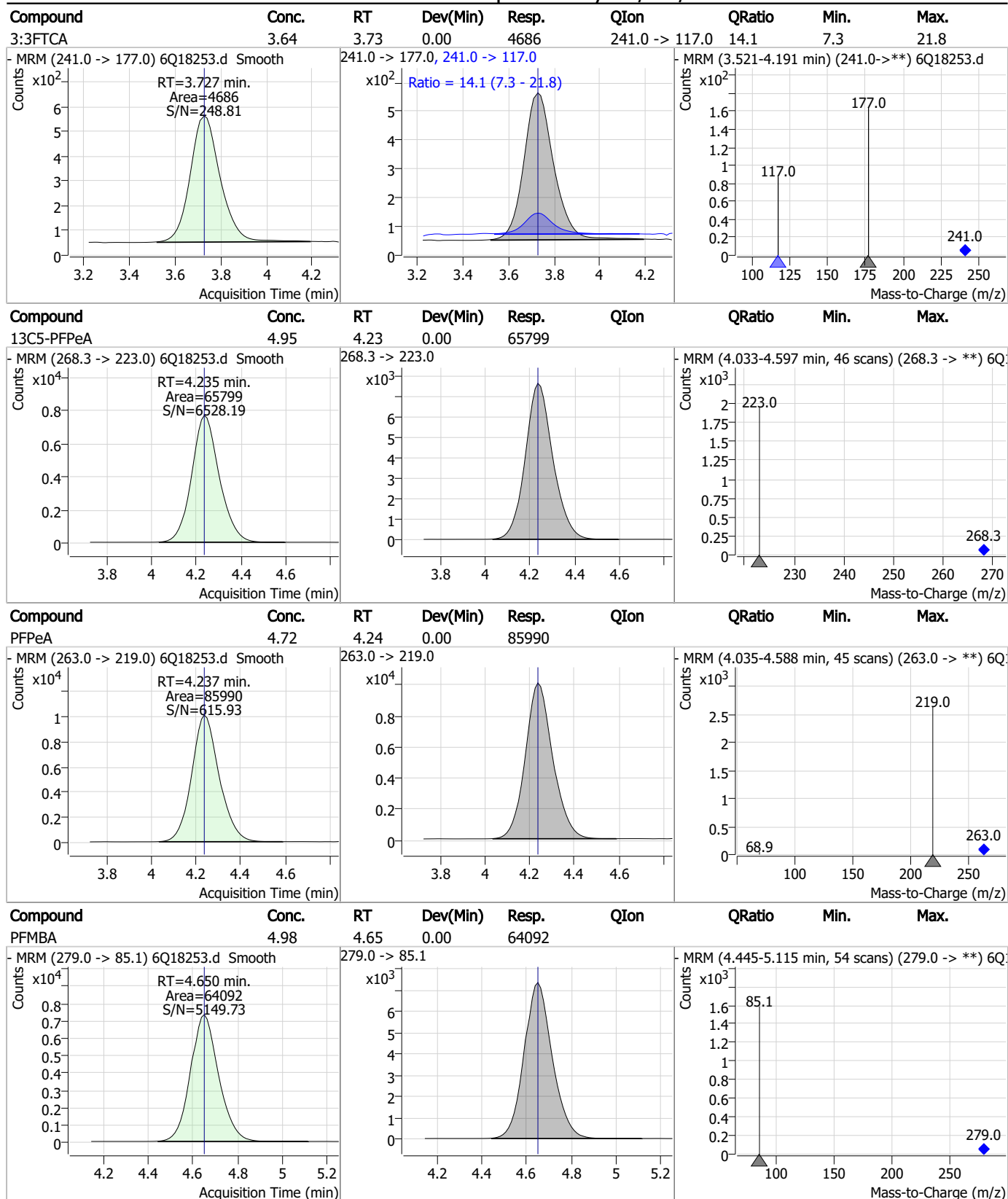
7.3.1

7

### Perfluorinated Compounds by LC/MS/MS

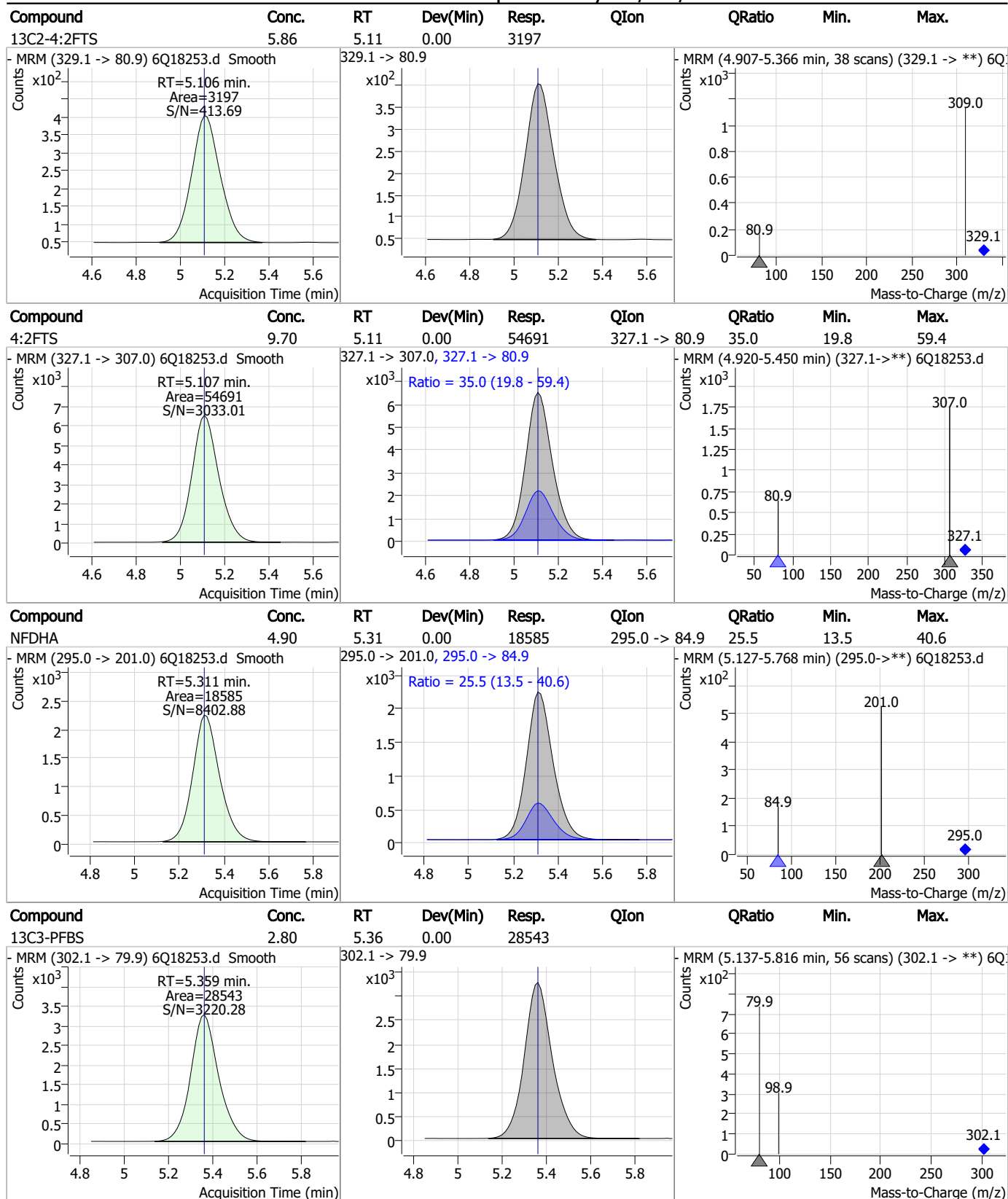


### Perfluorinated Compounds by LC/MS/MS



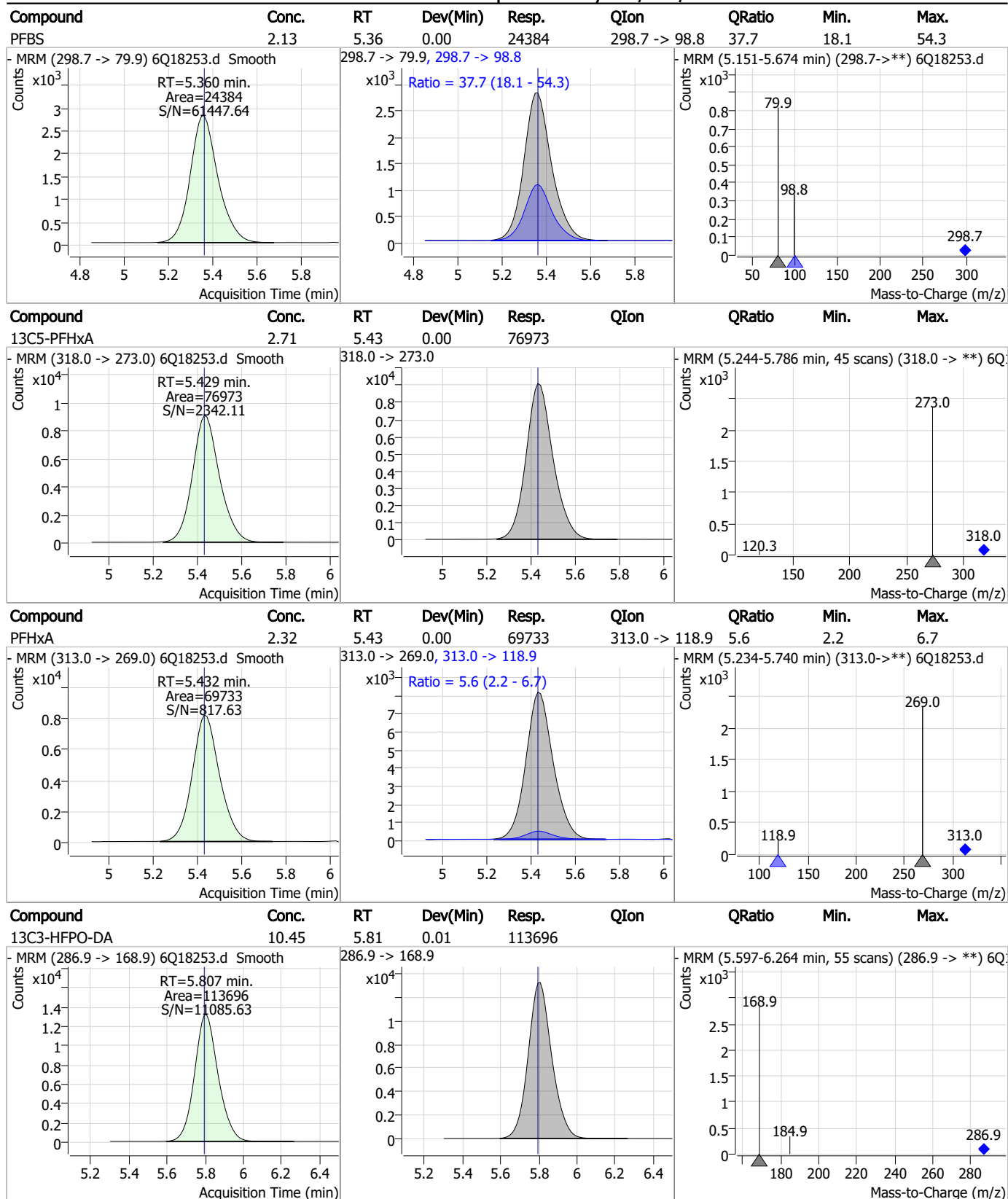
7.3.1  
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### Perfluorinated Compounds by LC/MS/MS



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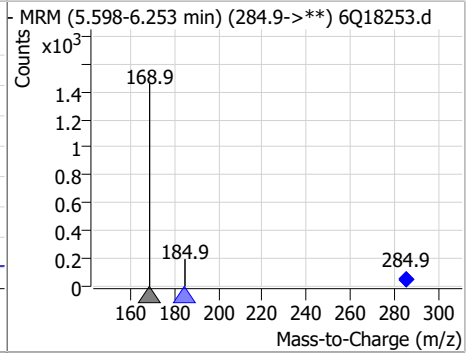
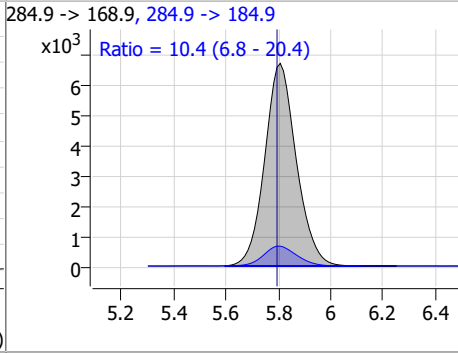
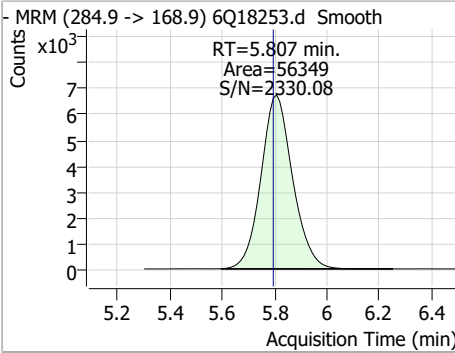
### Perfluorinated Compounds by LC/MS/MS



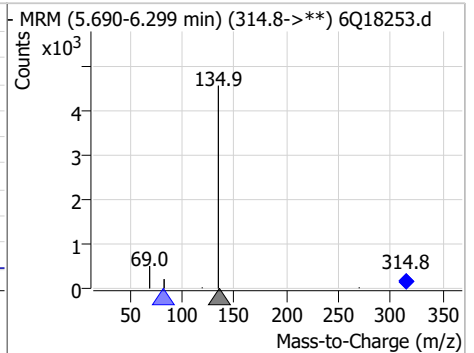
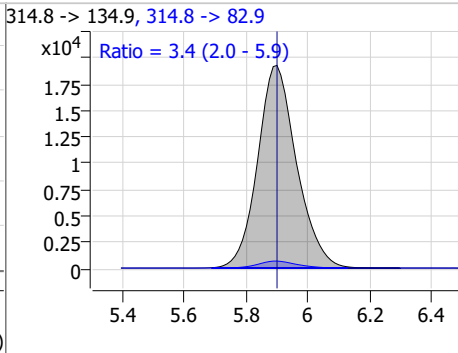
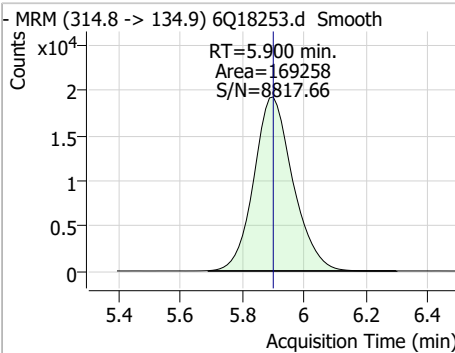
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### Perfluorinated Compounds by LC/MS/MS

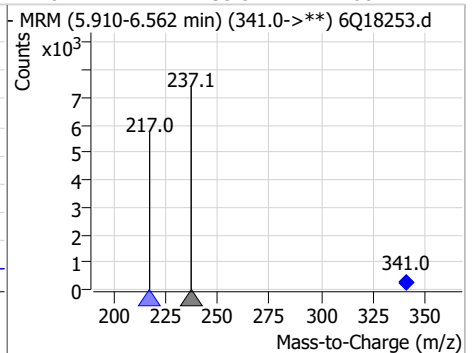
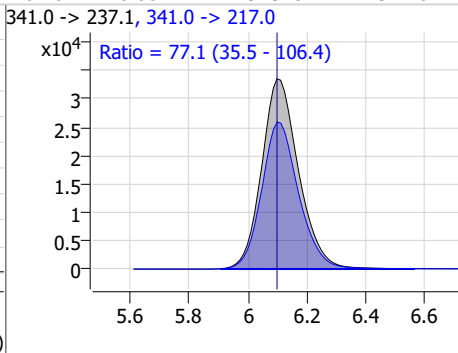
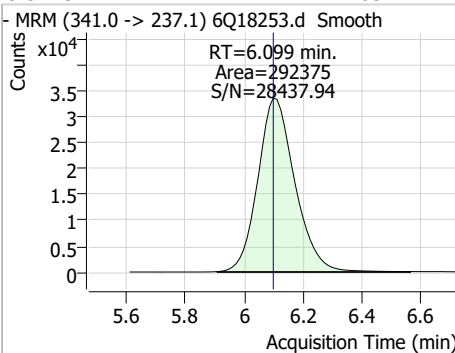
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 5.01  | 5.81 | 0.01     | 56349 | 284.9 -> 184.9 | 10.4   | 6.8  | 20.4 |



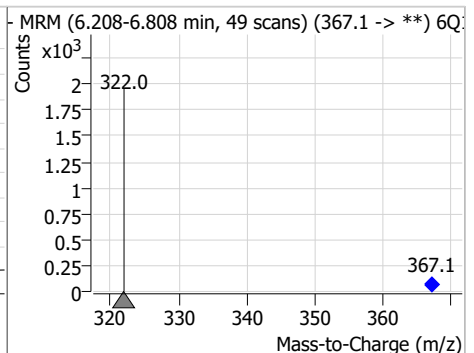
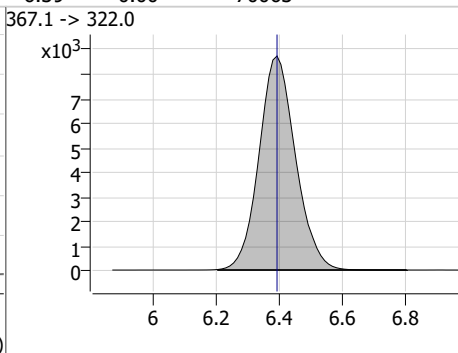
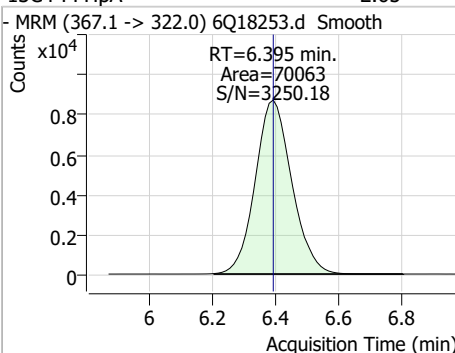
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 4.05  | 5.90 | 0.00     | 169258 | 314.8 -> 82.9 | 3.4    | 2.0  | 5.9  |



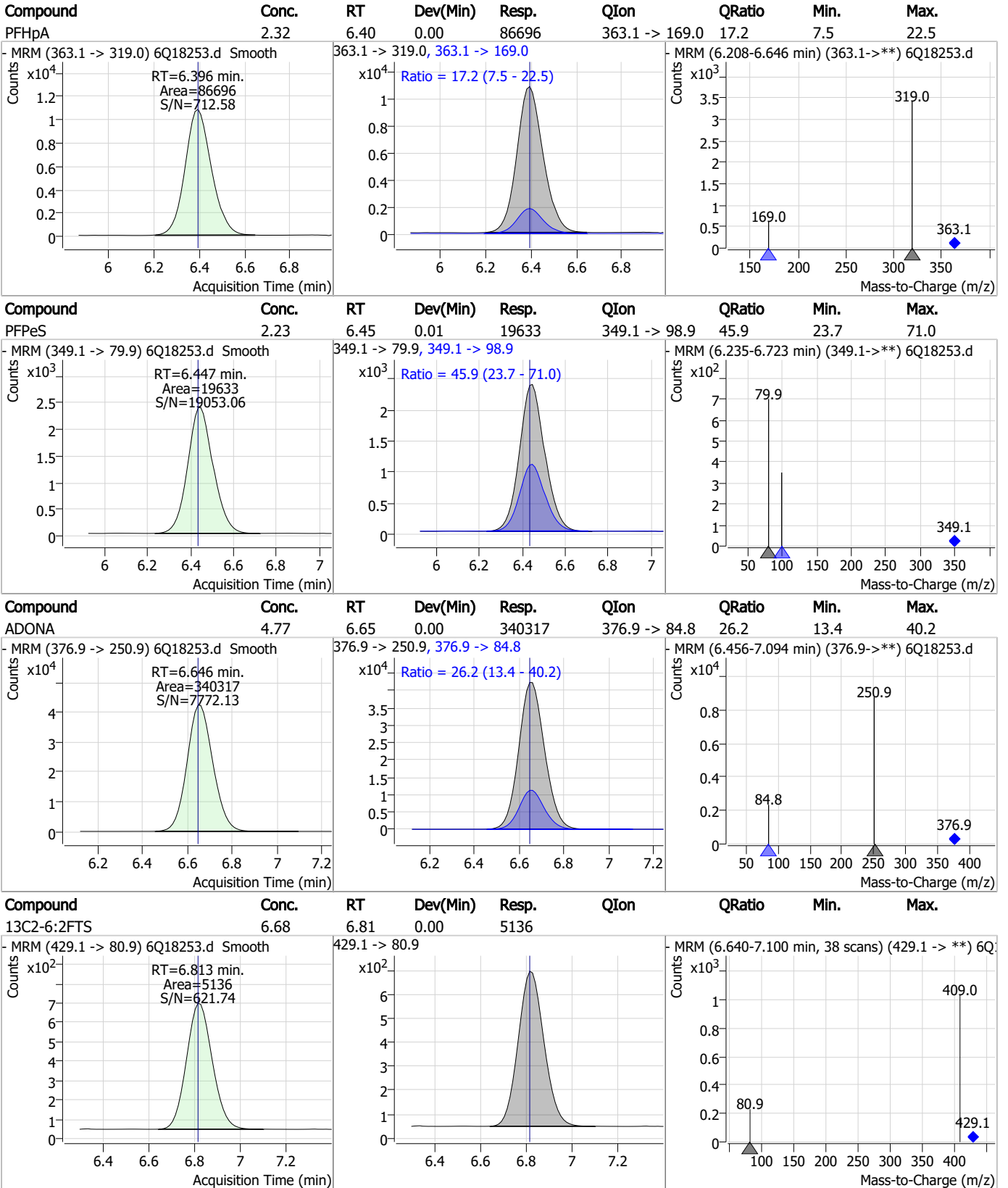
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 53.71 | 6.10 | 0.00     | 292375 | 341.0 -> 217.0 | 77.1   | 35.5 | 106.4 |



| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.65  | 6.39 | 0.00     | 70063 | 367.1 -> 322.0 |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



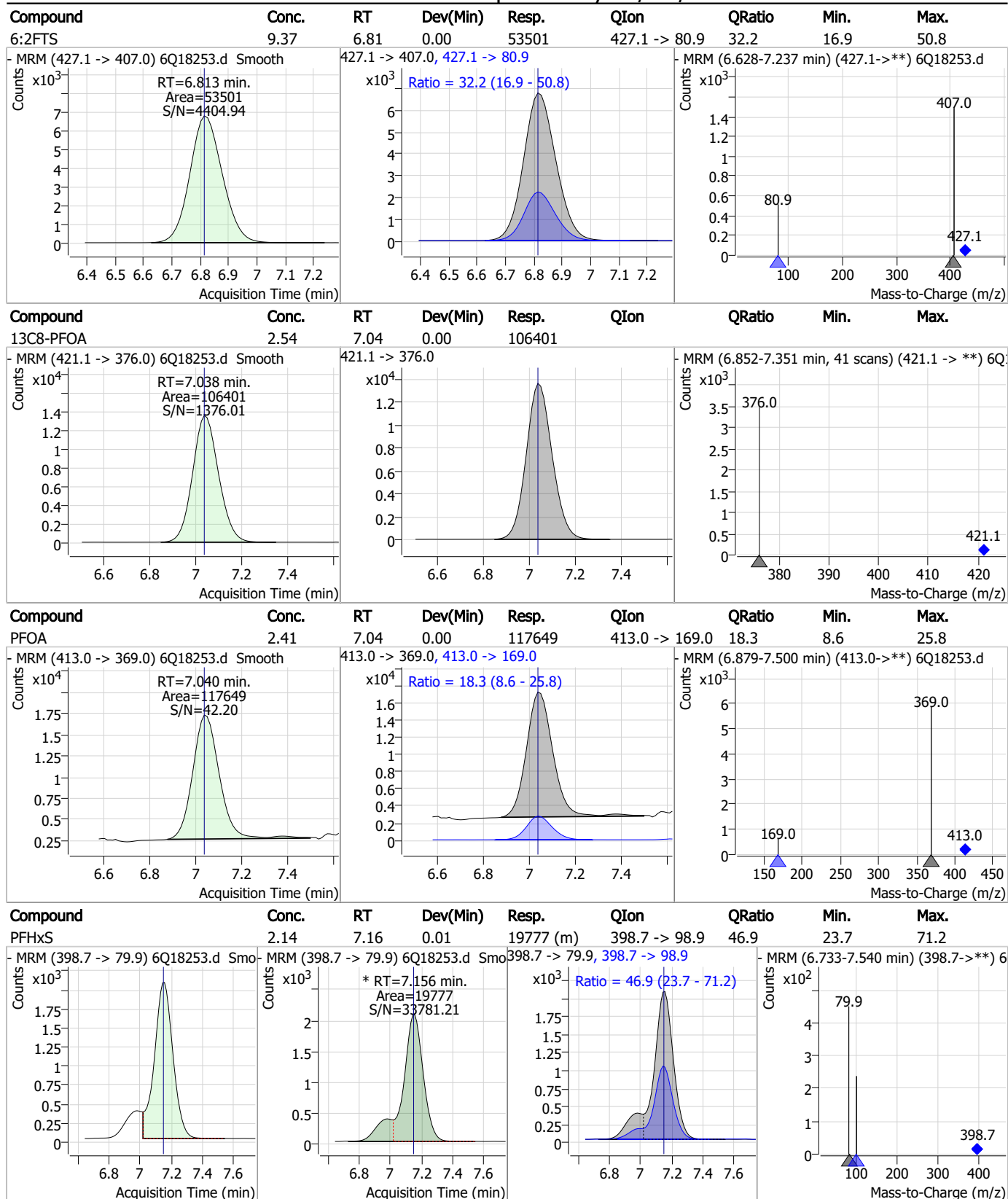
7.3.1

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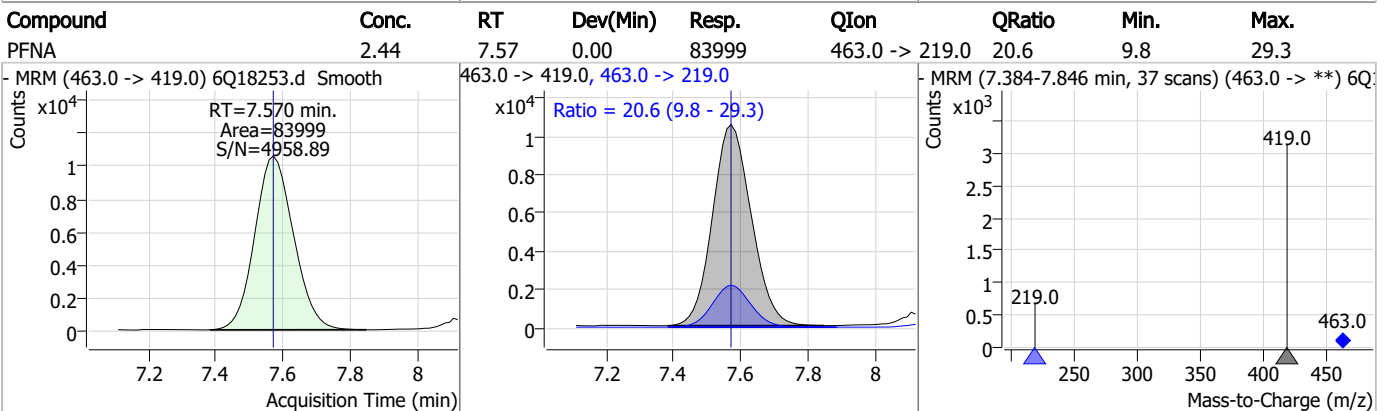
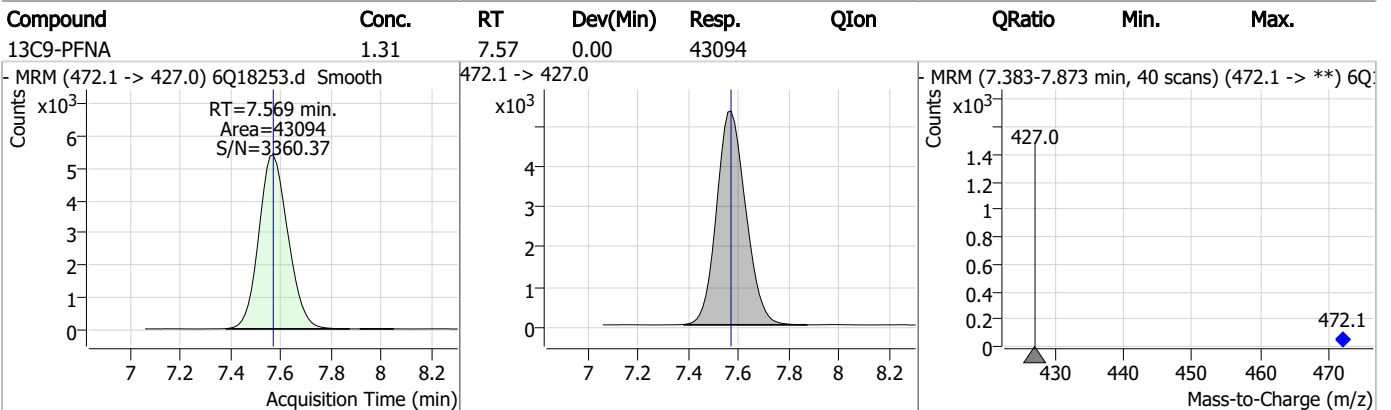
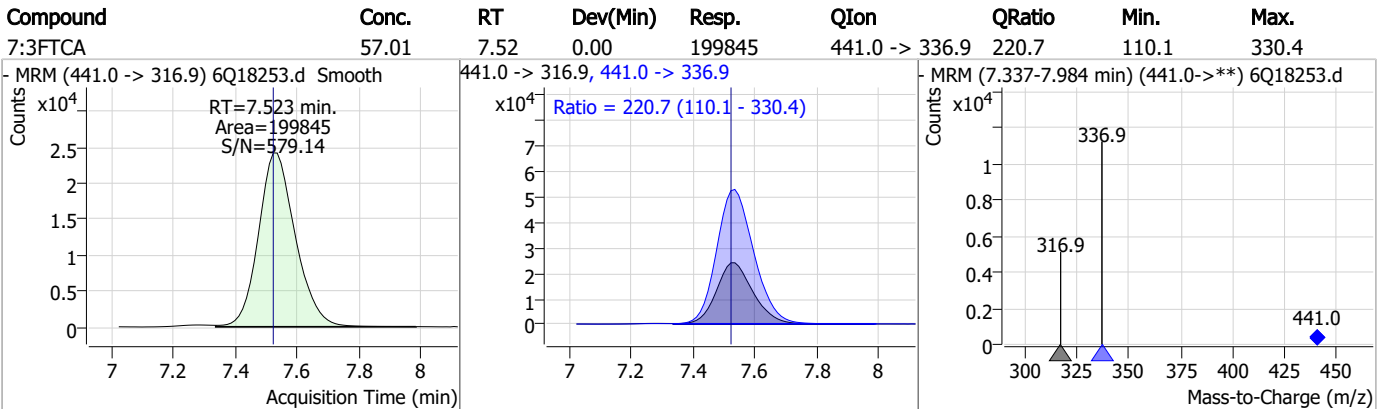
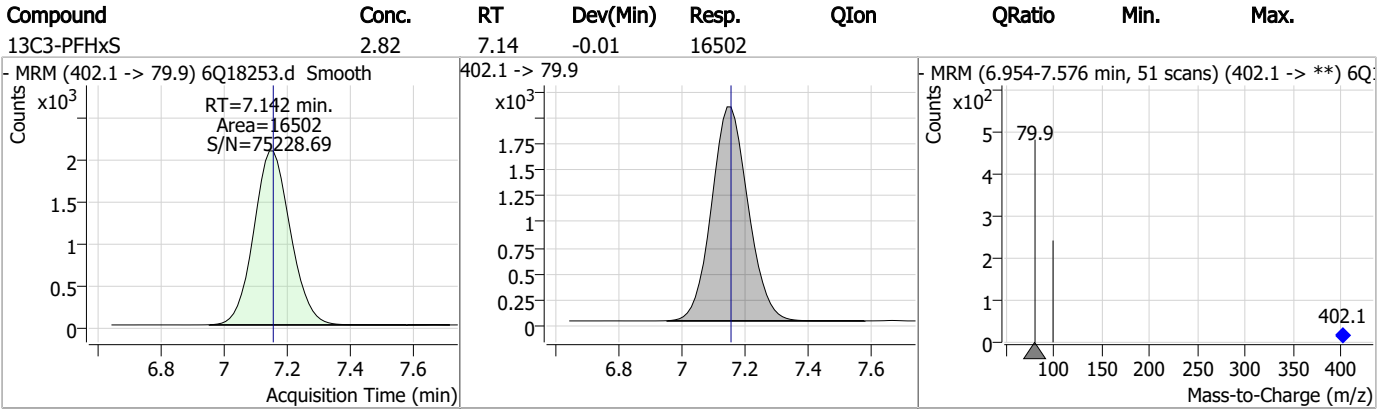


### Perfluorinated Compounds by LC/MS/MS



7.3.1

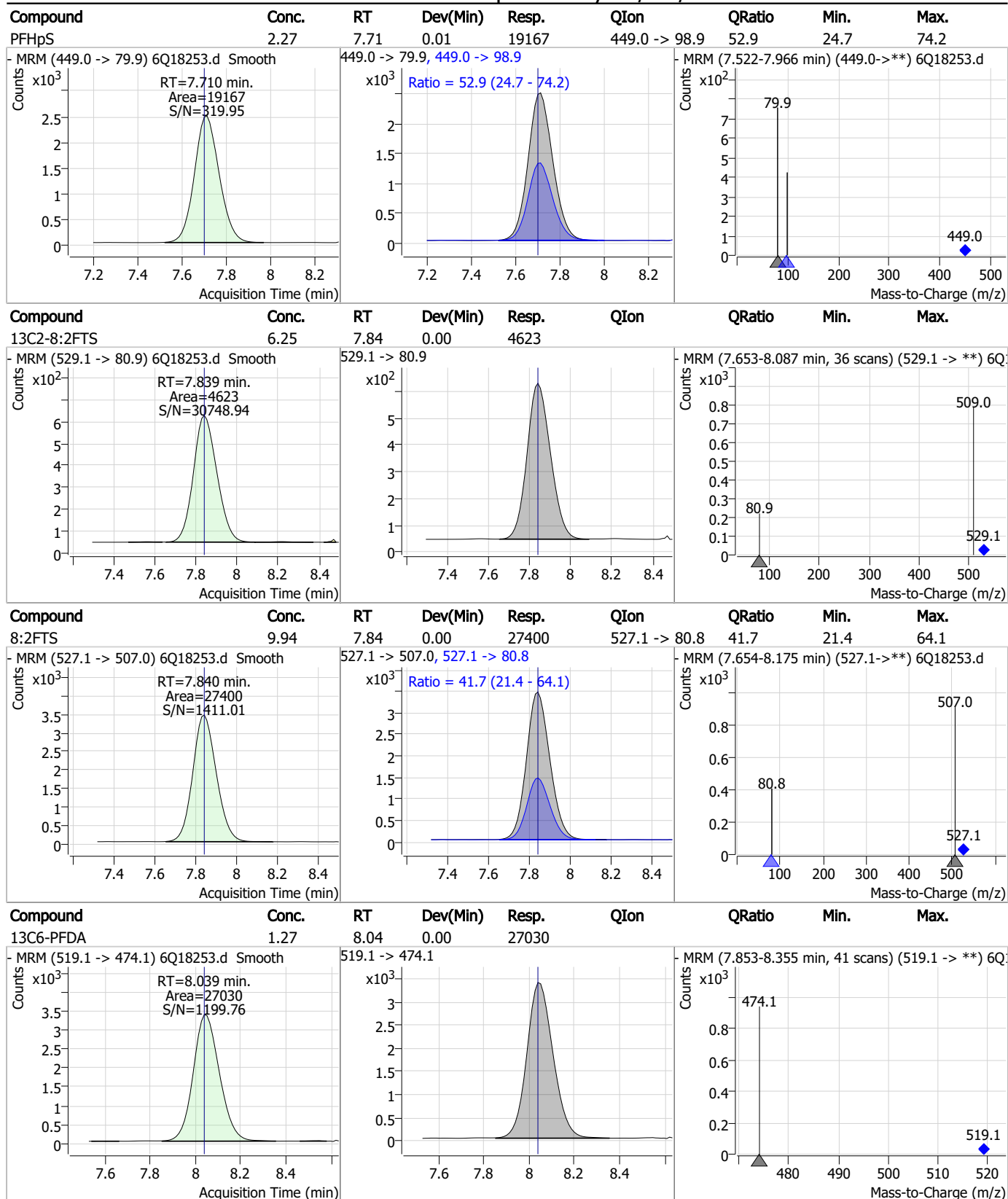
### Perfluorinated Compounds by LC/MS/MS



7.3.1

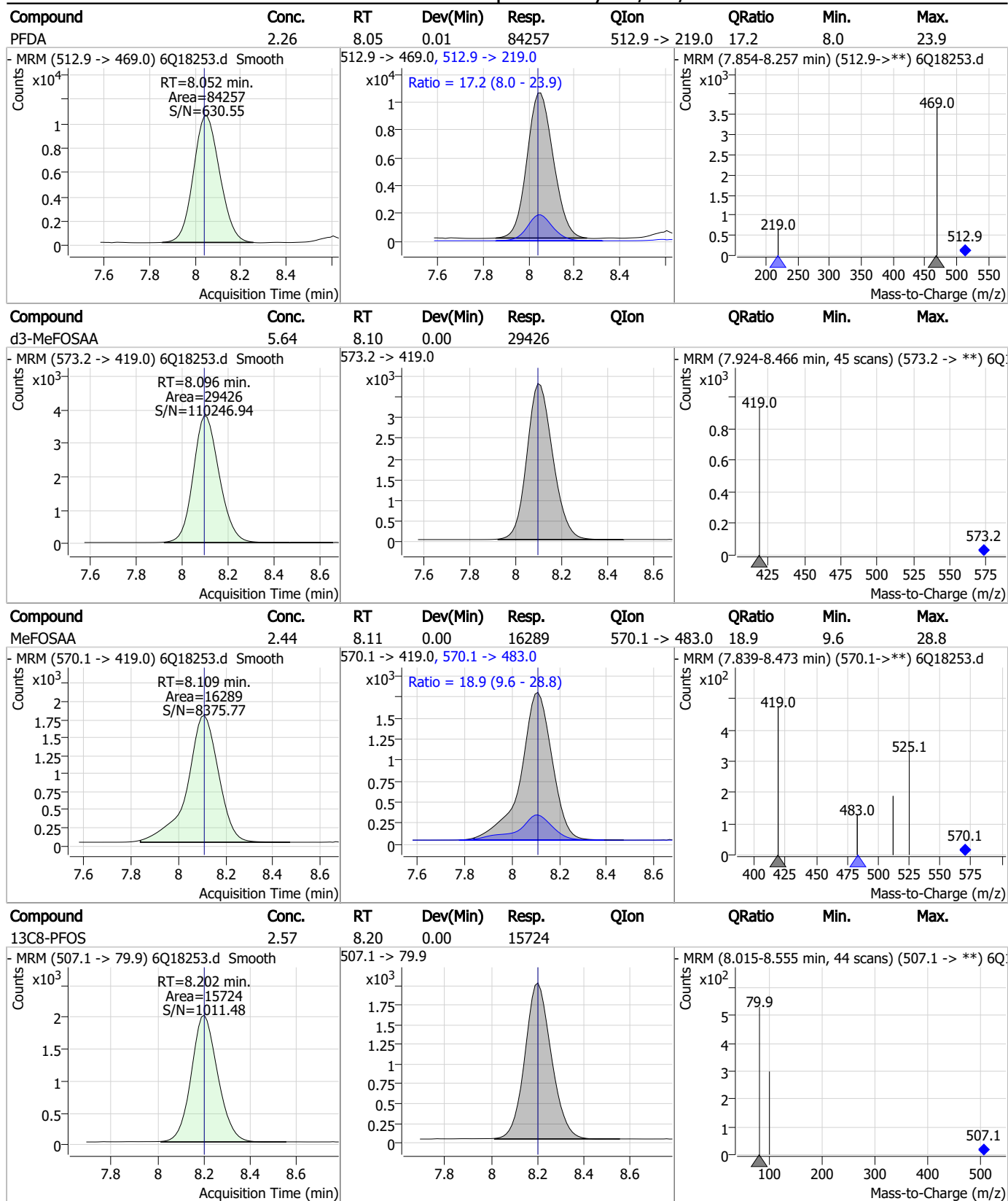
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### Perfluorinated Compounds by LC/MS/MS



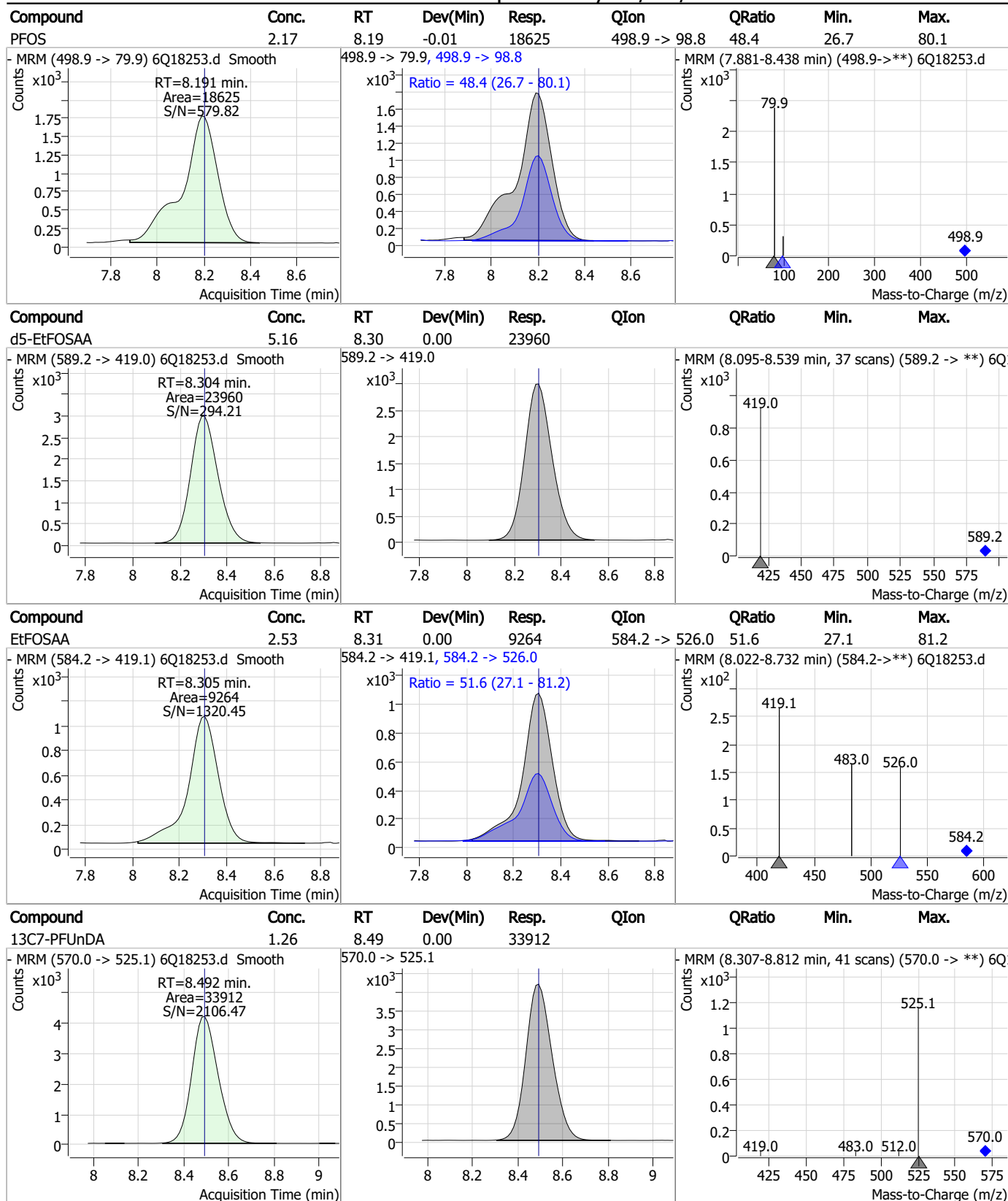
7.3.1  
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### Perfluorinated Compounds by LC/MS/MS



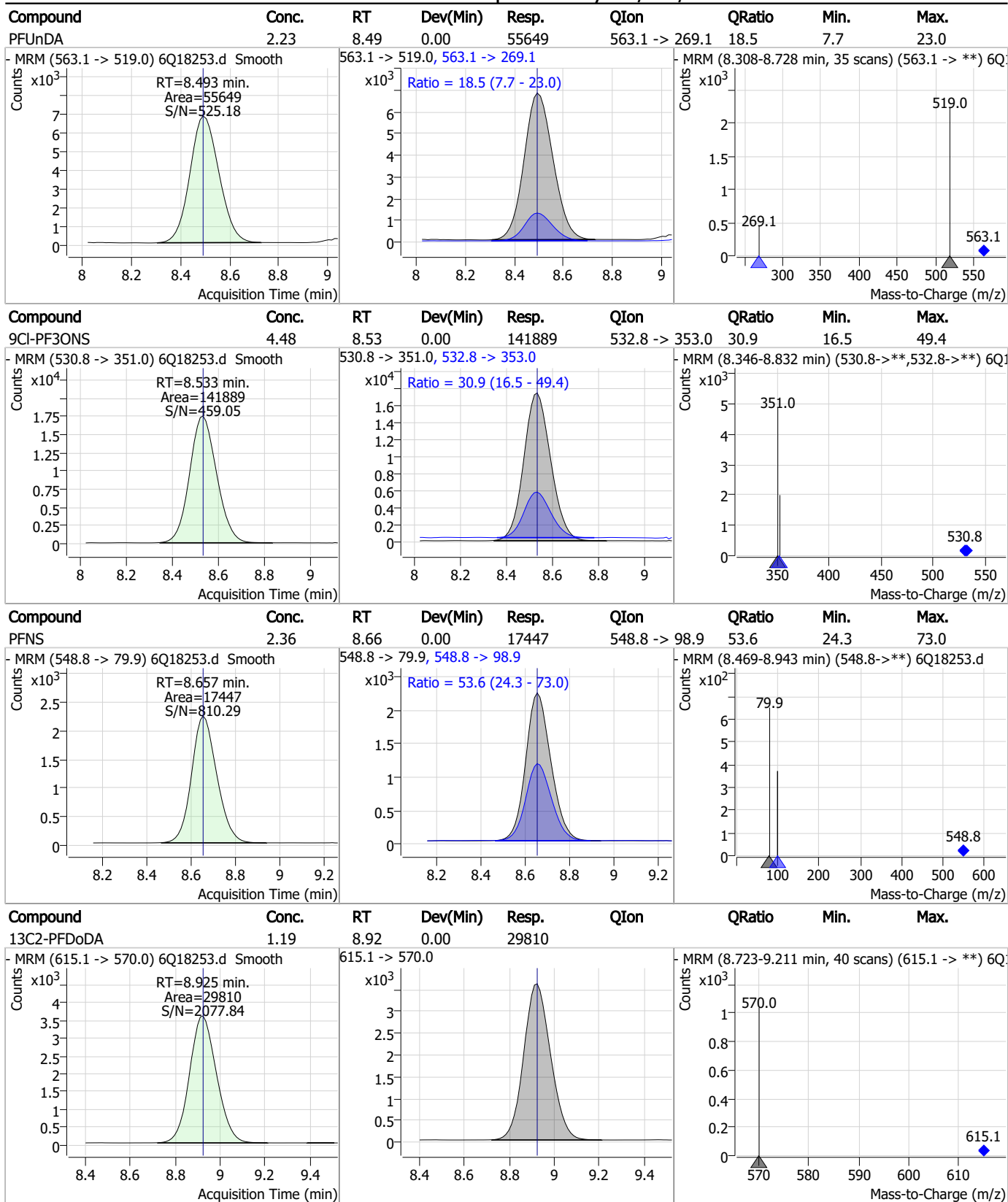
7.3.1  
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### Perfluorinated Compounds by LC/MS/MS



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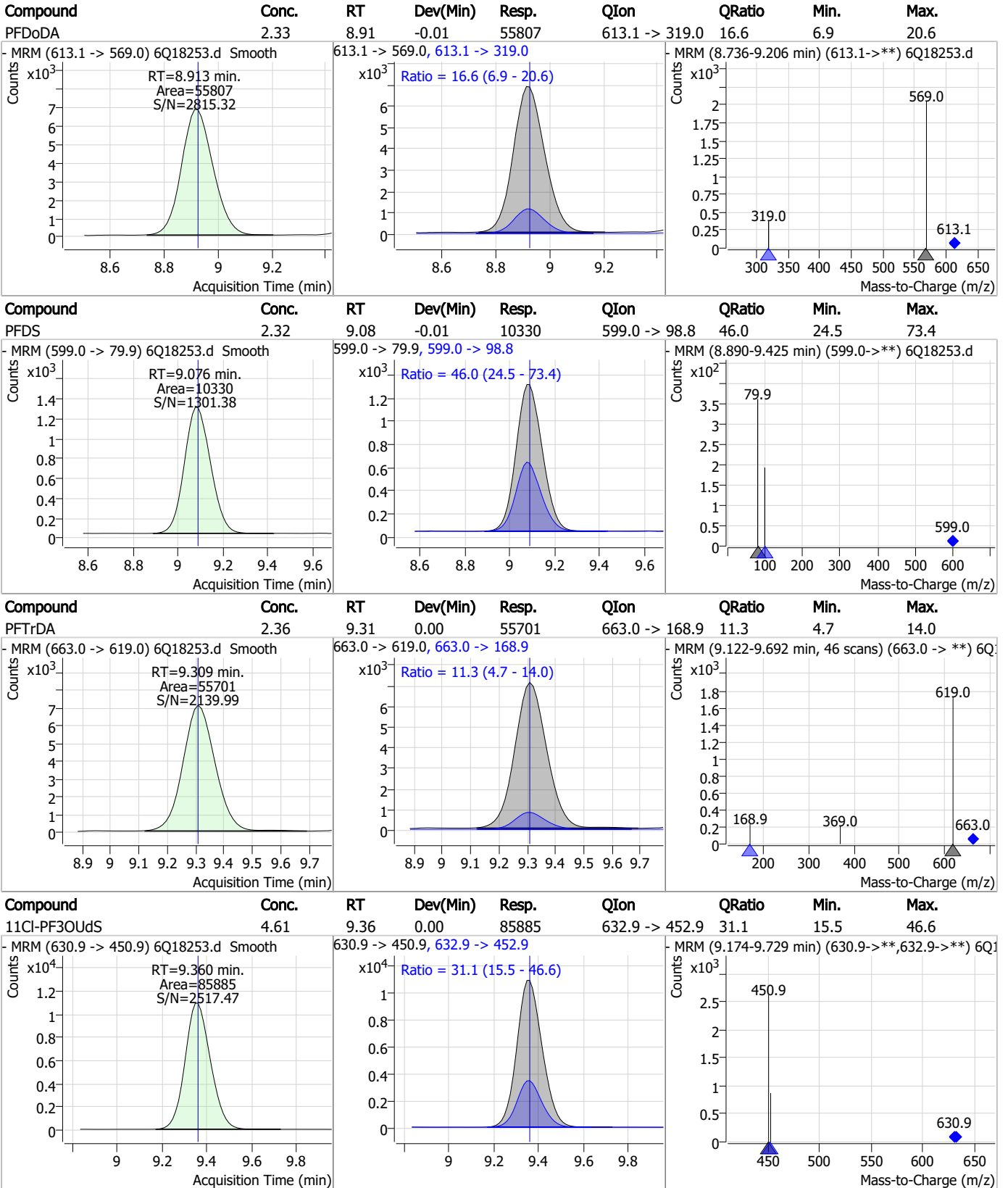
### Perfluorinated Compounds by LC/MS/MS



7.3.1

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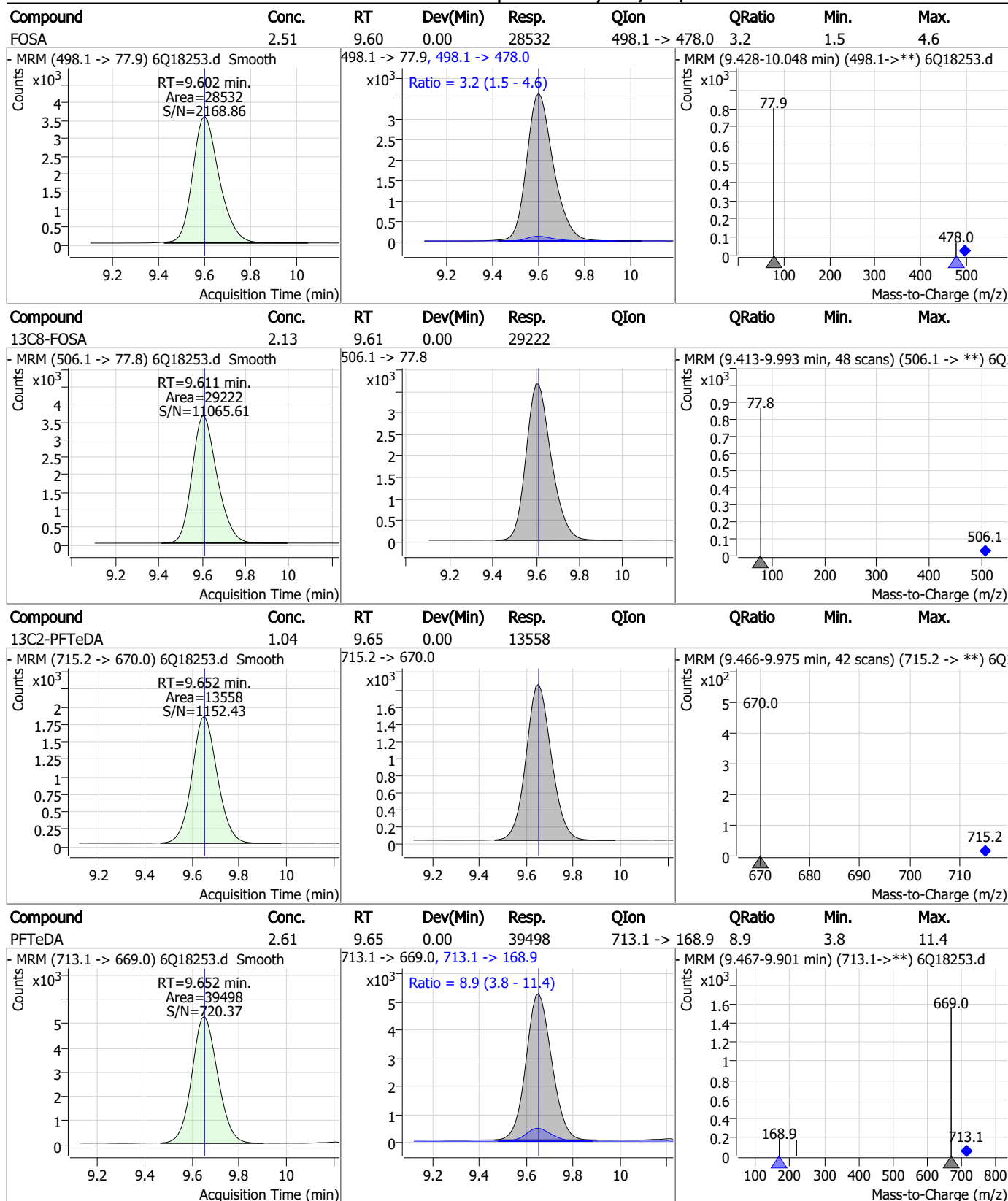
### Perfluorinated Compounds by LC/MS/MS



7.3.1

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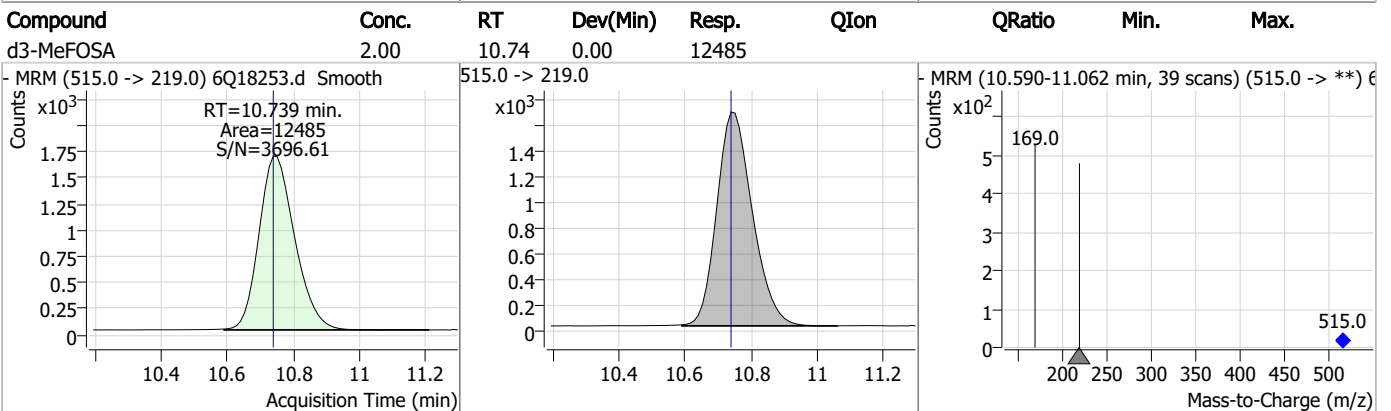
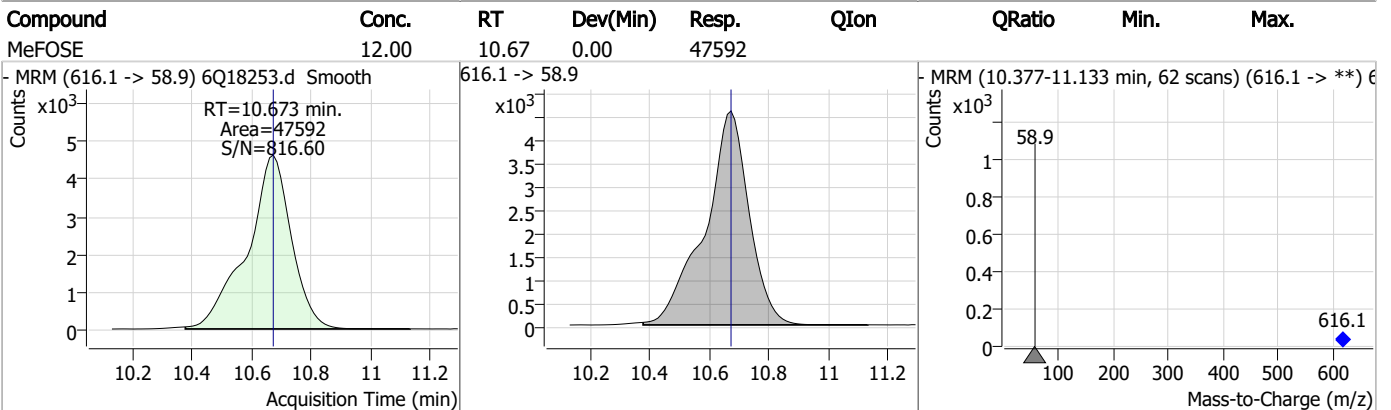
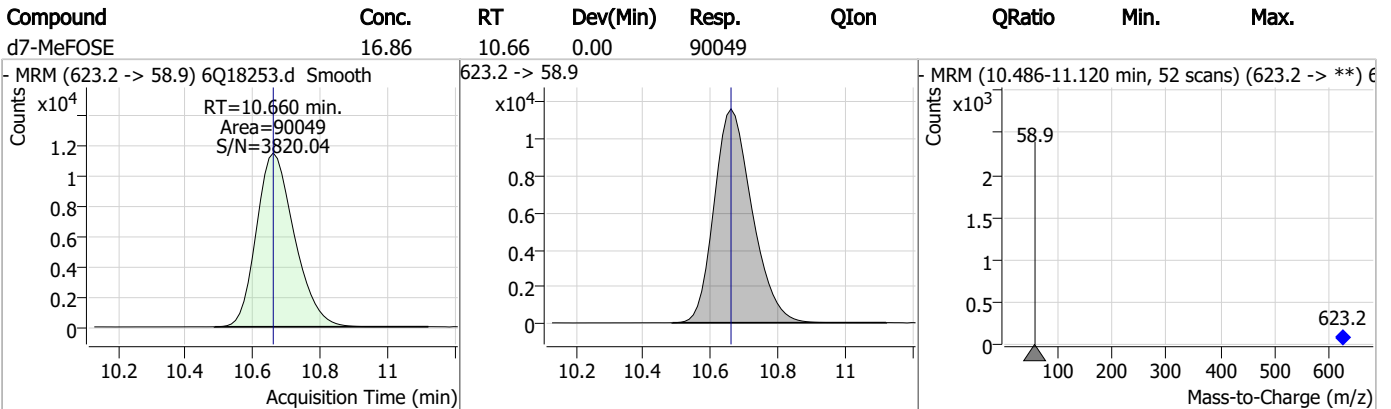
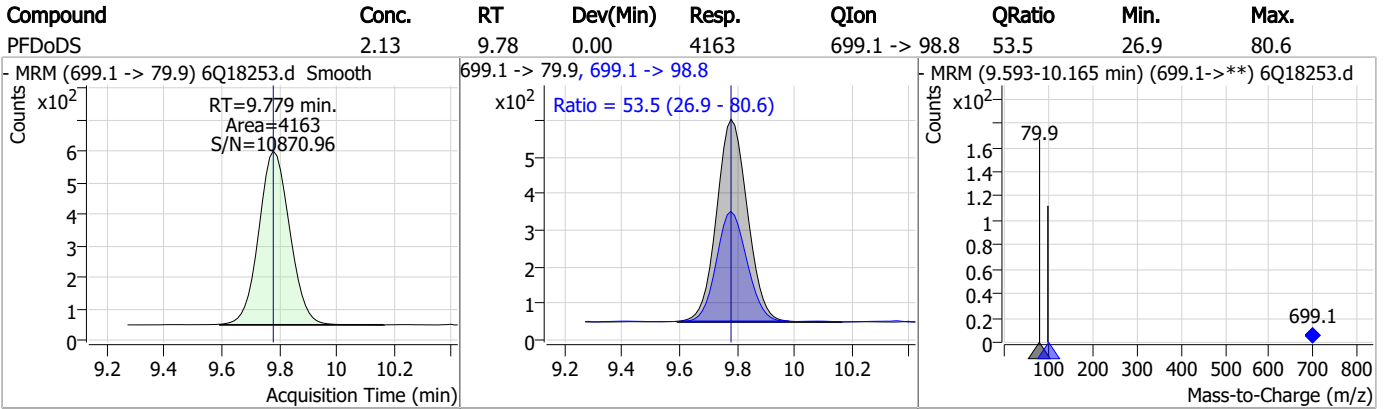
### Perfluorinated Compounds by LC/MS/MS



7.3.1  
7



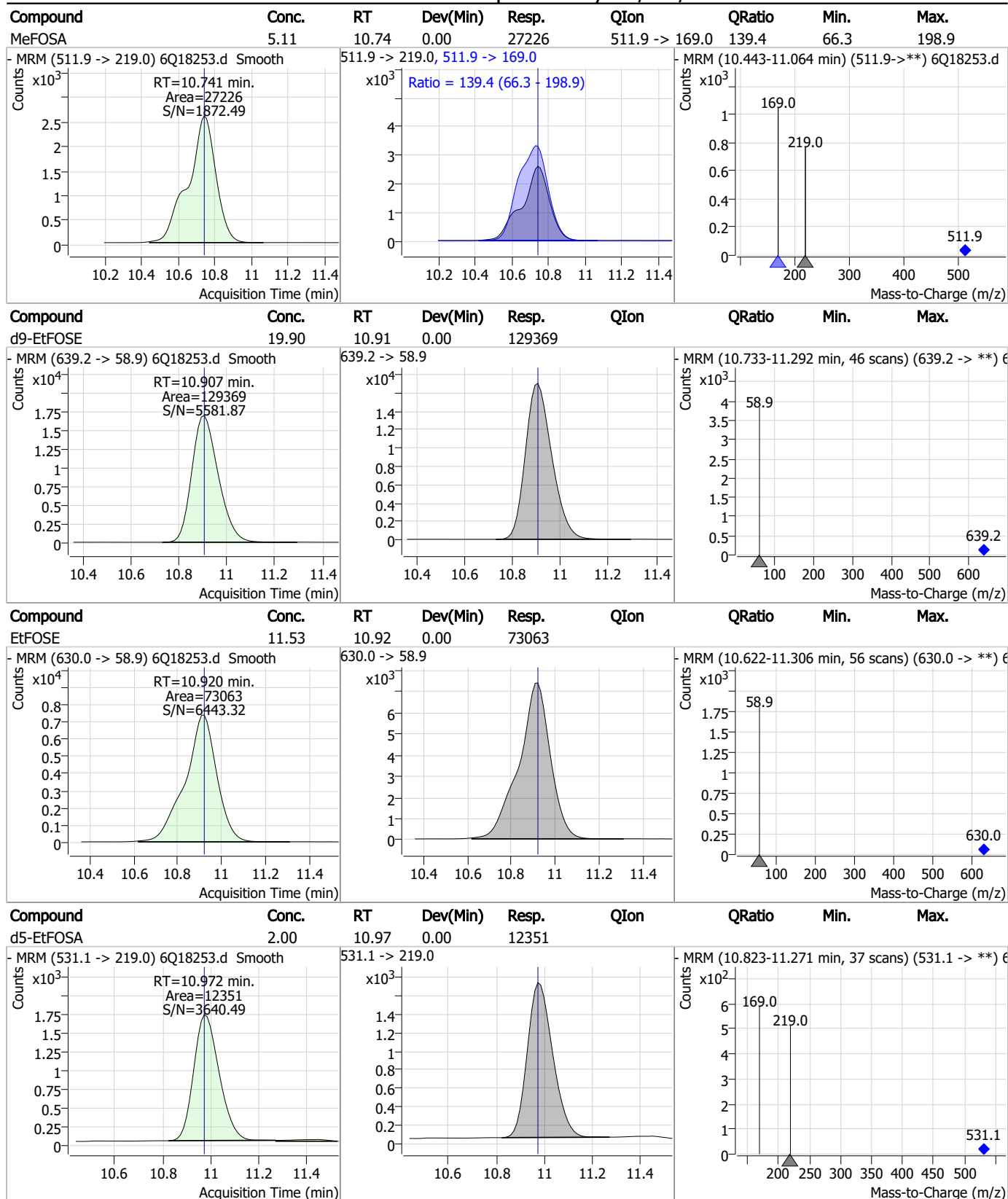
Perfluorinated Compounds by LC/MS/MS



7.3.1

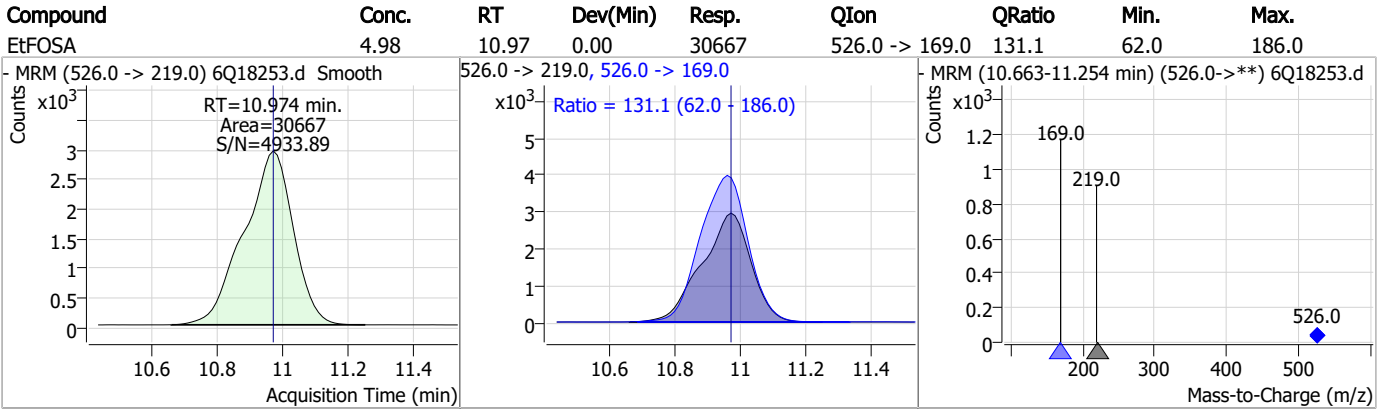
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### Perfluorinated Compounds by LC/MS/MS



7.3.1  
7

Perfluorinated Compounds by LC/MS/MS



7.3.1

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# Manual Integration Approval Summary

Sample Number: OP96959-BS                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18253.D                      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/23/23 03:43                      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.3.1.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18254.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 3:58:27 AM  
 Sample Name : op96959-llbs:3  
 Vial : P2-B4  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 213363            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 70755             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 75452             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.382                | 367.1 -> 322.0 | 68137             | 2.50 µg/L   | -0.013   |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 107828            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 45279             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 25951             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 32491             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 27991             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 13013             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 26926             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 28917             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 16315             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 14204             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3241              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5087              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4708              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 28321             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 116623            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 24211             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 76710             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 107745            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 11005             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 10722             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 19718             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 88666             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 10973             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 106630            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 33093             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 51099             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 71120             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3241              | 5.80 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 116.1% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5087              | 6.46 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 129.3% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4708              | 6.22 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 124.3% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 27991             | 1.16 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 93.1%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 13013             | 1.04 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 82.9%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 28917             | 2.77 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 110.7% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 16315             | 2.72 µg/L   | -0.012   |

7.3.2  
7

Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response          | Conc. Units | Dev(Min)      |
|-------------------------|----------------------|----------------|-------------------|-------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 108.9% |             |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 213363            | 10.20 µg/L  | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                | Recovery = 102.0% |             |               |
| 13C4-PFHpA              | 6.382                | 367.1 -> 322.0 | 68137             | 2.57 µg/L   | -0.013        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 102.8% |             |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 75452             | 2.65 µg/L   | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 105.8% |             |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 70755             | 5.31 µg/L   | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                | Recovery = 106.2% |             |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 25951             | 1.27 µg/L   | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                | Recovery = 101.6% |             |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 32491             | 1.25 µg/L   | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                | Recovery = 100.4% |             |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 26926             | 1.96 µg/L   | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 78.5%  |             |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 107828            | 2.54 µg/L   | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 101.4% |             |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 14204             | 2.32 µg/L   | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 92.8%  |             |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 45279             | 1.30 µg/L   | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                | Recovery = 103.6% |             |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 28321             | 5.42 µg/L   | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                | Recovery = 108.4% |             |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 116623            | 10.68 µg/L  | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                | Recovery = 106.8% |             |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 10722             | 1.72 µg/L   | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 68.7%  |             |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 24211             | 5.21 µg/L   | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                | Recovery = 104.1% |             |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 76710             | 14.33 µg/L  | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                | Recovery = 57.3%  |             |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 107745            | 16.54 µg/L  | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                | Recovery = 66.2%  |             |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 11005             | 1.78 µg/L   | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                | Recovery = 71.1%  |             |               |
| <b>Target Compounds</b> |                      |                |                   |             | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 16416             | 2.87 µg/L   | 94            |
|                         |                      | 327.1 -> 80.9  | 5889              |             |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 15493             | 2.74 µg/L   | 99            |
|                         |                      | 427.1 -> 80.9  | 5329              |             |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 8438              | 3.01 µg/L   | 98            |
|                         |                      | 527.1 -> 80.8  | 3477              |             |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 2775              | 0.75 µg/L   | 96            |
|                         |                      | 584.2 -> 526.0 | 1427              |             |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 8034              | 0.77 µg/L   | 97            |
|                         |                      | 498.1 -> 478.0 | 316               |             |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 4844              | 0.75 µg/L   | 99            |
|                         |                      | 570.1 -> 483.0 | 910               |             |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 23762             | 2.87 µg/L   | 100           |
| PFBS                    | 5.348                | 298.7 -> 79.9  | 7093              | 0.61 µg/L   | 99            |
|                         |                      | 298.7 -> 98.8  | 2611              |             |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 27237             | 0.76 µg/L   | 97            |
|                         |                      | 512.9 -> 219.0 | 4006              |             |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 15592             | 0.69 µg/L   | 92            |
|                         |                      | 613.1 -> 319.0 | 2621              |             |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 2942              | 0.73 µg/L   | 94            |

7.3.2  
7

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
| PFHpA        | 6.382  | 599.0 -> 98.8  | 1315     | 0.72 µg/L   | 97       |
|              |        | 363.1 -> 319.0 | 26376    |             |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 4331     | 0.78 µg/L   | 99       |
|              |        | 449.0 -> 79.9  | 5973     |             |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 2902     | 0.76 µg/L   | 100      |
|              |        | 313.0 -> 269.0 | 22209    |             |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 969      | 0.66 µg/L   | 99       |
|              |        | 398.7 -> 79.9  | 6009     |             |          |
| PFNA         | 7.558  | 398.7 -> 98.9  | 2802     | 0.68 µg/L   | 100      |
|              |        | 463.0 -> 419.0 | 24758    |             |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 4879     | 0.77 µg/L   | 97       |
|              |        | 548.8 -> 79.9  | 5164     |             |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 2609     | 0.69 µg/L   | 94       |
|              |        | 413.0 -> 369.0 | 34079    |             |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 6816     | 0.73 µg/L   | 100      |
|              |        | 498.9 -> 79.9  | 5640     |             |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 3021     | 1.43 µg/L   | 100      |
|              |        | 263.0 -> 219.0 | 28015    |             |          |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 6147     | 0.71 µg/L   | 95       |
|              |        | 349.1 -> 98.9  | 2683     |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 10330    | 0.71 µg/L   | 96       |
|              |        | 713.1 -> 168.9 | 926      |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 16389    | 0.74 µg/L   | 95       |
|              |        | 663.0 -> 168.9 | 1841     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 17345    | 0.73 µg/L   | 96       |
|              |        | 563.1 -> 269.1 | 2966     |             |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 23553    | 1.23 µg/L   | 99       |
|              |        | 632.9 -> 452.9 | 7183     |             |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 44369    | 1.36 µg/L   | 98       |
|              |        | 532.8 -> 353.0 | 14049    |             |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 105540   | 1.44 µg/L   | 99       |
|              |        | 376.9 -> 84.8  | 27536    |             |          |
| HFPO-DA      | 5.795  | 284.9 -> 168.9 | 16250    | 1.41 µg/L   | 93       |
|              |        | 284.9 -> 184.9 | 1772     |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 3222     | 2.33 µg/L   | 99       |
|              |        | 241.0 -> 117.0 | 449      |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 90612    | 16.98 µg/L  | 93       |
|              |        | 341.0 -> 217.0 | 69406    |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 58575    | 17.05 µg/L  | 95       |
|              |        | 441.0 -> 336.9 | 133833   |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 8197     | 1.50 µg/L   | 93       |
|              |        | 526.0 -> 169.0 | 10830    |             |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 19039    | 3.61 µg/L   | 100      |
|              |        | 511.9 -> 219.0 | 6927     |             |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 9662     | 1.51 µg/L   | 94       |
|              |        | 616.1 -> 58.9  | 11746    |             |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 1075     | 3.48 µg/L   | 100      |
|              |        | 699.1 -> 98.8  | 635      |             |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 5528     | 0.61 µg/L   | 92       |
|              |        | 295.0 -> 84.9  | 1399     |             |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 19537    | 1.49 µg/L   | 97       |
|              |        | 229.0 -> 84.9  | 14709    |             |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 50995    | 1.41 µg/L   | 100      |
|              |        | 314.8 -> 82.9  | 1772     |             |          |
| PFMPA        | 3.401  |                |          | 1.41 µg/L   | 100      |
|              |        |                |          |             |          |
| PFEESA       | 5.888  |                |          | 1.24 µg/L   | 99       |
|              |        |                |          |             |          |

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

### Perfluorinated Compounds by LC/MS/MS

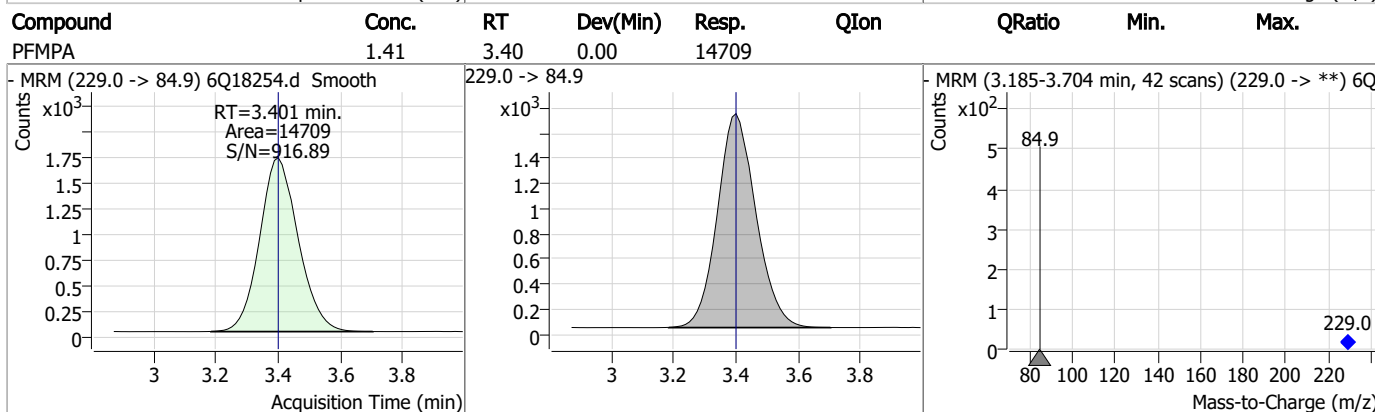
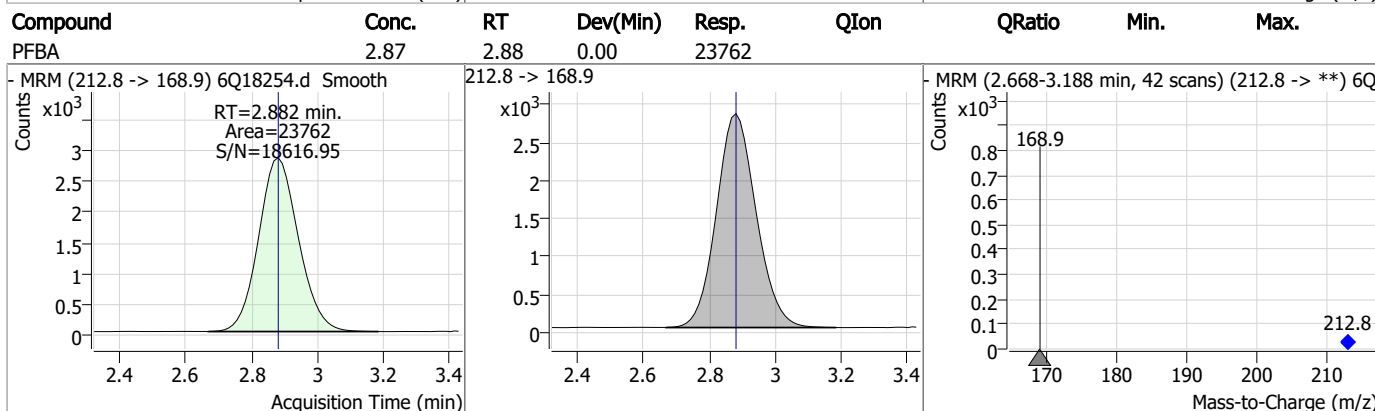
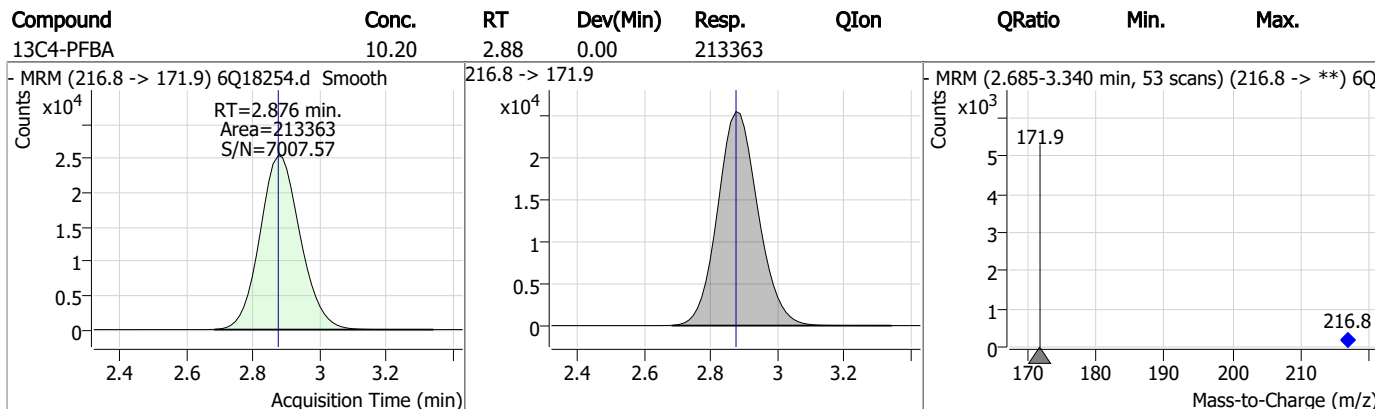
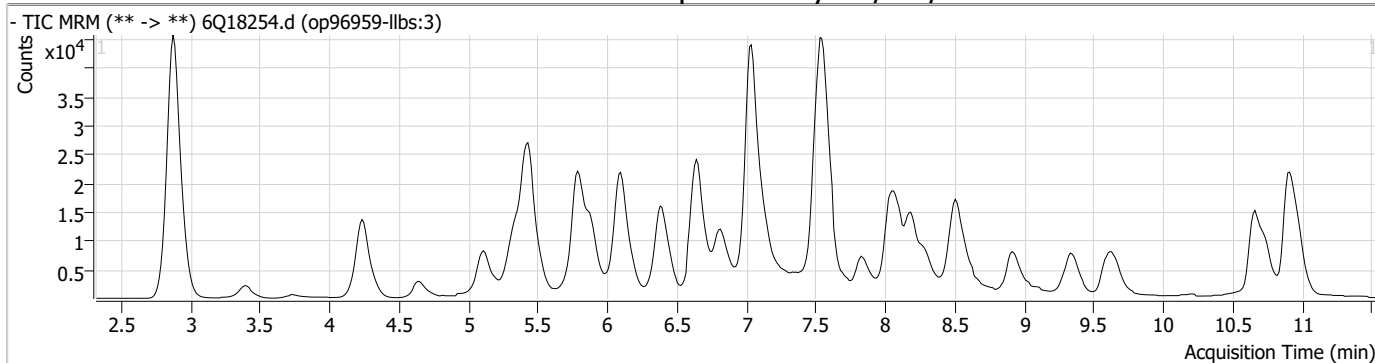
| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.3.2

7



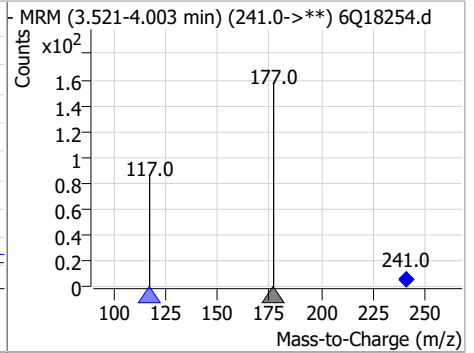
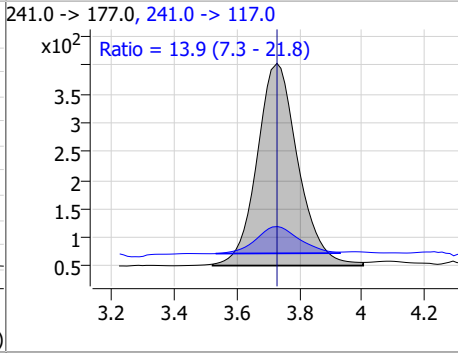
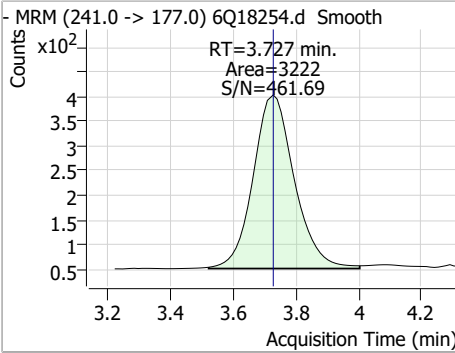
### Perfluorinated Compounds by LC/MS/MS



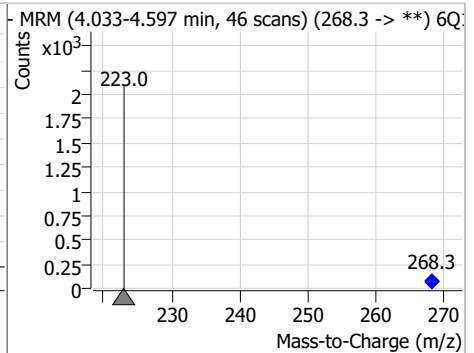
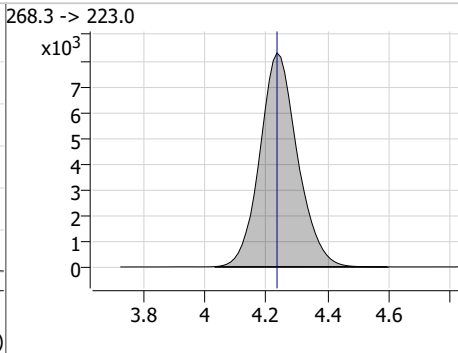
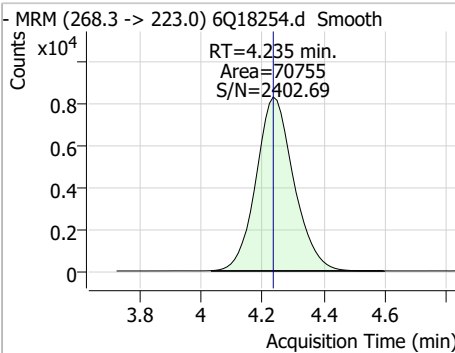
7.3.2  
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### Perfluorinated Compounds by LC/MS/MS

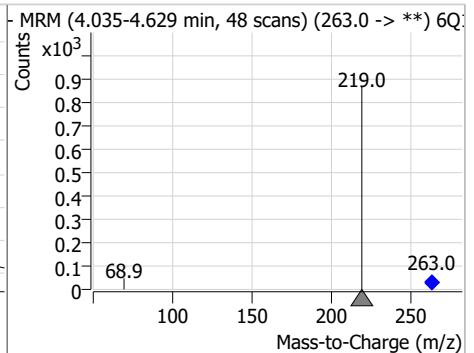
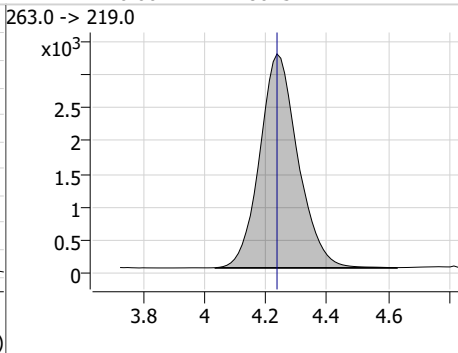
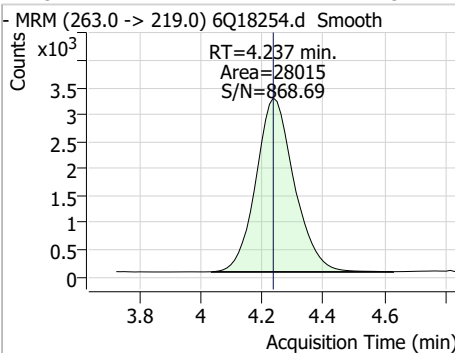
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| 3:3FTCA  | 2.33  | 3.73 | 0.00     | 3222  | 241.0 -> 117.0 | 13.9   | 7.3  | 21.8 |



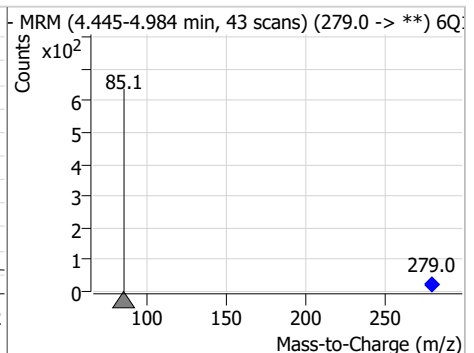
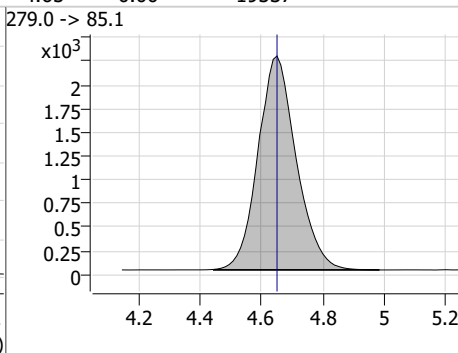
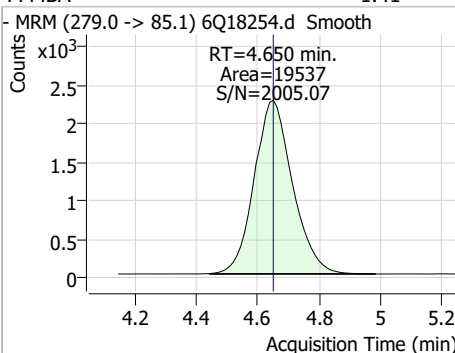
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFPeA | 5.31  | 4.23 | 0.00     | 70755 |      |        |      |      |



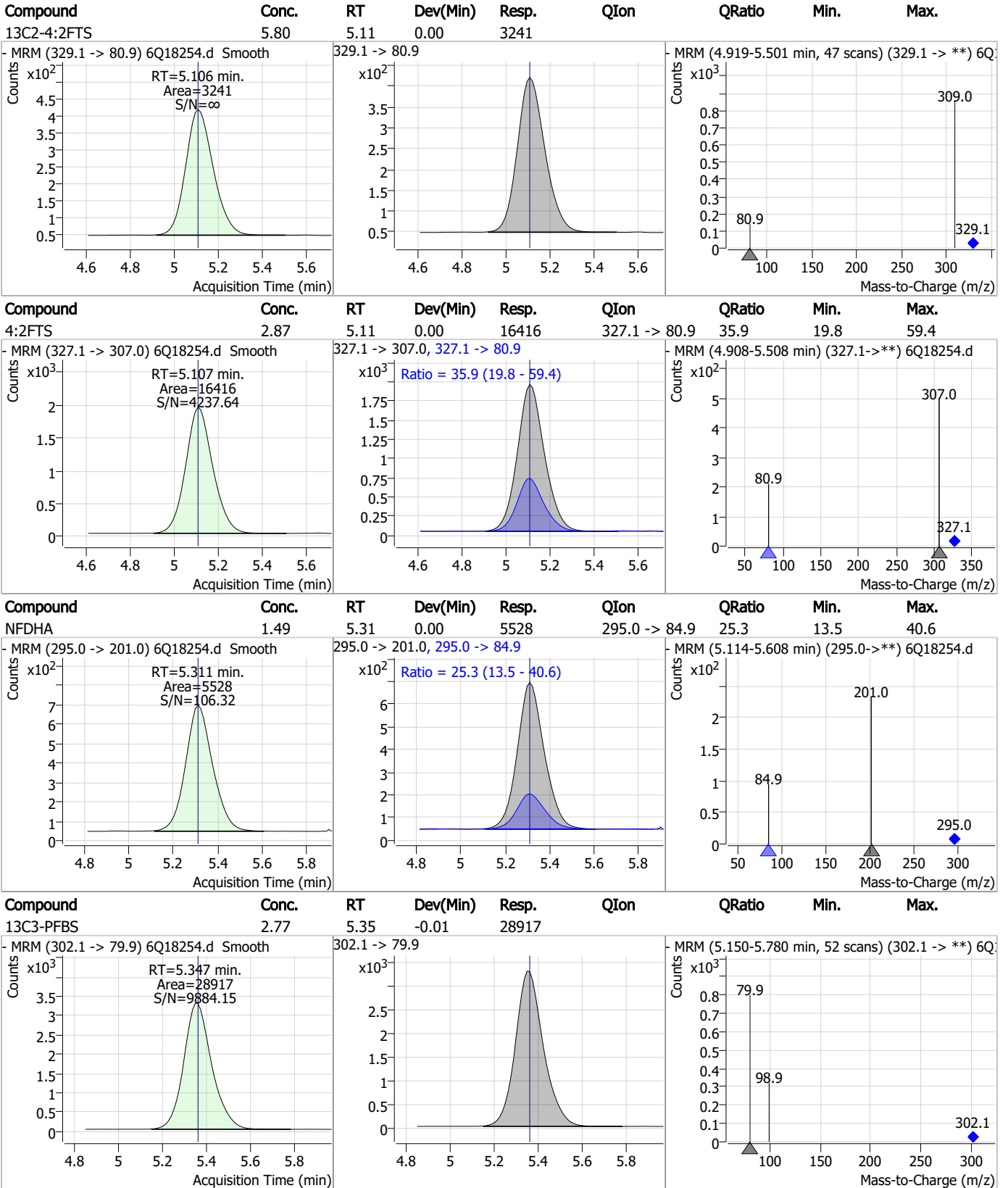
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFPeA    | 1.43  | 4.24 | 0.00     | 28015 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFMBA    | 1.41  | 4.65 | 0.00     | 19537 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS

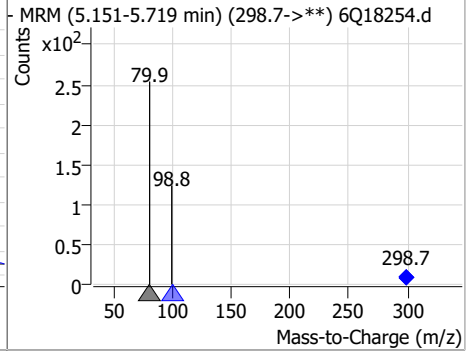
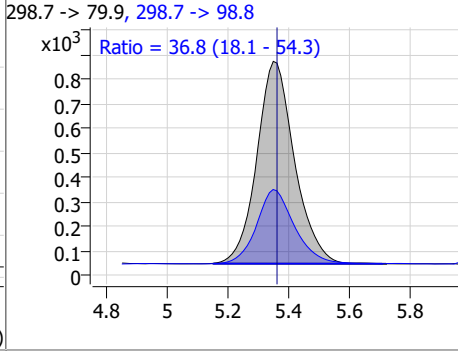
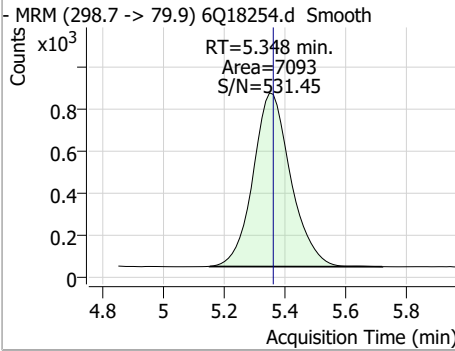


7.3.2

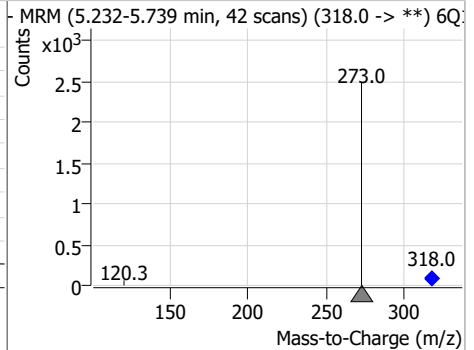
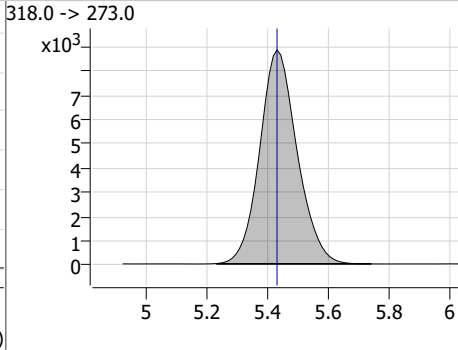
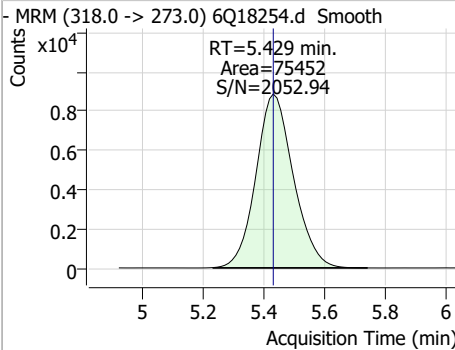
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### Perfluorinated Compounds by LC/MS/MS

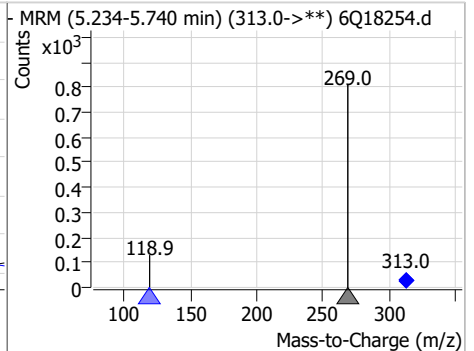
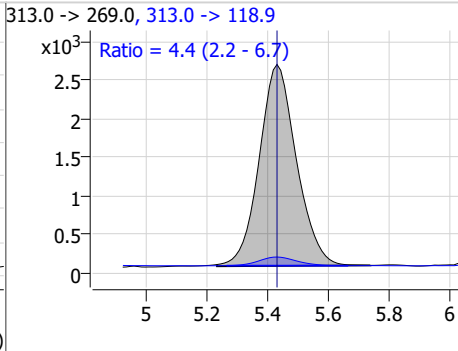
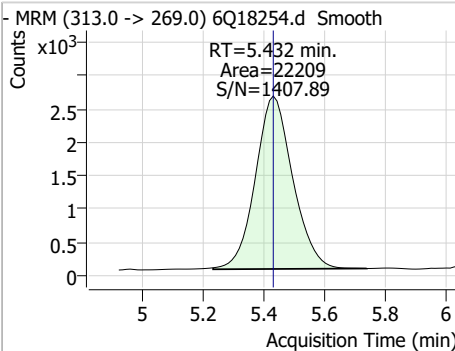
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFBS     | 0.61  | 5.35 | -0.01    | 7093  | 298.7 -> 98.8 | 36.8   | 18.1 | 54.3 |



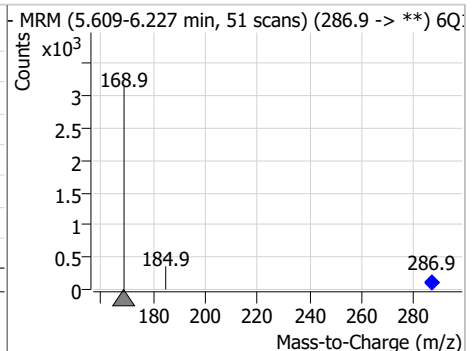
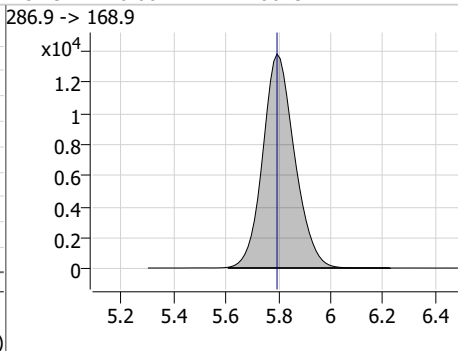
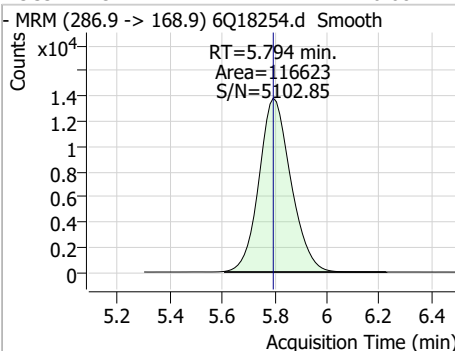
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFHxA | 2.65  | 5.43 | 0.00     | 75452 |      |        |      |      |



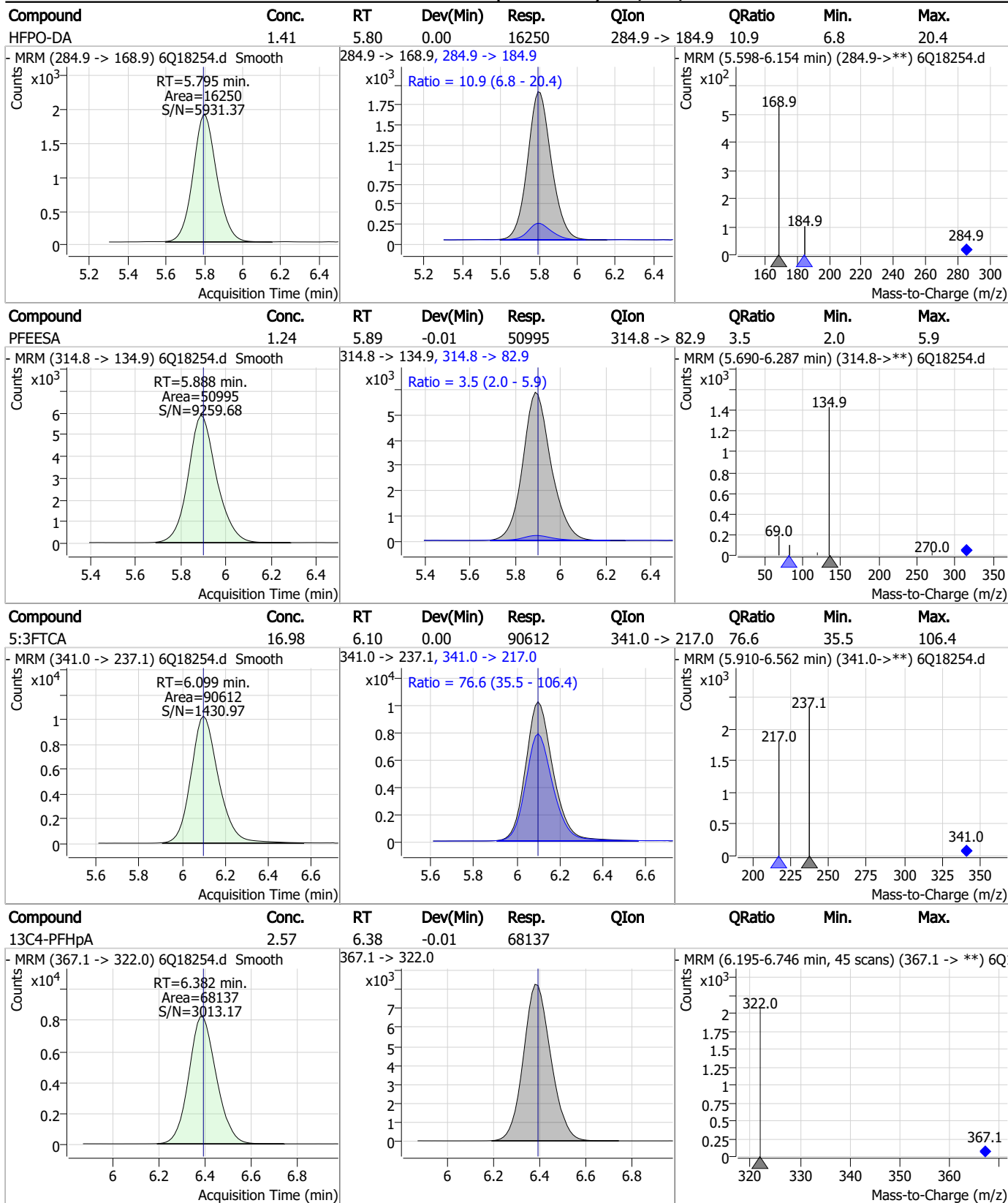
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHxA    | 0.76  | 5.43 | 0.00     | 22209 | 313.0 -> 118.9 | 4.4    | 2.2  | 6.7  |



| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|------|--------|------|------|
| 13C3-HFPO-DA | 10.68 | 5.79 | 0.00     | 116623 |      |        |      |      |

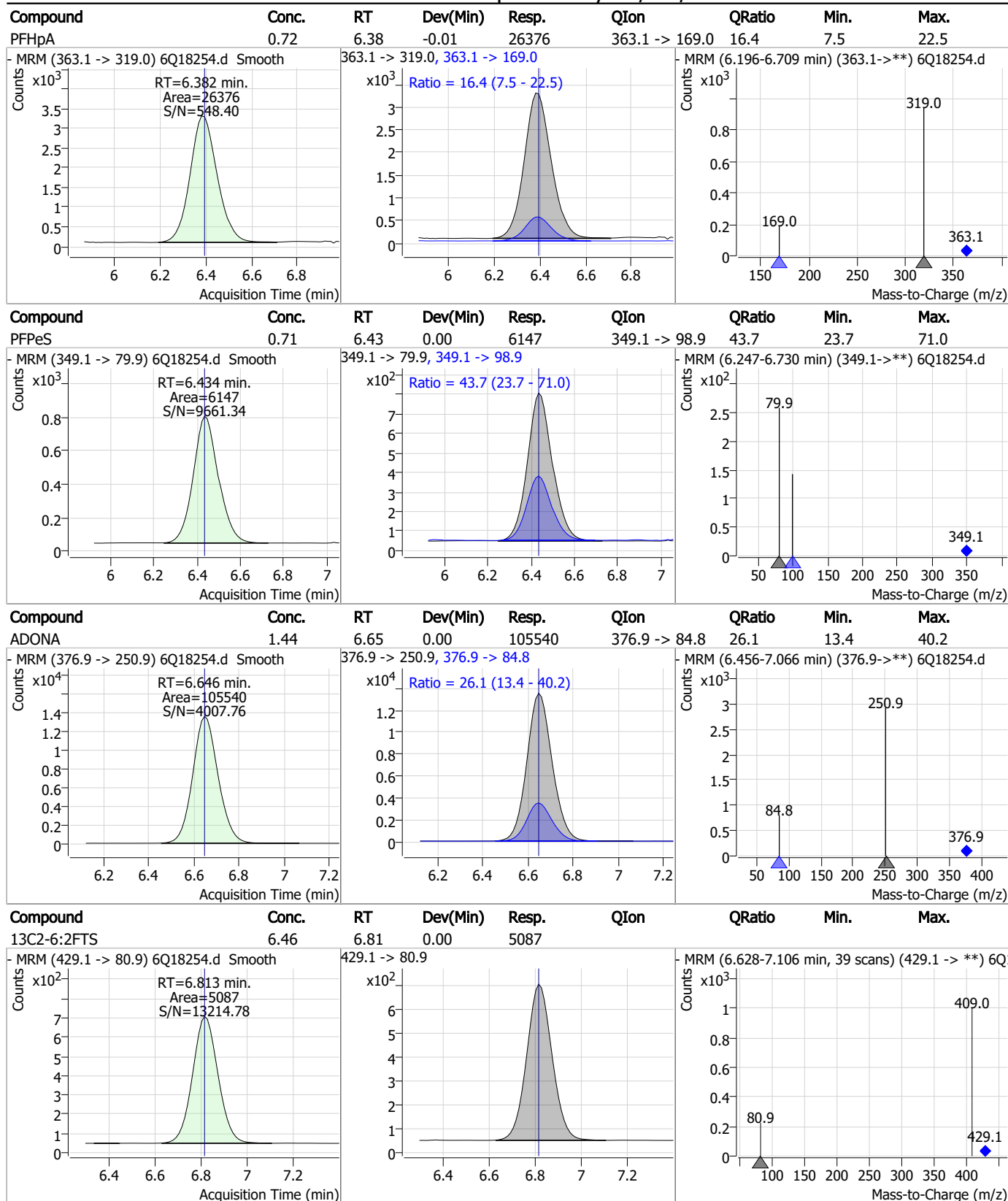


### Perfluorinated Compounds by LC/MS/MS



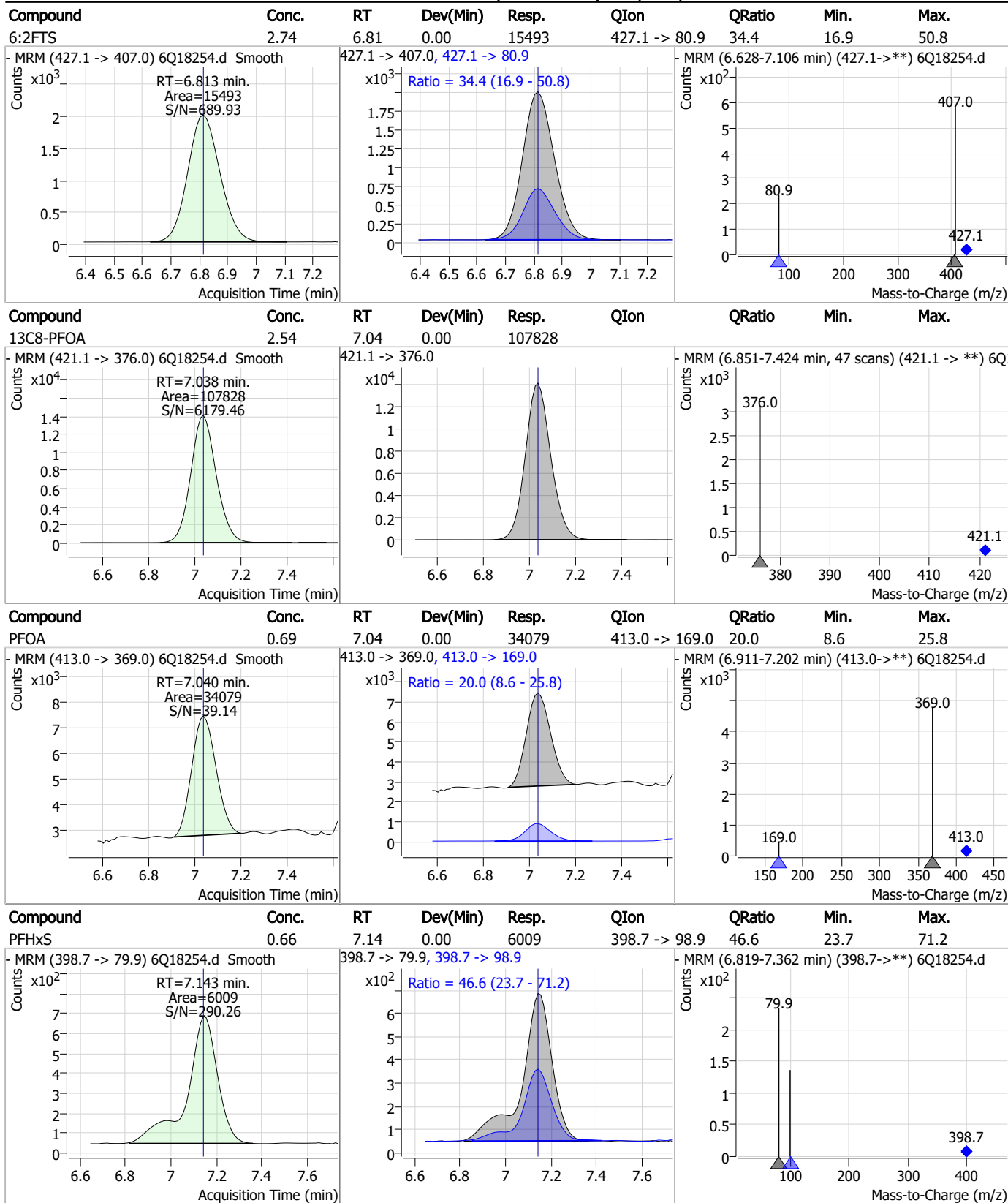
7.3.2  
7

### Perfluorinated Compounds by LC/MS/MS



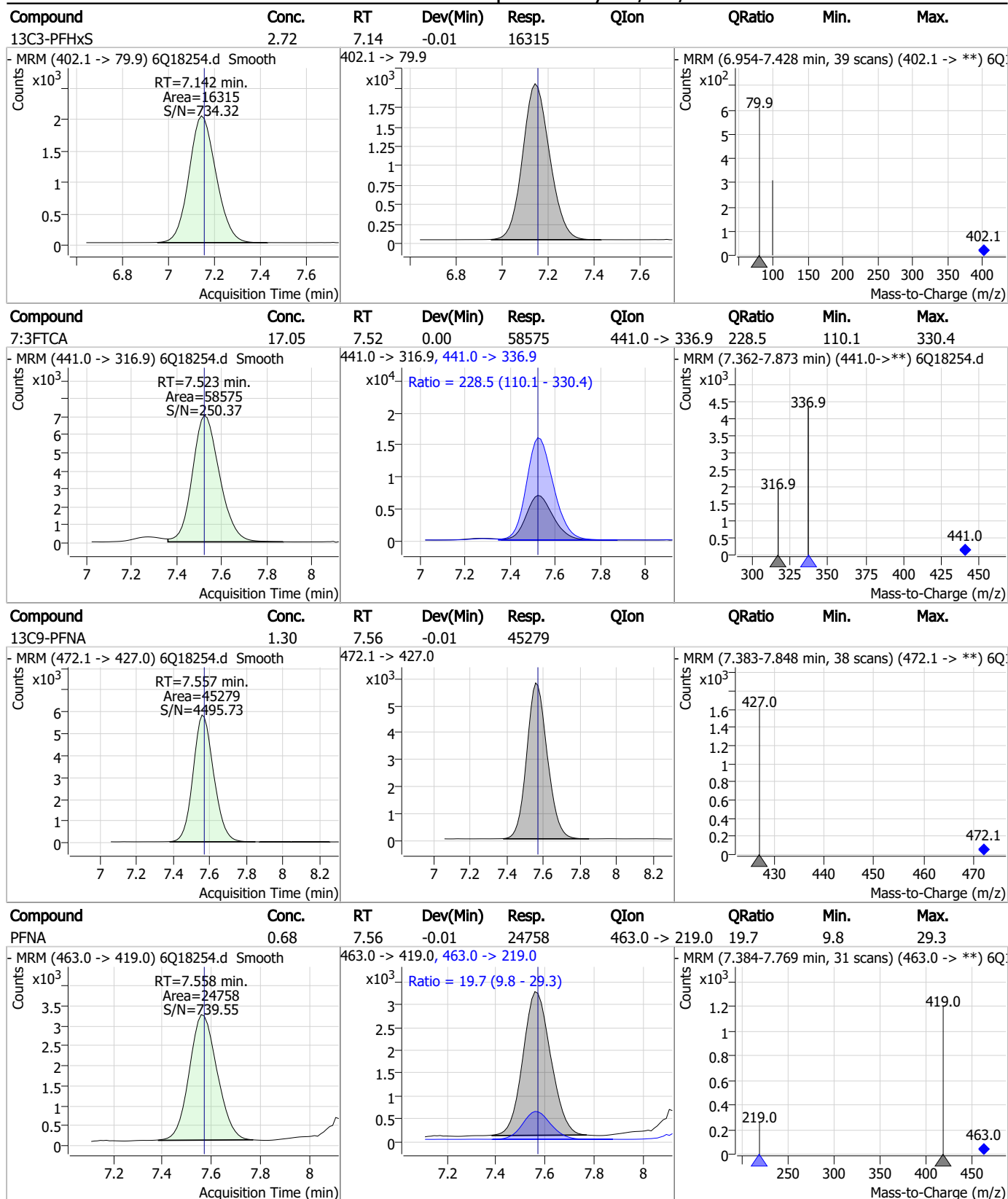
7.3.2  
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### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

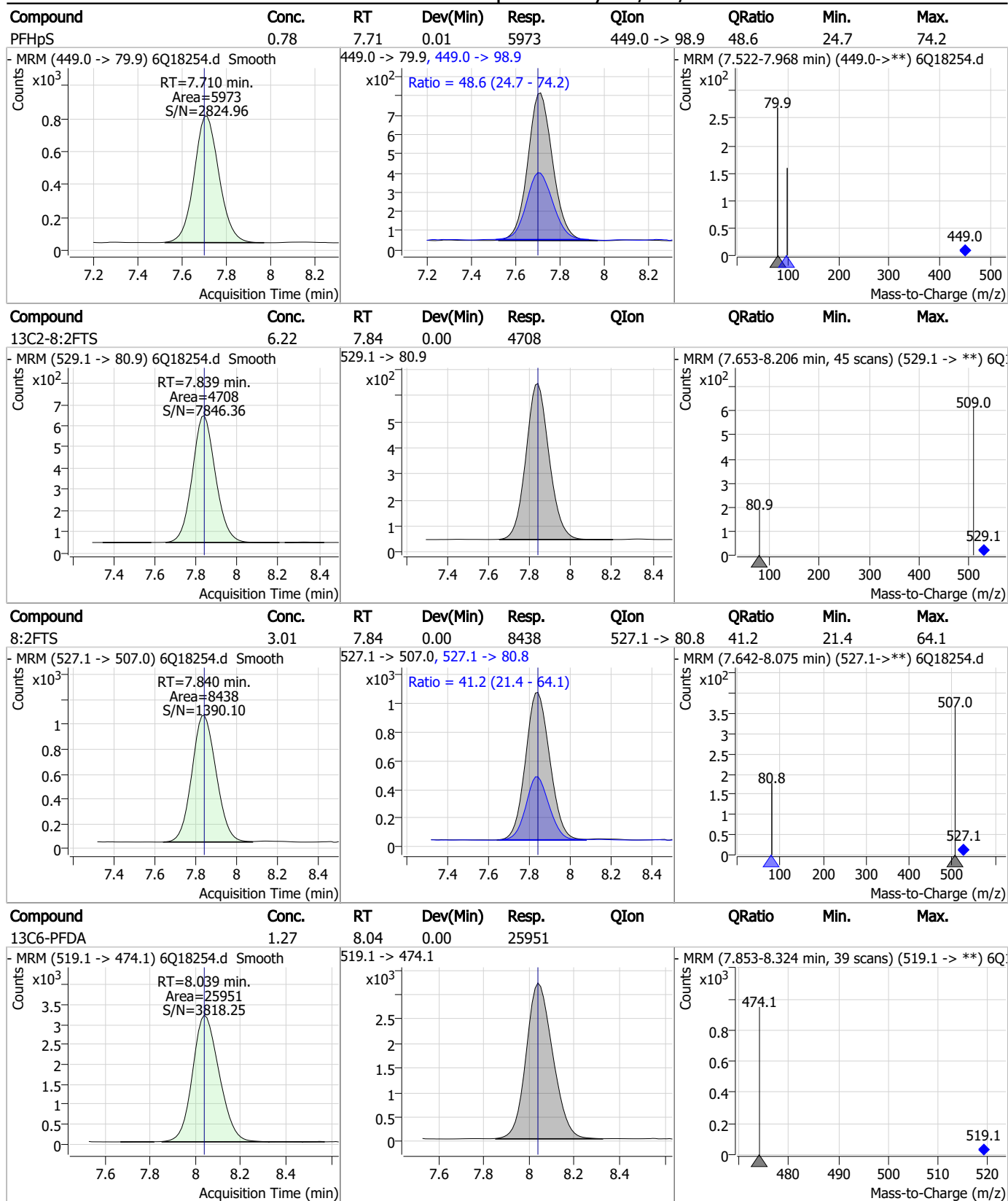
### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

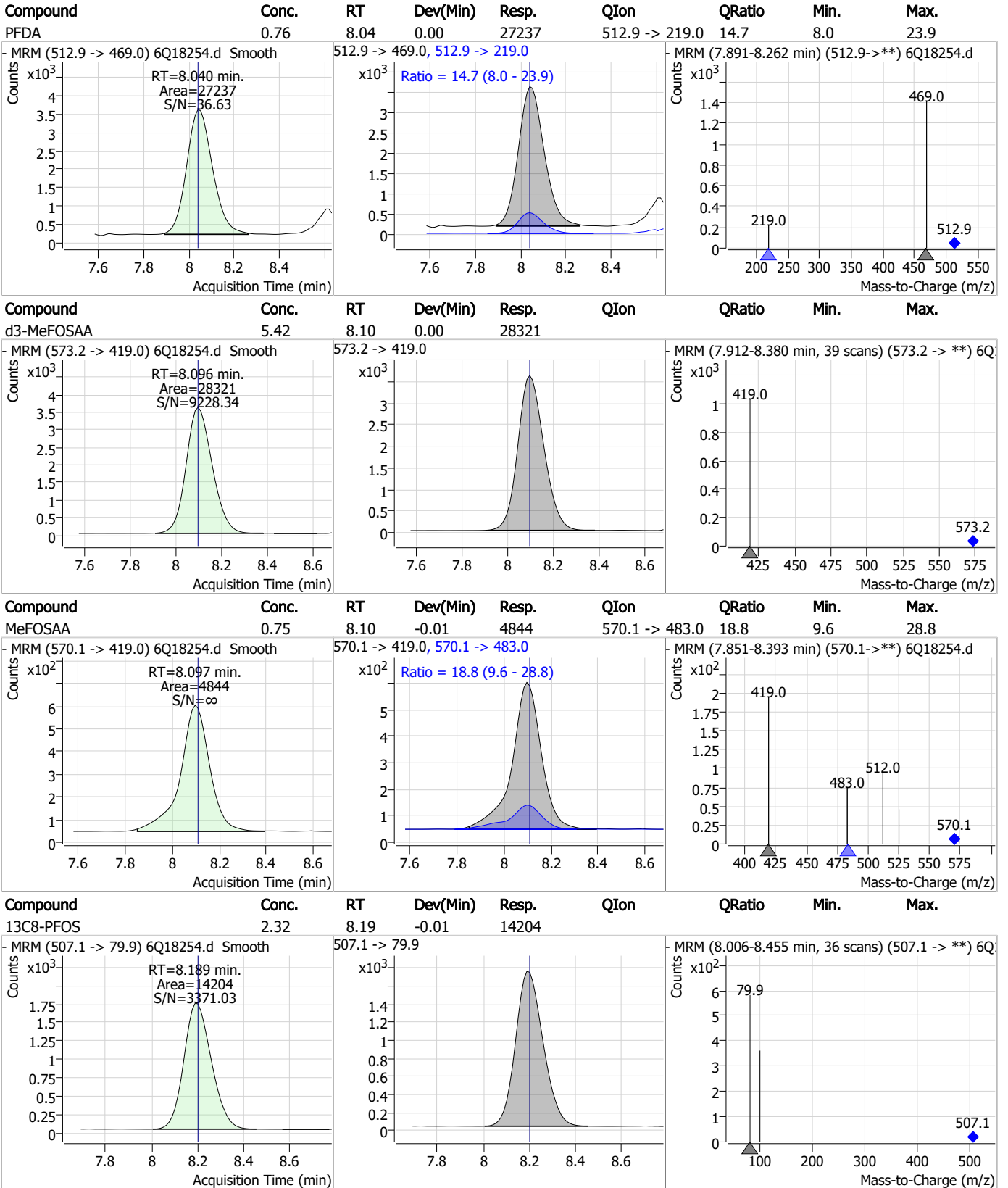


### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

### Perfluorinated Compounds by LC/MS/MS

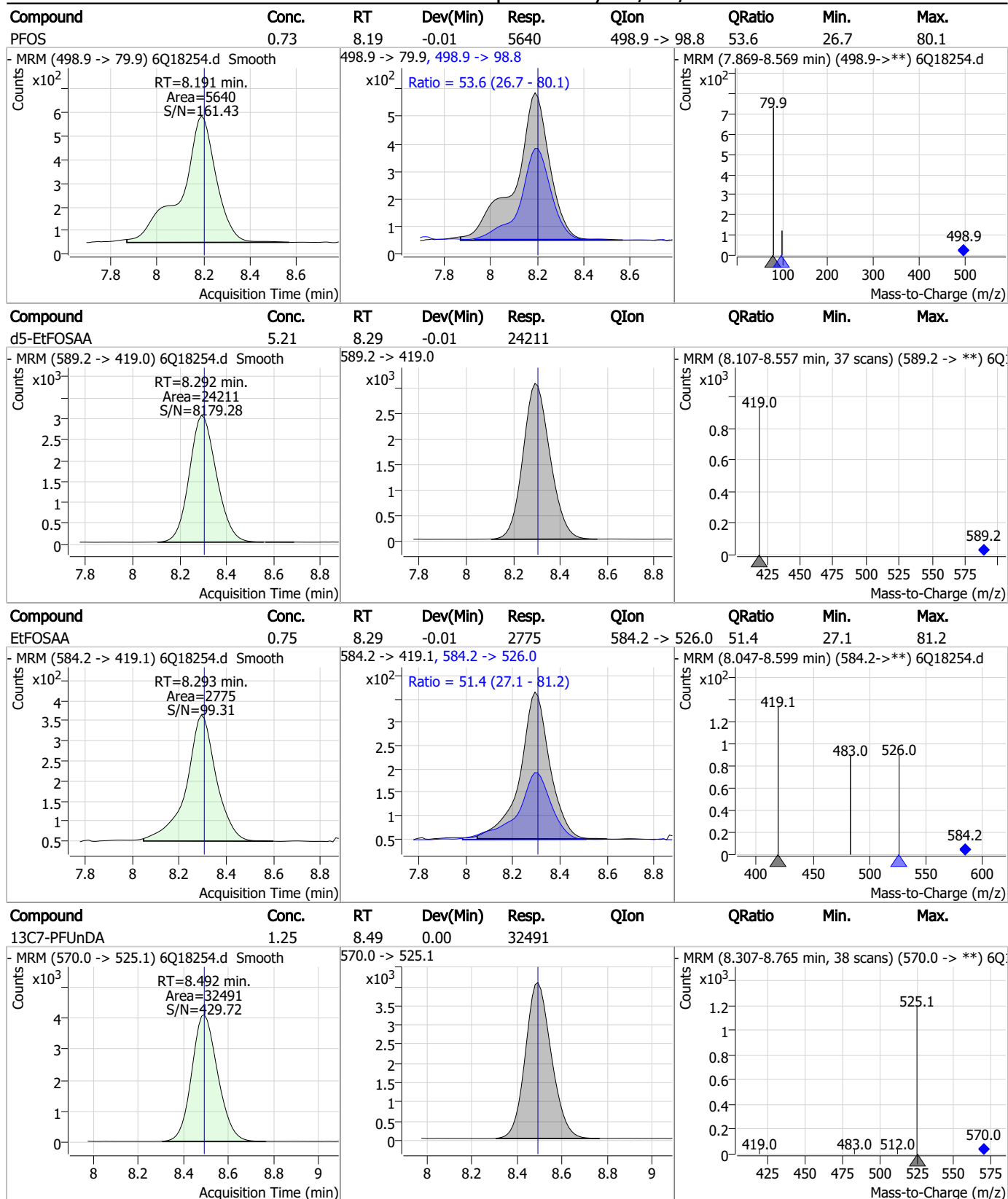


7.3.2

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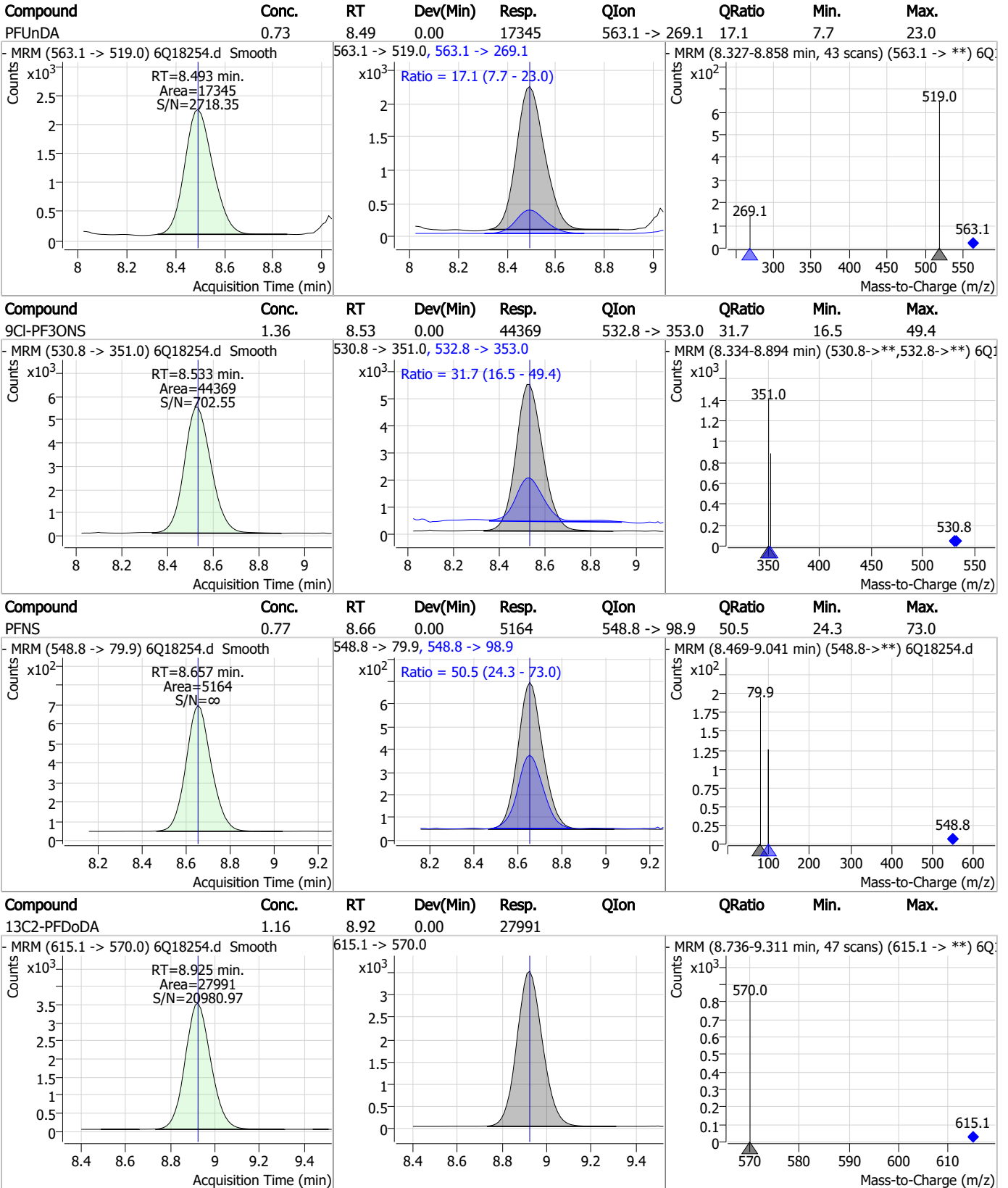


### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

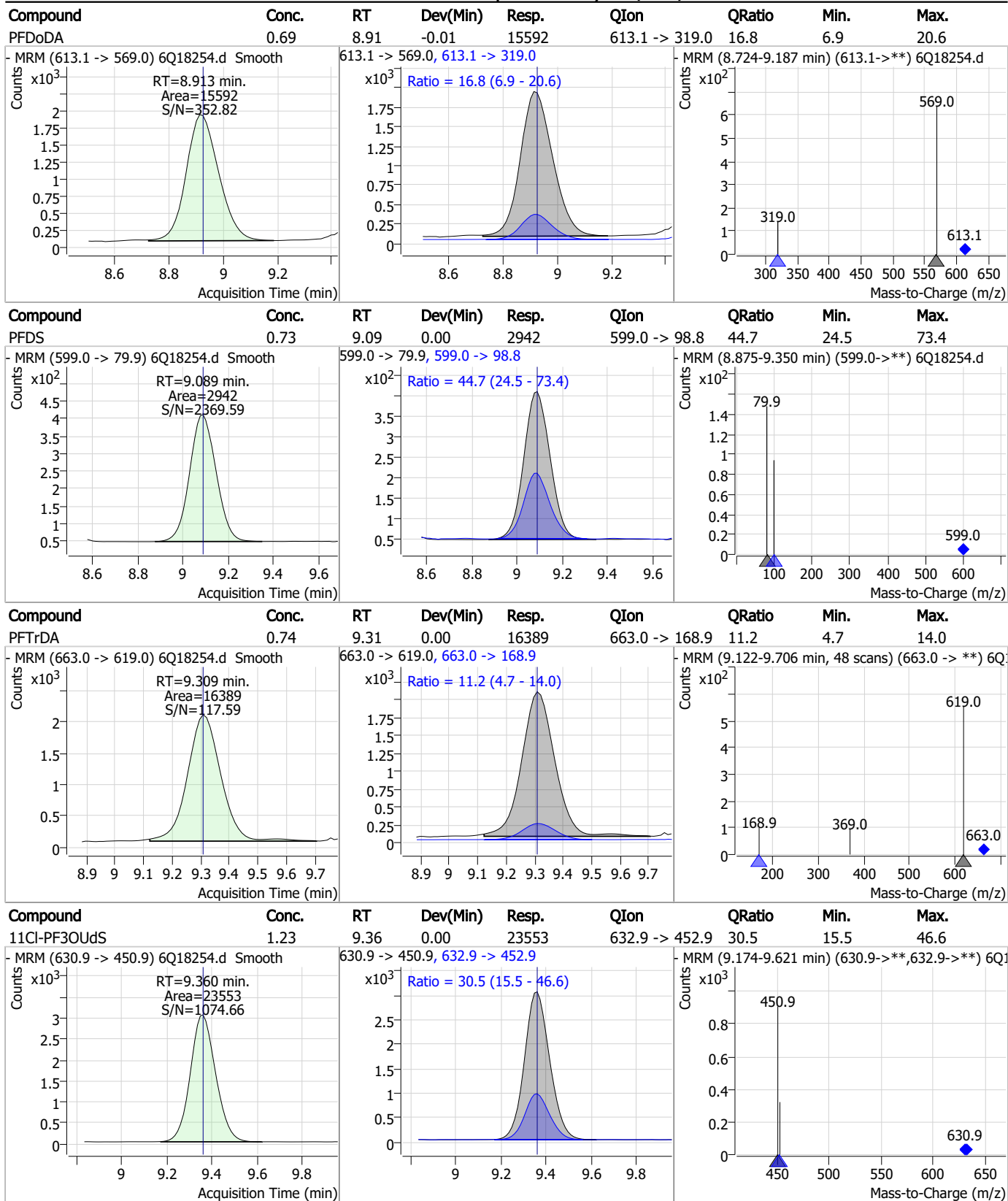
### Perfluorinated Compounds by LC/MS/MS



7.3.2

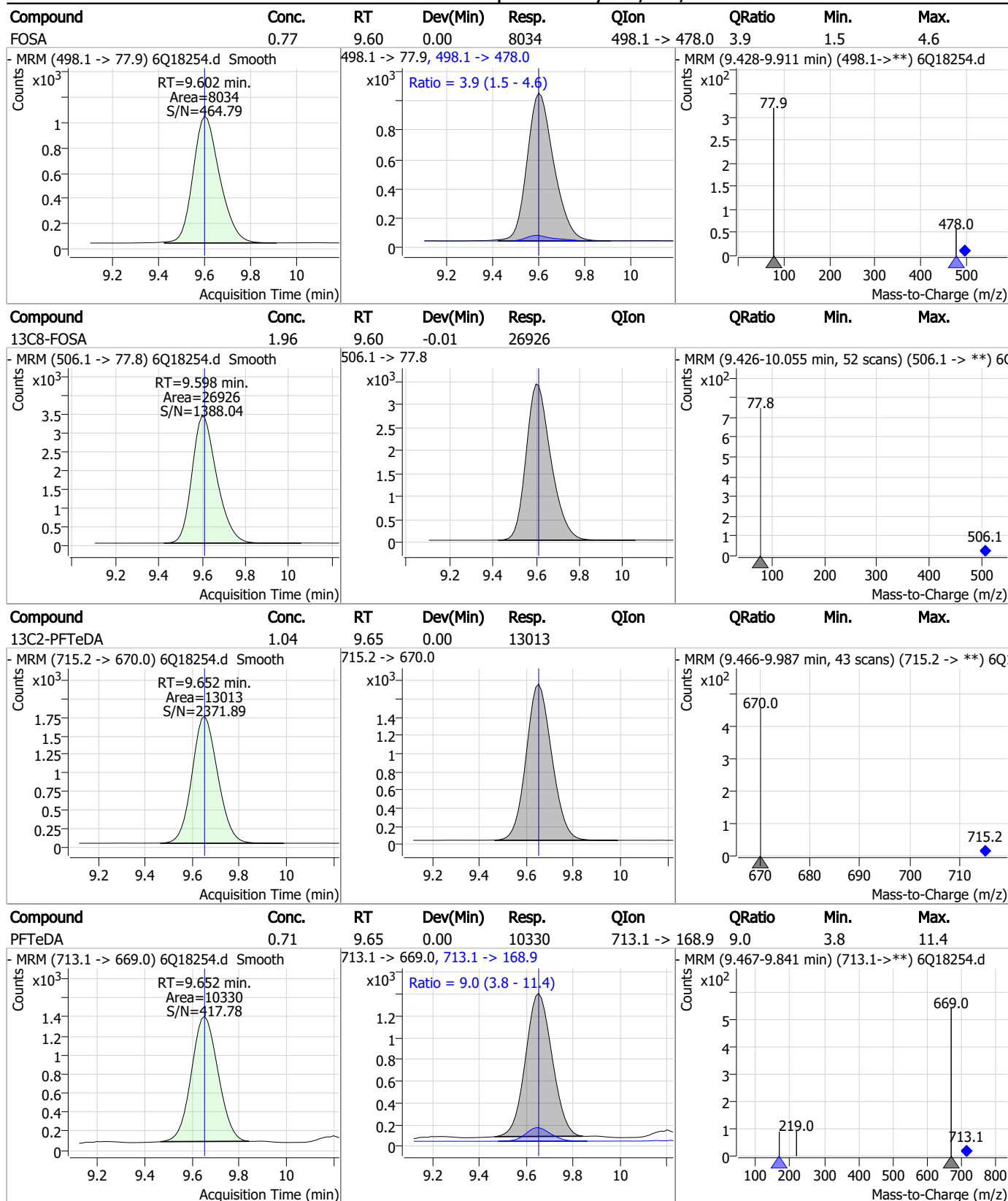
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### Perfluorinated Compounds by LC/MS/MS



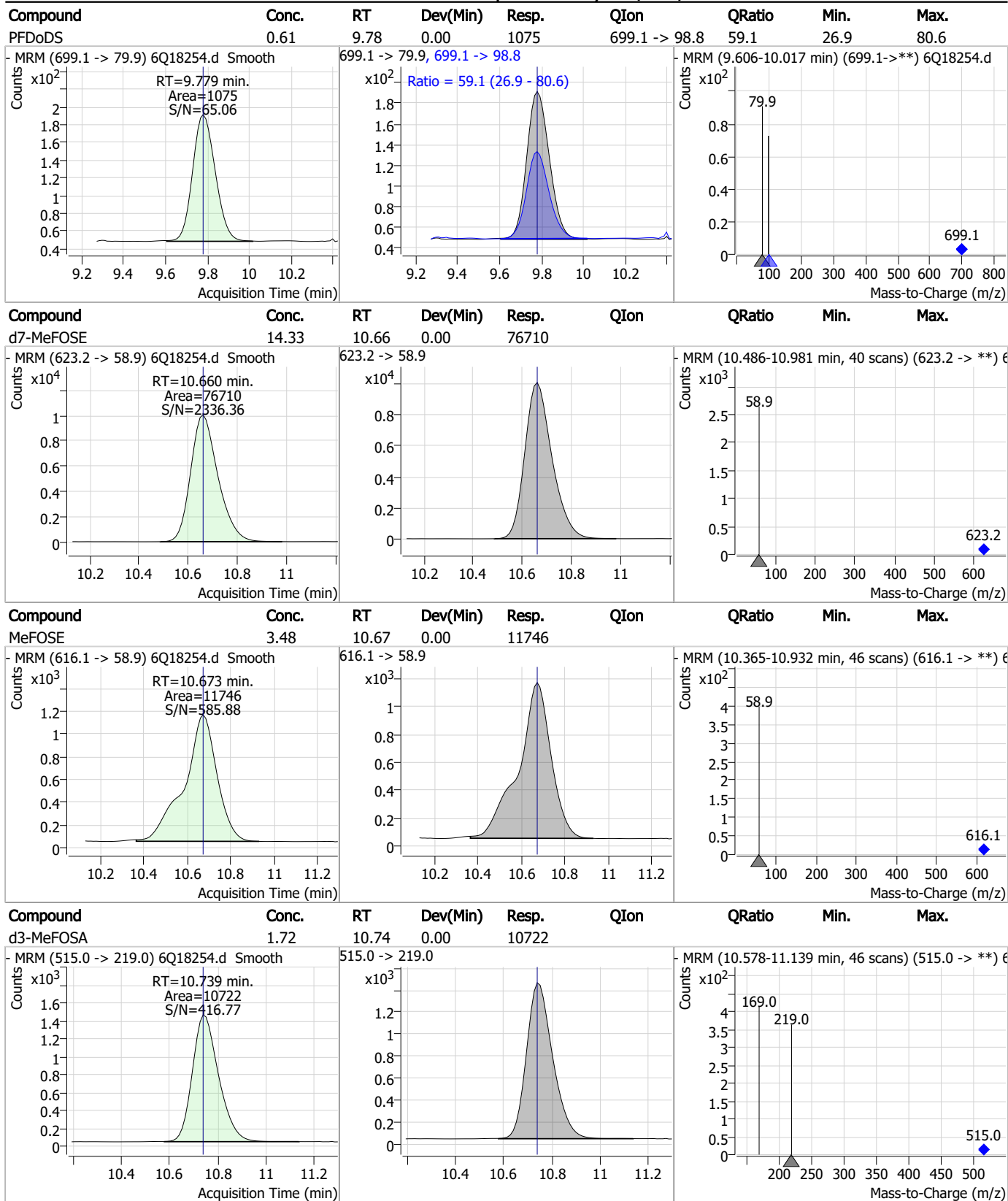
7.3.2  
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### Perfluorinated Compounds by LC/MS/MS



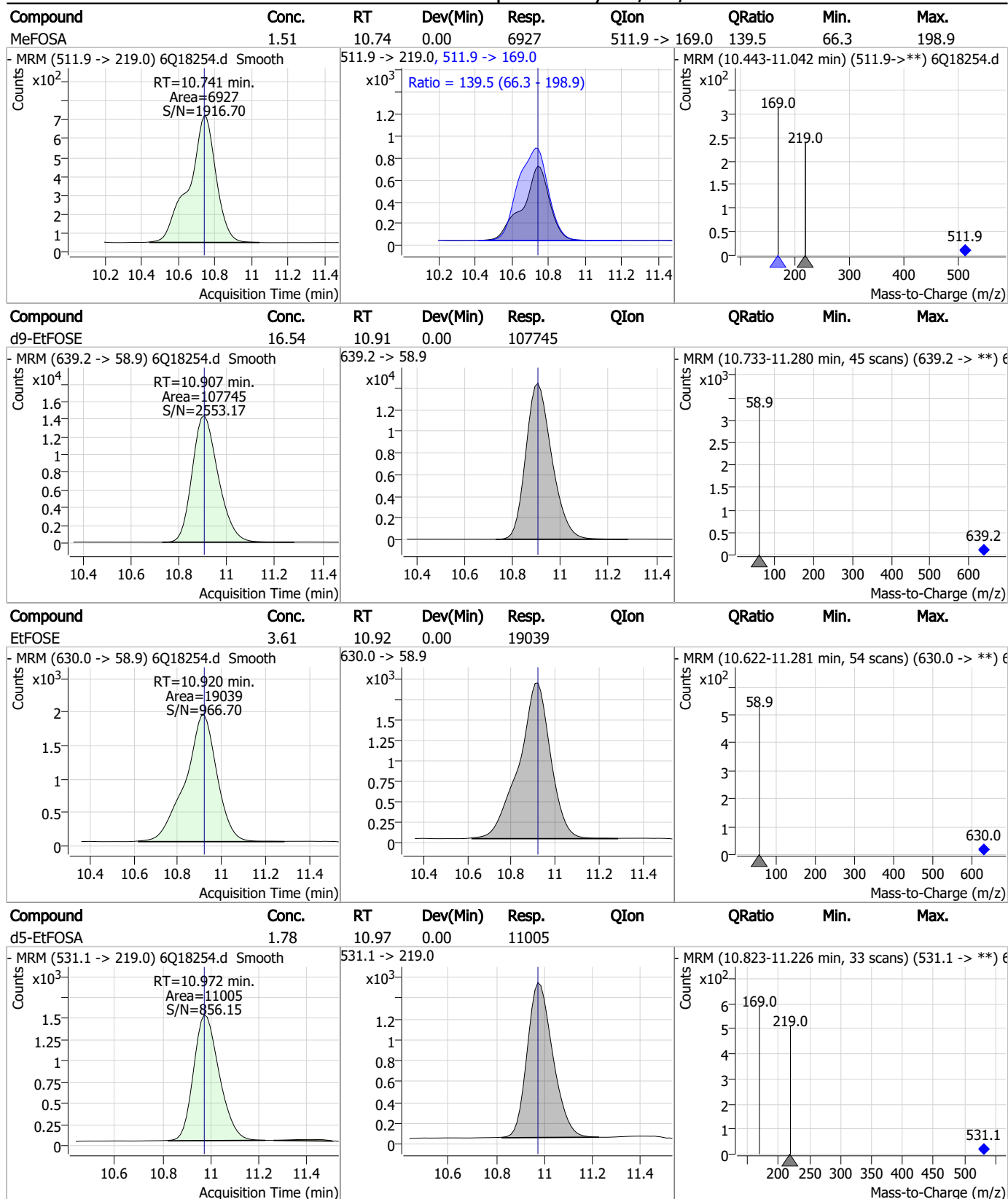
7.3.2  
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### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

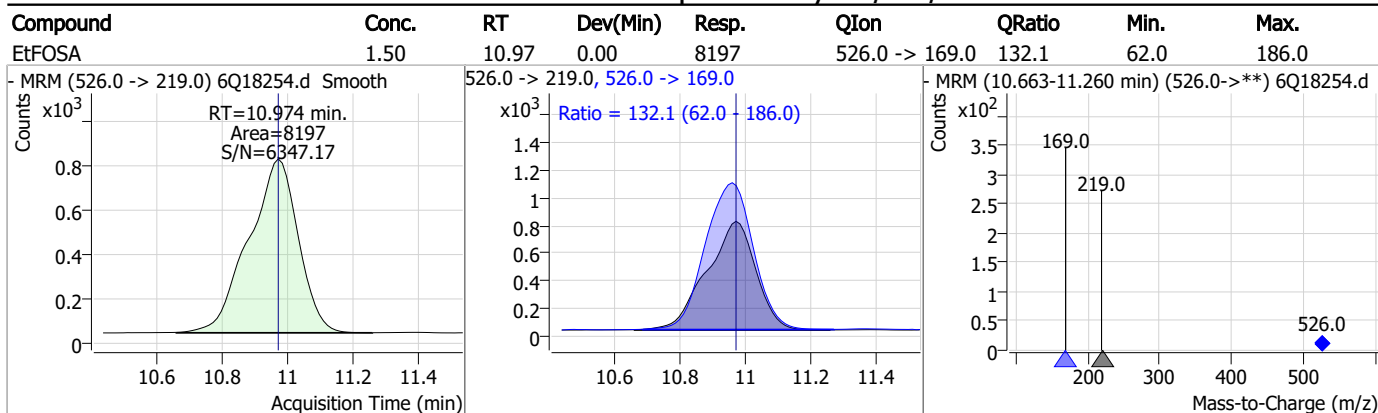
### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7



### Perfluorinated Compounds by LC/MS/MS



7.3.2  
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18259.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 5:10:56 AM  
 Sample Name : op96959-ms  
 Vial : P2-B9  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,550,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 39389             | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 61874             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 70222             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 65739             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 101428            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 37369             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 21295             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 24689             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 19358             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 7101              | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 29994             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 26851             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 15094             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 13448             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3087              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.825                | 429.1 -> 80.9  | 4479              | 5.00 µg/L   | 0.012    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4260              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 22597             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 104994            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 19377             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 81159             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 105725            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 11461             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 11540             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 16950             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.891                | 216.0 -> 172.0 | 81772             | 5.00 µg/L   | 0.012    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 10518             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 96162             | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 30208             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 45996             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 65349             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3087              | 5.76 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 115.3% |             |          |
| 13C2-6:2FTS                        | 6.825                | 429.1 -> 80.9  | 4479              | 5.94 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 118.8% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4260              | 5.87 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 117.4% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 19358             | 0.88 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 70.6%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 7101              | 0.62 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 49.5%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 26851             | 2.68 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 107.2% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 15094             | 2.63 µg/L   | 0.000    |

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

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.1% |               |
| 13C4-PFBA               | 2.888                | 216.8 -> 171.9 | 39389    | 2.04 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 20.4%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 65739    | 2.70 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 108.0% |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 70222    | 2.68 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 107.2% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 61874    | 5.05 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 21295    | 1.14 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 91.3%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 24689    | 1.04 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 83.6%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 29994    | 2.54 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.7% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 101428   | 2.64 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.8% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 13448    | 2.56 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.2% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 37369    | 1.19 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 95.0%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 22597    | 5.03 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 100.6% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 104994   | 10.46 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 104.6% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 11540    | 2.15 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 86.0%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 19377    | 4.85 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 97.0%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 81159    | 17.64 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 70.5%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 105725   | 18.88 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 75.5%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 11461    | 2.15 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 86.2%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 52171    | 9.58 µg/L         | 92            |
|                         |                      | 327.1 -> 80.9  | 18092    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 45571    | 9.15 µg/L         | 99            |
|                         |                      | 427.1 -> 80.9  | 15233    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 22371    | 8.81 µg/L         | 96            |
|                         |                      | 527.1 -> 80.8  | 8983     |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 7407     | 2.50 µg/L         | 98            |
|                         |                      | 584.2 -> 526.0 | 3928     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 25957    | 2.22 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 832      |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 13536    | 2.64 µg/L         | 99            |
|                         |                      | 570.1 -> 483.0 | 2564     |                   |               |
| PFBA                    | 2.894                | 212.8 -> 168.9 | 14662    | 9.59 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 24935    | 2.31 µg/L         | 95            |
|                         |                      | 298.7 -> 98.8  | 9808     |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 73888    | 2.52 µg/L         | 97            |
|                         |                      | 512.9 -> 219.0 | 12858    |                   |               |
| PFDODA                  | 8.925                | 613.1 -> 569.0 | 36335    | 2.34 µg/L         | 95            |
|                         |                      | 613.1 -> 319.0 | 5679     |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 6215     | 1.63 µg/L         | 92            |

7.4.1  
7

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
|              |        | 599.0 -> 98.8  | 3383     |       |       |          |
| PFHpA        | 6.396  | 363.1 -> 319.0 | 82501    | 2.35  | µg/L  | 97       |
|              |        | 363.1 -> 169.0 | 13526    |       |       |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 16822    | 2.33  | µg/L  | 98       |
|              |        | 449.0 -> 98.9  | 8592     |       |       |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 67071    | 2.45  | µg/L  | 98       |
|              |        | 313.0 -> 118.9 | 3374     |       |       |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 18598    | 2.20  | µg/L  | 93       |
|              |        | 398.7 -> 98.9  | 9692     |       |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 76365    | 2.56  | µg/L  | 99       |
|              |        | 463.0 -> 219.0 | 15187    |       |       |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 12754    | 2.01  | µg/L  | 94       |
|              |        | 548.8 -> 98.9  | 6702     |       |       |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 121999   | 2.62  | µg/L  | m 99     |
|              |        | 413.0 -> 169.0 | 20478    |       |       |          |
| PFOS         | 8.191  | 498.9 -> 79.9  | 16526    | 2.25  | µg/L  | m 95     |
|              |        | 498.9 -> 98.8  | 8238     |       |       |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 81439    | 4.75  | µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 18020    | 2.24  | µg/L  | 99       |
|              |        | 349.1 -> 98.9  | 8397     |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 19093    | 2.40  | µg/L  | 94       |
|              |        | 713.1 -> 168.9 | 1839     |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 31174    | 2.03  | µg/L  | 94       |
|              |        | 663.0 -> 168.9 | 3612     |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 42878    | 2.36  | µg/L  | 95       |
|              |        | 563.1 -> 269.1 | 7395     |       |       |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 54768    | 3.18  | µg/L  | 99       |
|              |        | 632.9 -> 452.9 | 17217    |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 119535   | 4.08  | µg/L  | 97       |
|              |        | 532.8 -> 353.0 | 37120    |       |       |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 313030   | 4.75  | µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 84016    |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 50682    | 4.88  | µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 5390     |       |       |          |
| 3:3FTCA      | 3.740  | 241.0 -> 177.0 | 6751     | 5.58  | µg/L  | 96       |
|              |        | 241.0 -> 117.0 | 881      |       |       |          |
| 5:3FTCA      | 6.111  | 341.0 -> 237.1 | 292357   | 58.87 | µg/L  | 92       |
|              |        | 341.0 -> 217.0 | 225887   |       |       |          |
| 7:3FTCA      | 7.535  | 441.0 -> 316.9 | 183589   | 57.41 | µg/L  | 93       |
|              |        | 441.0 -> 336.9 | 426483   |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 27445    | 4.81  | µg/L  | 94       |
|              |        | 526.0 -> 169.0 | 35977    |       |       |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 60571    | 11.70 | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 24735    | 5.02  | µg/L  | 96       |
|              |        | 511.9 -> 169.0 | 34101    |       |       |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 43664    | 12.22 | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 2055     | 1.23  | µg/L  | 99       |
|              |        | 699.1 -> 98.8  | 1082     |       |       |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 16341    | 4.73  | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 4381     |       |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 59611    | 4.92  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 18800    | 2.07  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 154349   | 4.05  | µg/L  | 98       |
|              |        | 314.8 -> 82.9  | 5210     |       |       |          |

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

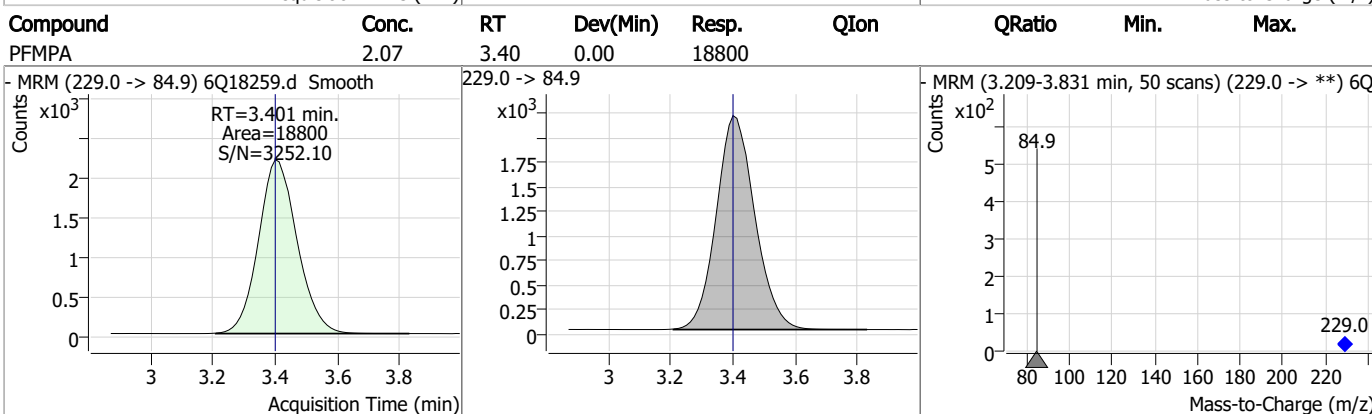
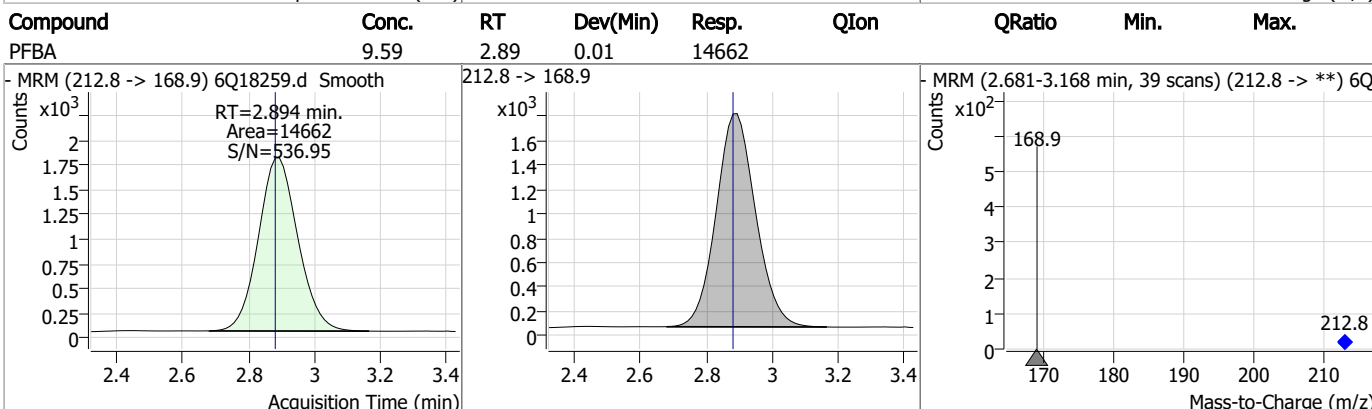
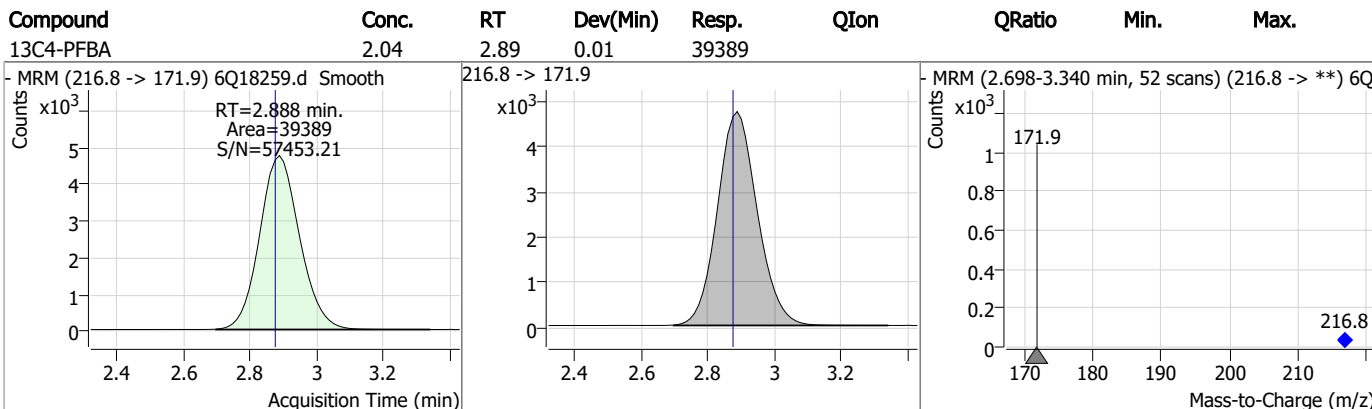
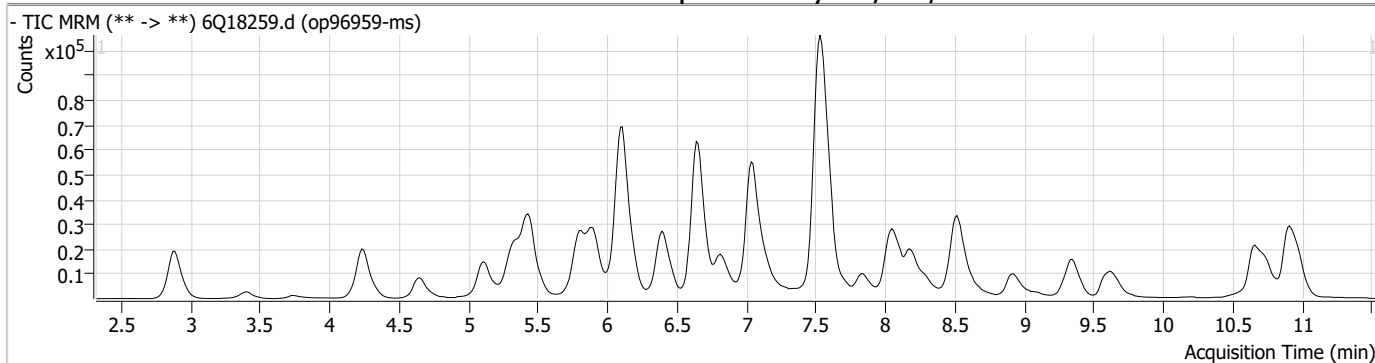
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.4.1

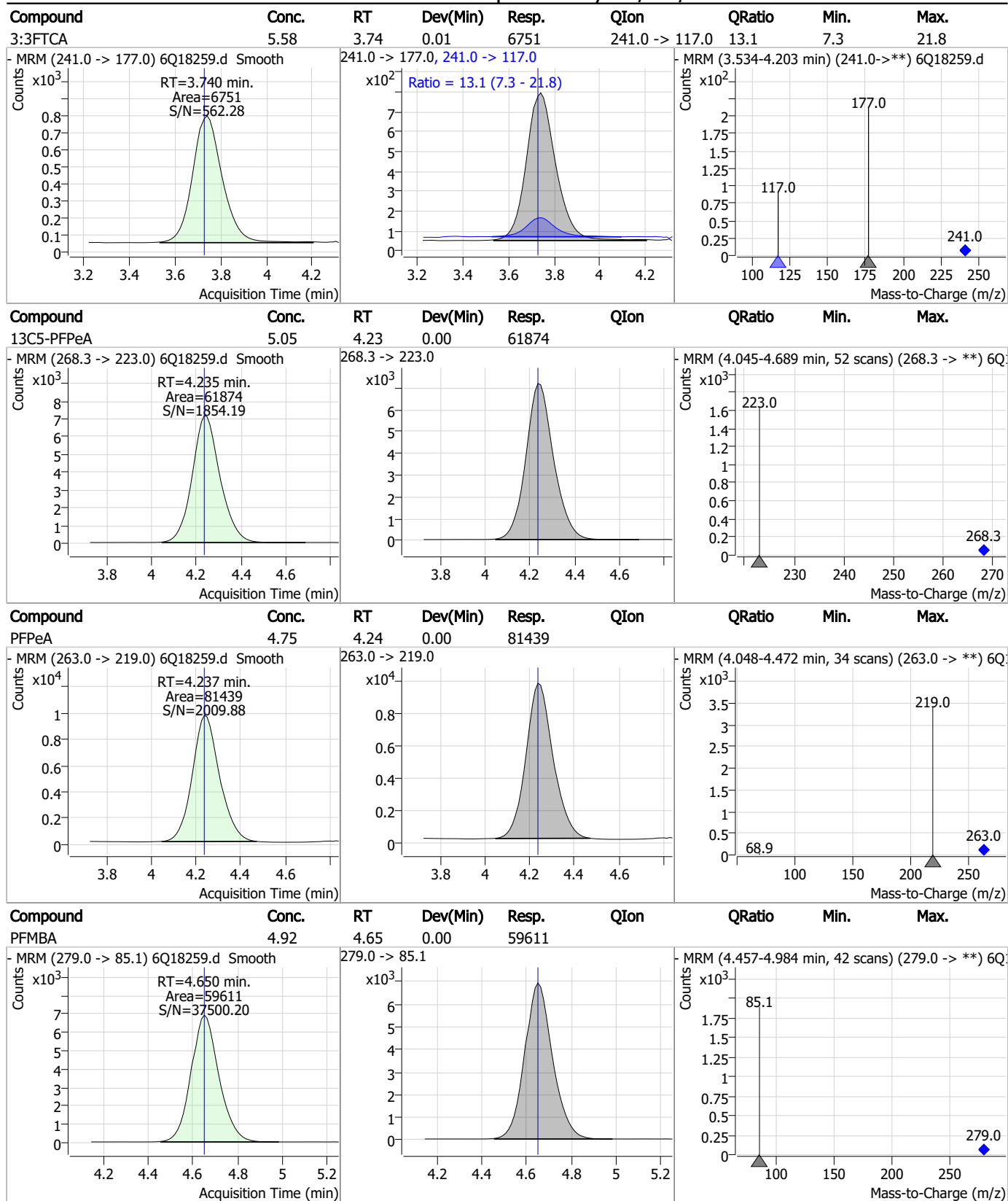
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### Perfluorinated Compounds by LC/MS/MS



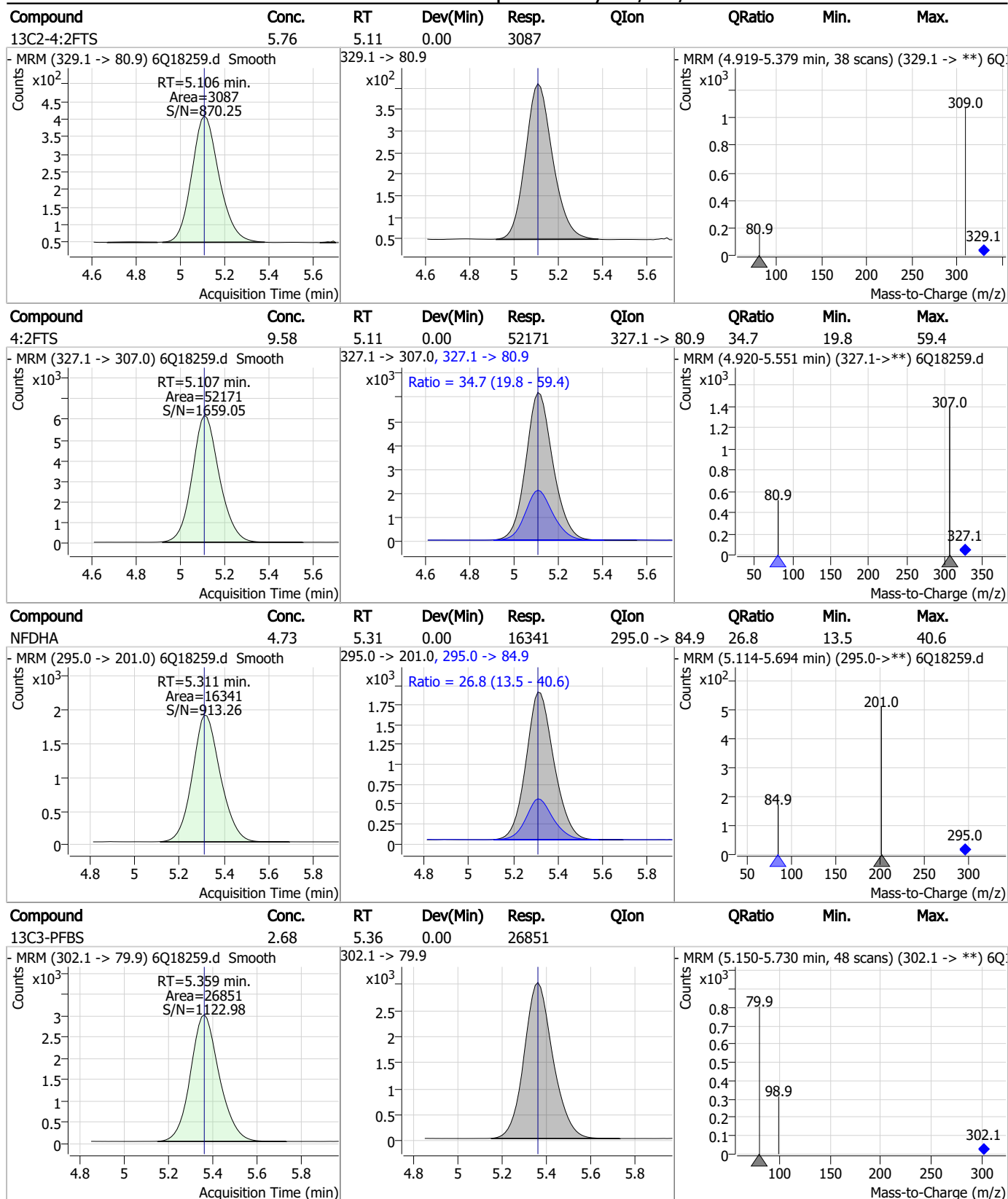
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS



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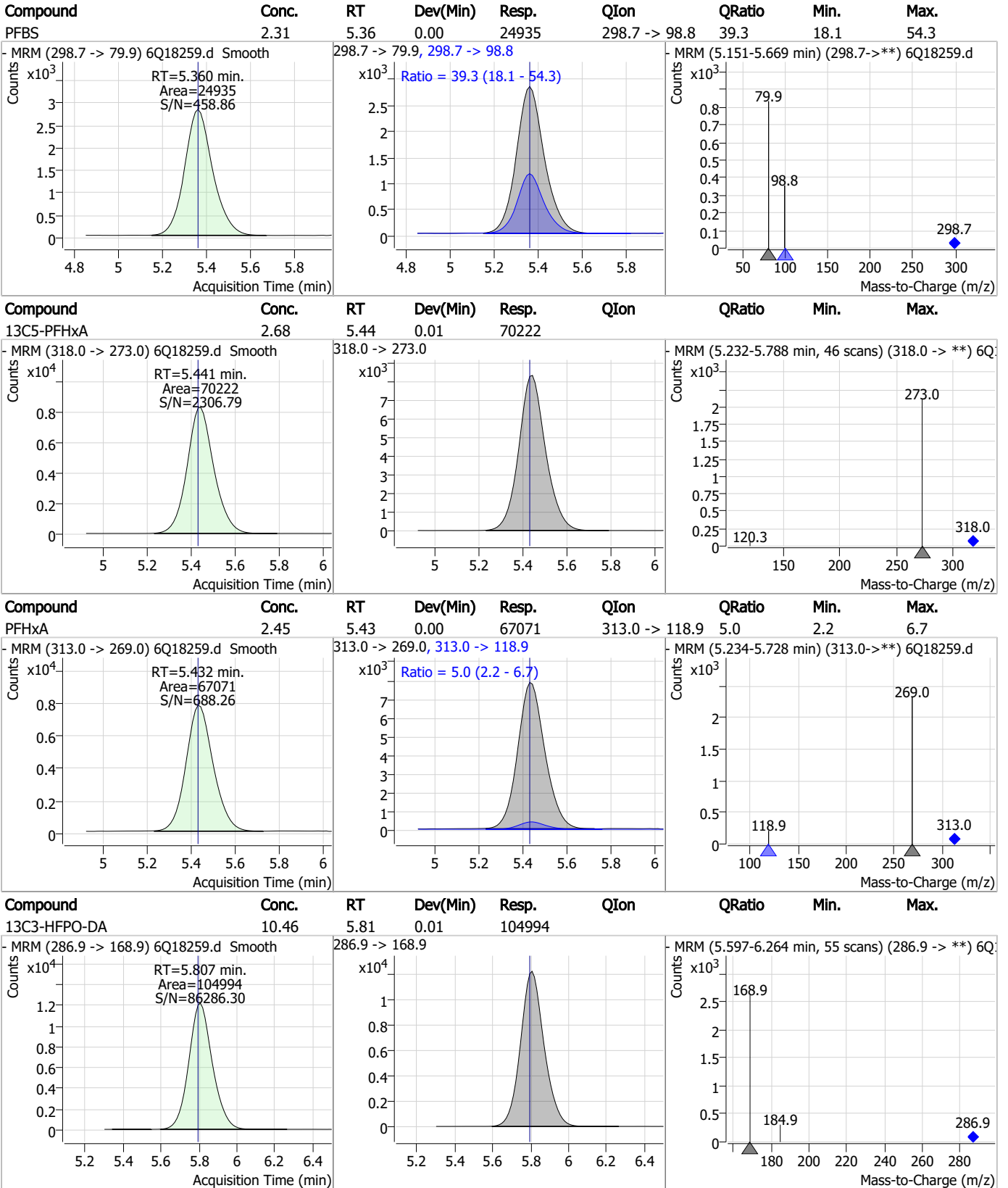
### Perfluorinated Compounds by LC/MS/MS



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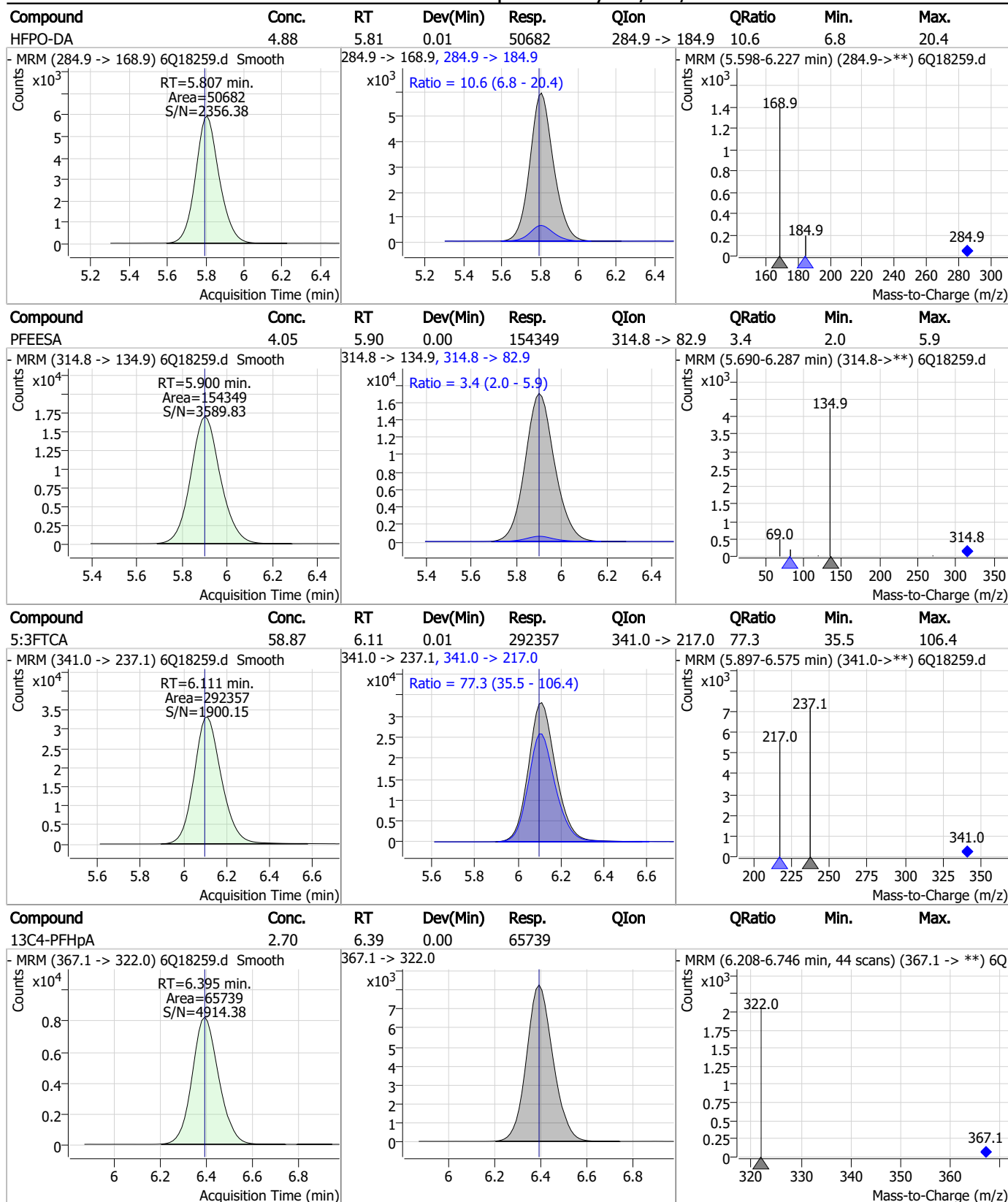
### Perfluorinated Compounds by LC/MS/MS



7.4.1

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### Perfluorinated Compounds by LC/MS/MS

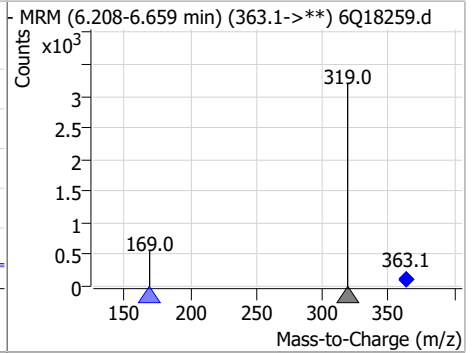
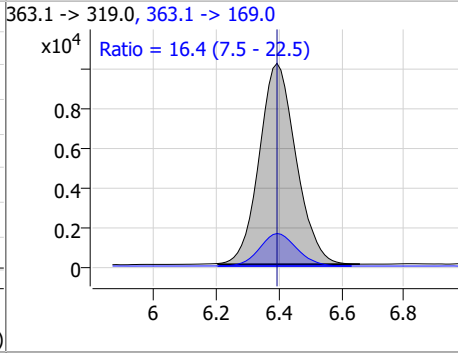
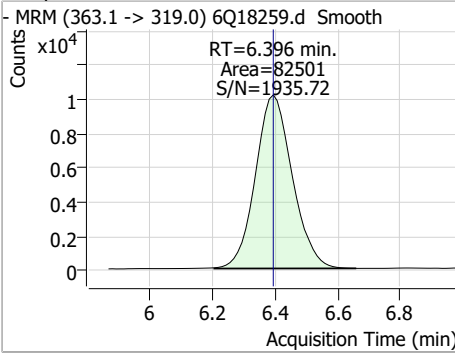


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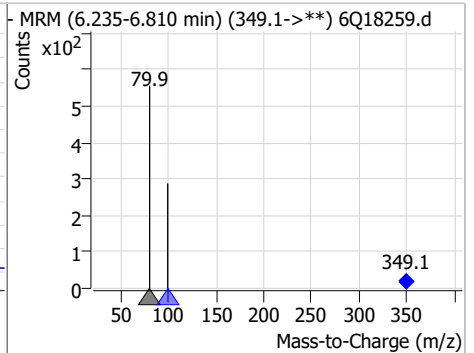
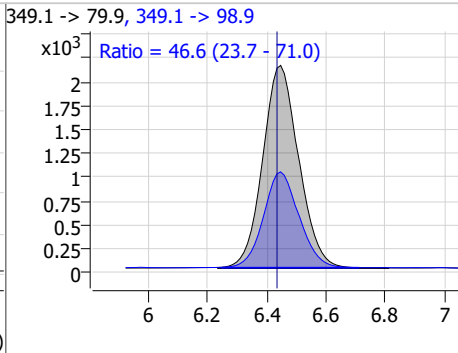
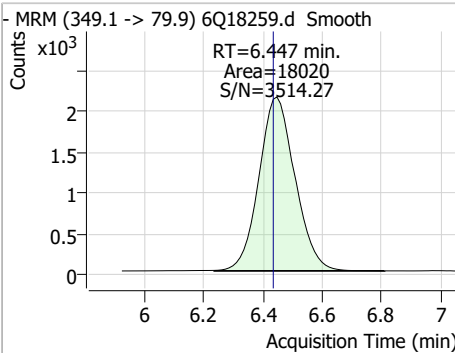
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### Perfluorinated Compounds by LC/MS/MS

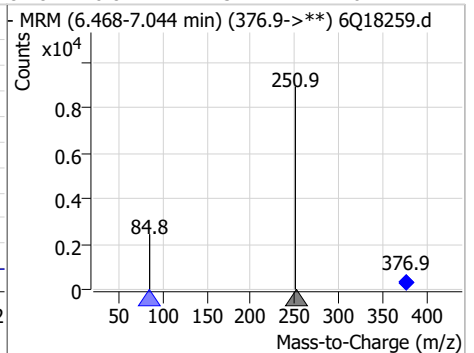
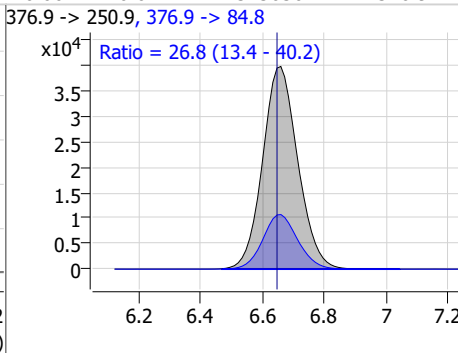
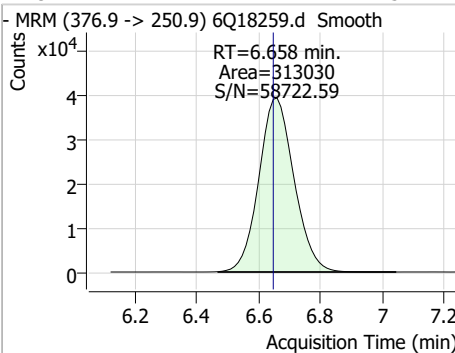
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHpA    | 2.35  | 6.40 | 0.00     | 82501 | 363.1 -> 169.0 | 16.4   | 7.5  | 22.5 |



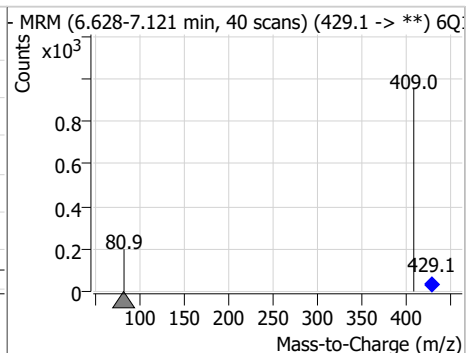
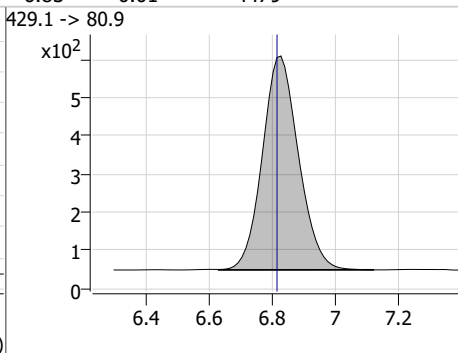
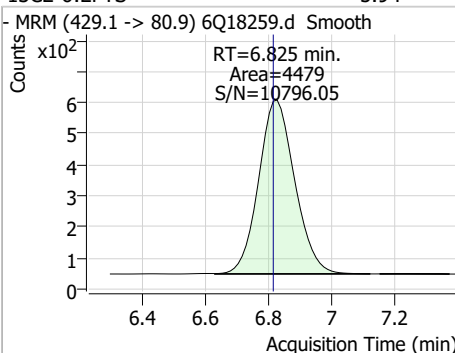
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFPeS    | 2.24  | 6.45 | 0.01     | 18020 | 349.1 -> 98.9 | 46.6   | 23.7 | 71.0 |



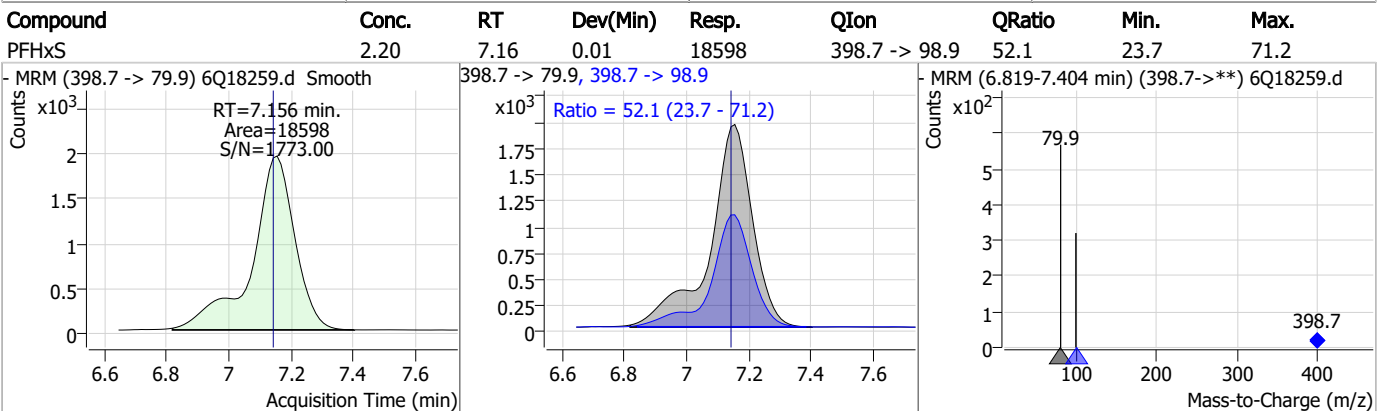
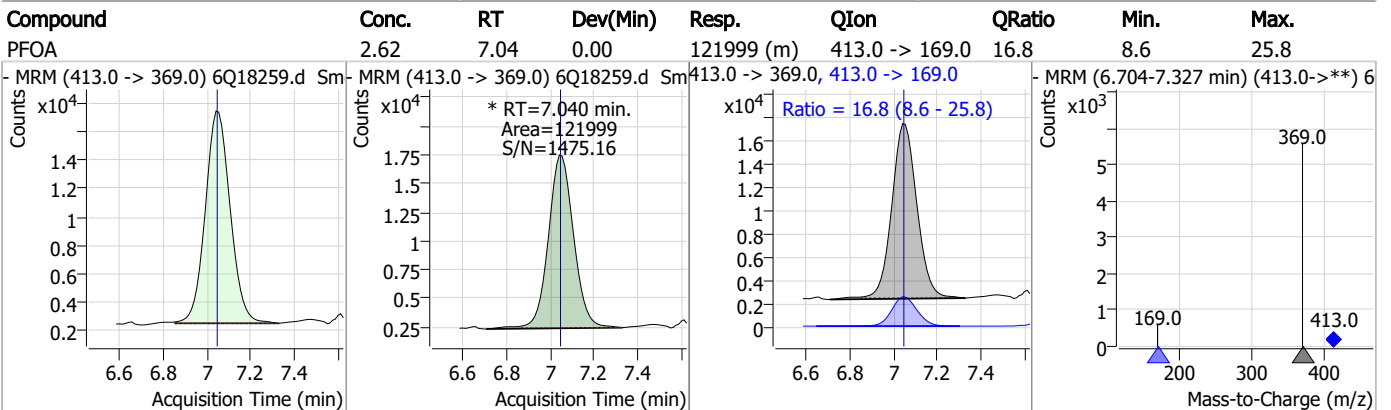
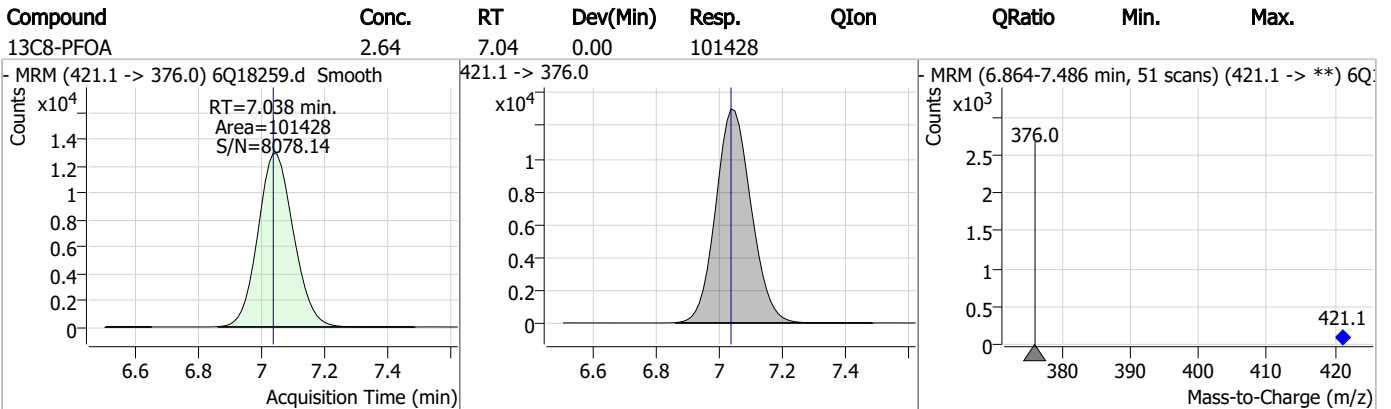
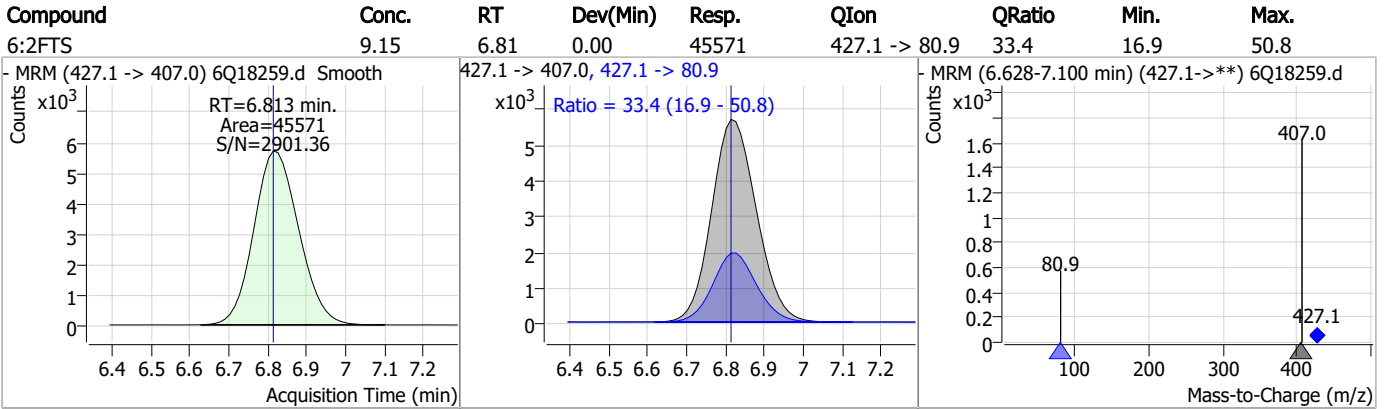
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| ADONA    | 4.75  | 6.66 | 0.01     | 313030 | 376.9 -> 84.8 | 26.8   | 13.4 | 40.2 |



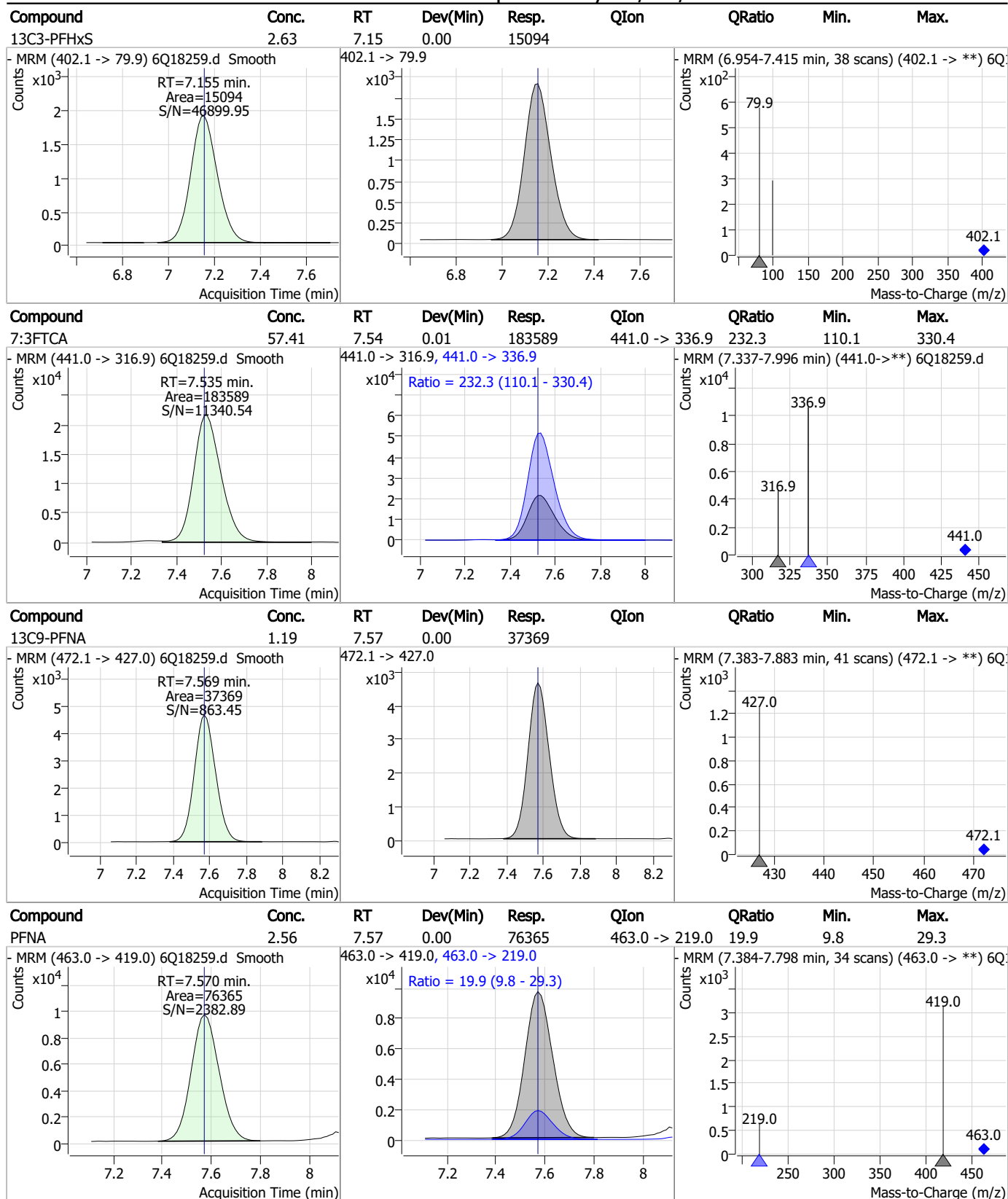
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|---------------|--------|------|------|
| 13C2-6:2FTS | 5.94  | 6.83 | 0.01     | 4479  | 429.1 -> 80.9 |        |      |      |



### Perfluorinated Compounds by LC/MS/MS

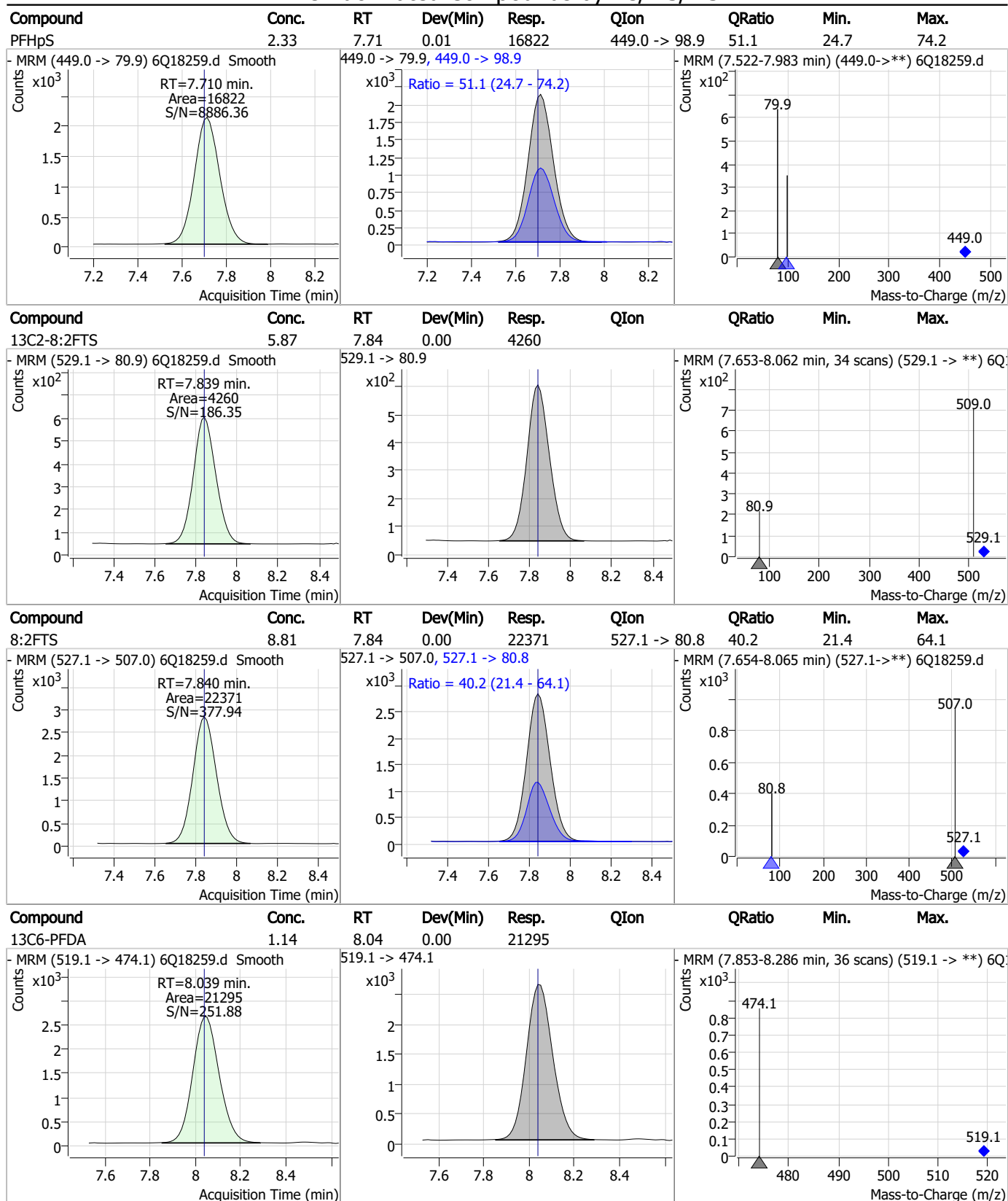


### Perfluorinated Compounds by LC/MS/MS



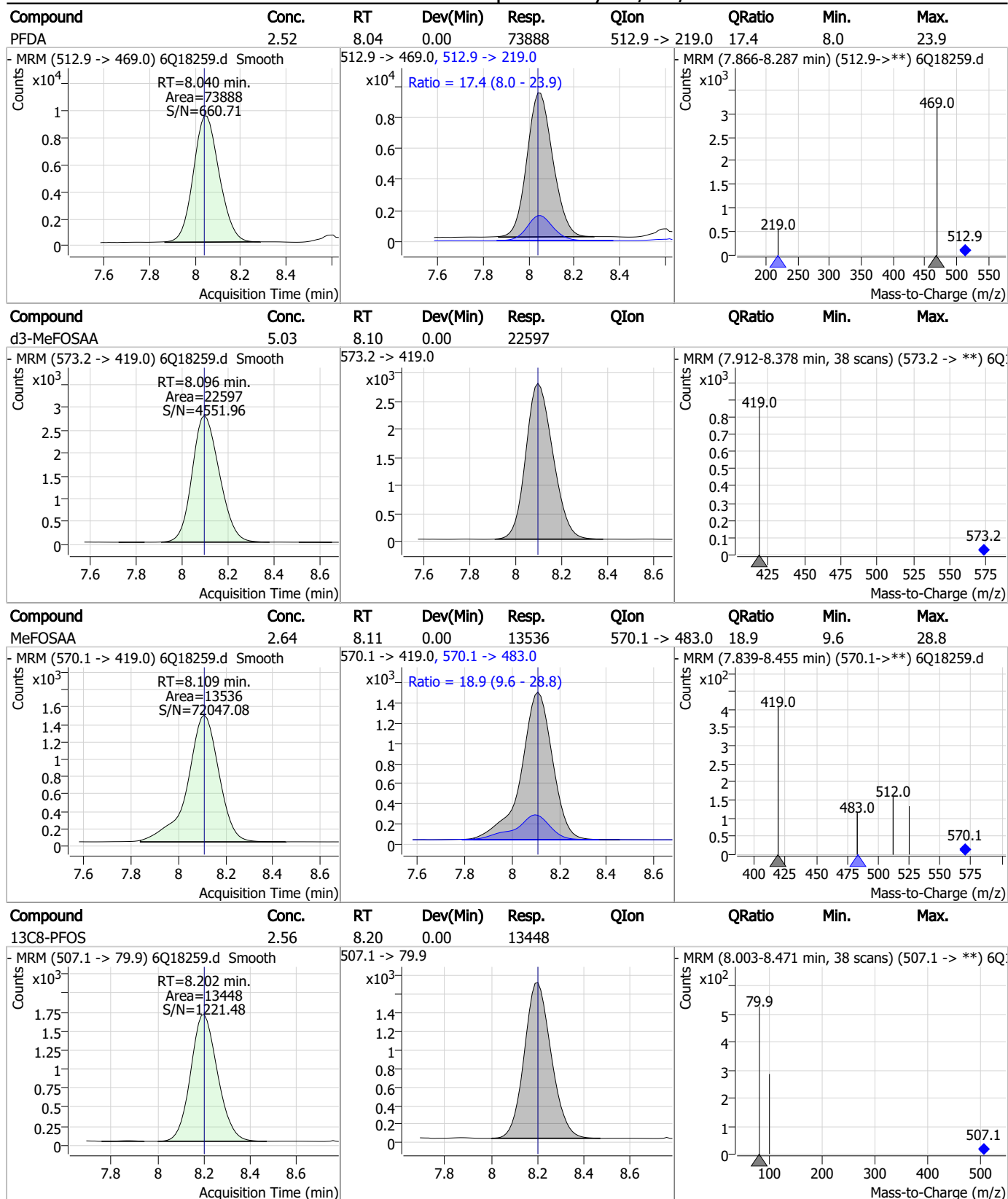
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS



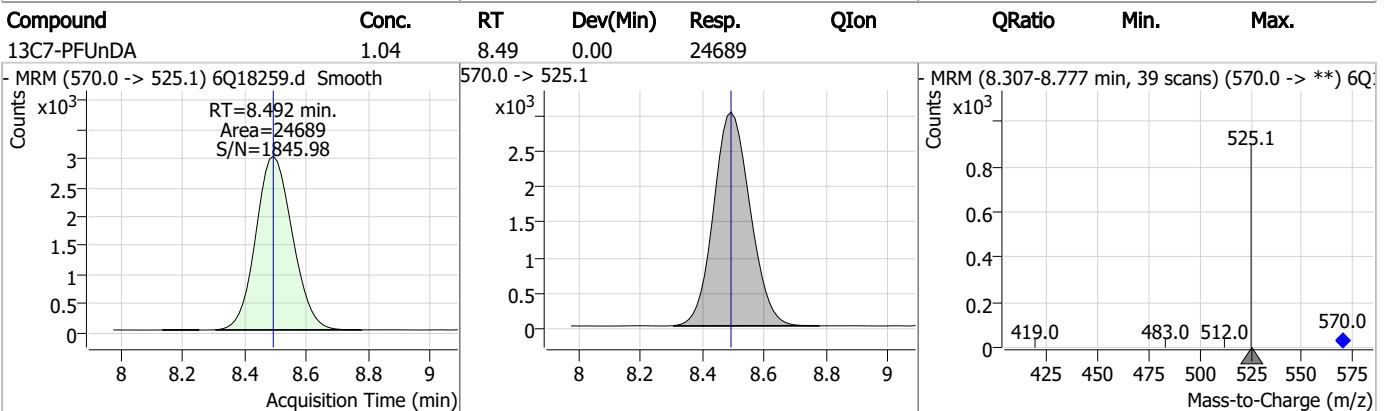
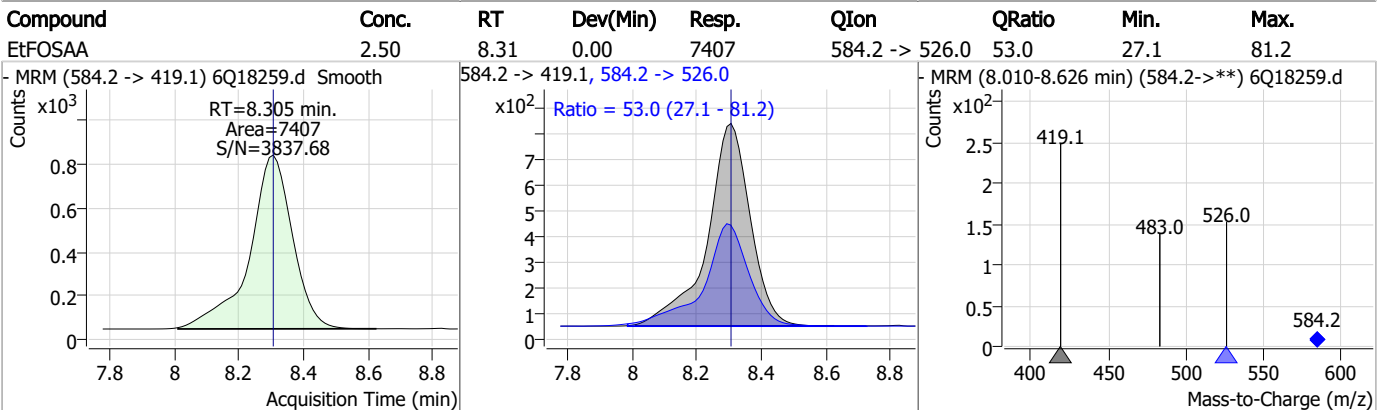
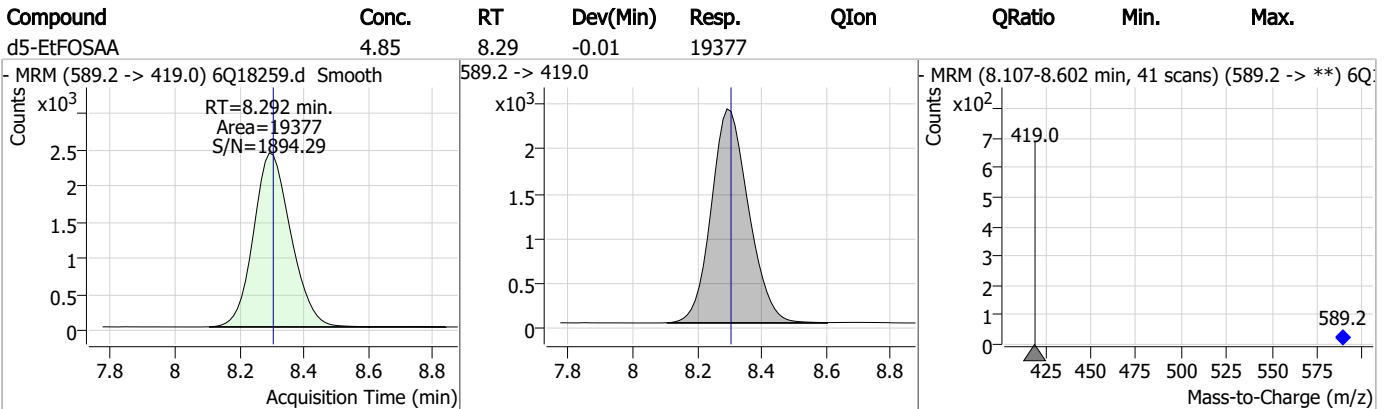
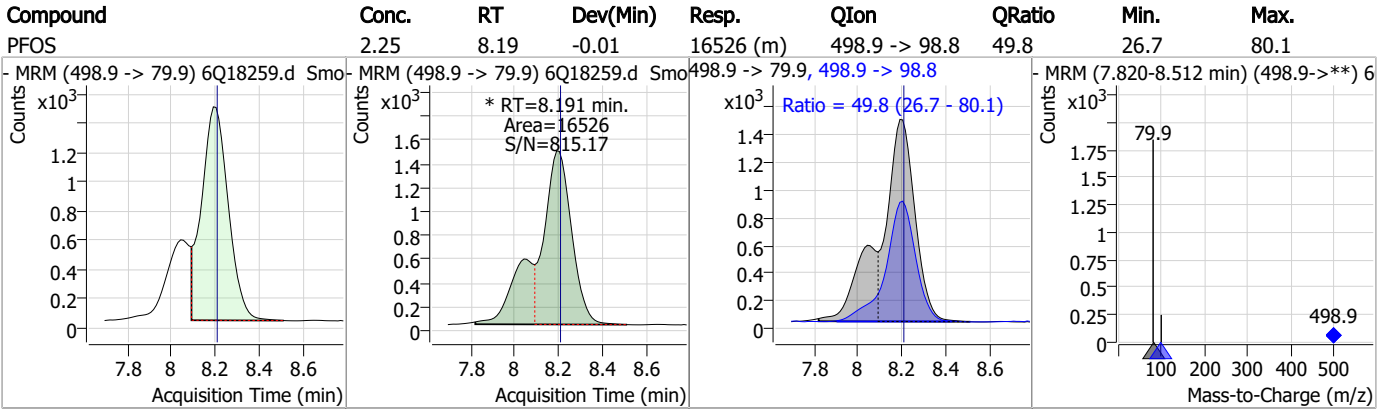
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS



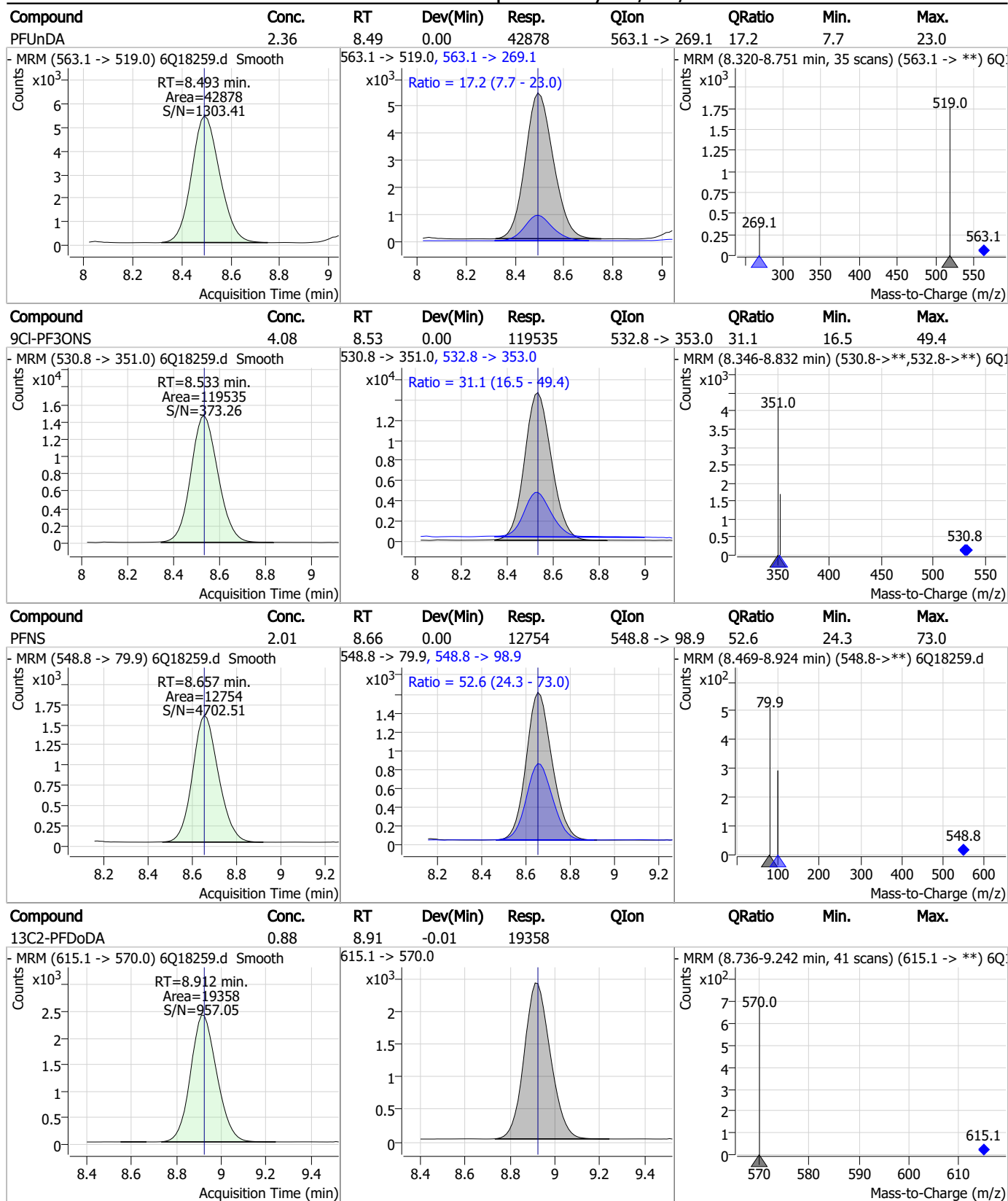
7.4.1  
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### Perfluorinated Compounds by LC/MS/MS





