**Supplementary Information For**

**Looking at organic pollutants (OPs) signatures in littoral sediments to assess the influence of a local urban source at the whole lake scale**

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**Literature**

**Table S1.** GPS coordinates of the ten study sites (S1-S10), the reference site and the tributaries (T1-T4) outlets.

|  |  |
| --- | --- |
| Site code | GPS coordinates |
| S1 | 45°45’20.16’’N. 5°50’17.987’’E |
| S2 | 45°47’42.936 ‘’N. 5°49’21.575’’E |
| S3 | 45°47’57.228”N. 5°50’44.412”E |
| S4 | 45°45’14.832’’N. 5°52’35.724’’E |
| S5 | 45°42’5.184’’N. 5°52’55.56’’E |
| S6 | 45°41’40.452’’N. 5°53’10.715’’E |
| S7 | 45°41’33.828’’N. 5°53’15.107’’E |
| S8 | 45°41’19.032’’N. 5°53’39.3’’E |
| S9 | 45°40’3.288’’N. 5°53’36.276’’E |
| S10 | 45°39’7.92’’N. 5°53’11.184’’E |
| Reference site | 45°41’38.8’’N. 5°53’34.1’’E |
| T1 | 45°39’21.9’’N. 5°52’3.2’’E |
| T2 | 45°40’3.9’’N. 5°53’36.9’’E |
| T3 | 45°41’33.9’’N. 5°53’18.9’’E |
| T4 | 45°42’4.9’’N. 5°53’0.7’’E |

**Table S2.** Organic matter (OM) abundance (%), PCB and PAH contents (μg.kg-1 OM) in the sediments of the ten littoral sites.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sites | | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 |
| OM (%) | | 1.5 | 3.8 | 1.7 | 1.8 | 1.3 | 2.8 | 2 | 2.4 | 4 | 1.8 |
| PCBs (μg.kg-1 OM) | PCB-28 | 525.33 | ND | ND | ND | ND | ND | 80.00 | ND | ND | ND |
| PCB-52 | 178.00 | 56.58 | 148.24 | 116.11 | 173.85 | 73.93 | 298.00 | 108.33 | 47.00 | 100.56 |
| PCB-101 | 269.33 | 58.42 | 123.53 | 108.33 | 154.62 | 157.14 | 331.50 | 78.33 | 56.50 | 100.00 |
| PCB-118 | ND | ND | ND | ND | ND | 202.50 | 247.00 | 3.75 | ND | ND |
| PCB-138 | 500.00 | 66.32 | 187.65 | 181.67 | 260.00 | 345.00 | 647.00 | 139.17 | 82.75 | 131.11 |
| PCB-153 | 322.67 | 16.84 | 32.94 | 35.56 | 60.00 | 143.57 | 73.00 | 31.25 | 75.00 | 127.22 |
| PCB-180 | 4.00 | ND | ND | 15.00 | 9.23 | 155.36 | 1224.50 | 11.67 | 16.50 | 48.33 |
| PAHs (μg.kg-1 OM) | Flu | 28.00 | 20.26 | 3.53 | 6.67 | 23.85 | 602.14 | 95.50 | 0.83 | 15.00 | 7.22 |
| Phe | 58.67 | 23.16 | 131.76 | 185.56 | 964.62 | 3515.71 | 1689.50 | 132.92 | 361.50 | 207.78 |
| Ant | 0.00 | 4.47 | 0.00 | 0.00 | 1.54 | 2594.64 | 245.00 | 0.00 | 56.75 | 51.11 |
| Fla | 28.00 | 93.16 | 28.82 | 315.00 | 2409.23 | 18185.36 | 4516.00 | 21.67 | 1289.00 | 963.33 |
| Pyr | 37.33 | 2670.79 | 9.41 | 8.89 | 109.23 | 42553.57 | 4032.50 | 6.67 | 1201.25 | 762.78 |
| BaA | 14.67 | 83.42 | 0.00 | 18.33 | 520.77 | 15520.36 | 4173.50 | 4.58 | 1874.00 | 1254.44 |
| Chr | 12.00 | 37.37 | 0.00 | 87.22 | 1283.85 | 7486.79 | 2142.00 | 0.00 | 841.25 | 533.33 |
| BbF | 186.67 | 250.79 | 15.29 | 176.67 | 1543.85 | 7895.00 | 4263.00 | 18.75 | 1569.25 | 806.67 |
| BkF | 9.33 | 32.37 | 1.18 | 2.22 | 83.08 | 3878.57 | 1345.00 | 0.83 | 539.75 | 319.44 |
| BaP | 10.67 | 60.00 | 0.59 | 1.11 | 8.46 | 9210.00 | 2422.00 | 0.42 | 1075.25 | 644.44 |
| BghiP | 18.00 | 78.16 | 2.94 | 8.33 | 244.62 | 6156.79 | 2048.50 | 2.08 | 1001.50 | 546.11 |
| DbahA | 6.67 | 17.37 | 1.18 | 1.11 | 30.00 | 1535.71 | 510.50 | 0.83 | 92.25 | 136.11 |
| IP | 23.33 | 100.79 | 4.12 | 3.89 | 29.23 | 4685.36 | 1545.50 | 2.92 | 645.00 | 223.89 |

