Analysis of PAHs and PCBs in fogwater at urban, suburban, and rural sites in North East France

Dani Khoury 1,2, Maurice Millet 1,\*, Yasmine Jabali 2 and Olivier Delhomme 1,3

**Table S1.1. Fog samples collected at the different campaigns in Alsace.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sample # | Samplename | Start Date | Start time(GMT+2) | End Date | End time(GMT+2) |
| 1 | G15-1 | 26/10/2015 | 23h30 | 27/10/2015 | 07h00 |
| 2 | G15-2 | 29/10/2015 | 23h00 | 30/10/2015 | 07h30 |
| 3 | G15-3 | 30/10/2015 | 23h30 | 31/10/2015 | 09h30 |
| 4 | G15-4 | 10/12/2015 | 04h00 | 10/12/2015 | 08h30 |
| 5 | G15-5 | 14/12/2015 | 03h30 | 14/12/2015 | 09h00 |
| 6 | E15-1 | 01/01/2016 | 02h30 | 01/01/2016 | 10h45 |
| 7 | G16-1 | 16/10/2016 | 02h25 | 16/10/2016 | 09h40 |
| 8 | G16-2 | 23/10/2016 | 04h05 | 23/10/2016 | 07h35 |
| 9 | G16-3 | 27/10/2016 | 05h40 | 27/10/2016 | 10h50 |
| 10 | G16-4 | 28/10/2016 | 04h55 | 28/10/2016 | 11h05 |
| 11 | G16-5 | 30/10/2016 | 04h25 | 30/10/2016 | 11h30 |
| 12 | G16-6 | 01/11/2016 | 00h10 | 01/11/2016 | 10h05 |
| 13 | G16-7 | 06/12/2016 | 22h00 | 07/12/2016 | 04h15 |
| 14 | G16-8 | 13/12/2016 | 03h50 | 13/12/2016 | 09h05 |
| 15 | G16-9 | 15/12/2016 | 02h20 | 15/12/2016 | 08h15 |
| 16 | G16-10 | 16/12/2016 | 03h05 | 16/12/2016 | 07h40 |
| 17 | E16-1 | 27/10/2016 | 06h00 | 27/10/2016 | 10h30 |
| 18 | E16-2 | 28/10/2016 | 05h25 | 28/10/2016 | 10h45 |
| 19 | E16-3 | 30/10/2016 | 04h15 | 30/10/2016 | 11h00 |
| 20 | E16-4 | 31/10/2016 | 23h45 | 01/10/2016 | 10h15 |
| 21 | E16-5 | 15/12/2016 | 01h50 | 15/12/2016 | 08h00 |
| 22 | STG16-1 | 16/12/2016 | 02h30 | 16/12/2016 | 08h15 |
| 23 | G17-1 | 15/10/2017 | 03h00 | 16/10/2017 | 08h30 |
| 24 | G18-1 | 09/10/2018 | 23h00 | 10/10/2018 | 05h00 |
| 25 | G18-2 | 05/11/2018 | 22h30 | 06/11/2018 | 04h30 |
| 26 | G18-3 | 13/11/2018 | 21h00 | 14/11/2018 | 03h00 |
| 27 | G18-4 | 14/11/2018 | 22h00 | 14/11/2018 | 06h00 |
| 28 | G18-5 | 23/11/2018 | 08h00 | 23/11/2018 | 12h00 |
| 29 | G18-6 | 18/12/2018 | 09h00 | 18/12/2018 | 13h00 |
| 30 | G18-7 | 18/12/2018 | 17h00 | 18/12/2018 | 21h00 |
| 31 | E18-1 | 05/11/2018 | 22h00 | 06/11/2018 | 04h00 |
| 32 | E18-2 | 13/11/2018 | 22h00 | 14/11/2018 | 03h00 |
| 33 | E18-3 | 14/11/2018 | 21h30 | 14/11/2018 | 05h30 |
| 34 | E18-4 | 23/11/2018 | 08h00 | 23/11/2018 | 16h00 |
| 35 | E18-5 | 05/12/2018 | 22h00 | 06/12/2018 | 05h00 |
| 36 | STG18-1 | 09/10/2018 | 22h00 | 10/10/2018 | 04h00 |
| 37 | STG18-2 | 13/11/2018 | 21h00 | 14/11/2018 | 03h00 |