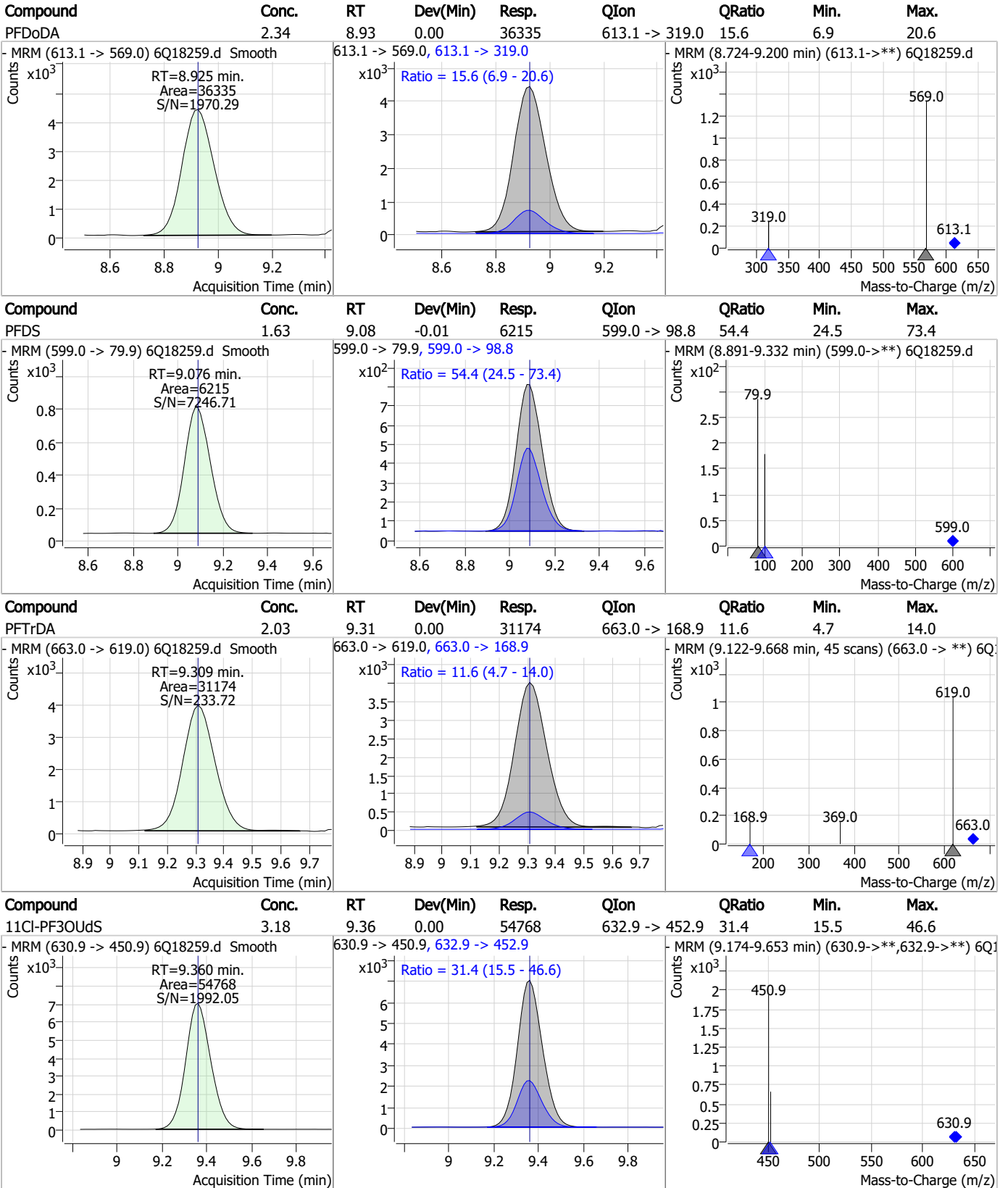
### Perfluorinated Compounds by LC/MS/MS



7.4.1

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### Perfluorinated Compounds by LC/MS/MS

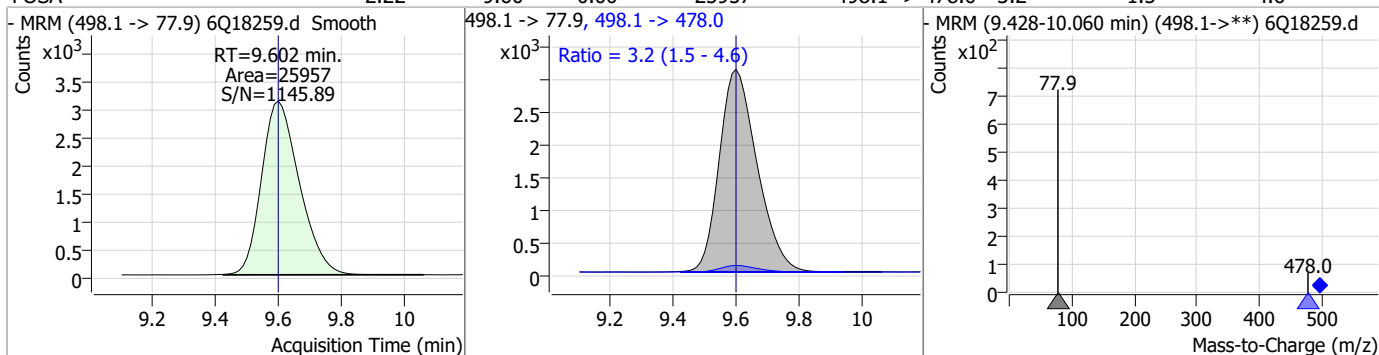


7.4.1

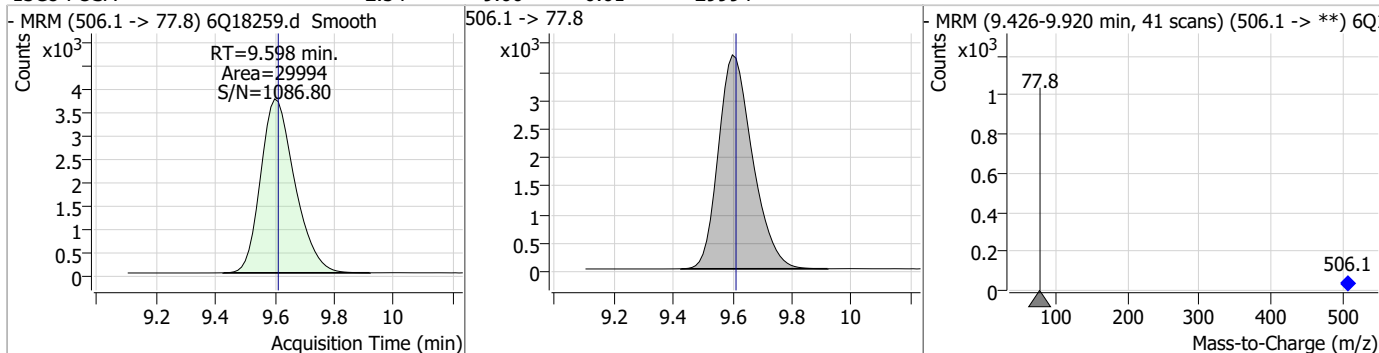
7

### Perfluorinated Compounds by LC/MS/MS

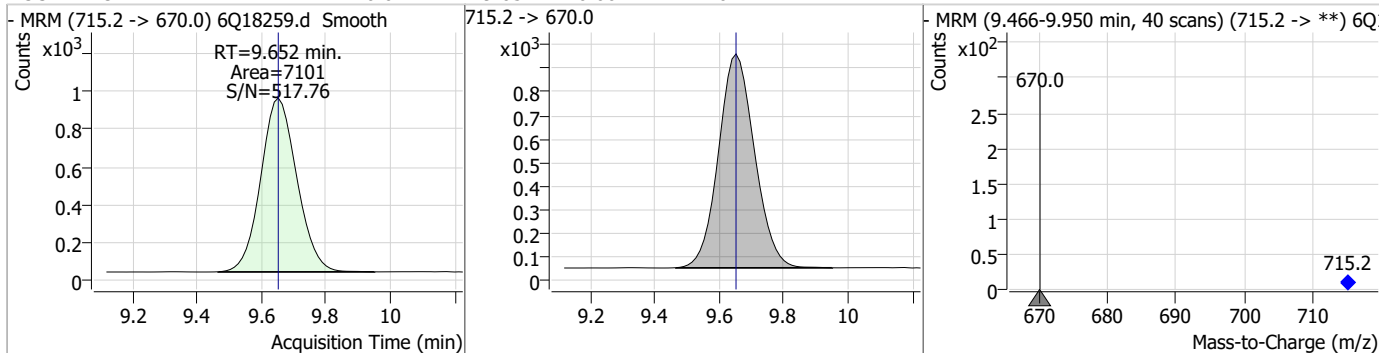
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 2.22  | 9.60 | 0.00     | 25957 | 498.1 -> 478.0 | 3.2    | 1.5  | 4.6  |



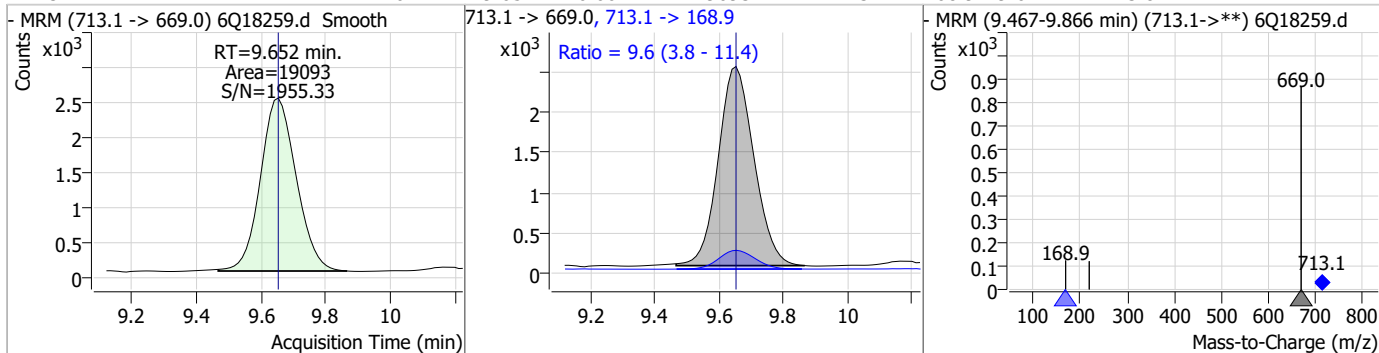
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.54  | 9.60 | -0.01    | 29994 |      |        |      |      |



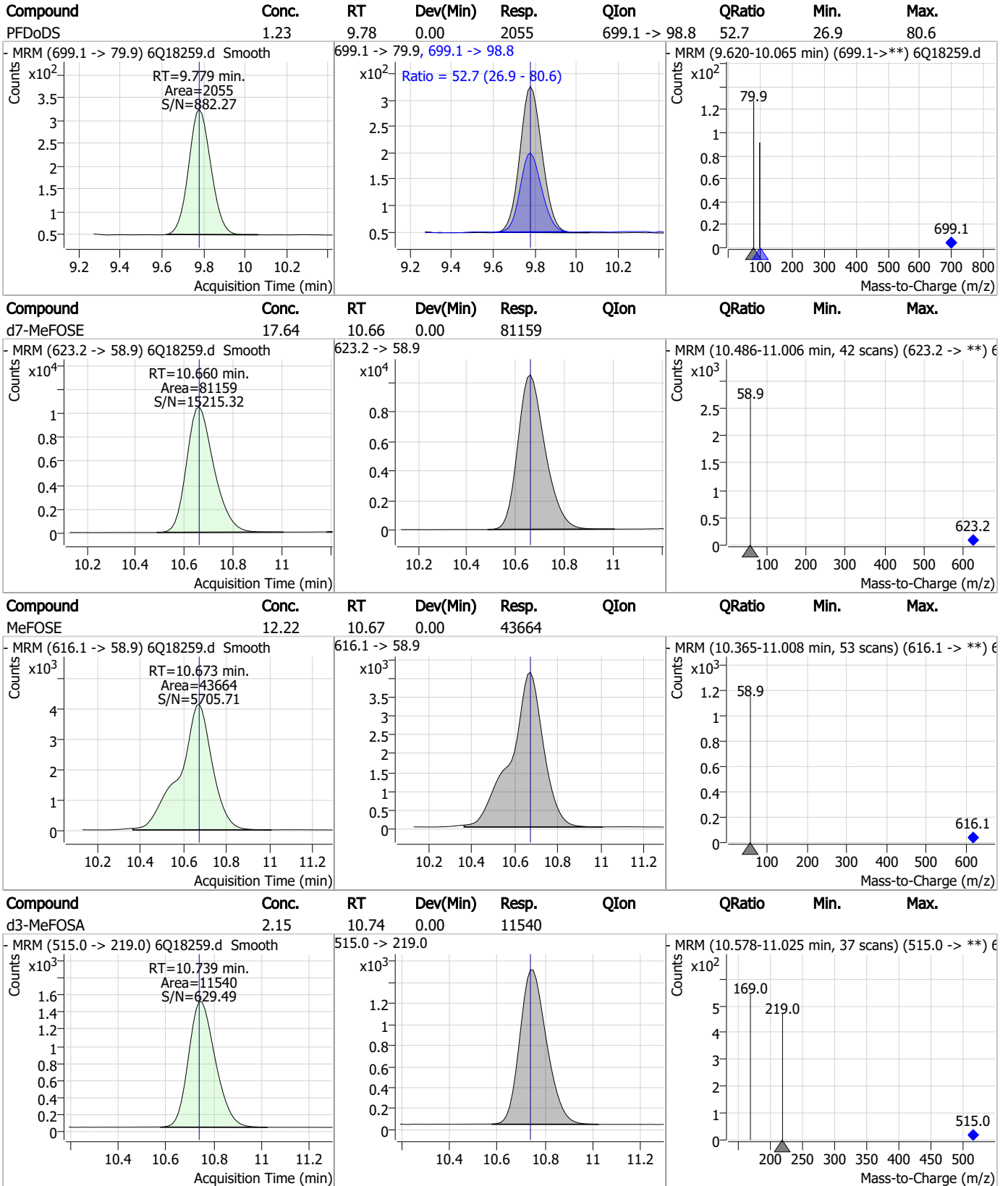
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 0.62  | 9.65 | 0.00     | 7101  |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 2.40  | 9.65 | 0.00     | 19093 | 713.1 -> 168.9 | 9.6    | 3.8  | 11.4 |



### Perfluorinated Compounds by LC/MS/MS

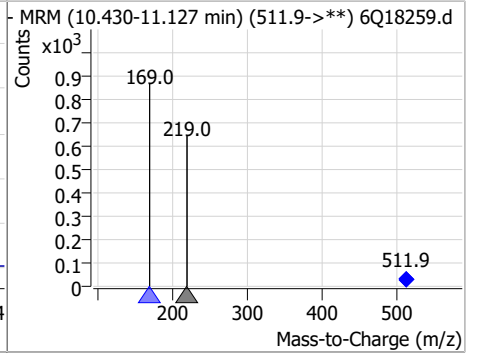
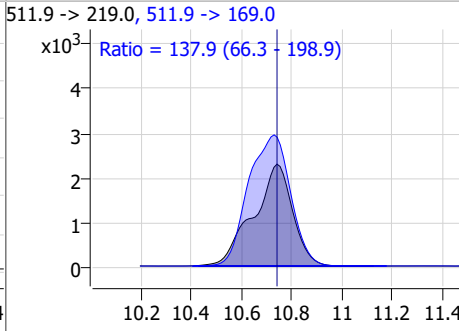
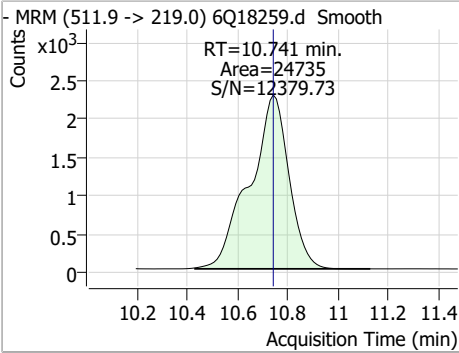


7.4.1

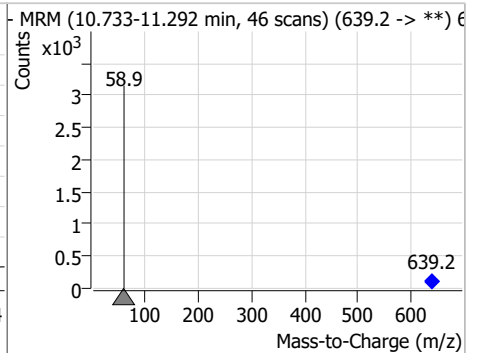
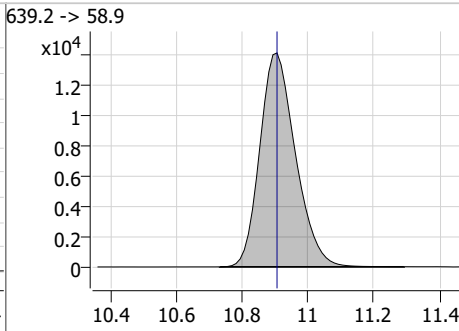
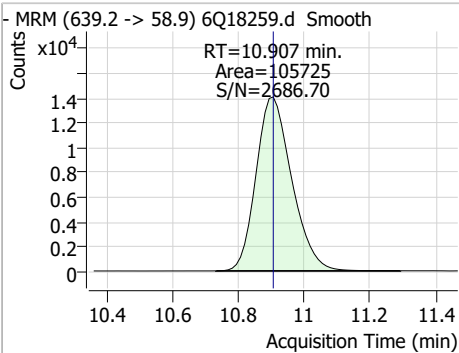
7

### Perfluorinated Compounds by LC/MS/MS

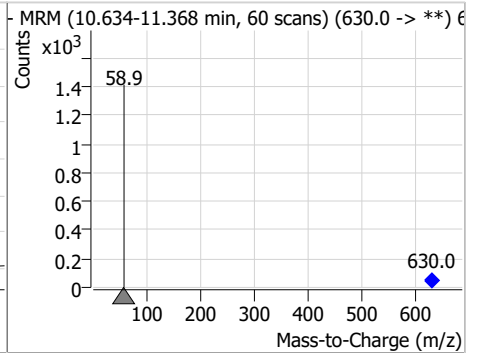
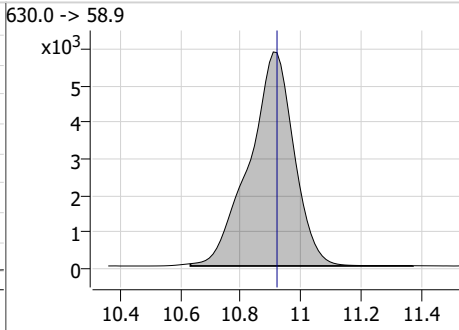
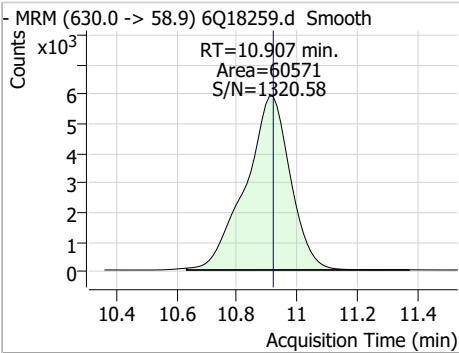
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOSA   | 5.02  | 10.74 | 0.00     | 24735 | 511.9 -> 169.0 | 137.9  | 66.3 | 198.9 |



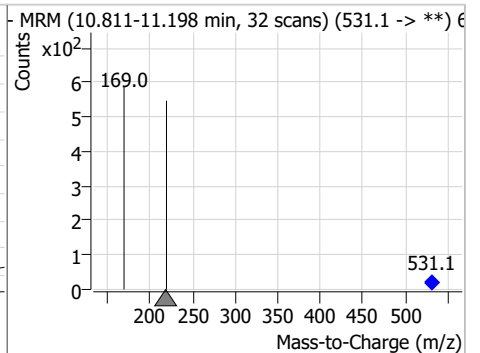
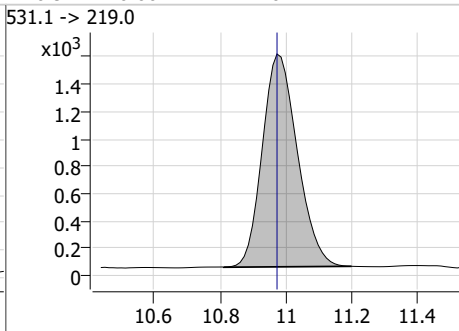
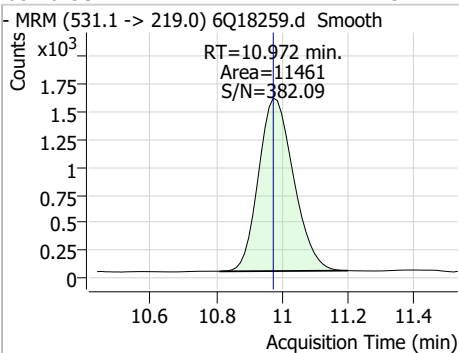
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 18.88 | 10.91 | 0.00     | 105725 |      |        |      |      |



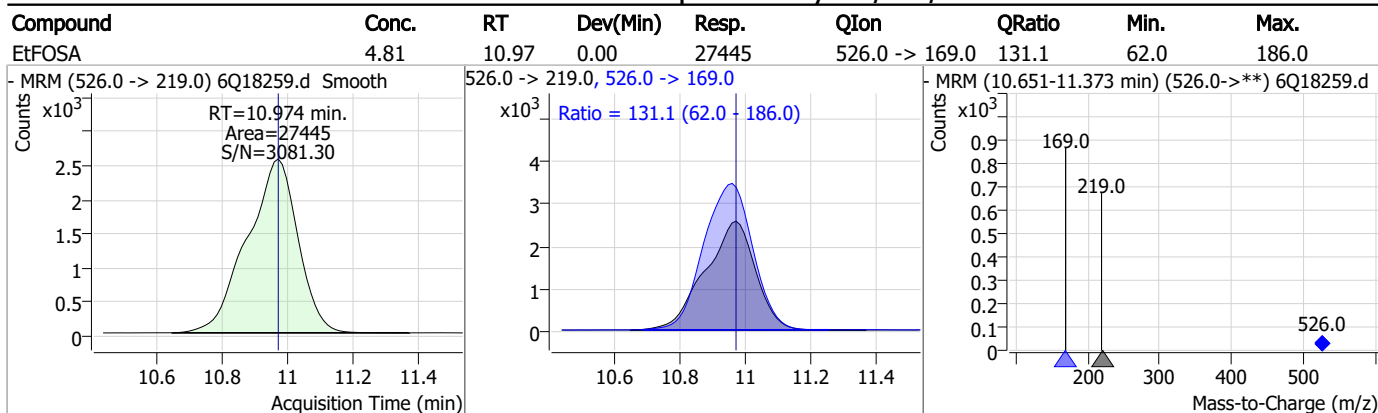
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|-------|------|--------|------|------|
| EtFOSE   | 11.70 | 10.91 | -0.01    | 60571 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.15  | 10.97 | 0.00     | 11461 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



7.4.1  
7

# Manual Integration Approval Summary

Sample Number: OP96959-MS                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18259.D                      Analyst approved: 05/24/23 10:12 Natasha Gumtie  
Injection Time: 05/23/23 05:10                      Supervisor approved: 05/24/23 10:12 Natasha Gumtie

| Parameter                    | CAS       | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|-----------|------|----------------|------------|
| Perfluorooctanoic acid       | 335-67-1  |      | 7.04           | Split peak |
| Perfluorooctanesulfonic acid | 1763-23-1 |      | 8.19           | Split peak |

7.4.1.1  
7

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18261.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 5:39:54 AM  
 Sample Name : op96959-dup  
 Vial : P2-C2  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96959,S6Q274,550,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 153126            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 69507             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 71008             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 66727             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 106203            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 37232             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 21128             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 23772             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 17235             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 8118              | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 26721             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 26850             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 15551             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 12703             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3408              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5013              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4440              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 20750             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 106957            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 17129             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 77431             | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 99174             | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 9674              | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 10482             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 18176             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.891                | 216.0 -> 172.0 | 85616             | 5.00 µg/L   | 0.012    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 10958             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 103081            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 32880             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 51890             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 68955             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3408              | 6.11 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 122.2% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5013              | 6.38 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 127.6% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4440              | 5.87 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 117.4% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 17235             | 0.72 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 57.7%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 8118              | 0.65 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 52.0%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 26850             | 2.57 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 102.9% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 15551             | 2.60 µg/L   | -0.012   |

7.5.1  
7



### Perfluorinated Compounds by LC/MS/MS

| Compound             | RT                   | Transition     | Response | Conc. Units       | Dev(Min) |
|----------------------|----------------------|----------------|----------|-------------------|----------|
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |          |
| 13C4-PFBA            | 2.888                | 216.8 -> 171.9 | 153126   | 7.58 µg/L         | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 75.8%  |          |
| 13C4-PFHpA           | 6.395                | 367.1 -> 322.0 | 66727    | 2.60 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |          |
| 13C5-PFHxA           | 5.429                | 318.0 -> 273.0 | 71008    | 2.57 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 102.7% |          |
| 13C5-PFPeA           | 4.235                | 268.3 -> 223.0 | 69507    | 5.38 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 107.6% |          |
| 13C6-PFDA            | 8.039                | 519.1 -> 474.1 | 21128    | 1.04 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 83.2%  |          |
| 13C7-PFUnDA          | 8.492                | 570.0 -> 525.1 | 23772    | 0.92 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 73.9%  |          |
| 13C8-FOSA            | 9.598                | 506.1 -> 77.8  | 26721    | 2.11 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 84.5%  |          |
| 13C8-PFOA            | 7.038                | 421.1 -> 376.0 | 106203   | 2.58 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 103.3% |          |
| 13C8-PFOS            | 8.189                | 507.1 -> 79.9  | 12703    | 2.25 µg/L         | -0.012   |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 90.0%  |          |
| 13C9-PFNA            | 7.569                | 472.1 -> 427.0 | 37232    | 1.05 µg/L         | 0.000    |
| Spiked Amount: 1.25  | Range: 50.0 - 150.0% |                |          | Recovery = 83.9%  |          |
| d3-MeFOSAA           | 8.096                | 573.2 -> 419.0 | 20750    | 4.31 µg/L         | 0.000    |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 86.2%  |          |
| 13C3-HFPO-DA         | 5.807                | 286.9 -> 168.9 | 106957   | 10.10 µg/L        | 0.012    |
| Spiked Amount: 10.00 | Range: 50.0 - 150.0% |                |          | Recovery = 101.0% |          |
| d3-MeFOSA            | 10.739               | 515.0 -> 219.0 | 10482    | 1.82 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 72.8%  |          |
| d5-EtFOSAA           | 8.292                | 589.2 -> 419.0 | 17129    | 4.00 µg/L         | -0.012   |
| Spiked Amount: 5.00  | Range: 50.0 - 150.0% |                |          | Recovery = 79.9%  |          |
| d7-MeFOSE            | 10.660               | 623.2 -> 58.9  | 77431    | 15.69 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 62.8%  |          |
| d9-EtFOSE            | 10.907               | 639.2 -> 58.9  | 99174    | 16.52 µg/L        | 0.000    |
| Spiked Amount: 25.00 | Range: 50.0 - 150.0% |                |          | Recovery = 66.1%  |          |
| d5-EtFOSA            | 10.972               | 531.1 -> 219.0 | 9674     | 1.70 µg/L         | 0.000    |
| Spiked Amount: 2.50  | Range: 50.0 - 150.0% |                |          | Recovery = 67.8%  |          |

7.5.1  
7

| Target Compounds | RT    | Transition     | Response | Conc. Units | QValue |
|------------------|-------|----------------|----------|-------------|--------|
| 4:2FTS           | -     | 327.1 -> 307.0 | -        | N.D.        |        |
|                  |       | 327.1 -> 80.9  |          |             |        |
| 6:2FTS           | -     | 427.1 -> 407.0 | -        | N.D.        |        |
|                  |       | 427.1 -> 80.9  |          |             |        |
| 8:2FTS           | -     | 527.1 -> 507.0 | -        | N.D.        |        |
|                  |       | 527.1 -> 80.8  |          |             |        |
| EtFOSAA          | -     | 584.2 -> 419.1 | -        | N.D.        |        |
|                  |       | 584.2 -> 526.0 |          |             |        |
| FOSA             | -     | 498.1 -> 77.9  | -        | N.D.        |        |
|                  |       | 498.1 -> 478.0 |          |             |        |
| MeFOSAA          | -     | 570.1 -> 419.0 | -        | N.D.        |        |
|                  |       | 570.1 -> 483.0 |          |             |        |
| PFBA             | -     | 212.8 -> 168.9 | -        | N.D.        |        |
| PFBS             | 5.360 | 298.7 -> 79.9  | 2913     | 0.27 µg/L   | 98     |
|                  |       | 298.7 -> 98.8  | 1088     |             |        |
| PFDA             | -     | 512.9 -> 469.0 | -        | N.D.        |        |
|                  |       | 512.9 -> 219.0 |          |             |        |
| PFDODA           | -     | 613.1 -> 569.0 | -        | N.D.        |        |
|                  |       | 613.1 -> 319.0 |          |             |        |
| PFDS             | -     | 599.0 -> 79.9  | -        | N.D.        |        |



Perfluorinated Compounds by LC/MS/MS

| Compound     | RT    | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|-------|----------------|----------|-------|-------|----------|
| PFHpA        | 6.396 | 599.0 -> 98.8  |          |       |       |          |
|              |       | 363.1 -> 319.0 | 3469     | 0.10  | µg/L  | 95       |
| PFHpS        | -     | 363.1 -> 169.0 | 590      |       |       |          |
|              |       | 449.0 -> 79.9  | -        | N.D.  |       |          |
| PFHxA        | 5.432 | 449.0 -> 98.9  |          |       |       |          |
|              |       | 313.0 -> 269.0 | 3264     | 0.12  | µg/L  | 96       |
| PFHxS        | 7.143 | 313.0 -> 118.9 | 189      |       |       |          |
|              |       | 398.7 -> 79.9  | 1603     | 0.18  | µg/L  | m 99     |
| PFNA         | -     | 398.7 -> 98.9  | 767      |       |       |          |
|              |       | 463.0 -> 419.0 | -        | N.D.  |       |          |
| PFNS         | -     | 463.0 -> 219.0 |          |       |       |          |
|              |       | 548.8 -> 79.9  | -        | N.D.  |       |          |
| PFOA         | 7.040 | 548.8 -> 98.9  |          |       |       |          |
|              |       | 413.0 -> 369.0 | 7788     | 0.16  | µg/L  | m 93     |
| PFOS         | 8.017 | 413.0 -> 169.0 | 1097     |       |       |          |
|              |       | 498.9 -> 79.9  | 1169     | 0.17  | µg/L  | m 66     |
| PFPeA        | -     | 498.9 -> 98.8  | 344      |       |       |          |
|              |       | 263.0 -> 219.0 | -        | N.D.  |       |          |
| PFPeS        | -     | 349.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 349.1 -> 98.9  |          |       |       |          |
| PFTeDA       | -     | 713.1 -> 669.0 | -        | N.D.  |       |          |
|              |       | 713.1 -> 168.9 |          |       |       |          |
| PFTrDA       | -     | 663.0 -> 619.0 | -        | N.D.  |       |          |
|              |       | 663.0 -> 168.9 |          |       |       |          |
| PFUnDA       | -     | 563.1 -> 519.0 | -        | N.D.  |       |          |
|              |       | 563.1 -> 269.1 |          |       |       |          |
| 11Cl-PF3OUdS | -     | 630.9 -> 450.9 | -        | N.D.  |       |          |
|              |       | 632.9 -> 452.9 |          |       |       |          |
| 9Cl-PF3ONS   | -     | 530.8 -> 351.0 | -        | N.D.  |       |          |
|              |       | 532.8 -> 353.0 |          |       |       |          |
| ADONA        | -     | 376.9 -> 250.9 | -        | N.D.  |       |          |
|              |       | 376.9 -> 84.8  |          |       |       |          |
| HFPO-DA      | -     | 284.9 -> 168.9 | -        | N.D.  |       |          |
|              |       | 284.9 -> 184.9 |          |       |       |          |
| 3:3FTCA      | -     | 241.0 -> 177.0 | -        | N.D.  |       |          |
|              |       | 241.0 -> 117.0 |          |       |       |          |
| 5:3FTCA      | -     | 341.0 -> 237.1 | -        | N.D.  |       |          |
|              |       | 341.0 -> 217.0 |          |       |       |          |
| 7:3FTCA      | -     | 441.0 -> 316.9 | -        | N.D.  |       |          |
|              |       | 441.0 -> 336.9 |          |       |       |          |
| EtFOSA       | -     | 526.0 -> 219.0 | -        | N.D.  |       |          |
|              |       | 526.0 -> 169.0 |          |       |       |          |
| EtFOSE       | -     | 630.0 -> 58.9  | -        | N.D.  |       |          |
|              |       | 511.9 -> 219.0 | -        | N.D.  |       |          |
| MeFOSA       | -     | 511.9 -> 169.0 |          |       |       |          |
|              |       | 616.1 -> 58.9  | -        | N.D.  |       |          |
| MeFOSE       | -     | 699.1 -> 79.9  | -        | N.D.  |       |          |
|              |       | 699.1 -> 98.8  |          |       |       |          |
| PFDoDS       | -     | 295.0 -> 201.0 | -        | N.D.  |       |          |
|              |       | 295.0 -> 84.9  |          |       |       |          |
| NFDHA        | -     | 279.0 -> 85.1  | -        | N.D.  |       |          |
|              |       | 229.0 -> 84.9  | -        | N.D.  |       |          |
| PFMBA        | -     | 314.8 -> 134.9 | -        | N.D.  |       |          |
|              |       | 314.8 -> 82.9  |          |       |       |          |
| PFMBA        | -     |                |          |       |       |          |
|              |       |                |          |       |       |          |
| PFMPA        | -     |                |          |       |       |          |
|              |       |                |          |       |       |          |
| PFEESA       | -     |                |          |       |       |          |
|              |       |                |          |       |       |          |

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

7.5.1  
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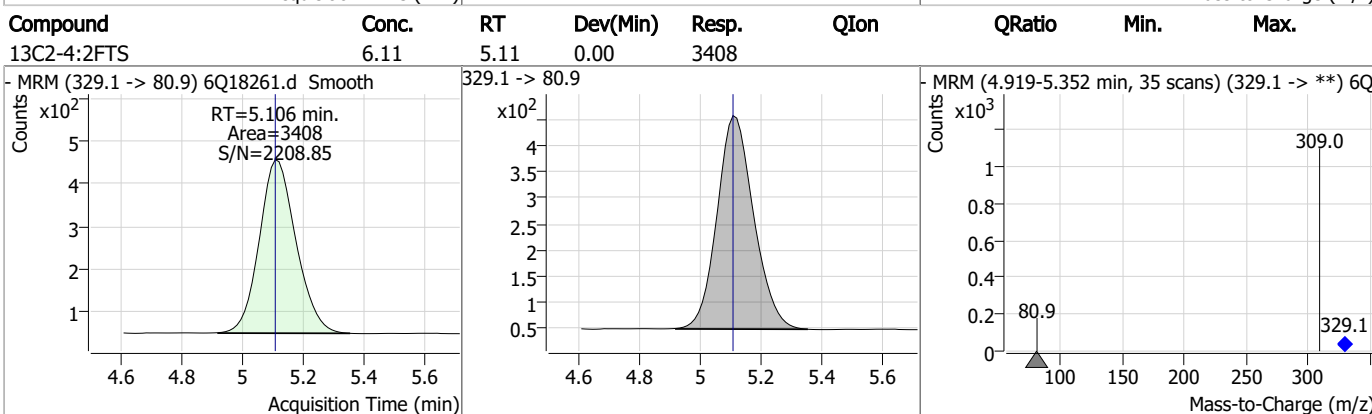
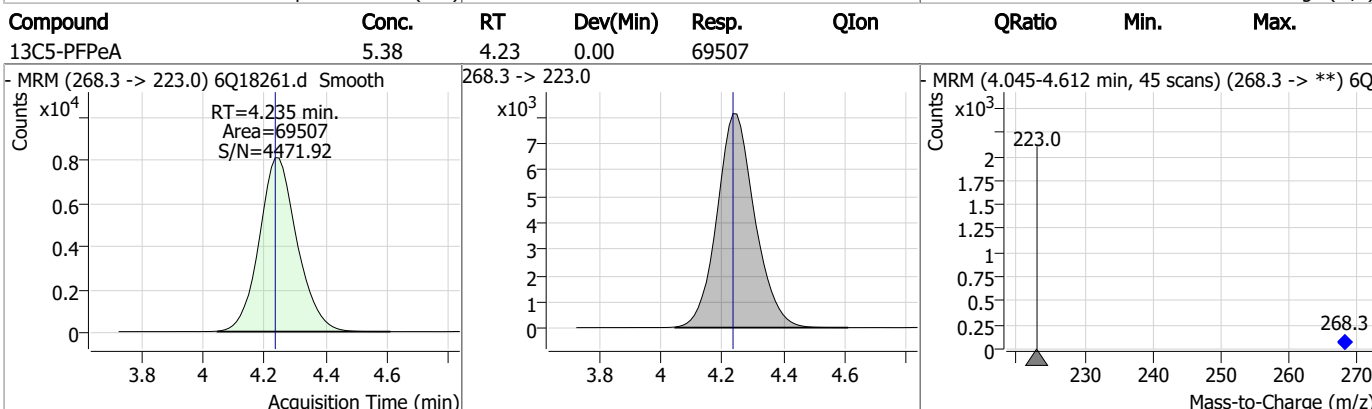
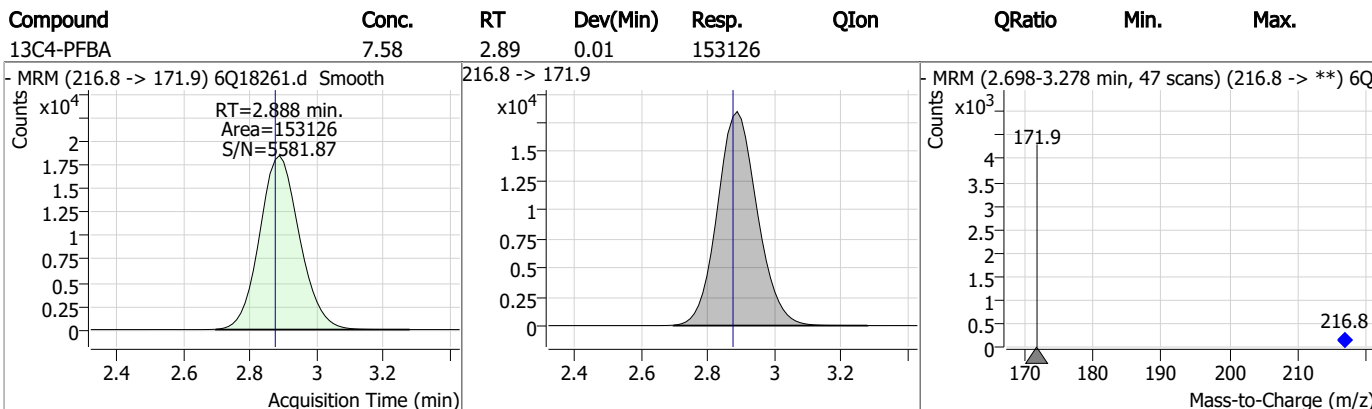
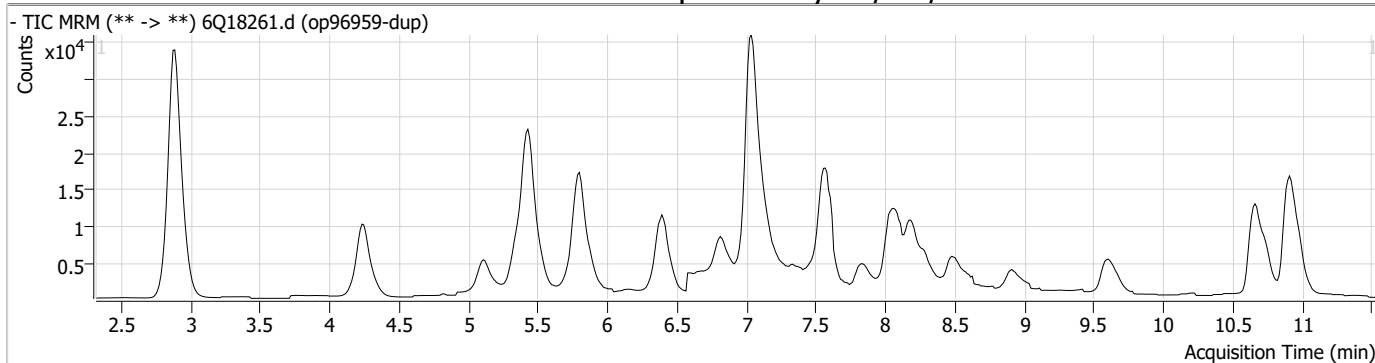
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

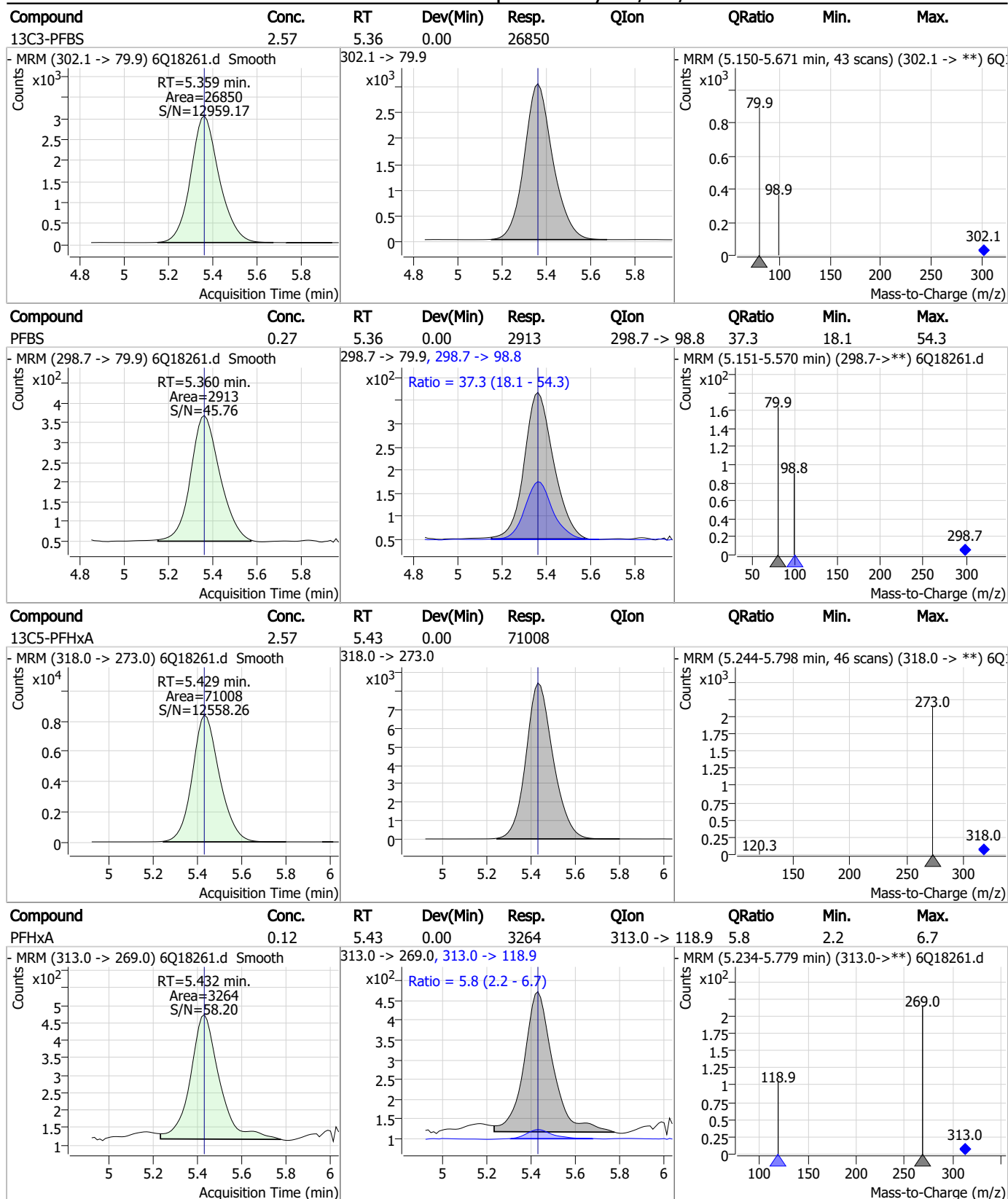
7.5.1

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### Perfluorinated Compounds by LC/MS/MS

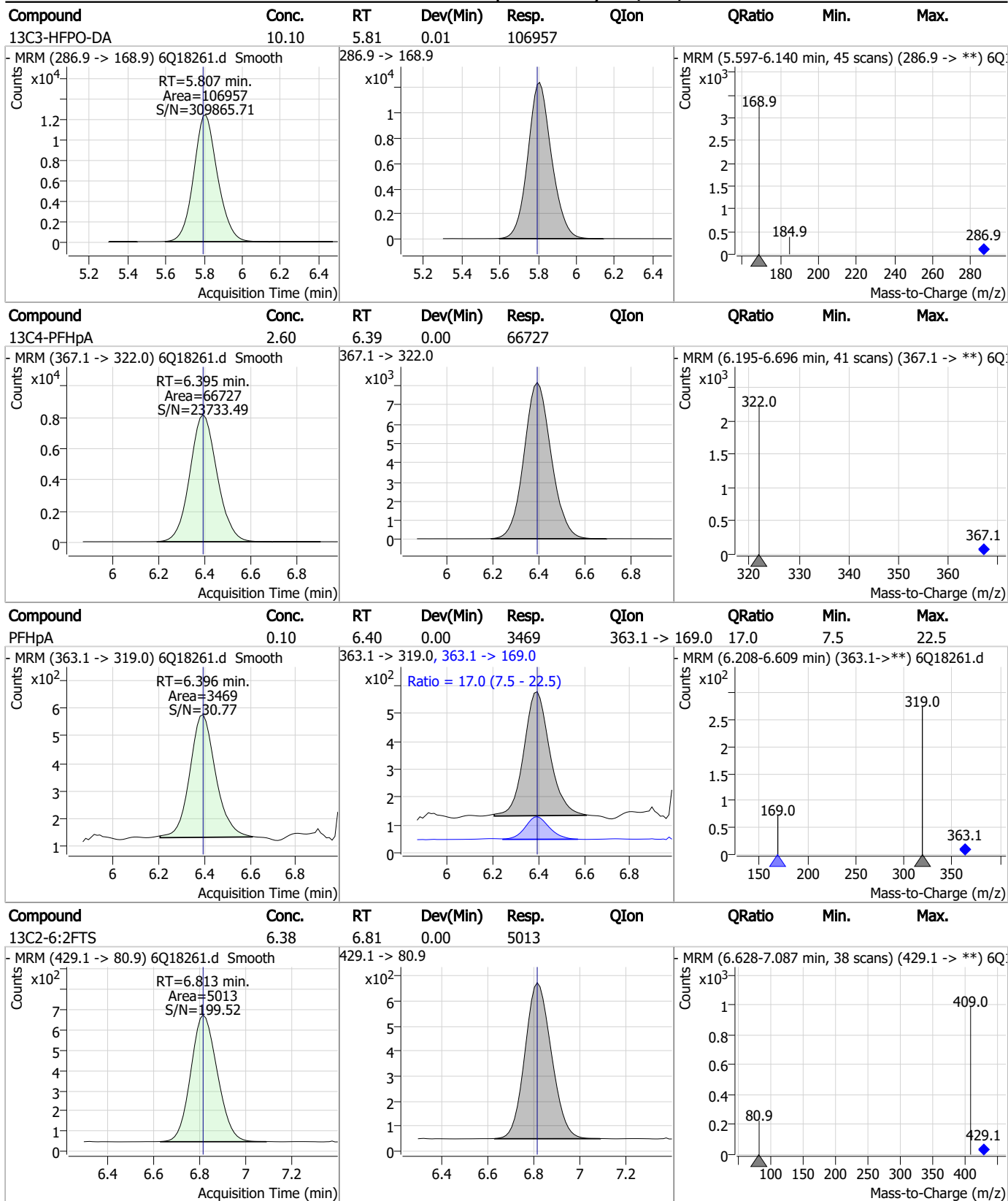


### Perfluorinated Compounds by LC/MS/MS



7.5.1  
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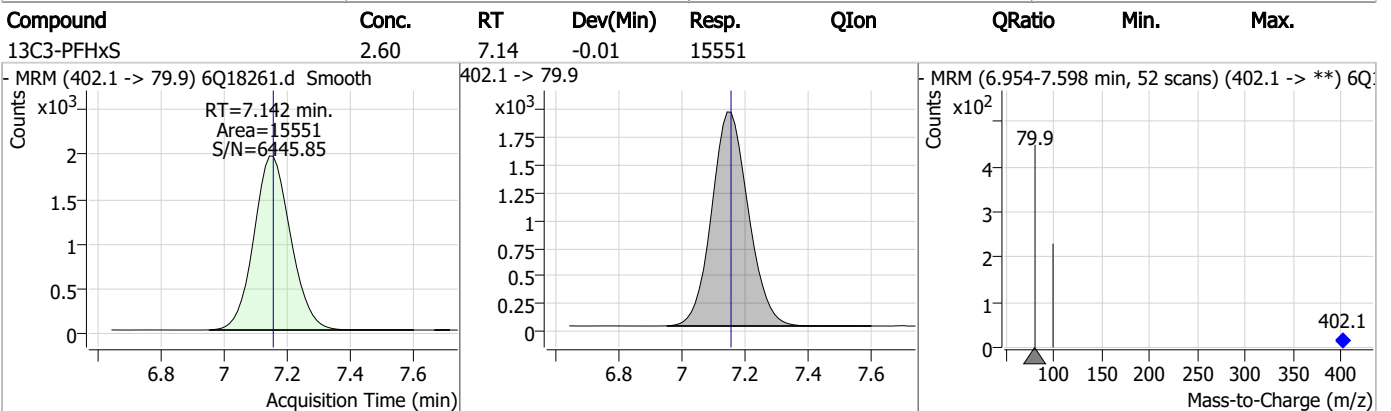
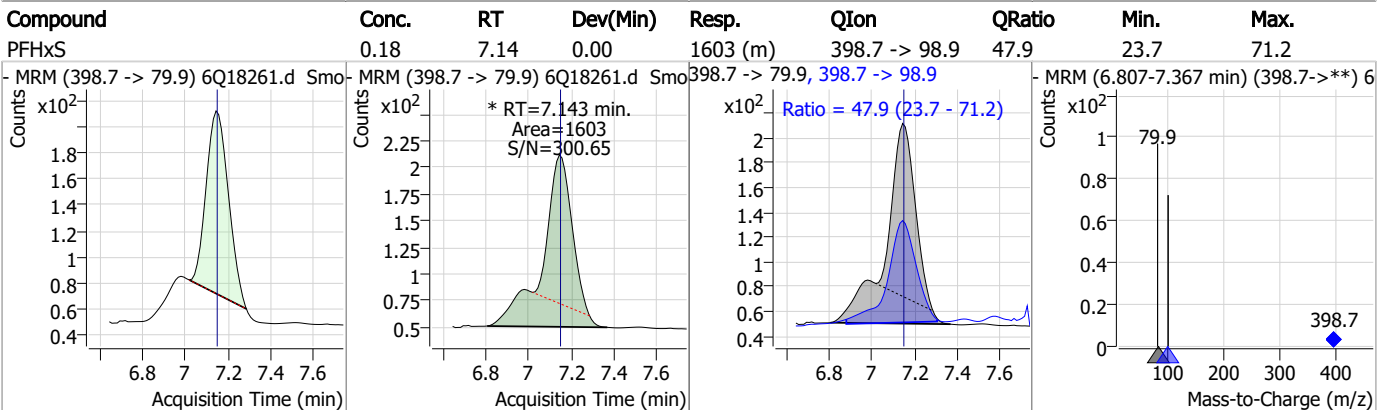
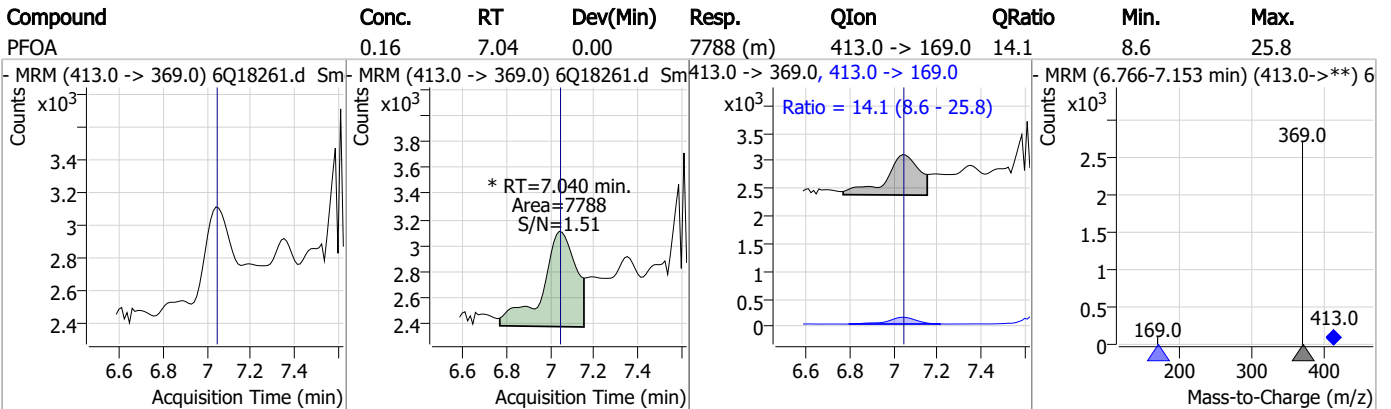
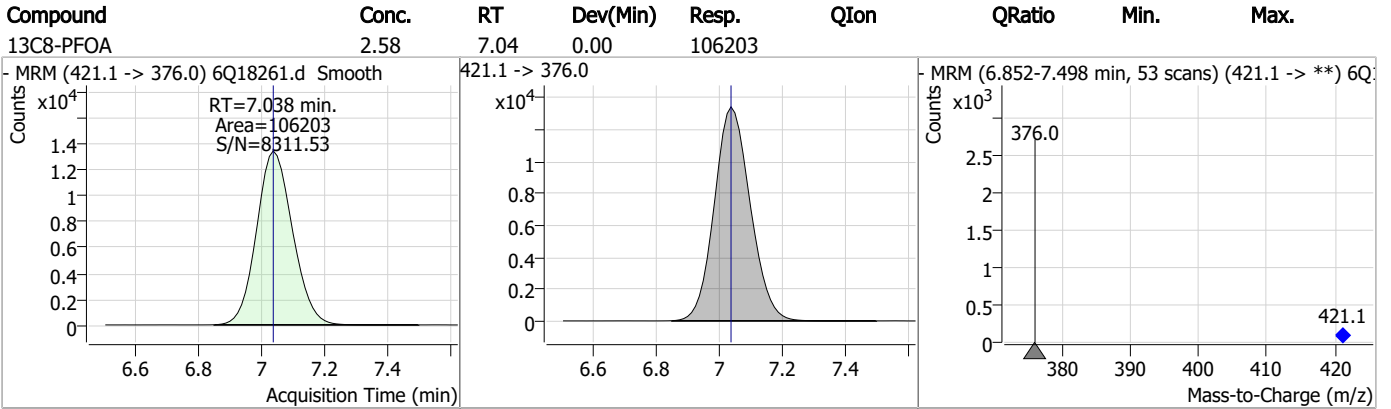
### Perfluorinated Compounds by LC/MS/MS



7.5.1

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### Perfluorinated Compounds by LC/MS/MS



7.5.1

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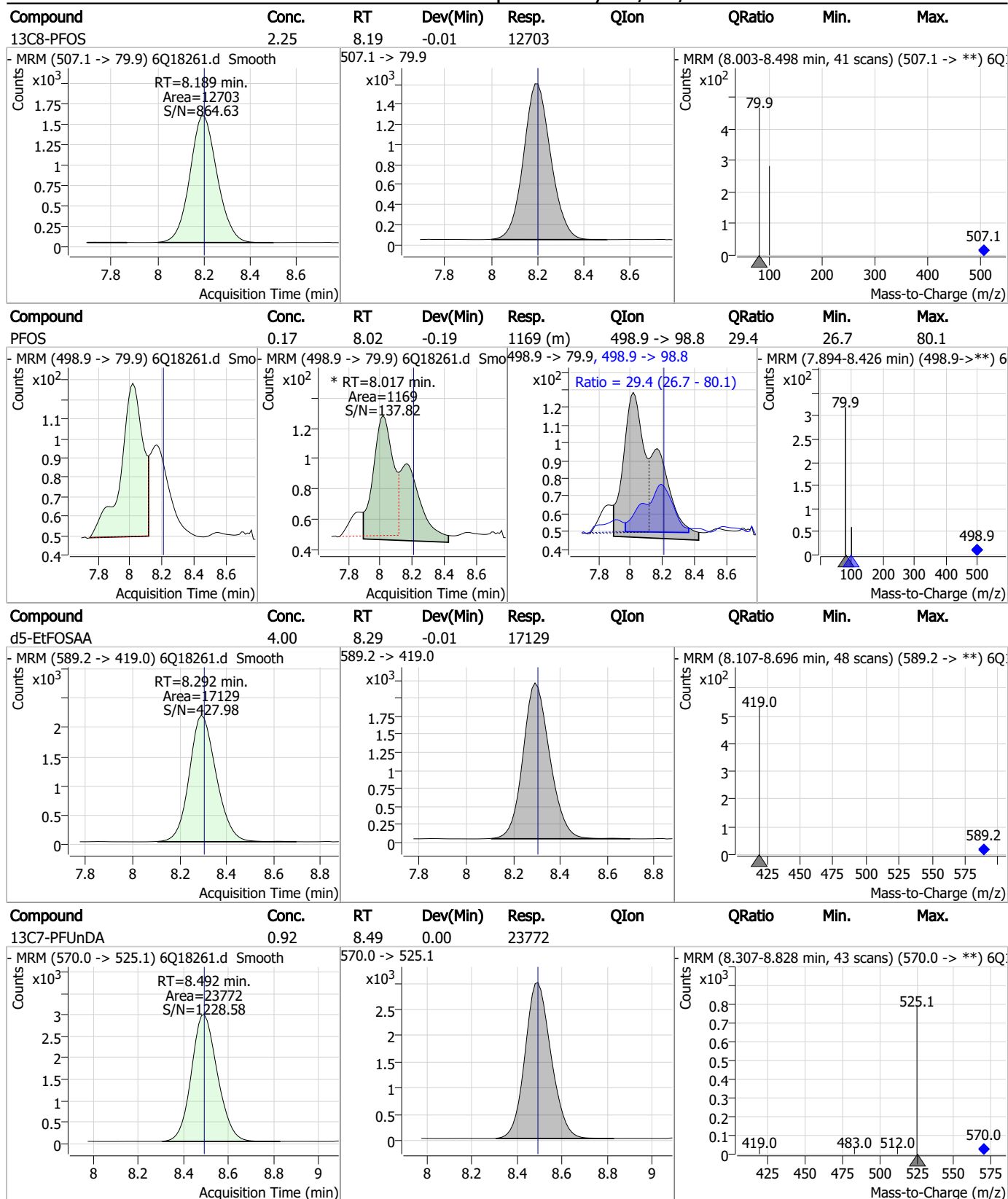
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C9-PFNA   | 1.05  | 7.57 | 0.00     | 37232 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| 13C2-8:2FTS | 5.87  | 7.84 | 0.00     | 4440  |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| 13C6-PFDA   | 1.04  | 8.04 | 0.00     | 21128 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |
| d3-MeFOSAA  | 4.31  | 8.10 | 0.00     | 20750 |      |        |      |      |
|             |       |      |          |       |      |        |      |      |

7.5.1  
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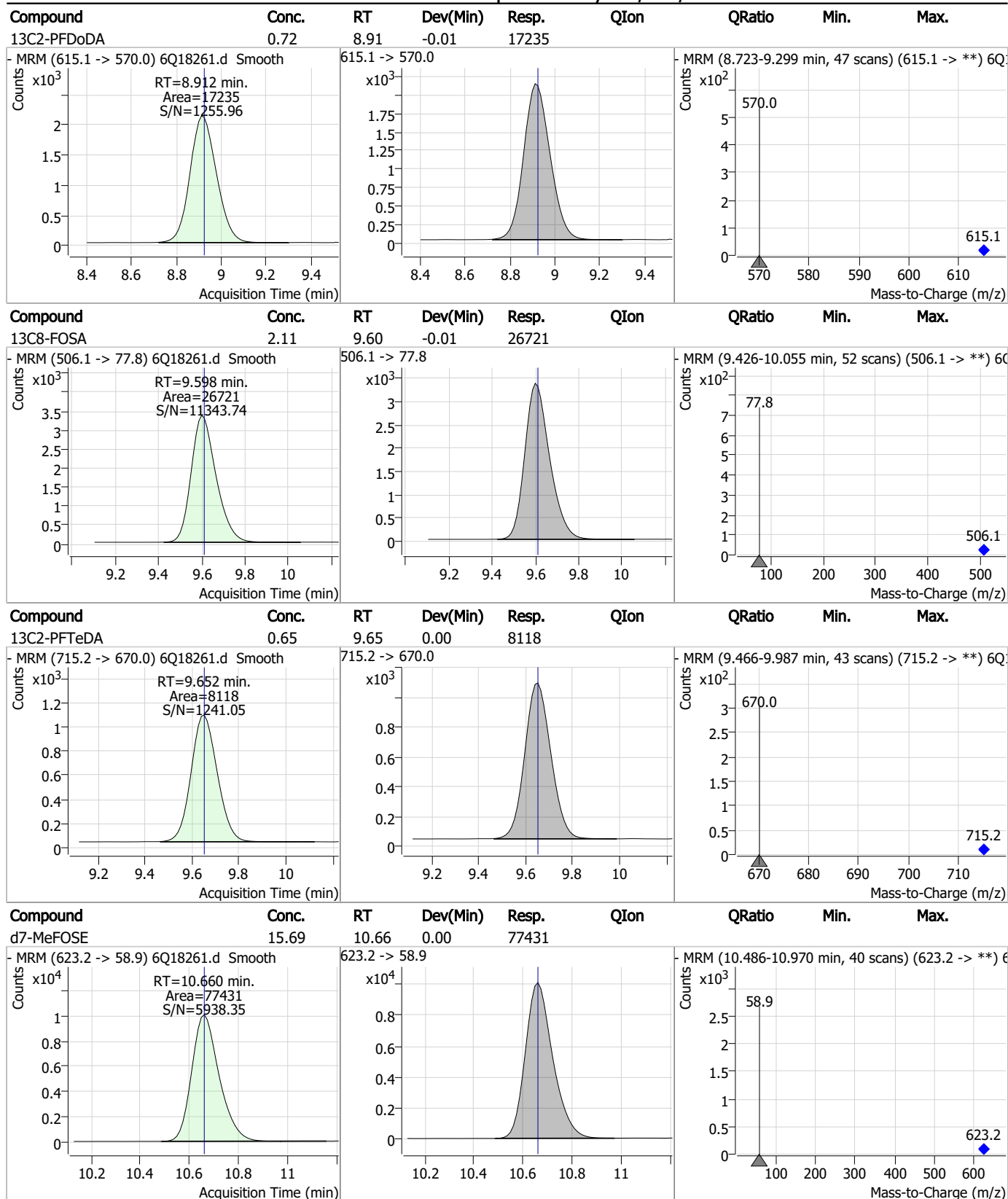


### Perfluorinated Compounds by LC/MS/MS



7.5.1  
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### Perfluorinated Compounds by LC/MS/MS



7.5.1  
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### Perfluorinated Compounds by LC/MS/MS

| Compound   | Conc. | RT    | Dev(Min)  | Resp. | QIon | QRatio   | Min. | Max. |
|--|-------|-------|---|-------|------|--|------|------|
| d3-MeFOSA  | 1.82  | 10.74 | 0.00  | 10482 |      |  |      |      |
| - MRM (515.0 -> 219.0) 6Q18261.d Smooth<br>Counts x10 <sup>3</sup><br>RT=10.739 min.<br>Area=10482<br>S/N=426.44<br>Acquisition Time (min) |       |       | 515.0 -> 219.0<br>Counts x10 <sup>3</sup><br>Acquisition Time (min) |       |      | - MRM (10.578-11.025 min, 37 scans) (515.0 -> **) €<br>Counts x10 <sup>2</sup><br>169.0 219.0<br>515.0<br>Mass-to-Charge (m/z) |      |      |
| d9-EtFOSE  | 16.52 | 10.91 | 0.00  | 99174 |      |  |      |      |
| - MRM (639.2 -> 58.9) 6Q18261.d Smooth<br>Counts x10 <sup>4</sup><br>RT=10.907 min.<br>Area=99174<br>S/N=4306.65<br>Acquisition Time (min) |       |       | 639.2 -> 58.9<br>Counts x10 <sup>4</sup><br>Acquisition Time (min)  |       |      | - MRM (10.733-11.292 min, 46 scans) (639.2 -> **) €<br>Counts x10 <sup>3</sup><br>58.9<br>639.2<br>Mass-to-Charge (m/z)        |      |      |
| d5-EtFOSA  | 1.70  | 10.97 | 0.00  | 9674  |      |  |      |      |
| - MRM (531.1 -> 219.0) 6Q18261.d Smooth<br>Counts x10 <sup>3</sup><br>RT=10.972 min.<br>Area=9674<br>S/N=598.44<br>Acquisition Time (min)  |       |       | 531.1 -> 219.0<br>Counts x10 <sup>3</sup><br>Acquisition Time (min) |       |      | - MRM (10.825-11.221 min, 31 scans) (531.1 -> **) €<br>Counts x10 <sup>2</sup><br>169.0 219.0<br>531.1<br>Mass-to-Charge (m/z) |      |      |

7.5.1  
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# Manual Integration Approval Summary

Sample Number: OP96959-DUP                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18261.D                      Analyst approved: 05/24/23 10:12 Natasha Gumtie  
Injection Time: 05/23/23 05:39                      Supervisor approved: 05/24/23 10:12 Natasha Gumtie

| Parameter                    | CAS       | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|-----------|------|----------------|------------|
| Perfluorooctanoic acid       | 335-67-1  |      | 7.04           | Split peak |
| Perfluorohexanesulfonic acid | 355-46-4  |      | 7.14           | Split peak |
| Perfluorooctanesulfonic acid | 1763-23-1 |      | 8.02           | Split peak |

7.5.1.1

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Manual Integrations  
**APPROVED**  
 (compounds with "m" flag)  
 Norman Farmer  
 05/23/23 16:27

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18224.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 8:43:55 PM  
 Sample Name : RT TDCA  
 Vial : P1-B3  
 DA Method File : TDCA.quantmethod.xml  
 Batch Name : s6q274 TDCA.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

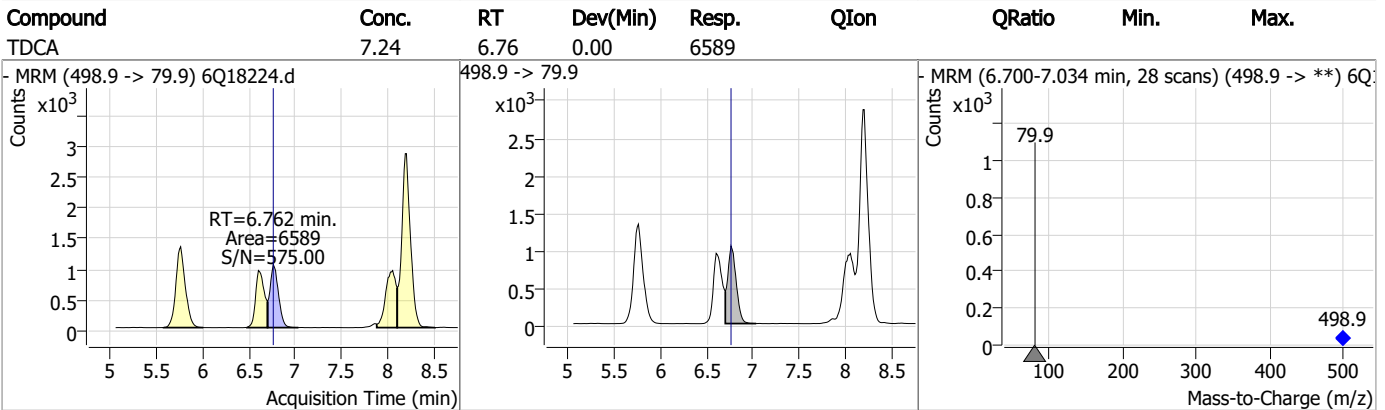
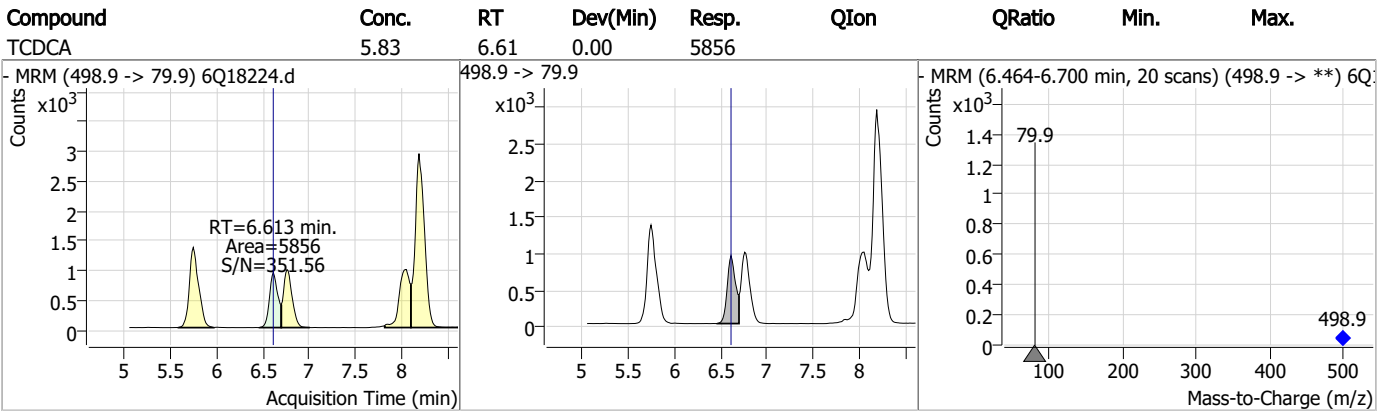
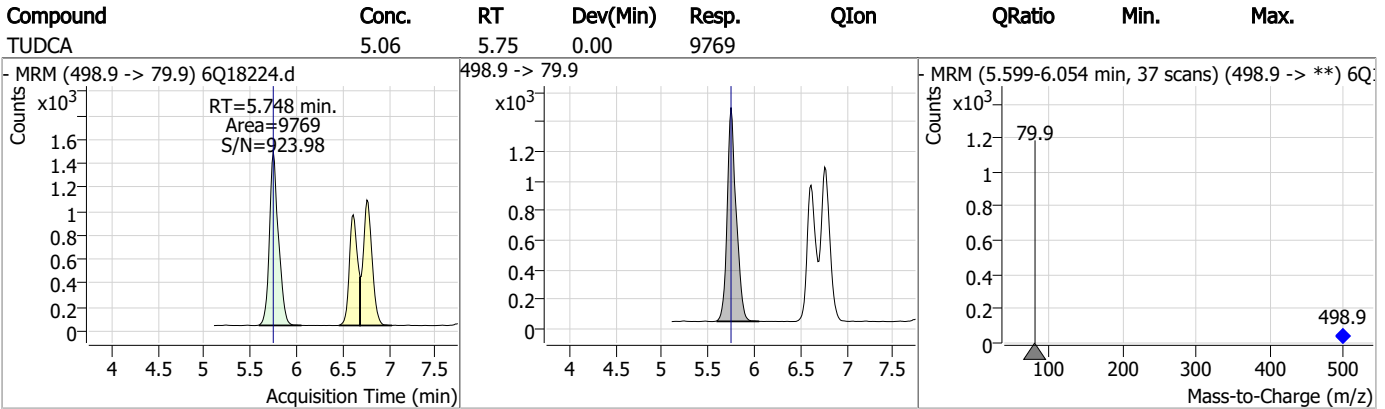
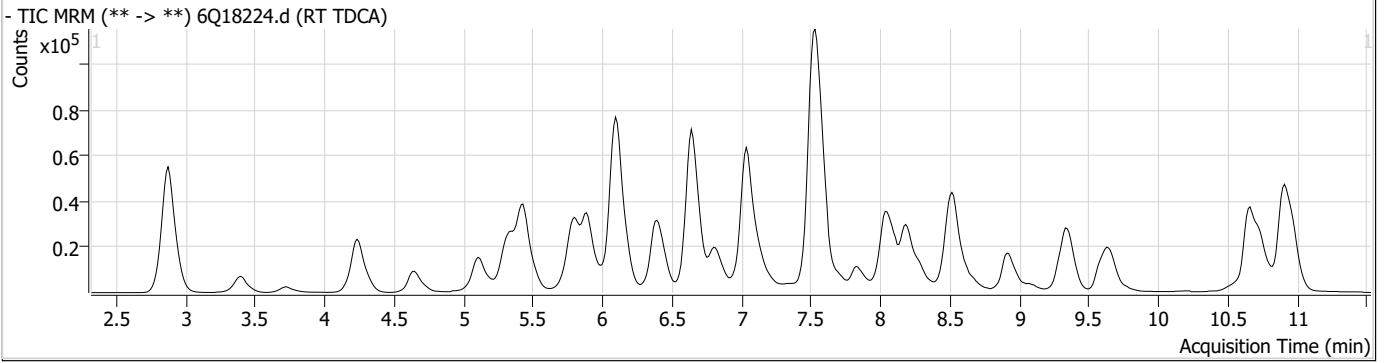
| Compound                           | RT                   | Transition                     | Response         | Conc. | Units | Dev(Min) | QValue |
|------------------------------------|----------------------|--------------------------------|------------------|-------|-------|----------|--------|
| <b>Internal Standards</b>          |                      |                                |                  |       |       |          |        |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9                  | 21769            | 2.50  | µg/L  | 0.000    |        |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9                  | 28577            | 2.50  | µg/L  | 0.000    |        |
| <b>System Monitoring Compounds</b> |                      |                                |                  |       |       |          |        |
| 13C8-PFOS                          | 8.202                | 507.1 -> 79.9                  | 21769            | 1.93  | µg/L  | 0.000    |        |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                                | Recovery = 77.3% |       |       |          |        |
| <b>Target Compounds</b>            |                      |                                |                  |       |       |          |        |
| PFOS                               | 8.203                | 498.9 -> 79.9<br>498.9 -> 98.8 | 26424<br>12843   | 3.55  | µg/L  | m        | 79     |
| TCDCa                              | 6.613                | 498.9 -> 79.9                  | 5856             | 5.83  | ng/ml |          | 100    |
| TDCA                               | 6.762                | 498.9 -> 79.9                  | 6589             | 7.24  | ng/ml |          | 100    |
| TUDCA                              | 5.748                | 498.9 -> 79.9                  | 9769             | 5.06  | ng/ml |          | 100    |

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

7.6.1  
7

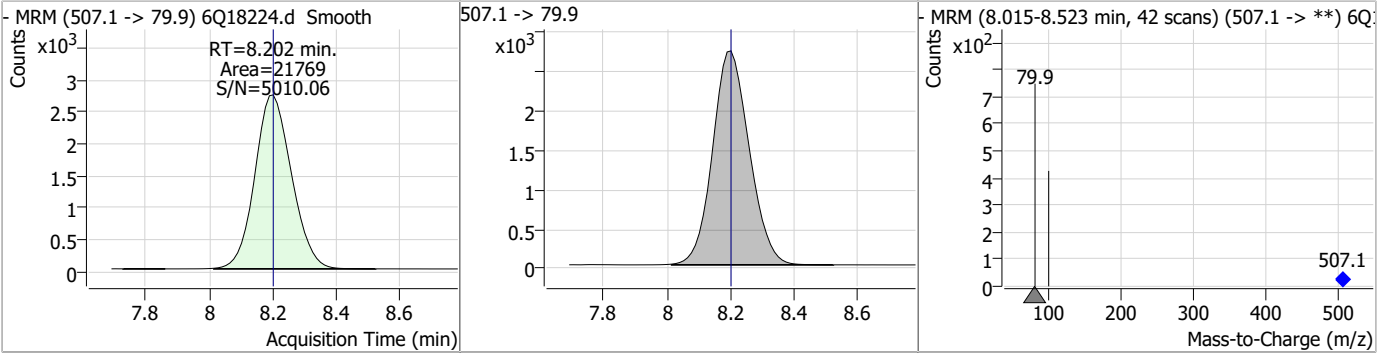


### Perfluorinated Compounds by LC/MS/MS

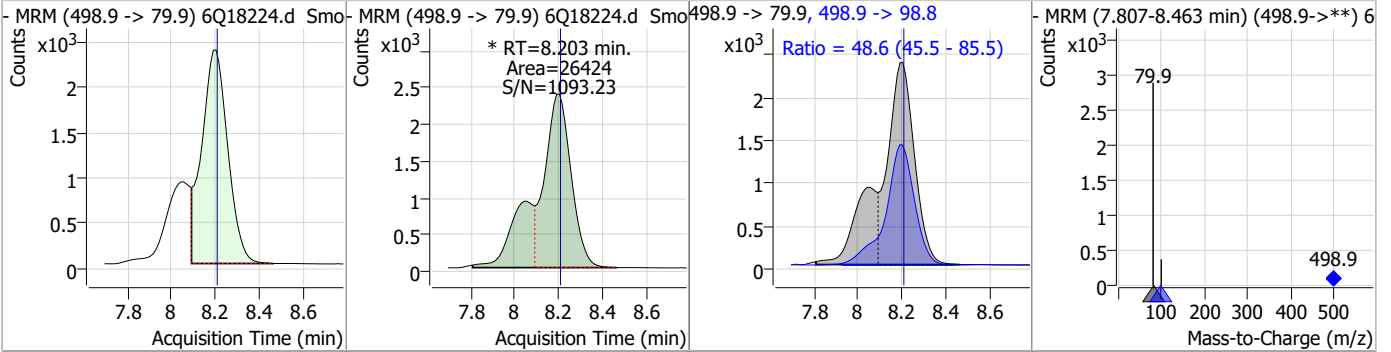


### Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-PFOS | 1.93  | 8.20 | 0.00     | 21769 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.     | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-----------|---------------|--------|------|------|
| PFOS     | 3.55  | 8.20 | 0.00     | 26424 (m) | 498.9 -> 98.8 | 48.6   | 45.5 | 85.5 |



7.6.1

7

# Manual Integration Approval Summary

Sample Number: S6Q274-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18224.D                      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 20:43                      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS       | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|-----------|------|----------------|------------|
| Perfluorooctanesulfonic acid | 1763-23-1 |      | 8.20           | Split peak |

7.6.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18225.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 8:58:26 PM  
 Sample Name : RT BR-LN  
 Vial : P1-B4  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 218555            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 71964             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 74428             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 72753             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 111532            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 46198             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 29712             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 35351             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 31386             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17436             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 37611             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 30964             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 16641             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15846             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 2887              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.825                | 429.1 -> 80.9  | 4350              | 5.00 µg/L   | 0.012    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 3948              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 29131             | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 116122            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 24649             | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 146528            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 181371            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16731             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16713             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 21241             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 91627             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 11662             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 118890            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 35862             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 52642             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 78303             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 2887              | 4.86 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 97.2%  |             |          |
| 13C2-6:2FTS                        | 6.825                | 429.1 -> 80.9  | 4350              | 5.20 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 104.0% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 3948              | 4.91 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.1%  |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 31386             | 1.20 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 96.4%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17436             | 1.28 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 102.5% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 30964             | 2.79 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 111.5% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 16641             | 2.61 µg/L   | 0.000    |

7.6.2  
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## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.5% |               |
| 13C4-PFBA               | 2.888                | 216.8 -> 171.9 | 218555   | 10.11 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 72753    | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 74428    | 2.37 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.8%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 71964    | 4.90 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 98.1%  |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 29712    | 1.34 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 107.3% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 35351    | 1.26 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 100.8% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 37611    | 2.54 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.7% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 111532   | 2.35 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.1%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 15846    | 2.40 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.1%  |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 46198    | 1.28 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 102.6% |               |
| d3-MeFOSAA              | 8.108                | 573.2 -> 419.0 | 29131    | 5.18 µg/L         | 0.012         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.5% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 116122   | 9.66 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 96.6%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16713    | 2.48 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.4%  |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0 | 24649    | 4.92 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 98.4%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 146528   | 25.41 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.6% |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 181371   | 25.85 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 103.4% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16731    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 267745   | 52.57 µg/L        | 92            |
|                         |                      | 327.1 -> 80.9  | 92782    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 226847   | 46.90 µg/L        | 99            |
|                         |                      | 427.1 -> 80.9  | 77638    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 116869   | 49.64 µg/L        | 99            |
|                         |                      | 527.1 -> 80.8  | 50885    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 45278    | 12.01 µg/L        | 99            |
|                         |                      | 584.2 -> 526.0 | 24200    |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 422295   | 28.82 µg/L        | 99            |
|                         |                      | 498.1 -> 478.0 | 11764    |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 76408    | 11.54 µg/L        | 96            |
|                         |                      | 570.1 -> 483.0 | 13231    |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 416209   | 49.05 µg/L        | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 128526   | 10.33 µg/L        | 95            |
|                         |                      | 298.7 -> 98.8  | 50652    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 422883   | 10.33 µg/L        | 94            |
|                         |                      | 512.9 -> 219.0 | 78949    |                   |               |
| PFDoDA                  | 8.925                | 613.1 -> 569.0 | 320075   | 12.71 µg/L        | 95            |
|                         |                      | 613.1 -> 319.0 | 50464    |                   |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 56292    | 12.55 µg/L        | 97            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc.  | Units | Dev(Min) |
|--------------|--------|----------------|----------|--------|-------|----------|
| PFHpA        | 6.395  | 599.0 -> 98.8  | 26221    | 12.29  | µg/L  | 97       |
|              |        | 363.1 -> 319.0 | 477719   |        |       |          |
| PFHpS        | 7.698  | 363.1 -> 169.0 | 78060    | 11.85  | µg/L  | 99       |
|              |        | 449.0 -> 79.9  | 101009   |        |       |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 50363    | 12.84  | µg/L  | 98       |
|              |        | 313.0 -> 269.0 | 372547   |        |       |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 18931    | 11.38  | µg/L  | 99       |
|              |        | 398.7 -> 79.9  | 105888   |        |       |          |
| PFNA         | 7.434  | 398.7 -> 98.9  | 49317    | 26.56  | µg/L  | 96       |
|              |        | 463.0 -> 419.0 | 981111   |        |       |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 209760   | 12.31  | µg/L  | 93       |
|              |        | 548.8 -> 79.9  | 91862    |        |       |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 48903    | 25.56  | µg/L  | 95       |
|              |        | 413.0 -> 369.0 | 1309870  |        |       |          |
| PFOS         | 8.203  | 413.0 -> 169.0 | 254856   | 11.12  | µg/L  | 96       |
|              |        | 498.9 -> 79.9  | 96391    |        |       |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 48587    | 24.37  | µg/L  | 100      |
|              |        | 263.0 -> 219.0 | 486154   |        |       |          |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 110340   | 12.42  | µg/L  | 95       |
|              |        | 349.1 -> 98.9  | 48827    |        |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 241723   | 12.40  | µg/L  | 96       |
|              |        | 713.1 -> 168.9 | 22147    |        |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 333733   | 13.41  | µg/L  | 96       |
|              |        | 663.0 -> 168.9 | 35507    |        |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 317203   | 12.19  | µg/L  | 98       |
|              |        | 563.1 -> 269.1 | 51003    |        |       |          |
| 11Cl-PF3OUdS | 9.360  | 630.9 -> 450.9 | 451157   | 23.69  | µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 141102   |        |       |          |
| 9Cl-PF3ONS   | 8.533  | 530.8 -> 351.0 | 763045   | 23.57  | µg/L  | 95       |
|              |        | 532.8 -> 353.0 | 228482   |        |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 1771946  | 24.32  | µg/L  | 96       |
|              |        | 376.9 -> 84.8  | 438520   |        |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 278925   | 24.30  | µg/L  | 92       |
|              |        | 284.9 -> 184.9 | 29303    |        |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 83632    | 59.40  | µg/L  | 95       |
|              |        | 241.0 -> 117.0 | 10561    |        |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 1624534  | 308.63 | µg/L  | 95       |
|              |        | 341.0 -> 217.0 | 1222145  |        |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 1026024  | 302.72 | µg/L  | 99       |
|              |        | 441.0 -> 336.9 | 2251545  |        |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 340130   | 40.81  | µg/L  | 97       |
|              |        | 526.0 -> 169.0 | 432013   |        |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 695889   | 78.33  | µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 298438   |        |       |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 422265   | 41.84  | µg/L  | 92       |
|              |        | 616.1 -> 58.9  | 517793   |        |       |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 23688    | 80.25  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 12851    |        |       |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 92975    | 12.03  | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 24178    |        |       |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 346746   | 25.37  | µg/L  | 98       |
|              |        | 229.0 -> 84.9  | 260190   |        |       |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 923547   | 24.63  | µg/L  | 100      |
|              |        | 314.8 -> 82.9  | 31072    |        |       |          |
| PFMPA        | 3.401  |                |          | 24.57  | µg/L  | 100      |
|              |        |                |          |        |       |          |
| PFEESA       | 5.900  |                |          | 22.84  | µg/L  | 98       |
|              |        |                |          |        |       |          |

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

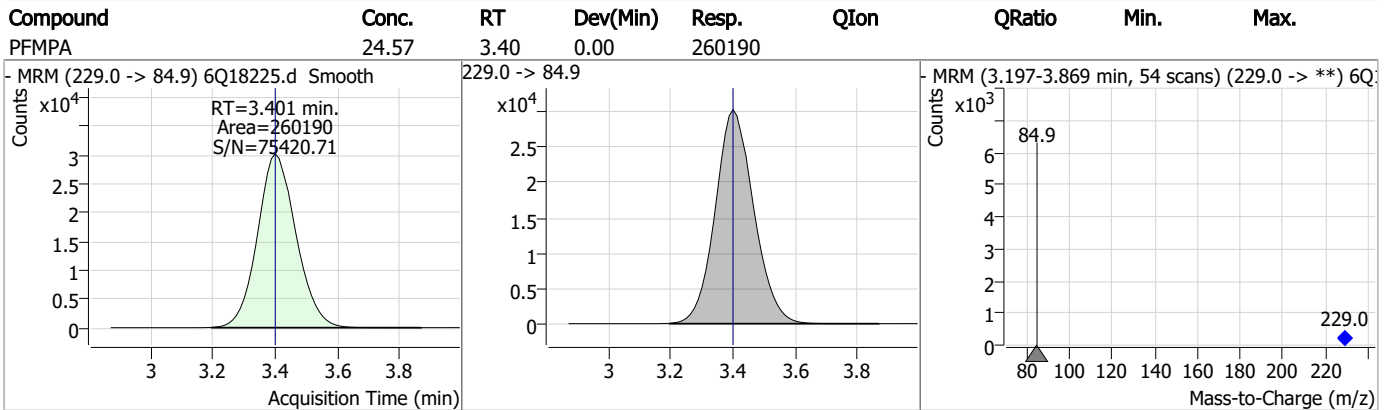
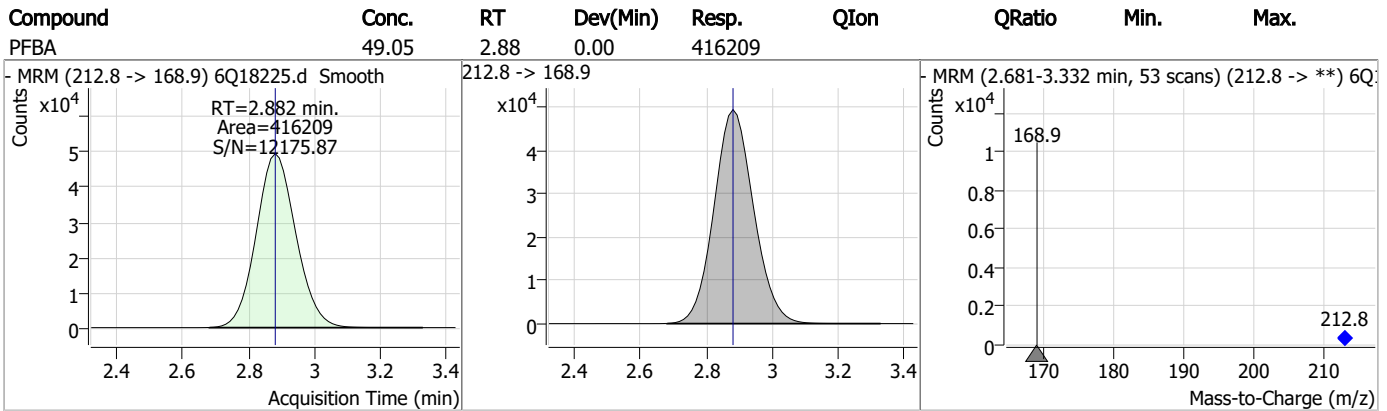
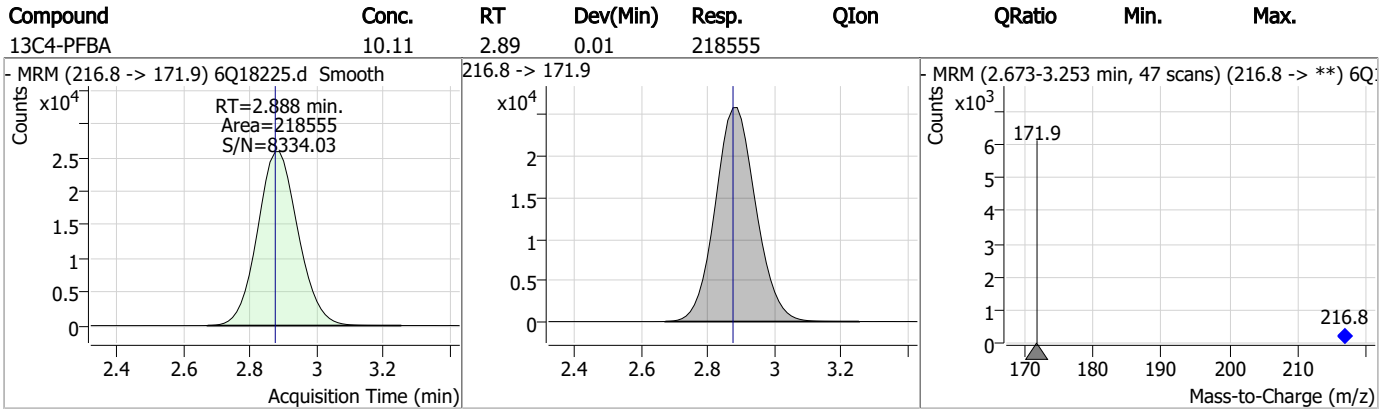
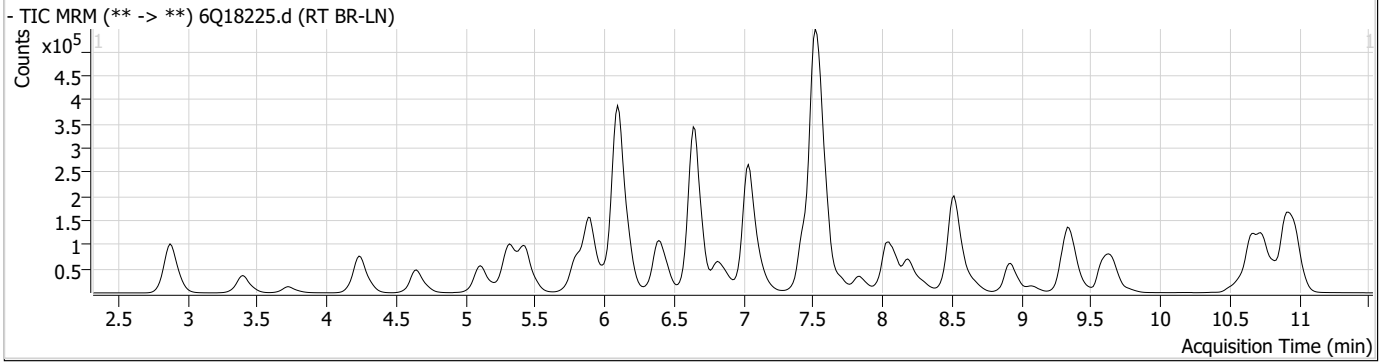
# Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

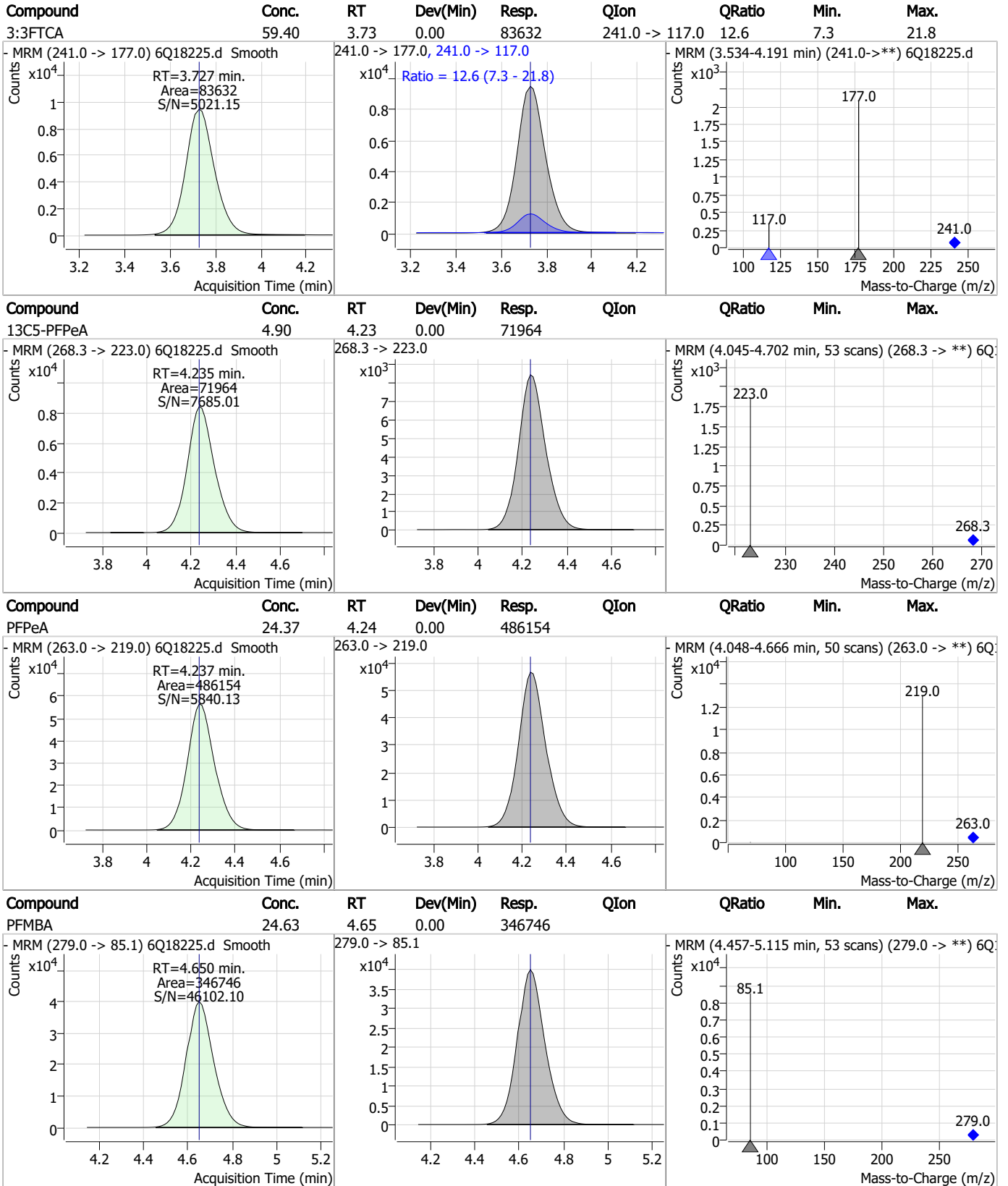
7.6.2

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# Perfluorinated Compounds by LC/MS/MS



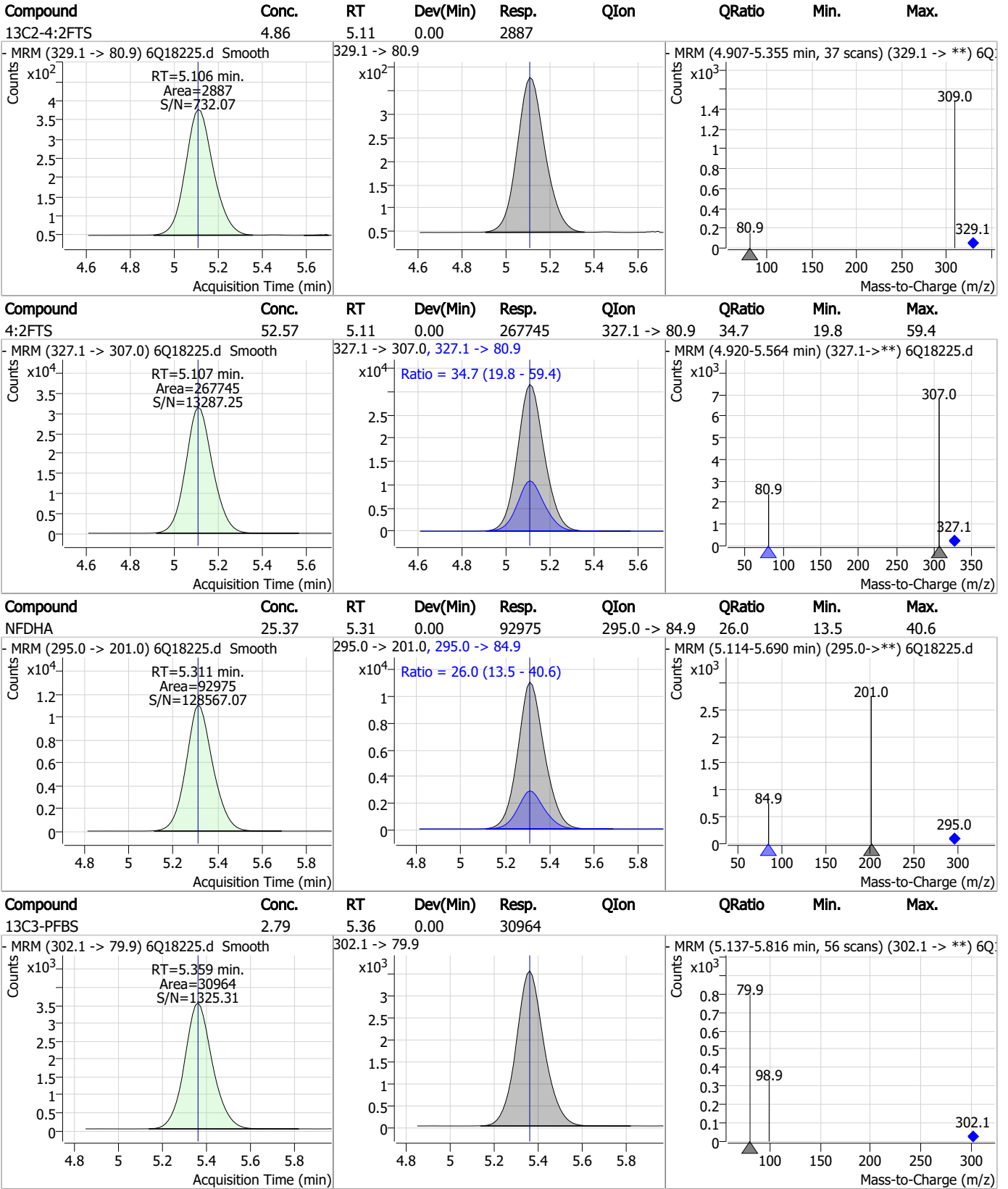
# Perfluorinated Compounds by LC/MS/MS



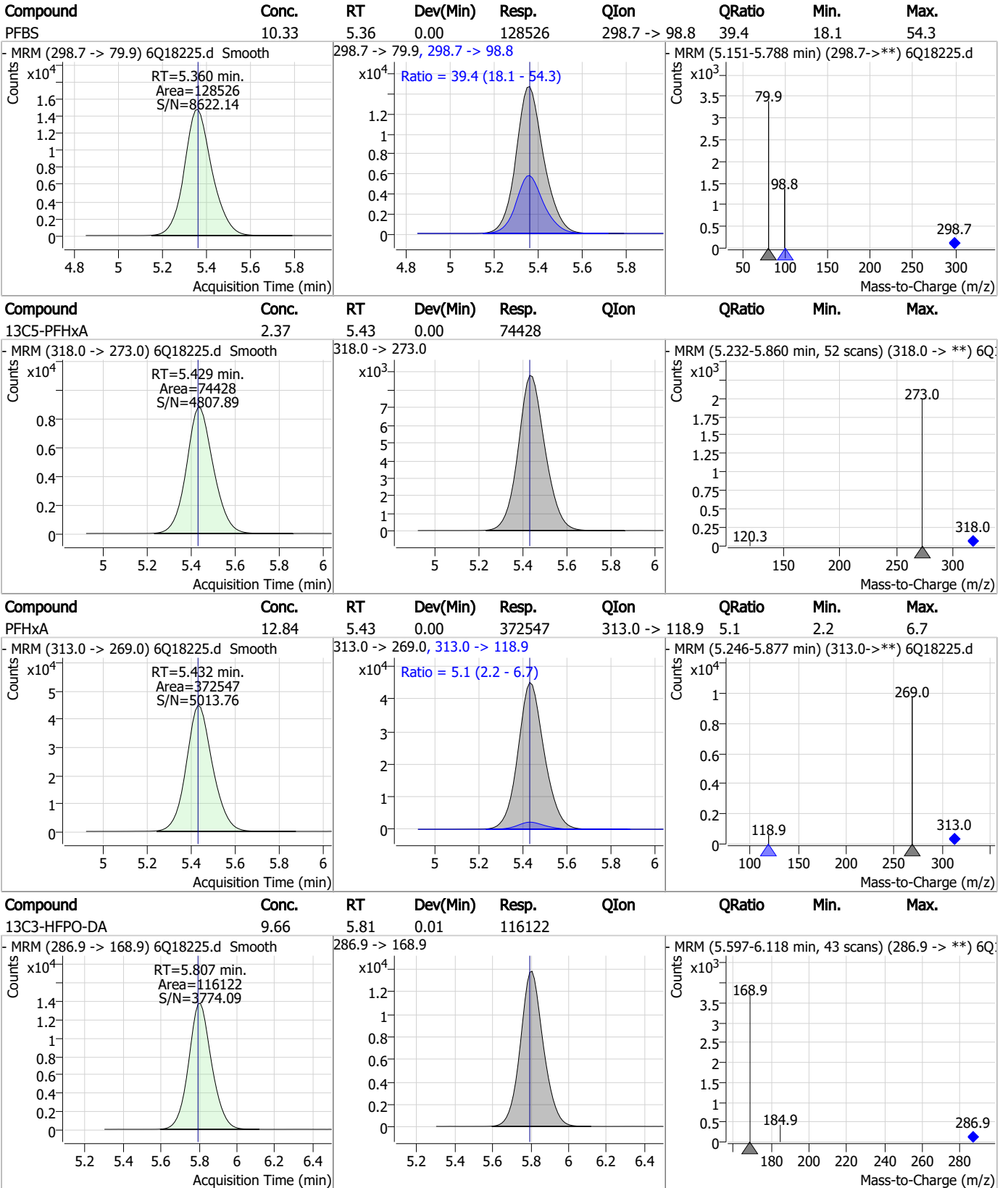
7.6.2

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# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS

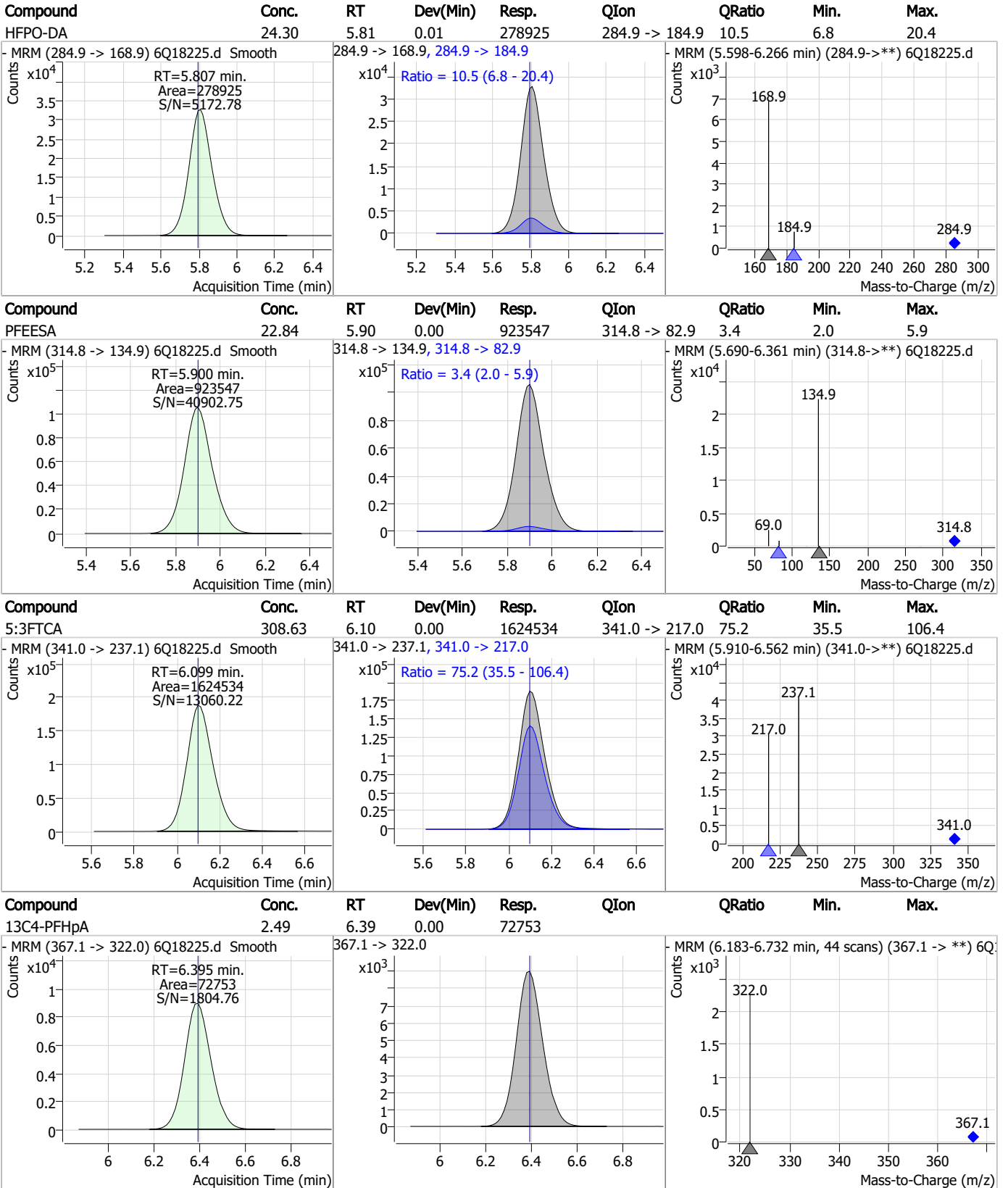


7.6.2

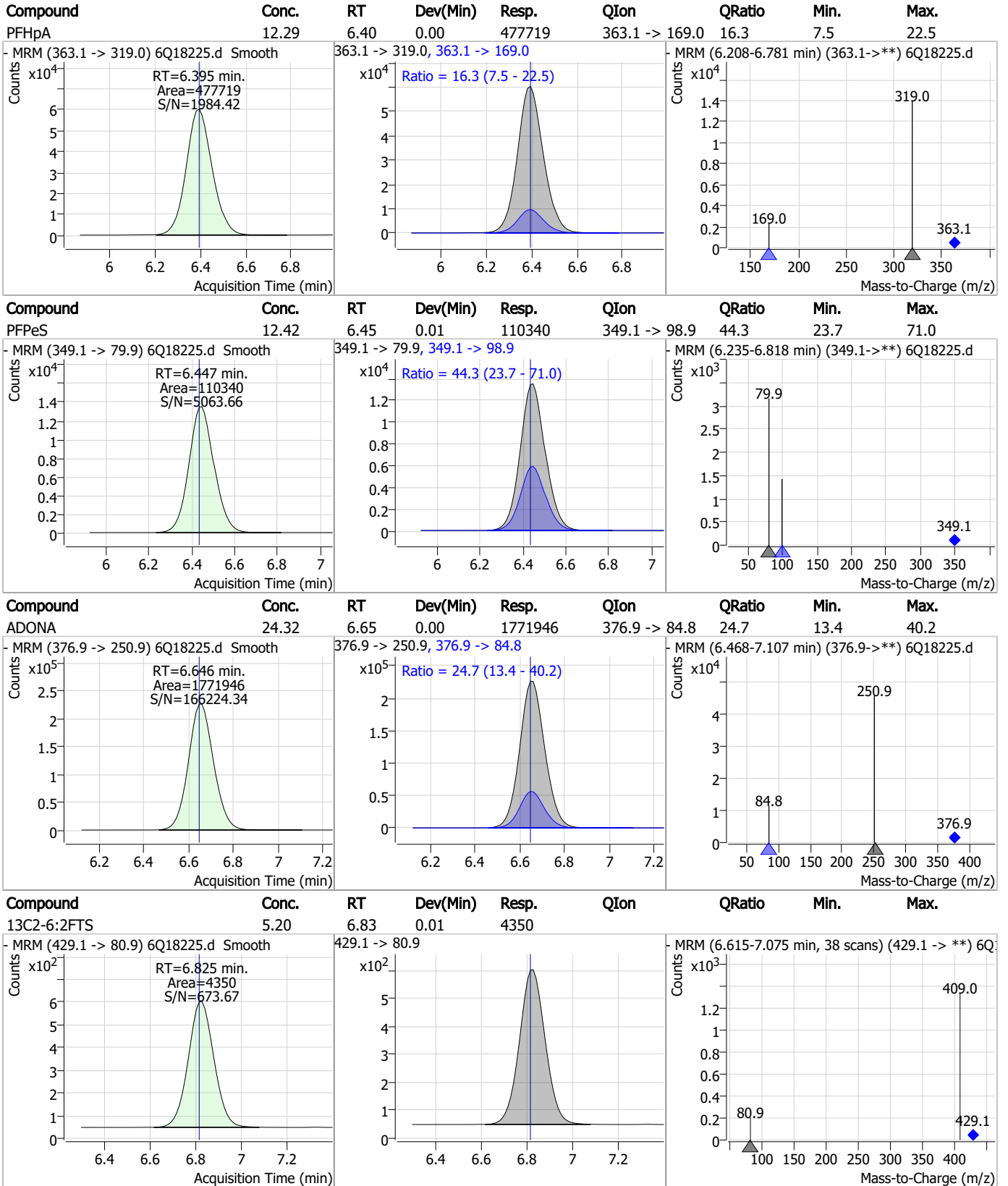
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# Perfluorinated Compounds by LC/MS/MS



# Perfluorinated Compounds by LC/MS/MS

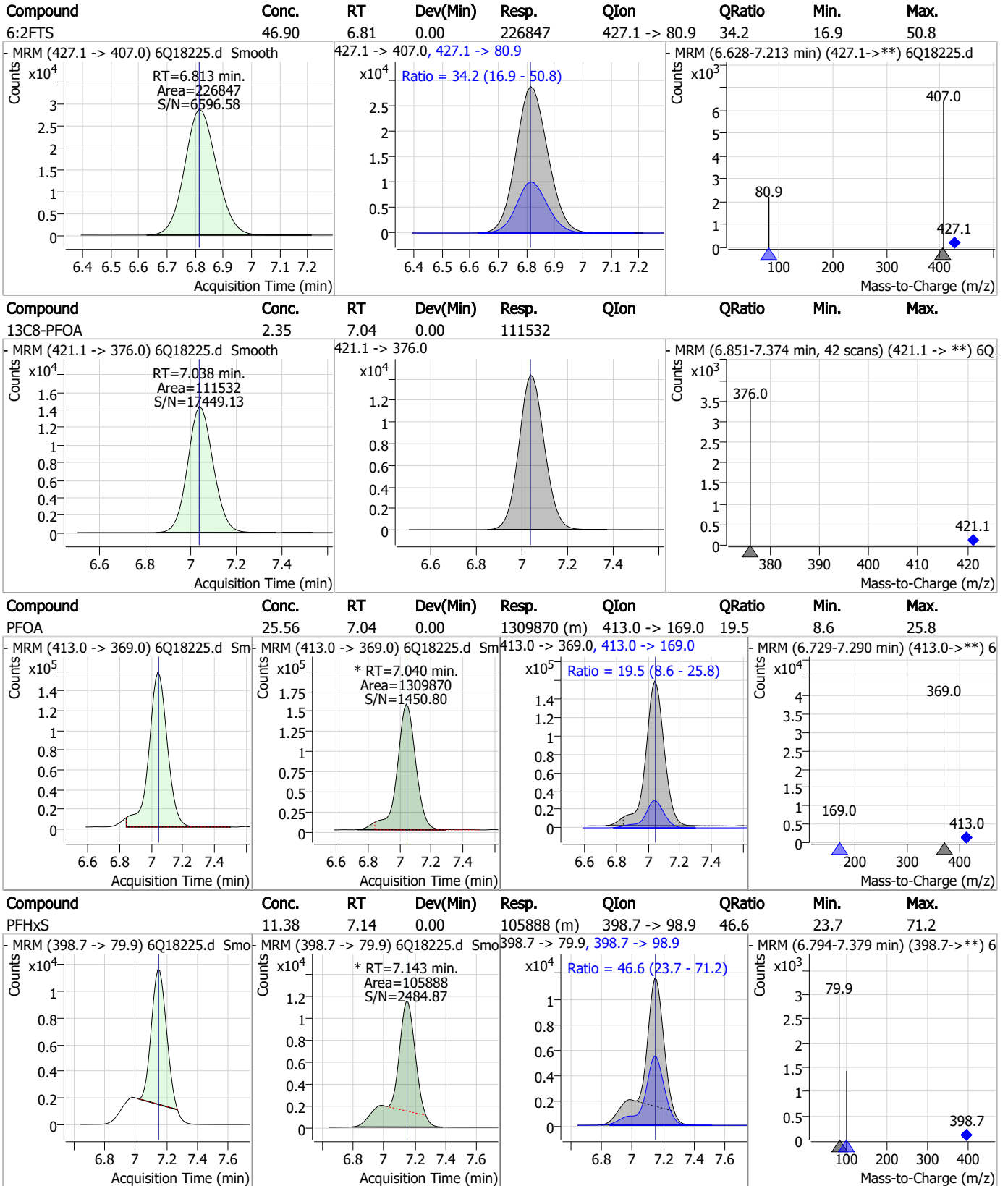


7.6.2

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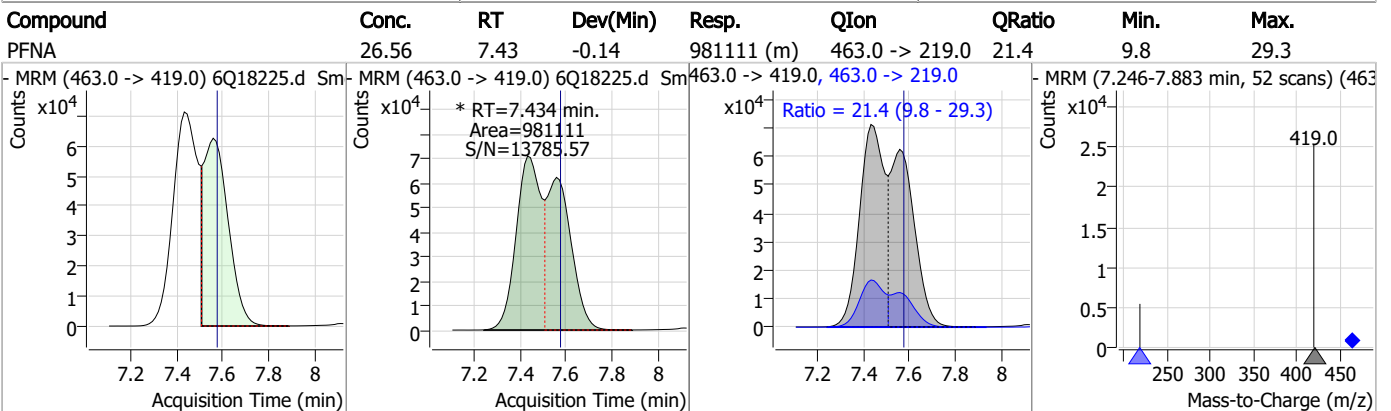
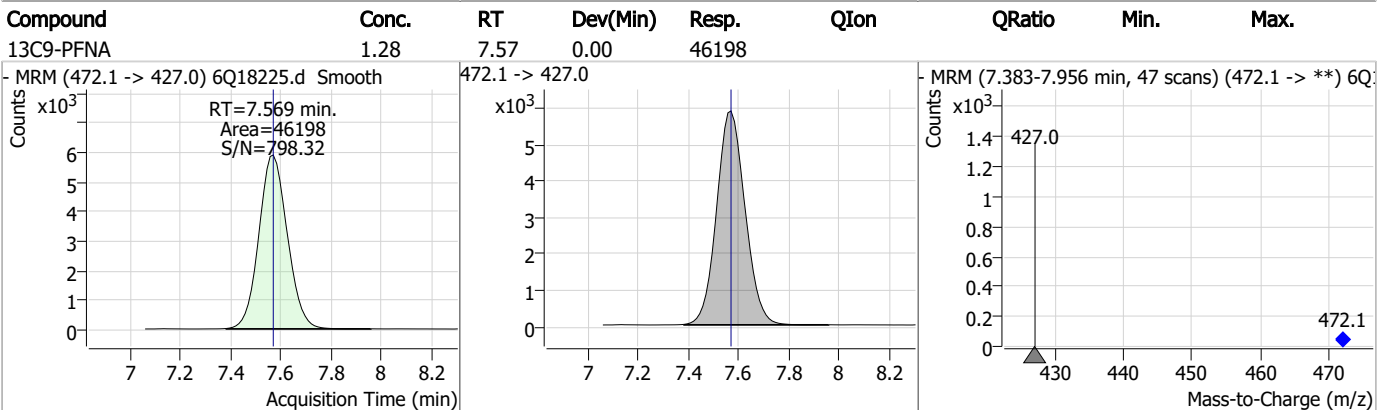
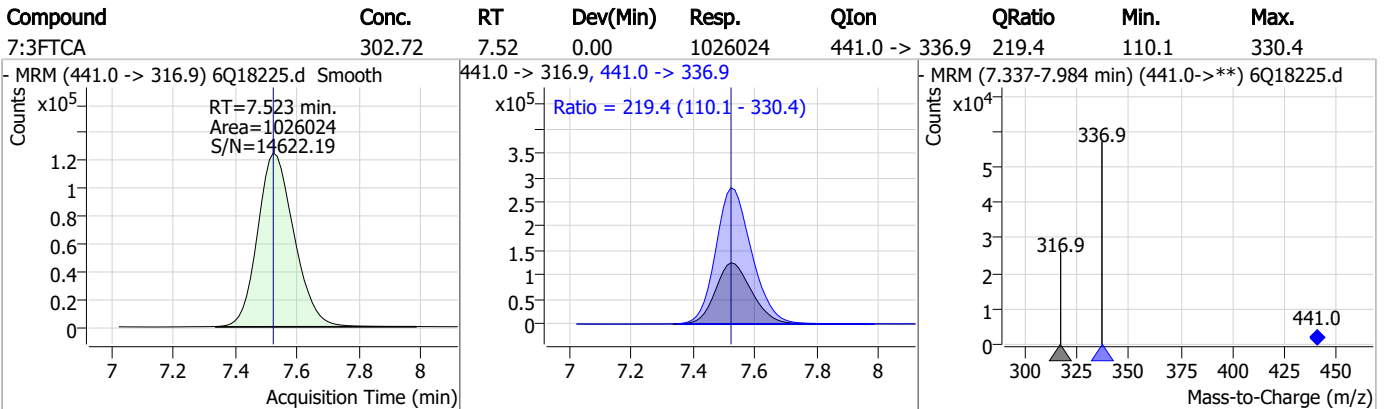
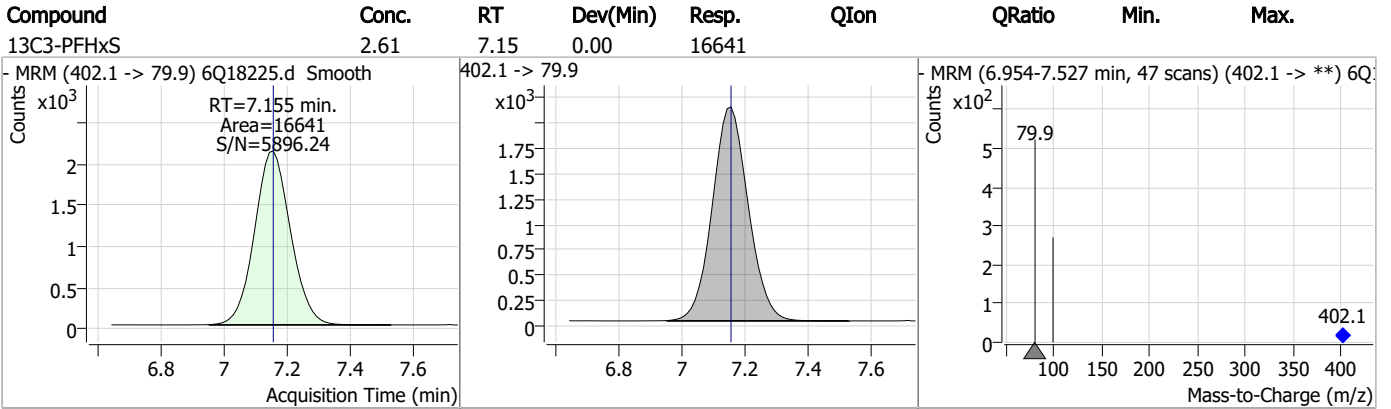
# Perfluorinated Compounds by LC/MS/MS



7.6.2

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# Perfluorinated Compounds by LC/MS/MS



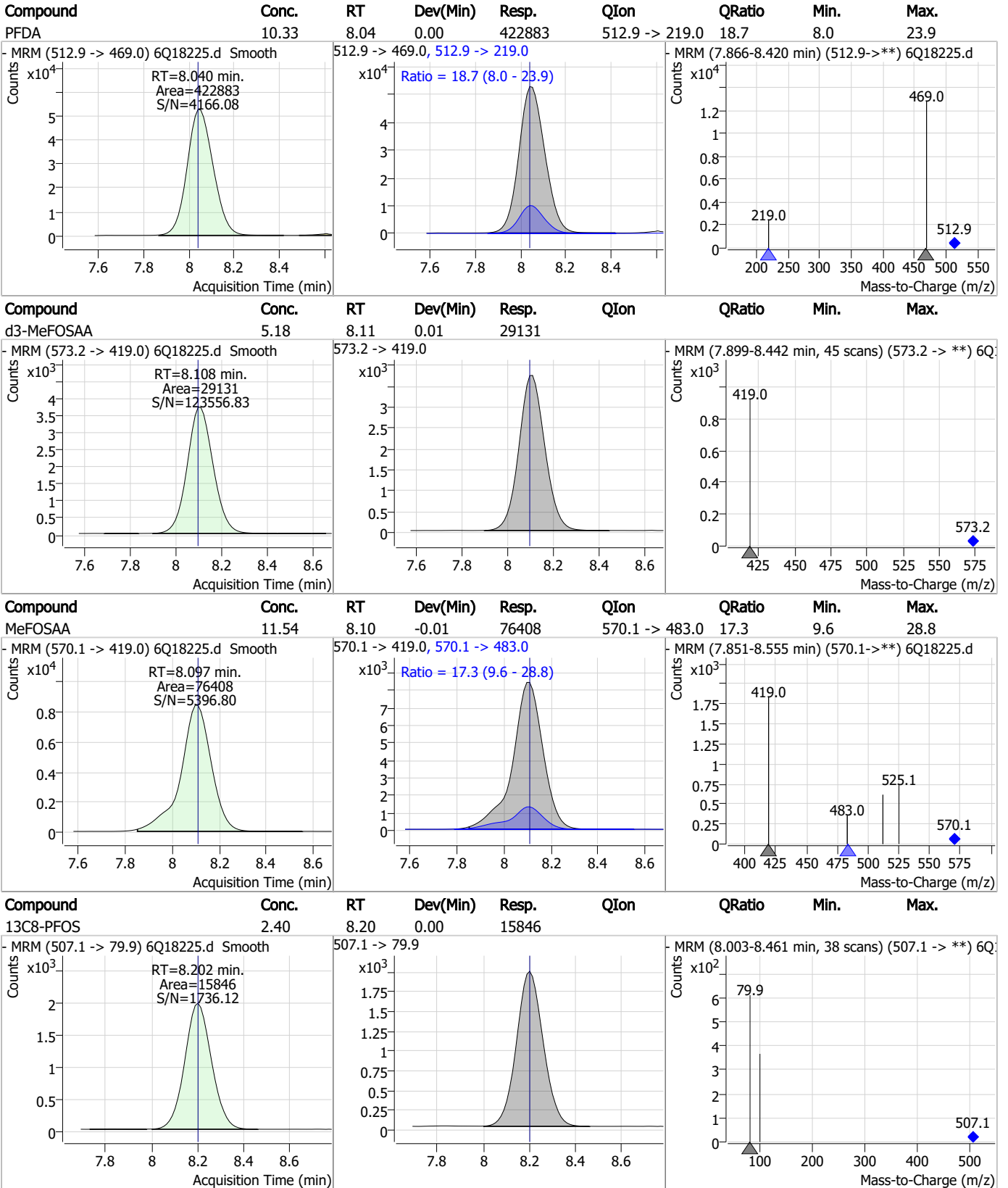
# Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|--------|----------------|--------|------|------|
| PFHpS       | 11.85 | 7.70 | 0.00     | 101009 | 449.0 -> 98.9  | 49.9   | 24.7 | 74.2 |
|             |       |      |          |        |                |        |      |      |
| 13C2-8:2FTS | 4.91  | 7.84 | 0.00     | 3948   | 529.1 -> 80.9  |        |      |      |
|             |       |      |          |        |                |        |      |      |
| 8:2FTS      | 49.64 | 7.84 | 0.00     | 116869 | 527.1 -> 80.8  | 43.5   | 21.4 | 64.1 |
|             |       |      |          |        |                |        |      |      |
| 13C6-PFDA   | 1.34  | 8.04 | 0.00     | 29712  | 519.1 -> 474.1 |        |      |      |
|             |       |      |          |        |                |        |      |      |

7.6.2

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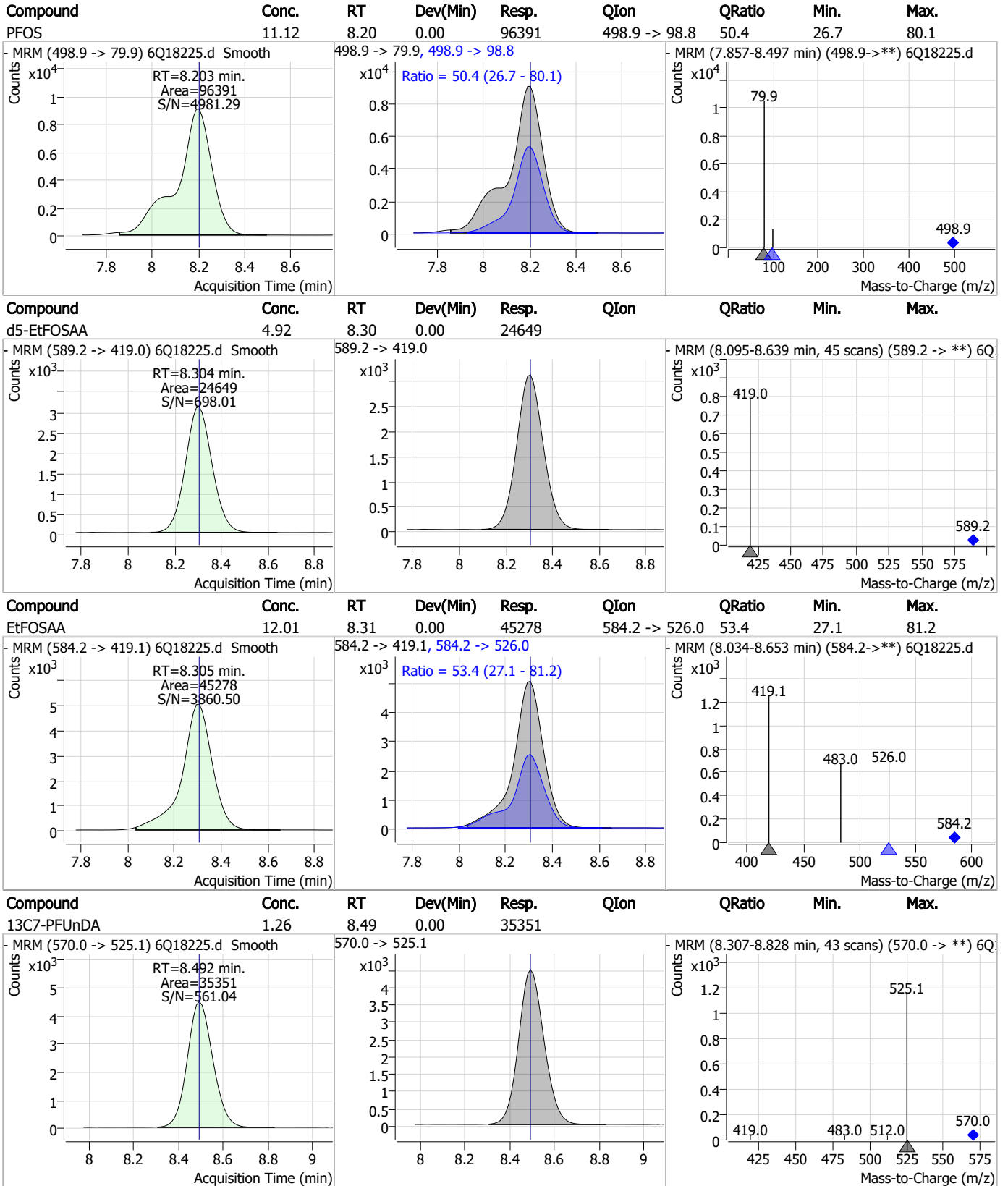
# Perfluorinated Compounds by LC/MS/MS



7.6.2

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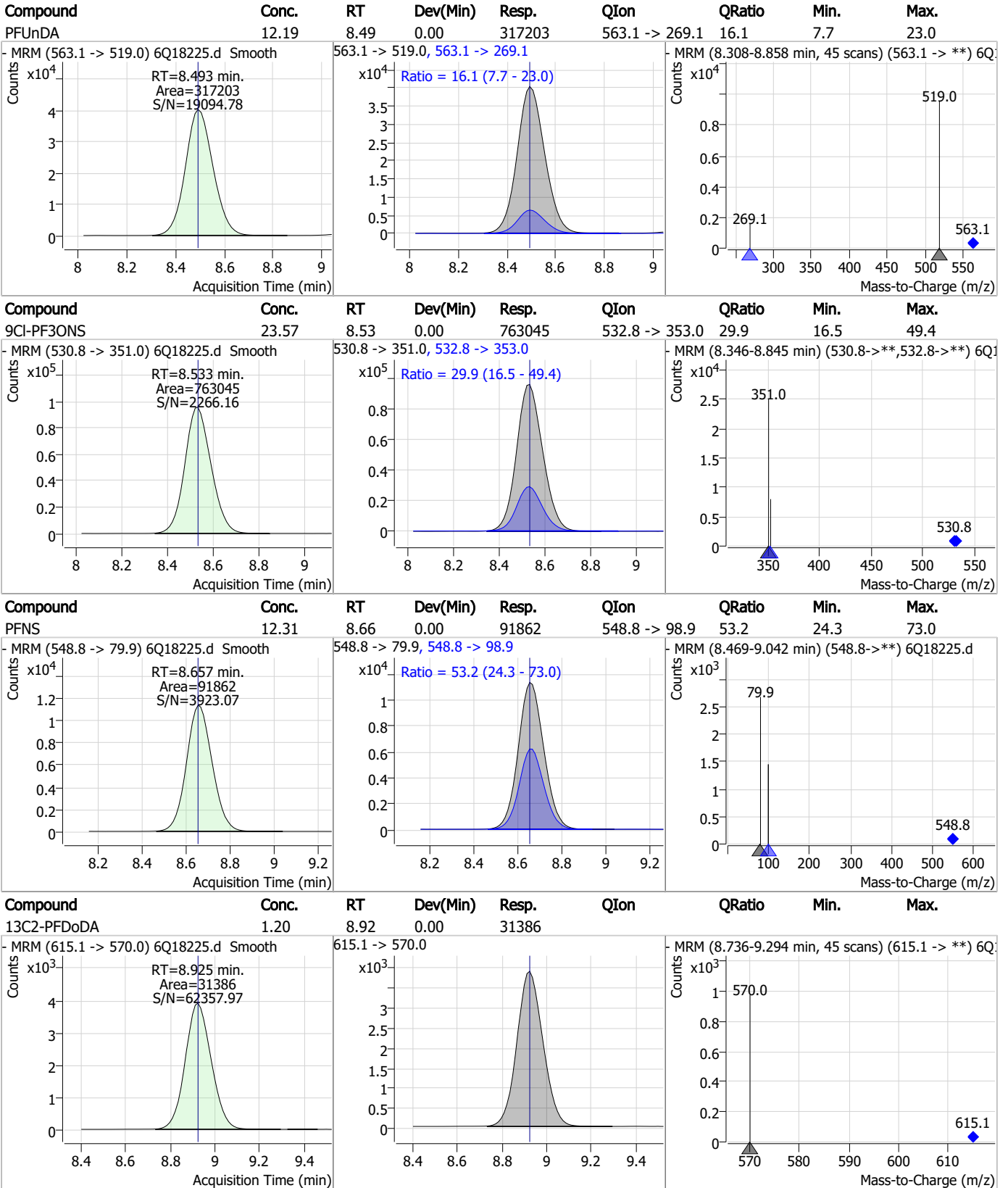
# Perfluorinated Compounds by LC/MS/MS



7.6.2

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# Perfluorinated Compounds by LC/MS/MS

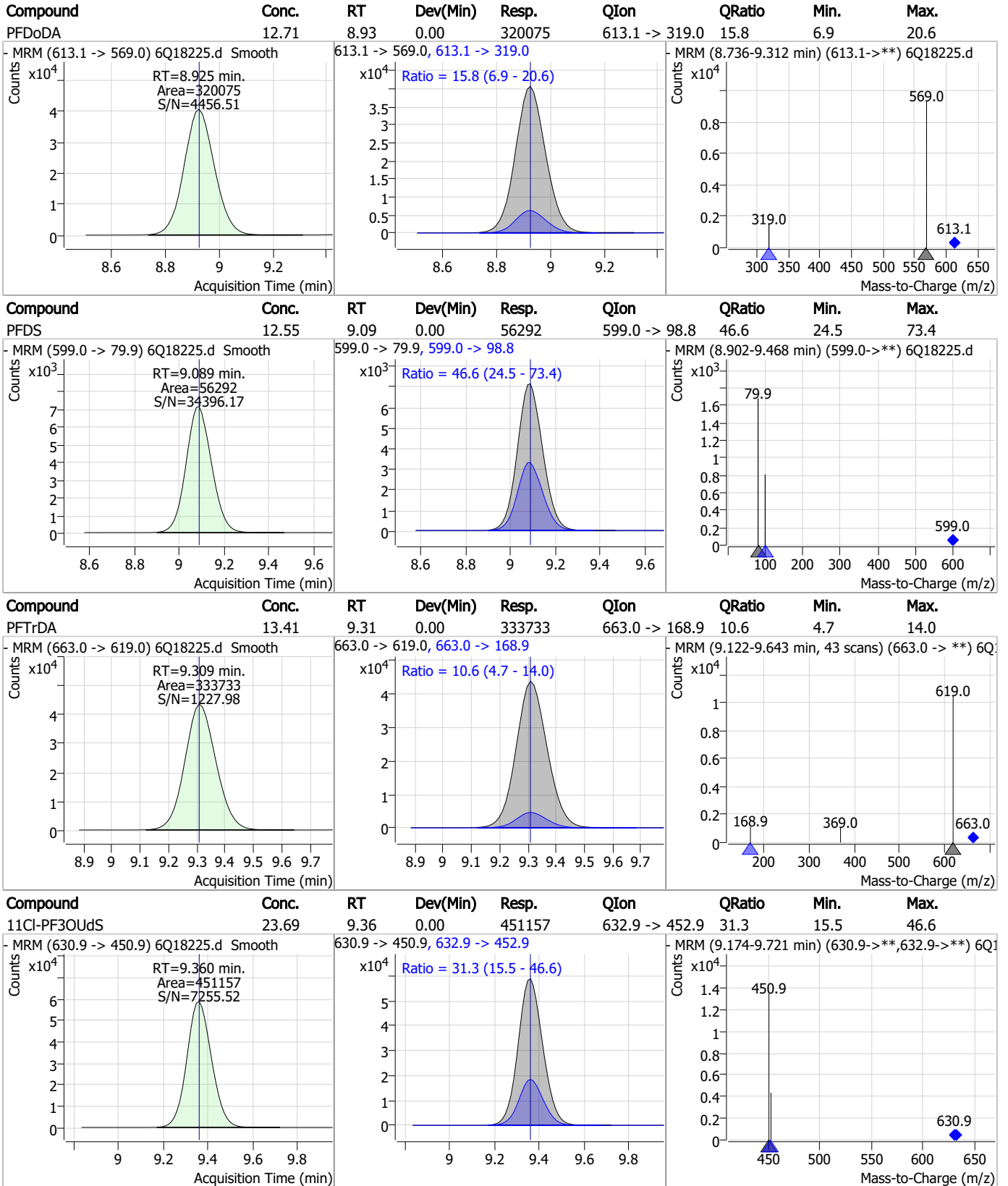


7.6.2

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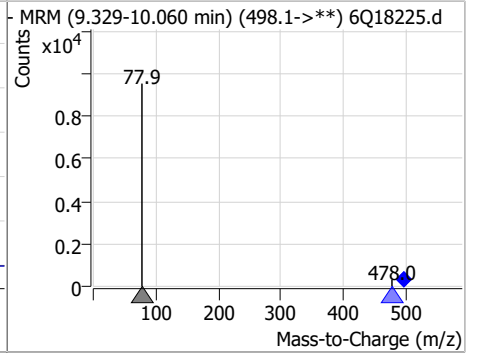
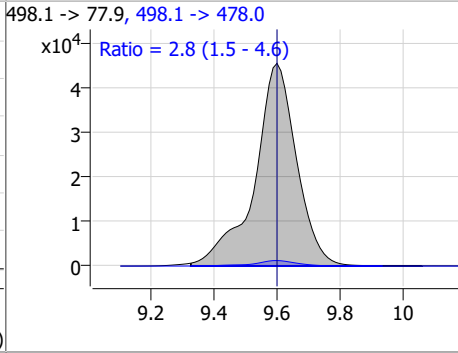
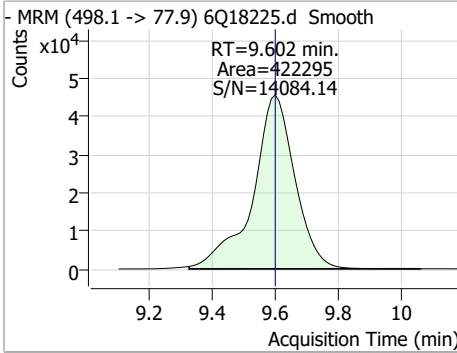


# Perfluorinated Compounds by LC/MS/MS

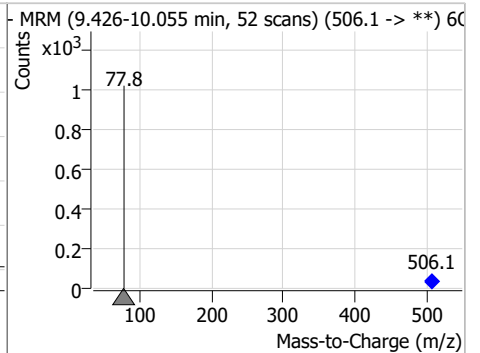
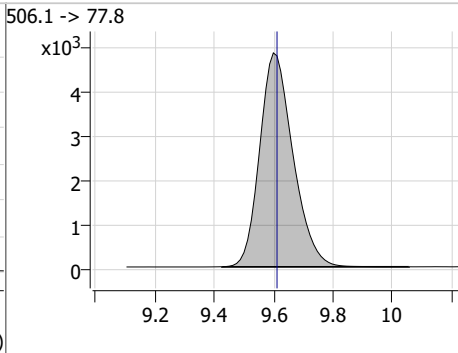
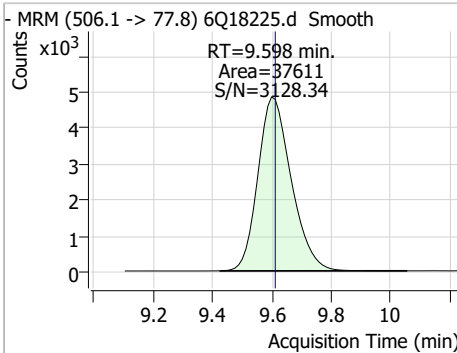


# Perfluorinated Compounds by LC/MS/MS

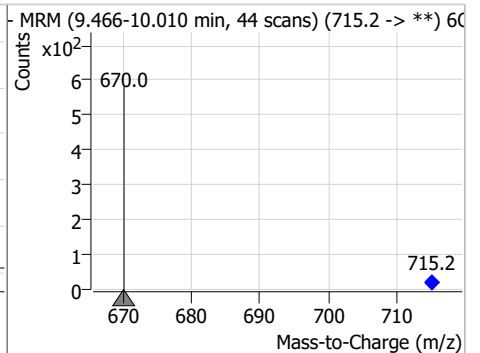
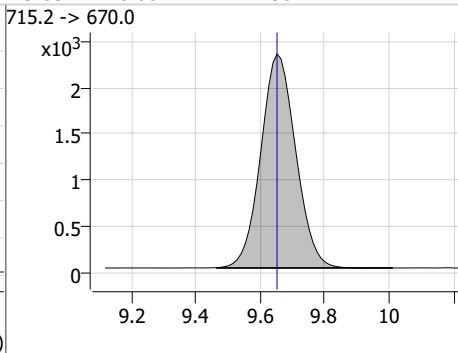
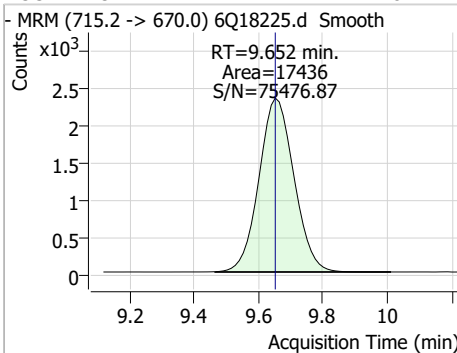
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| FOSA     | 28.82 | 9.60 | 0.00     | 422295 | 498.1 -> 478.0 | 2.8    | 1.5  | 4.6  |



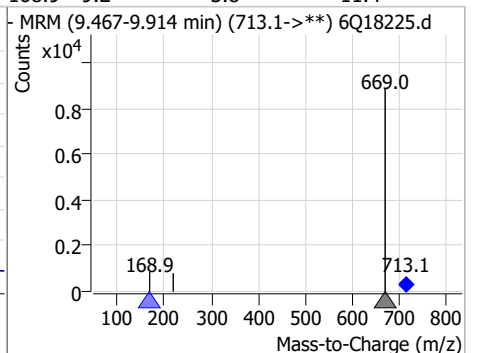
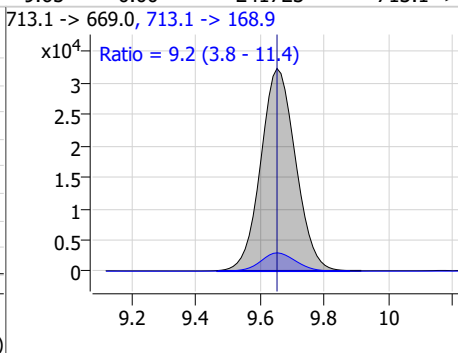
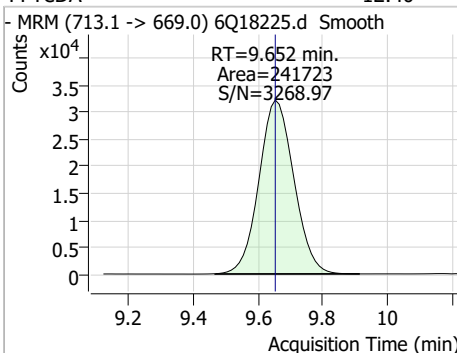
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.54  | 9.60 | -0.01    | 37611 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.28  | 9.65 | 0.00     | 17436 |      |        |      |      |



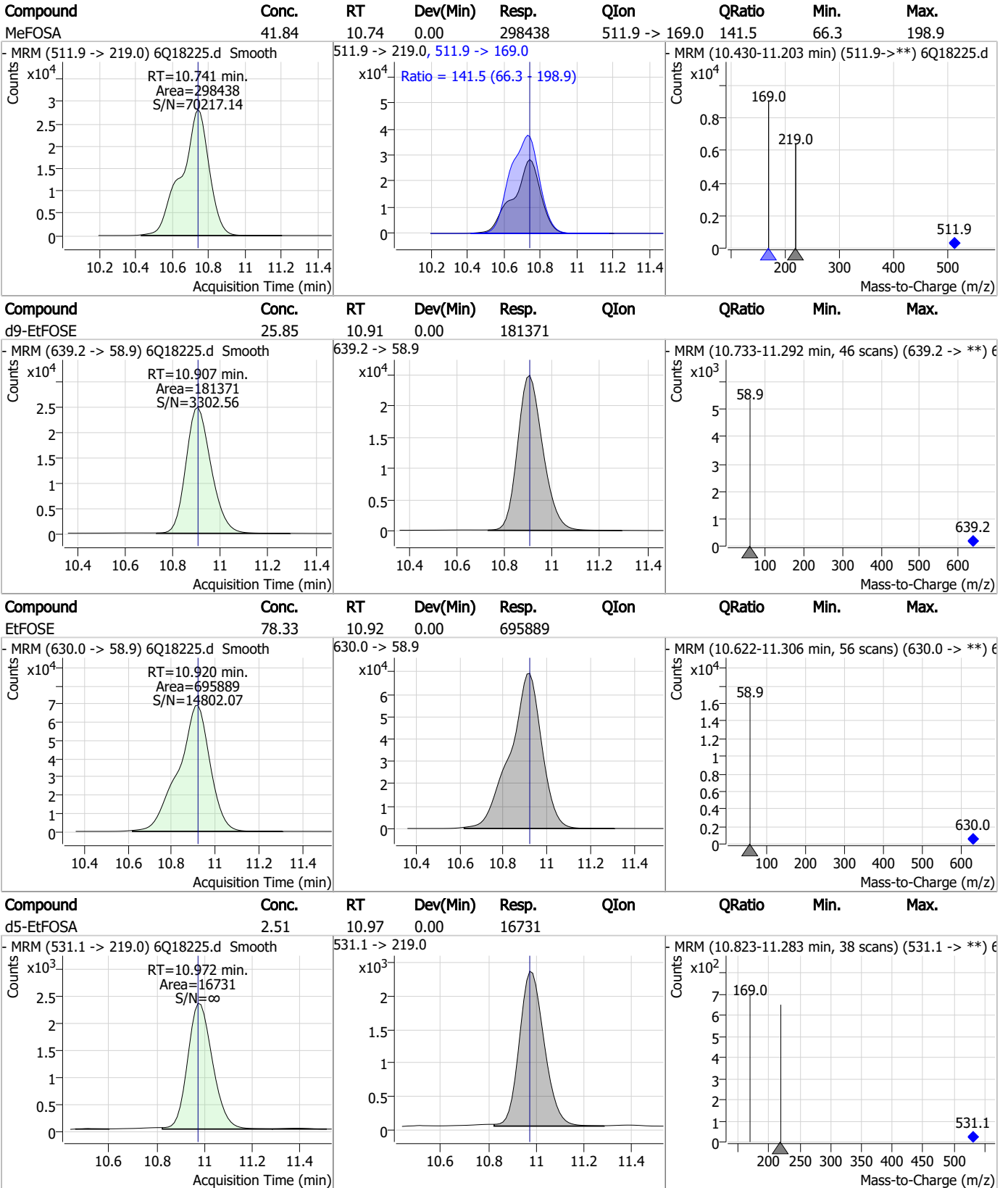
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFTeDA   | 12.40 | 9.65 | 0.00     | 241723 | 713.1 -> 168.9 | 9.2    | 3.8  | 11.4 |



# Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|----------------|--------|------|------|
| PFDoS     | 12.03 | 9.78  | 0.00     | 23688  | 699.1 -> 98.8  | 54.2   | 26.9 | 80.6 |
|           |       |       |          |        |                |        |      |      |
| d7-MeFOSE | 25.41 | 10.66 | 0.00     | 146528 | 623.2 -> 58.9  |        |      |      |
|           |       |       |          |        |                |        |      |      |
| MeFOSE    | 80.25 | 10.67 | 0.00     | 517793 | 616.1 -> 58.9  |        |      |      |
|           |       |       |          |        |                |        |      |      |
| d3-MeFOSA | 2.48  | 10.74 | 0.00     | 16713  | 515.0 -> 219.0 |        |      |      |
|           |       |       |          |        |                |        |      |      |

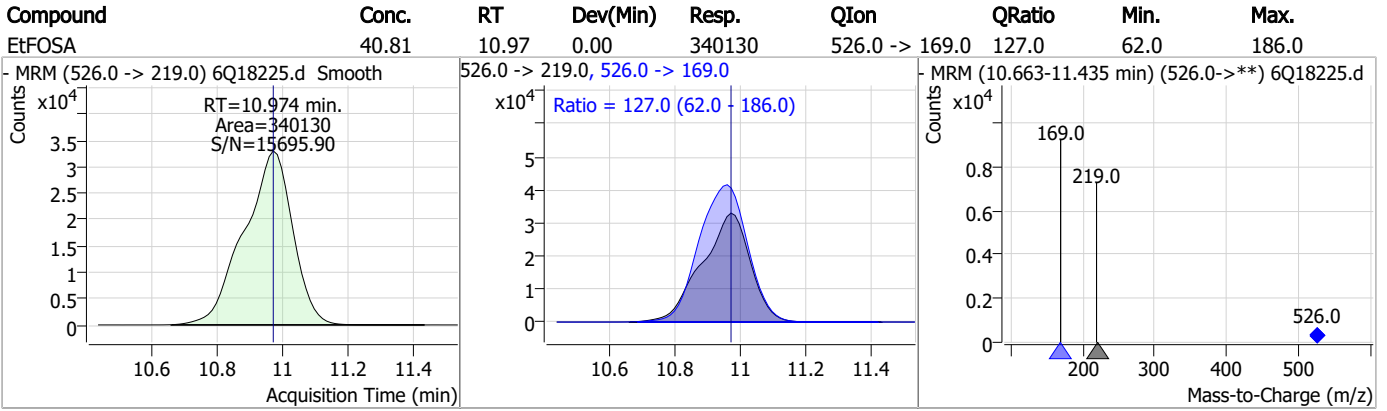
# Perfluorinated Compounds by LC/MS/MS



7.6.2

7

# Perfluorinated Compounds by LC/MS/MS



7.6.2

7

# Manual Integration Approval Summary

Sample Number: S6Q274-RT                      Method: EPA DRAFT 1633  
Lab FileID: 6Q18225.D                      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 20:58                      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS      | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|----------|------|----------------|------------|
| Perfluorooctanoic acid       | 335-67-1 |      | 7.04           | Split peak |
| Perfluorohexanesulfonic acid | 355-46-4 |      | 7.14           | Split peak |
| Perfluorononanoic acid       | 375-95-1 |      | 7.43           | Split peak |

7.6.2.1

7

## QQQ Check Tune Report



**Instrument Name** LCMS Q6  
**MS Model** G6495B  
**MS Instrument Serial** SG1752D103  
**Software\_Firmware Version** 10.1.67, FW: A.00.08.112  
**Tune Date & Time** 22 May 2023 19:41:05  
**File Path** D:\MassHunter\Tune\QQQ\G6495B\atunes.TUNE.XML  
**Ion Source** AJS ESI  
**Ionization Mode** AJS ESI  
**Tuned Resolution** All  
**Vacuum Pressure** 1.78E+0 [R] (Torr); 2.96E-5 [H] (Torr)

**Source Parameters**

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

7.7.1

7

### QQQ Check Tune Report



#### Negative Results

**Analyzer: MS1 Polarity: Negative Width: Unit**

| m/z Expected | m/z Measured | Delta | Result | FWHM Expected | FWHM Measured | Delta | Result | Abundance |
|--------------|--------------|-------|--------|---------------|---------------|-------|--------|-----------|
| 112.99       | 112.95       | -0.04 | Pass   | 0.70          | 0.66          | -0.04 | Pass   | 651968    |
| 302.00       | 301.99       | -0.01 | Pass   | 0.70          | 0.73          | 0.03  | Pass   | 1605051   |
| 601.98       | 601.94       | -0.04 | Pass   | 0.70          | 0.64          | -0.06 | Pass   | 2452925   |
| 1033.99      | 1033.90      | -0.09 | Pass   | 0.70          | 0.67          | -0.03 | Pass   | 1607696   |
| 1633.95      | 1633.80      | -0.15 | Pass   | 0.70          | 0.70          | 0.00  | Pass   | 1290512   |
| 2233.91      | 2233.59      | -0.32 | Adjust | 0.70          | 0.74          | 0.04  | Pass   | 568230    |

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

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

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

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

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

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

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

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

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

| m/z Expected | m/z Measured | Delta | Result | FWHM Expected | FWHM Measured | Delta | Result | Abundance |
|--------------|--------------|-------|--------|---------------|---------------|-------|--------|-----------|
| 69.00        | 68.94        | -0.06 | Pass   | 2.50          | 2.53          | 0.03  | Pass   | 288761    |
| 112.99       | 112.94       | -0.05 | Pass   | 2.50          | 2.58          | 0.08  | Pass   | 1199729   |
| 302.00       | 301.95       | -0.05 | Pass   | 2.50          | 2.61          | 0.11  | Pass   | 2954274   |
| 601.98       | 601.88       | -0.10 | Pass   | 2.50          | 2.67          | 0.17  | Pass   | 4851762   |
| 1033.99      | 1033.94      | -0.05 | Pass   | 2.50          | 2.64          | 0.14  | Pass   | 4313099   |
| 1633.95      | 1633.67      | -0.28 | Pass   | 2.50          | 2.47          | -0.03 | Pass   | 4825198   |
| 2233.91      | 2233.71      | -0.20 | Pass   | 2.50          | 2.31          | -0.19 | Pass   | 3730702   |

7.7.1  
7



### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18227.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 9:27:24 PM  
 Sample Name : ic274-1  
 Vial : P1-A2  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.888                | 216.8 -> 171.9 | 238449            | 10.00 µg/L  | 0.012    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 77714             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 78543             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 76612             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.051                | 421.1 -> 376.0 | 124377            | 2.50 µg/L   | 0.012    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 47516             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.051                | 519.1 -> 474.1 | 29782             | 1.25 µg/L   | 0.012    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 37236             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 34202             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17831             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 39368             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 32702             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 17507             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 17510             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3493              | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.825                | 429.1 -> 80.9  | 5044              | 5.00 µg/L   | 0.012    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4738              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 29790             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 125957            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 26698             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 168523            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 200974            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 18082             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17974             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 23853             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 100738            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13650             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.051                | 417.1 -> 372.0 | 126395            | 2.50 µg/L   | 0.012    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 36730             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 58558             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 83298             | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3493              | 5.03 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.5% |             |          |
| 13C2-6:2FTS                        | 6.825                | 429.1 -> 80.9  | 5044              | 5.15 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 103.0% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4738              | 5.03 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.6% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 34202             | 1.28 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 102.5% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17831             | 1.28 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 102.3% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 32702             | 2.51 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 100.6% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 17507             | 2.35 µg/L   | 0.000    |

7.7.2  
7

### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 93.9%  |               |
| 13C4-PFBA               | 2.888                | 216.8 -> 171.9 | 238449   | 10.04 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 76612    | 2.47 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.7%  |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 78543    | 2.35 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.0%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 77714    | 4.98 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.6%  |               |
| 13C6-PFDA               | 8.051                | 519.1 -> 474.1 | 29782    | 1.31 µg/L         | 0.012         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 105.0% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 37236    | 1.30 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 103.6% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 39368    | 2.37 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.8%  |               |
| 13C8-PFOA               | 7.051                | 421.1 -> 376.0 | 124377   | 2.47 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.7%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 17510    | 2.36 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.6%  |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 47516    | 1.19 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 94.9%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 29790    | 4.71 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 94.3%  |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 125957   | 9.85 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.5%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17974    | 2.38 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 95.2%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 26698    | 4.75 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 94.9%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 168523   | 26.02 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 104.1% |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 200974   | 25.50 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 102.0% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 18082    | 2.42 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.6%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.119                | 327.1 -> 307.0 | 4713     | 0.76 µg/L         | 90            |
|                         |                      | 327.1 -> 80.9  | 1564     |                   |               |
| 6:2FTS                  | 6.826                | 427.1 -> 407.0 | 3932     | 0.70 µg/L         | 97            |
|                         |                      | 427.1 -> 80.9  | 1405     |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 2119     | 0.75 µg/L         | 97            |
|                         |                      | 527.1 -> 80.8  | 941      |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 798      | 0.20 µg/L         | m 89          |
|                         |                      | 584.2 -> 526.0 | 372      |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 2923     | 0.19 µg/L         | 98            |
|                         |                      | 498.1 -> 478.0 | 71       |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 1313     | 0.19 µg/L         | 100           |
|                         |                      | 570.1 -> 483.0 | 251      |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 6896     | 0.74 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 2122     | 0.16 µg/L         | 89            |
|                         |                      | 298.7 -> 98.8  | 908      |                   |               |
| PFDA                    | 8.052                | 512.9 -> 469.0 | 8364     | 0.20 µg/L         | 99            |
|                         |                      | 512.9 -> 219.0 | 1294     |                   |               |
| PFDODA                  | 8.925                | 613.1 -> 569.0 | 6042     | 0.22 µg/L         | 99            |
|                         |                      | 613.1 -> 319.0 | 862      |                   |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 913      | 0.18 µg/L         | 99            |

7.7.2  
7

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
| PFHpA        | 6.396  | 599.0 -> 98.8  | 454      | 0.19  | µg/L  | 96       |
|              |        | 363.1 -> 319.0 | 7953     |       |       |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 1311     | 0.18  | µg/L  | 95       |
|              |        | 449.0 -> 79.9  | 1707     |       |       |          |
| PFHxA        | 5.444  | 449.0 -> 98.9  | 780      | 0.21  | µg/L  | 100      |
|              |        | 313.0 -> 269.0 | 6522     |       |       |          |
| PFHxS        | 7.156  | 313.0 -> 118.9 | 304      | 0.20  | µg/L  | m        |
|              |        | 398.7 -> 79.9  | 1917     |       |       |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 905      | 0.20  | µg/L  | 98       |
|              |        | 463.0 -> 419.0 | 7594     |       |       |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 1410     | 0.18  | µg/L  | 86       |
|              |        | 548.8 -> 79.9  | 1499     |       |       |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 875      | 0.24  | µg/L  | m        |
|              |        | 413.0 -> 369.0 | 13913    |       |       |          |
| PFOS         | 8.203  | 413.0 -> 169.0 | 2083     | 0.19  | µg/L  | 94       |
|              |        | 498.9 -> 79.9  | 1831     |       |       |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 895      | 0.38  | µg/L  | 100      |
|              |        | 263.0 -> 219.0 | 8273     |       |       |          |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 1757     | 0.19  | µg/L  | 93       |
|              |        | 349.1 -> 98.9  | 916      |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 3798     | 0.19  | µg/L  | 92       |
|              |        | 713.1 -> 168.9 | 393      |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 5413     | 0.20  | µg/L  | m        |
|              |        | 663.0 -> 168.9 | 615      |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 4986     | 0.18  | µg/L  | 99       |
|              |        | 563.1 -> 269.1 | 784      |       |       |          |
| 11Cl-PF3OUdS | 9.360  | 630.9 -> 450.9 | 7823     | 0.38  | µg/L  | 97       |
|              |        | 632.9 -> 452.9 | 2560     |       |       |          |
| 9Cl-PF3ONS   | 8.533  | 530.8 -> 351.0 | 12269    | 0.35  | µg/L  | 97       |
|              |        | 532.8 -> 353.0 | 3800     |       |       |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 28598    | 0.36  | µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 7720     |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 4839     | 0.39  | µg/L  | 92       |
|              |        | 284.9 -> 184.9 | 494      |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 1396     | 0.92  | µg/L  | 99       |
|              |        | 241.0 -> 117.0 | 208      |       |       |          |
| 5:3FTCA      | 6.111  | 341.0 -> 237.1 | 29451    | 5.30  | µg/L  | 90       |
|              |        | 341.0 -> 217.0 | 23212    |       |       |          |
| 7:3FTCA      | 7.535  | 441.0 -> 316.9 | 18646    | 5.21  | µg/L  | 92       |
|              |        | 441.0 -> 336.9 | 38549    |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 3455     | 0.38  | µg/L  | 95       |
|              |        | 526.0 -> 169.0 | 4461     |       |       |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 9597     | 0.97  | µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 2929     |       |       |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 4178     | 0.38  | µg/L  | 92       |
|              |        | 616.1 -> 58.9  | 7026     |       |       |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 420      | 0.95  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 230      |       |       |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 1557     | 0.40  | µg/L  | 100      |
|              |        | 295.0 -> 84.9  | 419      |       |       |          |
| NFDHA        | 5.324  | 279.0 -> 85.1  | 5796     | 0.38  | µg/L  | 100      |
|              |        | 229.0 -> 84.9  | 4263     |       |       |          |
| PFMBA        | 3.401  | 314.8 -> 134.9 | 15378    | 0.37  | µg/L  | 100      |
|              |        | 314.8 -> 82.9  | 534      |       |       |          |
| PFEESA       | 5.900  |                |          | 0.36  | µg/L  | 99       |
|              |        |                |          |       |       |          |

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

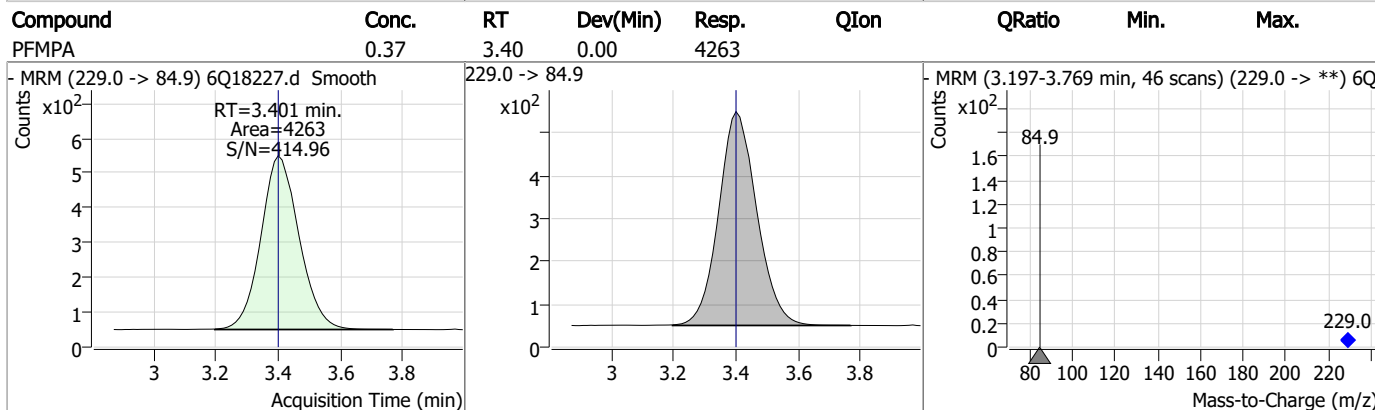
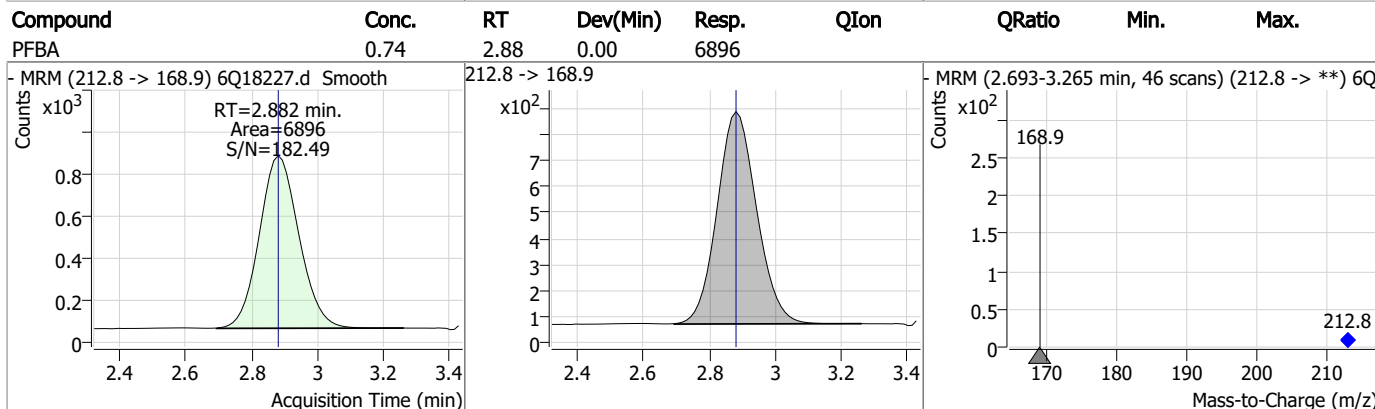
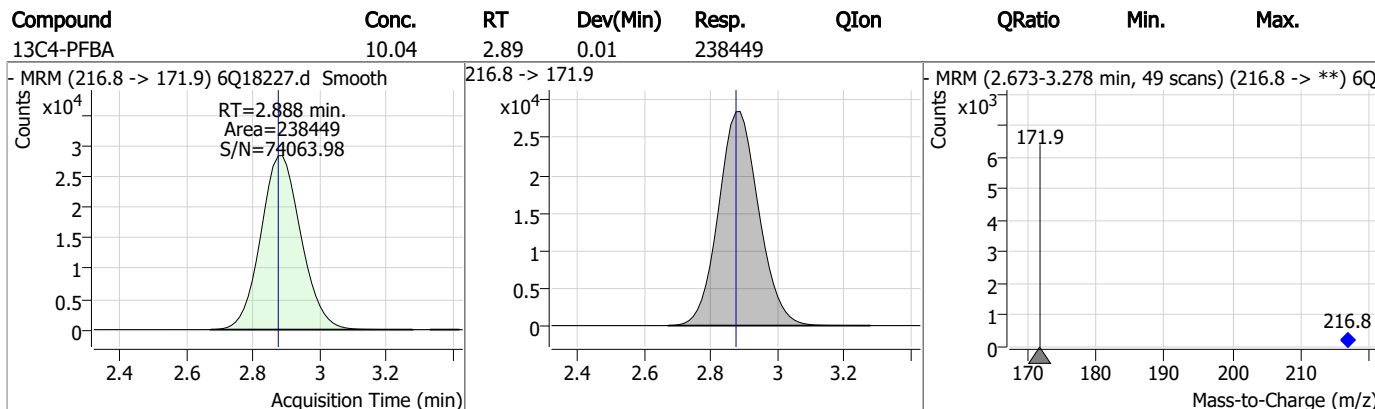
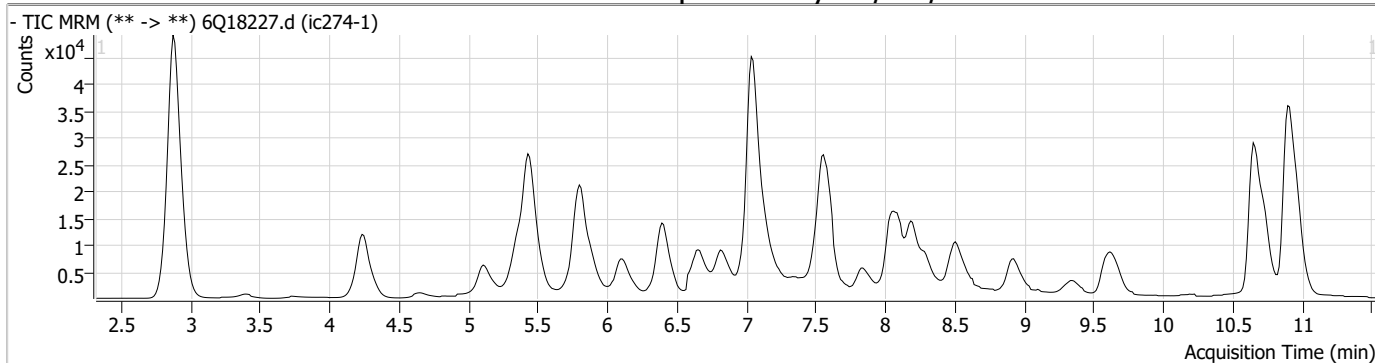
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

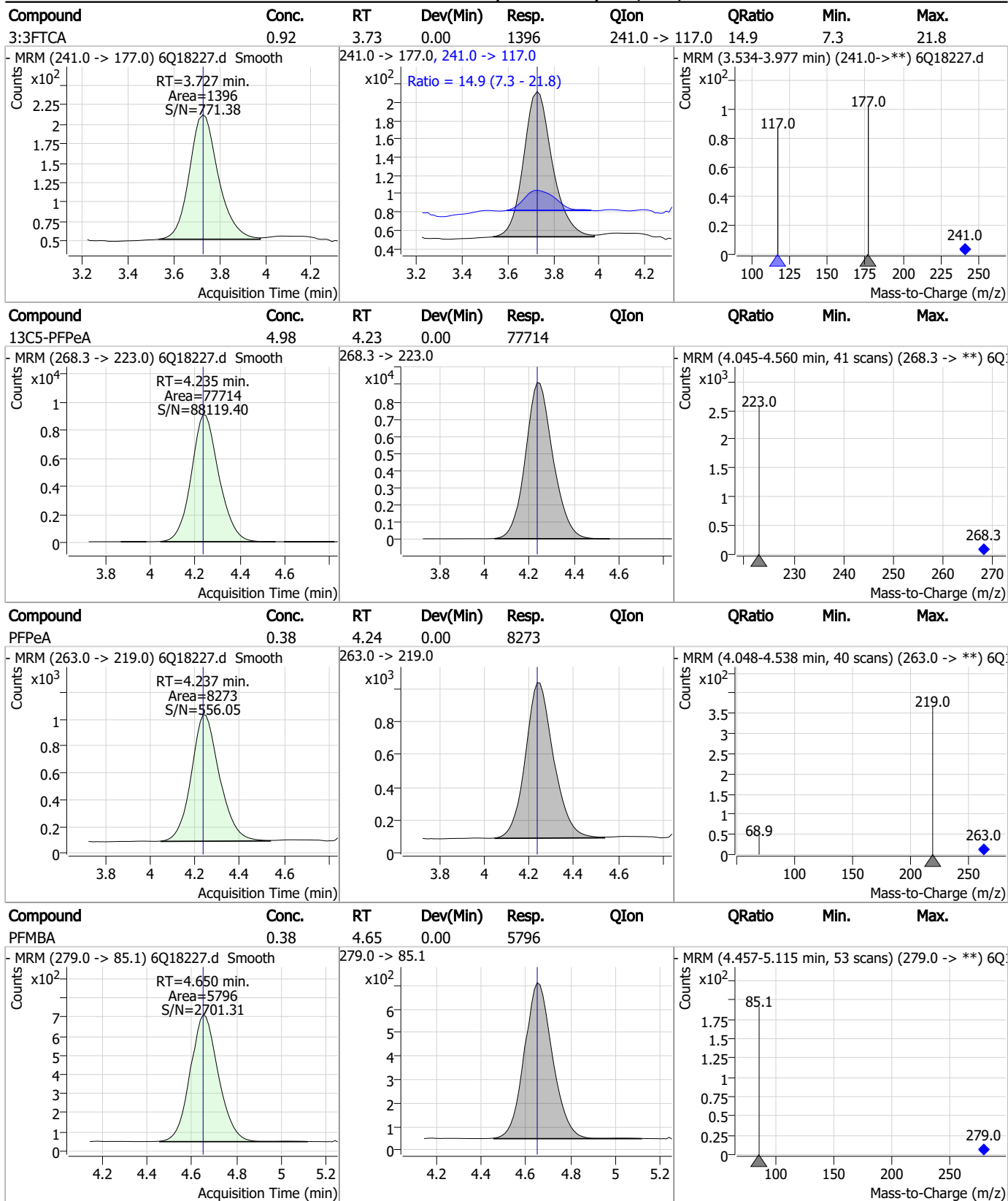
7.7.2  
7



### Perfluorinated Compounds by LC/MS/MS

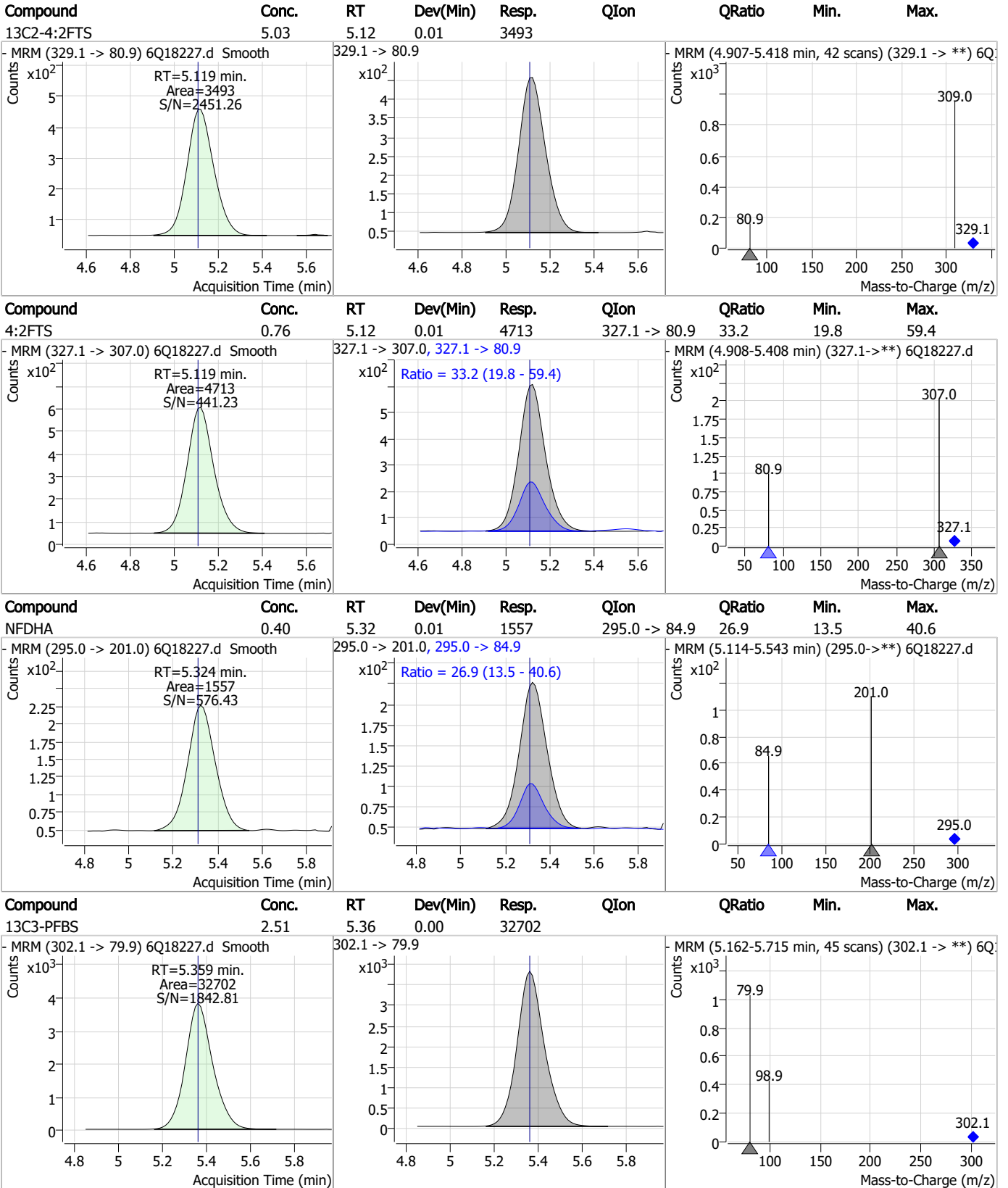


### Perfluorinated Compounds by LC/MS/MS

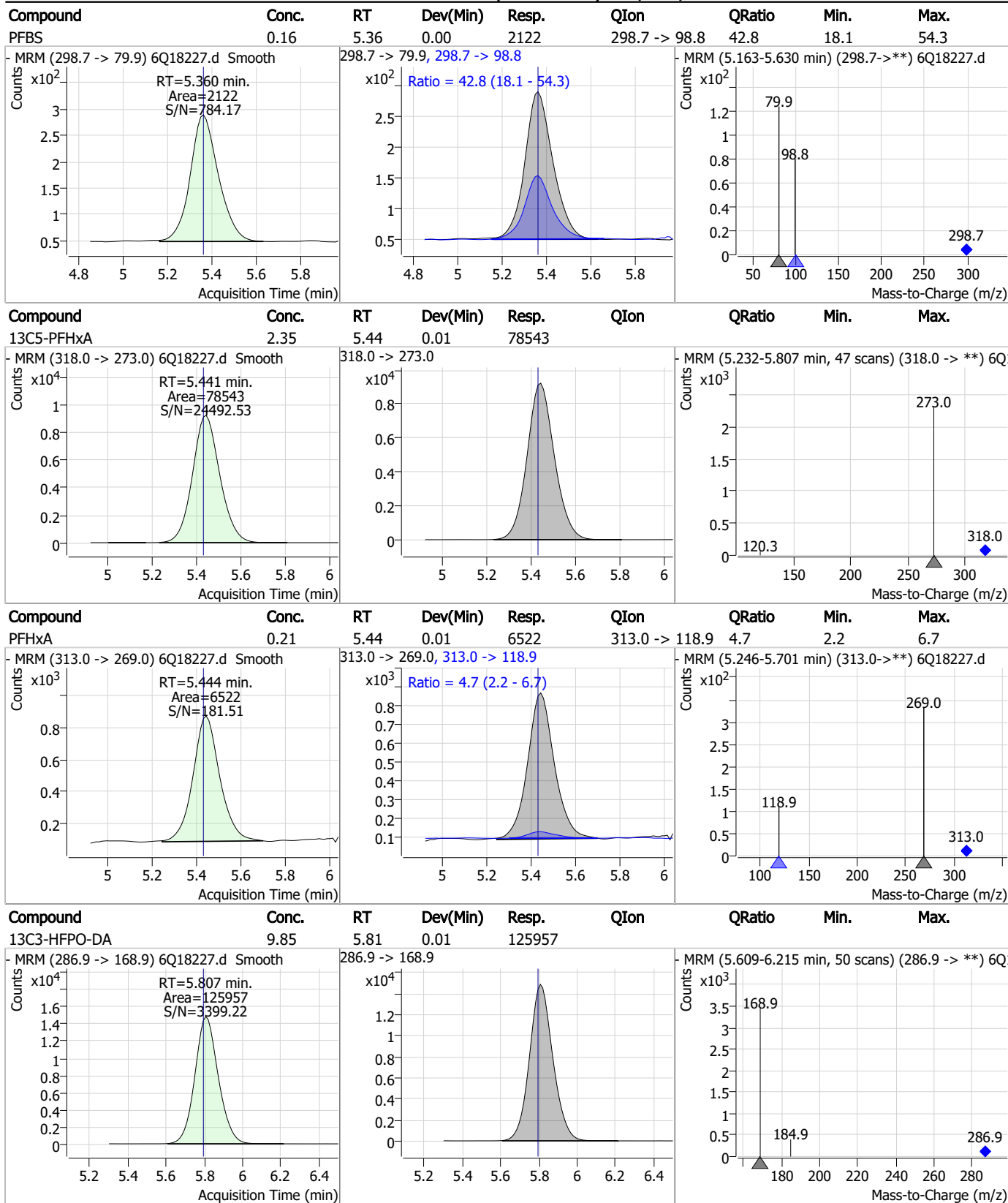


7.7.2  
7

### Perfluorinated Compounds by LC/MS/MS



### Perfluorinated Compounds by LC/MS/MS

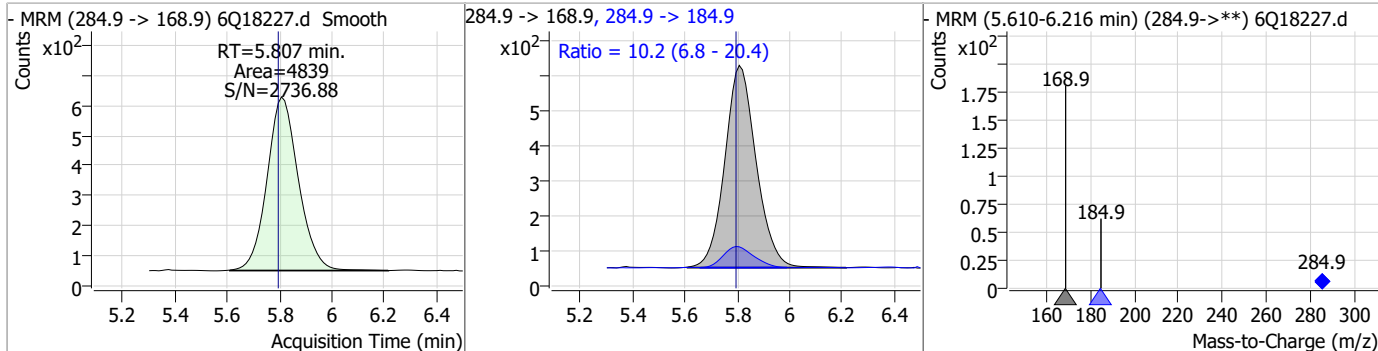


7.7.2  
7

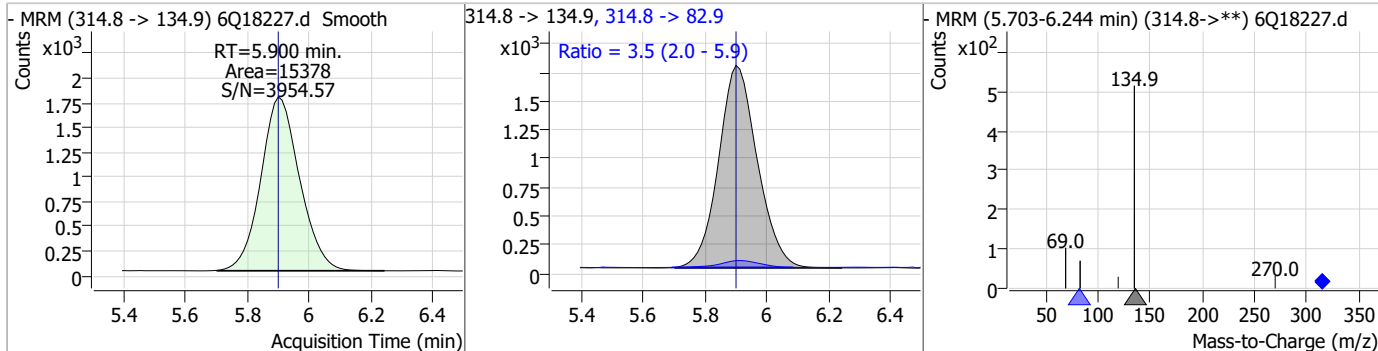


### Perfluorinated Compounds by LC/MS/MS

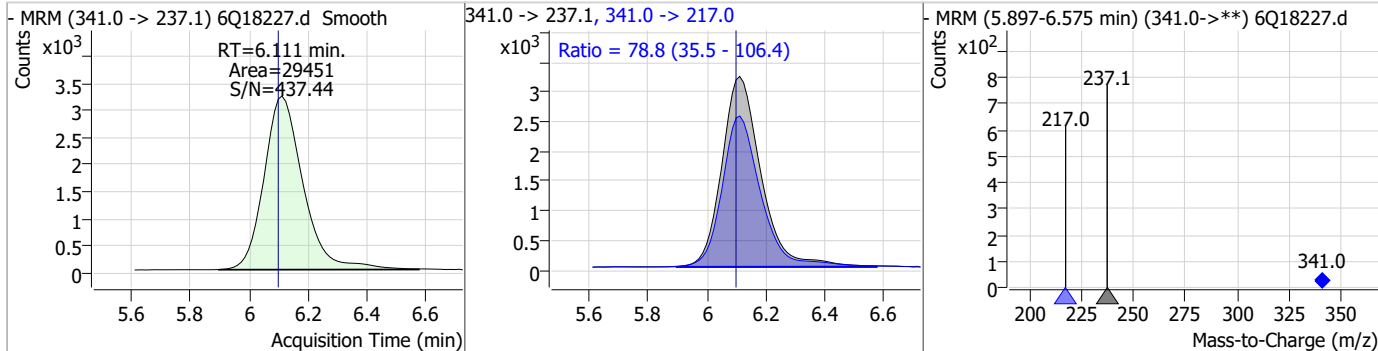
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 0.39  | 5.81 | 0.01     | 4839  | 284.9 -> 184.9 | 10.2   | 6.8  | 20.4 |



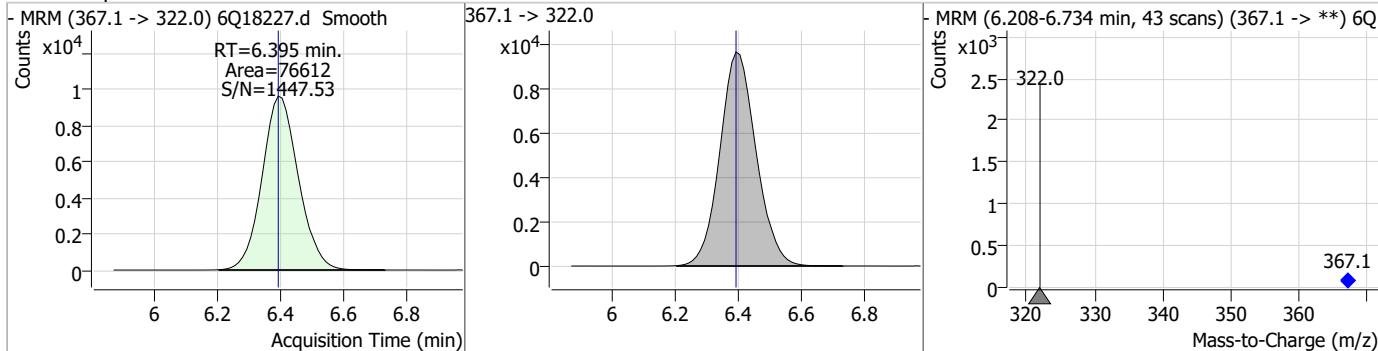
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFEESA   | 0.36  | 5.90 | 0.00     | 15378 | 314.8 -> 82.9 | 3.5    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|-------|----------------|--------|------|-------|
| 5:3FTCA  | 5.30  | 6.11 | 0.01     | 29451 | 341.0 -> 217.0 | 78.8   | 35.5 | 106.4 |



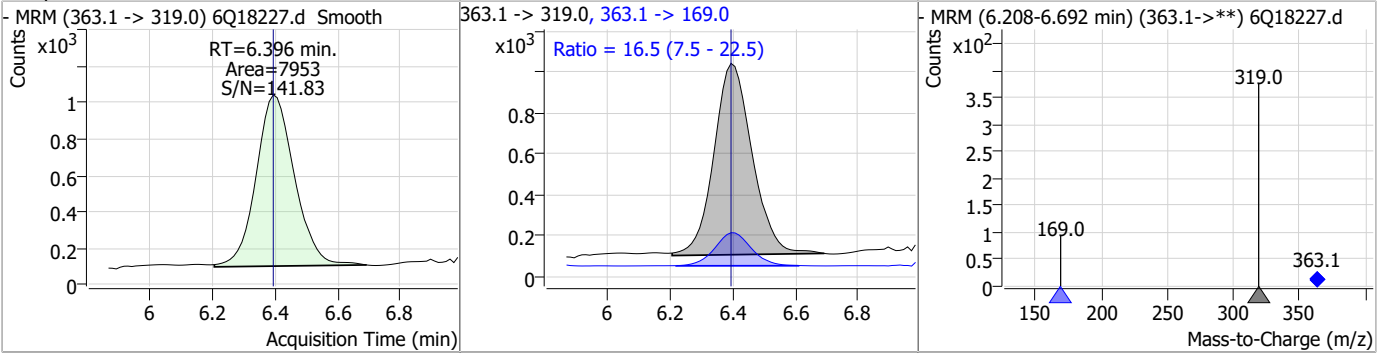
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.47  | 6.39 | 0.00     | 76612 | 367.1 -> 322.0 |        |      |      |



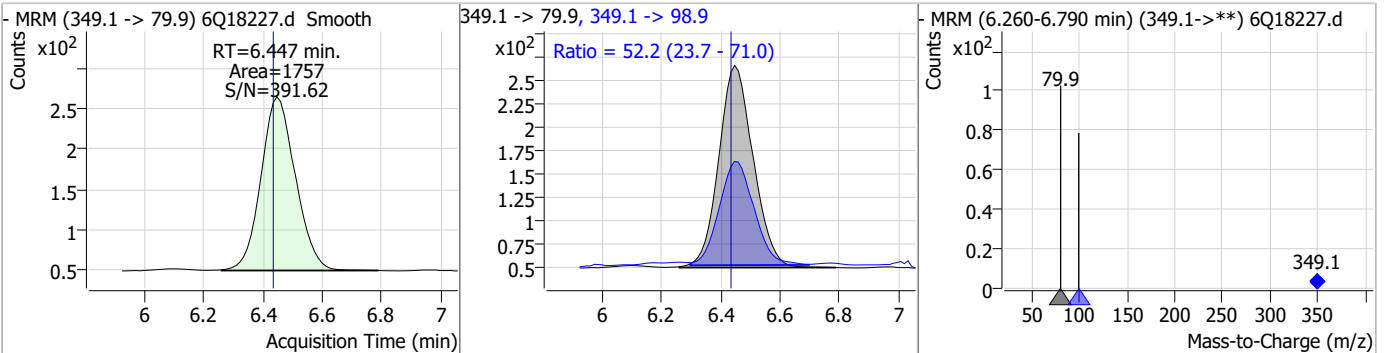
7.7.2  
7

### Perfluorinated Compounds by LC/MS/MS

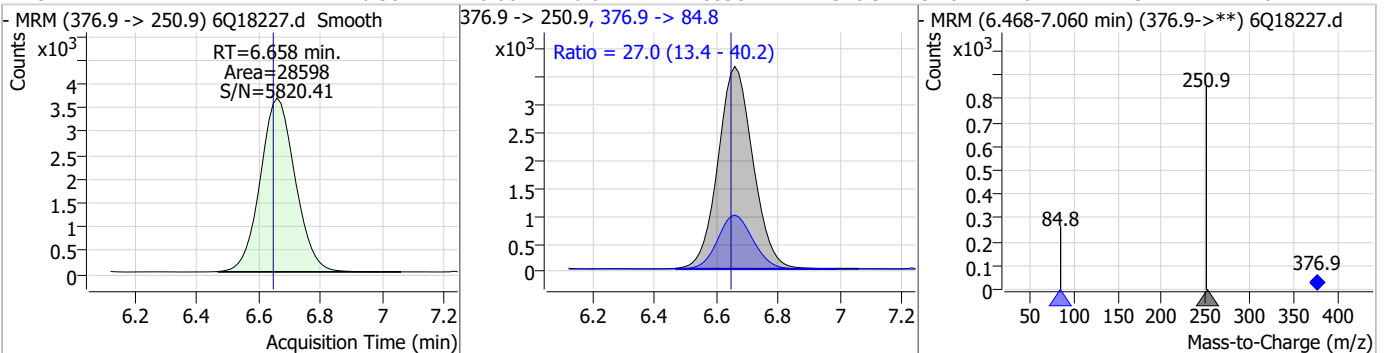
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHpA    | 0.19  | 6.40 | 0.00     | 7953  | 363.1 -> 169.0 | 16.5   | 7.5  | 22.5 |



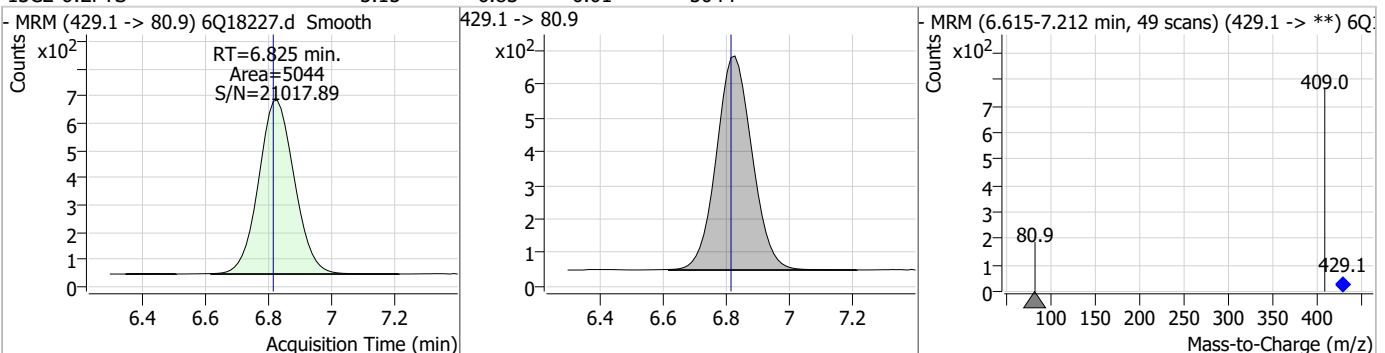
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFPeS    | 0.19  | 6.45 | 0.01     | 1757  | 349.1 -> 98.9 | 52.2   | 23.7 | 71.0 |



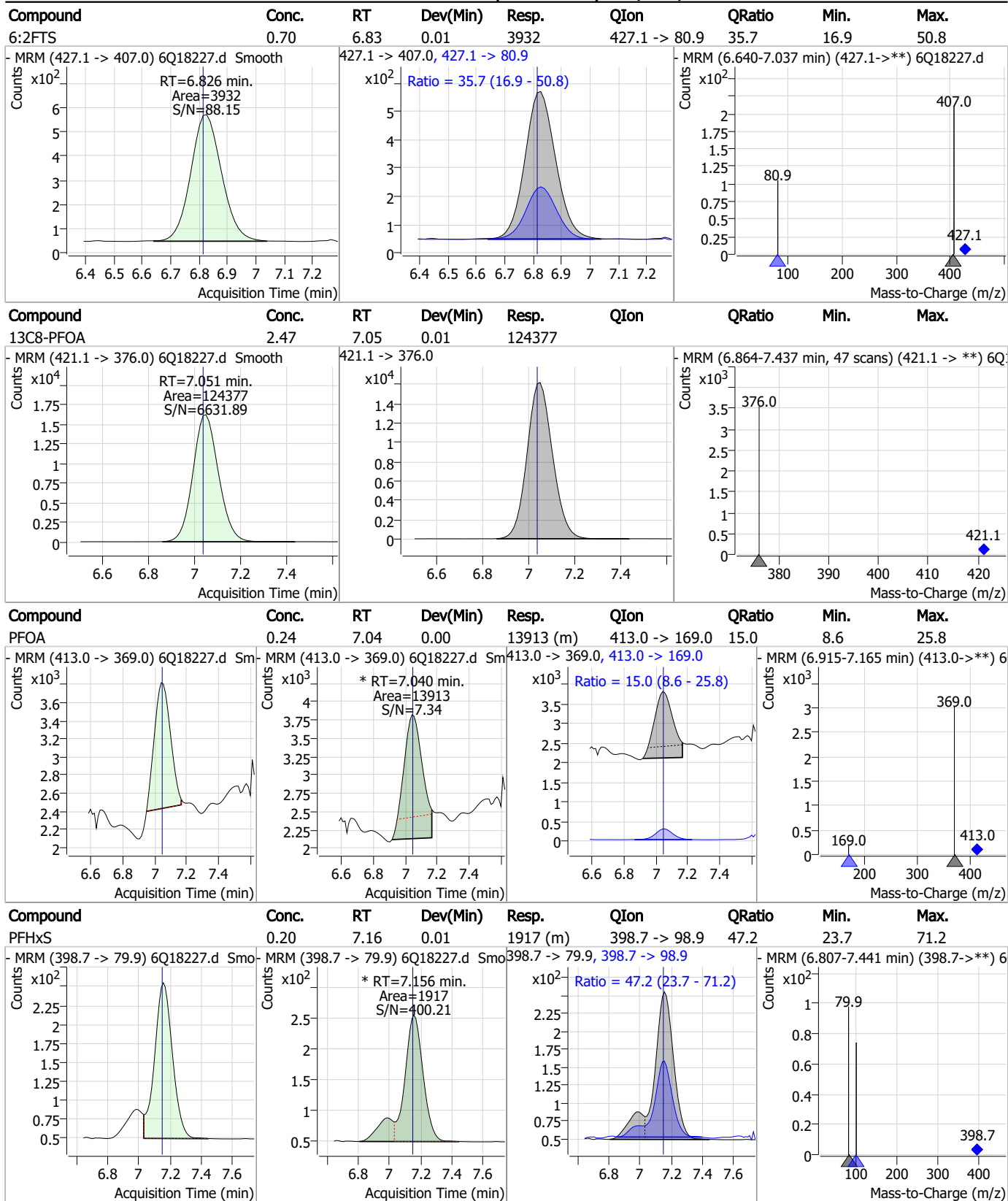
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| ADONA    | 0.36  | 6.66 | 0.01     | 28598 | 376.9 -> 84.8 | 27.0   | 13.4 | 40.2 |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|---------------|--------|------|------|
| 13C2-6:2FTS | 5.15  | 6.83 | 0.01     | 5044  | 429.1 -> 80.9 |        |      |      |

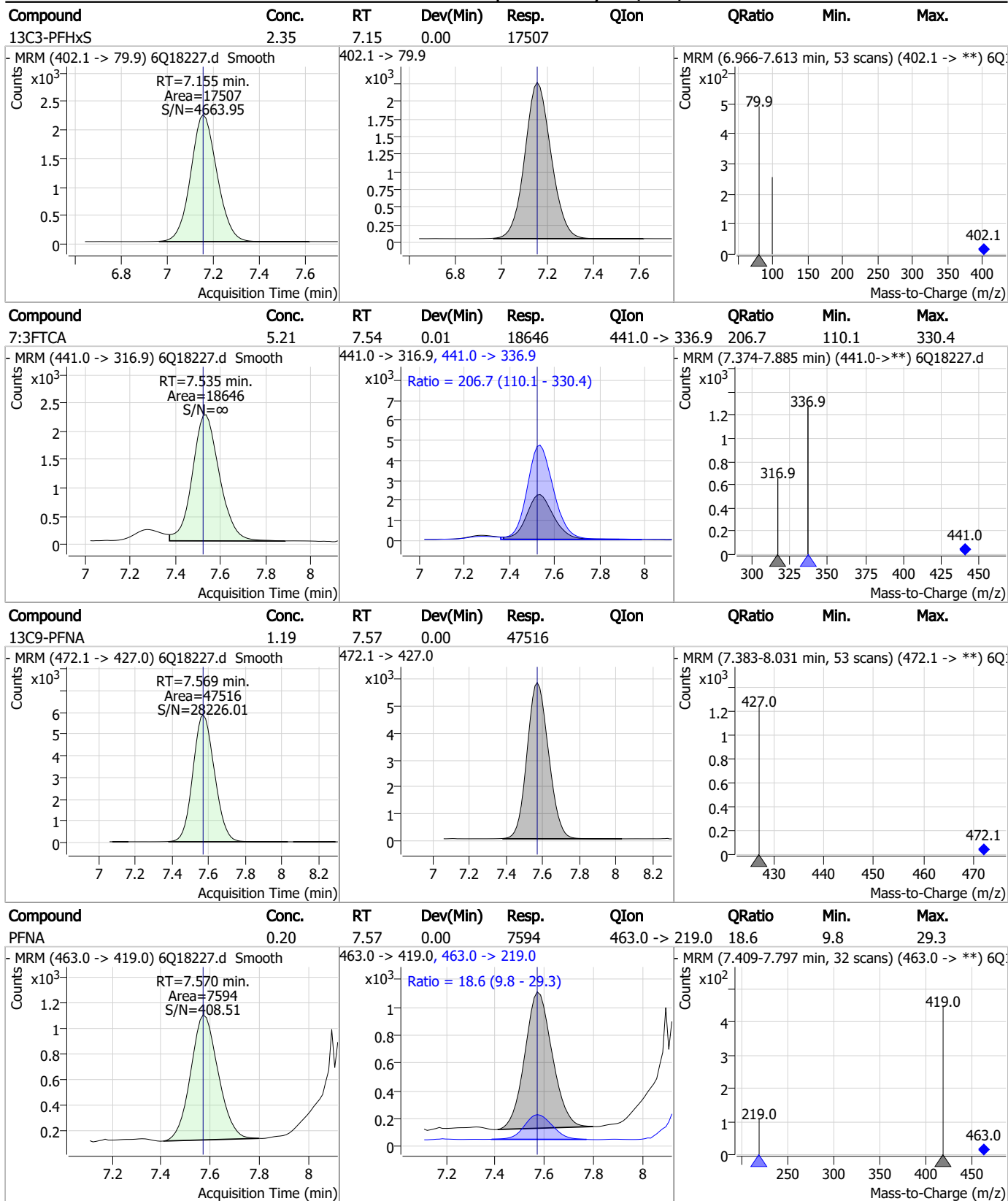


### Perfluorinated Compounds by LC/MS/MS



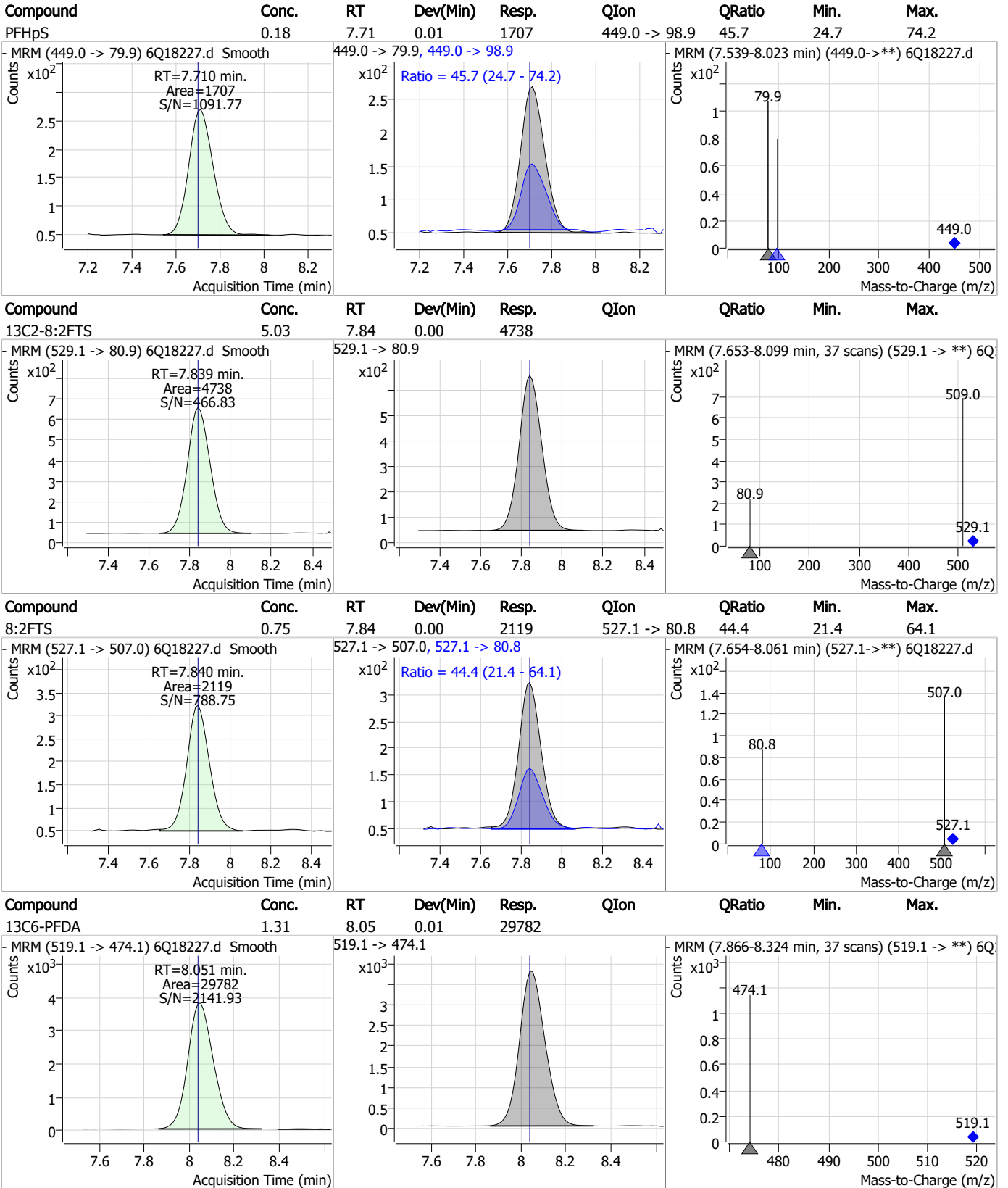
7.7.2  
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### Perfluorinated Compounds by LC/MS/MS



7.7.2  
7

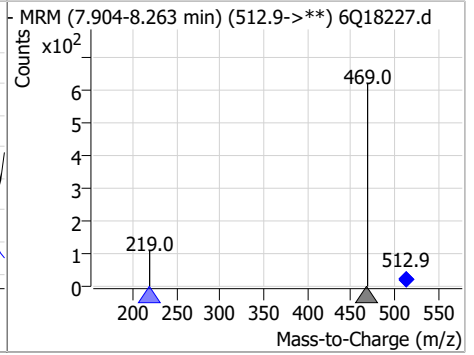
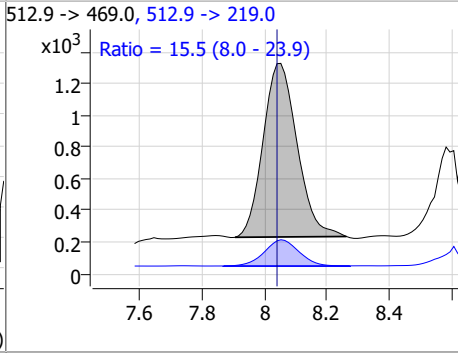
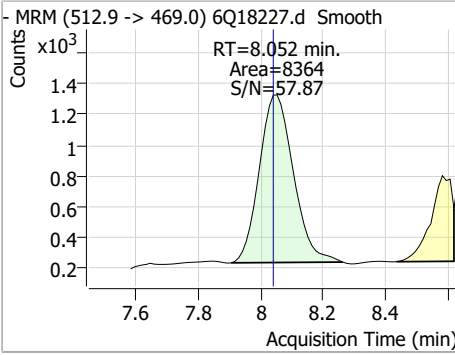
### Perfluorinated Compounds by LC/MS/MS



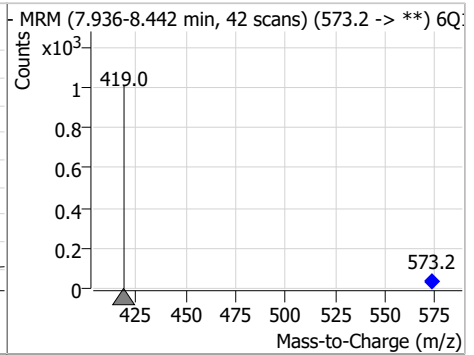
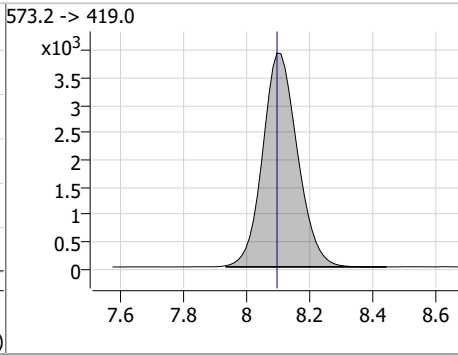
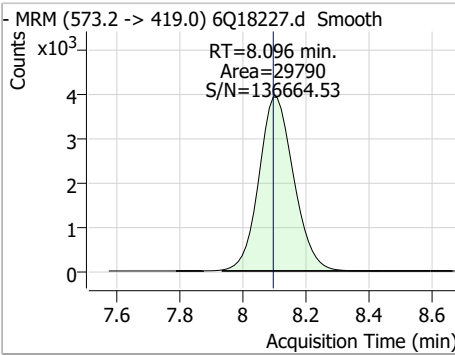
7.7.2  
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### Perfluorinated Compounds by LC/MS/MS

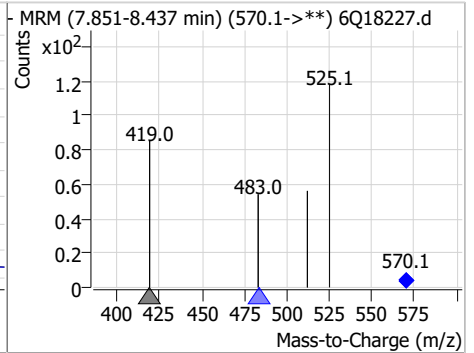
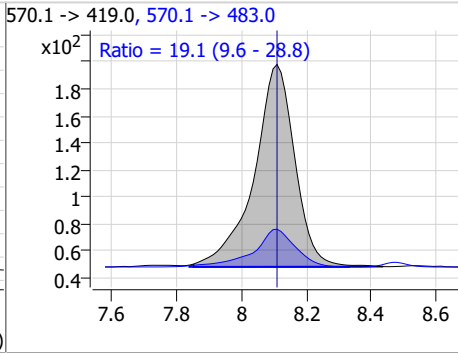
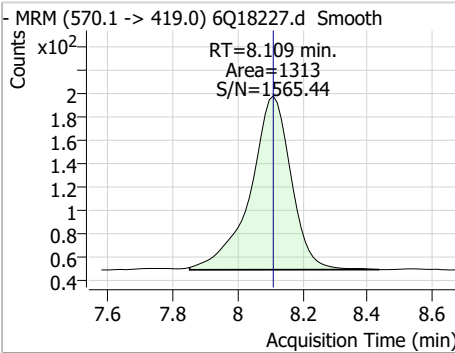
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFDA     | 0.20  | 8.05 | 0.01     | 8364  | 512.9 -> 219.0 | 15.5   | 8.0  | 23.9 |



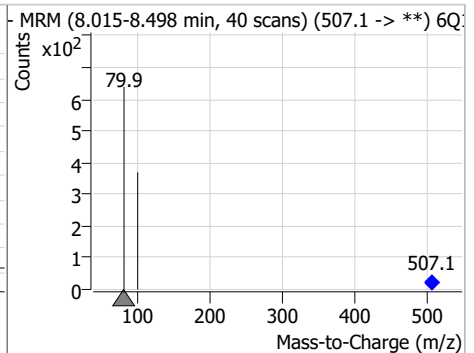
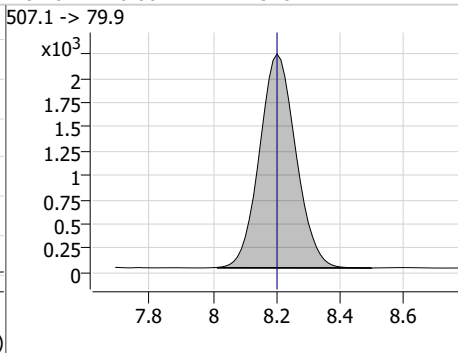
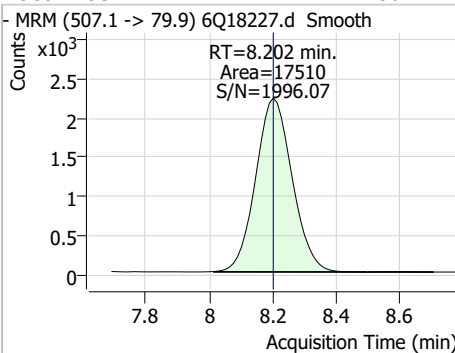
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| d3-MeFOSAA | 4.71  | 8.10 | 0.00     | 29790 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| MeFOSAA  | 0.19  | 8.11 | 0.00     | 1313  | 570.1 -> 483.0 | 19.1   | 9.6  | 28.8 |

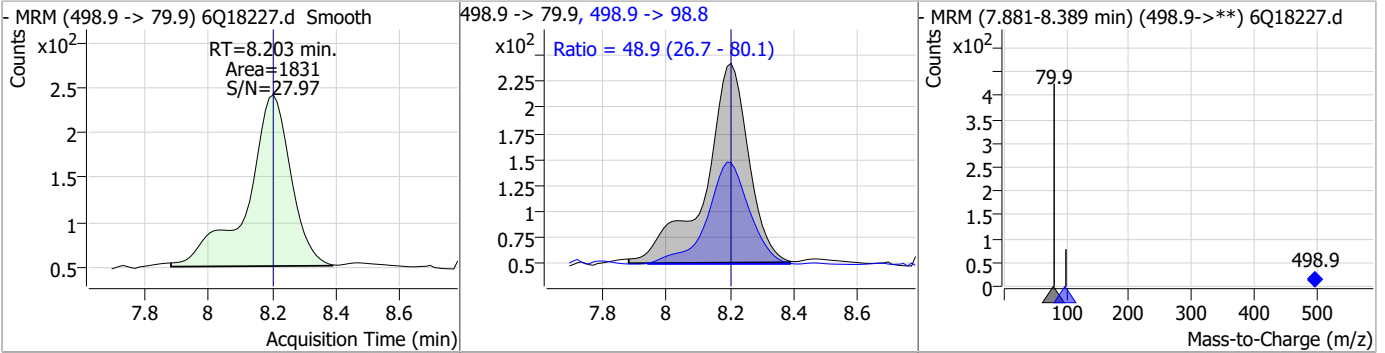


| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-PFOS | 2.36  | 8.20 | 0.00     | 17510 |      |        |      |      |