**Table S3.** Total contents (μg.kg-1 OM), similarity indexes and ratios based on PCB and PAH profiles in the 10 study sites in Lake Bourget and in reference site.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Total content (μg.kg-1 OM) | | Similarity indexes | | Ratio values | |
| Site | PCB | PAH | PCB | PAH | ratioPCB | ratioPAH |
| S1 | 1799 | 433 | 0.65 | 0.51 | 0.46 | 0.26 |
| S2 | 198 | 3472 | 0.57 | 0.33 | 0.41 | 0.04 |
| S3 | 492 | 198 | 0.55 | 0.35 | 0.40 | 0.83 |
| S4 | 457 | 815 | 0.59 | 0.43 | 0.34 | 0.62 |
| S5 | 658 | 7253 | 0.58 | 0.52 | 0.35 | 0.47 |
| S6 | 1078 | 123820 | 0.78 | 0.75 | 0.11 | 0.20 |
| S7 | 2901 | 29028 | 0.68 | 0.89 | 0.16 | 0.23 |
| S8 | 372 | 192 | 0.60 | 0.34 | 0.38 | 0.81 |
| S9 | 278 | 10562 | 0.80 | 0.89 | 0.22 | 0.16 |
| S10 | 508 | 6457 | 0.82 | 0.90 | 0.25 | 0.19 |
| Mean ±SD | 874 ± 855 | 18223 ± 38111 | 0.66 ± 0.10 | 0.59 ± 0.24 | 0.31 ± 0.12 | 0.38 ± 0.28 |
| Reference site | 1250\* | 152710\*\* | 1 | 1 | 0.11 | 0.28 |

\* total content given in μg.kg-1 DM (dry matter) (from BIOSED program)