| 38 | CR18-1 | 09/10/2018 | 21h00 | 10/10/2018 | 03h00 |
| 39 | CR18-2 | 13/11/2018 | 21h30 | 14/11/2018 | 03h30 |
| 40 | CR21-1 | 18/10/2021 | 04h00 | 18/10/2021 | 11h00 |
| 41 | CR21-2 | 28/10/2021 | 08h00 | 28/10/2021 | 10h00 |
| 42 | CR21-3 | 29/10/2021 | 02h00 | 29/10/2021 | 10h00 |

**List of the analyzed compounds:**

**PAHs:** Naphtalene, Acenapthene, Fluorene, Phenanthrene, Anthracene, Fluoranthrene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthrene, Benzo(k)fluoranthrene, Benzo(e)pyrene, Benzo(a)pyrene, dibenzo(a,h)anthracene, Indeno(1,2,3)pyrene and Benzo(g,h,i)pyrelene.

**PCBs:** PCB 18, PCB 28, PCB 31, PCB 44, PCB 52, PCB 70, PCB 81, PCB 101, PCB 105, PCB 114, PCB 118, PCB 123, PCB126, PCB 138, PCB 149, PCB 153, PCB 156, PCB 157, PCB 167, PCB 169, PCB 180 and PCB 189.

**Table S1.2. Properties of internal standard mixture for the analysis PAHs and PCBs.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Parent Ion** | **Daughter Ions** | **Collision energy(V)** |
| Naphtalene-d8 | 136 | 108/132 | 1.5 |
| Acenaphtene-d10 | 164 | 152/154 | 1.9 |
| Phenanthrene-d10 | 188 | 160/184 | 1.8 |
| Chrysene-d12 | 240 | 212/236 | 1.8 |
| Perylene-d12 | 264 | 135/152 | 1.8 |

**Table S1.3. Validation parameters for PAHs.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Compounds** | **Parent Ion** | **Collision Energy****(V)** | **Daughter Ions** | ***r2*** | **Repeatability** **(%)** | **Reproducibility (%)** | **R****(%)** |
| **50****(ng L-1)** | **100****(ng L-1)** | **50****(ng L-1)** | **100****(ng L-1)** |  |
| Naphtalene | 128 | 1.2 | 102/126 | 0.9902 | 2.98 | sat | 3.03 | sat | 89 |
| Acenaphtene | 153 | 1.3 | 150/151 | 0.9943 | 2.1 | 1.72 | 4.15 | 4.9 | 72 |
| Fluorene | 165 | 1.2 | 163/139 | 0.9951 | 5.58 | 3.79 | 2.98 | 3.61 | 105 |
| Phenanthrene | 178 | 1.2 | 152/176 | 0.9911 | 4.61 | 6.3 | 9.97 | 11.68 | 104 |
| Anthracene | 178 | 1.2 | 152/176 | 0.9908 | 10.75 | 5.73 | - | 6.61 | 65 |
| Fluoranthrene | 202 | 1.3 | 200 | 0.9909 | 11.41 | 3.97 | 7.09 | 11.8 | 55 |
| Pyrene | 202 | 1.2 | 200/201 | 0.9916 | 2.12 | 3.59 | 4.72 | 4.24 | 92 |
| Benzo(a)anthracene | 228 | 1.2 | 226/202 | 0.9933 | 5.41 | 2.06 | 3.83 | 4.03 | 89 |
| Chrysene | 228 | 1.2 | 226/202 | 0.9970 | 2.04 | 2.38 | 4.82 | 8.81 | 45 |
| Benzo(b)fluoranthrene | 252 | 1.3 | 250/226 | 0.9981 | 4.30 | 6.86 | 11.7 | 8.58 | 105 |
| Benzo(k)fluoranthrene | 252 | 1.3 | 250/226 | 0.9927 | 2.03 | 2.72 | 1.27 | - | 88 |
| Benzo(e)pyrene | 252 | 1.3 | 250/226 | 0.9907 | 6.02 | 3.76 | - | 10.62 | 93 |