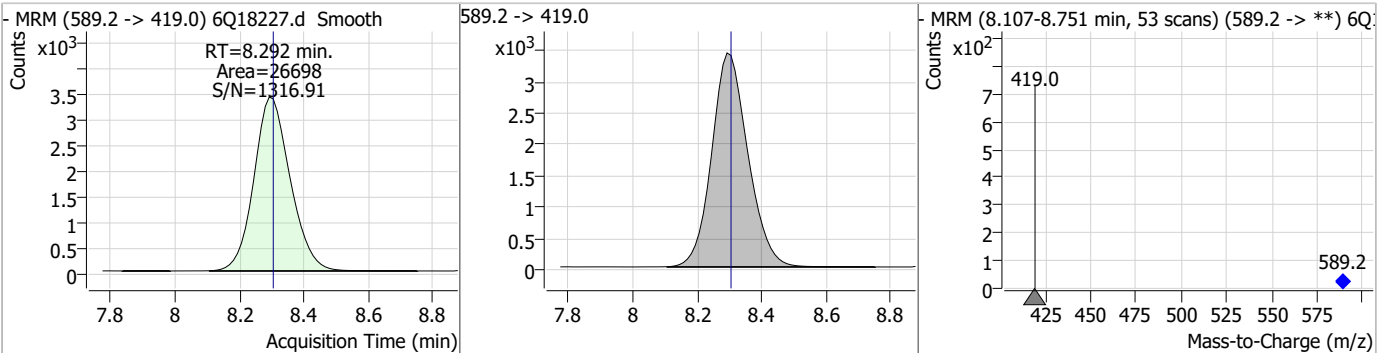


### Perfluorinated Compounds by LC/MS/MS

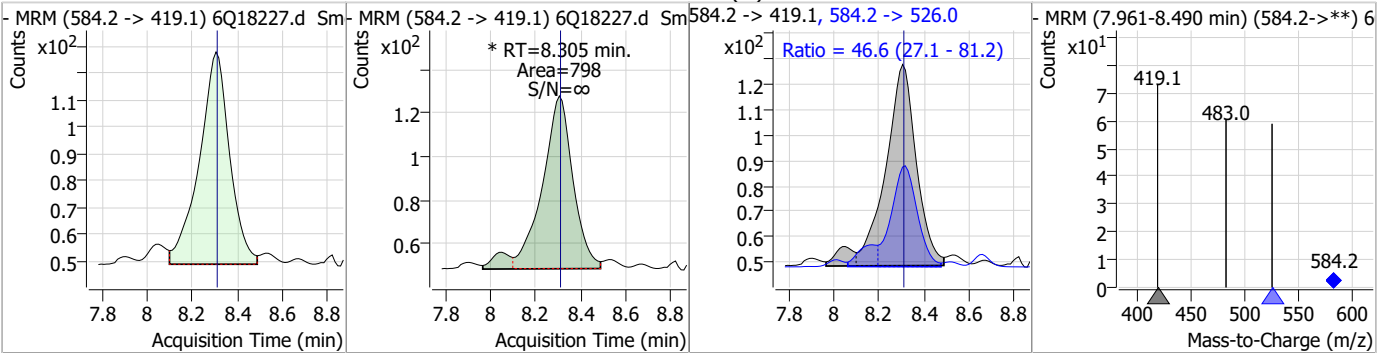
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFOS     | 0.19  | 8.20 | 0.00     | 1831  | 498.9 -> 98.8 | 48.9   | 26.7 | 80.1 |



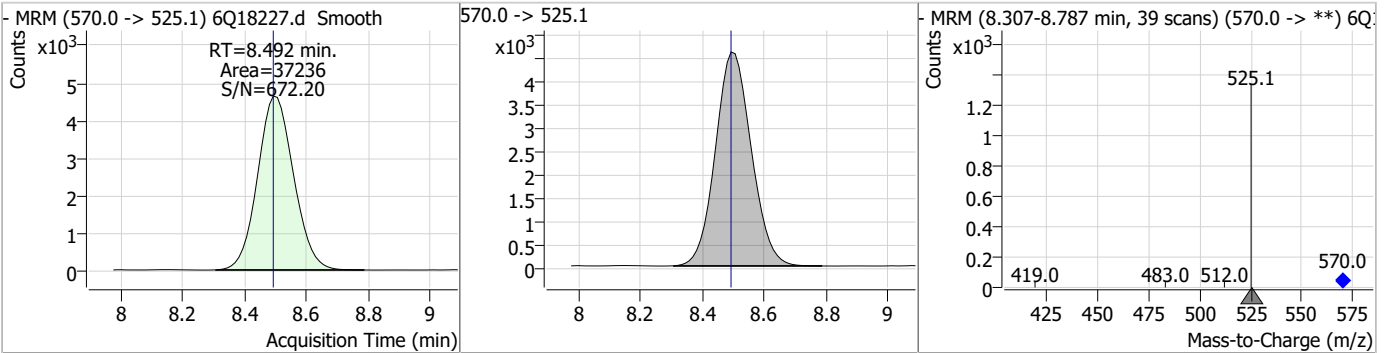
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| d5-EtFOSAA | 4.75  | 8.29 | -0.01    | 26698 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|---------|----------------|--------|------|------|
| EtFOSAA  | 0.20  | 8.31 | 0.00     | 798 (m) | 584.2 -> 526.0 | 46.6   | 27.1 | 81.2 |

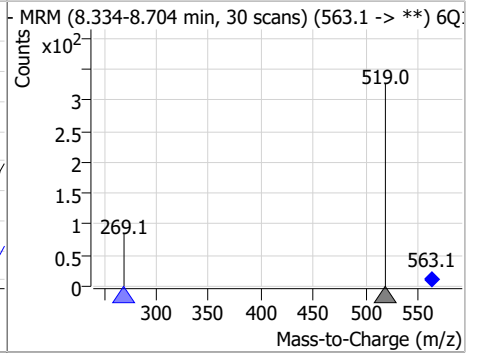
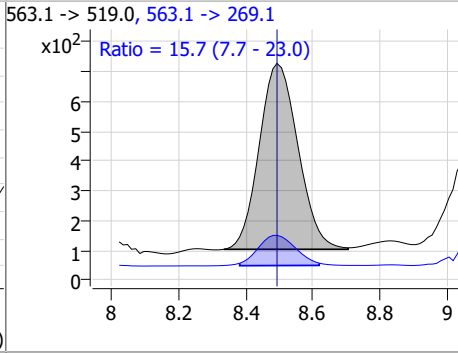
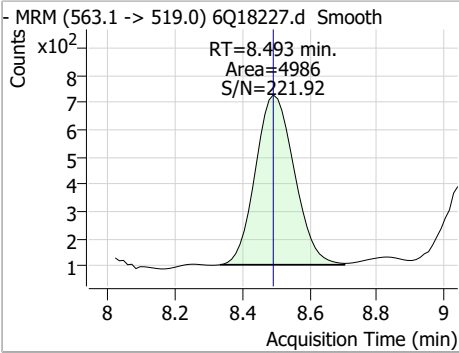


| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C7-PFUnDA | 1.30  | 8.49 | 0.00     | 37236 |      |        |      |      |

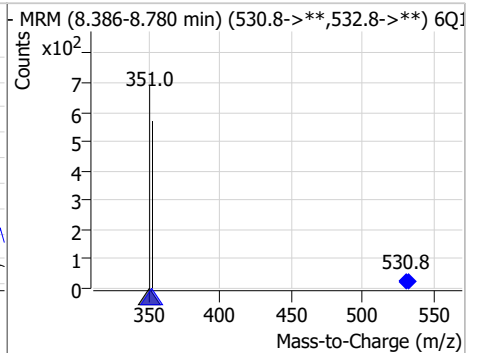
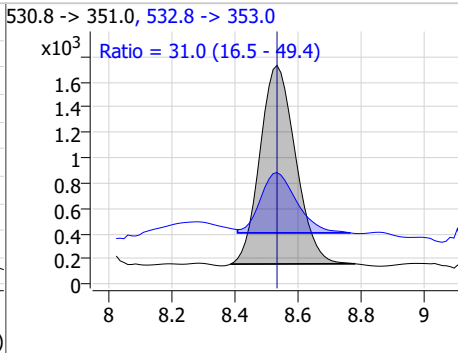
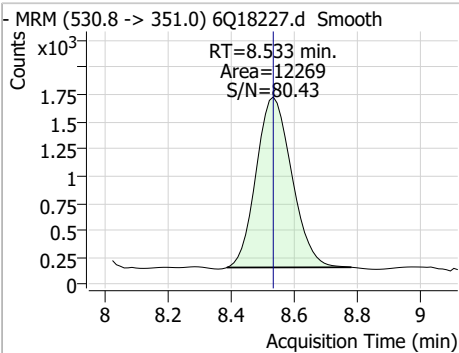


### Perfluorinated Compounds by LC/MS/MS

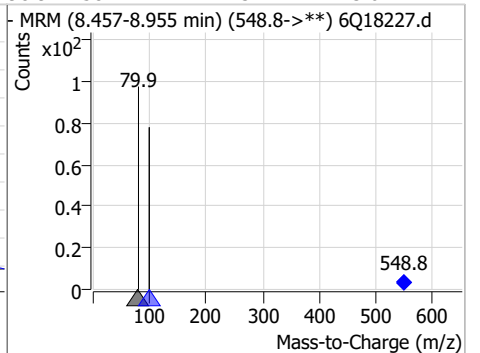
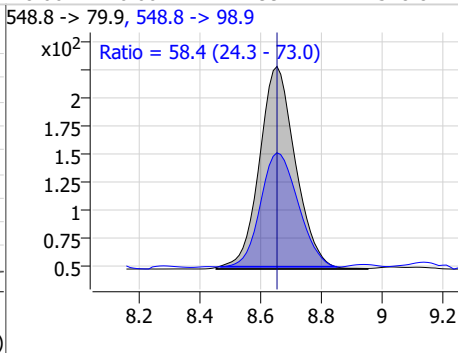
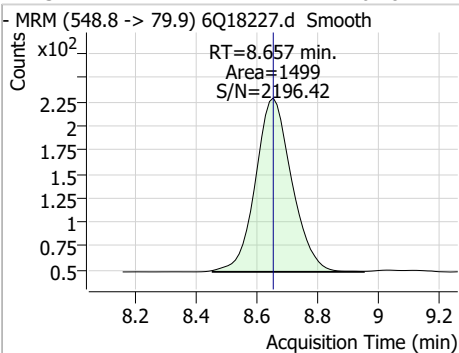
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFUnDA   | 0.18  | 8.49 | 0.00     | 4986  | 563.1 -> 269.1 | 15.7   | 7.7  | 23.0 |



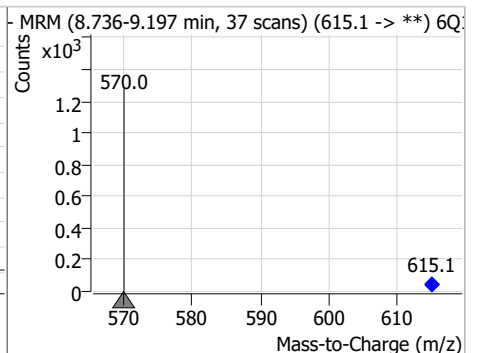
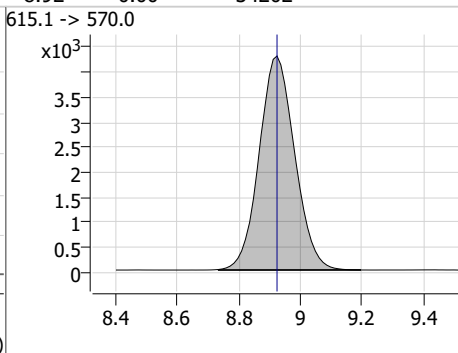
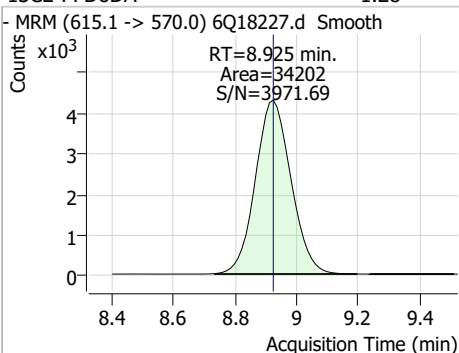
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 9CI-PF3ONS | 0.35  | 8.53 | 0.00     | 12269 | 532.8 -> 353.0 | 31.0   | 16.5 | 49.4 |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFNS     | 0.18  | 8.66 | 0.00     | 1499  | 548.8 -> 98.9 | 58.4   | 24.3 | 73.0 |

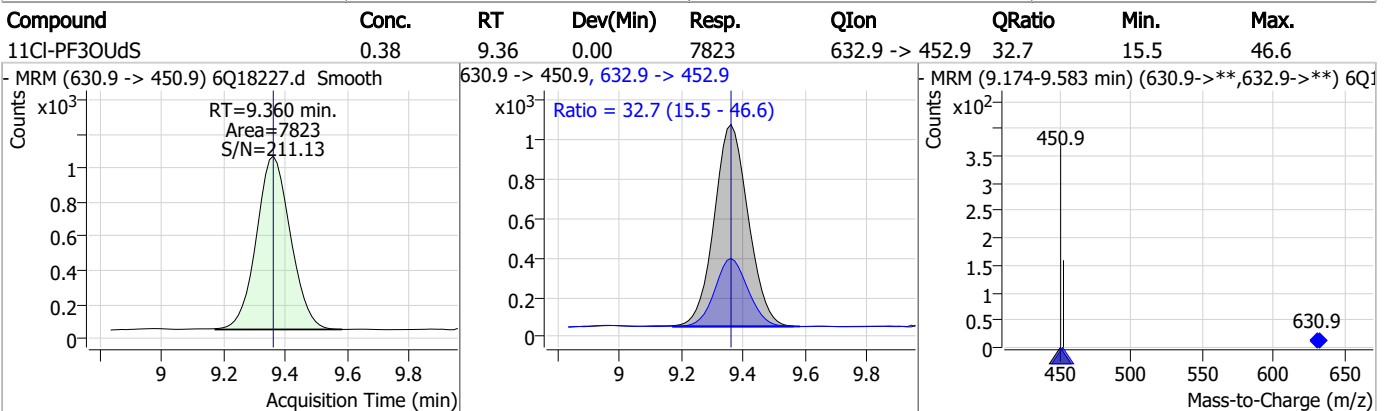
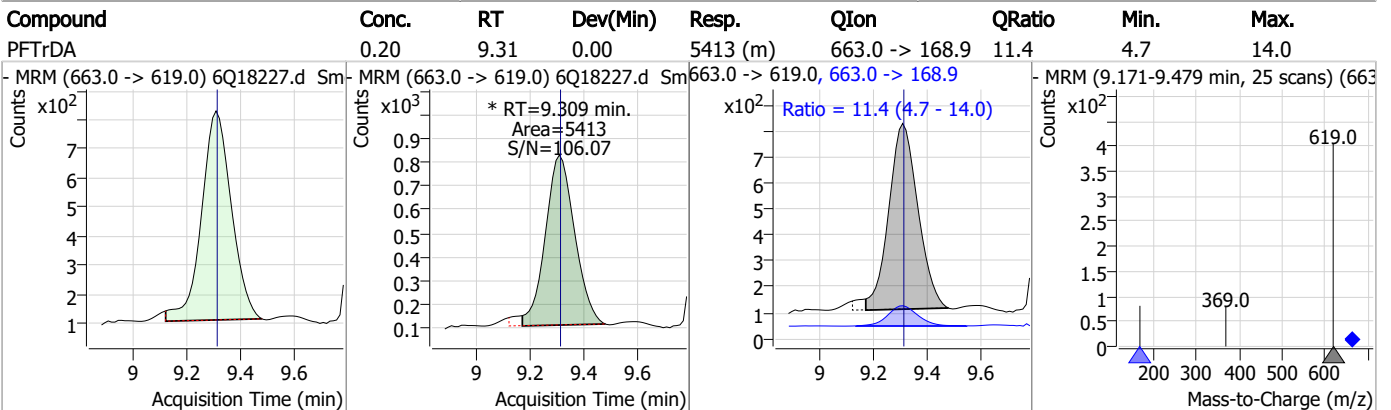
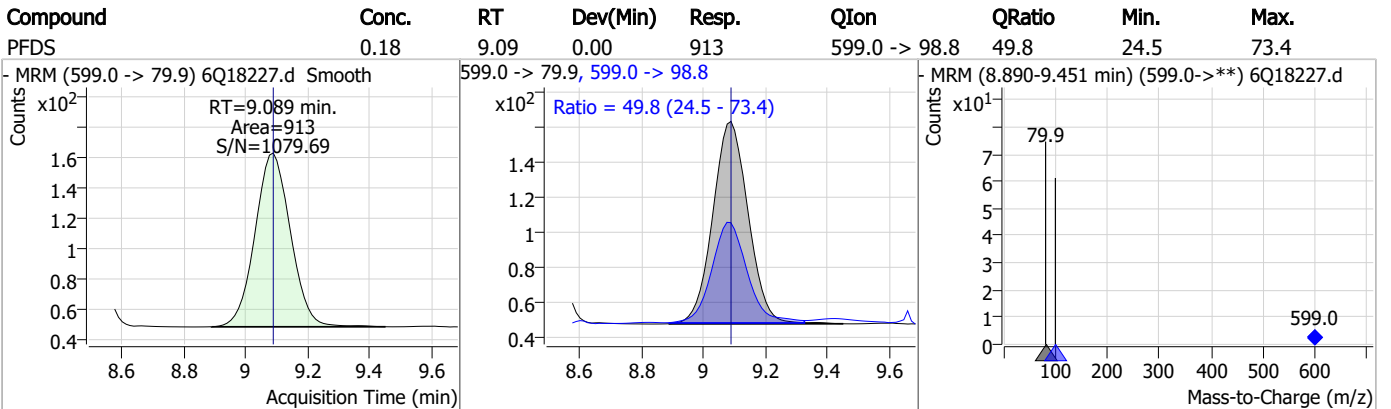
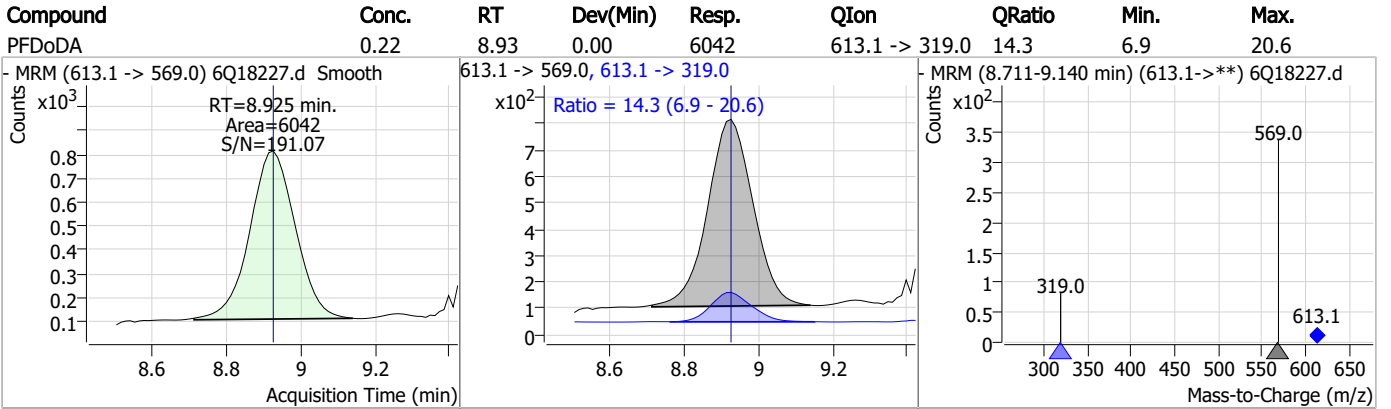


| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C2-PFDoDA | 1.28  | 8.92 | 0.00     | 34202 | 615.1 -> 570.0 |        |      |      |





### Perfluorinated Compounds by LC/MS/MS

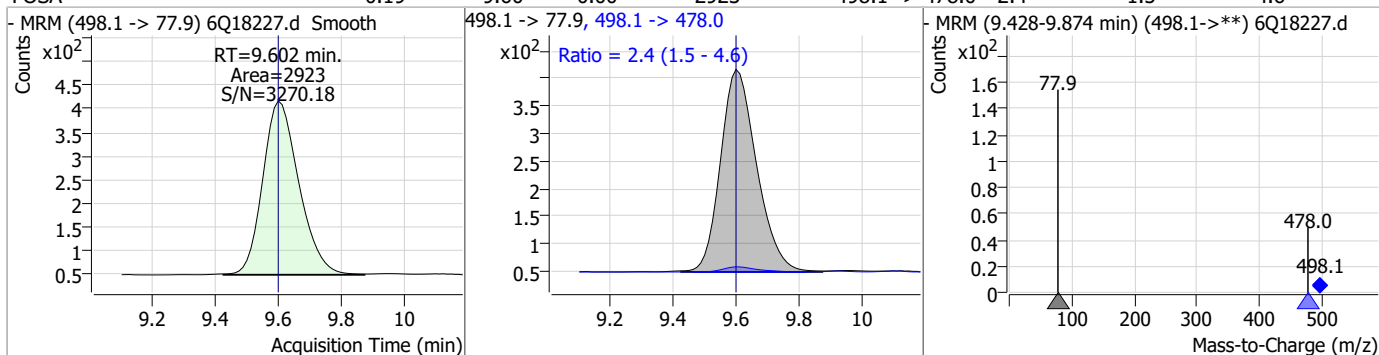


7.7.2

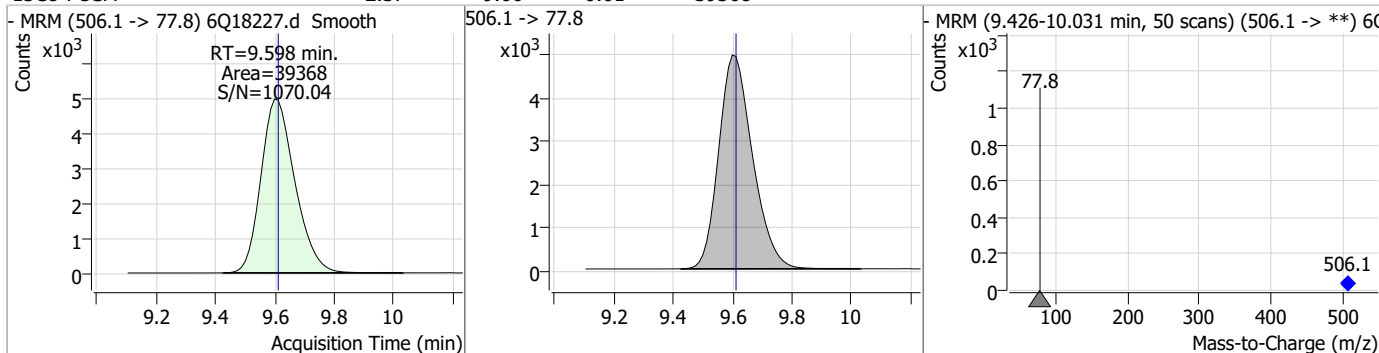
7

### Perfluorinated Compounds by LC/MS/MS

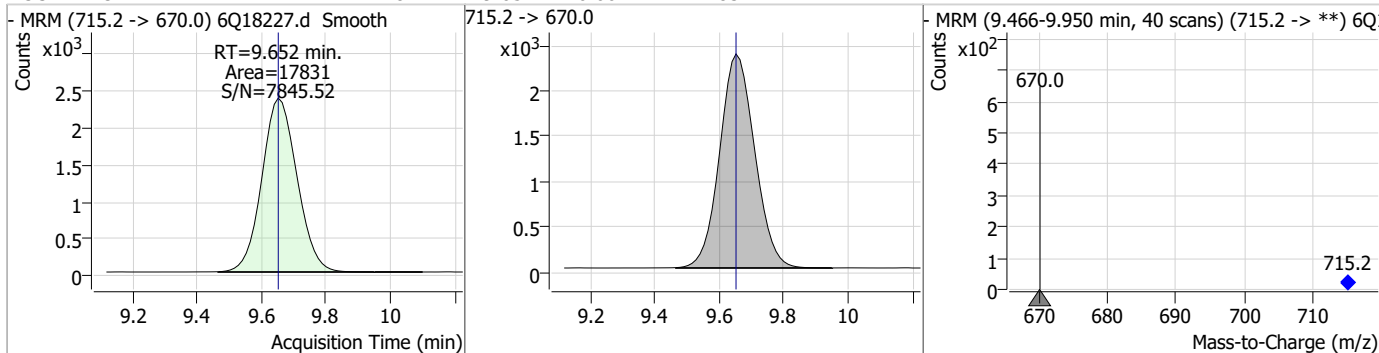
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 0.19  | 9.60 | 0.00     | 2923  | 498.1 -> 478.0 | 2.4    | 1.5  | 4.6  |



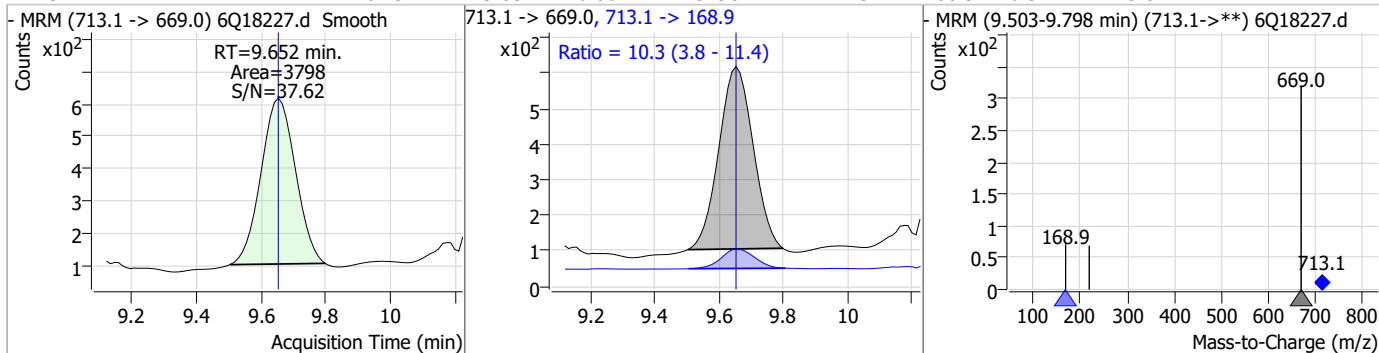
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.37  | 9.60 | -0.01    | 39368 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.28  | 9.65 | 0.00     | 17831 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 0.19  | 9.65 | 0.00     | 3798  | 713.1 -> 168.9 | 10.3   | 3.8  | 11.4 |



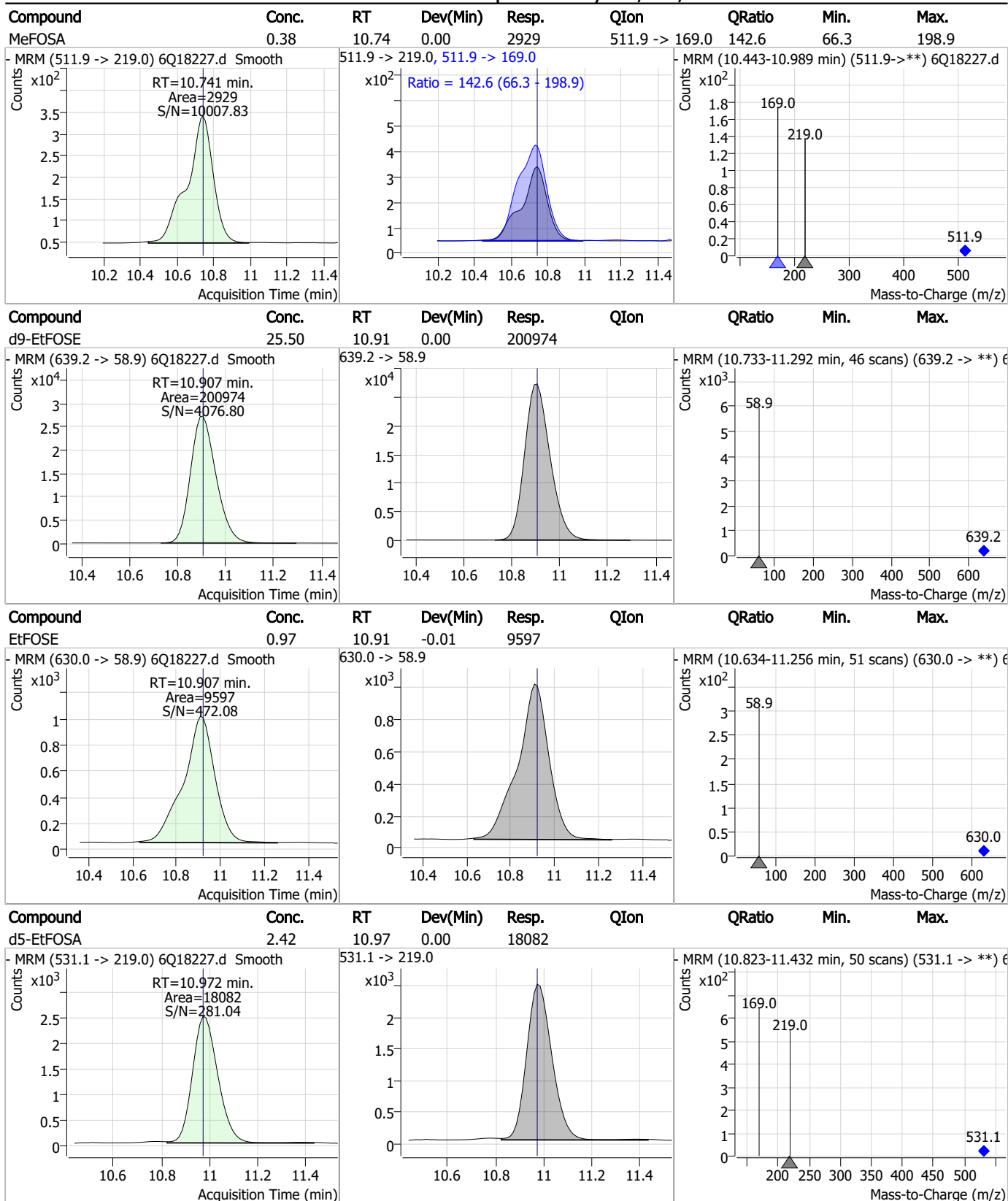
### Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|---------------|--------|------|------|
| PFDoS     | 0.19  | 9.78  | 0.00     | 420    | 699.1 -> 98.8 | 54.9   | 26.9 | 80.6 |
|           |       |       |          |        |               |        |      |      |
| d7-MeFOSE | 26.02 | 10.66 | 0.00     | 168523 |               |        |      |      |
|           |       |       |          |        |               |        |      |      |
| MeFOSE    | 0.95  | 10.67 | 0.00     | 7026   |               |        |      |      |
|           |       |       |          |        |               |        |      |      |
| d3-MeFOSA | 2.38  | 10.74 | 0.00     | 17974  |               |        |      |      |
|           |       |       |          |        |               |        |      |      |

7.7.2

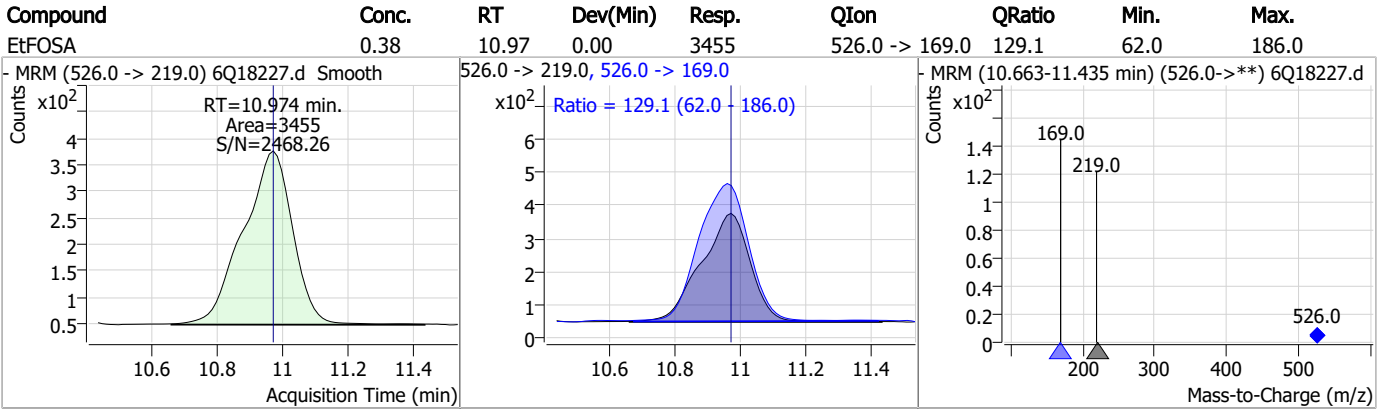
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### Perfluorinated Compounds by LC/MS/MS



7.7.2  
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### Perfluorinated Compounds by LC/MS/MS



7.7.2

7

# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18227.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 21:27      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS        | Sig# | R.T.<br>(min.) | Reason                      |
|------------------------------|------------|------|----------------|-----------------------------|
| Perfluorooctanoic acid       | 335-67-1   |      | 7.04           | Poor instrument integration |
| Perfluorohexanesulfonic acid | 355-46-4   |      | 7.16           | Split peak                  |
| EtFOSAA                      | 2991-50-6  |      | 8.30           | Split peak                  |
| Perfluorotridecanoic acid    | 72629-94-8 |      | 9.31           | Split peak                  |

7.7.2.1

7

## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18228.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 9:41:54 PM  
 Sample Name : ic274-2  
 Vial : P1-A3  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 236718            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 76953             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 85143             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 78373             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 120621            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 51044             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 29042             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 35164             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 34466             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 18884             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 40931             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 32298             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 18412             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 17192             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3342              | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4795              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4422              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 28626             | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 128644            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 26089             | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 182119            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 231060            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 18346             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17648             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 23638             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 100063            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13242             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 121680            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 35682             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 56540             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 84098             | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3342              | 4.96 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 99.1%  |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4795              | 5.05 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 101.0% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4422              | 4.84 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 96.8%  |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 34466             | 1.33 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 106.3% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 18884             | 1.39 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 111.6% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 32298             | 2.56 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 102.4% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 18412             | 2.55 µg/L   | 0.000    |

### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition                       | Response      | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------------------------|---------------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 101.8% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9                   | 236718        | 10.03 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                                  |               | Recovery = 100.3% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0                   | 78373         | 2.50 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 100.0% |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0                   | 85143         | 2.52 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 101.0% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0                   | 76953         | 4.88 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                                  |               | Recovery = 97.7%  |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1                   | 29042         | 1.32 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                                  |               | Recovery = 105.4% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1                   | 35164         | 1.26 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                                  |               | Recovery = 100.7% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8                    | 40931         | 2.49 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 99.5%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0                   | 120621        | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 99.4%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9                    | 17192         | 2.34 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 93.7%  |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0                   | 51044         | 1.32 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                                  |               | Recovery = 105.6% |               |
| d3-MeFOSAA              | 8.108                | 573.2 -> 419.0                   | 28626         | 4.57 µg/L         | 0.012         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                                  |               | Recovery = 91.4%  |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9                   | 128644        | 9.96 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                                  |               | Recovery = 99.6%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0                   | 17648         | 2.36 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 94.3%  |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0                   | 26089         | 4.68 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                                  |               | Recovery = 93.6%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9                    | 182119        | 28.38 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                                  |               | Recovery = 113.5% |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9                    | 231060        | 29.59 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                                  |               | Recovery = 118.4% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0                   | 18346         | 2.47 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                                  |               | Recovery = 98.9%  |               |
| <b>Target Compounds</b> |                      |                                  |               |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0<br>327.1 -> 80.9  | 8696<br>3419  | 1.48 µg/L         | 100           |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0<br>427.1 -> 80.9  | 8189<br>2781  | 1.54 µg/L         | 100           |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0<br>527.1 -> 80.8  | 4264<br>1760  | 1.62 µg/L         | 98            |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1<br>584.2 -> 526.0 | 1652<br>779   | 0.41 µg/L         | 90            |
| FOSA                    | 9.602                | 498.1 -> 77.9<br>498.1 -> 478.0  | 6189<br>175   | 0.39 µg/L         | 99            |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0<br>570.1 -> 483.0 | 2687<br>483   | 0.41 µg/L         | 97            |
| PFBA                    | 2.882                | 212.8 -> 168.9                   | 14114         | 1.54 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9<br>298.7 -> 98.8   | 4496<br>1710  | 0.35 µg/L         | 97            |
| PFDA                    | 8.052                | 512.9 -> 469.0<br>512.9 -> 219.0 | 15221<br>2606 | 0.38 µg/L         | 97            |
| PFDoDA                  | 8.925                | 613.1 -> 569.0<br>613.1 -> 319.0 | 10523<br>1832 | 0.38 µg/L         | 91            |
| PFDS                    | 9.076                | 599.0 -> 79.9                    | 1699          | 0.35 µg/L         | 89            |

7.7.3  
7



## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
|              |        | 599.0 -> 98.8  | 955      |             |          |
| PFHpA        | 6.396  | 363.1 -> 319.0 | 15827    | 0.38 µg/L   | 94       |
|              |        | 363.1 -> 169.0 | 2759     |             |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 3410     | 0.37 µg/L   | 99       |
|              |        | 449.0 -> 98.9  | 1656     |             |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 12400    | 0.37 µg/L   | 96       |
|              |        | 313.0 -> 118.9 | 736      |             |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 3774     | 0.37 µg/L   | 97       |
|              |        | 398.7 -> 98.9  | 1720     |             |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 14820    | 0.36 µg/L   | 96       |
|              |        | 463.0 -> 219.0 | 3189     |             |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 3028     | 0.37 µg/L   | 95       |
|              |        | 548.8 -> 98.9  | 1583     |             |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 19334    | 0.35 µg/L   | 92       |
|              |        | 413.0 -> 169.0 | 3959     |             |          |
| PFOS         | 8.203  | 498.9 -> 79.9  | 3200     | 0.34 µg/L   | 94       |
|              |        | 498.9 -> 98.8  | 1562     |             |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 16356    | 0.77 µg/L   | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 3523     | 0.36 µg/L   | 97       |
|              |        | 349.1 -> 98.9  | 1745     |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 8411     | 0.40 µg/L   | 95       |
|              |        | 713.1 -> 168.9 | 784      |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 11064    | 0.40 µg/L   | 93       |
|              |        | 663.0 -> 168.9 | 1299     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 11089    | 0.43 µg/L   | 100      |
|              |        | 563.1 -> 269.1 | 1704     |             |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 14917    | 0.71 µg/L   | 98       |
|              |        | 632.9 -> 452.9 | 4805     |             |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 25863    | 0.72 µg/L   | 95       |
|              |        | 532.8 -> 353.0 | 7796     |             |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 59222    | 0.73 µg/L   | 99       |
|              |        | 376.9 -> 84.8  | 15448    |             |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 9527     | 0.75 µg/L   | 94       |
|              |        | 284.9 -> 184.9 | 1076     |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 3034     | 2.02 µg/L   | 98       |
|              |        | 241.0 -> 117.0 | 467      |             |          |
| 5:3FTCA      | 6.111  | 341.0 -> 237.1 | 57628    | 9.57 µg/L   | 92       |
|              |        | 341.0 -> 217.0 | 44628    |             |          |
| 7:3FTCA      | 7.535  | 441.0 -> 316.9 | 36488    | 9.41 µg/L   | 97       |
|              |        | 441.0 -> 336.9 | 78813    |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 7229     | 0.79 µg/L   | 100      |
|              |        | 526.0 -> 169.0 | 8988     |             |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 20994    | 1.85 µg/L   | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 6218     | 0.83 µg/L   | 94       |
|              |        | 511.9 -> 169.0 | 8700     |             |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 15454    | 1.93 µg/L   | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 832      | 0.39 µg/L   | 87       |
|              |        | 699.1 -> 98.8  | 370      |             |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 3050     | 0.73 µg/L   | 99       |
|              |        | 295.0 -> 84.9  | 808      |             |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 11756    | 0.78 µg/L   | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 8690     | 0.77 µg/L   | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 30926    | 0.67 µg/L   | 100      |
|              |        | 314.8 -> 82.9  | 1183     |             |          |

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

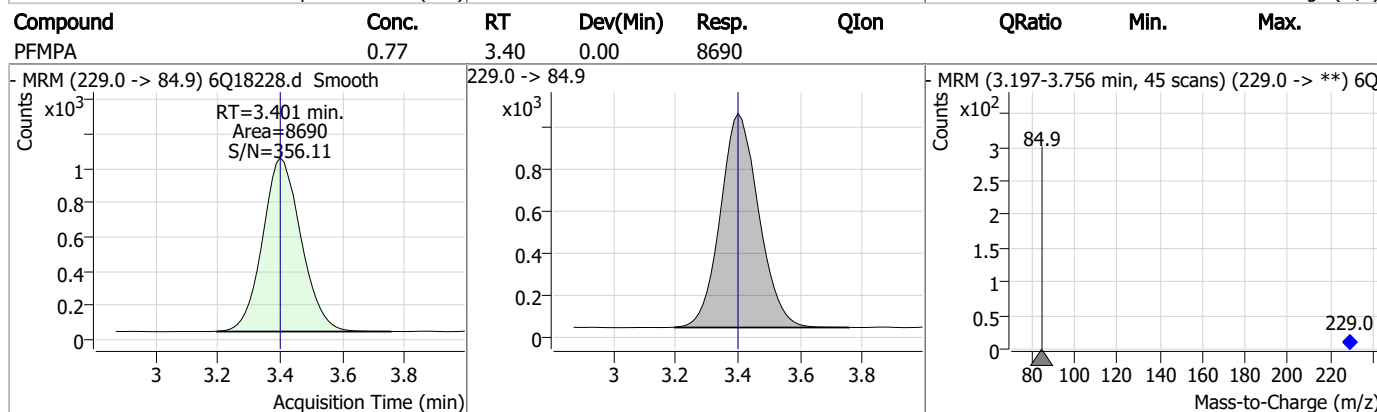
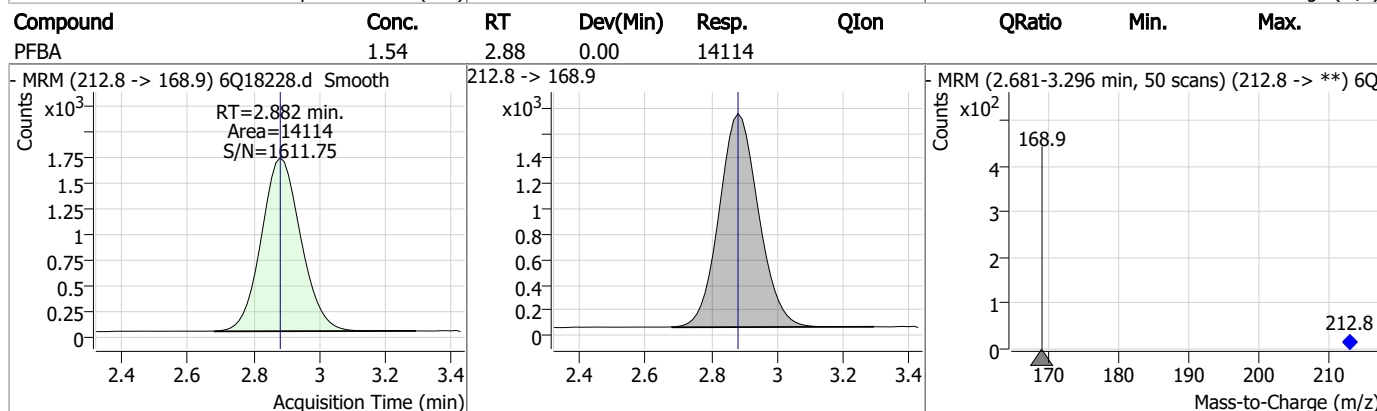
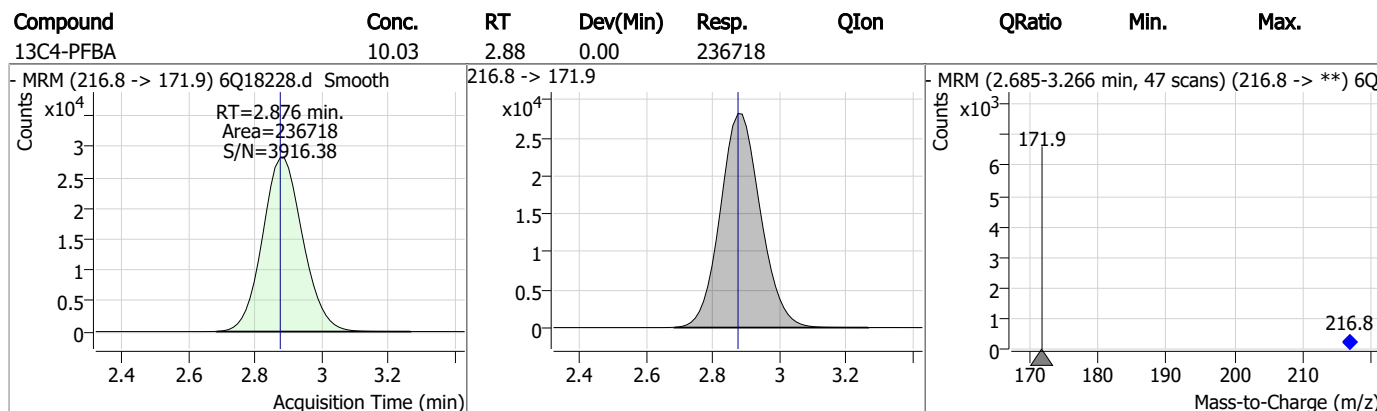
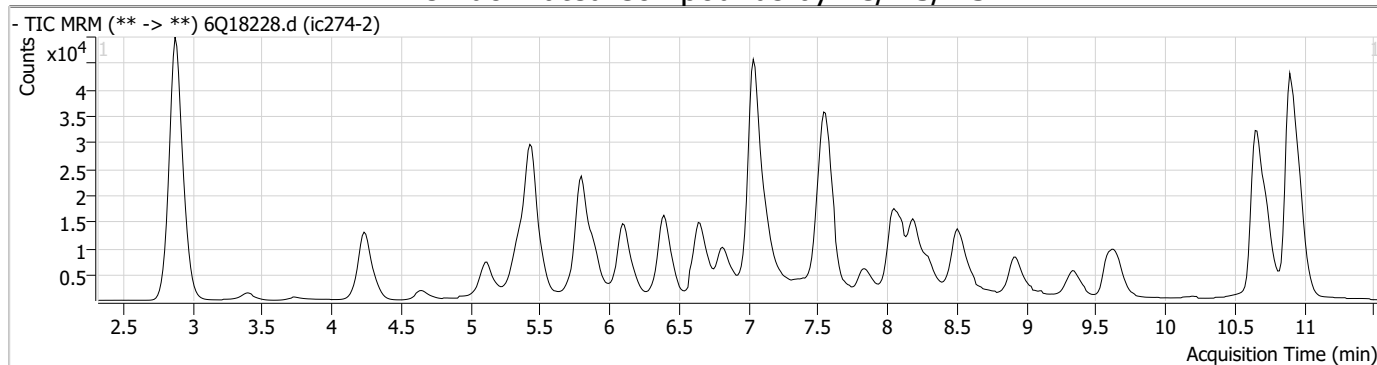
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.3

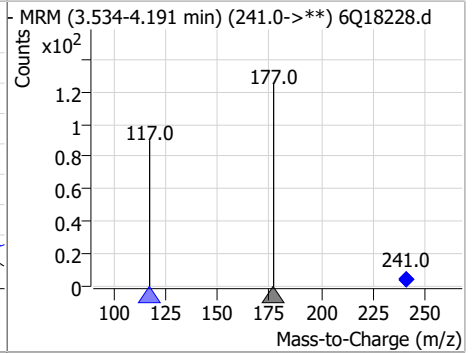
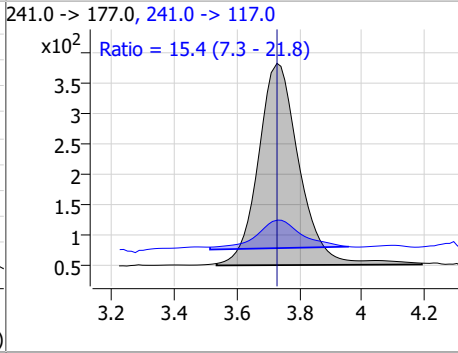
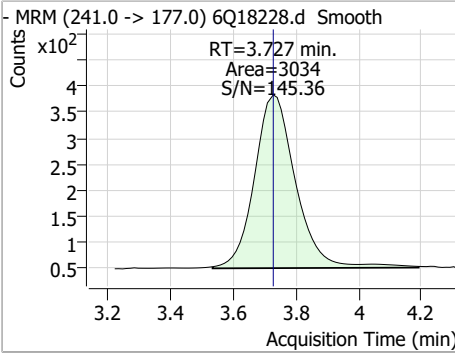
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### Perfluorinated Compounds by LC/MS/MS

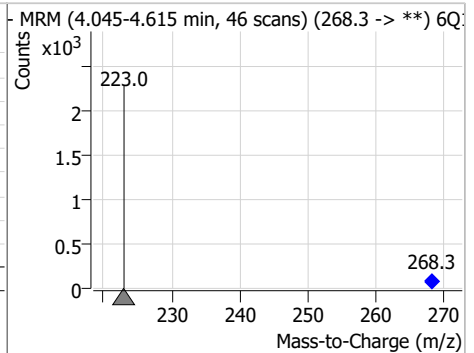
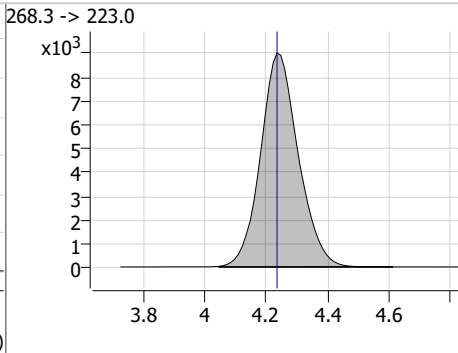
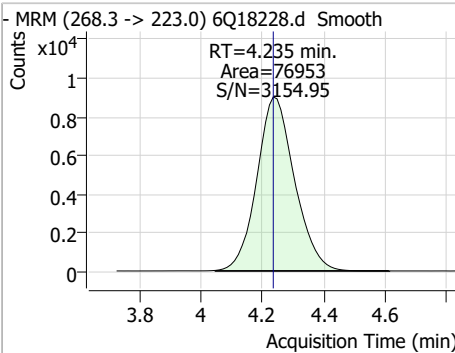


### Perfluorinated Compounds by LC/MS/MS

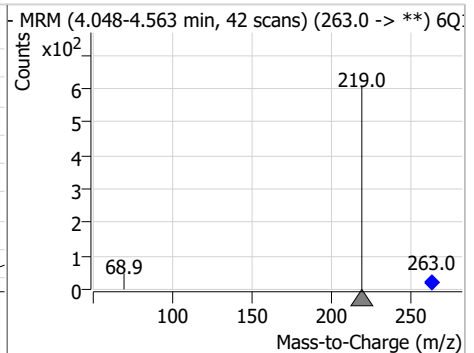
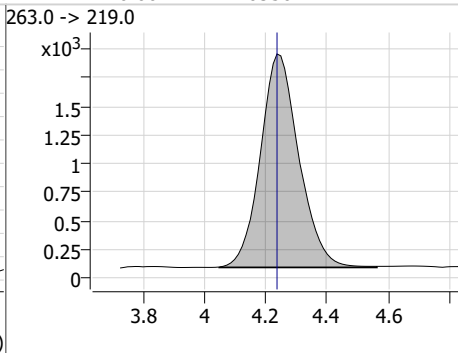
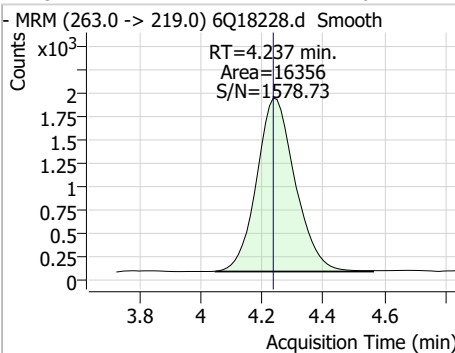
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| 3:3FTCA  | 2.02  | 3.73 | 0.00     | 3034  | 241.0 -> 117.0 | 15.4   | 7.3  | 21.8 |



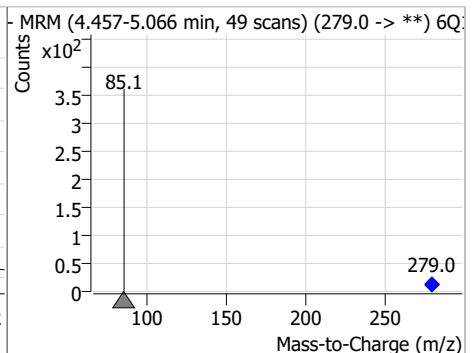
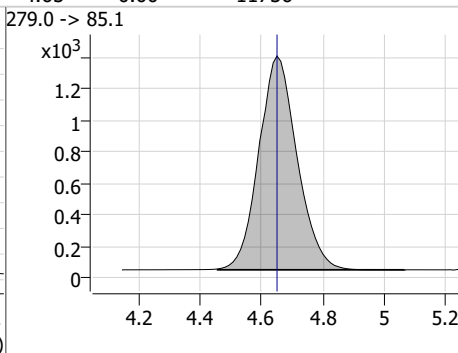
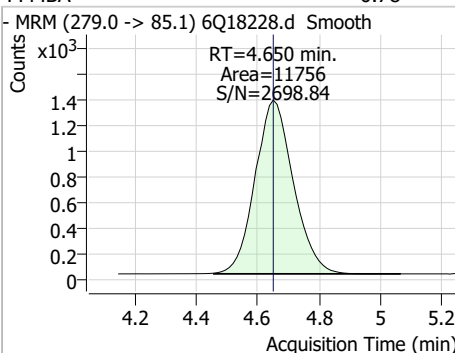
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFPeA | 4.88  | 4.23 | 0.00     | 76953 |      |        |      |      |



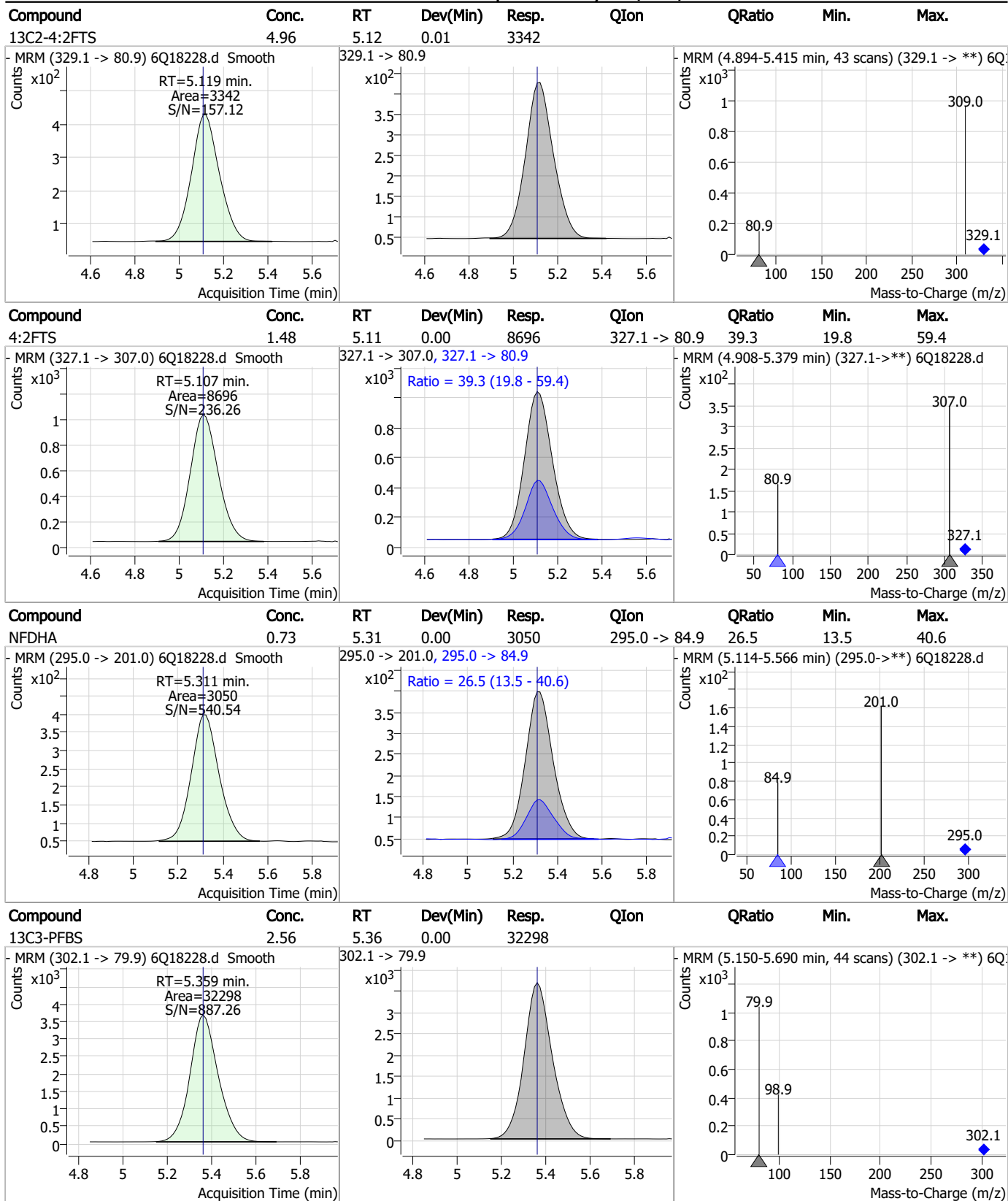
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFPeA    | 0.77  | 4.24 | 0.00     | 16356 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFMBA    | 0.78  | 4.65 | 0.00     | 11756 |      |        |      |      |



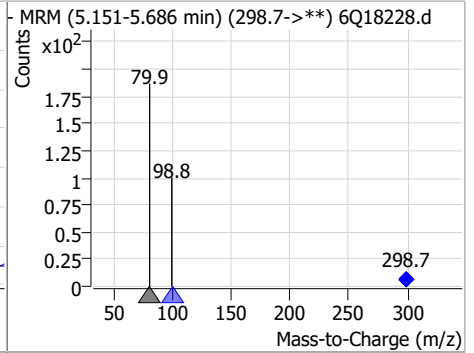
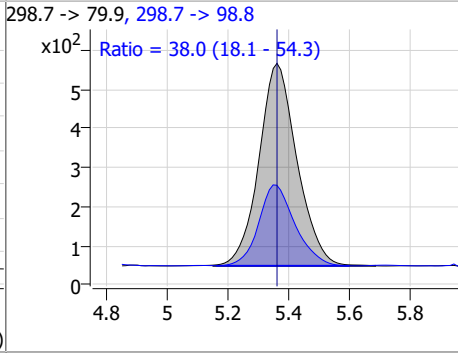
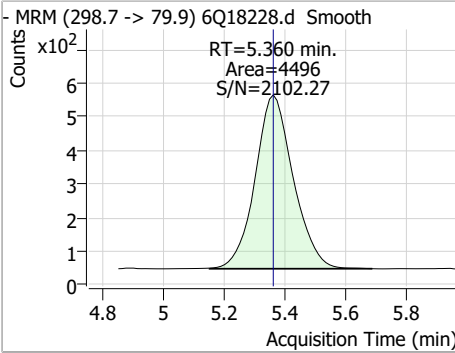
### Perfluorinated Compounds by LC/MS/MS



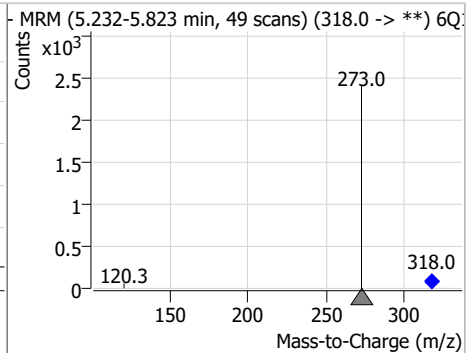
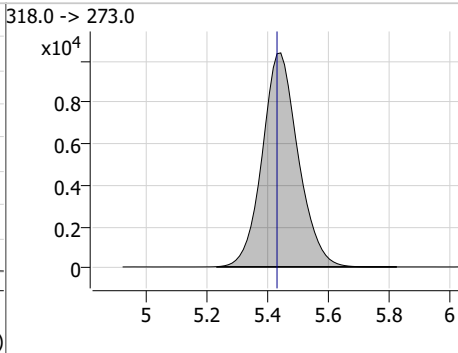
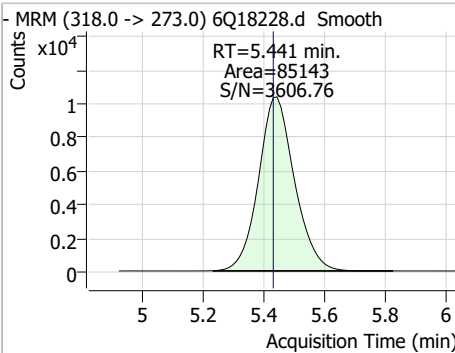
7.7.3  
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### Perfluorinated Compounds by LC/MS/MS

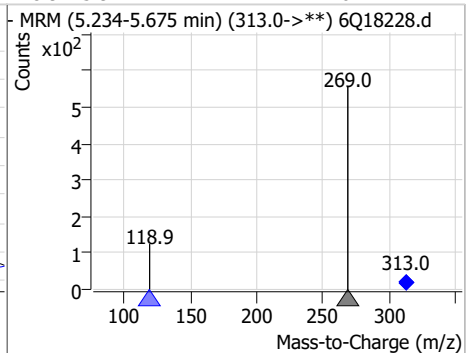
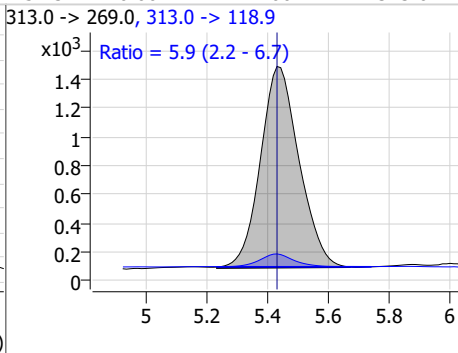
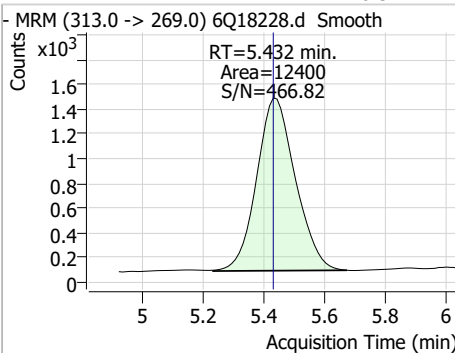
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFBS     | 0.35  | 5.36 | 0.00     | 4496  | 298.7 -> 98.8 | 38.0   | 18.1 | 54.3 |



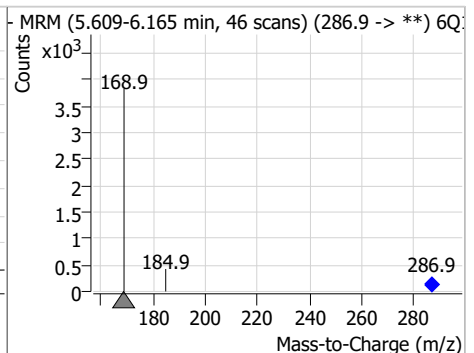
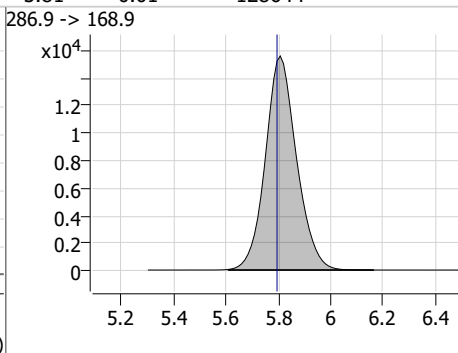
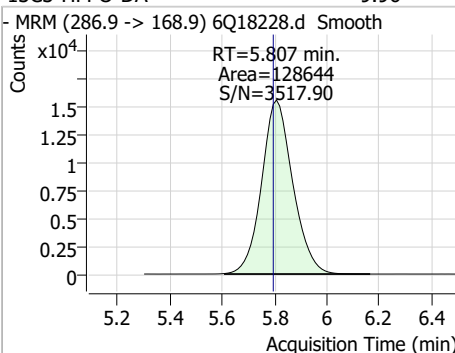
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C5-PFHxA | 2.52  | 5.44 | 0.01     | 85143 | 318.0 -> 273.0 |        |      |      |



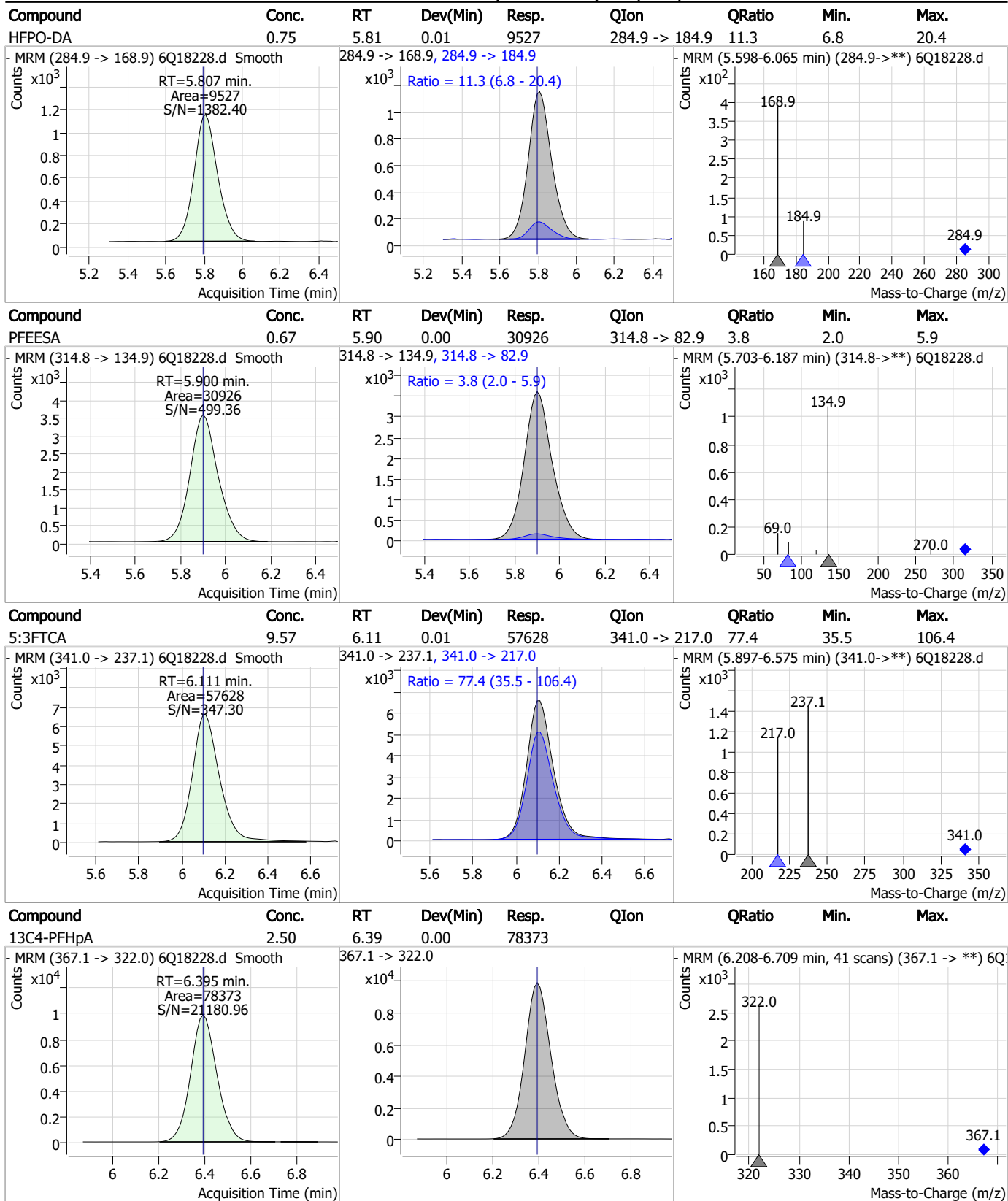
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHxA    | 0.37  | 5.43 | 0.00     | 12400 | 313.0 -> 118.9 | 5.9    | 2.2  | 6.7  |



| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|----------------|--------|------|------|
| 13C3-HFPO-DA | 9.96  | 5.81 | 0.01     | 128644 | 286.9 -> 168.9 |        |      |      |



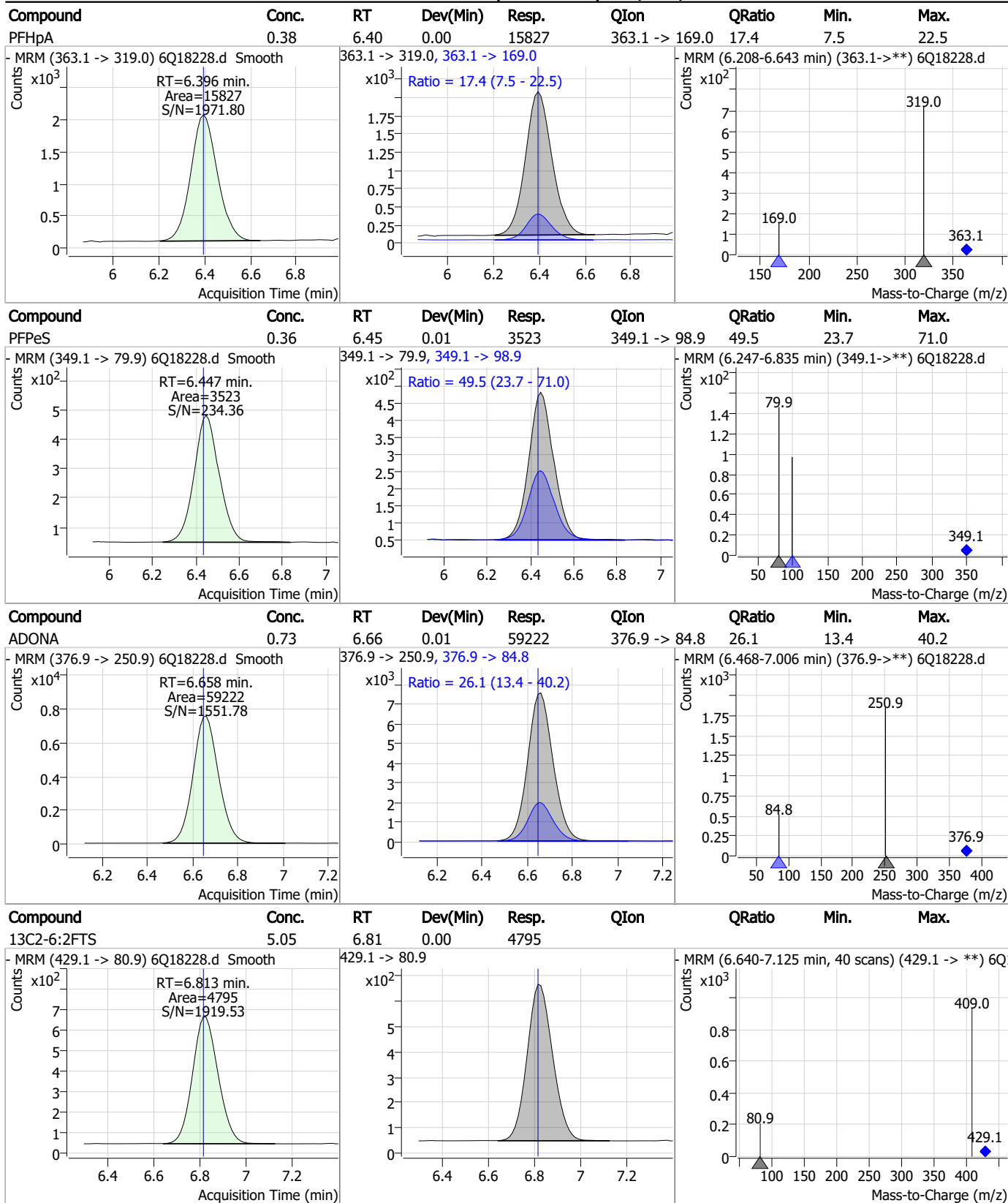
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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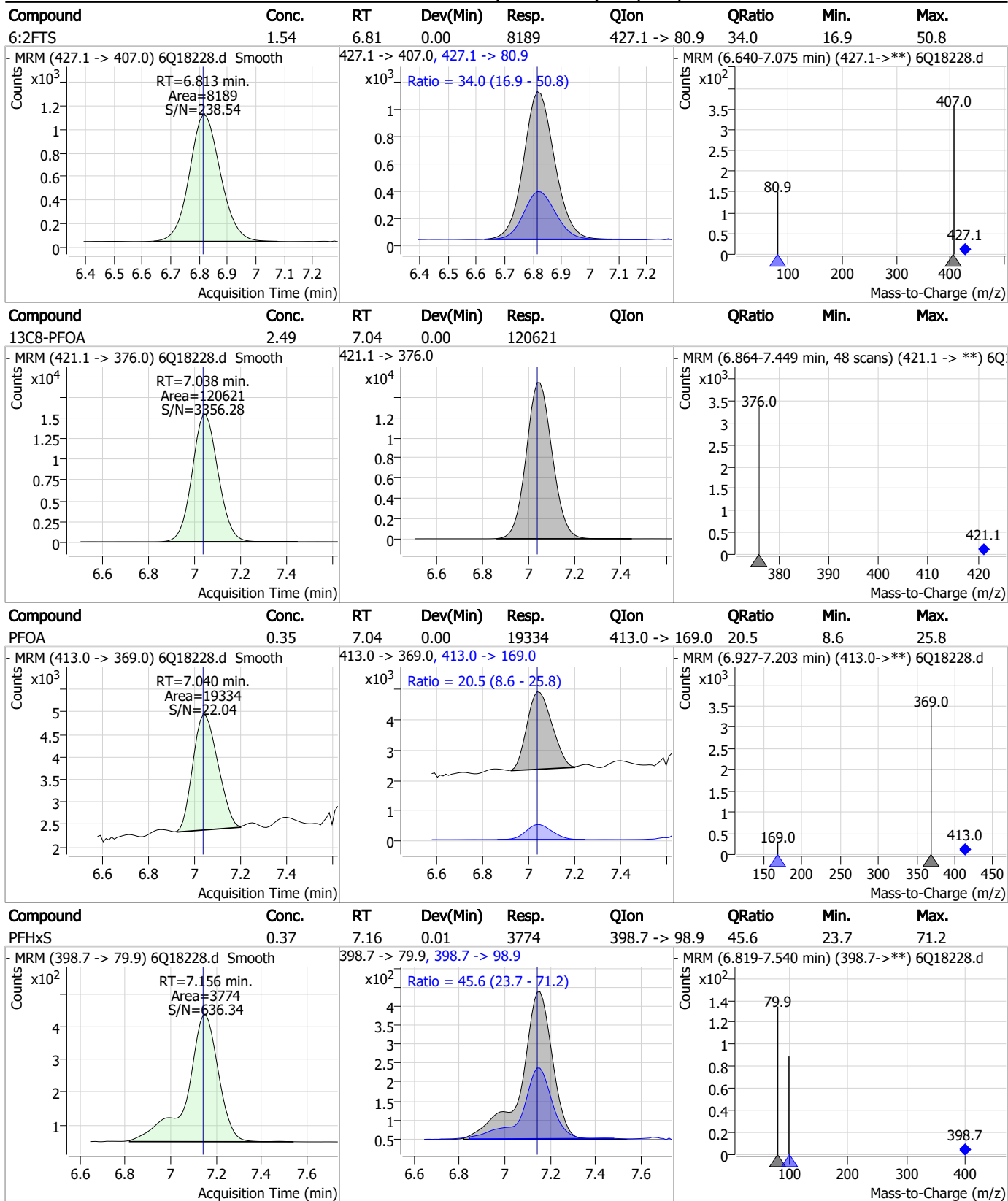
### Perfluorinated Compounds by LC/MS/MS



7.7.3  
7



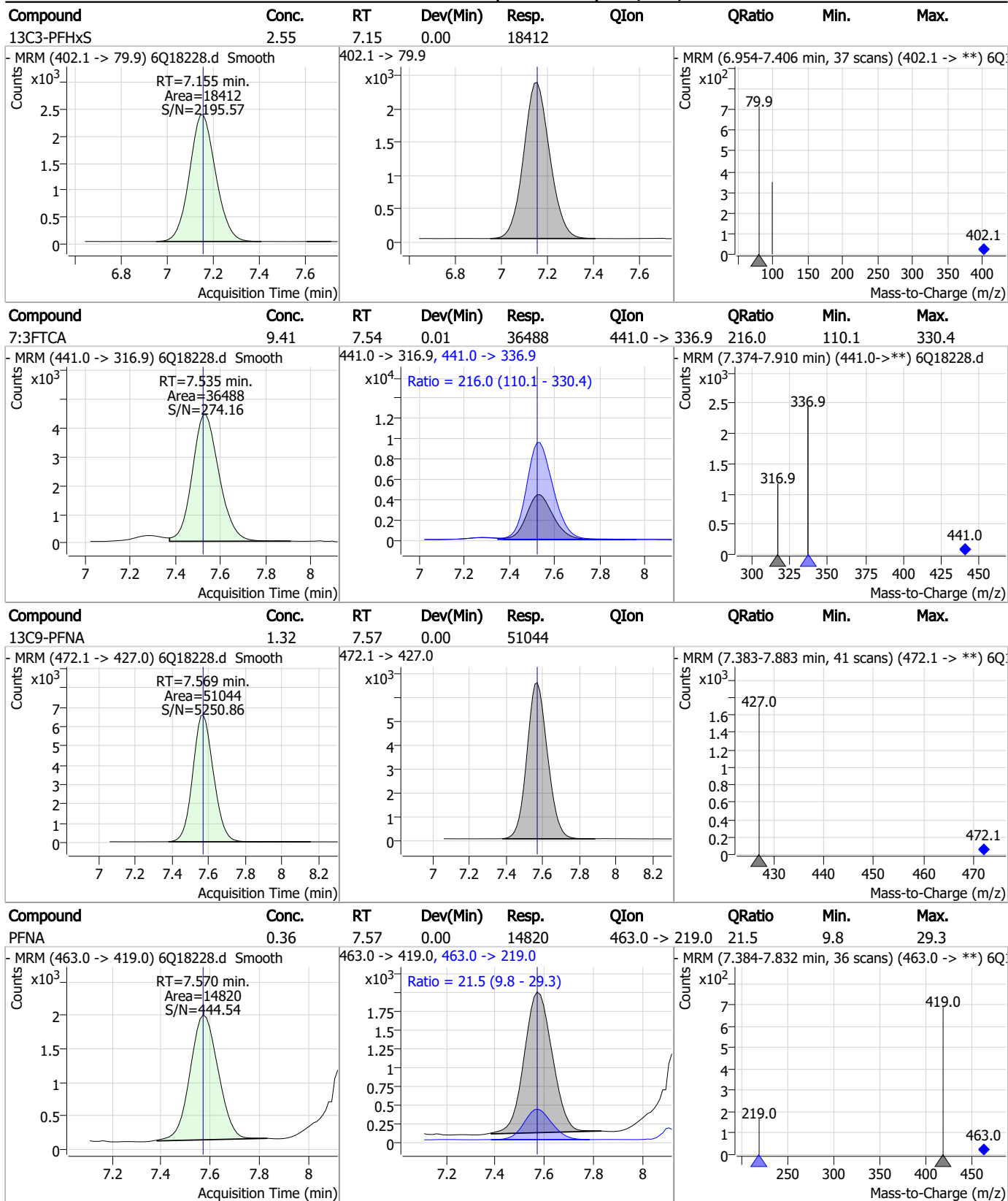
### Perfluorinated Compounds by LC/MS/MS



7.7.3

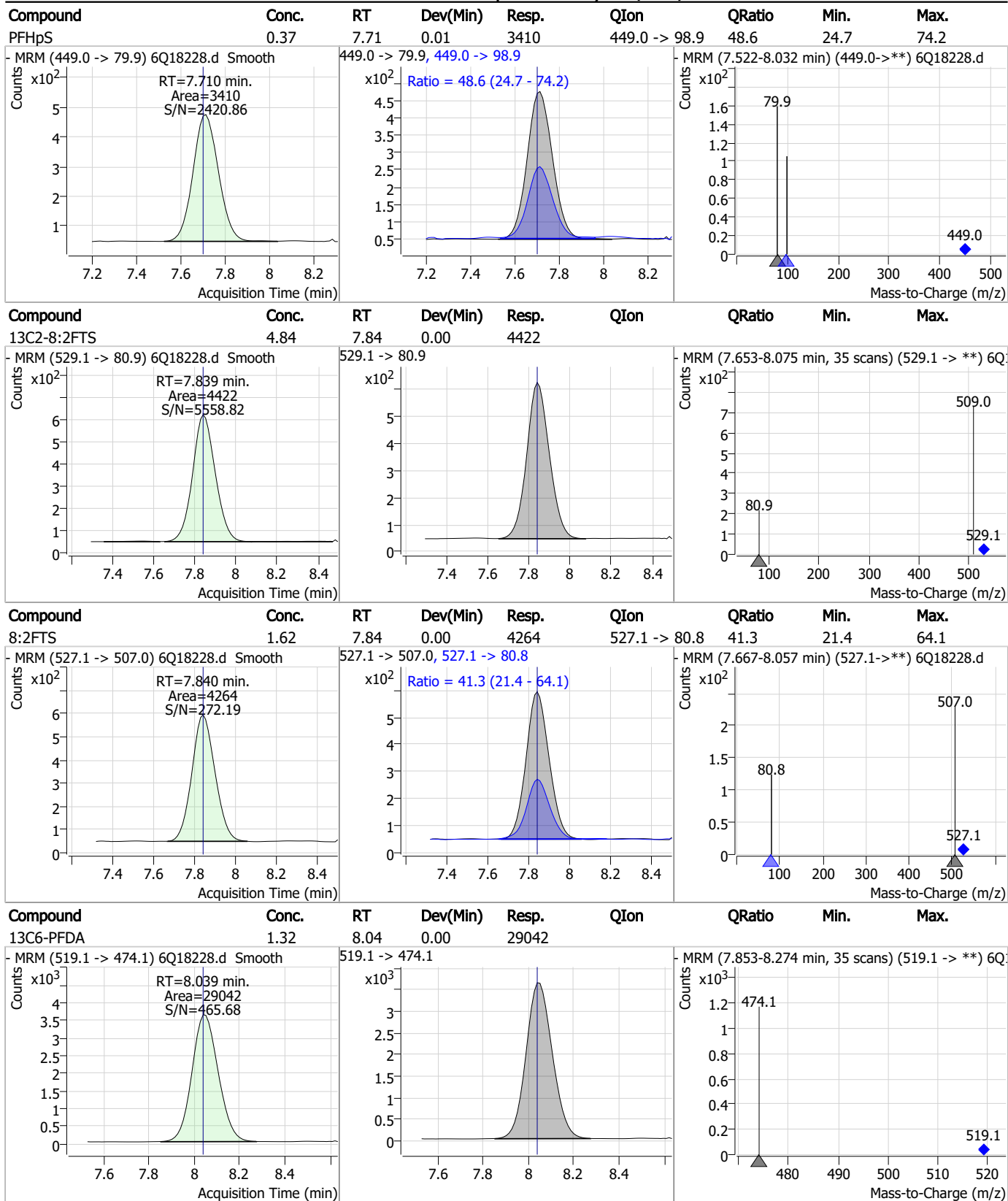
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### Perfluorinated Compounds by LC/MS/MS



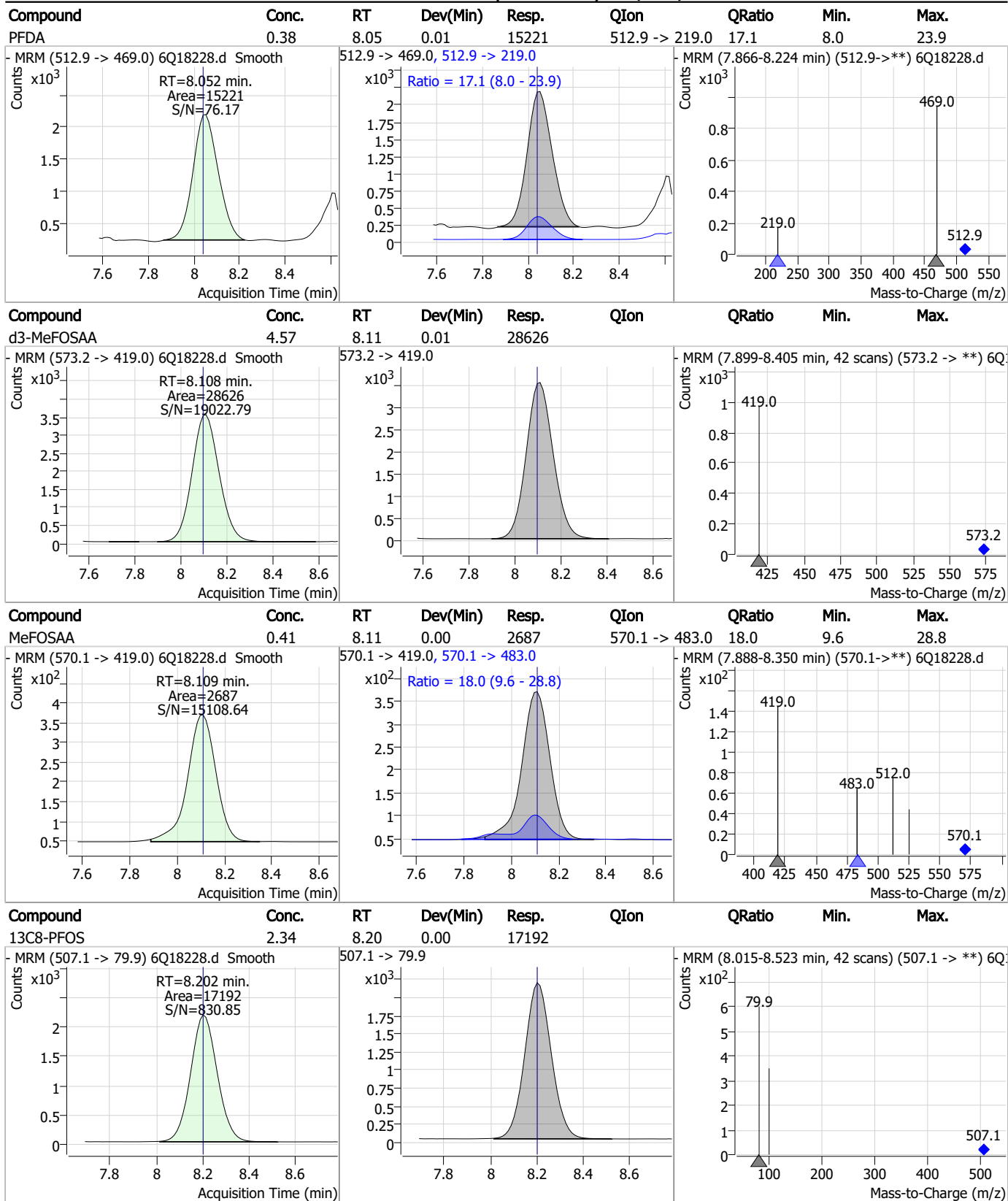
7.7.3  
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### Perfluorinated Compounds by LC/MS/MS



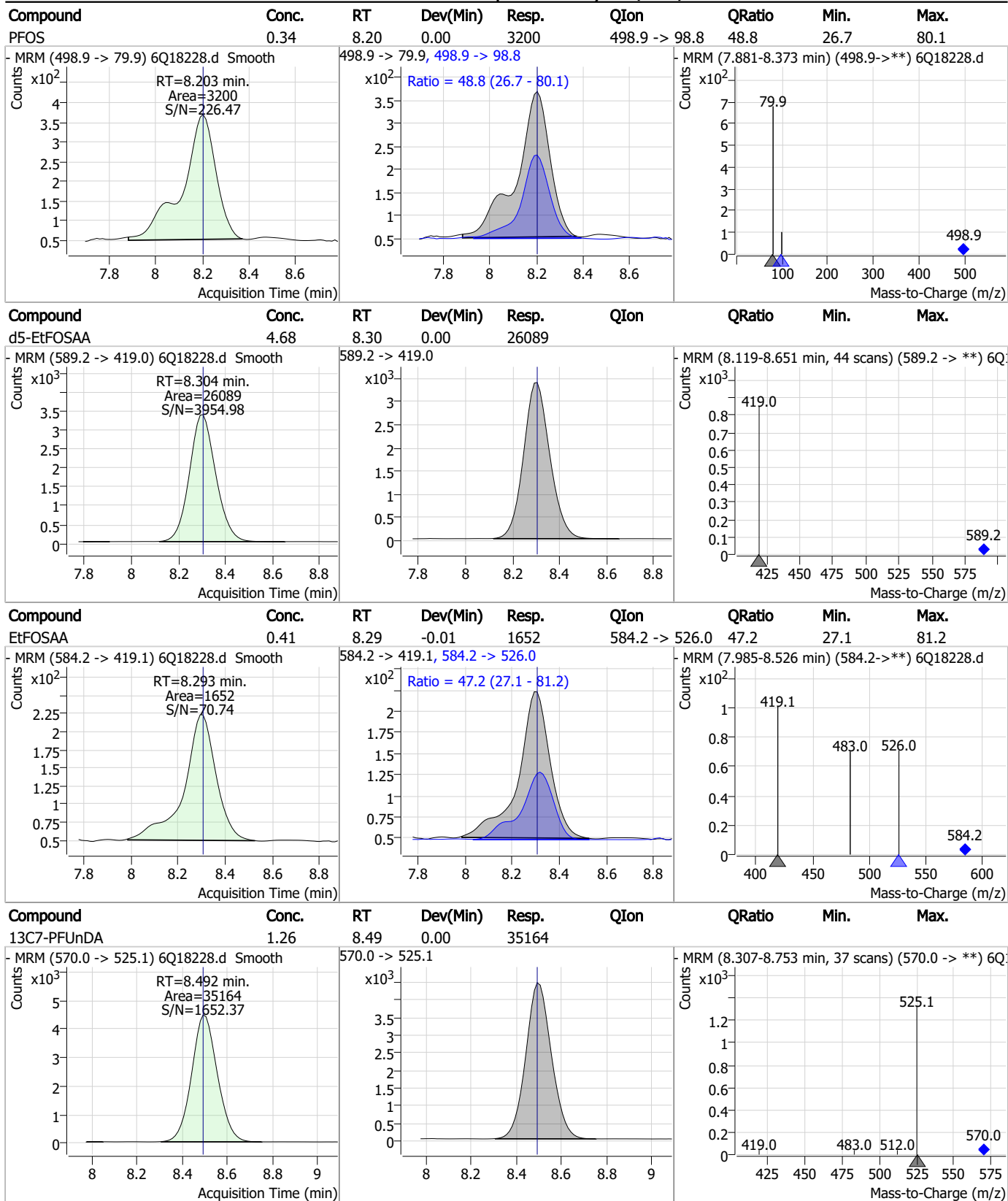
7.7.3  
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### Perfluorinated Compounds by LC/MS/MS



7.7.3  
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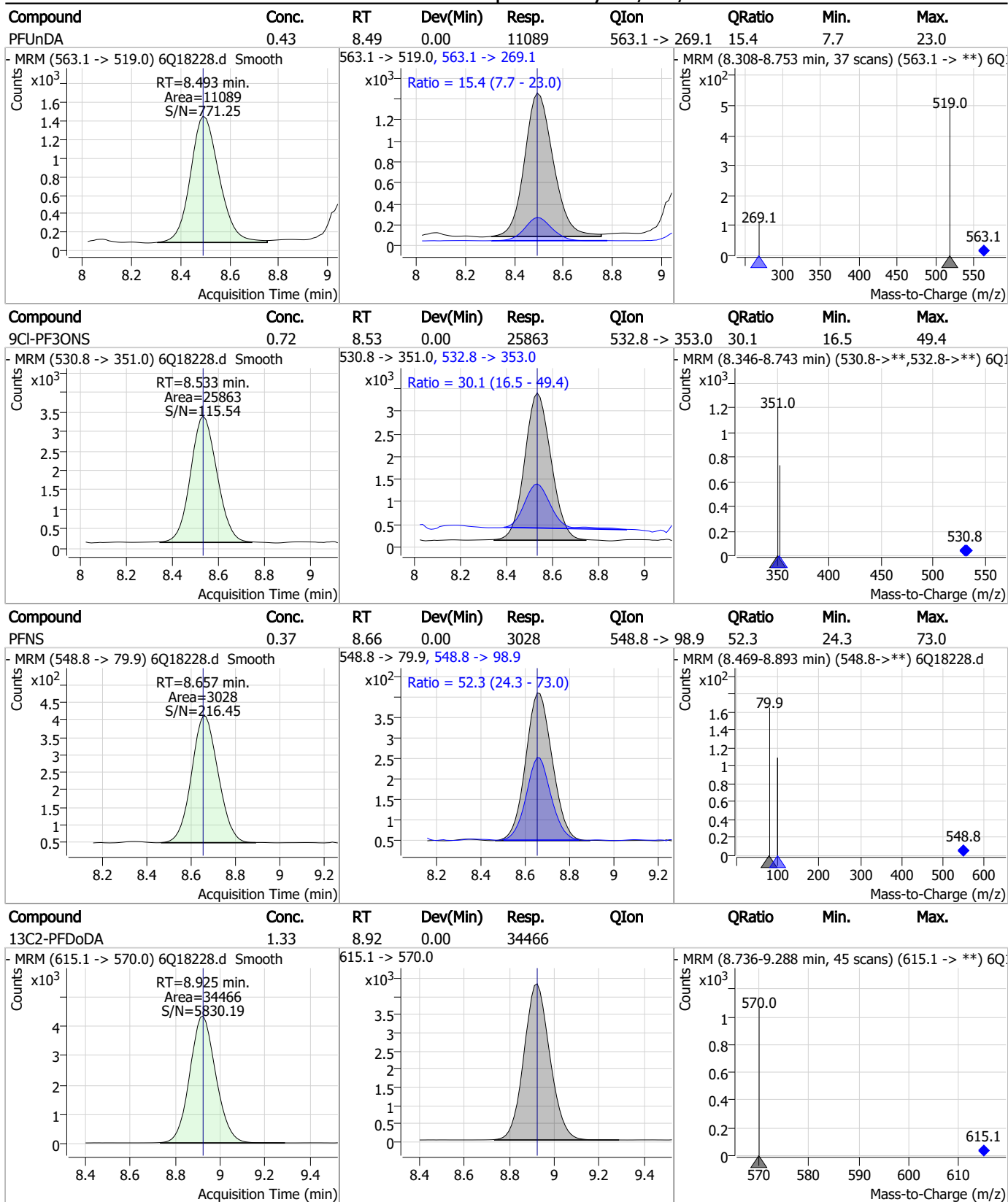
### Perfluorinated Compounds by LC/MS/MS



7.7.3  
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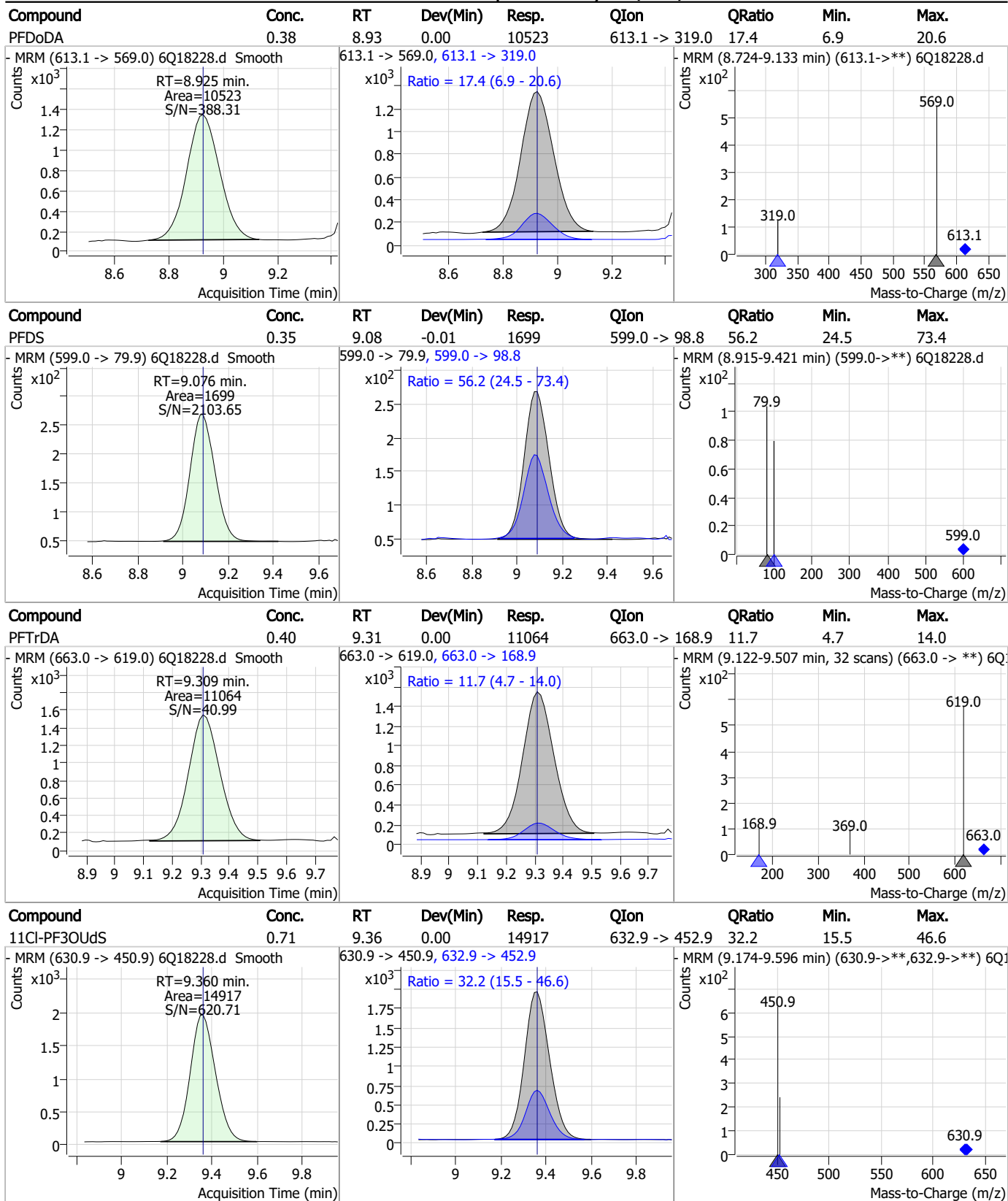
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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### Perfluorinated Compounds by LC/MS/MS



7.7.3  
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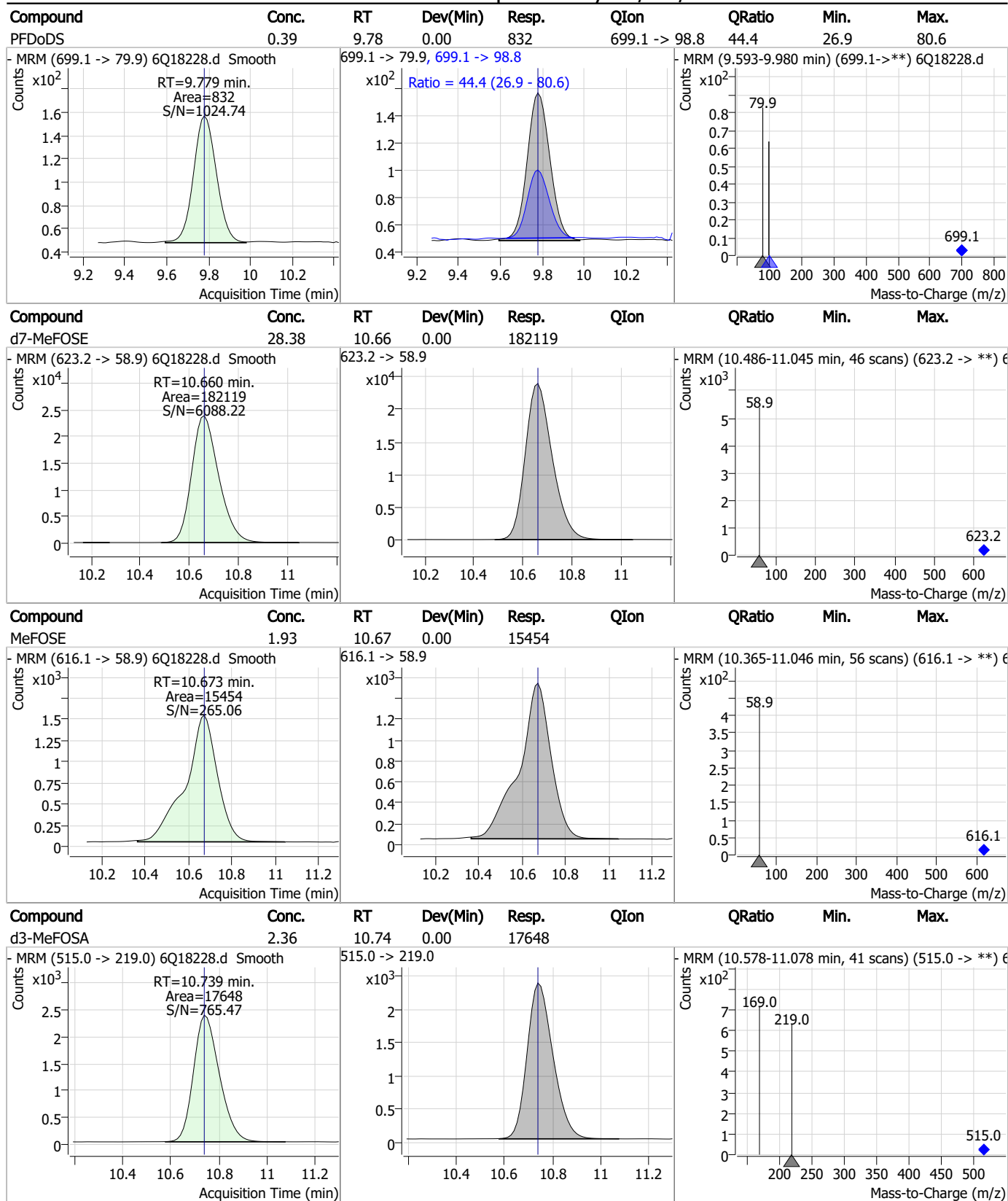
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA        | 0.39  | 9.60 | 0.00     | 6189  | 498.1 -> 478.0 | 2.8    | 1.5  | 4.6  |
|             |       |      |          |       |                |        |      |      |
| 13C8-FOSA   | 2.49  | 9.60 | -0.01    | 40931 | 498.1 -> 478.0 |        |      |      |
|             |       |      |          |       |                |        |      |      |
| 13C2-PFTeDA | 1.39  | 9.65 | 0.00     | 18884 | 715.2 -> 670.0 |        |      |      |
|             |       |      |          |       |                |        |      |      |
| PFTeDA      | 0.40  | 9.65 | 0.00     | 8411  | 713.1 -> 168.9 | 9.3    | 3.8  | 11.4 |
|             |       |      |          |       |                |        |      |      |

7.7.3  
7



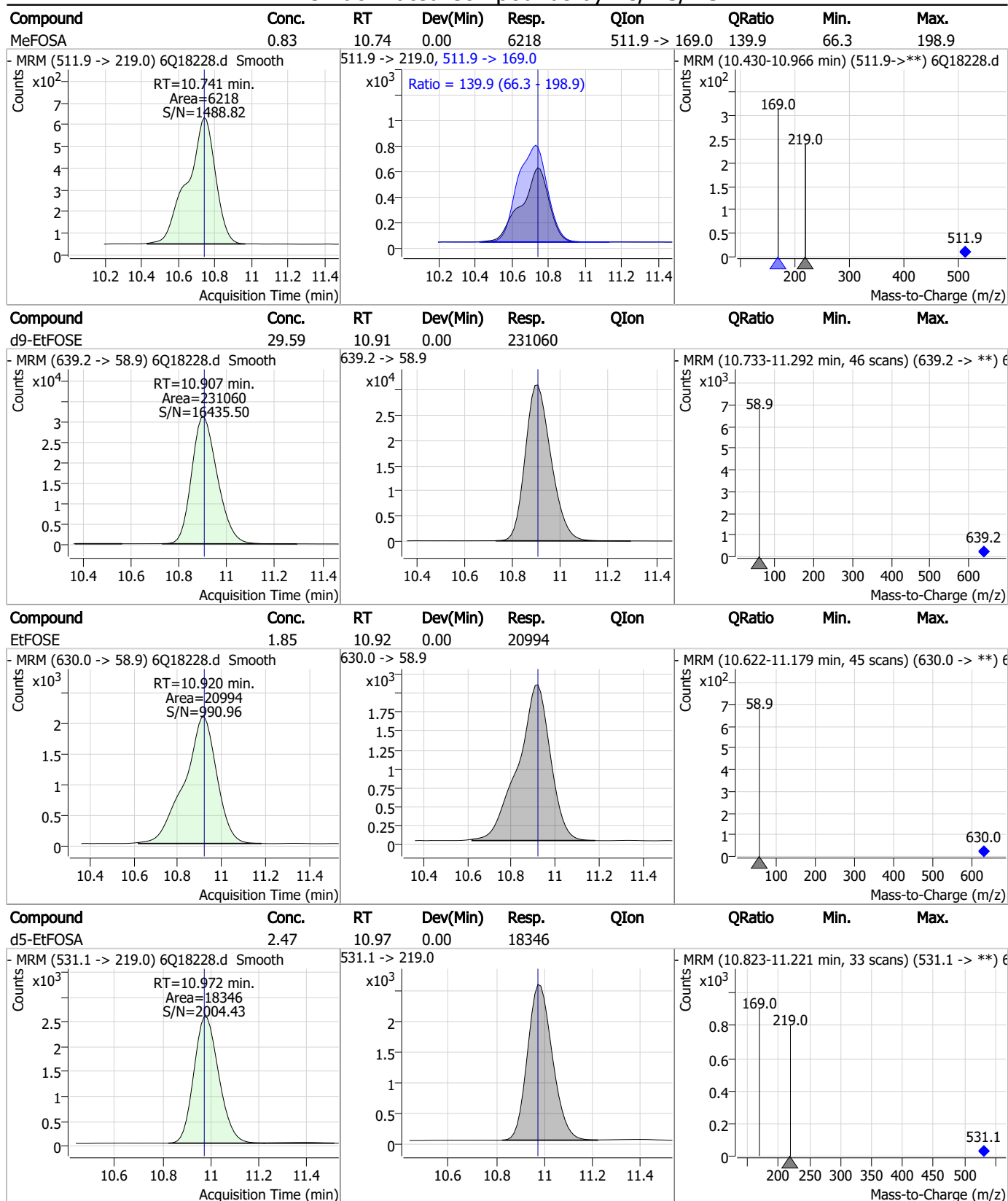
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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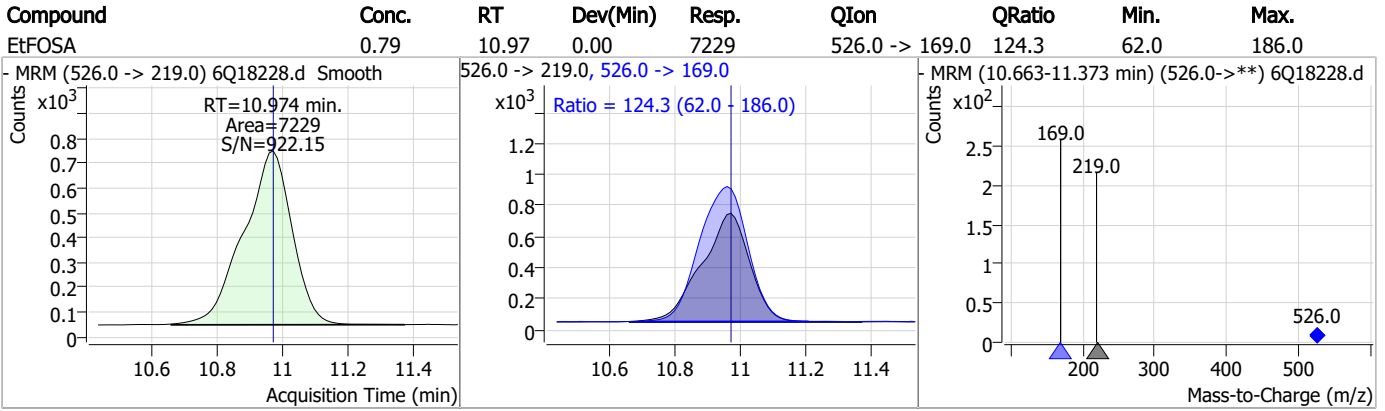
### Perfluorinated Compounds by LC/MS/MS



7.7.3

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### Perfluorinated Compounds by LC/MS/MS



7.7.3

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18229.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 9:56:22 PM  
 Sample Name : ic274-3  
 Vial : P1-A4  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response         | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                  |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 243843           | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 78982            | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 85353            | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 77773            | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 127808           | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 47626            | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.051                | 519.1 -> 474.1 | 29160            | 1.25 µg/L   | 0.012    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 40105            | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 34291            | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17724            | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 40422            | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 32318            | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 18432            | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 18251            | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3566             | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4789             | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4718             | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 31497            | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 129782           | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 26772            | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 156692           | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 184757           | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 18588            | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17907            | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 22374            | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 102792           | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 14068            | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 127937           | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 37828            | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 57519            | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 85691            | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                  |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3566             | 4.98 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 99.6% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4789             | 4.75 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 94.9% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4718             | 4.86 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 97.2% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 34291            | 1.25 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 99.8% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17724            | 1.23 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 98.8% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 32318            | 2.41 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 96.5% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 18432            | 2.40 µg/L   | 0.000    |

## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.0%  |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 243843   | 10.06 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.6% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 77773    | 2.44 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.4%  |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 85353    | 2.48 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.3%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 78982    | 4.92 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 98.4%  |               |
| 13C6-PFDA               | 8.051                | 519.1 -> 474.1 | 29160    | 1.25 µg/L         | 0.012         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 40105    | 1.35 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 108.4% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 40422    | 2.60 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.8% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 127808   | 2.50 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.2% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 18251    | 2.63 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.1% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 47626    | 1.21 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.8%  |               |
| d3-MeFOSAA              | 8.108                | 573.2 -> 419.0 | 31497    | 5.31 µg/L         | 0.012         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 106.3% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 129782   | 9.86 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.6%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17907    | 2.53 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0 | 26772    | 5.07 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 101.5% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 156692   | 25.80 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 103.2% |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 184757   | 25.00 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 18588    | 2.65 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.9% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 28299    | 4.50 µg/L         | 97            |
|                         |                      | 327.1 -> 80.9  | 10750    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 25114    | 4.72 µg/L         | 97            |
|                         |                      | 427.1 -> 80.9  | 8951     |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 13770    | 4.89 µg/L         | 99            |
|                         |                      | 527.1 -> 80.8  | 5805     |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 4838     | 1.18 µg/L         | 92            |
|                         |                      | 584.2 -> 526.0 | 2894     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 18786    | 1.19 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 529      |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 8491     | 1.19 µg/L         | 99            |
|                         |                      | 570.1 -> 483.0 | 1667     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 45404    | 4.80 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 14044    | 1.08 µg/L         | 96            |
|                         |                      | 298.7 -> 98.8  | 5385     |                   |               |
| PFDA                    | 8.052                | 512.9 -> 469.0 | 47418    | 1.18 µg/L         | 98            |
|                         |                      | 512.9 -> 219.0 | 8049     |                   |               |
| PFDODA                  | 8.925                | 613.1 -> 569.0 | 34829    | 1.27 µg/L         | 96            |
|                         |                      | 613.1 -> 319.0 | 5382     |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 6006     | 1.16 µg/L         | 97            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
|              |        | 599.0 -> 98.8  | 2811     |       |       |          |
| PFHpA        | 6.395  | 363.1 -> 319.0 | 51286    | 1.23  | µg/L  | 97       |
|              |        | 363.1 -> 169.0 | 8233     |       |       |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 11138    | 1.13  | µg/L  | 100      |
|              |        | 449.0 -> 98.9  | 5482     |       |       |          |
| PFHxA        | 5.444  | 313.0 -> 269.0 | 38342    | 1.15  | µg/L  | 97       |
|              |        | 313.0 -> 118.9 | 2088     |       |       |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 11657    | 1.13  | µg/L  | m 98     |
|              |        | 398.7 -> 98.9  | 5395     |       |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 46370    | 1.22  | µg/L  | 96       |
|              |        | 463.0 -> 219.0 | 9814     |       |       |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 9676     | 1.13  | µg/L  | 92       |
|              |        | 548.8 -> 98.9  | 5248     |       |       |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 69236    | 1.18  | µg/L  | 99       |
|              |        | 413.0 -> 169.0 | 12229    |       |       |          |
| PFOS         | 8.203  | 498.9 -> 79.9  | 10437    | 1.05  | µg/L  | 96       |
|              |        | 498.9 -> 98.8  | 5270     |       |       |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 52705    | 2.41  | µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 11256    | 1.14  | µg/L  | 99       |
|              |        | 349.1 -> 98.9  | 5437     |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 25452    | 1.28  | µg/L  | 96       |
|              |        | 713.1 -> 168.9 | 2271     |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 32780    | 1.21  | µg/L  | 91       |
|              |        | 663.0 -> 168.9 | 4079     |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 32159    | 1.09  | µg/L  | 94       |
|              |        | 563.1 -> 269.1 | 5731     |       |       |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 49415    | 2.32  | µg/L  | 99       |
|              |        | 632.9 -> 452.9 | 15163    |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 80840    | 2.23  | µg/L  | 100      |
|              |        | 532.8 -> 353.0 | 26756    |       |       |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 188010   | 2.31  | µg/L  | 99       |
|              |        | 376.9 -> 84.8  | 51067    |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 31514    | 2.46  | µg/L  | 94       |
|              |        | 284.9 -> 184.9 | 3477     |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 9254     | 5.99  | µg/L  | 99       |
|              |        | 241.0 -> 117.0 | 1399     |       |       |          |
| 5:3FTCA      | 6.111  | 341.0 -> 237.1 | 181424   | 30.06 | µg/L  | 92       |
|              |        | 341.0 -> 217.0 | 140461   |       |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 115436   | 29.70 | µg/L  | 97       |
|              |        | 441.0 -> 336.9 | 249250   |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 21383    | 2.31  | µg/L  | 90       |
|              |        | 526.0 -> 169.0 | 29000    |       |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 57007    | 6.30  | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 18991    | 2.49  | µg/L  | 97       |
|              |        | 511.9 -> 169.0 | 25848    |       |       |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 40957    | 5.94  | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 2626     | 1.16  | µg/L  | 96       |
|              |        | 699.1 -> 98.8  | 1339     |       |       |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 10270    | 2.44  | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 2852     |       |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 37244    | 2.41  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 28126    | 2.42  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 99031    | 2.14  | µg/L  | 98       |
|              |        | 314.8 -> 82.9  | 3301     |       |       |          |

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

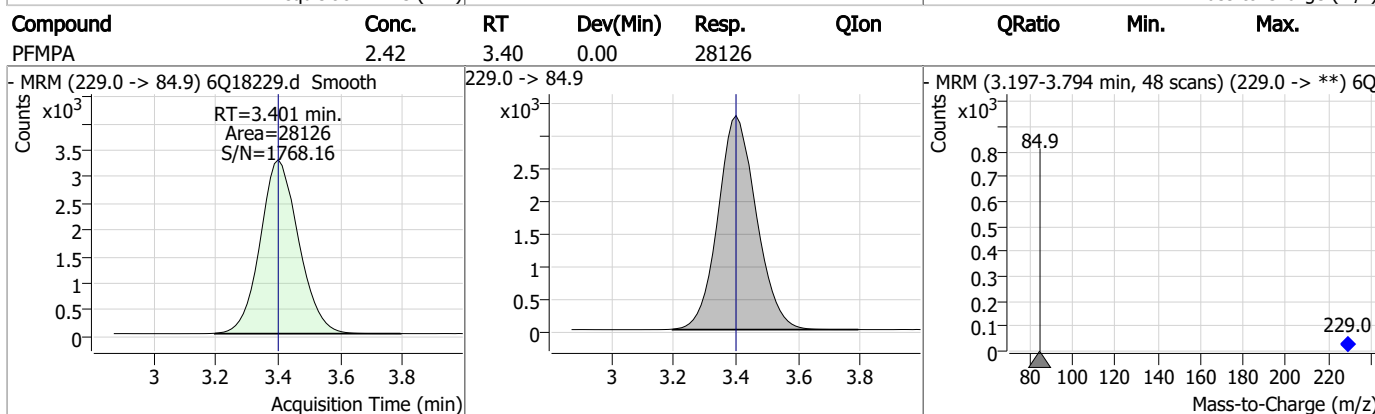
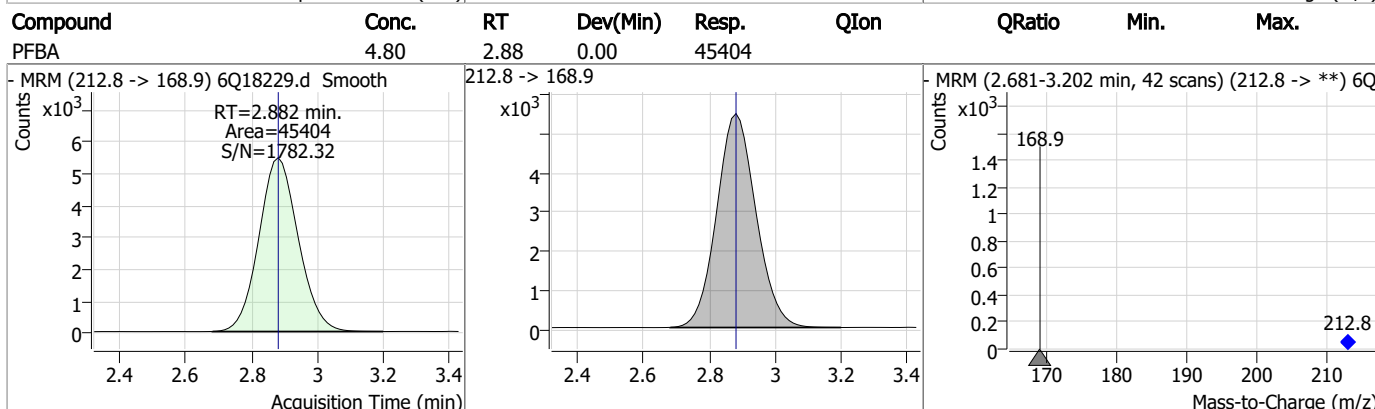
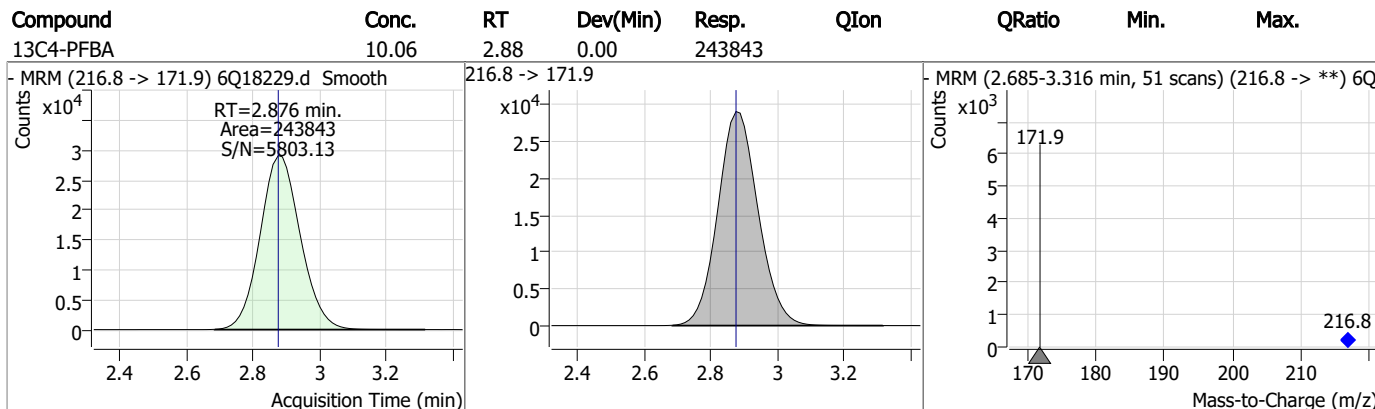
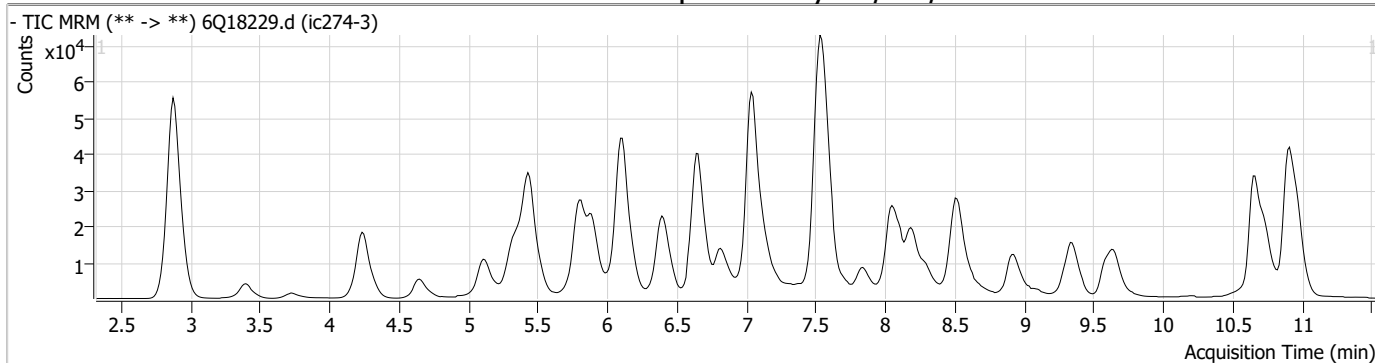
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.4

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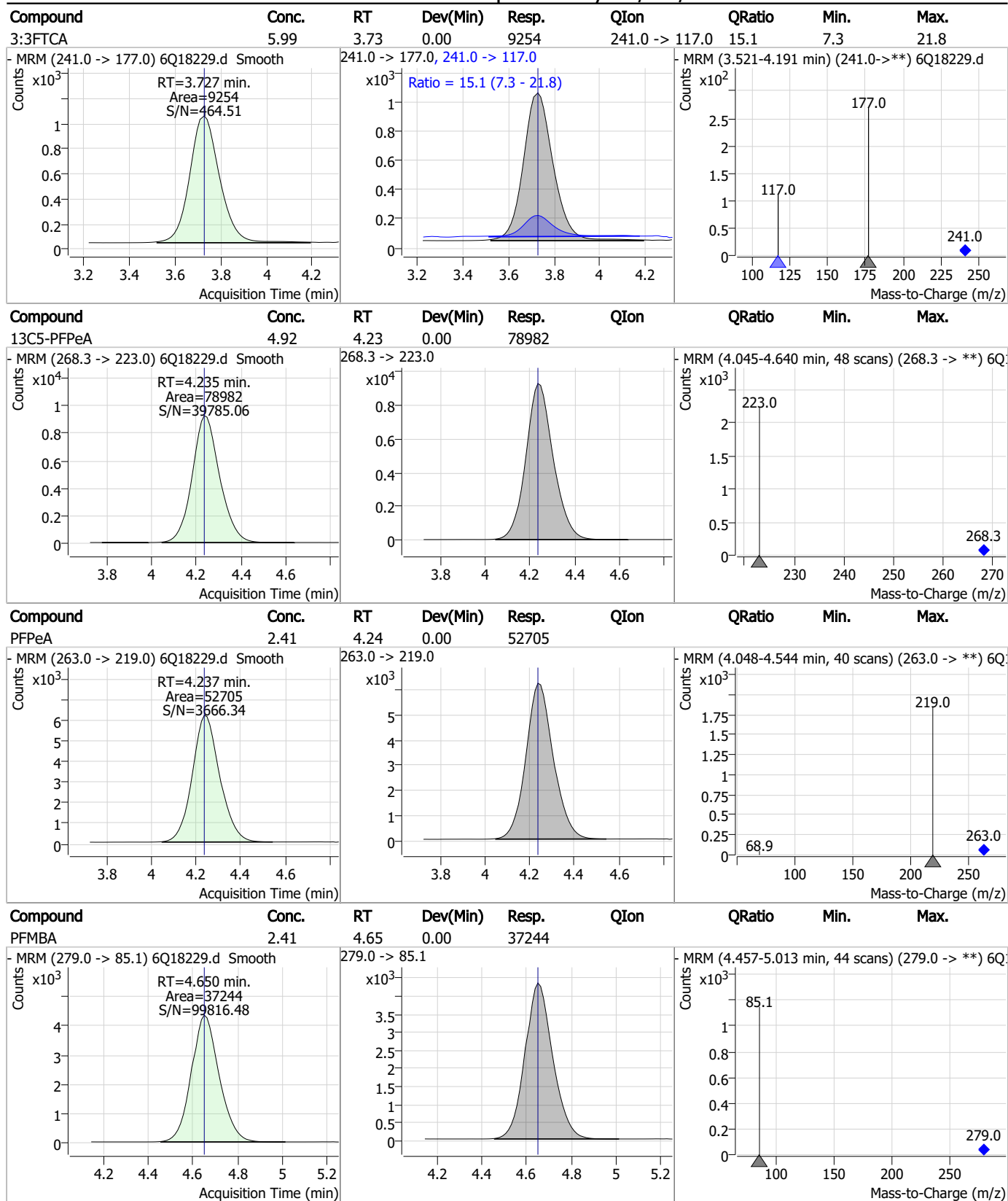
### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

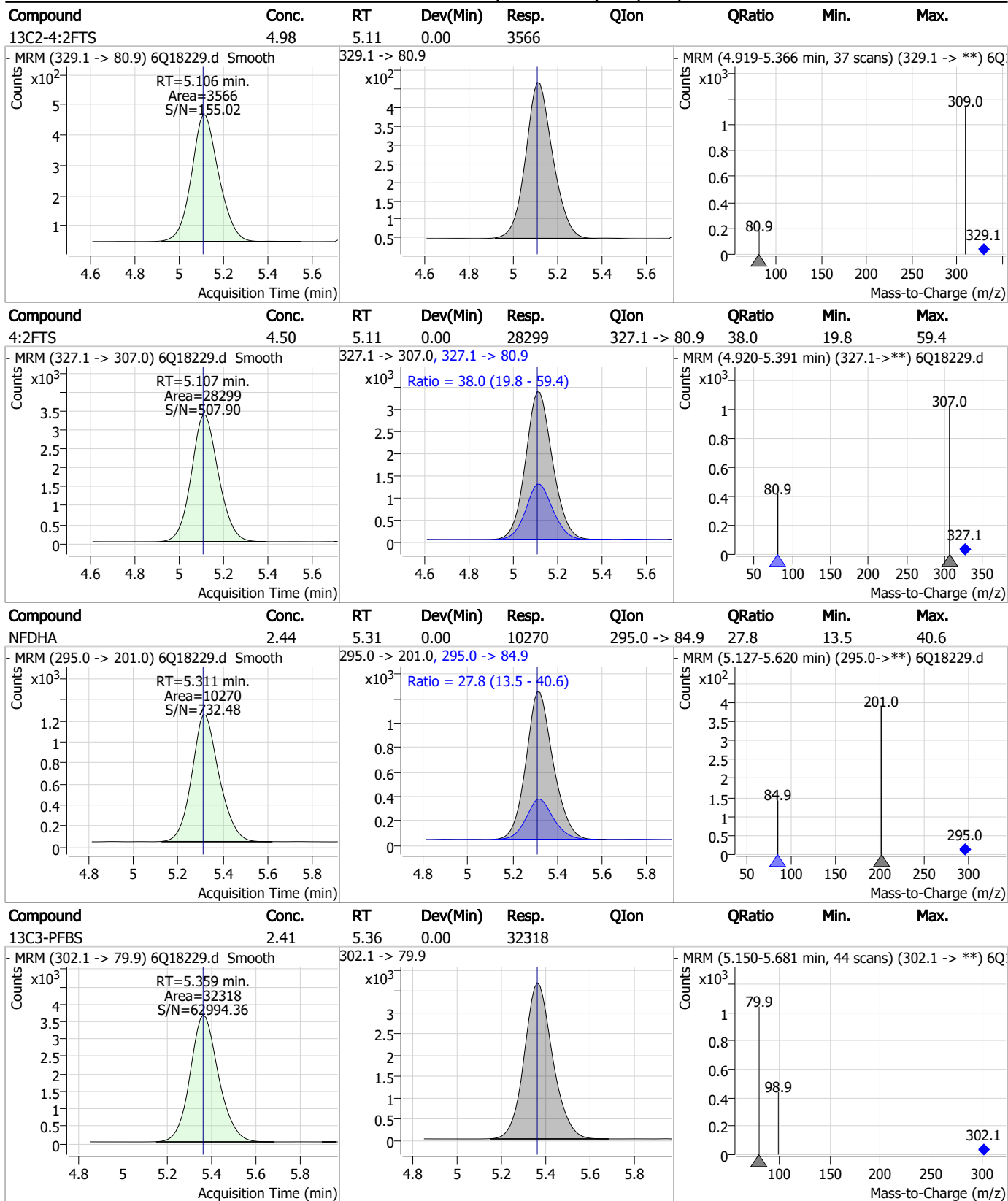


### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

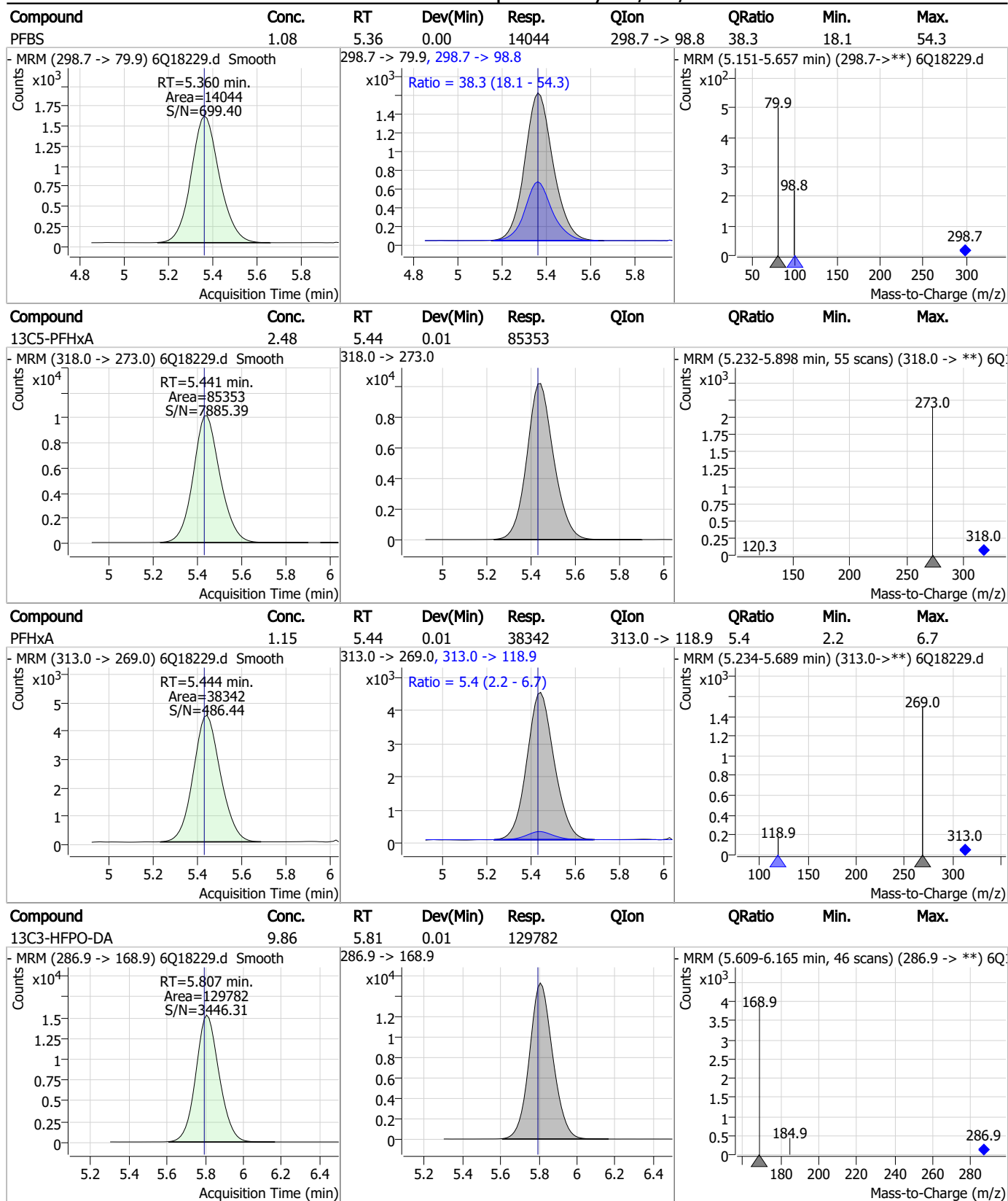
### Perfluorinated Compounds by LC/MS/MS



7.7.4

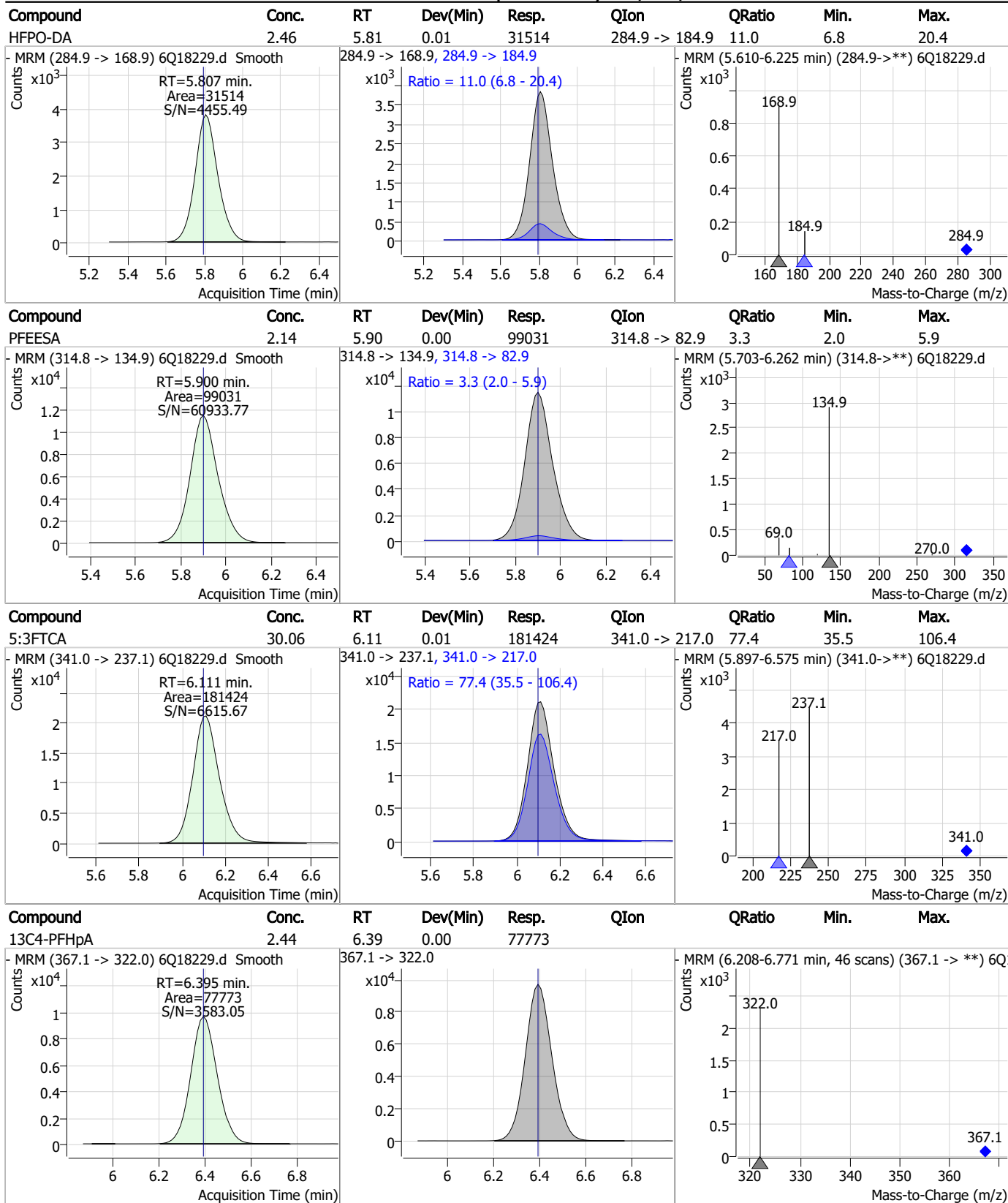
7

### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

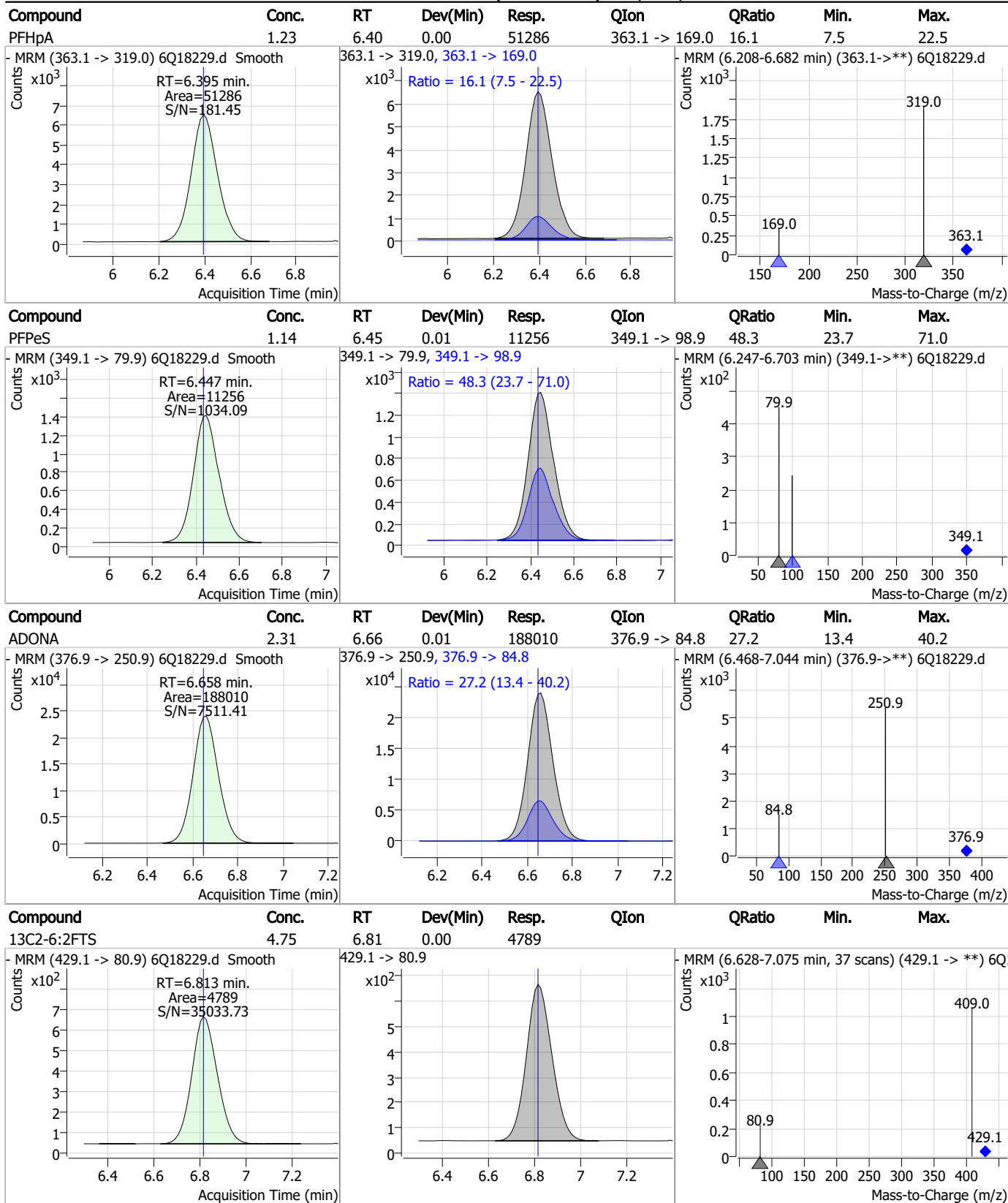
### Perfluorinated Compounds by LC/MS/MS



7.7.4

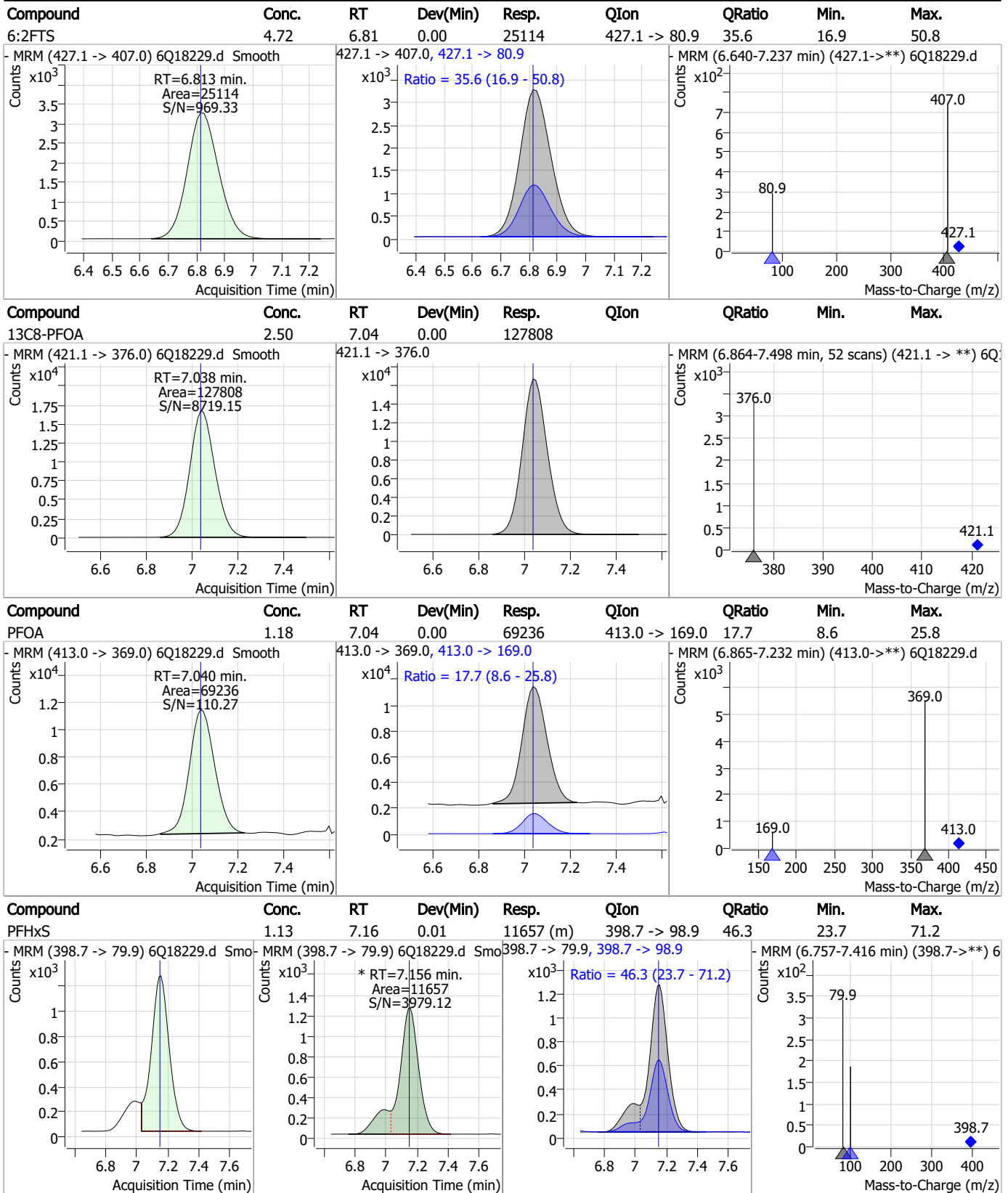
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### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

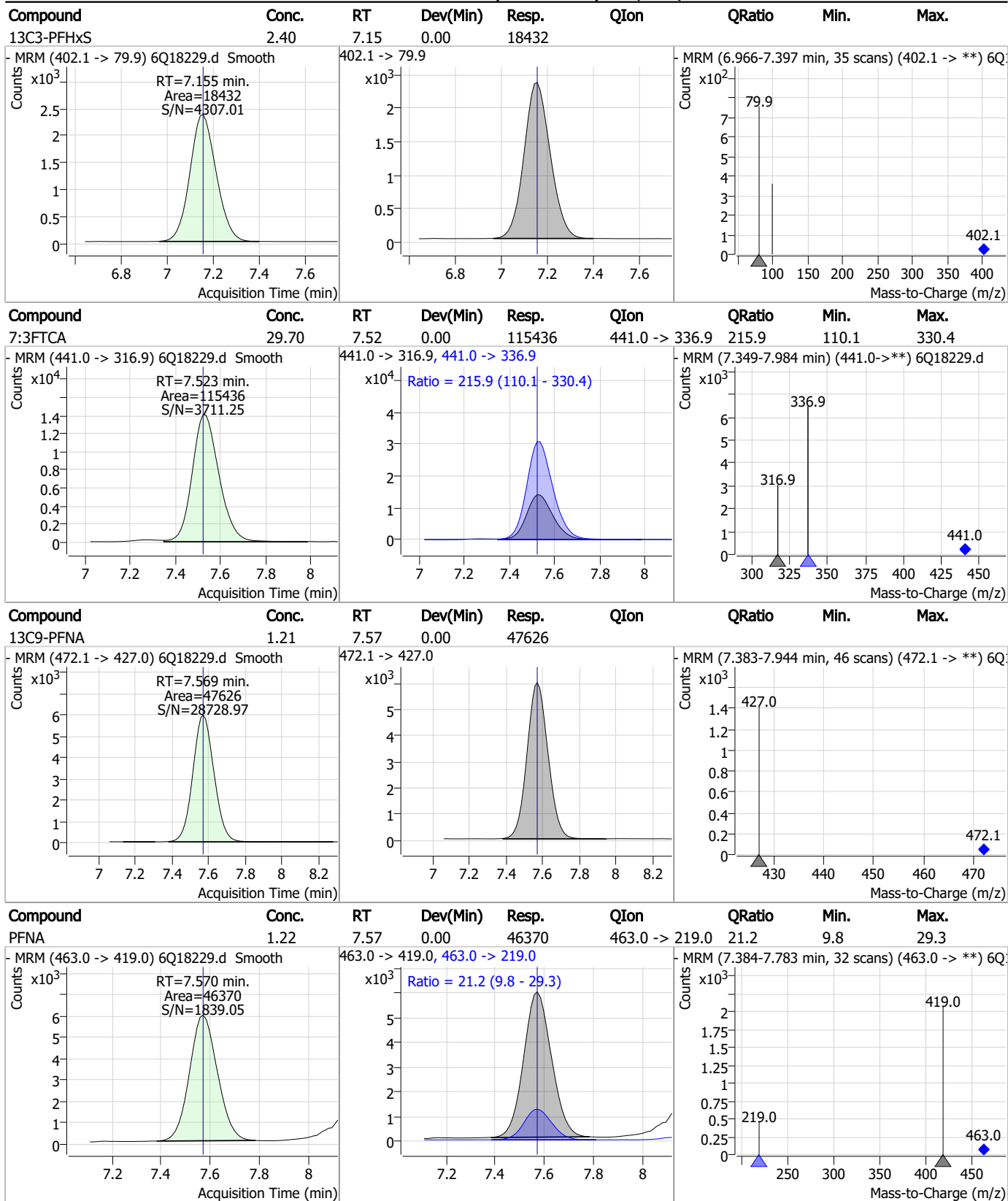
### Perfluorinated Compounds by LC/MS/MS



7.7.4

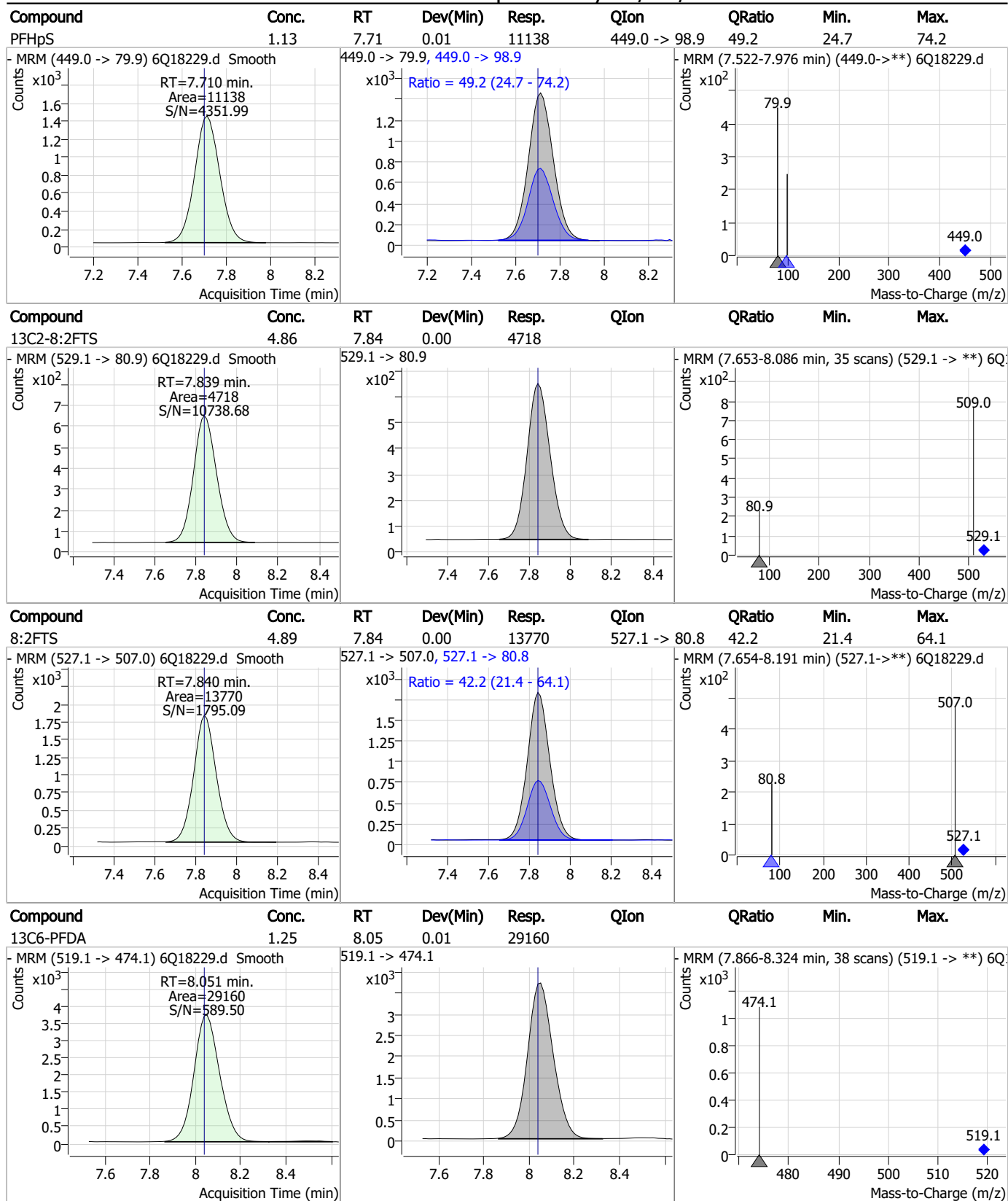
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### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

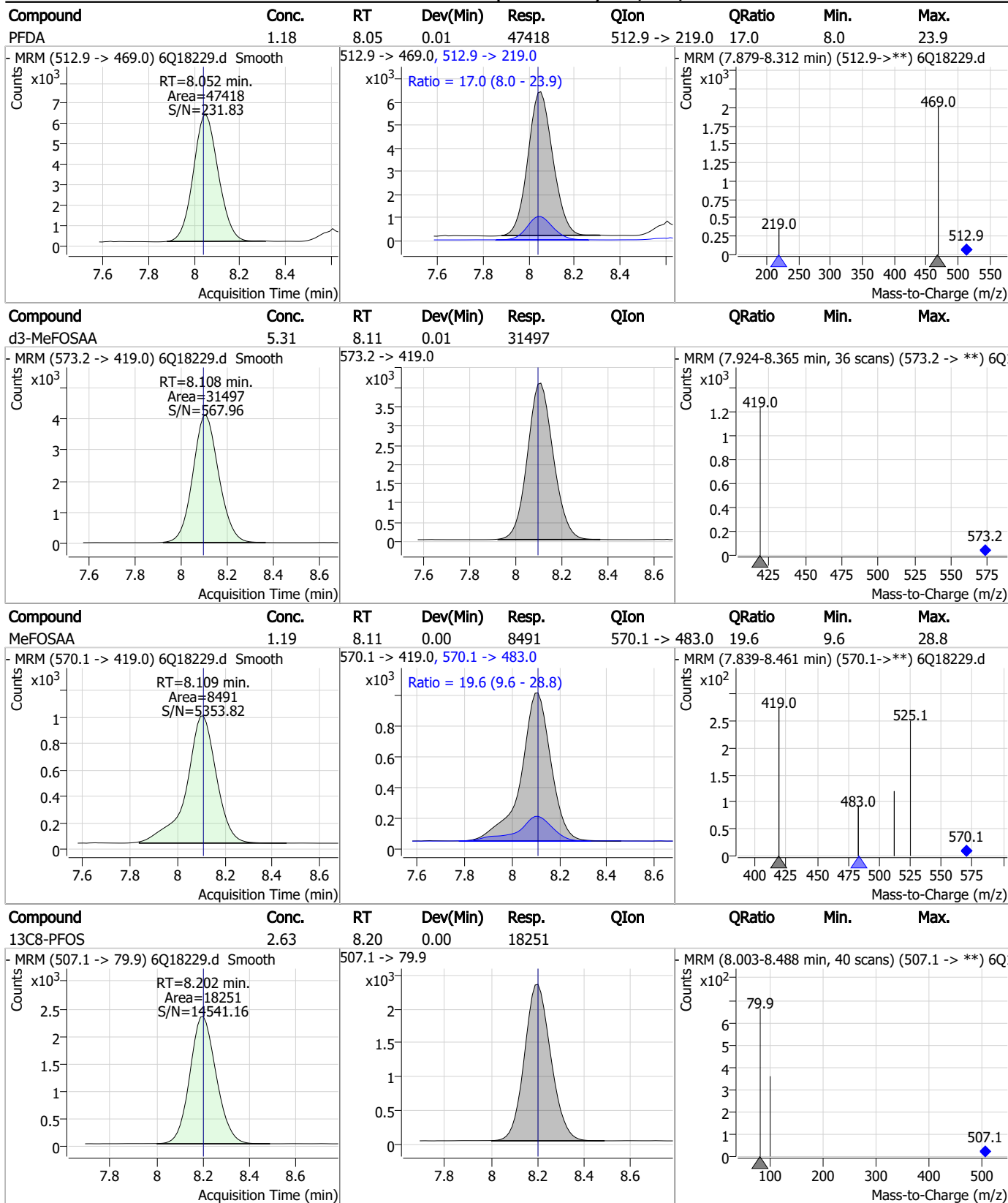
### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7



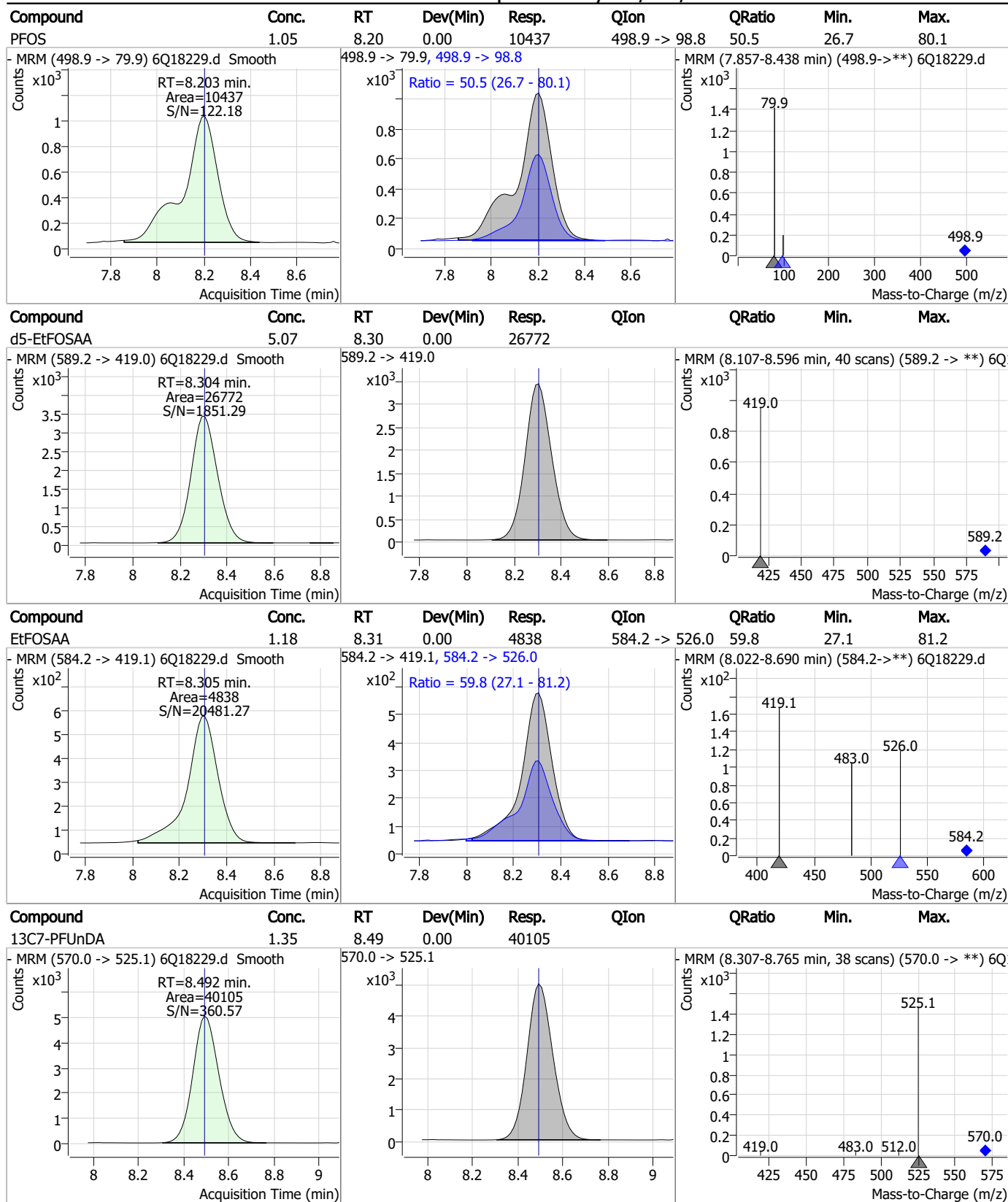
### Perfluorinated Compounds by LC/MS/MS



7.7.4

7

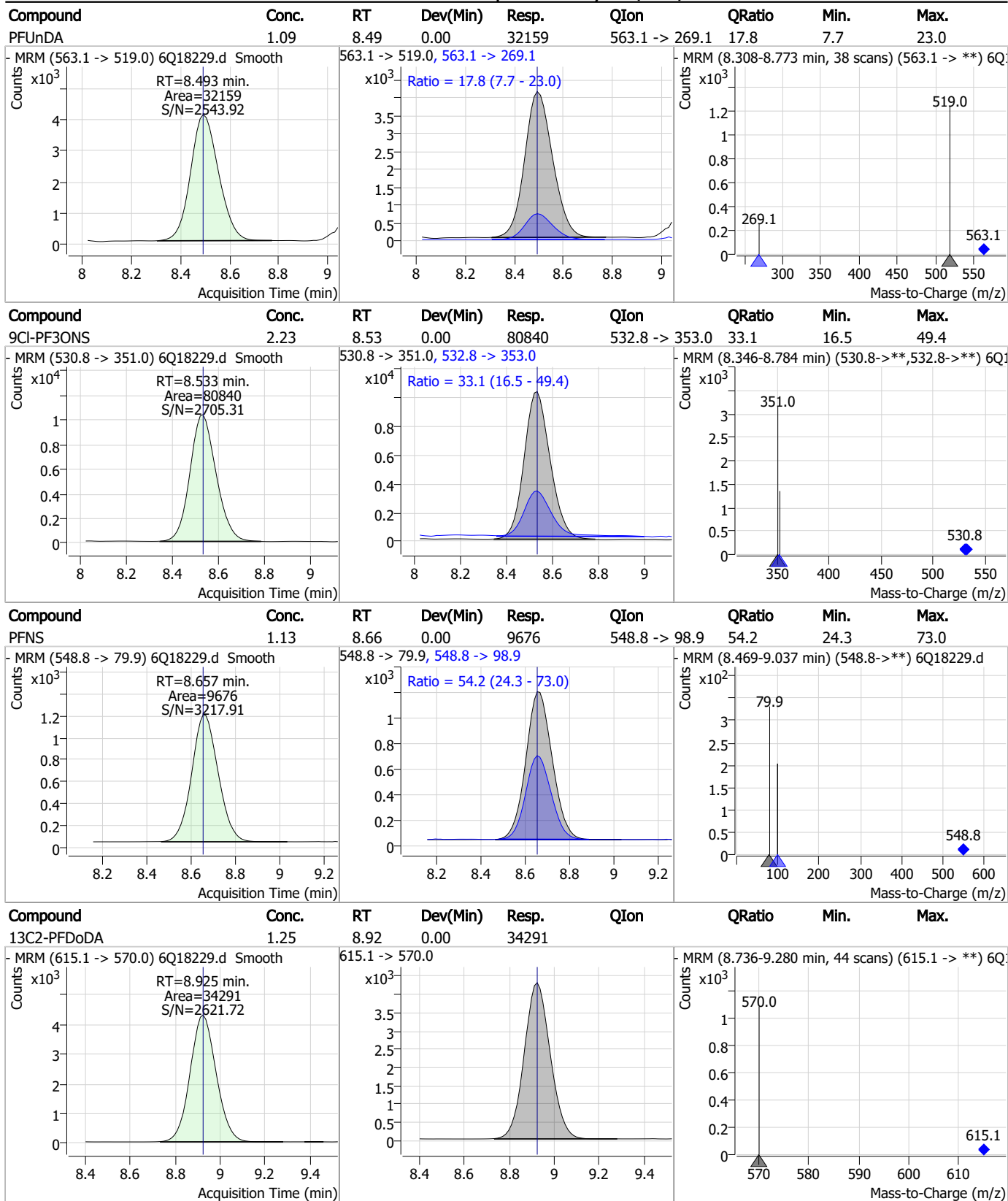
### Perfluorinated Compounds by LC/MS/MS



7.7.4

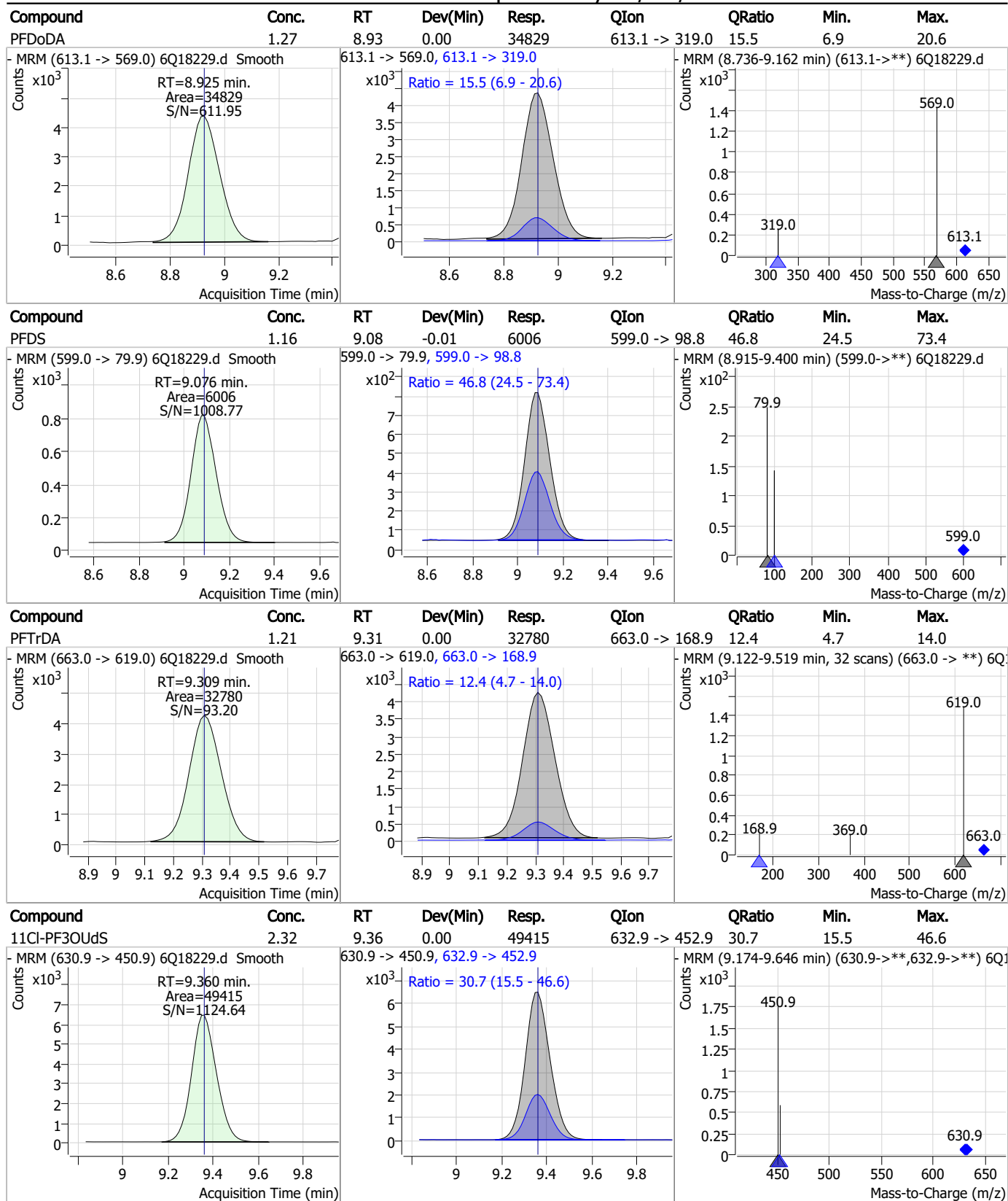
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### Perfluorinated Compounds by LC/MS/MS



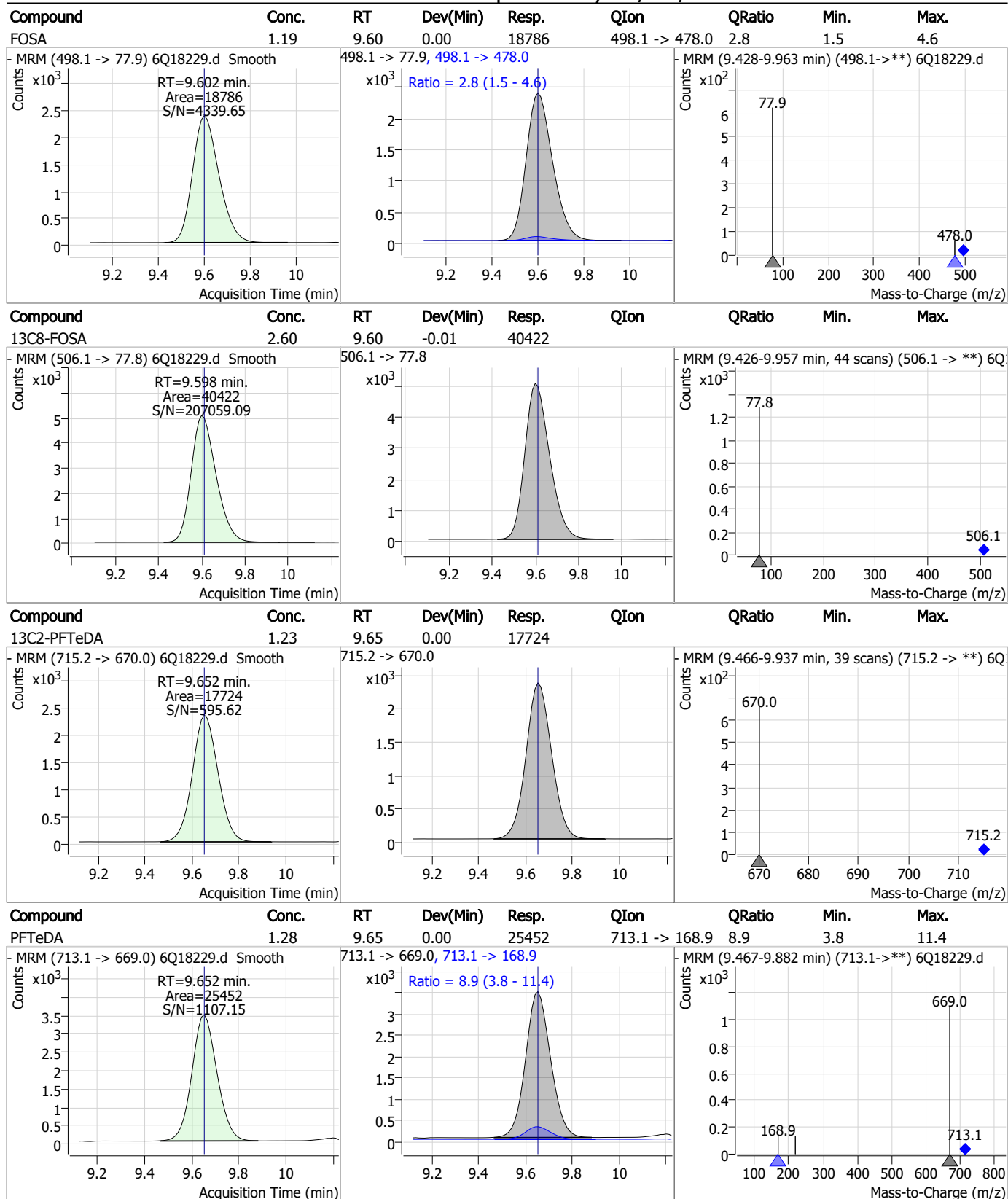
7.7.4  
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### Perfluorinated Compounds by LC/MS/MS



7.7.4  
7

### Perfluorinated Compounds by LC/MS/MS

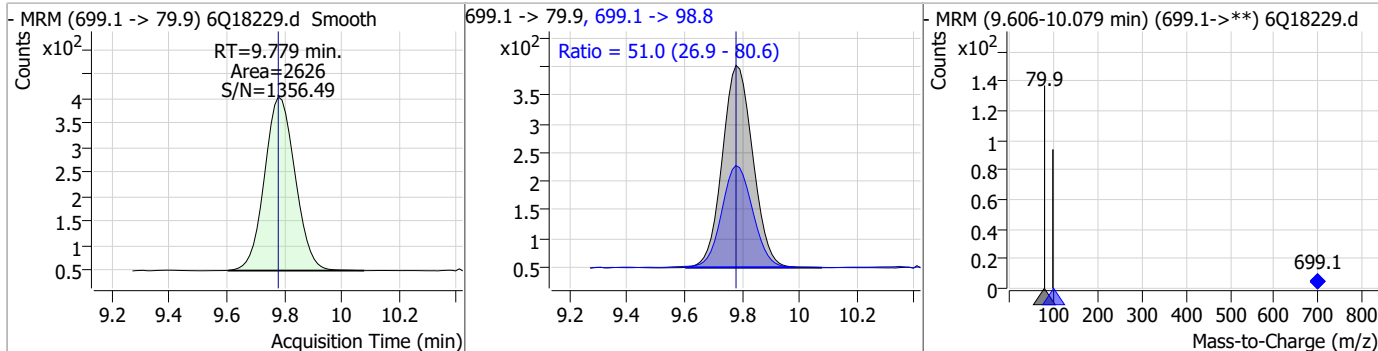


7.7.4

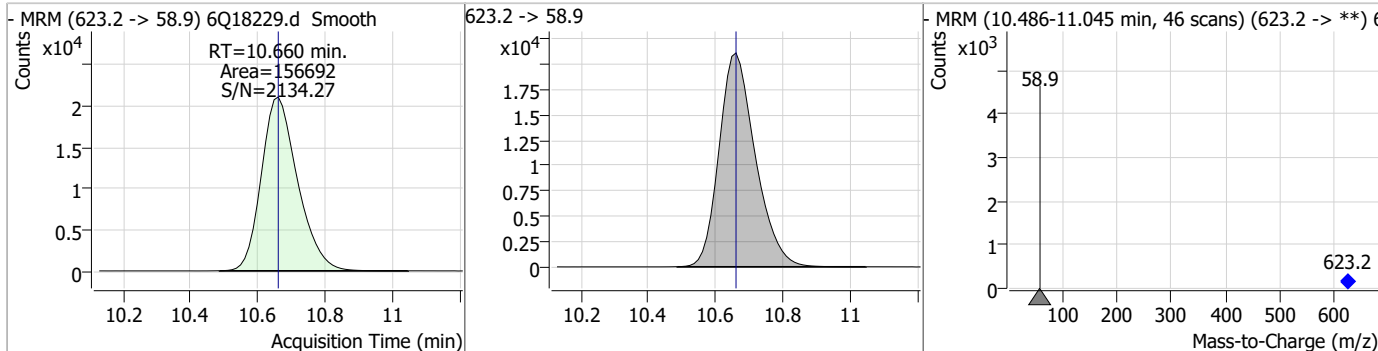
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### Perfluorinated Compounds by LC/MS/MS

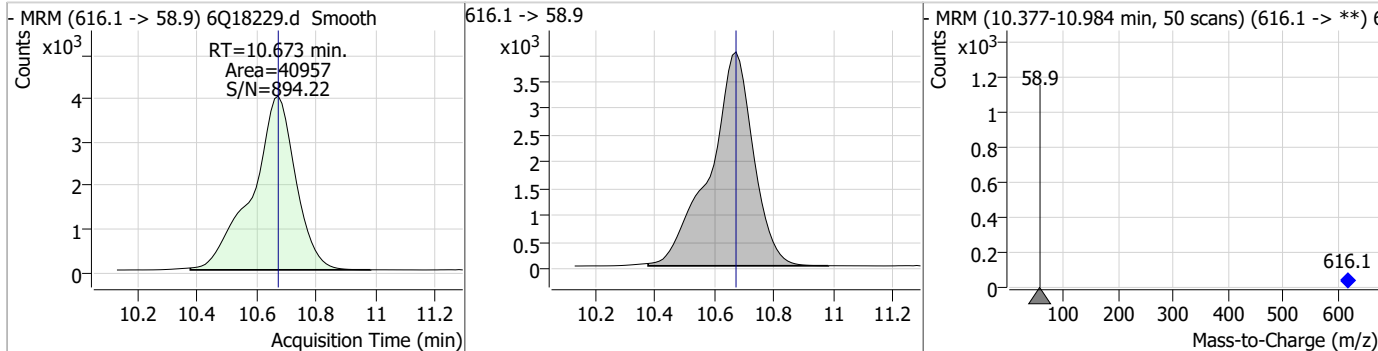
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFDoS    | 1.16  | 9.78 | 0.00     | 2626  | 699.1 -> 98.8 | 51.0   | 26.9 | 80.6 |



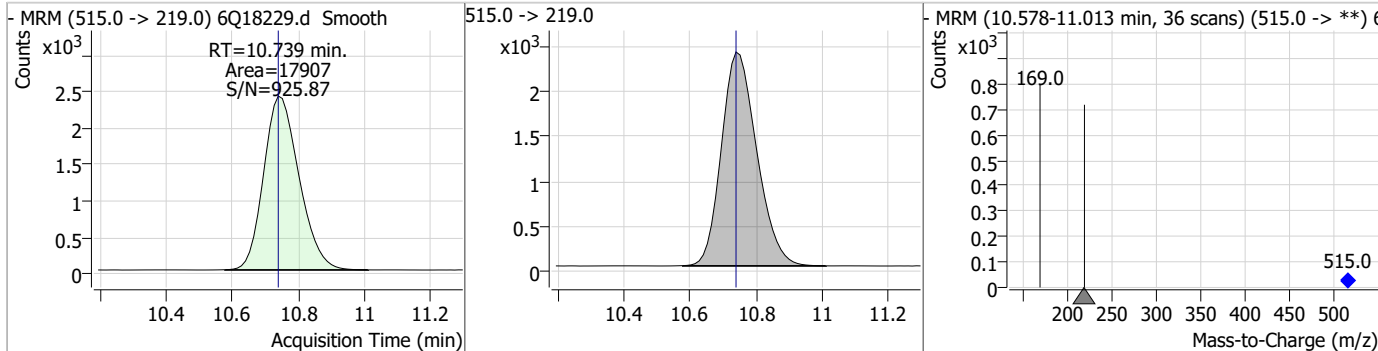
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d7-MeFOSE | 25.80 | 10.66 | 0.00     | 156692 |      |        |      |      |



| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|-------|------|--------|------|------|
| MeFOSE   | 5.94  | 10.67 | 0.00     | 40957 |      |        |      |      |

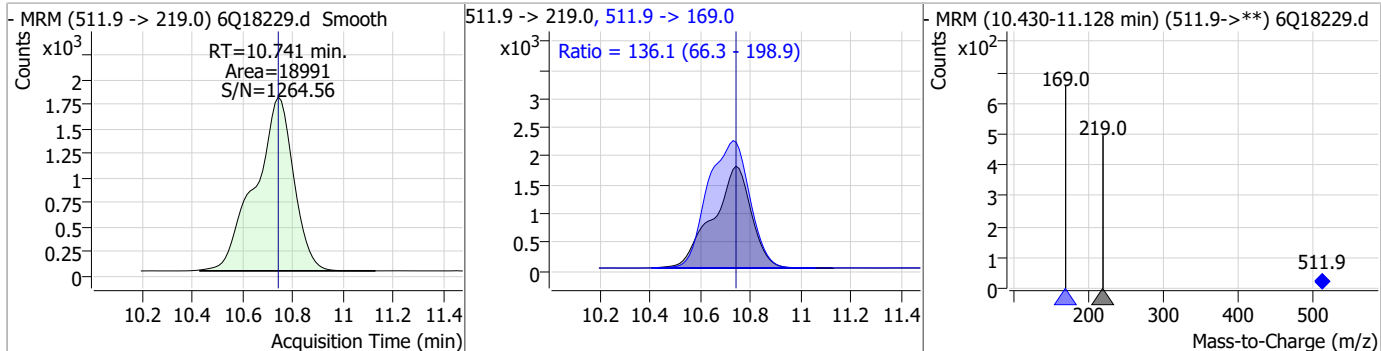


| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d3-MeFOSA | 2.53  | 10.74 | 0.00     | 17907 |      |        |      |      |

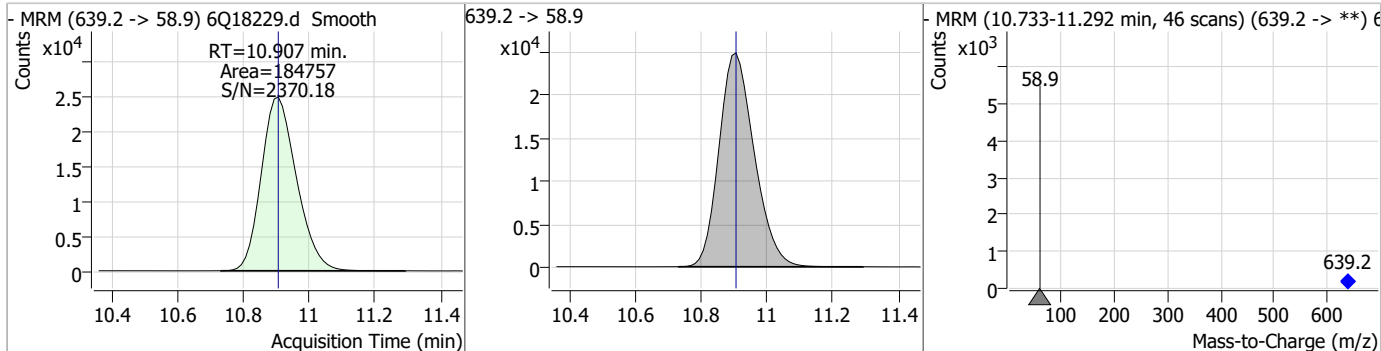


### Perfluorinated Compounds by LC/MS/MS

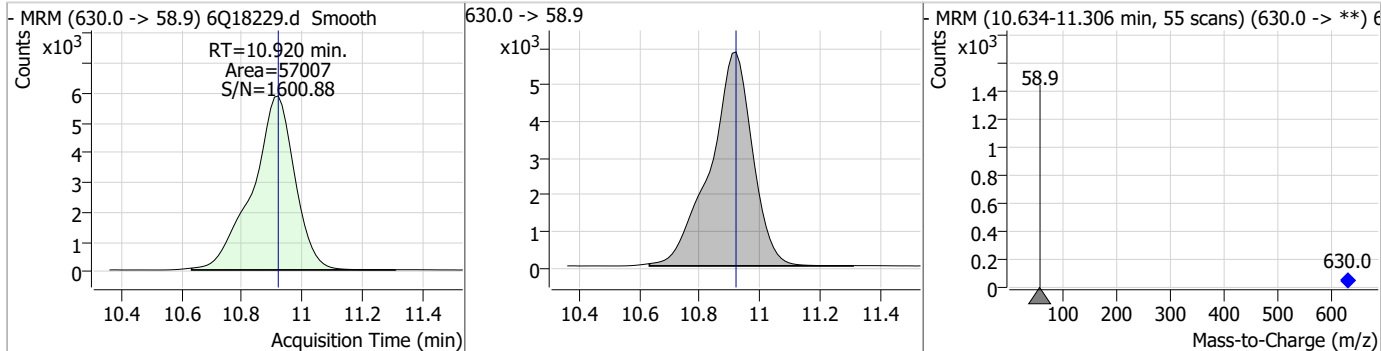
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOFA   | 2.49  | 10.74 | 0.00     | 18991 | 511.9 -> 169.0 | 136.1  | 66.3 | 198.9 |



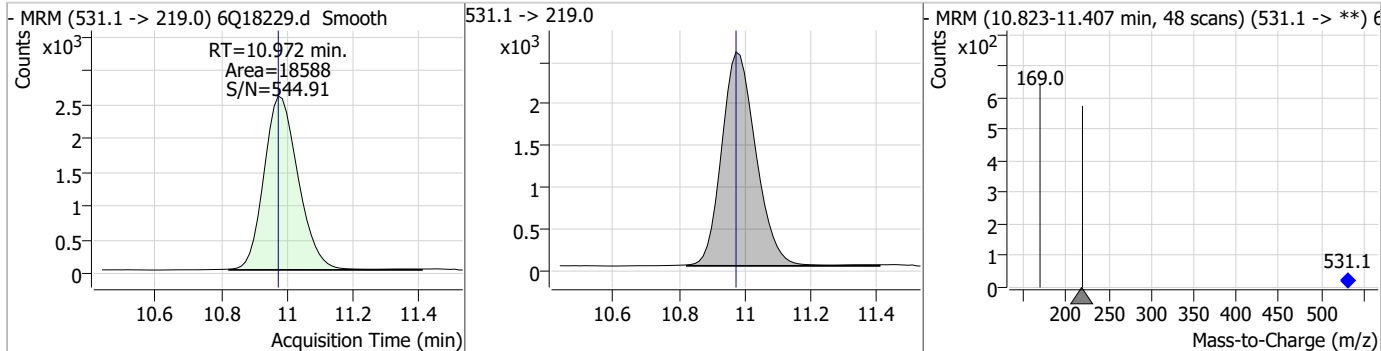
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 25.00 | 10.91 | 0.00     | 184757 |      |        |      |      |



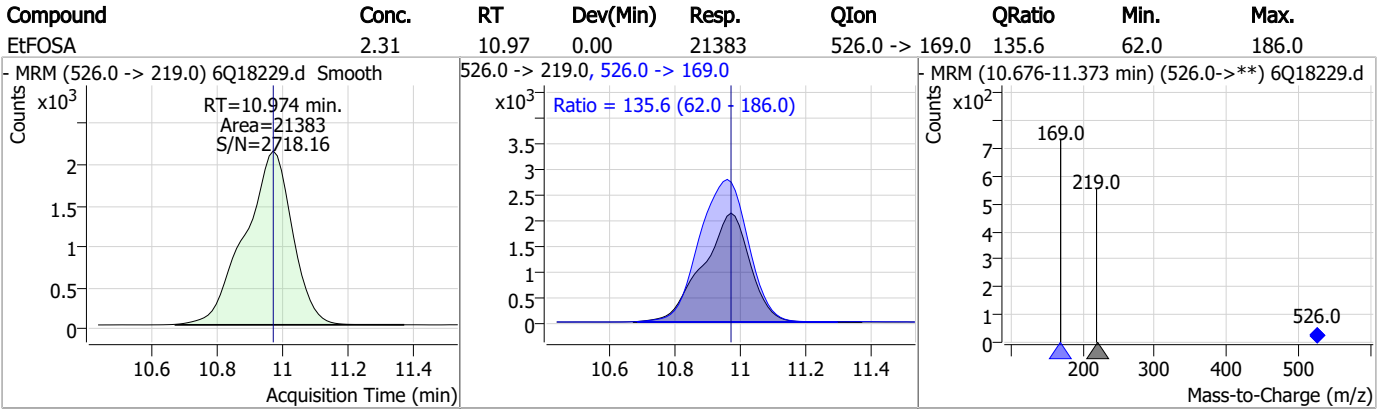
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|-------|------|--------|------|------|
| EtFOSE   | 6.30  | 10.92 | 0.00     | 57007 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOFA | 2.65  | 10.97 | 0.00     | 18588 |      |        |      |      |



Perfluorinated Compounds by LC/MS/MS



7.7.4

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# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18229.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 21:56      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.4.1

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

**Norman Farmer**  
 05/23/23 16:27

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18230.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 10:10:50 PM  
 Sample Name : icc274-4  
 Vial : P1-A5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 236682            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 77721             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 82228             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 76852             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 121631            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 50898             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 29272             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 36585             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 33703             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17200             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.611                | 506.1 -> 77.8  | 37992             | 2.50 µg/L   | 0.000    |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 33024             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 18476             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 17583             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3542              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5028              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4422              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 31025             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 126126            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 25829             | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 142401            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 178210            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 17229             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17176             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 21524             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 100926            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13400             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 118402            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 36892             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 55091             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 82915             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3542              | 5.19 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 103.8% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5028              | 5.23 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 104.6% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4422              | 4.78 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 95.6%  |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 33703             | 1.26 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 100.6% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17200             | 1.23 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 98.3%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 33024             | 2.59 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 103.5% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 18476             | 2.52 µg/L   | 0.000    |

7.7.5  
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## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.0% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 236682   | 9.94 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.4%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 76852    | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 82228    | 2.47 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.9%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 77721    | 5.00 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 29272    | 1.28 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 102.8% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 36585    | 1.27 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 101.4% |               |
| 13C8-FOSA               | 9.611                | 506.1 -> 77.8  | 37992    | 2.54 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.4% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 121631   | 2.58 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.0% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 17583    | 2.63 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.2% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 50898    | 1.35 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 108.1% |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 31025    | 5.44 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 108.8% |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 126126   | 9.91 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.1%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17176    | 2.52 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.8% |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0 | 25829    | 5.09 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 101.8% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 142401   | 24.37 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 97.5%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 178210   | 25.06 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.3% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 17229    | 2.55 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.0% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 54406    | 8.71 µg/L         | 98            |
|                         |                      | 327.1 -> 80.9  | 20801    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 50435    | 9.02 µg/L         | 99            |
|                         |                      | 427.1 -> 80.9  | 16702    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 26344    | 9.99 µg/L         | 97            |
|                         |                      | 527.1 -> 80.8  | 10735    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 9401     | 2.38 µg/L         | 99            |
|                         |                      | 584.2 -> 526.0 | 5006     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 36251    | 2.45 µg/L         | 100           |
|                         |                      | 498.1 -> 478.0 | 1054     |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 15753    | 2.23 µg/L         | 97            |
|                         |                      | 570.1 -> 483.0 | 3223     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 89726    | 9.77 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 27151    | 2.05 µg/L         | 97            |
|                         |                      | 298.7 -> 98.8  | 10339    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 95750    | 2.37 µg/L         | 97            |
|                         |                      | 512.9 -> 219.0 | 16394    |                   |               |
| PFDODA                  | 8.925                | 613.1 -> 569.0 | 63162    | 2.34 µg/L         | 93            |
|                         |                      | 613.1 -> 319.0 | 10376    |                   |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 11387    | 2.29 µg/L         | 98            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
|              |        | 599.0 -> 98.8  | 5730     |       |       |          |
| PFHpA        | 6.395  | 363.1 -> 319.0 | 100494   | 2.45  | µg/L  | 97       |
|              |        | 363.1 -> 169.0 | 16254    |       |       |          |
| PFHpS        | 7.698  | 449.0 -> 79.9  | 20665    | 2.19  | µg/L  | 97       |
|              |        | 449.0 -> 98.9  | 10645    |       |       |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 76107    | 2.37  | µg/L  | 98       |
|              |        | 313.0 -> 118.9 | 4037     |       |       |          |
| PFHxS        | 7.143  | 398.7 -> 79.9  | 22740    | 2.20  | µg/L  | m 99     |
|              |        | 398.7 -> 98.9  | 10964    |       |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 88492    | 2.17  | µg/L  | 96       |
|              |        | 463.0 -> 219.0 | 19033    |       |       |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 18904    | 2.28  | µg/L  | 91       |
|              |        | 548.8 -> 98.9  | 10326    |       |       |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 132107   | 2.36  | µg/L  | m 96     |
|              |        | 413.0 -> 169.0 | 24995    |       |       |          |
| PFOS         | 8.203  | 498.9 -> 79.9  | 21083    | 2.19  | µg/L  | 93       |
|              |        | 498.9 -> 98.8  | 10254    |       |       |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 104083   | 4.83  | µg/L  | 100      |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 22336    | 2.26  | µg/L  | 99       |
|              |        | 349.1 -> 98.9  | 10373    |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 46022    | 2.39  | µg/L  | 94       |
|              |        | 713.1 -> 168.9 | 4517     |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 66715    | 2.50  | µg/L  | 97       |
|              |        | 663.0 -> 168.9 | 6998     |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 63855    | 2.37  | µg/L  | 94       |
|              |        | 563.1 -> 269.1 | 11316    |       |       |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 91011    | 4.40  | µg/L  | 98       |
|              |        | 632.9 -> 452.9 | 29351    |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 164858   | 4.69  | µg/L  | 96       |
|              |        | 532.8 -> 353.0 | 50411    |       |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 360083   | 4.55  | µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 96951    |       |       |          |
| HFPO-DA      | 5.795  | 284.9 -> 168.9 | 59371    | 4.76  | µg/L  | 94       |
|              |        | 284.9 -> 184.9 | 6678     |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 17887    | 11.76 | µg/L  | 98       |
|              |        | 241.0 -> 117.0 | 2434     |       |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 354864   | 61.02 | µg/L  | 95       |
|              |        | 341.0 -> 217.0 | 265937   |       |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 227198   | 60.67 | µg/L  | 100      |
|              |        | 441.0 -> 336.9 | 501371   |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 41842    | 4.88  | µg/L  | 100      |
|              |        | 526.0 -> 169.0 | 52094    |       |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 102442   | 11.74 | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 36467    | 4.98  | µg/L  | 95       |
|              |        | 511.9 -> 169.0 | 50481    |       |       |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 77225    | 12.32 | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 5019     | 2.30  | µg/L  | 99       |
|              |        | 699.1 -> 98.8  | 2670     |       |       |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 20518    | 5.07  | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 5473     |       |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 73142    | 4.81  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 54811    | 4.79  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 192245   | 4.30  | µg/L  | 99       |
|              |        | 314.8 -> 82.9  | 6651     |       |       |          |

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

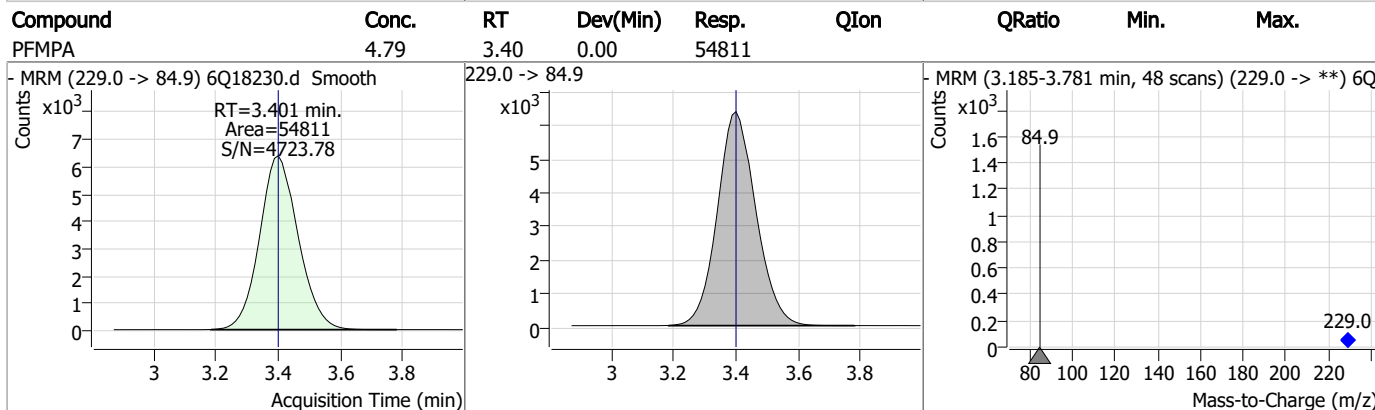
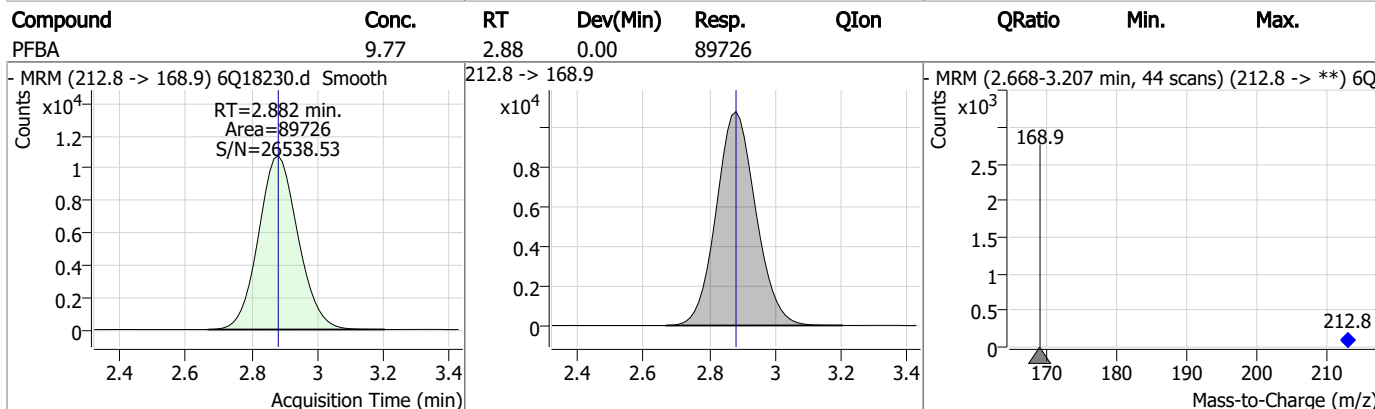
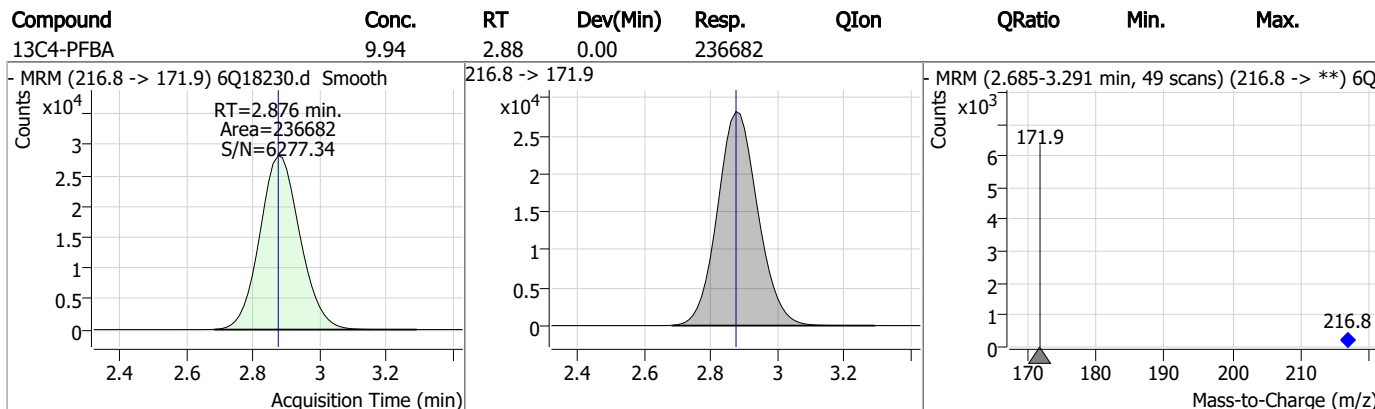
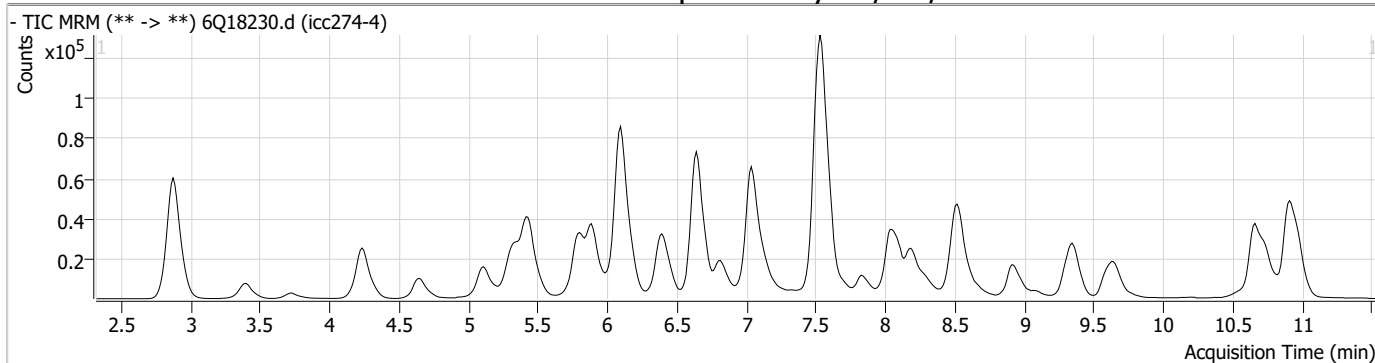
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.5  
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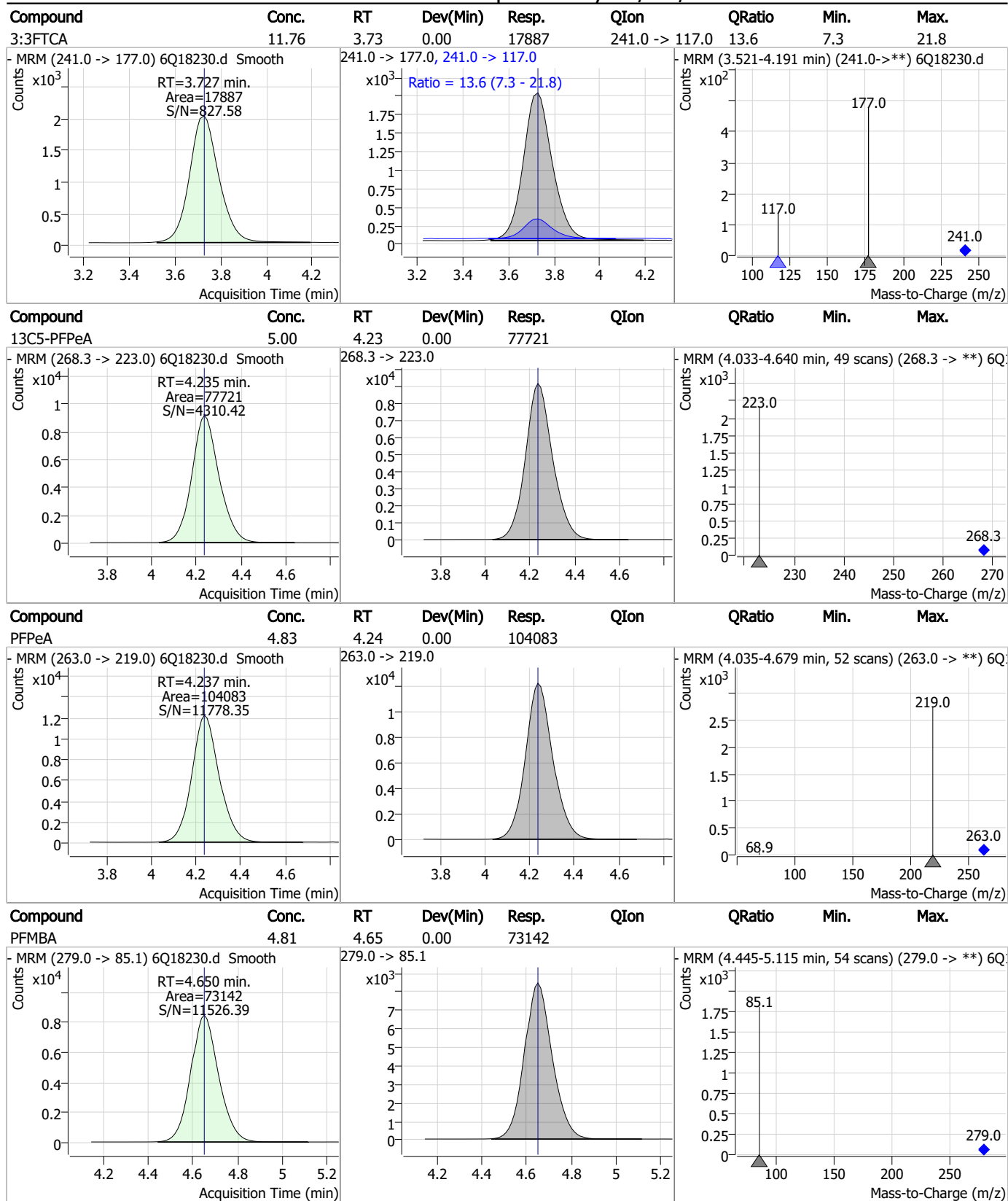


### Perfluorinated Compounds by LC/MS/MS



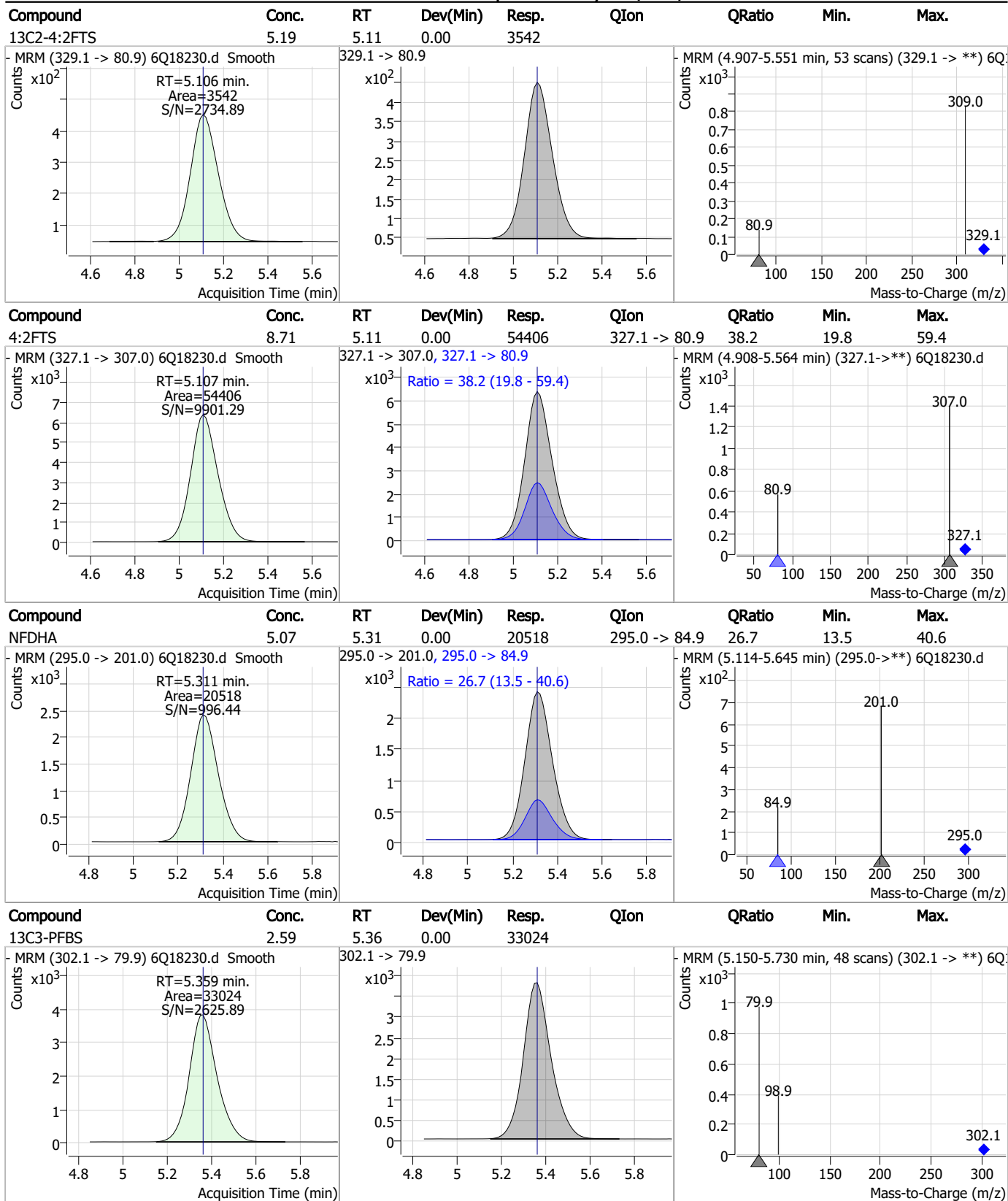
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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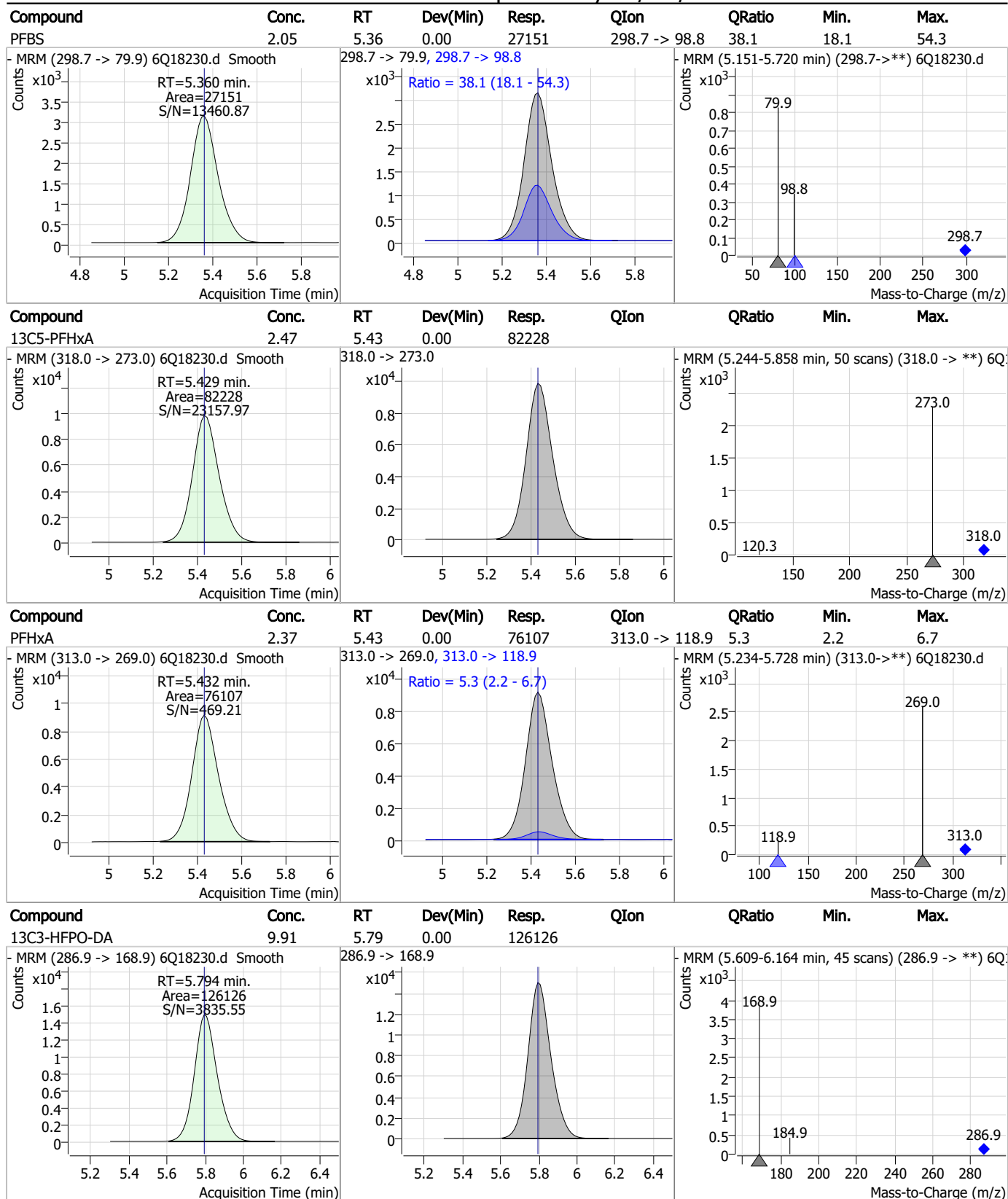
### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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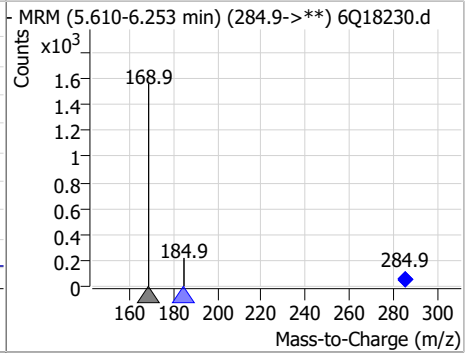
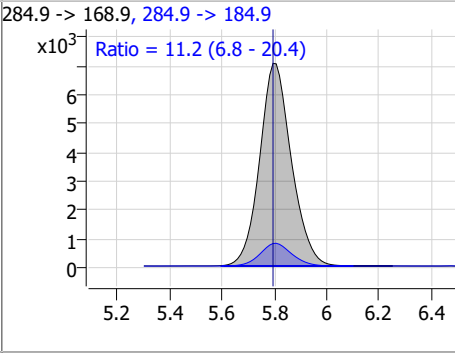
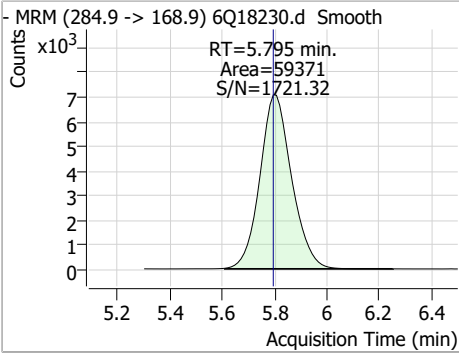
### Perfluorinated Compounds by LC/MS/MS



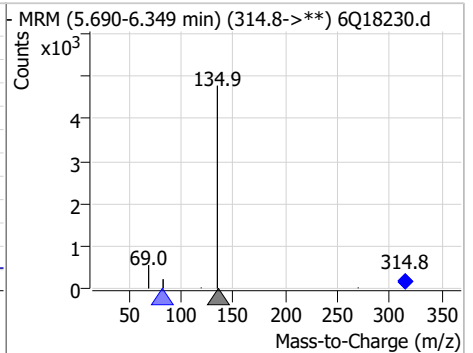
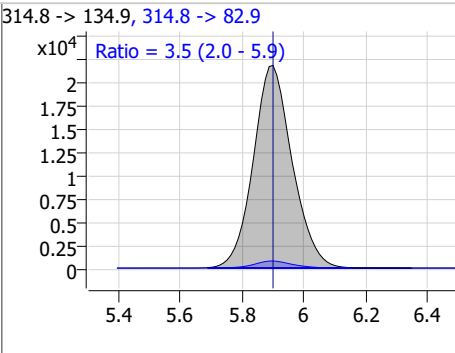
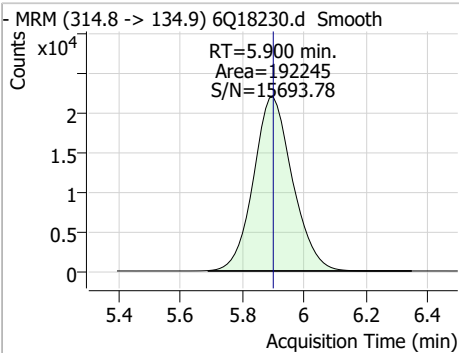
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS

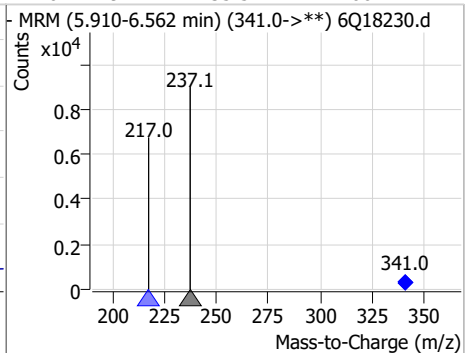
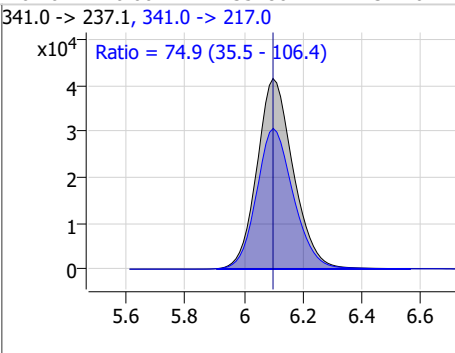
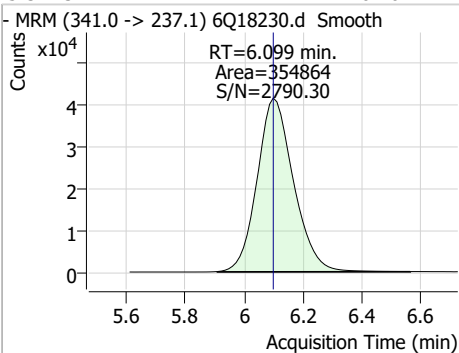
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 4.76  | 5.80 | 0.00     | 59371 | 284.9 -> 184.9 | 11.2   | 6.8  | 20.4 |