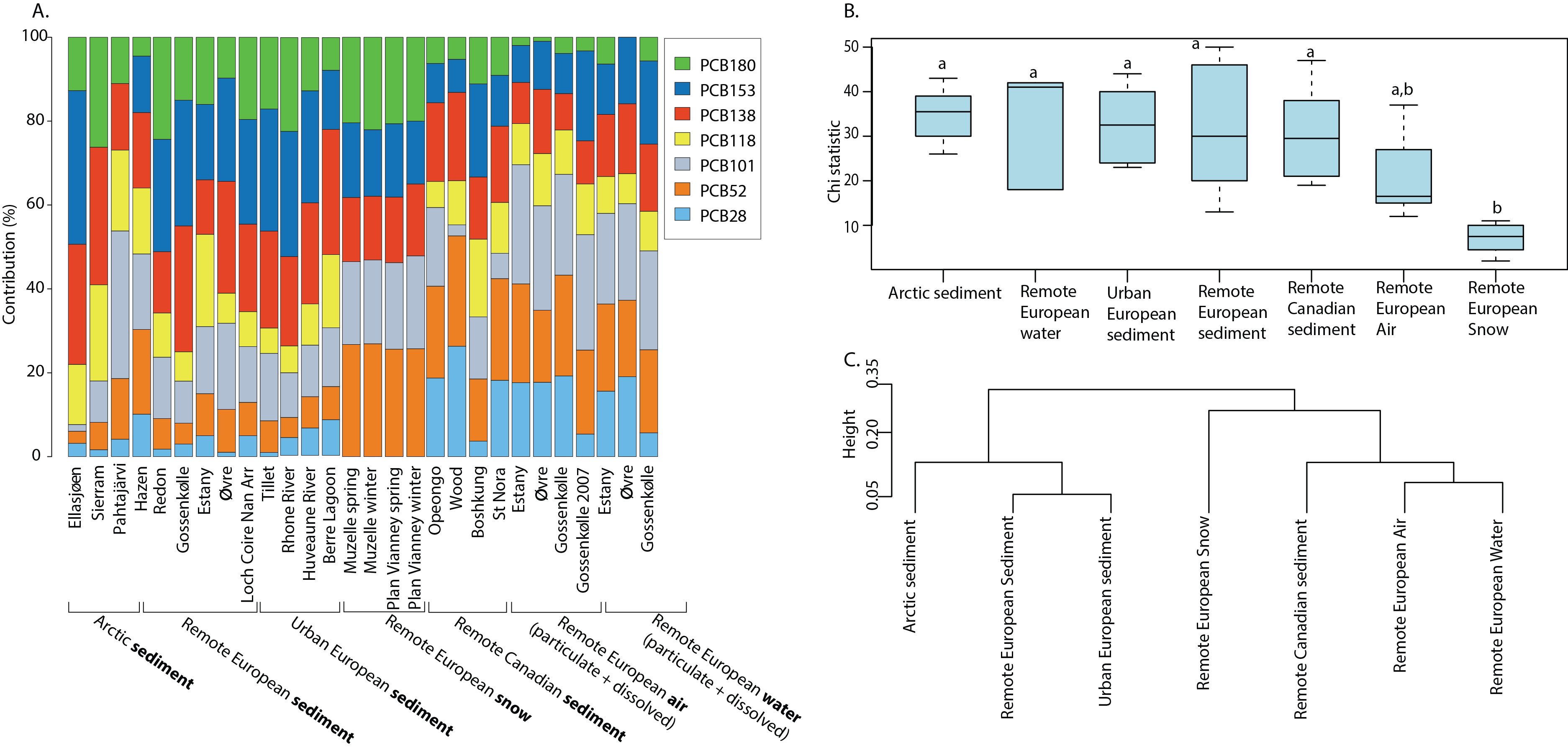
\*\* from BIOSED program

SD: standard deviation

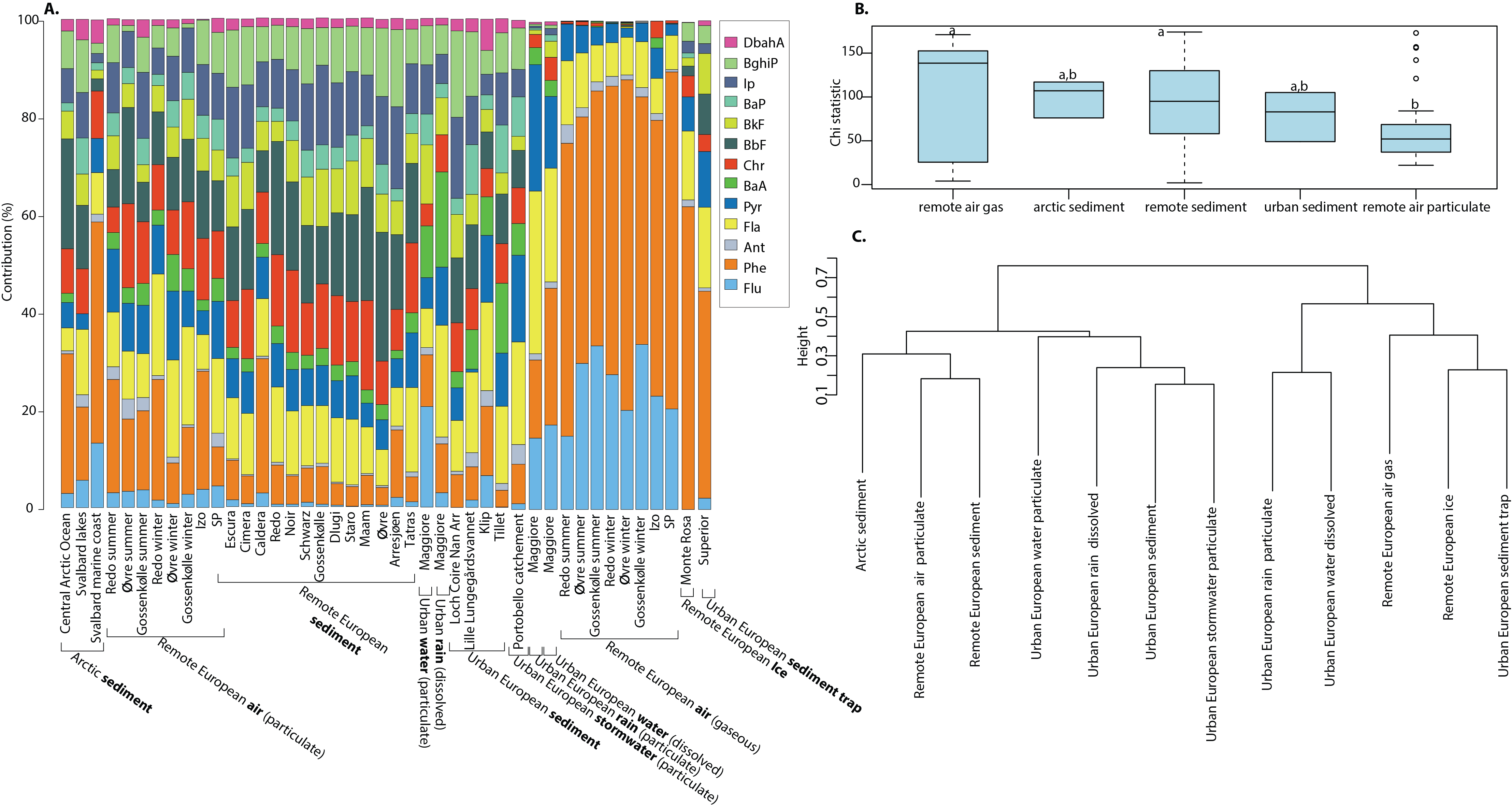
**Method S1.** Dissecting OP profiles of remote lakes.

In the present study, there was an attempt to select a second reference that consisted in a large-scale OP signature from a remote area. For this aim, a literature overview was performed to collect PAH and PCB profiles from lacustrine media such as surficial sediments, water, air, snow and ice. Within each medium, available profiles were classified into categories according to their location (European, Arctic or Canadian) and their anthropization level (urban or remote). Remote European lakes were selected in alpine or rural sites at the same latitudinal range as Lake Bourget. Profiles in different seasons and years were added when available to prevent potential bias. Moreover, the distinction between the contamination in the gaseous/dissolved and particulate phases of air and water was brought when available; otherwise, they were considered as bulk media. The results from this literature overview are listed in Table S4 and S5.

For the PCBs, seven categories were specified from the literature; remote European sediment, remote Canadian sediment, Arctic sediment, urban European sediment, air, water and snow (Figure S1-A). For the PAHs, twelve categories were gathered from the literature, allowing the distinction between the gaseous/dissolved and particulate phases of the remote European air and urban European water (Figure S2-A).