| Benzo(a)pyrene | 252 | 1.3 | 250/226 | 0.9943 | 9.60 | 2.63 | 5.17 | 10.83 | 92 |
| Dibenzo(a,h)anthracene | 278 | 1.5 | 276 | 0.9997 | 2.52 | 8.29 | 13.48 | - | 95 |
| Indenol(1,2,3)pyrene | 276 | 1.4 | 274 | 0.9952 | 2.49 | 1.99 | 7.38 | 1.9 | 90 |
| Benzo(g,h,i)perylene | 276 | 1.4 | 274 | 0.9965 | 4.8 | 3.18 | - | 11.28 | 95 |

**Table S1.4. Validation parameters for PCBs.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Compounds** | **Parent Ions** | **Collision Energy****(V)** | **Daughter Ions** | ***r2*** | **Repeatability (%)** | **Reproducibility (%)** | **R****(%)** |
| **50****(ng L-1)** | **100****(ng L-1)** | **50****(ng L-1)** | **100****(ng L-1)** |  |
| PCB 18 | 256 | 1.4 | 186/221 | 0.9929 | 7.4 | 6.33 | 7.31 | 7.61 | 50 |
| PCB 31 | 256 | 1.7 | 186/150 | 0.9978 | 7.66 | 3.4 | 7.31 | 8.87 | 40 |
| PCB 28 | 256 | 1.7 | 186/150 | 0.9921 | 7.34 | 2.48 | 8.7 | 7.18 | 40 |
| PCB 52 | 292 | 1.9 | 257/220 | 0.9920 | 3.79 | 5.1 | 4.1 | 6.13 | 45 |
| PCB 44 | 292 | 1.9 | 257/220 | 0.9937 | 4.88 | 3.63 | 19.7 | 8.28 | 55 |
| PCB 70 | 292 | 1.9 | 220/185 | 0.9915 | 9.16 | 1.79 | 4.74 | 8.58 | 75 |
| PCB101 | 326 | 1.6 | 254/291 | 0.9910 | 9.08 | 7.66 | 15.58 | 11.58 | 82 |
| PCB 81 | 292 | 2.1 | 220/185 | 0.9939 | 3.34 | 5.19 | 4.94 | 12.68 | 80 |
| PCB 149 | 360 | 1.8 | 288/325 | 0.9943 | 3.2 | 3.39 | 6.73 | 11.17 | 45 |
| PCB 123 | 326 | 1.6 | 254/235 | 0.9926 | 6.41 | 4.92 | 8.55 | 6.78 | 120 |
| PCB 118 | 326 | 1.6 | 254/235 | 0.9955 | 4.21 | 2.07 | 5.75 | 6.59 | 70 |
| PCB 114 | 326 | 1.6 | 254/235 | 0.9962 | 2.27 | 1.95 | 1.96 | 5.53 | 80 |
| PCB 153 | 360 | 1.8 | 288/325 | 0.9965 | 7.51 | 1.43 | 5.89 | 9.66 | 105 |
| PCB 105 | 326 | 2 | 256/254 | 0.9983 | 3.69 | 7.89 | 5.0 | - | 45 |
| PCB 138 | 360 | 2 | 325/288 | 0.9969 | 6.65 | 2.75 | 8.3 | 8.31 | 105 |
| PCB 126 | 326 | 2 | 254/256 | 0.9938 | 6.69 | 5.41 | 11.02 | 11.22 | 103 |
| PCB 167 | 360 | 2 | 290/288 | 0.9997 | 3.63 | 7.51 | 5.98 | 8.93 | 88 |
| PCB 156 | 360 | 2.15 | 288/325 | 0.9958 | 2.56 | 8.04 | 6.94 | 10.48 | 108 |
| PCB 157 | 360 | 2.15 | 288/325 | 0.9971 | 3.93 | 7.53 | 10.15 | - | 110 |
| PCB 180 | 396 | 1.8 | 361/324 | 0.9987 | 4.85 | 7.52 | 5.65 | 9.87 | 70 |
| PCB 169 | 360 | 1.8 | 290/288/218 | 0.9974 | 5.89 | 7.7 | 16.75 | 10.92 | 80 |
| PCB 189 | 396 | 2.1 | 324/361 | 0.9956 | 8.48 | - | 9.09 | - | 100 |

|  |  |  |
| --- | --- | --- |
| **Compounds** | **LOD****(ng L-1)** | **LOQ****(ng L-1)** |
| **Liquid** | **SPME** | **Liquid** | **SPME** |
| PCB 18 | 2.42 | 1.32 | 7.99 | 4.36 |