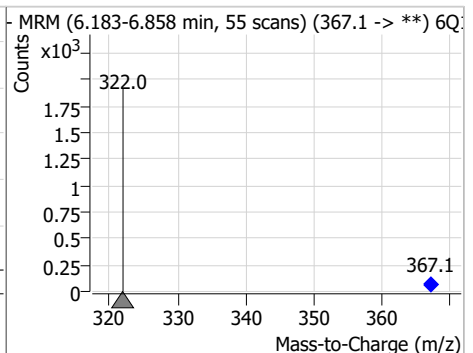
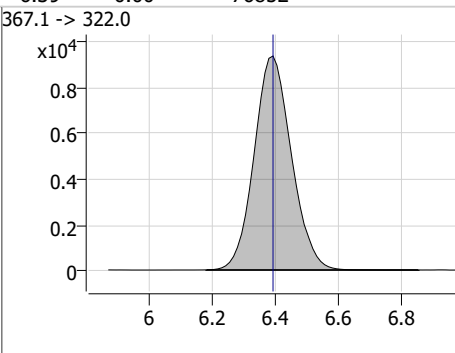
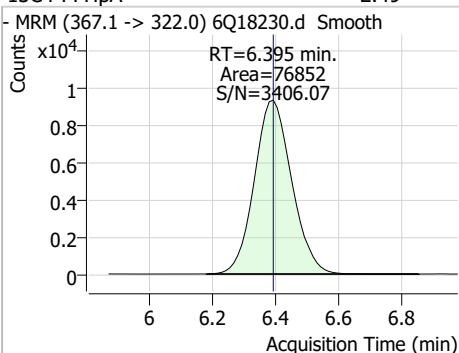
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 4.30  | 5.90 | 0.00     | 192245 | 314.8 -> 82.9 | 3.5    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 61.02 | 6.10 | 0.00     | 354864 | 341.0 -> 217.0 | 74.9   | 35.5 | 106.4 |



| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.49  | 6.39 | 0.00     | 76852 | 367.1 -> 322.0 |        |      |      |

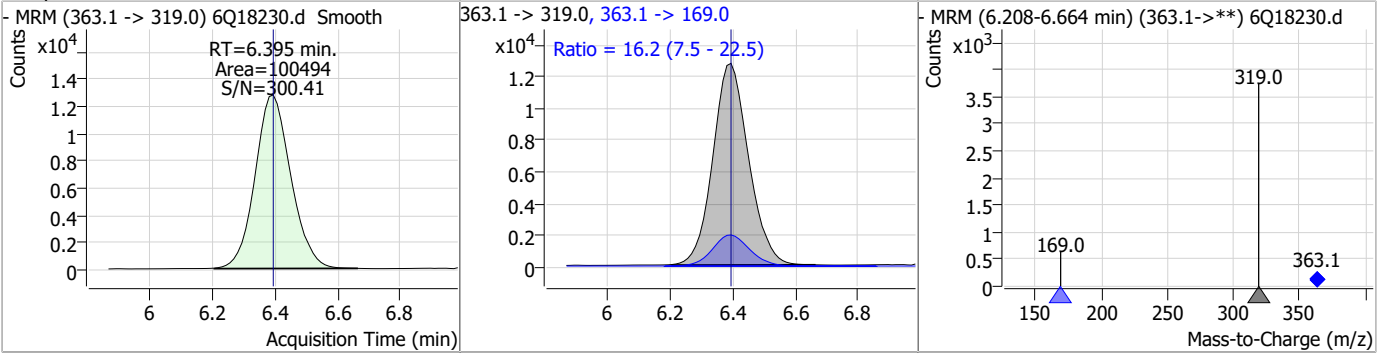


7.7.5

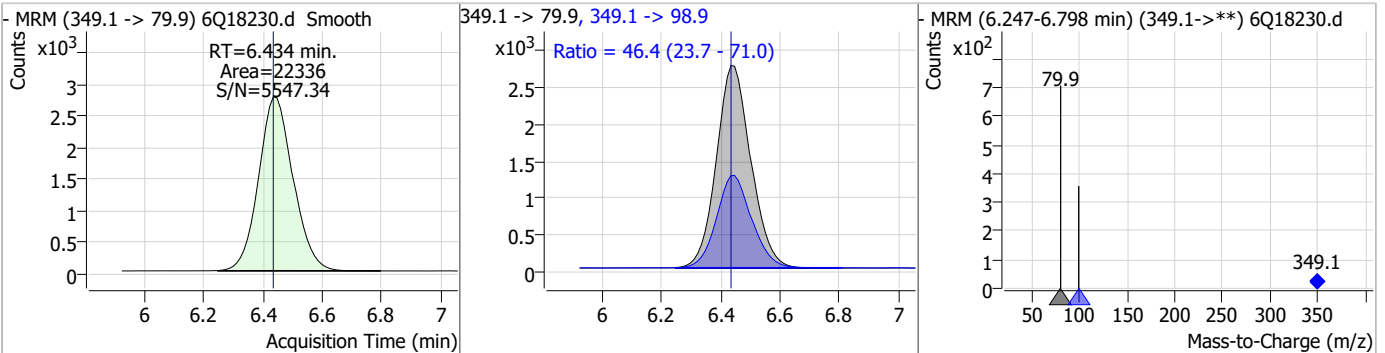
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### Perfluorinated Compounds by LC/MS/MS

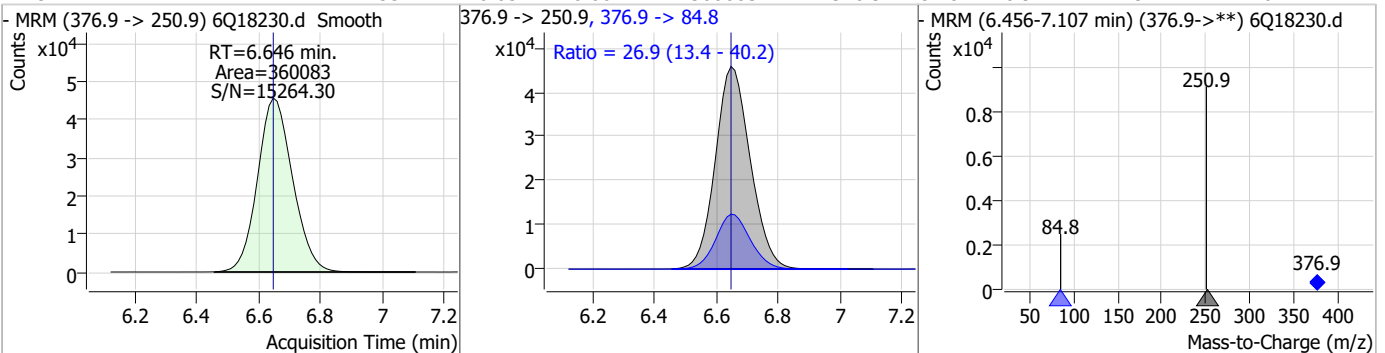
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFHpA    | 2.45  | 6.40 | 0.00     | 100494 | 363.1 -> 169.0 | 16.2   | 7.5  | 22.5 |



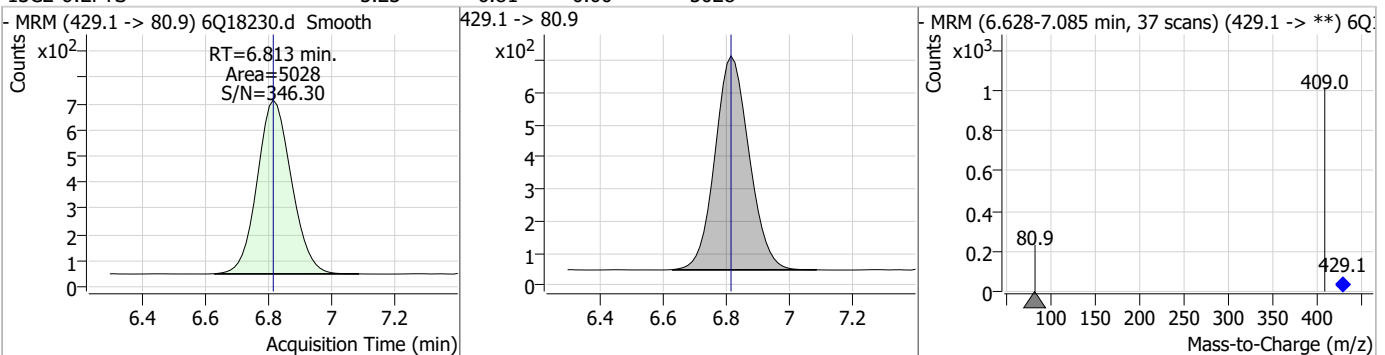
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFPeS    | 2.26  | 6.43 | 0.00     | 22336 | 349.1 -> 98.9 | 46.4   | 23.7 | 71.0 |



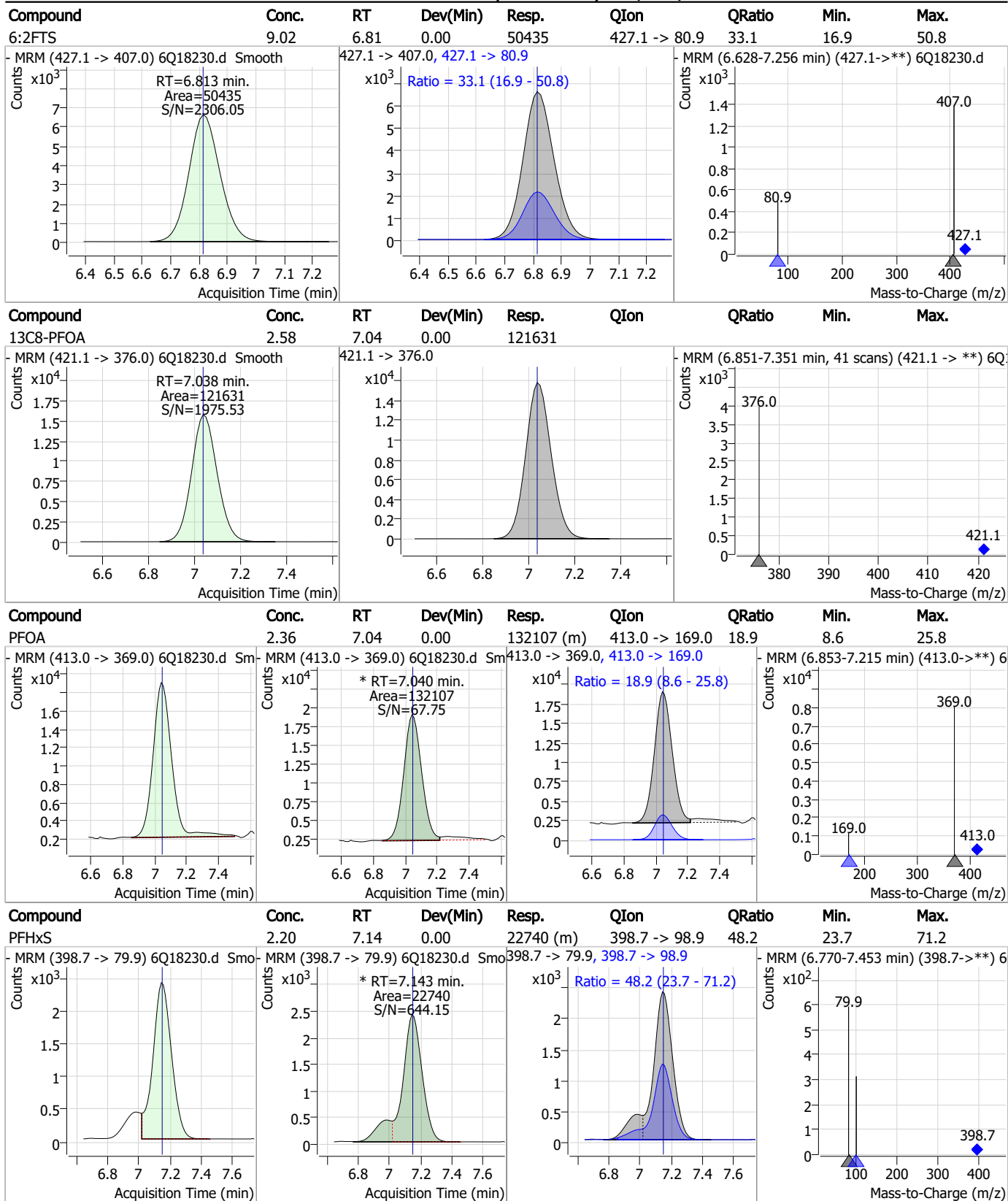
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| ADONA    | 4.55  | 6.65 | 0.00     | 360083 | 376.9 -> 84.8 | 26.9   | 13.4 | 40.2 |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|---------------|--------|------|------|
| 13C2-6:2FTS | 5.23  | 6.81 | 0.00     | 5028  | 429.1 -> 80.9 |        |      |      |

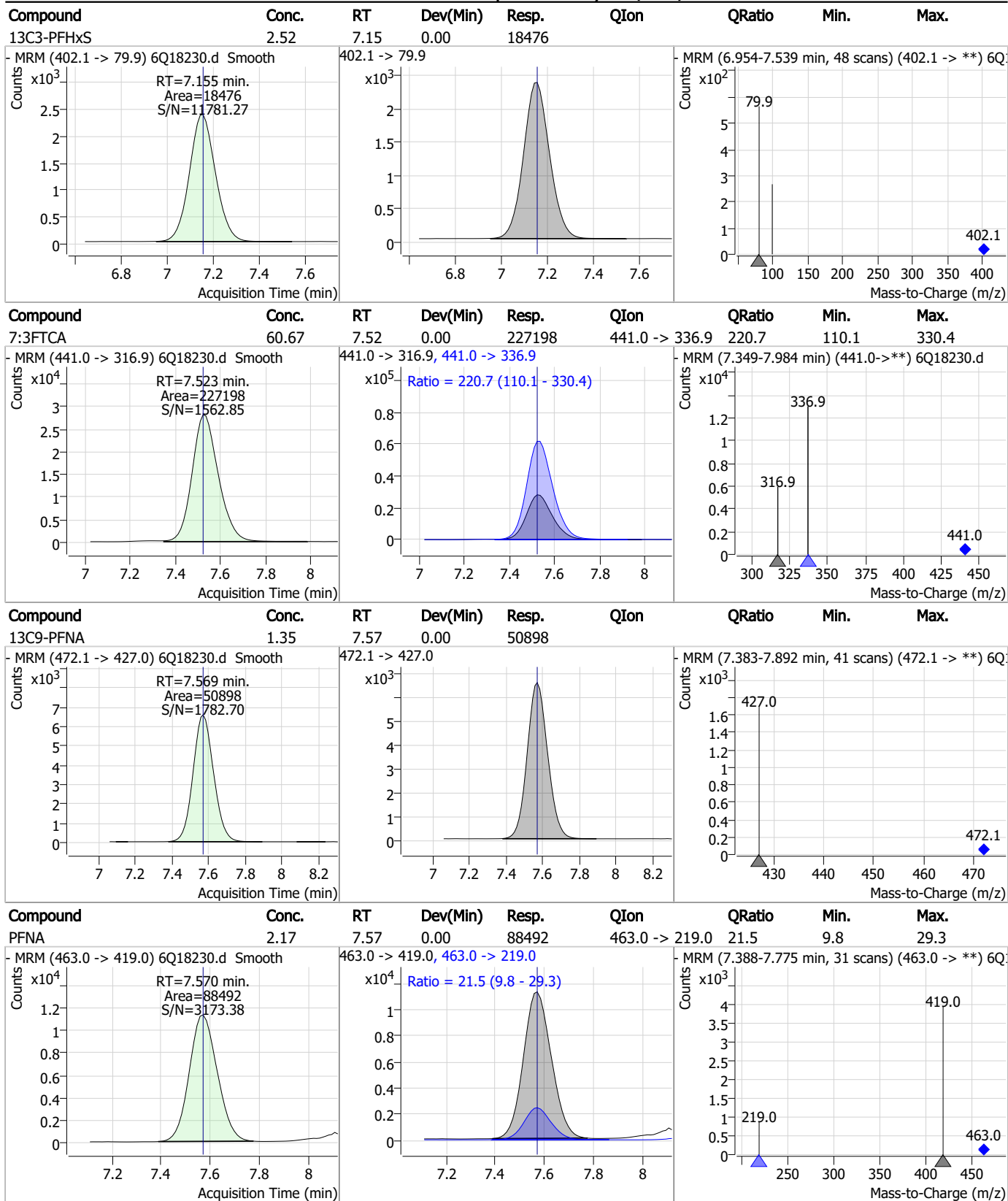


### Perfluorinated Compounds by LC/MS/MS



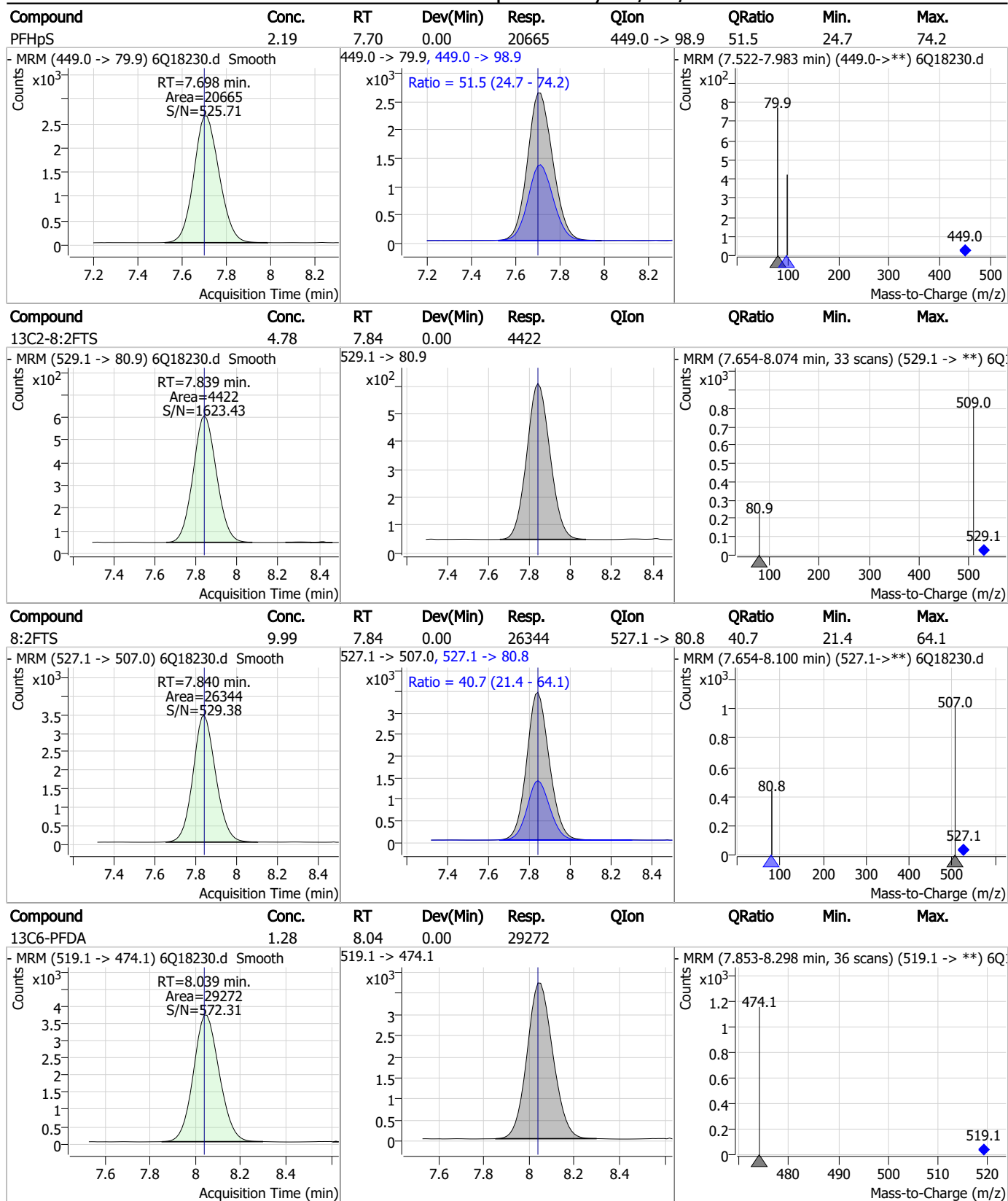
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



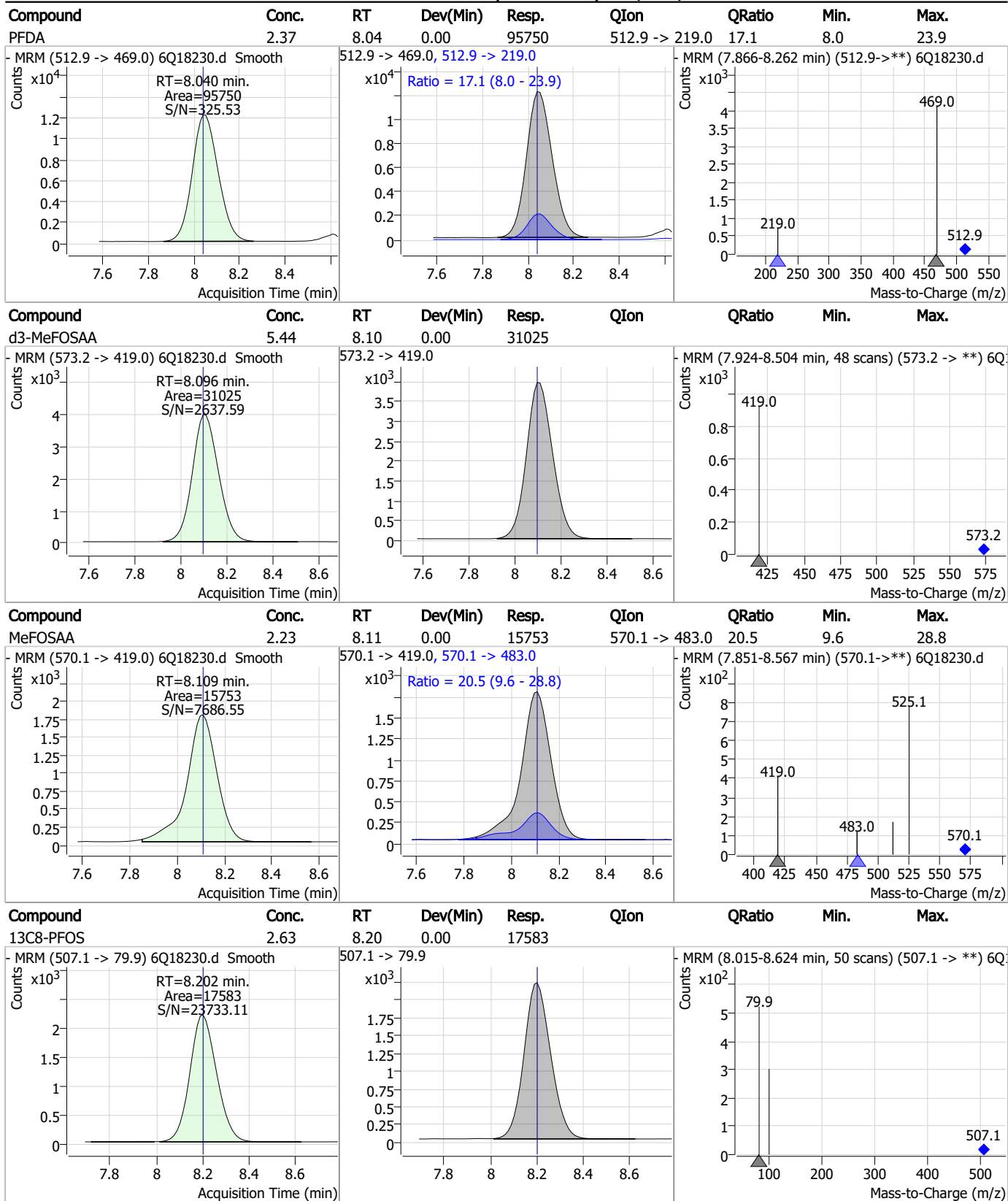
7.7.5  
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### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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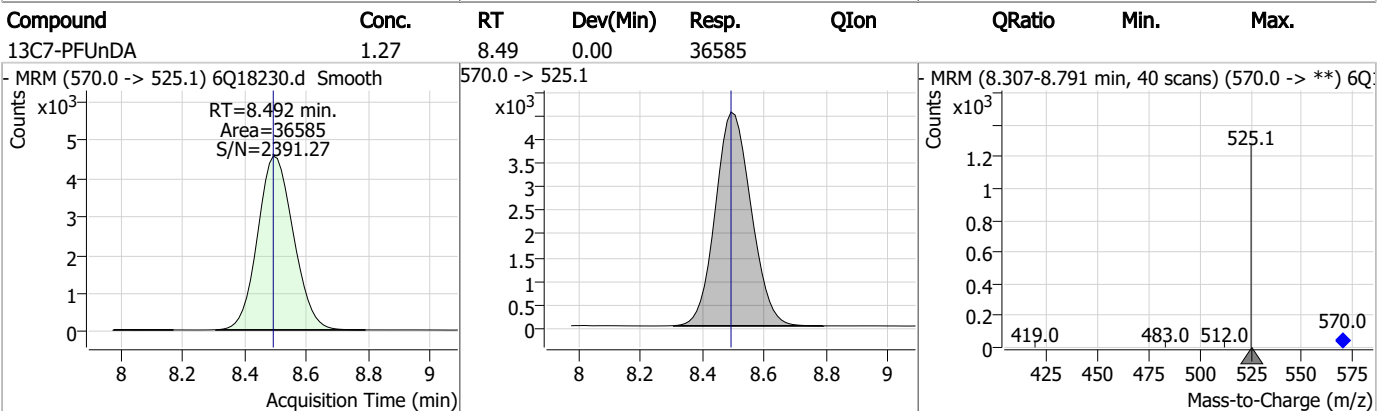
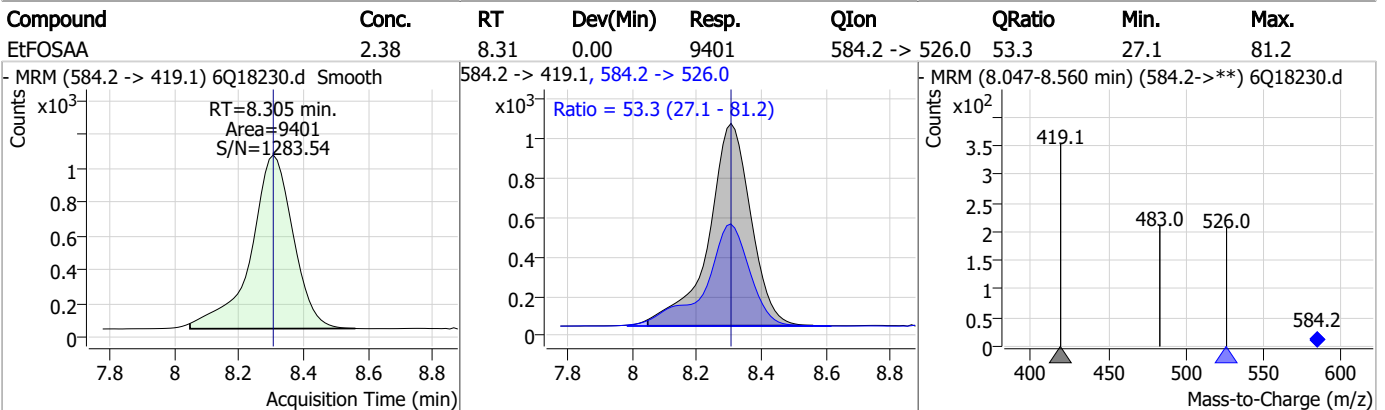
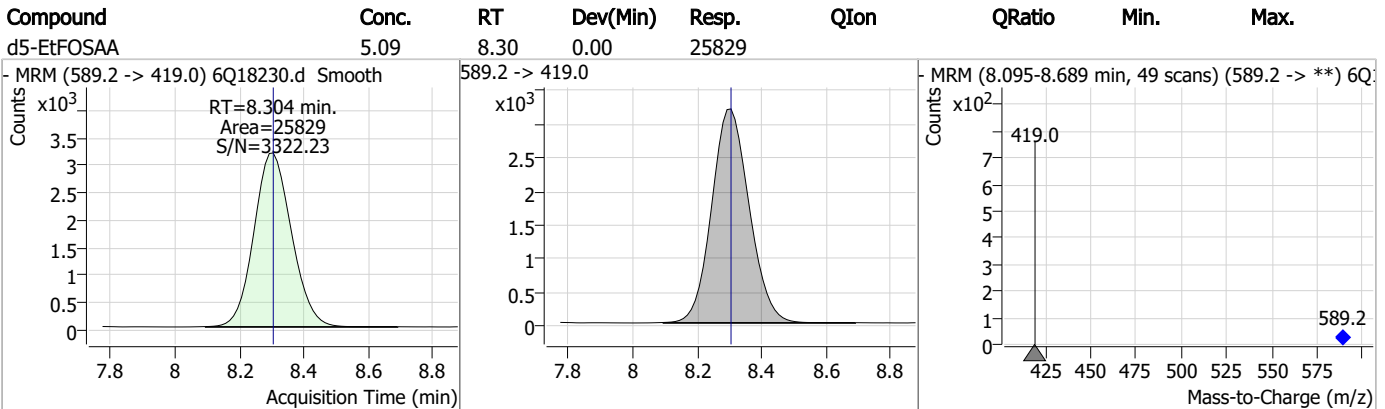
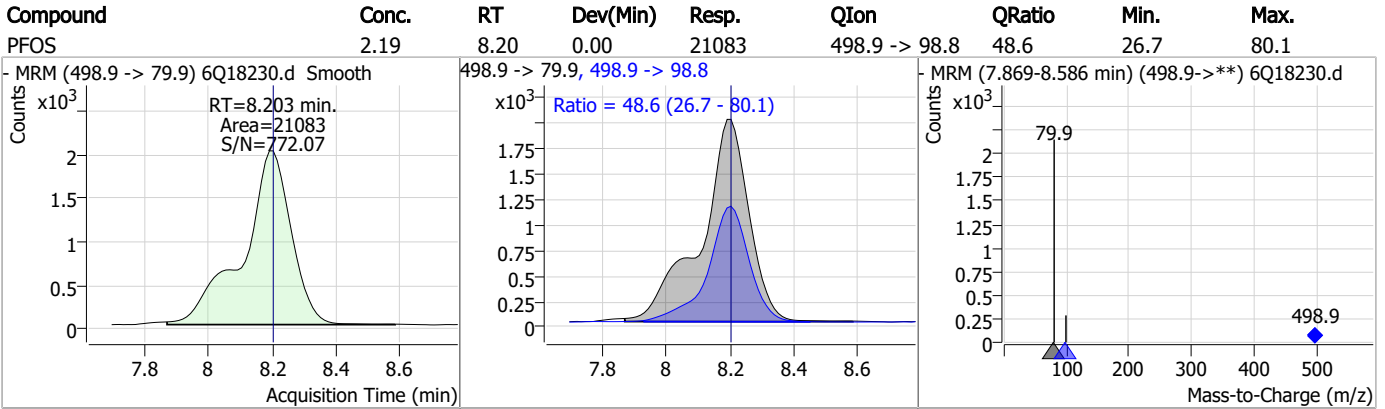
### Perfluorinated Compounds by LC/MS/MS



7.7.5  
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### Perfluorinated Compounds by LC/MS/MS

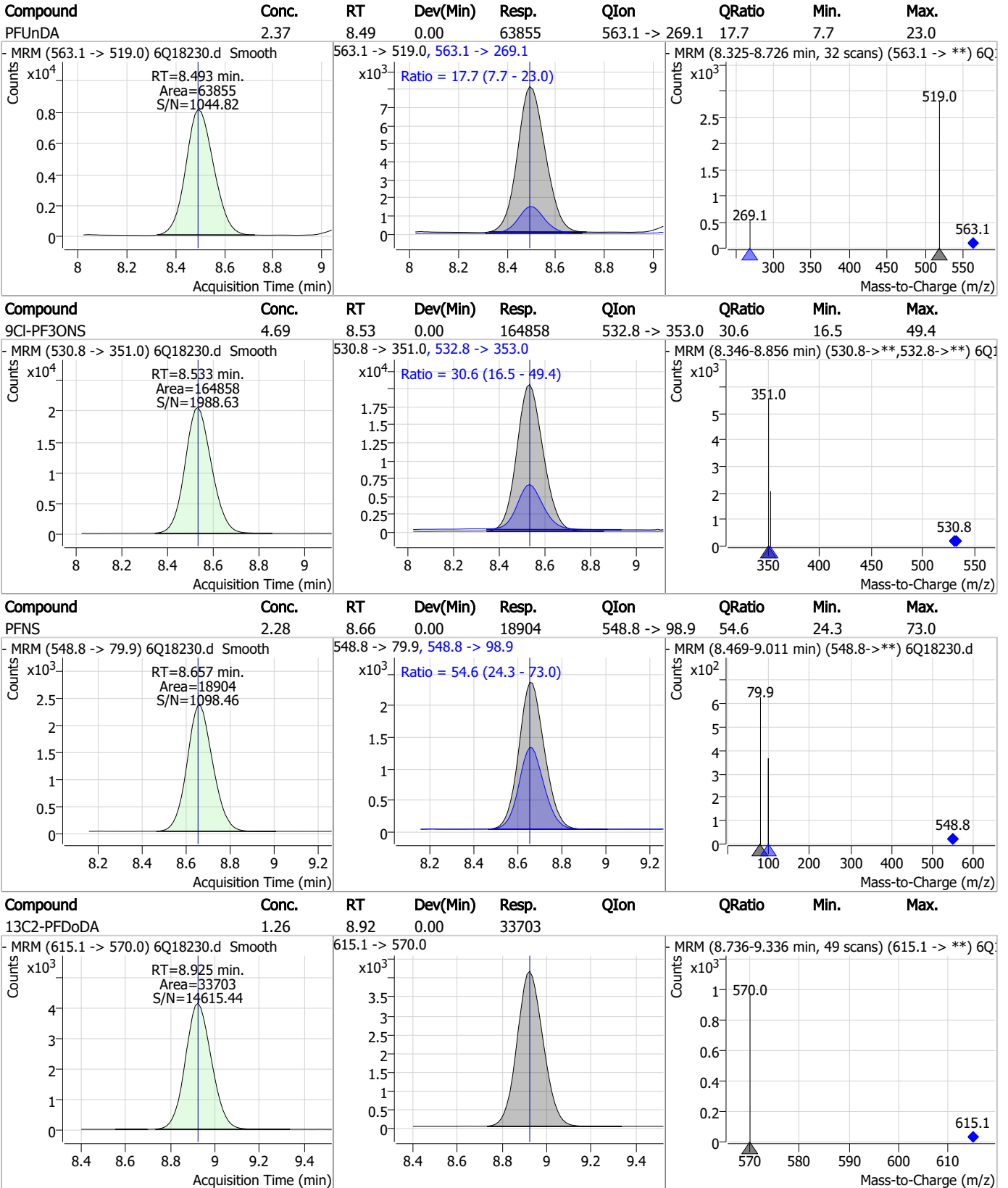


7.7.5

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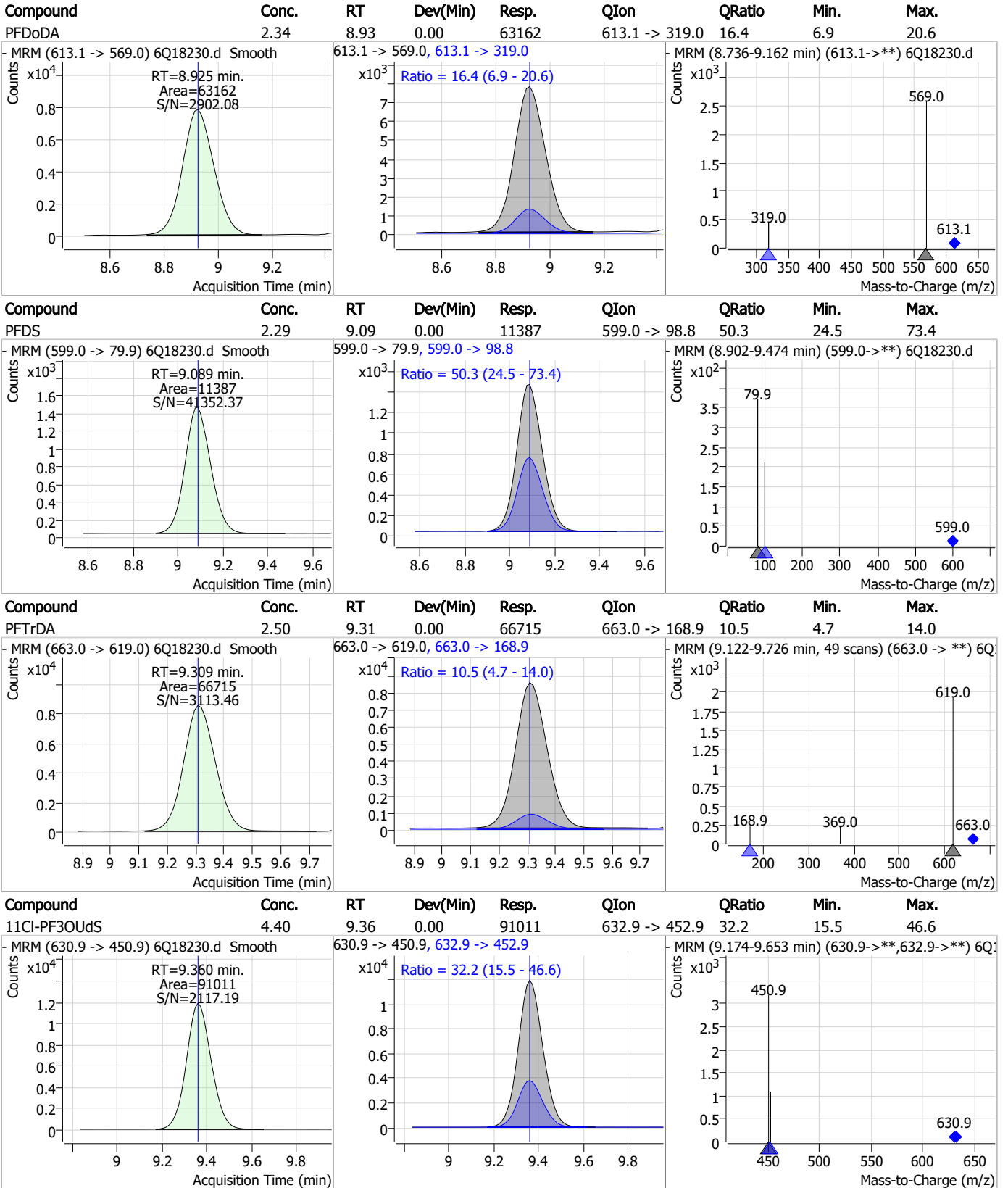
### Perfluorinated Compounds by LC/MS/MS



7.7.5

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### Perfluorinated Compounds by LC/MS/MS

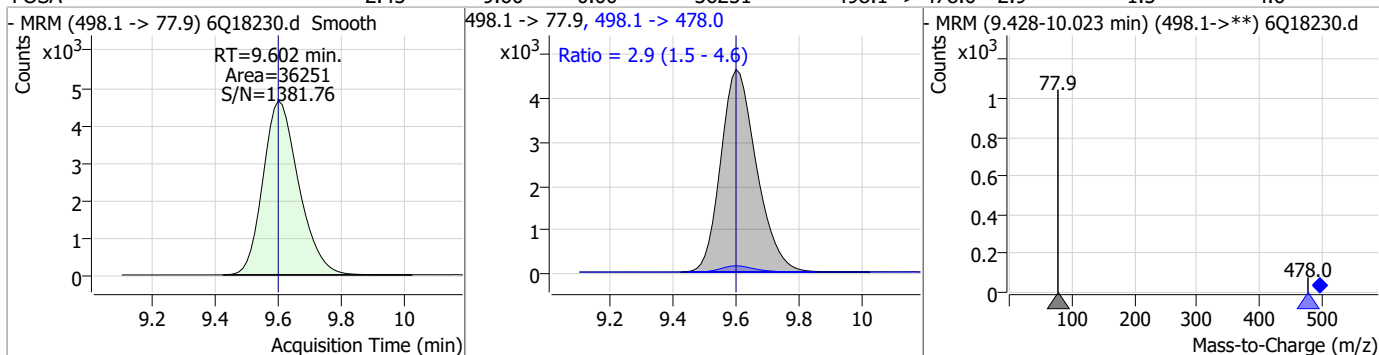


7.7.5

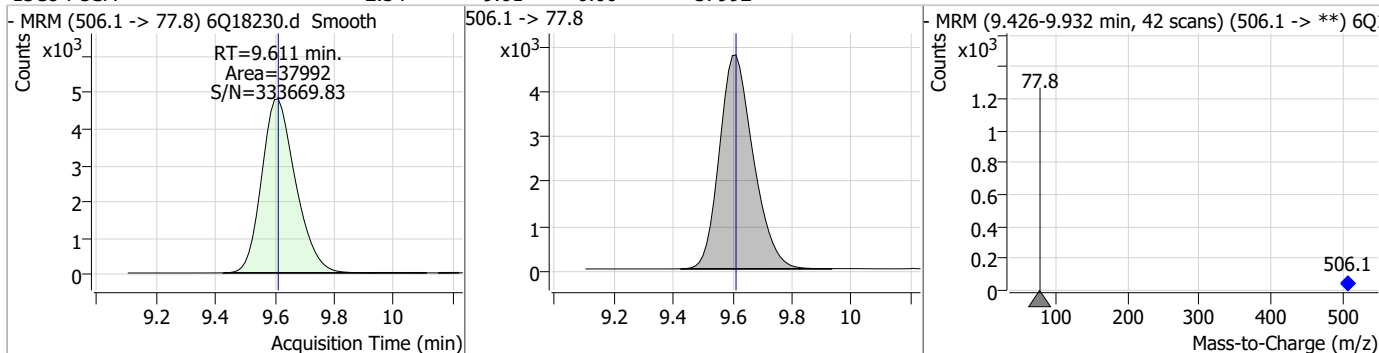
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### Perfluorinated Compounds by LC/MS/MS

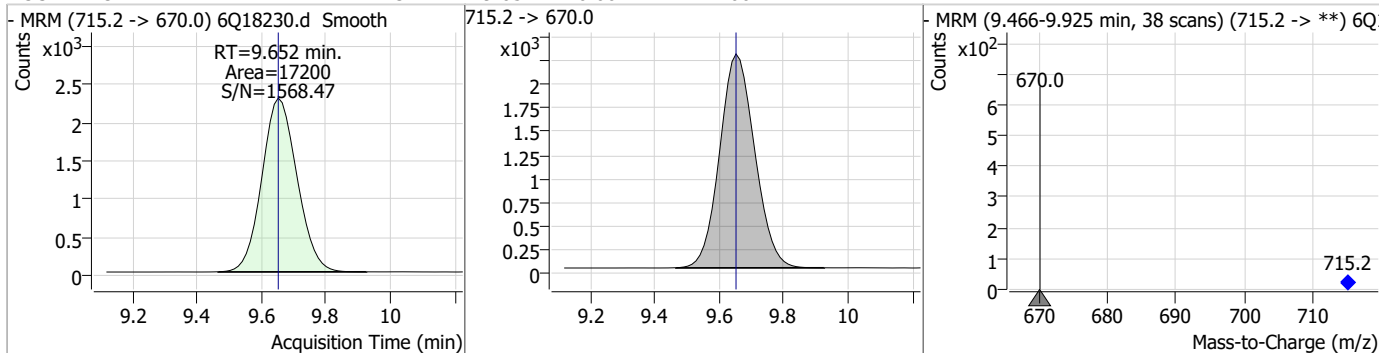
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 2.45  | 9.60 | 0.00     | 36251 | 498.1 -> 478.0 | 2.9    | 1.5  | 4.6  |



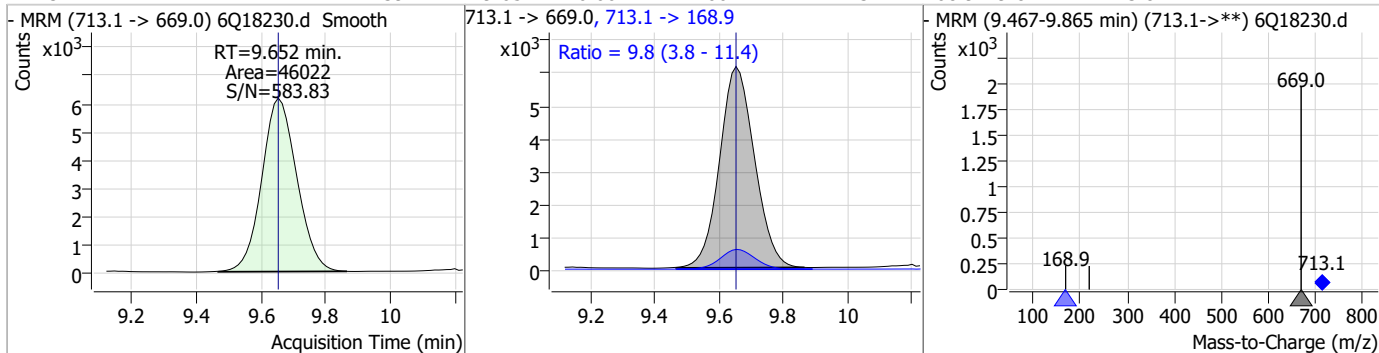
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.54  | 9.61 | 0.00     | 37992 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.23  | 9.65 | 0.00     | 17200 |      |        |      |      |

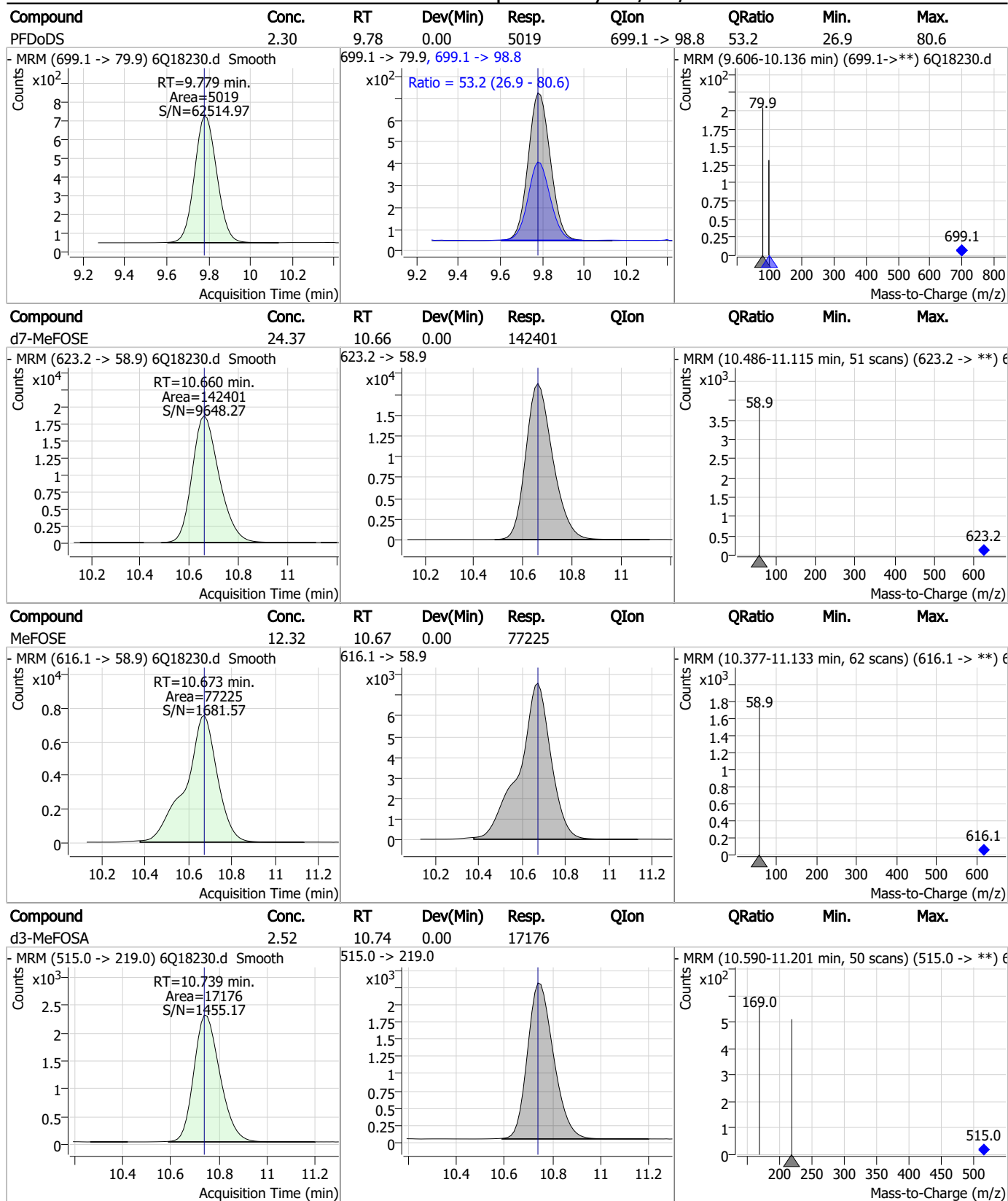


| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 2.39  | 9.65 | 0.00     | 46022 | 713.1 -> 168.9 | 9.8    | 3.8  | 11.4 |



7.7.5  
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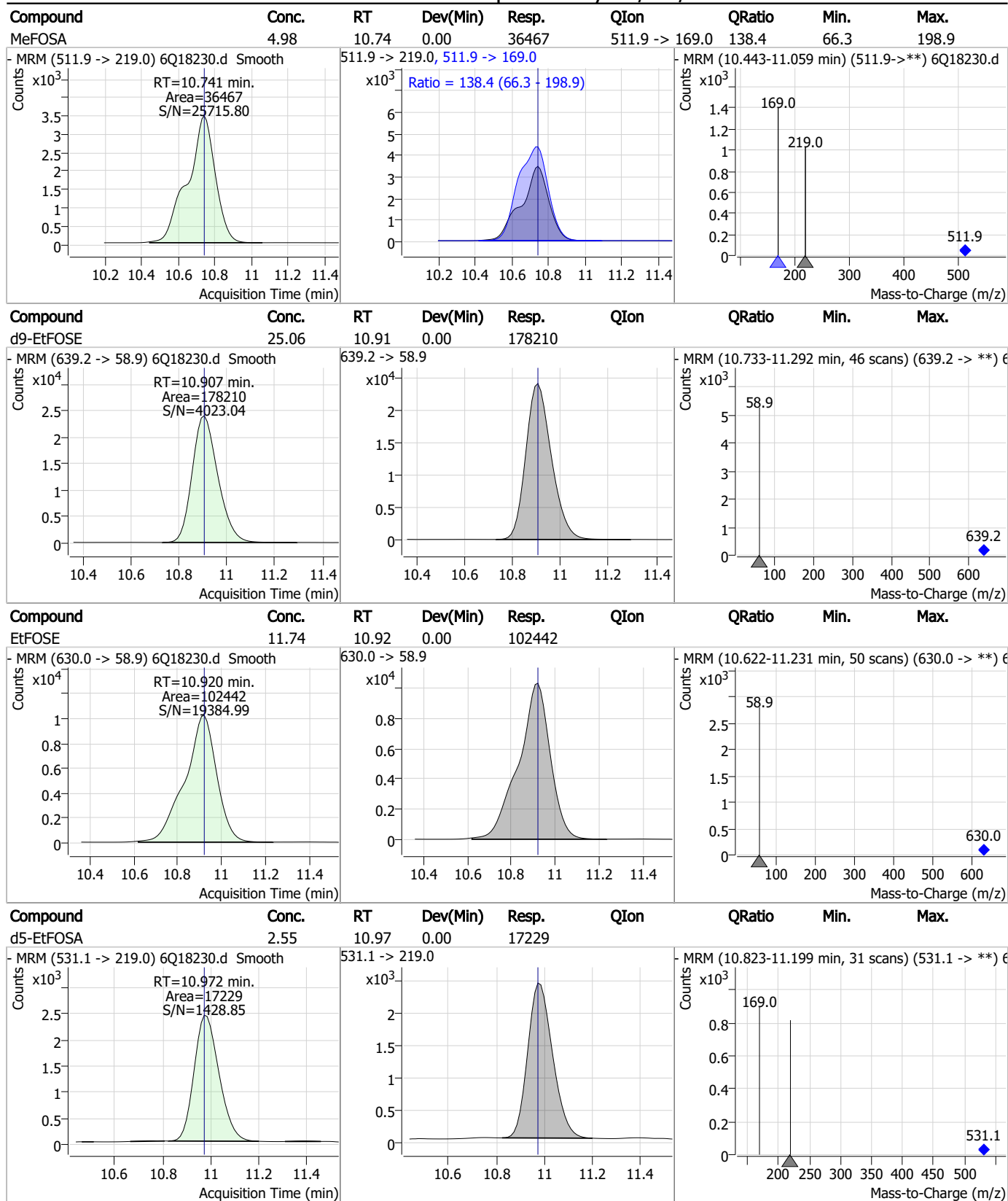
### Perfluorinated Compounds by LC/MS/MS



7.7.5

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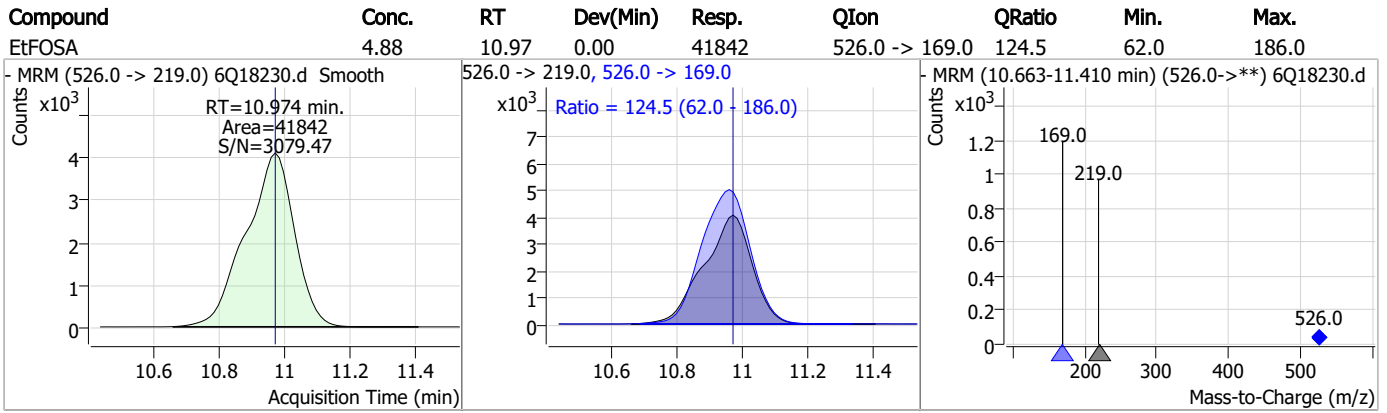
### Perfluorinated Compounds by LC/MS/MS



7.7.5

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### Perfluorinated Compounds by LC/MS/MS



7.7.5

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# Manual Integration Approval Summary

Sample Number: S6Q274-ICC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18230.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 22:10      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS      | Sig# | R.T.<br>(min.) | Reason                      |
|------------------------------|----------|------|----------------|-----------------------------|
| Perfluorooctanoic acid       | 335-67-1 |      | 7.04           | Poor instrument integration |
| Perfluorohexanesulfonic acid | 355-46-4 |      | 7.14           | Split peak                  |

7.7.5.1

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

**Norman Farmer**  
 05/23/23 16:27

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18231.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 10:25:20 PM  
 Sample Name : ic274-5  
 Vial : P1-A6  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 230447            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 75210             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 81111             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 74112             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 114117            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 45880             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 27682             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 35479             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 31166             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17764             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 37141             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 30516             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17543             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 16406             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3131              | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4311              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4588              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 28845             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 116989            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 26523             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 144953            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 172727            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16435             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16590             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 21804             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 97600             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 12481             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 117088            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 35595             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 52815             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 77255             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3131              | 4.93 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.5%  |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4311              | 4.82 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 96.3%  |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4588              | 5.33 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 106.5% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 31166             | 1.20 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 96.4%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17764             | 1.31 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 105.2% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 30516             | 2.57 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 102.7% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17543             | 2.57 µg/L   | -0.012   |

7.7.6  
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## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.9% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 230447   | 10.01 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.1% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 74112    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.0% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 81111    | 2.62 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.7% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 75210    | 5.20 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 27682    | 1.26 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 100.7% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 35479    | 1.27 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 37141    | 2.45 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.9%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 114117   | 2.44 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.7%  |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 16406    | 2.42 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.9%  |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 45880    | 1.27 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 101.6% |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 28845    | 4.99 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 116989   | 9.86 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.6%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16590    | 2.40 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.1%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 26523    | 5.16 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.2% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 144953   | 24.49 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.0%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 172727   | 23.98 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 95.9%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16435    | 2.40 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.1%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 119107   | 21.57 µg/L        | 94            |
|                         |                      | 327.1 -> 80.9  | 42776    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 107931   | 22.52 µg/L        | 97            |
|                         |                      | 427.1 -> 80.9  | 34453    |                   |               |
| 8:2FTS                  | 7.828                | 527.1 -> 507.0 | 53462    | 19.54 µg/L        | 98            |
|                         |                      | 527.1 -> 80.8  | 23366    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 21455    | 5.29 µg/L         | 93            |
|                         |                      | 584.2 -> 526.0 | 10495    |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 75859    | 5.24 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 2118     |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 34230    | 5.22 µg/L         | 98            |
|                         |                      | 570.1 -> 483.0 | 6845     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 190534   | 21.30 µg/L        | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 57512    | 4.69 µg/L         | 94            |
|                         |                      | 298.7 -> 98.8  | 22970    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 199093   | 5.22 µg/L         | 97            |
|                         |                      | 512.9 -> 219.0 | 34504    |                   |               |
| PFDoDA                  | 8.925                | 613.1 -> 569.0 | 133822   | 5.35 µg/L         | 93            |
|                         |                      | 613.1 -> 319.0 | 21880    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 25275    | 5.44 µg/L         | 94            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
|              |        | 599.0 -> 98.8  | 11319    |             |          |
| PFHpA        | 6.395  | 363.1 -> 319.0 | 213267   | 5.38 µg/L   | 99       |
|              |        | 363.1 -> 169.0 | 32856    |             |          |
| PFHpS        | 7.698  | 449.0 -> 79.9  | 47235    | 5.35 µg/L   | 96       |
|              |        | 449.0 -> 98.9  | 22054    |             |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 165430   | 5.23 µg/L   | 98       |
|              |        | 313.0 -> 118.9 | 8341     |             |          |
| PFHxS        | 7.143  | 398.7 -> 79.9  | 45526    | 4.64 µg/L   | 96       |
|              |        | 398.7 -> 98.9  | 22928    |             |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 192934   | 5.26 µg/L   | 96       |
|              |        | 463.0 -> 219.0 | 41214    |             |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 39344    | 5.09 µg/L   | 91       |
|              |        | 548.8 -> 98.9  | 21553    |             |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 277666   | 5.30 µg/L   | 98       |
|              |        | 413.0 -> 169.0 | 49700    |             |          |
| PFOS         | 8.191  | 498.9 -> 79.9  | 45286    | 5.05 µg/L   | 92       |
|              |        | 498.9 -> 98.8  | 21446    |             |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 219816   | 10.55 µg/L  | 100      |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 48020    | 5.13 µg/L   | 94       |
|              |        | 349.1 -> 98.9  | 20924    |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 101930   | 5.13 µg/L   | 96       |
|              |        | 713.1 -> 168.9 | 9149     |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 139882   | 5.66 µg/L   | 95       |
|              |        | 663.0 -> 168.9 | 15494    |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 142533   | 5.46 µg/L   | 98       |
|              |        | 563.1 -> 269.1 | 22992    |             |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 202839   | 10.57 µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 63035    |             |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 332356   | 10.19 µg/L  | 94       |
|              |        | 532.8 -> 353.0 | 98739    |             |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 800554   | 10.91 µg/L  | 98       |
|              |        | 376.9 -> 84.8  | 205467   |             |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 130493   | 11.29 µg/L  | 94       |
|              |        | 284.9 -> 184.9 | 14374    |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 38190    | 25.95 µg/L  | 97       |
|              |        | 241.0 -> 117.0 | 5087     |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 727889   | 126.89 µg/L | 92       |
|              |        | 341.0 -> 217.0 | 562965   |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 486653   | 131.75 µg/L | 99       |
|              |        | 441.0 -> 336.9 | 1061823  |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 88333    | 10.79 µg/L  | 94       |
|              |        | 526.0 -> 169.0 | 115959   |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 223180   | 26.38 µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 76148    | 10.76 µg/L  | 93       |
|              |        | 511.9 -> 169.0 | 107621   |             |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 165602   | 25.94 µg/L  | 100      |
| PFDoS        | 9.779  | 699.1 -> 79.9  | 10712    | 5.26 µg/L   | 100      |
|              |        | 699.1 -> 98.8  | 5745     |             |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 42082    | 10.54 µg/L  | 98       |
|              |        | 295.0 -> 84.9  | 10990    |             |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 155281   | 10.55 µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 117293   | 10.60 µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 408411   | 9.27 µg/L   | 99       |
|              |        | 314.8 -> 82.9  | 14024    |             |          |

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

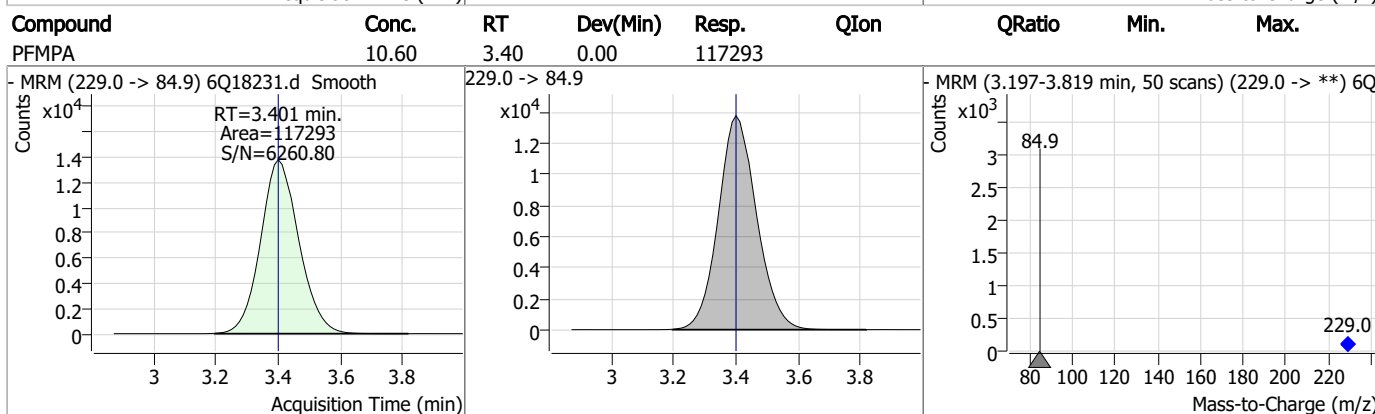
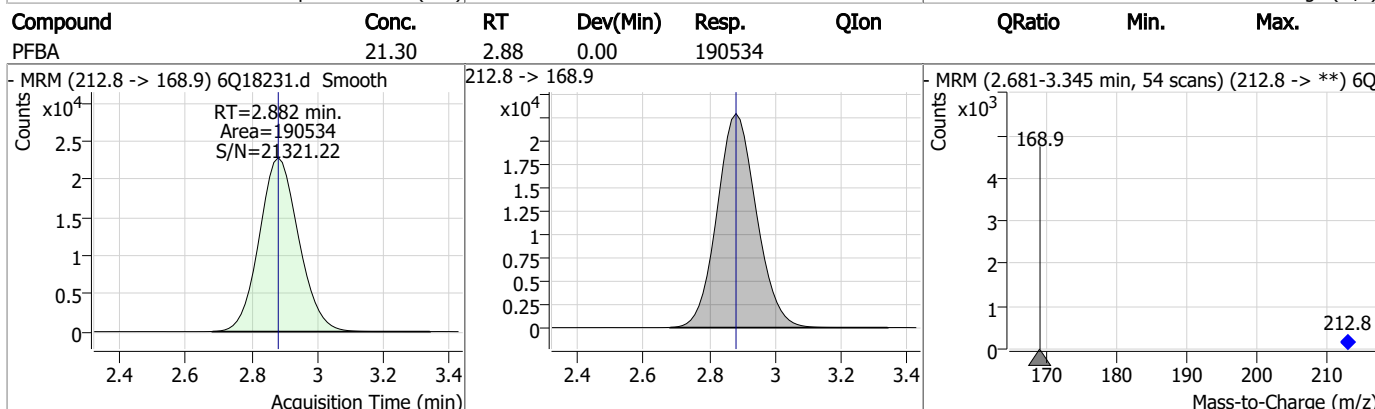
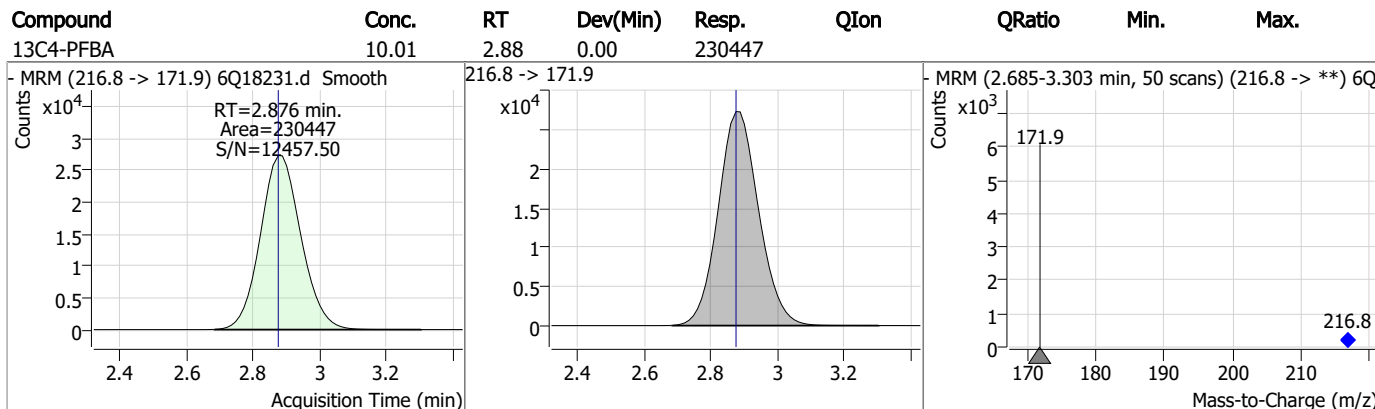
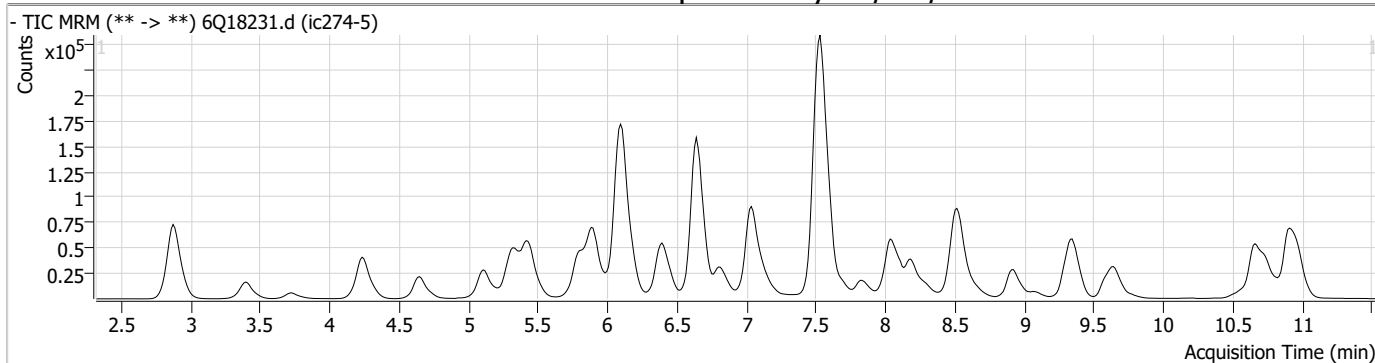
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

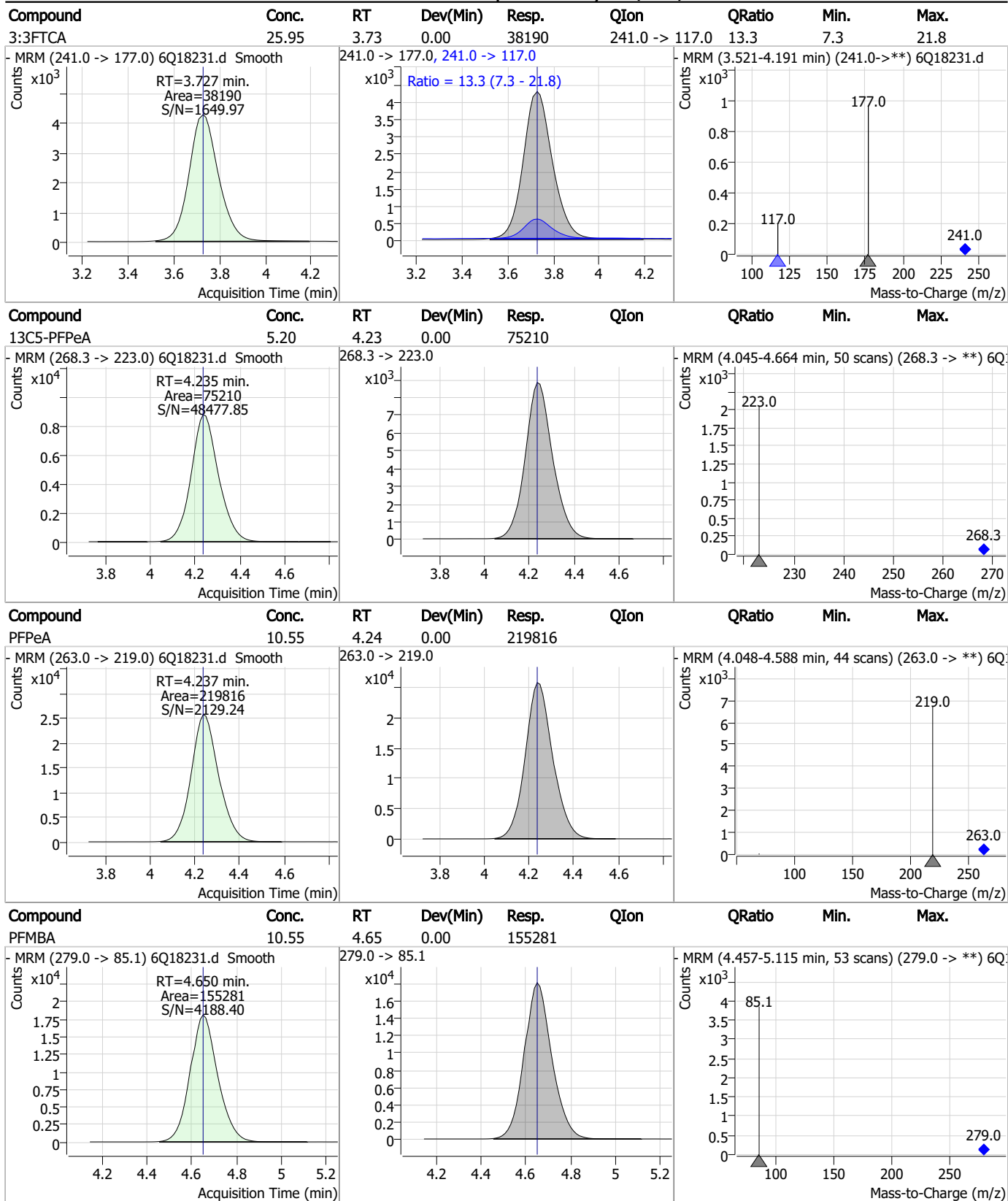
7.7.6

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### Perfluorinated Compounds by LC/MS/MS

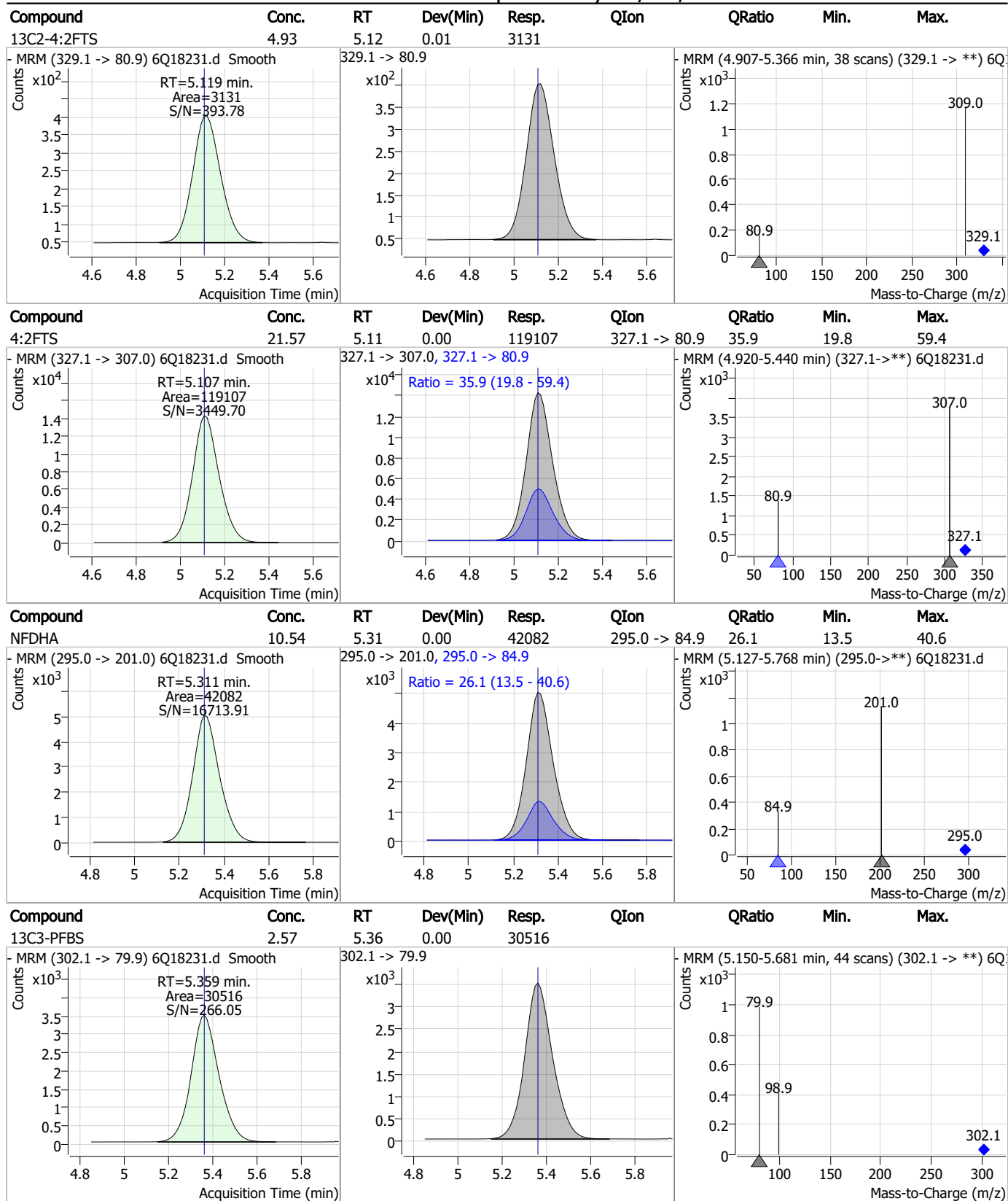


### Perfluorinated Compounds by LC/MS/MS



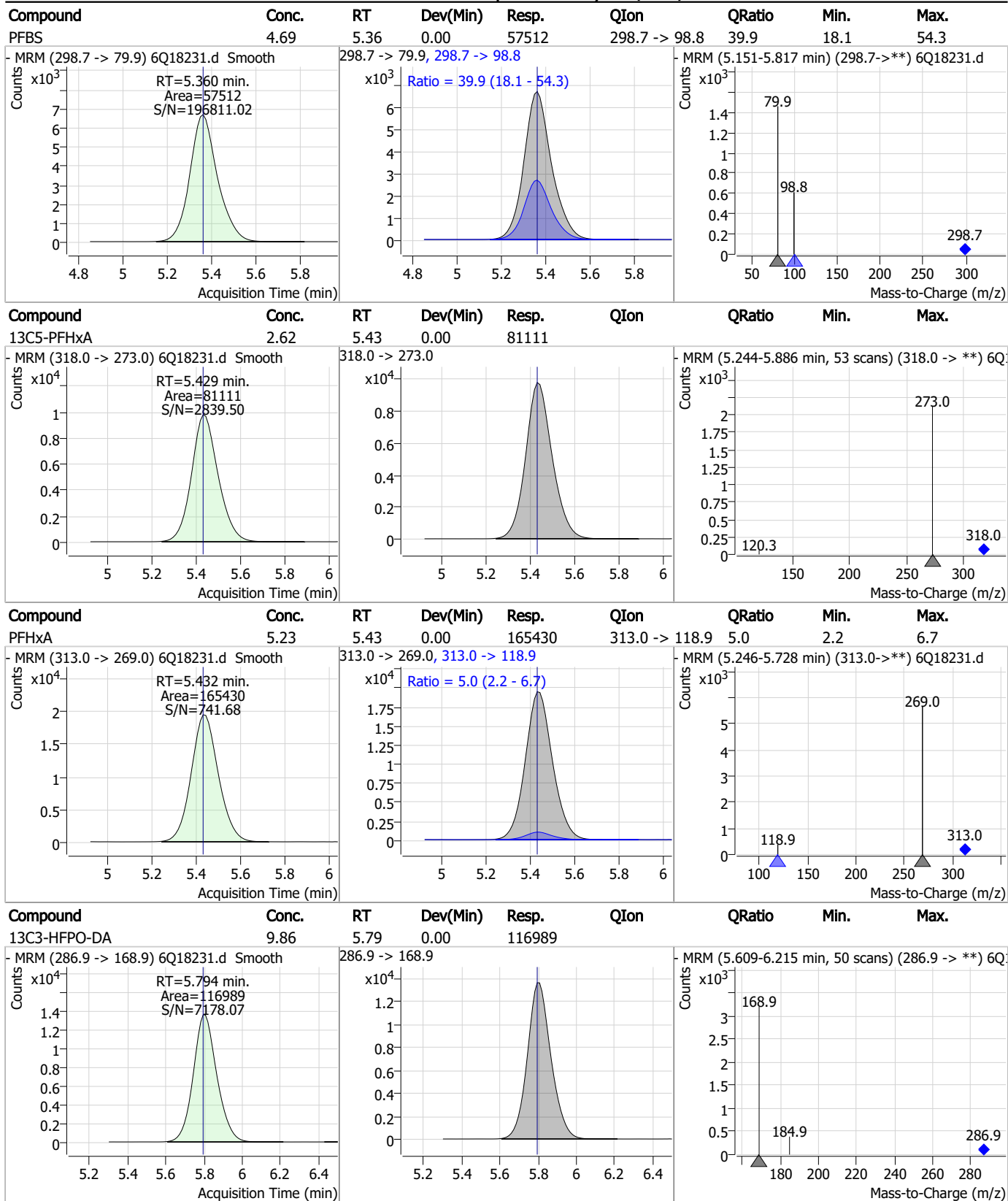
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS



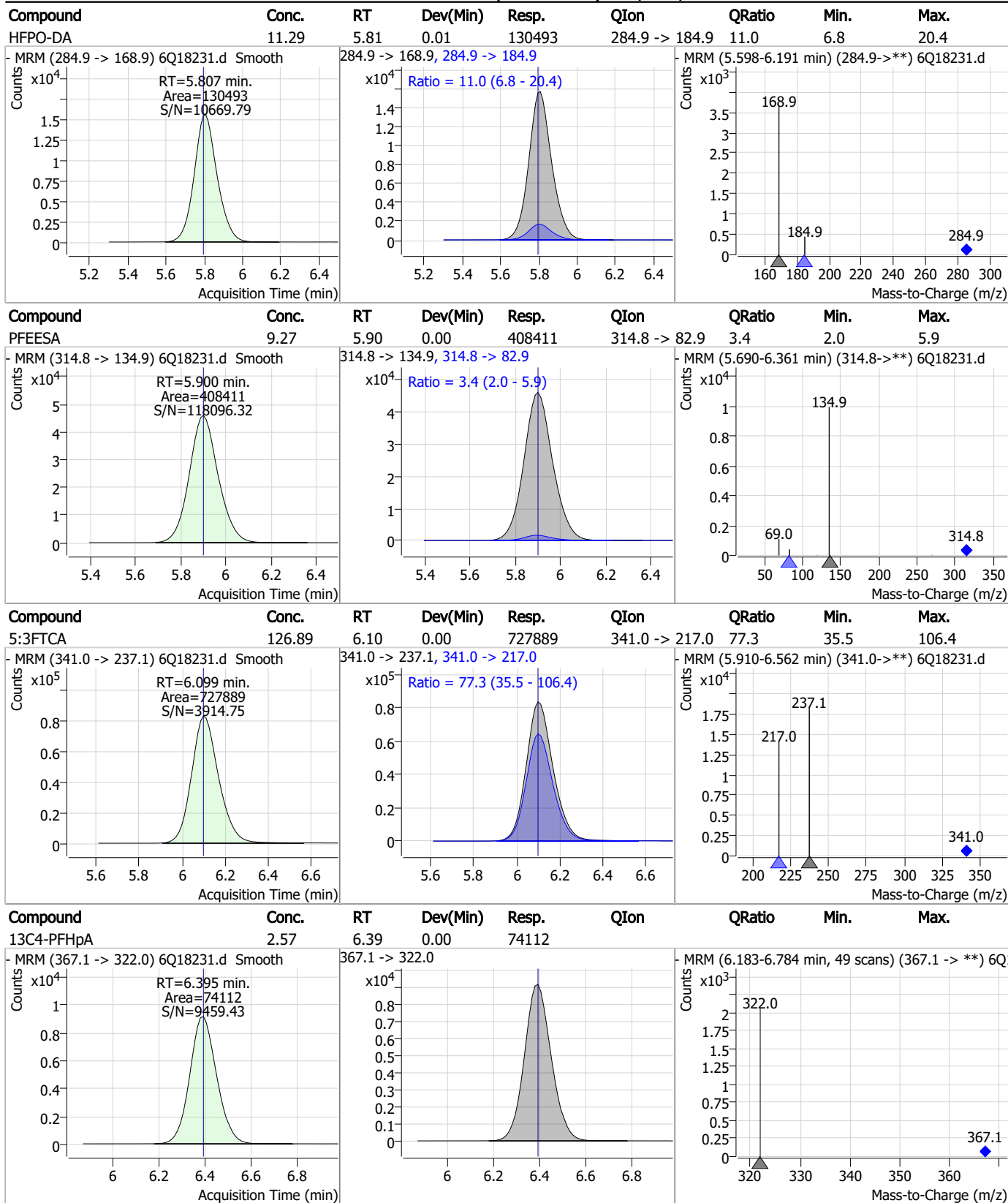
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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### Perfluorinated Compounds by LC/MS/MS

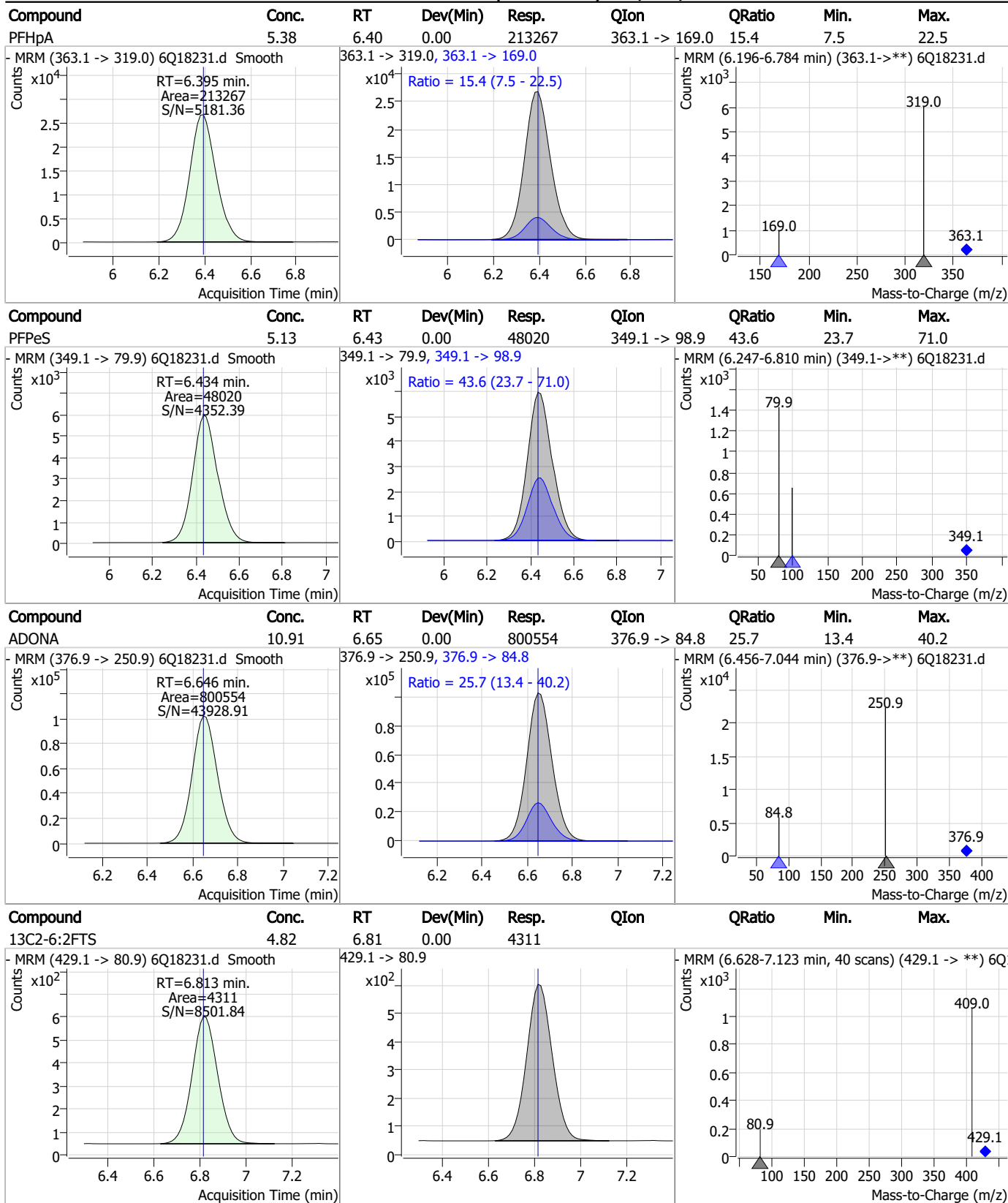


7.7.6

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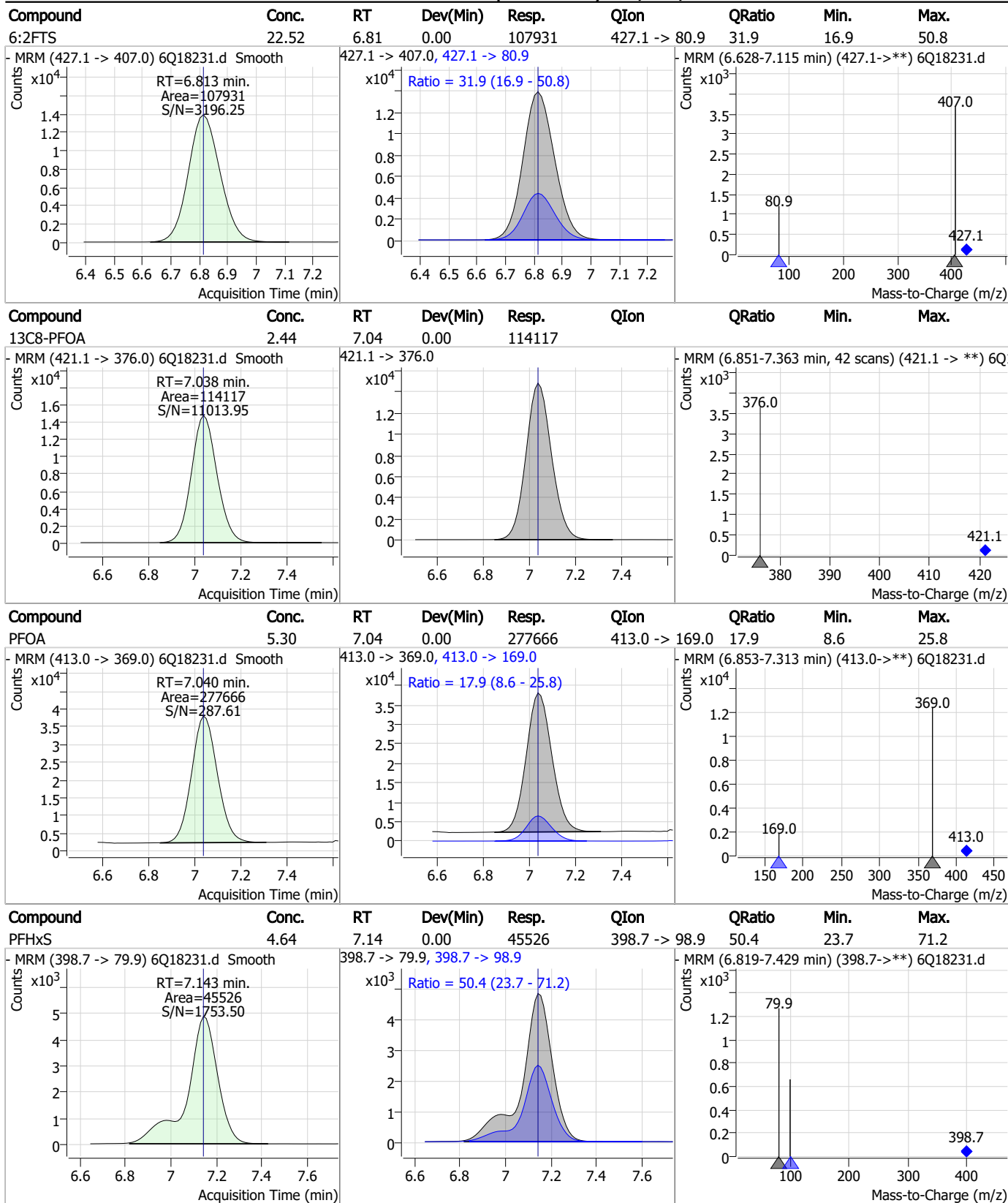


### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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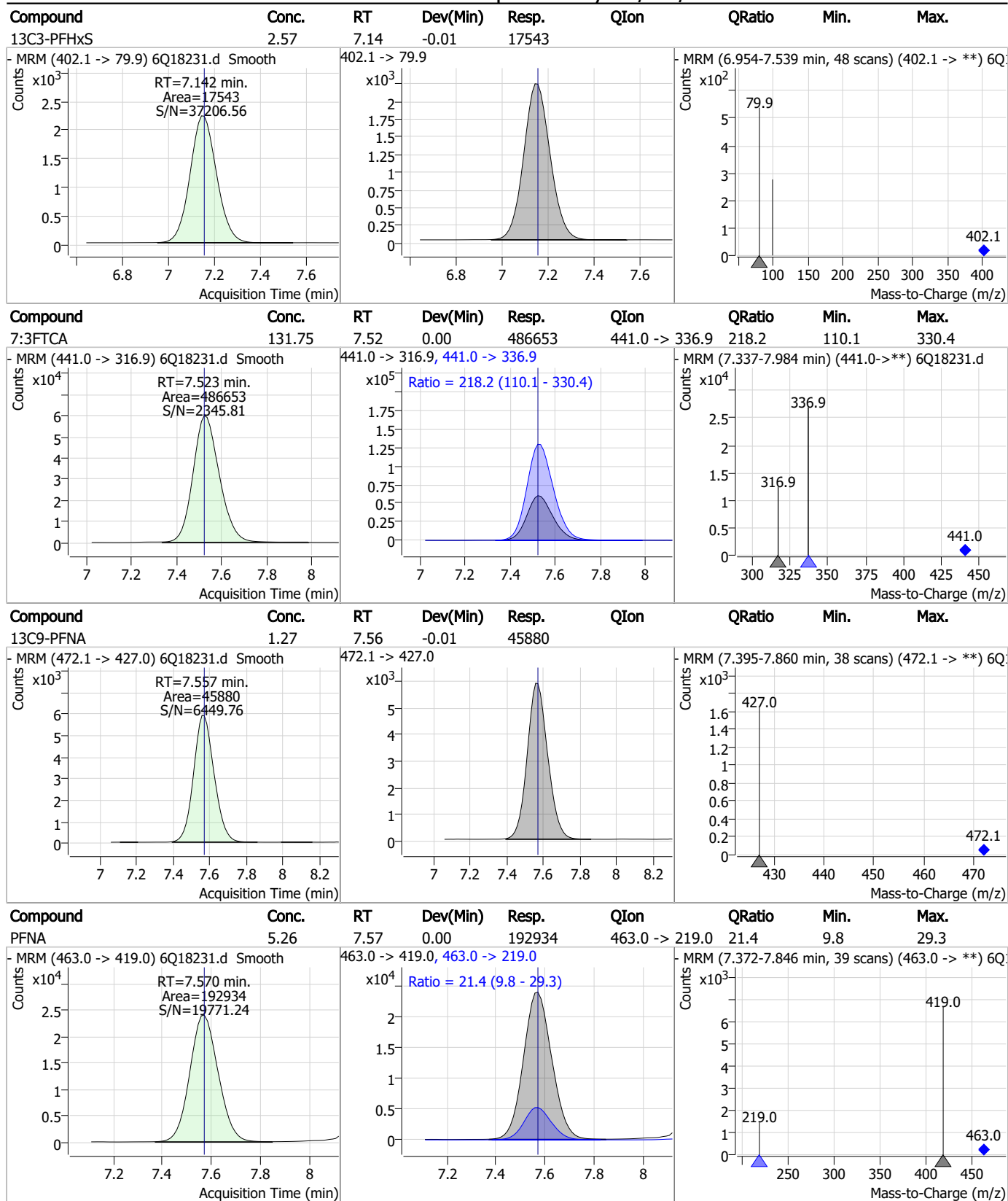
### Perfluorinated Compounds by LC/MS/MS



7.7.6

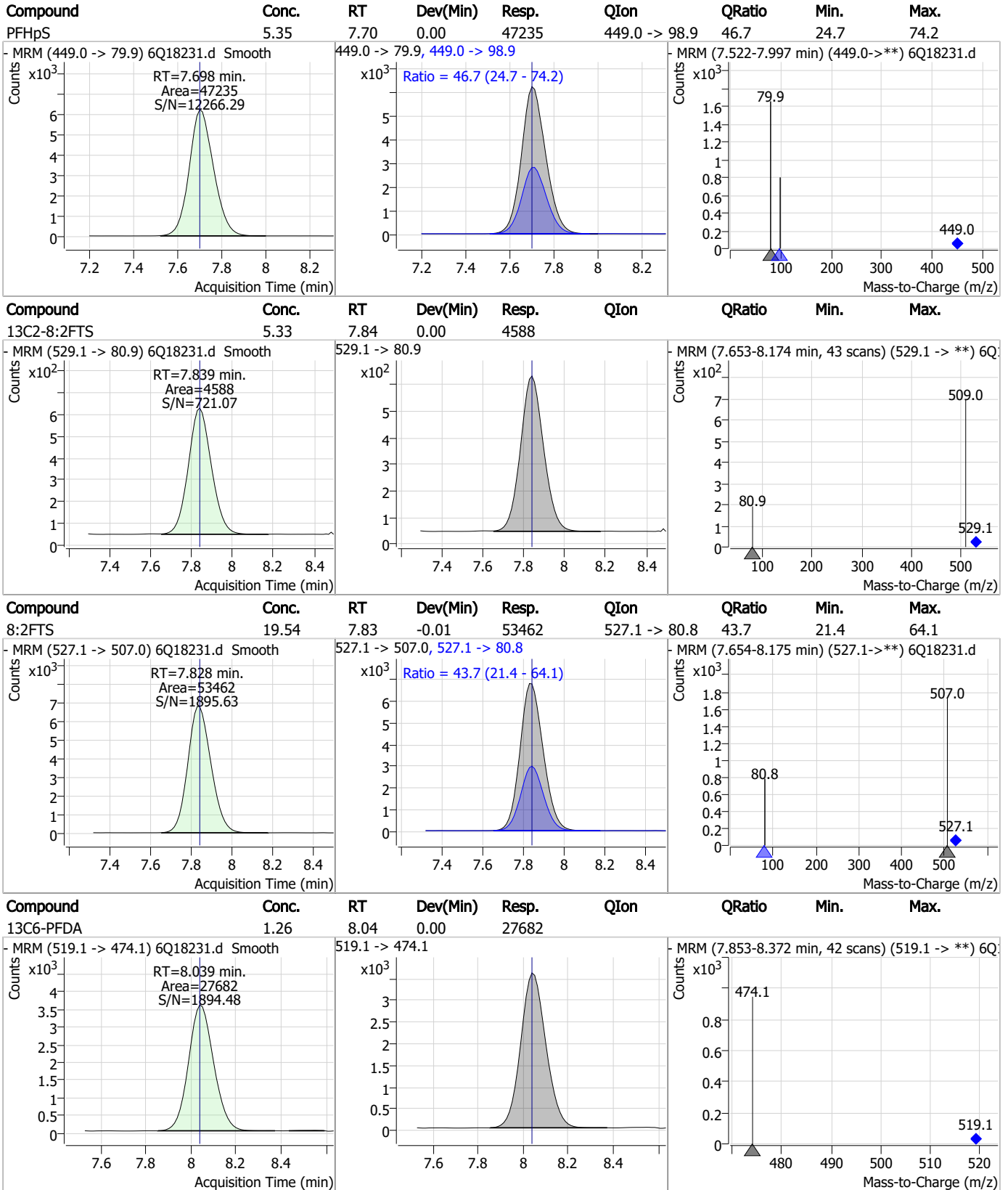
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### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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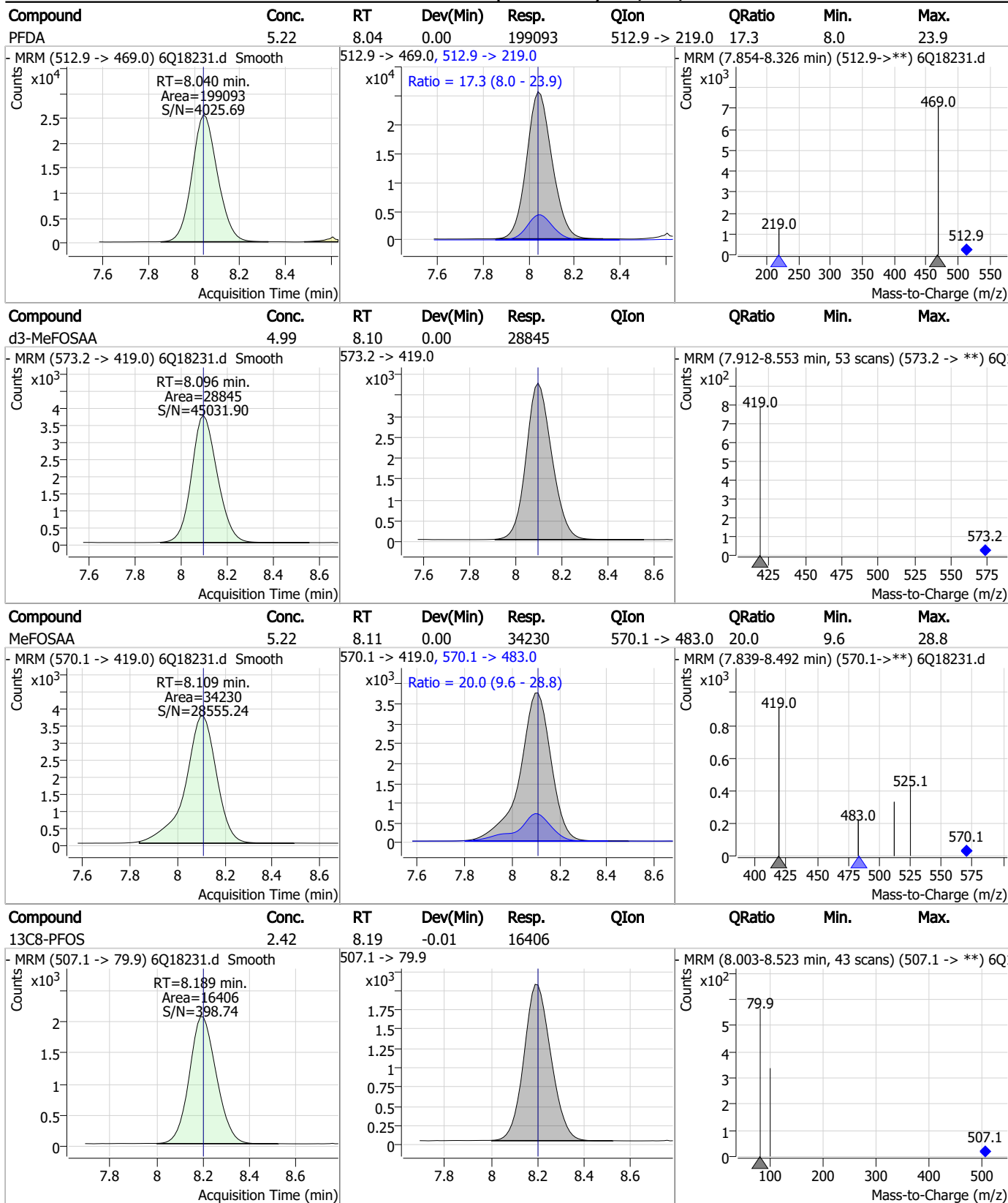
### Perfluorinated Compounds by LC/MS/MS



7.7.6

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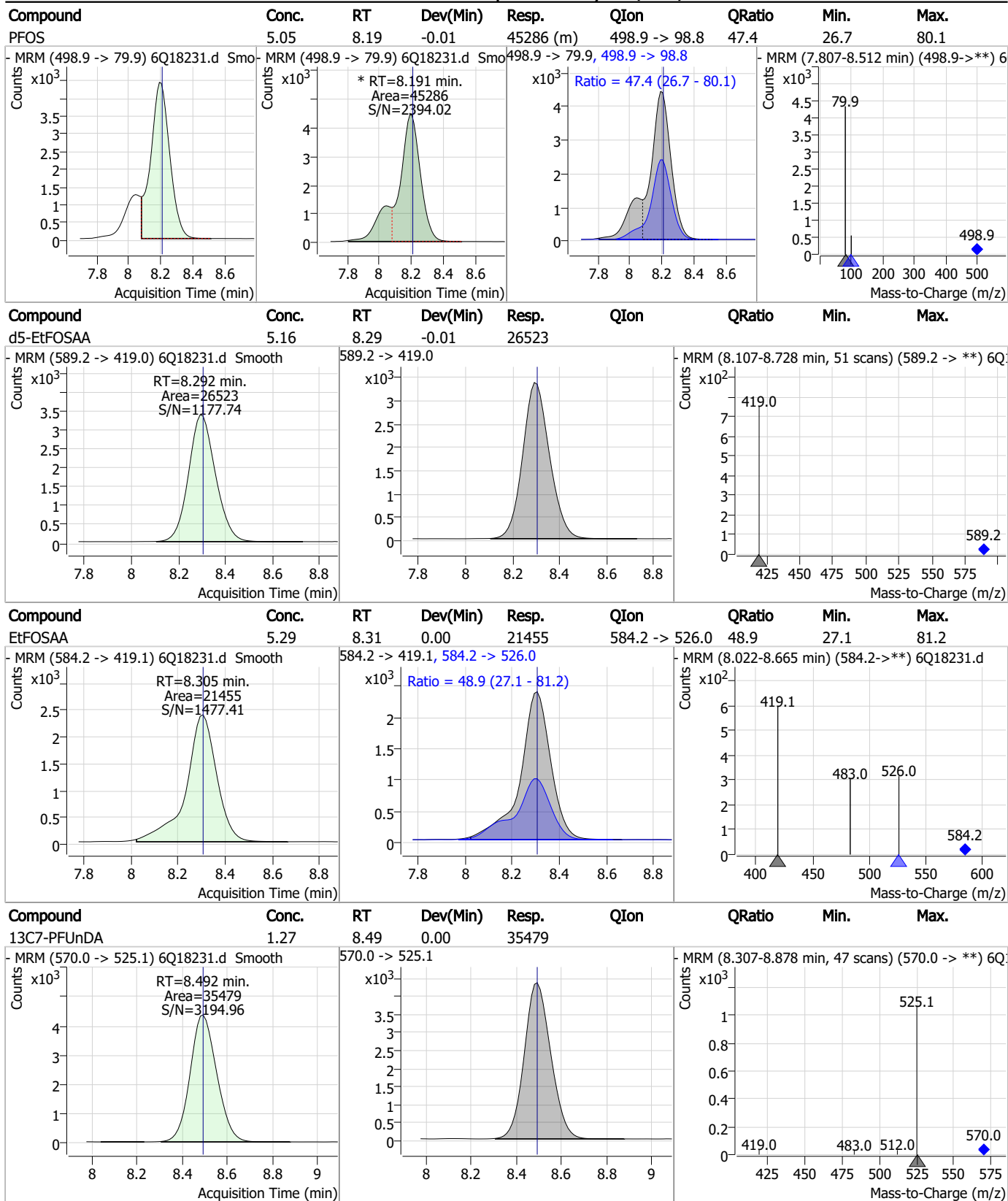
### Perfluorinated Compounds by LC/MS/MS



7.7.6

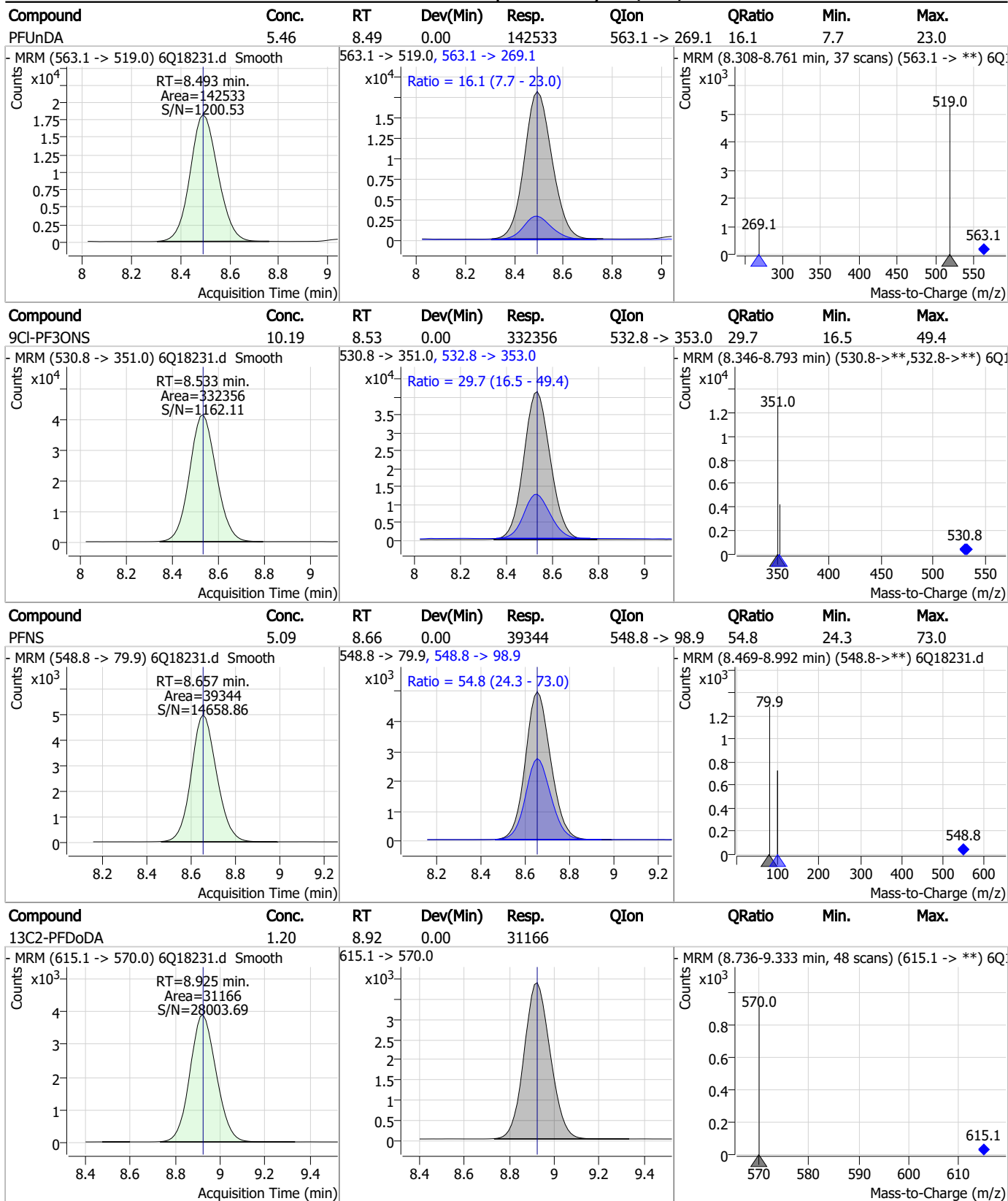
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### Perfluorinated Compounds by LC/MS/MS



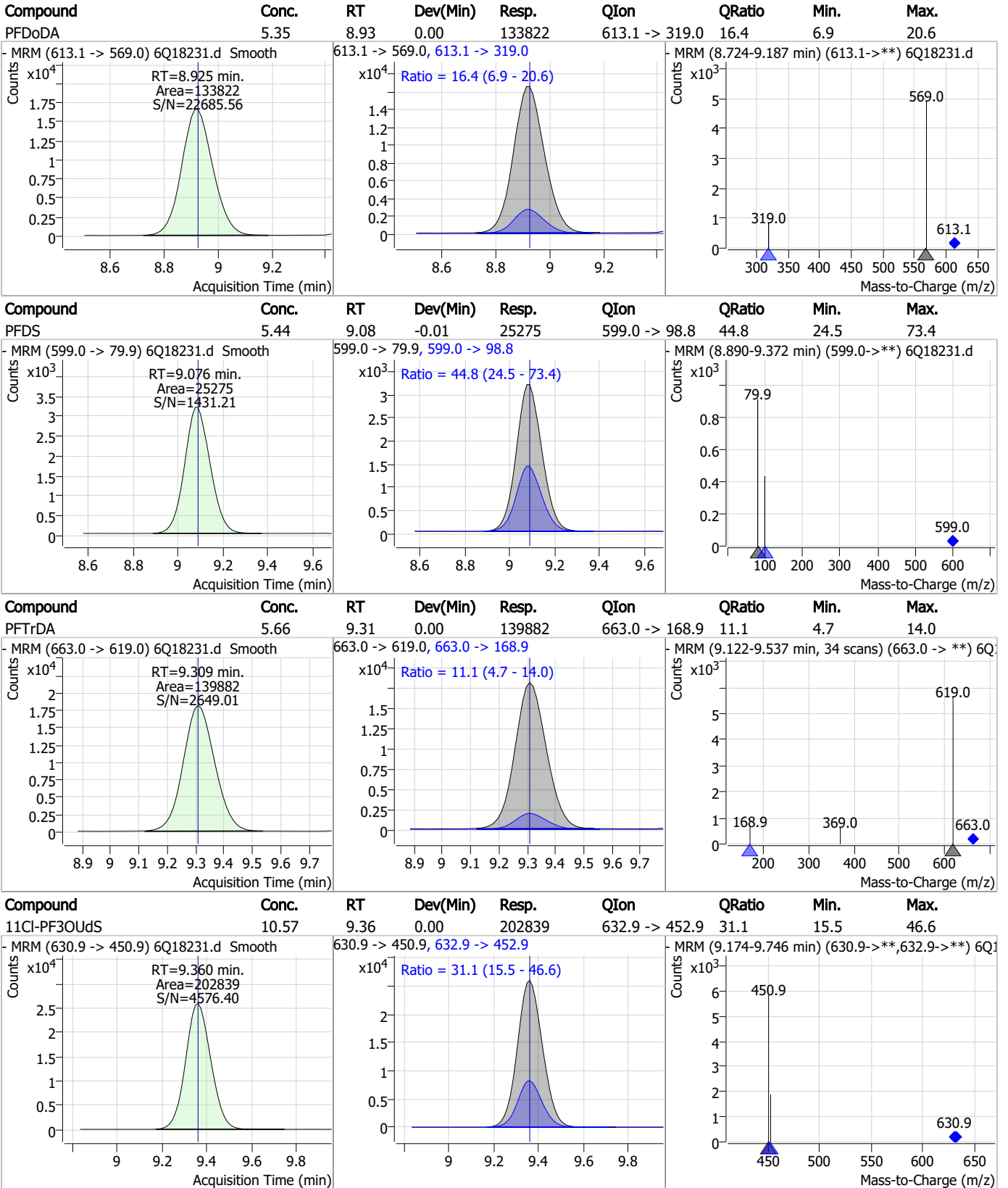
7.7.6  
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### Perfluorinated Compounds by LC/MS/MS



7.7.6  
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### Perfluorinated Compounds by LC/MS/MS



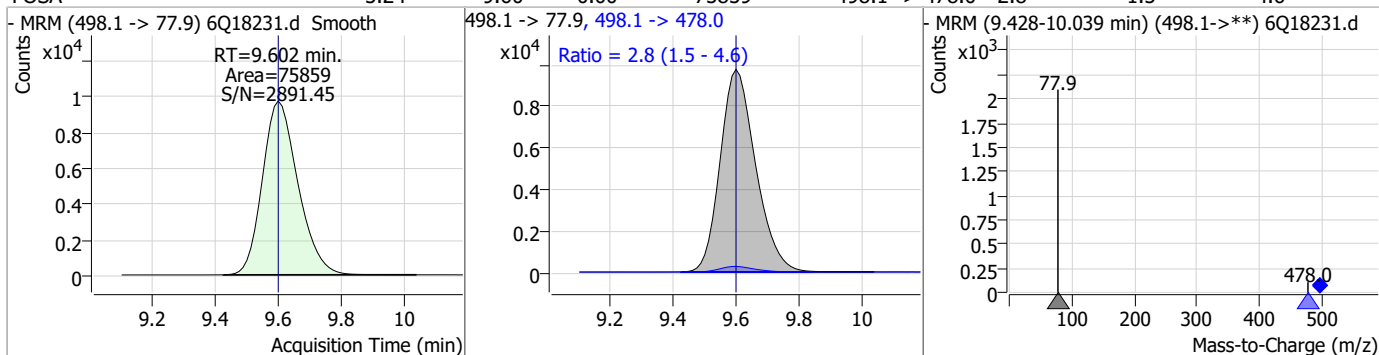
7.7.6

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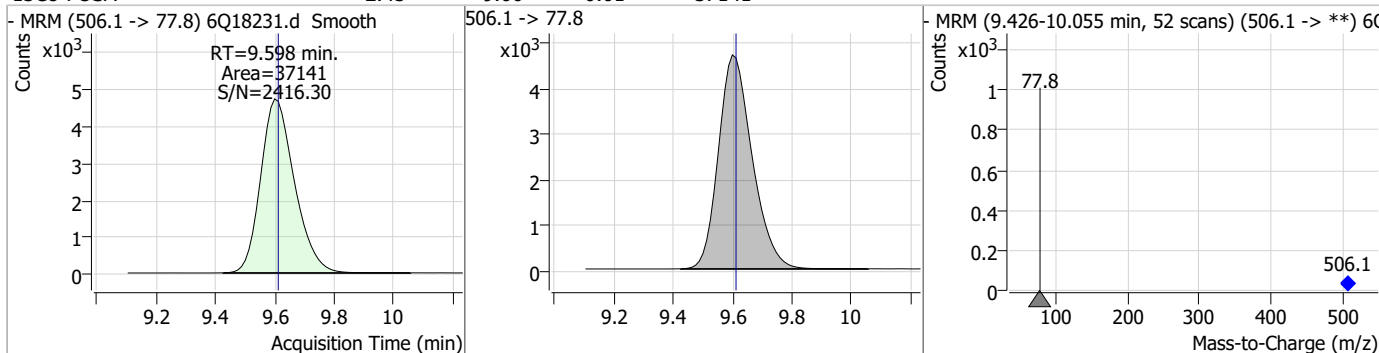


### Perfluorinated Compounds by LC/MS/MS

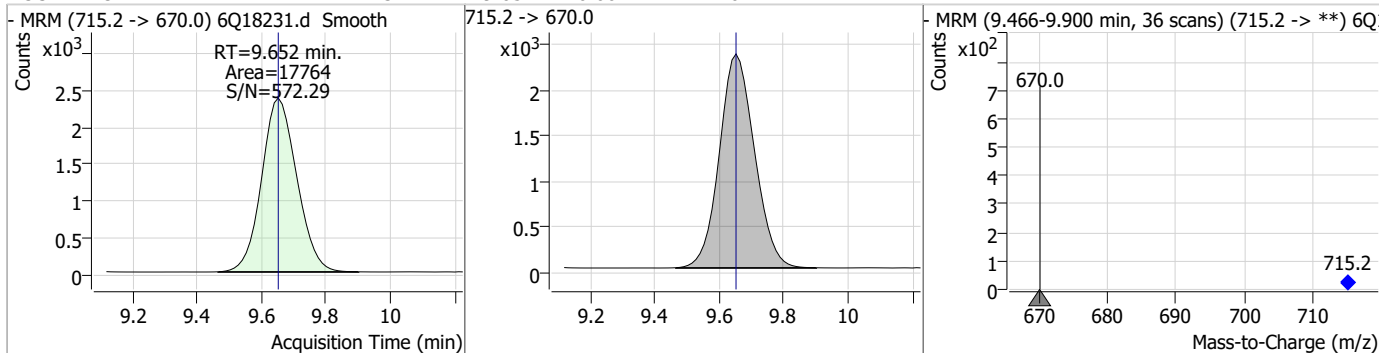
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 5.24  | 9.60 | 0.00     | 75859 | 498.1 -> 478.0 | 2.8    | 1.5  | 4.6  |



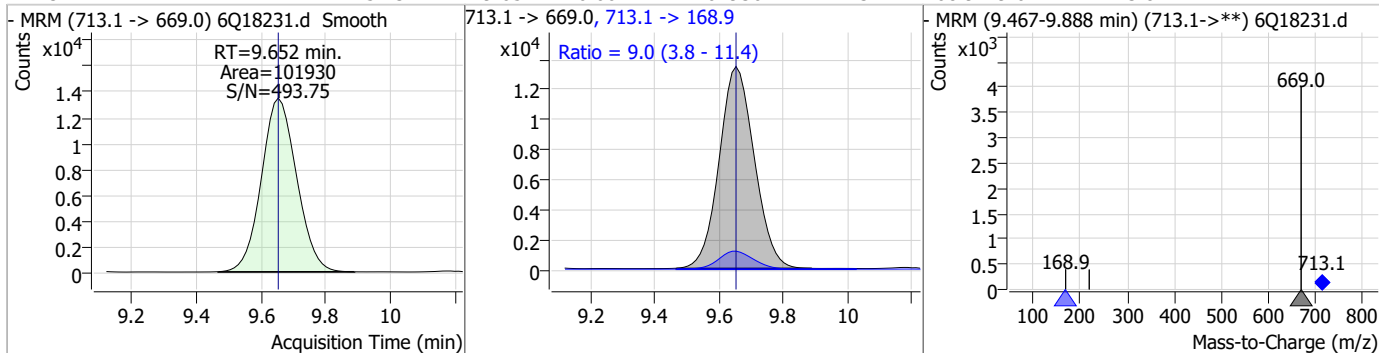
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.45  | 9.60 | -0.01    | 37141 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.31  | 9.65 | 0.00     | 17764 |      |        |      |      |

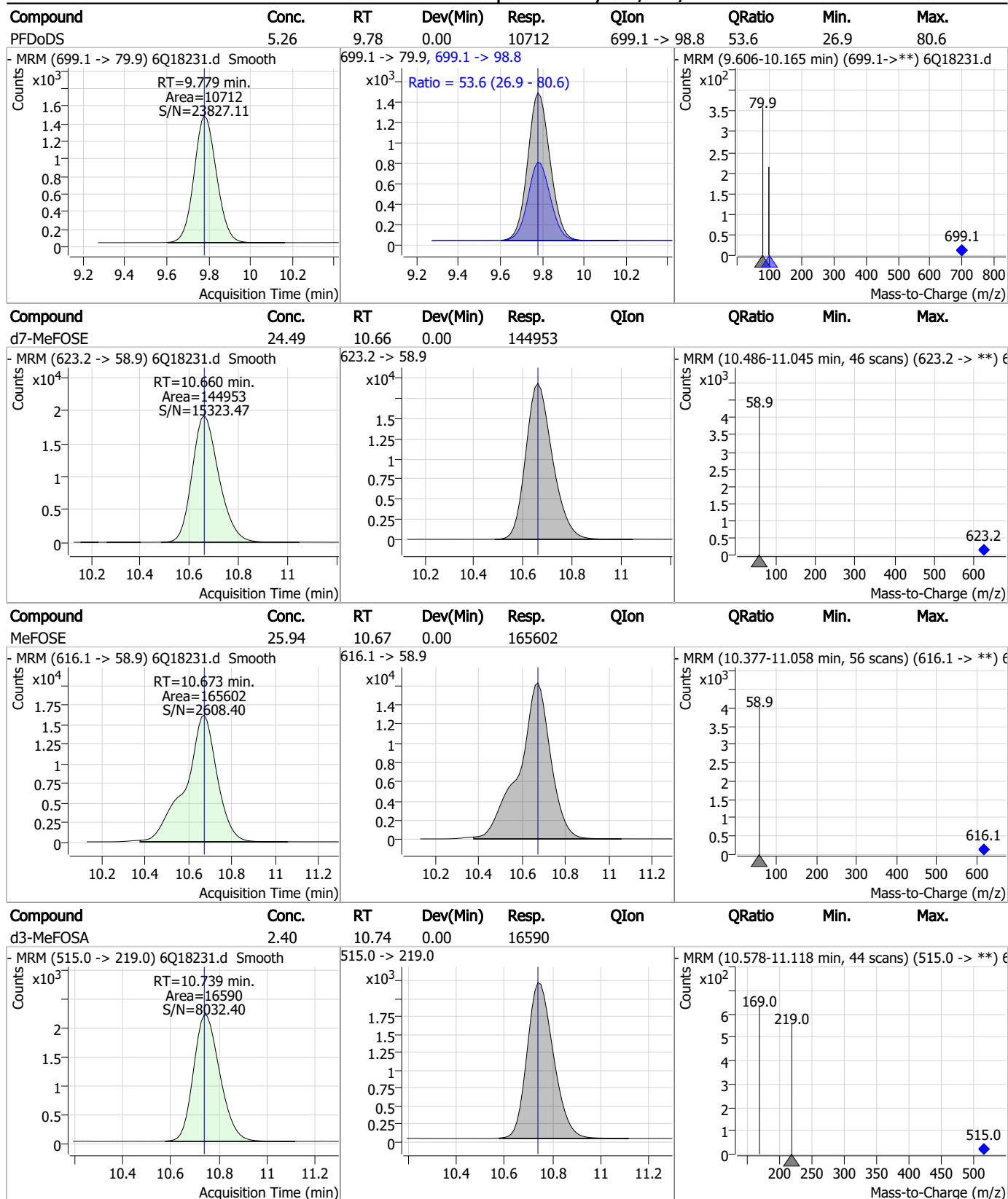


| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFTeDA   | 5.13  | 9.65 | 0.00     | 101930 | 713.1 -> 168.9 | 9.0    | 3.8  | 11.4 |



7.7.6  
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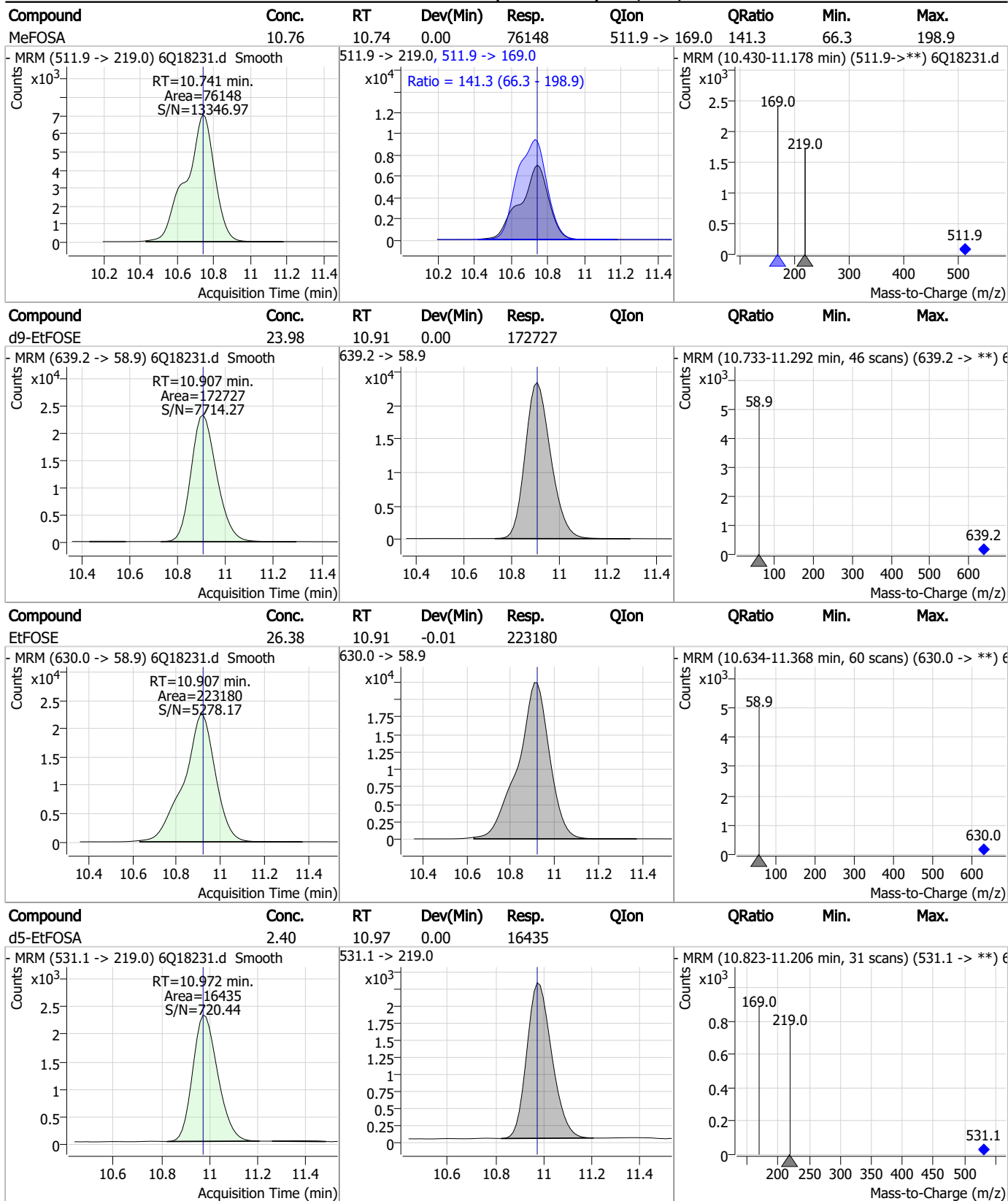
### Perfluorinated Compounds by LC/MS/MS



7.7.6

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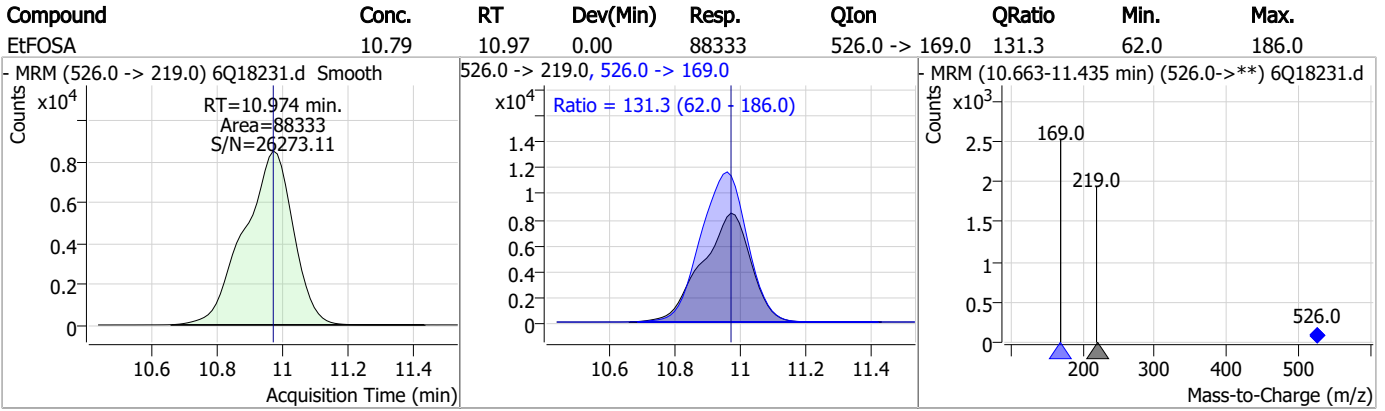
### Perfluorinated Compounds by LC/MS/MS



7.7.6

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Perfluorinated Compounds by LC/MS/MS



7.7.6

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# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18231.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 22:25      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.6.1

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

**Norman Farmer**  
 05/23/23 16:27

## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18232.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 10:39:49 PM  
 Sample Name : ic274-6  
 Vial : P1-A7  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 217316            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 70668             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 75783             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 71043             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 112629            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 42600             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 25682             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.480                | 570.0 -> 525.1 | 34003             | 1.25 µg/L   | -0.012   |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 31580             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 15813             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 35077             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 28256             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 16587             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 15101             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3102              | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4215              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4134              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 27580             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 114157            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 23734             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 133939            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 161046            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16445             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16407             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 20604             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 92226             | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 11996             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 109404            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 34866             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 50637             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 75795             | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3102              | 5.08 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 101.6% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4215              | 4.90 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.0%  |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4134              | 4.99 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 99.9%  |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 31580             | 1.25 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 99.7%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 15813             | 1.20 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 95.6%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 28256             | 2.47 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 98.9%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 16587             | 2.53 µg/L   | -0.012   |

7.7.7  
7



## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.3% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 217316   | 9.99 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 71043    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.6% |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 75783    | 2.49 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 70668    | 4.98 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 25682    | 1.19 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 95.4%  |               |
| 13C7-PFUnDA             | 8.480                | 570.0 -> 525.1 | 34003    | 1.25 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 35077    | 2.45 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.8%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 112629   | 2.58 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.2% |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 15101    | 2.36 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.4%  |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 42600    | 1.23 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 98.4%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 27580    | 5.05 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 114157   | 9.81 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.1%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16407    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.6% |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 23734    | 4.89 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 97.7%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 133939   | 23.95 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 95.8%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 161046   | 23.66 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 94.6%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16445    | 2.54 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.7% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.119                | 327.1 -> 307.0 | 264265   | 48.28 µg/L        | 96            |
|                         |                      | 327.1 -> 80.9  | 98027    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 244566   | 52.19 µg/L        | 96            |
|                         |                      | 427.1 -> 80.9  | 77155    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 121117   | 49.13 µg/L        | 99            |
|                         |                      | 527.1 -> 80.8  | 50749    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 47498    | 13.08 µg/L        | 100           |
|                         |                      | 584.2 -> 526.0 | 25866    |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 182255   | 13.34 µg/L        | 100           |
|                         |                      | 498.1 -> 478.0 | 5265     |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 81326    | 12.98 µg/L        | 98            |
|                         |                      | 570.1 -> 483.0 | 15037    |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 444026   | 52.63 µg/L        | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 134883   | 11.88 µg/L        | 95            |
|                         |                      | 298.7 -> 98.8  | 52694    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 482865   | 13.64 µg/L        | 99            |
|                         |                      | 512.9 -> 219.0 | 79005    |                   |               |
| PFDoDA                  | 8.913                | 613.1 -> 569.0 | 312353   | 12.33 µg/L        | 94            |
|                         |                      | 613.1 -> 319.0 | 50369    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 57079    | 13.35 µg/L        | 98            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc.  | Units | Dev(Min) |
|--------------|--------|----------------|----------|--------|-------|----------|
|              |        | 599.0 -> 98.8  | 27119    |        |       |          |
| PFHpA        | 6.395  | 363.1 -> 319.0 | 479015   | 12.62  | µg/L  | 96       |
|              |        | 363.1 -> 169.0 | 80698    |        |       |          |
| PFHpS        | 7.698  | 449.0 -> 79.9  | 107651   | 13.26  | µg/L  | 94       |
|              |        | 449.0 -> 98.9  | 48989    |        |       |          |
| PFHxA        | 5.444  | 313.0 -> 269.0 | 392880   | 13.30  | µg/L  | 99       |
|              |        | 313.0 -> 118.9 | 18955    |        |       |          |
| PFHxS        | 7.143  | 398.7 -> 79.9  | 104550   | 11.28  | µg/L  | m 97     |
|              |        | 398.7 -> 98.9  | 51456    |        |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 470415   | 13.81  | µg/L  | 99       |
|              |        | 463.0 -> 219.0 | 89628    |        |       |          |
| PFNS         | 8.656  | 548.8 -> 79.9  | 92997    | 13.08  | µg/L  | 90       |
|              |        | 548.8 -> 98.9  | 51338    |        |       |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 639999   | 12.37  | µg/L  | 97       |
|              |        | 413.0 -> 169.0 | 119470   |        |       |          |
| PFOS         | 8.191  | 498.9 -> 79.9  | 107612   | 13.03  | µg/L  | m 88     |
|              |        | 498.9 -> 98.8  | 48574    |        |       |          |
| PFPeA        | 4.249  | 263.0 -> 219.0 | 518062   | 26.45  | µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 105800   | 11.95  | µg/L  | 99       |
|              |        | 349.1 -> 98.9  | 50953    |        |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 233421   | 13.20  | µg/L  | 97       |
|              |        | 713.1 -> 168.9 | 20221    |        |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 306587   | 12.25  | µg/L  | 93       |
|              |        | 663.0 -> 168.9 | 36189    |        |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 318061   | 12.71  | µg/L  | 96       |
|              |        | 563.1 -> 269.1 | 54543    |        |       |          |
| 11Cl-PF3OUdS | 9.360  | 630.9 -> 450.9 | 475910   | 25.42  | µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 147742   |        |       |          |
| 9Cl-PF3ONS   | 8.520  | 530.8 -> 351.0 | 782068   | 24.58  | µg/L  | 96       |
|              |        | 532.8 -> 353.0 | 241263   |        |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 1762332  | 24.61  | µg/L  | 98       |
|              |        | 376.9 -> 84.8  | 454848   |        |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 299685   | 26.56  | µg/L  | 92       |
|              |        | 284.9 -> 184.9 | 30757    |        |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 90105    | 65.17  | µg/L  | 95       |
|              |        | 241.0 -> 117.0 | 11245    |        |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 1698916  | 316.99 | µg/L  | 93       |
|              |        | 341.0 -> 217.0 | 1304589  |        |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 1114394  | 322.91 | µg/L  | 96       |
|              |        | 441.0 -> 336.9 | 2523208  |        |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 206685   | 25.23  | µg/L  | 92       |
|              |        | 526.0 -> 169.0 | 275876   |        |       |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 517384   | 65.59  | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 175342   | 25.04  | µg/L  | 89       |
|              |        | 511.9 -> 169.0 | 254320   |        |       |          |
| MeFOSE       | 10.661 | 616.1 -> 58.9  | 381189   | 64.63  | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 23798    | 12.69  | µg/L  | 96       |
|              |        | 699.1 -> 98.8  | 13490    |        |       |          |
| NFDHA        | 5.324  | 295.0 -> 201.0 | 95389    | 25.56  | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 26253    |        |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 363537   | 26.29  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 274153   | 26.37  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 972726   | 23.62  | µg/L  | 98       |
|              |        | 314.8 -> 82.9  | 31534    |        |       |          |

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

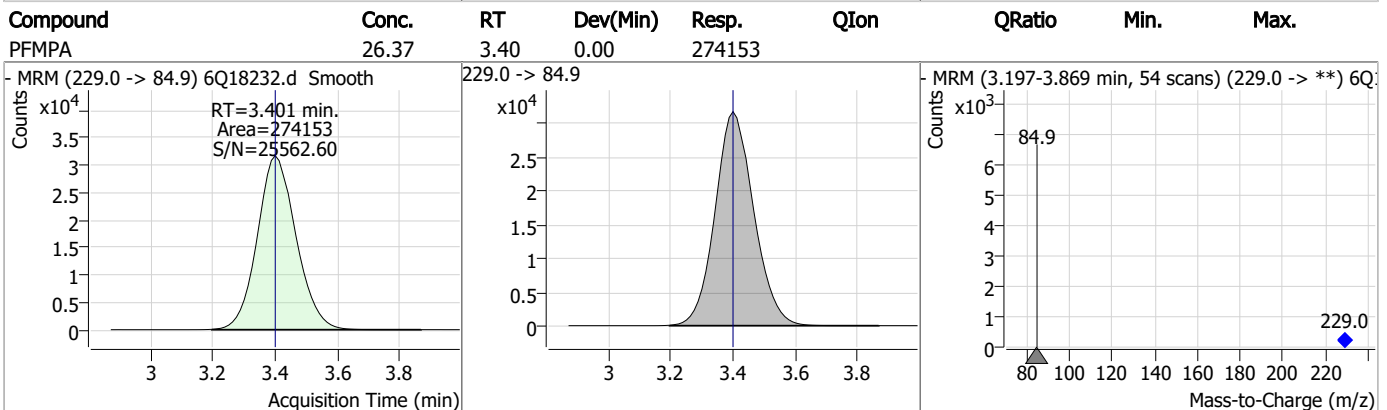
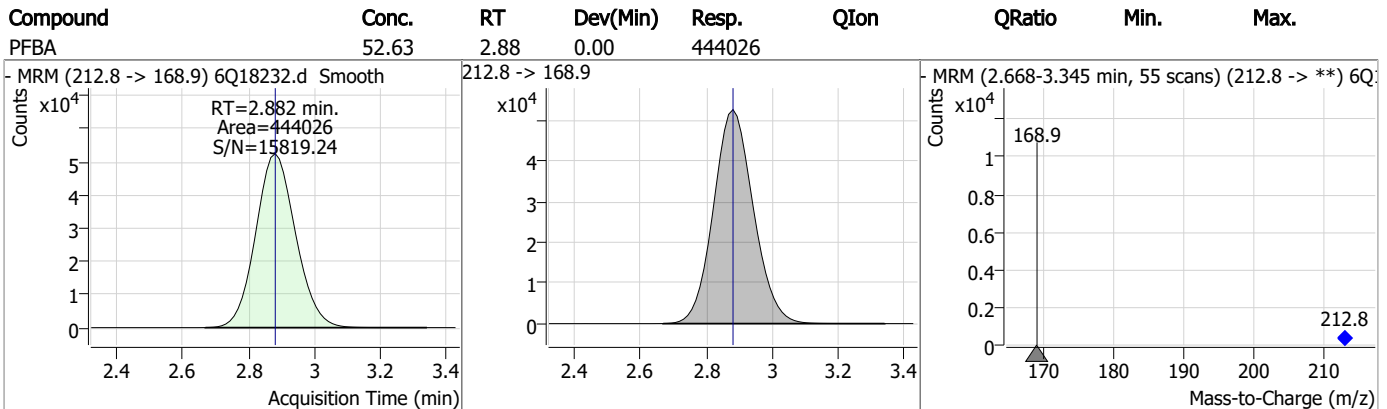
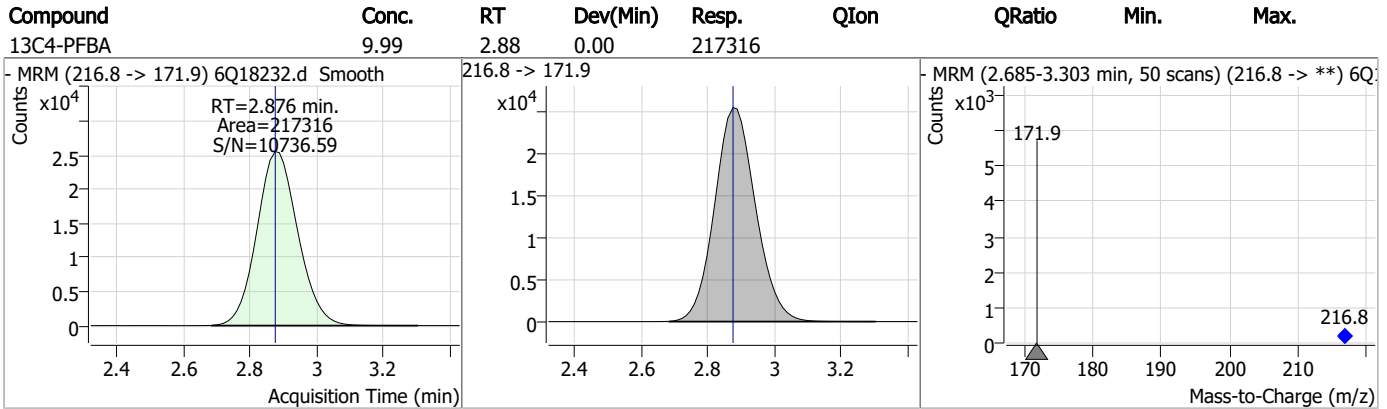
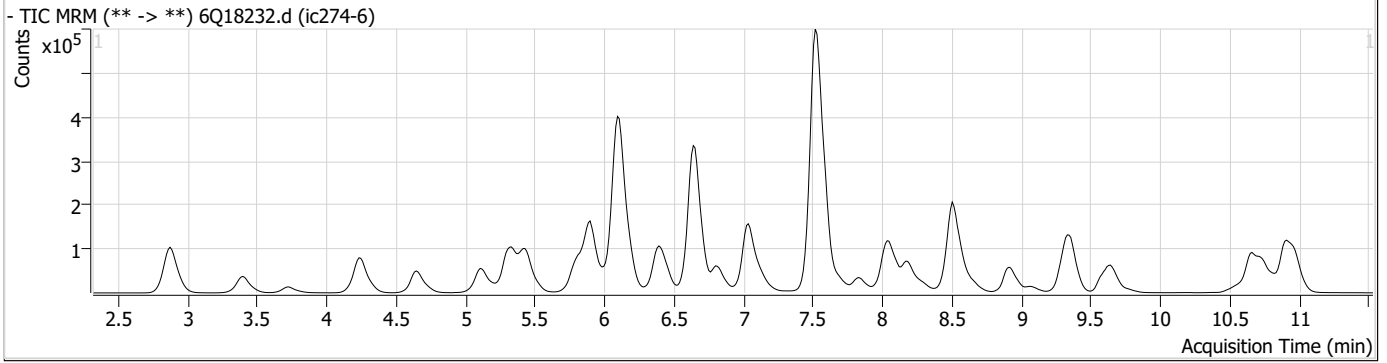


### Perfluorinated Compounds by LC/MS/MS

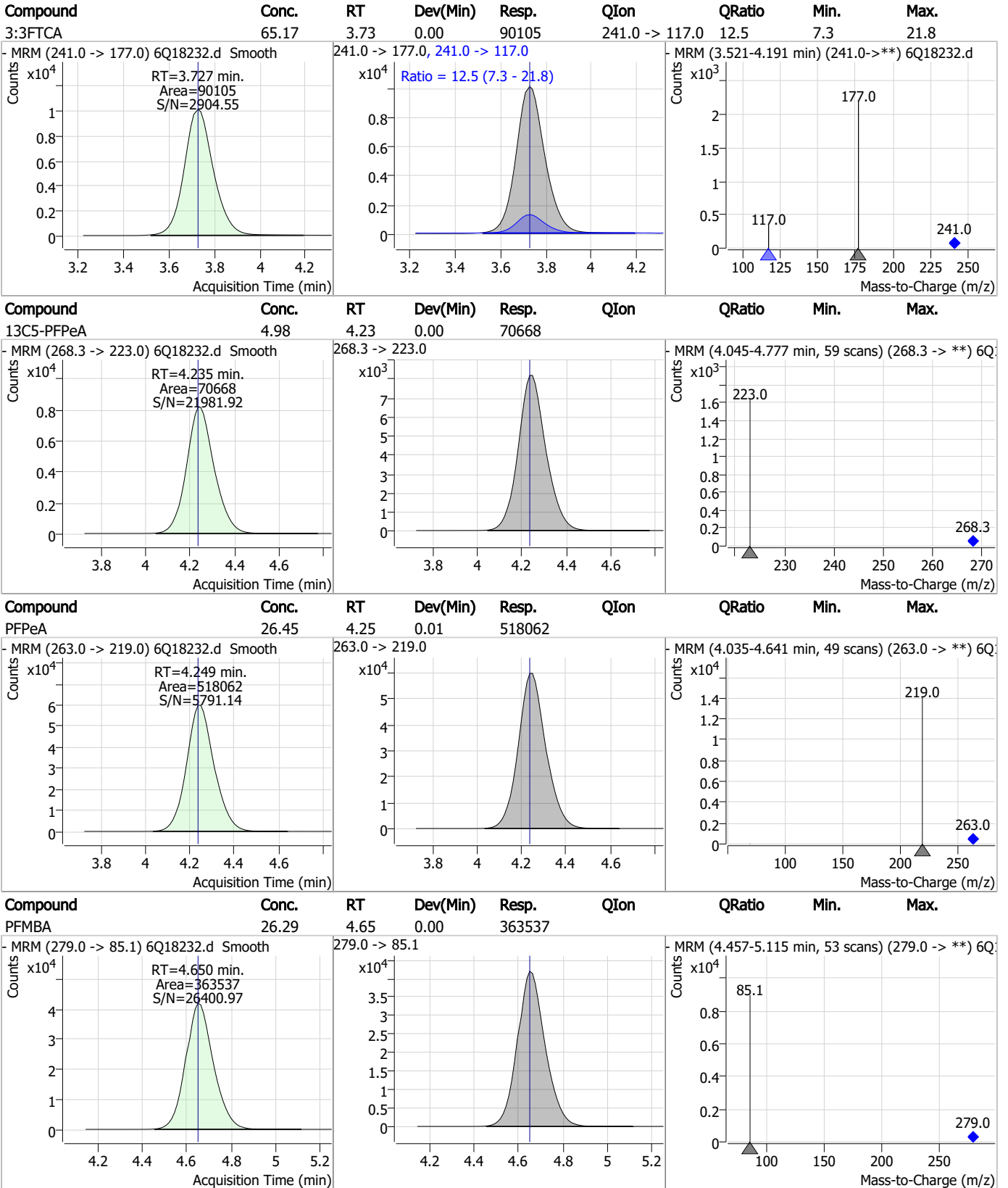
| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.7  
7

### Perfluorinated Compounds by LC/MS/MS

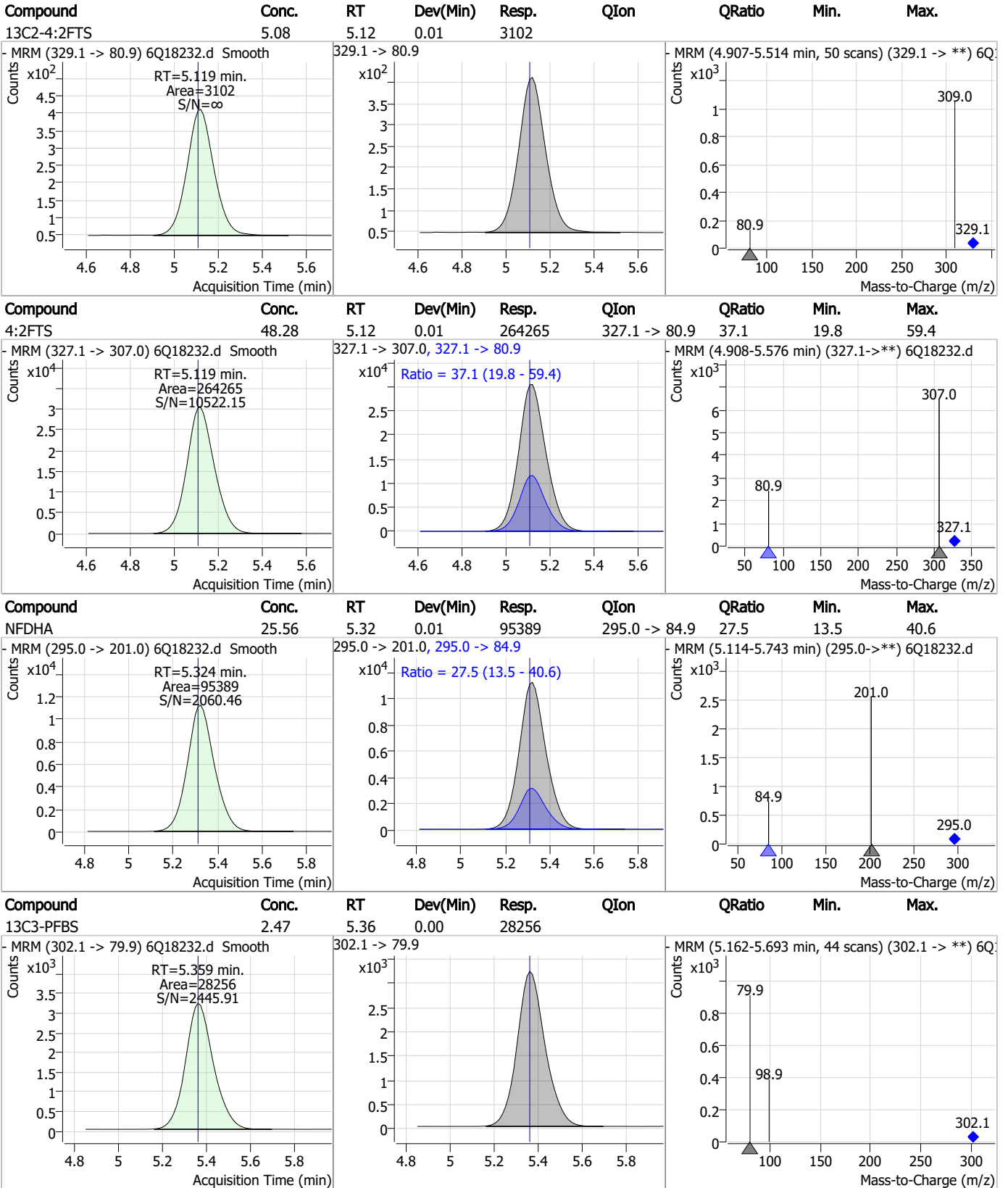


### Perfluorinated Compounds by LC/MS/MS



7.7.7  
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### Perfluorinated Compounds by LC/MS/MS

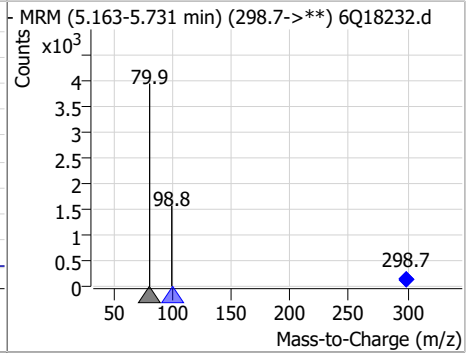
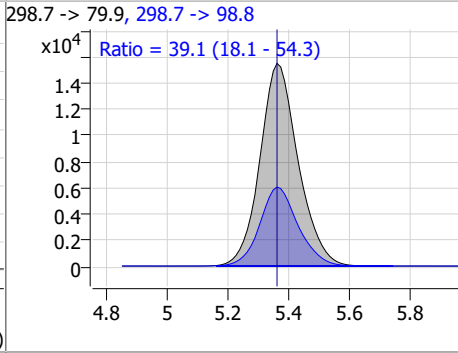
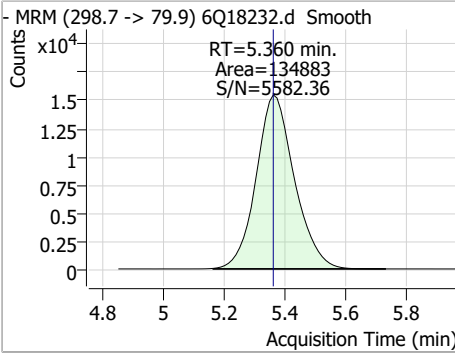


7.7.7

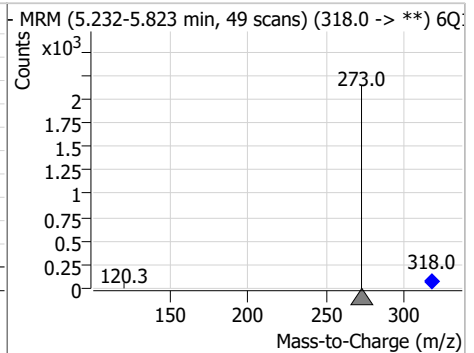
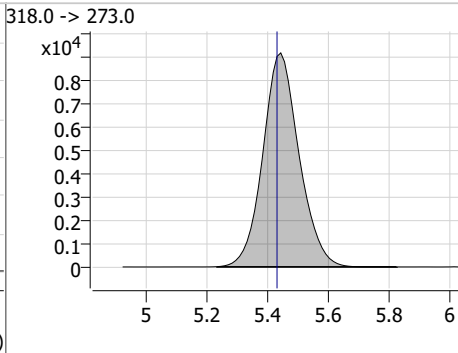
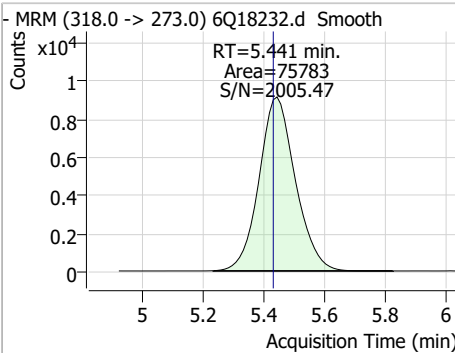
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### Perfluorinated Compounds by LC/MS/MS

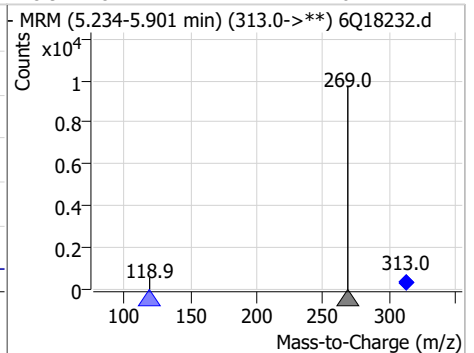
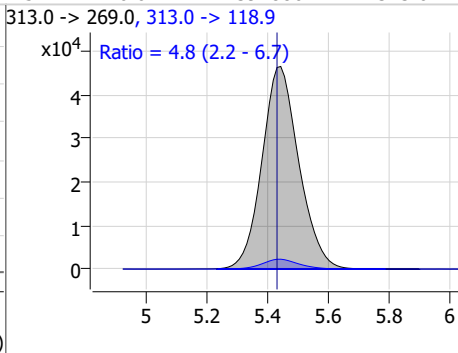
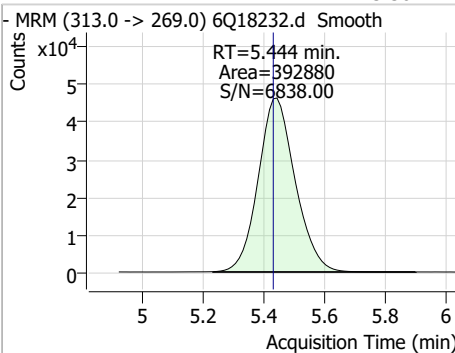
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFBS     | 11.88 | 5.36 | 0.00     | 134883 | 298.7 -> 98.8 | 39.1   | 18.1 | 54.3 |



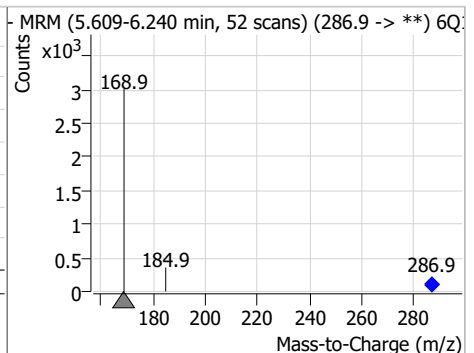
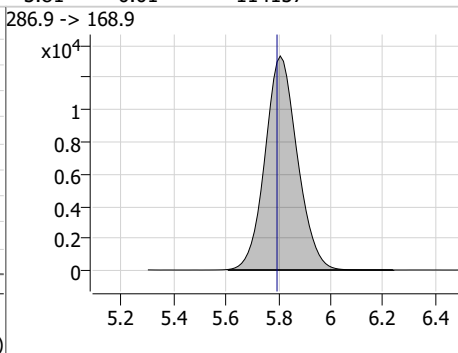
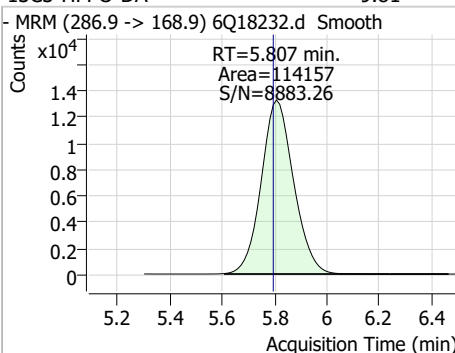
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C5-PFHxA | 2.49  | 5.44 | 0.01     | 75783 | 318.0 -> 273.0 | 4.8    | 2.2  | 6.7  |



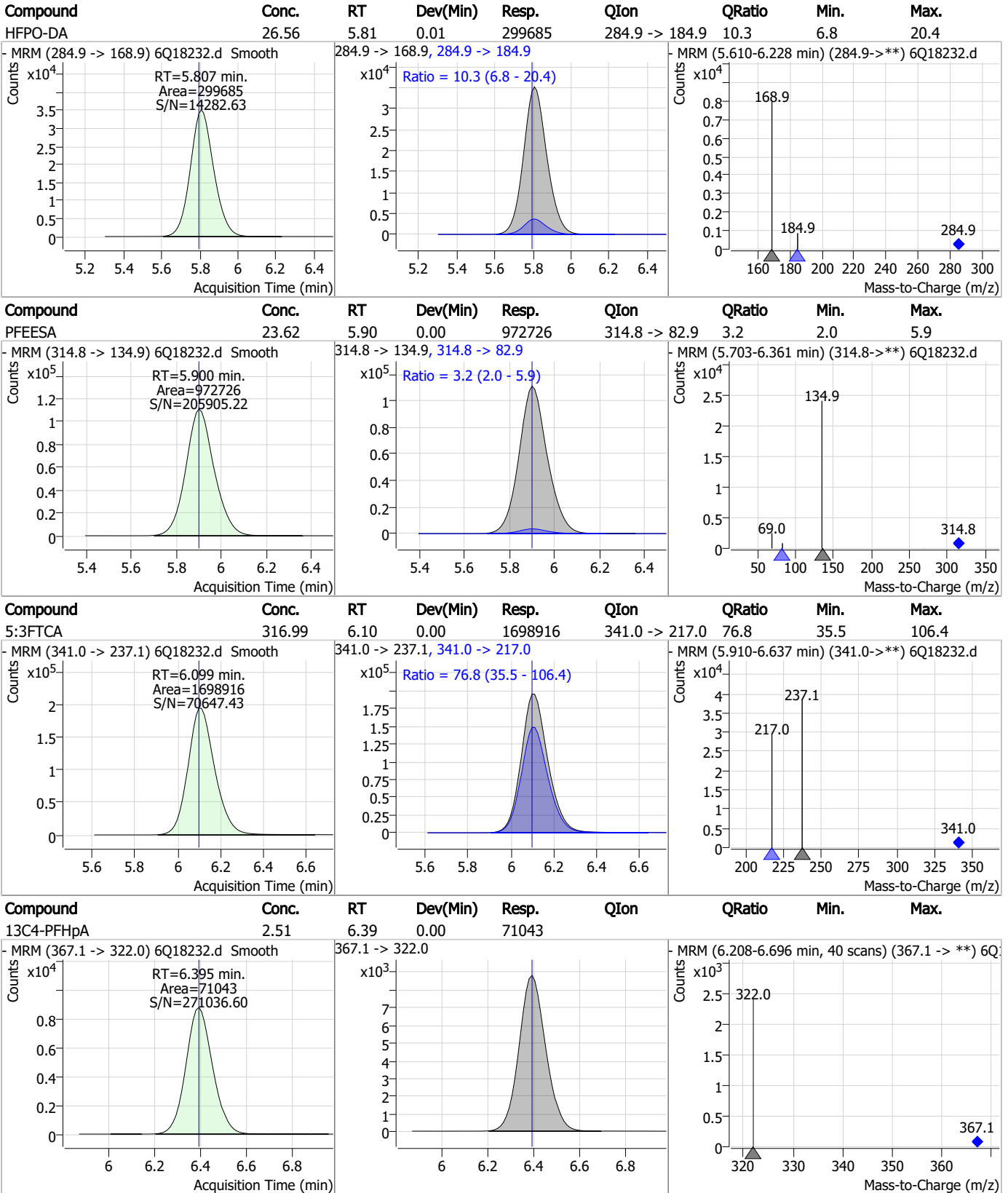
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFHxA    | 13.30 | 5.44 | 0.01     | 392880 | 313.0 -> 118.9 | 4.8    | 2.2  | 6.7  |



| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|----------------|--------|------|------|
| 13C3-HFPO-DA | 9.81  | 5.81 | 0.01     | 114157 | 286.9 -> 168.9 | 4.8    | 2.2  | 6.7  |



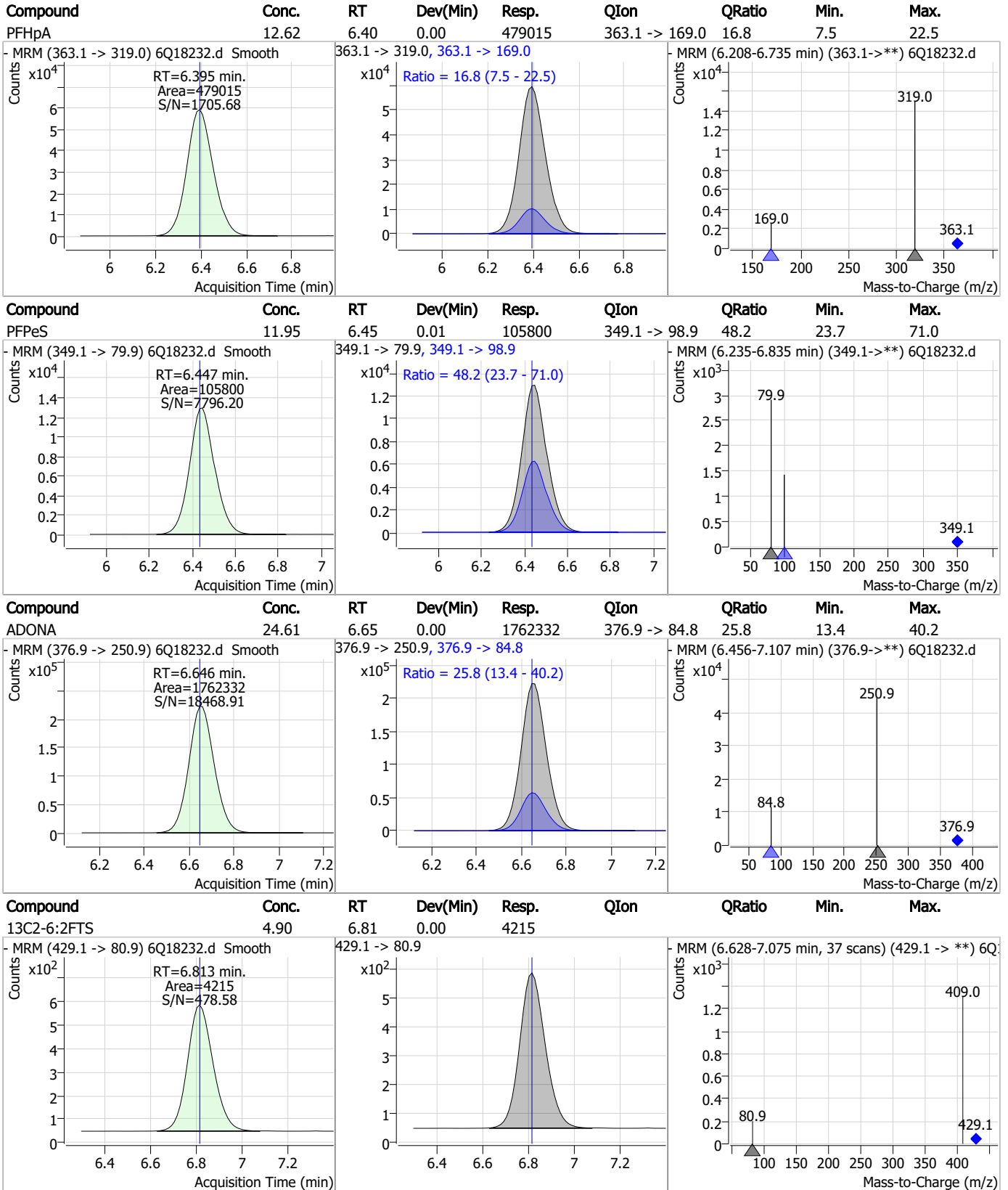
### Perfluorinated Compounds by LC/MS/MS



7.7.7

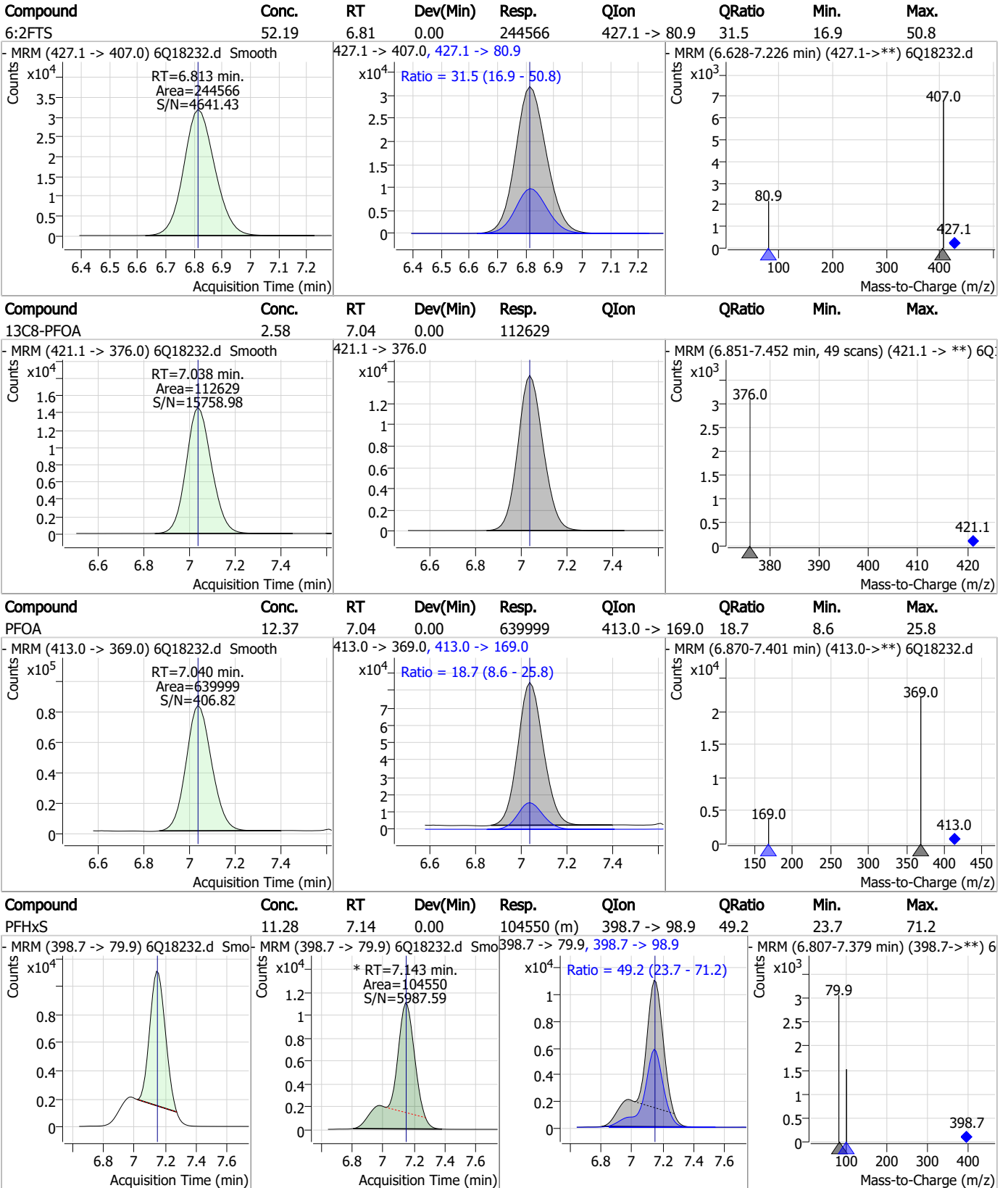
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### Perfluorinated Compounds by LC/MS/MS



7.7.7  
7

### Perfluorinated Compounds by LC/MS/MS

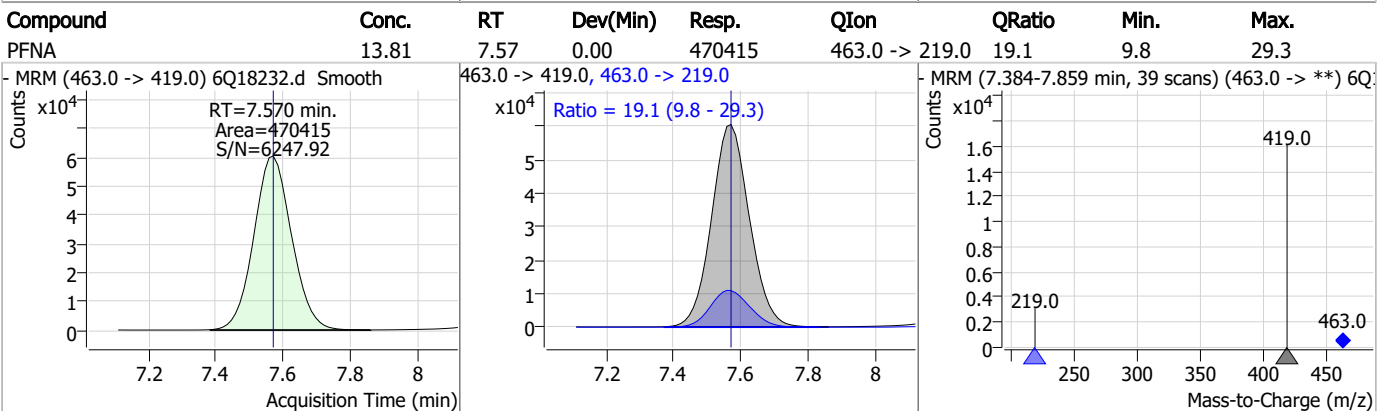
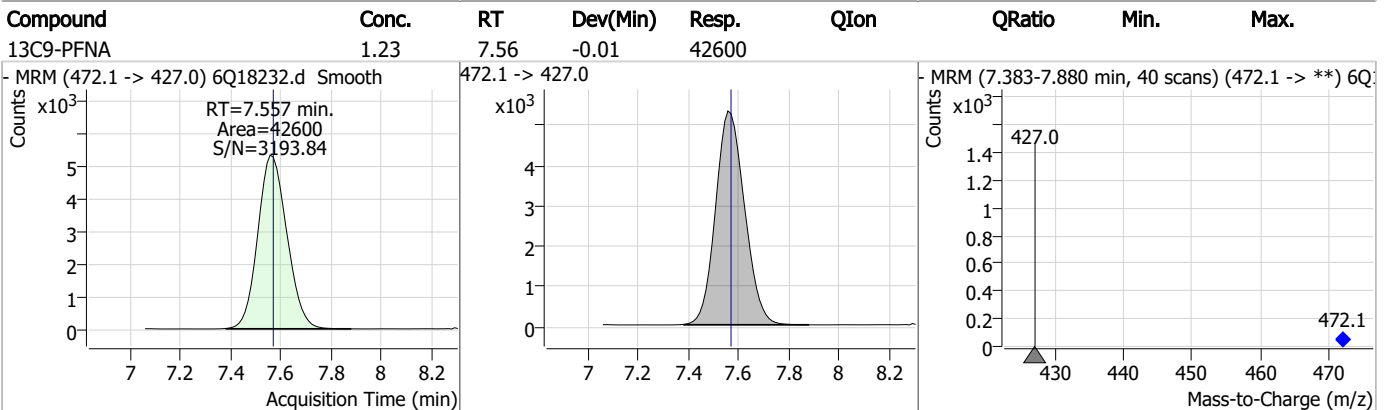
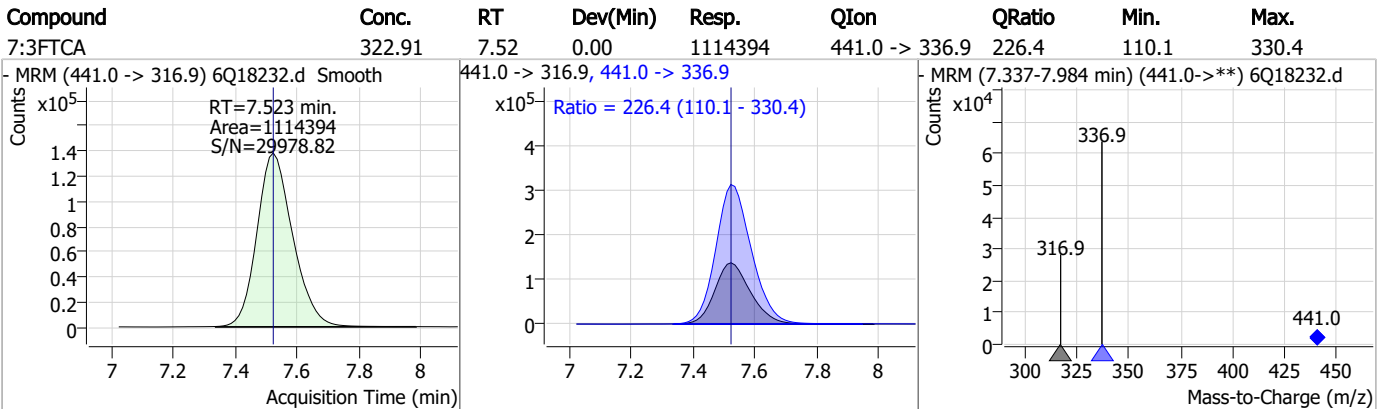
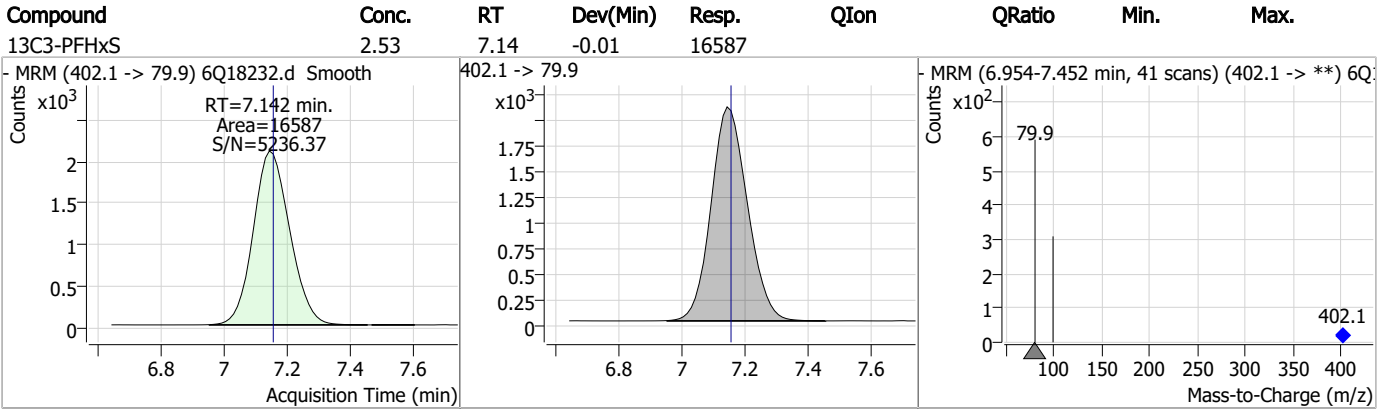


7.7.7

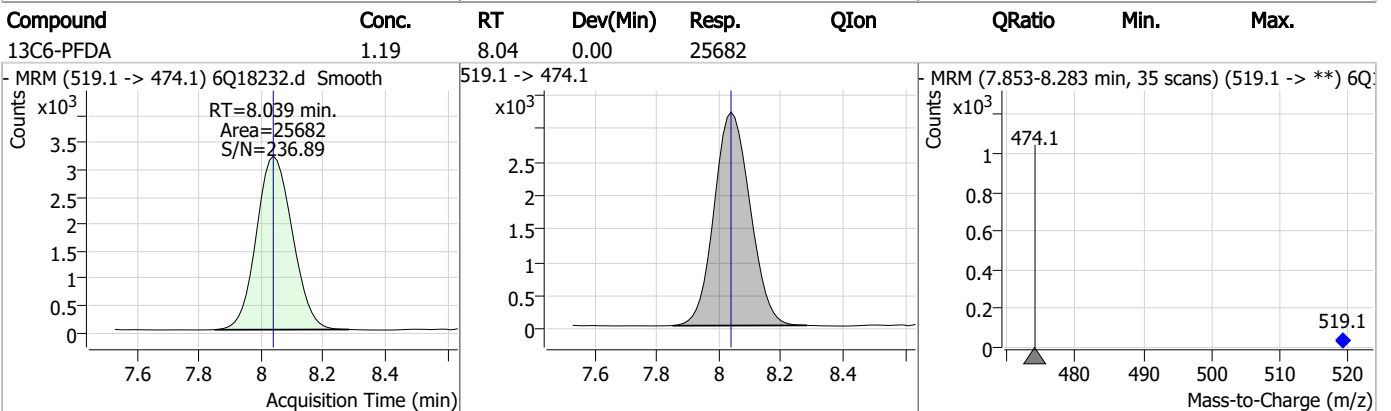
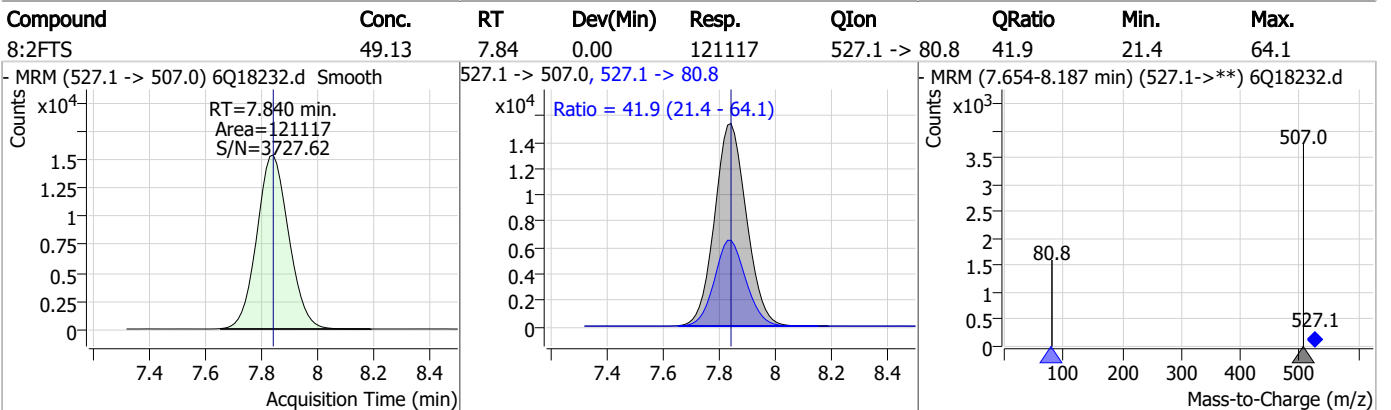
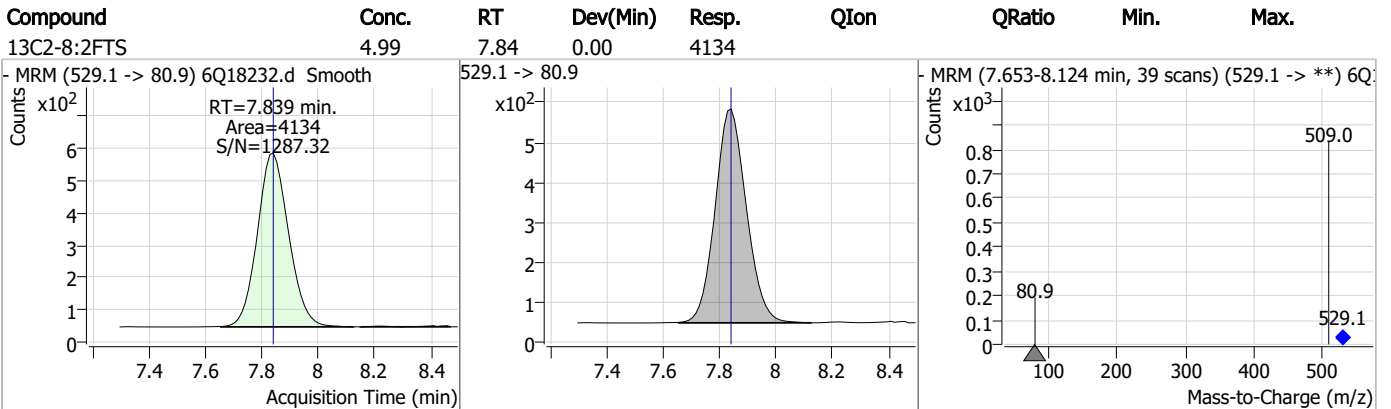
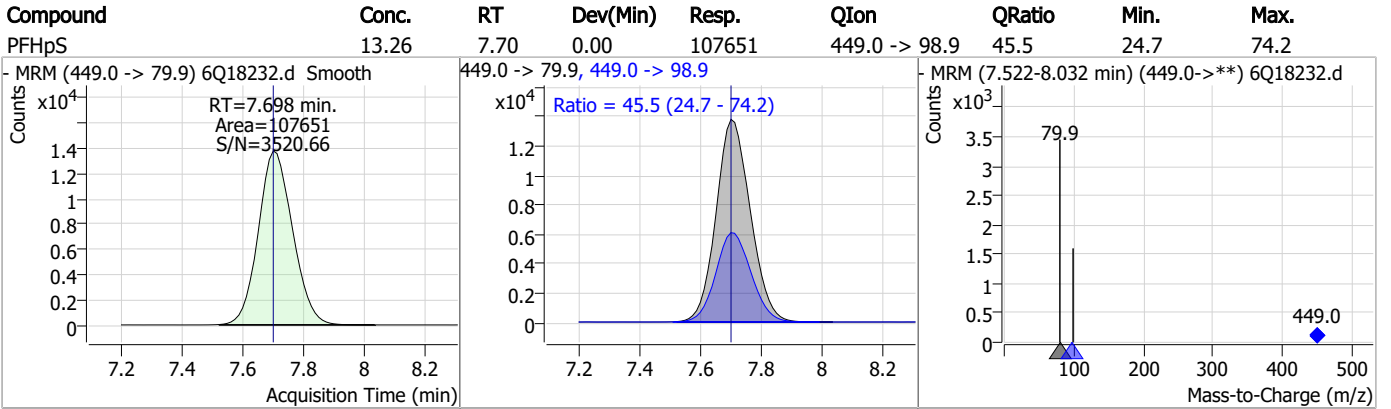
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### Perfluorinated Compounds by LC/MS/MS

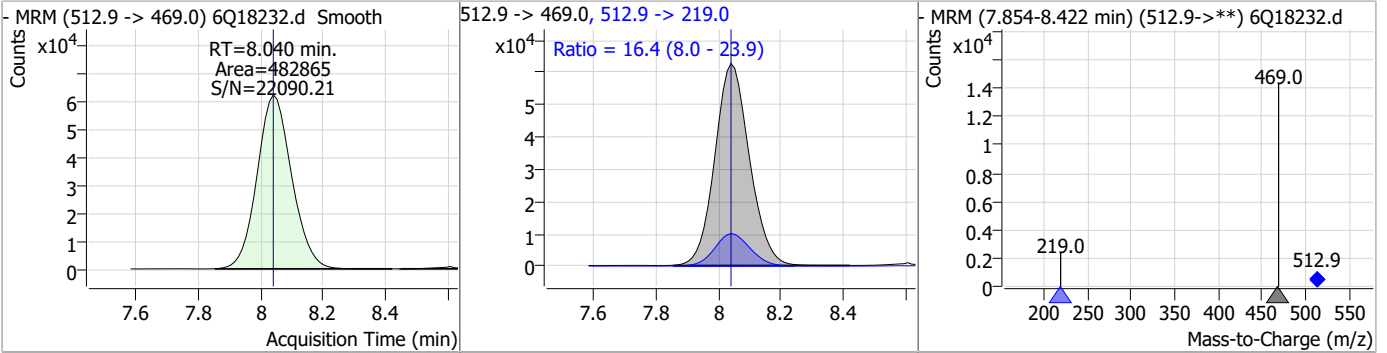


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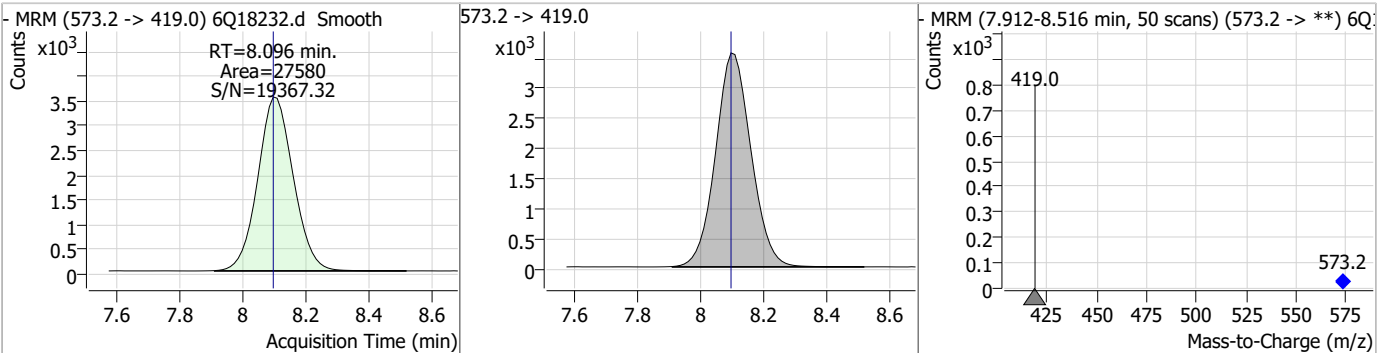


### Perfluorinated Compounds by LC/MS/MS

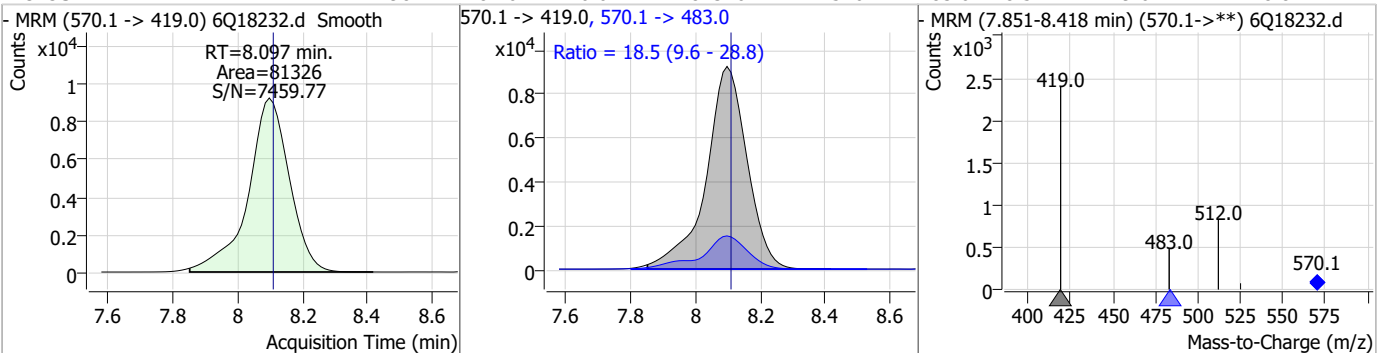
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFDA     | 13.64 | 8.04 | 0.00     | 482865 | 512.9 -> 219.0 | 16.4   | 8.0  | 23.9 |



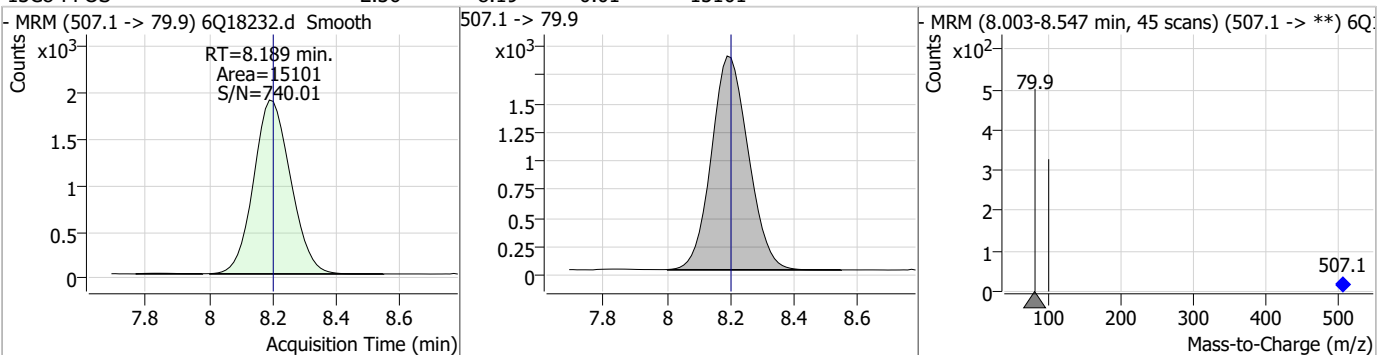
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| d3-MeFOSAA | 5.05  | 8.10 | 0.00     | 27580 |      |        |      |      |



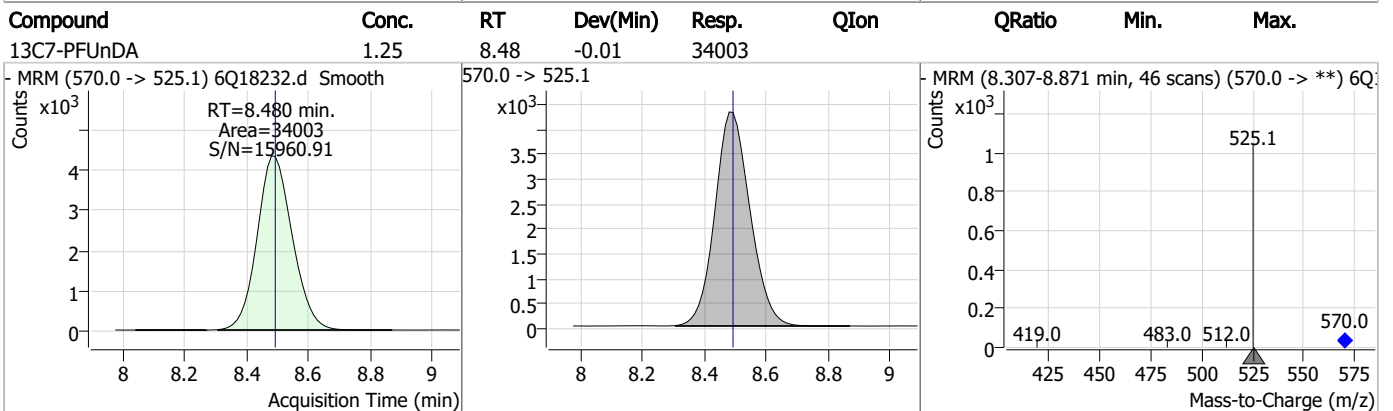
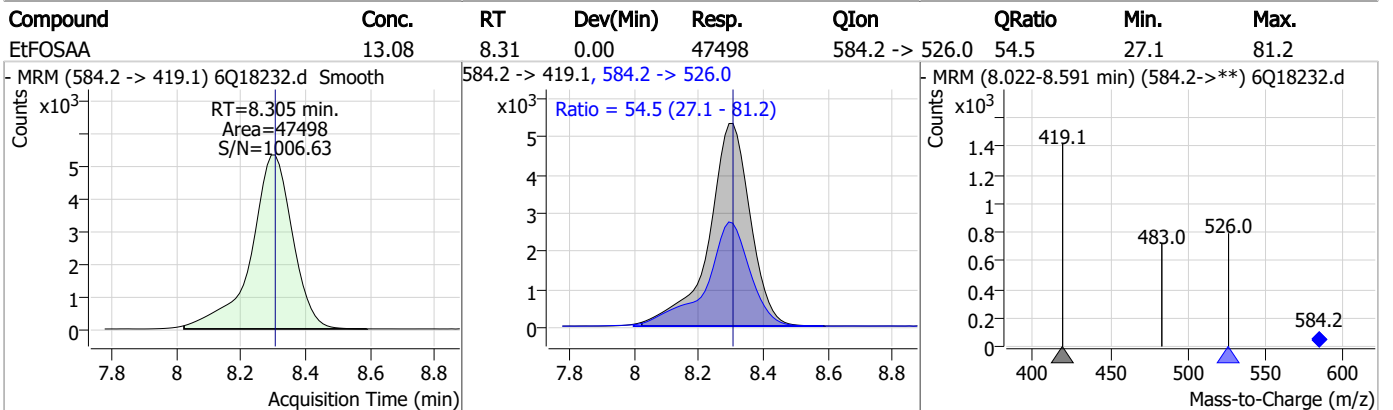
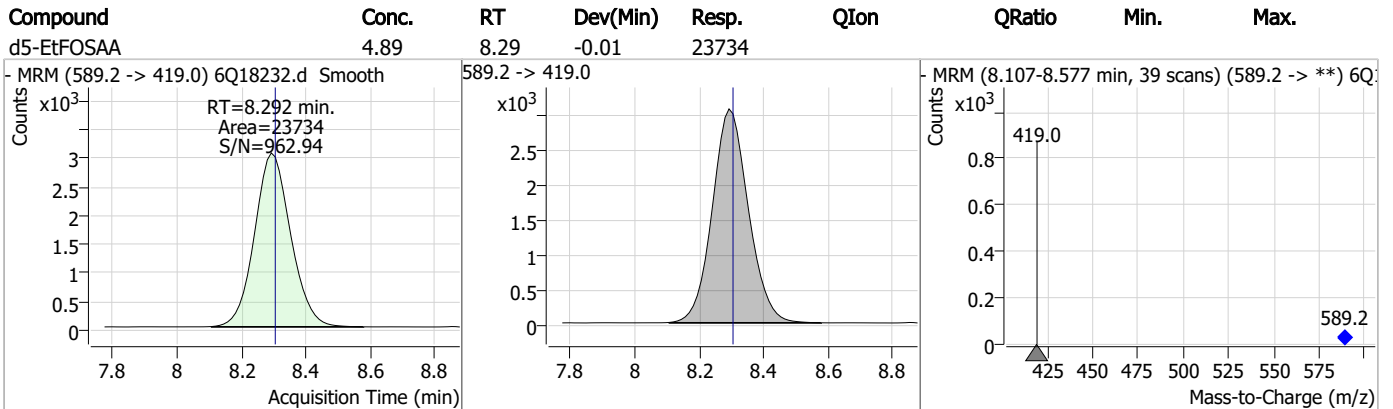
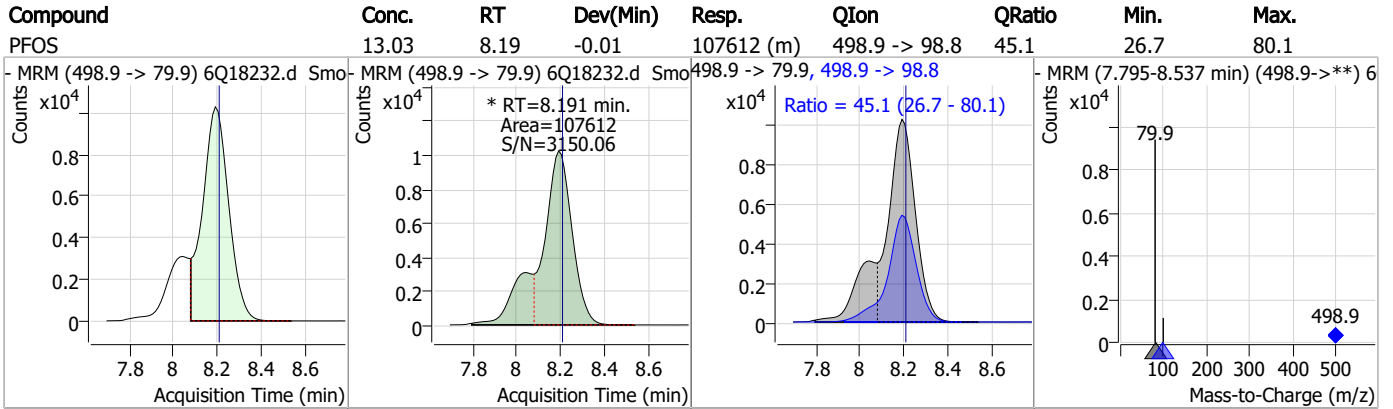
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| MeFOSAA  | 12.98 | 8.10 | -0.01    | 81326 | 570.1 -> 483.0 | 18.5   | 9.6  | 28.8 |



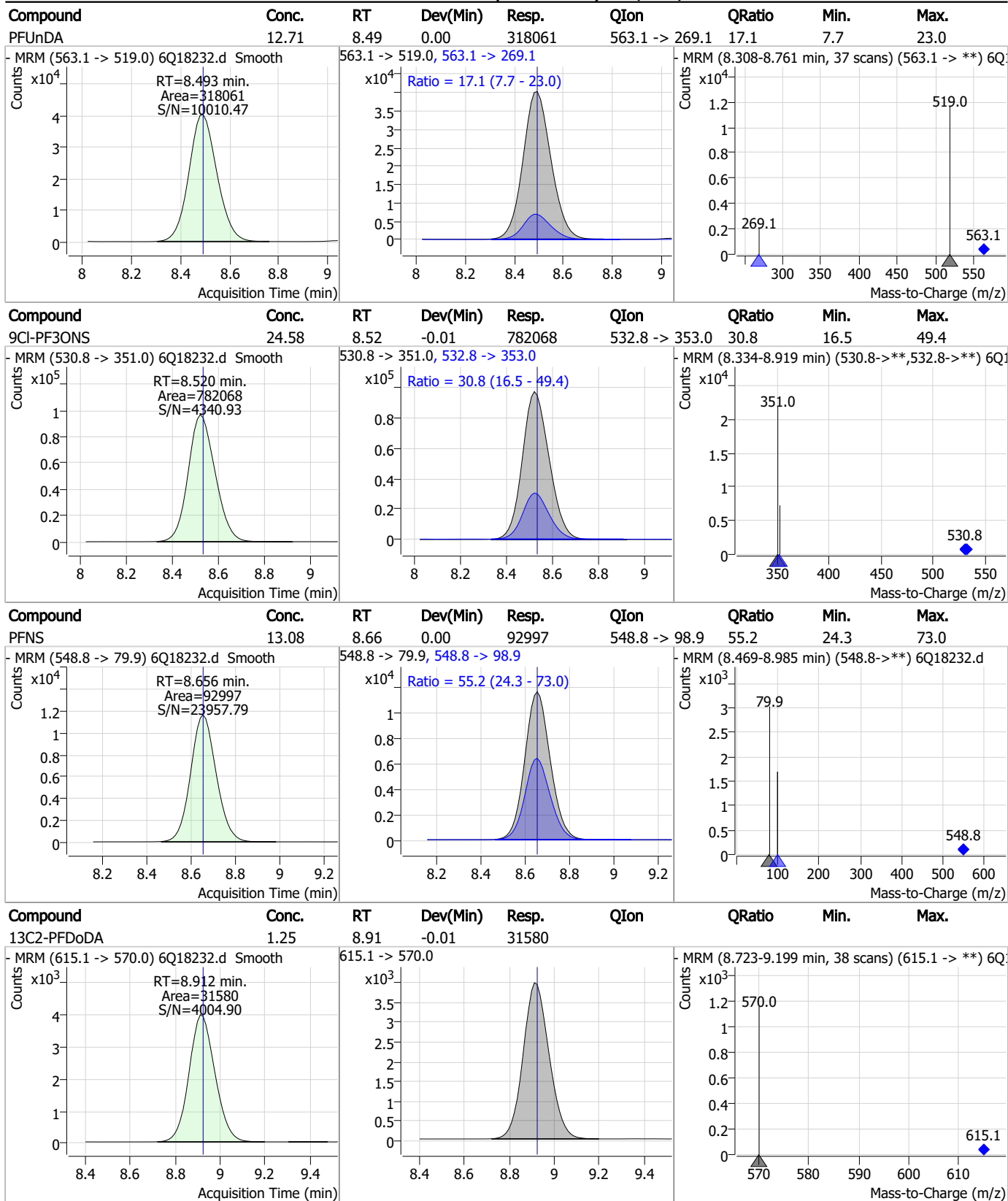
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-PFOS | 2.36  | 8.19 | -0.01    | 15101 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS

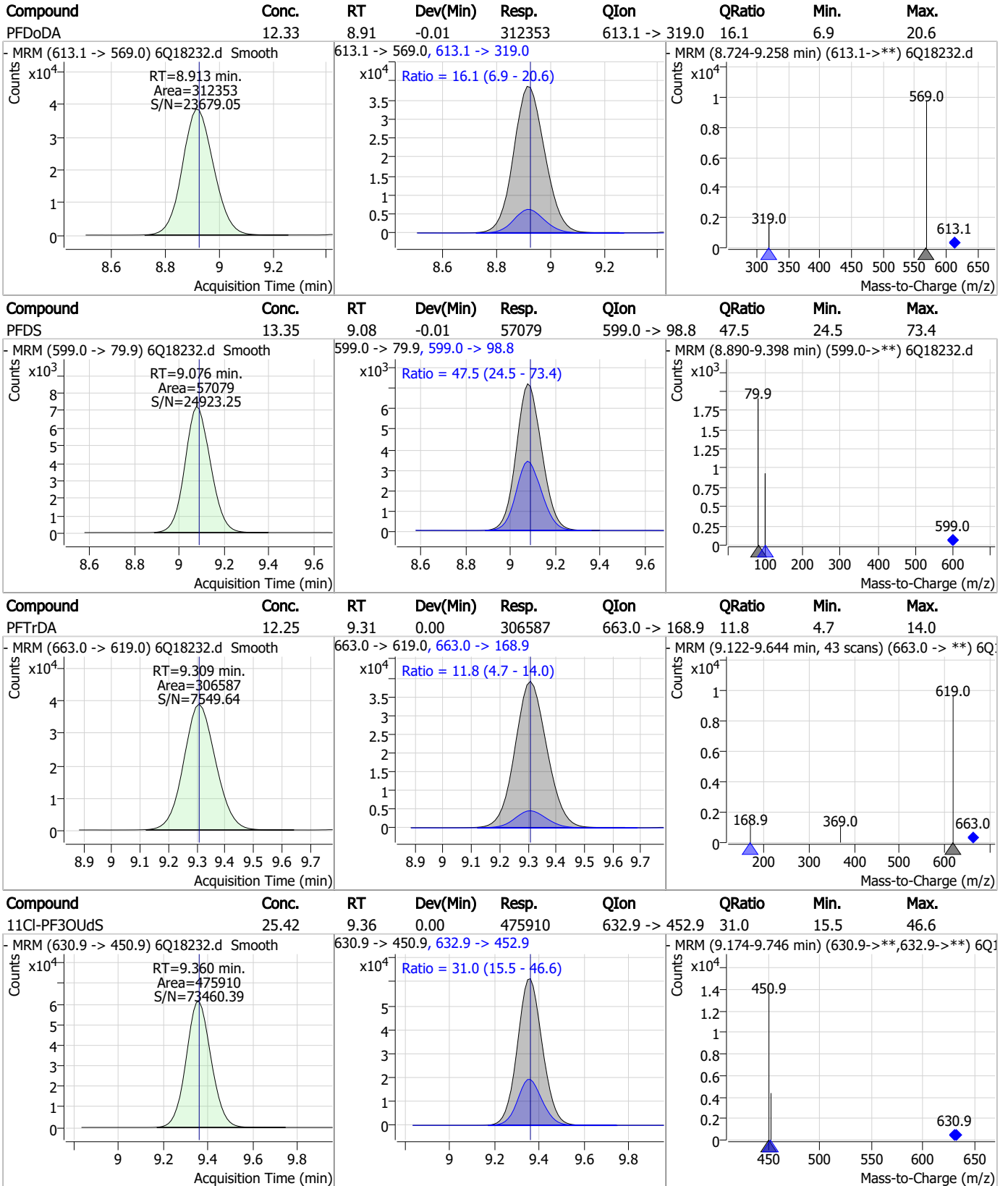


### Perfluorinated Compounds by LC/MS/MS



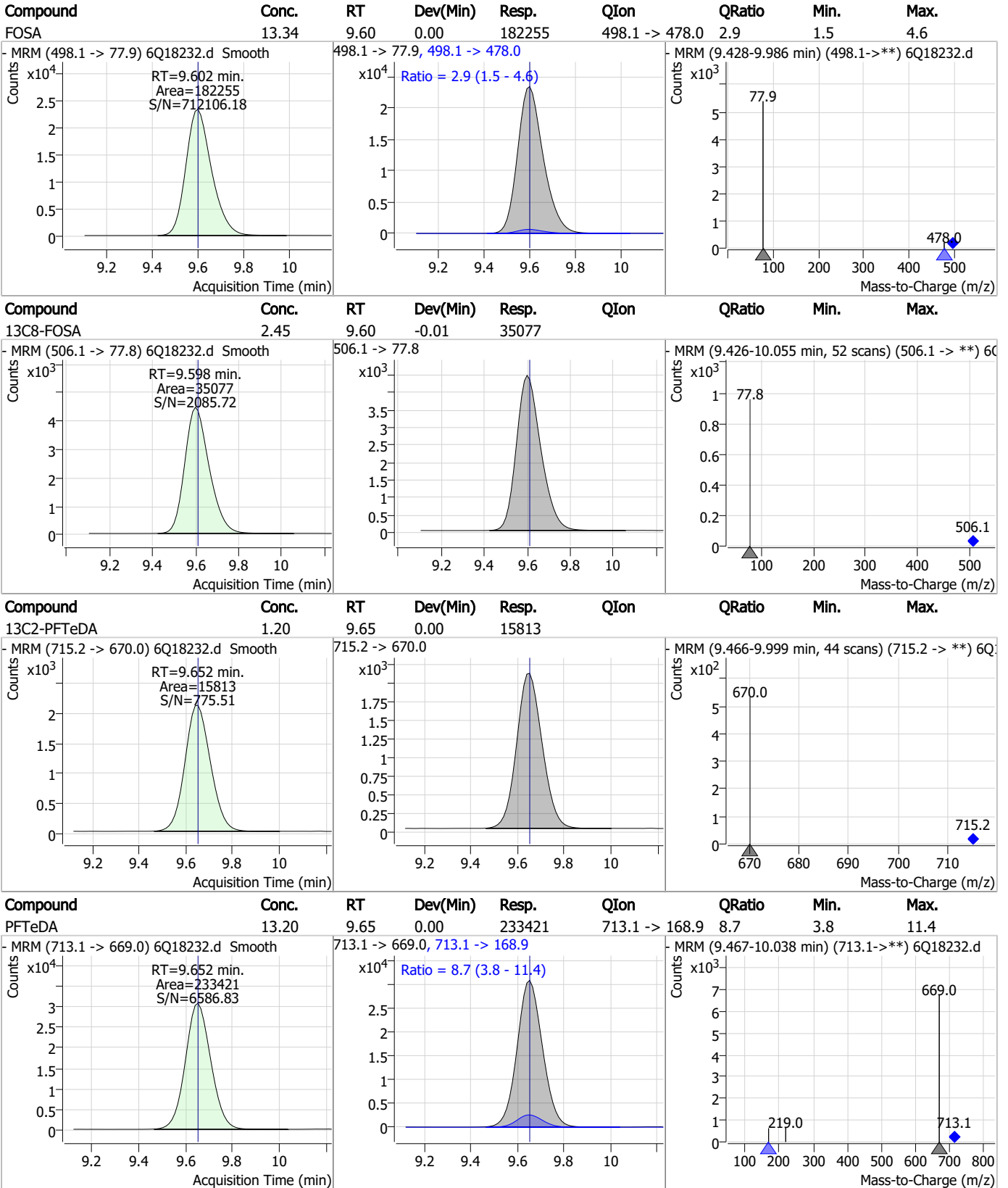
7.7.7  
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### Perfluorinated Compounds by LC/MS/MS



7.7.7  
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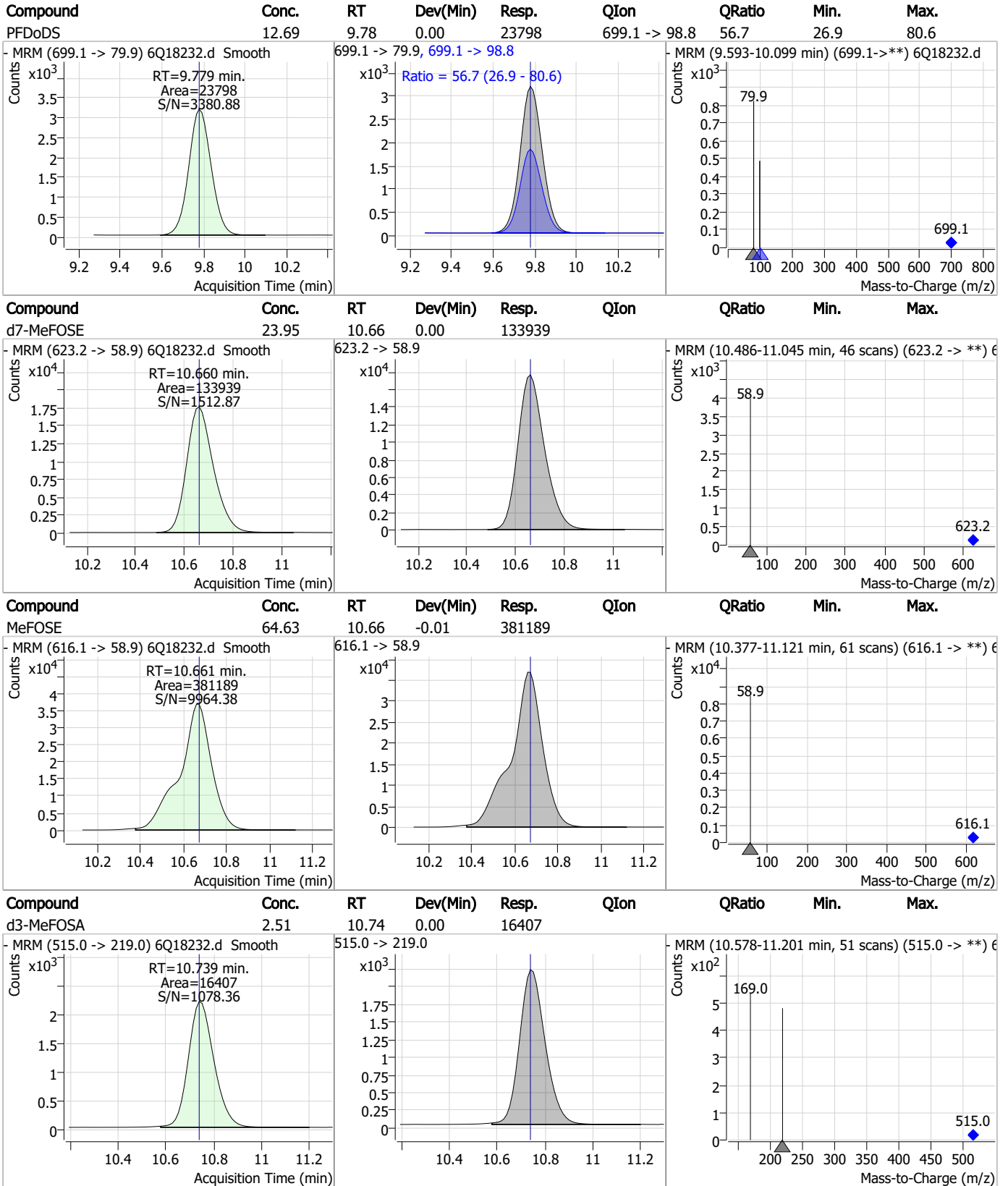
### Perfluorinated Compounds by LC/MS/MS



7.7.7

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### Perfluorinated Compounds by LC/MS/MS

