**Supplementary Materials**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Acronymous** | **Molecular**  **Formula** | **Molecular Weight**  **(g mol-1)** | **Carbon number** | **Log Kow** | **Manufactoring company** |
| Perfluorohexanoic acid | PFHxA | C5F11COOH | 314.1 | 6 | 4.06 | LGC Standards Ltd  (Milan. Italy) |
| Perfluoro-n-[13C2]hexanoic acid | m-PFHxA | [13C]2C4 F11COOH | 316.1 | 6 |  |
| Ammonium perfluoro(2-methyl-3-oxahexanoate) | GenX | C6H4F11NO3 | 347.1 | 6 | 3.6 |
| Perfluorooctanoic acid | PFOA | C7F15COOH | 414.1 | 8 | 5.3 |
| Perfluorooctanesulfonic acid | PFOS | C8F17SO3H | 500.1 | 8 | 6.3 |
| Sodium perfluoro-1-[13C4]octanesulfonate | m-PFOS | [13C]4 C4F17SO3H | 504.1 | 8 |  |
| Perfluorodecanoic acid | PFDA | C9F19COOH | 514.1 | 10 | 6.5 |
| Perfluorotetradecanoic acid | PFTeDA | C13F27COOH | 714.1 | 14 | 7.19 |

**Table S1.** PFAS compounds investigated. relative molecular formulas. weights and octanol-water partition coefficients (Log Kow)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| **Compound** | **Molecular weight (g mol-1)** | **Precursor ion (m/z)** | **Product ion (m/z)** | **DP (V)** | **Ce (V)** | **Rt (min)** |
| PFHxA | 314 | 313 | 119 | -10 | -38 | 6.89 |
| m-PFHxA | 314 | 315 | 119 | -10 | -38 | 6.89 |
| GenX | 284 | 285 | 184.6 | -60 | -25 | 7.74 |
| PFOA | 412 | 413 | 369 | -10 | -20 | 12.31 |
| PFOS | 500 | 499 | 79.8 | -117 | -120 | 13.61 |
| m-PFOS | 504 | 503 | 79.8 | -117 | -120 | 13.61 |
| PFDA | 514 | 513 | 169 | -25 | -16 | 14.12 |
| PFTeDA | 713 | 712.8 | 668.6 | -10 | -35 | 19.53 |
|  |  |  |  |  |  |  |

**Table S2**. Electronic parameters and retention time (RT) of each PFAS compound investigated.

|  |  |  |
| --- | --- | --- |
| **Time (min)** | **Phase A (H2O+15Mm CH3COONH4) (%)** | **Phase B (MeOH) (%)** |
| 0 | 50 | 50 |
| 1 | 10 | 90 |
| 22 | 10 | 90 |
| 23 | 0 | 100 |

**Table S3.** Eluition gradient in column for PFAS analysis.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **KF (L g-1)** | **n** | **R2** |
| PFDA DS | 1.26E-01 | 4.74E-01 | 0.98 |
| PFDAPW | 1.75 | 4.36E-01 | 0.97 |
| PFOA DS | 2.00E-03 | 1.00 | 1.00 |
| PFOA PW | 2.05 | 1.05E-01 | 0.98 |
| GenX DS | 8.17E-14 | 3.55 | 0.99 |
| GenX PW | 7.72E-05 | 1.10 | 0.99 |
| PFHxA DS | 5.43E-01 | 2.26E-01 | 0.97 |
| PFHxA PW | 5.80E-03 | 6.76E-01 | 0.99 |
| PFOS DS | 5.00E-04 | 1.28 | 0.99 |
| PFOS PW | 2.89E-01 | 6.87E-01 | 0.96 |
| PFTeDA DS | 1.52E-02 | 1.04 | 0.98 |
| PFTeDA PW | 4.34E-01 | 5.96E-01 | 0.97 |

**Table S4.** Isotherm parameters (KF, n) of both PW and DS adsorption tests for each PFAS compound,

with corresponding regression coefficients (R2).