| PCB 31 | 2.86 | 2.32 | 9.44 | 7.66 |
| PCB 28 | 2.22 | 1.74 | 7.33 | 5.74 |
| PCB 52 | 1.84 | 0.58 | 6.07 | 1.91 |
| PCB 44 | 1.76 | 0.58 | 5.81 | 1.91 |
| PCB 70 | 1.79 | 0.80 | 5.91 | 2.64 |
| PCB101 | 1.38 | 0.50 | 4.55 | 1.65 |
| PCB 81 | 17.20 | 1.20 | 56.76 | 3.96 |
| PCB 149 | 2.72 | 1.78 | 8.98 | 5.87 |
| PCB 123 | 1.00 | 0.10 | 3.30 | 0.33 |
| PCB 118 | 10.00 | 1.20 | 33.00 | 3.96 |
| PCB 114 | 0.60 | 0.08 | 1.98 | 0.26 |
| PCB 153 | 2.60 | 1.80 | 8.58 | 5.94 |
| PCB 105 | 1.65 | 0.60 | 5.44 | 1.98 |
| PCB 138 | 1.70 | 1.00 | 5.61 | 3.30 |
| PCB 126 | 2.60 | 1.14 | 8.58 | 3.76 |
| PCB 167 | 1.50 | 0.78 | 4.95 | 2.57 |
| PCB 156 | 3.00 | 2.00 | 9.90 | 6.60 |
| PCB 157 | 2.24 | 2.60 | 7.39 | 8.58 |
| PCB 180 | 0.99 | 0.14 | 3.23 | 0.46 |
| PCB 169 | 1.14 | 0.31 | 3.76 | 1.03 |
| PCB 189 | 1.72 | 1.48 | 5.68 | 4.88 |

**Table S1.5. Limit of quantification (LOQ) for PCBs (liquid and SPME injections).**

**Table S1.6. Limit of quantification (LOQ) for PAHs (liquid and SPME injections).**

|  |  |  |
| --- | --- | --- |
| **Compounds** | **LOD****(ng L-1)** | **LOQ****(ng L-1)** |
| **Liquid** | **SPME** | **Liquid** | **SPME** |
| Naphtalene | 0.24 | 0.16 | 0.79 | 0.53 |
| Acenaphtene | 0.79 | 0.14 | 2.61 | 0.46 |
| Fluorene | 1.15 | 0.65 | 3.81 | 2.15 |
| Phenanthrene | 2.22 | 1.16 | 7.33 | 3.83 |
| Anthracene | 2.50 | 1.90 | 8.25 | 6.27 |
| Fluoranthrene | 2.00 | 1.18 | 6.59 | 3.89 |
| Pyrene | 2.96 | 2.00 | 9.77 | 6.60 |
| Benzo(a)anthracene | 1.20 | 1.04 | 3.96 | 3.43 |
| Chrysene | 2.20 | 2.00 | 7.26 | 6.60 |
| Benzo(b)fluoranthrene | 1.67 | 0.76 | 5.50 | 2.51 |
| Benzo(k)fluoranthrene | 2.00 | 0.86 | 6.60 | 2.83 |
| Benzo(e)pyrene | 2.22 | 0.75 | 7.33 | 2.48 |
| Benzo(a)pyrene | 2.52 | 0.67 | 8.32 | 2.22 |
| Dibenzo(a,h)anthracene | 2.50 | 2.14 | 8.25 | 7.06 |
| Indenol(1,2,3)pyrene | 1.78 | 1.33 | 5.87 | 4.38 |
| Benzo(g,h,i)perylene | 0.88 | 0.76 | 2.91 | 2.49 |

**Table S2.1. PAHs concentration levels (ng L-1) fog samples.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Date | Nap | Flu | Phe | Ant | Flo | Pyr | BaA | Chry | BbF | BkF | Bep | BaP | DBhA | BghiP | Total PAHs |
| G15-1 | **26/10/2015** | 1367 | 139 | 625 | 1544 | 290 | 138 | 0 | 0 | 0 | 0 | 0 | 23 | 13 | 36 | 4173 |
| G15-2 | **29/10/2015** | 683 | 222 | 544 | 566 | 229 | 184 | 0 | 0 | 69 | 59 | 0 | 0 | 19 | 47 | 2621 |
| G15-3 | **30/10/2015** | 101 | 26 | 398 | 141 | 247 | 364 | 0 | 0 | 0 | 0 | 0 | 36 | 0 | 15 | 1327 |