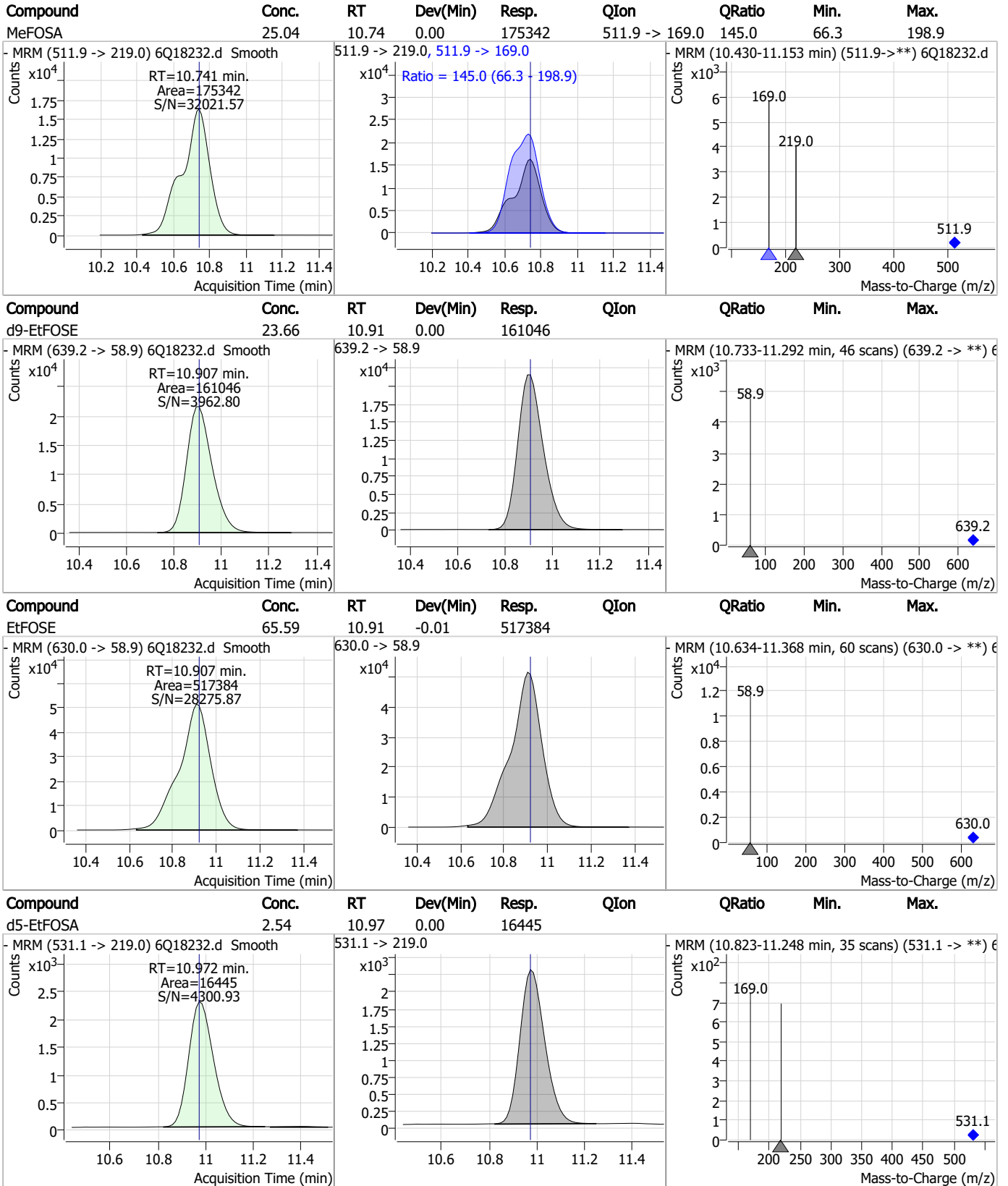


7.7.7

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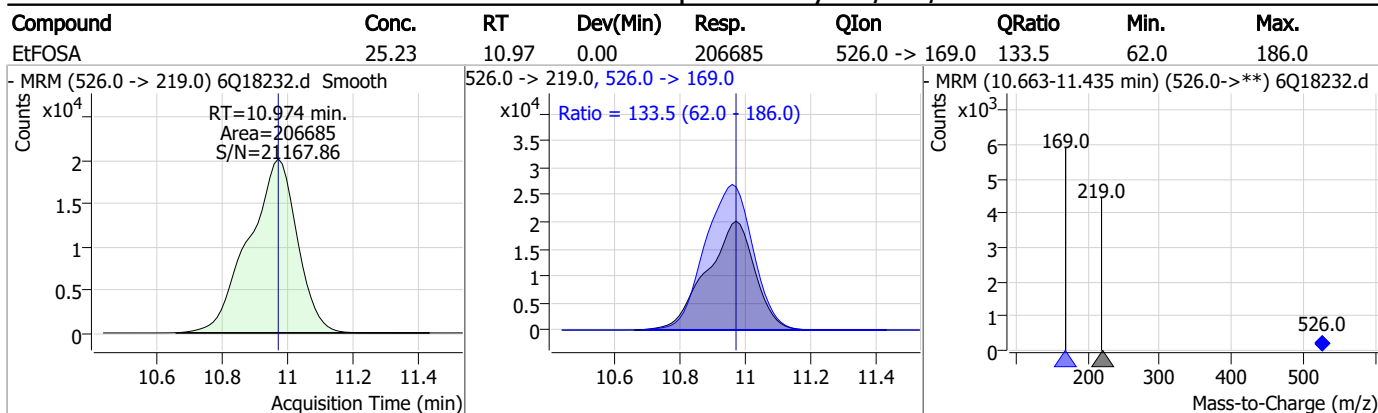
### Perfluorinated Compounds by LC/MS/MS



7.7.7

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### Perfluorinated Compounds by LC/MS/MS



7.7.7  
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# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18232.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 22:39      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7771

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

**Norman Farmer**  
 05/23/23 16:27

### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18233.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 10:54:18 PM  
 Sample Name : ic274-7  
 Vial : P1-A8  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response         | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                  |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 210224           | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 69929            | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 75816            | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 68594            | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 105610           | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 42226            | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 26612            | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 32260            | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 31494            | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 15862            | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 35446            | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 27778            | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 16578            | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15611            | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3076             | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.825                | 429.1 -> 80.9  | 4324             | 5.00 µg/L   | 0.012    |
| M2-8:2FTS                          | 7.827                | 529.1 -> 80.9  | 4161             | 5.00 µg/L   | -0.012   |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 25584            | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 117822           | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.304                | 589.2 -> 419.0 | 23283            | 5.00 µg/L   | 0.000    |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 129676           | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 154421           | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 15498            | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 15686            | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 19587            | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 89405            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 12262            | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 108093           | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 35580            | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 50506            | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 73532            | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                  |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3076             | 4.93 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.6% |             |          |
| 13C2-6:2FTS                        | 6.825                | 429.1 -> 80.9  | 4324             | 4.92 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.3% |             |          |
| 13C2-8:2FTS                        | 7.827                | 529.1 -> 80.9  | 4161             | 4.92 µg/L   | -0.012   |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.4% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 31494            | 1.22 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 97.4% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 15862            | 1.17 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 94.0% |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 27778            | 2.38 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 95.1% |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 16578            | 2.48 µg/L   | 0.000    |

7.7.8  
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## Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.0%  |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 210224   | 9.97 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 68594    | 2.50 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.1% |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 75816    | 2.57 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.8% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 69929    | 5.08 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 101.5% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 26612    | 1.21 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.9%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 32260    | 1.16 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 92.7%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 35446    | 2.60 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.0% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 105610   | 2.45 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.0%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 15611    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.7% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 42226    | 1.22 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 97.8%  |               |
| d3-MeFOSAA              | 8.108                | 573.2 -> 419.0 | 25584    | 4.93 µg/L         | 0.012         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 98.6%  |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 117822   | 10.44 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 104.4% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 15686    | 2.53 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| d5-EtFOSAA              | 8.304                | 589.2 -> 419.0 | 23283    | 5.04 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 100.8% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 129676   | 24.39 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 97.5%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 154421   | 23.87 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 95.5%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 15498    | 2.52 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.9% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.119                | 327.1 -> 307.0 | 507653   | 93.54 µg/L        | 93            |
|                         |                      | 327.1 -> 80.9  | 179302   |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 450287   | 93.67 µg/L        | 99            |
|                         |                      | 427.1 -> 80.9  | 150130   |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 235256   | 94.81 µg/L        | 95            |
|                         |                      | 527.1 -> 80.8  | 93039    |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 94396    | 26.50 µg/L        | 97            |
|                         |                      | 584.2 -> 526.0 | 49125    |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 346909   | 25.12 µg/L        | 100           |
|                         |                      | 498.1 -> 478.0 | 10505    |                   |               |
| MeFOSAA                 | 8.109                | 570.1 -> 419.0 | 153028   | 26.33 µg/L        | 100           |
|                         |                      | 570.1 -> 483.0 | 29566    |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 850291   | 104.19 µg/L       | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 264511   | 23.70 µg/L        | 98            |
|                         |                      | 298.7 -> 98.8  | 98428    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 933686   | 25.45 µg/L        | 99            |
|                         |                      | 512.9 -> 219.0 | 154774   |                   |               |
| PFDoDA                  | 8.925                | 613.1 -> 569.0 | 611361   | 24.19 µg/L        | 93            |
|                         |                      | 613.1 -> 319.0 | 100248   |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 111912   | 25.32 µg/L        | 99            |

## Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
|              |        | 599.0 -> 98.8  | 53717    |             |          |
| PFHpA        | 6.396  | 363.1 -> 319.0 | 962746   | 26.26 µg/L  | 96       |
|              |        | 363.1 -> 169.0 | 158905   |             |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 203620   | 24.25 µg/L  | 97       |
|              |        | 449.0 -> 98.9  | 105034   |             |          |
| PFHxA        | 5.444  | 313.0 -> 269.0 | 743553   | 25.16 µg/L  | 98       |
|              |        | 313.0 -> 118.9 | 37567    |             |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 211631   | 22.84 µg/L  | m 99     |
|              |        | 398.7 -> 98.9  | 101565   |             |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 890676   | 26.38 µg/L  | 97       |
|              |        | 463.0 -> 219.0 | 186572   |             |          |
| PFNS         | 8.657  | 548.8 -> 79.9  | 187936   | 25.56 µg/L  | 95       |
|              |        | 548.8 -> 98.9  | 98414    |             |          |
| PFOA         | 7.040  | 413.0 -> 369.0 | 1223794  | 25.22 µg/L  | 94       |
|              |        | 413.0 -> 169.0 | 240880   |             |          |
| PFOS         | 8.203  | 498.9 -> 79.9  | 202440   | 23.71 µg/L  | 91       |
|              |        | 498.9 -> 98.8  | 95407    |             |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 1006565  | 51.94 µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 208968   | 23.62 µg/L  | 97       |
|              |        | 349.1 -> 98.9  | 94707    |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 452353   | 25.50 µg/L  | 96       |
|              |        | 713.1 -> 168.9 | 41146    |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 626847   | 25.11 µg/L  | 96       |
|              |        | 663.0 -> 168.9 | 67896    |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 660055   | 27.79 µg/L  | 99       |
|              |        | 563.1 -> 269.1 | 99348    |             |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 924106   | 47.82 µg/L  | 99       |
|              |        | 632.9 -> 452.9 | 290928   |             |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 1562364  | 47.57 µg/L  | 96       |
|              |        | 532.8 -> 353.0 | 478373   |             |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 3489225  | 47.20 µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 929557   |             |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 580190   | 49.82 µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 62755    |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 178405   | 130.40 µg/L | 95       |
|              |        | 241.0 -> 117.0 | 22211    |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 3337678  | 622.49 µg/L | 94       |
|              |        | 341.0 -> 217.0 | 2523930  |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 2153875  | 623.84 µg/L | 98       |
|              |        | 441.0 -> 336.9 | 4800072  |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 404957   | 52.46 µg/L  | 93       |
|              |        | 526.0 -> 169.0 | 535624   |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 997152   | 131.83 µg/L | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 351227   | 52.47 µg/L  | 96       |
|              |        | 511.9 -> 169.0 | 483981   |             |          |
| MeFOSE       | 10.673 | 616.1 -> 58.9  | 745999   | 130.64 µg/L | 100      |
| PFDoS        | 9.779  | 699.1 -> 79.9  | 48586    | 25.05 µg/L  | 98       |
|              |        | 699.1 -> 98.8  | 25488    |             |          |
| NFDHA        | 5.324  | 295.0 -> 201.0 | 191548   | 51.31 µg/L  | 97       |
|              |        | 295.0 -> 84.9  | 49191    |             |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 714702   | 52.24 µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 538248   | 52.31 µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 1897954  | 46.07 µg/L  | 98       |
|              |        | 314.8 -> 82.9  | 60617    |             |          |

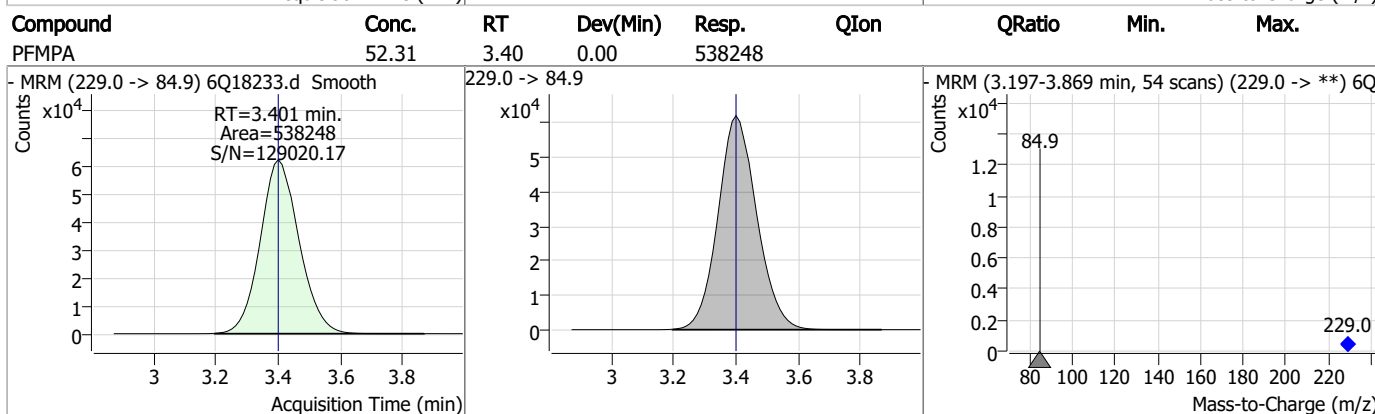
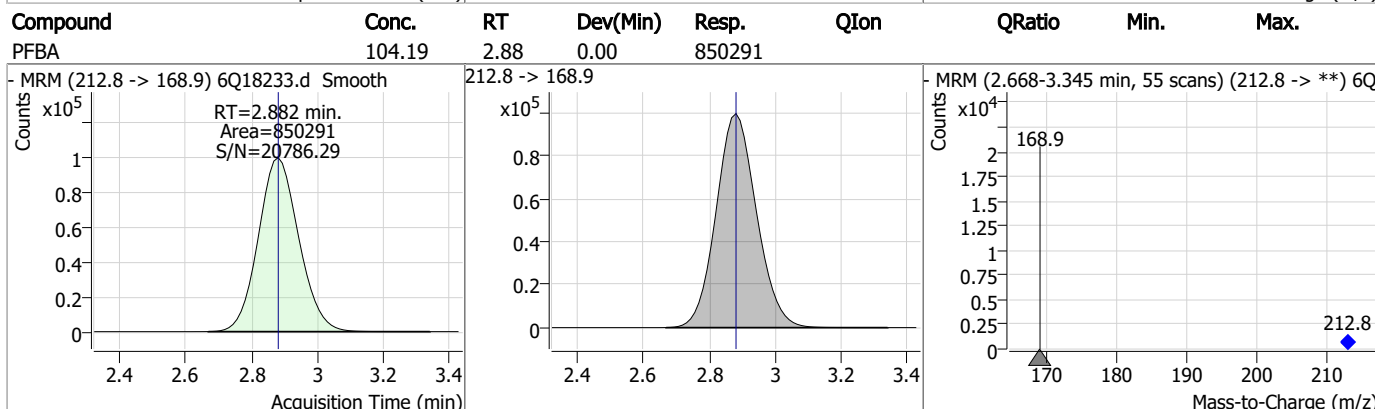
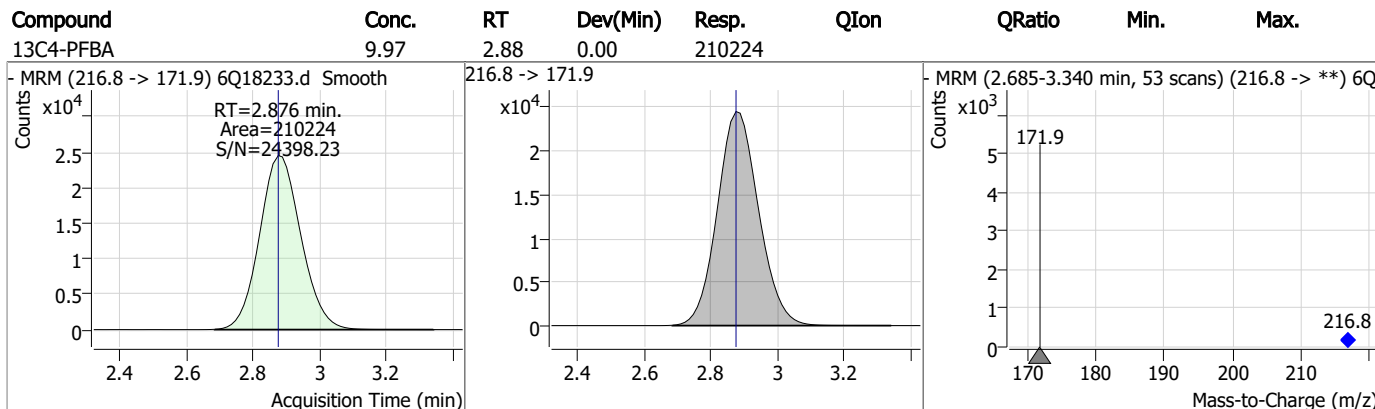
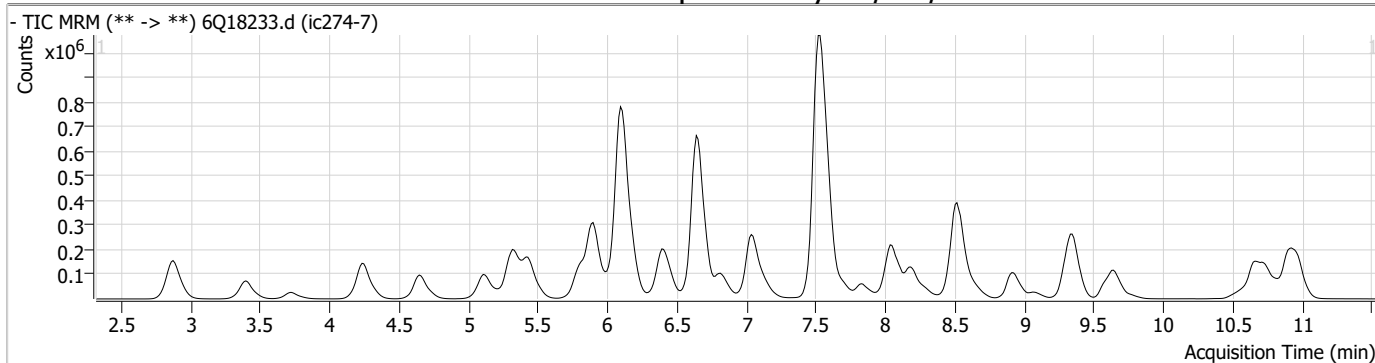
# = Qualifier out of range, m = manually integrated, + = Area summed

### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

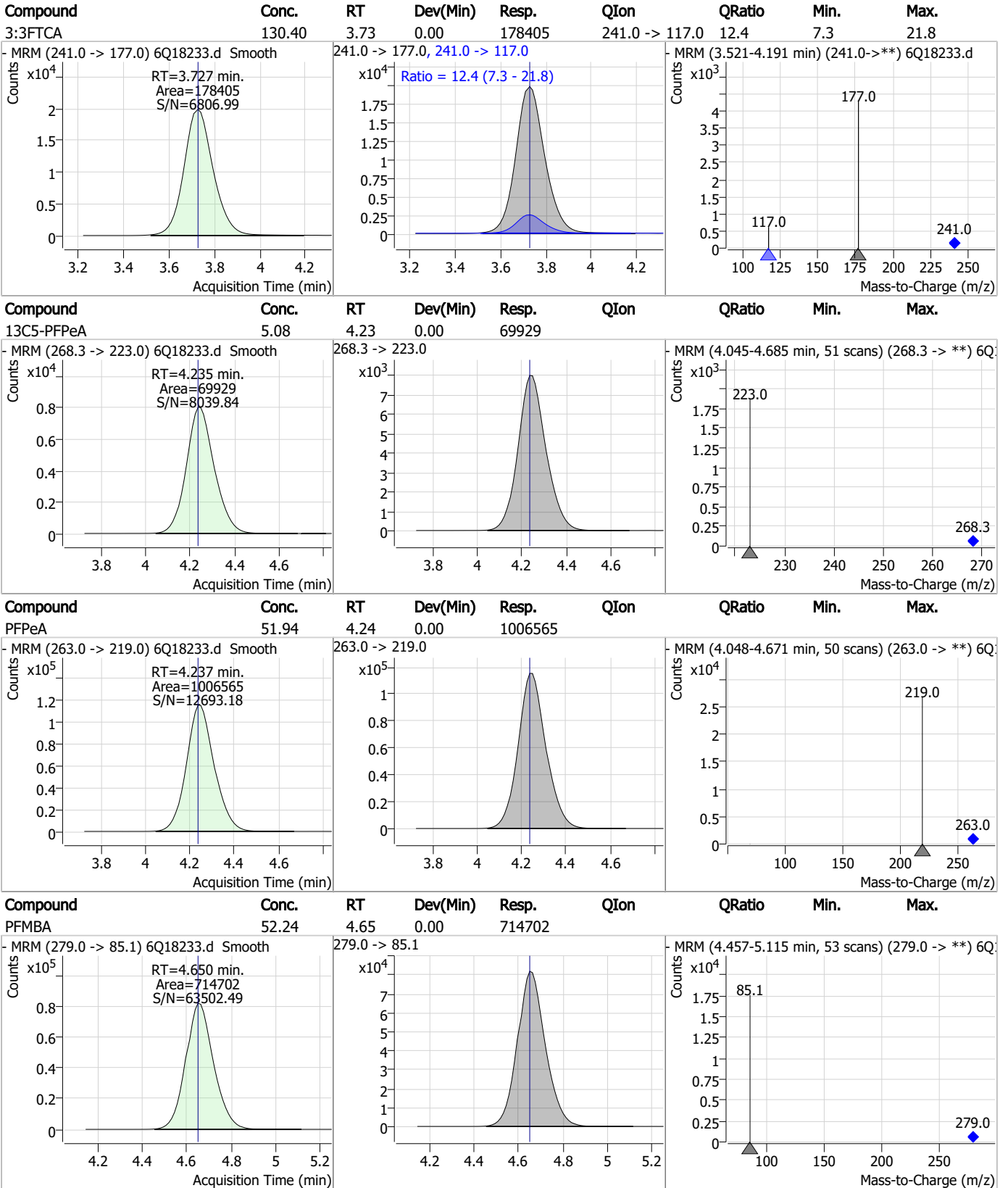
7.7.8  
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### Perfluorinated Compounds by LC/MS/MS





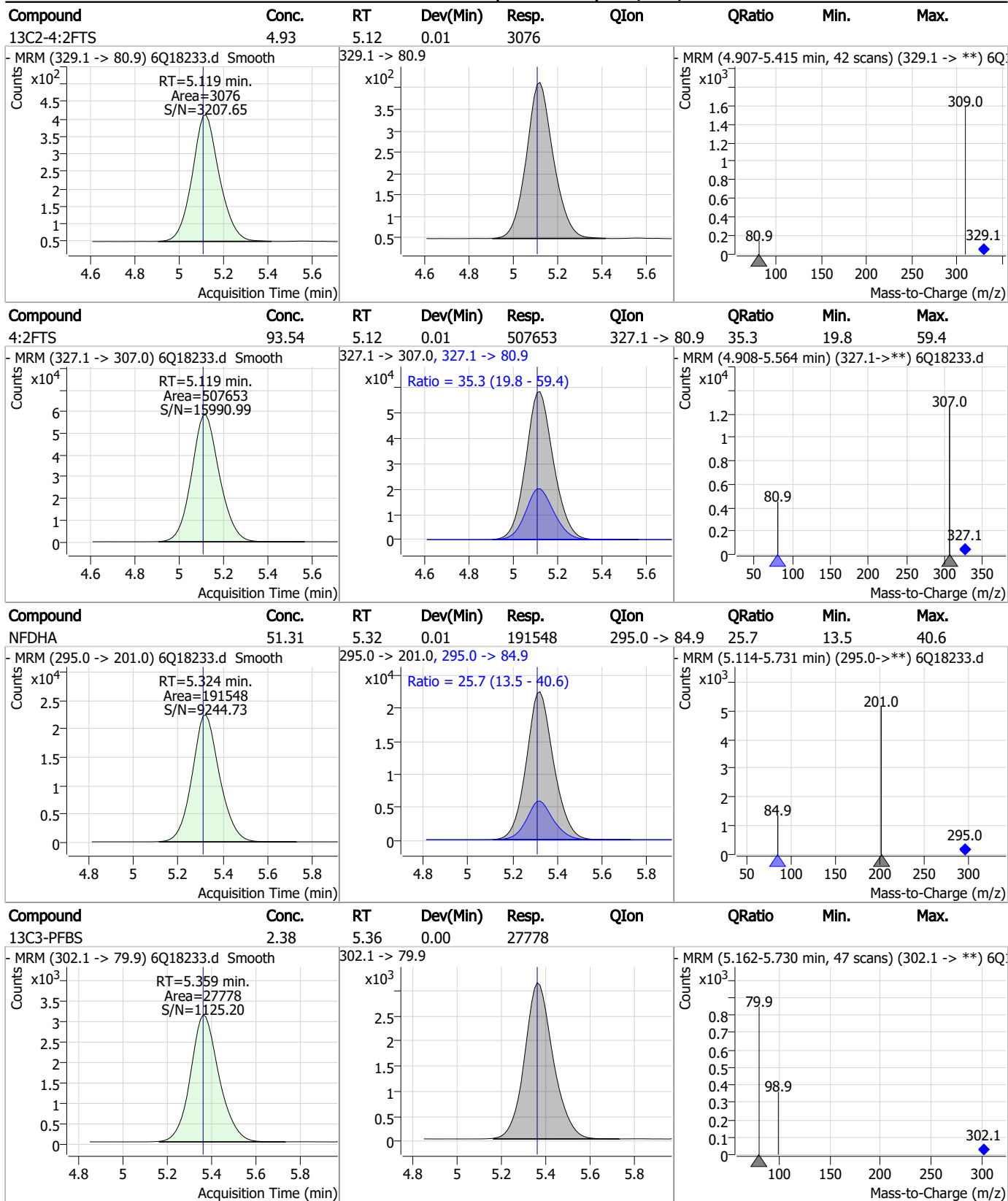
### Perfluorinated Compounds by LC/MS/MS



7.7.8

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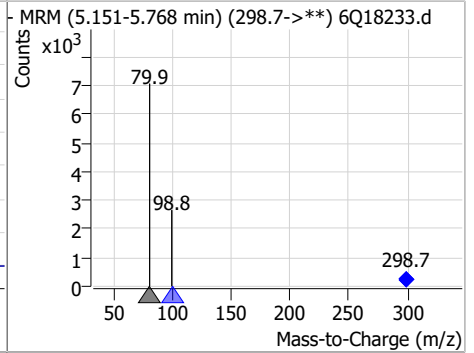
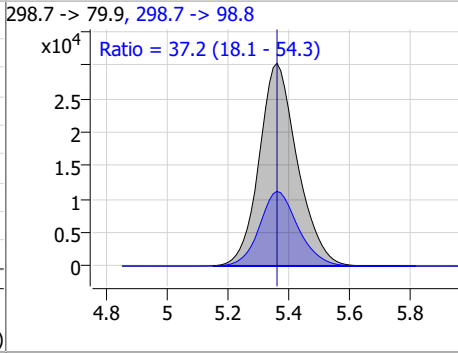
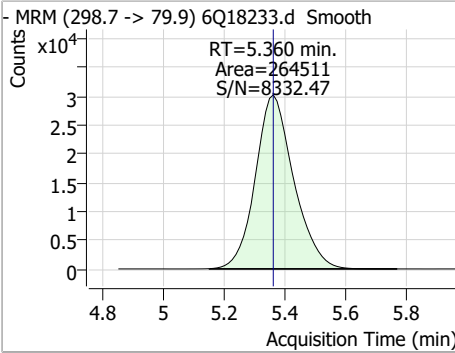
### Perfluorinated Compounds by LC/MS/MS



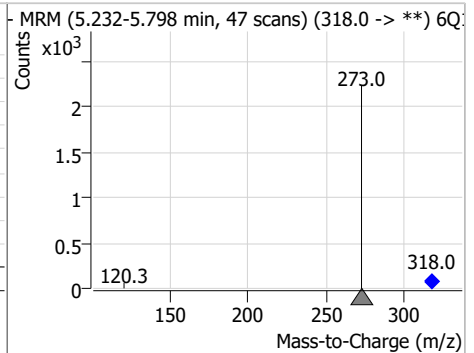
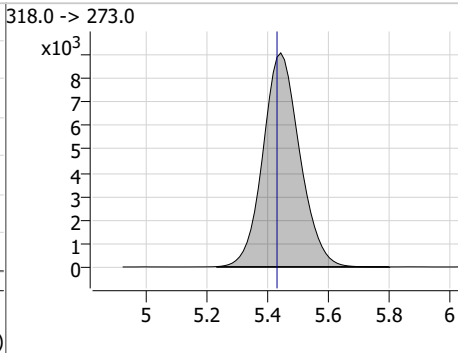
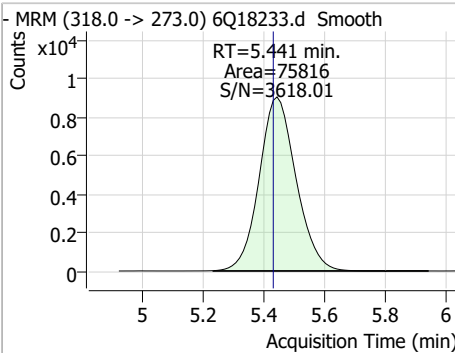
7.7.8  
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### Perfluorinated Compounds by LC/MS/MS

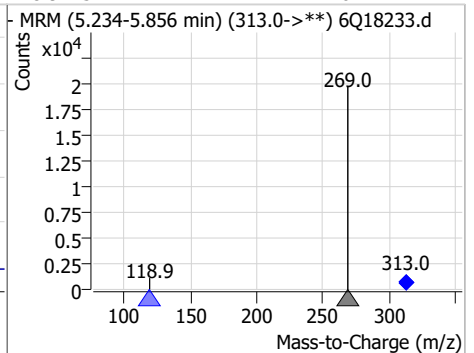
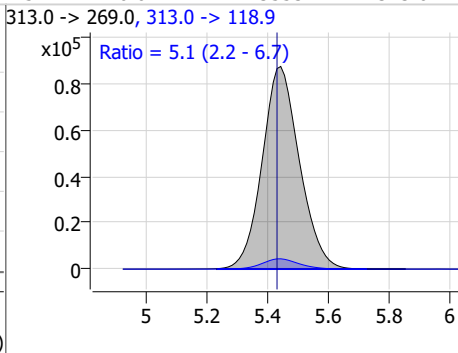
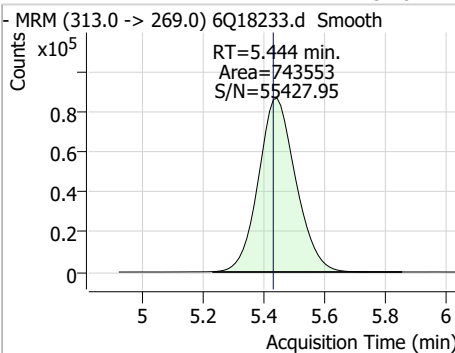
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFBS     | 23.70 | 5.36 | 0.00     | 264511 | 298.7 -> 98.8 | 37.2   | 18.1 | 54.3 |



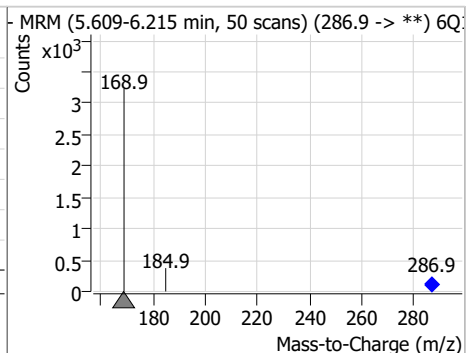
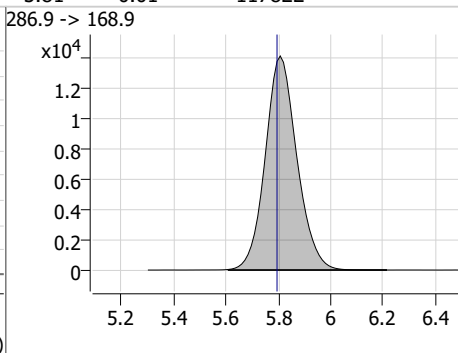
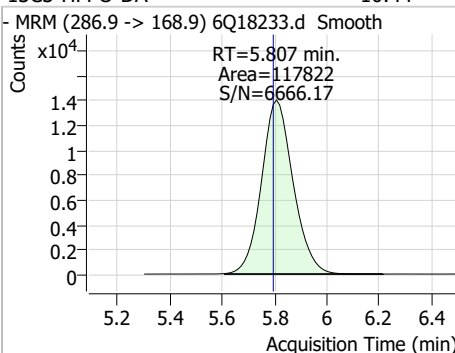
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C5-PFHxA | 2.57  | 5.44 | 0.01     | 75816 | 318.0 -> 273.0 | 5.1    | 2.2  | 6.7  |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFHxA    | 25.16 | 5.44 | 0.01     | 743553 | 313.0 -> 118.9 | 5.1    | 2.2  | 6.7  |

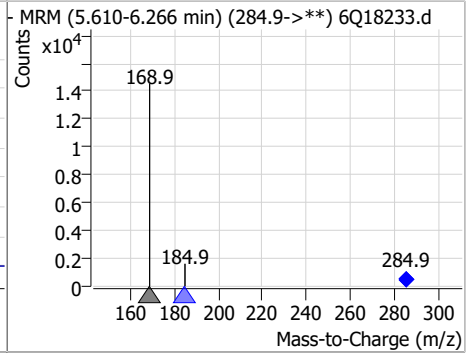
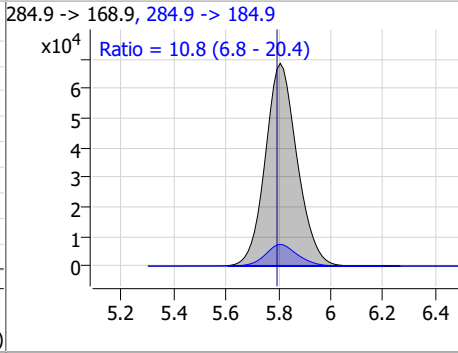
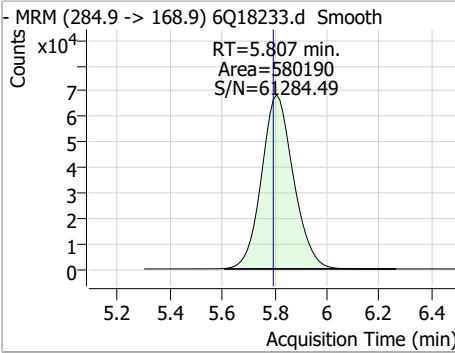


| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|----------------|--------|------|------|
| 13C3-HFPO-DA | 10.44 | 5.81 | 0.01     | 117822 | 286.9 -> 168.9 | 5.1    | 2.2  | 6.7  |

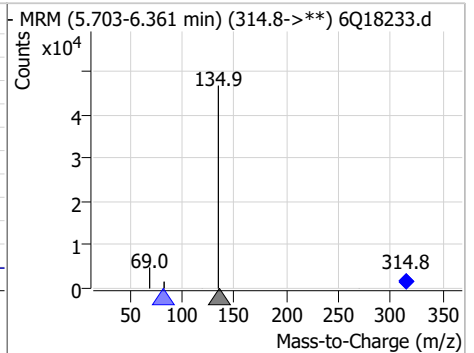
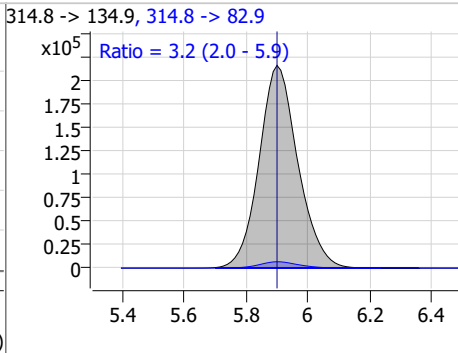
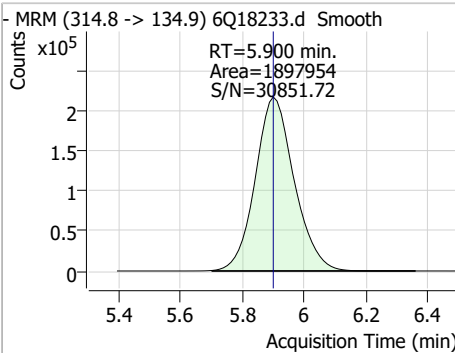


### Perfluorinated Compounds by LC/MS/MS

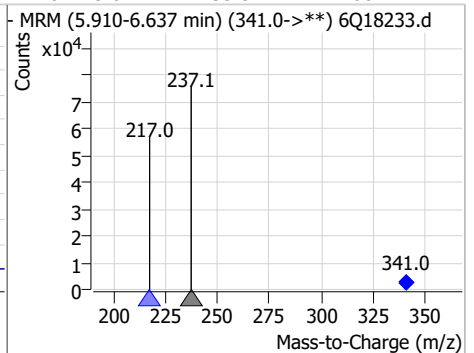
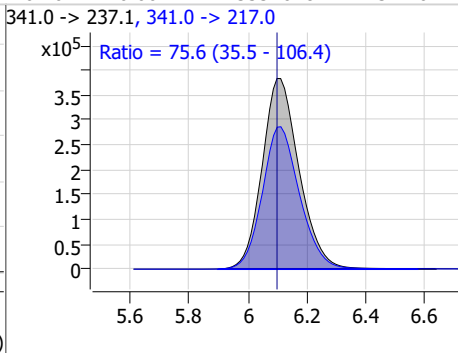
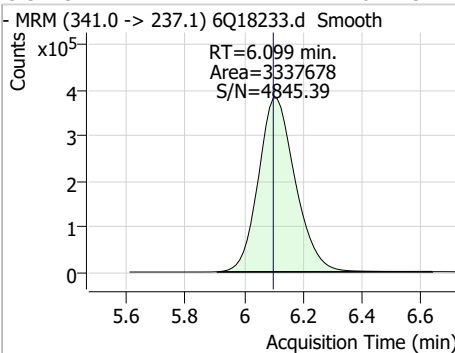
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| HFPO-DA  | 49.82 | 5.81 | 0.01     | 580190 | 284.9 -> 184.9 | 10.8   | 6.8  | 20.4 |



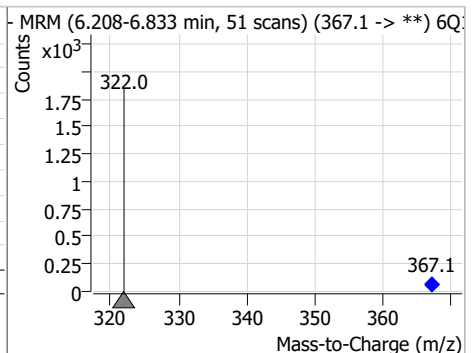
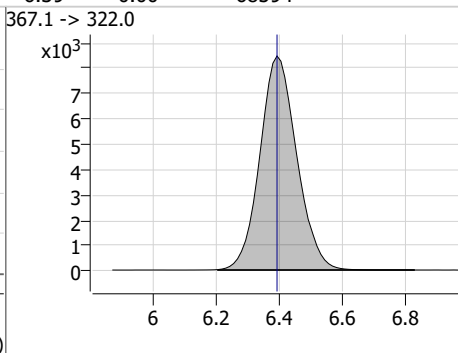
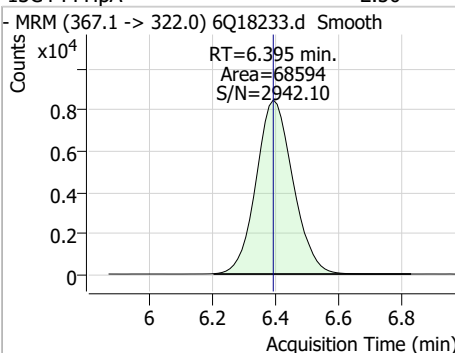
| Compound | Conc. | RT   | Dev(Min) | Resp.   | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|---------|---------------|--------|------|------|
| PFEESA   | 46.07 | 5.90 | 0.00     | 1897954 | 314.8 -> 82.9 | 3.2    | 2.0  | 5.9  |



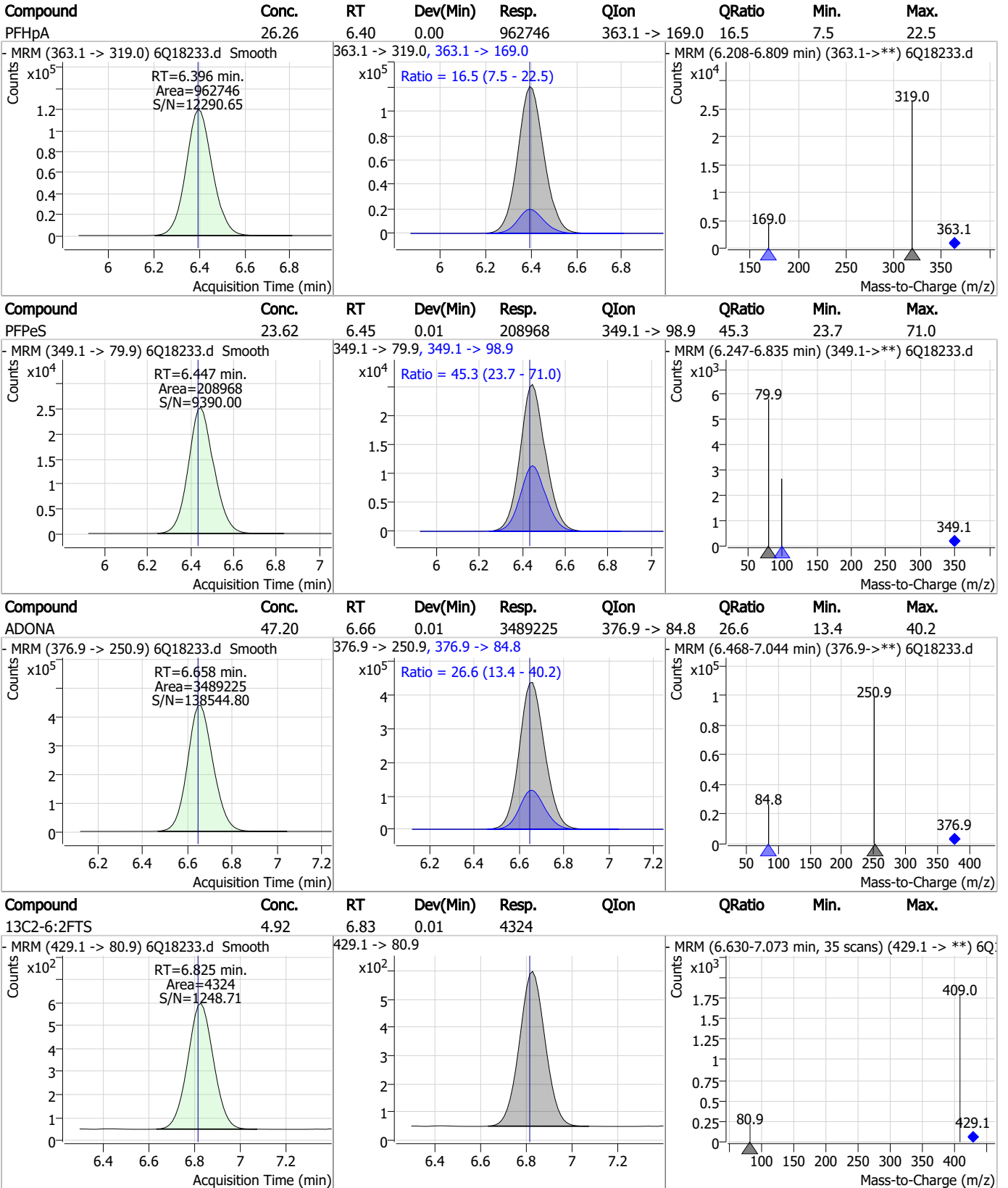
| Compound | Conc.  | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max.  |
|----------|--------|------|----------|---------|----------------|--------|------|-------|
| 5:3FTCA  | 622.49 | 6.10 | 0.00     | 3337678 | 341.0 -> 217.0 | 75.6   | 35.5 | 106.4 |



| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.50  | 6.39 | 0.00     | 68594 | 367.1 -> 322.0 |        |      |      |



### Perfluorinated Compounds by LC/MS/MS

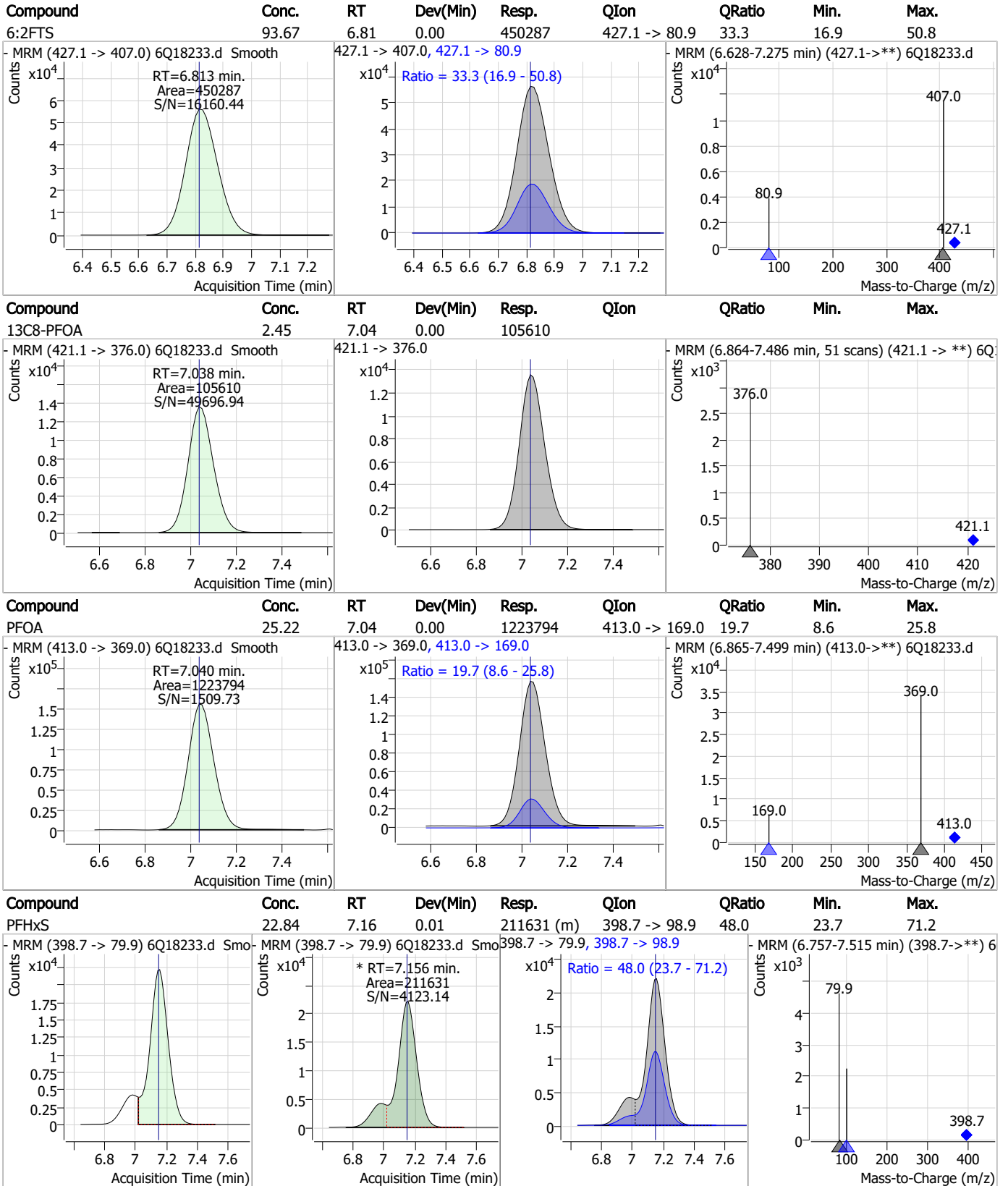


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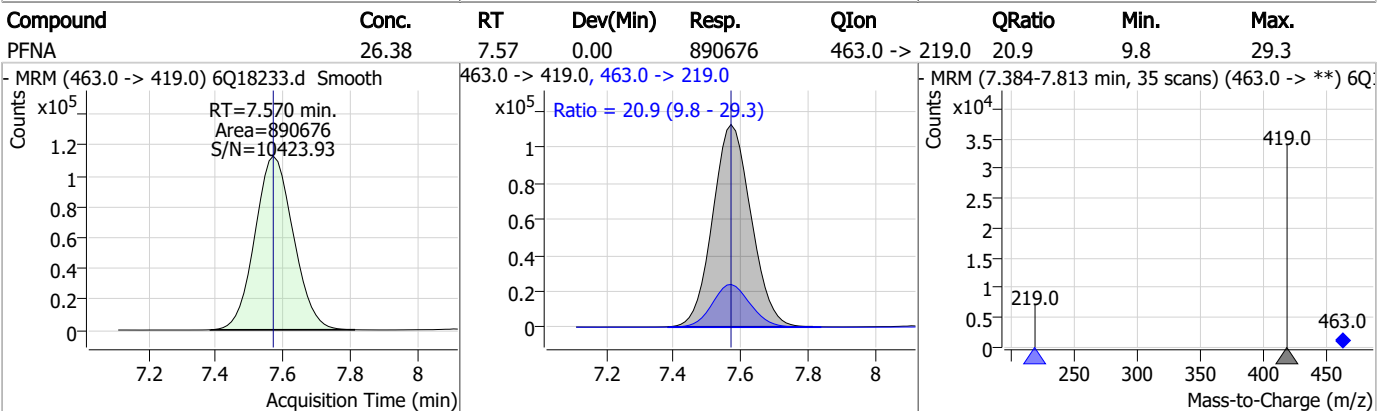
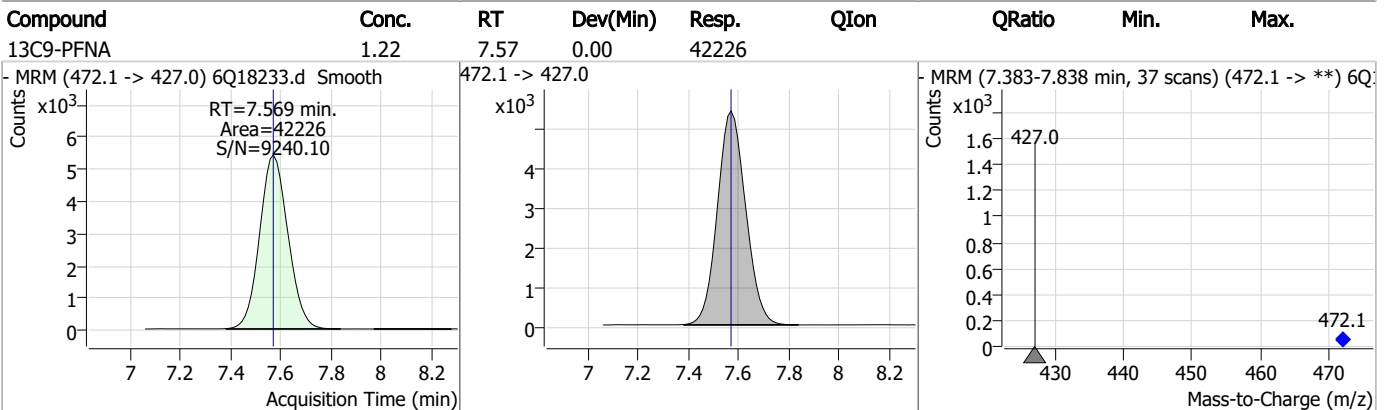
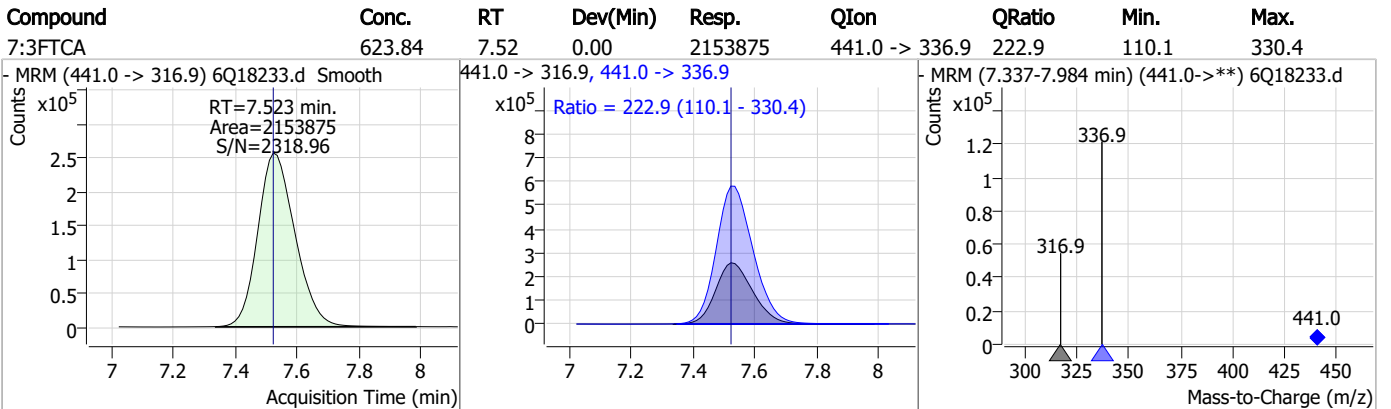
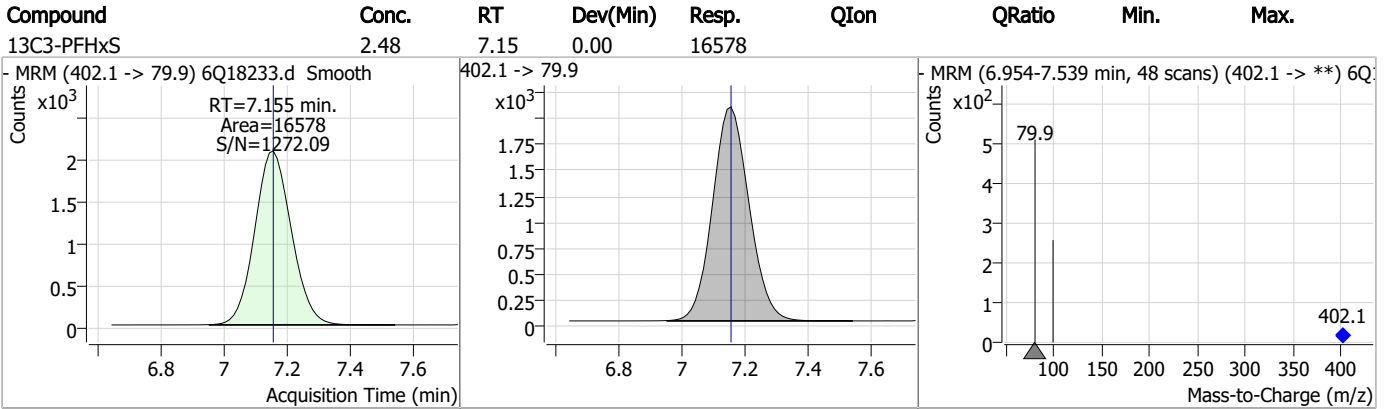
### Perfluorinated Compounds by LC/MS/MS



7.7.8

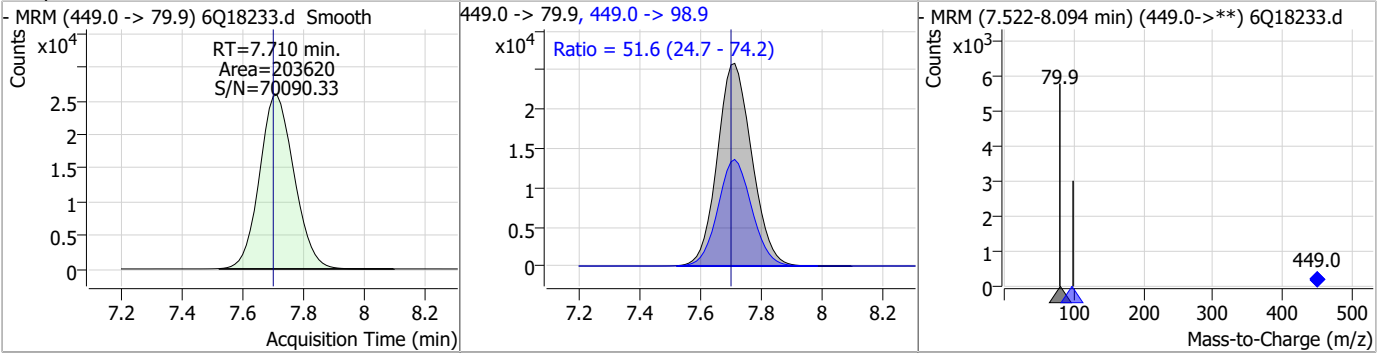
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### Perfluorinated Compounds by LC/MS/MS

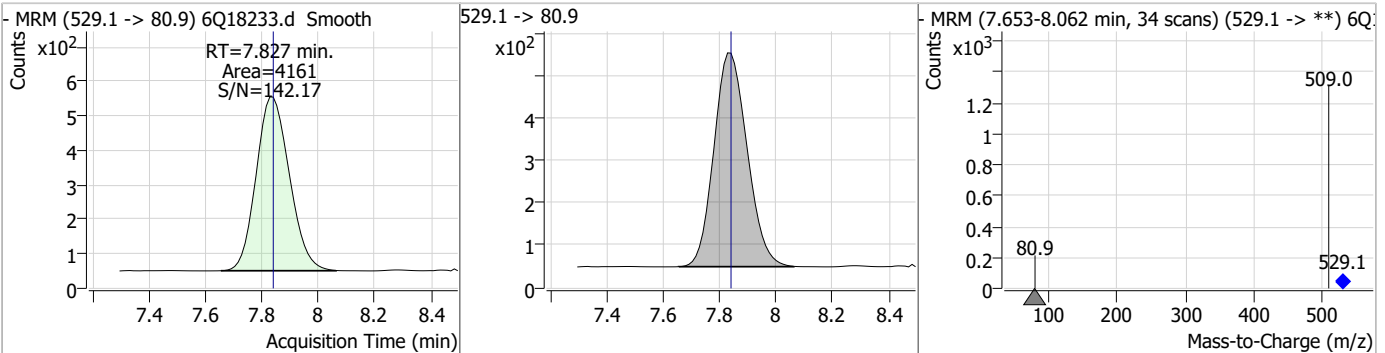


### Perfluorinated Compounds by LC/MS/MS

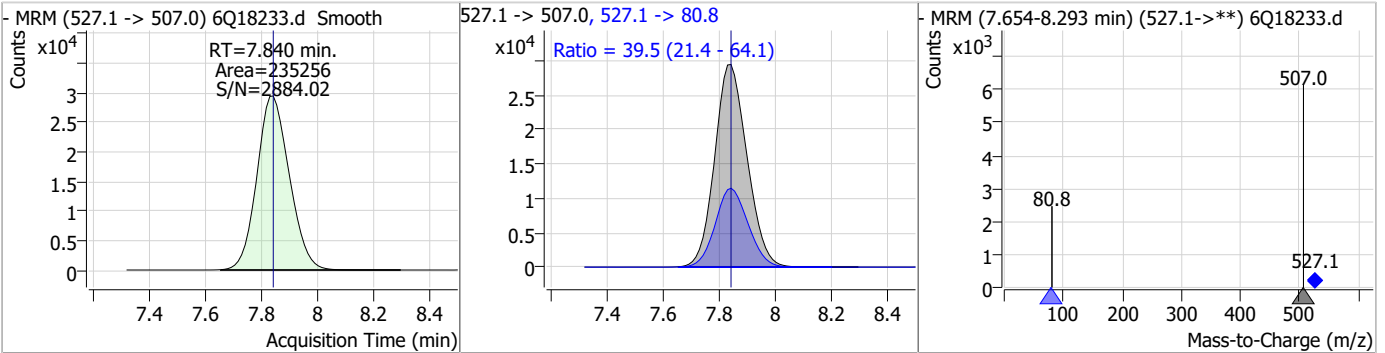
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFHpS    | 24.25 | 7.71 | 0.01     | 203620 | 449.0 -> 98.9 | 51.6   | 24.7 | 74.2 |



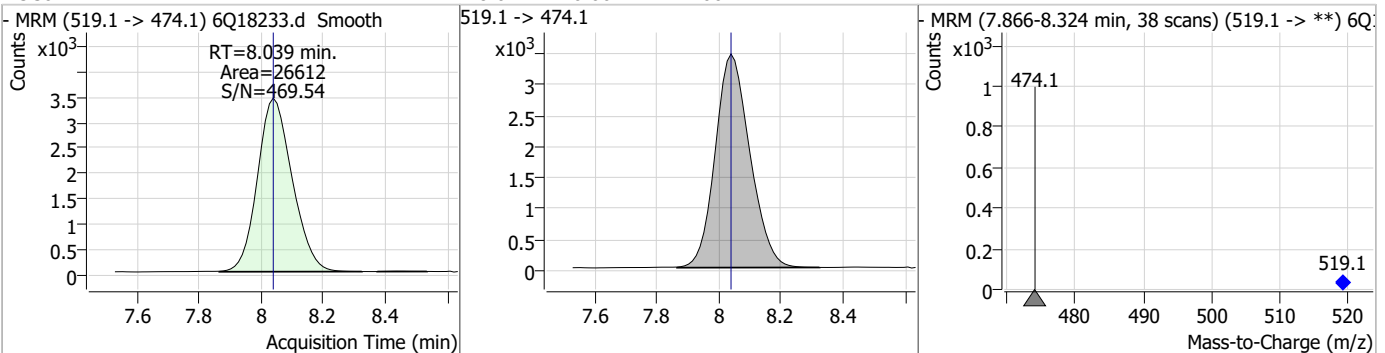
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-8:2FTS | 4.92  | 7.83 | -0.01    | 4161  |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| 8:2FTS   | 94.81 | 7.84 | 0.00     | 235256 | 527.1 -> 80.8 | 39.5   | 21.4 | 64.1 |



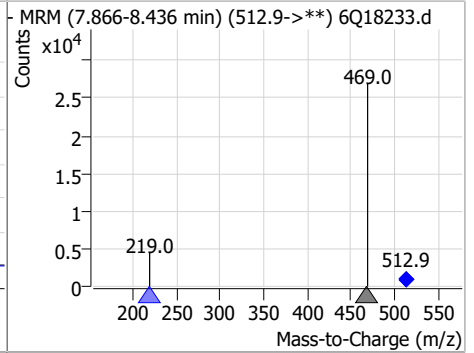
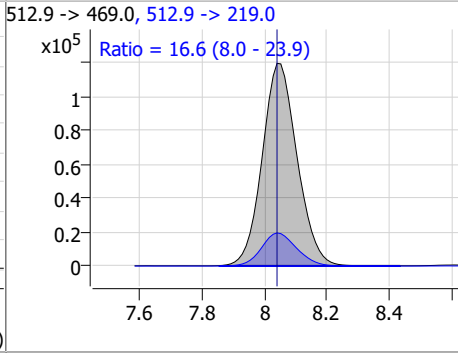
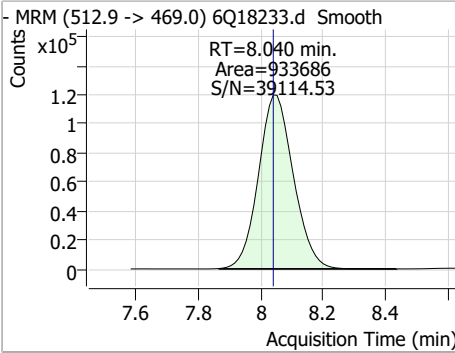
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C6-PFDA | 1.21  | 8.04 | 0.00     | 26612 |      |        |      |      |



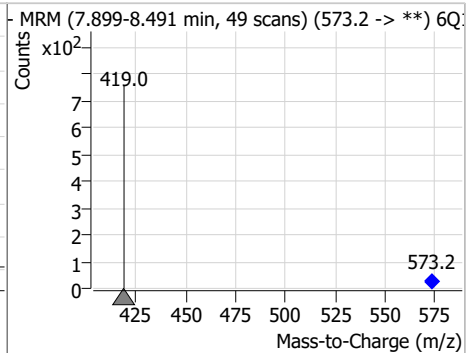
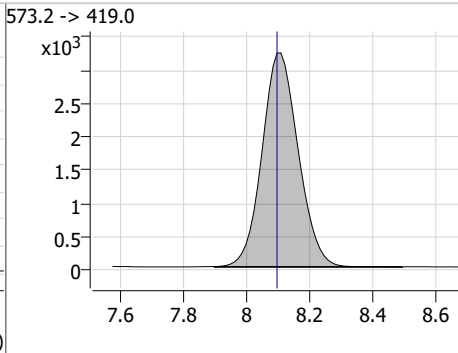
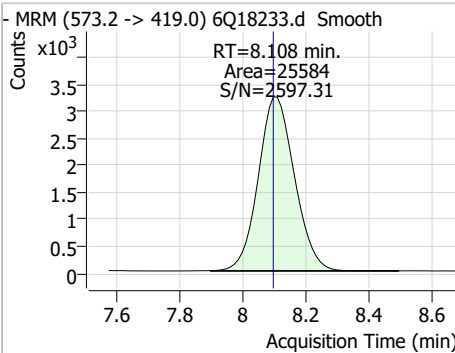


### Perfluorinated Compounds by LC/MS/MS

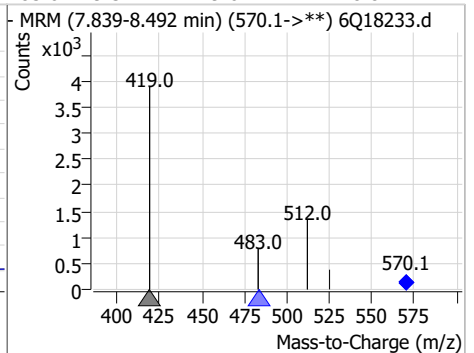
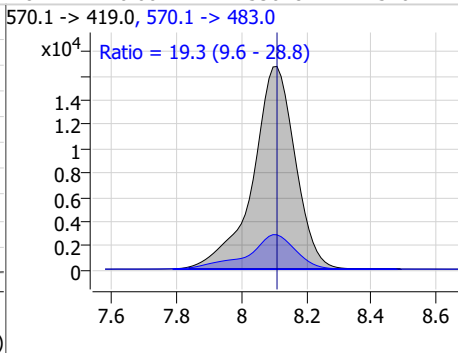
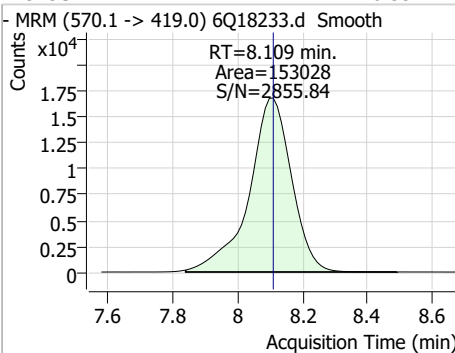
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFDA     | 25.45 | 8.04 | 0.00     | 933686 | 512.9 -> 219.0 | 16.6   | 8.0  | 23.9 |



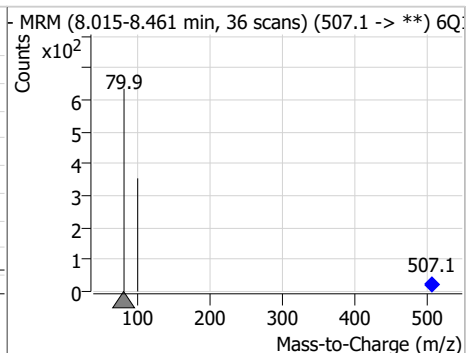
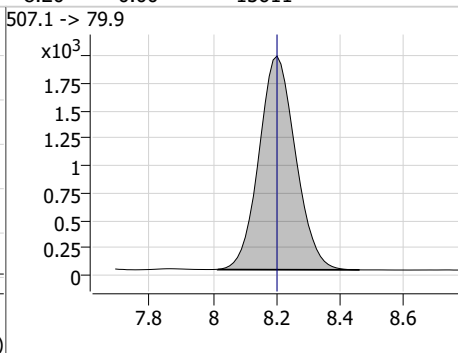
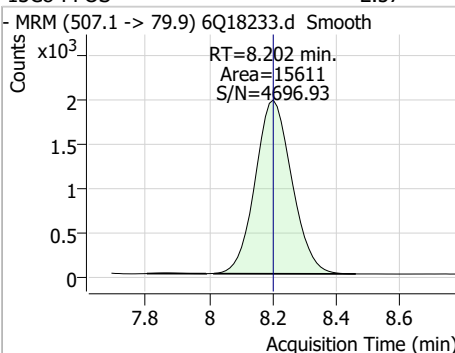
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| d3-MeFOSAA | 4.93  | 8.11 | 0.01     | 25584 | 573.2 -> 419.0 |        |      |      |



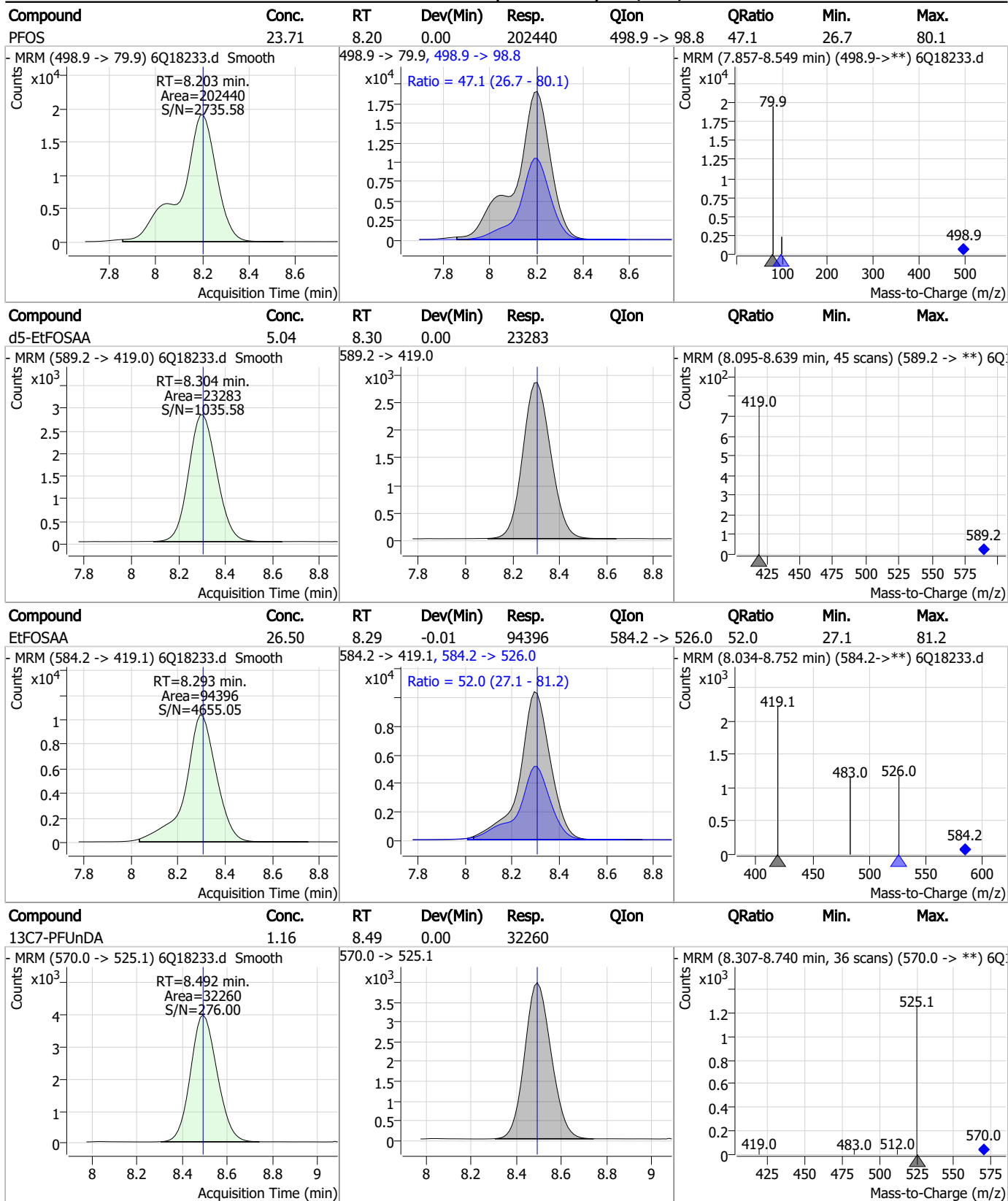
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| MeFOSAA  | 26.33 | 8.11 | 0.00     | 153028 | 570.1 -> 483.0 | 19.3   | 9.6  | 28.8 |



| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|---------------|--------|------|------|
| 13C8-PFOS | 2.57  | 8.20 | 0.00     | 15611 | 507.1 -> 79.9 |        |      |      |

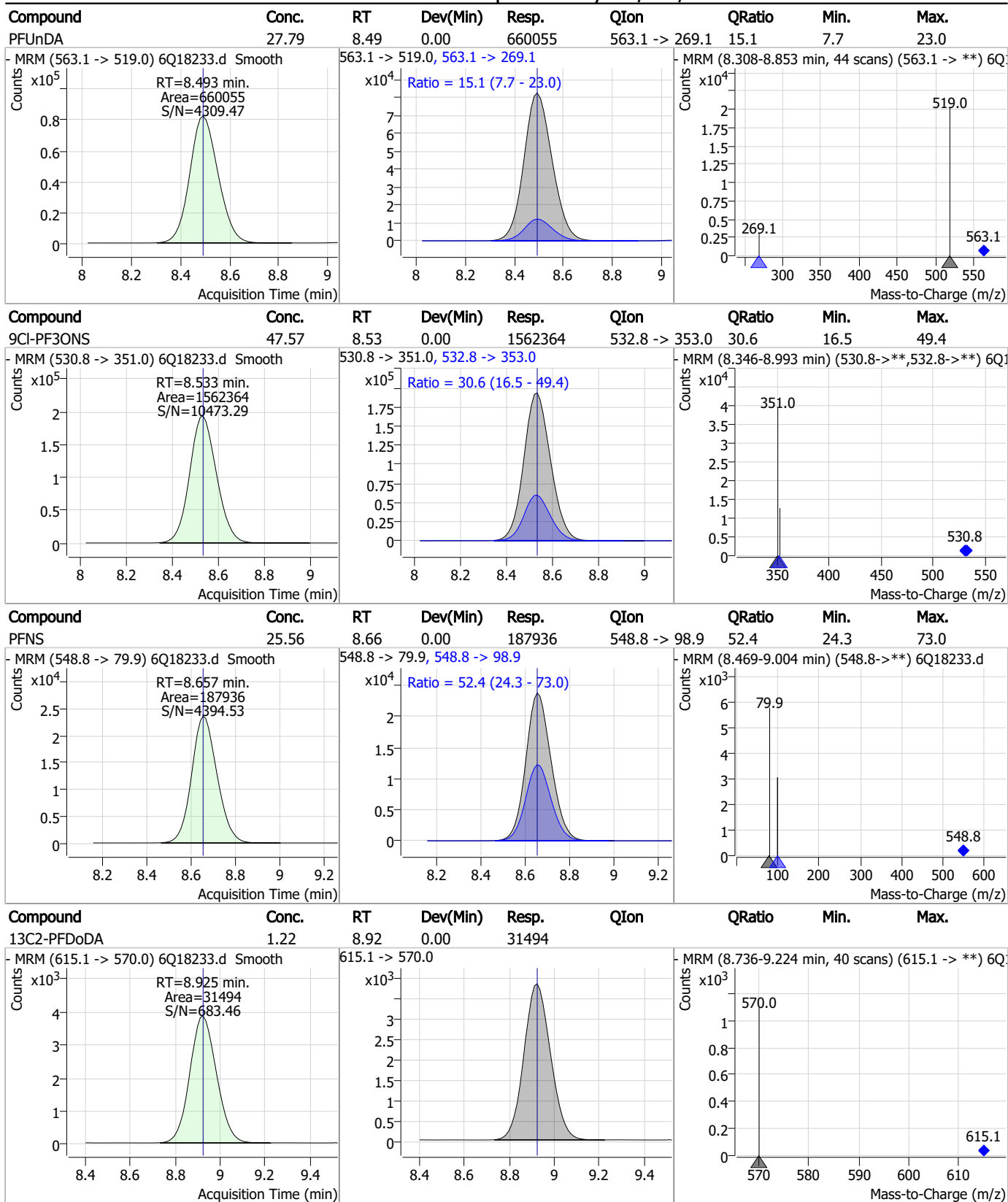


### Perfluorinated Compounds by LC/MS/MS



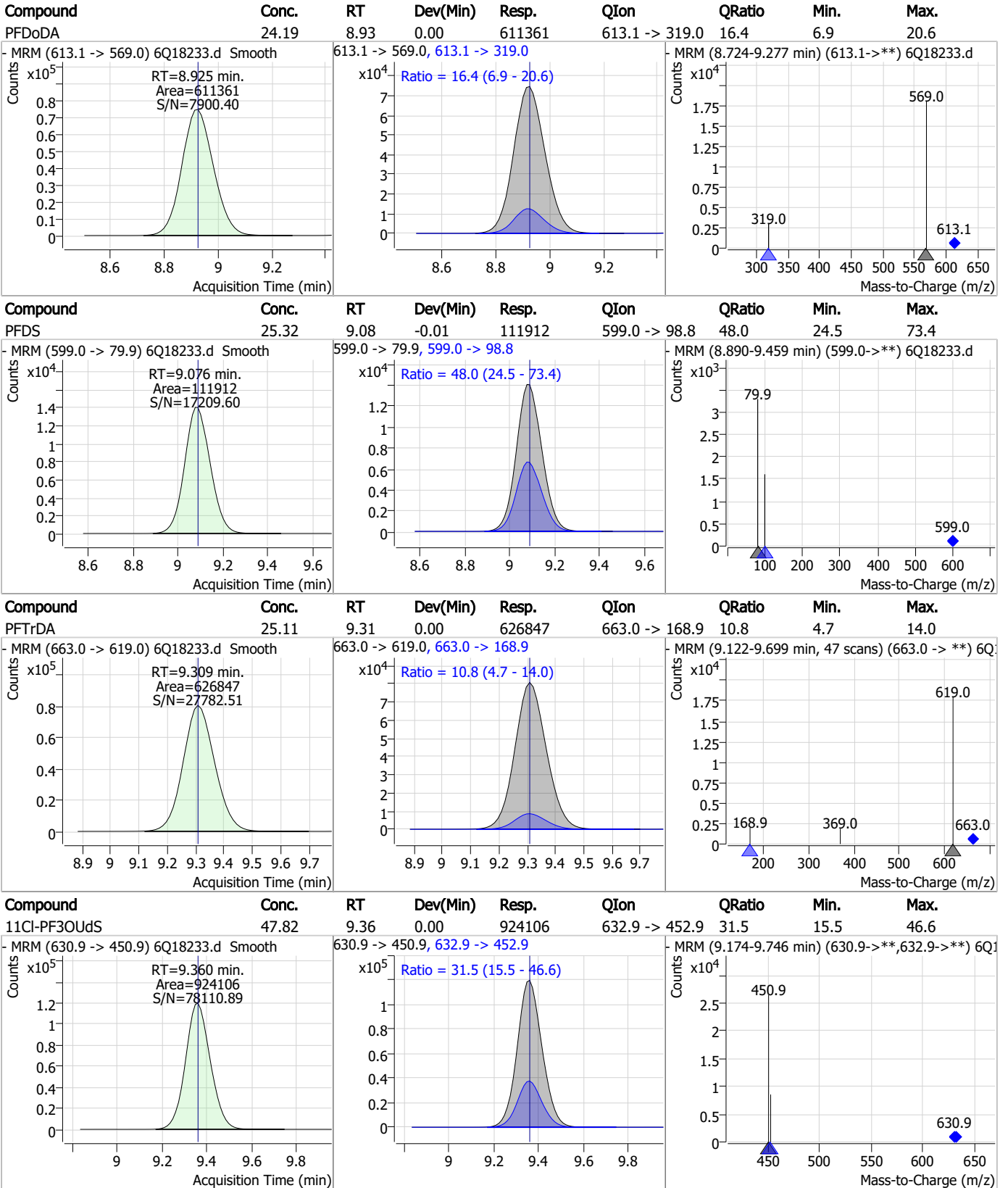
7.7.8  
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

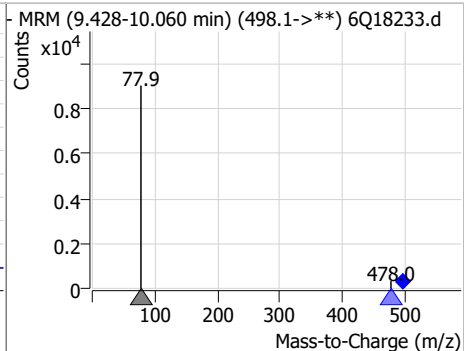
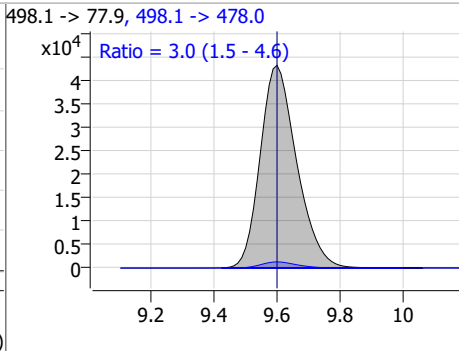
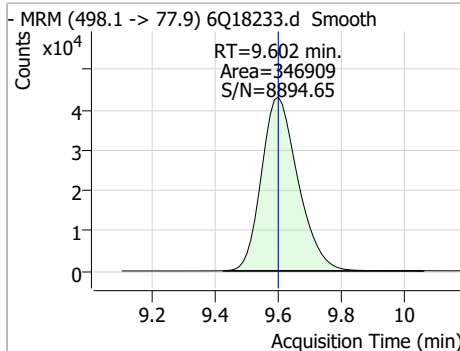


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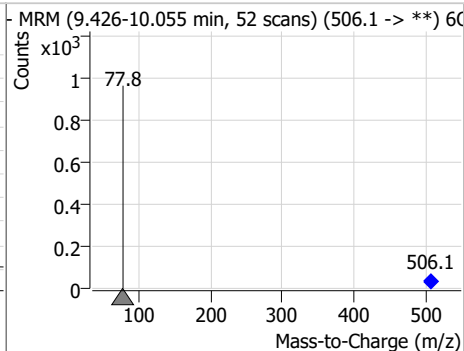
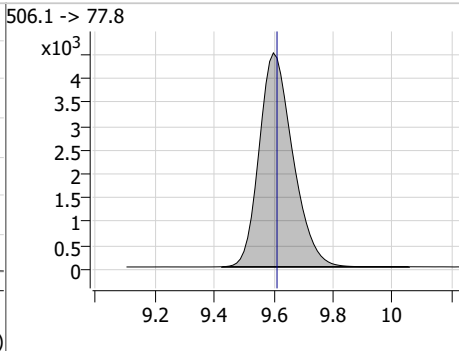
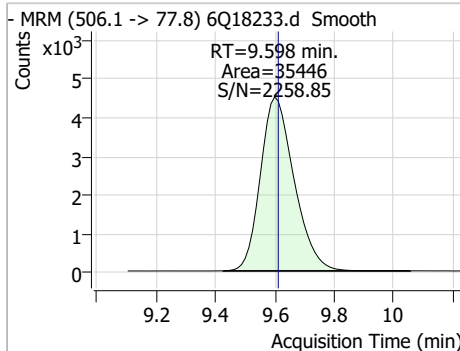


### Perfluorinated Compounds by LC/MS/MS

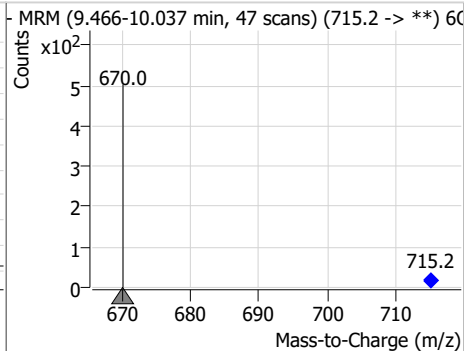
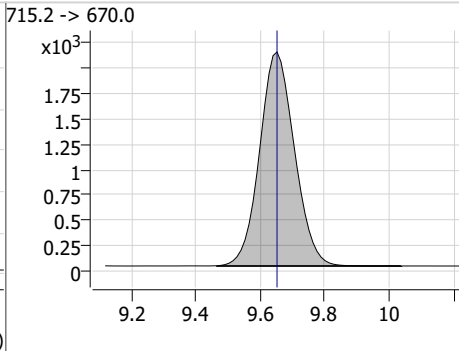
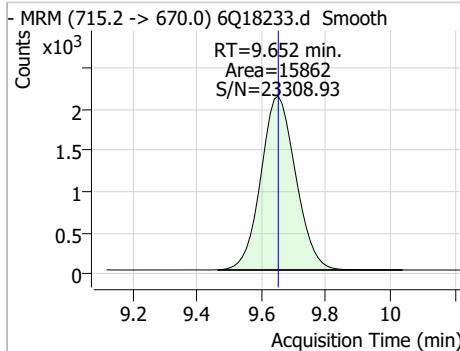
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| FOSA     | 25.12 | 9.60 | 0.00     | 346909 | 498.1 -> 478.0 | 3.0    | 1.5  | 4.6  |



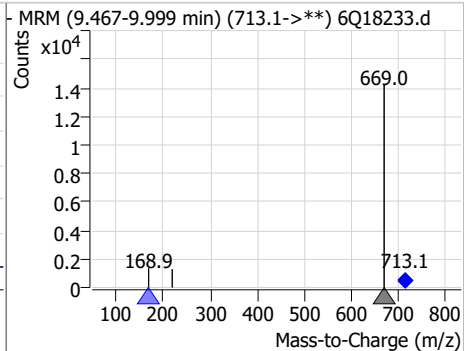
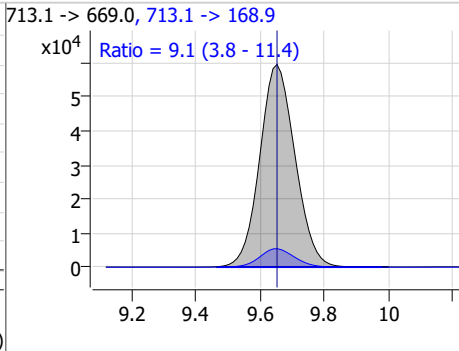
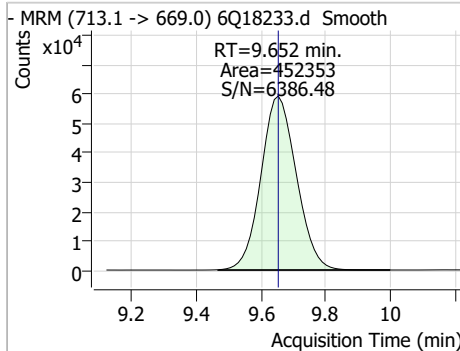
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.60  | 9.60 | -0.01    | 35446 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.17  | 9.65 | 0.00     | 15862 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFTeDA   | 25.50 | 9.65 | 0.00     | 452353 | 713.1 -> 168.9 | 9.1    | 3.8  | 11.4 |



### Perfluorinated Compounds by LC/MS/MS

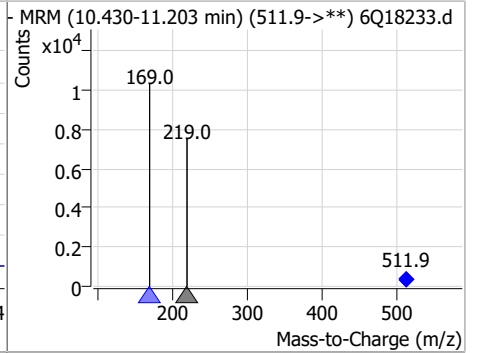
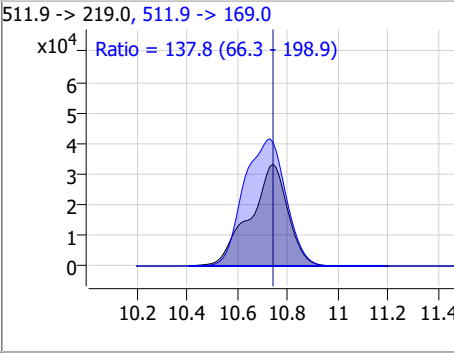
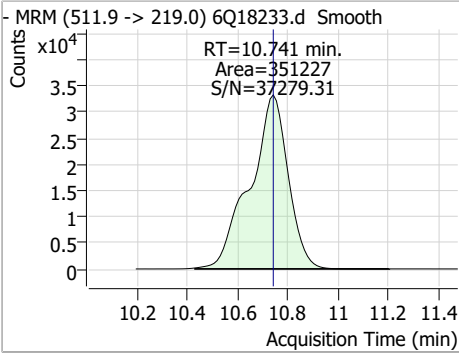
| Compound                                | Conc.  | RT    | Dev(Min)                     | Resp.  | QIon  | QRatio | Min. | Max. |
|---|--------|-------|------------------------------|--------|---|--------|------|------|
| PFD <sub>o</sub> DS                     | 25.05  | 9.78  | 0.00                         | 48586  | 699.1 -> 98.8   | 52.5   | 26.9 | 80.6 |
| - MRM (699.1 -> 79.9) 6Q18233.d Smooth  |        |       | 699.1 -> 79.9, 699.1 -> 98.8 |        | - MRM (9.606-10.079 min) (699.1->**) 6Q18233.d              |        |      |      |
|   |        |       |                              |        |   |        |      |      |
| d7-MeFOSE                               | 24.39  | 10.66 | 0.00                         | 129676 |   |        |      |      |
| - MRM (623.2 -> 58.9) 6Q18233.d Smooth  |        |       | 623.2 -> 58.9                |        | - MRM (10.486-10.995 min, 42 scans) (623.2 -> **) 6Q18233.d |        |      |      |
|   |        |       |                              |        |   |        |      |      |
| MeFOSE                                  | 130.64 | 10.67 | 0.00                         | 745999 |   |        |      |      |
| - MRM (616.1 -> 58.9) 6Q18233.d Smooth  |        |       | 616.1 -> 58.9                |        | - MRM (10.365-11.058 min, 57 scans) (616.1 -> **) 6Q18233.d |        |      |      |
|   |        |       |                              |        |   |        |      |      |
| d3-MeFOSA                               | 2.53   | 10.74 | 0.00                         | 15686  |   |        |      |      |
| - MRM (515.0 -> 219.0) 6Q18233.d Smooth |        |       | 515.0 -> 219.0               |        | - MRM (10.566-11.176 min, 50 scans) (515.0 -> **) 6Q18233.d |        |      |      |
|   |        |       |                              |        |   |        |      |      |

7.7.8

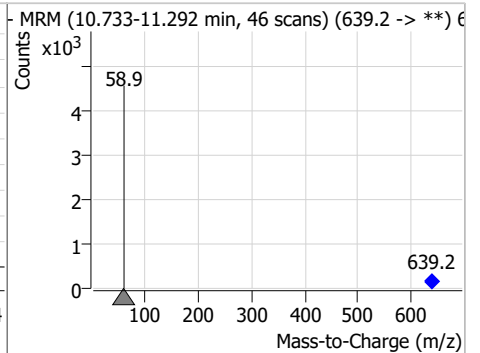
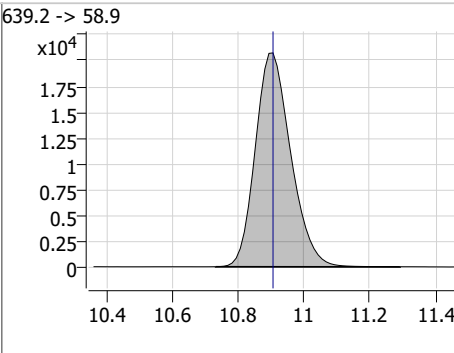
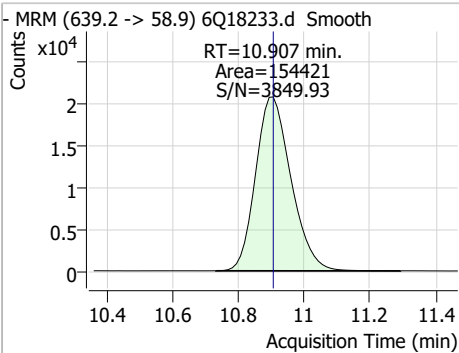
7

### Perfluorinated Compounds by LC/MS/MS

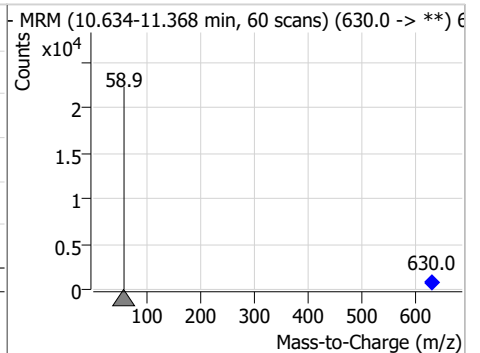
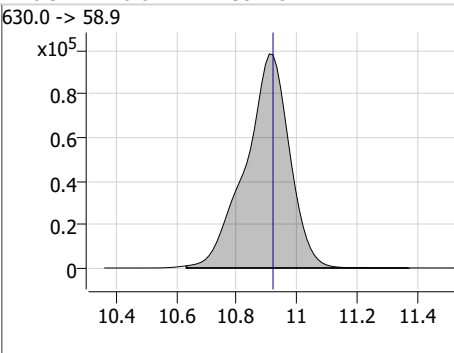
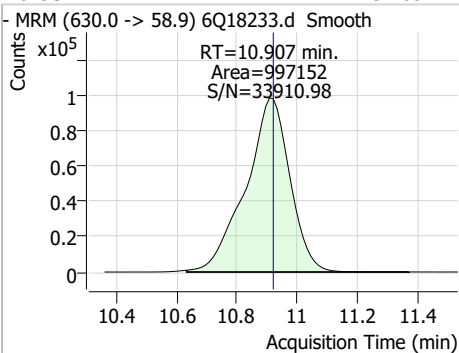
| Compound | Conc. | RT    | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|--------|----------------|--------|------|-------|
| MeFOSA   | 52.47 | 10.74 | 0.00     | 351227 | 511.9 -> 169.0 | 137.8  | 66.3 | 198.9 |



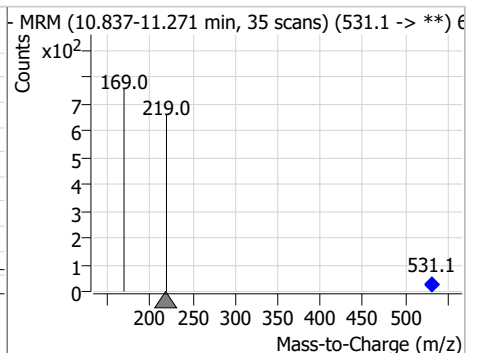
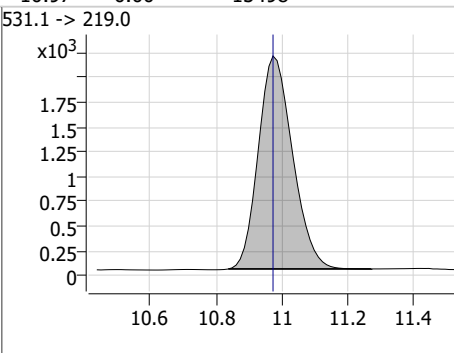
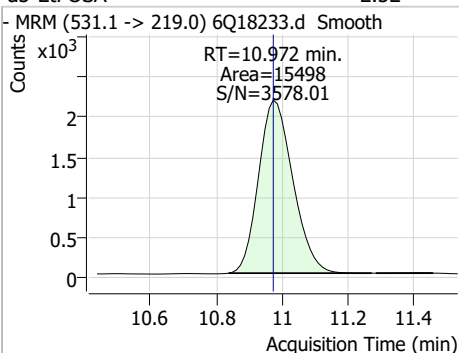
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 23.87 | 10.91 | 0.00     | 154421 |      |        |      |      |



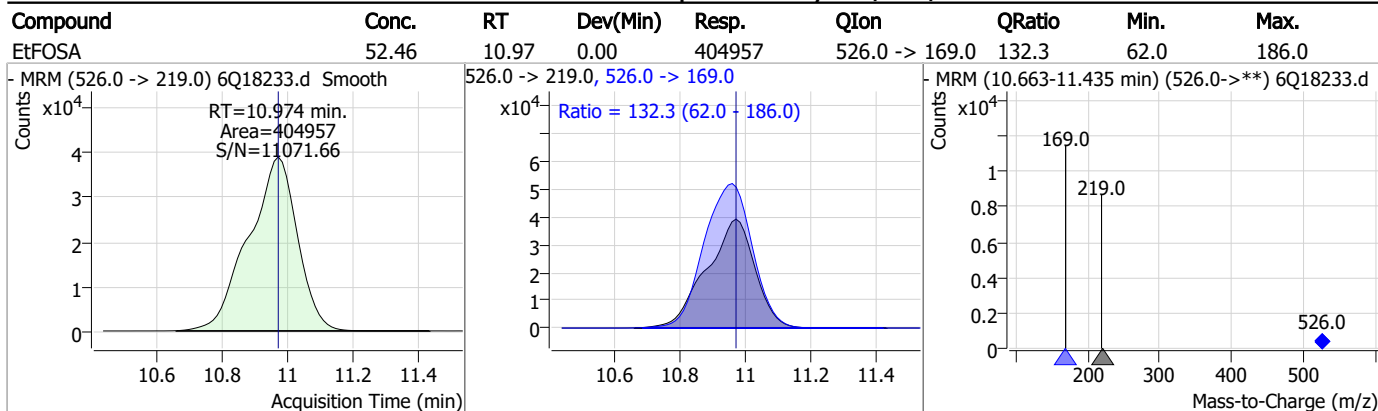
| Compound | Conc.  | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|----------|--------|-------|----------|--------|------|--------|------|------|
| EtFOSE   | 131.83 | 10.91 | -0.01    | 997152 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.52  | 10.97 | 0.00     | 15498 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



7.7.8  
7





# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18233.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 22:54      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.8.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18234.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 11:08:48 PM  
 Sample Name : ic274-8  
 Vial : P1-A9  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 191925            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 66787             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 71485             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 67284             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 104813            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 39500             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.051                | 519.1 -> 474.1 | 24403             | 1.25 µg/L   | 0.012    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 30173             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 29742             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 15073             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 33024             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 26521             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 15775             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 15683             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 2774              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4132              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4022              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.108                | 573.2 -> 419.0 | 24842             | 5.00 µg/L   | 0.012    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 113461            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 23619             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 115495            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 145110            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 14454             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16539             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 18820             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.864                | 216.0 -> 172.0 | 81658             | 5.00 µg/L   | -0.015   |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 11099             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 105416            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 33689             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 47731             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 71693             | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 2774              | 4.91 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 98.2%  |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4132              | 5.19 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 103.8% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4022              | 5.25 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 105.0% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 29742             | 1.21 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 97.2%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 15073             | 1.18 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 94.3%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 26521             | 2.51 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 100.3% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 15775             | 2.60 µg/L   | -0.012   |

7.7.9  
7

### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.1% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 191925   | 9.96 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.6%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 67284    | 2.52 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.7% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 71485    | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.4%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 66787    | 4.97 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.4%  |               |
| 13C6-PFDA               | 8.051                | 519.1 -> 474.1 | 24403    | 1.17 µg/L         | 0.012         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 93.8%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 30173    | 1.14 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 91.6%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 33024    | 2.52 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.8% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 104813   | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 15683    | 2.68 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 107.4% |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 39500    | 1.21 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.8%  |               |
| d3-MeFOSAA              | 8.108                | 573.2 -> 419.0 | 24842    | 4.98 µg/L         | 0.012         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.7%  |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 113461   | 10.31 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 103.1% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16539    | 2.77 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 111.0% |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 23619    | 5.32 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 106.5% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 115495   | 22.61 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 90.4%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 145110   | 23.34 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 93.4%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 14454    | 2.45 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.9%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 1067367  | 218.07 µg/L       | 94            |
|                         |                      | 327.1 -> 80.9  | 383069   |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 932234   | 202.91 µg/L       | 98            |
|                         |                      | 427.1 -> 80.9  | 305042   |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 507344   | 211.55 µg/L       | 97            |
|                         |                      | 527.1 -> 80.8  | 208216   |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 209778   | 58.05 µg/L        | 100           |
|                         |                      | 584.2 -> 526.0 | 113830   |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 821657   | 63.87 µg/L        | 100           |
|                         |                      | 498.1 -> 478.0 | 23879    |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 359193   | 63.64 µg/L        | 98            |
|                         |                      | 570.1 -> 483.0 | 66435    |                   |               |
| PFBA                    | 2.868                | 212.8 -> 168.9 | 1888290  | 253.43 µg/L       | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 599209   | 56.24 µg/L        | 96            |
|                         |                      | 298.7 -> 98.8  | 232401   |                   |               |
| PFDA                    | 8.052                | 512.9 -> 469.0 | 2070392  | 61.55 µg/L        | 99            |
|                         |                      | 512.9 -> 219.0 | 342190   |                   |               |
| PFDoDA                  | 8.925                | 613.1 -> 569.0 | 1458533  | 61.11 µg/L        | 95            |
|                         |                      | 613.1 -> 319.0 | 230005   |                   |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 253676   | 57.12 µg/L        | 100           |

7.7.9  
7

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc.   | Units | Dev(Min) |
|--------------|--------|----------------|----------|---------|-------|----------|
| PFHpA        | 6.395  | 599.0 -> 98.8  | 123407   | 61.39   | µg/L  | 97       |
|              |        | 363.1 -> 319.0 | 2207908  |         |       |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 356705   | 57.10   | µg/L  | 100      |
|              |        | 449.0 -> 79.9  | 481552   |         |       |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 237861   | 63.30   | µg/L  | 99       |
|              |        | 313.0 -> 269.0 | 1763926  |         |       |          |
| PFHxS        | 7.156  | 313.0 -> 118.9 | 84293    | 55.47   | µg/L  | 99       |
|              |        | 398.7 -> 79.9  | 489072   |         |       |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 230571   | 64.77   | µg/L  | 97       |
|              |        | 463.0 -> 419.0 | 2045495  |         |       |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 423807   | 59.41   | µg/L  | 97       |
|              |        | 548.8 -> 79.9  | 438843   |         |       |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 223267   | 60.22   | µg/L  | 97       |
|              |        | 413.0 -> 369.0 | 2899714  |         |       |          |
| PFOS         | 8.203  | 413.0 -> 169.0 | 532230   | 56.57   | µg/L  | 89       |
|              |        | 498.9 -> 79.9  | 485224   |         |       |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 220658   | 125.04  | µg/L  | 100      |
|              |        | 263.0 -> 219.0 | 2314432  |         |       |          |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 496050   | 58.91   | µg/L  | 98       |
|              |        | 349.1 -> 98.9  | 228958   |         |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 1016048  | 60.28   | µg/L  | 95       |
|              |        | 713.1 -> 168.9 | 93720    |         |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 1339221  | 56.81   | µg/L  | 95       |
|              |        | 663.0 -> 168.9 | 149466   |         |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 1360281  | 61.24   | µg/L  | 97       |
|              |        | 563.1 -> 269.1 | 226517   |         |       |          |
| 11Cl-PF3OUdS | 9.360  | 630.9 -> 450.9 | 2072367  | 111.36  | µg/L  | 96       |
|              |        | 632.9 -> 452.9 | 684549   |         |       |          |
| 9Cl-PF3ONS   | 8.533  | 530.8 -> 351.0 | 3572432  | 112.96  | µg/L  | 95       |
|              |        | 532.8 -> 353.0 | 1070583  |         |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 7879804  | 110.69  | µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 2103418  |         |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 1358380  | 121.13  | µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 147781   |         |       |          |
| 3:3FTCA      | 3.709  | 241.0 -> 177.0 | 424601   | 324.94  | µg/L  | 95       |
|              |        | 241.0 -> 117.0 | 52038    |         |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 7899379  | 1562.52 | µg/L  | 99       |
|              |        | 341.0 -> 217.0 | 5695124  |         |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 5040183  | 1548.27 | µg/L  | 95       |
|              |        | 441.0 -> 336.9 | 10704240 |         |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 914026   | 126.96  | µg/L  | 94       |
|              |        | 526.0 -> 169.0 | 1198646  |         |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 2203400  | 309.99  | µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 791891   |         |       |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 1109303  | 112.20  | µg/L  | 94       |
|              |        | 616.1 -> 58.9  | 1649575  |         |       |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 110441   | 324.34  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 60246    |         |       |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 435795   | 56.69   | µg/L  | 99       |
|              |        | 295.0 -> 84.9  | 110771   |         |       |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 1622007  | 123.82  | µg/L  | 97       |
|              |        | 229.0 -> 84.9  | 1254214  |         |       |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 4250331  | 124.13  | µg/L  | 100      |
|              |        | 314.8 -> 82.9  | 143659   |         |       |          |
| PFMPA        | 3.388  |                |          | 127.63  | µg/L  | 100      |
|              |        |                |          |         |       |          |
| PFEESA       | 5.900  |                |          | 109.43  | µg/L  | 98       |
|              |        |                |          |         |       |          |

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

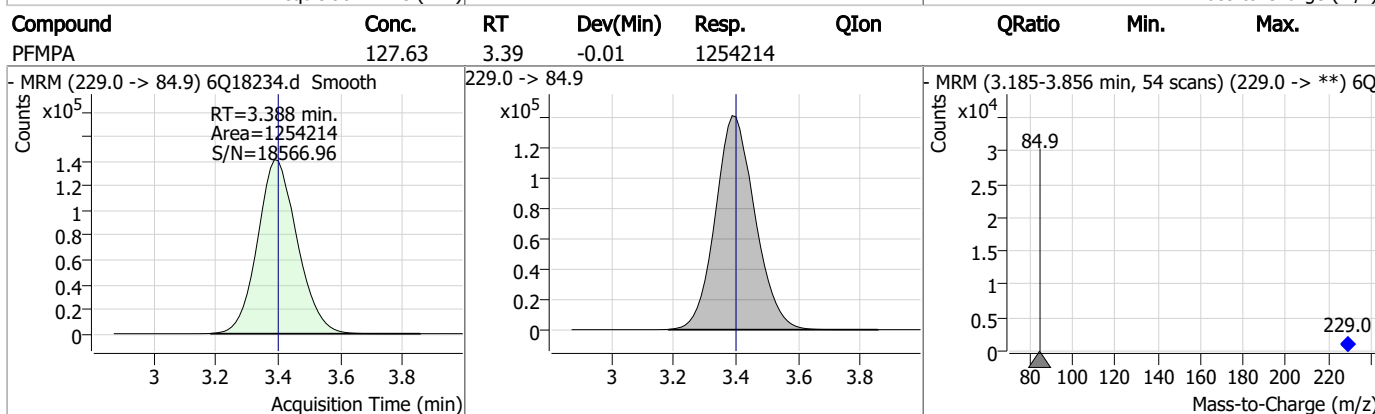
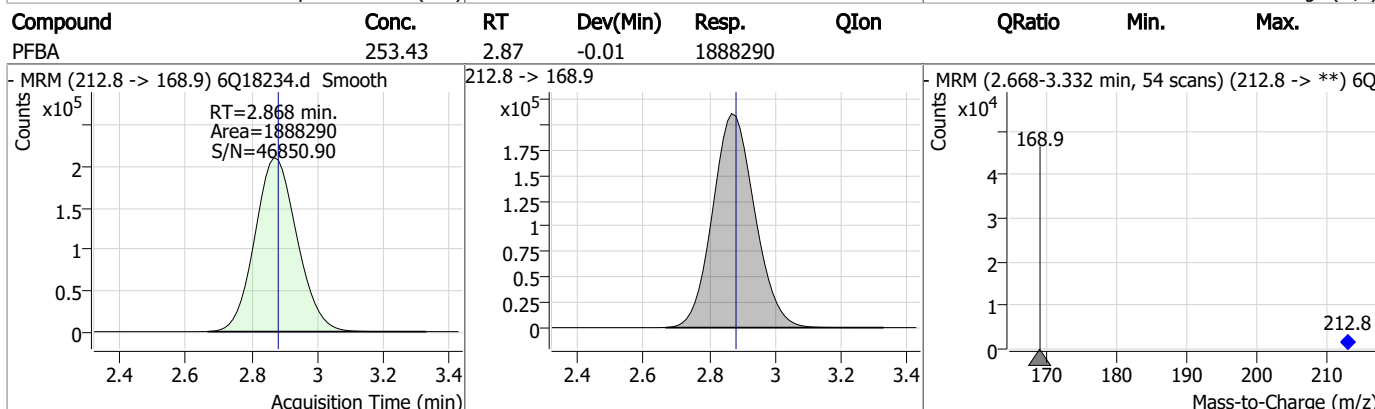
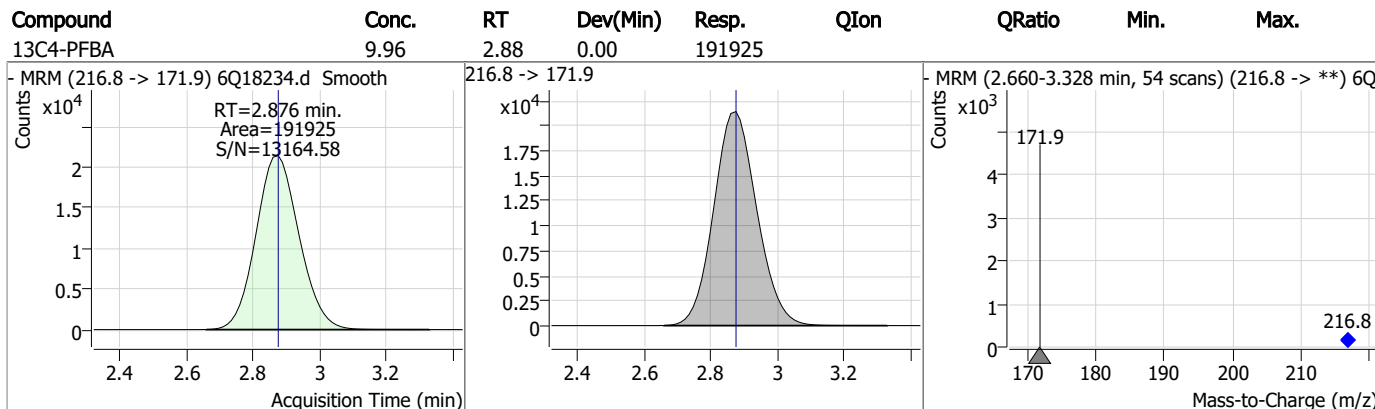
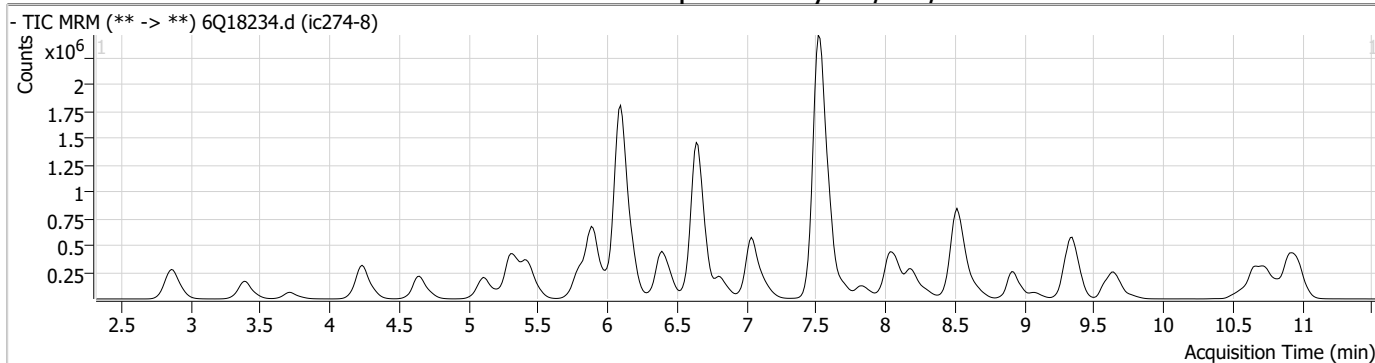
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

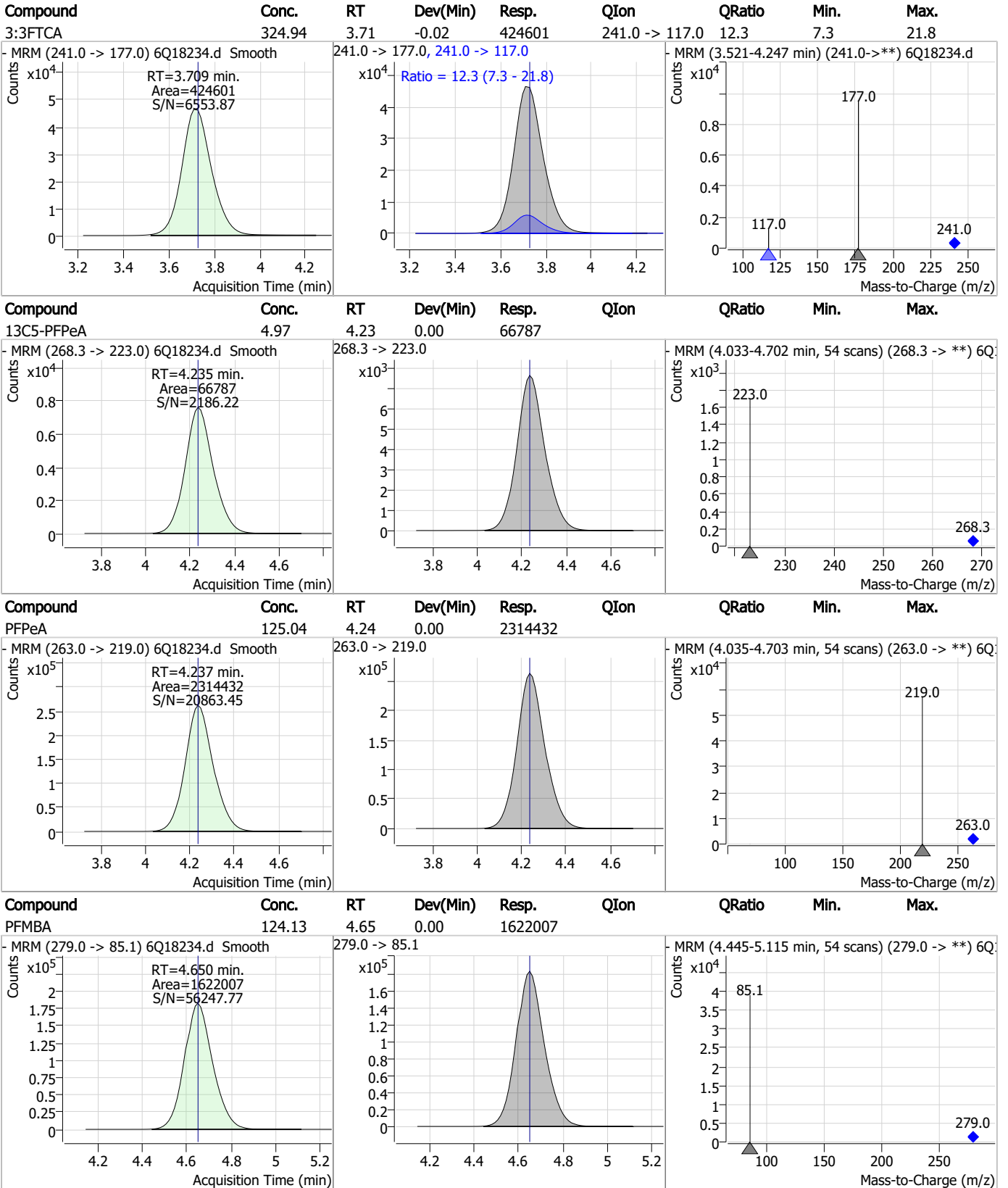
7.7.9

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### Perfluorinated Compounds by LC/MS/MS



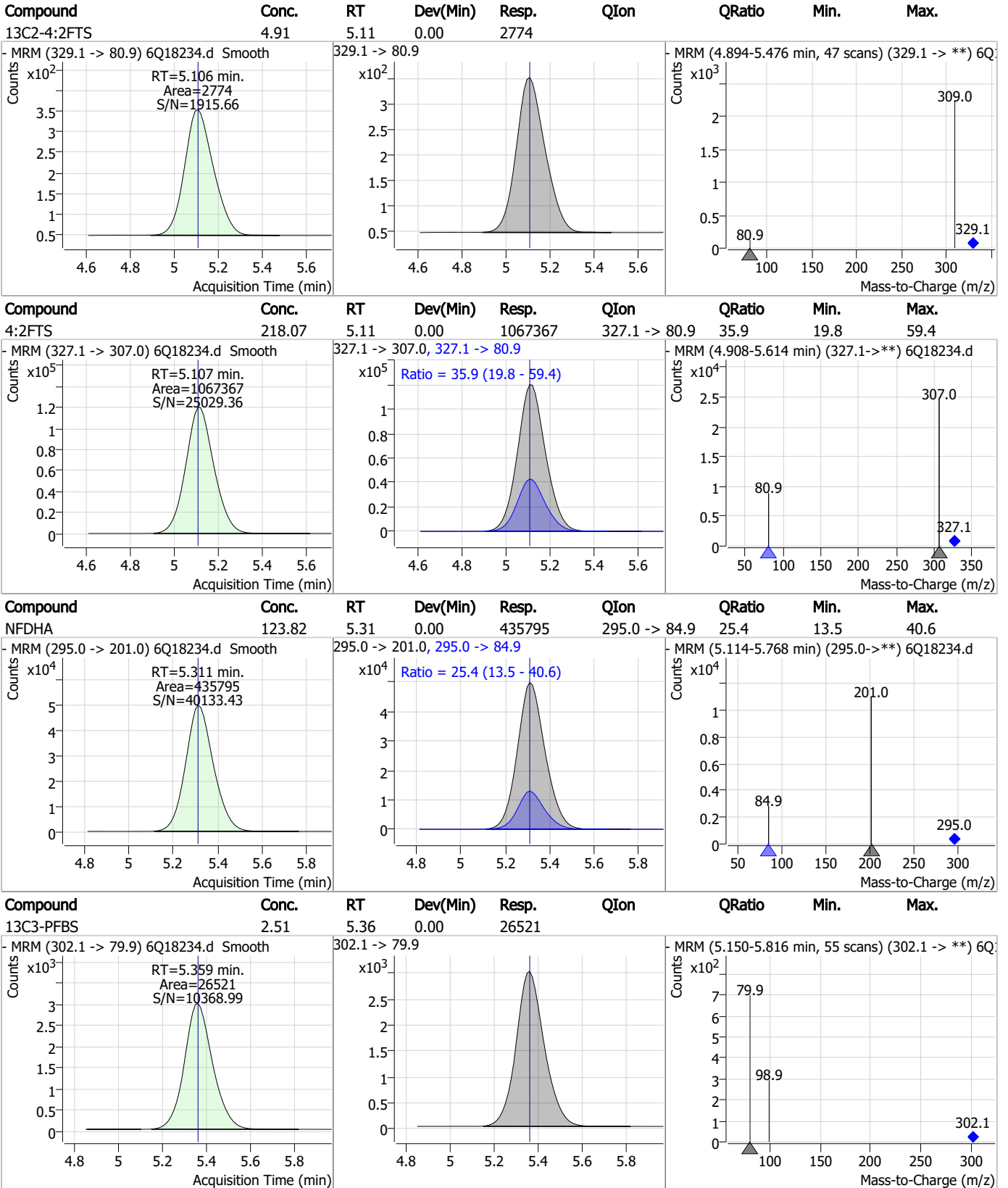
### Perfluorinated Compounds by LC/MS/MS



7.7.9

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### Perfluorinated Compounds by LC/MS/MS



7.7.9

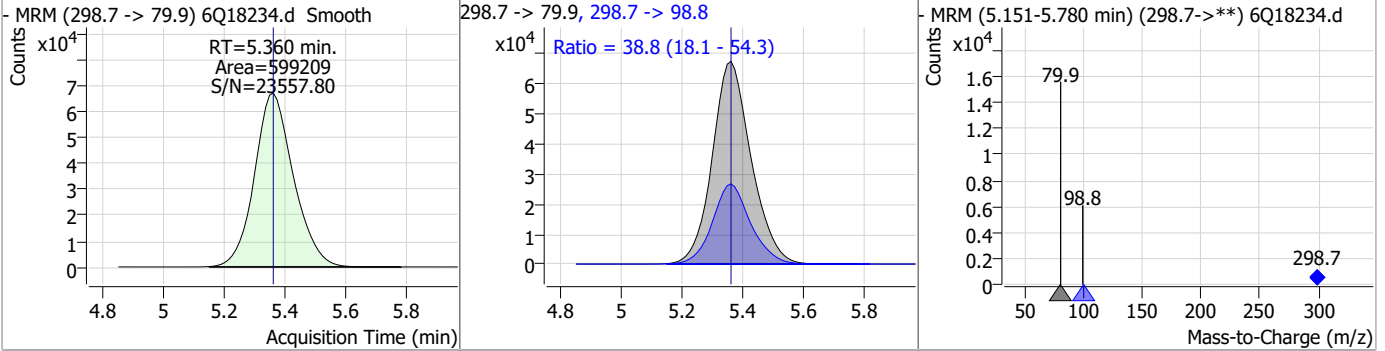
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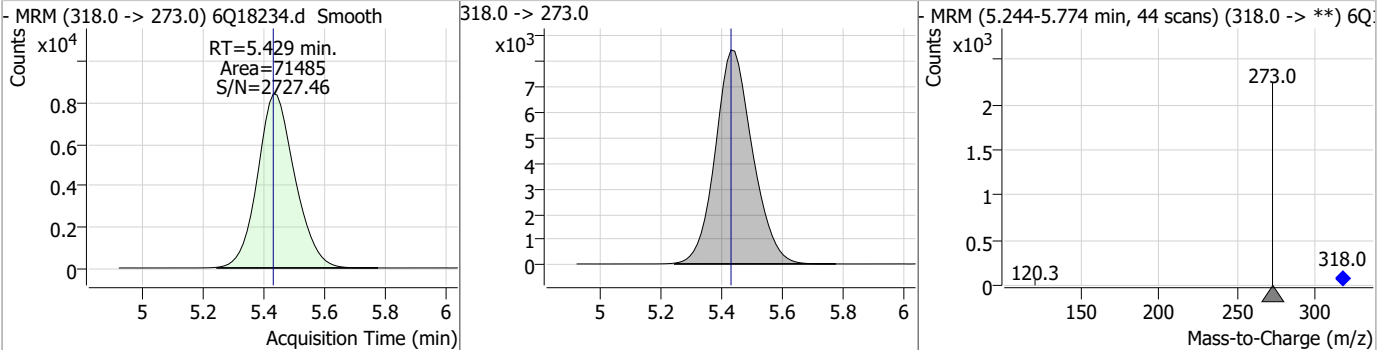


### Perfluorinated Compounds by LC/MS/MS

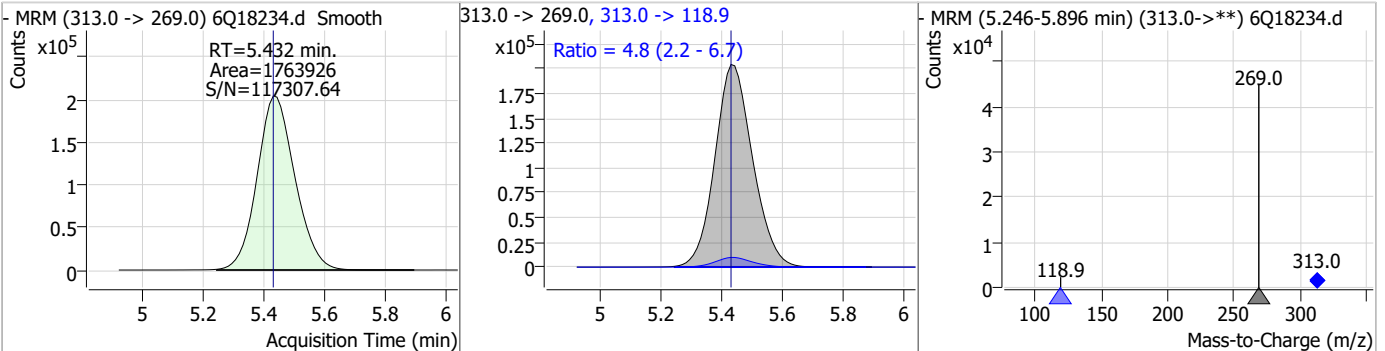
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFBS     | 56.24 | 5.36 | 0.00     | 599209 | 298.7 -> 98.8 | 38.8   | 18.1 | 54.3 |



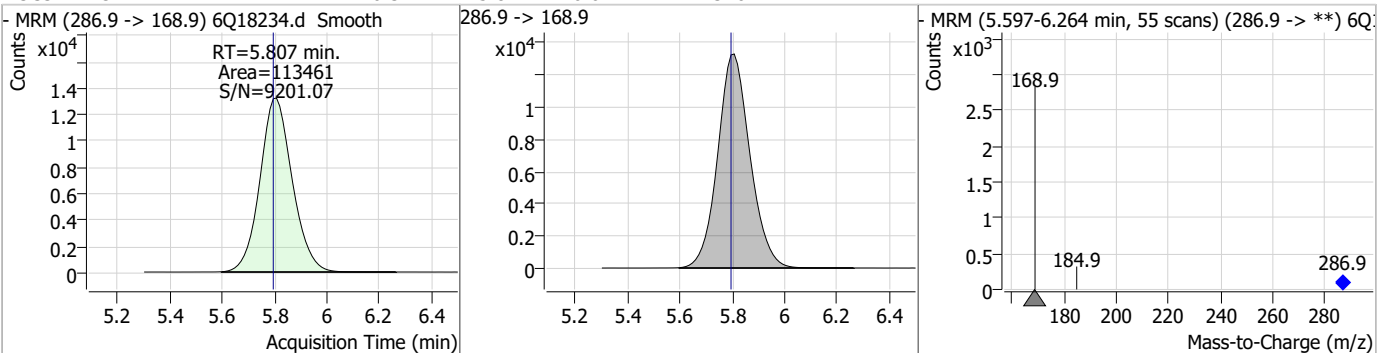
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFHxA | 2.49  | 5.43 | 0.00     | 71485 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|---------|----------------|--------|------|------|
| PFHxA    | 63.30 | 5.43 | 0.00     | 1763926 | 313.0 -> 118.9 | 4.8    | 2.2  | 6.7  |

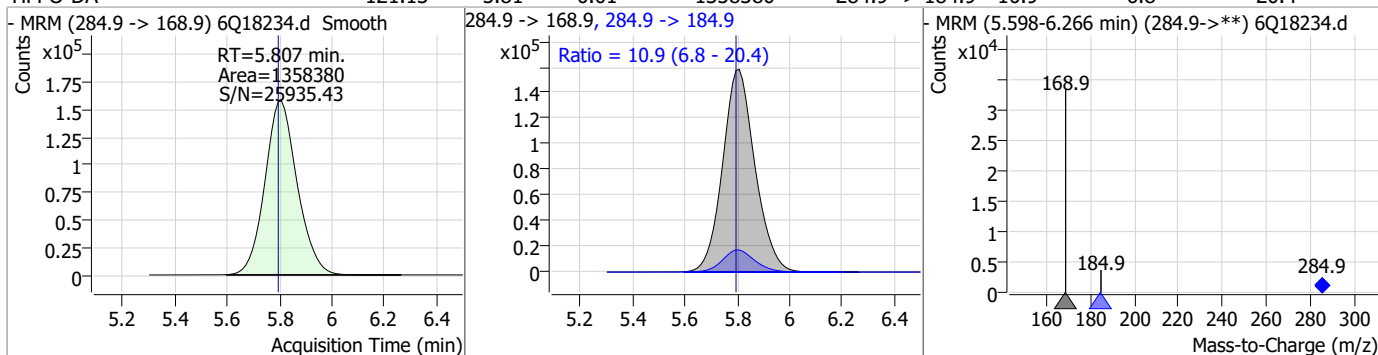


| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|------|--------|------|------|
| 13C3-HFPO-DA | 10.31 | 5.81 | 0.01     | 113461 |      |        |      |      |

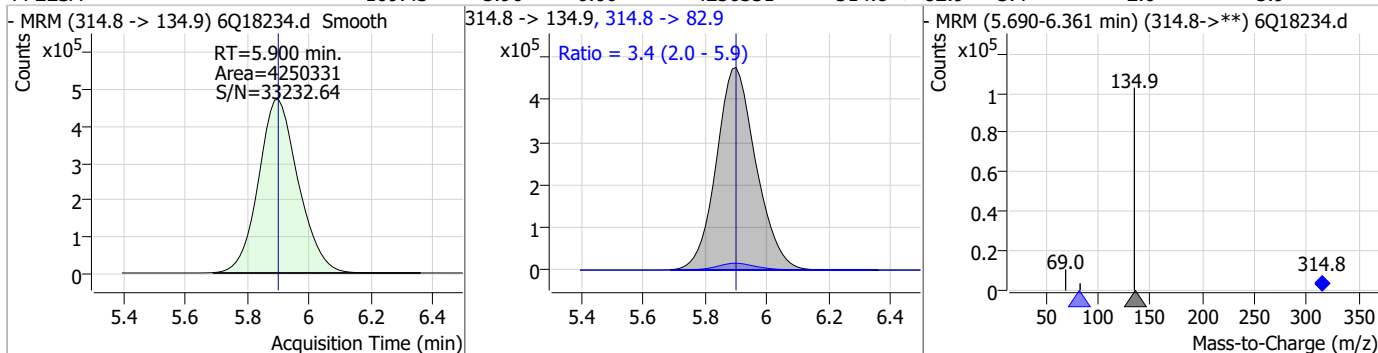


### Perfluorinated Compounds by LC/MS/MS

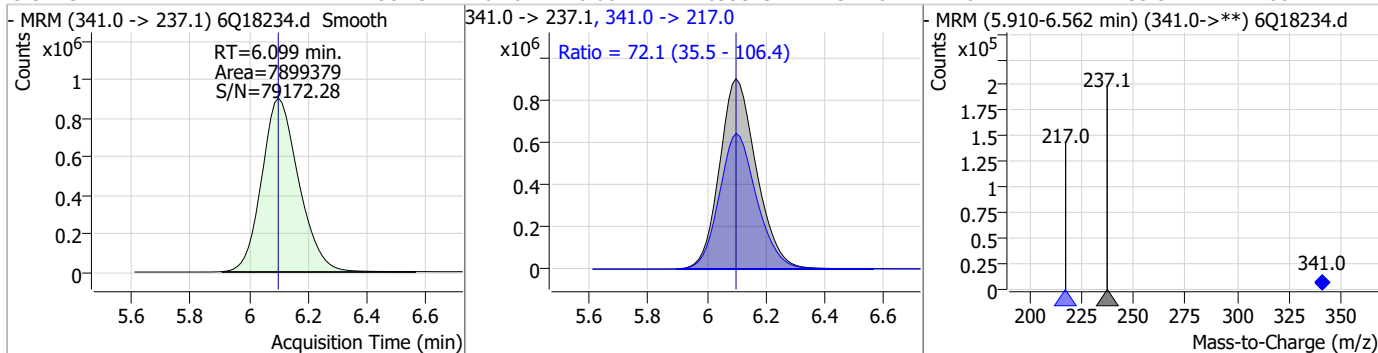
| Compound | Conc.  | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max. |
|----------|--------|------|----------|---------|----------------|--------|------|------|
| HFPO-DA  | 121.13 | 5.81 | 0.01     | 1358380 | 284.9 -> 184.9 | 10.9   | 6.8  | 20.4 |



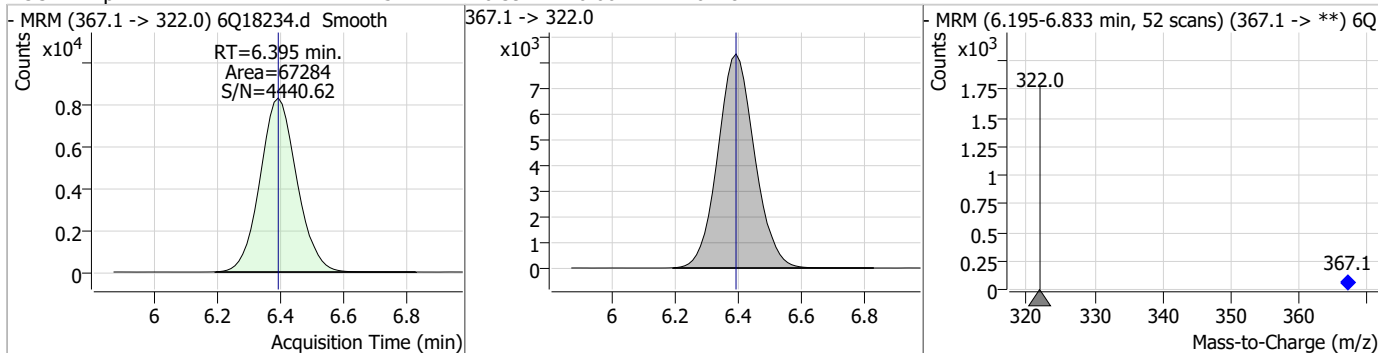
| Compound | Conc.  | RT   | Dev(Min) | Resp.   | QIon          | QRatio | Min. | Max. |
|----------|--------|------|----------|---------|---------------|--------|------|------|
| PFEESA   | 109.43 | 5.90 | 0.00     | 4250331 | 314.8 -> 82.9 | 3.4    | 2.0  | 5.9  |



| Compound | Conc.   | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max.  |
|----------|---------|------|----------|---------|----------------|--------|------|-------|
| 5:3FTCA  | 1562.52 | 6.10 | 0.00     | 7899379 | 341.0 -> 217.0 | 72.1   | 35.5 | 106.4 |

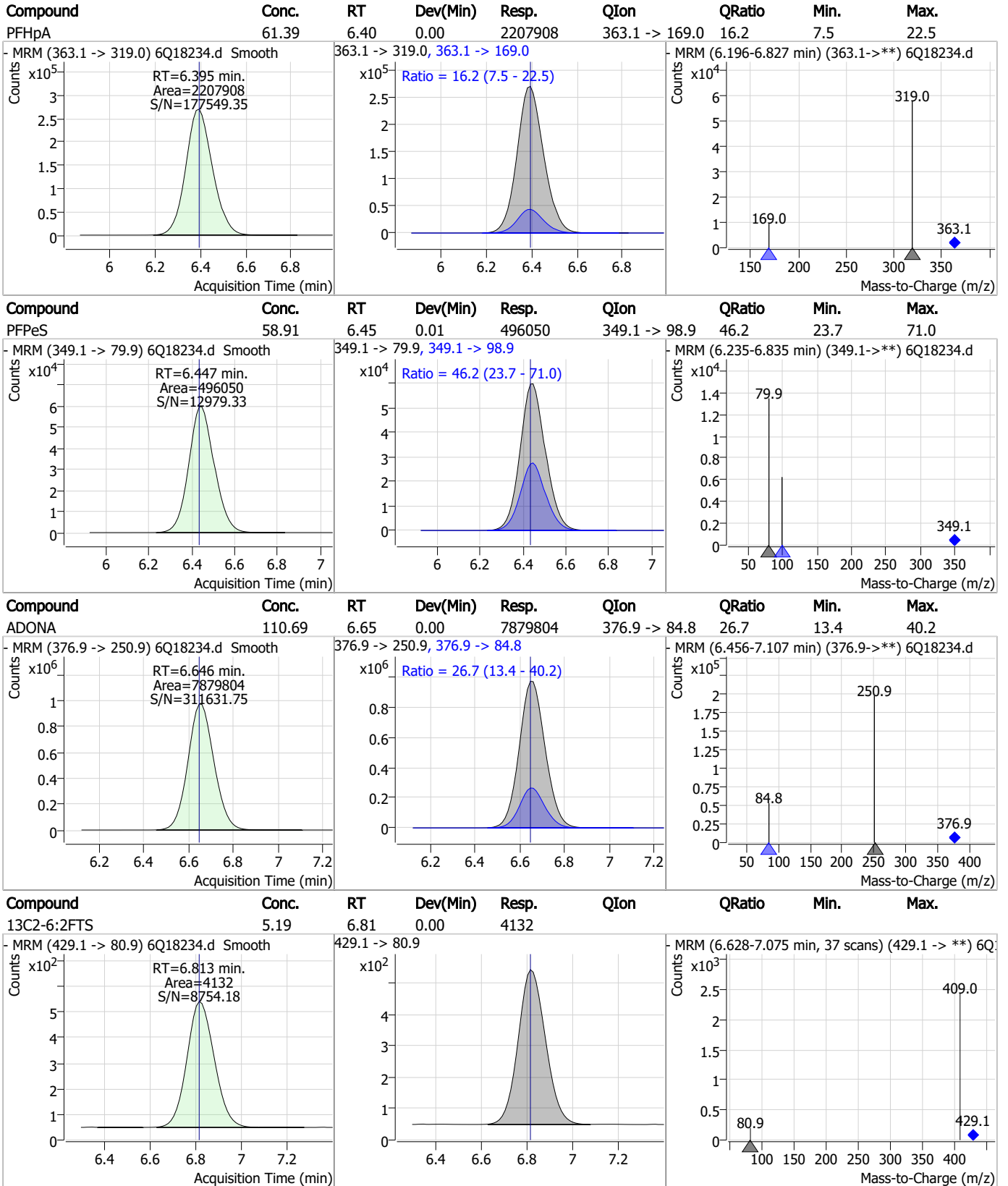


| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.52  | 6.39 | 0.00     | 67284 | 367.1 -> 322.0 |        |      |      |



7.7.9  
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### Perfluorinated Compounds by LC/MS/MS

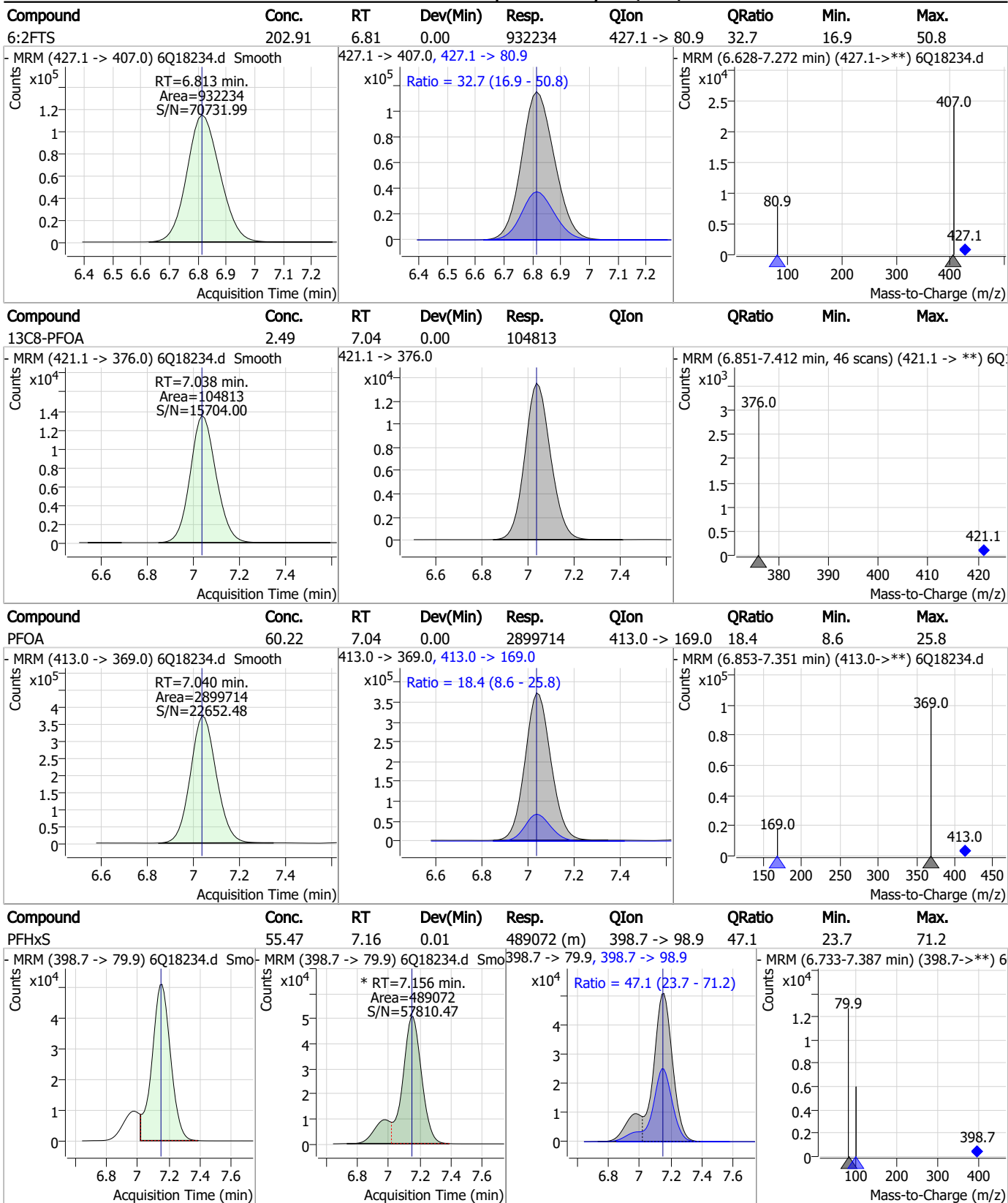


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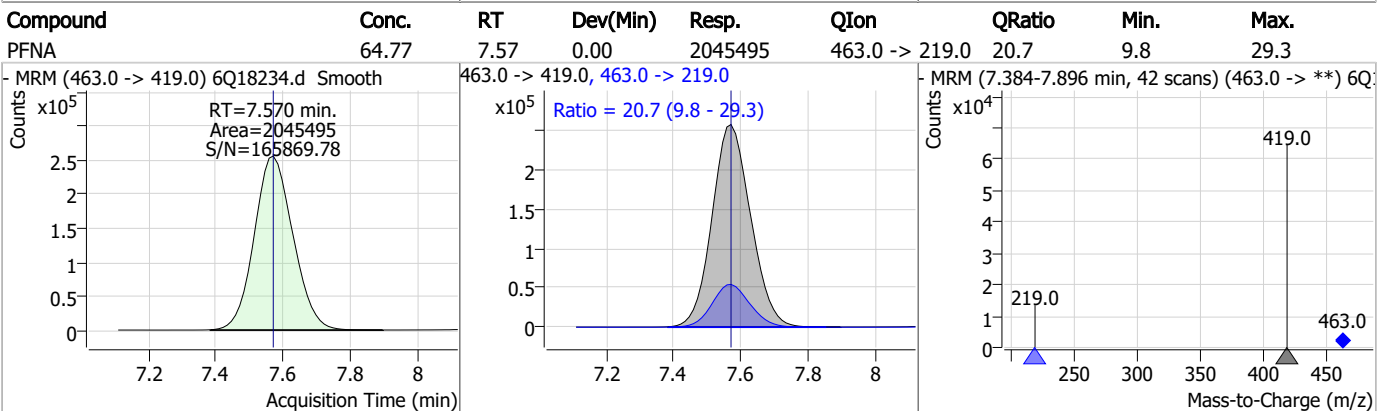
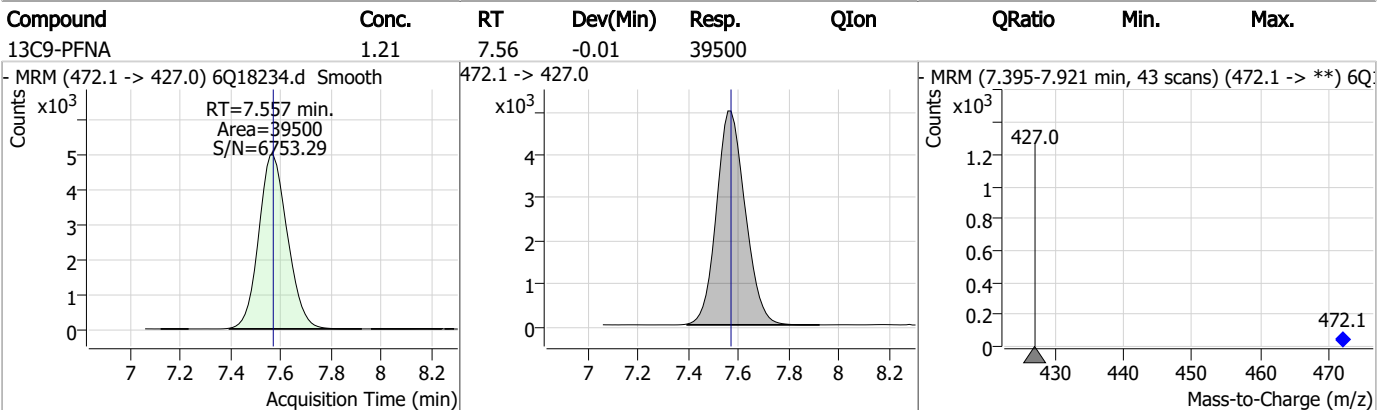
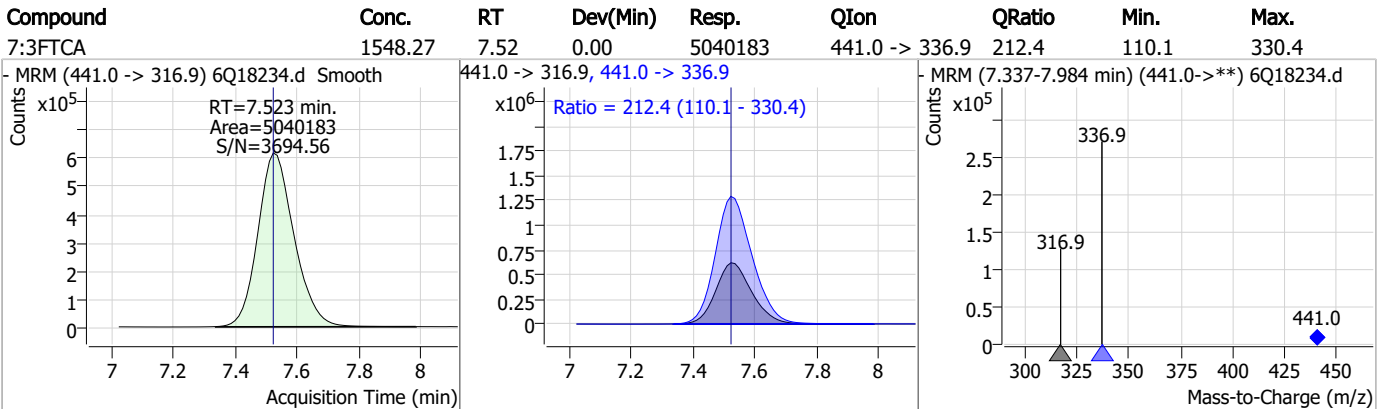
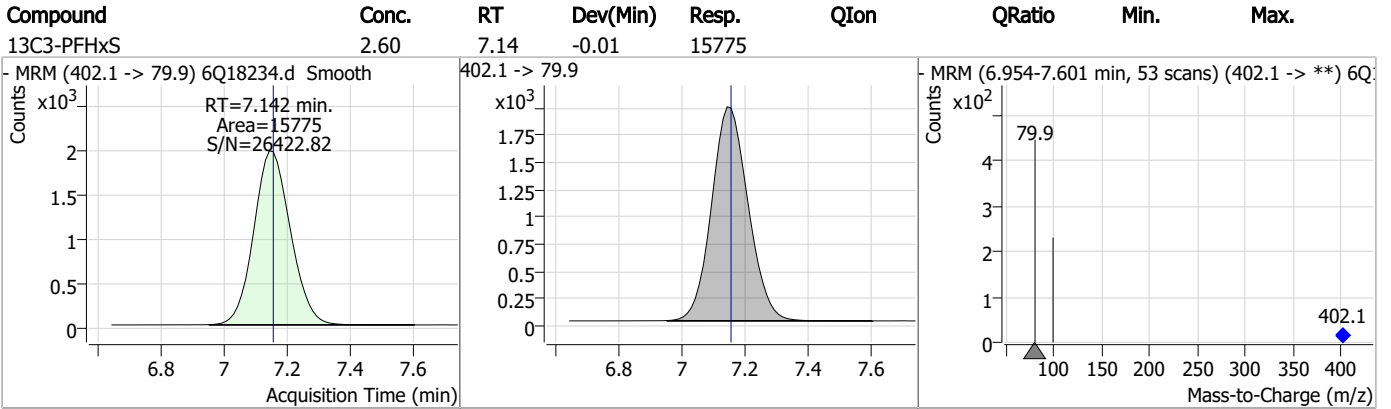


### Perfluorinated Compounds by LC/MS/MS



7.7.9  
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### Perfluorinated Compounds by LC/MS/MS



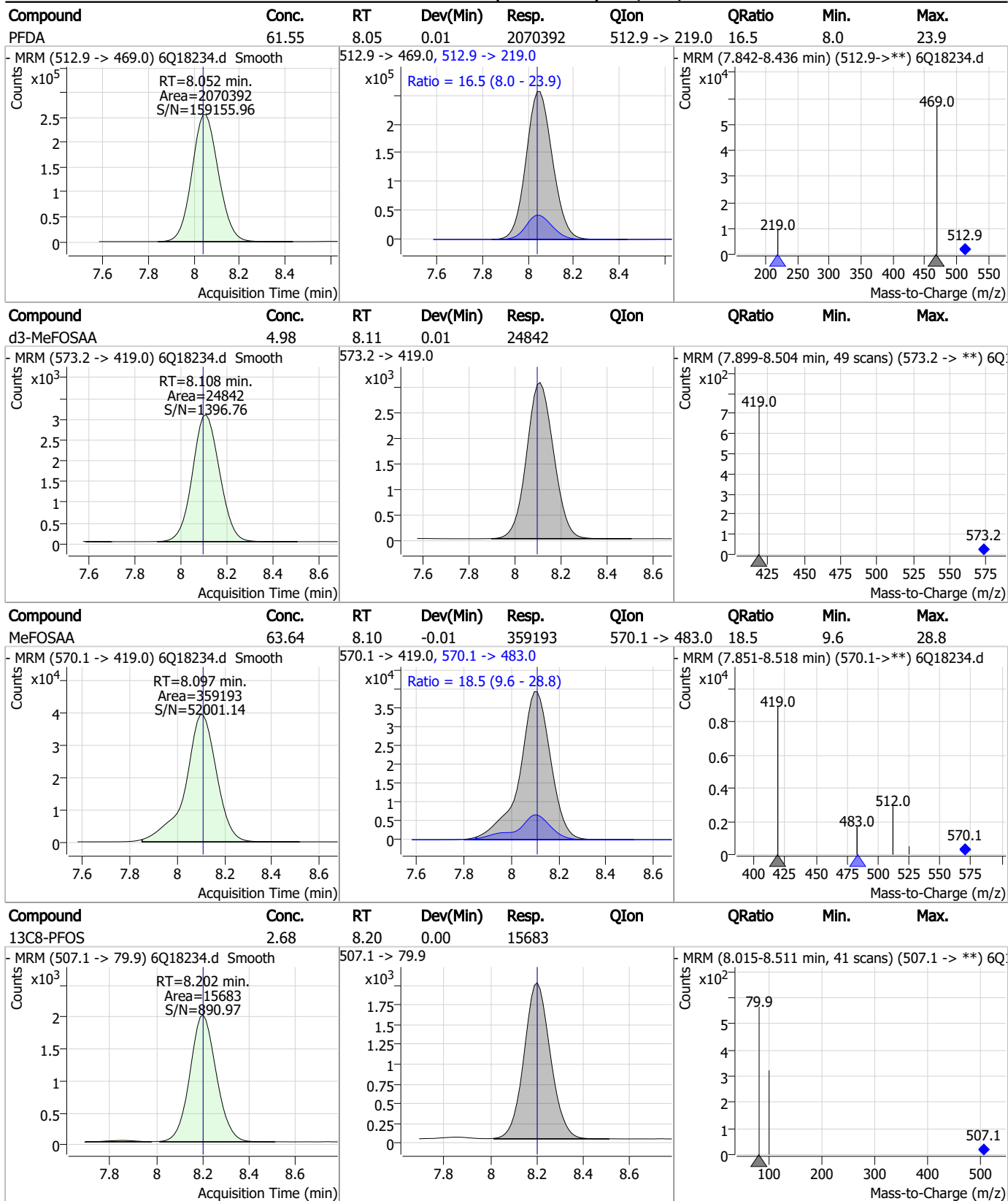
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc.  | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|-------------|--------|------|----------|--------|---------------|--------|------|------|
| PFHpS       | 57.10  | 7.71 | 0.01     | 481552 | 449.0 -> 98.9 | 49.4   | 24.7 | 74.2 |
|             |        |      |          |        |               |        |      |      |
| 13C2-8:2FTS | 5.25   | 7.84 | 0.00     | 4022   |               |        |      |      |
|             |        |      |          |        |               |        |      |      |
| 8:2FTS      | 211.55 | 7.84 | 0.00     | 507344 | 527.1 -> 80.8 | 41.0   | 21.4 | 64.1 |
|             |        |      |          |        |               |        |      |      |
| 13C6-PFDA   | 1.17   | 8.05 | 0.01     | 24403  |               |        |      |      |
|             |        |      |          |        |               |        |      |      |

7.7.9  
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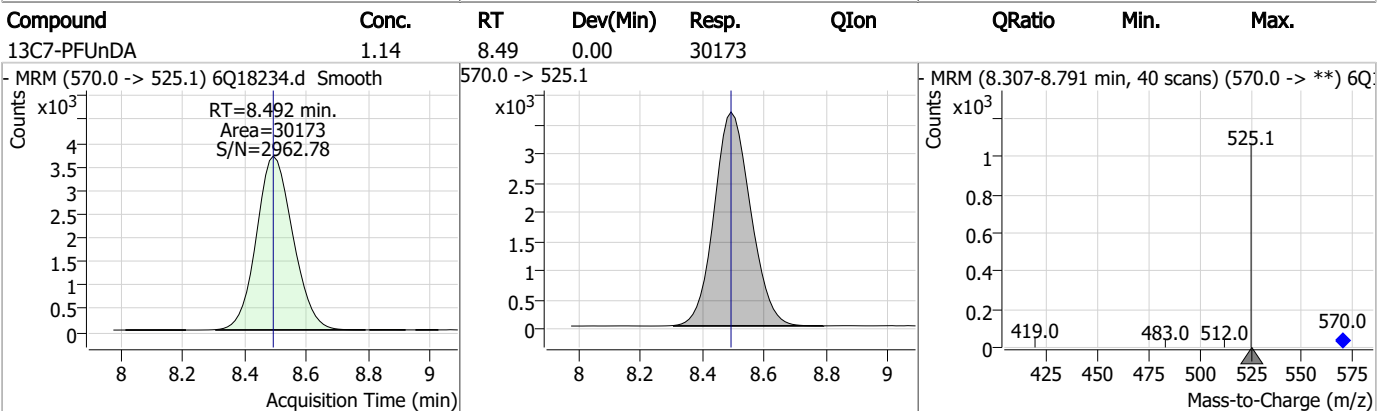
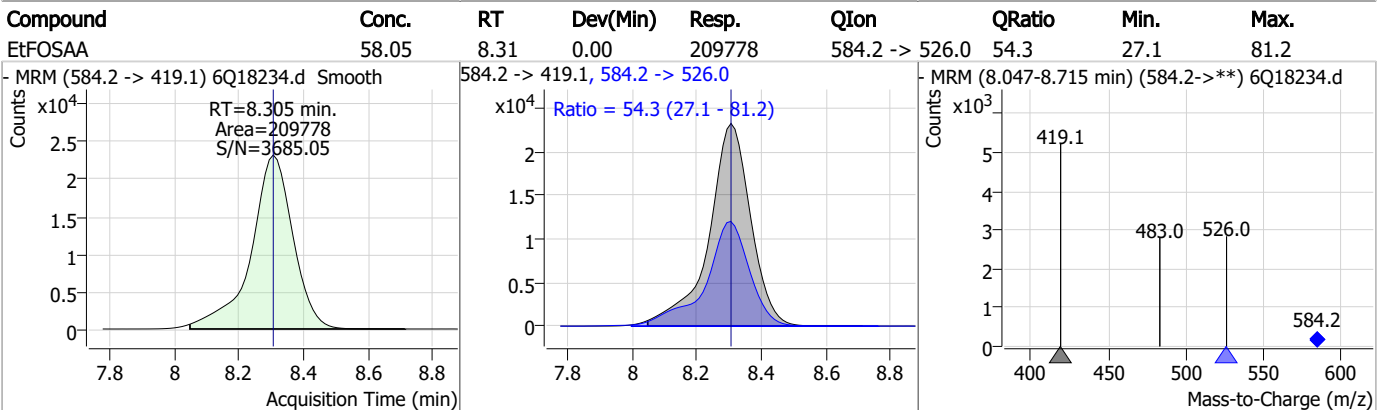
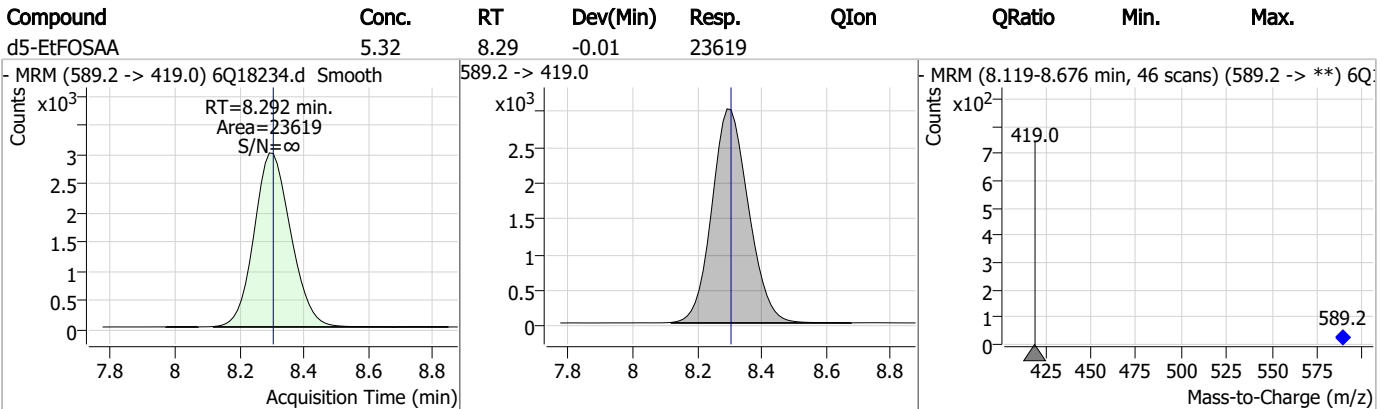
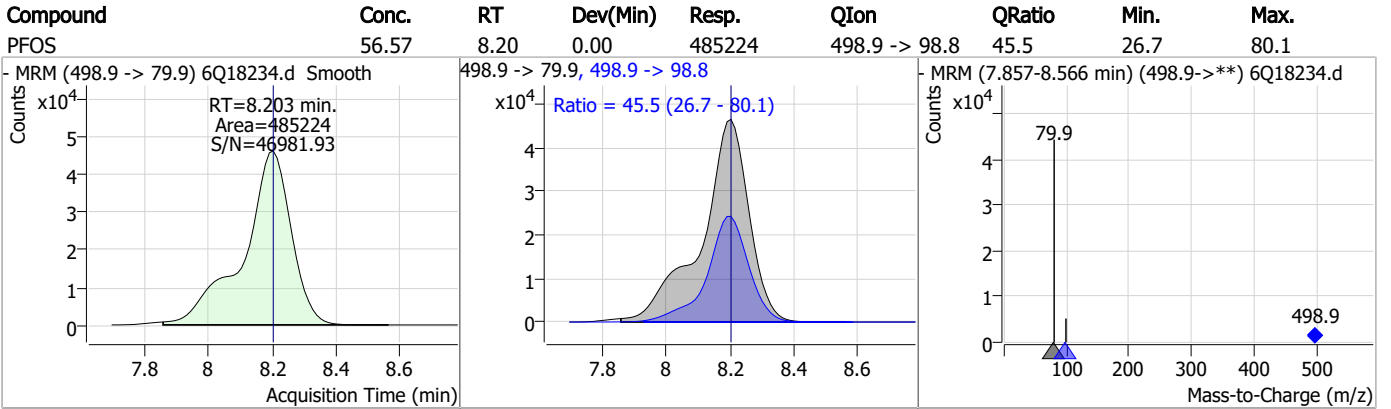


### Perfluorinated Compounds by LC/MS/MS



7.7.9  
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### Perfluorinated Compounds by LC/MS/MS



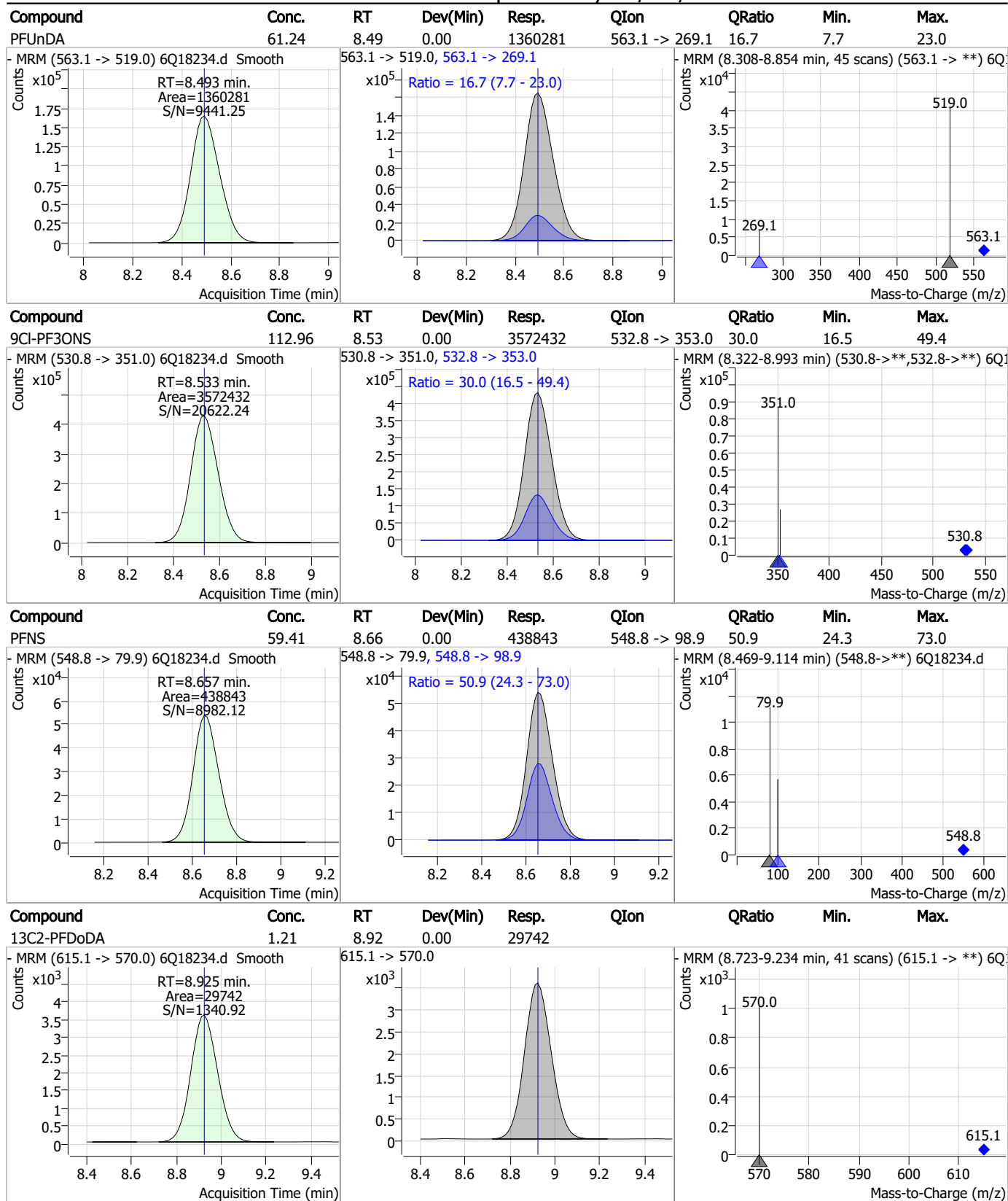
7.7.9

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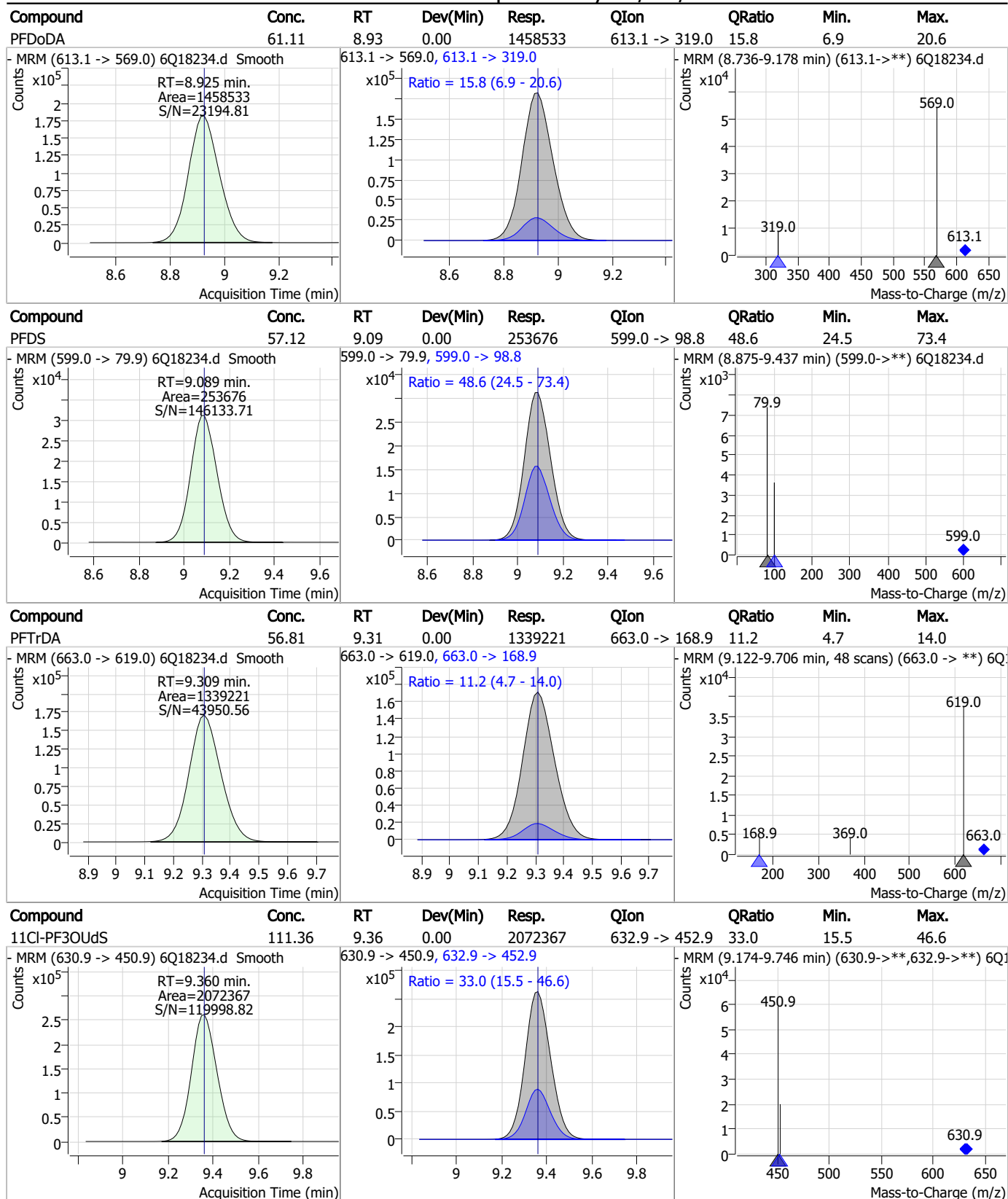
### Perfluorinated Compounds by LC/MS/MS



7.7.9

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### Perfluorinated Compounds by LC/MS/MS

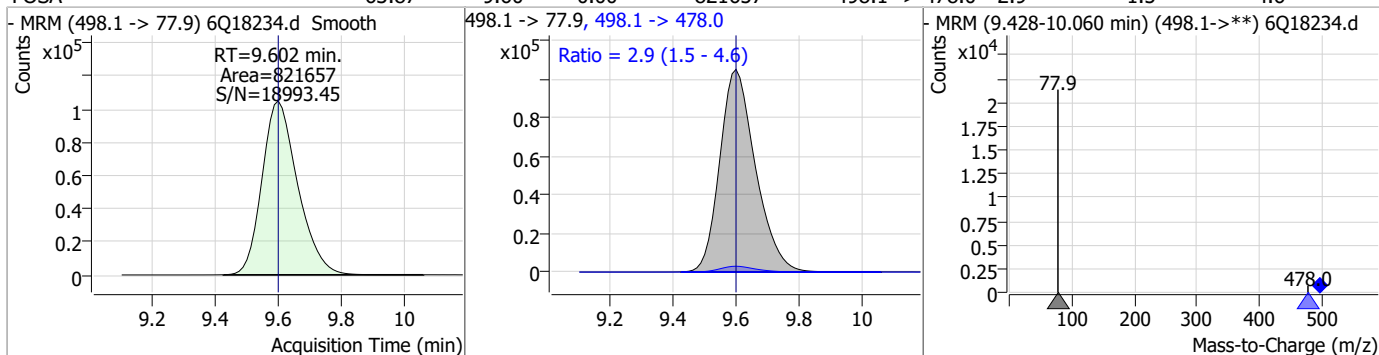


7.7.9  
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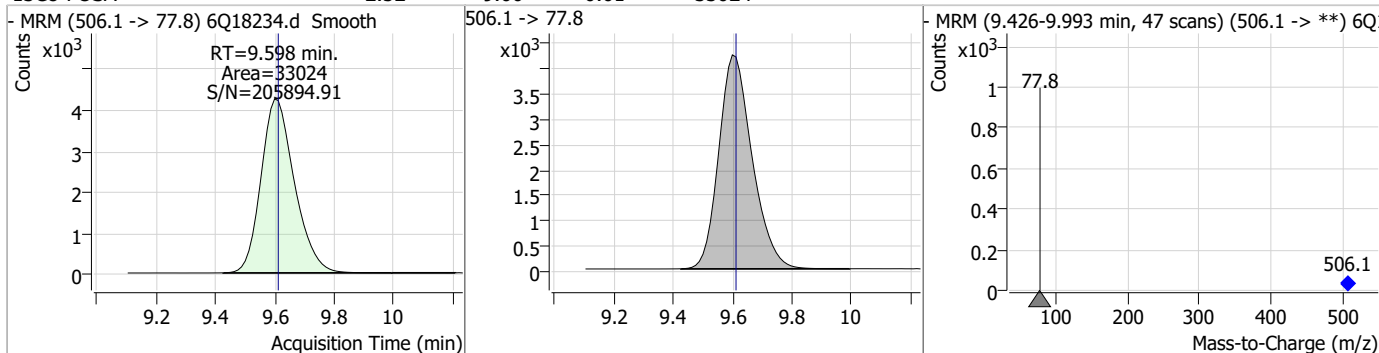


### Perfluorinated Compounds by LC/MS/MS

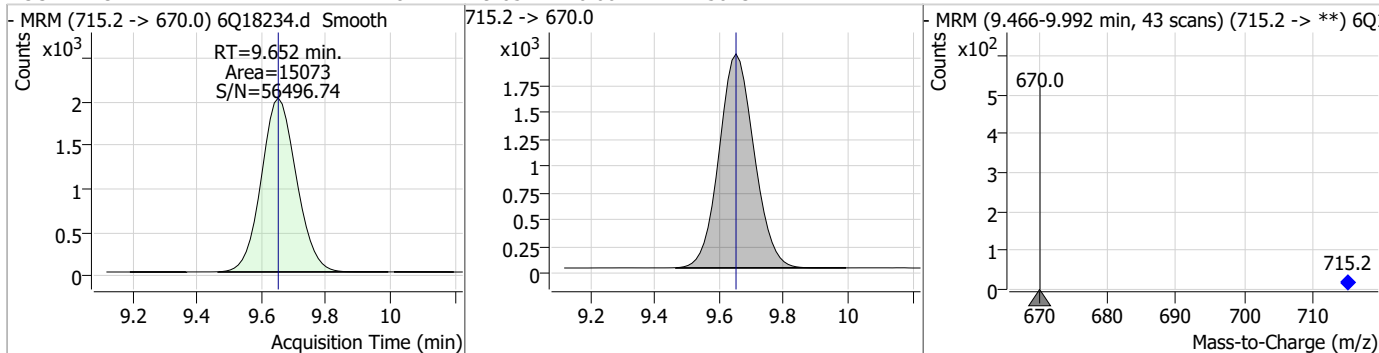
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| FOSA     | 63.87 | 9.60 | 0.00     | 821657 | 498.1 -> 478.0 | 2.9    | 1.5  | 4.6  |



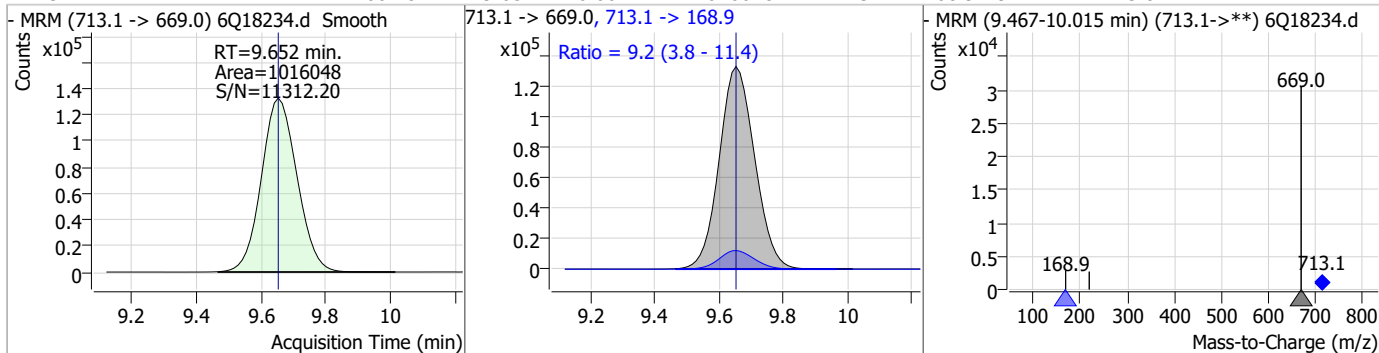
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.52  | 9.60 | -0.01    | 33024 |      |        |      |      |



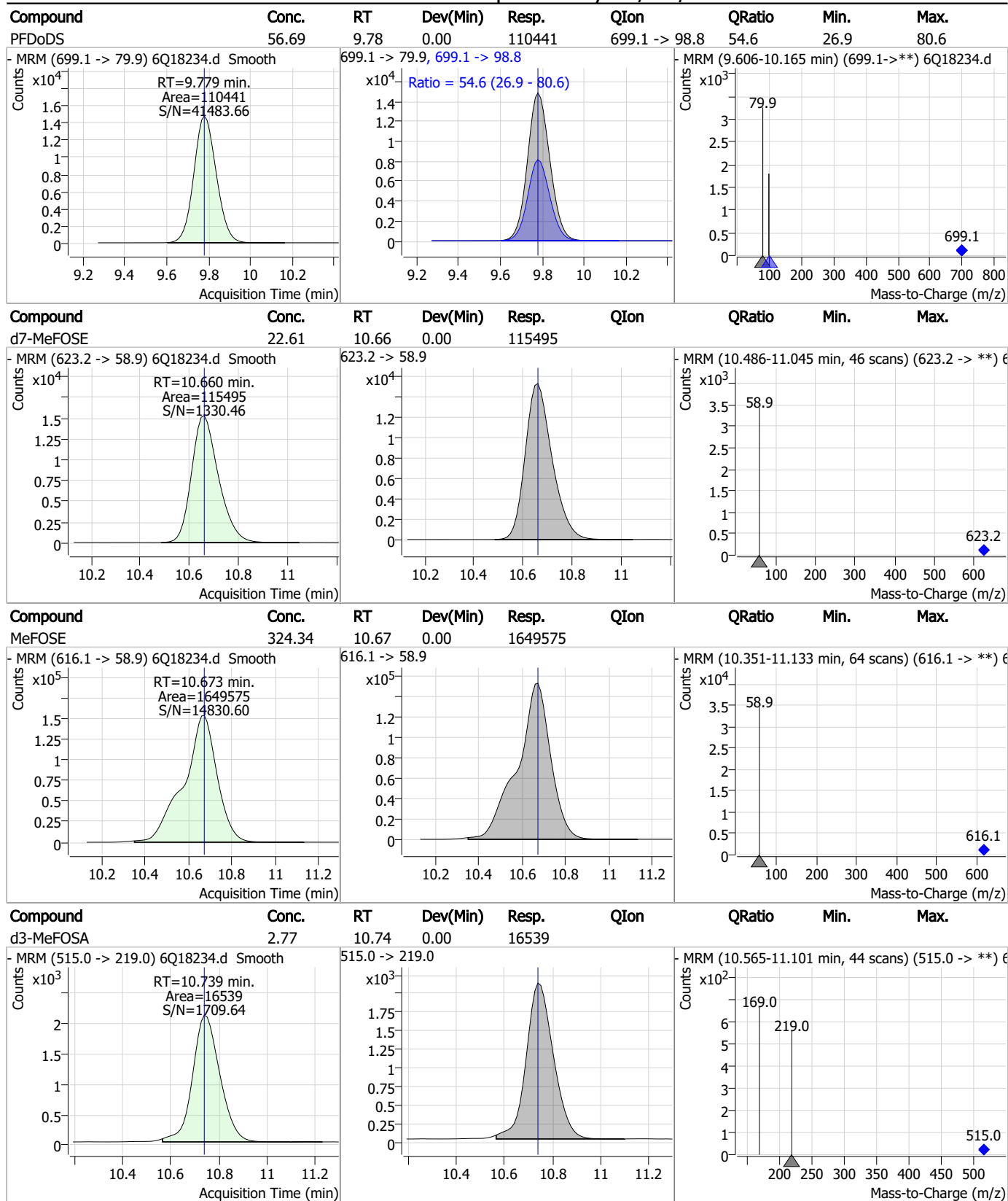
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.18  | 9.65 | 0.00     | 15073 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.   | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|---------|----------------|--------|------|------|
| PFTeDA   | 60.28 | 9.65 | 0.00     | 1016048 | 713.1 -> 168.9 | 9.2    | 3.8  | 11.4 |



### Perfluorinated Compounds by LC/MS/MS



7.7.9

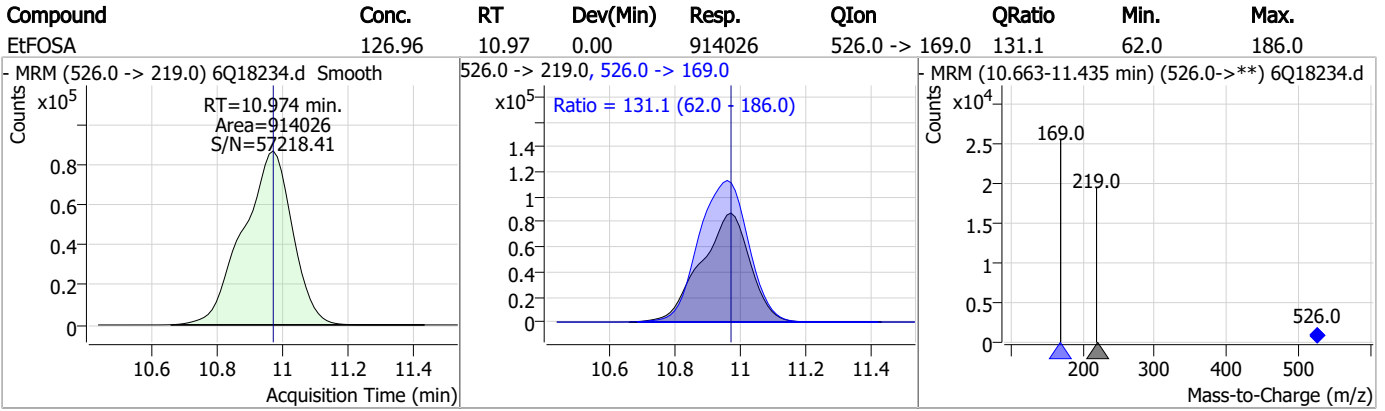
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### Perfluorinated Compounds by LC/MS/MS

| Compound                                | Conc.  | RT    | Dev(Min)                       | Resp.   | QIon           | QRatio  | Min. | Max.  |
|---|--------|-------|--------------------------------|---------|----------------|---|------|-------|
| MeFOSA                                  | 112.20 | 10.74 | 0.00                           | 791891  | 511.9 -> 169.0 | 140.1   | 66.3 | 198.9 |
| - MRM (511.9 -> 219.0) 6Q18234.d Smooth |        |       | 511.9 -> 219.0, 511.9 -> 169.0 |         |                | - MRM (10.430-11.203 min) (511.9->**) 6Q18234.d             |      |       |
|   |        |       |                                |         |                |   |      |       |
| d9-EtFOSE                               | 23.34  | 10.91 | 0.00                           | 145110  |                |   |      |       |
| - MRM (639.2 -> 58.9) 6Q18234.d Smooth  |        |       | 639.2 -> 58.9                  |         |                | - MRM (10.733-11.292 min, 46 scans) (639.2 -> **) 6Q18234.d |      |       |
|   |        |       |                                |         |                |   |      |       |
| EtFOSE                                  | 309.99 | 10.92 | 0.00                           | 2203400 |                |   |      |       |
| - MRM (630.0 -> 58.9) 6Q18234.d Smooth  |        |       | 630.0 -> 58.9                  |         |                | - MRM (10.622-11.306 min, 56 scans) (630.0 -> **) 6Q18234.d |      |       |
|   |        |       |                                |         |                |   |      |       |
| d5-EtFOSA                               | 2.45   | 10.97 | 0.00                           | 14454   |                |   |      |       |
| - MRM (531.1 -> 219.0) 6Q18234.d Smooth |        |       | 531.1 -> 219.0                 |         |                | - MRM (10.823-11.217 min, 32 scans) (531.1 -> **) 6Q18234.d |      |       |
|   |        |       |                                |         |                |   |      |       |

7.7.9  
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### Perfluorinated Compounds by LC/MS/MS



7.7.9

7

# Manual Integration Approval Summary

Sample Number: S6Q274-IC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18234.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 23:08      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.9.1

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## Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18236.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 11:37:49 PM  
 Sample Name : icv274-4  
 Vial : P1-B1  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.835                | 216.8 -> 171.9 | 219796            | 10.00 µg/L  | -0.041   |
| M5-PFPeA                           | 4.222                | 268.3 -> 223.0 | 75882             | 5.00 µg/L   | -0.012   |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 80311             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.382                | 367.1 -> 322.0 | 75496             | 2.50 µg/L   | -0.013   |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 115797            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 46151             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 27663             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 36522             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 33248             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 15801             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 37824             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 31016             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 17080             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 16870             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3388              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 4765              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.827                | 529.1 -> 80.9  | 4814              | 5.00 µg/L   | -0.012   |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 28791             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 121775            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 24885             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 127787            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 161968            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16475             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16900             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 22226             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.827                | 216.0 -> 172.0 | 93696             | 5.00 µg/L   | -0.052   |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 12774             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 115587            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 37899             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 58009             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 77858             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3388              | 5.21 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 104.2% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 4765              | 5.20 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 104.0% |             |          |
| 13C2-8:2FTS                        | 7.827                | 529.1 -> 80.9  | 4814              | 5.46 µg/L   | -0.012   |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 109.2% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 33248             | 1.21 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 96.6%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 15801             | 1.10 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 87.9%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 31016             | 2.55 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 102.0% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 17080             | 2.45 µg/L   | -0.012   |

7.7.10  
7





Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.9%  |               |
| 13C4-PFBA               | 2.835                | 216.8 -> 171.9 | 219796   | 9.95 µg/L         | -0.041        |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |               |
| 13C4-PFHpA              | 6.382                | 367.1 -> 322.0 | 75496    | 2.60 µg/L         | -0.013        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.1% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 80311    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.9% |               |
| 13C5-PFPeA              | 4.222                | 268.3 -> 223.0 | 75882    | 5.20 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 104.0% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 27663    | 1.18 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 94.6%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 36522    | 1.23 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 98.5%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 37824    | 2.44 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.8%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 115797   | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.5% |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 16870    | 2.44 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.8%  |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 46151    | 1.16 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 93.1%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 28791    | 4.89 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 97.8%  |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 121775   | 10.19 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16900    | 2.40 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.0%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 24885    | 4.75 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 95.0%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 127787   | 21.18 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 84.7%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 161968   | 22.06 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 88.2%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16475    | 2.36 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.5%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.094                | 327.1 -> 307.0 | 50076    | 8.38 µg/L         | 94            |
|                         |                      | 327.1 -> 80.9  | 17954    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 44779    | 8.45 µg/L         | 99            |
|                         |                      | 427.1 -> 80.9  | 14876    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 23274    | 8.11 µg/L         | 99            |
|                         |                      | 527.1 -> 80.8  | 9718     |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 8686     | 2.28 µg/L         | 98            |
|                         |                      | 584.2 -> 526.0 | 4851     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 32220    | 2.19 µg/L         | 100           |
|                         |                      | 498.1 -> 478.0 | 970      |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 16099    | 2.46 µg/L         | 93            |
|                         |                      | 570.1 -> 483.0 | 2567     |                   |               |
| PFBA                    | 2.831                | 212.8 -> 168.9 | 75646    | 8.87 µg/L         | 100           |
| PFBS                    | 5.348                | 298.7 -> 79.9  | 24013    | 1.93 µg/L         | 95            |
|                         |                      | 298.7 -> 98.8  | 9409     |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 89193    | 2.34 µg/L         | 98            |
|                         |                      | 512.9 -> 219.0 | 13339    |                   |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 58280    | 2.18 µg/L         | 95            |
|                         |                      | 613.1 -> 319.0 | 9067     |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 9878     | 2.07 µg/L         | 98            |

7.7.10  
7

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
| PFHpA        | 6.382  | 599.0 -> 98.8  | 4990     | 2.09 µg/L   | 96       |
|              |        | 363.1 -> 319.0 | 84269    |             |          |
| PFHpS        | 7.698  | 363.1 -> 169.0 | 13990    | 2.09 µg/L   | 96       |
|              |        | 449.0 -> 79.9  | 18920    |             |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 9917     | 2.08 µg/L   | 98       |
|              |        | 313.0 -> 269.0 | 65100    |             |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 3407     | 2.09 µg/L   | 99       |
|              |        | 398.7 -> 79.9  | 19931    |             |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 9382     | 2.37 µg/L   | 98       |
|              |        | 463.0 -> 419.0 | 87539    |             |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 16356    | 2.19 µg/L   | 97       |
|              |        | 548.8 -> 79.9  | 17427    |             |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 8803     | 2.20 µg/L   | 98       |
|              |        | 413.0 -> 369.0 | 116896   |             |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 21192    | 2.03 µg/L   | 90       |
|              |        | 498.9 -> 79.9  | 18763    |             |          |
| PFPeA        | 4.224  | 498.9 -> 98.8  | 8620     | 4.30 µg/L   | 100      |
|              |        | 263.0 -> 219.0 | 90432    |             |          |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 19321    | 2.12 µg/L   | 96       |
|              |        | 349.1 -> 98.9  | 8681     |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 41174    | 2.33 µg/L   | 93       |
|              |        | 713.1 -> 168.9 | 4072     |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 57330    | 2.18 µg/L   | 95       |
|              |        | 663.0 -> 168.9 | 6467     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 57058    | 2.12 µg/L   | 95       |
|              |        | 563.1 -> 269.1 | 9886     |             |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 80501    | 4.03 µg/L   | 97       |
|              |        | 632.9 -> 452.9 | 26196    |             |          |
| 9CI-PF3ONS   | 8.520  | 530.8 -> 351.0 | 137832   | 4.06 µg/L   | 96       |
|              |        | 532.8 -> 353.0 | 42245    |             |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 326037   | 4.27 µg/L   | 98       |
|              |        | 376.9 -> 84.8  | 83866    |             |          |
| HFPO-DA      | 5.795  | 284.9 -> 168.9 | 52120    | 4.33 µg/L   | 93       |
|              |        | 284.9 -> 184.9 | 5615     |             |          |
| 3:3FTCA      | 3.671  | 241.0 -> 177.0 | 15680    | 10.56 µg/L  | 98       |
|              |        | 241.0 -> 117.0 | 2124     |             |          |
| 5:3FTCA      | 6.086  | 341.0 -> 237.1 | 316157   | 55.66 µg/L  | 95       |
|              |        | 341.0 -> 217.0 | 236138   |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 202585   | 55.39 µg/L  | 98       |
|              |        | 441.0 -> 336.9 | 441227   |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 35527    | 4.33 µg/L   | 90       |
|              |        | 526.0 -> 169.0 | 47949    |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 90916    | 11.46 µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 31401    |             |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 43767    | 4.35 µg/L   | 94       |
|              |        | 616.1 -> 58.9  | 64031    |             |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 4286     | 11.38 µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2338     |             |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 17175    | 2.05 µg/L   | 99       |
|              |        | 295.0 -> 84.9  | 4422     |             |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 61462    | 4.34 µg/L   | 97       |
|              |        | 229.0 -> 84.9  | 46710    |             |          |
| PFMBA        | 4.638  | 314.8 -> 134.9 | 162232   | 4.14 µg/L   | 100      |
|              |        | 314.8 -> 82.9  | 5427     |             |          |
| PFMPA        | 3.376  |                |          | 4.18 µg/L   | 100      |
|              |        |                |          |             |          |
| PFEESA       | 5.888  |                |          | 3.72 µg/L   | 98       |
|              |        |                |          |             |          |

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

7.7.10  
7



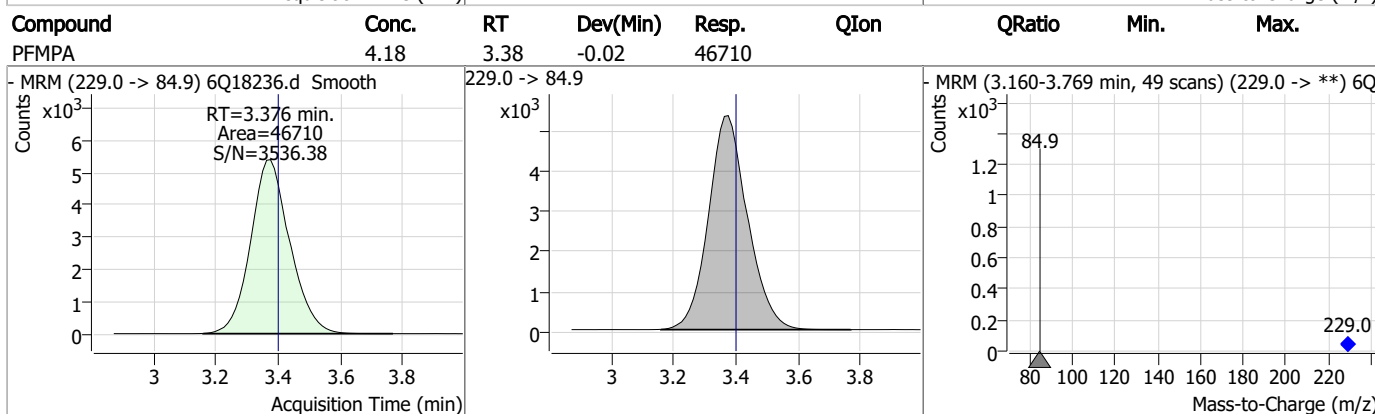
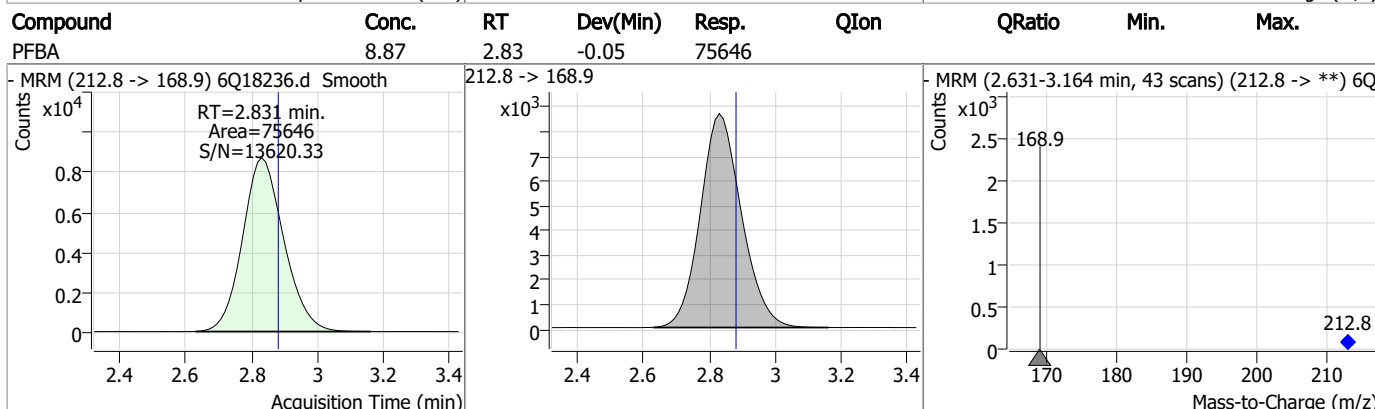
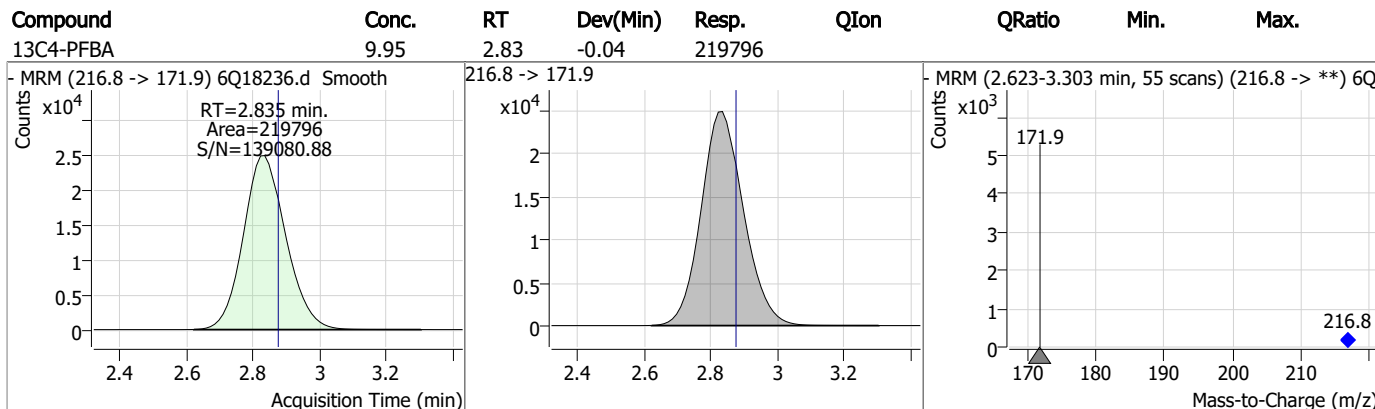
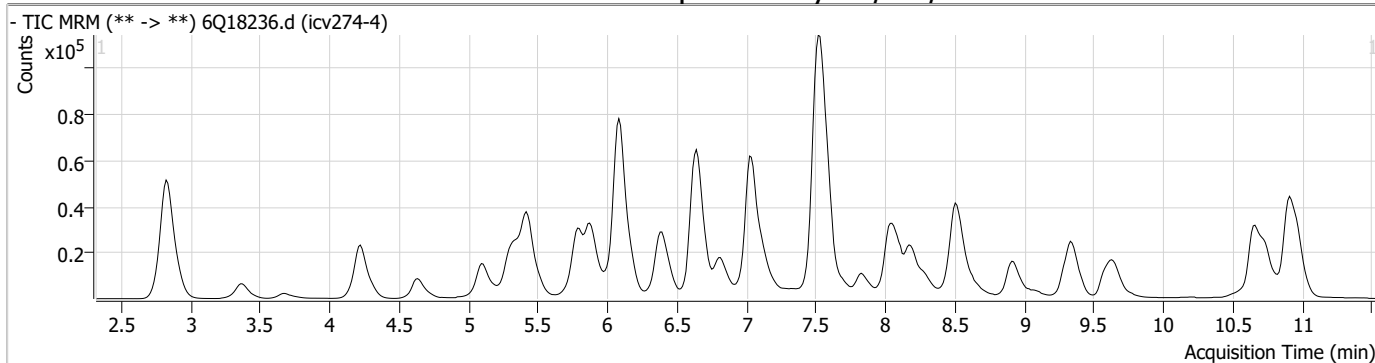
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

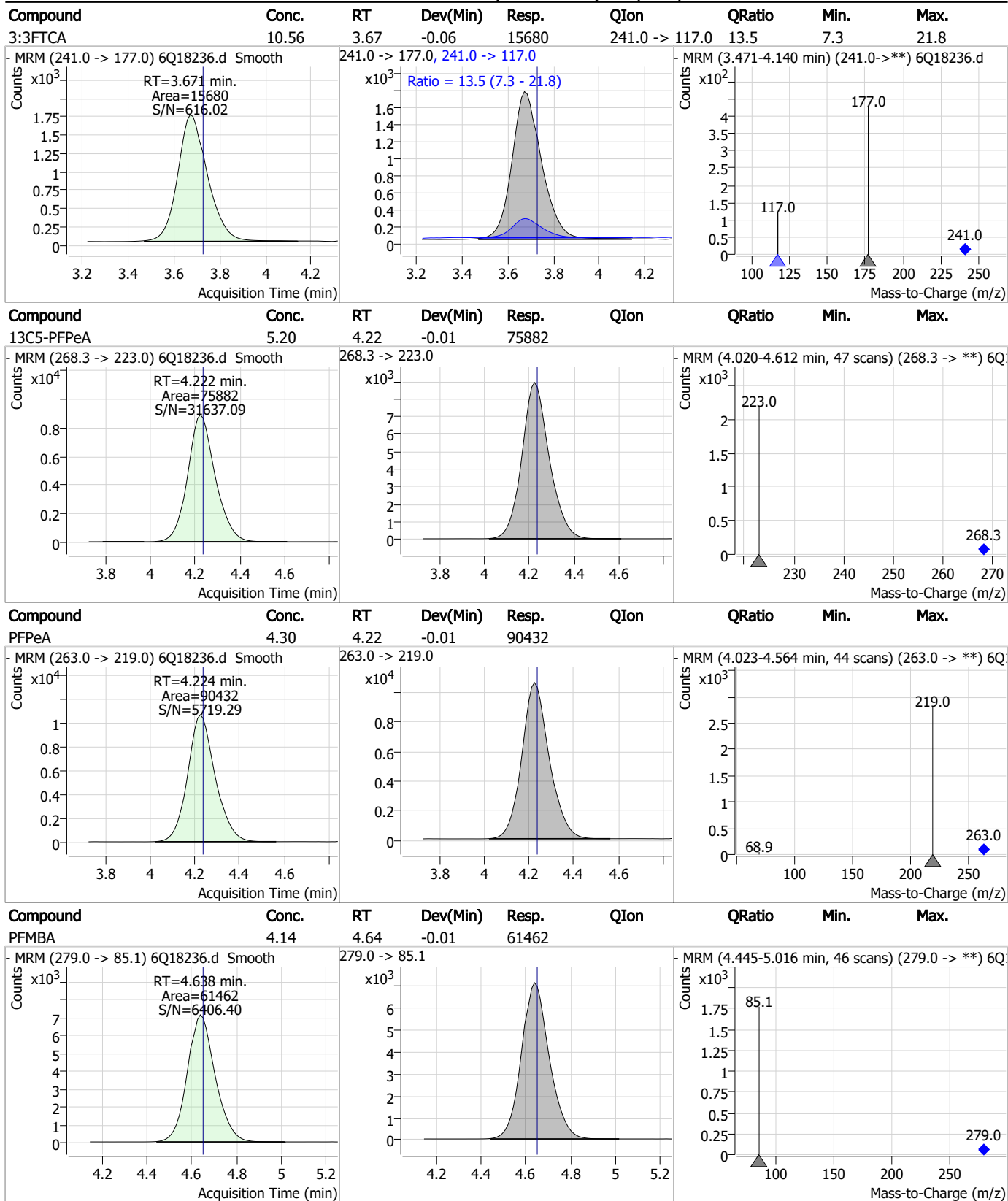
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### Perfluorinated Compounds by LC/MS/MS

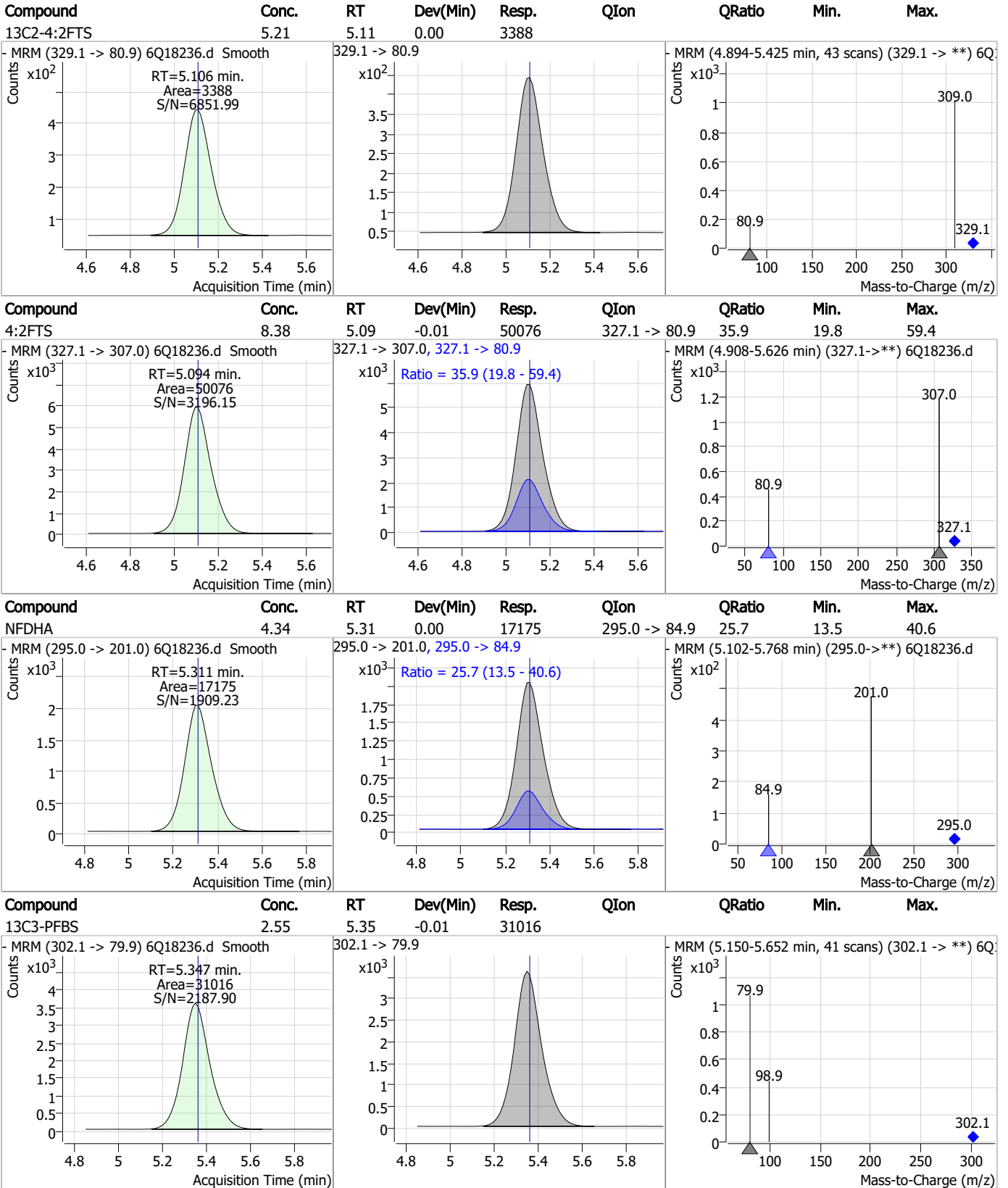


### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

### Perfluorinated Compounds by LC/MS/MS

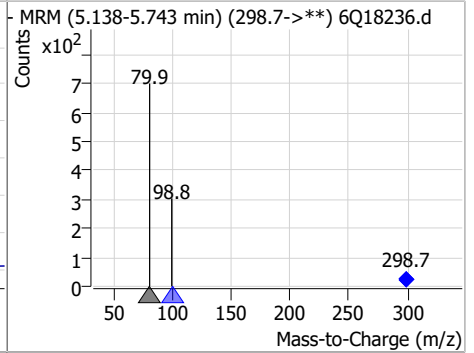
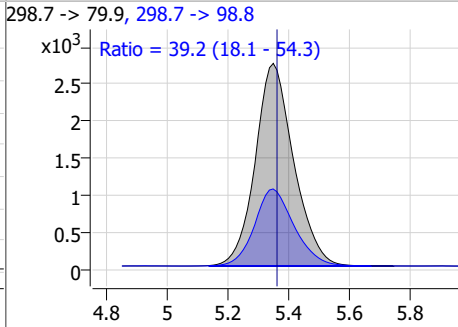
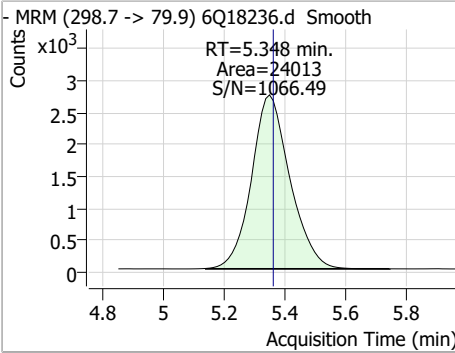


7.7.10 7

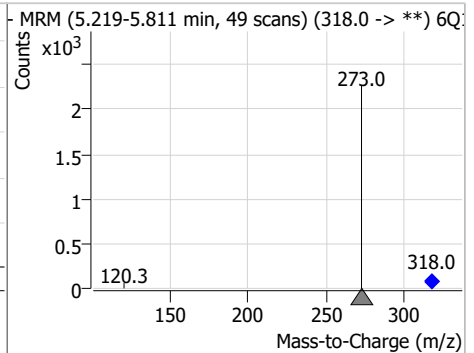
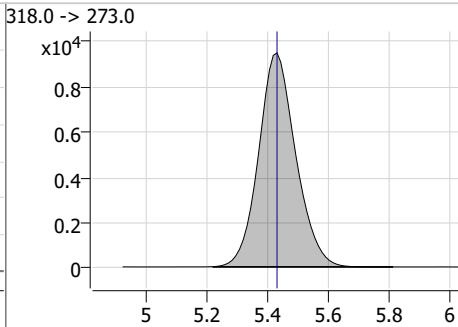
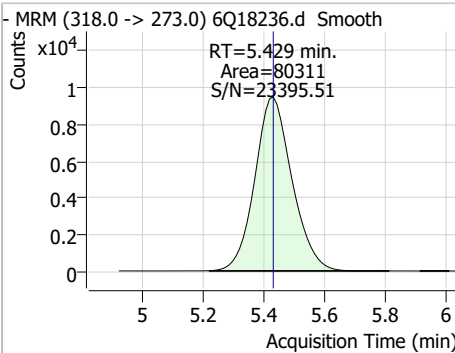


### Perfluorinated Compounds by LC/MS/MS

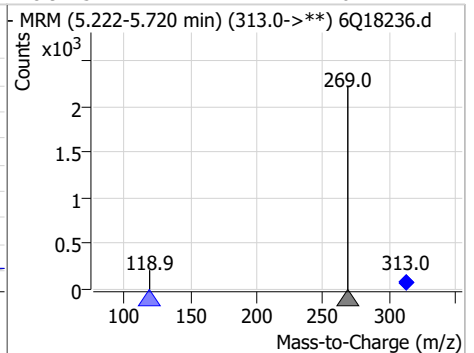
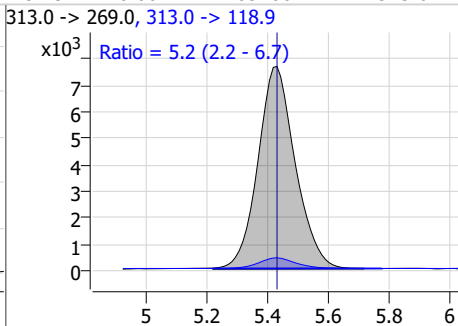
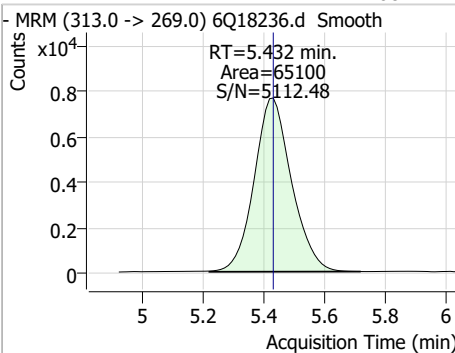
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFBS     | 1.93  | 5.35 | -0.01    | 24013 | 298.7 -> 98.8 | 39.2   | 18.1 | 54.3 |



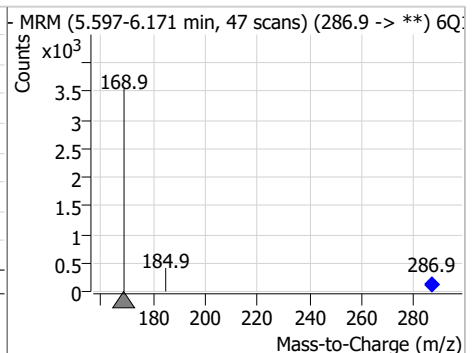
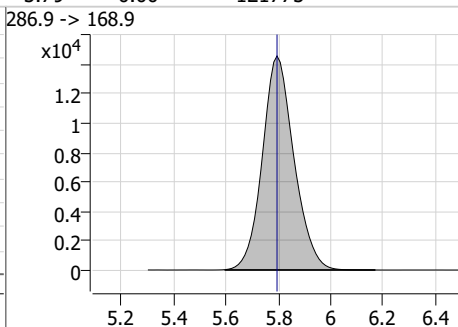
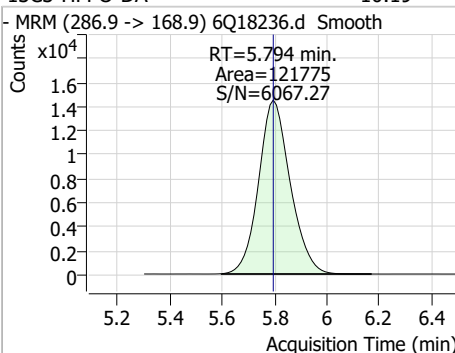
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C5-PFHxA | 2.57  | 5.43 | 0.00     | 80311 | 318.0 -> 273.0 | 5.2    | 2.2  | 6.7  |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHxA    | 2.08  | 5.43 | 0.00     | 65100 | 313.0 -> 118.9 | 5.2    | 2.2  | 6.7  |

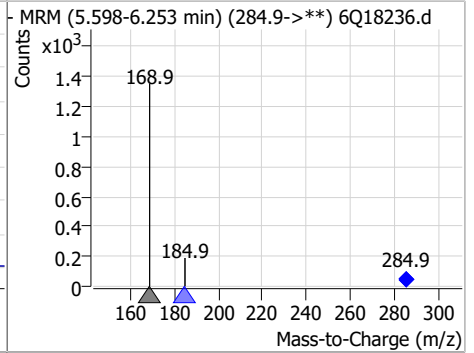
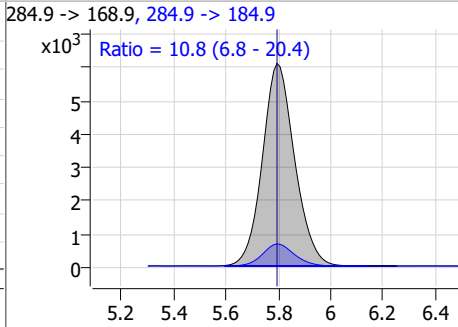
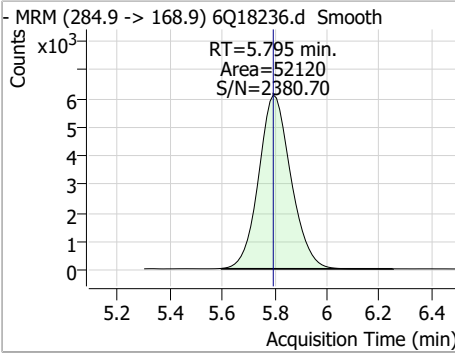


| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|----------------|--------|------|------|
| 13C3-HFPO-DA | 10.19 | 5.79 | 0.00     | 121775 | 286.9 -> 168.9 | 5.2    | 2.2  | 6.7  |

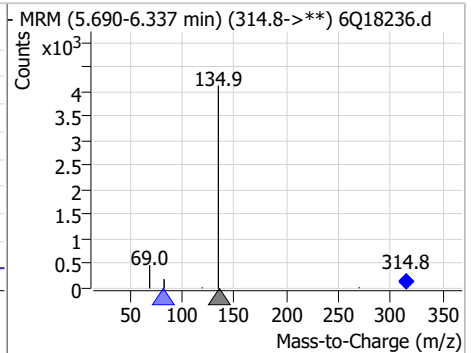
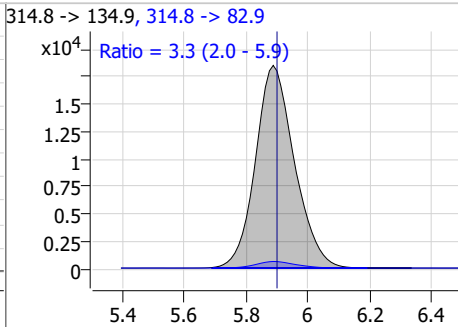
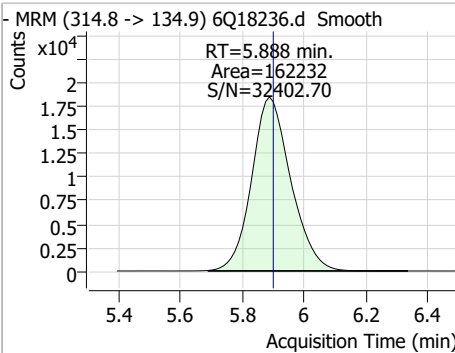


