

## Analysis of Hexafluoropropylene Oxide Dimer Acid (HFPO-DA), Commonly Known as Gen-X, and Related PFAS Compounds

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**What:** Gen-X is an emerging polyfluorinated alkyl substance, hexafluoropropylene oxide (HFPO-DA), and it with other novel PFAS is shown as part of a multi-component PFAS acquisition method. Gen-X and several PFOS-replacement compounds were optimized on the SCIEX Triple Quad™ 4500 system.

**How:** Existing methods for the suite of EPA standard PFAS chemicals were updated to include four novel PFOS/PFOA replacement chemicals; HFPO-DA, DONA, 9CI-PF3ONS, 11CI-PF3UdS. Sensitive LOQs of 10-50 ng/L for the 4 additional compounds were achieved in a single ten-minute LC-MS/MS acquisition on the SCIEX QTRAP® 4500 system.

Table 1. Optimized MRM transitions for 4 PFAS chemicals added to EPA 537 suite.

| Compound                              | Q1    | Q3    | RT  | DP   | CE  |
|---------------------------------------|-------|-------|-----|------|-----|
| HFPO-DA (Quant)                       | 329   | 185   | 2.6 | -30  | -32 |
| HFPO-DA (Qual)                        | 329   | 169   | 2.6 | -30  | -18 |
| <sup>13</sup> C <sub>3</sub> -HFPO-DA | 332   | 185   | 2.6 | -30  | -32 |
| 9CI-PF3ONS (Quant)                    | 530.9 | 350.3 | 3.8 | -115 | -40 |
| 9CI-PF3ONS (Qual)                     | 532.8 | 352.4 | 3.8 | -115 | -39 |
| 11CI-PF3OUdS (Quant)                  | 631   | 451   | 4.4 | -120 | -42 |
| 11CI-PF3OUdS (Qual)                   | 632.8 | 452.8 | 4.4 | -120 | -40 |
| DONA (Quant)                          | 377   | 250.5 | 2.9 | -48  | -14 |
| DONA (Qual)                           | 377   | 85    | 2.9 | -48  | -56 |

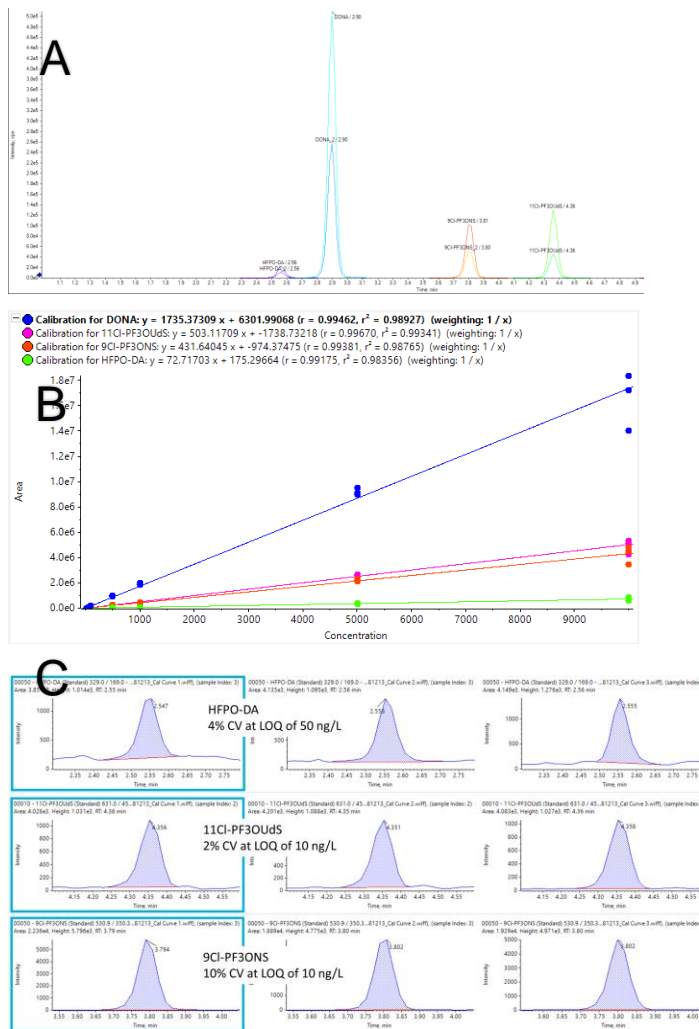


Figure 1. A) PFAS compounds shown analyzed on the SCIEX QTRAP® 4500 system. Peaks shown with 1 point Gaussian smoothing. B) Linear calibration curves for the 4 analytes ranging from 10 to 10,000 ng/L. C) Precision for 3 example analytes at Limit of Quantitation is shown n. % CVs at lowest concentration remained at 10% or less for triplicate injections. At higher concentrations, %CV is equal to or better than 10%.

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