| G15-4 | **10/12/2015** | 11 | 0 | 0 | 137 | 307 | 120 | 56 | 71 | 0 | 0 | 0 | 0 | 37 | 0 | 739 |
| G15-5 | **14/12/2015** | 173 | 82 | 471 | 715 | 255 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1951 |
| G16-1 | **16/10/2016** | 446 | 166 | 188 | 1386 | 189 | 289 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 2723 |
| G16-2 | **23/10/2016** | 464 | 193 | 418 | 264 | 0 | 11 | 93 | 0 | 0 | 0 | 78 | 170 | 0 | 0 | 1690 |
| G16-3 | **27/10/2016** | 374 | 166 | 222 | 287 | 56 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 1168 |
| G16-4 | **28/10/2016** | 491 | 156 | 651 | 385 | 0 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 1764 |
| G16-5 | **30/10/2016** | 643 | 0 | 147 | 339 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 1240 |
| G16-6 | **01/11/2016** | 888 | 333 | 1920 | 2389 | 187 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 35 | 5866 |
| G16-7 | **06/12/2016** | 1085 | 0 | 0 | 1336 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 36 | 2580 |
| G16-8 | **13/12/2016** | 488 | 203 | 667 | 473 | 39 | 38 | 0 | 0 | 66 | 0 | 0 | 0 | 37 | 0 | 2010 |
| G16-9 | **15/12/2016** | 838 | 166 | 251 | 1471 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76 | 30 | 2872 |
| G16-10 | **16/12/2016** | 285 | 356 | 260 | 433 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 1358 |
| G18-1 | **09/10/2018** | 447 | 160 | 332 | 987 | 111 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | 90 | 2338 |
| G18-2 | **05/11/2018** | 393 | 354 | 1015 | 2098 | 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 100 | 4129 |
| G18-3 | **13/11/2018** | 463 | 318 | 491 | 3182 | 116 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 156 | 4837 |
| G18-4 | **14/11/2018** | 592 | 24 | 159 | 153 | 100 | 45 | 37 | 27 | 60 | 79 | 0 | 0 | 0 | 0 | 1274 |
| G18-5 | **23/11/2018** | 370 | 134 | 1014 | 156 | 66 | 121 | 50 | 33 | 15 | 56 | 58 | 24 | 0 | 0 | 2095 |
| G18-6 | **18/12/2018** | 889 | 78 | 462 | 2783 | 79 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4406 |
| G18-7 | **18/12/2018** | 598 | 112 | 536 | 797 | 99 | 74 | 19 | 22 | 0 | 0 | 0 | 0 | 116 | 41 | 2414 |
| E15-1 | **31/12/2015** | 1141 | 496 | 334 | 226 | 114 | 297 | 0 | 50 | 0 | 0 | 60 | 0 | 0 | 0 | 2718 |
| E16-1 | **27/10/2016** | 369 | 58 | 884 | 397 | 224 | 754 | 80 | 0 | 26 | 19 | 53 | 66 | 17 | 57 | 3004 |
| E16-2 | **28/10/2016** | 286 | 78 | 355 | 696 | 110 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 81 | 12 | 1722 |
| E16-3 | **30/10/2016** | 116 | 414 | 2432 | 1221 | 460 | 258 | 27 | 0 | 86 | 0 | 0 | 0 | 40 | 25 | 5076 |