### Perfluorinated Compounds by LC/MS/MS

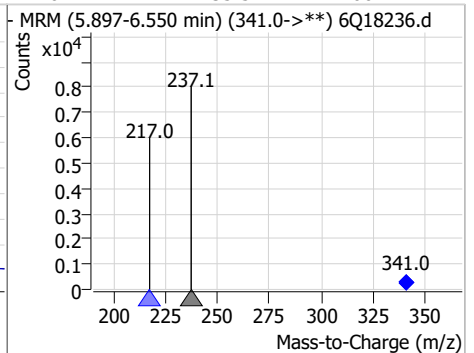
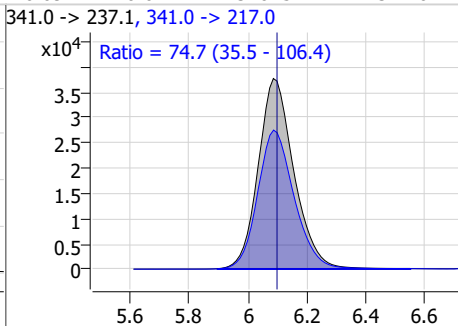
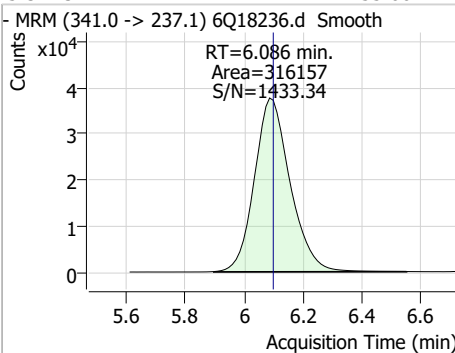
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 4.33  | 5.80 | 0.00     | 52120 | 284.9 -> 184.9 | 10.8   | 6.8  | 20.4 |



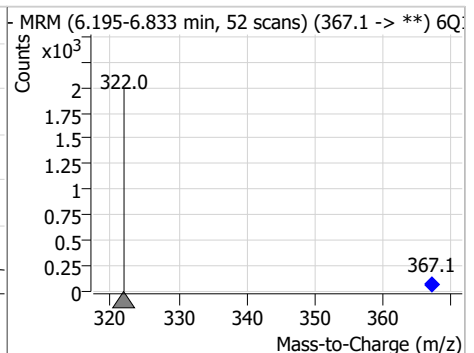
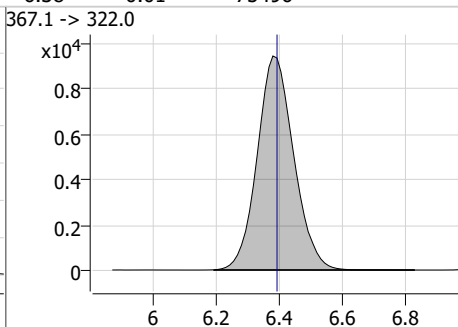
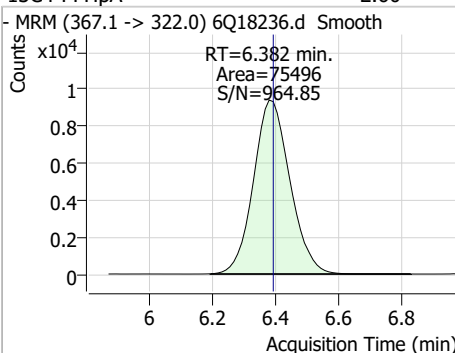
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 3.72  | 5.89 | -0.01    | 162232 | 314.8 -> 82.9 | 3.3    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 55.66 | 6.09 | -0.01    | 316157 | 341.0 -> 217.0 | 74.7   | 35.5 | 106.4 |

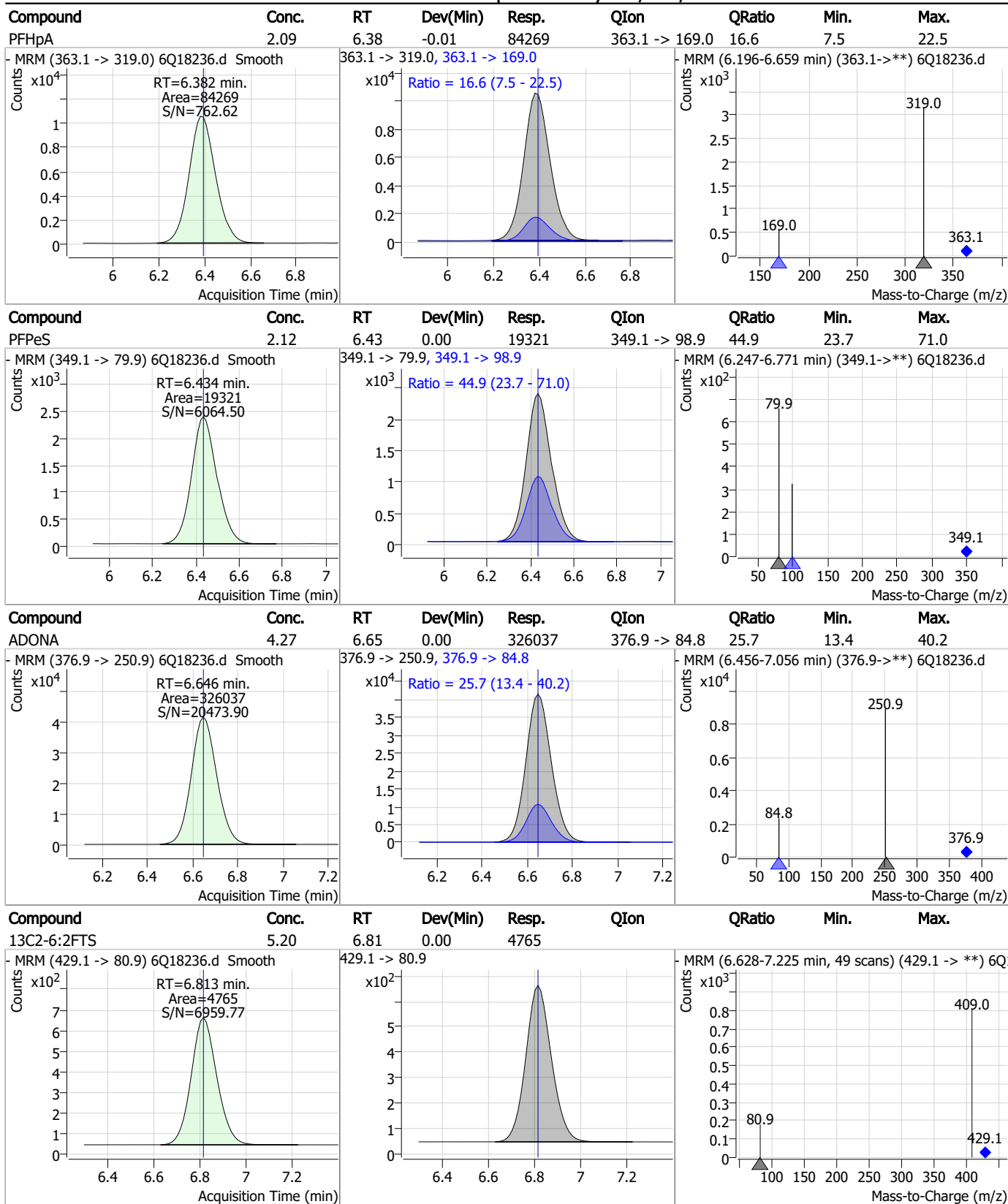


| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.60  | 6.38 | -0.01    | 75496 | 367.1 -> 322.0 |        |      |      |



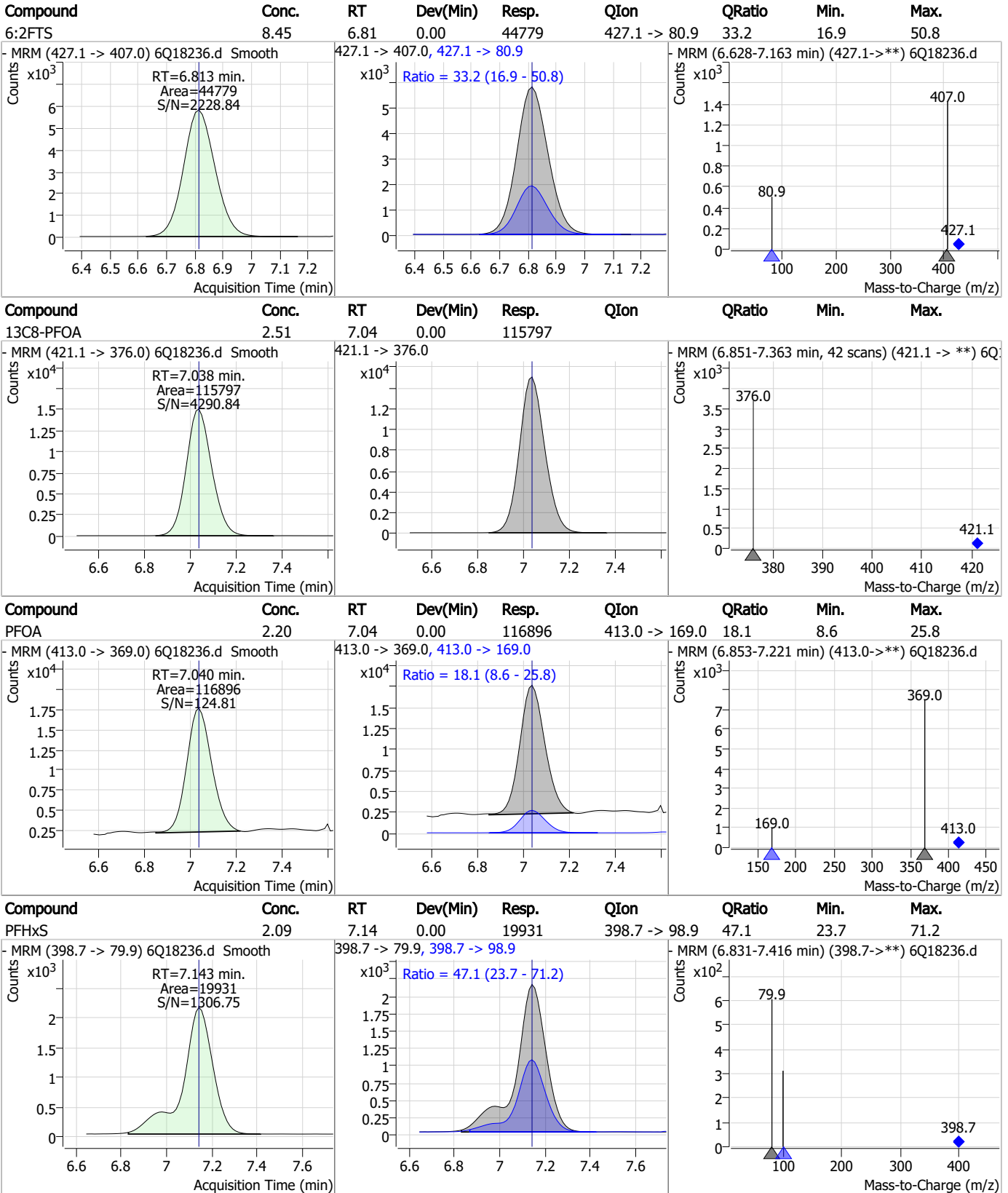


### Perfluorinated Compounds by LC/MS/MS



7.7.10  
7

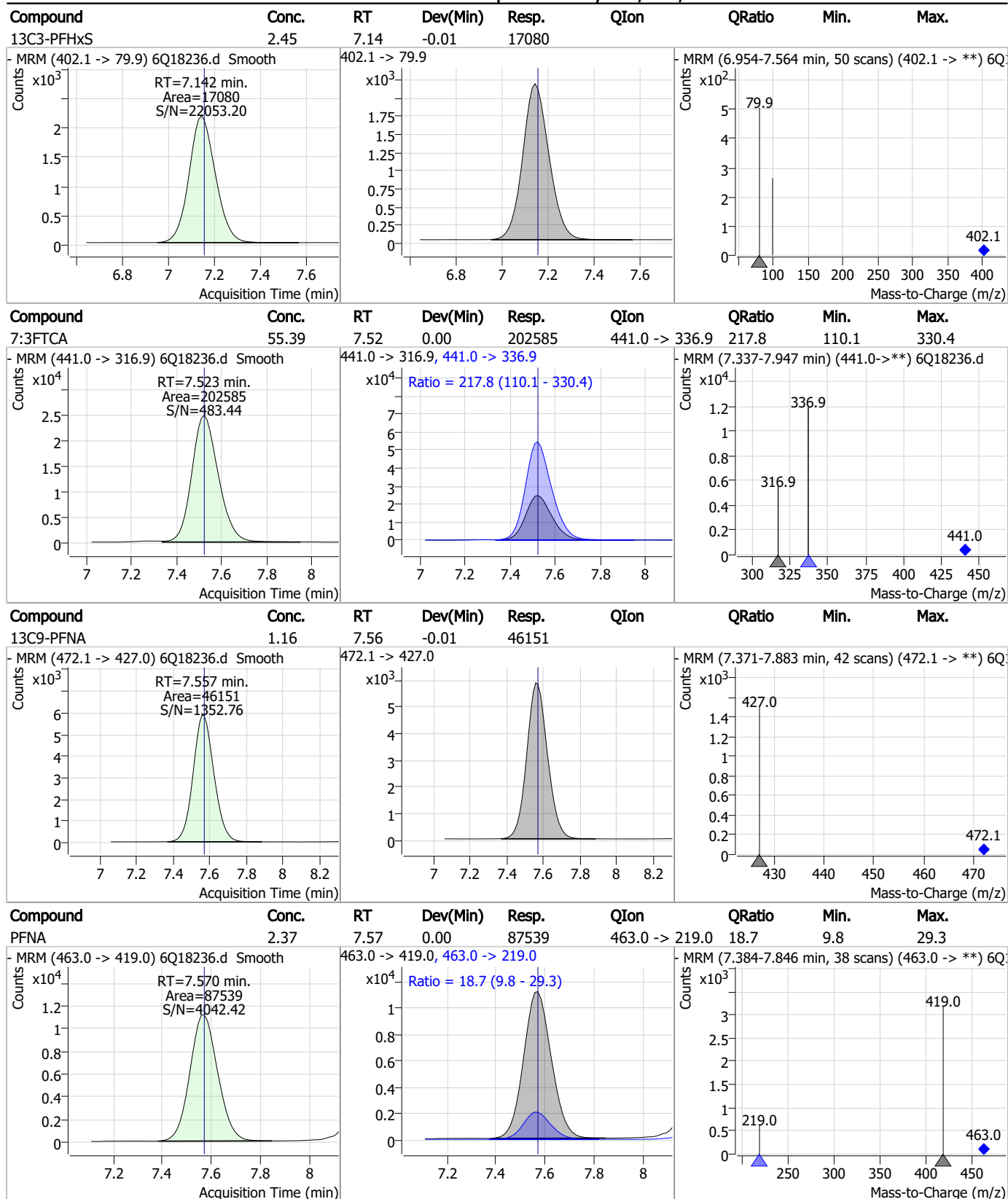
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

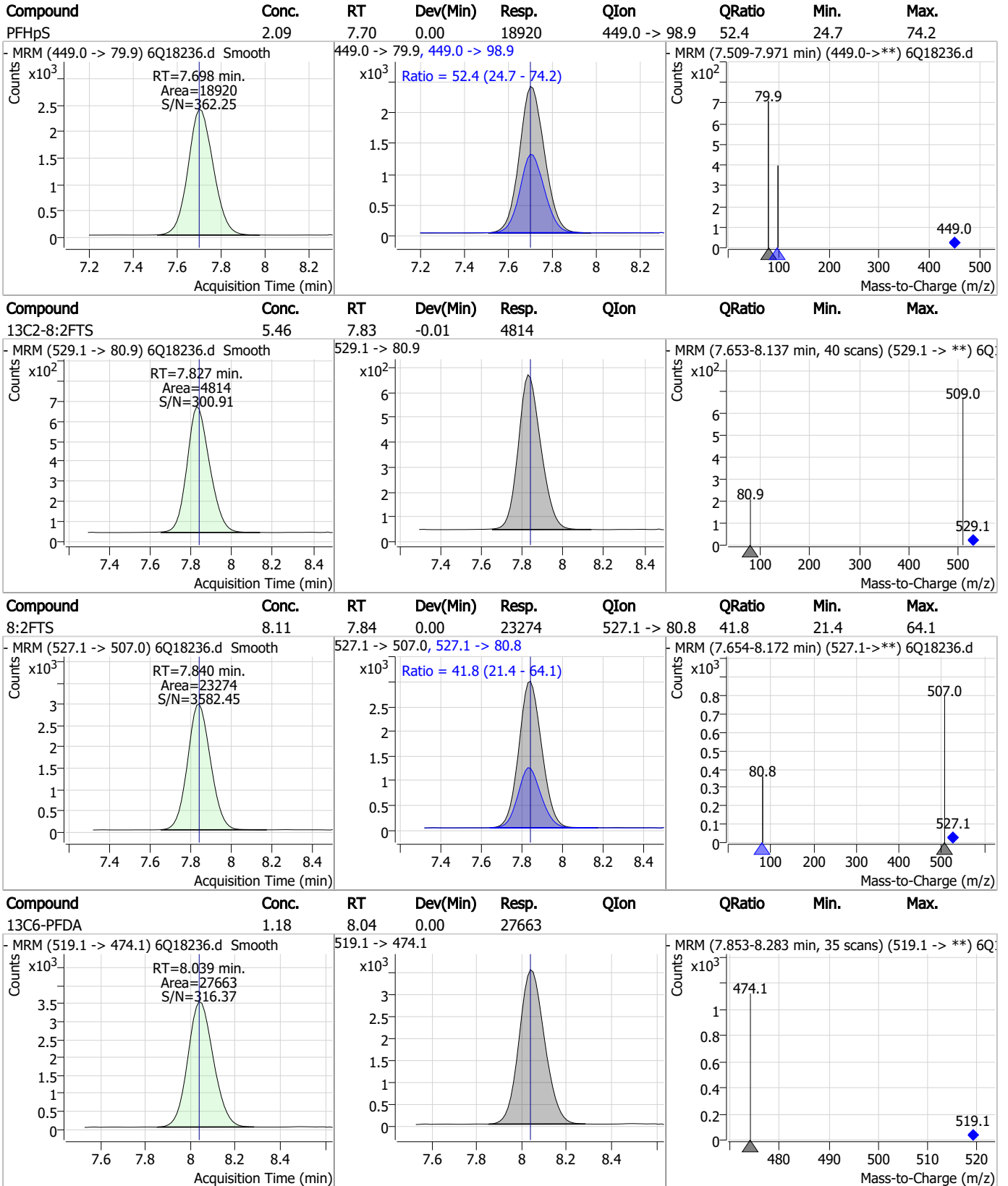


### Perfluorinated Compounds by LC/MS/MS



7.7.10  
7

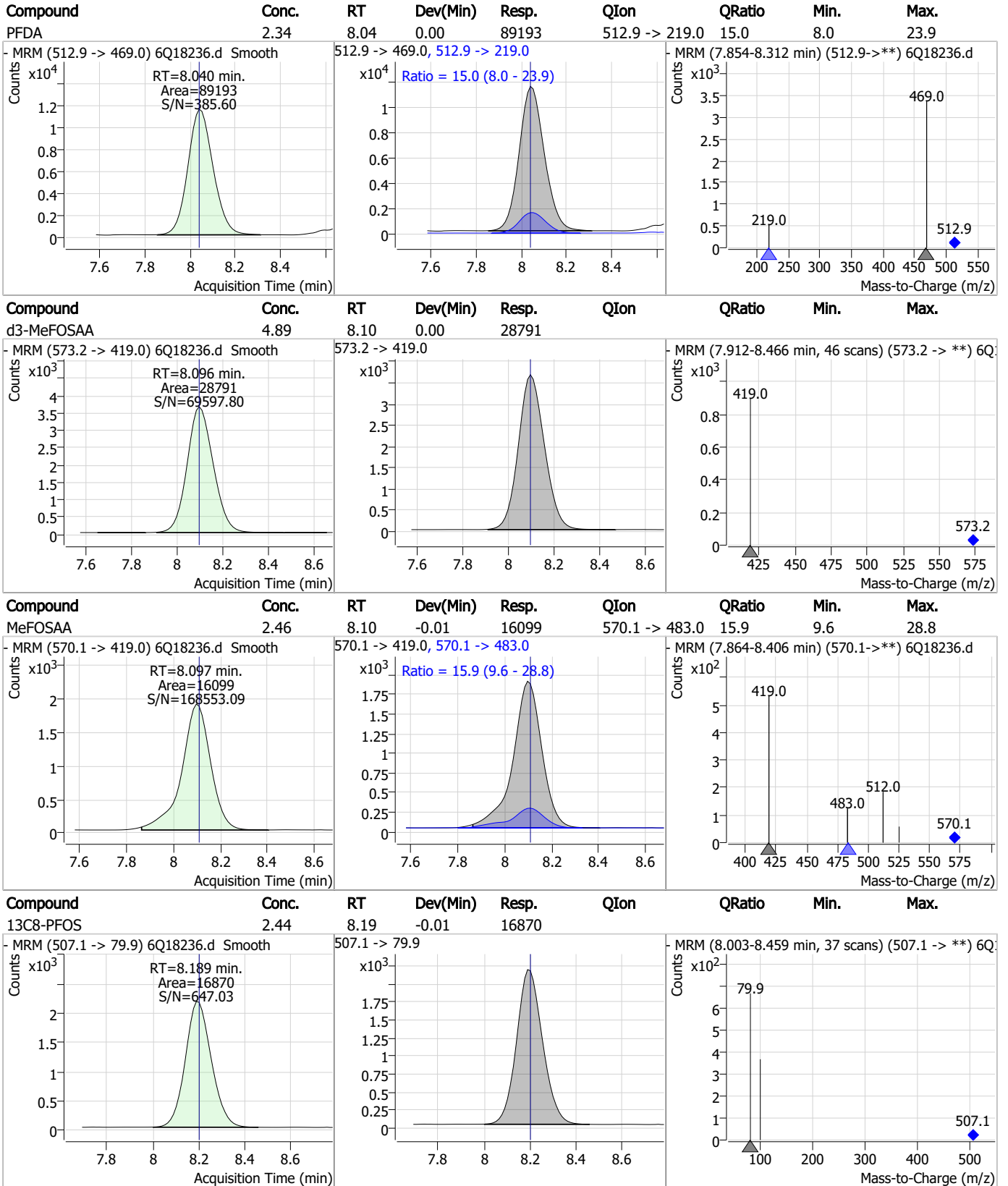
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7



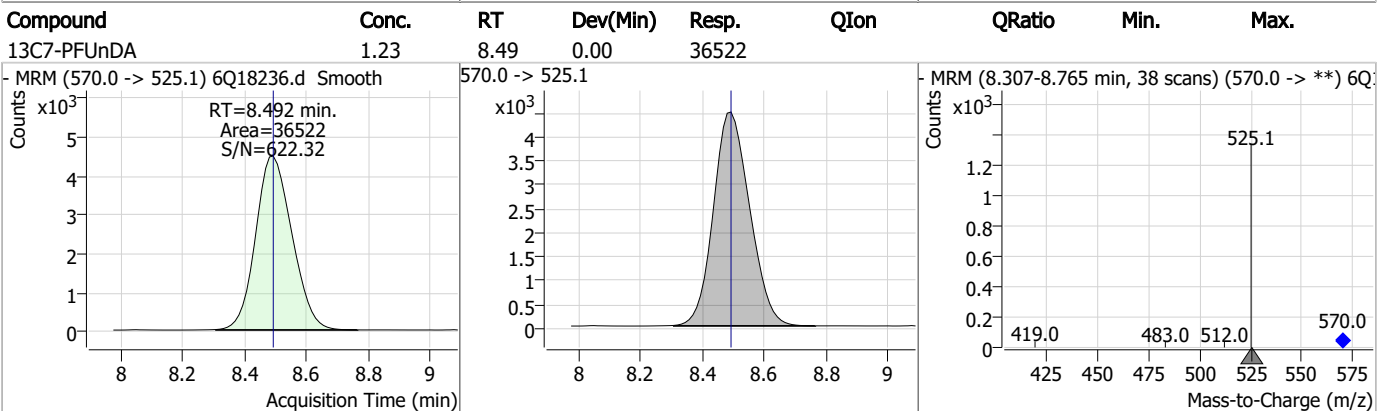
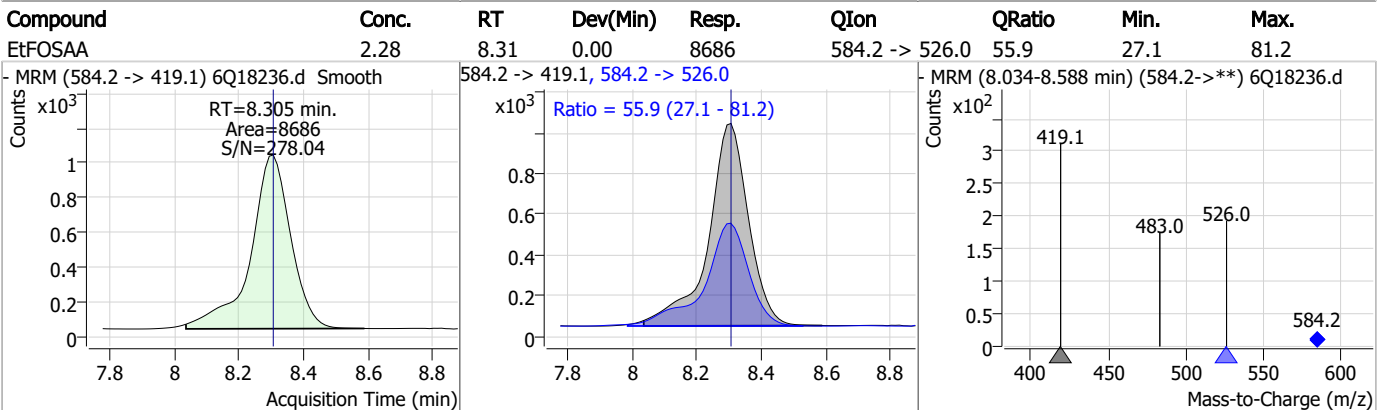
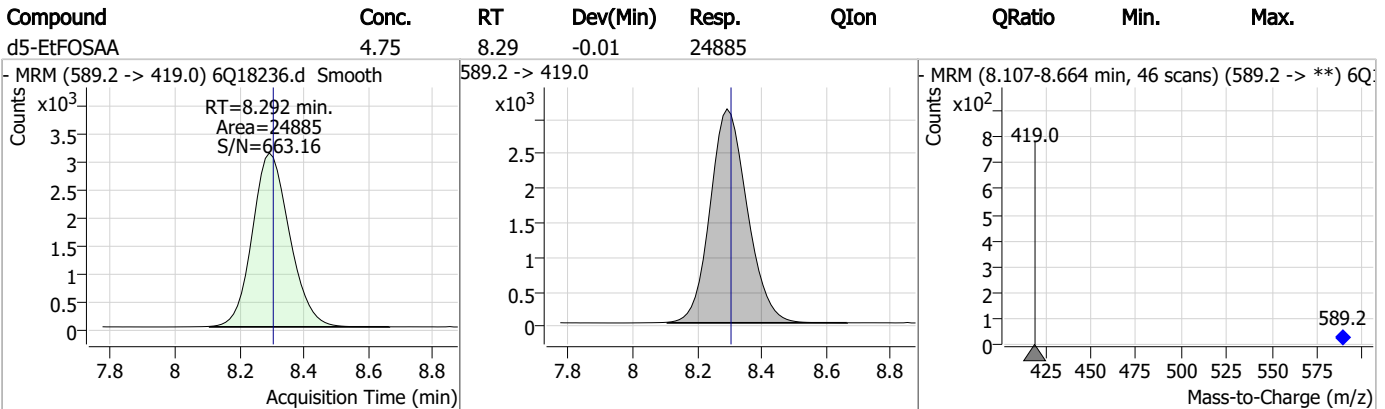
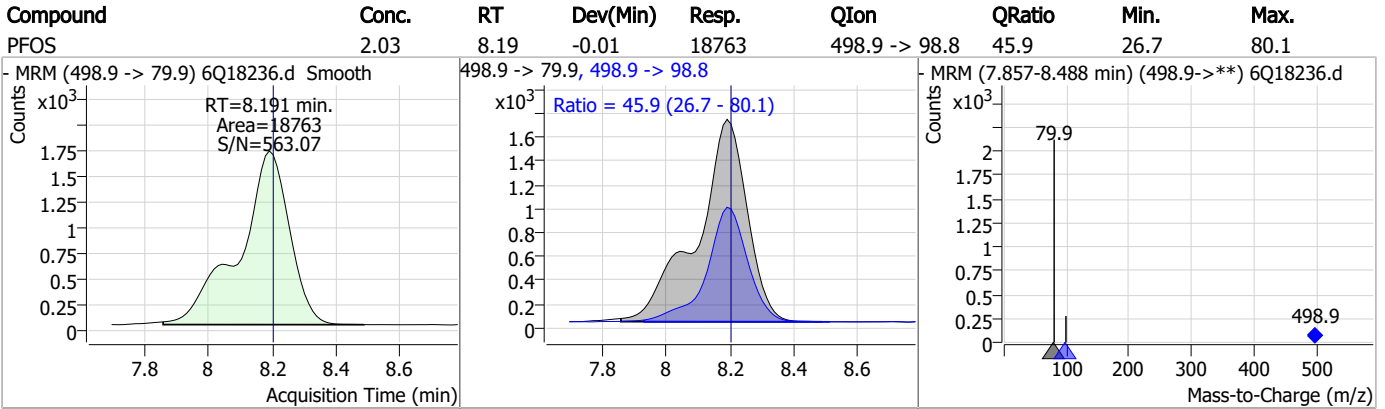
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7



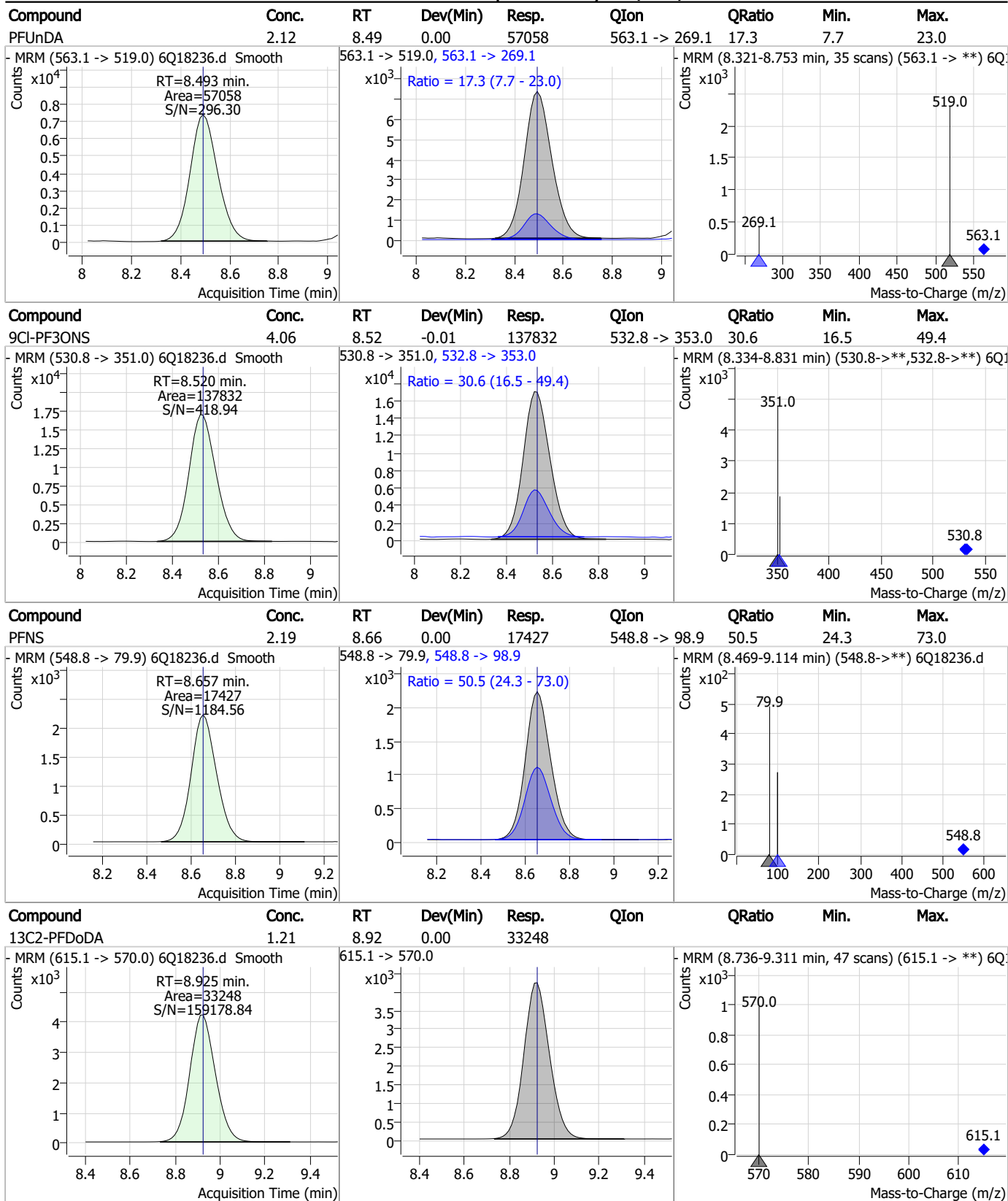
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

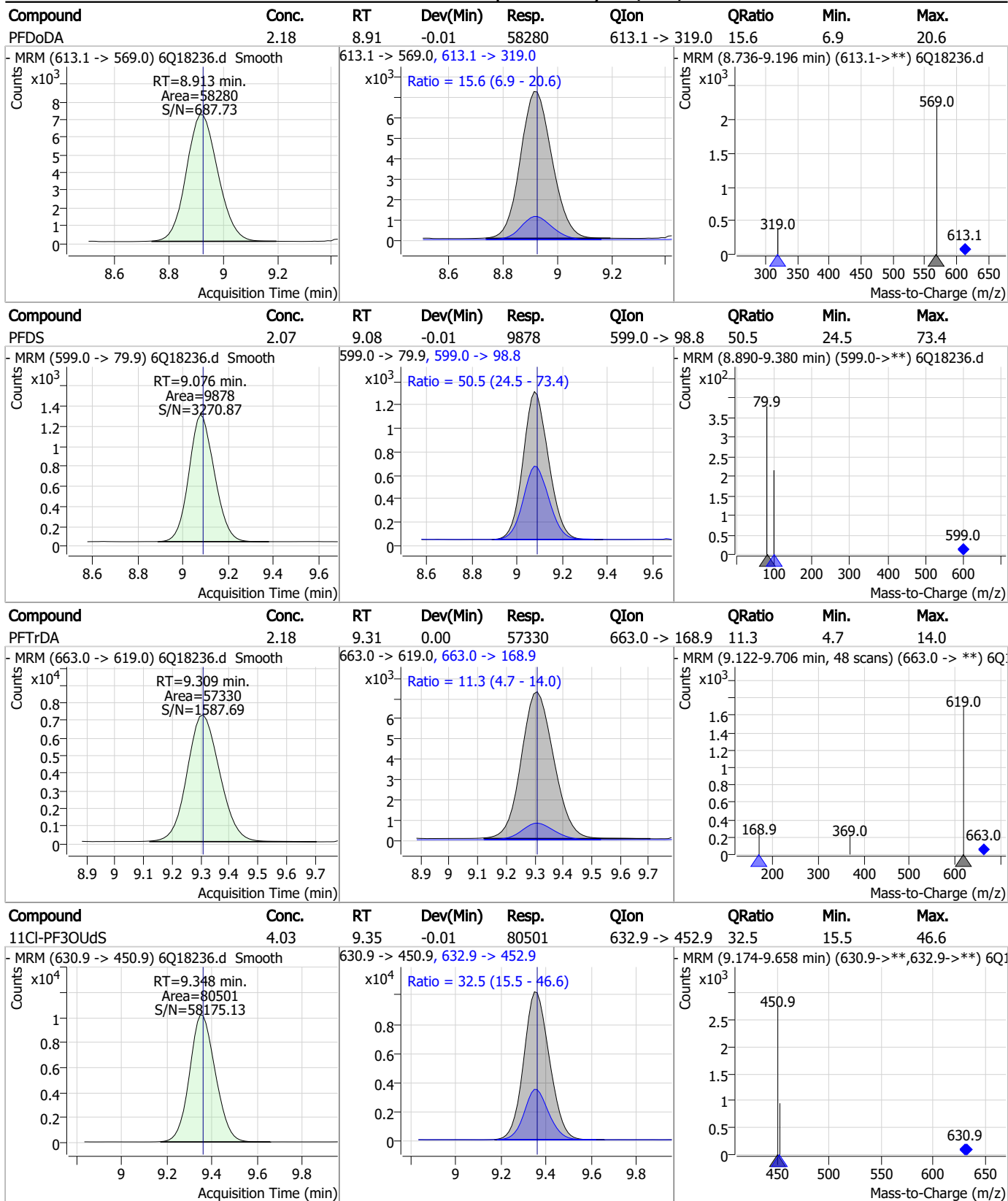


### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

### Perfluorinated Compounds by LC/MS/MS



7.7.10 7



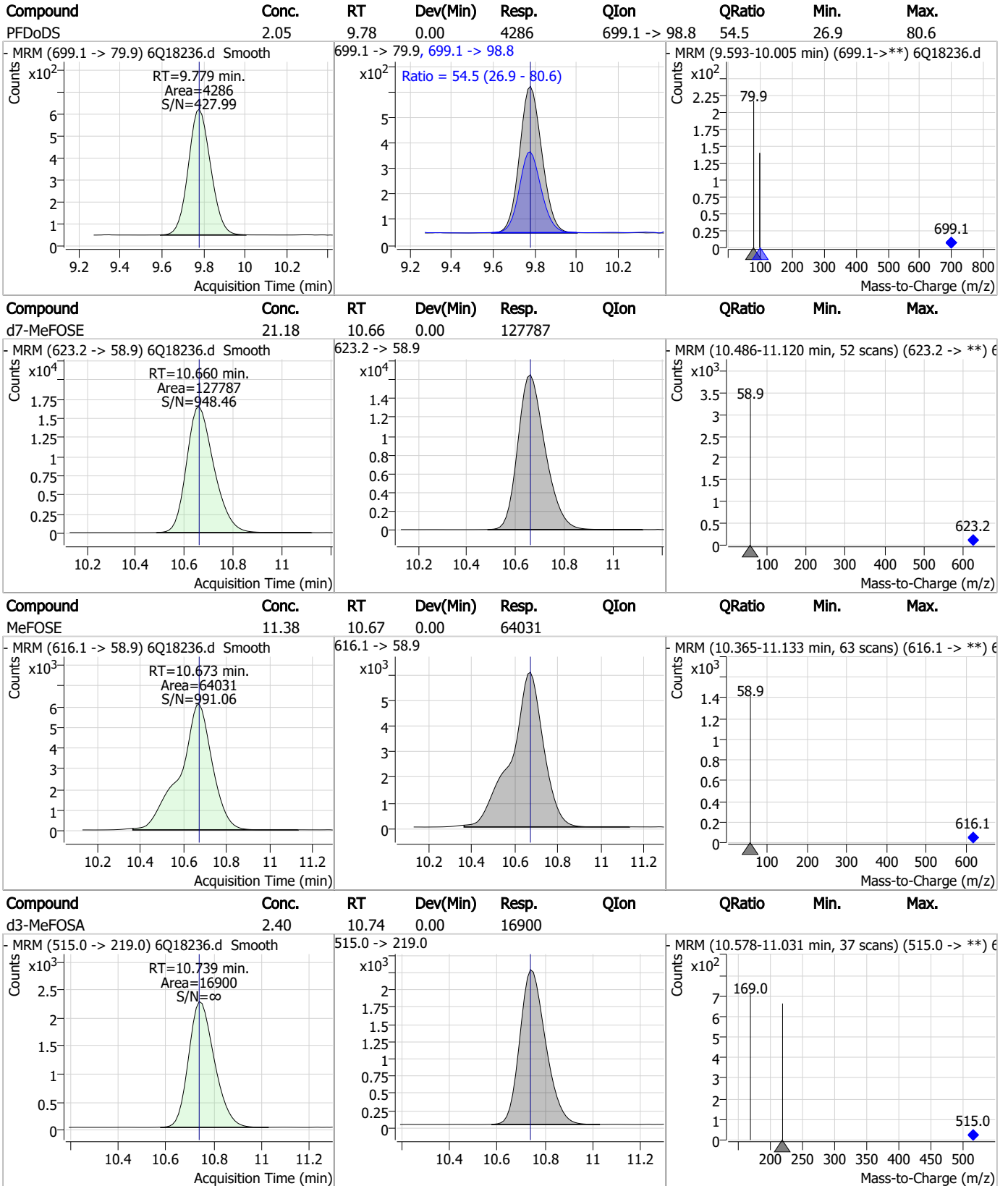
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA        | 2.19  | 9.60 | 0.00     | 32220 | 498.1 -> 478.0 | 3.0    | 1.5  | 4.6  |
|             |       |      |          |       |                |        |      |      |
| 13C8-FOSA   | 2.44  | 9.60 | -0.01    | 37824 | 506.1 -> 77.8  | -      | -    | -    |
|             |       |      |          |       |                |        |      |      |
| 13C2-PFTeDA | 1.10  | 9.65 | 0.00     | 15801 | 715.2 -> 670.0 | -      | -    | -    |
|             |       |      |          |       |                |        |      |      |
| PFTeDA      | 2.33  | 9.65 | 0.00     | 41174 | 713.1 -> 168.9 | 9.9    | 3.8  | 11.4 |
|             |       |      |          |       |                |        |      |      |

7.7.10 7



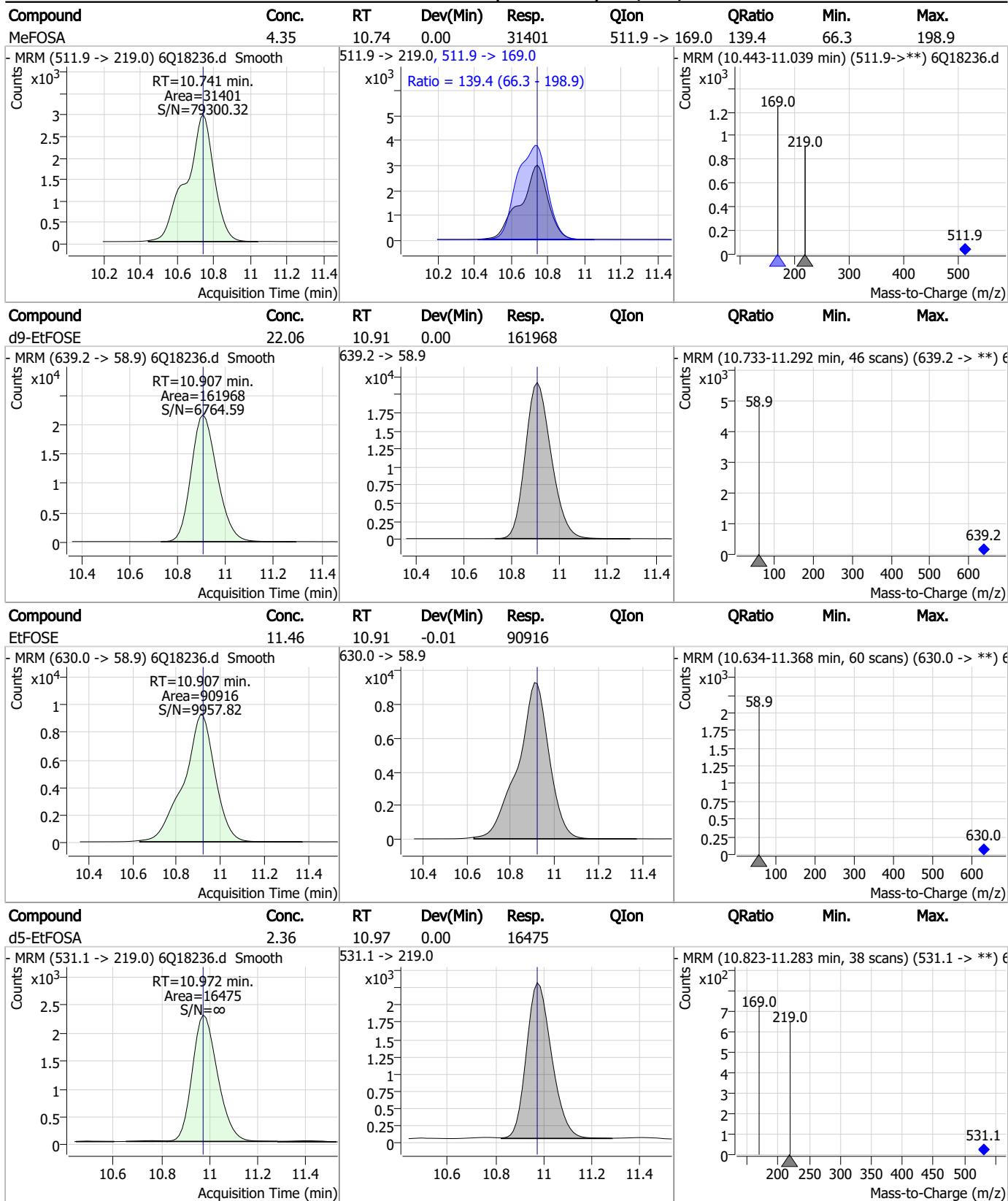
### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

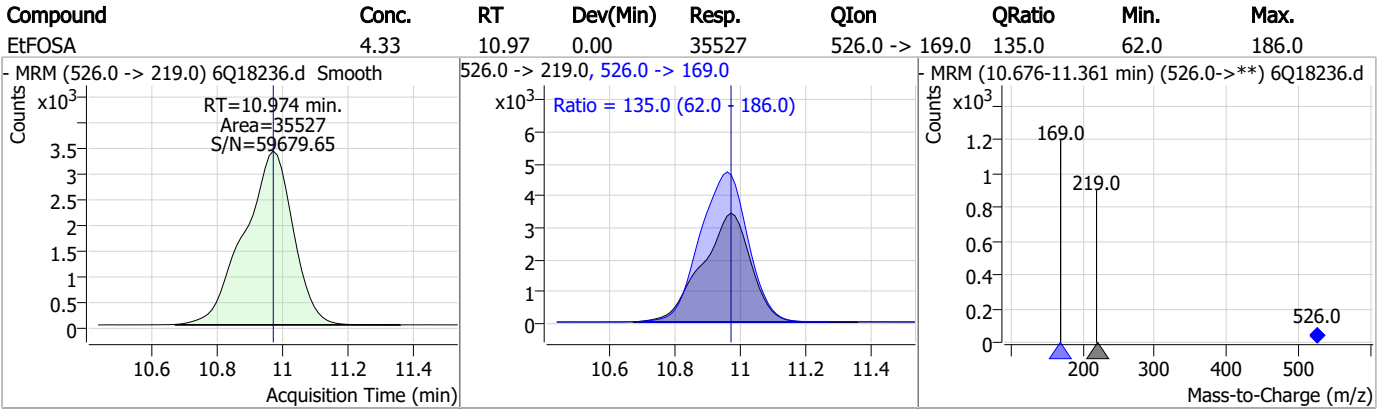


### Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18237.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/22/2023 11:52:18 PM  
 Sample Name : icv274-20  
 Vial : P1-B2  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 195583            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 63919             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 66052             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 62815             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 95807             | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 38846             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 25437             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 31549             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 28880             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 14354             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 30411             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 25334             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 15180             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 14433             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 2784              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 3748              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 3819              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 24184             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 106182            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 21213             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 110784            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 145265            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 13494             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 14708             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 18175             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.864                | 216.0 -> 172.0 | 83111             | 5.00 µg/L   | -0.015   |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 10915             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 95028             | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 29453             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 46404             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 65642             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 2784              | 5.01 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.2% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 3748              | 4.79 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 95.8%  |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 3819              | 5.07 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 101.4% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 28880             | 1.35 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 108.0% |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 14354             | 1.28 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 102.7% |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 25334             | 2.44 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 97.5%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 15180             | 2.55 µg/L   | -0.012   |

7.7.11  
 7

### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 195583   | 9.98 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.8%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 62815    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.7% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 66052    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 63919    | 5.20 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 25437    | 1.40 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 111.9% |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 31549    | 1.37 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 109.5% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 30411    | 2.40 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.1%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 95807    | 2.53 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.1% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 14433    | 2.56 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.3% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 38846    | 1.22 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 97.9%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 24184    | 5.02 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 100.5% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 106182   | 10.54 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 105.4% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 14708    | 2.55 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.2% |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 21213    | 4.95 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 99.0%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 110784   | 22.45 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 89.8%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 145265   | 24.19 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 96.8%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 13494    | 2.37 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.6%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 109429   | 22.28 µg/L        | 94            |
|                         |                      | 327.1 -> 80.9  | 39281    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 89867    | 21.57 µg/L        | 99            |
|                         |                      | 427.1 -> 80.9  | 30759    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 48209    | 21.17 µg/L        | 98            |
|                         |                      | 527.1 -> 80.8  | 21252    |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 72170    | 22.24 µg/L        | 97            |
|                         |                      | 584.2 -> 526.0 | 37450    |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 269246   | 22.73 µg/L        | 100           |
|                         |                      | 498.1 -> 478.0 | 8190     |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 125934   | 22.92 µg/L        | 98            |
|                         |                      | 570.1 -> 483.0 | 23082    |                   |               |
| PFBA                    | 2.868                | 212.8 -> 168.9 | 161486   | 21.27 µg/L        | 100           |
| PFBS                    | 5.348                | 298.7 -> 79.9  | 229080   | 22.51 µg/L        | 96            |
|                         |                      | 298.7 -> 98.8  | 88595    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 709510   | 20.24 µg/L        | 98            |
|                         |                      | 512.9 -> 219.0 | 120038   |                   |               |
| PFDoDA                  | 8.913                | 613.1 -> 569.0 | 413254   | 17.83 µg/L        | 93            |
|                         |                      | 613.1 -> 319.0 | 68952    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 84006    | 20.55 µg/L        | 98            |



Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc.  | Units | Dev(Min) |
|--------------|--------|----------------|----------|--------|-------|----------|
| PFHpA        | 6.396  | 599.0 -> 98.8  | 42194    | 21.55  | µg/L  | 98       |
|              |        | 363.1 -> 319.0 | 723466   |        |       |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 115642   | 22.01  | µg/L  | 98       |
|              |        | 449.0 -> 79.9  | 170824   |        |       |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 81822    | 22.85  | µg/L  | 99       |
|              |        | 313.0 -> 269.0 | 588264   |        |       |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 27947    | 21.63  | µg/L  | 99       |
|              |        | 398.7 -> 79.9  | 183489   |        |       |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 86440    | 24.33  | µg/L  | 97       |
|              |        | 463.0 -> 419.0 | 755753   |        |       |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 159353   | 22.02  | µg/L  | 95       |
|              |        | 548.8 -> 79.9  | 149694   |        |       |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 77483    | 22.37  | µg/L  | 97       |
|              |        | 413.0 -> 369.0 | 984813   |        |       |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 181134   | 18.33  | µg/L  | 93       |
|              |        | 498.9 -> 79.9  | 144716   |        |       |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 69577    | 23.13  | µg/L  | 100      |
|              |        | 263.0 -> 219.0 | 409672   |        |       |          |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 177847   | 21.95  | µg/L  | 100      |
|              |        | 349.1 -> 98.9  | 84038    |        |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 378172   | 23.56  | µg/L  | 97       |
|              |        | 713.1 -> 168.9 | 33228    |        |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 441080   | 19.27  | µg/L  | 96       |
|              |        | 663.0 -> 168.9 | 47461    |        |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 471553   | 20.30  | µg/L  | 97       |
|              |        | 563.1 -> 269.1 | 77375    |        |       |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 384241   | 22.06  | µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 119853   |        |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 630415   | 21.30  | µg/L  | 97       |
|              |        | 532.8 -> 353.0 | 197702   |        |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 1421545  | 21.34  | µg/L  | 98       |
|              |        | 376.9 -> 84.8  | 365046   |        |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 211739   | 20.18  | µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 23099    |        |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 26575    | 21.25  | µg/L  | 97       |
|              |        | 241.0 -> 117.0 | 3548     |        |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 106892   | 22.88  | µg/L  | 92       |
|              |        | 341.0 -> 217.0 | 82557    |        |       |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 69867    | 23.23  | µg/L  | 91       |
|              |        | 441.0 -> 336.9 | 143243   |        |       |          |
| EtFOSA       | 10.986 | 526.0 -> 219.0 | 146170   | 21.75  | µg/L  | 87       |
|              |        | 526.0 -> 169.0 | 160481   |        |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 789777   | 110.99 | µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 125858   |        |       |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 138780   | 20.05  | µg/L  | 81       |
|              |        | 616.1 -> 58.9  | 553498   |        |       |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 34145    | 113.46 | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 18933    |        |       |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 74390    | 19.04  | µg/L  | 98       |
|              |        | 295.0 -> 84.9  | 19103    |        |       |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 275146   | 22.87  | µg/L  | 97       |
|              |        | 229.0 -> 84.9  | 204475   |        |       |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 694944   | 21.74  | µg/L  | 100      |
|              |        | 314.8 -> 82.9  | 23561    |        |       |          |
| PFMPA        | 3.388  |                |          | 19.36  | µg/L  | 98       |
|              |        |                |          |        |       |          |
| PFEESA       | 5.900  |                |          |        |       |          |
|              |        |                |          |        |       |          |

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

### Perfluorinated Compounds by LC/MS/MS

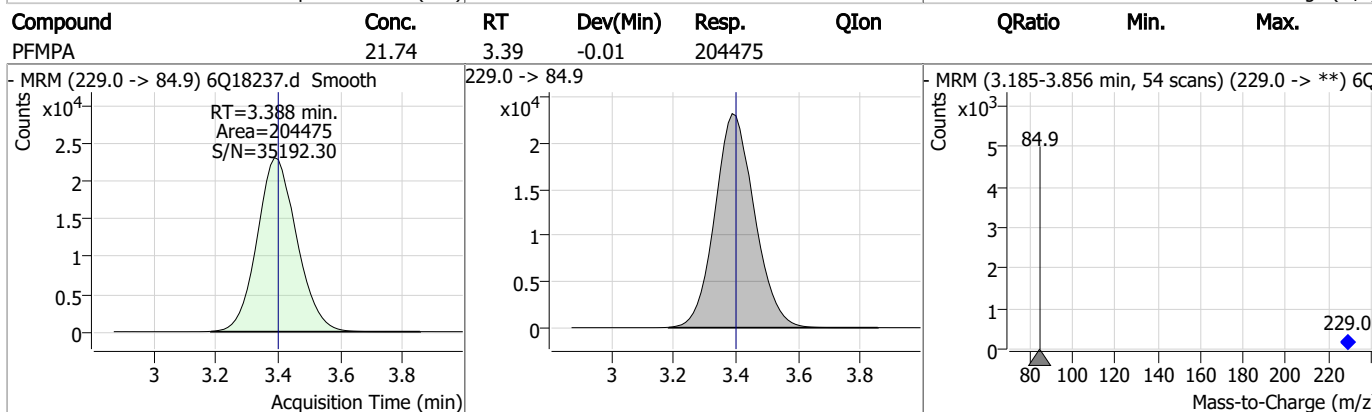
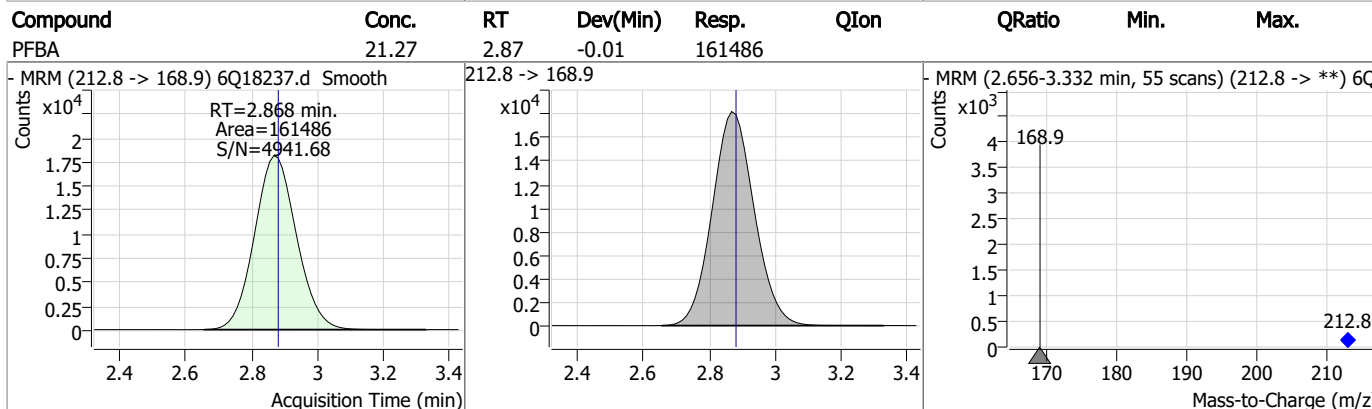
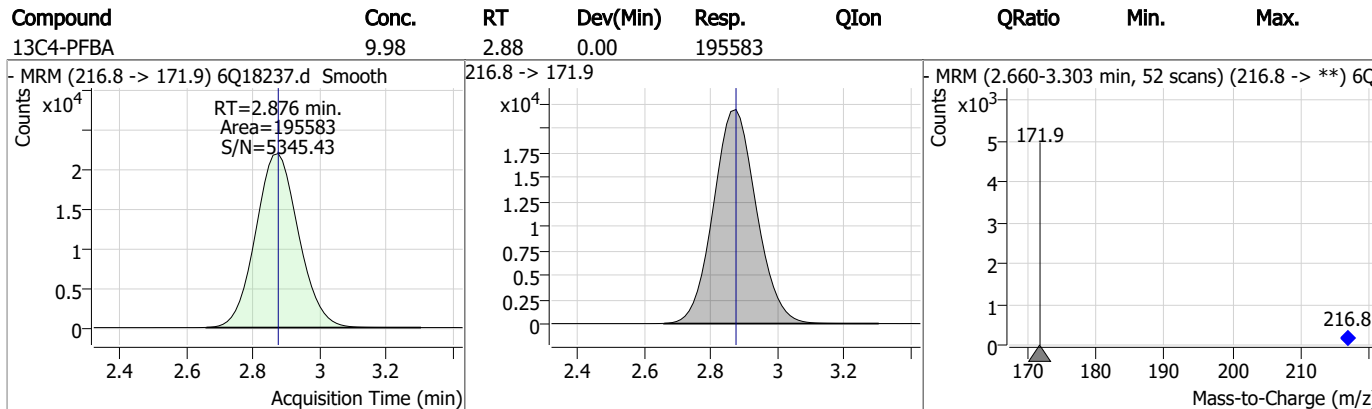
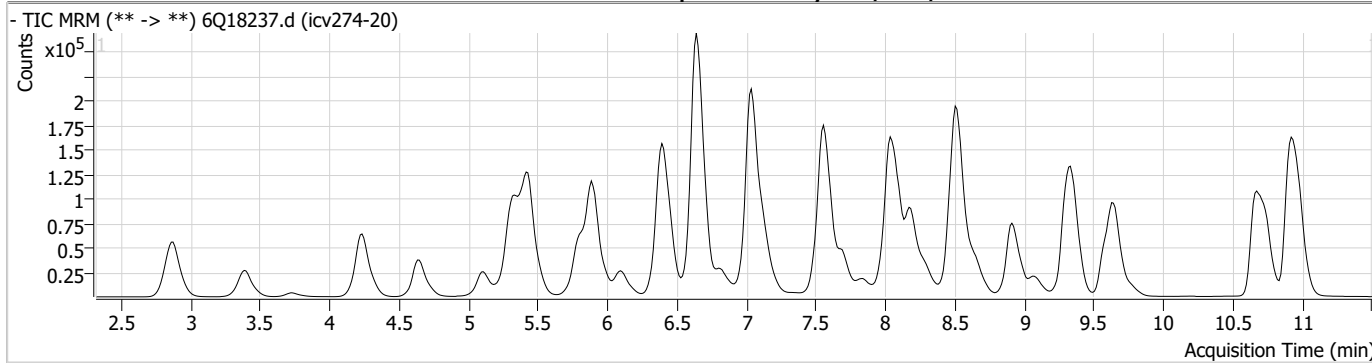
| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.11

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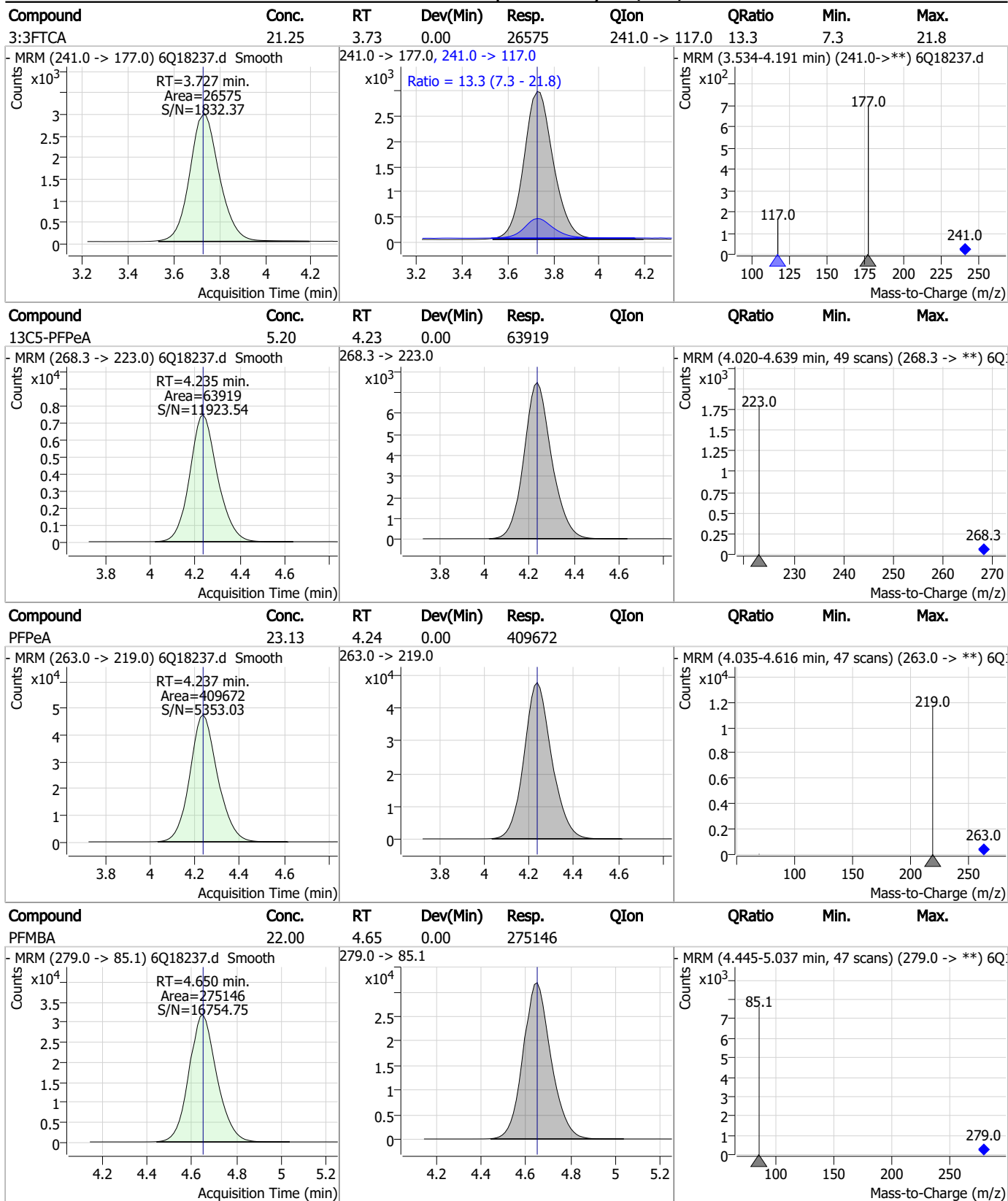


### Perfluorinated Compounds by LC/MS/MS



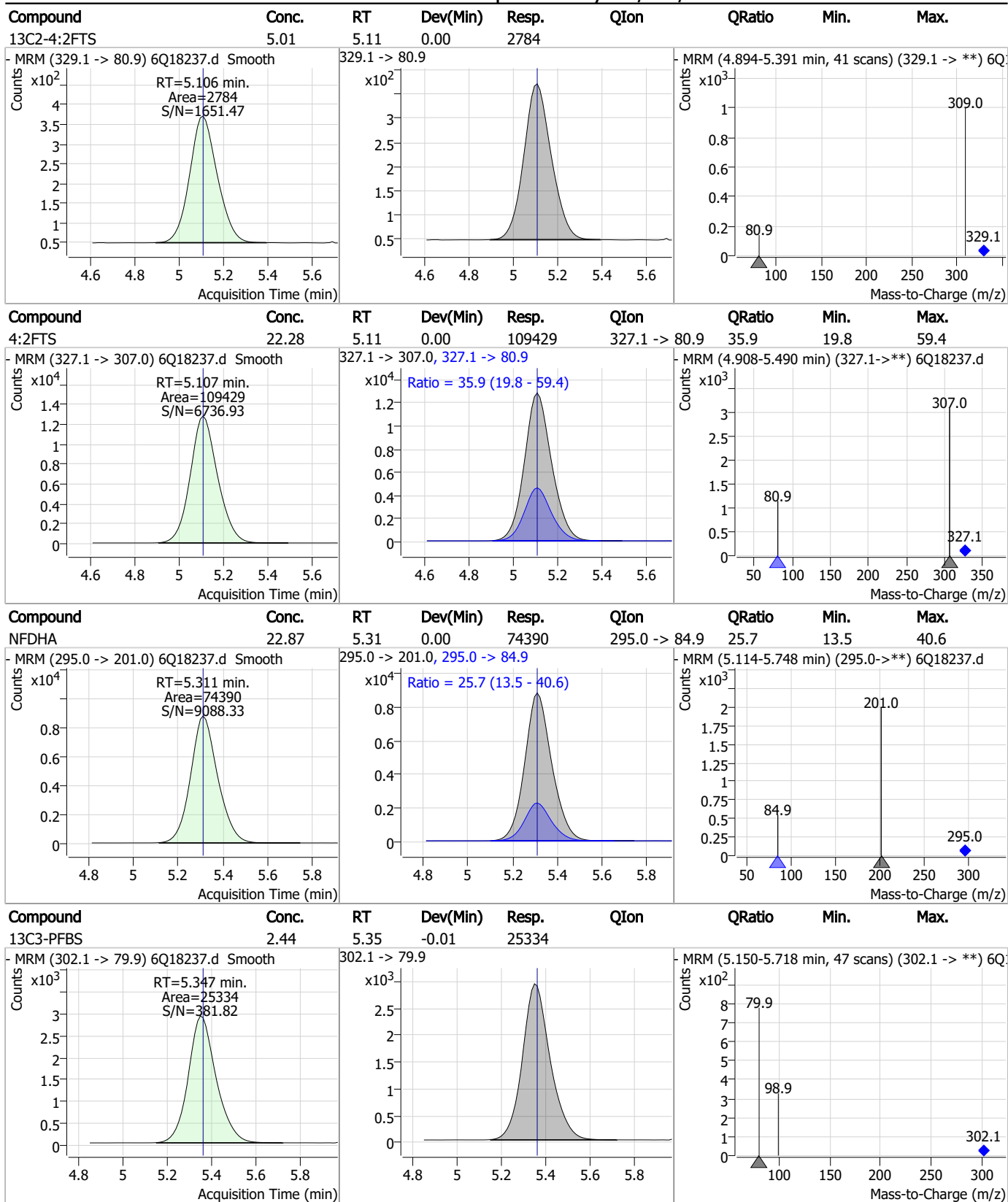
7.7.11  
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### Perfluorinated Compounds by LC/MS/MS



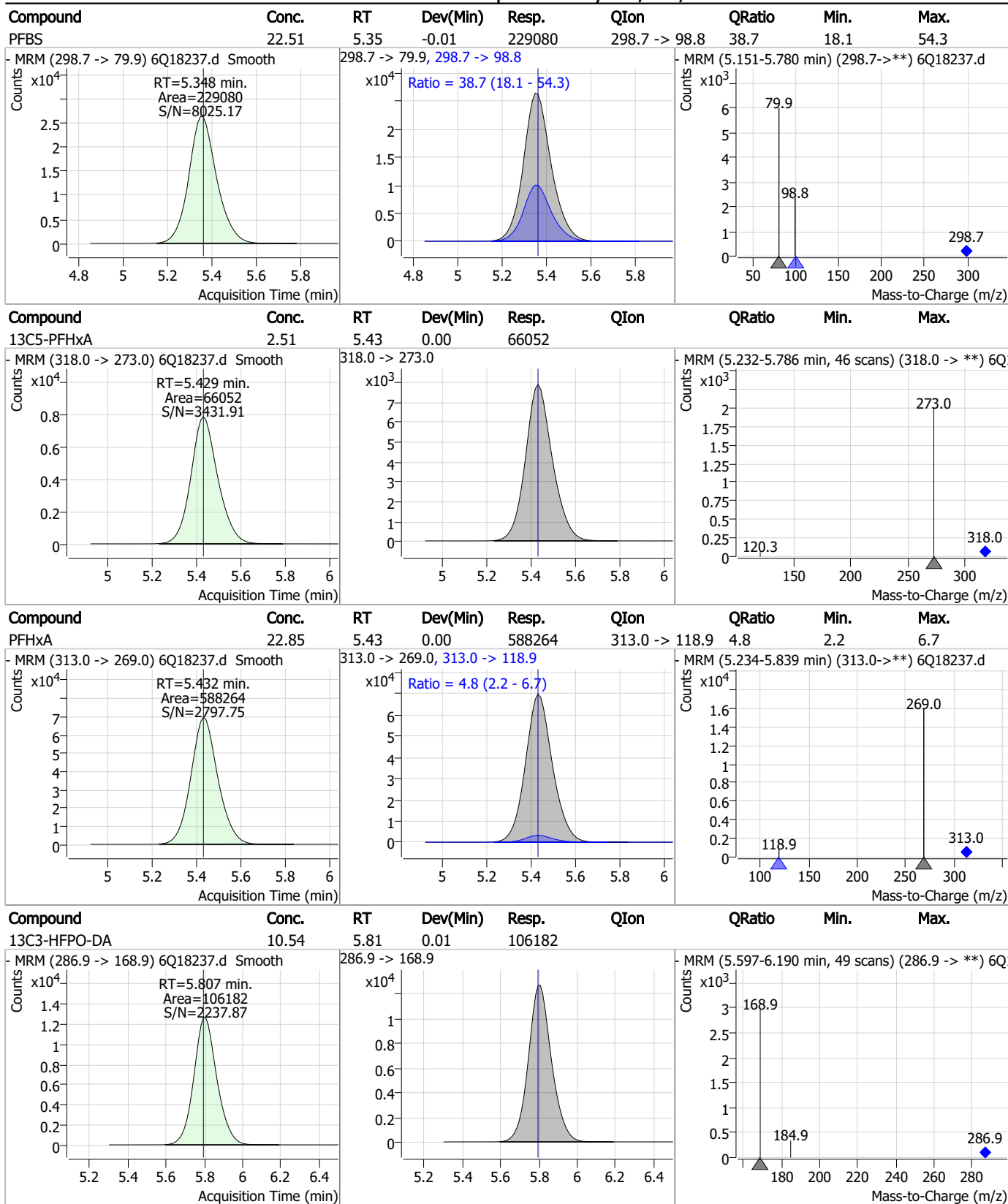
7.7.11

### Perfluorinated Compounds by LC/MS/MS



7.7.11  
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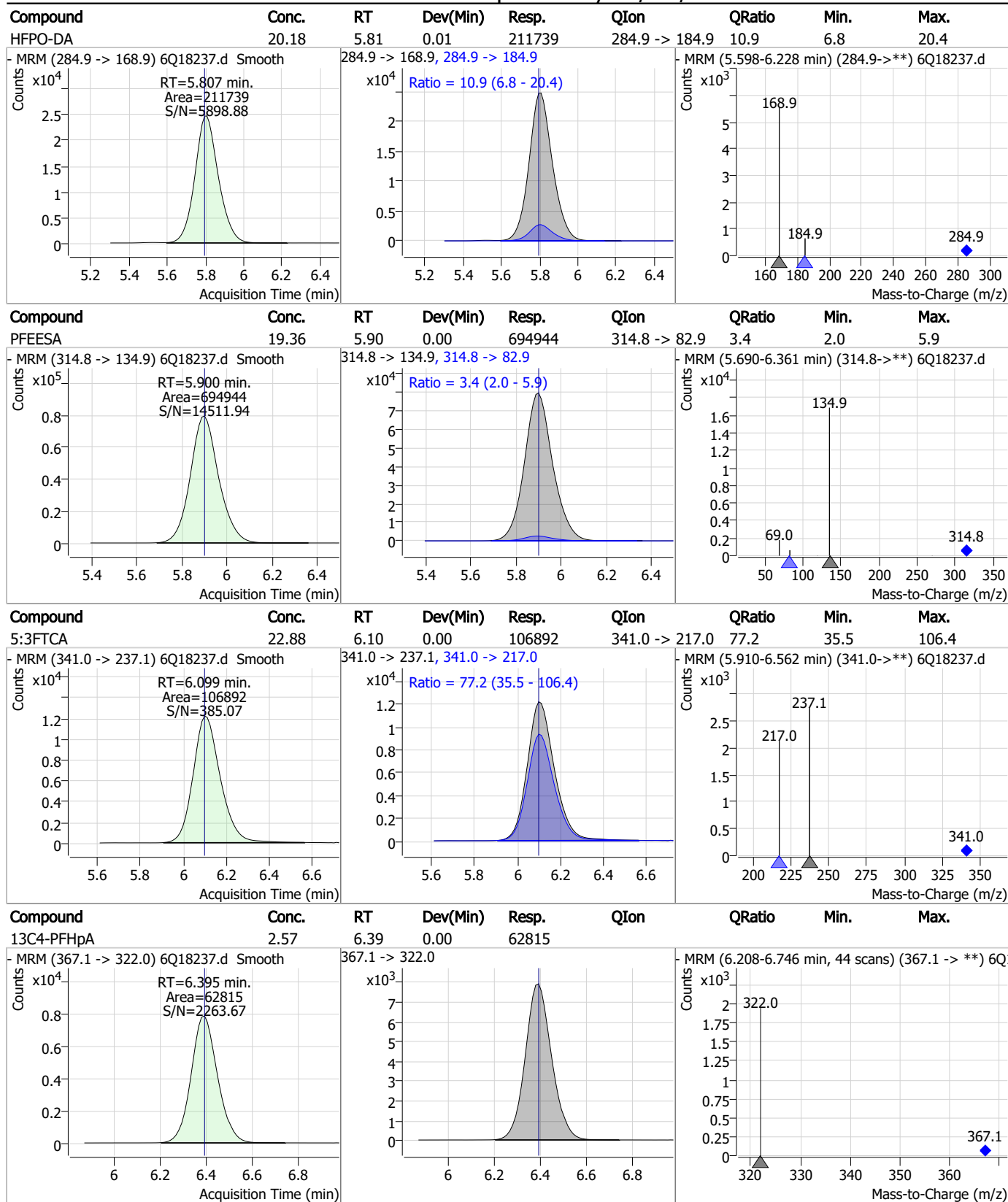
### Perfluorinated Compounds by LC/MS/MS



7.7.11

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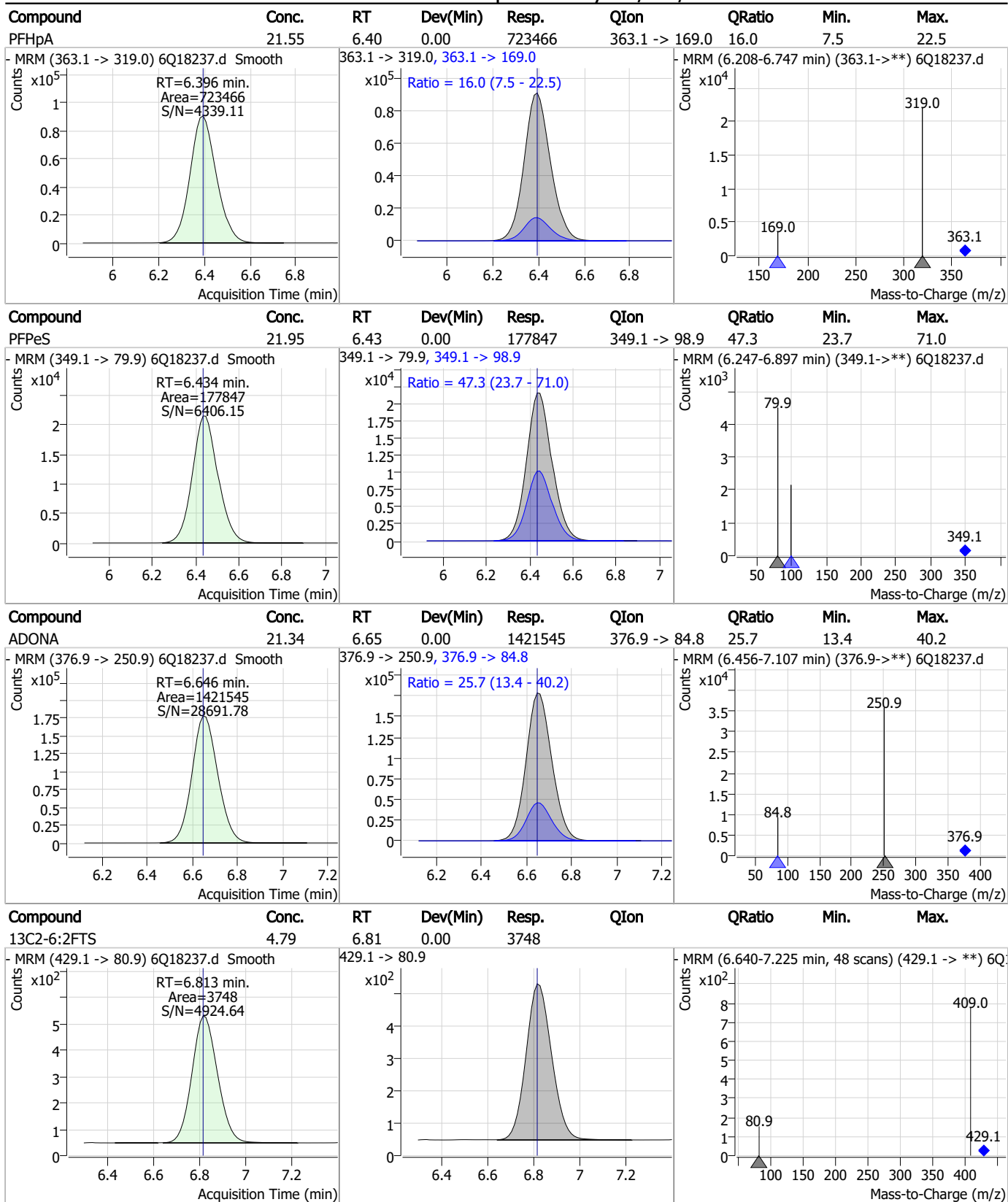
### Perfluorinated Compounds by LC/MS/MS



7.7.11

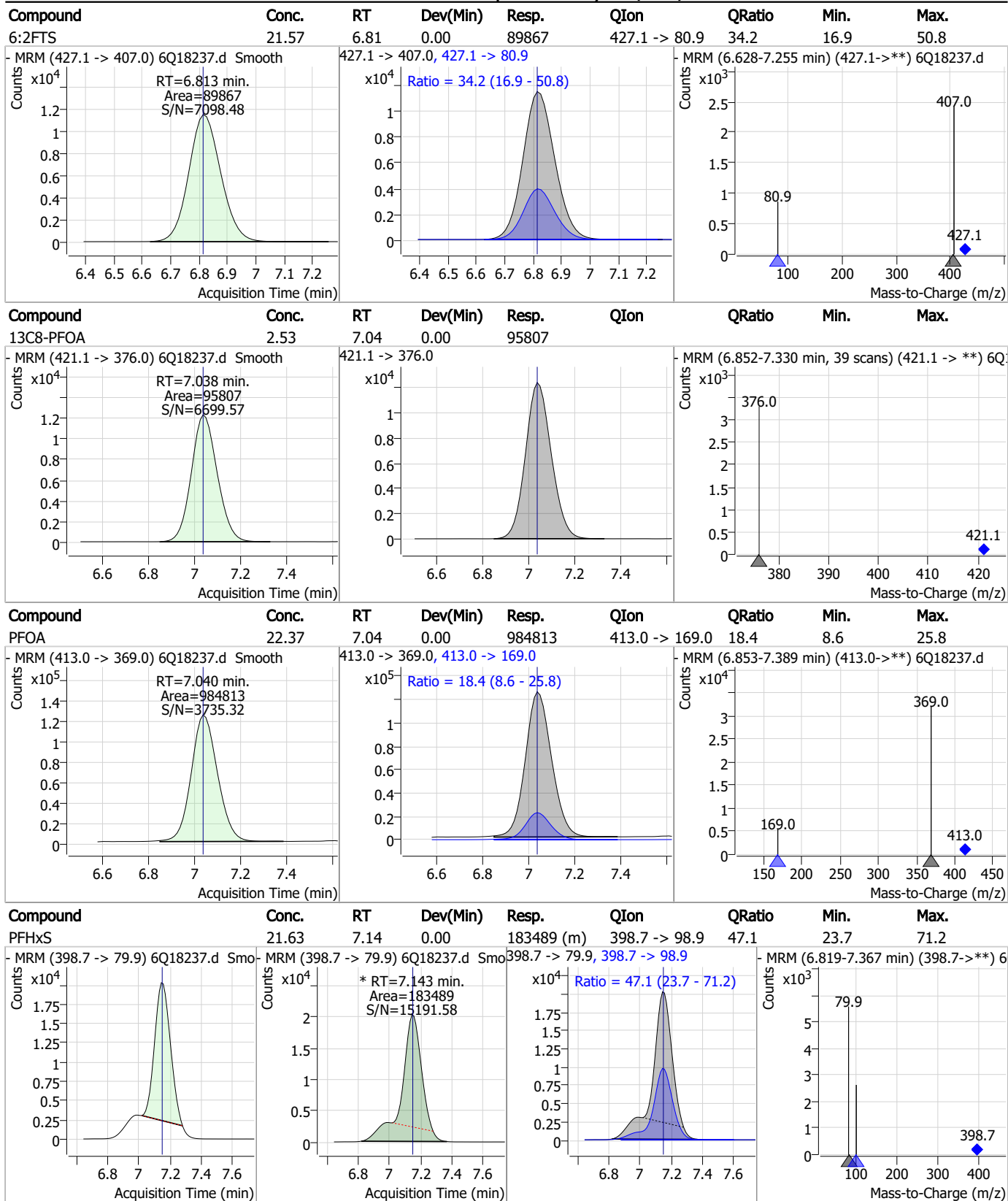
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### Perfluorinated Compounds by LC/MS/MS



7.7.11  
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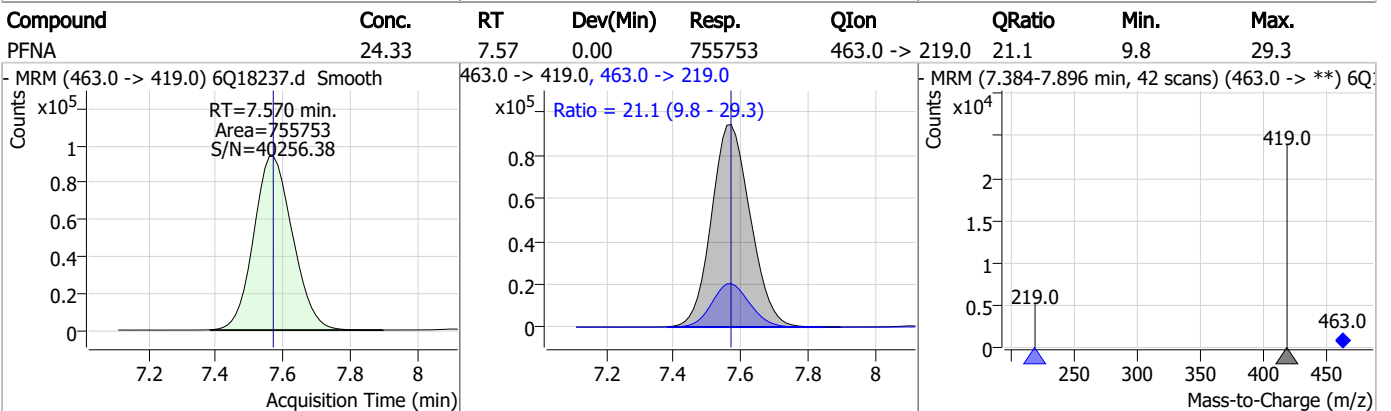
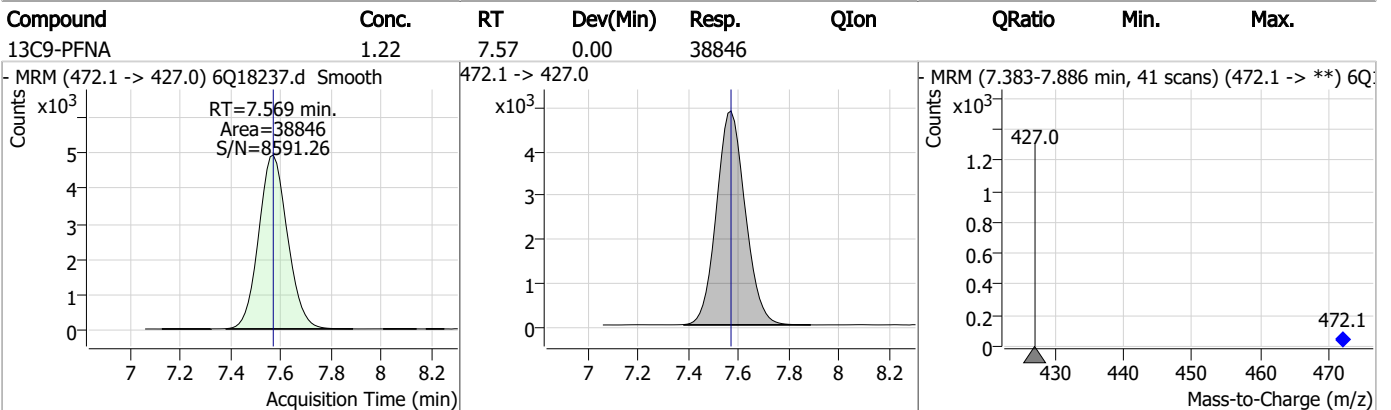
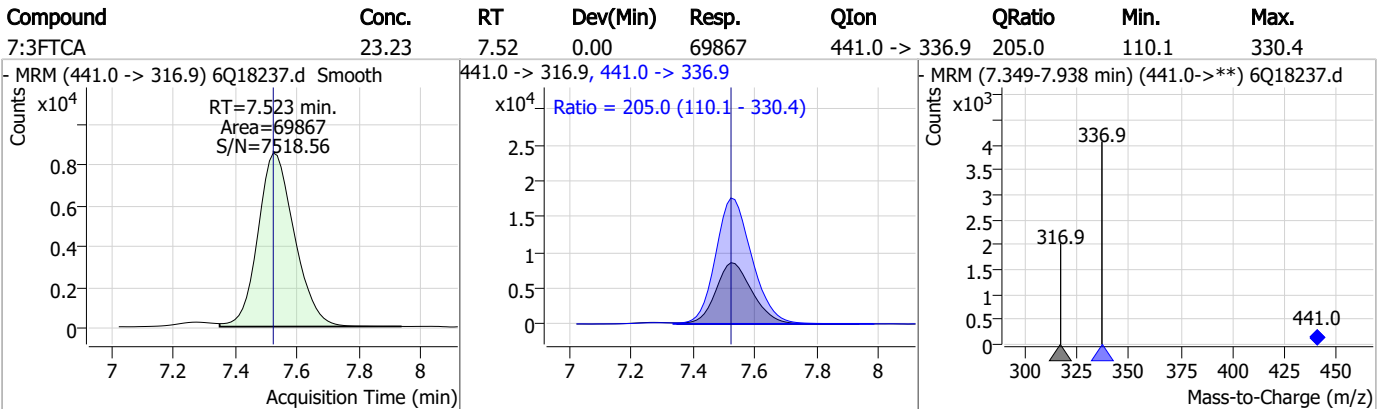
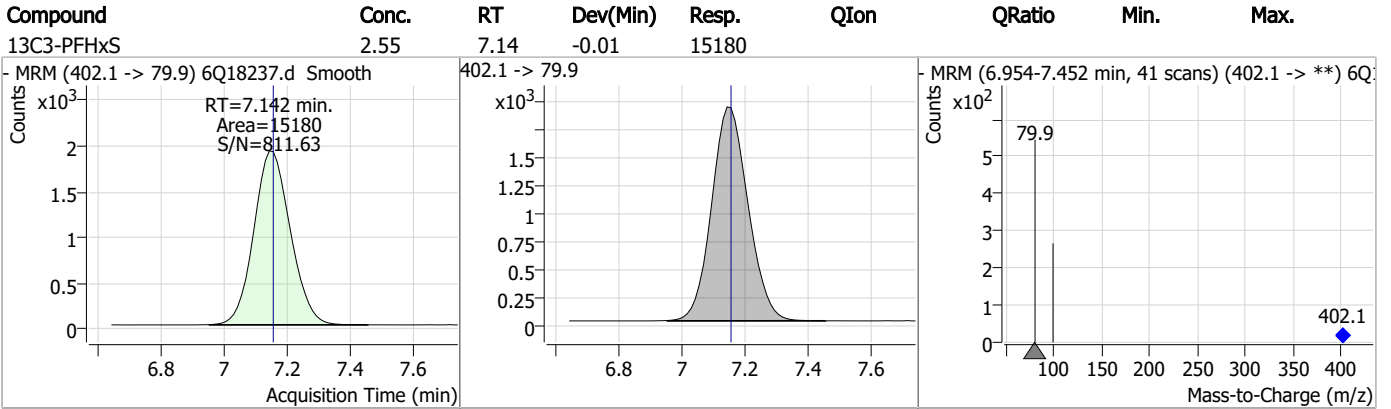
### Perfluorinated Compounds by LC/MS/MS



7.7.11

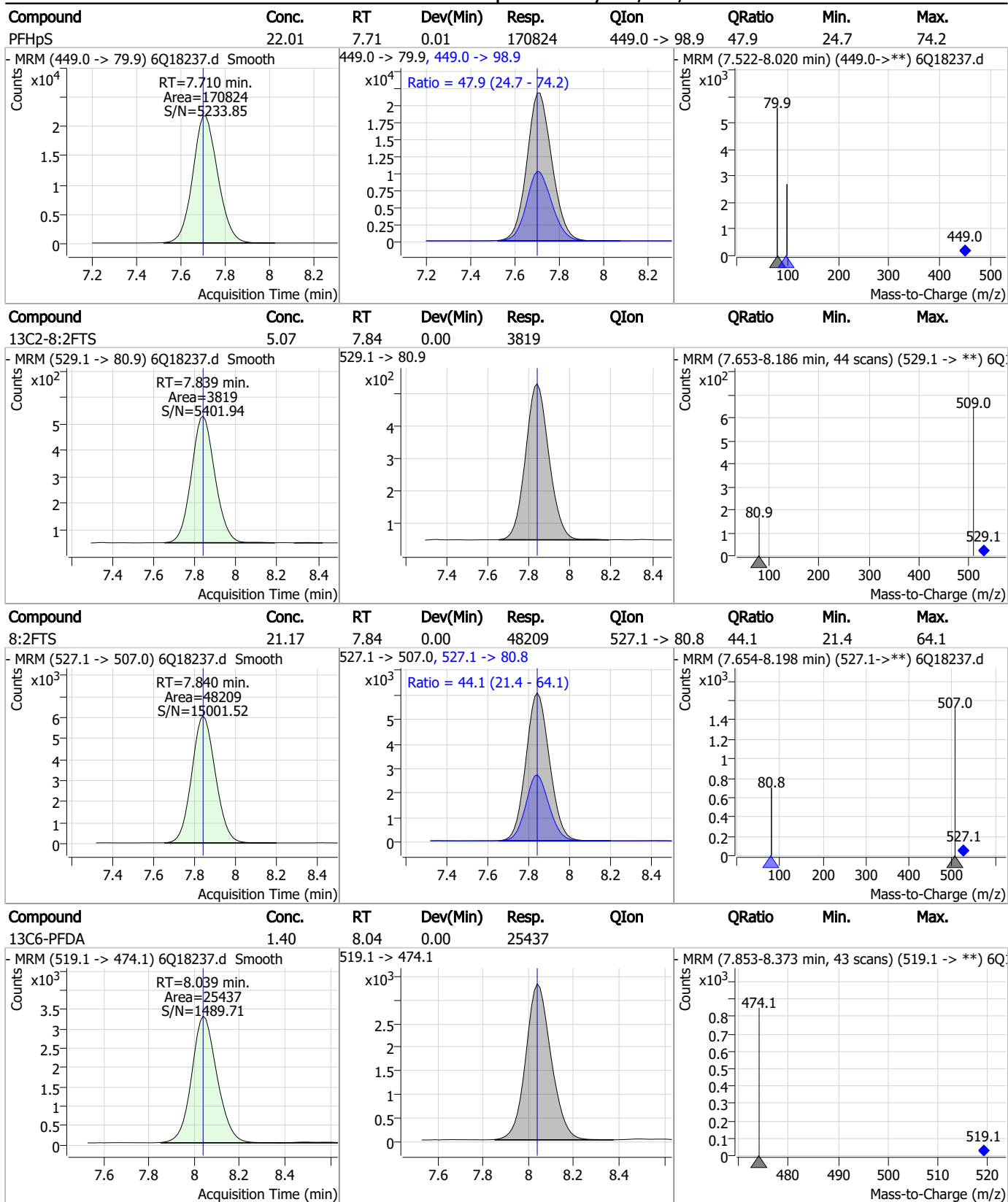


### Perfluorinated Compounds by LC/MS/MS





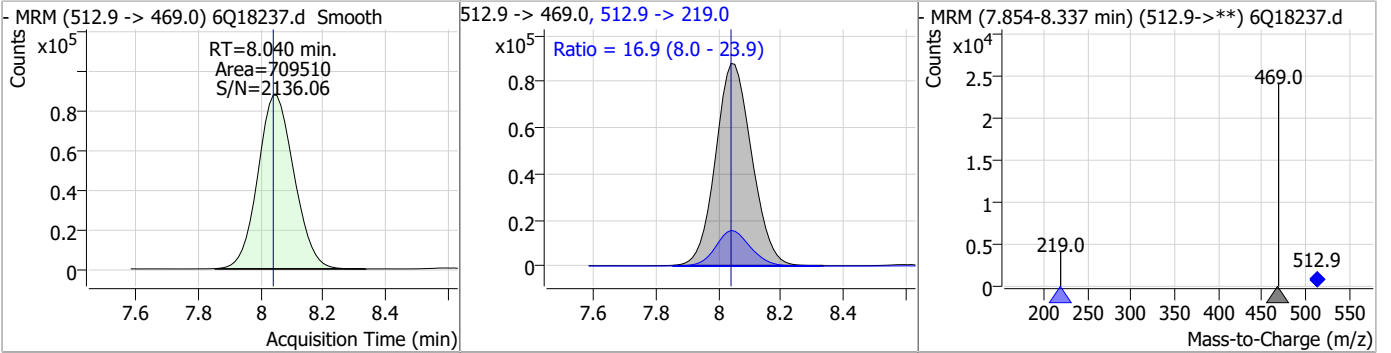
### Perfluorinated Compounds by LC/MS/MS



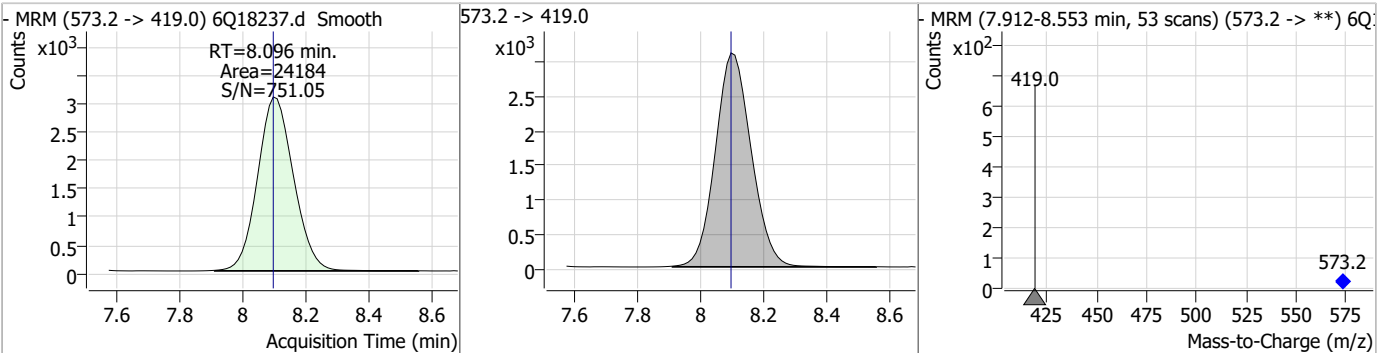
7.7.11

### Perfluorinated Compounds by LC/MS/MS

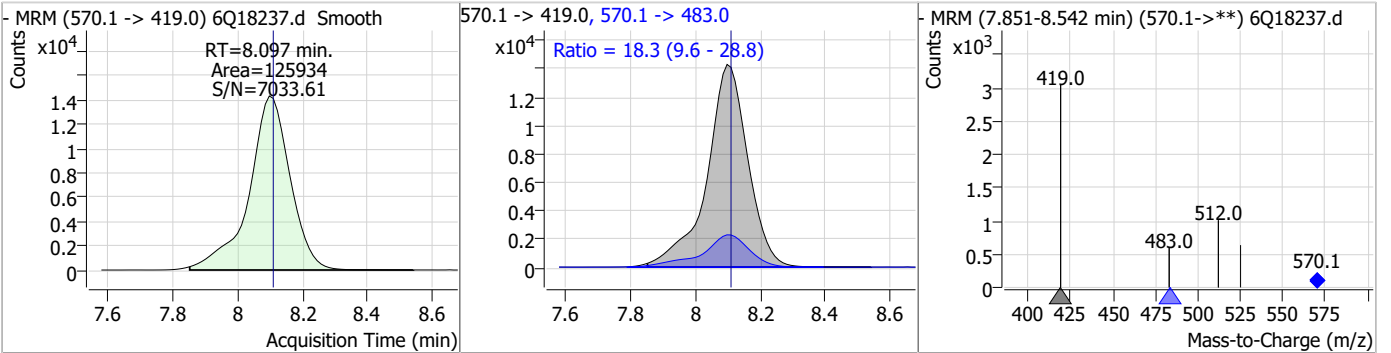
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFDA     | 20.24 | 8.04 | 0.00     | 709510 | 512.9 -> 219.0 | 16.9   | 8.0  | 23.9 |



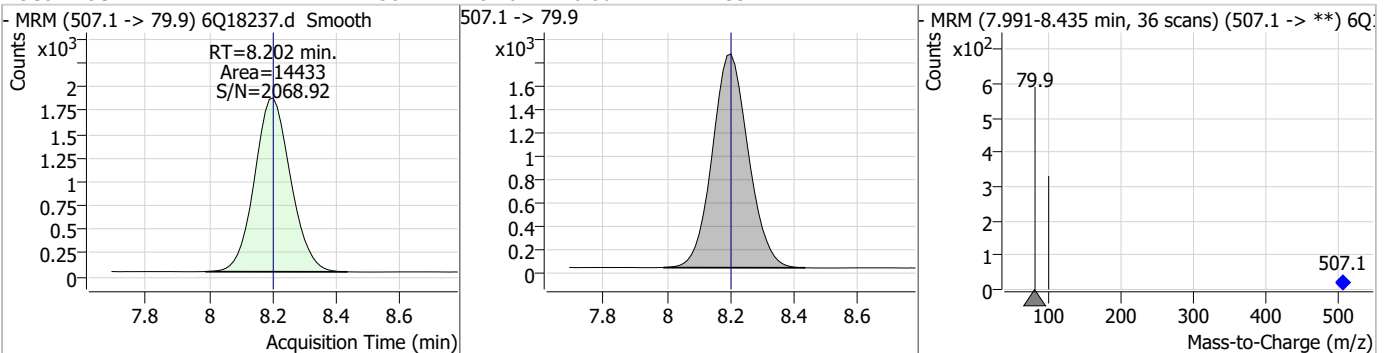
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| d3-MeFOSAA | 5.02  | 8.10 | 0.00     | 24184 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| MeFOSAA  | 22.92 | 8.10 | -0.01    | 125934 | 570.1 -> 483.0 | 18.3   | 9.6  | 28.8 |

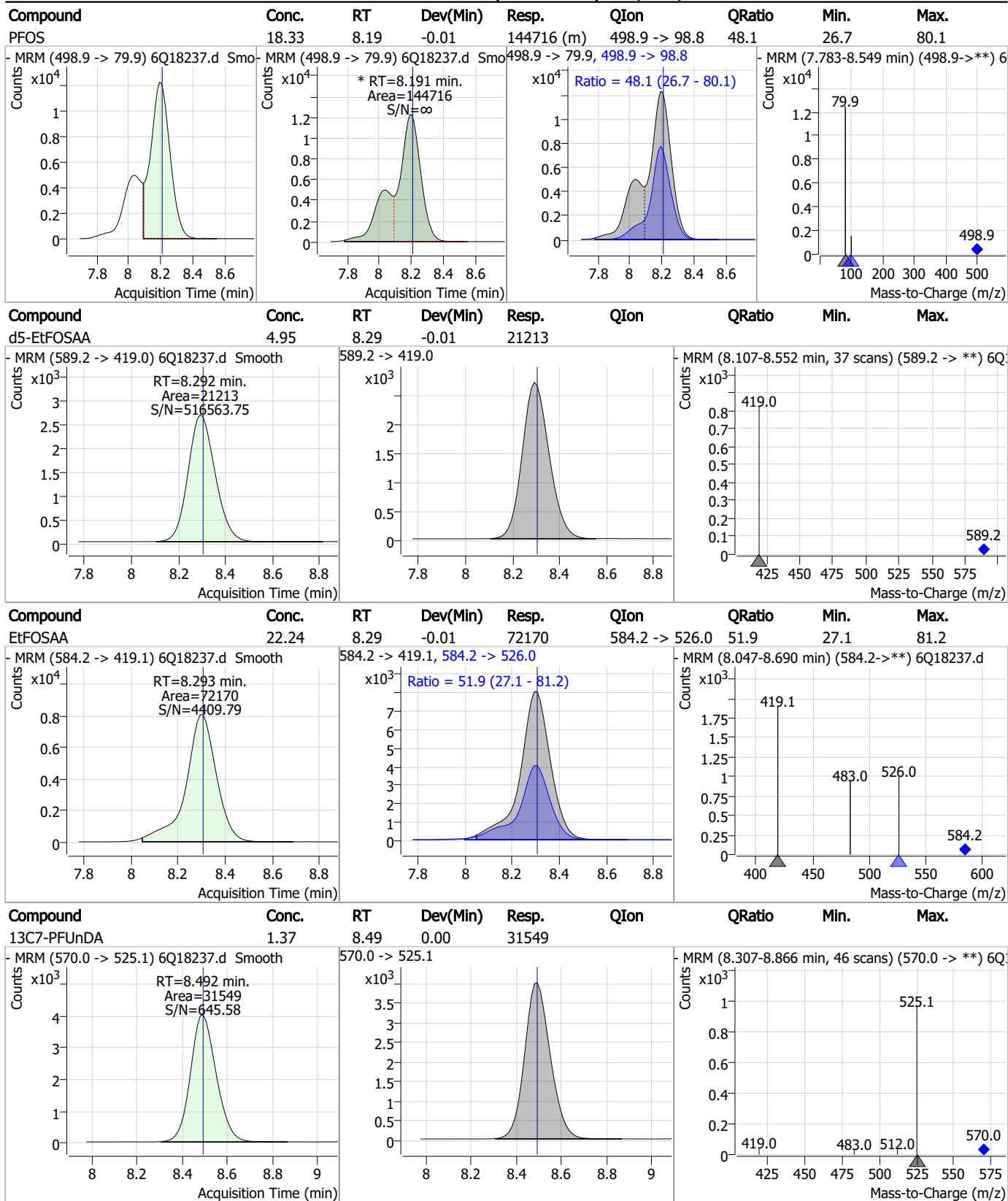


| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-PFOS | 2.56  | 8.20 | 0.00     | 14433 |      |        |      |      |



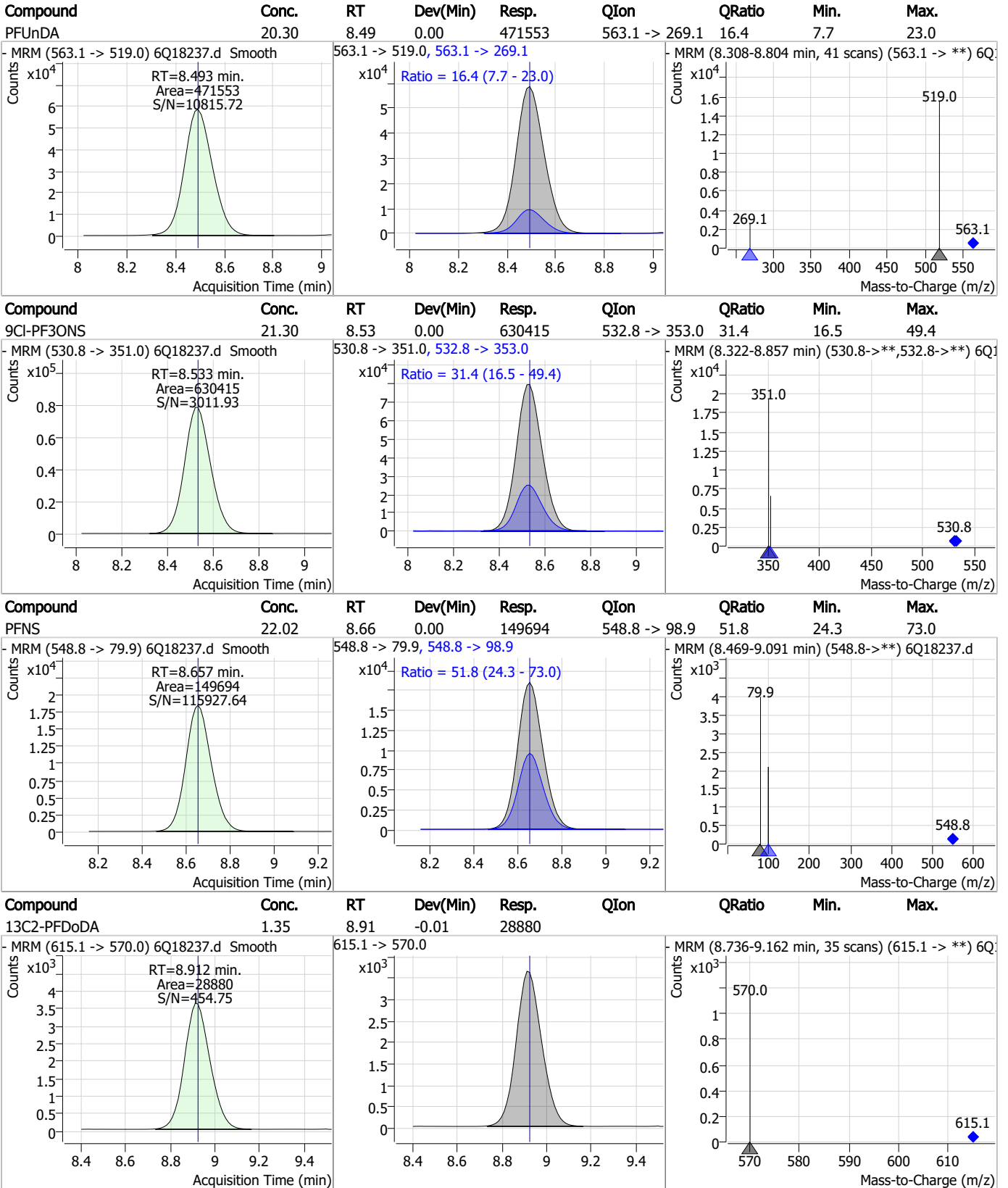
7.7.11  
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### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

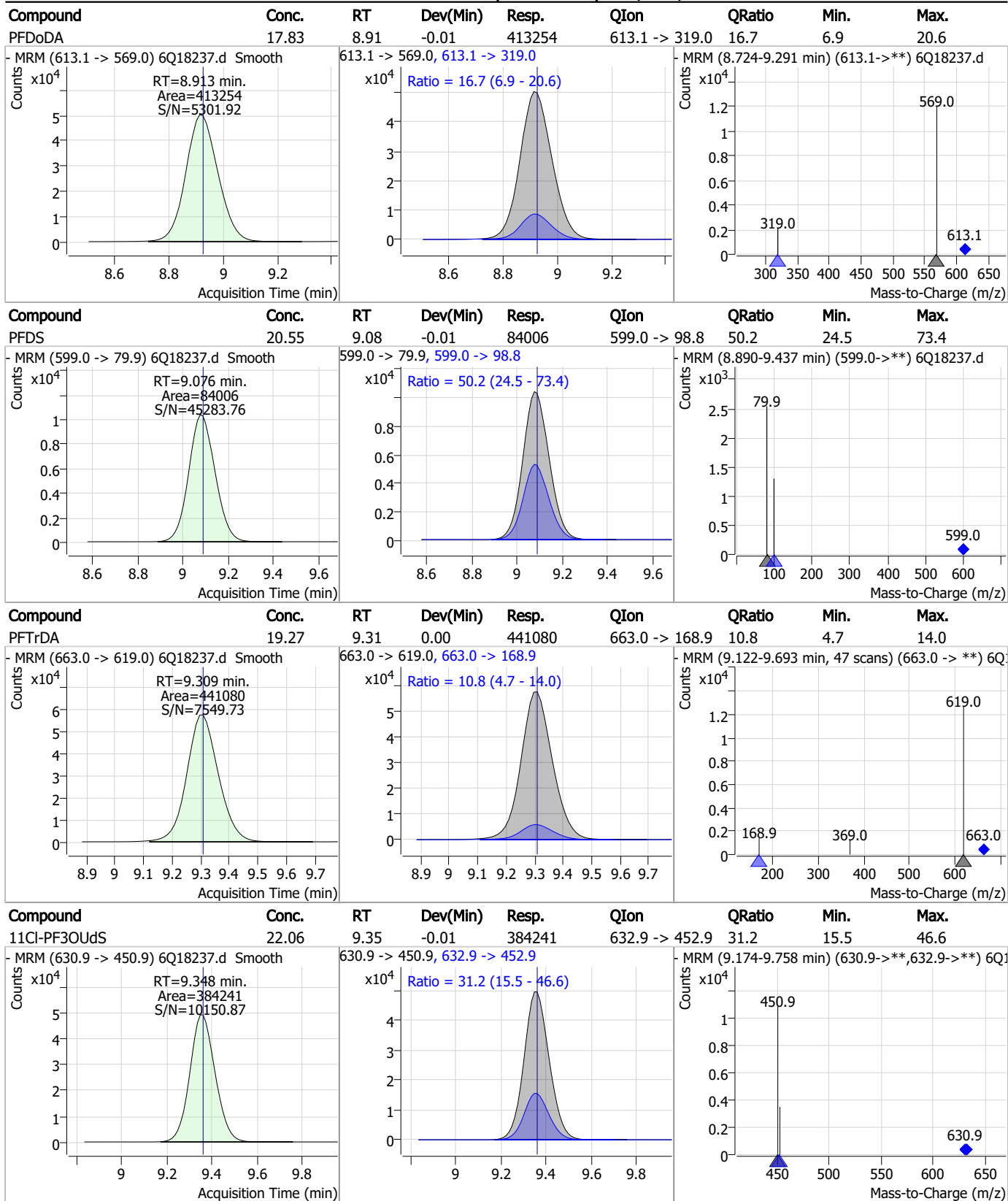


7.7.11

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### Perfluorinated Compounds by LC/MS/MS

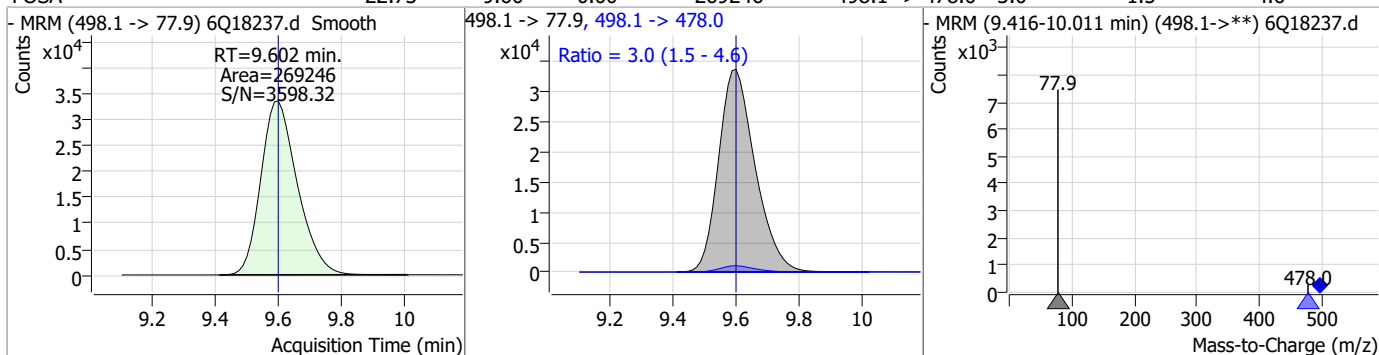


7.7.11  
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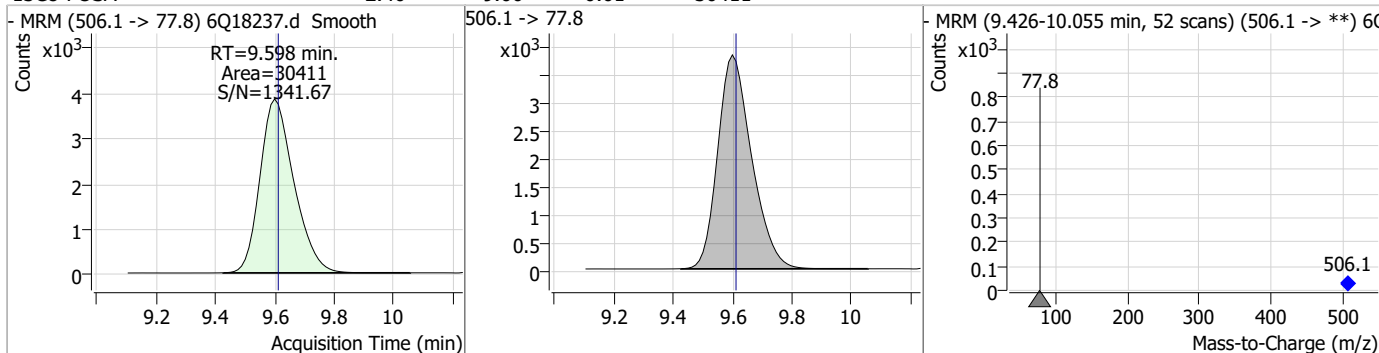


### Perfluorinated Compounds by LC/MS/MS

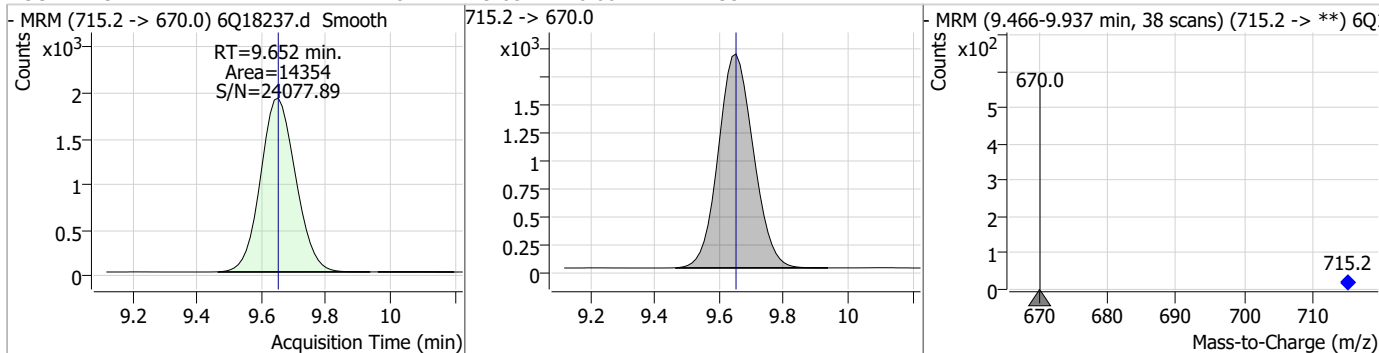
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| FOSA     | 22.73 | 9.60 | 0.00     | 269246 | 498.1 -> 478.0 | 3.0    | 1.5  | 4.6  |



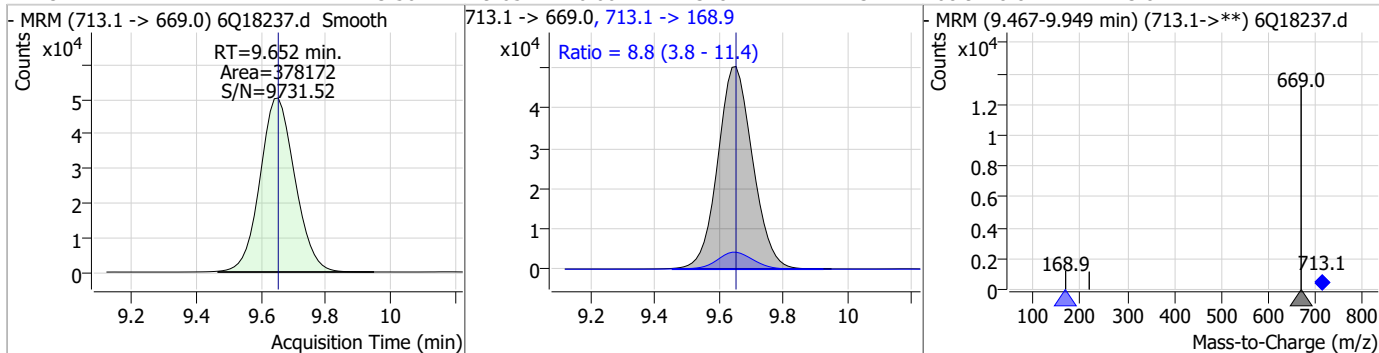
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.40  | 9.60 | -0.01    | 30411 |      |        |      |      |



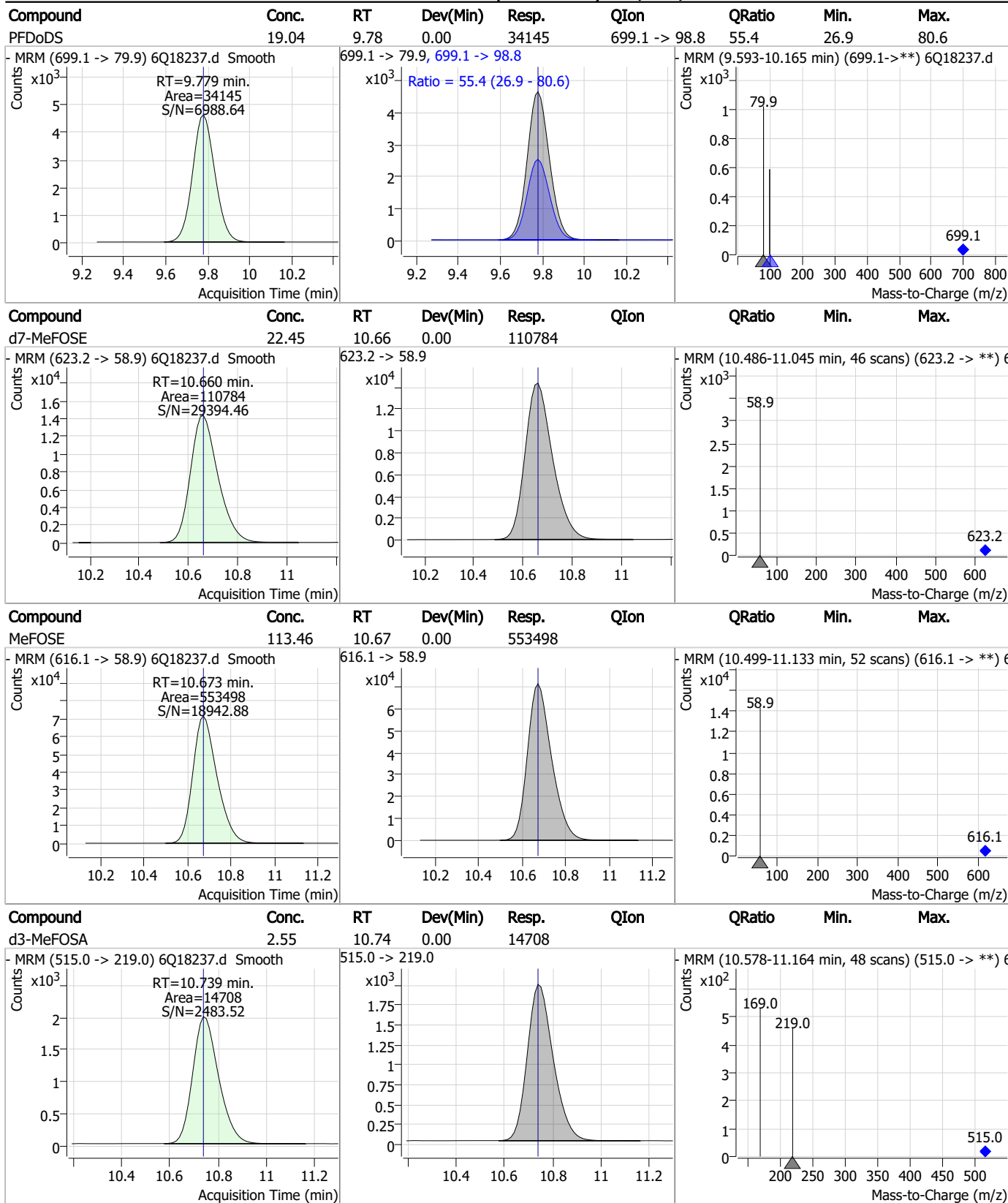
| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.28  | 9.65 | 0.00     | 14354 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFTeDA   | 23.56 | 9.65 | 0.00     | 378172 | 713.1 -> 168.9 | 8.8    | 3.8  | 11.4 |



### Perfluorinated Compounds by LC/MS/MS

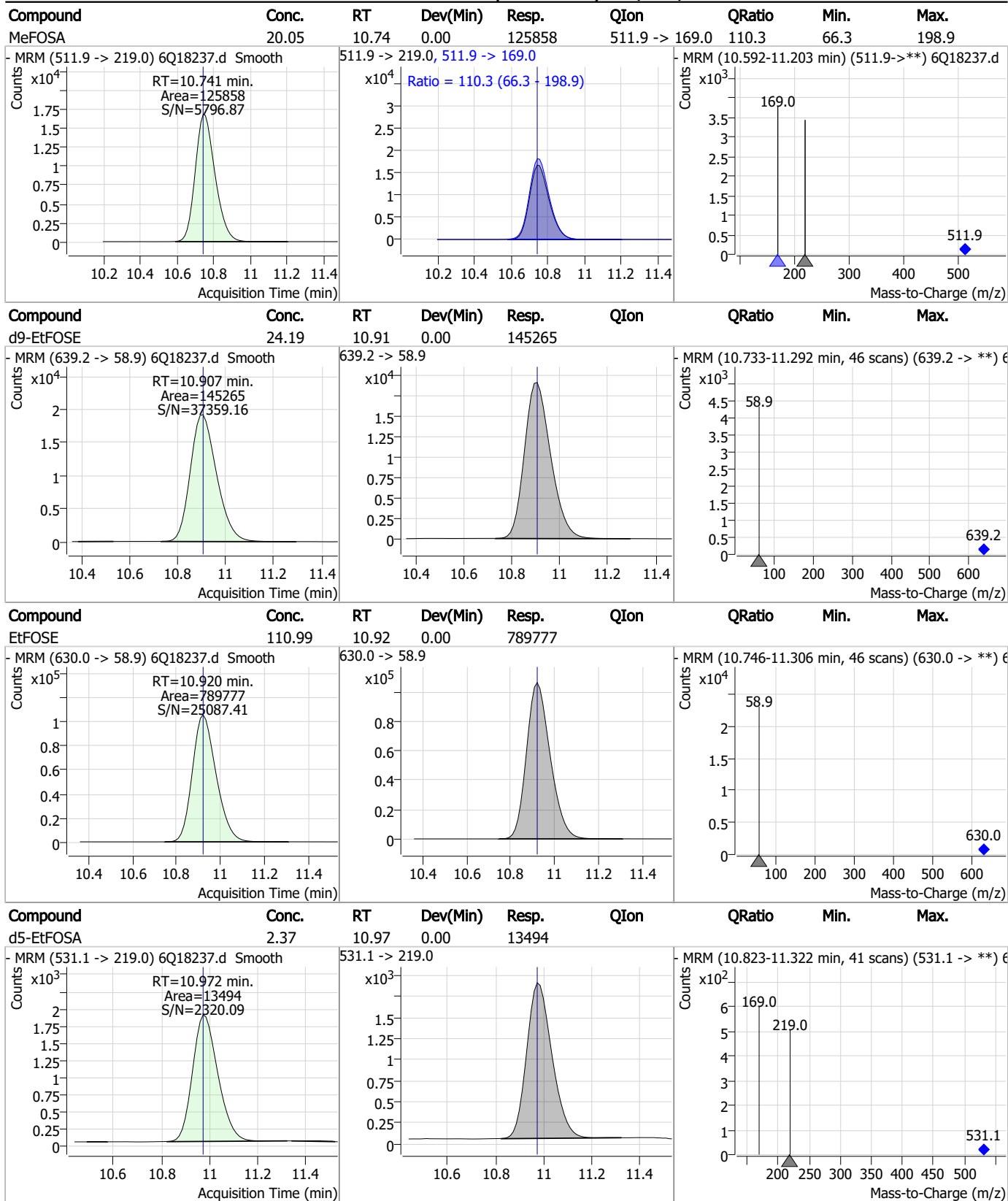


7.7.11

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### Perfluorinated Compounds by LC/MS/MS



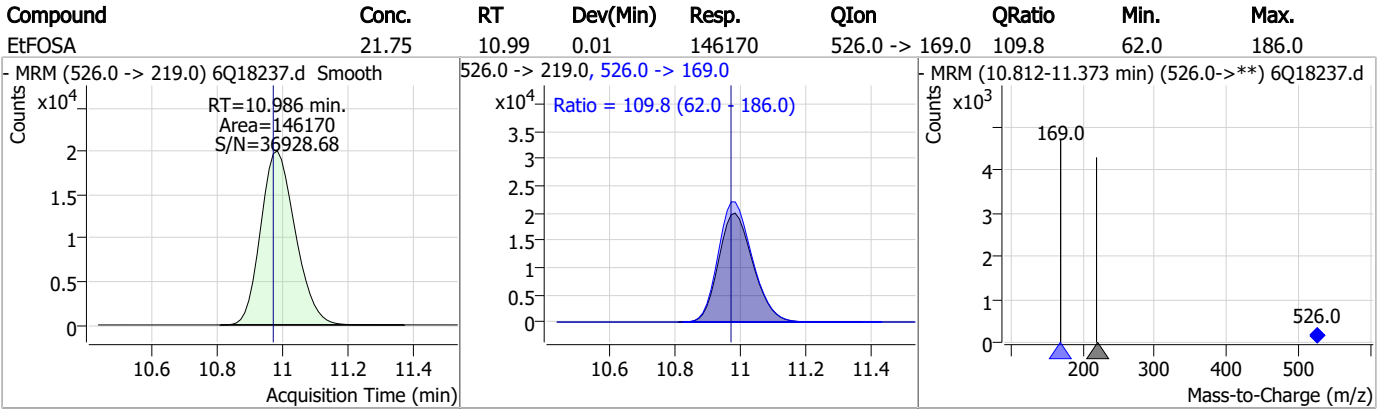
7.7.11

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### Perfluorinated Compounds by LC/MS/MS



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# Manual Integration Approval Summary

Sample Number: S6Q274-ICV274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18237.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/22/23 23:52      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.11.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18238.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 12:06:46 AM  
 Sample Name : cc274-4  
 Vial : P1-A5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 236684            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 77253             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.441                | 318.0 -> 273.0 | 82931             | 2.50 µg/L   | 0.012    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 74525             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 115511            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 45356             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 28732             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 39779             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 33573             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 16374             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 38966             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 31436             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 17416             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 17443             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.119                | 329.1 -> 80.9  | 3413              | 5.00 µg/L   | 0.012    |
| M2-6:2FTS                          | 6.825                | 429.1 -> 80.9  | 4961              | 5.00 µg/L   | 0.012    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 4877              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 28261             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 121702            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 25994             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 143079            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 176684            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16825             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17282             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 22402             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 100398            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13352             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 117977            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 38312             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 57445             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.442                | 315.1 -> 270.0 | 79632             | 2.50 µg/L   | 0.012    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.119                | 329.1 -> 80.9  | 3413              | 5.02 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 100.4% |             |          |
| 13C2-6:2FTS                        | 6.825                | 429.1 -> 80.9  | 4961              | 5.18 µg/L   | 0.012    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 103.6% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 4877              | 5.29 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 105.9% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 33573             | 1.21 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 96.5%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 16374             | 1.13 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 90.1%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 31436             | 2.47 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 98.9%  |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 17416             | 2.39 µg/L   | 0.000    |

7.7.12  
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### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 95.5%  |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 236684   | 9.99 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 74525    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| 13C5-PFHxA              | 5.441                | 318.0 -> 273.0 | 82931    | 2.60 µg/L         | 0.012         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 77253    | 5.18 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.5% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 28732    | 1.21 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 97.1%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 39779    | 1.33 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 106.1% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 38966    | 2.50 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 115511   | 2.45 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.2%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 17443    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.3% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 45356    | 1.15 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 92.3%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 28261    | 4.76 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 95.2%  |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 121702   | 9.95 µg/L         | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17282    | 2.44 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.4%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 25994    | 4.92 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 98.4%  |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 143079   | 23.53 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 94.1%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 176684   | 23.87 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 95.5%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16825    | 2.39 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 95.7%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 56736    | 9.42 µg/L         | 95            |
|                         |                      | 327.1 -> 80.9  | 20752    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 50385    | 9.13 µg/L         | 100           |
|                         |                      | 427.1 -> 80.9  | 17103    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 27265    | 9.37 µg/L         | 96            |
|                         |                      | 527.1 -> 80.8  | 10991    |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 9626     | 2.42 µg/L         | 99            |
|                         |                      | 584.2 -> 526.0 | 5283     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 36554    | 2.41 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 999      |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 16290    | 2.54 µg/L         | 98            |
|                         |                      | 570.1 -> 483.0 | 3015     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 88945    | 9.68 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 27034    | 2.14 µg/L         | 95            |
|                         |                      | 298.7 -> 98.8  | 10521    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 100866   | 2.55 µg/L         | 99            |
|                         |                      | 512.9 -> 219.0 | 15729    |                   |               |
| PFDoDA                  | 8.913                | 613.1 -> 569.0 | 64586    | 2.40 µg/L         | 94            |
|                         |                      | 613.1 -> 319.0 | 10467    |                   |               |
| PFDS                    | 9.089                | 599.0 -> 79.9  | 11351    | 2.30 µg/L         | 97            |

7.7.12  
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Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
|              |        | 599.0 -> 98.8  | 5300     |       |       |          |
| PFHpA        | 6.395  | 363.1 -> 319.0 | 95453    | 2.40  | µg/L  | 96       |
|              |        | 363.1 -> 169.0 | 15991    |       |       |          |
| PFHpS        | 7.710  | 449.0 -> 79.9  | 20424    | 2.18  | µg/L  | 97       |
|              |        | 449.0 -> 98.9  | 9718     |       |       |          |
| PFHxA        | 5.432  | 313.0 -> 269.0 | 75291    | 2.33  | µg/L  | 98       |
|              |        | 313.0 -> 118.9 | 3791     |       |       |          |
| PFHxS        | 7.156  | 398.7 -> 79.9  | 21817    | 2.24  | µg/L  | m 97     |
|              |        | 398.7 -> 98.9  | 10730    |       |       |          |
| PFNA         | 7.570  | 463.0 -> 419.0 | 88252    | 2.43  | µg/L  | 94       |
|              |        | 463.0 -> 219.0 | 19637    |       |       |          |
| PFNS         | 8.656  | 548.8 -> 79.9  | 19352    | 2.36  | µg/L  | 97       |
|              |        | 548.8 -> 98.9  | 9844     |       |       |          |
| PFOA         | 7.052  | 413.0 -> 369.0 | 132913   | 2.50  | µg/L  | 97       |
|              |        | 413.0 -> 169.0 | 24341    |       |       |          |
| PFOS         | 8.191  | 498.9 -> 79.9  | 20423    | 2.14  | µg/L  | m 90     |
|              |        | 498.9 -> 98.8  | 9519     |       |       |          |
| PFPeA        | 4.237  | 263.0 -> 219.0 | 102631   | 4.79  | µg/L  | 100      |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 21752    | 2.34  | µg/L  | 98       |
|              |        | 349.1 -> 98.9  | 10039    |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 46774    | 2.55  | µg/L  | 97       |
|              |        | 713.1 -> 168.9 | 4064     |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 65208    | 2.45  | µg/L  | 94       |
|              |        | 663.0 -> 168.9 | 7554     |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 64829    | 2.21  | µg/L  | 97       |
|              |        | 563.1 -> 269.1 | 10656    |       |       |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 92780    | 4.65  | µg/L  | 100      |
|              |        | 632.9 -> 452.9 | 28859    |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 157464   | 4.64  | µg/L  | 99       |
|              |        | 532.8 -> 353.0 | 50646    |       |       |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 365140   | 4.78  | µg/L  | 98       |
|              |        | 376.9 -> 84.8  | 94428    |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 59536    | 4.95  | µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 6536     |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 17957    | 11.88 | µg/L  | 96       |
|              |        | 241.0 -> 117.0 | 2328     |       |       |          |
| 5:3FTCA      | 6.111  | 341.0 -> 237.1 | 348079   | 59.35 | µg/L  | 93       |
|              |        | 341.0 -> 217.0 | 266871   |       |       |          |
| 7:3FTCA      | 7.535  | 441.0 -> 316.9 | 227082   | 60.13 | µg/L  | 100      |
|              |        | 441.0 -> 336.9 | 500161   |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 40634    | 4.85  | µg/L  | 90       |
|              |        | 526.0 -> 169.0 | 54856    |       |       |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 104812   | 12.11 | µg/L  | 100      |
| MeFOSA       | 10.741 | 511.9 -> 219.0 | 34495    | 4.68  | µg/L  | 90       |
|              |        | 511.9 -> 169.0 | 49917    |       |       |          |
| MeFOSE       | 10.661 | 616.1 -> 58.9  | 76110    | 12.08 | µg/L  | 100      |
| PFDoDS       | 9.779  | 699.1 -> 79.9  | 4921     | 2.27  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2659     |       |       |          |
| NFDHA        | 5.311  | 295.0 -> 201.0 | 19823    | 4.85  | µg/L  | 96       |
|              |        | 295.0 -> 84.9  | 4985     |       |       |          |
| PFMBA        | 4.650  | 279.0 -> 85.1  | 72476    | 4.80  | µg/L  | 100      |
| PFMPA        | 3.401  | 229.0 -> 84.9  | 54188    | 4.77  | µg/L  | 100      |
| PFEESA       | 5.900  | 314.8 -> 134.9 | 189194   | 4.20  | µg/L  | 99       |
|              |        | 314.8 -> 82.9  | 6589     |       |       |          |

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

7.7.12  
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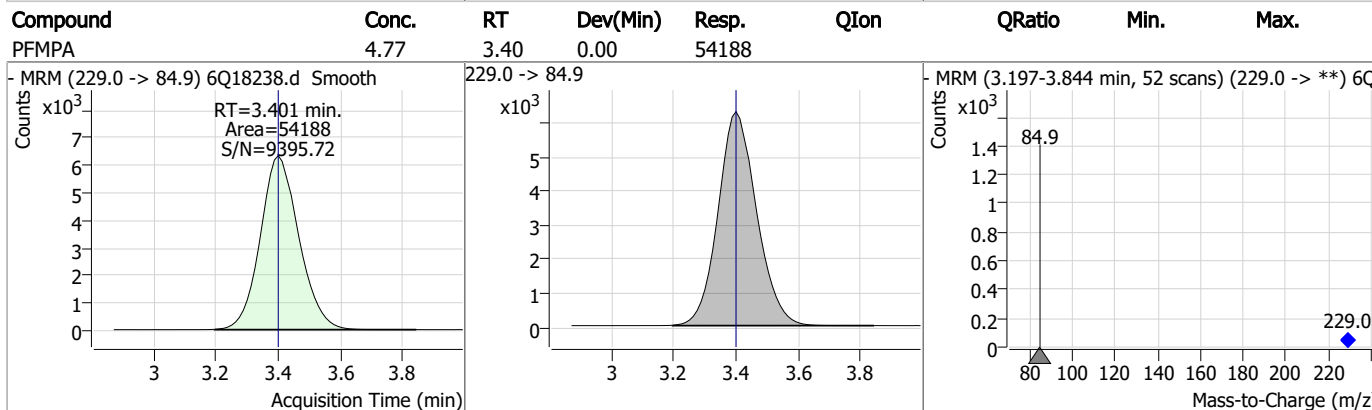
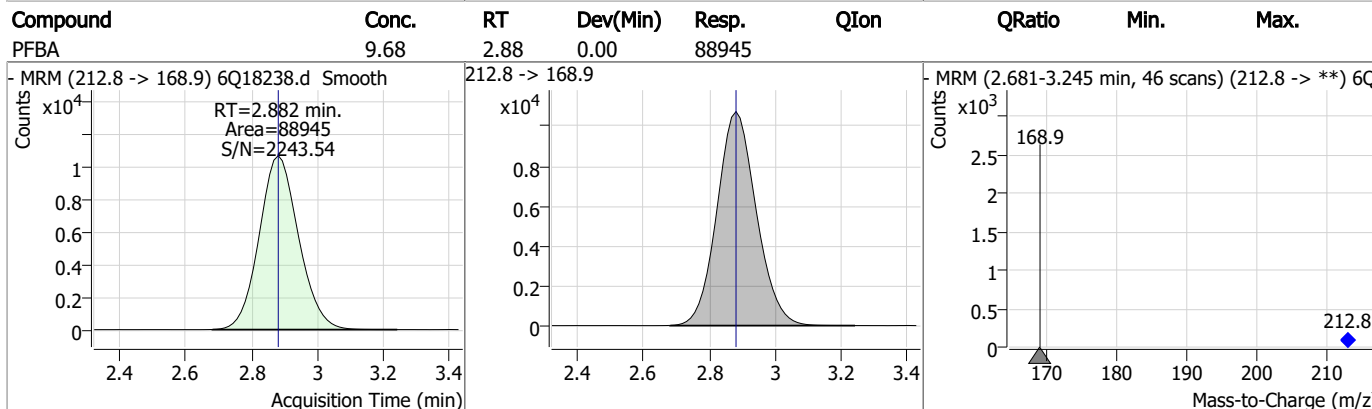
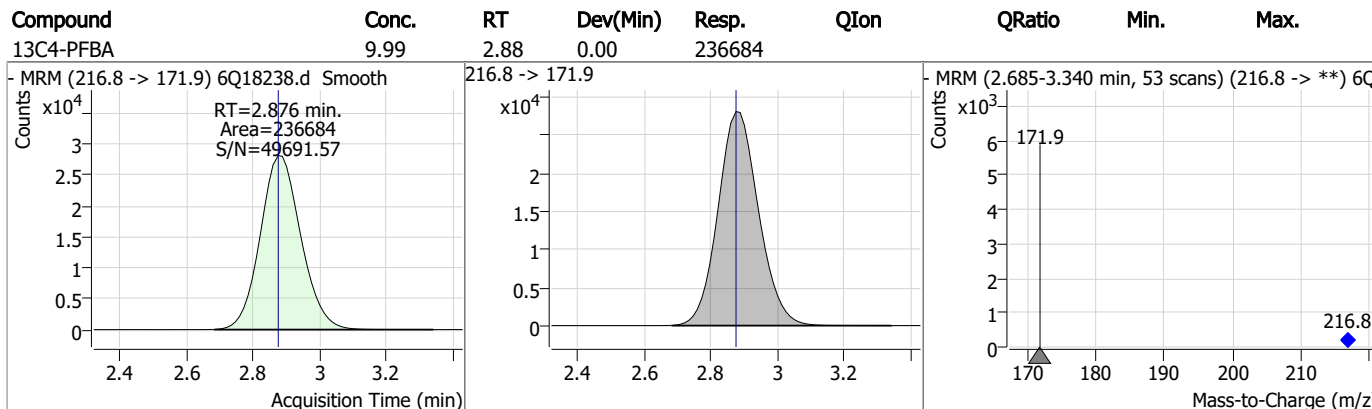
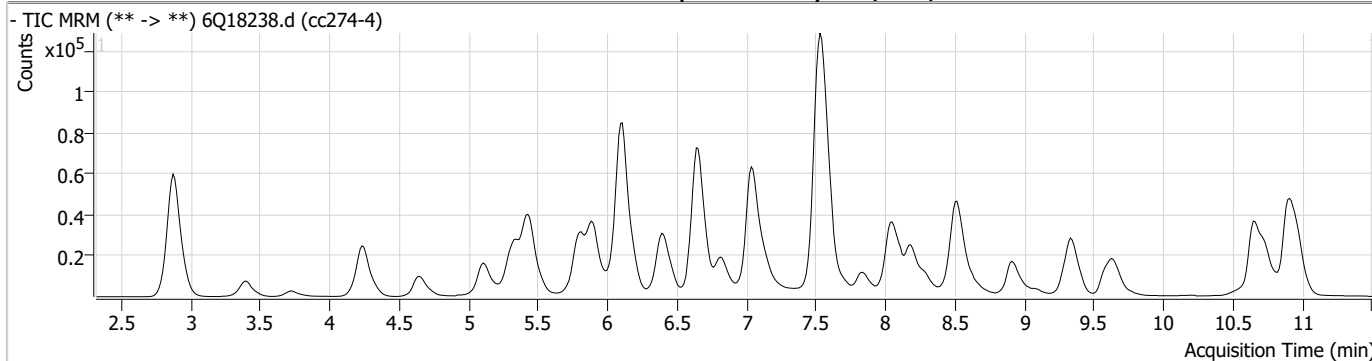
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.12

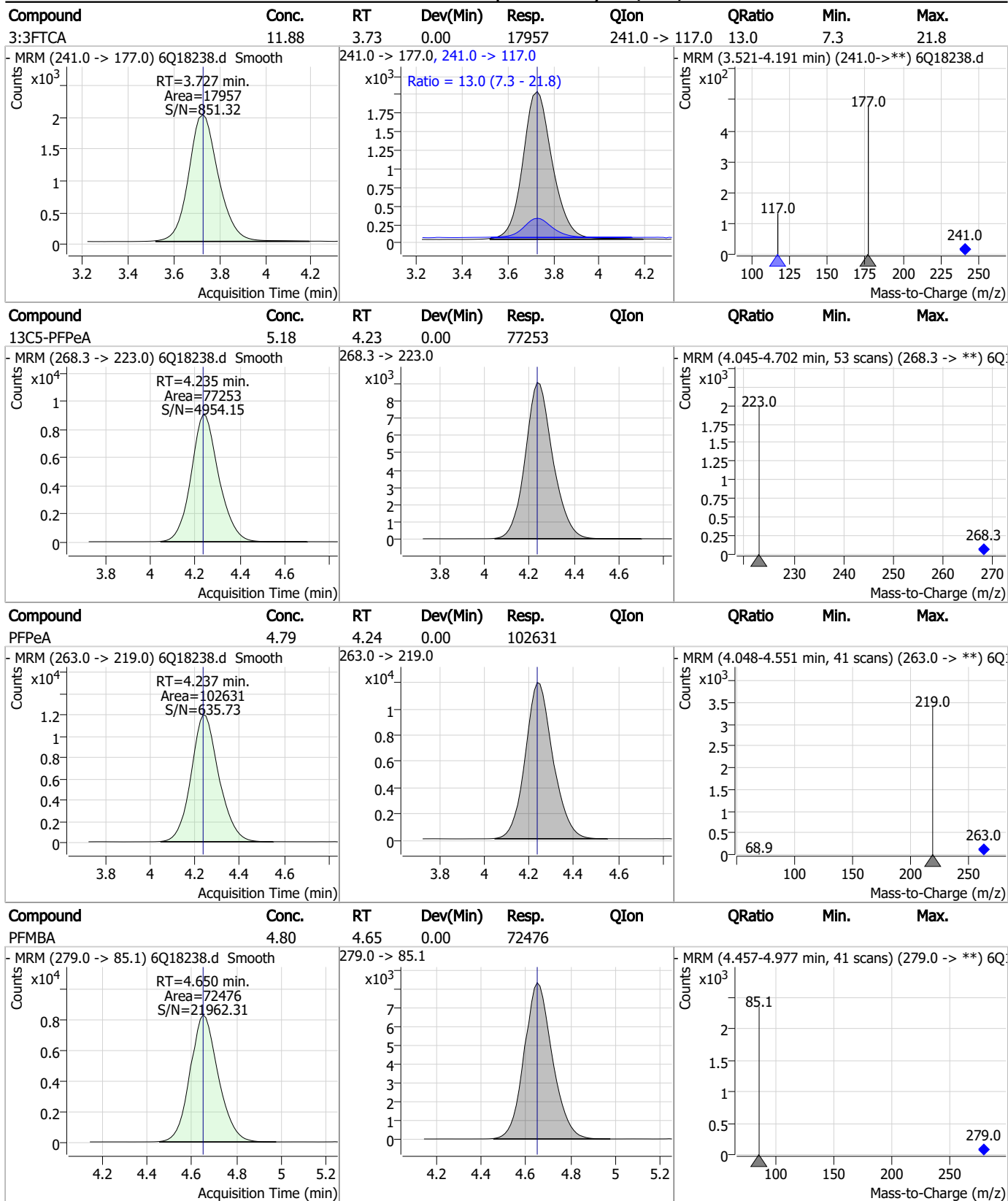
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### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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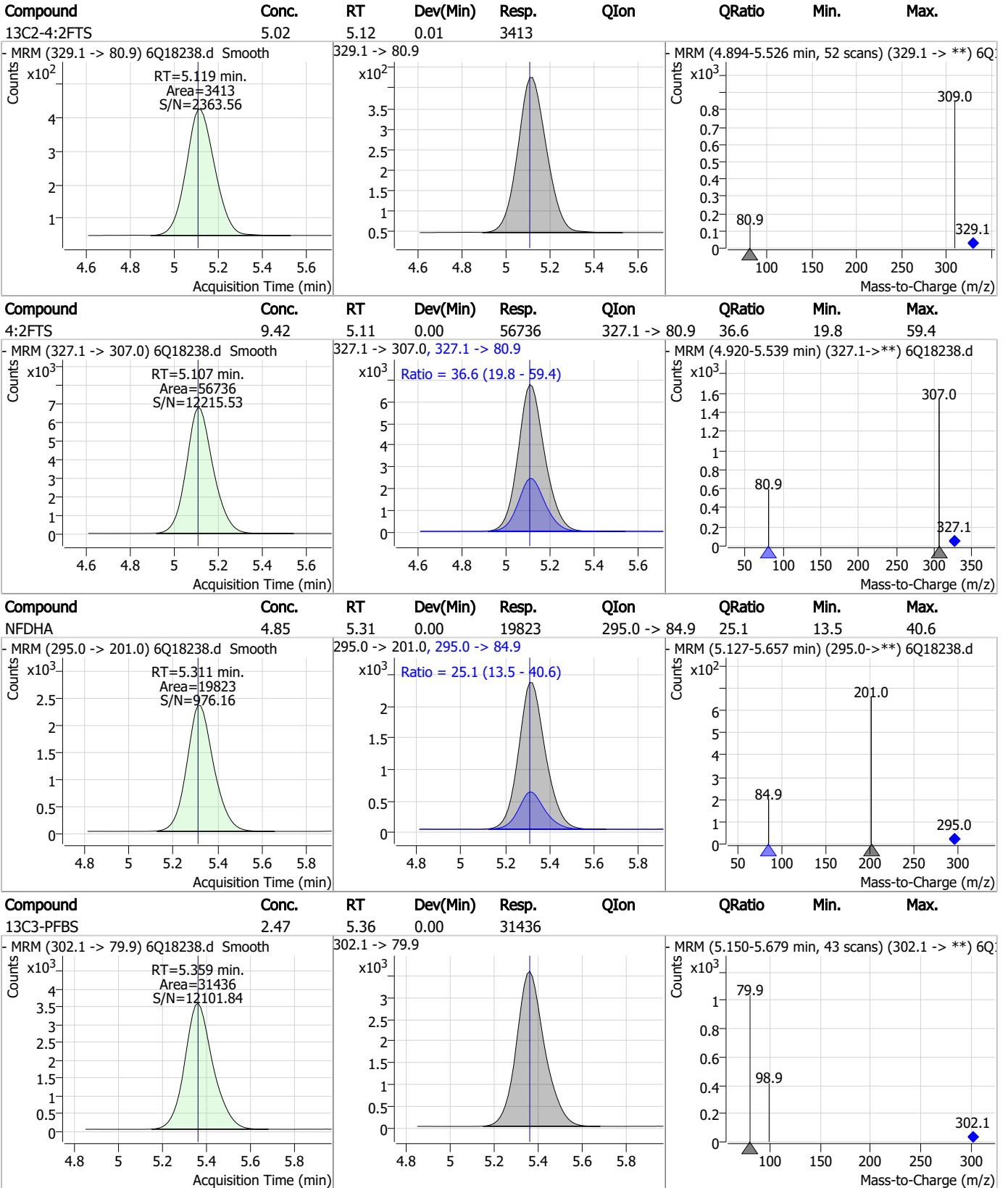
### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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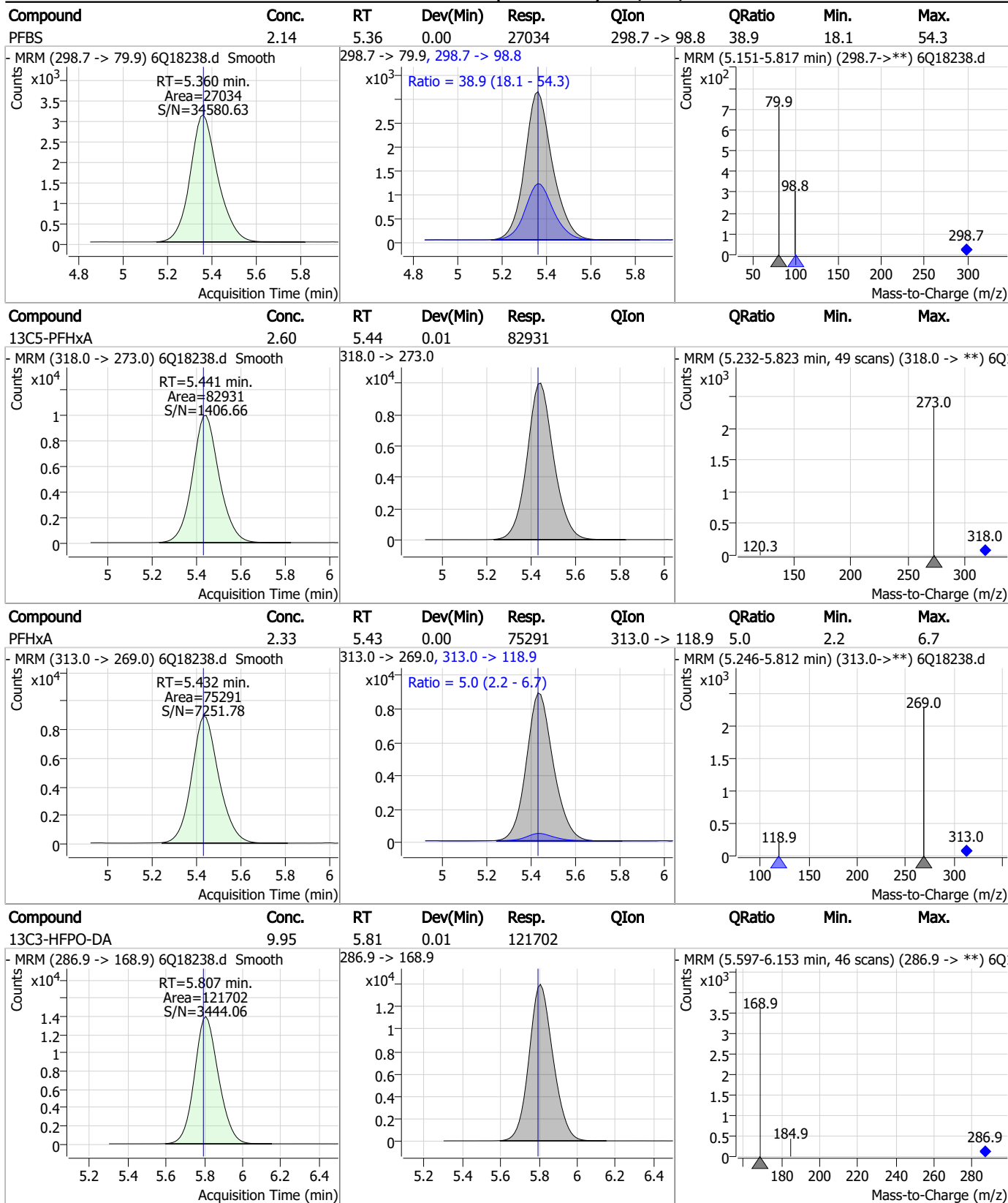
### Perfluorinated Compounds by LC/MS/MS



7.7.12 7

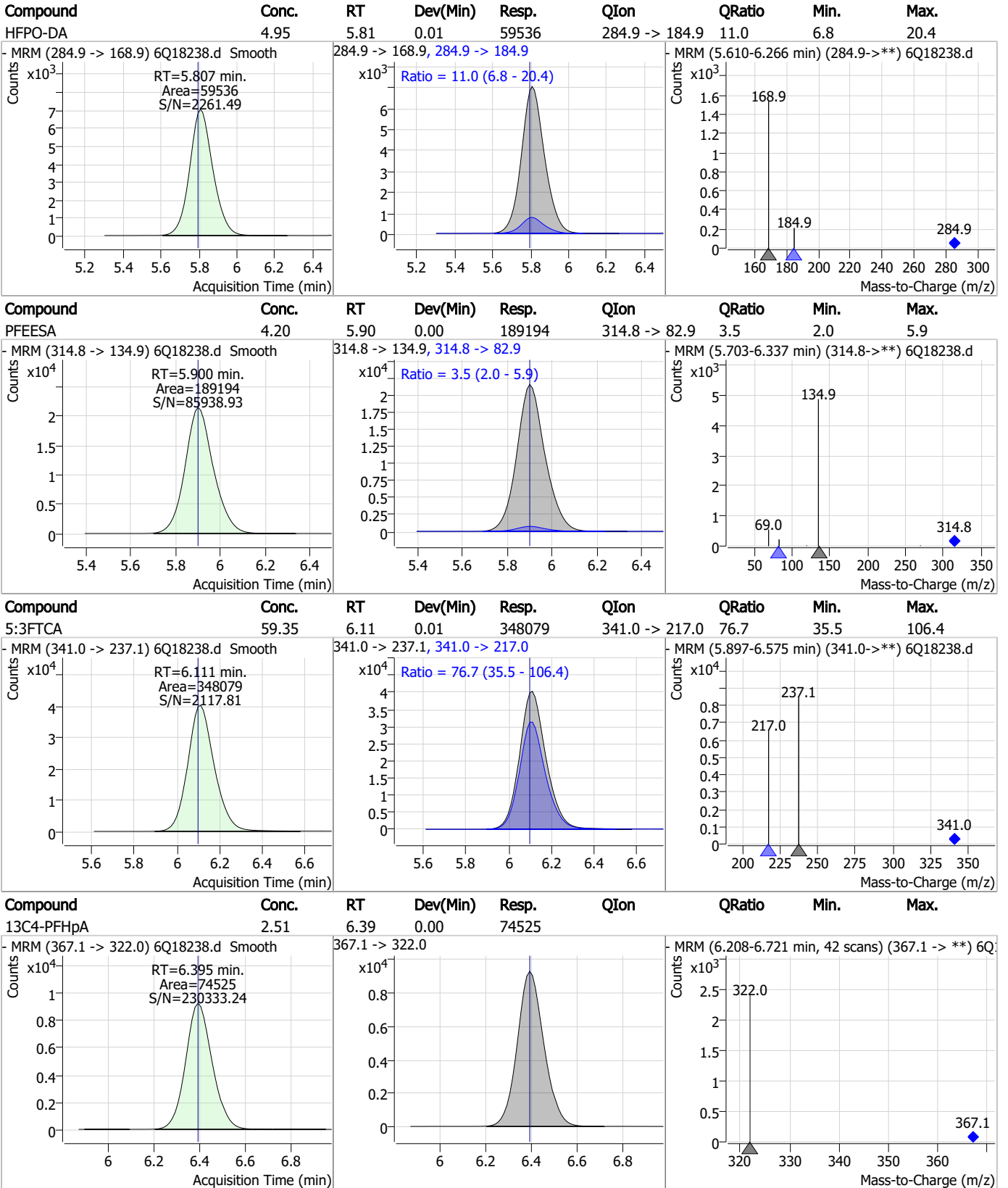


### Perfluorinated Compounds by LC/MS/MS



7.7.12

### Perfluorinated Compounds by LC/MS/MS



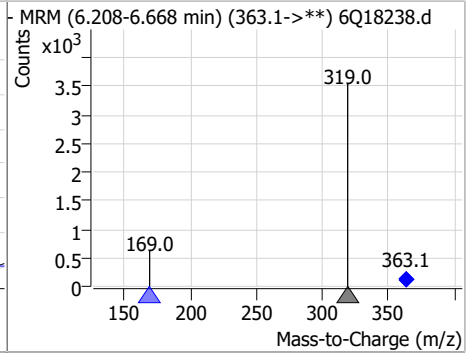
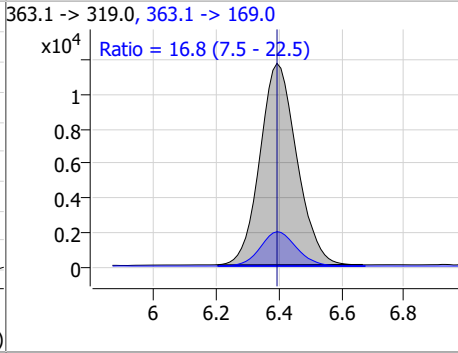
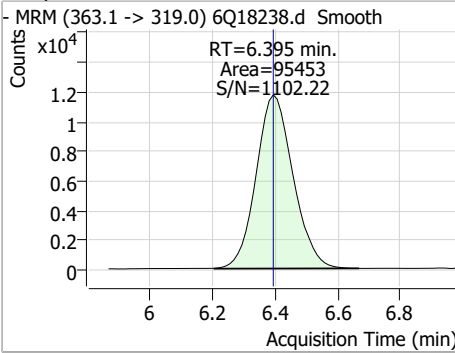
7.7.12

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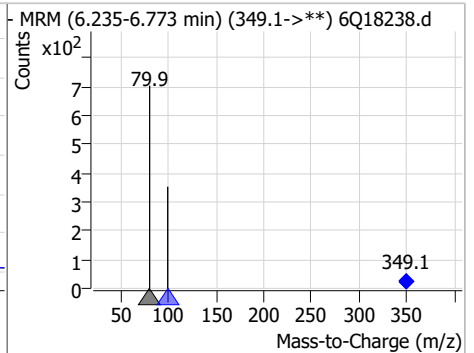
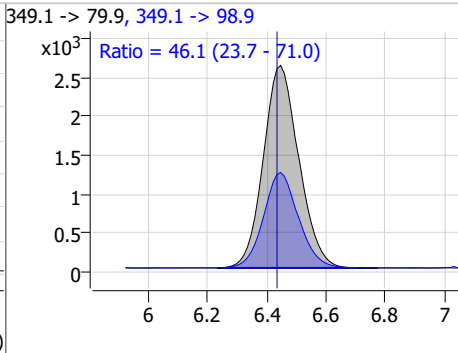
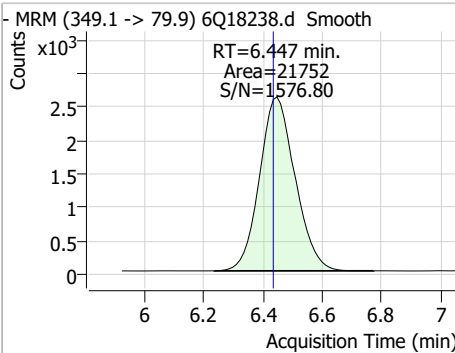


### Perfluorinated Compounds by LC/MS/MS

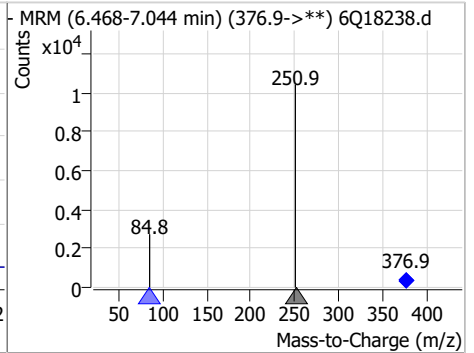
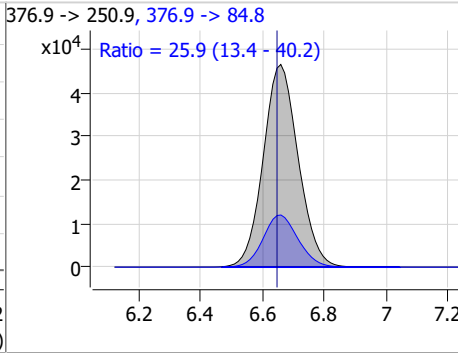
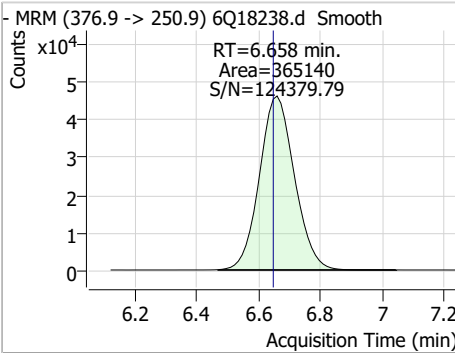
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHpA    | 2.40  | 6.40 | 0.00     | 95453 | 363.1 -> 169.0 | 16.8   | 7.5  | 22.5 |



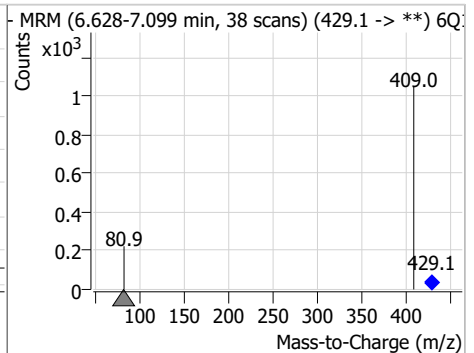
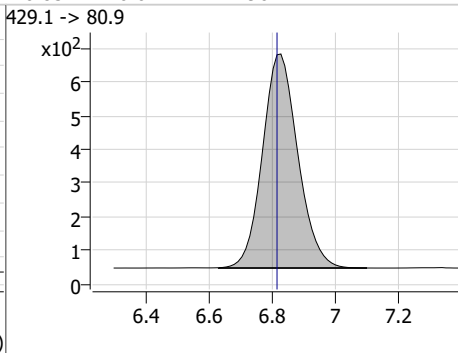
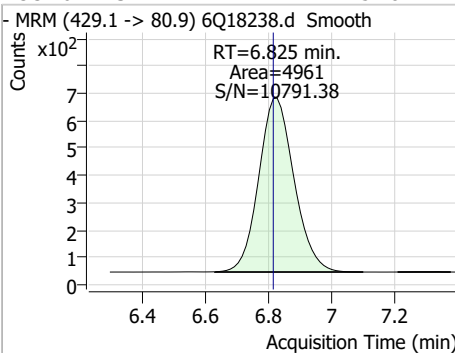
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFPeS    | 2.34  | 6.45 | 0.01     | 21752 | 349.1 -> 98.9 | 46.1   | 23.7 | 71.0 |



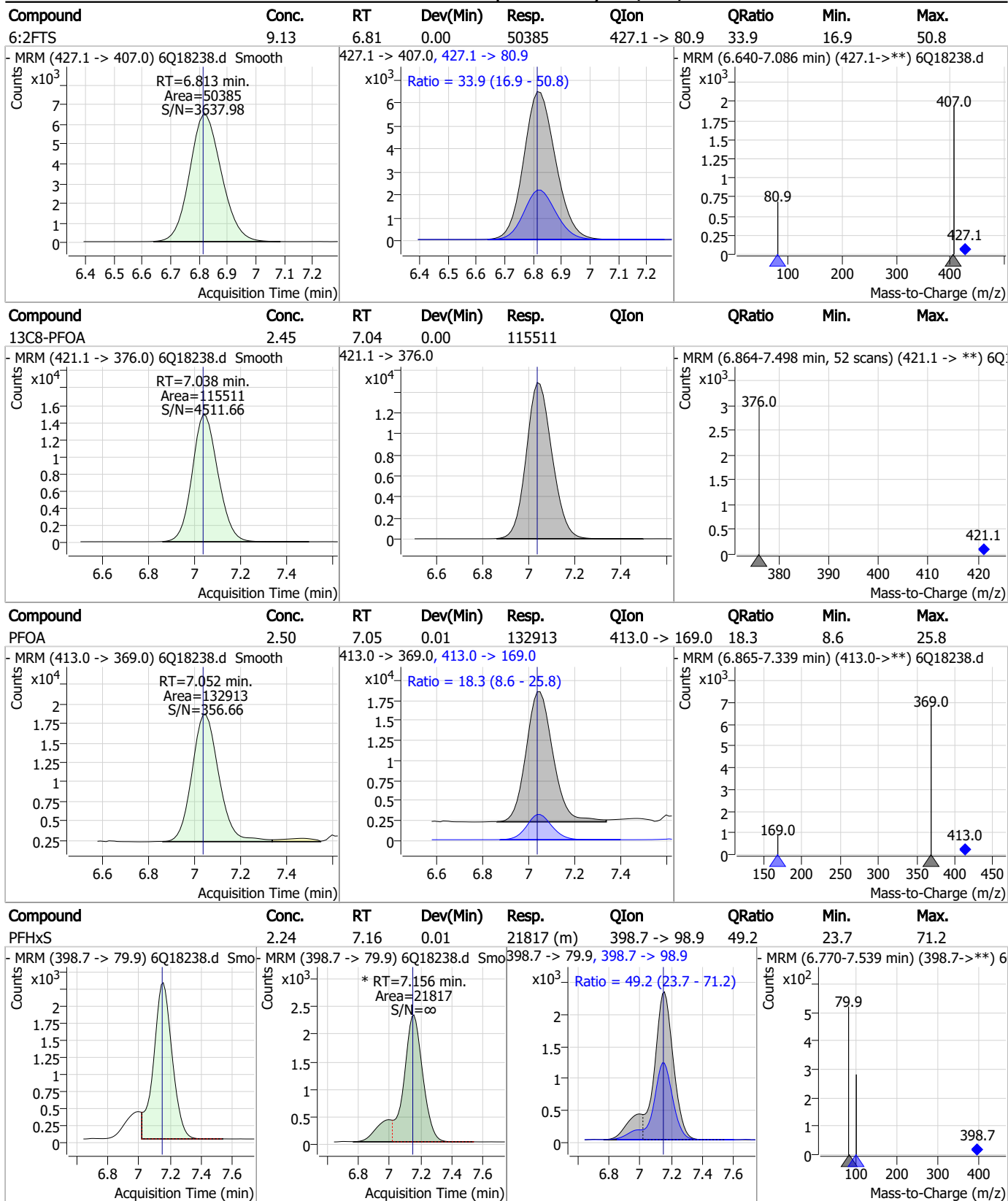
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| ADONA    | 4.78  | 6.66 | 0.01     | 365140 | 376.9 -> 84.8 | 25.9   | 13.4 | 40.2 |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|---------------|--------|------|------|
| 13C2-6:2FTS | 5.18  | 6.83 | 0.01     | 4961  | 429.1 -> 80.9 |        |      |      |

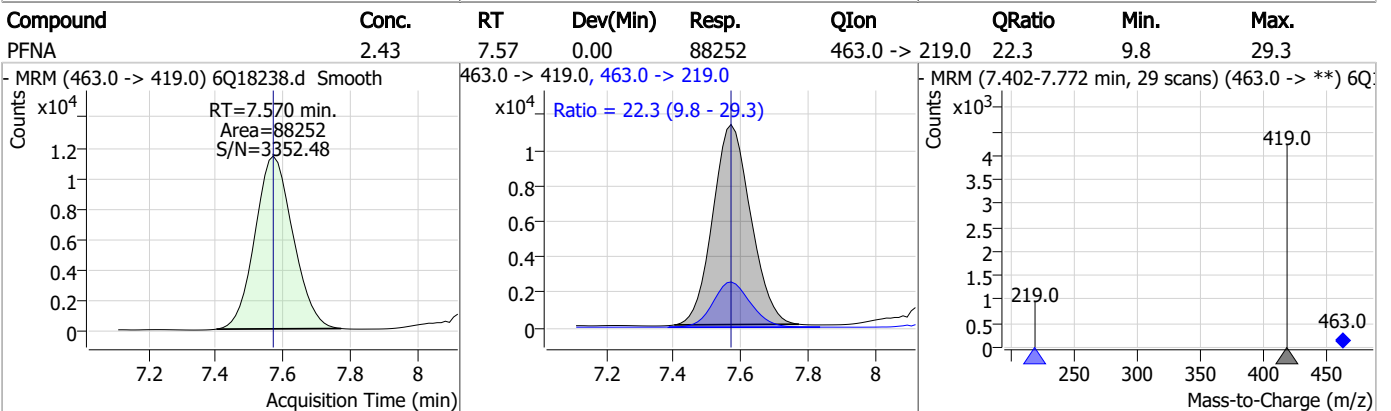
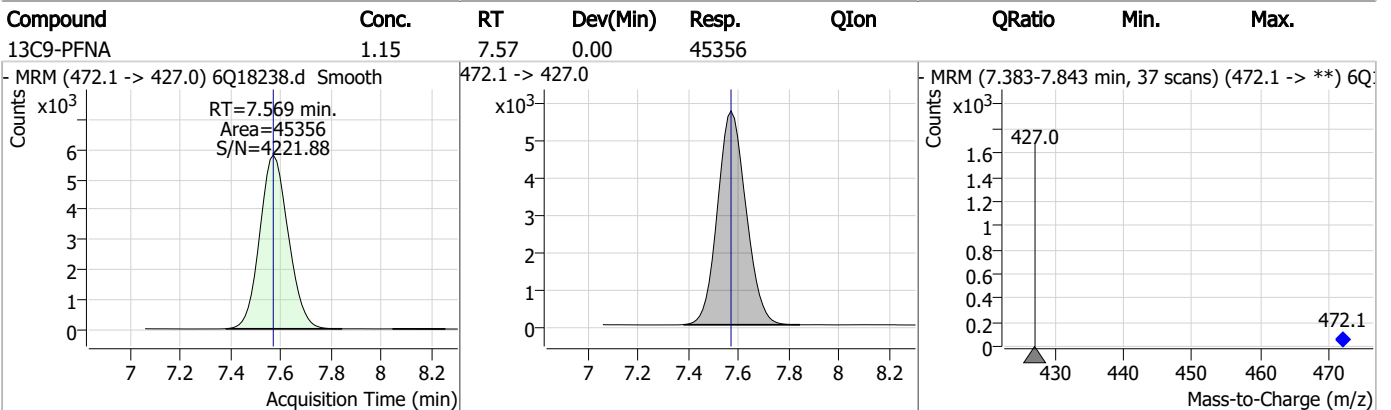
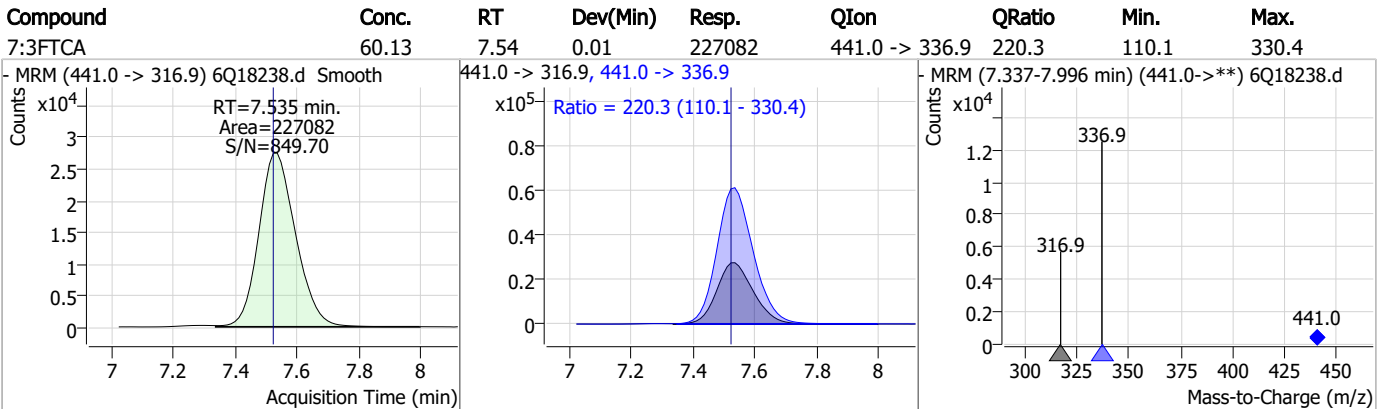
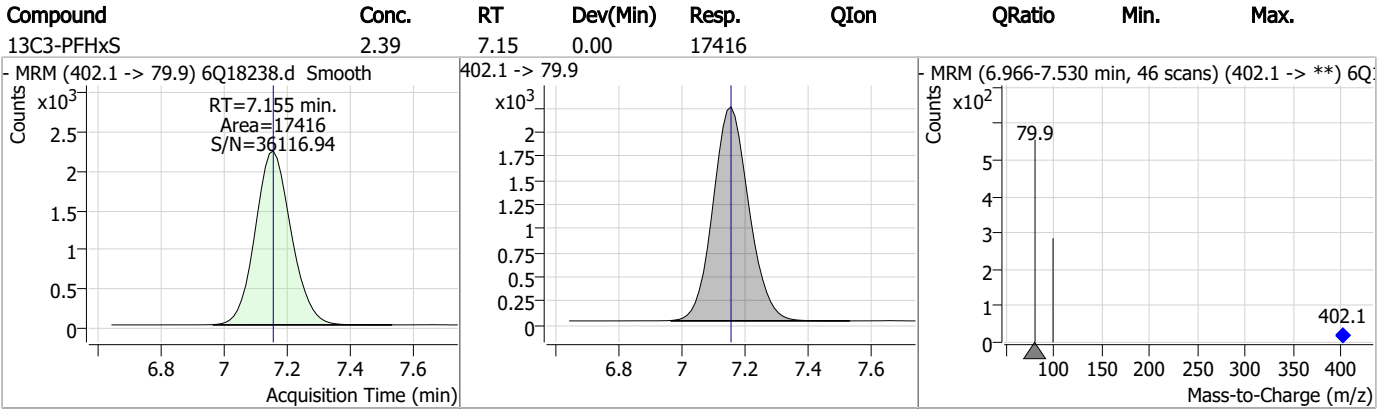


### Perfluorinated Compounds by LC/MS/MS



7.7.12

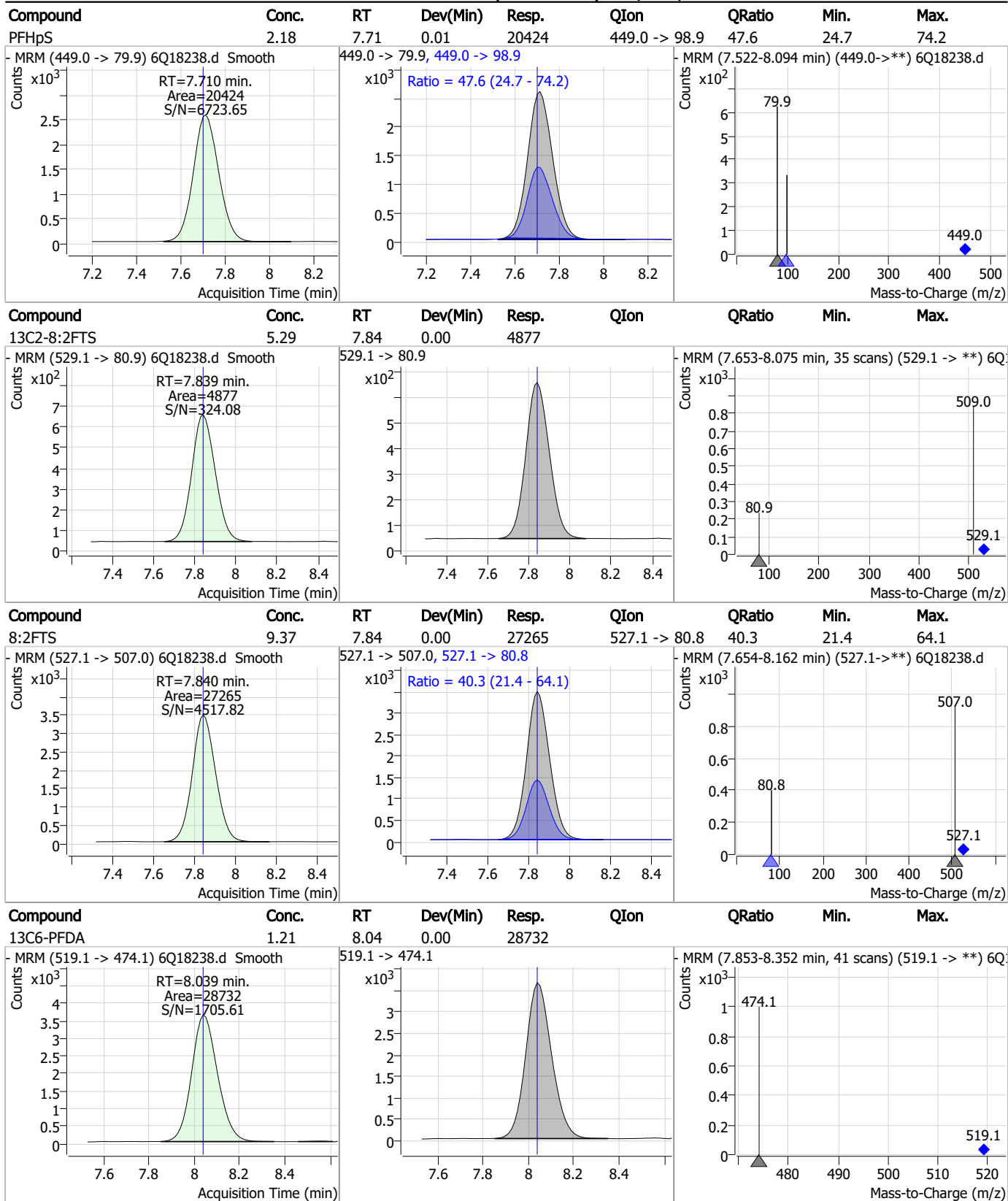
### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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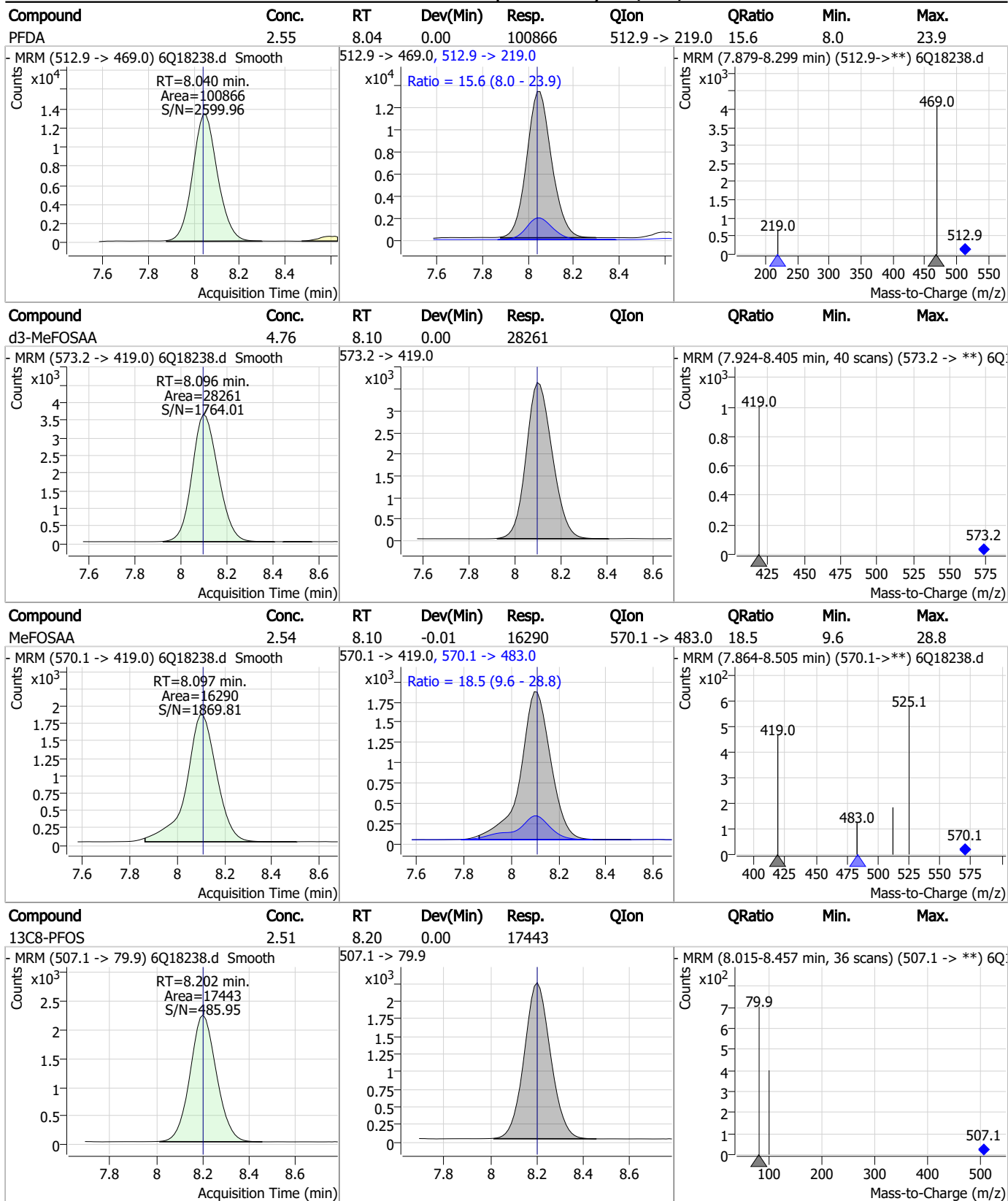


### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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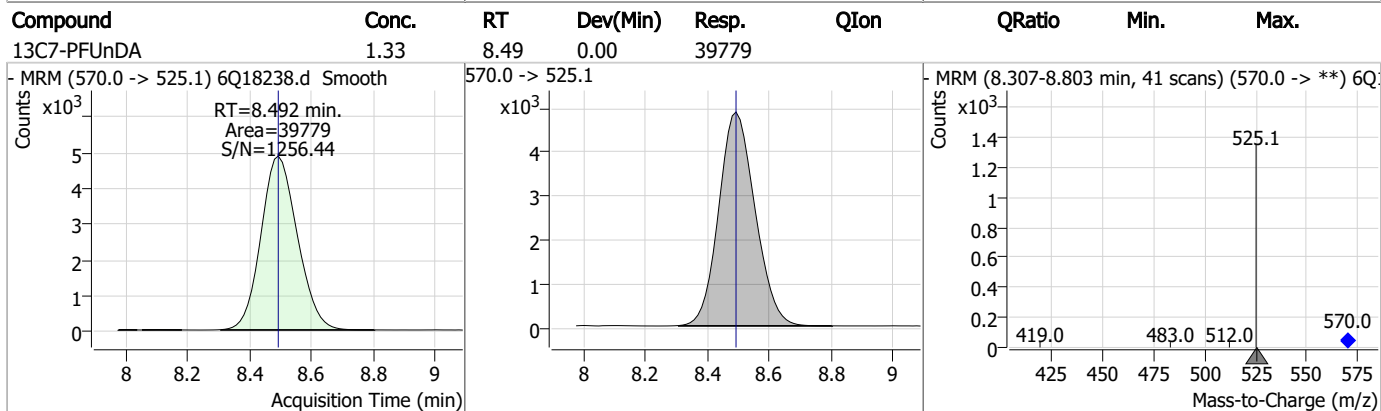
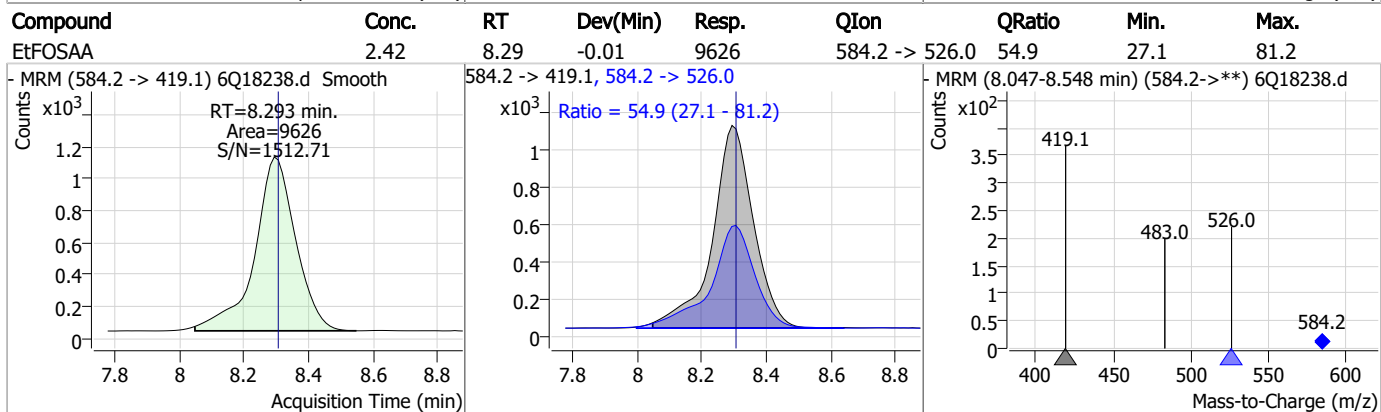
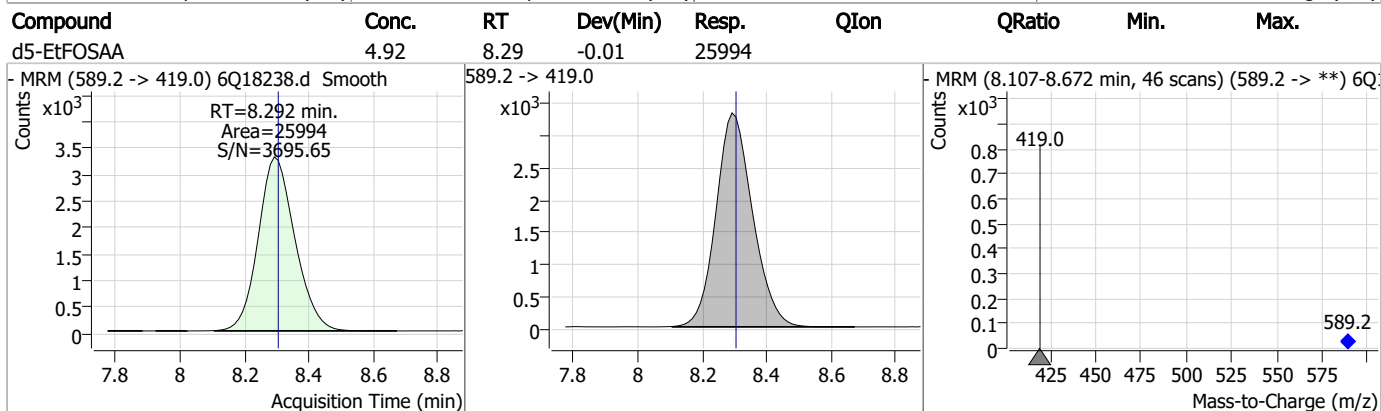
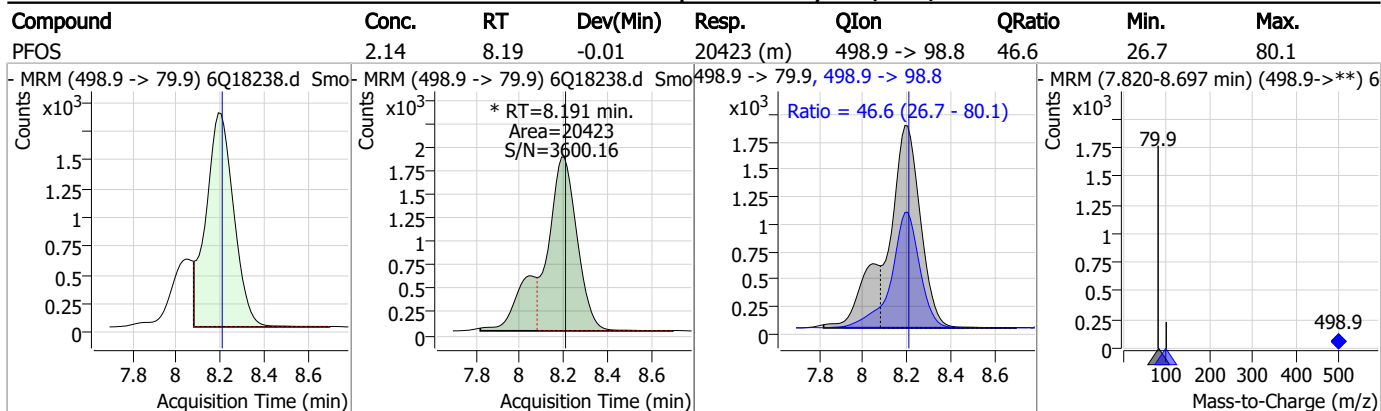
### Perfluorinated Compounds by LC/MS/MS



7.7.12  
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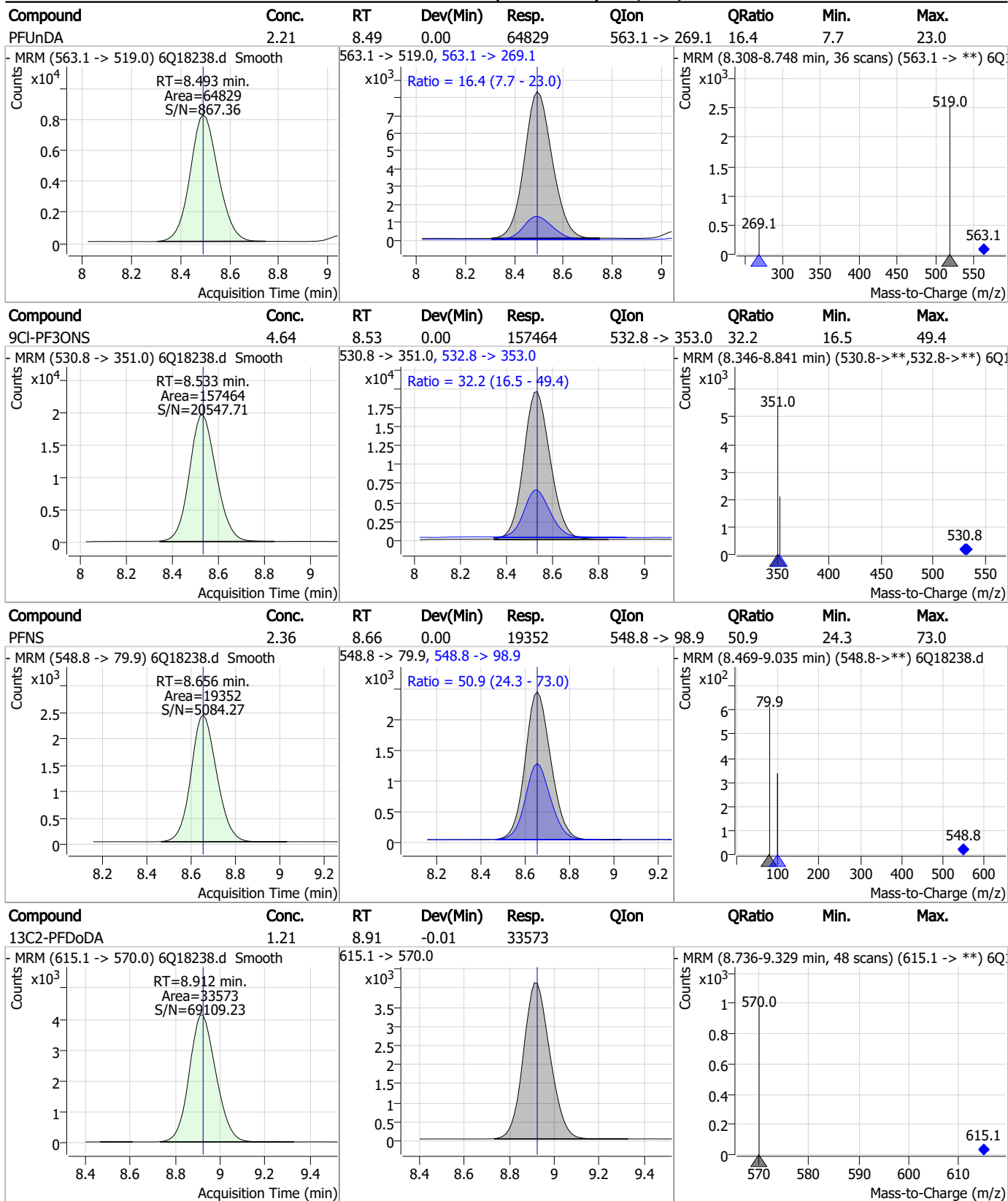


### Perfluorinated Compounds by LC/MS/MS



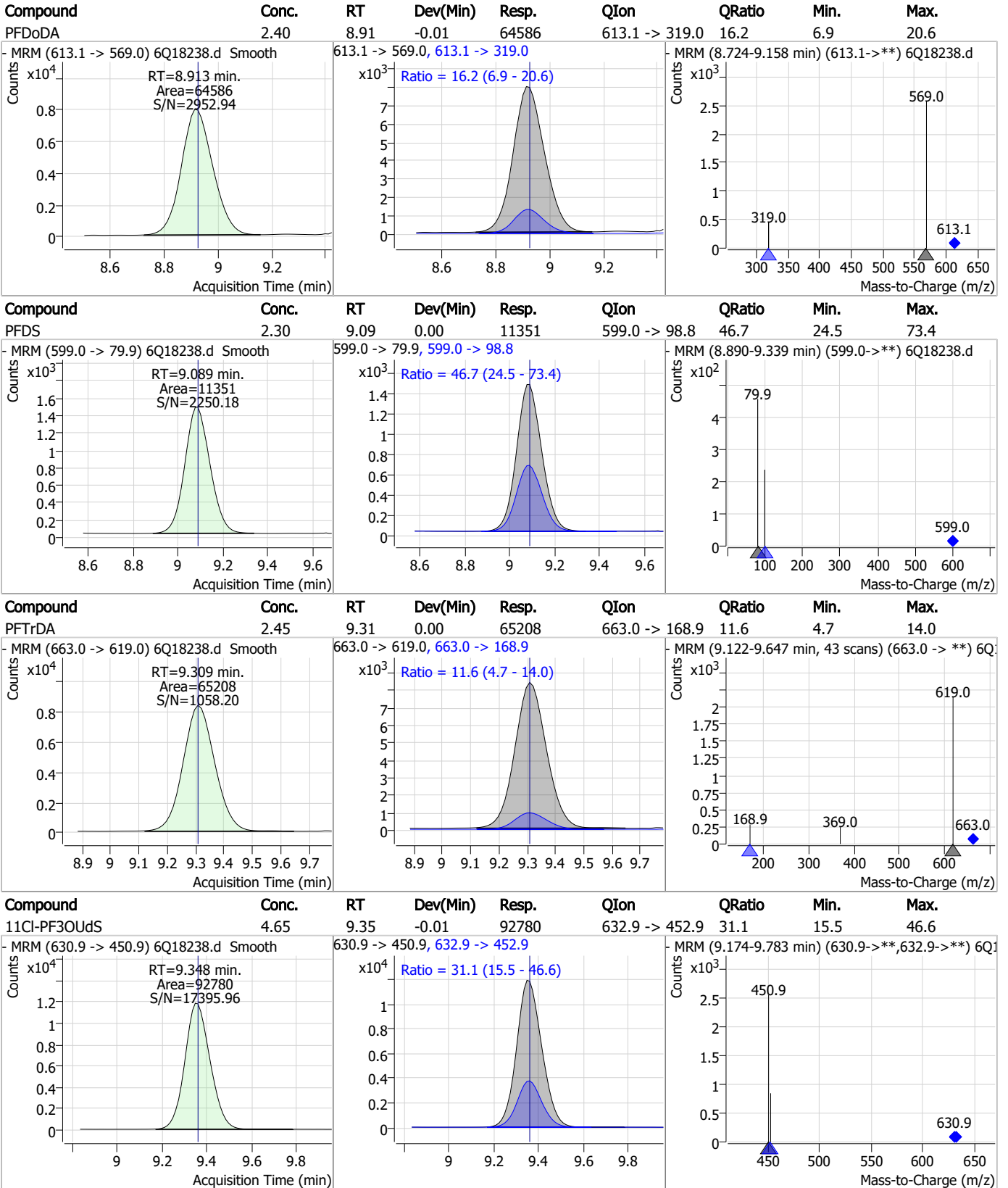
7.7.12  
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### Perfluorinated Compounds by LC/MS/MS



7.7.12 7

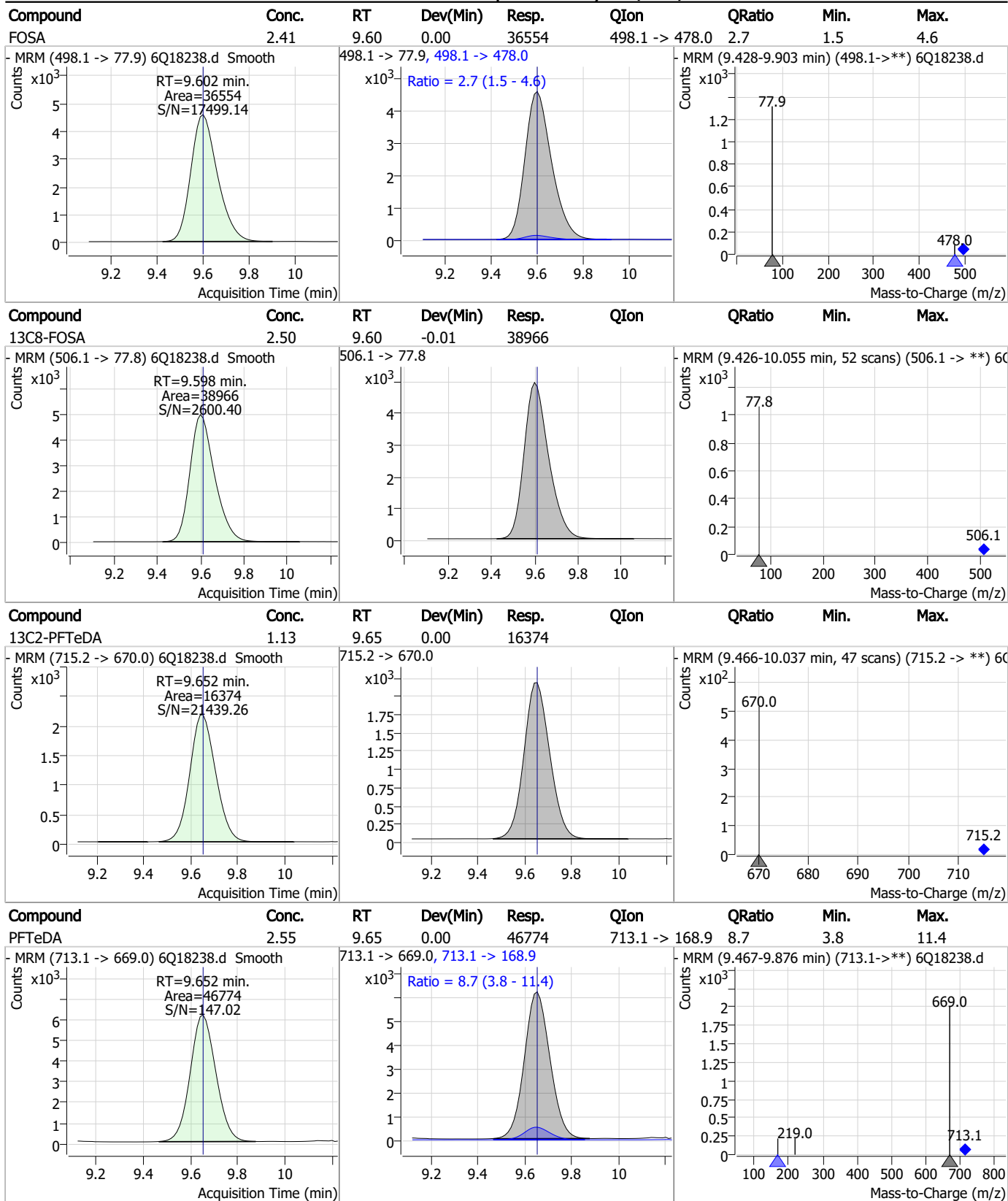
### Perfluorinated Compounds by LC/MS/MS



7.7.12 7



### Perfluorinated Compounds by LC/MS/MS



7.7.12

### Perfluorinated Compounds by LC/MS/MS

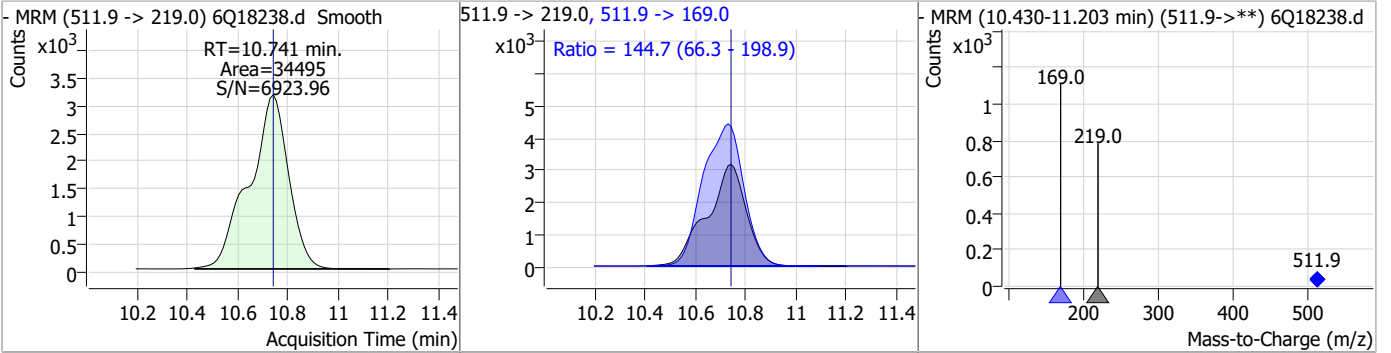
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon           | QRatio | Min.  | Max.  |
|-----------|-------|-------|----------|--------|----------------|--------|-------|-------|
| PFDoS     | 2.27  | 9.78  | 0.00     | 4921   | 699.1 -> 98.8  | 54.0   | 26.9  | 80.6  |
|           |       |       |          |        |                |        |       |       |
| d7-MeFOSE | 23.53 | 10.66 | 0.00     | 143079 | 623.2 -> 58.9  | 58.9   | 58.9  | 623.2 |
|           |       |       |          |        |                |        |       |       |
| MeFOSE    | 12.08 | 10.66 | -0.01    | 76110  | 616.1 -> 58.9  | 58.9   | 58.9  | 616.1 |
|           |       |       |          |        |                |        |       |       |
| d3-MeFOSA | 2.44  | 10.74 | 0.00     | 17282  | 515.0 -> 219.0 | 169.0  | 515.0 | 515.0 |
|           |       |       |          |        |                |        |       |       |

7.7.12  
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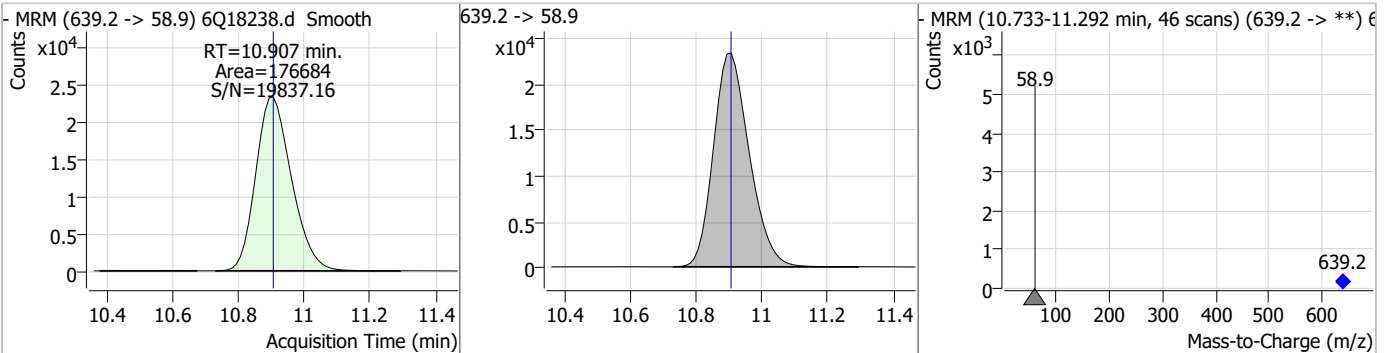


### Perfluorinated Compounds by LC/MS/MS

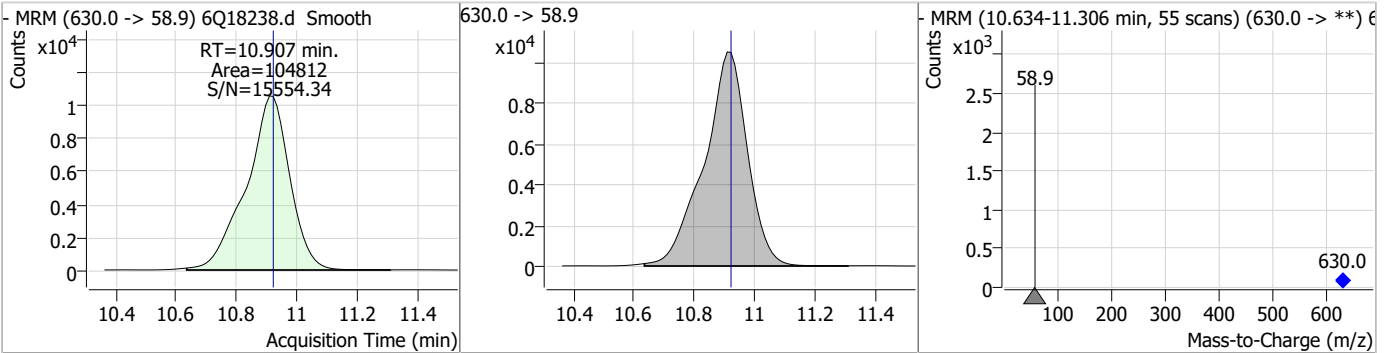
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOSA   | 4.68  | 10.74 | 0.00     | 34495 | 511.9 -> 169.0 | 144.7  | 66.3 | 198.9 |



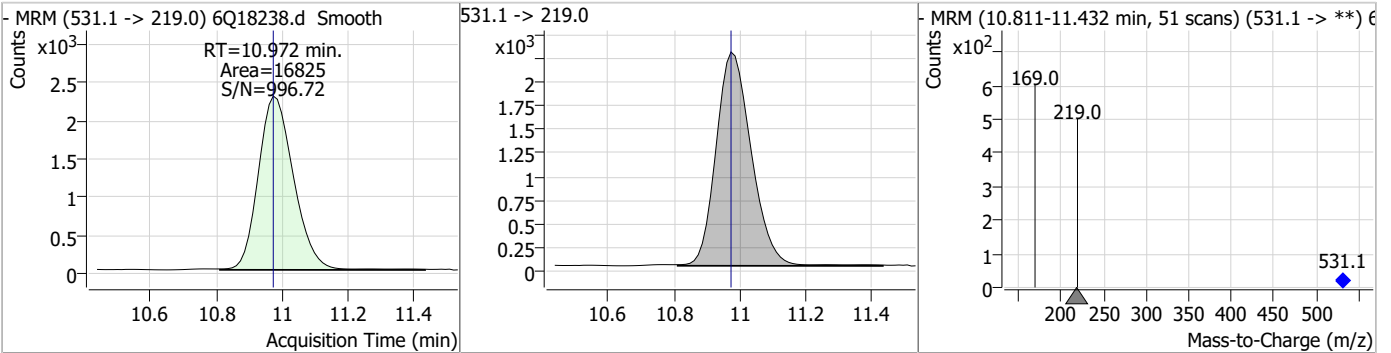
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 23.87 | 10.91 | 0.00     | 176684 |      |        |      |      |



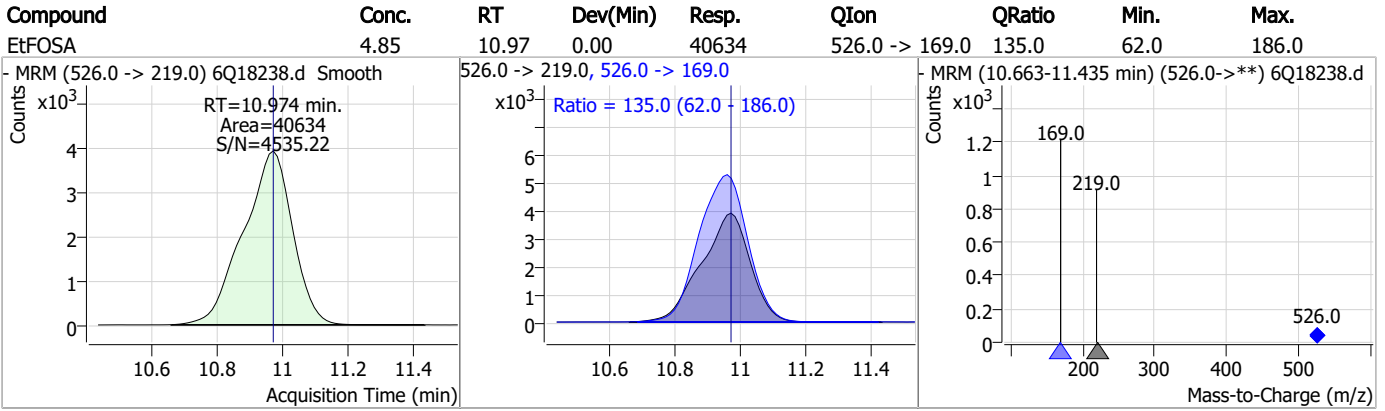
| Compound | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|--------|------|--------|------|------|
| EtFOSE   | 12.11 | 10.91 | -0.01    | 104812 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.39  | 10.97 | 0.00     | 16825 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



7.7.12

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# Manual Integration Approval Summary

Sample Number: S6Q274-CC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18238.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/23/23 00:06      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                    | CAS       | Sig# | R.T.<br>(min.) | Reason     |
|------------------------------|-----------|------|----------------|------------|
| Perfluorohexanesulfonic acid | 355-46-4  |      | 7.16           | Split peak |
| Perfluorooctanesulfonic acid | 1763-23-1 |      | 8.19           | Split peak |

7.7.12.1

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### Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18239.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 12:21:15 AM  
 Sample Name : cc274-1.0LL  
 Vial : P1-A2  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 243435            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 78970             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 84100             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 77975             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 120159            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 50978             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 27324             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 39719             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.925                | 615.1 -> 570.0 | 35594             | 1.25 µg/L   | 0.000    |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17154             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 38522             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 33454             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 18833             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 17439             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3606              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5158              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5170              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 30880             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 126487            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 27535             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 143336            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 187305            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 17637             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17371             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 22349             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 104224            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 12724             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 125135            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.052                | 515.1 -> 470.1 | 39742             | 1.25 µg/L   | 0.000    |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 55453             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 81373             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3606              | 5.57 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 111.3% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5158              | 5.65 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 113.0% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5170              | 5.89 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 117.8% |             |          |
| 13C2-PFDoDA                        | 8.925                | 615.1 -> 570.0 | 35594             | 1.23 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 98.6%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17154             | 1.14 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 91.0%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 33454             | 2.76 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 110.4% |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 18833             | 2.71 µg/L   | -0.012   |

7.7.13  
7

### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 108.4% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 243435   | 9.90 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 99.0%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 77975    | 2.57 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.8% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 84100    | 2.58 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.1% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 78970    | 5.18 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.6% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 27324    | 1.11 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 89.1%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 39719    | 1.28 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 102.2% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 38522    | 2.48 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.0%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 120159   | 2.41 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.3%  |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 17439    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.5% |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 50978    | 1.34 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 107.5% |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 30880    | 5.22 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 104.3% |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 126487   | 10.12 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.2% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17371    | 2.45 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.1%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 27535    | 5.23 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 104.5% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 143336   | 23.62 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 94.5%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 187305   | 25.37 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.5% |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 17637    | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.6% |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 4223     | 0.66 µg/L         | 98            |
|                         |                      | 327.1 -> 80.9  | 1615     |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 4277     | 0.75 µg/L         | 99            |
|                         |                      | 427.1 -> 80.9  | 1438     |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 2360     | 0.77 µg/L         | 98            |
|                         |                      | 527.1 -> 80.8  | 975      |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 640      | 0.15 µg/L         | 81            |
|                         |                      | 584.2 -> 526.0 | 433      |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 2993     | 0.20 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 78       |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 1385     | 0.20 µg/L         | 94            |
|                         |                      | 570.1 -> 483.0 | 302      |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 7091     | 0.75 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 2169     | 0.16 µg/L         | 97            |
|                         |                      | 298.7 -> 98.8  | 819      |                   |               |
| PFDA                    | 8.052                | 512.9 -> 469.0 | 7618     | 0.20 µg/L         | 96            |
|                         |                      | 512.9 -> 219.0 | 1074     |                   |               |
| PFDODA                  | 8.925                | 613.1 -> 569.0 | 5910     | 0.21 µg/L         | 96            |
|                         |                      | 613.1 -> 319.0 | 902      |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 875      | 0.18 µg/L         | 92            |

7.7.13  
7

Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. | Units | Dev(Min) |
|--------------|--------|----------------|----------|-------|-------|----------|
| PFHpA        | 6.395  | 599.0 -> 98.8  | 479      | 0.19  | µg/L  | 94       |
|              |        | 363.1 -> 319.0 | 8091     |       |       |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 1411     | 0.20  | µg/L  | 87       |
|              |        | 449.0 -> 79.9  | 1832     |       |       |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 739      | 0.20  | µg/L  | 95       |
|              |        | 313.0 -> 269.0 | 6439     |       |       |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 405      | 0.17  | µg/L  | 87       |
|              |        | 398.7 -> 79.9  | 1753     |       |       |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 985      | 0.18  | µg/L  | 93       |
|              |        | 463.0 -> 419.0 | 7233     |       |       |          |
| PFNS         | 8.656  | 463.0 -> 219.0 | 1643     | 0.19  | µg/L  | 85       |
|              |        | 548.8 -> 79.9  | 1572     |       |       |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 929      | 0.19  | µg/L  | 92       |
|              |        | 413.0 -> 369.0 | 10290    |       |       |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 2131     | 0.18  | µg/L  | 98       |
|              |        | 498.9 -> 79.9  | 1685     |       |       |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 877      | 0.38  | µg/L  | 100      |
|              |        | 263.0 -> 219.0 | 8380     |       |       |          |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 1872     | 0.19  | µg/L  | 89       |
|              |        | 349.1 -> 98.9  | 745      |       |       |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 4243     | 0.22  | µg/L  | 93       |
|              |        | 713.1 -> 168.9 | 423      |       |       |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 5348     | 0.19  | µg/L  | 96       |
|              |        | 663.0 -> 168.9 | 572      |       |       |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 5304     | 0.18  | µg/L  | 98       |
|              |        | 563.1 -> 269.1 | 865      |       |       |          |
| 11CI-PF3OUdS | 9.360  | 630.9 -> 450.9 | 7970     | 0.38  | µg/L  | 97       |
|              |        | 632.9 -> 452.9 | 2343     |       |       |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 13142    | 0.37  | µg/L  | 91       |
|              |        | 532.8 -> 353.0 | 3669     |       |       |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 29071    | 0.37  | µg/L  | 100      |
|              |        | 376.9 -> 84.8  | 7822     |       |       |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 4862     | 0.39  | µg/L  | 93       |
|              |        | 284.9 -> 184.9 | 516      |       |       |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 1521     | 0.98  | µg/L  | 91       |
|              |        | 241.0 -> 117.0 | 279      |       |       |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 30487    | 5.13  | µg/L  | 95       |
|              |        | 341.0 -> 217.0 | 22981    |       |       |          |
| 7:3FTCA      | 7.535  | 441.0 -> 316.9 | 19885    | 5.19  | µg/L  | 90       |
|              |        | 441.0 -> 336.9 | 40508    |       |       |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 3473     | 0.40  | µg/L  | 98       |
|              |        | 526.0 -> 169.0 | 4396     |       |       |          |
| EtFOSE       | 10.920 | 630.0 -> 58.9  | 8546     | 0.93  | µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 2983     |       |       |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 4040     | 0.40  | µg/L  | 98       |
|              |        | 616.1 -> 58.9  | 6327     |       |       |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 396      | 1.00  | µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 206      |       |       |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 1666     | 0.18  | µg/L  | 98       |
|              |        | 295.0 -> 84.9  | 422      |       |       |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 5845     | 0.40  | µg/L  | 97       |
|              |        | 229.0 -> 84.9  | 4422     |       |       |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 15447    | 0.38  | µg/L  | 100      |
| PFMPA        | 3.401  | 314.8 -> 82.9  | 566      | 0.38  | µg/L  | 100      |
| PFEESA       | 5.900  |                |          | 0.34  | µg/L  | 99       |

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

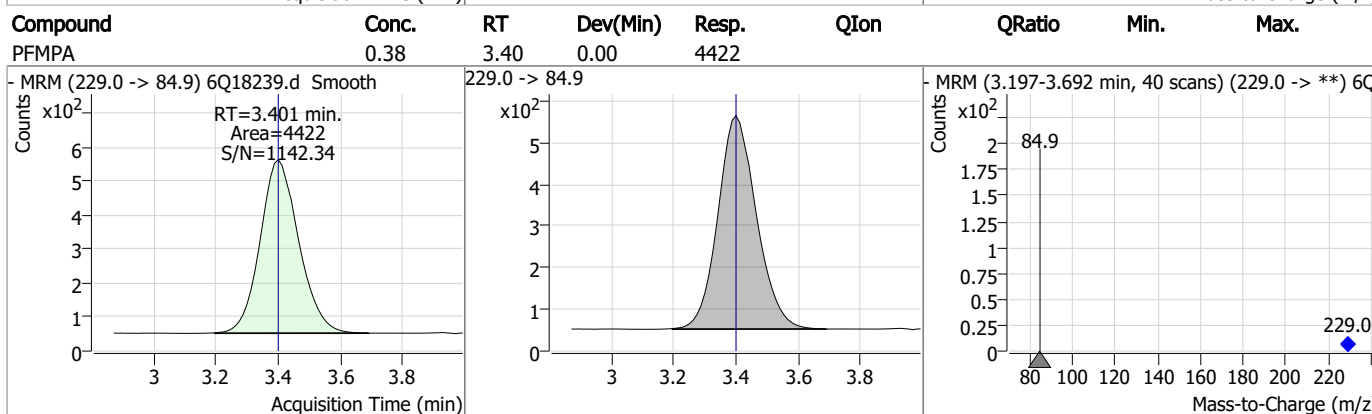
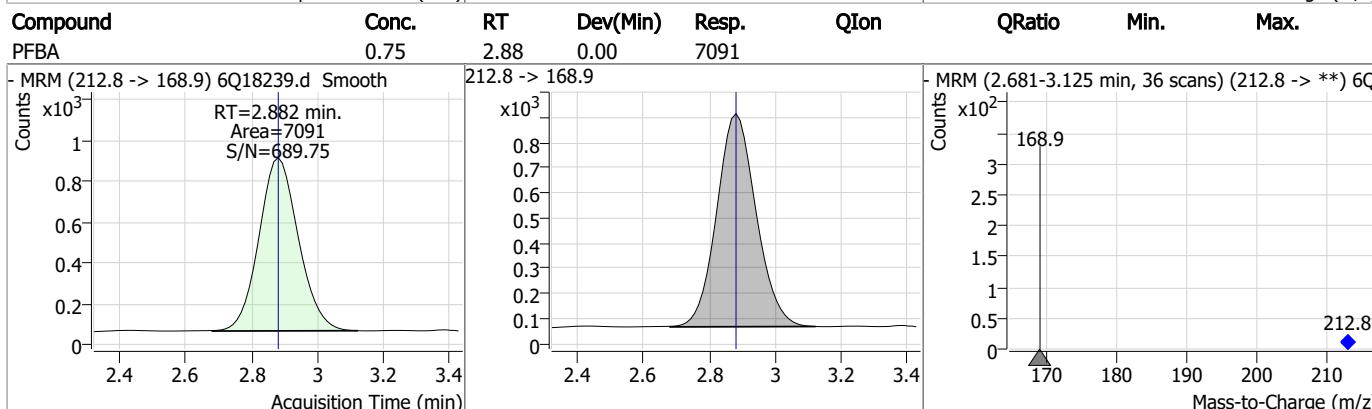
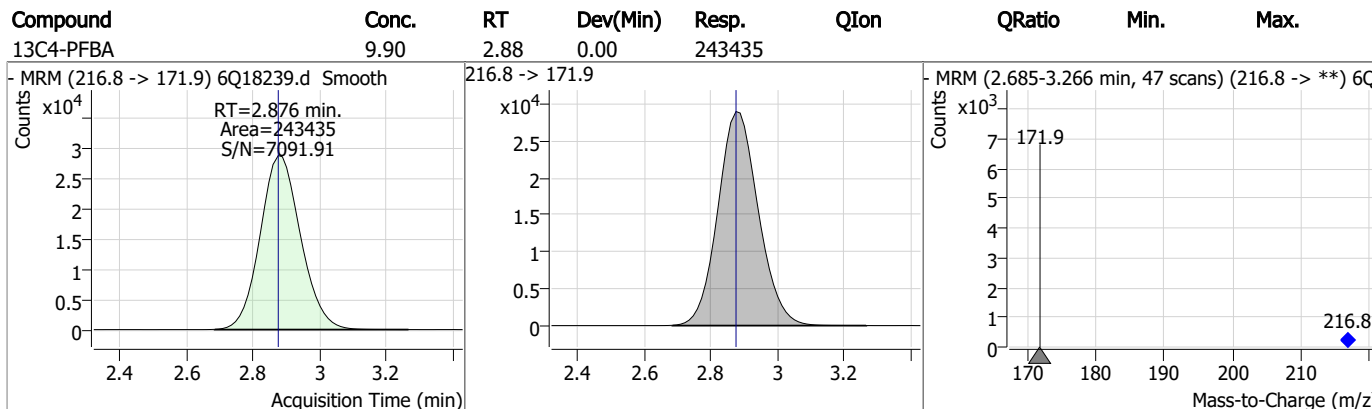
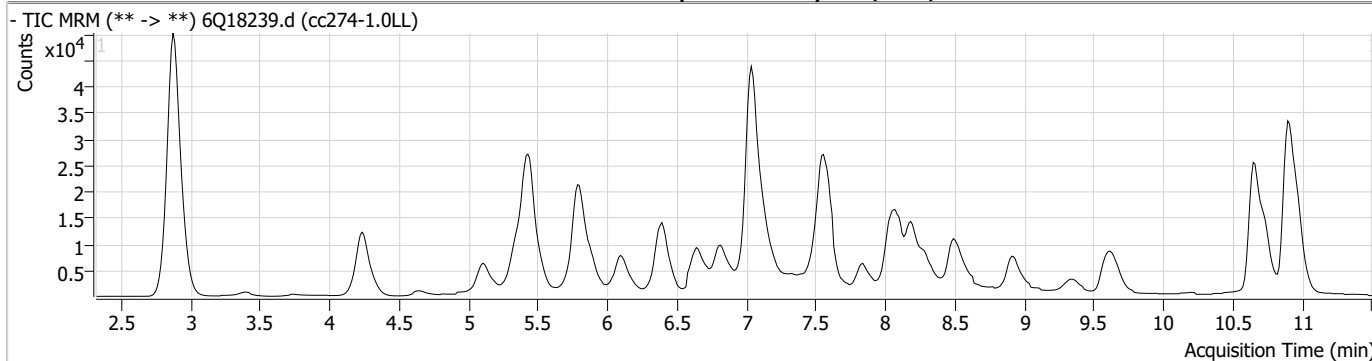
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.13

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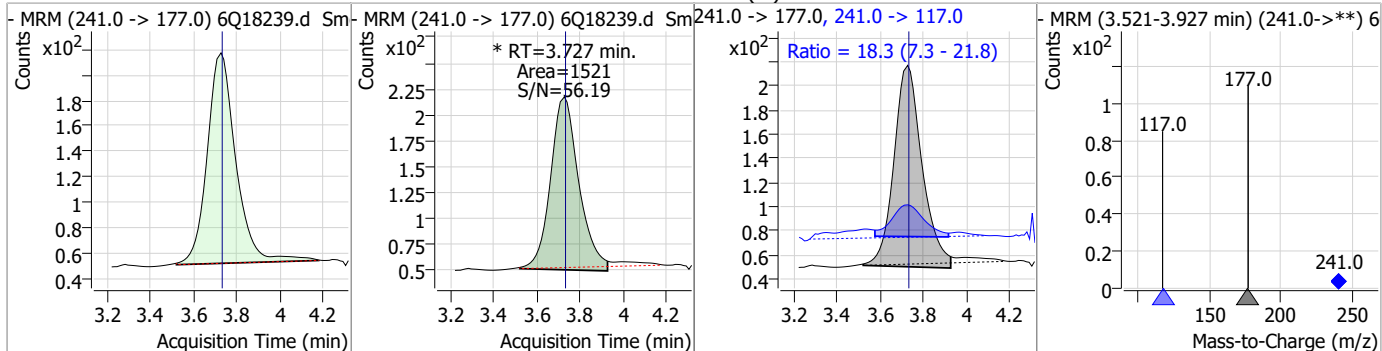
### Perfluorinated Compounds by LC/MS/MS



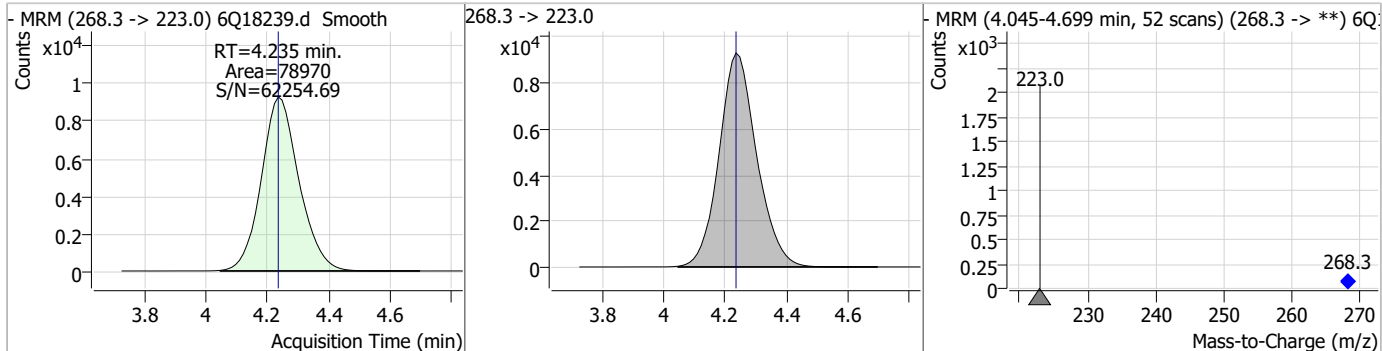
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### Perfluorinated Compounds by LC/MS/MS

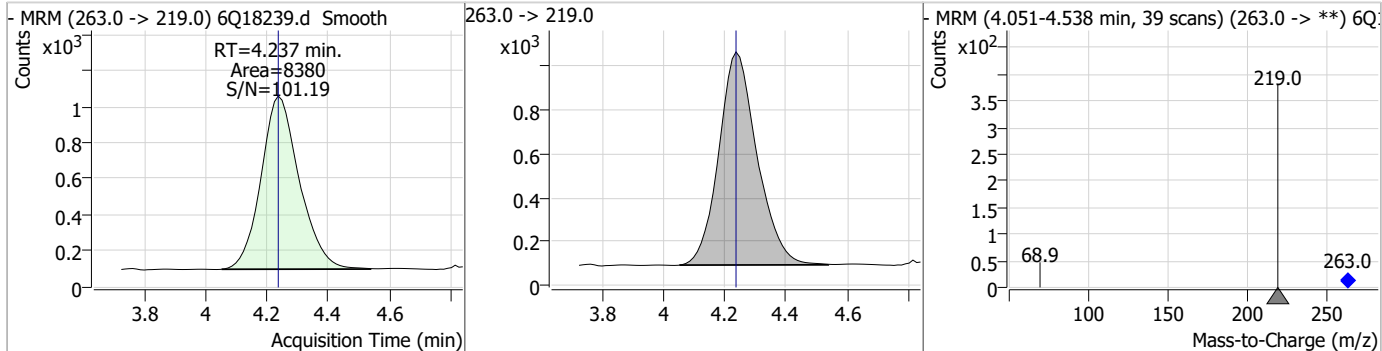
| Compound | Conc. | RT   | Dev(Min) | Resp.    | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|----------|----------------|--------|------|------|
| 3:3FTCA  | 0.98  | 3.73 | 0.00     | 1521 (m) | 241.0 -> 117.0 | 18.3   | 7.3  | 21.8 |



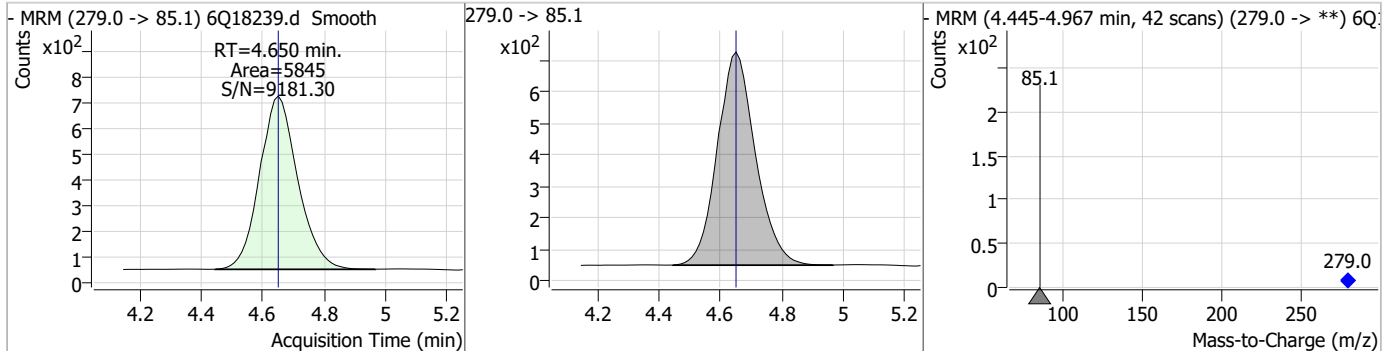
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFPeA | 5.18  | 4.23 | 0.00     | 78970 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFPeA    | 0.38  | 4.24 | 0.00     | 8380  |      |        |      |      |

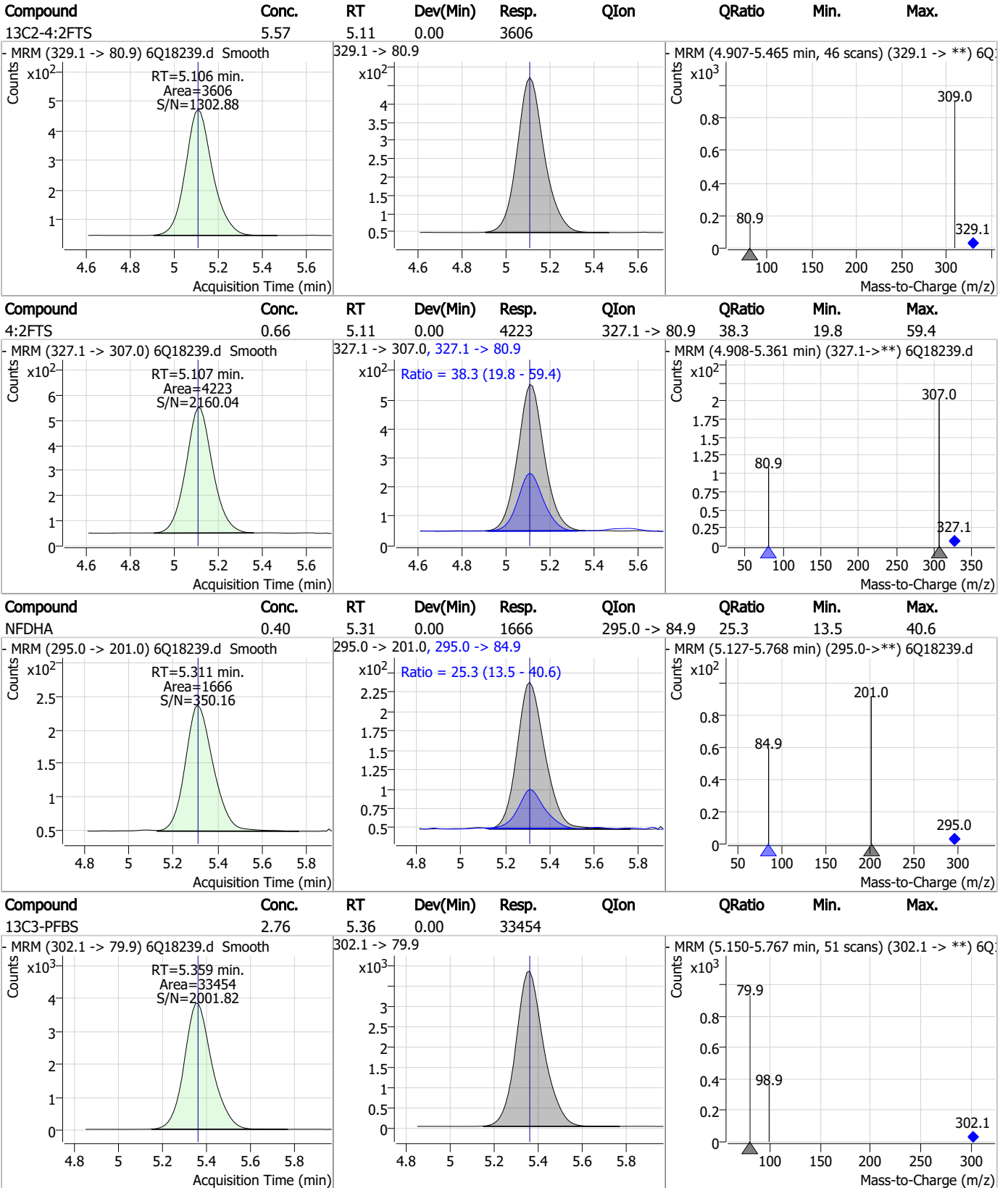


| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|------|--------|------|------|
| PFMBA    | 0.38  | 4.65 | 0.00     | 5845  |      |        |      |      |



7.7.13  
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### Perfluorinated Compounds by LC/MS/MS

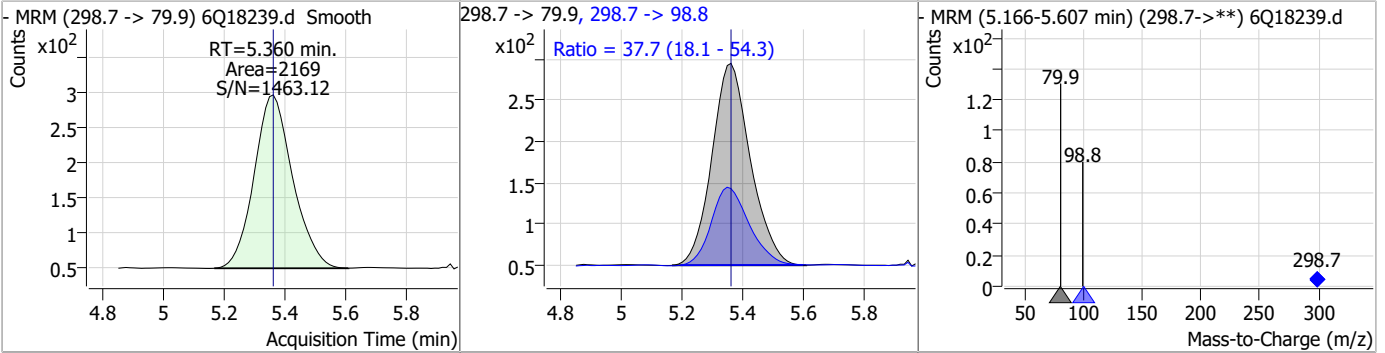


7.7.13  
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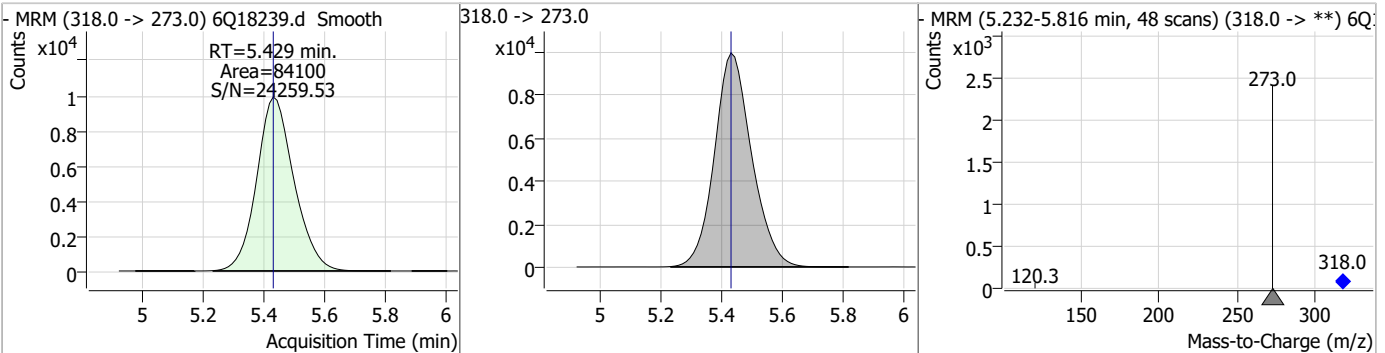


### Perfluorinated Compounds by LC/MS/MS

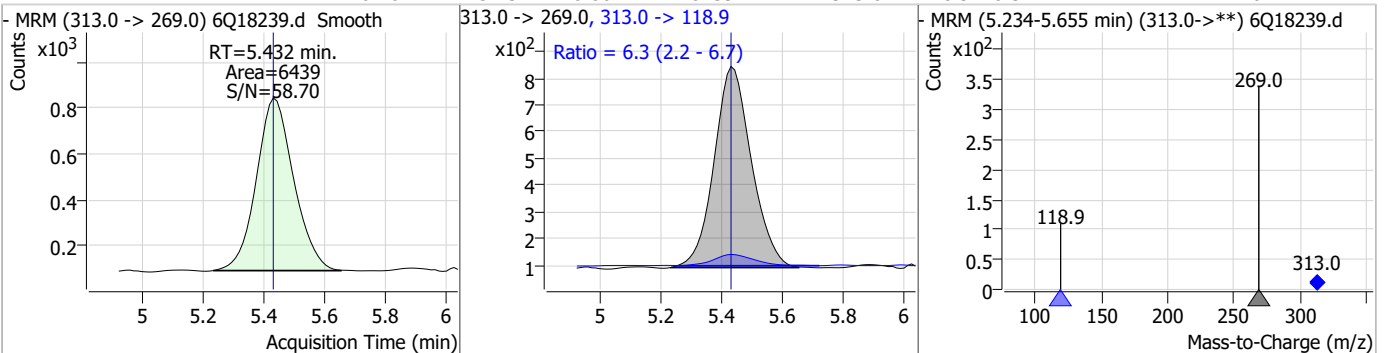
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFBS     | 0.16  | 5.36 | 0.00     | 2169  | 298.7 -> 98.8 | 37.7   | 18.1 | 54.3 |



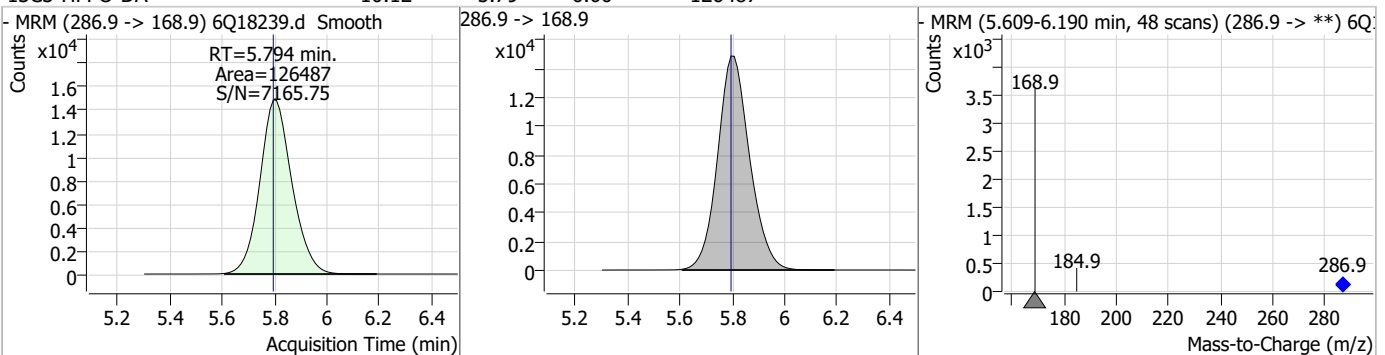
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| 13C5-PFHxA | 2.58  | 5.43 | 0.00     | 84100 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFHxA    | 0.20  | 5.43 | 0.00     | 6439  | 313.0 -> 118.9 | 6.3    | 2.2  | 6.7  |



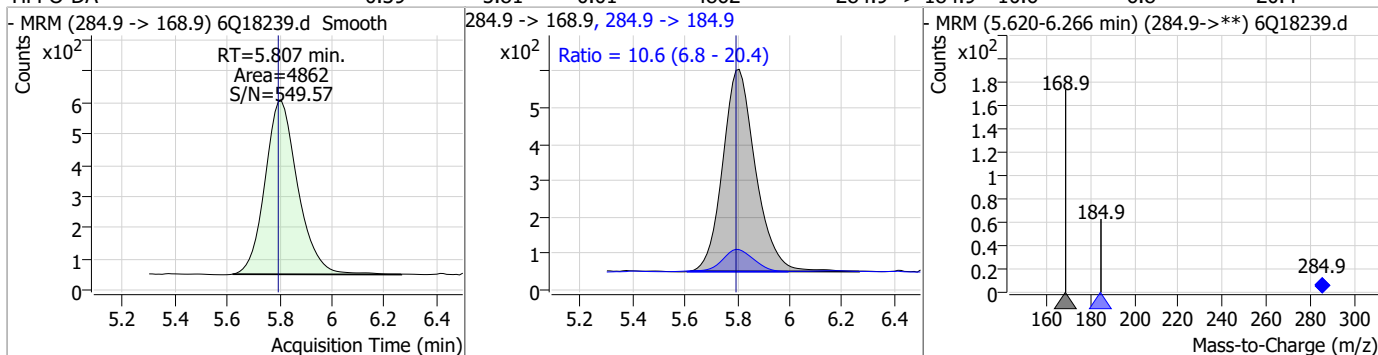
| Compound     | Conc. | RT   | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|--------------|-------|------|----------|--------|------|--------|------|------|
| 13C3-HFPO-DA | 10.12 | 5.79 | 0.00     | 126487 |      |        |      |      |



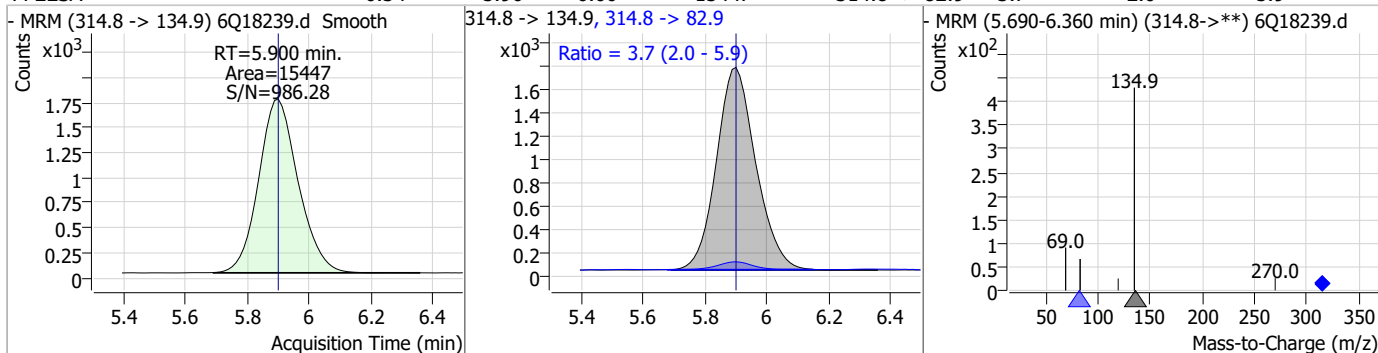


### Perfluorinated Compounds by LC/MS/MS

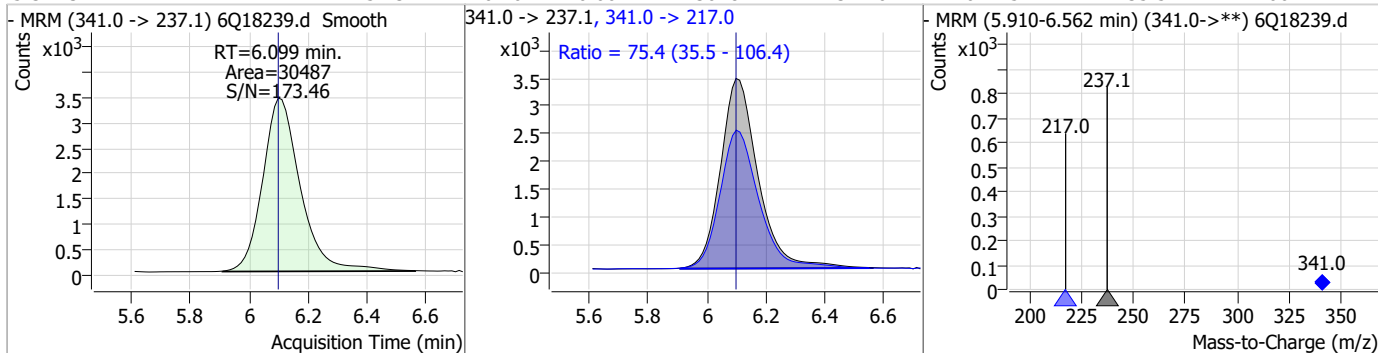
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 0.39  | 5.81 | 0.01     | 4862  | 284.9 -> 184.9 | 10.6   | 6.8  | 20.4 |



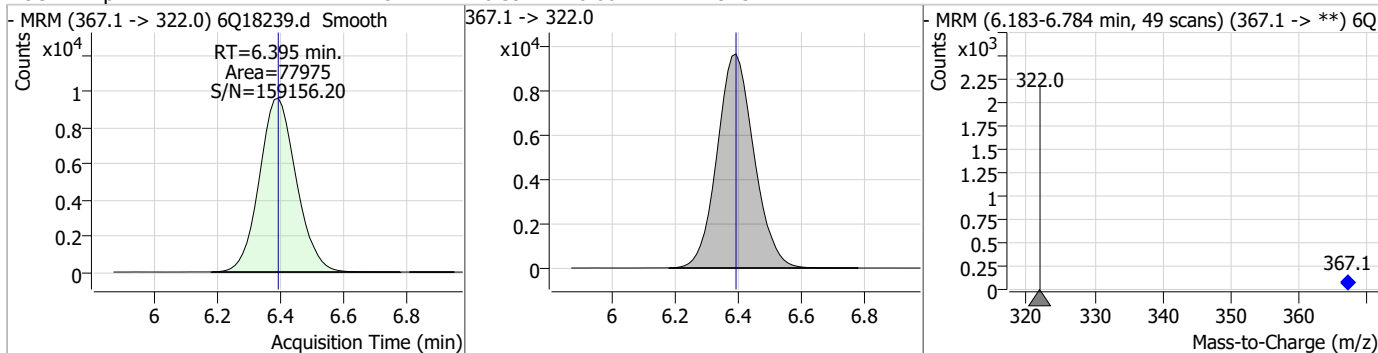
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFEESA   | 0.34  | 5.90 | 0.00     | 15447 | 314.8 -> 82.9 | 3.7    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|-------|----------------|--------|------|-------|
| 5:3FTCA  | 5.13  | 6.10 | 0.00     | 30487 | 341.0 -> 217.0 | 75.4   | 35.5 | 106.4 |

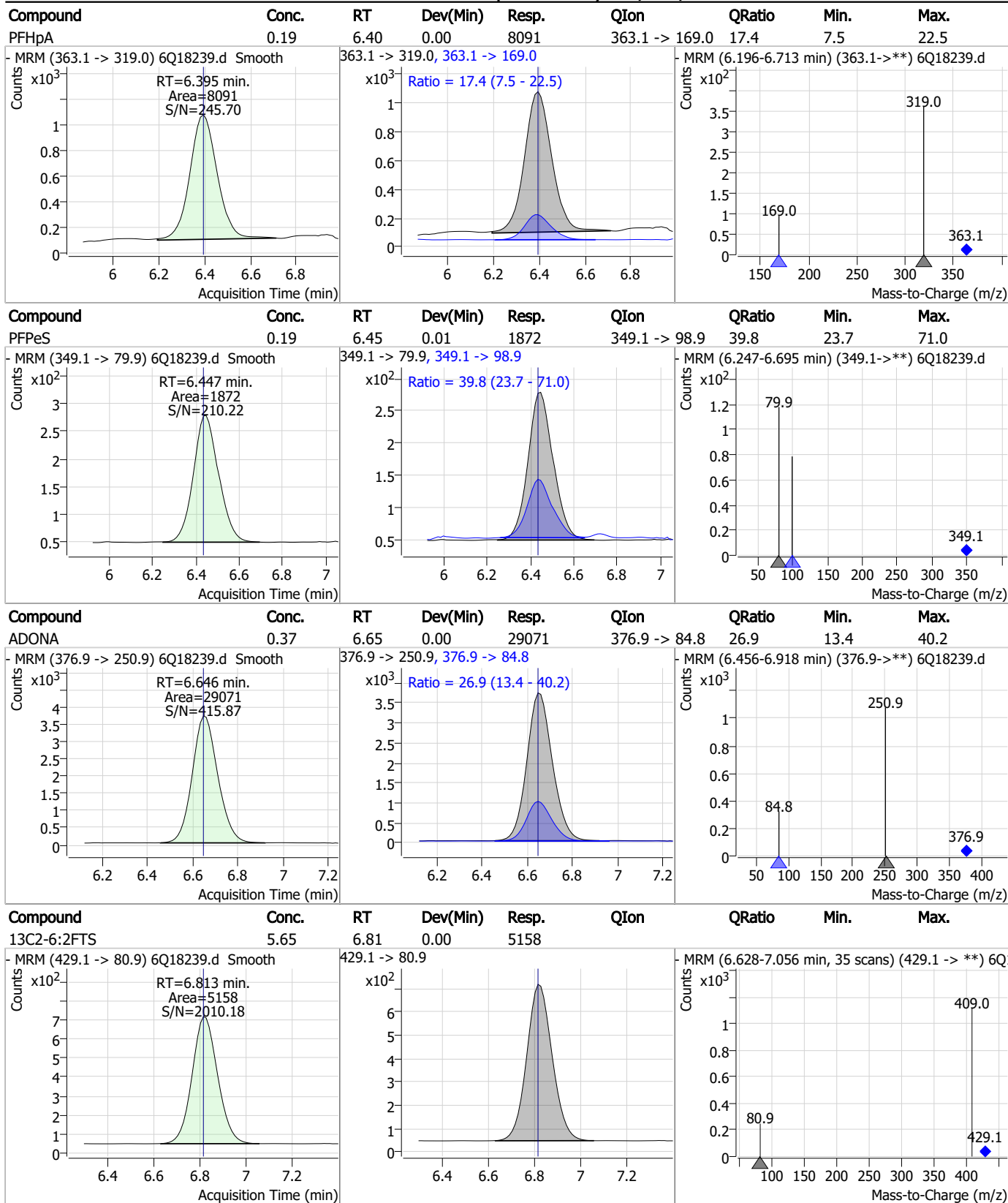


| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpA | 2.57  | 6.39 | 0.00     | 77975 | 367.1 -> 322.0 |        |      |      |



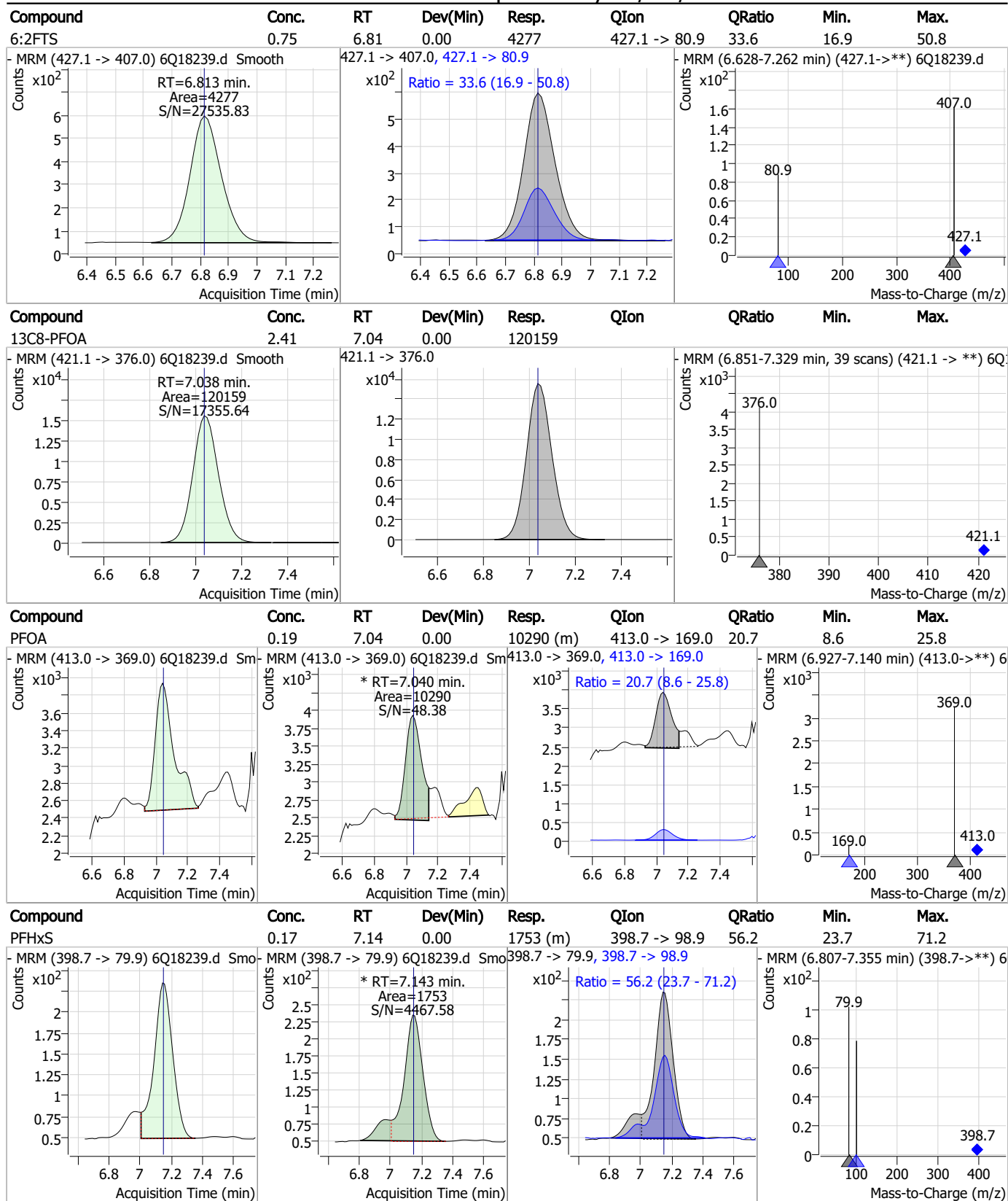
7.7.13  
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### Perfluorinated Compounds by LC/MS/MS



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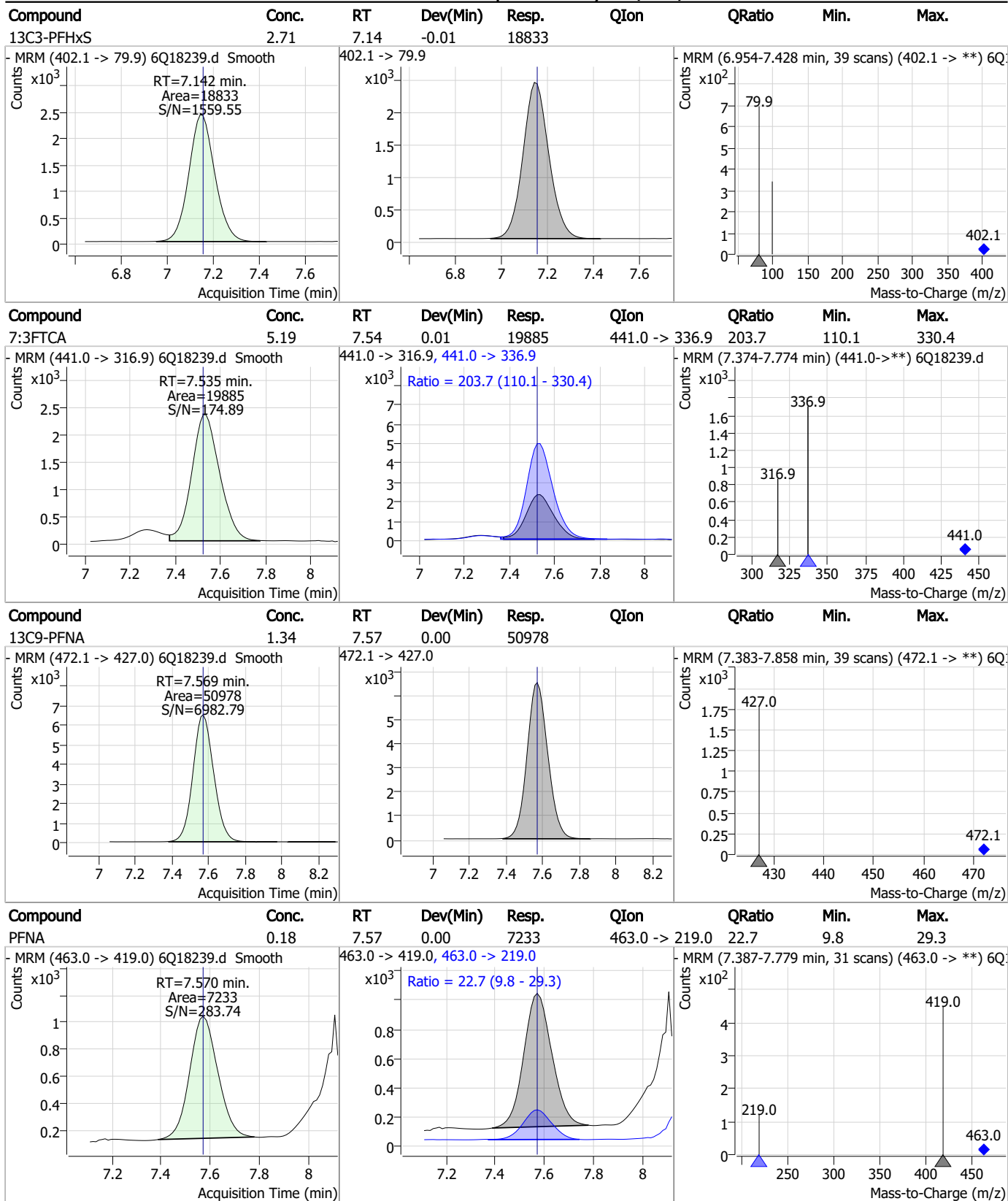
### Perfluorinated Compounds by LC/MS/MS



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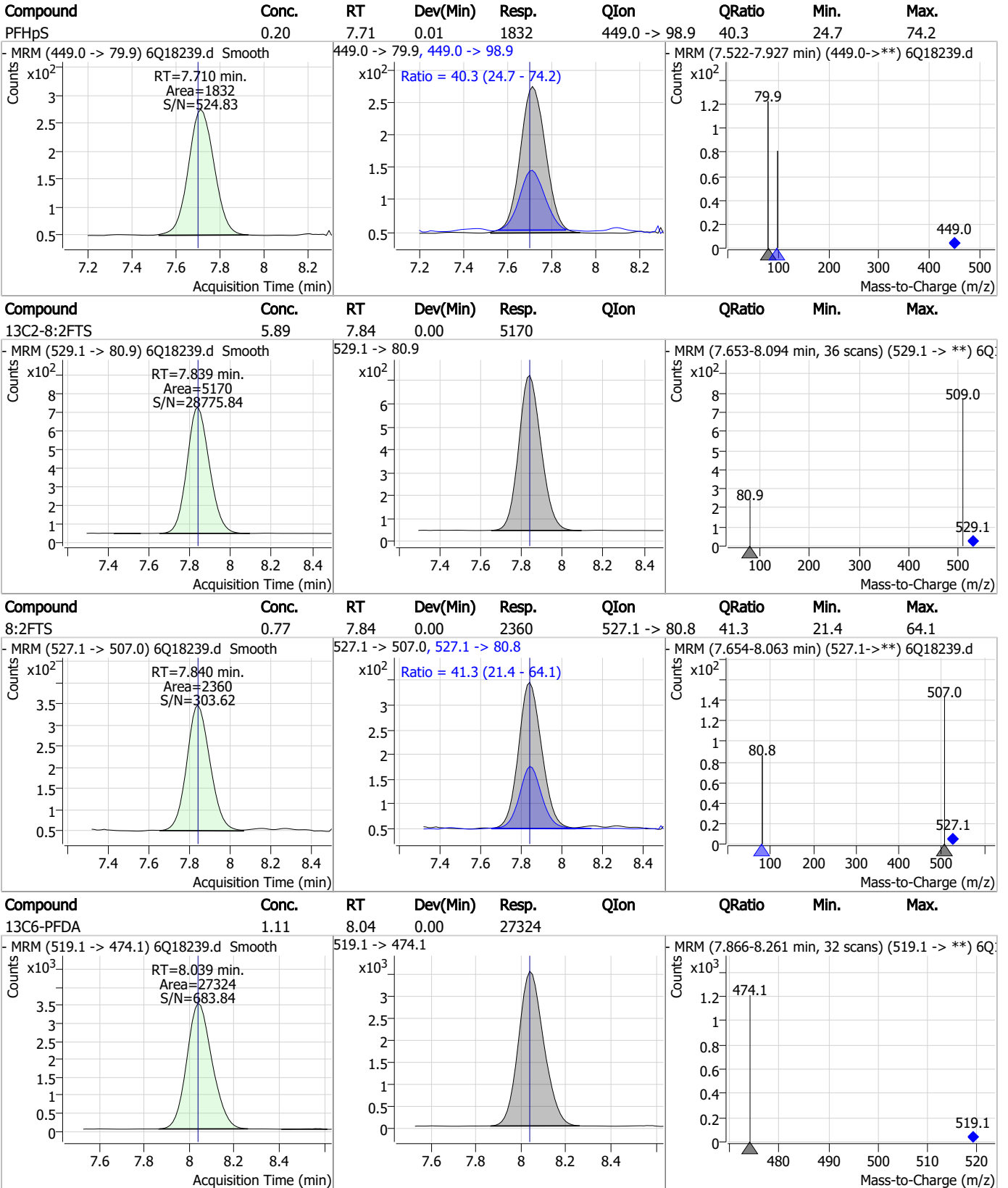
### Perfluorinated Compounds by LC/MS/MS



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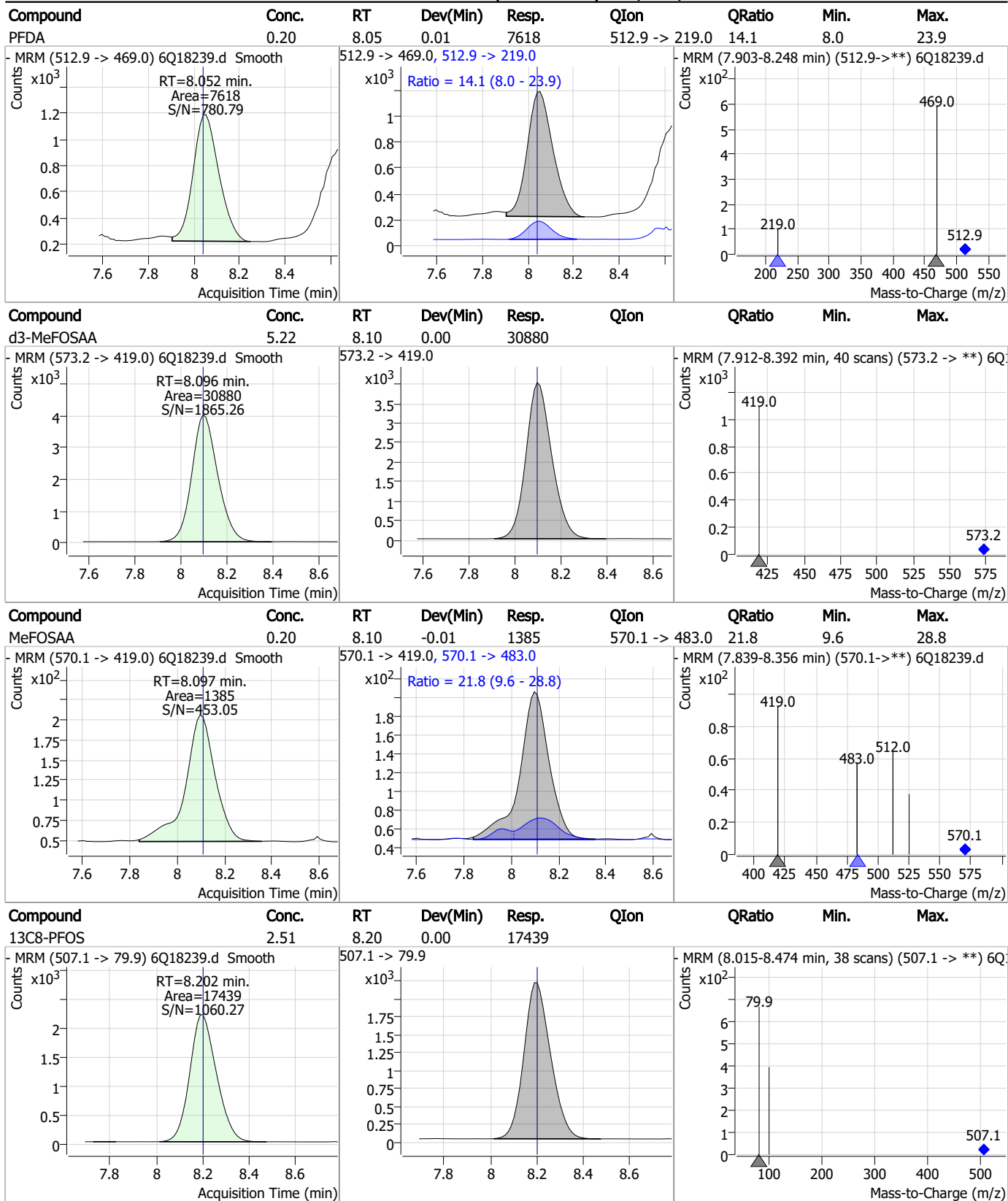
### Perfluorinated Compounds by LC/MS/MS



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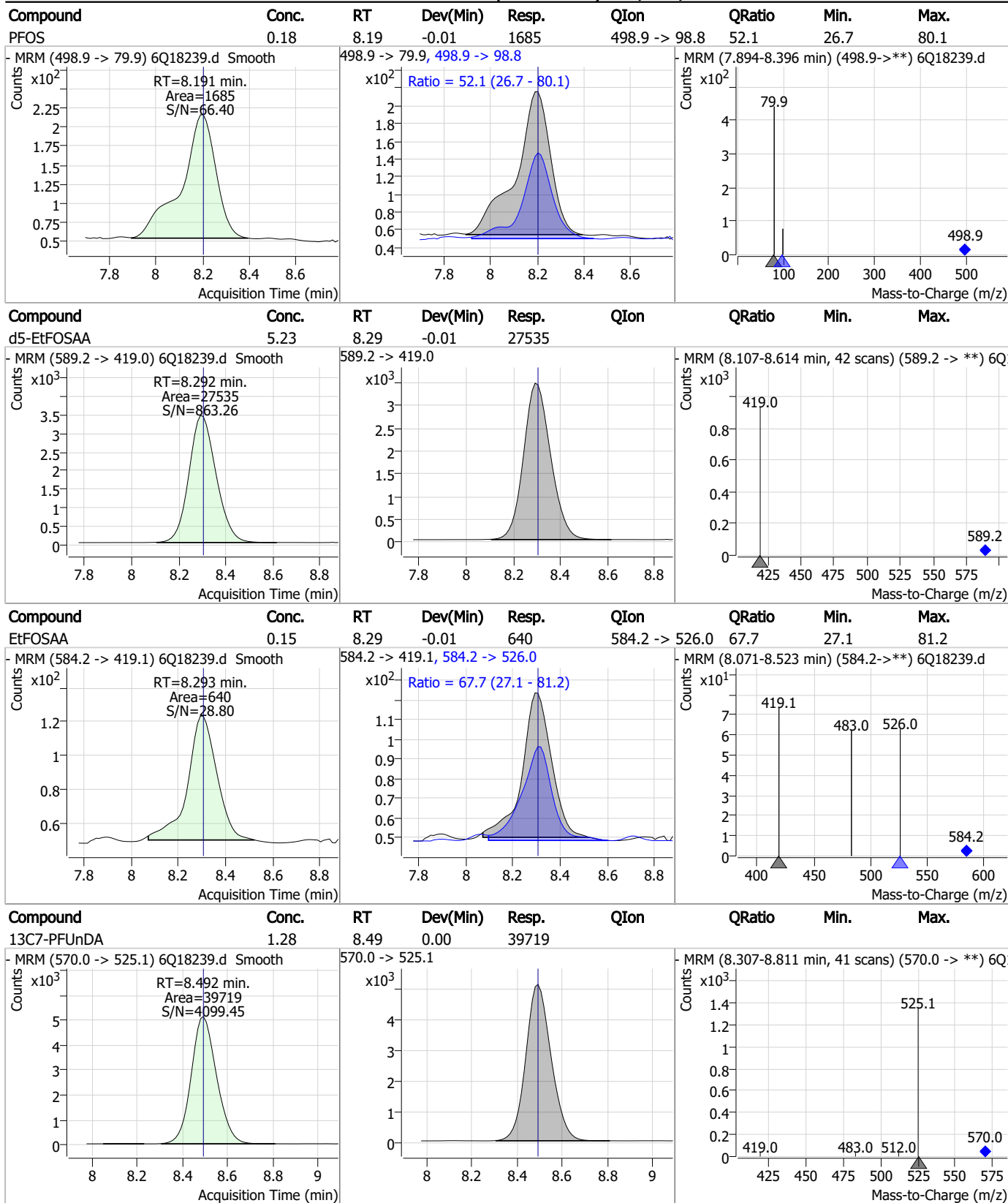
### Perfluorinated Compounds by LC/MS/MS



7.7.13  
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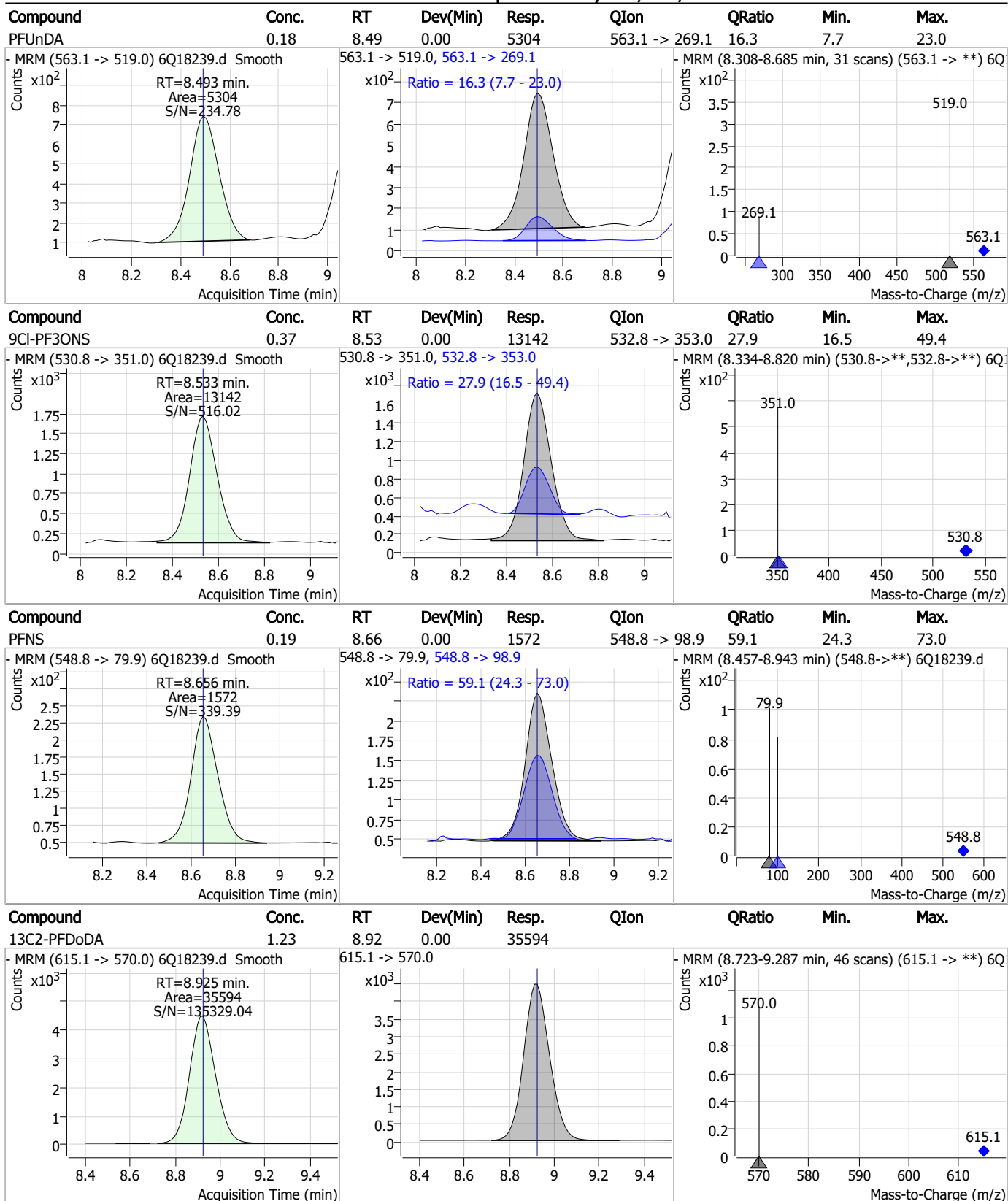


### Perfluorinated Compounds by LC/MS/MS



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### Perfluorinated Compounds by LC/MS/MS

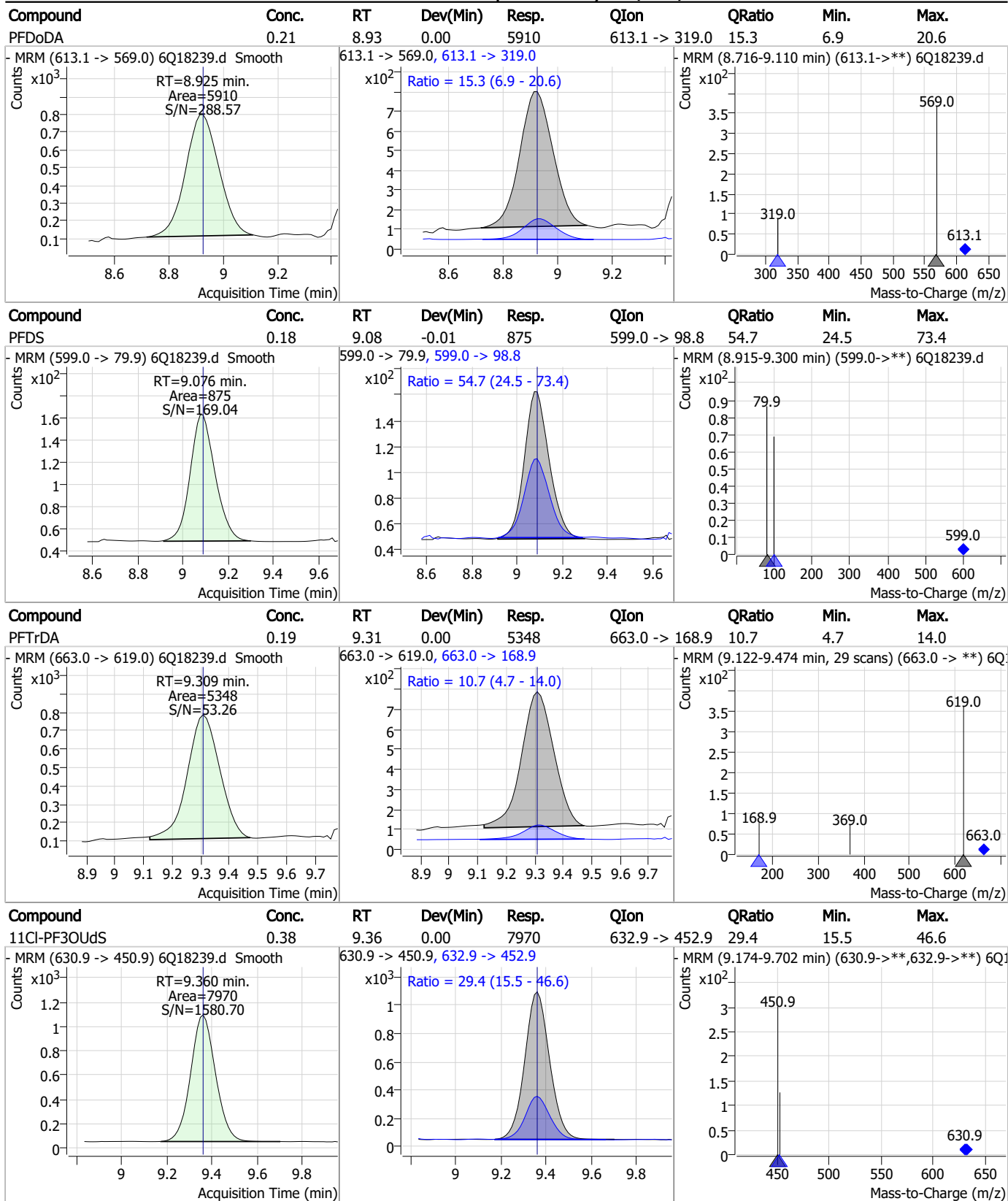


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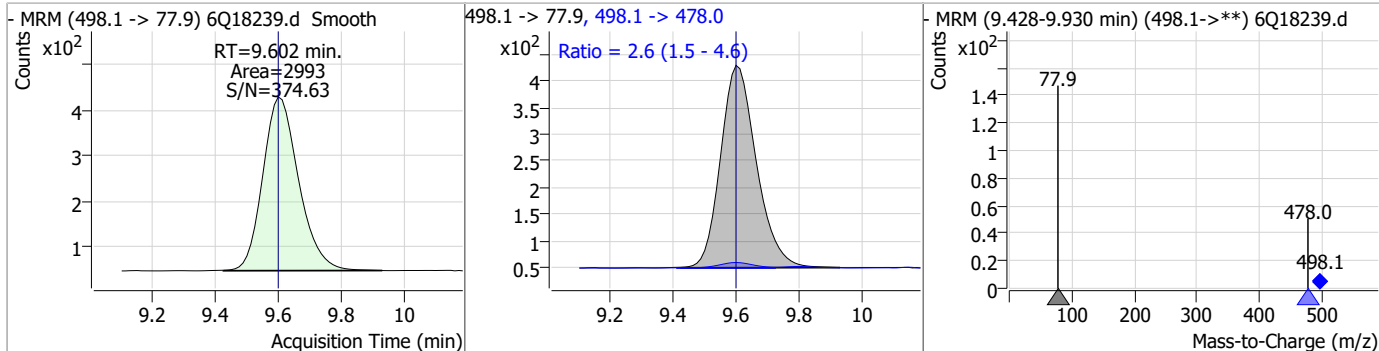
### Perfluorinated Compounds by LC/MS/MS



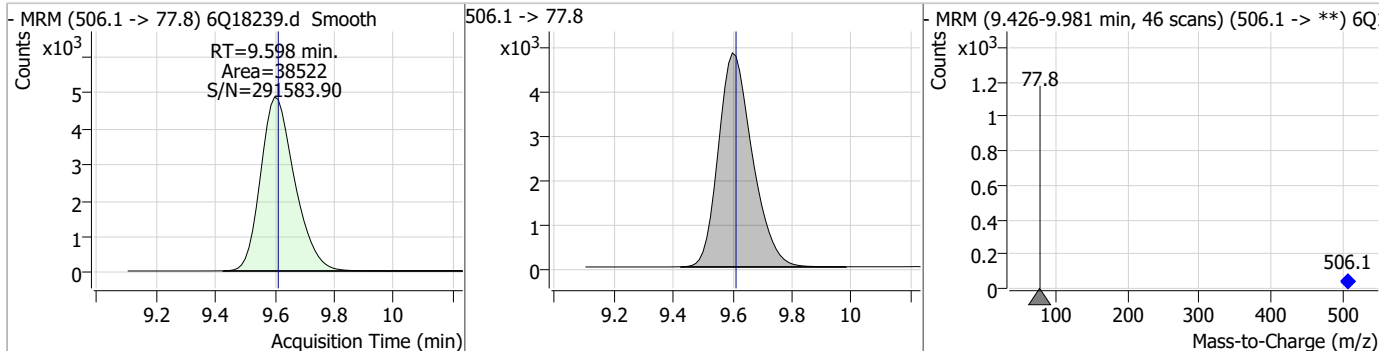
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### Perfluorinated Compounds by LC/MS/MS

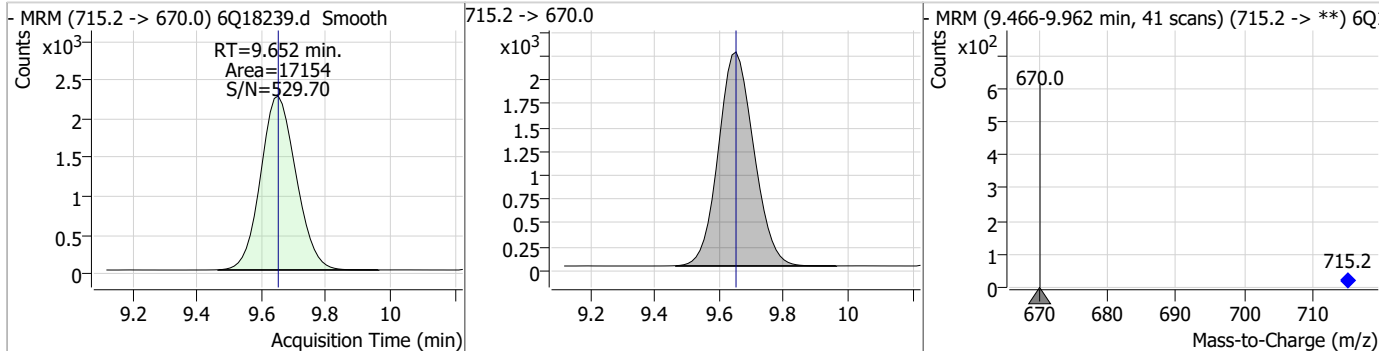
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 0.20  | 9.60 | 0.00     | 2993  | 498.1 -> 478.0 | 2.6    | 1.5  | 4.6  |



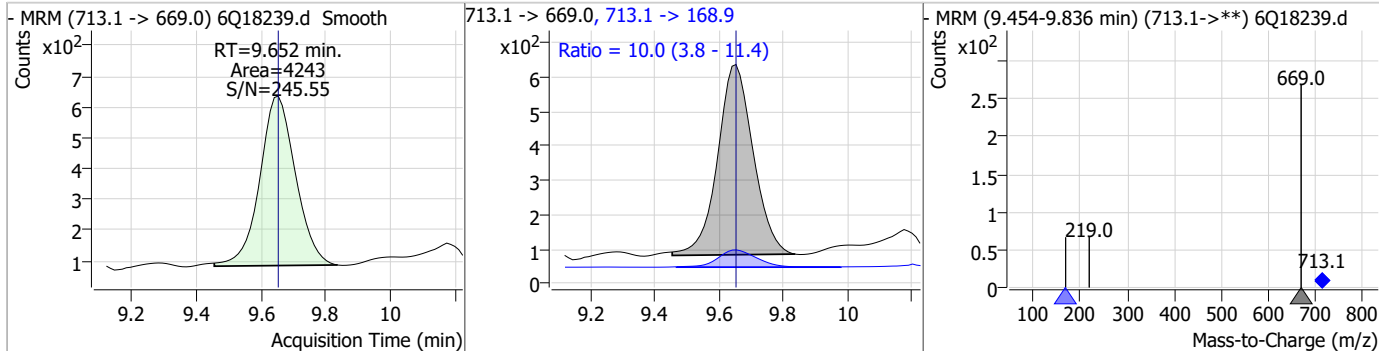
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.48  | 9.60 | -0.01    | 38522 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.14  | 9.65 | 0.00     | 17154 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 0.22  | 9.65 | 0.00     | 4243  | 713.1 -> 168.9 | 10.0   | 3.8  | 11.4 |



7.7.13  
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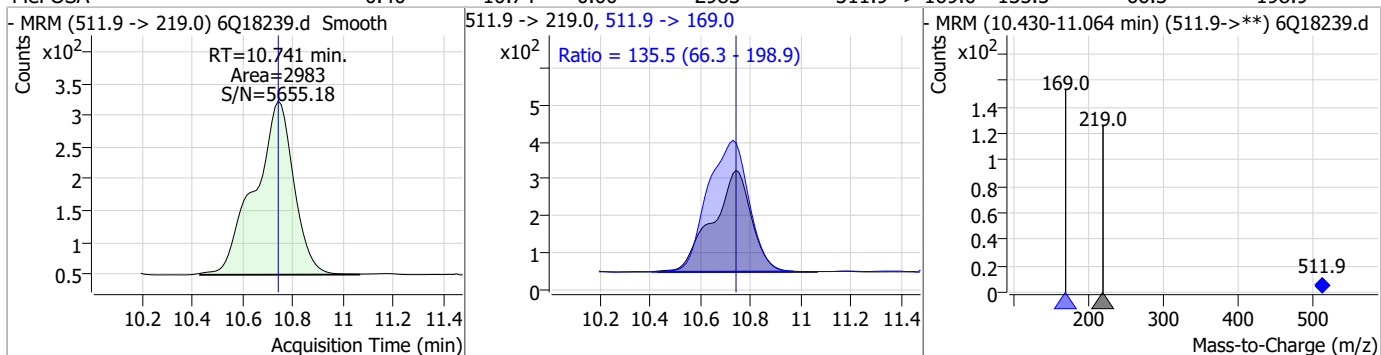
### Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon           | QRatio         | Min.         | Max.  |
|-----------|-------|-------|----------|--------|----------------|----------------|--------------|-------|
| PFDoS     | 0.18  | 9.78  | 0.00     | 396    | 699.1 -> 98.8  | 52.1           | 26.9         | 80.6  |
|           |       |       |          |        |                |                |              |       |
| d7-MeFOSE | 23.62 | 10.66 | 0.00     | 143336 | 623.2 -> 58.9  | 623.2 -> 58.9  | 623.2 -> **) | 623.2 |
|           |       |       |          |        |                |                |              |       |
| MeFOSE    | 1.00  | 10.67 | 0.00     | 6327   | 616.1 -> 58.9  | 616.1 -> 58.9  | 616.1 -> **) | 616.1 |
|           |       |       |          |        |                |                |              |       |
| d3-MeFOSA | 2.45  | 10.74 | 0.00     | 17371  | 515.0 -> 219.0 | 515.0 -> 219.0 | 515.0 -> **) | 515.0 |
|           |       |       |          |        |                |                |              |       |

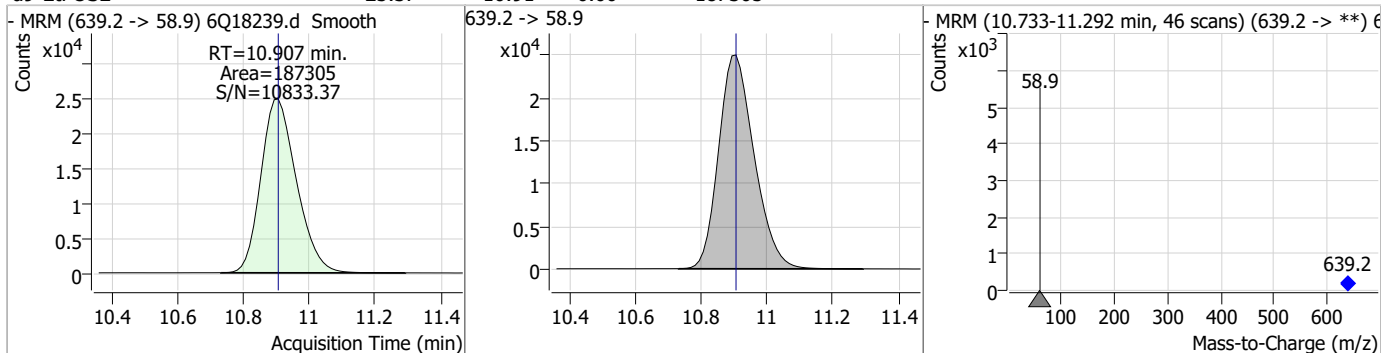
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### Perfluorinated Compounds by LC/MS/MS

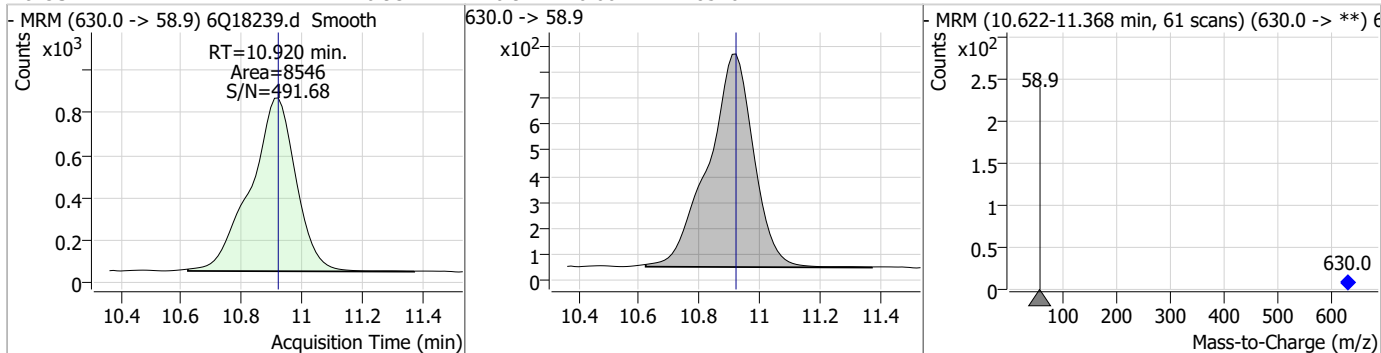
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOSA   | 0.40  | 10.74 | 0.00     | 2983  | 511.9 -> 169.0 | 135.5  | 66.3 | 198.9 |



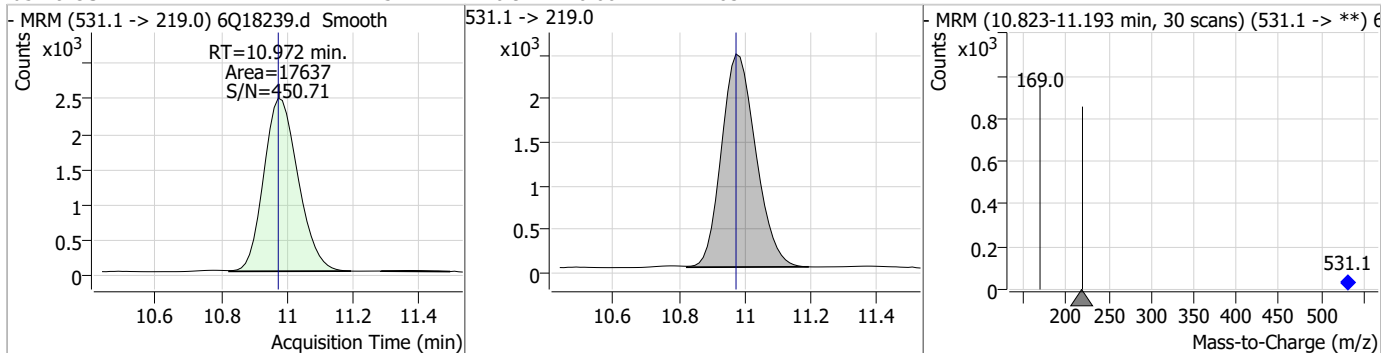
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 25.37 | 10.91 | 0.00     | 187305 |      |        |      |      |



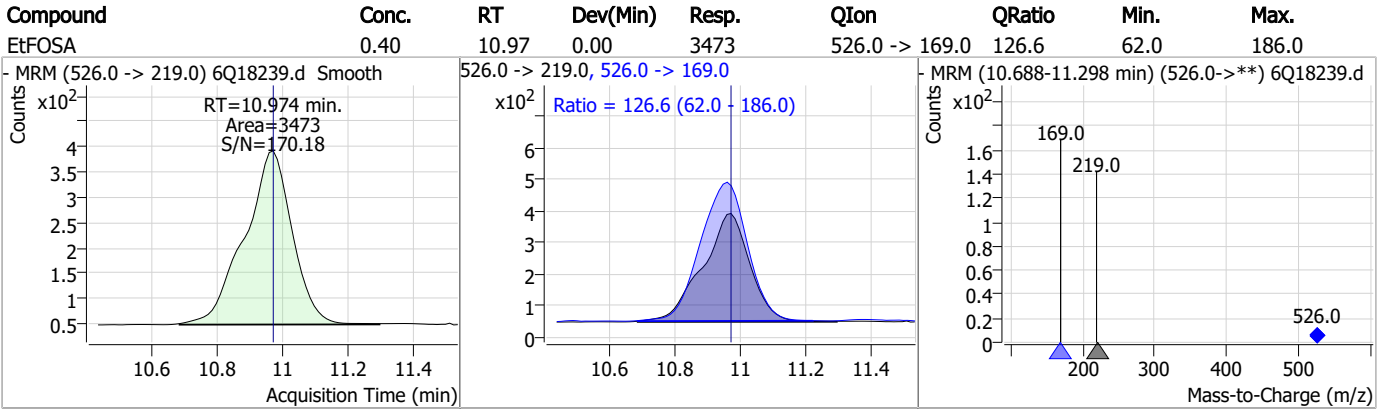
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|-------|------|--------|------|------|
| EtFOSE   | 0.93  | 10.92 | 0.00     | 8546  |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.51  | 10.97 | 0.00     | 17637 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



7.7.13  
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# Manual Integration Approval Summary

Sample Number: S6Q274-CC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18239.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/23/23 00:21      Supervisor approved: 05/23/23 16:27 Norman Farmer

| Parameter                     | CAS      | Sig# | R.T.<br>(min.) | Reason                      |
|-------------------------------|----------|------|----------------|-----------------------------|
| 3:3 Fluorotelomer carboxylate | 356-02-5 |      | 3.73           | Poor instrument integration |
| Perfluorooctanoic acid        | 335-67-1 |      | 7.04           | Poor instrument integration |
| Perfluorohexanesulfonic acid  | 355-46-4 |      | 7.14           | Split peak                  |

7.7.13.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18250.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 3:00:33 AM  
 Sample Name : cc274-4  
 Vial : P1-A5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 244893            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 80682             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 86265             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 79468             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 121460            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.569                | 472.1 -> 427.0 | 53525             | 1.25 µg/L   | 0.000    |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 30251             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 37412             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 36037             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17198             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 39948             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.359                | 302.1 -> 79.9  | 31901             | 2.50 µg/L   | 0.000    |
| M3-PFHxS                           | 7.155                | 402.1 -> 79.9  | 18586             | 2.50 µg/L   | 0.000    |
| M8-PFOS                            | 8.202                | 507.1 -> 79.9  | 16390             | 2.50 µg/L   | 0.000    |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3648              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5220              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.839                | 529.1 -> 80.9  | 5462              | 5.00 µg/L   | 0.000    |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 31966             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 127893            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 28819             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 138136            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 173801            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 17611             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16843             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.202                | 502.8 -> 79.9  | 23530             | 2.50 µg/L   | 0.000    |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 105198            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.154                | 403.0 -> 83.9  | 13764             | 2.50 µg/L   | 0.000    |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 121544            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 39850             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.570                | 468.0 -> 423.0 | 58145             | 1.25 µg/L   | 0.000    |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 82456             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3648              | 5.21 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 104.1% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5220              | 5.29 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 105.7% |             |          |
| 13C2-8:2FTS                        | 7.839                | 529.1 -> 80.9  | 5462              | 5.75 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 115.0% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 36037             | 1.24 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 99.6%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17198             | 1.14 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 91.0%  |             |          |
| 13C3-PFBS                          | 5.359                | 302.1 -> 79.9  | 31901             | 2.43 µg/L   | 0.000    |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 97.3%  |             |          |
| 13C3-PFHxS                         | 7.155                | 402.1 -> 79.9  | 18586             | 2.47 µg/L   | 0.000    |

7.7.14  
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### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.9%  |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 244893   | 9.87 µg/L         | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 98.7%  |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 79468    | 2.59 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 103.4% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 86265    | 2.61 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.3% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 80682    | 5.22 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 104.4% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 30251    | 1.23 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 98.3%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 37412    | 1.20 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.0%  |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 39948    | 2.44 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.5%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 121460   | 2.51 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.2% |               |
| 13C8-PFOS               | 8.202                | 507.1 -> 79.9  | 16390    | 2.24 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 89.7%  |               |
| 13C9-PFNA               | 7.569                | 472.1 -> 427.0 | 53525    | 1.35 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 107.7% |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 31966    | 5.13 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 102.6% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 127893   | 10.10 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 101.0% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16843    | 2.26 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 90.4%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 28819    | 5.19 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 103.9% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 138136   | 21.62 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 86.5%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 173801   | 22.36 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 89.4%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 17611    | 2.38 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 95.4%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 60459    | 9.40 µg/L         | 97            |
|                         |                      | 327.1 -> 80.9  | 22854    |                   |               |
| 6:2FTS                  | 6.826                | 427.1 -> 407.0 | 53771    | 9.27 µg/L         | 98            |
|                         |                      | 427.1 -> 80.9  | 18835    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 29557    | 9.08 µg/L         | 99            |
|                         |                      | 527.1 -> 80.8  | 12428    |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 10111    | 2.29 µg/L         | 97            |
|                         |                      | 584.2 -> 526.0 | 5713     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 38087    | 2.45 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 1216     |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 18704    | 2.58 µg/L         | 100           |
|                         |                      | 570.1 -> 483.0 | 3627     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 92208    | 9.70 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 26222    | 2.05 µg/L         | 92            |
|                         |                      | 298.7 -> 98.8  | 10754    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 94906    | 2.28 µg/L         | 98            |
|                         |                      | 512.9 -> 219.0 | 15922    |                   |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 66399    | 2.30 µg/L         | 95            |
|                         |                      | 613.1 -> 319.0 | 10432    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 11312    | 2.44 µg/L         | 98            |

7.7.14  
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Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
| PFHpA        | 6.395  | 599.0 -> 98.8  | 5682     | 2.27 µg/L   | 95       |
|              |        | 363.1 -> 319.0 | 96227    |             |          |
| PFHpS        | 7.710  | 363.1 -> 169.0 | 16503    | 2.45 µg/L   | 99       |
|              |        | 449.0 -> 79.9  | 21635    |             |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 10567    | 2.41 µg/L   | 98       |
|              |        | 313.0 -> 269.0 | 81016    |             |          |
| PFHxS        | 7.156  | 313.0 -> 118.9 | 4071     | 2.14 µg/L   | 100      |
|              |        | 398.7 -> 79.9  | 22264    |             |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 10588    | 2.28 µg/L   | 98       |
|              |        | 463.0 -> 419.0 | 97413    |             |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 19923    | 2.45 µg/L   | 90       |
|              |        | 548.8 -> 79.9  | 18924    |             |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 10454    | 2.44 µg/L   | 97       |
|              |        | 413.0 -> 369.0 | 136366   |             |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 25162    | 2.36 µg/L   | 89       |
|              |        | 498.9 -> 79.9  | 21154    |             |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 9687     | 4.73 µg/L   | 100      |
|              |        | 263.0 -> 219.0 | 105751   |             |          |
| PFPeS        | 6.447  | 349.1 -> 79.9  | 22223    | 2.24 µg/L   | 97       |
|              |        | 349.1 -> 98.9  | 10110    |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 48941    | 2.54 µg/L   | 97       |
|              |        | 713.1 -> 168.9 | 4293     |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 65466    | 2.29 µg/L   | 93       |
|              |        | 663.0 -> 168.9 | 7691     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 67344    | 2.45 µg/L   | 97       |
|              |        | 563.1 -> 269.1 | 11247    |             |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 100273   | 4.78 µg/L   | 99       |
|              |        | 632.9 -> 452.9 | 30358    |             |          |
| 9CI-PF3ONS   | 8.533  | 530.8 -> 351.0 | 161157   | 4.52 µg/L   | 96       |
|              |        | 532.8 -> 353.0 | 49088    |             |          |
| ADONA        | 6.658  | 376.9 -> 250.9 | 380329   | 4.74 µg/L   | 98       |
|              |        | 376.9 -> 84.8  | 97992    |             |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 61134    | 4.84 µg/L   | 93       |
|              |        | 284.9 -> 184.9 | 6595     |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 18466    | 11.70 µg/L  | 97       |
|              |        | 241.0 -> 117.0 | 2433     |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 363271   | 59.54 µg/L  | 95       |
|              |        | 341.0 -> 217.0 | 273131   |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 244231   | 62.17 µg/L  | 92       |
|              |        | 441.0 -> 336.9 | 507967   |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 40591    | 4.63 µg/L   | 90       |
|              |        | 526.0 -> 169.0 | 54958    |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 104514   | 12.28 µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 36138    |             |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 49601    | 5.03 µg/L   | 96       |
|              |        | 616.1 -> 58.9  | 74457    |             |          |
| MeFOSE       | 10.661 | 699.1 -> 79.9  | 4850     | 12.24 µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2721     |             |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 20276    | 2.38 µg/L   | 97       |
|              |        | 295.0 -> 84.9  | 5393     |             |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 75074    | 4.77 µg/L   | 99       |
|              |        | 229.0 -> 84.9  | 55994    |             |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 194463   | 4.76 µg/L   | 100      |
| PFMPA        | 3.401  | 314.8 -> 82.9  | 6666     | 4.72 µg/L   | 100      |
| PFEESA       | 5.900  |                |          | 4.15 µg/L   | 99       |

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

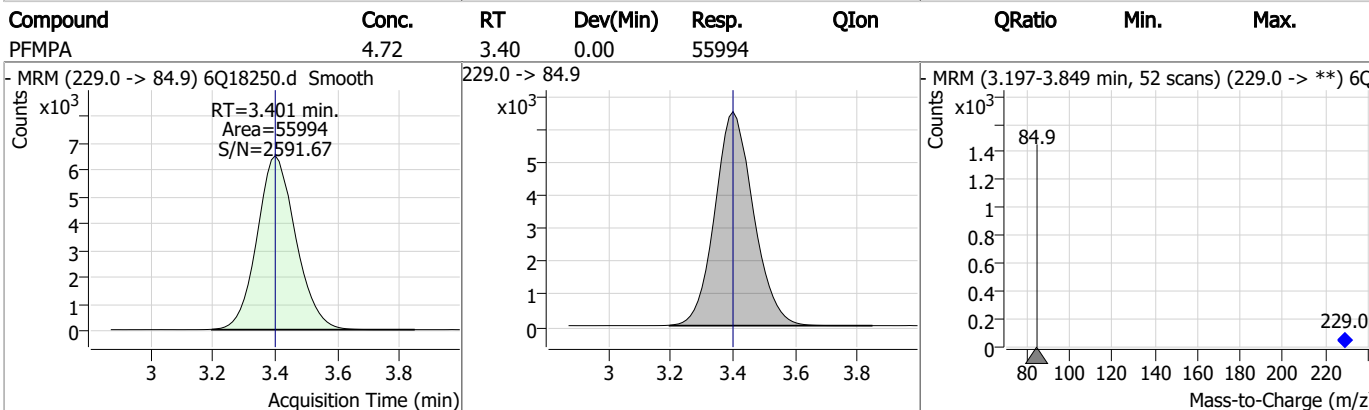
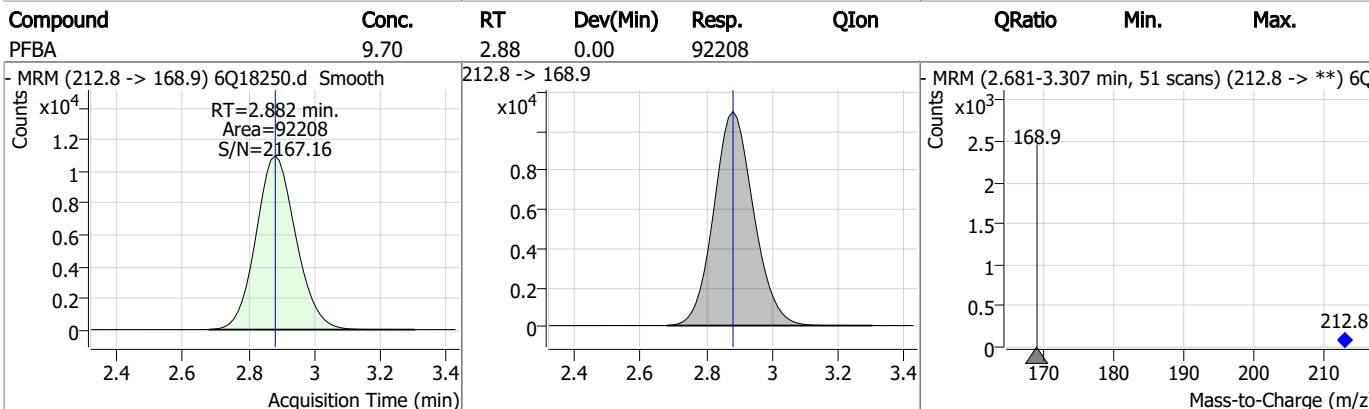
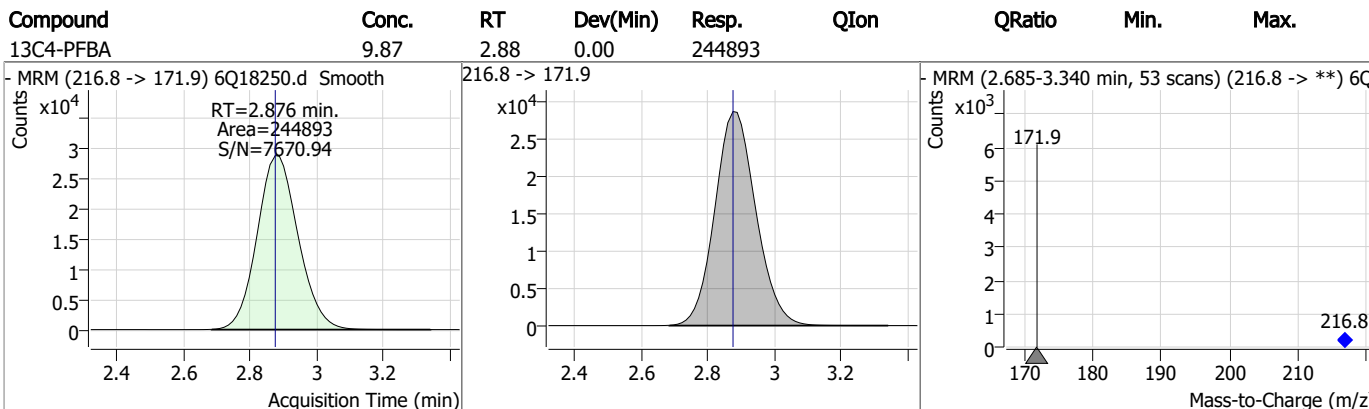
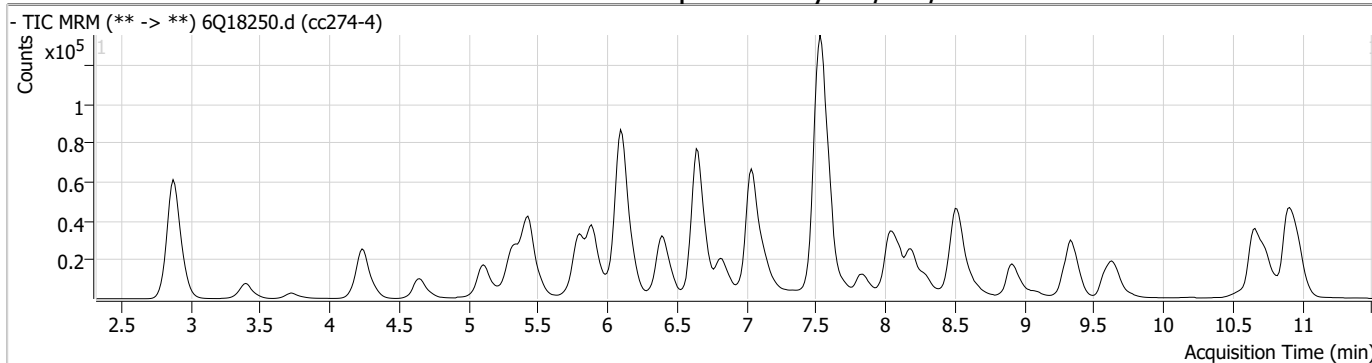
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

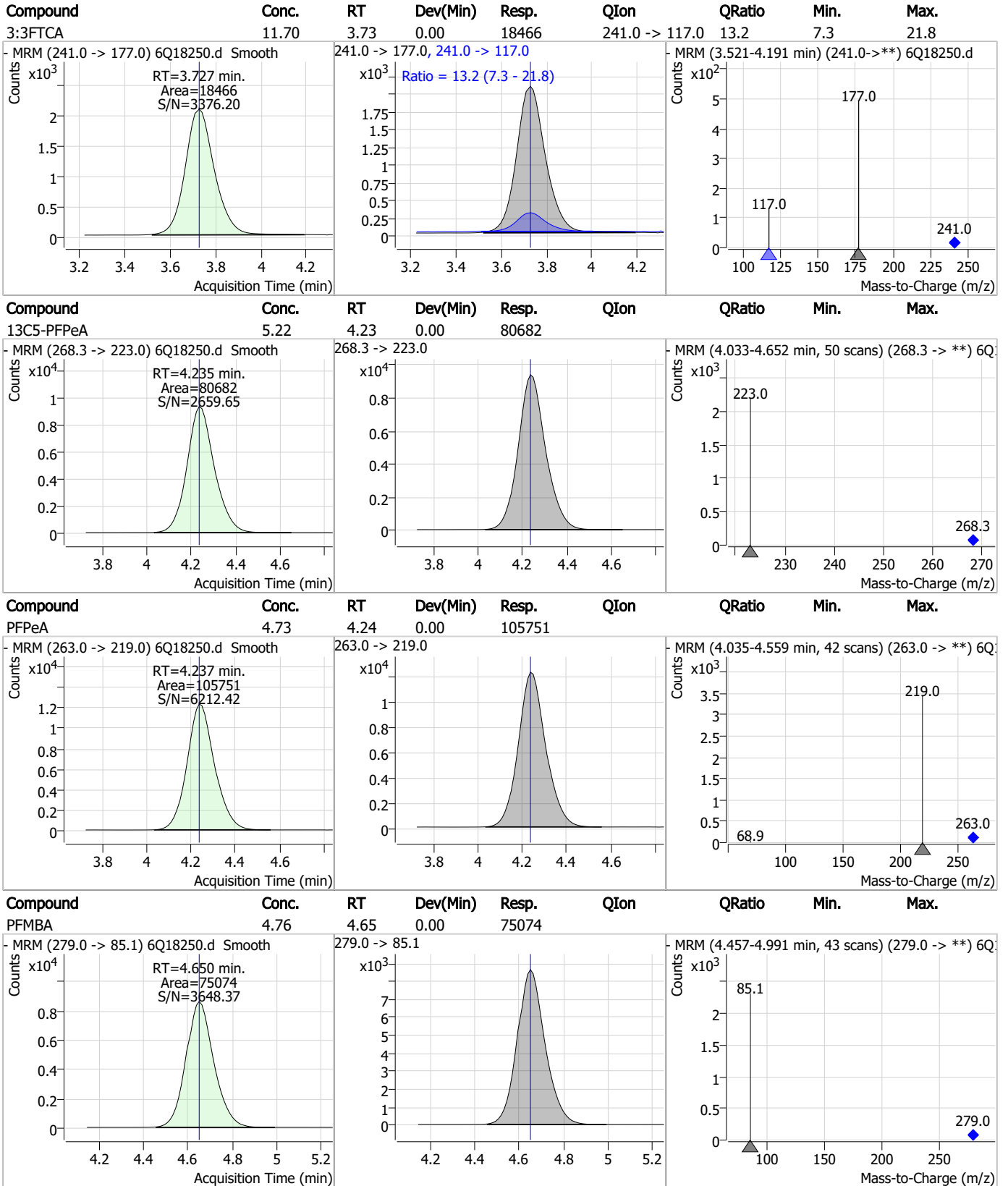
7.7.14

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### Perfluorinated Compounds by LC/MS/MS

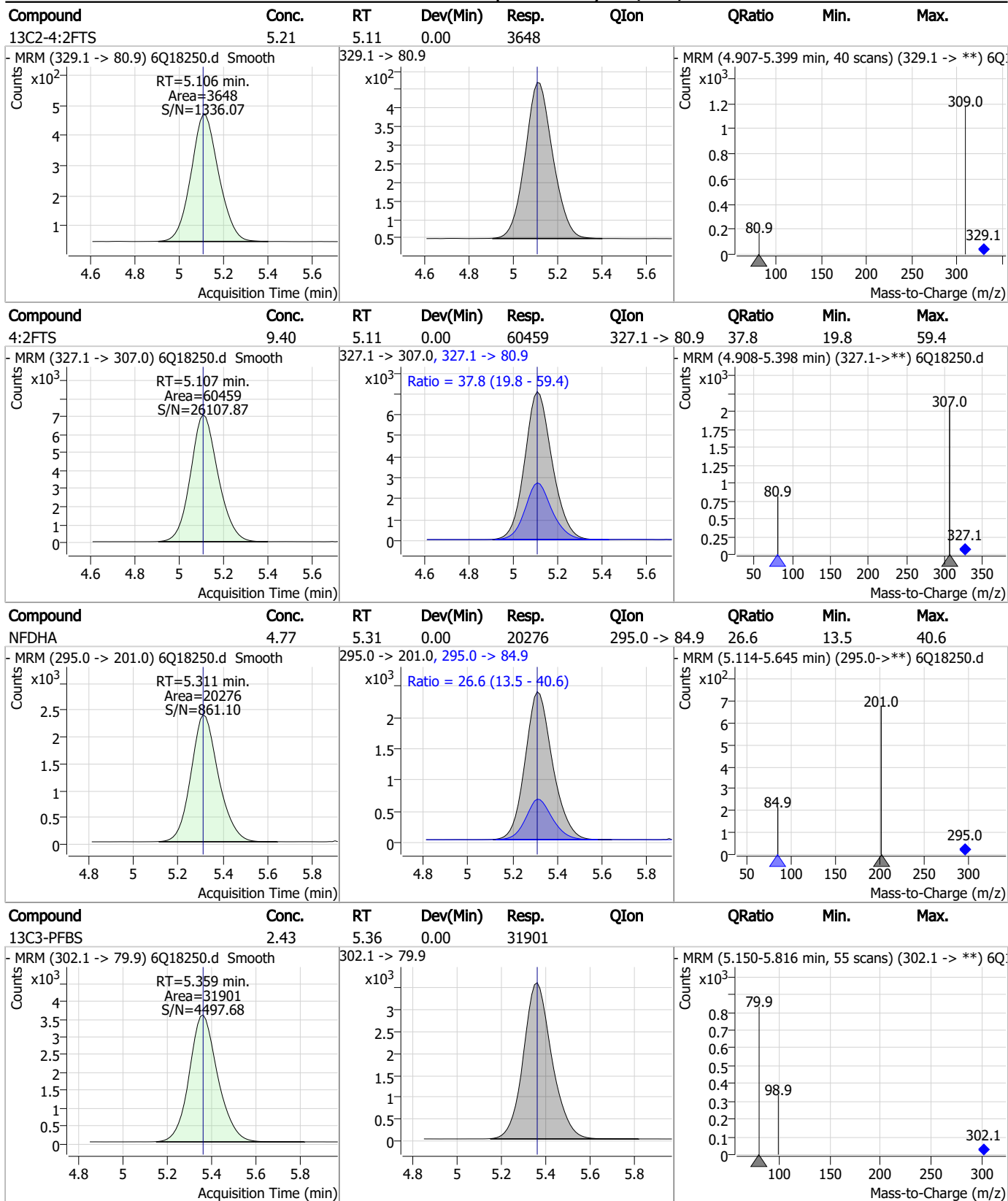


### Perfluorinated Compounds by LC/MS/MS



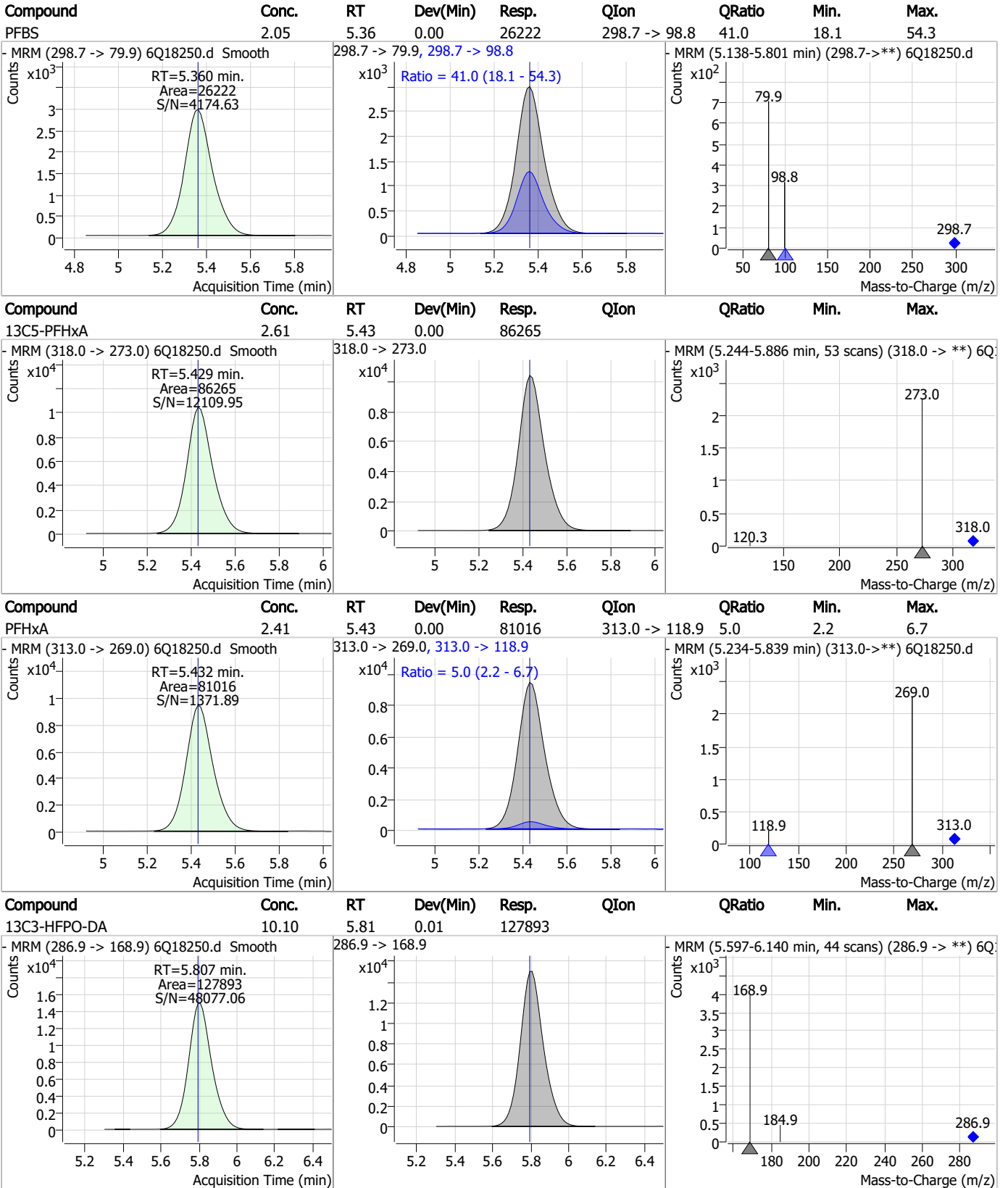
7.7.14

### Perfluorinated Compounds by LC/MS/MS



7.7.14  
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### Perfluorinated Compounds by LC/MS/MS



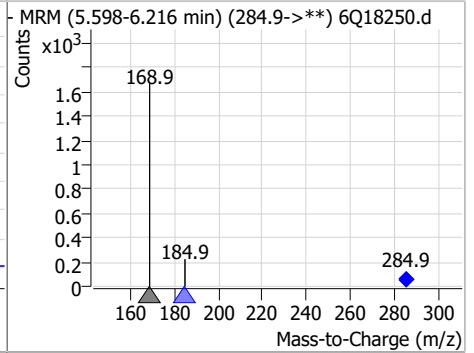
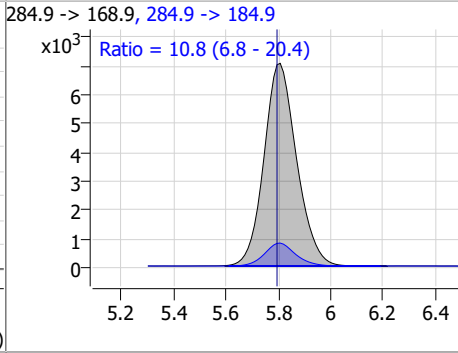
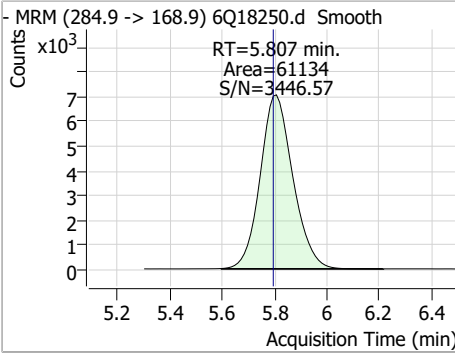
7.7.14

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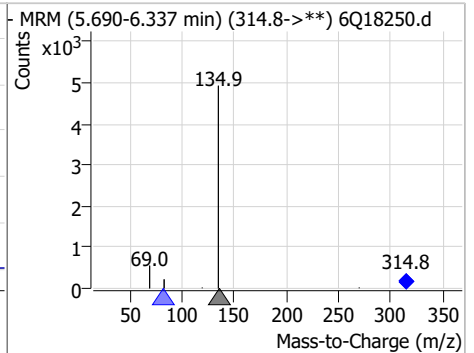
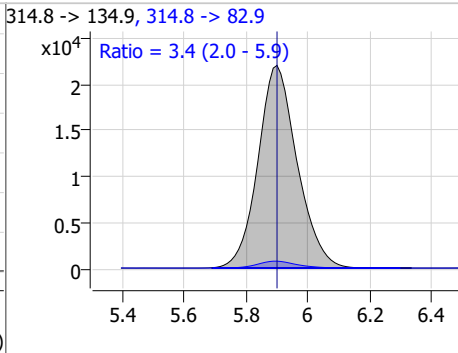
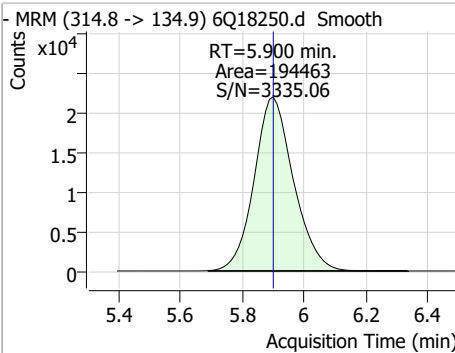


### Perfluorinated Compounds by LC/MS/MS

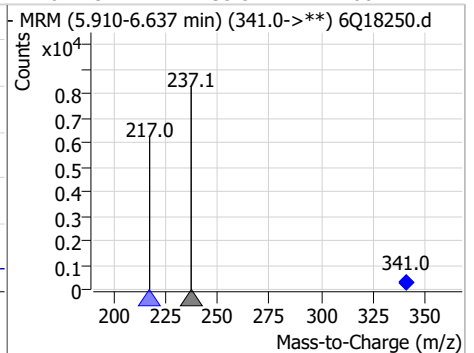
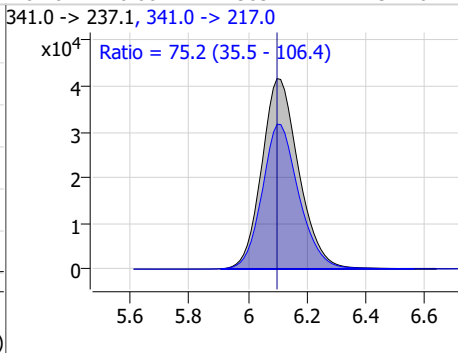
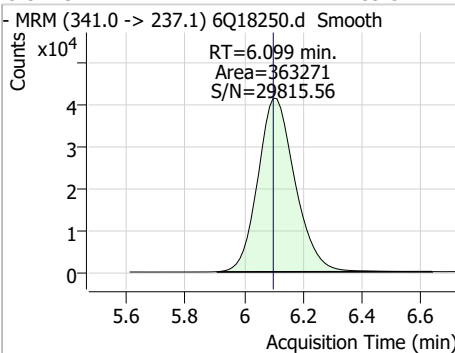
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 4.84  | 5.81 | 0.01     | 61134 | 284.9 -> 184.9 | 10.8   | 6.8  | 20.4 |



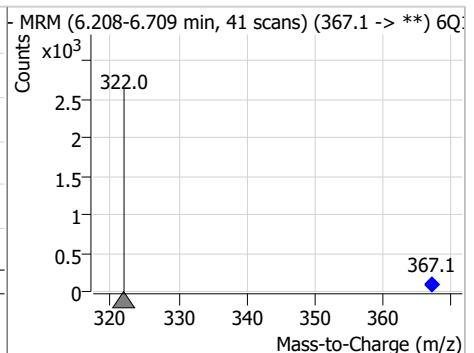
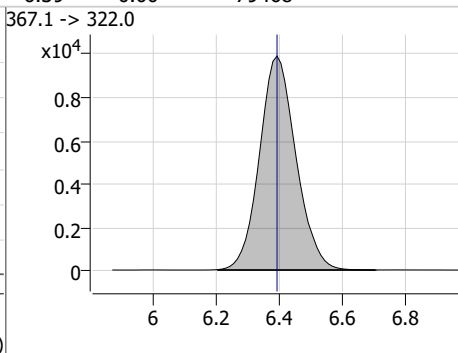
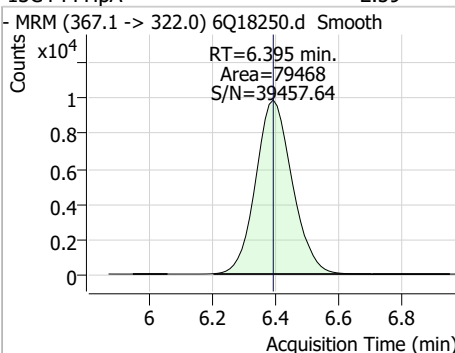
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 4.15  | 5.90 | 0.00     | 194463 | 314.8 -> 82.9 | 3.4    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 59.54 | 6.10 | 0.00     | 363271 | 341.0 -> 217.0 | 75.2   | 35.5 | 106.4 |

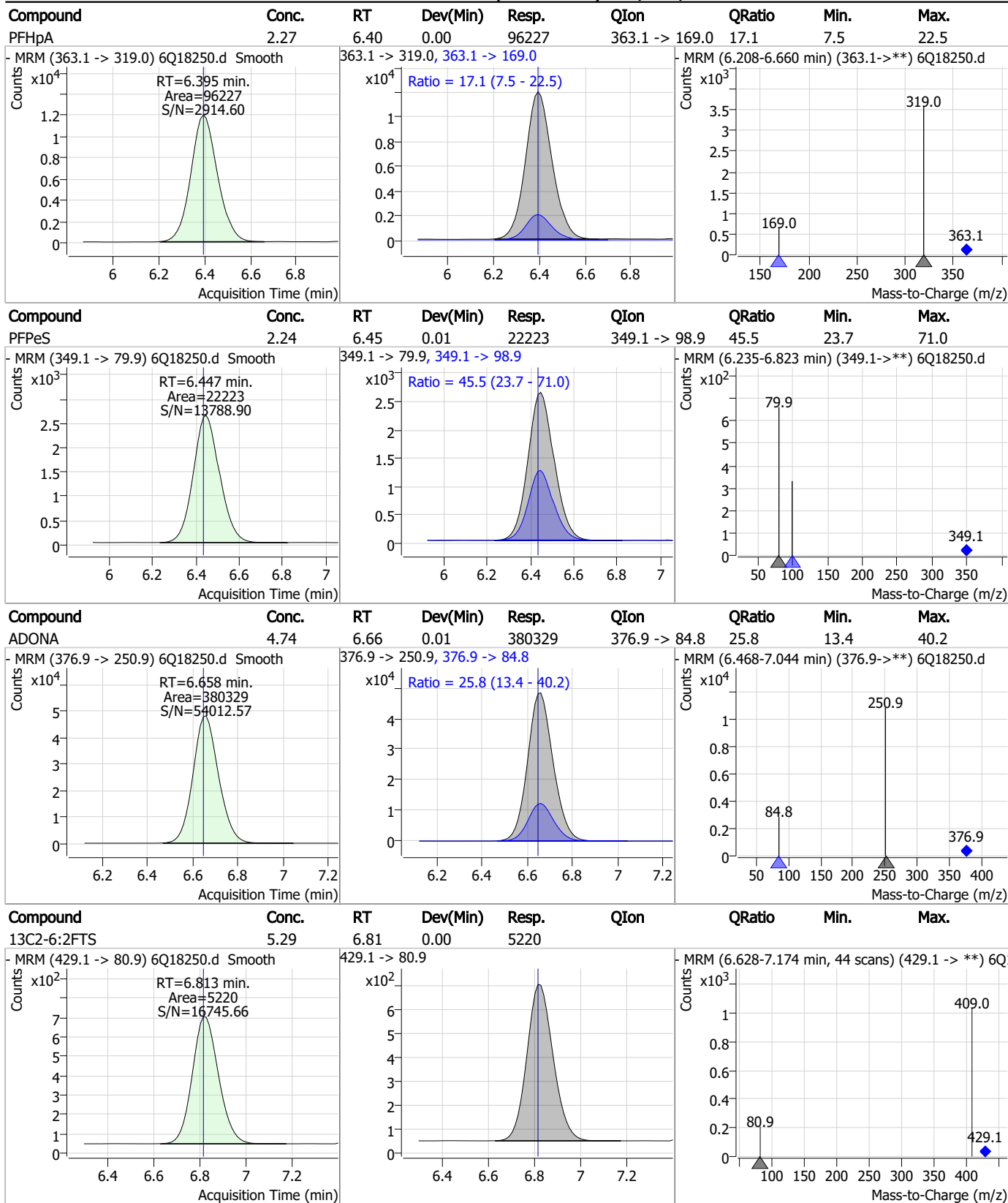


| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpa | 2.59  | 6.39 | 0.00     | 79468 | 367.1 -> 322.0 |        |      |      |



7.7.14  
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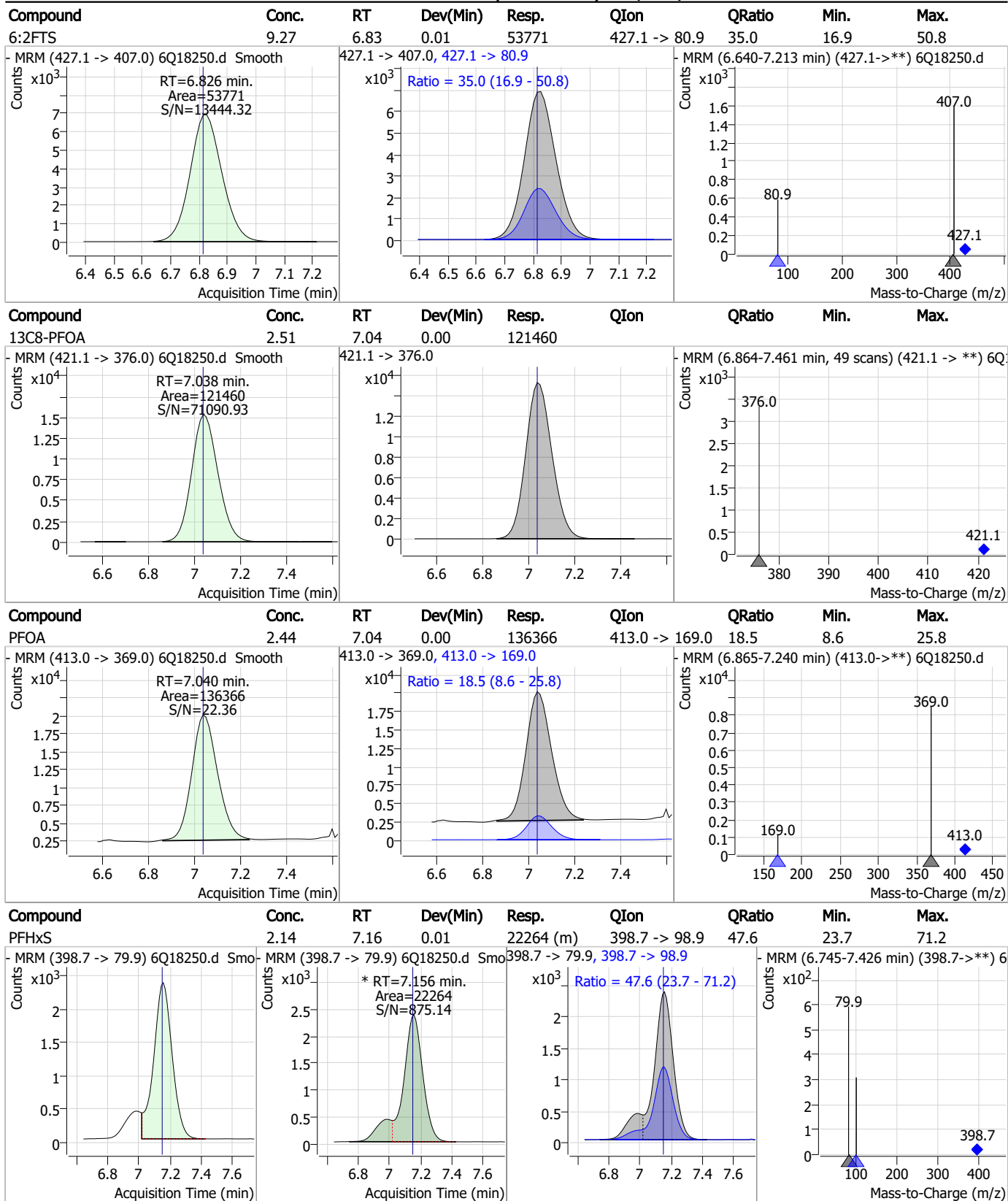
### Perfluorinated Compounds by LC/MS/MS



7.7.14  
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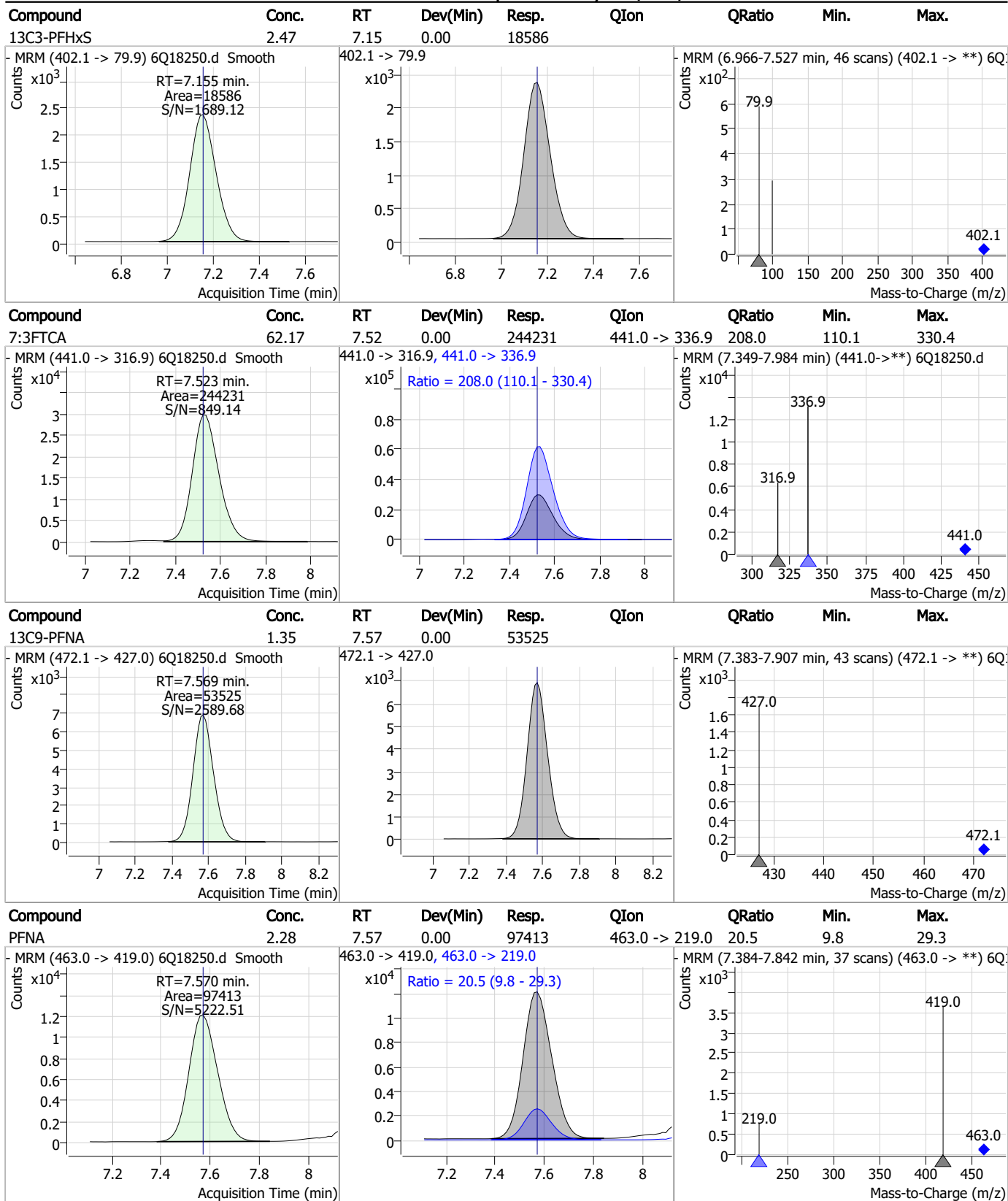
### Perfluorinated Compounds by LC/MS/MS



7.7.14  
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### Perfluorinated Compounds by LC/MS/MS



7.7.14  
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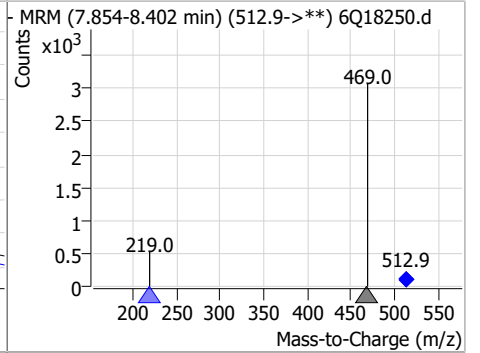
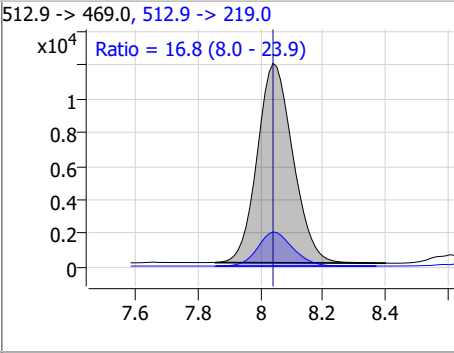
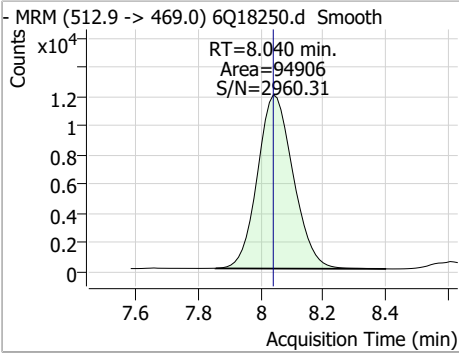
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| PFHpS       | 2.45  | 7.71 | 0.01     | 21635 | 449.0 -> 98.9  | 48.8   | 24.7 | 74.2 |
|             |       |      |          |       |                |        |      |      |
| 13C2-8:2FTS | 5.75  | 7.84 | 0.00     | 5462  | 529.1 -> 80.9  | 42.0   | 21.4 | 64.1 |
|             |       |      |          |       |                |        |      |      |
| 8:2FTS      | 9.08  | 7.84 | 0.00     | 29557 | 527.1 -> 80.8  | 42.0   | 21.4 | 64.1 |
|             |       |      |          |       |                |        |      |      |
| 13C6-PFDA   | 1.23  | 8.04 | 0.00     | 30251 | 519.1 -> 474.1 | 42.0   | 21.4 | 64.1 |
|             |       |      |          |       |                |        |      |      |

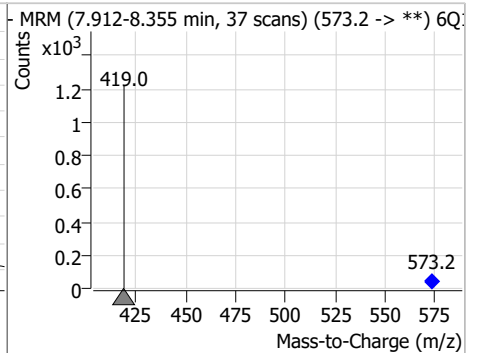
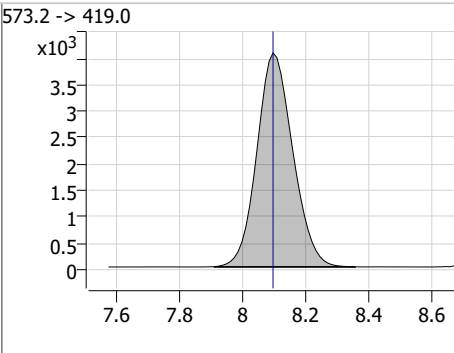
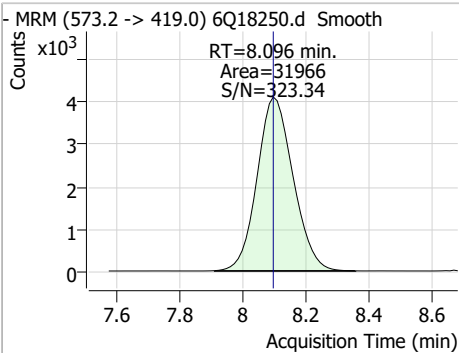
7.7.14  
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### Perfluorinated Compounds by LC/MS/MS

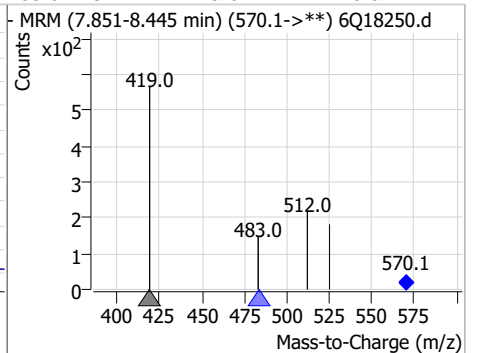
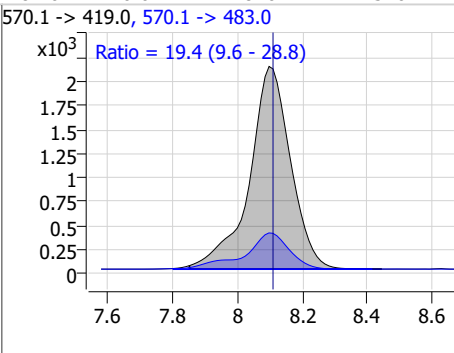
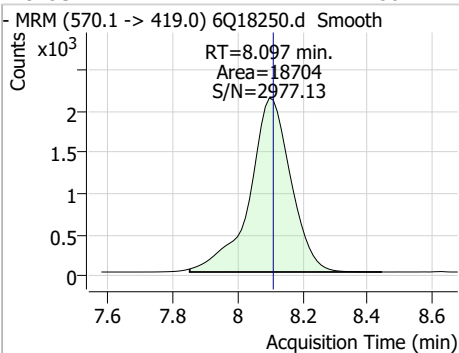
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFDA     | 2.28  | 8.04 | 0.00     | 94906 | 512.9 -> 219.0 | 16.8   | 8.0  | 23.9 |



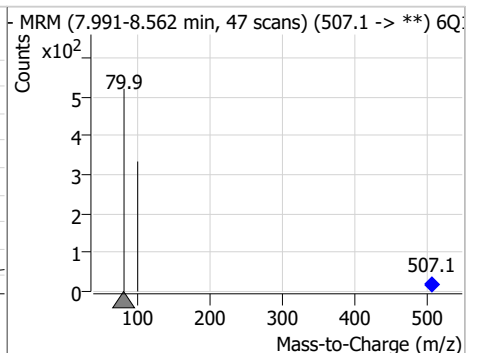
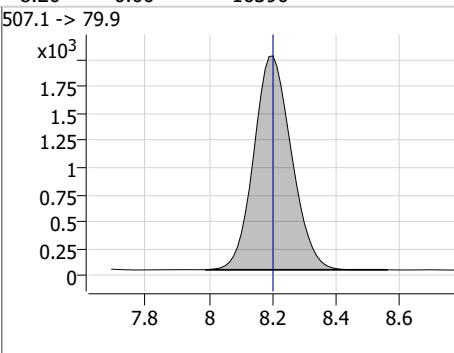
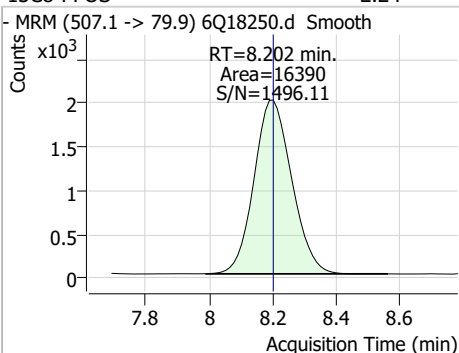
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|------|--------|------|------|
| d3-MeFOSAA | 5.13  | 8.10 | 0.00     | 31966 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| MeFOSAA  | 2.58  | 8.10 | -0.01    | 18704 | 570.1 -> 483.0 | 19.4   | 9.6  | 28.8 |



| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-PFOS | 2.24  | 8.20 | 0.00     | 16390 |      |        |      |      |



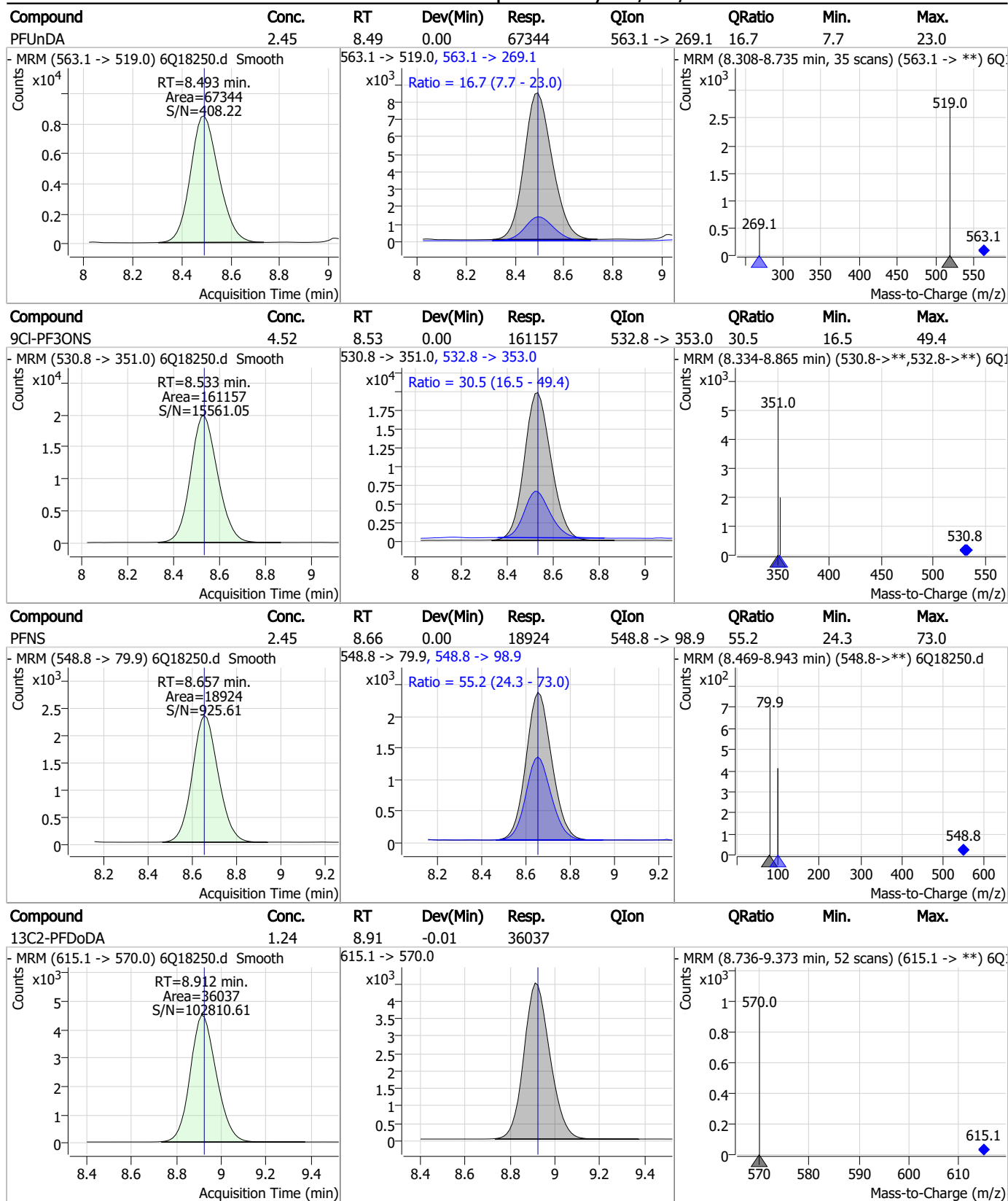
### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| PFOS        | 2.36  | 8.19 | -0.01    | 21154 | 498.9 -> 98.8  | 45.8   | 26.7 | 80.1 |
|             |       |      |          |       |                |        |      |      |
| d5-EtFOSAA  | 5.19  | 8.29 | -0.01    | 28819 |                |        |      |      |
|             |       |      |          |       |                |        |      |      |
| EtFOSAA     | 2.29  | 8.29 | -0.01    | 10111 | 584.2 -> 526.0 | 56.5   | 27.1 | 81.2 |
|             |       |      |          |       |                |        |      |      |
| 13C7-PFUnDA | 1.20  | 8.49 | 0.00     | 37412 |                |        |      |      |
|             |       |      |          |       |                |        |      |      |

7.7.14



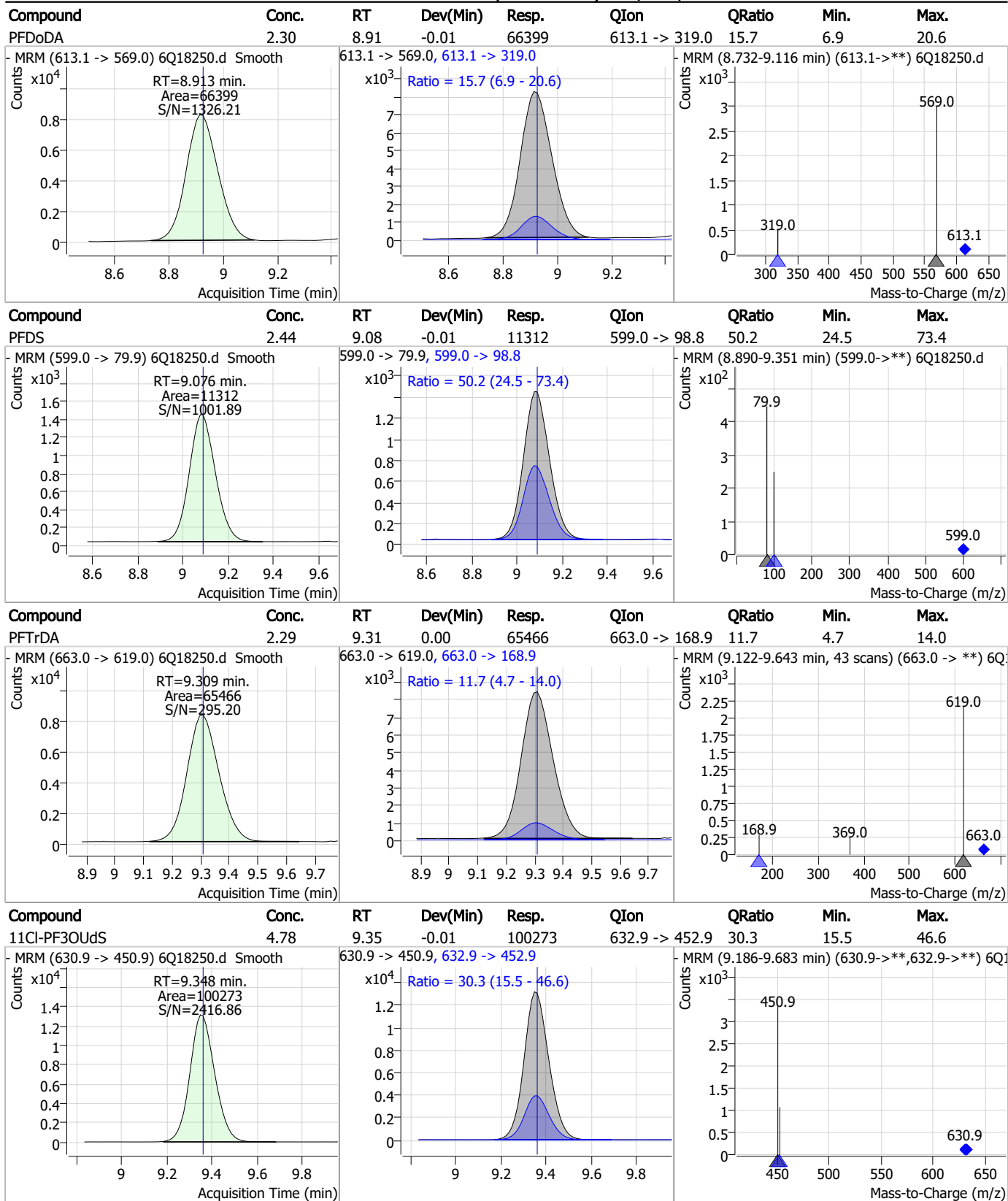
### Perfluorinated Compounds by LC/MS/MS



7.7.14

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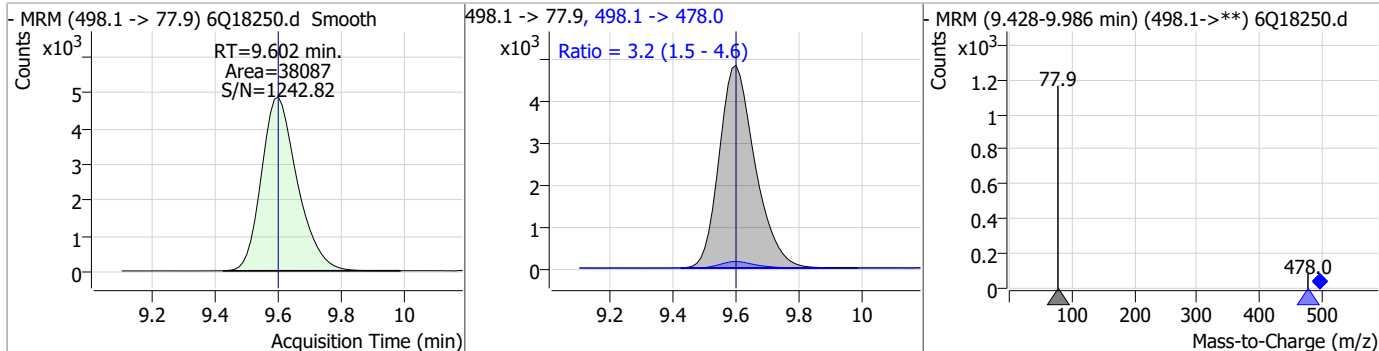
### Perfluorinated Compounds by LC/MS/MS



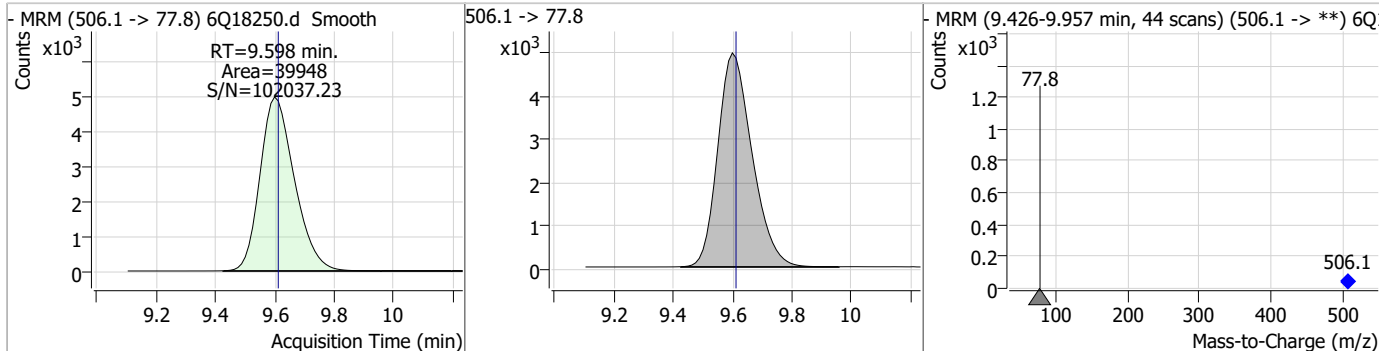
7.7.14  
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### Perfluorinated Compounds by LC/MS/MS

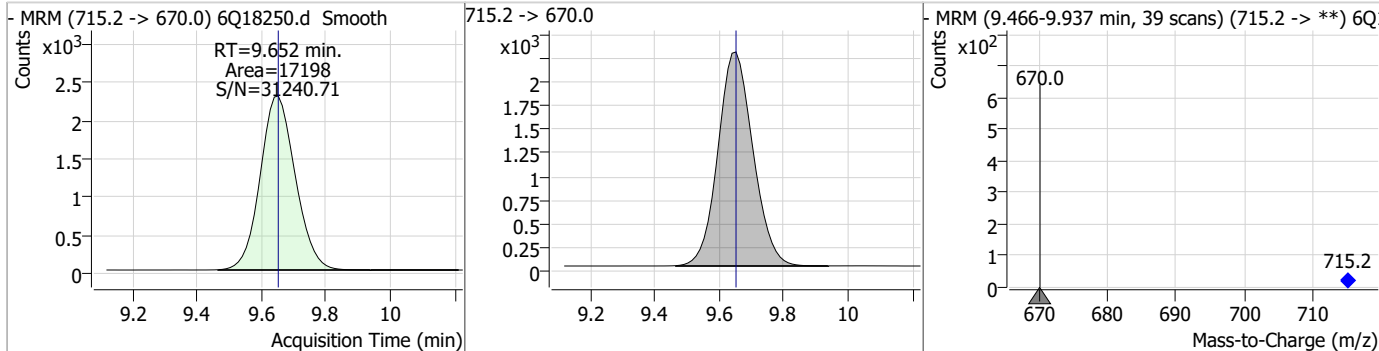
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 2.45  | 9.60 | 0.00     | 38087 | 498.1 -> 478.0 | 3.2    | 1.5  | 4.6  |



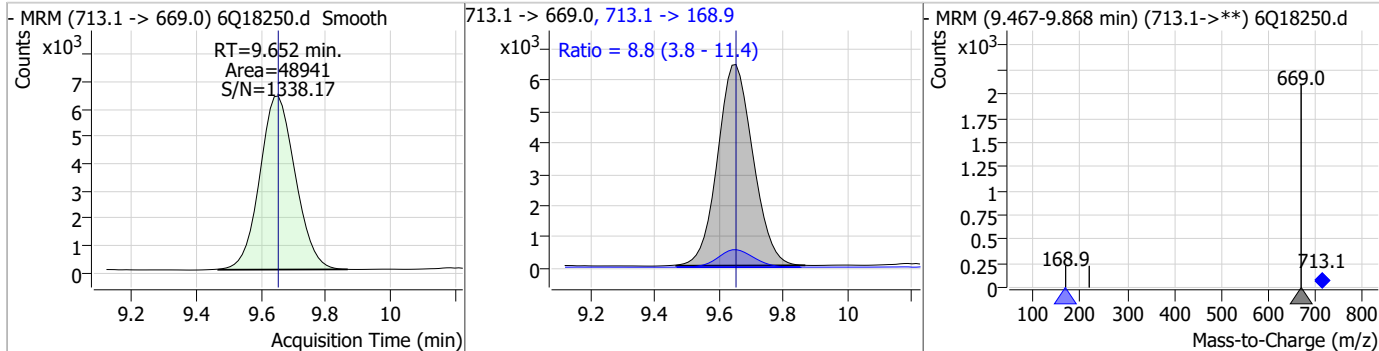
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.44  | 9.60 | -0.01    | 39948 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.14  | 9.65 | 0.00     | 17198 |      |        |      |      |

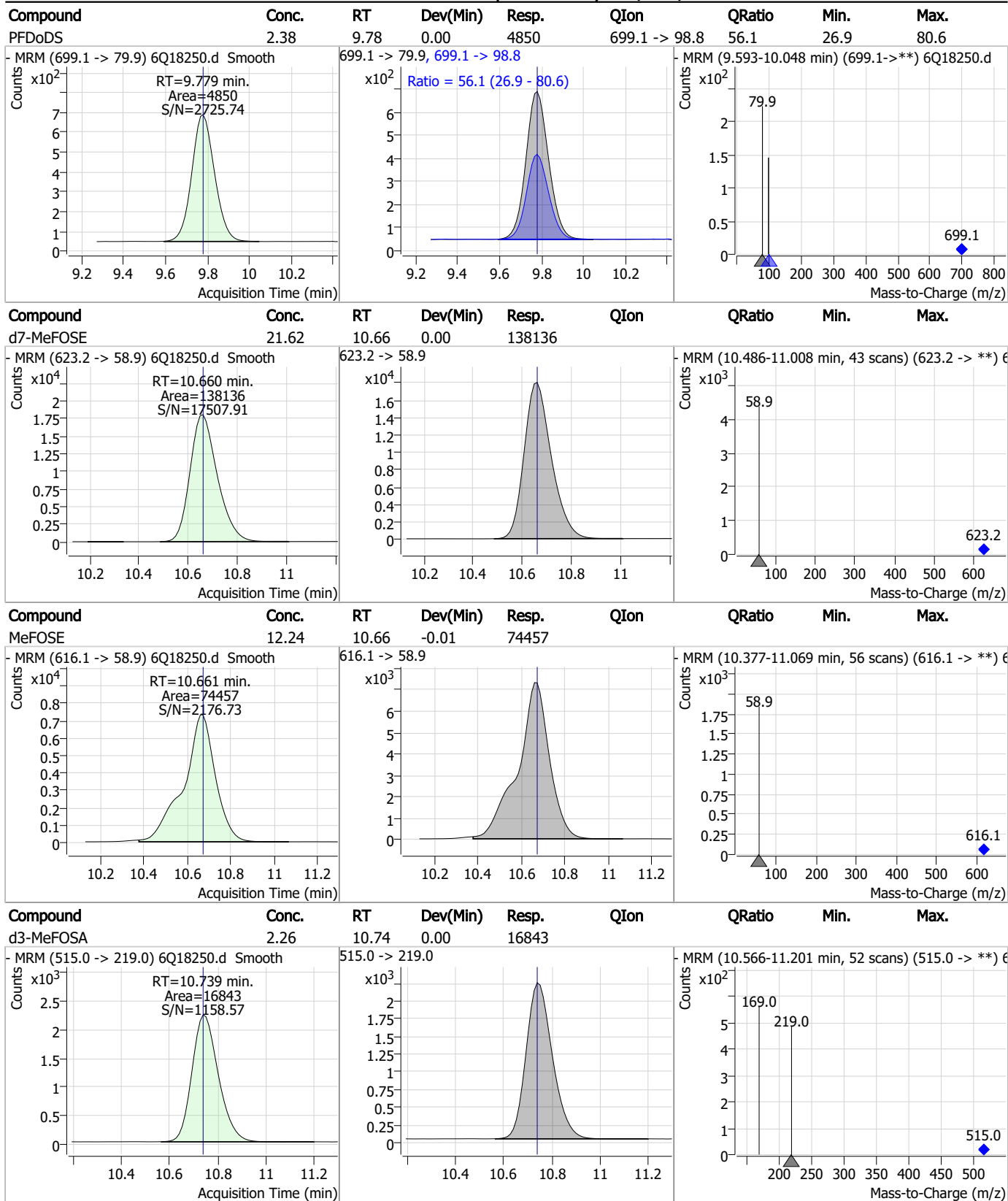


| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 2.54  | 9.65 | 0.00     | 48941 | 713.1 -> 168.9 | 8.8    | 3.8  | 11.4 |





### Perfluorinated Compounds by LC/MS/MS

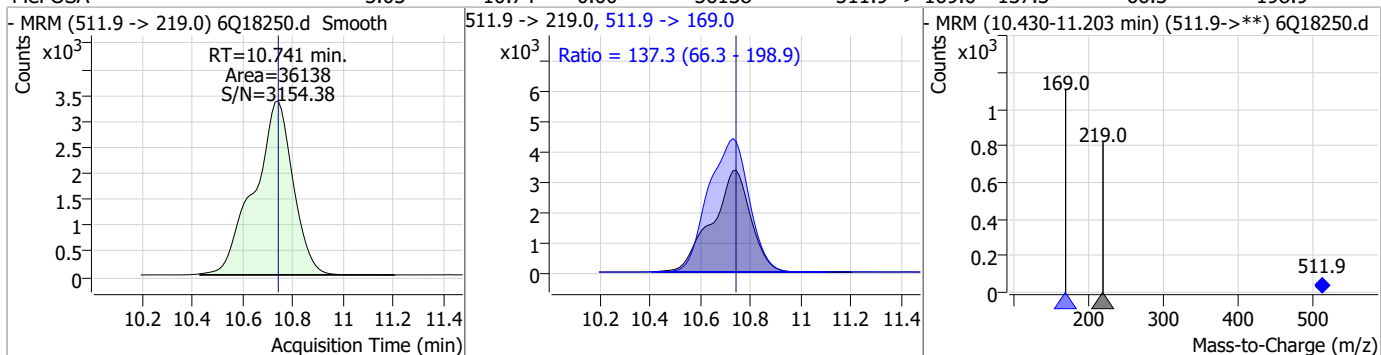


7.7.14

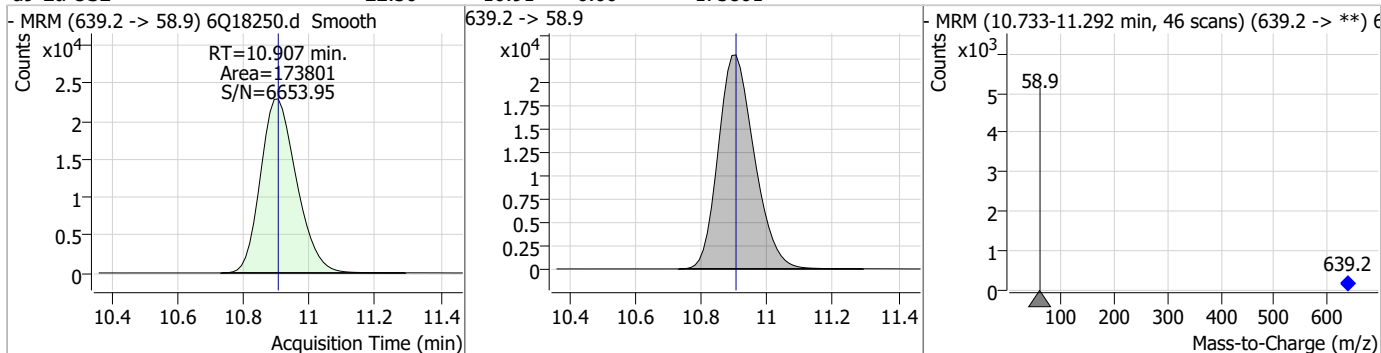
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### Perfluorinated Compounds by LC/MS/MS

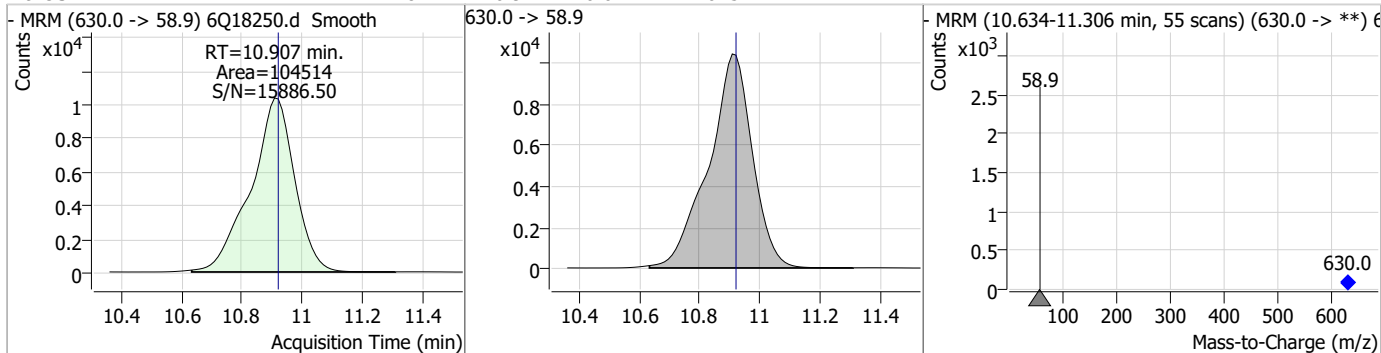
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOSA   | 5.03  | 10.74 | 0.00     | 36138 | 511.9 -> 169.0 | 137.3  | 66.3 | 198.9 |



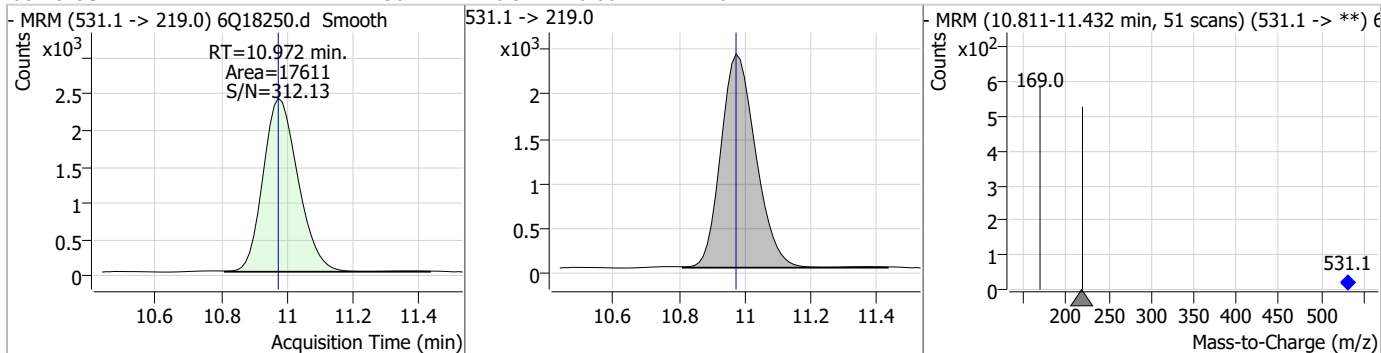
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 22.36 | 10.91 | 0.00     | 173801 |      |        |      |      |



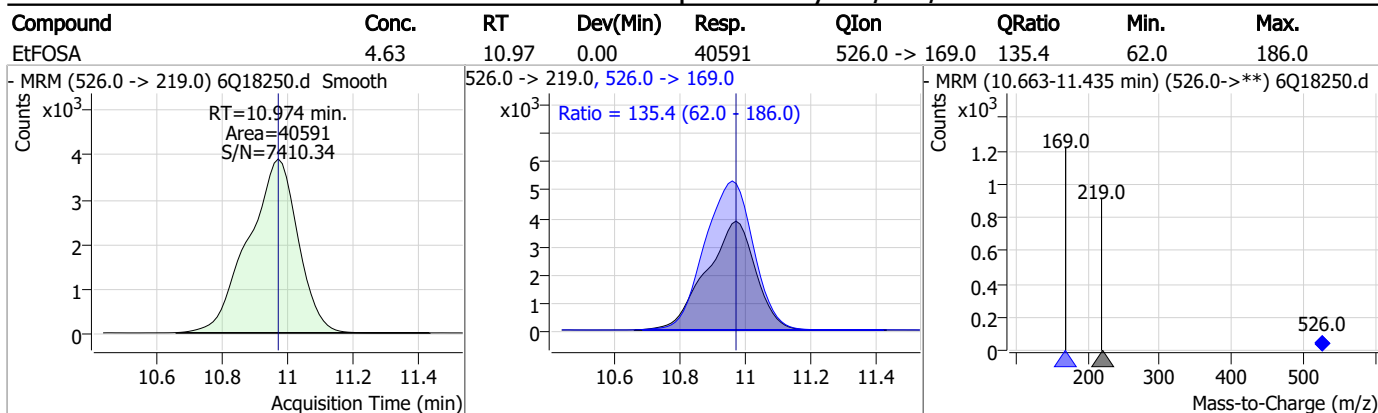
| Compound | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|--------|------|--------|------|------|
| EtFOSE   | 12.28 | 10.91 | -0.01    | 104514 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.38  | 10.97 | 0.00     | 17611 |      |        |      |      |



### Perfluorinated Compounds by LC/MS/MS



7.7.14

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# Manual Integration Approval Summary

Sample Number: S6Q274-CC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18250.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/23/23 03:00      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.14.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18262.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 5:54:22 AM  
 Sample Name : cc274-4  
 Vial : P1-A5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 246396            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 79394             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 84329             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 79533             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 122805            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 49279             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 30836             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 40469             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 35304             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.652                | 715.2 -> 670.0 | 17947             | 1.25 µg/L   | 0.000    |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 39581             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 31950             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 18502             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 17934             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3832              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5483              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.827                | 529.1 -> 80.9  | 5625              | 5.00 µg/L   | -0.012   |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 35639             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.807                | 286.9 -> 168.9 | 129076            | 10.00 µg/L  | 0.012    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 30327             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 140177            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 170815            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 16808             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 17835             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 22783             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 104066            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 13619             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 123097            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 41304             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 61541             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 80670             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3832              | 5.53 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 110.5% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5483              | 5.61 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 112.3% |             |          |
| 13C2-8:2FTS                        | 7.827                | 529.1 -> 80.9  | 5625              | 5.98 µg/L   | -0.012   |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 119.7% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 35304             | 1.18 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 94.1%  |             |          |
| 13C2-PFTeDA                        | 9.652                | 715.2 -> 670.0 | 17947             | 1.14 µg/L   | 0.000    |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 91.6%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 31950             | 2.46 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 98.5%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 18502             | 2.49 µg/L   | -0.012   |

7.7.15  
7

Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.5%  |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 246396   | 10.04 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 79533    | 2.65 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.8% |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 84329    | 2.61 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 104.3% |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 79394    | 5.25 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 105.0% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 30836    | 1.21 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.7%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 40469    | 1.25 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 100.2% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 39581    | 2.50 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.8%  |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 122805   | 2.50 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.1% |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 17934    | 2.54 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.4% |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 49279    | 1.17 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 93.7%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 35639    | 5.90 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 118.1% |               |
| 13C3-HFPO-DA            | 5.807                | 286.9 -> 168.9 | 129076   | 10.42 µg/L        | 0.012         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 104.2% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 17835    | 2.47 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 98.8%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 30327    | 5.65 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 112.9% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 140177   | 22.66 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 90.7%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 170815   | 22.70 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 90.8%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 16808    | 2.35 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 94.0%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 65172    | 9.64 µg/L         | 92            |
|                         |                      | 327.1 -> 80.9  | 22575    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 60316    | 9.89 µg/L         | 97            |
|                         |                      | 427.1 -> 80.9  | 19566    |                   |               |
| 8:2FTS                  | 7.840                | 527.1 -> 507.0 | 32712    | 9.75 µg/L         | 95            |
|                         |                      | 527.1 -> 80.8  | 13002    |                   |               |
| EtFOSAA                 | 8.305                | 584.2 -> 419.1 | 11226    | 2.42 µg/L         | 100           |
|                         |                      | 584.2 -> 526.0 | 6071     |                   |               |
| FOSA                    | 9.602                | 498.1 -> 77.9  | 36448    | 2.36 µg/L         | 99            |
|                         |                      | 498.1 -> 478.0 | 1173     |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 18840    | 2.33 µg/L         | 100           |
|                         |                      | 570.1 -> 483.0 | 3635     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 92382    | 9.66 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 26761    | 2.09 µg/L         | 96            |
|                         |                      | 298.7 -> 98.8  | 10339    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 99245    | 2.33 µg/L         | 100           |
|                         |                      | 512.9 -> 219.0 | 16017    |                   |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 65827    | 2.32 µg/L         | 93            |
|                         |                      | 613.1 -> 319.0 | 10906    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 11436    | 2.25 µg/L         | 99            |

7.7.15  
7



Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
| PFHpA        | 6.395  | 599.0 -> 98.8  | 5544     | 2.38 µg/L   | 97       |
|              |        | 363.1 -> 319.0 | 101204   |             |          |
| PFHpS        | 7.698  | 363.1 -> 169.0 | 16627    | 2.24 µg/L   | 98       |
|              |        | 449.0 -> 79.9  | 21649    |             |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 11022    | 2.34 µg/L   | 97       |
|              |        | 313.0 -> 269.0 | 77071    |             |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 4185     | 2.24 µg/L   | 97       |
|              |        | 398.7 -> 79.9  | 23170    |             |          |
| PFNA         | 7.570  | 398.7 -> 98.9  | 10600    | 2.51 µg/L   | 99       |
|              |        | 463.0 -> 419.0 | 98760    |             |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 19763    | 2.28 µg/L   | 95       |
|              |        | 548.8 -> 79.9  | 19261    |             |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 9984     | 2.44 µg/L   | 99       |
|              |        | 413.0 -> 369.0 | 137681   |             |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 24493    | 2.14 µg/L   | 94       |
|              |        | 498.9 -> 79.9  | 20994    |             |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 10241    | 4.81 µg/L   | 100      |
|              |        | 263.0 -> 219.0 | 105812   |             |          |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 22621    | 2.29 µg/L   | 96       |
|              |        | 349.1 -> 98.9  | 10106    |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 48949    | 2.44 µg/L   | 97       |
|              |        | 713.1 -> 168.9 | 4297     |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 66182    | 2.36 µg/L   | 95       |
|              |        | 663.0 -> 168.9 | 7469     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 66229    | 2.22 µg/L   | 96       |
|              |        | 563.1 -> 269.1 | 11288    |             |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 97248    | 4.59 µg/L   | 99       |
|              |        | 632.9 -> 452.9 | 29769    |             |          |
| 9CI-PF3ONS   | 8.520  | 530.8 -> 351.0 | 166636   | 4.63 µg/L   | 95       |
|              |        | 532.8 -> 353.0 | 50053    |             |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 385142   | 4.76 µg/L   | 97       |
|              |        | 376.9 -> 84.8  | 97086    |             |          |
| HFPO-DA      | 5.807  | 284.9 -> 168.9 | 60779    | 4.76 µg/L   | 93       |
|              |        | 284.9 -> 184.9 | 6539     |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 18430    | 11.86 µg/L  | 96       |
|              |        | 241.0 -> 117.0 | 2378     |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 356563   | 59.79 µg/L  | 93       |
|              |        | 341.0 -> 217.0 | 272879   |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 231682   | 60.33 µg/L  | 99       |
|              |        | 441.0 -> 336.9 | 514356   |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 40433    | 4.83 µg/L   | 87       |
|              |        | 526.0 -> 169.0 | 56121    |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 102175   | 12.21 µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 35607    |             |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 48845    | 4.68 µg/L   | 96       |
|              |        | 616.1 -> 58.9  | 74340    |             |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 4855     | 12.04 µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2601     |             |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 20900    | 2.18 µg/L   | 100      |
|              |        | 295.0 -> 84.9  | 5092     |             |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 74838    | 5.03 µg/L   | 95       |
|              |        | 229.0 -> 84.9  | 56084    |             |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 191281   | 4.82 µg/L   | 100      |
|              |        | 314.8 -> 82.9  | 6855     |             |          |
| PFMPA        | 3.401  |                |          | 4.80 µg/L   | 100      |
|              |        |                |          |             |          |
| PFEESA       | 5.900  |                |          | 4.17 µg/L   | 99       |
|              |        |                |          |             |          |

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

### Perfluorinated Compounds by LC/MS/MS

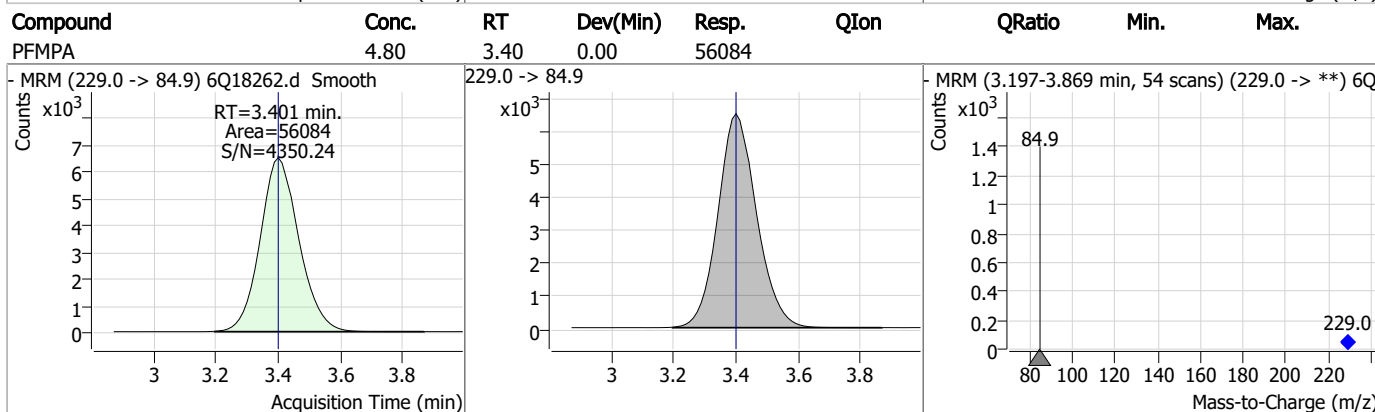
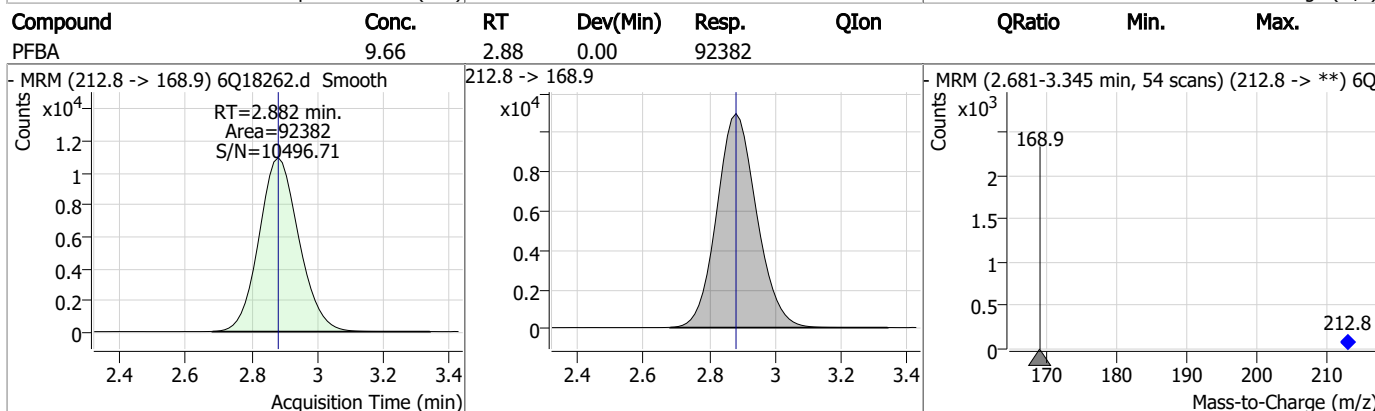
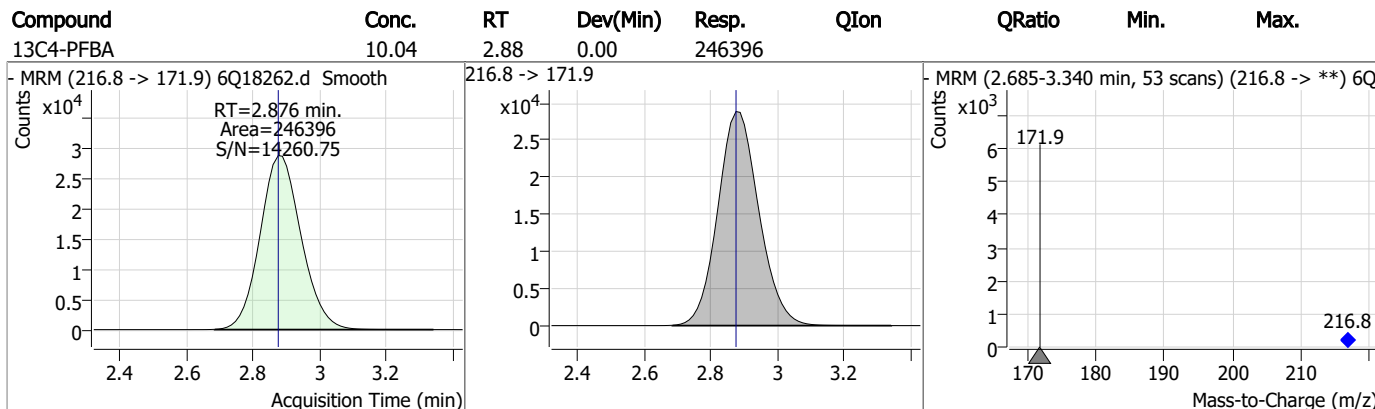
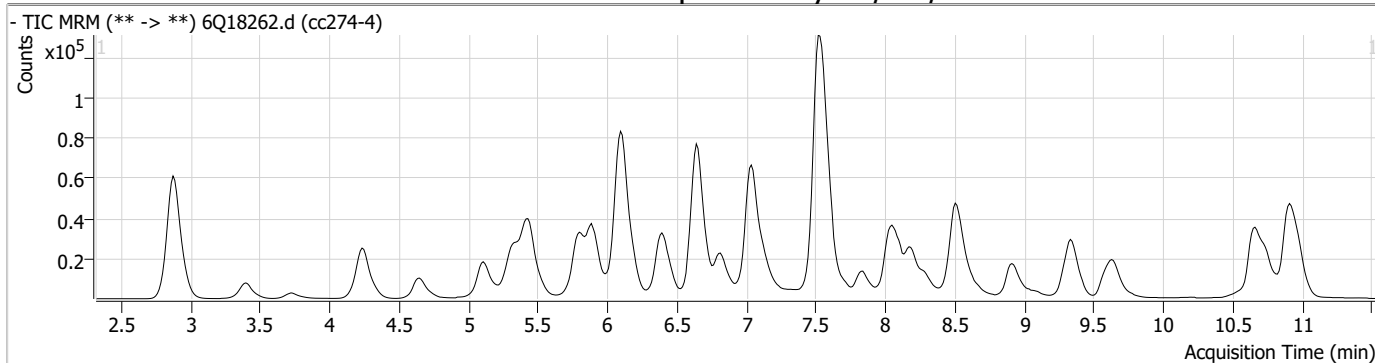
| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

7.7.15

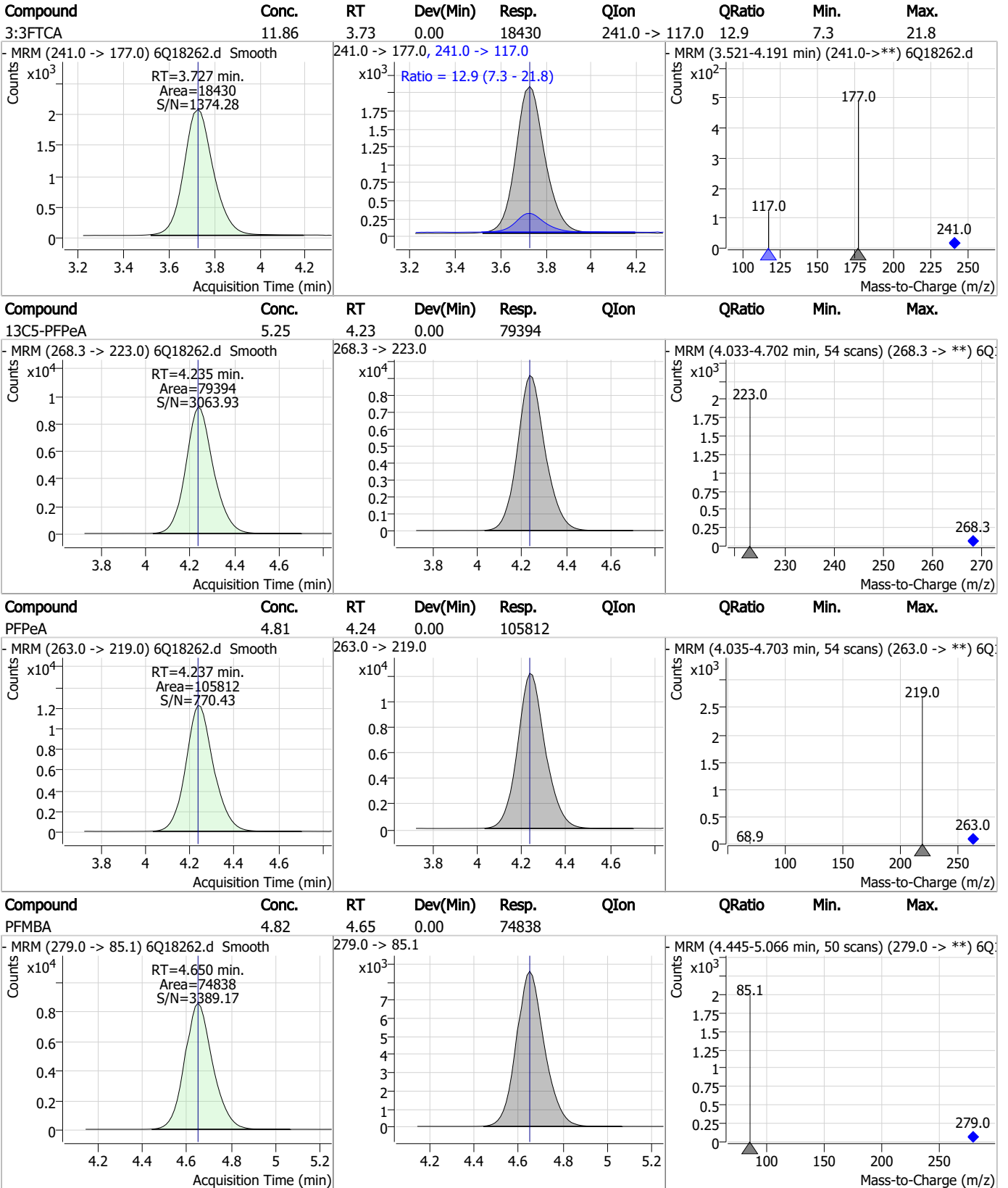
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### Perfluorinated Compounds by LC/MS/MS



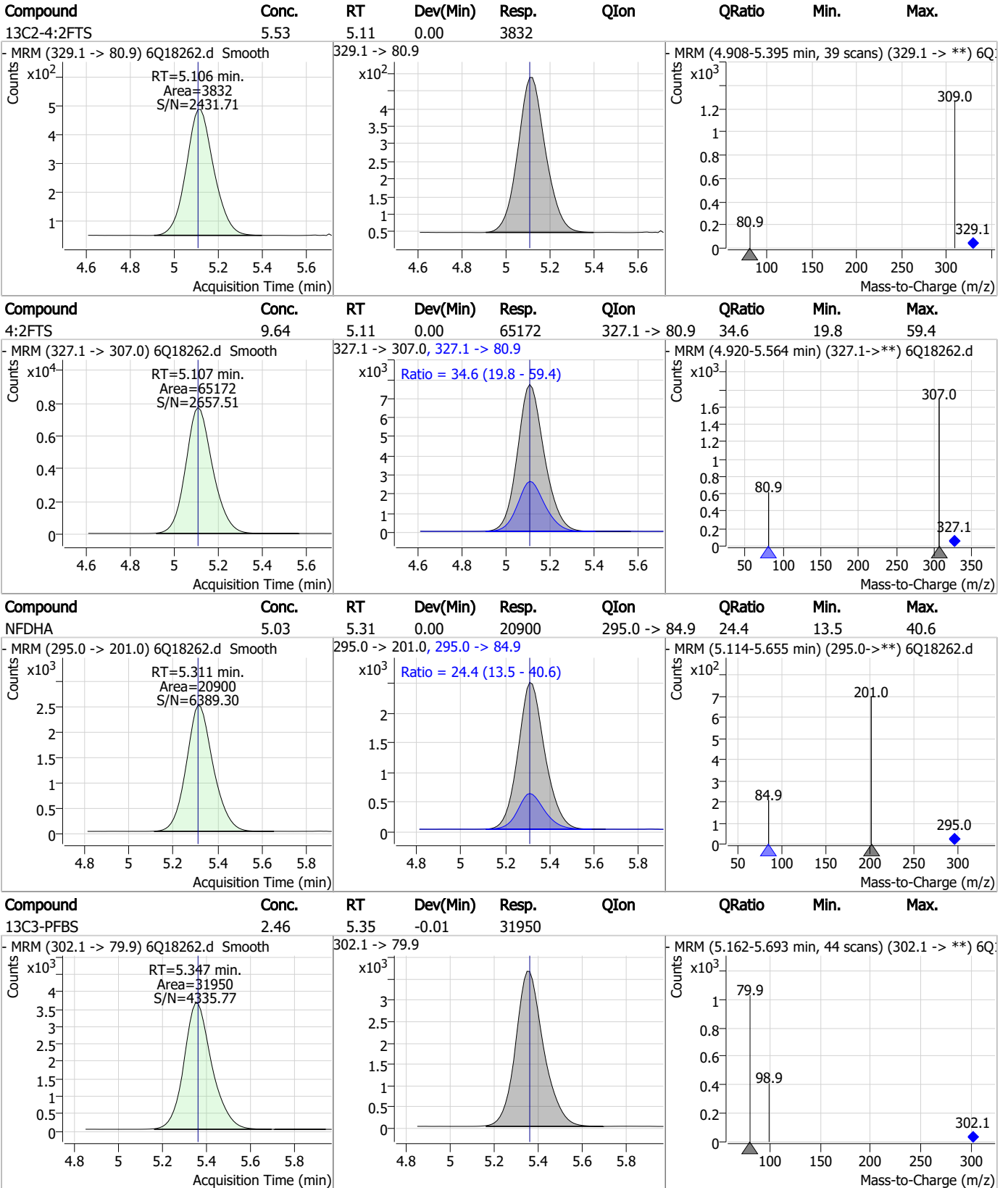
### Perfluorinated Compounds by LC/MS/MS



7.7.15

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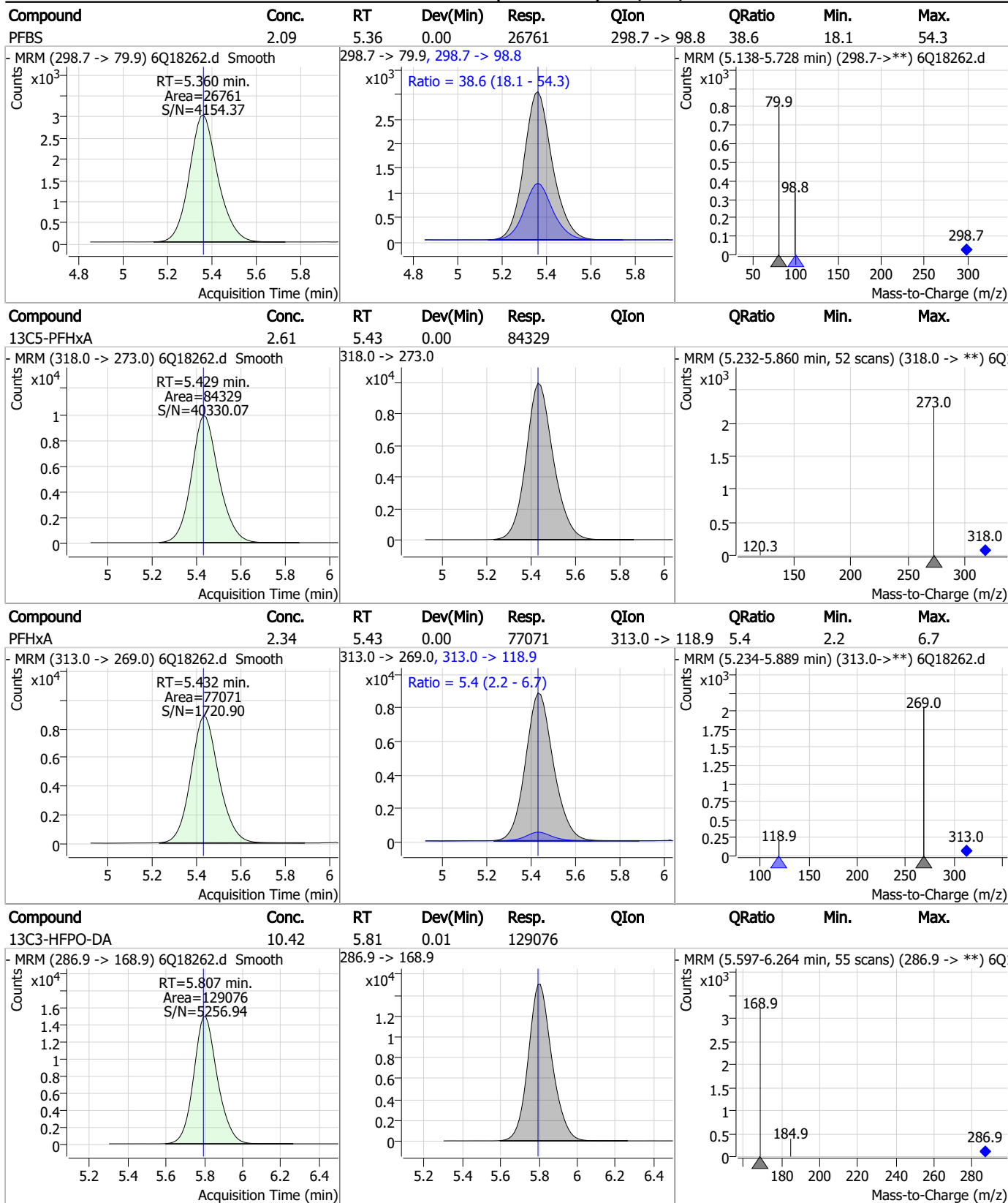
### Perfluorinated Compounds by LC/MS/MS



7.7.15 7



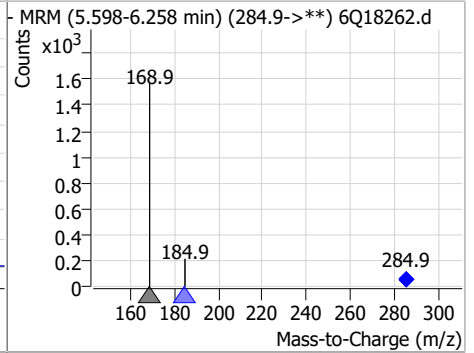
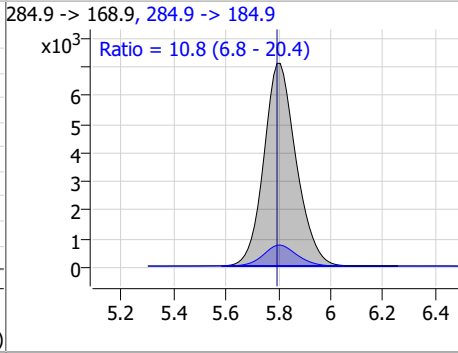
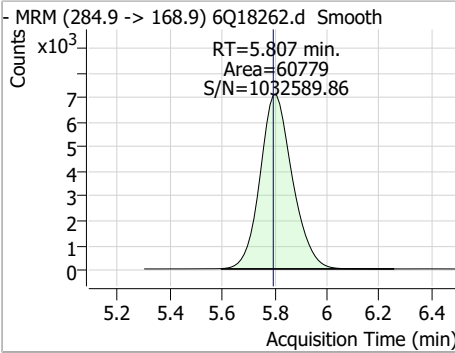
### Perfluorinated Compounds by LC/MS/MS



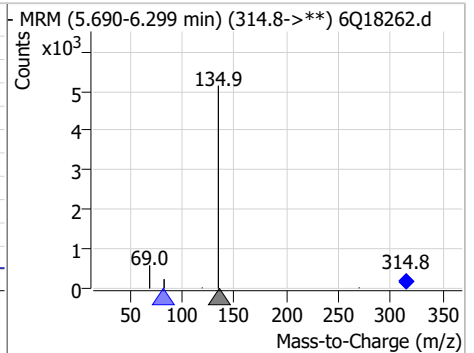
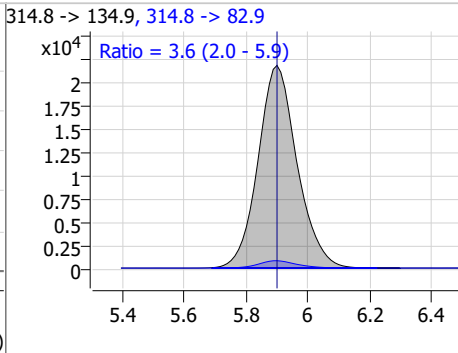
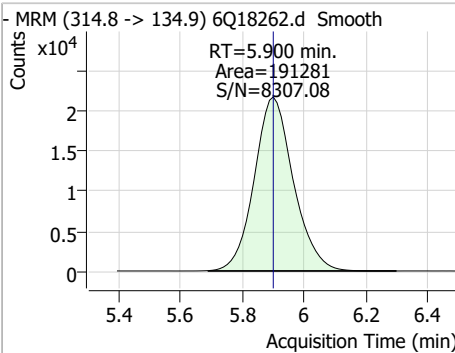
7.7.15  
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### Perfluorinated Compounds by LC/MS/MS

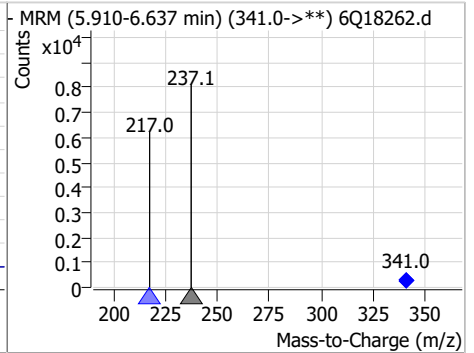
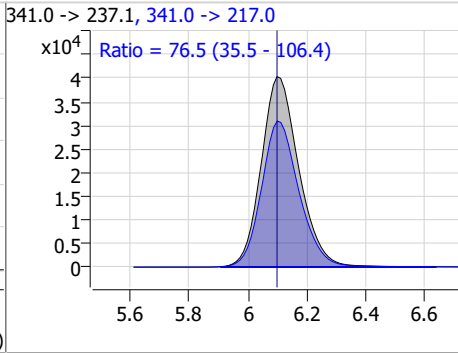
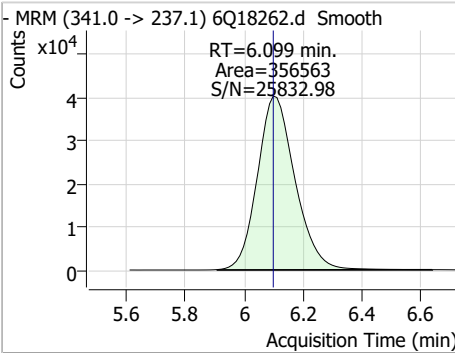
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 4.76  | 5.81 | 0.01     | 60779 | 284.9 -> 184.9 | 10.8   | 6.8  | 20.4 |



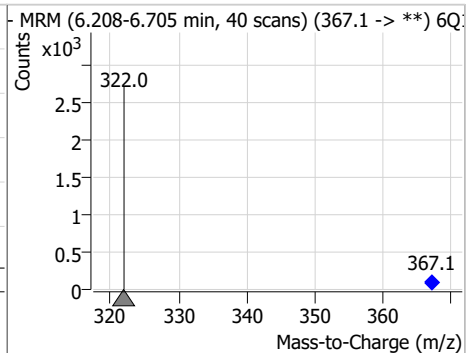
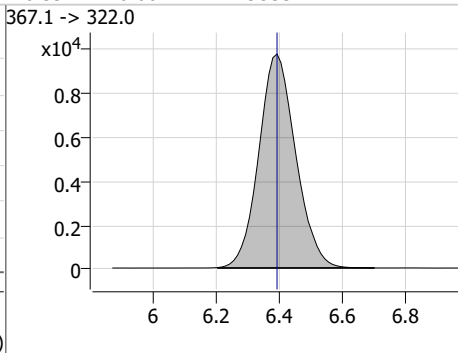
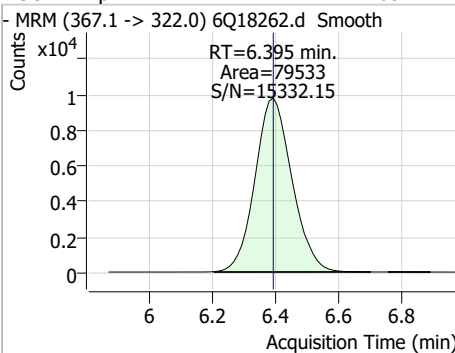
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 4.17  | 5.90 | 0.00     | 191281 | 314.8 -> 82.9 | 3.6    | 2.0  | 5.9  |



| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 59.79 | 6.10 | 0.00     | 356563 | 341.0 -> 217.0 | 76.5   | 35.5 | 106.4 |



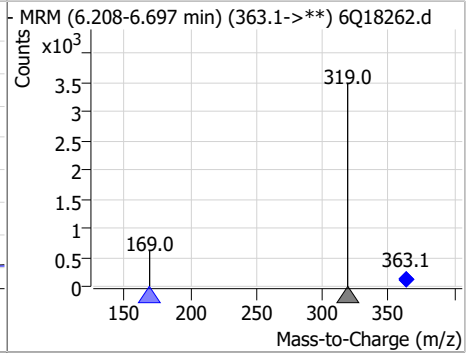
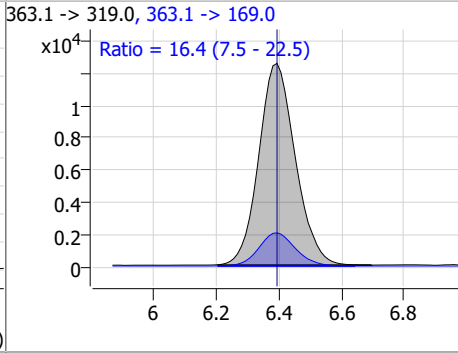
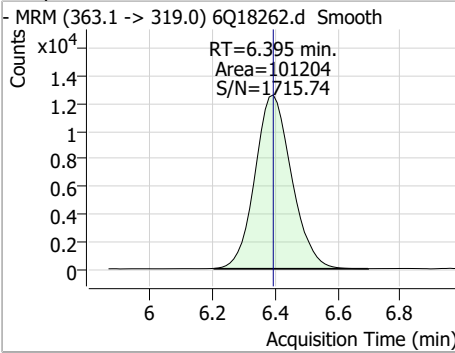
| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpa | 2.65  | 6.39 | 0.00     | 79533 | 367.1 -> 322.0 |        |      |      |



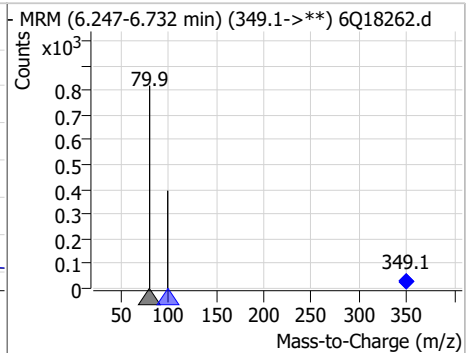
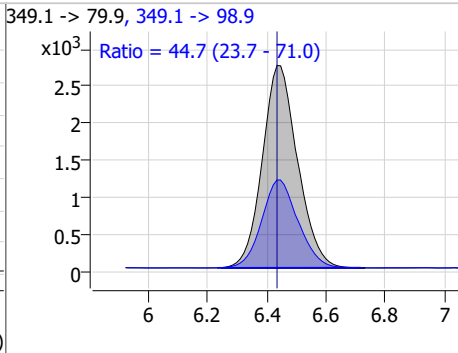
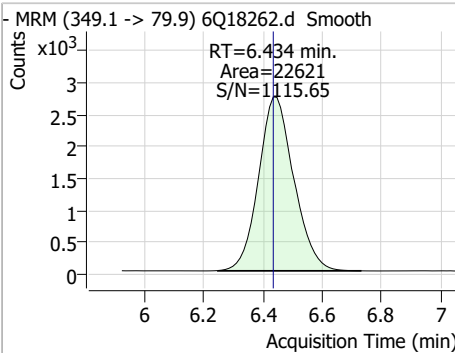
7.7.15 7

### Perfluorinated Compounds by LC/MS/MS

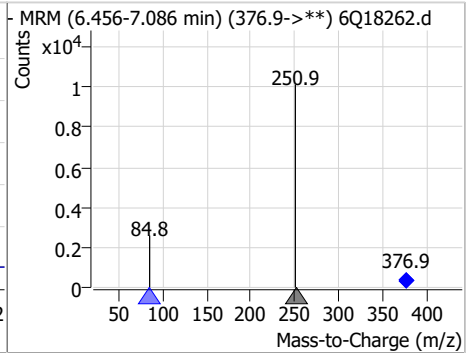
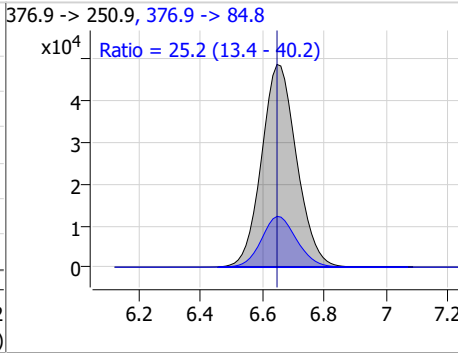
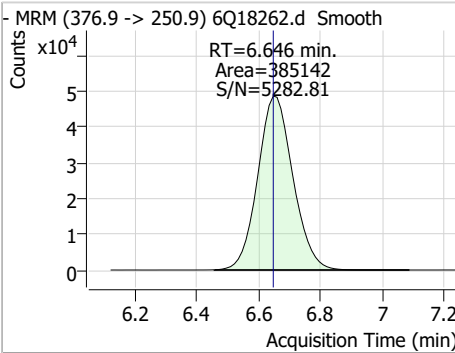
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|----------------|--------|------|------|
| PFHpA    | 2.38  | 6.40 | 0.00     | 101204 | 363.1 -> 169.0 | 16.4   | 7.5  | 22.5 |



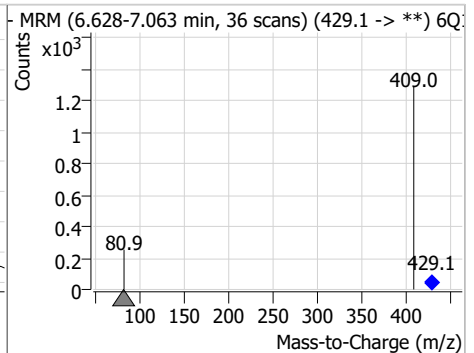
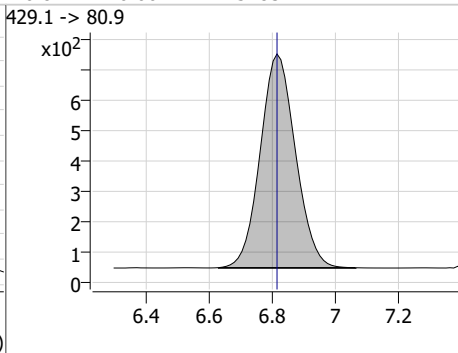
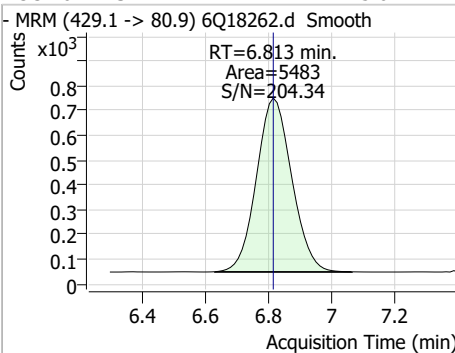
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|---------------|--------|------|------|
| PFPeS    | 2.29  | 6.43 | 0.00     | 22621 | 349.1 -> 98.9 | 44.7   | 23.7 | 71.0 |



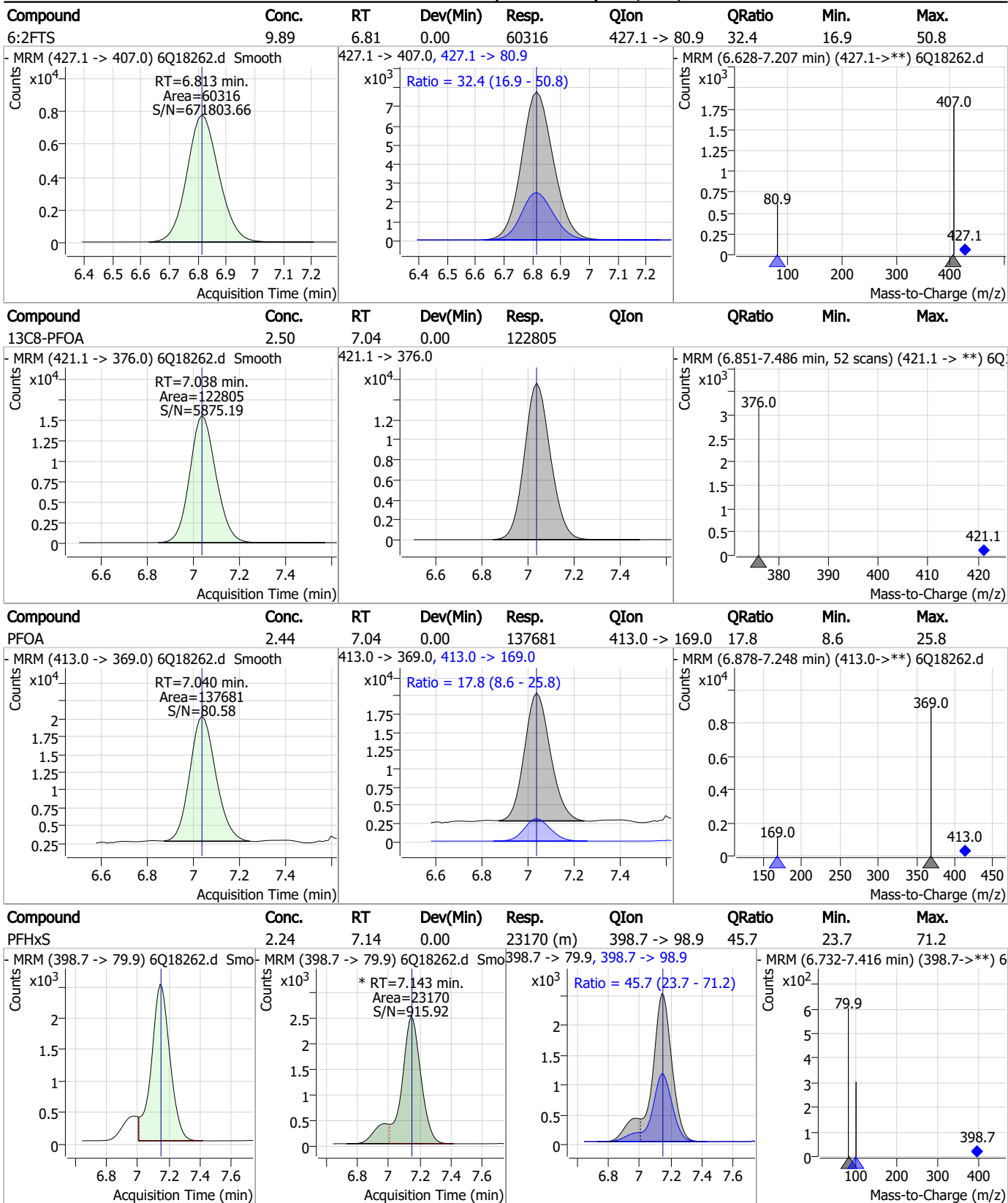
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| ADONA    | 4.76  | 6.65 | 0.00     | 385142 | 376.9 -> 84.8 | 25.2   | 13.4 | 40.2 |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon          | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|---------------|--------|------|------|
| 13C2-6:2FTS | 5.61  | 6.81 | 0.00     | 5483  | 429.1 -> 80.9 |        |      |      |

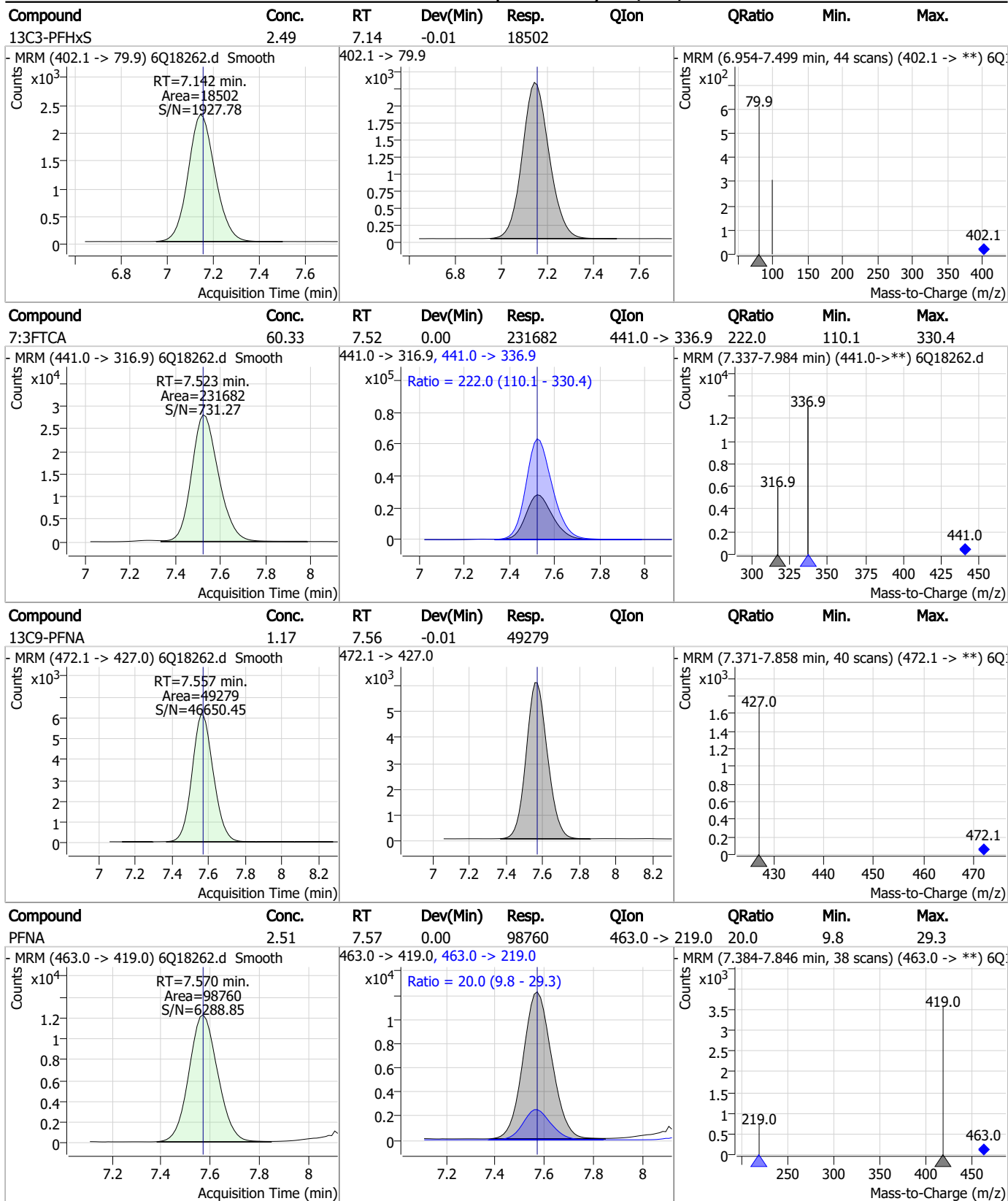


### Perfluorinated Compounds by LC/MS/MS



7.7.15

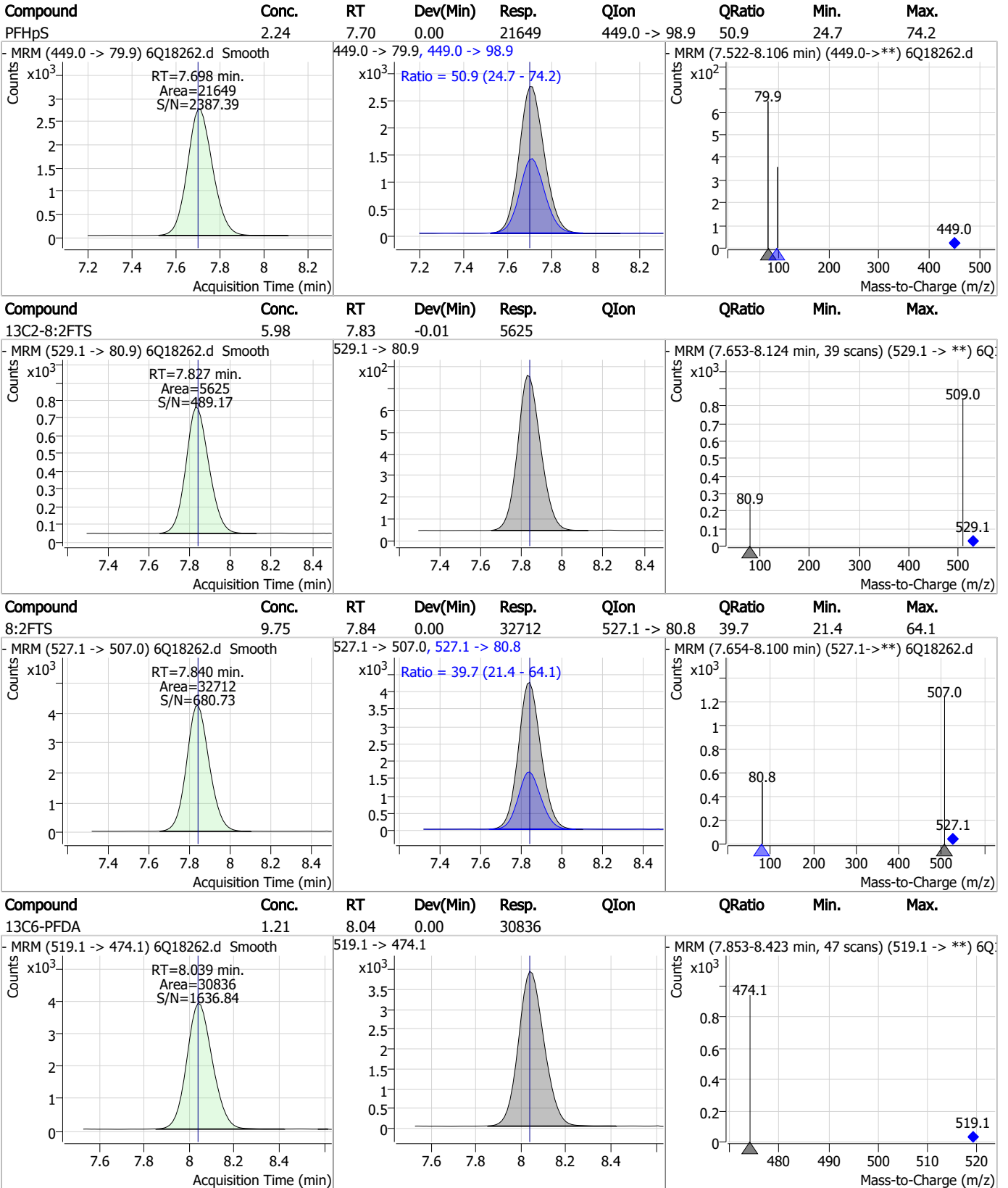
### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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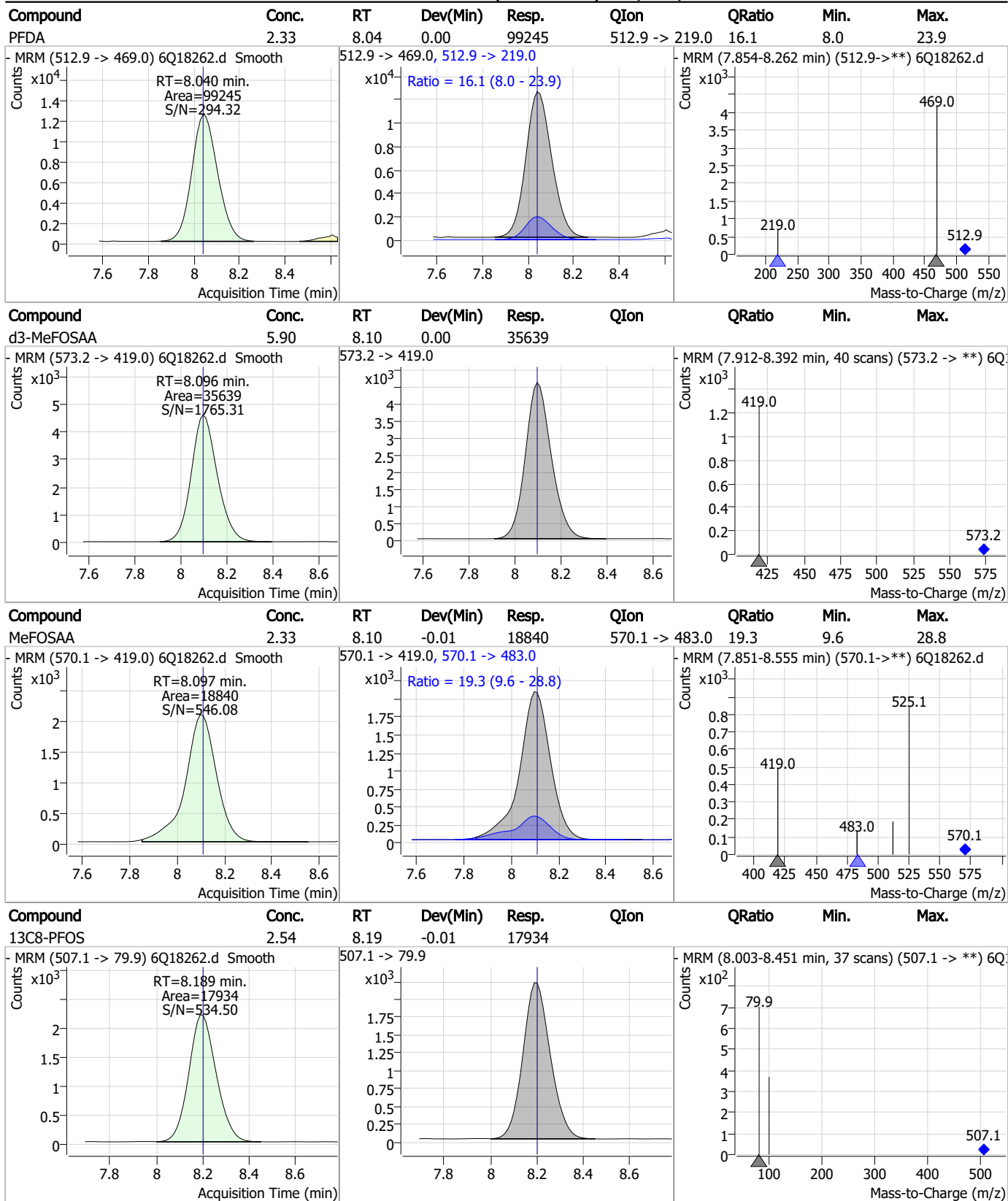
### Perfluorinated Compounds by LC/MS/MS