| E16-4 | **31/10/2016** | 140 | 250 | 370 | 290 | 389 | 150 | 0 | 0 | 0 | 25 | 0 | 16 | 0 | 0 | 1629 |
| E16-5 | **15/12/2016** | 299 | 111 | 299 | 369 | 560 | 1259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 2957 |
| E18-1 | **05/11/2018** | 556 | 201 | 727 | 571 | 23 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 38 | 50 | 2220 |
| E18-2 | **13/11/2018** | 384 | 186 | 447 | 863 | 25 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 63 | 2057 |
| E18-3 | **14/11/2018** | 256 | 109 | 352 | 1069 | 26 | 99 | 80 | 53 | 46 | 45 | 0 | 0 | 0 | 0 | 2133 |
| E18-4 | **23/11/2018** | 694 | 365 | 1937 | 3566 | 55 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 6725 |
| E18-5 | **05/12/2018** | 289 | 119 | 347 | 1190 | 38 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 46 | 2105 |
| STG16-01 | **16/12/2016** | 286 | 114 | 556 | 469 | 76 | 170 | 57 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 1749 |
| STG18-01 | **09/10/2018** | 556 | 460 | 1218 | 2599 | 88 | 97 | 36 | 0 | 0 | 0 | 0 | 0 | 64 | 16 | 5133 |
| STG18-02 | **13/11/2018** | 159 | 256 | 253 | 263 | 12 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 8 | 986 |
| CR18-1 | **09/10/2018** | 66 | 103 | 206 | 114 | 12 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 578 |
| CR18-2 | **13/11/2018** | 266 | 177 | 423 | 1315 | 90 | 124 | 0 | 57 | 0 | 0 | 0 | 0 | 16 | 0 | 2466 |
| CR21-1 | **18/10/2021** | 342 | 173 | 1770 | 1157 | 252 | 168 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 3917 |
| CR21-2 | **28/10/2021** | 555 | 157 | 1633 | 1702 | 328 | 553 | 0 | 0 | 46 | 0 | 0 | 0 | 70 | 56 | 5098 |
| CR21-3 | **29/10/2021** | 342 | 138 | 596 | 1086 | 219 | 278 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 2675 |

**Table S2.2. PCBs concentration levels (ng L-1) fog samples.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | Date | PCB 18 | PCB 31 | PCB 28 | PCB 52 | PCB 70 | PCB101 | PCB 105 | PCB 114 | PCB 118 | PCB 123 | PCB 126 | PCB 138 | PCB 149 | PCB 153 | PCB 169 | PCB 189 | PCB81 | PCB157 | PCB156 | Total |
| G15-1 | **26/10/2015** | 0 | 37 | 20 | 79 | 54 | 2801 | 68 | 0 | 0 | 0 | 308 | 156 | 46 | 0 | 190 | 136 | 0 | 0 | 0 | 3895 |
| G15-2 | **29/10/2015** | 0 | 48 | 52 | 55 | 48 | 511 | 15 | 0 | 0 | 0 | 274 | 148 | 68 | 24 | 108 | 117 | 0 | 0 | 0 | 1468 |
| G15-3 | **30/10/2015** | 108 | 0 | 10 | 0 | 0 | 119 | 63 | 0 | 0 | 0 | 955 | 168 | 48 | 0 | 18 | 0 | 0 | 0 | 0 | 1489 |