7.7.15



### Perfluorinated Compounds by LC/MS/MS

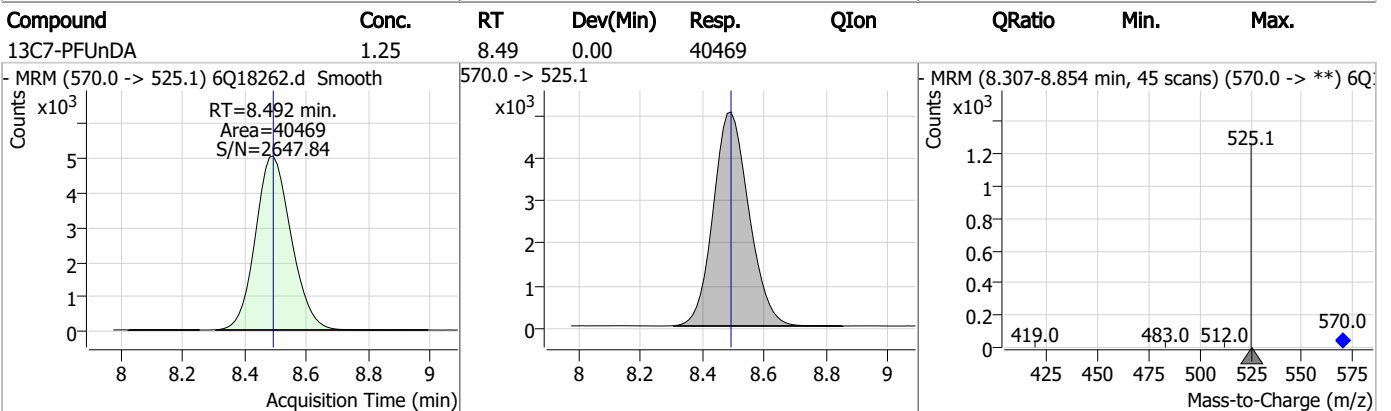
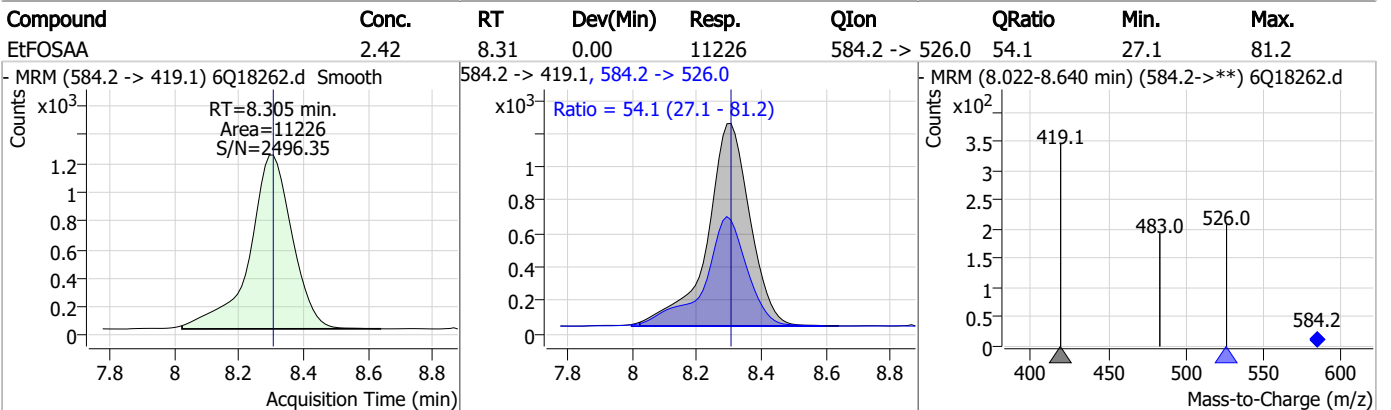
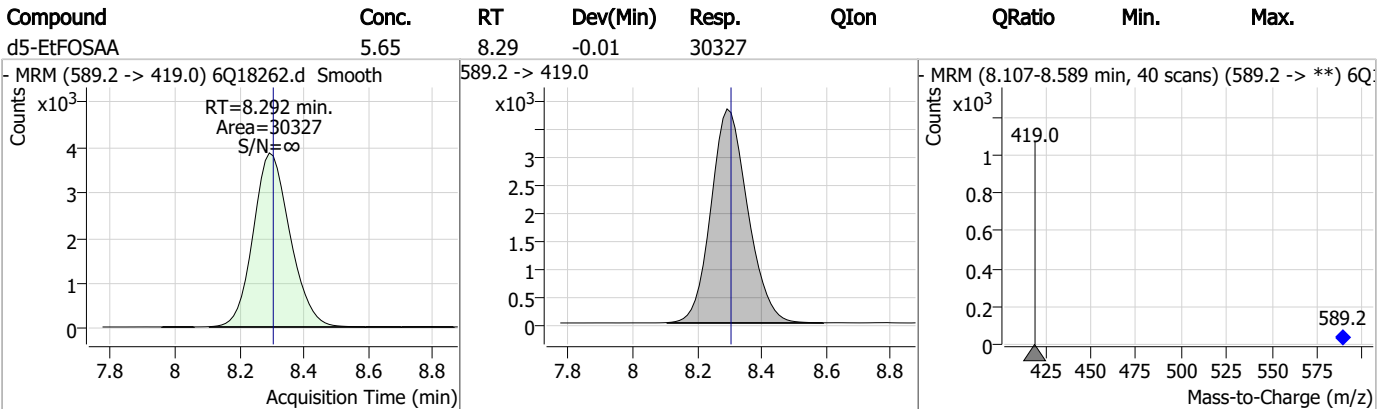
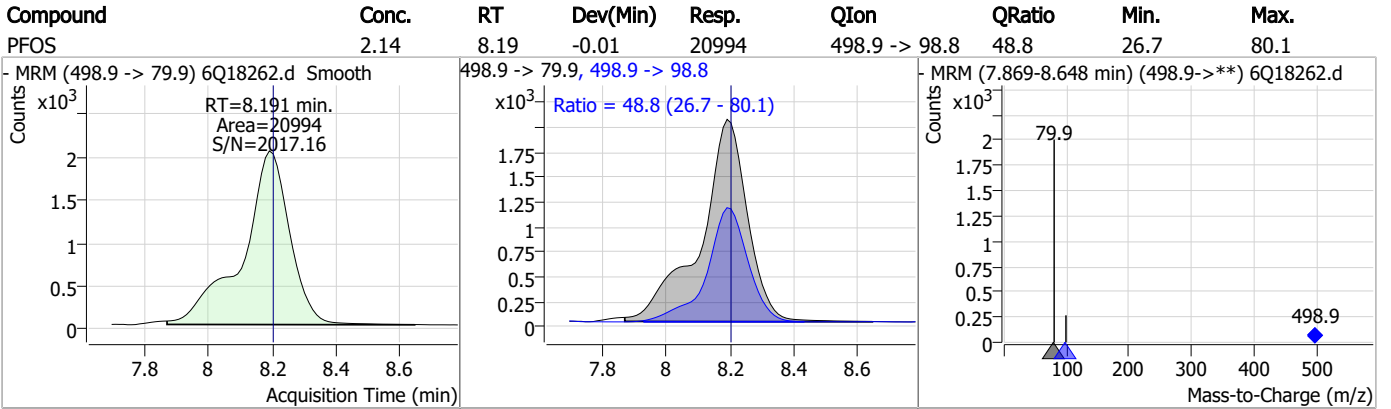


7.7.15

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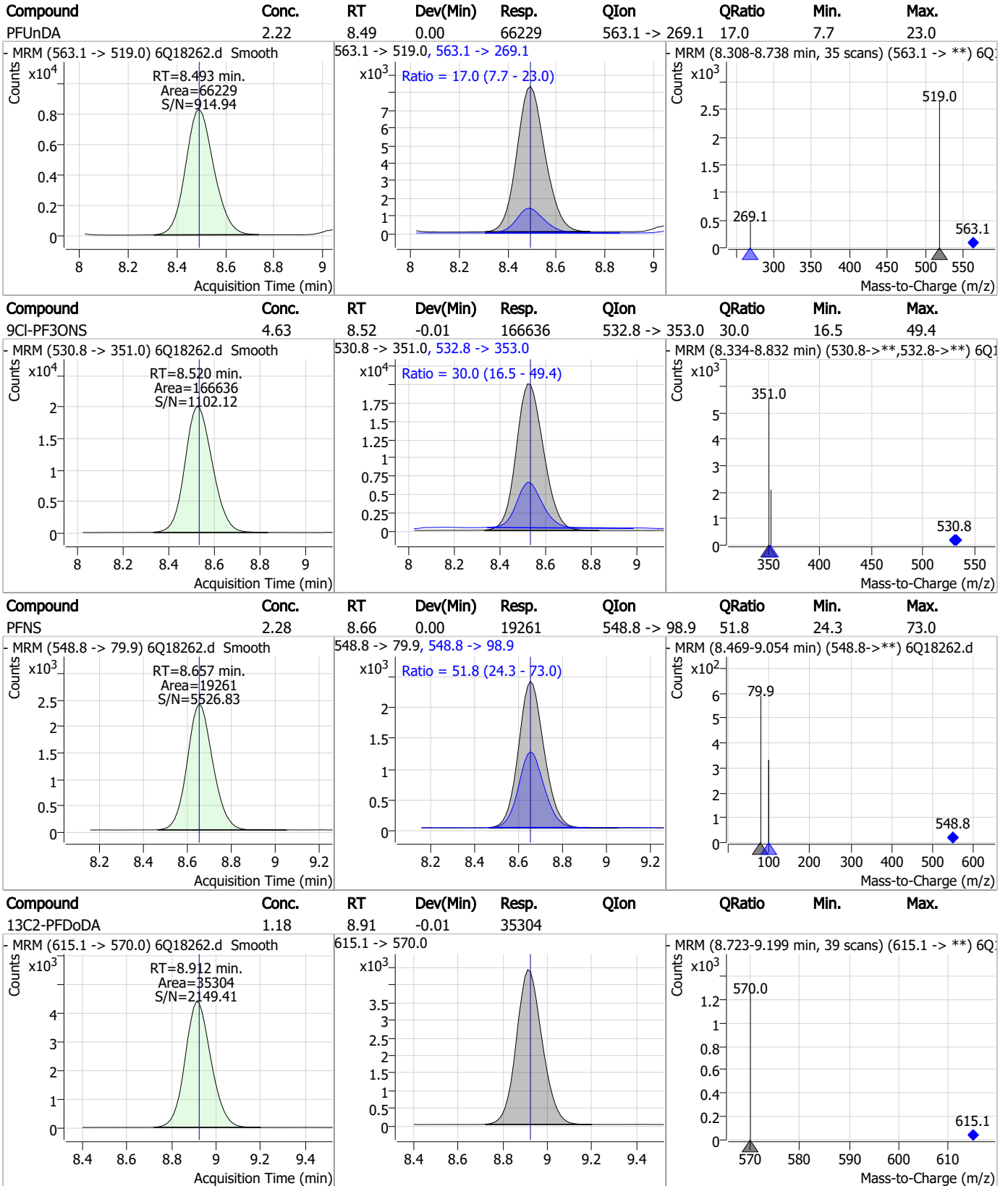


### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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### Perfluorinated Compounds by LC/MS/MS

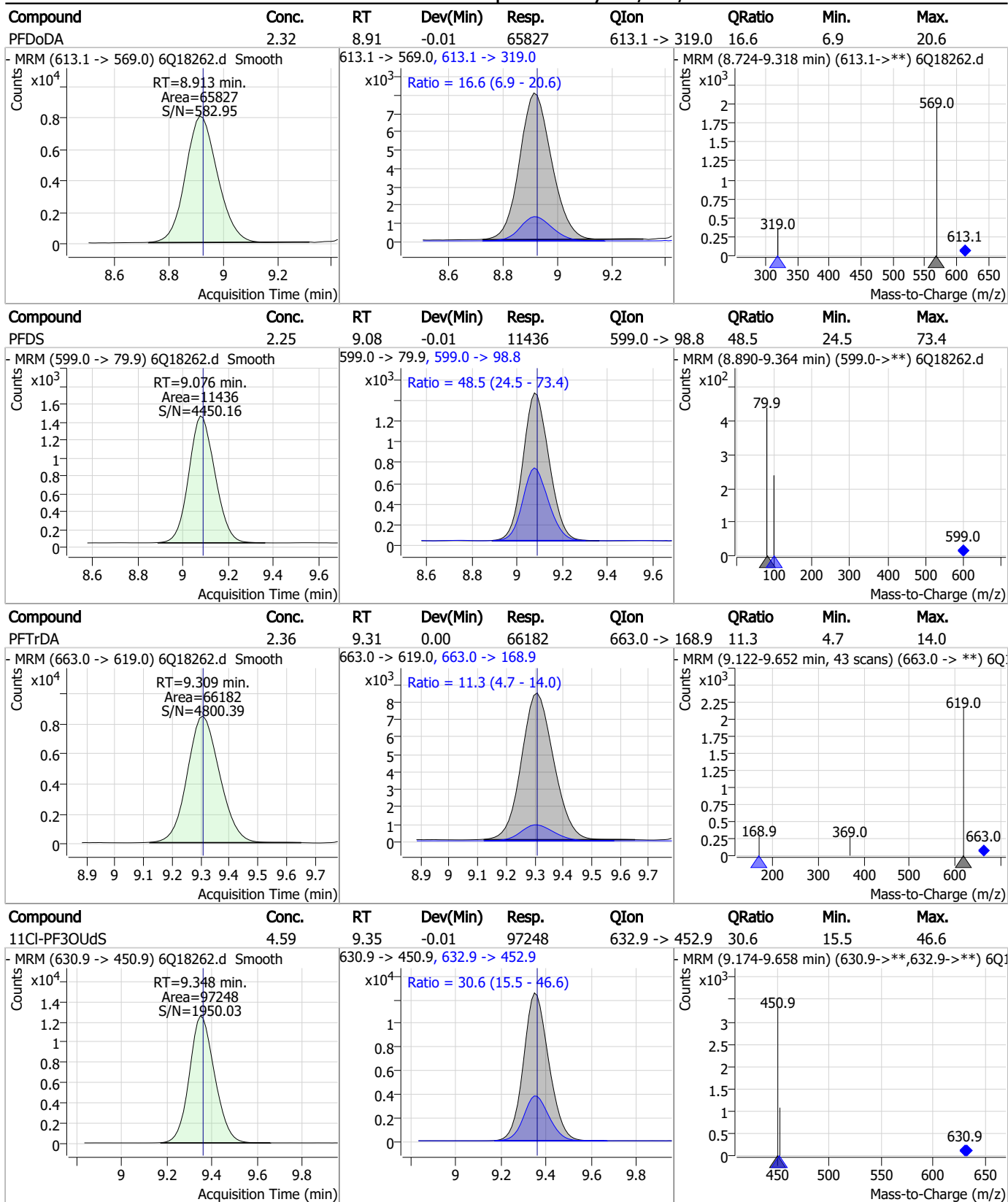


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### Perfluorinated Compounds by LC/MS/MS



7.7.15

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### Perfluorinated Compounds by LC/MS/MS

| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA        | 2.36  | 9.60 | 0.00     | 36448 | 498.1 -> 478.0 | 3.2    | 1.5  | 4.6  |
|             |       |      |          |       |                |        |      |      |
| 13C8-FOSA   | 2.50  | 9.60 | -0.01    | 39581 | 498.1 -> 478.0 | 3.2    | 1.5  | 4.6  |
|             |       |      |          |       |                |        |      |      |
| 13C2-PFTeDA | 1.14  | 9.65 | 0.00     | 17947 | 715.2 -> 670.0 | 8.8    | 3.8  | 11.4 |
|             |       |      |          |       |                |        |      |      |
| PFTeDA      | 2.44  | 9.65 | 0.00     | 48949 | 713.1 -> 168.9 | 8.8    | 3.8  | 11.4 |
|             |       |      |          |       |                |        |      |      |

7.7.15

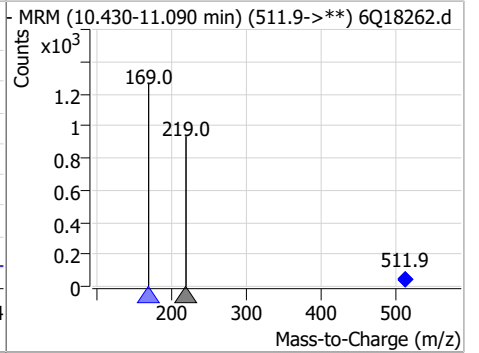
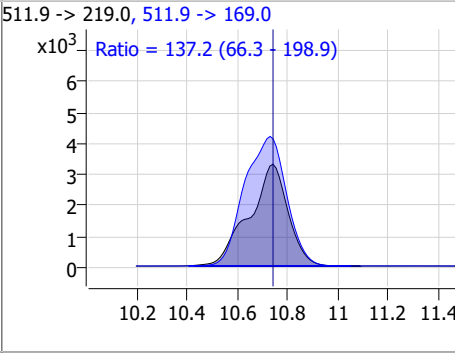
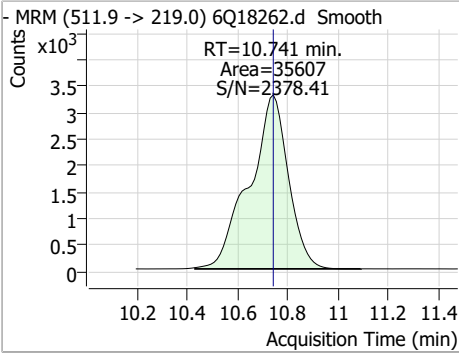
### Perfluorinated Compounds by LC/MS/MS

| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|----------------|--------|------|------|
| PFDoS     | 2.18  | 9.78  | 0.00     | 4855   | 699.1 -> 98.8  | 53.6   | 26.9 | 80.6 |
|           |       |       |          |        |                |        |      |      |
| d7-MeFOSE | 22.66 | 10.66 | 0.00     | 140177 | 623.2 -> 58.9  | 53.6   | 26.9 | 80.6 |
|           |       |       |          |        |                |        |      |      |
| MeFOSE    | 12.04 | 10.67 | 0.00     | 74340  | 616.1 -> 58.9  | 53.6   | 26.9 | 80.6 |
|           |       |       |          |        |                |        |      |      |
| d3-MeFOSA | 2.47  | 10.74 | 0.00     | 17835  | 515.0 -> 219.0 | 53.6   | 26.9 | 80.6 |
|           |       |       |          |        |                |        |      |      |

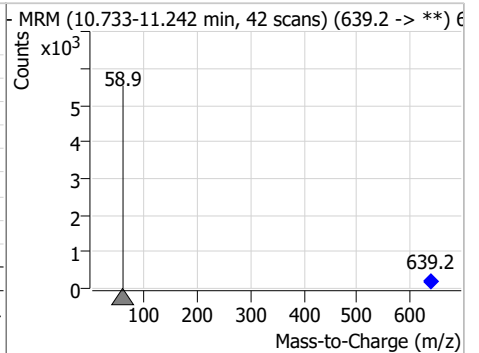
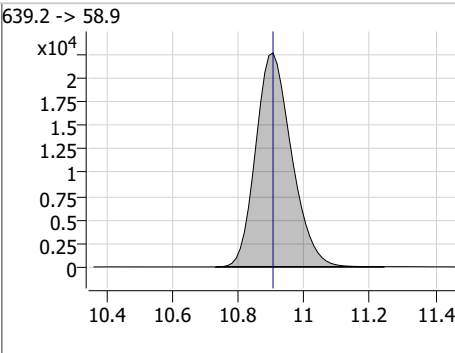
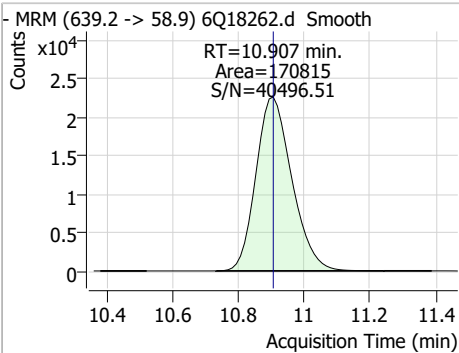
7.7.15  
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### Perfluorinated Compounds by LC/MS/MS

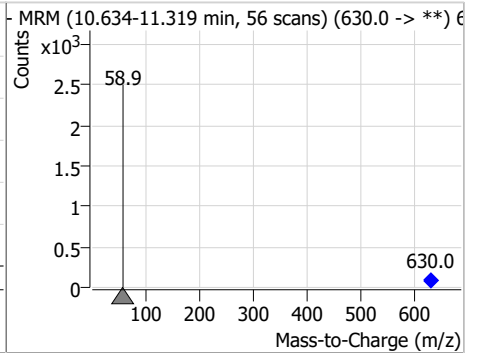
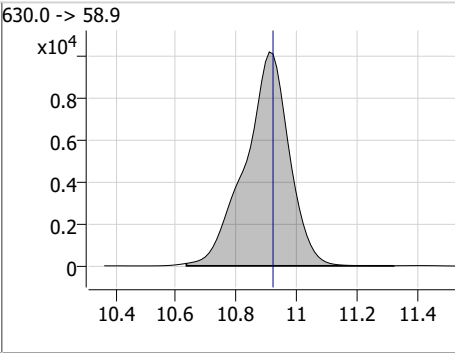
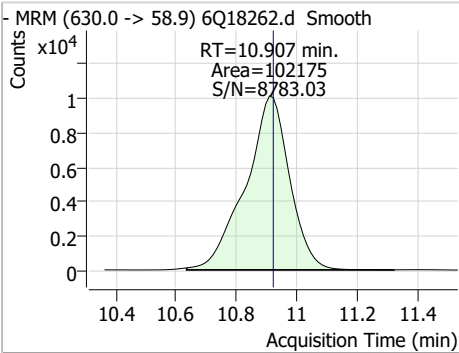
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOFA   | 4.68  | 10.74 | 0.00     | 35607 | 511.9 -> 169.0 | 137.2  | 66.3 | 198.9 |



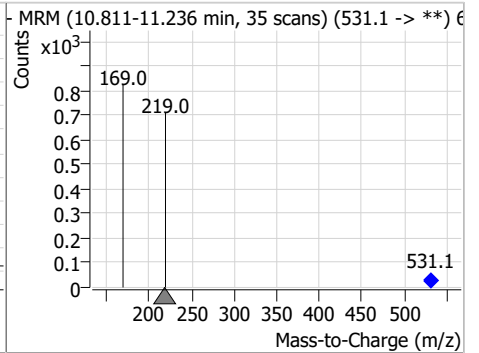
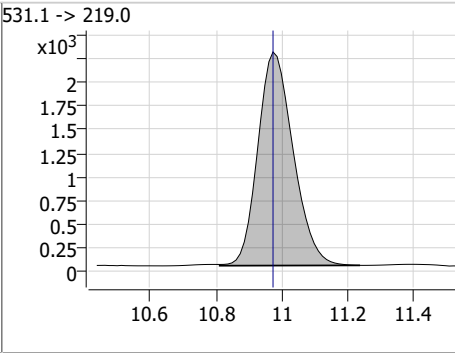
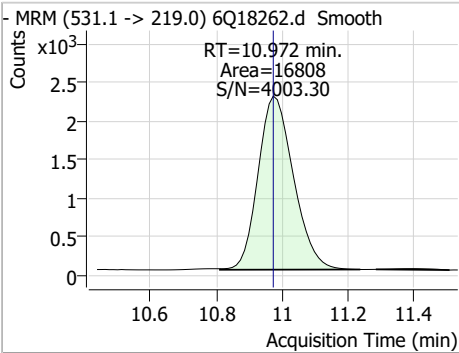
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 22.70 | 10.91 | 0.00     | 170815 |      |        |      |      |



| Compound | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|--------|------|--------|------|------|
| EtFOSE   | 12.21 | 10.91 | -0.01    | 102175 |      |        |      |      |

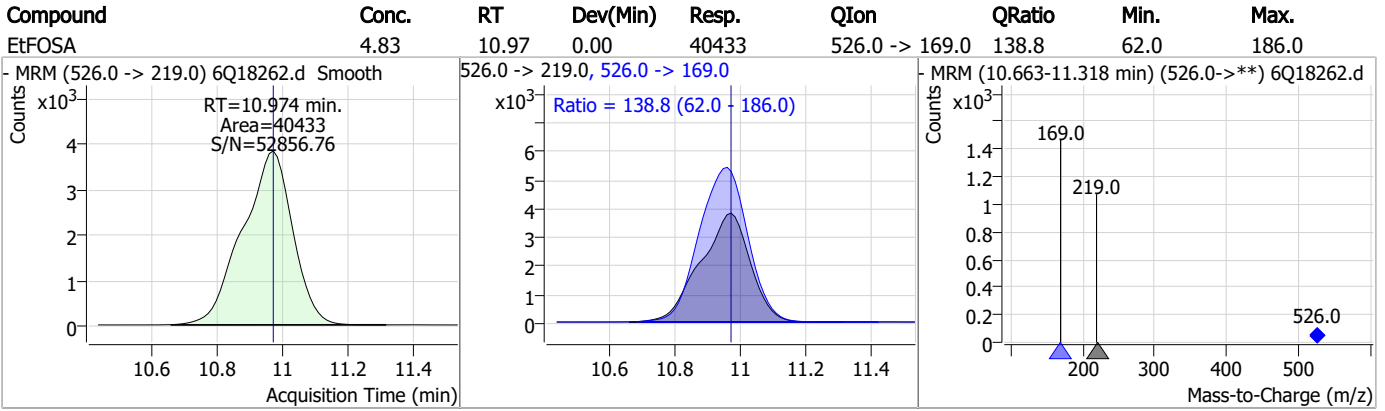


| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOFA | 2.35  | 10.97 | 0.00     | 16808 |      |        |      |      |





### Perfluorinated Compounds by LC/MS/MS



7.7.15  
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# Manual Integration Approval Summary

Sample Number: S6Q274-CC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18262.D      Analyst approved: 05/23/23 11:31 Martha Valls  
Injection Time: 05/23/23 05:54      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.15.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18273.d  
 Operator : marthav  
 Acq. Method : 1633full.m  
 Acq. Date-Time : 5/23/2023 8:33:41 AM  
 Sample Name : ecc274-4  
 Vial : P1-A5  
 DA Method File : 1633\_052323\_S6Q274.quantmethod.xml  
 Batch Name : s6q274.batch.bin  
 Sample Information : OP96663,S6Q274,500,,,5.0,1,water

| Compound                           | RT                   | Transition     | Response          | Conc. Units | Dev(Min) |
|------------------------------------|----------------------|----------------|-------------------|-------------|----------|
| <b>Internal Standards</b>          |                      |                |                   |             |          |
| M4-PFBA                            | 2.876                | 216.8 -> 171.9 | 246800            | 10.00 µg/L  | 0.000    |
| M5-PFPeA                           | 4.235                | 268.3 -> 223.0 | 80580             | 5.00 µg/L   | 0.000    |
| M5-PFHxA                           | 5.429                | 318.0 -> 273.0 | 85228             | 2.50 µg/L   | 0.000    |
| M4-PFHpA                           | 6.395                | 367.1 -> 322.0 | 77178             | 2.50 µg/L   | 0.000    |
| M8-PFOA                            | 7.038                | 421.1 -> 376.0 | 125074            | 2.50 µg/L   | 0.000    |
| M9-PFNA                            | 7.557                | 472.1 -> 427.0 | 48978             | 1.25 µg/L   | -0.012   |
| M6-PFDA                            | 8.039                | 519.1 -> 474.1 | 30489             | 1.25 µg/L   | 0.000    |
| M7-PFUnDA                          | 8.492                | 570.0 -> 525.1 | 42755             | 1.25 µg/L   | 0.000    |
| M2-PFDoDA                          | 8.912                | 615.1 -> 570.0 | 34627             | 1.25 µg/L   | -0.012   |
| M2-PFTeDA                          | 9.639                | 715.2 -> 670.0 | 18159             | 1.25 µg/L   | -0.012   |
| M8-FOSA                            | 9.598                | 506.1 -> 77.8  | 40711             | 2.50 µg/L   | -0.012   |
| M3-PFBS                            | 5.347                | 302.1 -> 79.9  | 31426             | 2.50 µg/L   | -0.012   |
| M3-PFHxS                           | 7.142                | 402.1 -> 79.9  | 19054             | 2.50 µg/L   | -0.012   |
| M8-PFOS                            | 8.189                | 507.1 -> 79.9  | 17594             | 2.50 µg/L   | -0.012   |
| M2-4:2FTS                          | 5.106                | 329.1 -> 80.9  | 3928              | 5.00 µg/L   | 0.000    |
| M2-6:2FTS                          | 6.813                | 429.1 -> 80.9  | 5960              | 5.00 µg/L   | 0.000    |
| M2-8:2FTS                          | 7.827                | 529.1 -> 80.9  | 6138              | 5.00 µg/L   | -0.012   |
| M3-MeFOSAA                         | 8.096                | 573.2 -> 419.0 | 33906             | 5.00 µg/L   | 0.000    |
| M3-HFPO-DA                         | 5.794                | 286.9 -> 168.9 | 131654            | 10.00 µg/L  | 0.000    |
| M5-EtFOSAA                         | 8.292                | 589.2 -> 419.0 | 29598             | 5.00 µg/L   | -0.012   |
| M7-MeFOSE                          | 10.660               | 623.2 -> 58.9  | 141650            | 25.00 µg/L  | 0.000    |
| M9-EtFOSE                          | 10.907               | 639.2 -> 58.9  | 171442            | 25.00 µg/L  | 0.000    |
| M5-EtFOSA                          | 10.972               | 531.1 -> 219.0 | 17436             | 2.50 µg/L   | 0.000    |
| M3-MeFOSA                          | 10.739               | 515.0 -> 219.0 | 16972             | 2.50 µg/L   | 0.000    |
| 13C4-PFOS                          | 8.190                | 502.8 -> 79.9  | 22254             | 2.50 µg/L   | -0.012   |
| 13C3-PFBA                          | 2.879                | 216.0 -> 172.0 | 104656            | 5.00 µg/L   | 0.000    |
| 18O2-PFHxS                         | 7.141                | 403.0 -> 83.9  | 13940             | 2.50 µg/L   | -0.012   |
| 13C4-PFOA                          | 7.039                | 417.1 -> 372.0 | 122948            | 2.50 µg/L   | 0.000    |
| 13C2-PFDA                          | 8.039                | 515.1 -> 470.1 | 40959             | 1.25 µg/L   | -0.012   |
| 13C5-PFNA                          | 7.557                | 468.0 -> 423.0 | 60114             | 1.25 µg/L   | -0.012   |
| 13C2-PFHxA                         | 5.430                | 315.1 -> 270.0 | 85374             | 2.50 µg/L   | 0.000    |
| <b>System Monitoring Compounds</b> |                      |                |                   |             |          |
| 13C2-4:2FTS                        | 5.106                | 329.1 -> 80.9  | 3928              | 5.53 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 110.7% |             |          |
| 13C2-6:2FTS                        | 6.813                | 429.1 -> 80.9  | 5960              | 5.96 µg/L   | 0.000    |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 119.2% |             |          |
| 13C2-8:2FTS                        | 7.827                | 529.1 -> 80.9  | 6138              | 6.38 µg/L   | -0.012   |
| Spiked Amount: 5.00                | Range: 50.0 - 150.0% |                | Recovery = 127.6% |             |          |
| 13C2-PFDoDA                        | 8.912                | 615.1 -> 570.0 | 34627             | 1.16 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 93.1%  |             |          |
| 13C2-PFTeDA                        | 9.639                | 715.2 -> 670.0 | 18159             | 1.17 µg/L   | -0.012   |
| Spiked Amount: 1.25                | Range: 50.0 - 150.0% |                | Recovery = 93.5%  |             |          |
| 13C3-PFBS                          | 5.347                | 302.1 -> 79.9  | 31426             | 2.37 µg/L   | -0.012   |
| Spiked Amount: 2.50                | Range: 50.0 - 150.0% |                | Recovery = 94.7%  |             |          |
| 13C3-PFHxS                         | 7.142                | 402.1 -> 79.9  | 19054             | 2.50 µg/L   | -0.012   |

7.7.16  
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### Perfluorinated Compounds by LC/MS/MS

| Compound                | RT                   | Transition     | Response | Conc. Units       | Dev(Min)      |
|-------------------------|----------------------|----------------|----------|-------------------|---------------|
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 100.1% |               |
| 13C4-PFBA               | 2.876                | 216.8 -> 171.9 | 246800   | 10.00 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.0% |               |
| 13C4-PFHpA              | 6.395                | 367.1 -> 322.0 | 77178    | 2.43 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 97.0%  |               |
| 13C5-PFHxA              | 5.429                | 318.0 -> 273.0 | 85228    | 2.49 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.6%  |               |
| 13C5-PFPeA              | 4.235                | 268.3 -> 223.0 | 80580    | 5.04 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 100.7% |               |
| 13C6-PFDA               | 8.039                | 519.1 -> 474.1 | 30489    | 1.21 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 96.4%  |               |
| 13C7-PFUnDA             | 8.492                | 570.0 -> 525.1 | 42755    | 1.33 µg/L         | 0.000         |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 106.7% |               |
| 13C8-FOSA               | 9.598                | 506.1 -> 77.8  | 40711    | 2.63 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 105.1% |               |
| 13C8-PFOA               | 7.038                | 421.1 -> 376.0 | 125074   | 2.55 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 102.0% |               |
| 13C8-PFOS               | 8.189                | 507.1 -> 79.9  | 17594    | 2.55 µg/L         | -0.012        |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 101.9% |               |
| 13C9-PFNA               | 7.557                | 472.1 -> 427.0 | 48978    | 1.19 µg/L         | -0.012        |
| Spiked Amount: 1.25     | Range: 50.0 - 150.0% |                |          | Recovery = 95.3%  |               |
| d3-MeFOSAA              | 8.096                | 573.2 -> 419.0 | 33906    | 5.75 µg/L         | 0.000         |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 115.0% |               |
| 13C3-HFPO-DA            | 5.794                | 286.9 -> 168.9 | 131654   | 10.04 µg/L        | 0.000         |
| Spiked Amount: 10.00    | Range: 50.0 - 150.0% |                |          | Recovery = 100.4% |               |
| d3-MeFOSA               | 10.739               | 515.0 -> 219.0 | 16972    | 2.41 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 96.3%  |               |
| d5-EtFOSAA              | 8.292                | 589.2 -> 419.0 | 29598    | 5.64 µg/L         | -0.012        |
| Spiked Amount: 5.00     | Range: 50.0 - 150.0% |                |          | Recovery = 112.8% |               |
| d7-MeFOSE               | 10.660               | 623.2 -> 58.9  | 141650   | 23.45 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 93.8%  |               |
| d9-EtFOSE               | 10.907               | 639.2 -> 58.9  | 171442   | 23.32 µg/L        | 0.000         |
| Spiked Amount: 25.00    | Range: 50.0 - 150.0% |                |          | Recovery = 93.3%  |               |
| d5-EtFOSA               | 10.972               | 531.1 -> 219.0 | 17436    | 2.50 µg/L         | 0.000         |
| Spiked Amount: 2.50     | Range: 50.0 - 150.0% |                |          | Recovery = 99.9%  |               |
| <b>Target Compounds</b> |                      |                |          |                   | <b>QValue</b> |
| 4:2FTS                  | 5.107                | 327.1 -> 307.0 | 65570    | 9.46 µg/L         | 94            |
|                         |                      | 327.1 -> 80.9  | 23586    |                   |               |
| 6:2FTS                  | 6.813                | 427.1 -> 407.0 | 62241    | 9.39 µg/L         | 96            |
|                         |                      | 427.1 -> 80.9  | 19703    |                   |               |
| 8:2FTS                  | 7.828                | 527.1 -> 507.0 | 30874    | 8.44 µg/L         | 94            |
|                         |                      | 527.1 -> 80.8  | 14330    |                   |               |
| EtFOSAA                 | 8.293                | 584.2 -> 419.1 | 11305    | 2.50 µg/L         | 97            |
|                         |                      | 584.2 -> 526.0 | 5869     |                   |               |
| FOSA                    | 9.589                | 498.1 -> 77.9  | 37398    | 2.36 µg/L         | 100           |
|                         |                      | 498.1 -> 478.0 | 1079     |                   |               |
| MeFOSAA                 | 8.097                | 570.1 -> 419.0 | 19271    | 2.50 µg/L         | 100           |
|                         |                      | 570.1 -> 483.0 | 3673     |                   |               |
| PFBA                    | 2.882                | 212.8 -> 168.9 | 92749    | 9.68 µg/L         | 100           |
| PFBS                    | 5.360                | 298.7 -> 79.9  | 26873    | 2.13 µg/L         | 96            |
|                         |                      | 298.7 -> 98.8  | 10427    |                   |               |
| PFDA                    | 8.040                | 512.9 -> 469.0 | 96418    | 2.29 µg/L         | 97            |
|                         |                      | 512.9 -> 219.0 | 16680    |                   |               |
| PFDODA                  | 8.913                | 613.1 -> 569.0 | 67780    | 2.44 µg/L         | 96            |
|                         |                      | 613.1 -> 319.0 | 10373    |                   |               |
| PFDS                    | 9.076                | 599.0 -> 79.9  | 11493    | 2.31 µg/L         | 98            |

7.7.16  
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Perfluorinated Compounds by LC/MS/MS

| Compound     | RT     | Transition     | Response | Conc. Units | Dev(Min) |
|--------------|--------|----------------|----------|-------------|----------|
| PFHpA        | 6.382  | 599.0 -> 98.8  | 5488     | 2.42 µg/L   | 97       |
|              |        | 363.1 -> 319.0 | 99632    |             |          |
| PFHpS        | 7.698  | 363.1 -> 169.0 | 16196    | 2.40 µg/L   | 98       |
|              |        | 449.0 -> 79.9  | 22726    |             |          |
| PFHxA        | 5.432  | 449.0 -> 98.9  | 10842    | 2.44 µg/L   | 99       |
|              |        | 313.0 -> 269.0 | 80909    |             |          |
| PFHxS        | 7.143  | 313.0 -> 118.9 | 3902     | 2.04 µg/L   | 98       |
|              |        | 398.7 -> 79.9  | 21685    |             |          |
| PFNA         | 7.558  | 398.7 -> 98.9  | 10599    | 2.56 µg/L   | 100      |
|              |        | 463.0 -> 419.0 | 100249   |             |          |
| PFNS         | 8.657  | 463.0 -> 219.0 | 19708    | 2.24 µg/L   | 98       |
|              |        | 548.8 -> 79.9  | 18537    |             |          |
| PFOA         | 7.040  | 548.8 -> 98.9  | 9296     | 2.50 µg/L   | 100      |
|              |        | 413.0 -> 369.0 | 143463   |             |          |
| PFOS         | 8.191  | 413.0 -> 169.0 | 24916    | 2.23 µg/L   | 92       |
|              |        | 498.9 -> 79.9  | 21445    |             |          |
| PFPeA        | 4.237  | 498.9 -> 98.8  | 10207    | 4.67 µg/L   | 100      |
|              |        | 263.0 -> 219.0 | 104209   |             |          |
| PFPeS        | 6.434  | 349.1 -> 79.9  | 22423    | 2.20 µg/L   | 95       |
|              |        | 349.1 -> 98.9  | 9925     |             |          |
| PFTeDA       | 9.652  | 713.1 -> 669.0 | 46673    | 2.30 µg/L   | 94       |
|              |        | 713.1 -> 168.9 | 4530     |             |          |
| PFTrDA       | 9.309  | 663.0 -> 619.0 | 65209    | 2.38 µg/L   | 95       |
|              |        | 663.0 -> 168.9 | 7338     |             |          |
| PFUnDA       | 8.493  | 563.1 -> 519.0 | 66648    | 2.12 µg/L   | 95       |
|              |        | 563.1 -> 269.1 | 11612    |             |          |
| 11CI-PF3OUdS | 9.348  | 630.9 -> 450.9 | 96924    | 4.49 µg/L   | 99       |
|              |        | 632.9 -> 452.9 | 30879    |             |          |
| 9CI-PF3ONS   | 8.520  | 530.8 -> 351.0 | 160680   | 4.38 µg/L   | 100      |
|              |        | 532.8 -> 353.0 | 52587    |             |          |
| ADONA        | 6.646  | 376.9 -> 250.9 | 384072   | 4.65 µg/L   | 97       |
|              |        | 376.9 -> 84.8  | 96663    |             |          |
| HFPO-DA      | 5.795  | 284.9 -> 168.9 | 60276    | 4.63 µg/L   | 93       |
|              |        | 284.9 -> 184.9 | 6616     |             |          |
| 3:3FTCA      | 3.727  | 241.0 -> 177.0 | 18343    | 11.63 µg/L  | 97       |
|              |        | 241.0 -> 117.0 | 2418     |             |          |
| 5:3FTCA      | 6.099  | 341.0 -> 237.1 | 358655   | 59.50 µg/L  | 94       |
|              |        | 341.0 -> 217.0 | 271770   |             |          |
| 7:3FTCA      | 7.523  | 441.0 -> 316.9 | 236241   | 60.87 µg/L  | 100      |
|              |        | 441.0 -> 336.9 | 520612   |             |          |
| EtFOSA       | 10.974 | 526.0 -> 219.0 | 41738    | 4.81 µg/L   | 95       |
|              |        | 526.0 -> 169.0 | 54296    |             |          |
| EtFOSE       | 10.907 | 630.0 -> 58.9  | 105015   | 12.50 µg/L  | 100      |
|              |        | 511.9 -> 219.0 | 35058    |             |          |
| MeFOSA       | 10.741 | 511.9 -> 169.0 | 48745    | 4.84 µg/L   | 95       |
|              |        | 616.1 -> 58.9  | 74225    |             |          |
| MeFOSE       | 10.673 | 699.1 -> 79.9  | 4967     | 11.90 µg/L  | 100      |
|              |        | 699.1 -> 98.8  | 2707     |             |          |
| PFDoDS       | 9.779  | 295.0 -> 201.0 | 21416    | 2.27 µg/L   | 99       |
|              |        | 295.0 -> 84.9  | 5288     |             |          |
| NFDHA        | 5.311  | 279.0 -> 85.1  | 73588    | 5.10 µg/L   | 95       |
|              |        | 229.0 -> 84.9  | 56233    |             |          |
| PFMBA        | 4.650  | 314.8 -> 134.9 | 191622   | 4.74 µg/L   | 100      |
|              |        | 314.8 -> 82.9  | 6962     |             |          |
| PFMPA        | 3.401  |                |          | 4.14 µg/L   | 99       |
|              |        |                |          |             |          |
| PFEESA       | 5.888  |                |          |             |          |
|              |        |                |          |             |          |

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

7.7.16  
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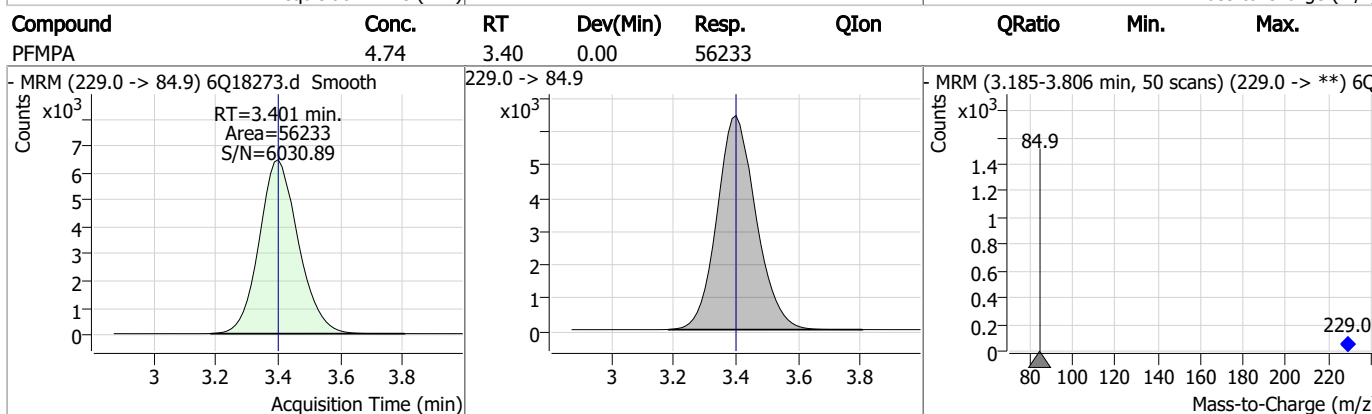
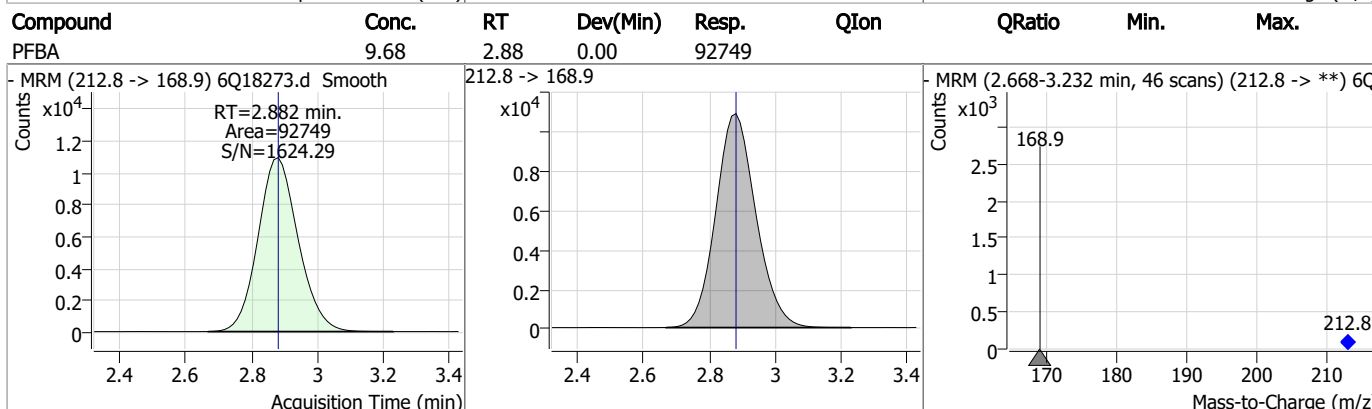
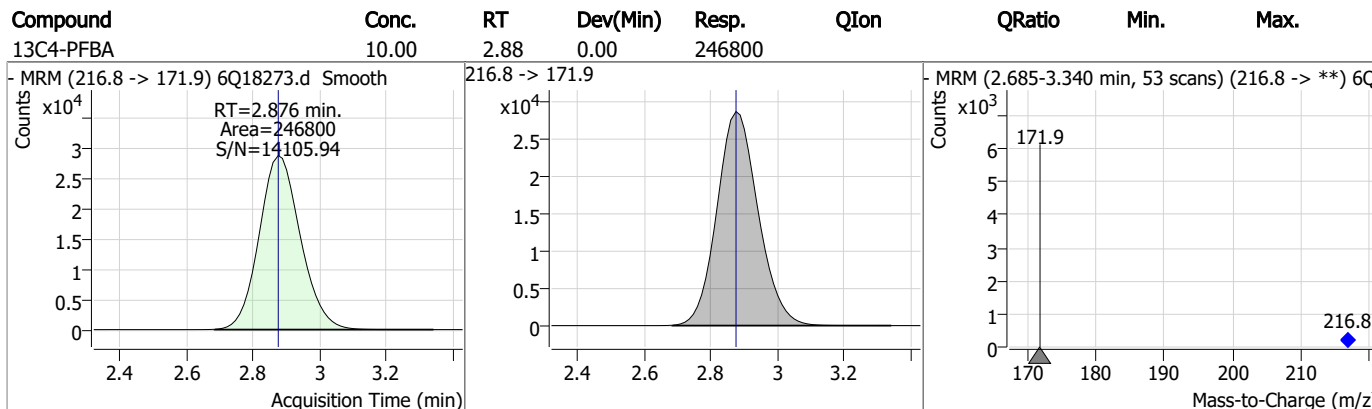
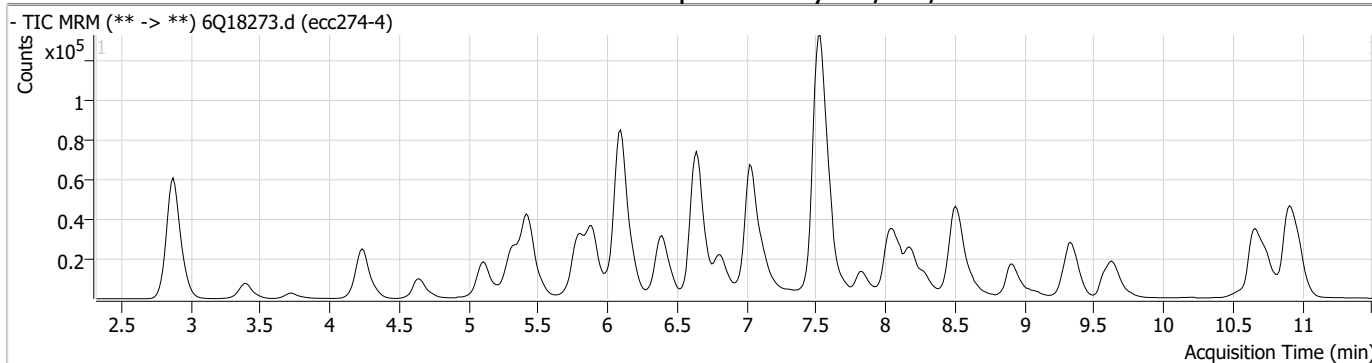
### Perfluorinated Compounds by LC/MS/MS

| Compound | RT | Transition | Response | Conc. Units | Dev(Min) |
|----------|----|------------|----------|-------------|----------|
|----------|----|------------|----------|-------------|----------|

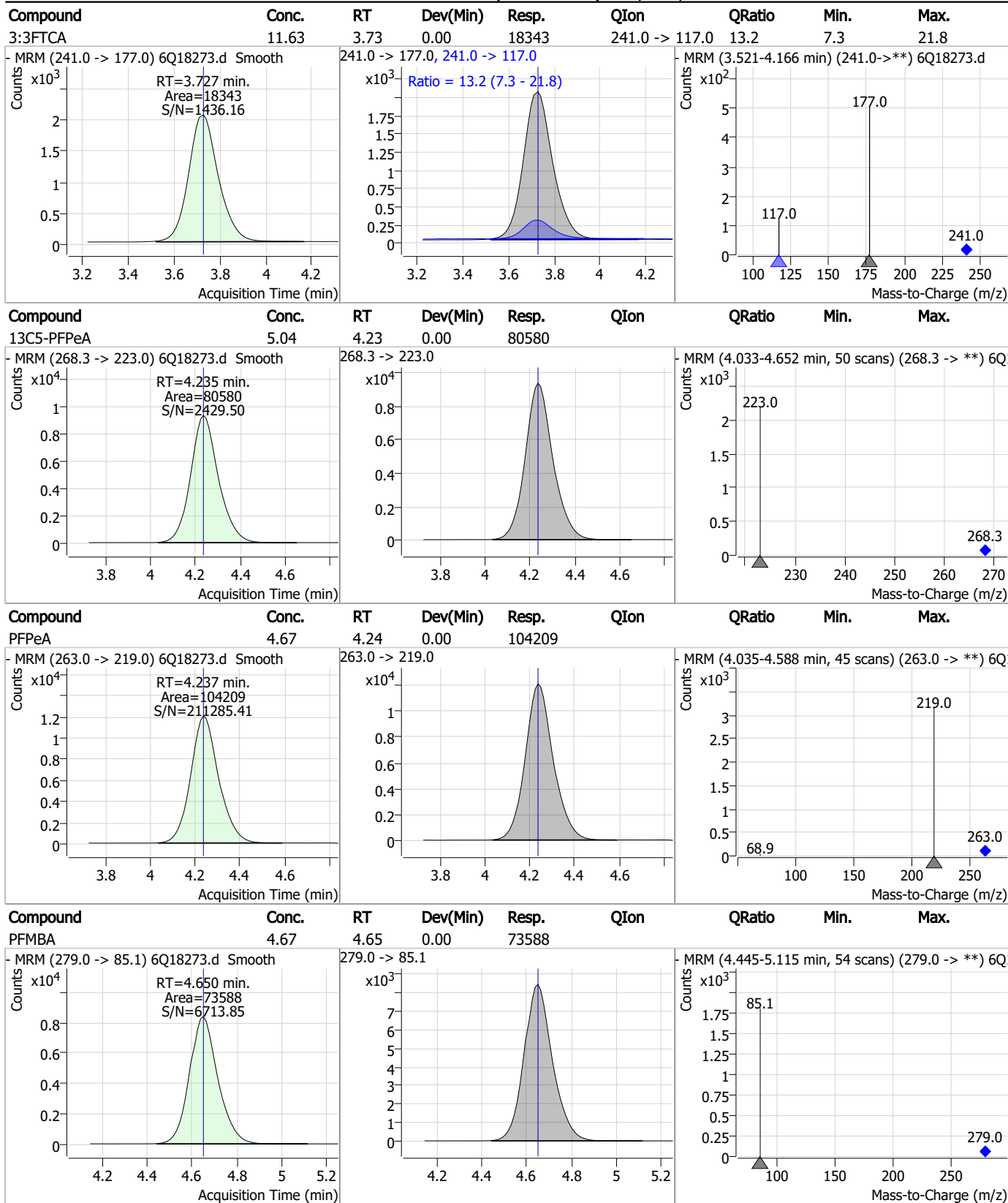
7.7.16

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### Perfluorinated Compounds by LC/MS/MS



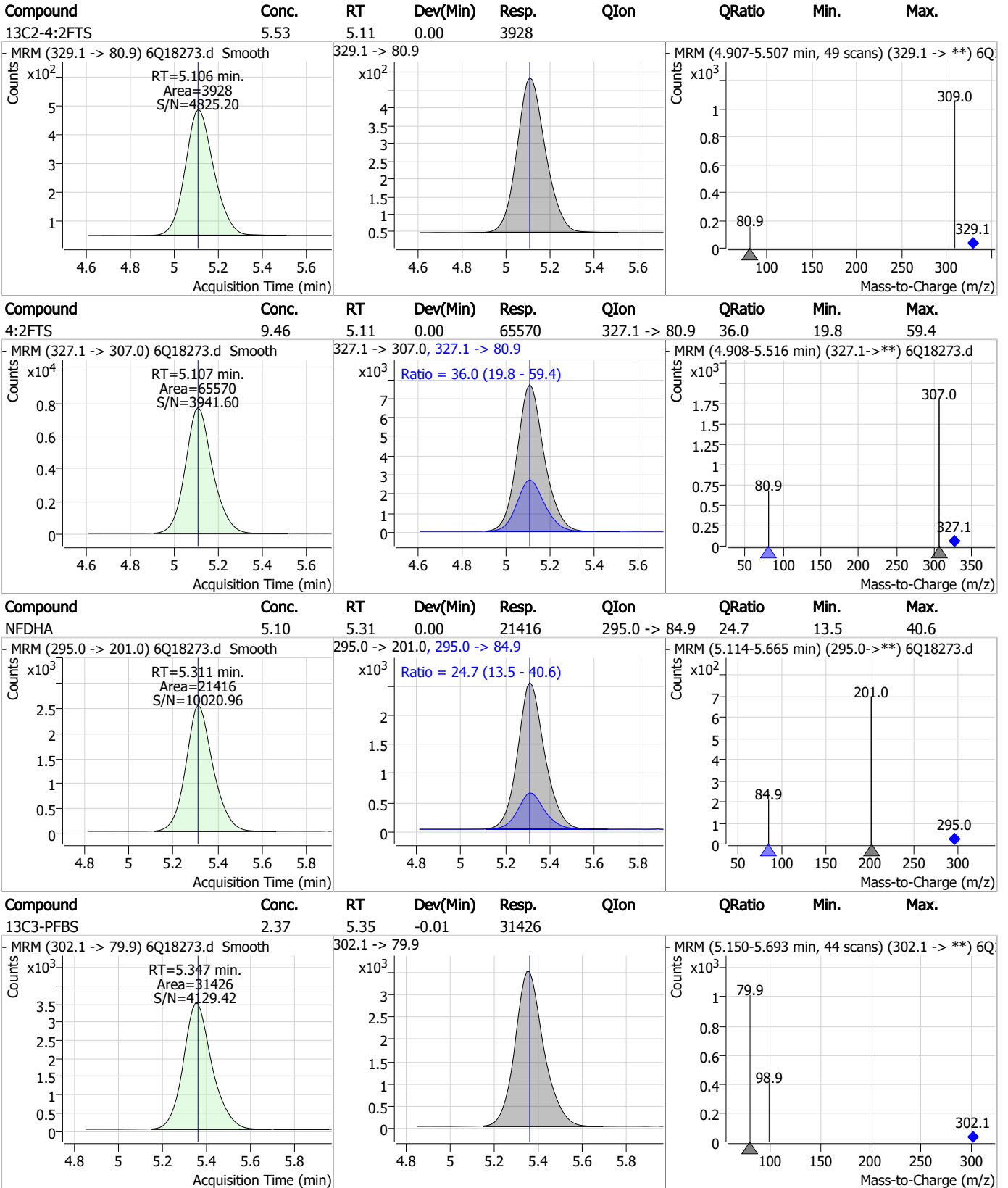
### Perfluorinated Compounds by LC/MS/MS



7.7.16  
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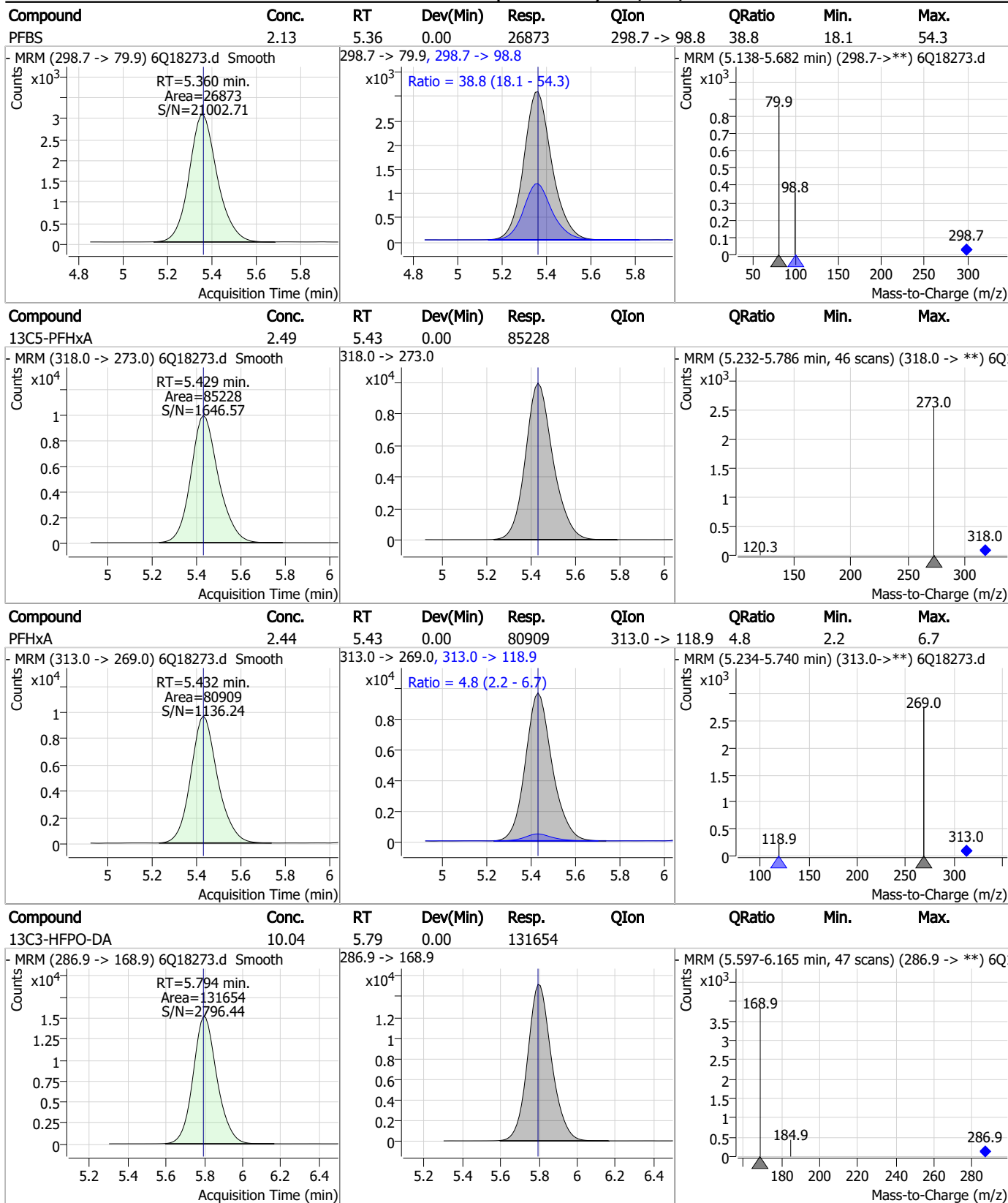
### Perfluorinated Compounds by LC/MS/MS



7.7.16 7



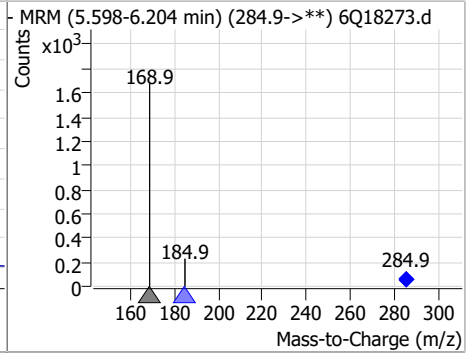
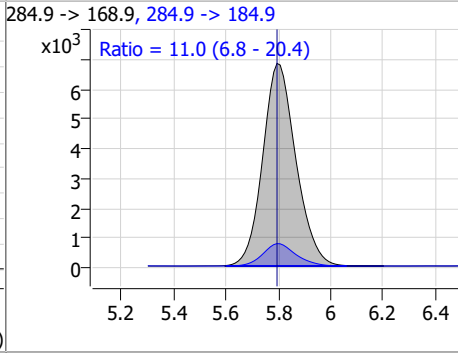
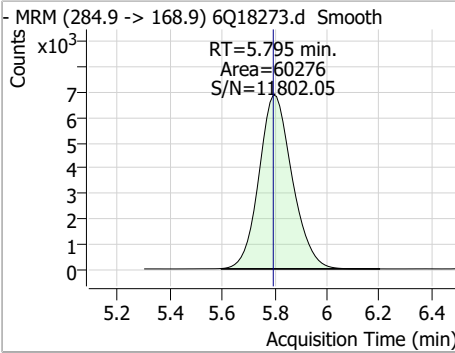
### Perfluorinated Compounds by LC/MS/MS



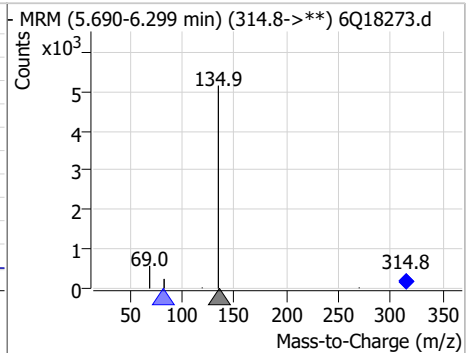
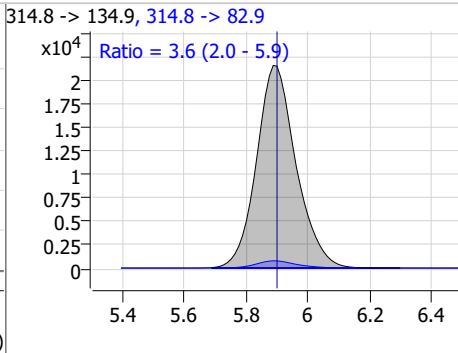
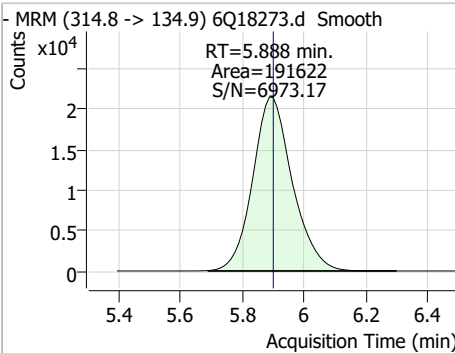
7.7.16

### Perfluorinated Compounds by LC/MS/MS

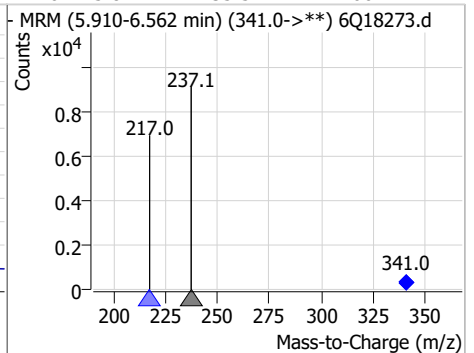
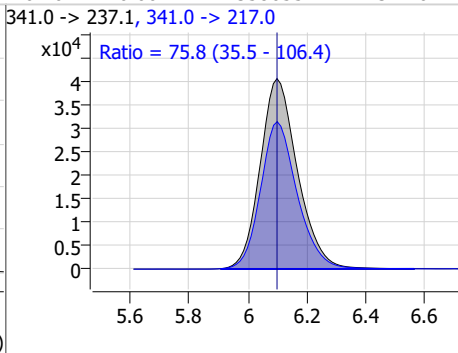
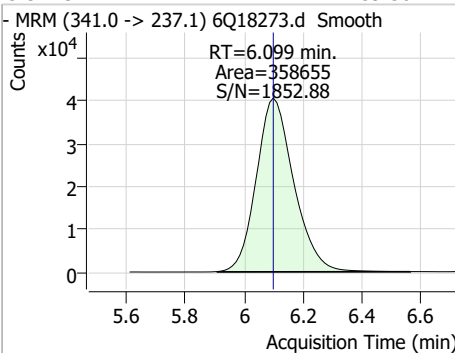
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| HFPO-DA  | 4.63  | 5.80 | 0.00     | 60276 | 284.9 -> 184.9 | 11.0   | 6.8  | 20.4 |



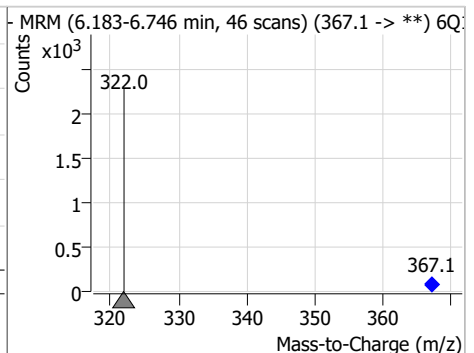
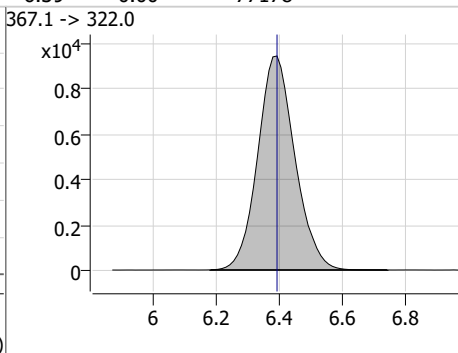
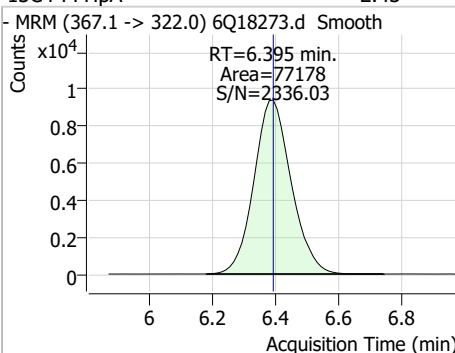
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|----------|-------|------|----------|--------|---------------|--------|------|------|
| PFEESA   | 4.14  | 5.89 | -0.01    | 191622 | 314.8 -> 82.9 | 3.6    | 2.0  | 5.9  |



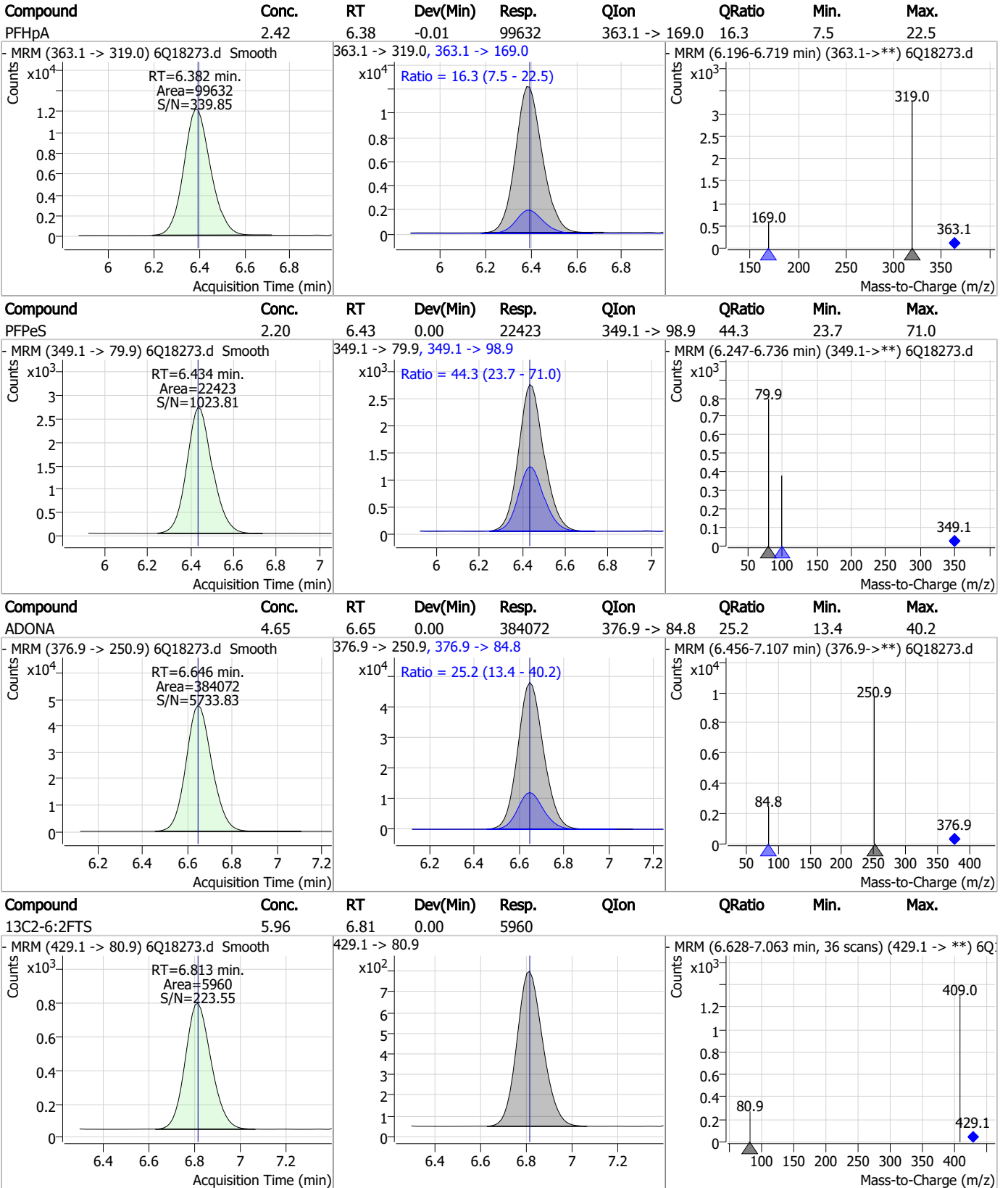
| Compound | Conc. | RT   | Dev(Min) | Resp.  | QIon           | QRatio | Min. | Max.  |
|----------|-------|------|----------|--------|----------------|--------|------|-------|
| 5:3FTCA  | 59.50 | 6.10 | 0.00     | 358655 | 341.0 -> 217.0 | 75.8   | 35.5 | 106.4 |



| Compound   | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|------------|-------|------|----------|-------|----------------|--------|------|------|
| 13C4-PFHpa | 2.43  | 6.39 | 0.00     | 77178 | 367.1 -> 322.0 |        |      |      |



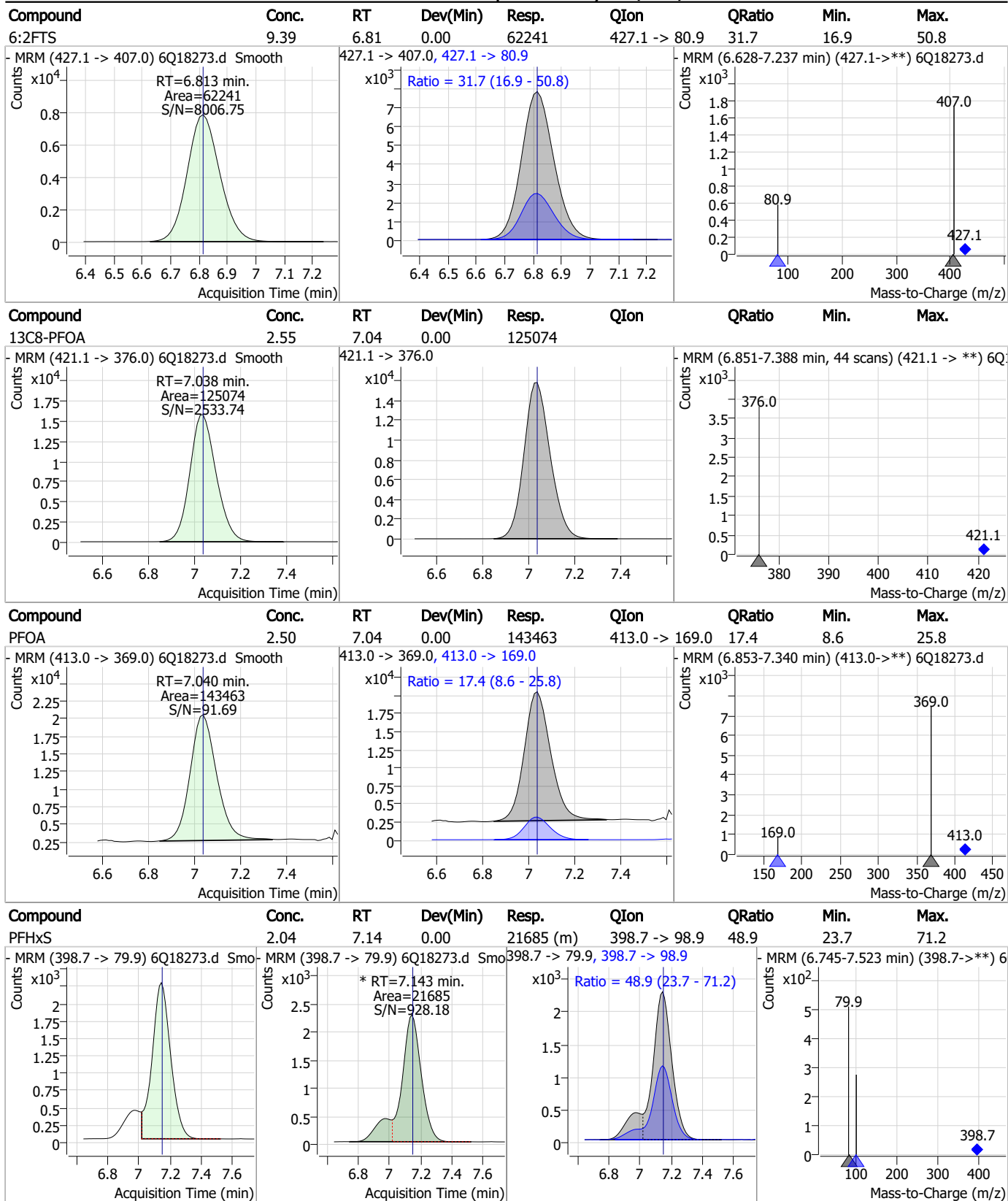
### Perfluorinated Compounds by LC/MS/MS



7.7.16 7

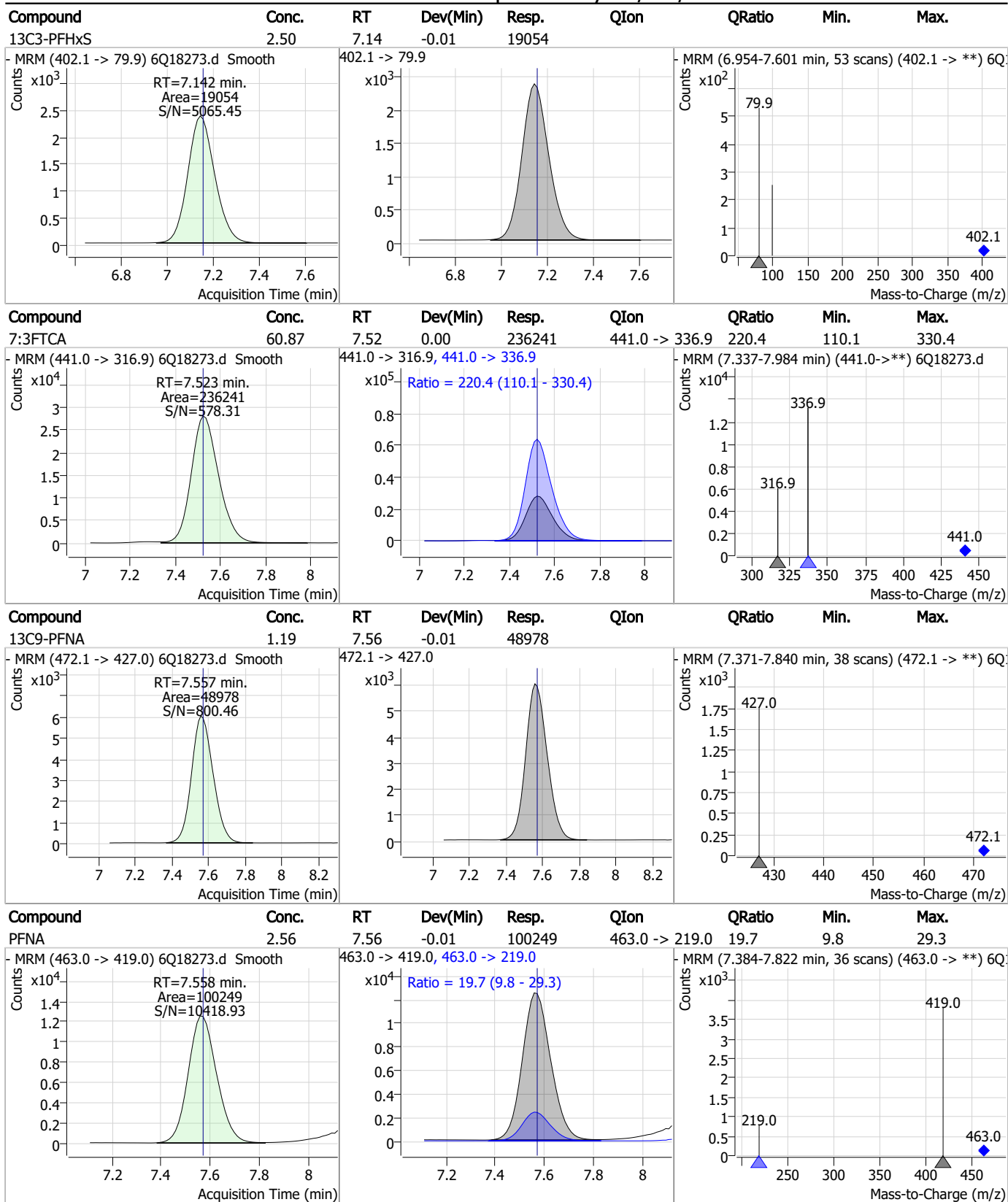


### Perfluorinated Compounds by LC/MS/MS



7.7.16

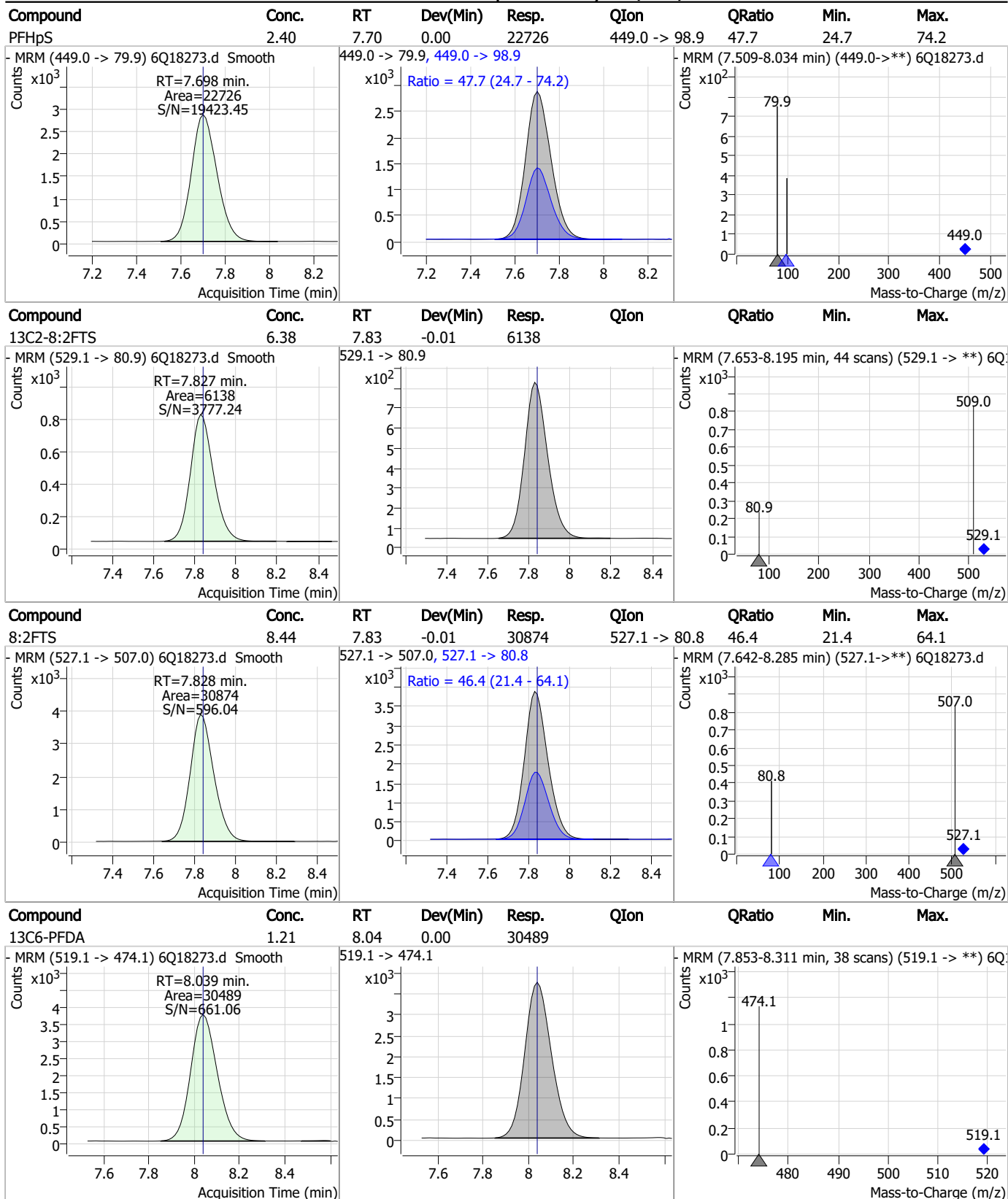
### Perfluorinated Compounds by LC/MS/MS



7.7.16

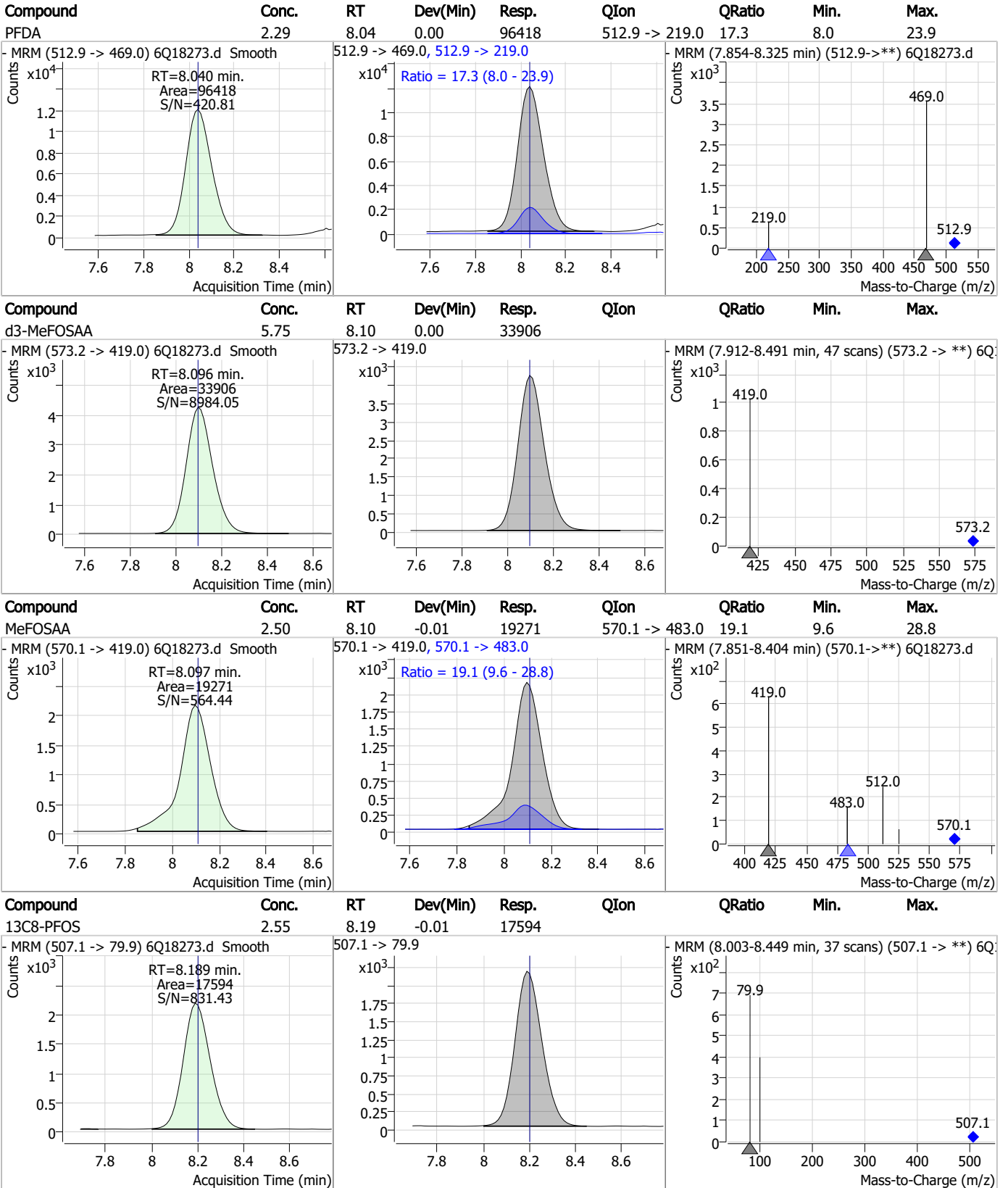
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### Perfluorinated Compounds by LC/MS/MS



7.7.16

### Perfluorinated Compounds by LC/MS/MS

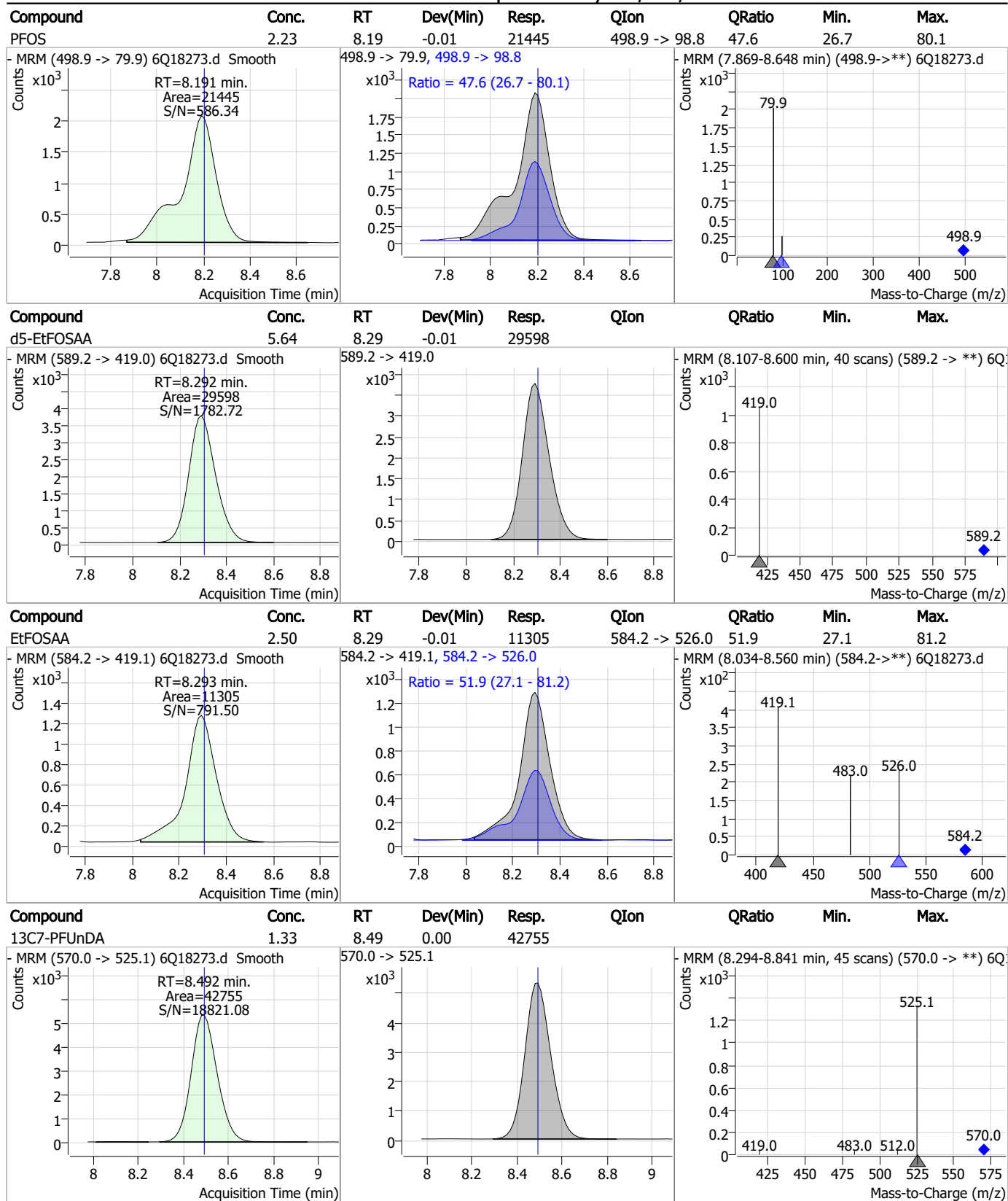


7.7.16 7





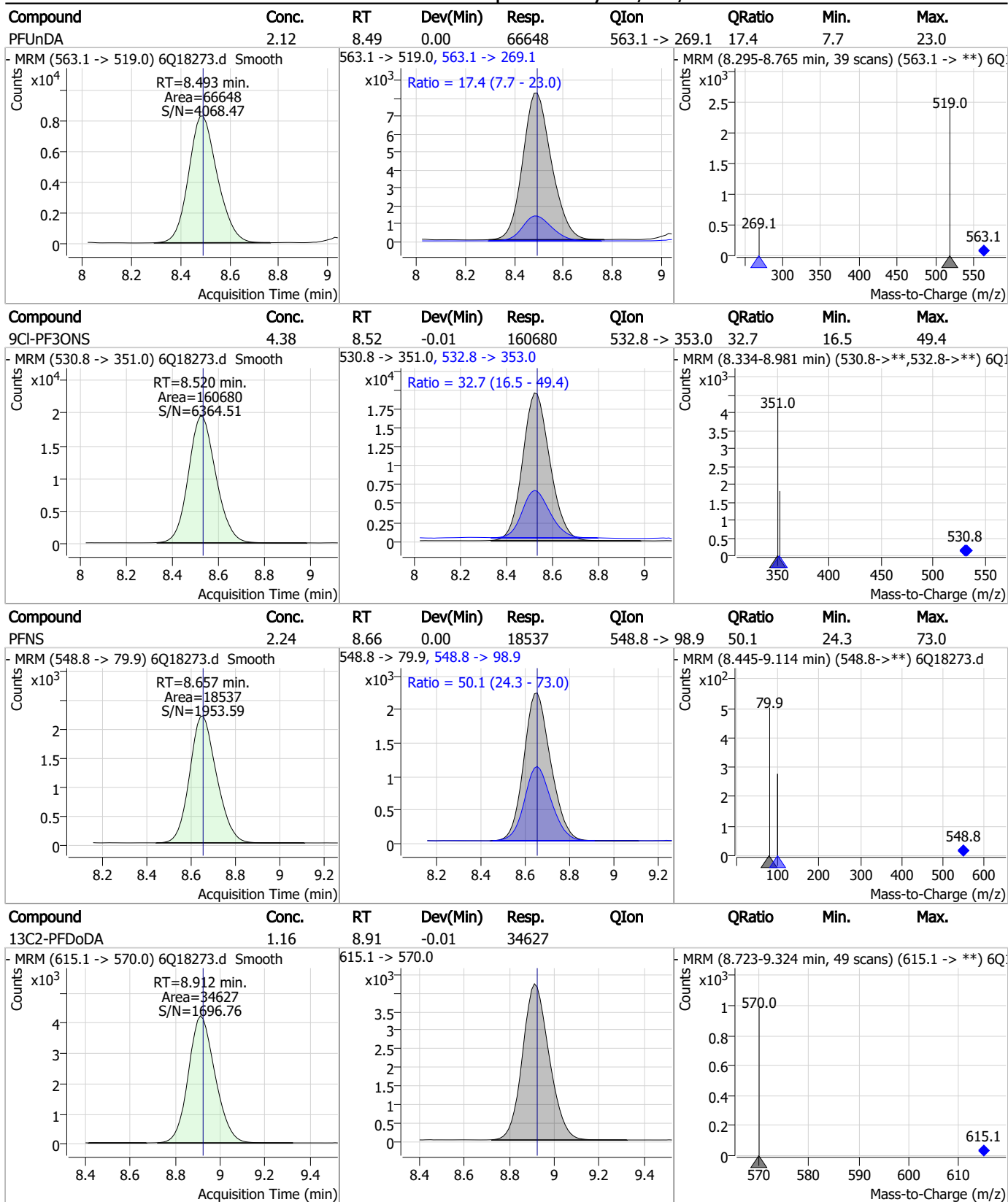
### Perfluorinated Compounds by LC/MS/MS



7.7.16

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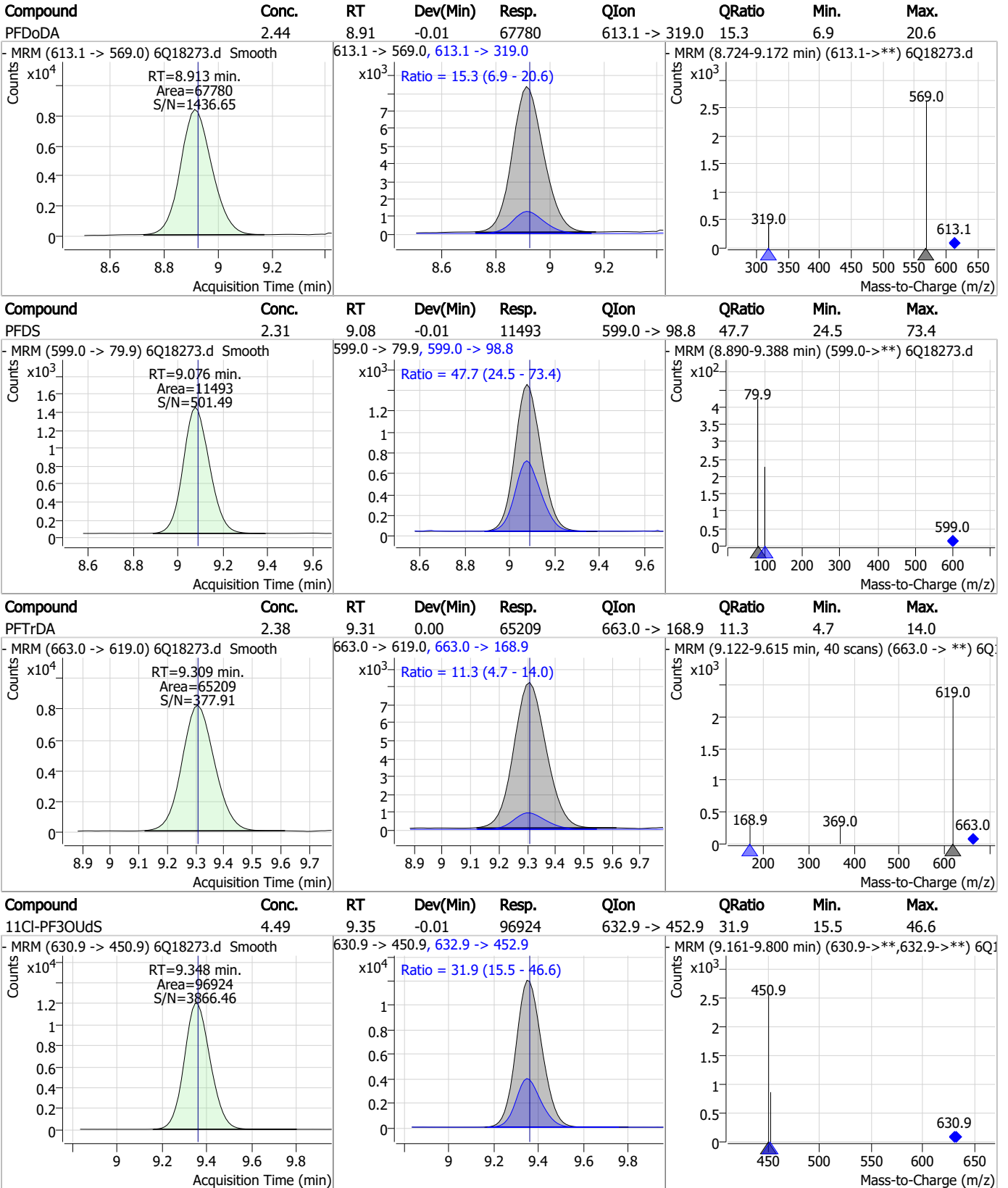
### Perfluorinated Compounds by LC/MS/MS



7.7.16

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### Perfluorinated Compounds by LC/MS/MS

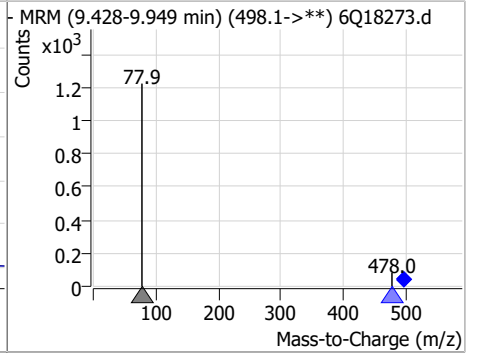
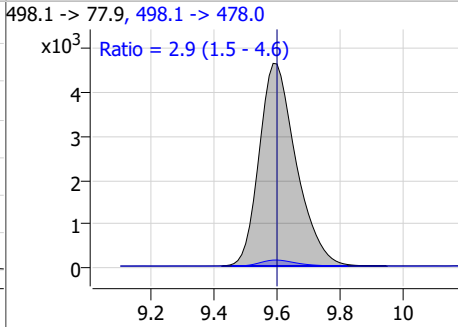
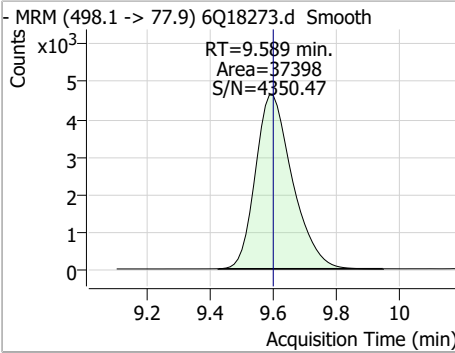


7.7.16 7

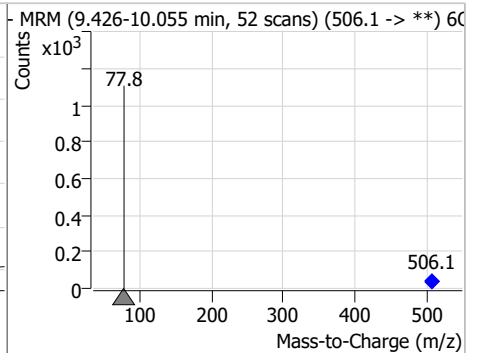
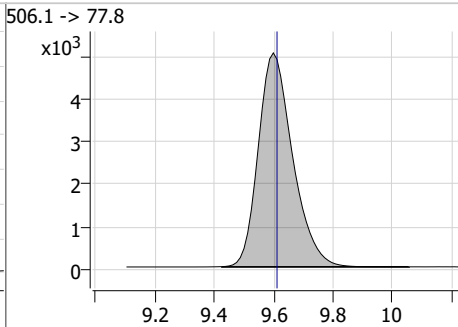
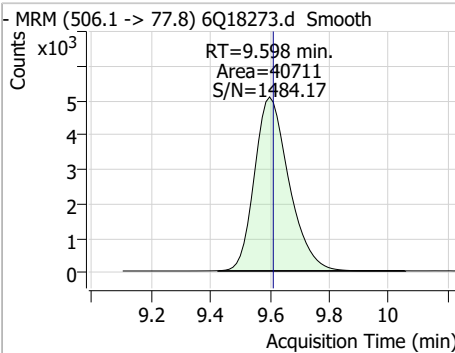


### Perfluorinated Compounds by LC/MS/MS

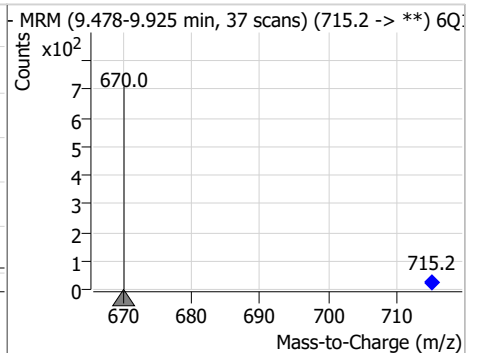
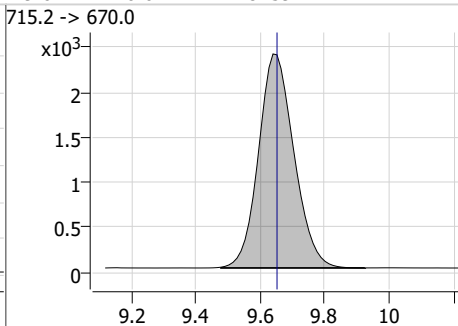
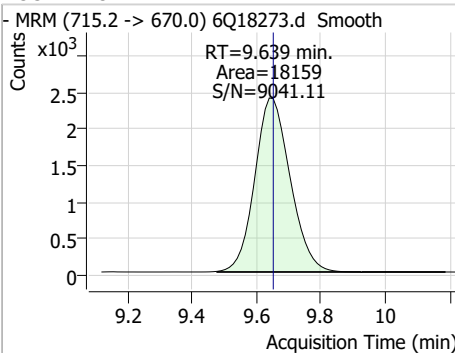
| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| FOSA     | 2.36  | 9.59 | -0.01    | 37398 | 498.1 -> 478.0 | 2.9    | 1.5  | 4.6  |



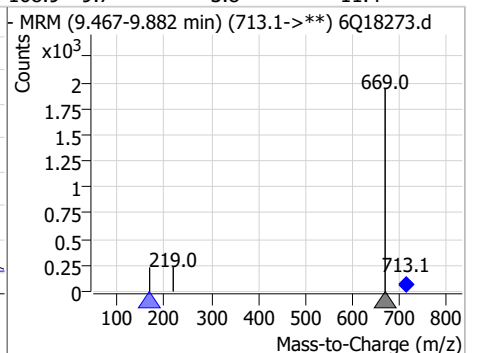
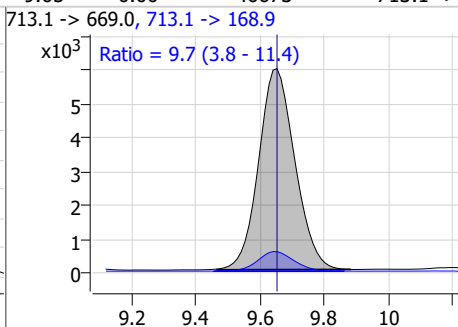
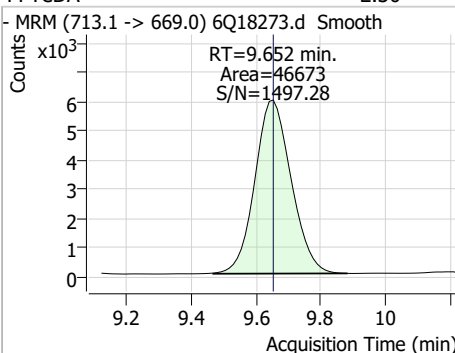
| Compound  | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|------|----------|-------|------|--------|------|------|
| 13C8-FOSA | 2.63  | 9.60 | -0.01    | 40711 |      |        |      |      |



| Compound    | Conc. | RT   | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-------------|-------|------|----------|-------|------|--------|------|------|
| 13C2-PFTeDA | 1.17  | 9.64 | -0.01    | 18159 |      |        |      |      |



| Compound | Conc. | RT   | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max. |
|----------|-------|------|----------|-------|----------------|--------|------|------|
| PFTeDA   | 2.30  | 9.65 | 0.00     | 46673 | 713.1 -> 168.9 | 9.7    | 3.8  | 11.4 |



### Perfluorinated Compounds by LC/MS/MS

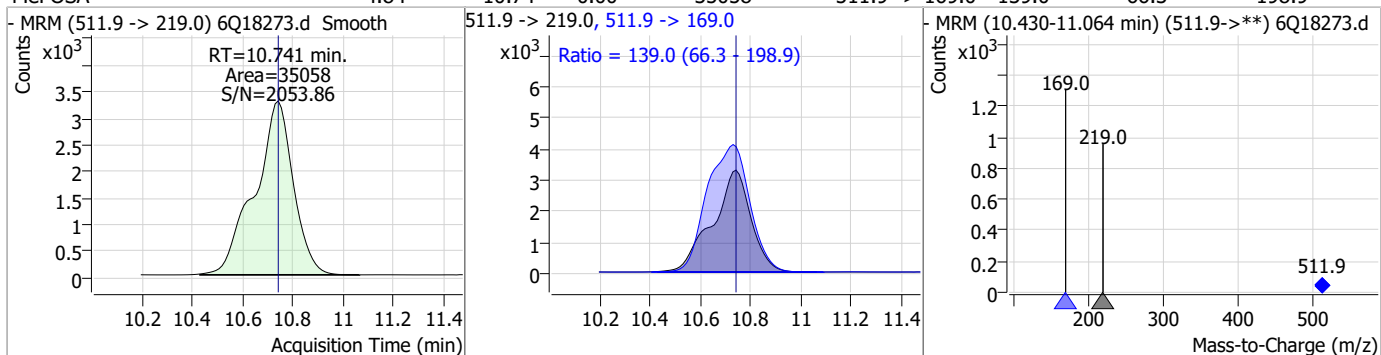
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon          | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|---------------|--------|------|------|
| PFDoS     | 2.27  | 9.78  | 0.00     | 4967   | 699.1 -> 98.8 | 54.5   | 26.9 | 80.6 |
|           |       |       |          |        |               |        |      |      |
| d7-MeFOSE | 23.45 | 10.66 | 0.00     | 141650 |               |        |      |      |
|           |       |       |          |        |               |        |      |      |
| MeFOSE    | 11.90 | 10.67 | 0.00     | 74225  |               |        |      |      |
|           |       |       |          |        |               |        |      |      |
| d3-MeFOSA | 2.41  | 10.74 | 0.00     | 16972  |               |        |      |      |
|           |       |       |          |        |               |        |      |      |

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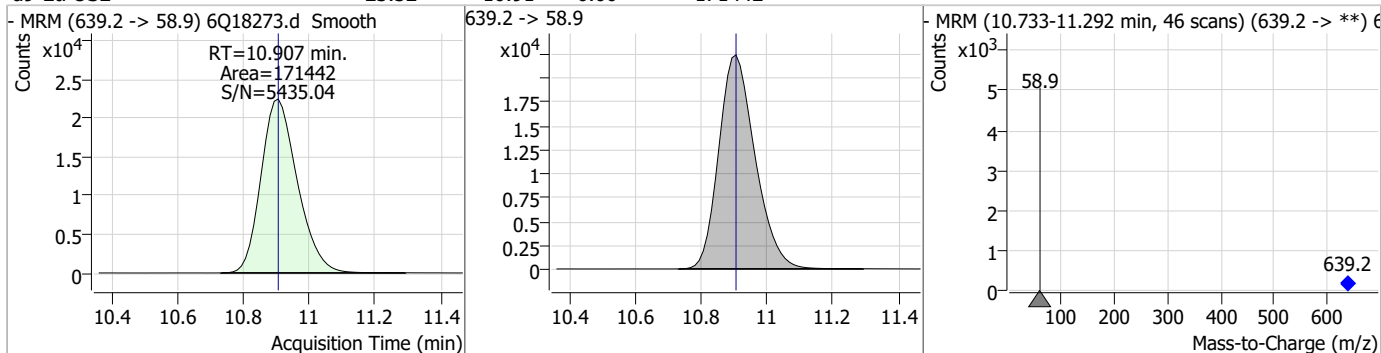


### Perfluorinated Compounds by LC/MS/MS

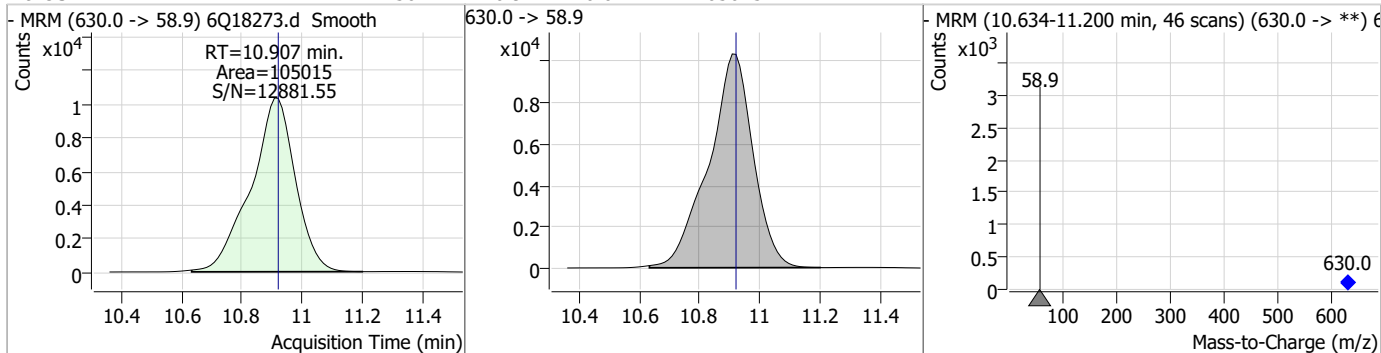
| Compound | Conc. | RT    | Dev(Min) | Resp. | QIon           | QRatio | Min. | Max.  |
|----------|-------|-------|----------|-------|----------------|--------|------|-------|
| MeFOSA   | 4.84  | 10.74 | 0.00     | 35058 | 511.9 -> 169.0 | 139.0  | 66.3 | 198.9 |



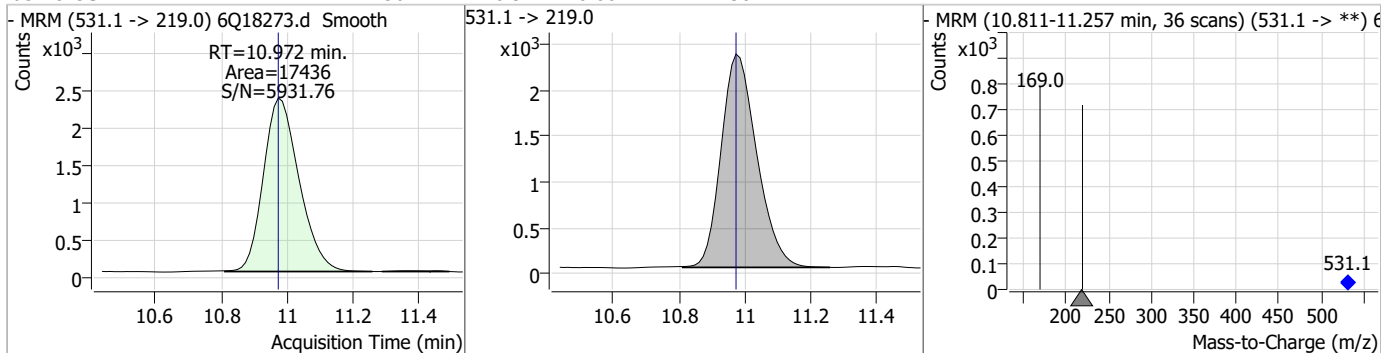
| Compound  | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|--------|------|--------|------|------|
| d9-EtFOSE | 23.32 | 10.91 | 0.00     | 171442 |      |        |      |      |



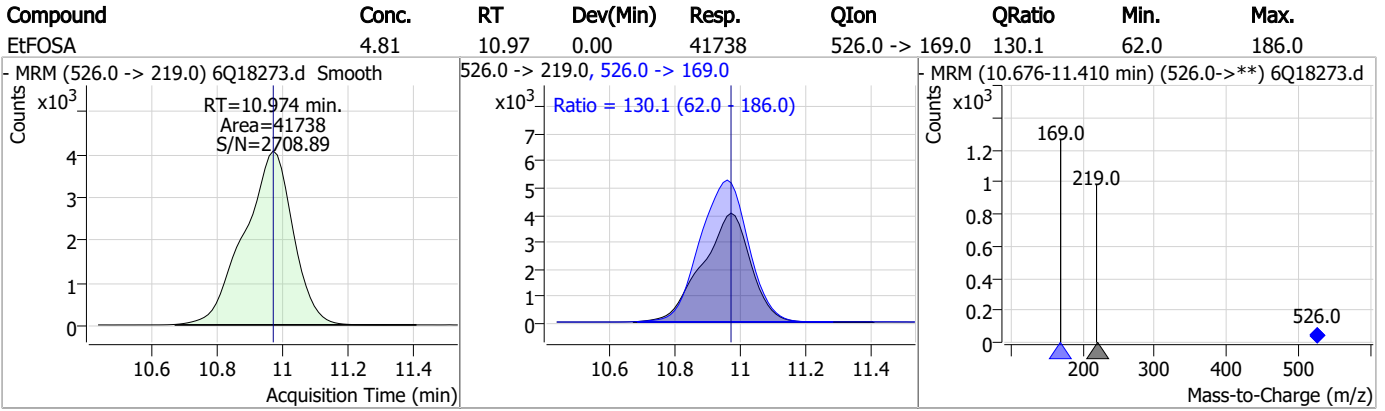
| Compound | Conc. | RT    | Dev(Min) | Resp.  | QIon | QRatio | Min. | Max. |
|----------|-------|-------|----------|--------|------|--------|------|------|
| EtFOSE   | 12.50 | 10.91 | -0.01    | 105015 |      |        |      |      |



| Compound  | Conc. | RT    | Dev(Min) | Resp. | QIon | QRatio | Min. | Max. |
|-----------|-------|-------|----------|-------|------|--------|------|------|
| d5-EtFOSA | 2.50  | 10.97 | 0.00     | 17436 |      |        |      |      |



Perfluorinated Compounds by LC/MS/MS



7.7.16

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# Manual Integration Approval Summary

Sample Number: S6Q274-ECC274      Method: EPA DRAFT 1633  
Lab FileID: 6Q18273.D      Analyst approved: 05/23/23 15:05 Martha Valls  
Injection Time: 05/23/23 08:33      Supervisor approved: 05/23/23 16:27 Norman Farmer

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

7.7.16.1

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SGS ORLANDO

|              |                |
|--------------|----------------|
| DATE:        | 05/22/23       |
| COLUMN TYPE: | Poroshell EC18 |
| AMOUNT INJ:  | 4 uI           |
| INSTRUMENT:  | LCMS6-6Q       |

LCMS6-6Q ANALYSIS LOG

|             |                    |
|-------------|--------------------|
| METHODS:    | 1633               |
| PROC. METH: | 1633_052223_S6Q274 |
| CAL DATE:   | 05/22/23           |
| ANALYST:    | M. Valls           |
| RUN BATCH:  | S6Q274             |

|                    |   |
|--------------------|---|
| ELUENT A LOT #:    | ACN 220228  |
| ELUENT B LOT #:    | HPLC WATER LOT: 224870 W15%<br>ACN 220225 2mM AMAC: 11387 |
| IC/CC STD LOT #:   | LCMS 2107C  |
| ICV STD LOT #:     | LCMS 2107C/2100B  |
| ISTD/ID STD LOT #: | 11765/11764   |

|    | Data File | Sample | Sample Name    | Method     | Sample Type | Level   | Misc. Info                       | Comments               |
|----|-----------|--------|----------------|------------|-------------|---------|----------------------------------|------------------------|
| 1  | 6Q18221.d | P1-B9  | CCB            | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 2  | 6Q18222.d | P1-B9  | CCB            | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 3  | 6Q18223.d | P1-B9  | CCB            | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 4  | 6Q18224.d | P1-B3  | RT TDCA        | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 5  | 6Q18225.d | P1-B4  | RT BR-LN       | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 6  | 6Q18226.d | P1-A1  | ic274-0        | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 7  | 6Q18227.d | P1-A2  | ic274-1        | 1633full.m | Calibration | 1.6/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 8  | 6Q18228.d | P1-A3  | ic274-2        | 1633full.m | Calibration | 3.2/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 9  | 6Q18229.d | P1-A4  | ic274-3        | 1633full.m | Calibration | 10/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 10 | 6Q18230.d | P1-A5  | icc274-4       | 1633full.m | Calibration | 20/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 11 | 6Q18231.d | P1-A6  | ic274-5        | 1633full.m | Calibration | 40/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 12 | 6Q18232.d | P1-A7  | ic274-6        | 1633full.m | Calibration | 100/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 13 | 6Q18233.d | P1-A8  | ic274-7        | 1633full.m | Calibration | 200/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 14 | 6Q18234.d | P1-A9  | ic274-8        | 1633full.m | Calibration | 1x      | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 15 | 6Q18235.d | P1-A1  | iblk           | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 16 | 6Q18236.d | P1-B1  | icv274-4       | 1633full.m | QC          | 20/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 17 | 6Q18237.d | P1-B2  | icv274-20      | 1633full.m | QC          | 100/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 18 | 6Q18238.d | P1-A5  | cc274-4        | 1633full.m | QC          | 20/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 19 | 6Q18239.d | P1-A2  | cc274-1.0LL    | 1633full.m | QC          | 1.6/500 | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 20 | 6Q18240.d | P2-A1  | op96984-bs     | 1633full.m | Sample      |         | OP96984.S6Q274.500,,,5.0,1,water | ✓                      |
| 21 | 6Q18241.d | P2-A2  | op96984-llbs:3 | 1633full.m | Sample      |         | OP96984.S6Q274.500,,,5.0,1,water | High                   |
| 22 | 6Q18242.d | P2-A3  | op96984-mb     | 1633full.m | Sample      |         | OP96984.S6Q274.500,,,5.0,1,water | ✓                      |
| 23 | 6Q18243.d | P2-A4  | FC5501-14      | 1633full.m | Sample      |         | OP96984.S6Q274.10,,,5.0,1,water  | ✓                      |
| 24 | 6Q18244.d | P2-A5  | FC5501-15      | 1633full.m | Sample      |         | OP96984.S6Q274.100,,,5.0,1,water | RR10X                  |
| 25 | 6Q18245.d | P2-A6  | FC5593-14      | 1633full.m | Sample      | 100/500 | OP96940.S6Q274.565,,,5.0,5,water | r15x due to carry over |
| 26 | 6Q18246.d | P2-A7  | FC5501-12      | 1633full.m | Sample      |         | OP96916.S6Q274.500,,,5.0,1,water | r15x for low surr      |
| 27 | 6Q18247.d | P2-A8  | op96916-dup    | 1633full.m | Sample      |         | OP96916.S6Q274.500,,,5.0,1,water | r15x for low surr      |
| 28 | 6Q18248.d | P2-A9  | FC5565-1       | 1633full.m | Sample      | 100/500 | OP96917.S6Q274.1,,,5.0,5,water   | ✓                      |
| 29 | 6Q18249.d | P2-B1  | FC5565-2       | 1633full.m | Sample      | 100/500 | OP96917.S6Q274.5,,,5.0,5,water   | ✓                      |
| 30 | 6Q18250.d | P1-A5  | cc274-4        | 1633full.m | QC          | 20/500  | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 31 | 6Q18251.d | P1-A1  | iccb           | 1633full.m | Sample      |         | OP96663.S6Q274.500,,,5.0,1,water | ✓                      |
| 32 | 6Q18252.d | P2-B2  | FC5565-3       | 1633full.m | Sample      | 100/500 | OP96917.S6Q274.2.5,,,5.0,5,water | ✓                      |
| 33 | 6Q18253.d | P2-B3  | op96959-bs     | 1633full.m | Sample      |         | OP96959.S6Q274.500,,,5.0,1,water | ✓                      |
| 34 | 6Q18254.d | P2-B4  | op96959-llbs:3 | 1633full.m | Sample      |         | OP96959.S6Q274.500,,,5.0,1,water | ✓                      |
| 35 | 6Q18255.d | P2-B5  | op96959-mb     | 1633full.m | Sample      |         | OP96959.S6Q274.500,,,5.0,1,water | ✓                      |



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

|    |           |       |                |            |        |                                  |                             |
|----|-----------|-------|----------------|------------|--------|----------------------------------|-----------------------------|
| 36 | 6Q18256.d | P2-B6 | FC5734-1       | 1633full.m | Sample | OP96959.S6Q274.528,,,5.0,1,water | ✓                           |
| 37 | 6Q18257.d | P2-B7 | FC5734-2       | 1633full.m | Sample | OP96959.S6Q274.530,,,5.0,1,water | ✓                           |
| 38 | 6Q18258.d | P2-B8 | FC5734-3       | 1633full.m | Sample | OP96959.S6Q274.526,,,5.0,1,water | ✓                           |
| 39 | 6Q18259.d | P2-B9 | op96959-ms     | 1633full.m | Sample | OP96959.S6Q274.500,,,5.0,1,water | ✓                           |
| 40 | 6Q18260.d | P2-C1 | FC5734-4       | 1633full.m | Sample | OP96959.S6Q274.530,,,5.0,1,water | ✓                           |
| 41 | 6Q18261.d | P2-C2 | op96959-dup    | 1633full.m | Sample | OP96959.S6Q274.500,,,5.0,1,water | ✓                           |
| 42 | 6Q18262.d | P1-A5 | cc274-4        | 1633full.m | QC     | 20/500                           | ✓                           |
| 43 | 6Q18263.d | P1-A1 | iccb           | 1633full.m | Sample | OP96663.S6Q274.500,,,5.0,1,water | ✓                           |
| 44 | 6Q18264.d | P2-C3 | FC5734-5       | 1633full.m | Sample | OP96959.S6Q274.500,,,5.0,1,water | ✓                           |
| 45 | 6Q18265.d | P2-C4 | FC5734-6       | 1633full.m | Sample | OP96959.S6Q274.550,,,5.0,1,water | ✓                           |
| 46 | 6Q18266.d | P2-C5 | FC5734-7       | 1633full.m | Sample | OP96959.S6Q274.550,,,5.0,1,water | ✓                           |
| 47 | 6Q18267.d | P2-C6 | FC5734-8       | 1633full.m | Sample | OP96959.S6Q274.530,,,5.0,1,water | ✓                           |
| 48 | 6Q18268.d | P2-C7 | FC5734-9       | 1633full.m | Sample | OP96959.S6Q274.534,,,5.0,1,water | ✓                           |
| 49 | 6Q18269.d | P2-C8 | FC5734-10      | 1633full.m | Sample | OP96959.S6Q274.520,,,5.0,1,water | ✓                           |
| 50 | 6Q18270.d | P2-C9 | FC6141-1       | 1633full.m | Sample | OP96959.S6Q274.530,,,5.0,1,water | ✓                           |
| 51 | 6Q18271.d | P2-D1 | FC6141-2       | 1633full.m | Sample | OP96959.S6Q274.540,,,5.0,1,water | ✓                           |
| 52 | 6Q18272.d | P2-D2 | FC6141-3       | 1633full.m | Sample | OP96959.S6Q274.570,,,5.0,1,water | ✓                           |
| 53 | 6Q18273.d | P1-A5 | Ecc274-4       | 1633full.m | QC     | 20/500                           | ✓                           |
| 54 | 6Q18274.d | P1-A1 | iccb           | 1633full.m | Sample | OP96663.S6Q274.500,,,5.0,1,water | ✓                           |
| 55 | 6Q18275.d | P2-D3 | op96958-bs     | 1633full.m | Sample | OP96958.S6Q274.500,,,5.0,1,water | Screen run                  |
| 56 | 6Q18276.d | P2-D4 | op96958-llbs:3 | 1633full.m | Sample | OP96958.S6Q274.500,,,5.0,1,water | ↓                           |
| 57 | 6Q18277.d | P2-D5 | op96958-mb     | 1633full.m | Sample | OP96958.S6Q274.500,,,5.0,1,water | ↓                           |
| 58 | 6Q18278.d | P2-D6 | FC5649-1       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 59 | 6Q18279.d | P2-D7 | FC5649-2       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 60 | 6Q18280.d | P2-D8 | op96958-ms     | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 61 | 6Q18281.d | P2-D9 | FC5649-3       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 62 | 6Q18282.d | P2-E1 | op96958-dup    | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 63 | 6Q18283.d | P2-E2 | FC5649-4       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 64 | 6Q18284.d | P2-E3 | FC5649-5       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 65 | 6Q18285.d | P1-A5 | cc274-4        | 1633full.m | QC     | 20/500                           | ↓                           |
| 66 | 6Q18286.d | P1-A1 | iccb           | 1633full.m | Sample | OP96663.S6Q274.500,,,5.0,1,water | ccv fail high               |
| 67 | 6Q18287.d | P2-E4 | FC5649-6       | 1633full.m | Sample | OP96958.S6Q274.500,,,5.0,1,water | Screen run                  |
| 68 | 6Q18288.d | P2-E5 | FC5649-7       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 69 | 6Q18289.d | P2-E6 | FC5649-8       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 70 | 6Q18290.d | P2-E7 | FC5649-9       | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 71 | 6Q18291.d | P2-E8 | FC5649-10      | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 72 | 6Q18292.d | P2-E9 | FC5649-11      | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 73 | 6Q18293.d | P2-F1 | FC5649-12      | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 74 | 6Q18294.d | P2-F2 | FC5649-13      | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 75 | 6Q18295.d | P2-F3 | FC5649-14      | 1633full.m | Sample | OP96958.S6Q274.530,,,5.0,1,water | ↓                           |
| 76 | 6Q18296.d | P2-F4 | FC5649-15      | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,water | ↓                           |
| 77 | 6Q18297.d | P1-A5 | cc274-4        | 1633full.m | QC     | 20/500                           | ↓                           |
| 78 | 6Q18298.d | P1-A1 | iccb           | 1633full.m | Sample | OP96663.S6Q274.500,,,5.0,1,water | ccv fail high<br>Screen run |



SGS ORLANDO LCMS6-6Q ANALYSIS LOG

|    |           |       |           |            |        |                                   |   |
|----|-----------|-------|-----------|------------|--------|-----------------------------------|---|
| 79 | 6Q18299.d | P2-F5 | FC5649-16 | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,.water | ↓ |
| 80 | 6Q18300.d | P2-F6 | FC5649-17 | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,.water | ↓ |
| 81 | 6Q18301.d | P2-F7 | FC5649-18 | 1633full.m | Sample | OP96958.S6Q274.550,,,5.0,1,.water | ↓ |
| 82 | 6Q18302.d | P1-A5 | ecc274-4  | 1633full.m | QC     | 20/500                            | ↓ |
| 83 | 6Q18303.d | P1-A1 | iccb      | 1633full.m | Sample | OP96663.S6Q274.500,,,5.0,1,.water | ↓ |

Organic Standards Preparation Log

| SGS - Orlando Std. # | Name Description    | Parent Std. # | Parent Name         | Parent Vendor            | Vendor Exp. Date | Lab* Exp. Date | Parent Conc. | Vol. Used | Final Vol.  | Final Conc.     | Diluent Lot      | Prep. Date | Exp. Date | Initials |
|----------------------|---------------------|---------------|---------------------|--------------------------|------------------|----------------|--------------|-----------|-------------|-----------------|------------------|------------|-----------|----------|
| LCMS 2106A-B         | PFC SPIKE           | 11653         | PFOA-DOD (28 comps) | Absolute Wellington Labs | 11/08/27         | 10/18/24       | 1.0ppm       | 2mL       | 5mL         | 400ppb          | MS/MNH 5/14/20   | 01/18/23   | 10/18/23  | NG       |
|                      |                     | 11432         | N-He-FOSA-m         | Wellington Labs          | 02/28/27         | 03/13/24       | 50ppm        | 40uL      |             |                 |                  |            |           | NG       |
|                      |                     | 11513         | FBSA-1              |                          | 11/10/26         | 04/18/24       |              |           |             |                 |                  |            |           | NG       |
|                      |                     | 11514         | FHSA-1              |                          | 12/29/26         | 04/18/24       |              |           |             |                 |                  |            |           | NG       |
|                      |                     | 11332         | PFERHS              |                          | 03/28/27         | 10/18/24       |              |           |             |                 |                  |            |           | NG       |
| LCMS 2107A-C         | 1633-OPiKE Cal Std. | 11734         | PFAC MXH            | Wellington               | 8/8/27           | 4/14/24        | 1-4 ppb      | 250uL     | 4mL         | 62.5 125 250ppb | 1633 MIX         | 4/19/23    | 10/19/23  | MV       |
|                      |                     | 11736         | PFAC MXF            | Wellington               | 11/11/25         | 4/14/24        | 2ppm         | 250uL     |             | 125ppb          | 2688mL           |            |           |          |
|                      |                     | 11676         | PFAC MXG            |                          | 12/11/27         | 4/11/24        | 2ppm         | 250uL     |             | 125ppb          |                  |            |           |          |
|                      |                     | 11689         | PFAC MXJ            |                          | 9/11/26          | 4/19/24        | 4-20 ppm     | 250uL     |             | 125ppb          |                  |            |           |          |
| LCMS 2108A-O         | 10PPb PFC ID SURT   | 11763         | MPFAC-24-ES         | Wellington Labs          | 01/18/28         | 04/18/24       | 1.0ppm       | 2.4mL     | ~50mL       | 312uL           | 95/MNH 5/14/20   |            |           |          |
|                      |                     | 11635A        | M3HFO-DA            |                          | 11/08/28         | 04/18/24       | 50ppm        | 48uL      |             |                 |                  | 04/24/23   | 10/24/23  | NG       |
|                      |                     | 11431         | d-N-MADOSAM         |                          | 05/06/27         | 03/13/24       | 50ppm        | 48uL      |             |                 |                  |            |           | NG       |
| LCMS-2109            | 537.1 DW STD.       | 11653         | PFOA-DOD (28 comps) | Absolute                 | 11/09/27         | 04/18/24       | 1.0ug/mL     | 4mL       | 100ppb      | 100ppb          | 90% MeOH 4/24/23 | 09/10/23   | 09/10/23  | JR       |
|                      |                     | 2080          | DW SURR.            |                          | 07/06/23         |                | 1.0/2.0 PPM  | 400uL     | 100/200 PPB |                 |                  |            |           | JR       |

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

ORL-QAC-0017.6-03-FORM-lcms std prep log.xls 030819



\* tested & passed

\* tested & passed on glass

\* tested & passed

7 19:1



Organic Standards Preparation Log

| SGS - Orlando Std. # | Name Description     | Parent Std. # | Parent Name | Parent Vendor   | Vendor Exp. Date | Lab* Exp. Date | Parent Conc. | Vol. Used | Final Vol. | Final Conc.       | Diluent Lot    | Prep. Date | Exp. Date | Initials |
|----------------------|----------------------|---------------|-------------|-----------------|------------------|----------------|--------------|-----------|------------|-------------------|----------------|------------|-----------|----------|
| LCMS 20915A-E        | (10ppb) PFC ID SURR  | A-5 11669     | PFAC-2YES   | Wilmington Labs | 01/16/18         | 03/18/24       | 1.0ppm       | 2.4mL     | ~50mL      | 0.5ppm            | 151mech 51.420 | 03/18/23   | 09/18/23  | NS       |
| ↓                    | ↓                    | 11585         | PFAC-DA     | ↓               | 11/08/15         | 01/26/24       | 50ppm        | 48uL      | ↓          | ↓                 | ↓              | ↓          | ↓         | NS       |
| ↓                    | ↓                    | 11431         | PFAC-D-N    | ↓               | 05/10/07         | 03/13/24       | 50ppm        | 48uL      | ↓          | ↓                 | ↓              | ↓          | ↓         | NS       |
| LCMS 20916A-B        | 1033 spike Cal w/d.  | 11672         | PFAC-MxH    | Wilmington      | 8/8/17           | 3/23/24        | 1-4 ppm      | 250uL     | 4mL        | 0.25 1.25 2.50ppb | 1033 MIX       | 3/30/23    | 9/18/23   | MU       |
| ↓                    | ↓                    | 11686         | PFAC-MxI    | ↓               | 2/27/28          | 3/30/24        | 1-10 ppm     | 250uL     | ↓          | 0.25 0.25ppb      | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11674A        | PFAC-MxJ    | ↓               | 11/1/25          | 3/23/24        | 2ppm         | 500uL     | ↓          | 250ppb            | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11674B        | PFAC-MxK    | ↓               | 12/1/27          | 3/10/24        | 2ppm         | 250uL     | ↓          | 125ppb            | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11660         | PFAC-MxL    | ↓               | 9/11/26          | 3/30/24        | 4-20 ppm     | 312uL     | ↓          | 312/100 ppb       | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11675         | PFAC-MxM    | ↓               | 10/28/23         | 10/28/23       | 50ppm        | 200uL     | 5mL        | 2ppm              | 1033 MIX       | 4/16/23    | 10/28/23  | MU       |
| LCMS 2097A-B         | BR-LN metel for 1033 | 11497         | br-N metosa | Wilmington      | 08/23/17         | 10/28/23       | 50ppm        | 200uL     | ↓          | 2ppm              | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11498         | br-N Effosa | ↓               | 10/07/17         | 10/28/23       | 50ppm        | 200uL     | ↓          | 5ppm              | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11495         | br-N metosa | ↓               | 10/28/17         | 10/28/23       | 50ppm        | 500uL     | ↓          | 5ppm              | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    | 11494         | br-N Effosa | ↓               | 10/7/17          | 10/28/23       | 50ppm        | 500uL     | ↓          | 5ppm              | ↓              | ↓          | ↓         | ↓        |
| ↓                    | ↓                    |               |             |                 |                  | 4/8/24         |              |           |            |                   |                |            |           |          |

\* tested 3/22/24

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



Organic Standards Preparation Log

| SGS - Orlando Std. # | Name Description                   | Parent Std. # | Parent Name    | Parent Vendor   | Vendor Exp. Date | Lab* Exp. Date | Parent Conc. | Vol. Used      | Final Vol. | Final Conc.            | Diluent Lot               | Prep. Date | Exp. Date | Initials |
|----------------------|------------------------------------|---------------|----------------|-----------------|------------------|----------------|--------------|----------------|------------|------------------------|---------------------------|------------|-----------|----------|
| LCMS 2098A           | 1033 spike Cal std.                | 11672A        | PFAC           | Wellington      | 8/18/27          | 3/23/24        | 1-4 ppm      | 250uL          | 4mL        | 0.25<br>1.25<br>250ppb | 1033 mix                  | 4/6/23     | 10/6/23   | MW       |
|                      |                                    | LCMS 2097     | Br-1n Et-Me    | SGS Labo        | NA               | 10/28/23       | 3ppm<br>5ppm | 250uL          |            | 125ppb<br>312.5ppb     |                           |            |           |          |
|                      |                                    | 11674B        | PFAC Mx F      | Wellington      | 1/11/25          | 3/30/24        | 2ppm         | 250uL<br>500uL |            | 350ppb<br>125ppb       |                           |            |           |          |
|                      |                                    | 11675         | PFAC Mx G      |                 | 12/1/27          | 3/30/24        | 2ppm         | 250uL          |            | 125ppb                 |                           |            |           |          |
|                      |                                    | 11672B        | PFAC Mx J      |                 | 9/14/26          | 3/23/24        | 4-20 ppm     | 312uL          |            | 312/100 ppb            |                           |            |           |          |
| LCMS 2099            | 537.1 Du std. (Fumeral)            | 11670         | M3P-PEA        | Wellington Labs | 07/08/25         | 04/06/24       | 50ppm        | 80uL           | 4mL        | 1.0ppm                 | 0.10 MESH 41. H2O         | 04/06/23   | 05/15/23  | NG       |
|                      |                                    | 10436A        | Mx 2           |                 | 11/05/25         | 04/06/24       |              | 80uL           |            | 1.0ppm                 |                           |            |           | NG       |
|                      |                                    | 10522B        | d3-N-NEOSAA    |                 | 10/22/25         | 05/15/23       |              | 160uL          |            | 20ppm                  |                           |            |           | NG       |
|                      |                                    | 10498A        | M1FOS          |                 | 11/02/25         | 03/22/24       |              | 80uL           |            | 1.0ppm                 |                           |            |           | NG       |
|                      |                                    | 11069         | M2RFA          |                 | 12/01/26         | 03/22/24       |              | 80uL           |            | 1.0ppm                 |                           |            |           | NG       |
| LCMS 2100            | Full List (90) List 40 spike (500) | 11626         | PFOR 28 Comp.  | Absolute        | 11/19/27         | 4/11/24        | 1.0ppm       | 400uL          | 4 mL       | 100ppb                 | 75% MeOH 5% H2O (2,40031) | 4/11/23    | 7/24/23   | MW       |
|                      |                                    | LCMS 2067     | 40 List ADD #1 | SGS Add.        |                  | 8/23/23        | 1.0ppm       | 400uL          |            |                        |                           |            |           |          |
|                      |                                    | LCMS 2070     | 40 List ADD #2 |                 |                  | 5/12/23        | 1.0ppm       | 400uL          |            |                        |                           |            |           |          |
|                      |                                    | LCMS 2054     | F055 Std.      |                 |                  | 7/24/23        | 5.0ppm       | 400uL          |            | 50ppb                  |                           |            |           |          |
| LCMS 2101            | F055 std.                          | 11336         | N-et F055      | Wellington      | 5/13/27          | 9/19/23        | 50ppm        | 200uL          | 2.0mL      | 5ppm                   | 45% MeOH 5% H2O           | 9/11/23    | 9/19/23   | MW       |
|                      |                                    | 11338         | N-me f055      |                 | 5/13/27          | 9/19/23        | 50ppm        | 200uL          |            |                        |                           |            |           |          |

\* LCMS 2100 91B  
rechecked & passed on 10/23/23  
are normal

\* LCMS 2100 91B  
rechecked & passed on 10/23/23

LCMS 2100 91B  
rechecked & passed on 10/23/23





Organic Standards Preparation Log

| SGS - Orlando Std. # | Parent Name Description | Parent Std. # | Parent Name        | Parent Vendor | Vendor Exp. Date | Lab* Exp. Date | Parent Conc. | Vol. Used | Final Vol. | Final Conc. | Diluent Lot        | Prep. Date | Exp. Date          | Initials |
|----------------------|-------------------------|---------------|--------------------|---------------|------------------|----------------|--------------|-----------|------------|-------------|--------------------|------------|--------------------|----------|
| LCMS 2067            | 40 List std. ADD-ON #1  | 10720A        | 10:2 FTS           | Wellington    | 3/3/26           | 3/21/23        | 50 ppm       | 80 uL     | 4.0 mL     | 1 ppm       | 95% meth<br>5% H2O | 2/8/23     | 3/21/23<br>8/23/23 | MV       |
|                      |                         | 10840         | L- PFDOS           |               | 7/9/26           | 10/18/23       |              |           |            |             |                    |            | 8/23/23            |          |
|                      |                         | 10829         | N- MCFOSA          |               | 8/3/26           | 8/23/23        |              |           |            |             |                    |            |                    |          |
|                      |                         | 10837         | N- E-FOSA          |               | 8/3/26           | 8/23/23        |              |           |            |             |                    |            |                    |          |
|                      |                         | 10842         | PFHxDA             |               | 9/3/26           | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         | 10841         | PFOA               |               | 5/7/26           | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         | 11116B        | 3:3FTCA<br>PFRPA   |               | 2/3/27           | 2/8/24         |              |           |            |             |                    |            |                    |          |
|                      |                         | 10685A        | 5:3FTCA<br>PF2PA   |               | 11/1/25          | 8/23/23        |              |           |            |             |                    |            |                    |          |
|                      |                         | 11116A        | 7:3FTCA<br>FHPA    |               | 11/12/25         | 2/8/24         |              |           |            |             |                    |            |                    |          |
|                      |                         | 11332         | PFECHS             |               | 3/2/27           | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         | 10762B        | PFEESA             |               | 5/13/25          | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         | 10763B        | PFMBA              |               | 3/31/25          | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         | 10764         | PFMFA<br>PF40eA    |               | 3/31/25          | 2/8/24         |              |           |            |             |                    |            |                    |          |
|                      |                         | 10765B        | NFHDA<br>3.6-OPHdA |               | 3/31/25          | 10/18/23       |              |           |            |             |                    |            |                    |          |
|                      |                         |               |                    |               | NG 02/10/23      |                |              |           |            |             |                    |            |                    |          |

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Organic Standards Preparation Log

| SGS - Orlando Sid. # | Name Description      | Parent Std. # | Parent Name      | Parent Vendor            | Vendor Exp. Date | Lab* Exp. Date        | Parent Conc. | Vol. Used | Final Vol. | Final Conc. | Diluent Lot     | Prep. Date | Exp. Date | Initials |
|----------------------|-----------------------|---------------|------------------|--------------------------|------------------|-----------------------|--------------|-----------|------------|-------------|-----------------|------------|-----------|----------|
| LCMS 2074 A-B        | PFC SPIKE             | 11613         | PROA-DOD CASCOMP | Absolute Wellington Labs | 11/09/27         | 02/23/24              | 1.0ppm       | 2mL       | 5mL        | 400ppb      | 95% MeOH 5% H2O | 02/23/23   | 05/23/23  | NG       |
|                      |                       | 10829         | N-Me-PBSA-M      | Wellington Labs          | 08/23/26         | 08/23/23              | 50ppm        | 40uL      |            |             |                 |            |           | NG       |
|                      |                       | 11250         | PBSA-1           |                          | 11/10/26         | 11/08/23              |              |           |            |             |                 |            |           | NG       |
|                      |                       | 11249         | PHSA-1           |                          | 12/29/26         | 11/03/23              |              |           |            |             |                 |            |           | NG       |
|                      |                       | 11322         | PFCHS            |                          | 02/28/27         | 10/18/23              |              |           |            |             |                 |            |           | NG       |
| LCMS 2075A-F         | (10 PPB) PFC ID SURF  | 11639         | MPPAC-24ES       | Wellington Labs          | 03/24/27         | 02/23/24              | 1.0ppm       | 2.4mL     | ~50 mL     | 0.5ppm      | 95% MeOH 5% H2O | 02/23/23   | 05/23/23  | NG       |
|                      |                       | 11585         | N2HFO-DA         | Wellington Labs          | 11/08/25         | 01/26/24              | 50ppm        | 48uL      |            |             |                 |            |           | NG       |
|                      |                       | 11385         | B-N-NACOSA-M     | Wellington Labs          | 05/10/27         | 01/01/24              | 50ppm        | 48uL      |            |             |                 |            |           | NG       |
| LCMS 2076            | 40 List std. ADDON #2 | 11250         | FBSA-1           | Wellington Labs          | 11/10/26         | 11/8/23               | 50ppm        | 80uL      | 4.0mL      | 1ppm        | 95% MeOH 5% H2O | 2/27/23    | 5/2/26    | MW       |
|                      |                       | 11249         | FHSA-1           |                          | 2/29/26          | 11/3/23               | 50ppm        | 80uL      |            |             |                 |            |           |          |
|                      |                       | 11140         | L-PFRG           |                          | 7/12/26          | 5/26/23               | 50ppm        | 80uL      |            |             |                 |            |           |          |
| LCMS 2077A-B         | 1633 Solvent B        | 11387         | Ammonium Acetate | Sigmaaldrich             |                  | 1/25/24               | 99.9%        | 0.62g     | 4L         | 2mM         | 95% MeOH 5% H2O | 2/28/23    | 4/28/23   | MW       |
|                      |                       | 224870        | HPLC water       | Fisher                   |                  | 2/28/23               |              | 3,800ml   |            | 95%         |                 |            |           |          |
|                      |                       | 220225        | Acetoni trile    |                          |                  | 2/20/24               |              | 200mL     |            | 5%          |                 |            |           |          |
|                      |                       |               |                  |                          |                  | aka new 2/28/23       |              |           |            |             |                 |            |           |          |
|                      |                       |               |                  |                          |                  | Continue next page #1 |              |           |            |             |                 |            |           |          |

\* added 2/23/24  
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\* added 2/23/24  
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Organic Standards Preparation Log

| SGS - Orlando Std. # | Name Description         | Parent Std. #  | Parent Name               | Parent Vendor | Vendor Exp. Date | Lab* Exp. Date | Parent Conc. | Vol. Used | Final Vol. | Final Conc.           | Diluent Lot        | Prep. Date | Exp. Date | Initials |
|----------------------|--------------------------|----------------|---------------------------|---------------|------------------|----------------|--------------|-----------|------------|-----------------------|--------------------|------------|-----------|----------|
| LCMS 2052            | 1633 prep mix            | 221044<br>Lot: | MeOH                      | Fisher        | —                | 1/4/24         | 99.9%        | 92mL      | 100mL      | 92%                   | N/A                | 1/19/23    | 2/19/23   | MV       |
|                      |                          | 219481<br>Lot: | NH4OH                     |               | —                | 9/19/23        | 100%         | 3.3mL     |            | 1%                    |                    |            |           |          |
|                      |                          | 224863<br>Lot: | H2O                       |               | —                | 1/7/24         | 100%         | 1.7mL     |            | 4%                    |                    |            |           |          |
|                      |                          | 224297<br>Lot: | Acetic Acid               |               | —                | 6/24           | 99.7%        | 0.625mL   |            | .625%                 |                    |            |           |          |
| LCMS 2053            | (spike)<br>Full list std | 11568          | PFOA DOP 28<br>Calc       | SGS Standards | 11/9/27          | 11/10/24       | 1.0ppm       | 400uL     | 4.0mL      | 100ppb                | 95% MeOH<br>5% H2O | 12/4/23    | 3/21/23   | MV       |
|                      |                          | 1987           | LCMS 40 list<br>Add on #1 |               | —                | 3/21/23        | 1.0ppm       | 400uL     |            |                       |                    |            |           |          |
|                      |                          | 1986           | LCMS 40 list<br>Add on #2 |               | —                | 4/18/23        | 1.0ppm       | 400uL     |            |                       |                    |            |           |          |
|                      |                          | 2054           | LCMS Fose<br>std.         |               | —                | 7/7/23         | 5.0ppm       | 400uL     |            | 500ppb                |                    |            |           |          |
| LCMS 2054            | Fose std.                | 11336          | N-Et-FOSE                 | Wellington    | 5/13/27          | 9/19/23        | 50ppm        | 200uL     | 2.0mL      | 5ppm                  | 95% MeOH<br>5% H2O | 12/4/23    | 7/24/23   | MV       |
|                      |                          | 11338          | N-Me FOSE                 |               | 5/13/27          | 9/19/23        | 50ppm        | 200uL     |            |                       |                    |            |           |          |
| LCMS 2055            | 1633 Cal std.            | 10855          | PFAC MXH                  | Wellington    | 9/14/26          | 11/7/24        | 1-4 ppm      | 2.50uL    | 4mL        | 62.5<br>125<br>250ppb | 1633 MIX           | 1/24/23    | 7/24/23   | MV       |
|                      |                          | 10853J         | PFAC MXI                  |               | 9/14/26          | 1/11/24        | 1-10 ppm     | 2.50uL    |            | 62.5<br>125<br>250ppb |                    |            |           |          |
|                      |                          | 11549B         | PFAC MXF                  |               | 11/1/25          | 1/11/24        | 2ppm         | 500uL     |            | 250ppb                |                    |            |           |          |
|                      |                          | 10854J         | PFAC MXG                  |               | 3/4/25           | 1/24/24        | 2ppm         | 250uL     |            | 125ppb                |                    |            |           |          |
|                      |                          | 11492          | PFAC MXJ                  |               | 9/14/26          | 11/11/24       | 4-20 ppm     | 312uL     |            | 312/100 ppb           |                    |            |           |          |
|                      |                          | 11603.         |                           |               |                  | 1/24/24        |              |           |            |                       |                    |            |           |          |
|                      |                          |                |                           |               |                  |                |              |           |            |                       |                    |            |           |          |

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11494



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NMeFOSE

#### 2-(N-Methylperfluorooctanesulfonamido)ethanol Isomeric Mix

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

#### DESCRIPTION:

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

#### DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by <sup>19</sup>F-NMR  
 Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS Data (SIR)  
 Figure 4: LC/MS/MS Data (Selected MRM Transitions)

#### ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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

brNMeFOSE0922 (1 of 7)  
rev1

7.9.1

7

11495



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSE

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

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

### DESCRIPTION:

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

### DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by <sup>19</sup>F-NMR
- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS Data (SIR)
- Figure 4: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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brNEtFOSE1022 (1 of 7)  
rev1

7.9.1

7

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NMeFOSA

**N-Methylperfluorooctanesulfonamide  
Isomeric Mix**

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

### DESCRIPTION:

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

### DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by <sup>19</sup>F-NMR  
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (SIR)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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brNMeFOSA0822 (1 of 6)  
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7

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### br-NEtFOSA

#### N-Ethylperfluorooctanesulfonamide Isomeric Mix

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

### DESCRIPTION:

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

### DOCUMENTATION/ DATA ATTACHED:

- Table A: Isomeric Components and Percent Composition by <sup>19</sup>F-NMR
- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (SIR)
- Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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brNEtFOSA0922 (1 of 6)  
rev1

7.9.1  
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11676  
rec'd: 02/23/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic  
Acid Solution/Mixture

|                                    |                                     |
|------------------------------------|-------------------------------------|
| <b>PRODUCT CODE:</b>               | PFAC-MXJ                            |
| <b>LOT NUMBER:</b>                 | PFACMXJ0921                         |
| <b>SOLVENT(S):</b>                 | Methanol                            |
| <b>DATE PREPARED:</b> (mm/dd/yyyy) | 09/08/2021                          |
| <b>LAST TESTED:</b> (mm/dd/yyyy)   | 09/14/2021                          |
| <b>EXPIRY DATE:</b> (mm/dd/yyyy)   | 09/14/2026                          |
| <b>RECOMMENDED STORAGE:</b>        | Store ampoule in a cool, dark place |

#### DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

#### DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### ADDITIONAL INFORMATION:

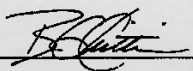
- See page 2 for further details.

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**Table A: PFAC-MXJ; Components and Concentrations (µg/mL; ± 5% in methanol)**

| Compound                         | Acronym | Concentration (µg/mL) |
|----------------------------------|---------|-----------------------|
| 3-Perfluoropropyl propanoic acid | FPrPA   | 4.00                  |
| 3-Perfluoropentyl propanoic acid | FPePA   | 20.0                  |
| 3-Perfluoroheptyl propanoic acid | FHpPA   | 20.0                  |

Certified By:   
B.G. Chittim, General Manager

Date: 10/02/2021  
(mm/dd/yyyy)

11688  
rec'd 103/03/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXG

#### Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

|   |                                     |
|---|-------------------------------------|
| <b><u>PRODUCT CODE:</u></b>               | PFAC-MXG                            |
| <b><u>LOT NUMBER:</u></b>                 | PFACMXG1122                         |
| <b><u>SOLVENT(S):</u></b>                 | Methanol/Water (<1%)                |
| <b><u>DATE PREPARED:</u></b> (mm/dd/yyyy) | 11/30/2022                          |
| <b><u>LAST TESTED:</u></b> (mm/dd/yyyy)   | 12/01/2022                          |
| <b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)   | 12/01/2027                          |
| <b><u>RECOMMENDED STORAGE:</u></b>        | Store ampoule in a cool, dark place |

#### DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

#### DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

PFACMXG1122 (1 of 5)  
rev0

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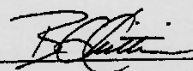
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**Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))**

| Compound                                     | Acronym    | Concentration (ng/mL)  |             | Peak Assignment in Figure 1 |
|--|------------|------------------------|-------------|-----------------------------|
|  |            | as the salt            | as the acid |                             |
| Perfluoro-4-oxapentanoic acid                | PF4OPeA    | 2000                   |             | A                           |
| Perfluoro-5-oxahexanoic acid                 | PF5OHxA    | 2000                   |             | B                           |
| Perfluoro-3,6-dioxaheptanoic acid            | 3,6-OPFHpA | 2000                   |             | D                           |
| Compound                                     | Acronym    | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|  |            | as the salt            | as the acid |                             |
| Potassium perfluoro(2-ethoxyethane)sulfonate | PFEESA     | 2000                   | 1780        | C                           |

\* Concentrations have been rounded to three significant figures.

Certified By:   
 B.G. Chittim, General Manager

Date: 12/09/2022  
(mm/dd/yyyy)

7.9.1  
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11689  
rec'd: 03/03/23



**WELLINGTON  
LABORATORIES**

**CERTIFICATE OF ANALYSIS  
DOCUMENTATION**

**PFAC-MXJ**

**Native X:3 Fluorotelomer Carboxylic  
Acid Solution/Mixture**

|   |                                     |
|---|-------------------------------------|
| <b><u>PRODUCT CODE:</u></b>               | PFAC-MXJ                            |
| <b><u>LOT NUMBER:</u></b>                 | PFACMXJ0921                         |
| <b><u>SOLVENT(S):</u></b>                 | Methanol                            |
| <b><u>DATE PREPARED:</u></b> (mm/dd/yyyy) | 09/08/2021                          |
| <b><u>LAST TESTED:</u></b> (mm/dd/yyyy)   | 09/14/2021                          |
| <b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)   | 09/14/2026                          |
| <b><u>RECOMMENDED STORAGE:</u></b>        | Store ampoule in a cool, dark place |

**DESCRIPTION:**

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

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

PFACMXJ0921 (1 of 5)  
rev1

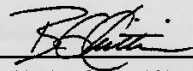
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**Table A: PFAC-MXJ; Components and Concentrations ( $\mu\text{g}/\text{mL}$ ;  $\pm 5\%$  in methanol)**

| Compound                         | Acronym | Concentration ( $\mu\text{g}/\text{mL}$ ) |
|----------------------------------|---------|---|
| 3-Perfluoropropyl propanoic acid | FPrPA   | 4.00                                      |
| 3-Perfluoropentyl propanoic acid | FPePA   | 20.0                                      |
| 3-Perfluoroheptyl propanoic acid | FHpPA   | 20.0                                      |

Certified By:



B.G. Chittim, General Manager

Date: 10/02/2021

(mm/dd/yyyy)



11734  
rec'd: 03/29/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXH

Native PFAS  
Solution/Mixture

|   |                                       |
|---|---------------------------------------|
| <b><u>PRODUCT CODE:</u></b>               | PFAC-MXH                              |
| <b><u>LOT NUMBER:</u></b>                 | PFACMXH0822                           |
| <b><u>SOLVENT(S):</u></b>                 | Methanol/Isopropanol (2%)/Water (<1%) |
| <b><u>DATE PREPARED:</u></b> (mm/dd/yyyy) | 08/05/2022                            |
| <b><u>LAST TESTED:</u></b> (mm/dd/yyyy)   | 08/08/2022                            |
| <b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)   | 08/08/2027                            |
| <b><u>RECOMMENDED STORAGE:</u></b>        | Refrigerate ampoule                   |

### DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, C<sub>7</sub>, C<sub>8</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

### DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Table B: Isomeric Components and Percent Composition of N-MeFOSAA
- Table C: Isomeric Components and Percent Composition of N-EtFOSAA
- Table D: Isomeric Components and Percent Composition of PFHxSK
- Table E: Isomeric Components and Percent Composition of PFOSK
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision# 9, Revised 2020-12-23

PFACMXH3822 11 of 11  
rev0

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**Table A: PFAC-MXH; Components and Concentrations**  
(ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))

| Compound   | Acronym                       | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|--|-------------------------------|------------------------|-------------|-----------------------------|
|  |                               | as the salt            | as the acid |                             |
| Perfluoro-n-butanoic acid                                  | PFBA                          | 4000                   |             | 1                           |
| Perfluoro-n-pentanoic acid                                 | PFPeA                         | 2000                   |             | 2                           |
| Perfluoro-n-hexanoic acid                                  | PFHxA                         | 1000                   |             | 5                           |
| Perfluoro-n-heptanoic acid                                 | PFHpA                         | 1000                   |             | 7                           |
| Perfluoro-n-octanoic acid                                  | PFOA                          | 1000                   |             | 11                          |
| Perfluoro-n-nonanoic acid                                  | PFNA                          | 1000                   |             | 14                          |
| Perfluoro-n-decanoic acid                                  | PFDA                          | 1000                   |             | 18                          |
| Perfluoro-n-undecanoic acid                                | PFUdA                         | 1000                   |             | 24                          |
| Perfluoro-n-dodecanoic acid                                | PFDoA                         | 1000                   |             | 26                          |
| Perfluoro-n-tridecanoic acid                               | PFTrDA                        | 1000                   |             | 27                          |
| Perfluoro-n-tetradecanoic acid                             | PFTeDA                        | 1000                   |             | 29                          |
| Perfluoro-1-octanesulfonamide                              | FOSA                          | 1000                   |             | 23                          |
| N-methylperfluorooctanesulfonamidoacetic acid <sup>a</sup> | N-MeFOSAA: linear isomer      | 760                    |             | 20                          |
|  | N-MeFOSAA: ∑ branched isomers | 240                    |             | 17                          |
| N-ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>  | N-EtFOSAA: linear isomer      | 775                    |             | 22                          |
|  | N-EtFOSAA: ∑ branched isomers | 225                    |             | 21                          |
| Compound   | Acronym                       | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|  |                               | as the salt            | as the acid |                             |
| Potassium perfluoro-1-butanedisulfonate                    | L-PFBS                        | 1000                   | 887         | 3                           |
| Sodium perfluoro-1-pentadisulfonate                        | L-PFPeS                       | 1000                   | 941         | 6                           |
| Potassium perfluorohexadisulfonate <sup>c</sup>            | PFHxSK: linear isomer         | 811                    | 741         | 9                           |
|  | PFHxSK: ∑ branched isomers    | 189                    | 173         | 8                           |
| Sodium perfluoro-1-heptadisulfonate                        | L-PFHpS                       | 1000                   | 953         | 12                          |
| Potassium perfluorooctadisulfonate <sup>d</sup>            | PFOSK: linear isomer          | 788                    | 732         | 15                          |
|  | PFOSK: ∑ branched isomers     | 211                    | 196         | 13                          |
| Sodium perfluoro-1-nonadisulfonate                         | L-PFNs                        | 1000                   | 962         | 19                          |
| Sodium perfluoro-1-decadisulfonate                         | L-PFDS                        | 1000                   | 965         | 25                          |
| Sodium perfluoro-1-dodecadisulfonate                       | L-PFDoS                       | 1000                   | 970         | 28                          |
| Sodium 1H,1H,2H,2H-perfluorohexanesulfonate                | 4:2FTS                        | 4000                   | 3750        | 4                           |
| Sodium 1H,1H,2H,2H-perfluorooctanesulfonate                | 6:2FTS                        | 4000                   | 3800        | 10                          |
| Sodium 1H,1H,2H,2H-perfluorodecane sulfonate               | 8:2FTS                        | 4000                   | 3840        | 16                          |

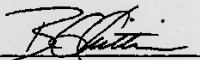
<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> See Table E for percent composition of linear and branched PFOSK isomers.

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 08/09/2022  
(mm/dd/yyyy)



11736  
rec'd: 03/29/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXF

Native Replacement PFAS  
Solution/Mixture

|   |                        |
|---|------------------------|
| <b><u>PRODUCT CODE:</u></b>               | PFAC-MXF               |
| <b><u>LOT NUMBER:</u></b>                 | PFACMXF0122            |
| <b><u>SOLVENT(S):</u></b>                 | Methanol / Water (<1%) |
| <b><u>DATE PREPARED:</u></b> (mm/dd/yyyy) | 01/10/2022             |
| <b><u>LAST TESTED:</u></b> (mm/dd/yyyy)   | 01/11/2022             |
| <b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)   | 01/11/2025             |
| <b><u>RECOMMENDED STORAGE:</u></b>        | Refrigerate ampoule    |

### DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical purities of >98%.

### DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Revision# 3, Revised 2020-12-23

PFACMXF0122 (1 of 5)  
rev0

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**Table A: PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

| Compound  | Acronym      | Concentration* (ng/ml) |             | Peak Assignment in Figure 1 |
|---|--------------|------------------------|-------------|-----------------------------|
|   |              | as the salt            | as the acid |                             |
| 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid | HFPO-DA      | 2000                   |             | A                           |
| Sodium dodecafluoro-3H-4,8-dioxanonoate                                 | NaDONA       | 2000                   | 1890        | B                           |
| Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate                | 9Cl-PF3ONS   | 2000                   | 1870        | C                           |
| Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate               | 11Cl-PF3OUdS | 2000                   | 1890        | D                           |

\* Concentrations have been rounded to three significant figures.

Certified By: 

B.G. Chittim, General Manager

Date: 01/12/2022

(mm/dd/yyyy)



11737  
rec'd: 03/29/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### PFAC-MXG

**Native Perfluoroalkyl Ether Carboxylic  
Acids and Sulfonate Solution/Mixture**

|   |                                     |
|---|-------------------------------------|
| <b><u>PRODUCT CODE:</u></b>               | PFAC-MXG                            |
| <b><u>LOT NUMBER:</u></b>                 | PFACMXG1122                         |
| <b><u>SOLVENT(S):</u></b>                 | Methanol/Water (<1%)                |
| <b><u>DATE PREPARED:</u></b> (mm/dd/yyyy) | 11/30/2022                          |
| <b><u>LAST TESTED:</u></b> (mm/dd/yyyy)   | 12/01/2022                          |
| <b><u>EXPIRY DATE:</u></b> (mm/dd/yyyy)   | 12/01/2027                          |
| <b><u>RECOMMENDED STORAGE:</u></b>        | Store ampoule in a cool, dark place |

### DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

### DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture  
 Figure 1: LC/MS Data (SIR)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision# 9, Revised 2020-12-23

PFACMXG1122 (1 of 5)  
rev0

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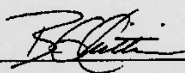
Table A:

**PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))**

| Compound                                     | Acronym    | Concentration (ng/mL)  |             | Peak Assignment in Figure 1 |
|--|------------|------------------------|-------------|-----------------------------|
|  |            | as the salt            | as the acid |                             |
| Perfluoro-4-oxapentanoic acid                | PF4OPeA    | 2000                   |             | A                           |
| Perfluoro-5-oxahexanoic acid                 | PF5OHxA    | 2000                   |             | B                           |
| Perfluoro-3,6-dioxaheptanoic acid            | 3,6-OPFHpA | 2000                   |             | D                           |
| Compound                                     | Acronym    | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|  |            | as the salt            | as the acid |                             |
| Potassium perfluoro(2-ethoxyethane)sulfonate | PFEESA     | 2000                   | 1780        | C                           |

\* Concentrations have been rounded to three significant figures.

Certified By:



B.G. Chittim, General Manager

Date: 12/09/2022

(mm/dd/yyyy)

7.9.1  
7

10726 A

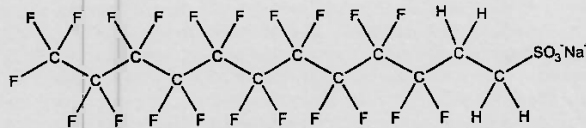


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** 10:2FTS **LOT NUMBER:** 102FTS0221  
**COMPOUND:** Sodium 1H,1H,2H,2H-perfluorododecanesulfonate

**STRUCTURE:** **CAS #:** 108026-35-3



**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>4</sub>F<sub>21</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 650.18  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
48.3 ± 2.4 µg/mL (10:2FTS acid)  
48.2 ± 2.4 µg/mL (10:2FTS anion)  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 03/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 03/03/2026  
**RECOMMENDED STORAGE:** Refrigerate ampoule

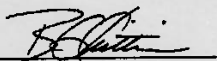
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

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**Certified By:**  **Date:** 03/05/2021  
B.G. Chittim, General Manager (mm/dd/yyyy)

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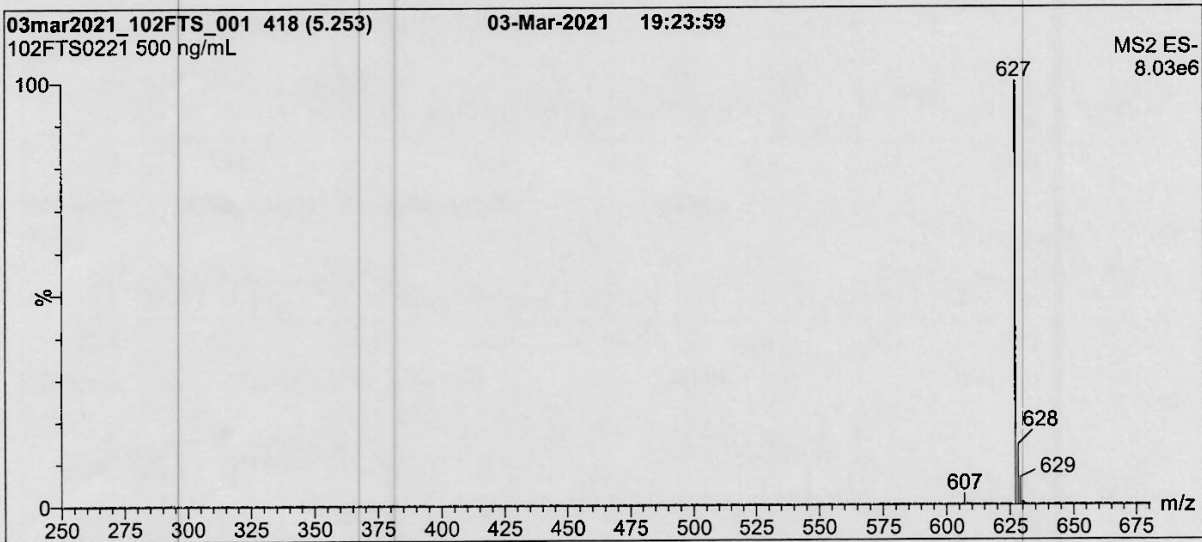
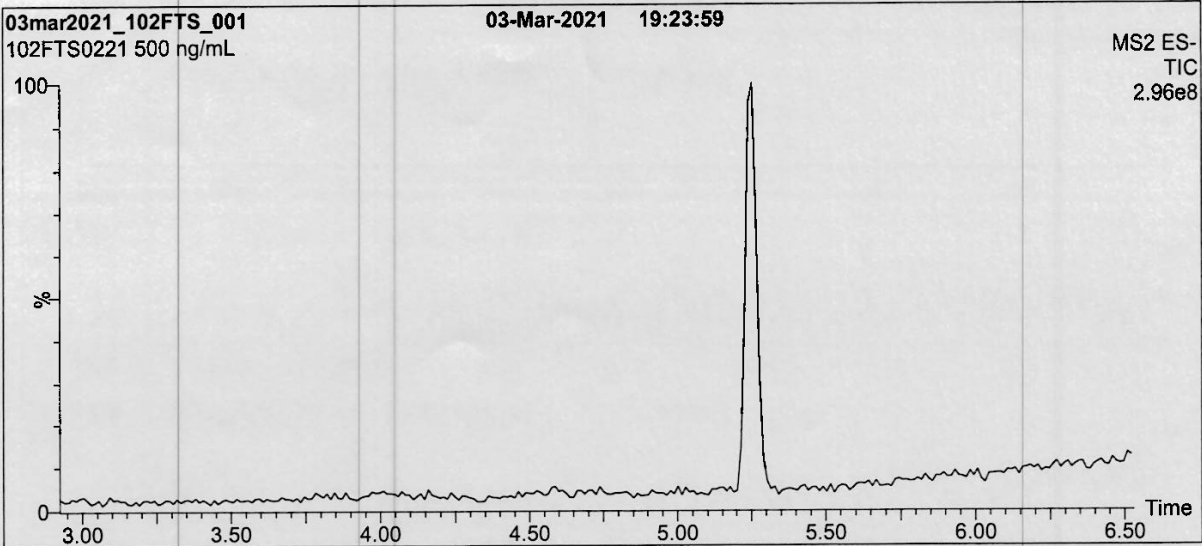
Form#: 27, Issued 2004-11-10  
Revision#: 9, Revised 2020-12-23

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**Figure 1:** 10:2FTS; LC/MS Data (Full Scan and Mass Spectrum)



**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 7 min and hold for 3 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)  
Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 25.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

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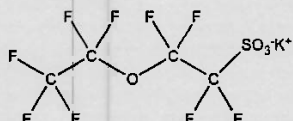


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** PFEESA *rec'd 8/20/21 WPH* **LOT NUMBER:** PFEESA0520  
**COMPOUND:** Potassium perfluoro(2-ethoxyethane)sulfonate

**STRUCTURE:** **CAS #:** 117205-07-9



**MOLECULAR FORMULA:** C<sub>4</sub>F<sub>8</sub>SO<sub>4</sub>K **MOLECULAR WEIGHT:** 354.19  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml (K salt) **SOLVENT(S):** Methanol  
44.6 ± 2.2 µg/ml (PFEESA acid)  
44.5 ± 2.2 µg/ml (PFEESA anion)  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 05/13/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 05/13/2025  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

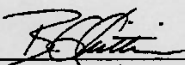
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

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

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

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# WELLINGTON LABORATORIES

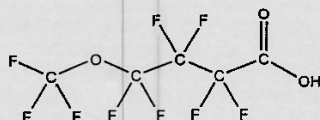
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** PF5OHxA *res'd with 8/20/21* **LOT NUMBER:** PF5OHxA0320

**COMPOUND:** Perfluoro-5-oxahexanoic acid

**SYNONYM:** Perfluoro-4-methoxybutanoic acid (PFMBA)

**STRUCTURE:** **CAS #:** 863090-89-5



**MOLECULAR FORMULA:** C<sub>5</sub>HF<sub>9</sub>O<sub>3</sub> **MOLECULAR WEIGHT:** 280.05

**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
Water (<1%)

**CHEMICAL PURITY:** >98%

**LAST TESTED:** (mm/dd/yyyy) 03/31/2020

**EXPIRY DATE:** (mm/dd/yyyy) 03/31/2025

**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

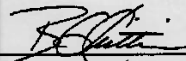
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

**Date:** 12/21/2020  
(mm/dd/yyyy)

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

PF5OHxA0320 (1 of 4)  
rev1

7.9.1  
7

10764A-B



# WELLINGTON LABORATORIES

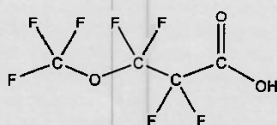
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** PF4OPeA *rec'd  
WPH  
8/20/21* **LOT NUMBER:** PF4OPeA0320

**COMPOUND:** Perfluoro-4-oxapentanoic acid

**SYNONYM:** Perfluoro-3-methoxypropanoic acid (PFMPA)

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



**MOLECULAR FORMULA:** C<sub>4</sub>HF<sub>7</sub>O<sub>3</sub> **MOLECULAR WEIGHT:** 230.04

**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
Water (<1%)

**CHEMICAL PURITY:** >98%

**LAST TESTED:** (mm/dd/yyyy) 03/31/2020

**EXPIRY DATE:** (mm/dd/yyyy) 03/31/2025

**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

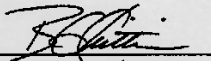
### DOCUMENTATION/ DATA ATTACHED:

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

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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

**Date:** 12/21/2020  
(mm/dd/yyyy)

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10765 A-13



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

3,6-OPFHpA

rec'd  
WPH  
8/20/21

**LOT NUMBER:**

36OPFHpA0320

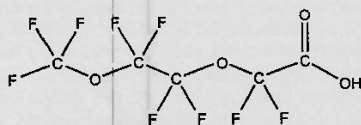
**COMPOUND:**

Perfluoro-3,6-dioxaheptanoic acid

**STRUCTURE:**

**CAS #:**

151772-58-6



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>9</sub>O<sub>4</sub>

**MOLECULAR WEIGHT:**

296.04

**CONCENTRATION:**

50.0 ± 2.5 µg/ml

**SOLVENT(S):**

Methanol  
Water (<1%)

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

03/31/2020

**EXPIRY DATE:** (mm/dd/yyyy)

03/31/2025

**RECOMMENDED STORAGE:**

Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (TIC and Mass Spectrum)

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 05/27/2020  
(mm/dd/yyyy)

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10829



# WELLINGTON LABORATORIES

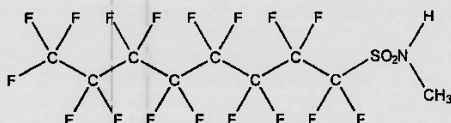
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M  
**COMPOUND:** N-methylperfluoro-1-octanesulfonamide

**LOT NUMBER:** NMeFOSA0721M

**STRUCTURE:**

**CAS #:** 31506-32-8



rec'd  
WPA  
10/5/21

**MOLECULAR FORMULA:** C<sub>8</sub>H<sub>4</sub>F<sub>17</sub>NO<sub>2</sub>S  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/03/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

**MOLECULAR WEIGHT:** 513.17  
**SOLVENT(S):** Methanol

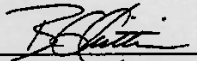
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

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

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

NMeFOSA0721M (1 of 4)  
rev0

7.9.1

7





# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-EtFOSA-M

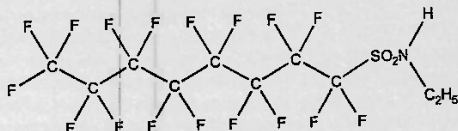
10837

**LOT NUMBER:** NEtFOSA0821M

**COMPOUND:**

N-ethylperfluoro-1-octanesulfonamide

**STRUCTURE:**



**CAS #:** 4151-50-2

**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>9</sub>F<sub>17</sub>NO<sub>2</sub>S

**MOLECULAR WEIGHT:**

527.20

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Methanol

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

08/12/2021

**EXPIRY DATE:** (mm/dd/yyyy)

08/12/2026

**RECOMMENDED STORAGE:**

Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

**Date:** 08/16/2021  
(mm/dd/yyyy)

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

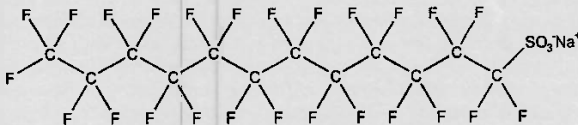
10840

**PRODUCT CODE:** L-PFDoS  
**COMPOUND:** Sodium perfluoro-1-dodecanesulfonate

**LOT NUMBER:** LPFDoS0721

**STRUCTURE:**

**CAS #:** 1260224-54-1



**MOLECULAR FORMULA:** C<sub>12</sub>F<sub>25</sub>SO<sub>3</sub>Na  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt)  
48.5 ± 2.4 µg/mL (PFDoS acid)  
48.4 ± 2.4 µg/mL (PFDoS anion)  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 07/09/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 07/09/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

**MOLECULAR WEIGHT:** 722.14  
**SOLVENT(S):** Methanol


**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

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

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

**Date:** 07/16/2021  
(mm/dd/yyyy)

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# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

10847 NS 01/18/23

**PRODUCT CODE:**

PFODA

**LOT NUMBER:**

PFODA0821

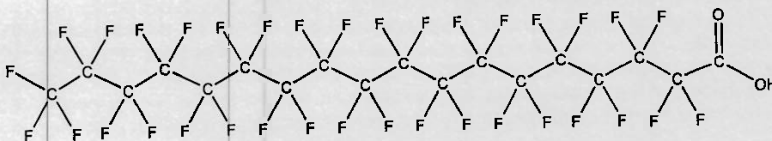
**COMPOUND:**

Perfluoro-n-octadecanoic acid

**STRUCTURE:**

**CAS #:**

16517-11-6



**MOLECULAR FORMULA:**

C<sub>18</sub>H<sub>35</sub>O<sub>2</sub>

**MOLECULAR WEIGHT:**

914.14

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Methanol

Water (<1%)

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

09/03/2021

**EXPIRY DATE:** (mm/dd/yyyy)

09/03/2026

**RECOMMENDED STORAGE:**

Store ampoules at ambient temperature in a dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

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

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- The solubility of this product in methanol is very sensitive to storage conditions and solvent composition. The stated validity period applies to the sealed ampoules stored at ambient temperature.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 09/28/2021

(mm/dd/yyyy)

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7.9.1  
7



# WELLINGTON LABORATORIES

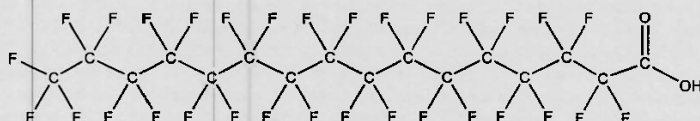
## CERTIFICATE OF ANALYSIS DOCUMENTATION

10842 \* NG 01/18/23

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

**COMPOUND:** Perfluoro-n-hexadecanoic acid

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



**MOLECULAR FORMULA:** C<sub>16</sub>HF<sub>31</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 814.13  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)

**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 05/07/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 05/07/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

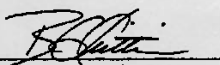
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

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1116 A.B <sup>mw</sup>

1116B on the back mw



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHpPA

**LOT NUMBER:**

FHpPA1020

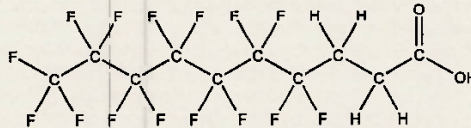
**COMPOUND:**

3-Perfluoroheptyl propanoic acid

**STRUCTURE:**

**CAS #:**

812-70-4



**MOLECULAR FORMULA:**

C<sub>10</sub>H<sub>5</sub>F<sub>15</sub>O<sub>2</sub>

**MOLECULAR WEIGHT:**

442.12

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Methanol

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

11/12/2020

**EXPIRY DATE:** (mm/dd/yyyy)

11/12/2025

**RECOMMENDED STORAGE:**

Refrigerate ampoule

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (TIC and Mass Spectrum)

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**

B.G. Chittim, General Manager

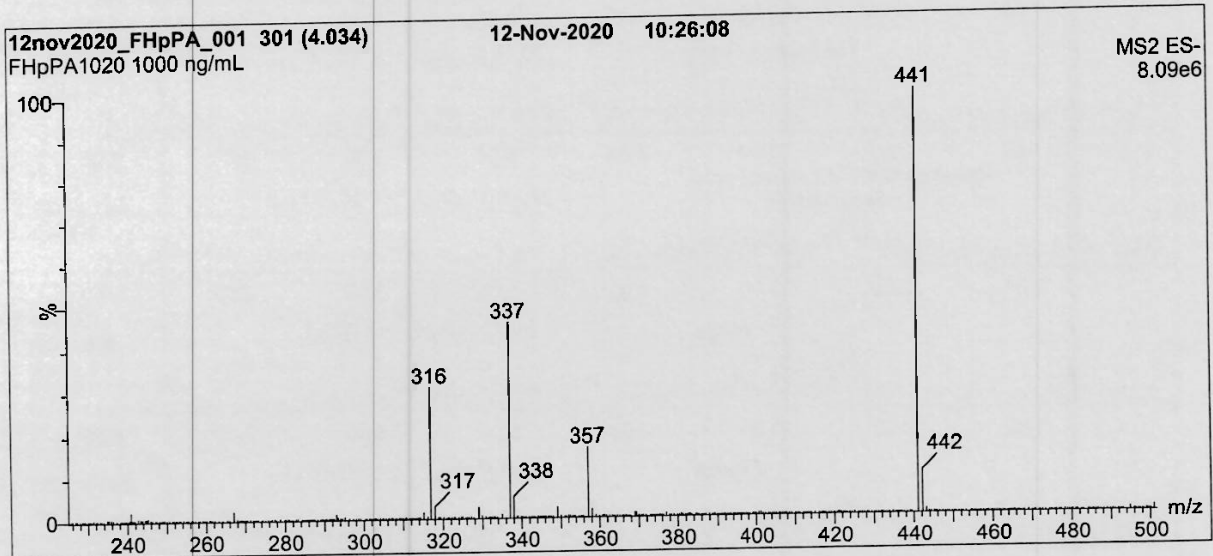
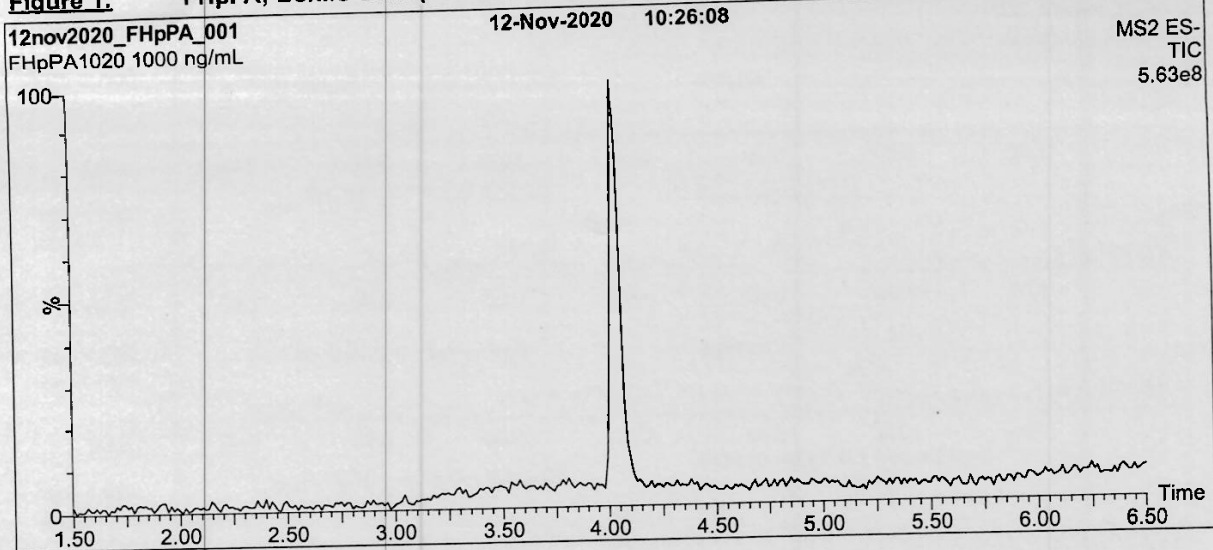
**Date:** 11/27/2020

(mm/dd/yyyy)

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

FHpPA1020 (1 of 4)  
rev0

**Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 28.50  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

FP<sub>r</sub>PA(3:3FTCA) 1116 B



**WELLINGTON**  
LABORATORIES

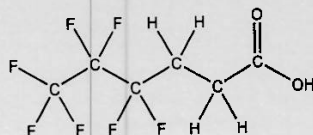
**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** FPrPA  
**COMPOUND:** 3-Perfluoropropyl propanoic acid

**LOT NUMBER:** FPrPA0122

**STRUCTURE:**

**CAS #:** 356-02-5



**MOLECULAR FORMULA:** C<sub>6</sub>H<sub>5</sub>F<sub>7</sub>O<sub>2</sub>  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 02/03/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 02/03/2027  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**MOLECULAR WEIGHT:** 242.09  
**SOLVENT(S):** Methanol

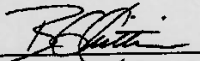
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid (C<sub>6</sub>H<sub>3</sub>F<sub>7</sub>O<sub>2</sub>) as an impurity determined by <sup>19</sup>F NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

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

**Date:** 02/04/2022  
(mm/dd/yyyy)

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11332



# WELLINGTON LABORATORIES

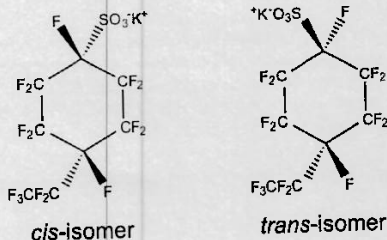
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**  
**COMPOUND:**

PFECHS  
Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

**LOT NUMBER:** PFECHS0222

**STRUCTURE:**



**CAS #:** 335-24-0

**MOLECULAR FORMULA:**  
**CONCENTRATION:**

$C_8F_{15}SO_3K$   
50.0 ± 2.5 µg/mL (K salt)  
46.2 ± 2.3 µg/mL (PFECHS acid)  
46.1 ± 2.3 µg/mL (PFECHS anion)  
>98%

**MOLECULAR WEIGHT:** 500.22  
**SOLVENT(S):** Methanol

**CHEMICAL PURITY:**

**LAST TESTED:** (mm/dd/yyyy)

03/28/2022

**EXPIRY DATE:** (mm/dd/yyyy)

03/28/2027

**RECOMMENDED STORAGE:**

Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

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

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

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

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11626  
rec'd 01/26/23

CERTIFIED WEIGHT REPORT

Part Number: 64029A  
Lot Number: 110922  
Description: PFOA - DOD  
28 components  
Expiration Date: 110827  
Recommended Storage: Freezer (0 °C)  
Nominal Concentration (µg/mL): 1.0  
NIST Test ID#: 6UTB

Solvent(s): Methanol (1 mM KOH)  
2-Propanol  
Lot# 102722 (98%)  
32500 (2%)

|                                      |        |
|--------------------------------------|--------|
| Formulated By: <i>P. S. Chauhan</i>  | 110922 |
| Prepared By: <i>Prashant Chauhan</i> | DATE   |
| Reviewed By: <i>Prashant Chauhan</i> | 110922 |
| Reviewed By: <i>Pedro L. Rentas</i>  | DATE   |

Volume(s) shown below were combined and diluted to (mL):  
Note: All assigned values are anion concentrations.

| Compound   | Part Number | Lot Number      | Dilution Factor | Initial Vol. (mL) | Uncertainty Pipette (mL) | Initial Conc. (µg/mL) | Final Conc. (µg/mL) | Expanded Uncertainty (+/-) µg/mL | SDS Information (Solvent Safety Info. On Attached pg.) |                |                 |
|--|-------------|-----------------|-----------------|-------------------|--------------------------|-----------------------|---------------------|----------------------------------|--|----------------|-----------------|
|  |             |                 |                 |                   |                          |                       |                     |                                  | Free Acid CAS#   | OSHA PEL (TWA) | LD50            |
| 1. Perfluoro-n-butanoic acid (PFBA)                                    | 99542       | 110922          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 375-22-4   | N/A            | N/A             |
| 2. Perfluoro-n-pentanoic acid (PFPeA)                                  | 99543       | 050222          | 0.02            | 2.00              | 0.017                    | 50.3                  | 1.01                | 0.02                             | 2706-90-3  | N/A            | N/A             |
| 3. Perfluorohexanoic acid (PFHxA)                                      | 99199       | 071122          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.02                             | 307-24-4   | N/A            | N/A             |
| 4. Perfluoroheptanoic acid (PFHpA)                                     | 99197       | 110922          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 375-85-9   | N/A            | N/A             |
| 5. Perfluorooctanoic acid (br-PFOA)*                                   | 99202       | 080522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.02                             | 335-67-1 (L)   | N/A            | ip-rat 189mg/kg |
| 6. Perfluorononanoic acid (PFNA)                                       | 99200       | 110922          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 375-95-1   | N/A            | N/A             |
| 7. Perfluorodecanoic acid (PFDA)                                       | 99195       | 110922          | 0.02            | 2.00              | 0.017                    | 50.0                  | 1.00                | 0.02                             | 335-76-2   | N/A            | rat 57mg/kg     |
| 8. Perfluoroundecanoic acid (PFUnA)                                    | 99205       | 071522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.02                             | 2058-94-8  | N/A            | N/A             |
| 9. Perfluorododecanoic acid (PFDoA)                                    | 99196       | 071522          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 307-55-1   | N/A            | N/A             |
| 10. Perfluorotridecanoic acid (PTTDA)                                  | 99204       | 110922          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 72629-94-8   | N/A            | N/A             |
| 11. Perfluorotetradecanoic acid (PFTeDA)                               | 99203       | 033022          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 376-06-7   | N/A            | N/A             |
| 12. Perfluorooctanesulfonamide (FOSA)                                  | 3677        | FOSA03221       | 0.02            | 2.00              | 0.017                    | 50.0                  | 1.00                | 0.05                             | 2355-31-9 (L)  | N/A            | N/A             |
| 13. N-Methylperfluorooctanesulfonamidoacetic acid (br-NMeFOSAA)*       | 4162        | brNMeFOSAA0422  | 0.02            | 2.00              | 0.017                    | 50.0                  | 1.00                | 0.05                             | 2991-50-6 (L)  | N/A            | N/A             |
| 14. N-Ethylperfluorooctanesulfonamidoacetic acid (br-NEFOSAA)*         | 4163        | brNEFOSAA1121   | 0.02            | 2.00              | 0.017                    | 50.0                  | 1.00                | 0.05                             | 2991-50-6 (L)  | N/A            | N/A             |
| 15. Perfluorobutanesulfonic acid (PFBS)                                | 99194       | 080522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.02                             | 375-73-5   | N/A            | N/A             |
| 16. Perfluoro-1-pentanesulfonic acid (PFPeS)                           | 99544       | 032422          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 2706-91-4  | N/A            | N/A             |
| 17. Perfluorohexanesulfonic acid (br-PFHxS)*                           | 99198       | 071522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.02                             | 355-46-4 (L)   | N/A            | N/A             |
| 18. Perfluoro-1-heptanesulfonic acid (PFHpS)                           | 3672        | LPFHPS0822      | 0.021           | 2.10              | 0.017                    | 47.6                  | 1.00                | 0.05                             | 375-92-8   | N/A            | N/A             |
| 19. Heptadecafluorooctanesulfonic acid (br-PFOS)*                      | 99201       | 033022          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 1763-23-1 (L)  | N/A            | N/A             |
| 20. Perfluoro-1-nonanesulfonic acid (PFNS)                             | 3957        | LPFNS1021       | 0.021           | 2.10              | 0.017                    | 48.0                  | 1.01                | 0.05                             | 68259-12-1   | N/A            | N/A             |
| 21. Perfluoro-1-decanesulfonic acid (PFDS)                             | 3671        | LPFDS0222       | 0.021           | 2.10              | 0.017                    | 48.2                  | 1.01                | 0.05                             | 335-77-3   | N/A            | N/A             |
| 22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)                 | 65271       | 080522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.05                             | 757124-72-4  | N/A            | N/A             |
| 23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)                 | 65272       | 071522          | 0.02            | 2.00              | 0.017                    | 50.2                  | 1.00                | 0.05                             | 29189-87-2   | N/A            | N/A             |
| 24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)                 | 3662        | 82FTS0822       | 0.021           | 2.10              | 0.017                    | 47.9                  | 1.01                | 0.05                             | 39108-34-4   | N/A            | N/A             |
| 25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropanoic acid (HFPO-DA) | 99666       | 080522          | 0.02            | 2.00              | 0.017                    | 50.1                  | 1.00                | 0.02                             | 13252-13-6   | N/A            | N/A             |
| 26. 11-Chlorooctadecafluoro-3-oxadecane-1-sulfonic acid (11Cl-PF3OUdS) | 4165        | 11ClPF3OUdS0522 | 0.021           | 2.12              | 0.017                    | 47.1                  | 1.00                | 0.05                             | 763051-92-9  | N/A            | N/A             |
| 27. 9-Chlorooctadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)      | 4164        | 9ClPF3ONS0522   | 0.021           | 2.14              | 0.017                    | 46.8                  | 1.00                | 0.05                             | 756426-58-1  | N/A            | N/A             |
| 28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA)                     | 4103        | NaDONA0922      | 0.021           | 2.12              | 0.017                    | 47.1                  | 1.00                | 0.05                             | 919005-14-4  | N/A            | N/A             |
| Perfluorooctanoic acid (linear)*                                       | 99202       | 080522          | 0.02            | 2.00              | 0.004                    | 49.6                  | 0.99                | 0.010                            | 335-67-1 (L)   | N/A            | ip-rat 189mg/kg |
| Perfluorooctanoic acid (branched isomer)*                              | 99202       | 080522          | 0.02            | 2.00              | 0.004                    | 0.6                   | 0.01                | 0.001                            | 335-67-1 (L)   | N/A            | ip-rat 189mg/kg |
| Perfluorohexanesulfonic acid (linear)*                                 | 99198       | 071522          | 0.02            | 2.00              | 0.017                    | 44.2                  | 0.88                | 0.02                             | 355-46-4 (L)   | N/A            | N/A             |
| Perfluorohexanesulfonic acid (branched isomer)*                        | 99198       | 071522          | 0.02            | 2.00              | 0.017                    | 6.0                   | 0.12                | 0.0021                           | 355-46-4 (L)   | N/A            | N/A             |
| Heptadecafluorooctanesulfonic acid (linear)*                           | 99201       | 033022          | 0.02            | 2.00              | 0.017                    | 38.1                  | 0.76                | 0.02                             | 1763-23-1 (L)  | N/A            | N/A             |
| Heptadecafluorooctanesulfonic acid (branched isomer)*                  | 99201       | 033022          | 0.02            | 2.00              | 0.017                    | 7.5                   | 0.15                | 0.003                            | 1763-23-1 (L)  | N/A            | N/A             |
| Heptadecafluorooctanesulfonic acid (branched isomer)*                  | 99201       | 033022          | 0.02            | 2.00              | 0.017                    | 4.0                   | 0.08                | 0.002                            | 1763-23-1 (L)  | N/A            | N/A             |
| Heptadecafluorooctanesulfonic acid (branched isomer)*                  | 99201       | 033022          | 0.02            | 2.00              | 0.017                    | 0.5                   | 0.010               | 0.0002                           | 1763-23-1 (L)  | N/A            | N/A             |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)*             | 4162        | brNMeFOSAA0422  | 0.02            | 2.00              | 0.017                    | 36.0                  | 0.72                | 0.04                             | 2355-31-9 (L)  | N/A            | N/A             |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*           | 4162        | brNMeFOSAA0422  | 0.02            | 2.00              | 0.017                    | 6.5                   | 0.13                | 0.011                            | 2355-31-9 (L)  | N/A            | N/A             |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*           | 4162        | brNMeFOSAA0422  | 0.02            | 2.00              | 0.017                    | 5.0                   | 0.10                | 0.005                            | 2355-31-9 (L)  | N/A            | N/A             |
| N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*           | 4162        | brNMeFOSAA0422  | 0.02            | 2.00              | 0.017                    | 2.5                   | 0.05                | 0.0009                           | 2355-31-9 (L)  | N/A            | N/A             |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*              | 4163        | brNEFOSAA1121   | 0.02            | 2.00              | 0.017                    | 36.6                  | 0.73                | 0.04                             | 2991-50-6 (L)  | N/A            | N/A             |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*            | 4163        | brNEFOSAA1121   | 0.02            | 2.00              | 0.017                    | 7.7                   | 0.15                | 0.009                            | 2991-50-6 (L)  | N/A            | N/A             |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*            | 4163        | brNEFOSAA1121   | 0.02            | 2.00              | 0.017                    | 6.3                   | 0.11                | 0.005                            | 2991-50-6 (L)  | N/A            | N/A             |
| N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*            | 4163        | brNEFOSAA1121   | 0.02            | 2.00              | 0.017                    | 0.4                   | 0.007               | 0.0006                           | 2991-50-6 (L)  | N/A            | N/A             |

\*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.

The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.  
Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).  
Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.  
All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.  
Uncertainty Reference: Taylor, B.N. and Kaye, C.E. "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

11140



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

L-PFPrS

**LOT NUMBER:**

LPFPrS0721

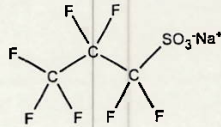
**COMPOUND:**

Sodium perfluoro-1-propanesulfonate

**STRUCTURE:**

**CAS #:**

Not available



**MOLECULAR FORMULA:**

C<sub>3</sub>F<sub>7</sub>SO<sub>3</sub>Na

**MOLECULAR WEIGHT:**

272.07

**CONCENTRATION:**

50.0 ± 2.5 µg/mL (Na salt)

46.0 ± 2.3 µg/mL (PFPrS acid)

45.8 ± 2.3 µg/mL (PFPrS anion)

**SOLVENT(S):**

Methanol

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

07/12/2021

**EXPIRY DATE:** (mm/dd/yyyy)

07/12/2026

**RECOMMENDED STORAGE:**

Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 08/04/2021

(mm/dd/yyyy)

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11252 11249  
7/1/22 KA



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FHxSA-I

**LOT NUMBER:**

FHxSA12211

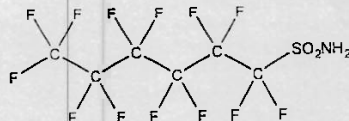
**COMPOUND:**

Perfluoro-1-hexanesulfonamide

**STRUCTURE:**

**CAS #:**

41997-13-1



**MOLECULAR FORMULA:**

C<sub>6</sub>H<sub>2</sub>F<sub>13</sub>NO<sub>2</sub>S

**MOLECULAR WEIGHT:**

399.13

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

isopropanol

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

12/29/2021

**EXPIRY DATE:** (mm/dd/yyyy)

12/29/2026

**RECOMMENDED STORAGE:**

Refrigerate ampoule

**DOCUMENTATION/ DATA ATTACHED:**

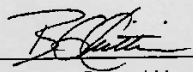
- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

  
B.G. Chittim, General Manager

Date: 01/10/2022

(mm/dd/yyyy)

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11250 Lx 7/1122



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

FBSA-I

**LOT NUMBER:**

FBSA11211

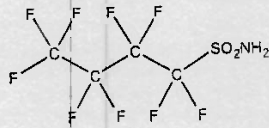
**COMPOUND:**

Perfluoro-1-butananesulfonamide

**STRUCTURE:**

**CAS #:**

30334-69-1



**MOLECULAR FORMULA:**

C<sub>4</sub>H<sub>2</sub>F<sub>10</sub>NO<sub>2</sub>S

**MOLECULAR WEIGHT:**

299.11

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Isopropanol

**CHEMICAL PURITY:**

>98%

**LAST TESTED:** (mm/dd/yyyy)

11/10/2021

**EXPIRY DATE:** (mm/dd/yyyy)

11/10/2026

**RECOMMENDED STORAGE:**

Refrigerate ampoule

**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date: 11/10/2021

(mm/dd/yyyy)

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

FBSA11211 (1 of 4)  
rev0

7.9.1

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11338



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:**

N-MeFOSE-M

**LOT NUMBER:**

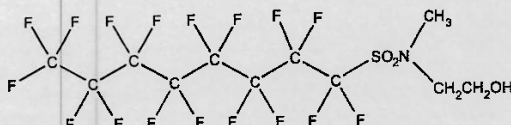
NMeFOSE0522M

**COMPOUND:**

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

**STRUCTURE:****CAS #:**

24448-09-7

**MOLECULAR FORMULA:**C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S**MOLECULAR WEIGHT:**

557.22

**CONCENTRATION:**

50.0 ± 2.5 µg/mL

**SOLVENT(S):**

Methanol

**CHEMICAL PURITY:**

&gt;98%

**LAST TESTED:** (mm/dd/yyyy)

05/13/2022 (HRGC/LRMS)

05/13/2022 (LC/MS)

**EXPIRY DATE:** (mm/dd/yyyy)

05/13/2027

**RECOMMENDED STORAGE:**

Store ampoule in a cool, dark place

**DOCUMENTATION/ DATA ATTACHED:**

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS Data (Full Scan and Mass Spectrum)

Figure 3: LC/MS/MS Data (Selected MRM Transitions)

**ADDITIONAL INFORMATION:**

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

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:

B.G. Chittim, General Manager

Date: 06/14/2022

(mm/dd/yyyy)

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



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### MPFAC-HIF-IS

**Mass-Labelled PFAS Injection  
Standard Solution/Mixture**

**PRODUCT CODE:** MPFAC-HIF-IS  
**LQT NUMBER:** MPFACHIFIS1122  
**SOLVENT(S):** Methanol/Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 11/28/2022  
**LAST TESTED:** (mm/dd/yyyy) 11/29/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 11/29/2027  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DESCRIPTION:

MPFAC-HIF-IS is a solution/mixture of five mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>, C<sub>6</sub>, C<sub>8</sub>-C<sub>10</sub>) and two mass-labelled (<sup>18</sup>O and <sup>13</sup>C) perfluoroalkanesulfonates (C<sub>6</sub> and C<sub>8</sub>). The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkanesulfonates all have chemical purities of >98% and isotopic purities of ≥99% per <sup>13</sup>C or >94% per <sup>18</sup>O.

### DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

MPFACHIFIS1122 (1 of 5)  
rev0

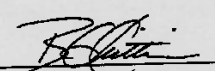
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**Table A: MPFAC-HIF-IS; Components and Concentrations (ng/mL, ± 5% in methanol/water (<1%))**

| Compound   | Acronym | Concentration (ng/mL)  |             | Peak Assignment in Figure 1 |
|--|---------|------------------------|-------------|-----------------------------|
|  |         | as the salt            | as the acid |                             |
| Perfluoro-n-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanoic acid            | M3PFBA  | 1000                   |             | 1                           |
| Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )hexanoic acid              | MPFHxA  | 500                    |             | 2                           |
| Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )octanoic acid          | MPFOA   | 500                    |             | 4                           |
| Perfluoro-n-(1,2,3,4,5- <sup>13</sup> C <sub>5</sub> )nonanoic acid        | MPFNA   | 250                    |             | 5                           |
| Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )decanoic acid              | MPFDA   | 250                    |             | 7                           |
| Compound   | Acronym | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|  |         | as the salt            | as the acid |                             |
| Sodium perfluoro-1-hexane( <sup>18</sup> O <sub>2</sub> )sulfonate         | MPFHxS  | 500                    | 474         | 3                           |
| Sodium perfluoro-1-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )octanesulfonate | MPFOS   | 500                    | 479         | 6                           |

\* Concentrations have been rounded to three significant figures.

Certified By:  Date: 12/05/2022  
(mm/dd/yyyy)  
R.G. Chittim, General Manager



11765 A-J  
Rec'd: 04/20/23



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

### **MPFAC-HIF-ES**

#### **Mass-Labelled PFAS Extraction Standard Solution/Mixture**

**PRODUCT CODE:** MPFAC-HIF-ES  
**LOT NUMBER:** MPFACHIFES1022  
**SOLVENT(S):** Methanol/Isopropanol (1%)/Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 10/28/2022  
**LAST TESTED:** (mm/dd/yyyy) 11/23/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 11/23/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

#### **DESCRIPTION:**

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>12</sub>, C<sub>14</sub>), three mass-labelled (<sup>13</sup>C) perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>6</sub>, and C<sub>8</sub>), three mass-labelled (one <sup>13</sup>C and two <sup>2</sup>H) perfluoro-1-octanesulfonamides, three mass-labelled (<sup>13</sup>C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoethanols, and mass-labelled (<sup>13</sup>C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual <sup>13</sup>C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual <sup>2</sup>H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

#### **DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (SIR)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

#### **ADDITIONAL INFORMATION:**

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

MPFACHIFES1022 (1 of 7)  
rev0

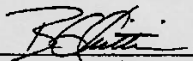
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**Table A: MPFAC-HIF-ES; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))**

| Compound   | Acronym             | Concentration (ng/mL)  |             | Peak Assignment in Figure 1 |
|--|---------------------|------------------------|-------------|-----------------------------|
|  |                     | as the salt            | as the acid |                             |
| Perfluoro-n-( <sup>13</sup> C <sub>2</sub> )butanoic acid  | MPFBA               | 2000                   |             | 1                           |
| Perfluoro-n-( <sup>13</sup> C <sub>3</sub> )pentanoic acid   | M5PFPeA             | 1000                   |             | 2                           |
| Perfluoro-n-(1,2,3,4,6- <sup>13</sup> C <sub>5</sub> )hexanoic acid                                    | M5PFHxA             | 500                    |             | 5                           |
| Perfluoro-n-(1,2,3,4- <sup>13</sup> C <sub>4</sub> )heptanoic acid                                     | M4PFHpA             | 500                    |             | 7                           |
| Perfluoro-n-( <sup>13</sup> C <sub>8</sub> )octanoic acid  | M8PFOA              | 500                    |             | 10                          |
| Perfluoro-n-( <sup>13</sup> C <sub>9</sub> )nonanoic acid  | M9PFNA              | 250                    |             | 11                          |
| Perfluoro-n-(1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )decanoic acid                                  | M6PFDA              | 250                    |             | 14                          |
| Perfluoro-n-(1,2,3,4,5,6,7- <sup>13</sup> C <sub>7</sub> )undecanoic acid                              | M7PFUdA             | 250                    |             | 18                          |
| Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )dodecanoic acid  | MPFD <sub>o</sub> A | 250                    |             | 19                          |
| Perfluoro-n-(1,2- <sup>13</sup> C <sub>2</sub> )tetradecanoic acid                                     | M2PFTeDA            | 250                    |             | 22                          |
| Perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonamide  | M8FOSA              | 500                    |             | 17                          |
| N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamide   | d-N-MeFOSA          | 500                    |             | 21                          |
| N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamide  | d-N-EtFOSA          | 500                    |             | 24                          |
| N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid                                      | d3-N-MeFOSAA        | 1000                   |             | 15                          |
| N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid                                       | d5-N-EtFOSAA        | 1000                   |             | 16                          |
| 2-(N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>2</sub> -ol                     | d7-N-MeFOSE         | 5000                   |             | 20                          |
| 2-(N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamido)ethan-d <sub>2</sub> -ol                      | d9-N-EtFOSE         | 5000                   |             | 23                          |
| 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)( <sup>13</sup> C <sub>3</sub> )propanoic acid | M3HFPO-DA           | 2000                   |             | 6                           |
| Compound   | Acronym             | Concentration* (ng/mL) |             | Peak Assignment in Figure 1 |
|  |                     | as the salt            | as the acid |                             |
| Sodium perfluoro-1-(2,3,4- <sup>13</sup> C <sub>3</sub> )butanesulfonate                               | M3PFBS              | 500                    | 466         | 3                           |
| Sodium perfluoro-1-(1,2,3- <sup>13</sup> C <sub>3</sub> )hexanesulfonate                               | M3PFHxS             | 500                    | 474         | 8                           |
| Sodium perfluoro-1-( <sup>13</sup> C <sub>8</sub> )octanesulfonate                                     | M8PFOS              | 500                    | 479         | 12                          |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )hexanesulfonate                       | M2-4:2FTS           | 1000                   | 938         | 4                           |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )octanesulfonate                       | M2-6:2FTS           | 1000                   | 951         | 9                           |
| Sodium 1H,1H,2H,2H-perfluoro-(1,2- <sup>13</sup> C <sub>2</sub> )decanesulfonate                       | M2-8:2FTS           | 1000                   | 960         | 13                          |

\* Concentrations have been rounded to three significant figures.

Certified By:   
B.G. Chittim, General Manager

Date: 11/24/2022  
(mm/dd/yyyy)



SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time: 05/18/23 11:30  
 Started (mm/dd/yy 24 00)

Method: EPA 1633 Draft (QSM)

Date/Time: 5/22/23 11:00  
 Finished (mm/dd/yy 24 00)

Balance ID: \_\_\_\_\_

Batch# OP96959 Ext. By: GH

Conc. By: \_\_\_\_\_ Viald By: \_\_\_\_\_

| Sample ID       | Bottle Number | Amount Extracted (ml) | Initial pH | Adjusted pH | Surrogate Amount (ul) | Spike Amount (ul) | Final Volume (ml) | Manifold ID | Comments |
|-----------------|---------------|-----------------------|------------|-------------|-----------------------|-------------------|-------------------|-------------|----------|
| OP 96959 MB     | /             | 500                   | 7          | N/A         | 25                    |                   | 5                 | A4          |          |
| OP 96959 BS     | /             | 500                   | 7          |             |                       |                   |                   |             |          |
| OP 96959 LLBS   | /             | 500                   | 7          |             |                       | 200               |                   |             |          |
| FC 5734-1       | 2             | 528                   | 7          |             |                       | 60                |                   |             |          |
|                 | 2             | 530                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 526                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 530                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 550                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 550                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 550                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 530                   |            |             |                       |                   |                   | A4          |          |
|                 | 2             | 534                   |            |             |                       |                   |                   | A6          |          |
|                 | 2             | 520                   |            |             |                       |                   |                   |             |          |
| FC 6141-1       | 2             | 530                   |            |             |                       |                   |                   |             |          |
|                 | 2             | 540                   | ↓          | ↓           | ↓                     |                   | ↓                 | ↓           |          |
|                 | 2             | 570                   | 7          | N/A         | 25                    |                   | 5                 | A6          |          |
| OP FC 5734-3MS  | 3             | 550                   | 7          | N/A         | 25                    | 200               | 5                 | A4          |          |
| OP MSD          |               |                       |            |             |                       |                   |                   |             |          |
| OP FC 5734-4DUP | 3             | 550                   | 7          | N/A         | 25                    |                   | 5                 | A4          |          |

Comments:

EIS (SURR) ID: 11788 A-C Conc: 250-5000 ng/ml Exp. Date: 05/16/24 Inj. By: GH Ver. By: DBL  
 SPIKE 1 ID: LMS 2122C Conc: VARIED Exp. Date: 10/28/23 Inj. By: GH Ver. By: DBL  
 SPIKE 2 ID: \_\_\_\_\_ Conc: \_\_\_\_\_ Exp. Date: \_\_\_\_\_ Inj. By: \_\_\_\_\_ Ver. By: \_\_\_\_\_  
 NIS (ISTD) ID: 4805A-C Conc: 250-1000 ng/ml Exp. Date: 5/17/24 Inj. By: MU Ver. By: NO

TurboVap Temp (Therm ID): \_\_\_\_\_ N-Evap Temp (Therm ID): \_\_\_\_\_  
 Observed Temp °C: \_\_\_\_\_ Corr. Temp °C: \_\_\_\_\_ Observed Temp °C: \_\_\_\_\_ Corr. Temp °C: \_\_\_\_\_

Methanol Lot # 224231 1% NH4OH MeOH PF 402 SPE Lot # 6723930-02  
 Water Lot# OP96255 0.3M Formic Acid PF401 Syringe filter Lot # \_\_\_\_\_  
 Acetic Acid# 194003 3% NH4OH Sol \_\_\_\_\_ pH paper Lot# 215322  
 0.1M Formic PF 404 5% Formic Acid \_\_\_\_\_ Carbon Lot# 99687

Relinquished By: Patricia Vadnot  
 Accepted By: MU

Date: 05/18/23  
 Date: 5/22/23

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