| G15-4 | **10/12/2015** | 0 | 94 | 45 | 173 | 472 | 97 | 442 | 259 | 2321 | 704 | 2232 | 269 | 102 | 197 | 14 | 105 | 0 | 0 | 0 | 7526 |
| G15-5 | **14/12/2015** | 0 | 116 | 0 | 153 | 110 | 2639 | 168 | 0 | 0 | 0 | 1726 | 180 | 56 | 0 | 886 | 324 | 0 | 0 | 0 | 6358 |
| E15-1 | **31/12/2015** | 0 | 0 | 0 | 0 | 0 | 121 | 99 | 90 | 112 | 0 | 370 | 137 | 110 | 171 | 0 | 366 | 0 | 0 | 0 | 1574 |
| G16-1 | **16/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 251 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 375 |
| G16-2 | **23/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 46 | 0 | 177 | 136 | 88 | 22 | 0 | 13 | 59 | 0 | 0 | 105 | 661 |
| G16-3 | **27/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 34 | 0 | 0 | 0 | 78 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 137 |
| G16-4 | **28/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 95 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 172 |
| G16-5 | **30/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 549 | 0 | 0 | 45 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 633 |
| G16-6 | **01/11/2016** | 0 | 74 | 0 | 150 | 65 | 0 | 48 | 0 | 0 | 0 | 532 | 111 | 57 | 62 | 232 | 239 | 0 | 0 | 0 | 1570 |
| G16-7 | **06/12/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 88 | 913 | 88 | 632 | 156 | 77 | 0 | 0 | 112 | 0 | 0 | 992 | 3096 |
| G16-8 | **13/12/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 21 | 0 | 35 | 24 | 100 | 14 | 0 | 0 | 0 | 0 | 0 | 71 | 271 |
| G16-9 | **15/12/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 54 | 534 | 0 | 0 | 66 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 711 |
| G16-10 | **16/12/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 1737 | 0 | 81 | 188 | 217 | 0 | 0 | 60 | 0 | 0 | 220 | 2514 |
| E16-1 | **27/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 0 | 56 | 39 | 0 | 0 | 219 | 0 | 0 | 220 | 579 |
| E16-2 | **28/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 63 | 0 | 226 | 0 | 153 | 25 | 71 | 0 | 127 | 94 | 0 | 0 | 0 | 760 |
| E16-3 | **30/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 44 | 116 | 0 | 0 | 36 | 0 | 0 | 0 | 50 | 0 | 0 | 324 | 593 |
| E16-4 | **31/10/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 0 | 173 | 0 | 0 | 46 | 52 | 0 | 153 | 111 | 0 | 0 | 233 | 881 |
| E16-5 | **15/12/2016** | 0 | 0 | 0 | 0 | 0 | 0 | 107 | 0 | 0 | 0 | 53 | 55 | 134 | 0 | 0 | 26 | 0 | 0 | 333 | 707 |
| E18-1 | **05/11/2018** | 0 | 31 | 9 | 95 | 92 | 0 | 69 | 0 | 0 | 0 | 362 | 100 | 137 | 66 | 94 | 236 | 109 | 0 | 0 | 1401 |
| E18-2 | **13/11/2018** | 19 | 75 | 45 | 85 | 151 | 14 | 190 | 0 | 0 | 0 | 392 | 36 | 125 | 78 | 162 | 241 | 75 | 0 | 0 | 1689 |
| E18-3 | **14/11/2018** | 107 | 214 | 143 | 287 | 451 | 125 | 305 | 911 | 57 | 1372 | 417 | 28 | 103 | 129 | 183 | 289 | 326 | 341 | 0 | 5787 |
| E18-4 | **23/11/2018** | 0 | 0 | 0 | 26 | 70 | 64 | 216 | 0 | 0 | 0 | 570 | 46 | 191 | 0 | 217 | 132 | 82 | 0 | 0 | 1612 |
| E18-5 | **05/12/2018** | 0 | 14 | 0 | 16 | 26 | 0 | 44 | 0 | 0 | 0 | 84 | 56 | 36 | 0 | 56 | 84 | 19 | 0 | 0 | 434 |
| STG16-01 | **16/12/2016** | 0 | 0 | 0 | 339 | 427 | 0 | 157 | 1783 | 371 | 1950 | 518 | 296 | 437 | 245 | 68 | 235 | 0 | 0 | 210 | 7037 |
| G18-1 | **09/10/2018** | 27 | 151 | 81 | 116 | 235 | 0 | 128 | 0 | 0 | 0 | 538 | 256 | 310 | 211 | 455 | 235 | 0 | 0 | 0 | 2743 |
| G18-2 | **05/11/2018** | 23 | 80 | 45 | 108 | 139 | 20 | 226 | 0 | 0 | 0 | 308 | 156 | 111 | 80 | 0 | 116 | 115 | 0 | 0 | 1528 |
| G18-3 | **13/11/2018** | 73 | 133 | 113 | 131 | 231 | 248 | 353 | 0 | 0 | 0 | 765 | 89 | 85 | 200 | 267 | 464 | 265 | 0 | 0 | 3416 |
| G18-4 | **14/11/2018** | 0 | 0 | 0 | 105 | 125 | 0 | 89 | 439 | 27 | 481 | 163 | 56 | 45 | 0 | 0 | 102 | 76 | 88 | 0 | 1795 |
| G18-5 | **23/11/2018** | 0 | 0 | 0 | 44 | 58 | 0 | 115 | 757 | 24 | 799 | 26 | 176 | 17 | 0 | 0 | 106 | 0 | 89 | 0 | 2212 |
| G18-6 | **18/12/2018** | 42 | 73 | 45 | 96 | 193 | 37 | 176 | 0 | 0 | 0 | 529 | 116 | 231 | 29 | 303 | 311 | 63 | 0 | 0 | 2243 |
| G18-7 | **18/12/2018** | 0 | 68 | 36 | 408 | 322 | 897 | 583 | 2830 | 626 | 2327 | 648 | 26 | 606 | 354 | 318 | 227 | 542 | 1242 | 0 | 12058 |
| STG18-01 | **09/10/2018** | 193 | 275 | 0 | 727 | 799 | 572 | 257 | 3905 | 503 | 4184 | 841 | 556 | 771 | 564 | 179 | 565 | 323 | 301 | 0 | 15515 |
| STG18-02 | **13/11/2018** | 95 | 126 | 0 | 165 | 324 | 285 | 155 | 785 | 474 | 946 | 521 | 433 | 378 | 79 | 0 | 153 | 204 | 261 | 0 | 5383 |
| CR18-1 | **09/10/2018** | 0 | 21 | 0 | 41 | 236 | 0 | 42 | 708 | 45 | 690 | 336 | 136 | 64 | 0 | 0 | 91 | 95 | 262 | 0 | 2766 |
| CR18-2 | **13/11/2018** | 0 | 29 | 8 | 15 | 32 | 74 | 44 | 0 | 0 | 0 | 300 | 110 | 132 | 119 | 0 | 53 | 17 | 0 | 0 | 934 |
| CR21-1 | **18/10/2021** | 0 | 0 | 0 | 343 | 292 | 0 | 404 | 395 | 0 | 392 | 1041 | 189 | 242 | 581 | 0 | 295 | 0 | 0 | 806 | 4979 |
| CR21-2 | **28/10/2021** | 0 | 0 | 0 | 0 | 0 | 0 | 556 | 0 | 0 | 0 | 1084 | 156 | 245 | 0 | 0 | 118 | 0 | 0 | 0 | 2159 |
| CR21-3 | **29/10/2021** | 0 | 0 | 0 | 10 | 25 | 0 | 54 | 65 | 0 | 188 | 635 | 110 | 11 | 0 | 0 | 67 | 0 | 0 | 0 | 1165 |