**Figure S1.** Results of the literature search for large-scale PCB profiles including (A) PCB profiles given in abundance (%) of each congener over the sum of the 7 PCBs, (B) Chi2 statistical boxplots of the different compartments based on the individual profiles and (C) dendrogram of the different categories based on Bray-Curtis dissimilarity methods. Different letters in (B) indicate significant differences between the Chi2 results (Kruskal-Wallis tests).



**Figure S2.** Results of the literature search for large-scale PAH profiles including (A) PAH profiles given in abundance (%) of each PAH over the sum of the 13 PAHs, (B) Chi2 statistical boxplots of the different compartments based on these individual profiles and (C) dendrogram of the different compartments based on Bray-Curtis dissimilarity methods. Different letters in (B) indicate significant differences between the Chi2 results (Kruskal-Wallis tests).

For the large-scale reference, PCB and PAH profiles that were searched for remote European lake sediments needed to fulfill the following eligibility criteria; (1) the sediment belonged to a stable category, and (2) it appropriately reflects the large-scale OP signature. To test the validity of the first criterion, the variations between profiles within the different categories were assessed and compared using Chi2 and Kruskal-Wallis tests with the *pgirmess* package (Giraudoux et Giraudoux 2018). The validity of the second criterion was tested by comparing the mean profiles in each category to determine whether the profiles in remote European sediments were similar to those in remote European air and water and different from those in urban European sediments.

The remote sediment and water categories had more heterogeneous OP profiles than the air and snow categories (Figure S1-B and 3-B. Chi2 and Kruskal-Wallis tests. p-value<0.05). Water and sediment can receive OPs from several more pathways other than wet and dry atmospheric deposition, such as lake tributaries or direct runoff, and ice and snow melting that could contribute to the different fractionation of the large-scale OP profile according to the watershed morphologies (i.e.. drainage area to lake surface ratio) of the remote lakes (Yang et al. 2002; Van Metre et Mahler 2004), even without local source influences. Internal lake processes are also susceptible to the control of OP exchanges between water and sediment (Nellier et al. 2015). Lake biota, for example, is assumed to play an important role in water-to-sediment transports of PCBs through the differences in OP assimilations according to species, such as in settling particle fluxes and bioturbation activities (Berglund et al. 2001; Goutte et al. 2013; Reynoldson 1987; Nizzetto et al. 2012). In addition, sediment grain size distribution, organic matter quality and quantity can interfere in the partitioning of OPs between the sediment and the water column, depending on the Kow of the considered OPs (Allen-King, Grathwohl, et Ball 2002; Burgess et al. 2001; Tsapakis, Stephanou, et Karakassis 2003). Altogether, these processes may explain why the mean PCB profile of remote European sediment was more similar to the urban European sediment profile than those of remote European lake water and air (Figure S1-C). The two latter media exhibited higher abundances of more volatile congeners (PCB 28 and 52) than the sediments, suggesting these low Kow congeners may be less efficiently trapped by the sediment than the less-volatile and hydrophobic ones. For PAHs, remote European sediment profiles were similar to those from the particulate phases of air and water (Figure S2-C), which exhibited a predominance of the heavy molecular weight (HMW) PAHs in contrast with the low molecular weight (LMW) enriched profiles from gaseous and dissolved phases. Similar to PCBs, remote lake sediments may act as a more efficient sink for particulate-bound HMW PAHs than dissolved LMW PAHs exhibiting low Kow values (Augusto et al. 2010; Wong et al. 2004; Arzayus, Dickhut, et Canuel 2001). Consequently, the more volatile PAHs and PCBs tend to be transported larger distances until their condensation at cold, high-latitude sites (Wania et Mackay 1993; Blais et al. 1998; Scheringer et al. 2000). This phenomenon would explain why both remote and urban European sediments exhibit similar OP profiles dominated by heavy PCBs and PAHs, while remote Canadian and Arctic sediments at higher latitudes exhibit the reverse profiles and are dominated by light chemicals.

Finally, considering the variability of OP profiles within the remote categories and the resemblance with the urban profiles, the PCB and PAH profiles in remote European sediments did not meet the criteria to appropriately reflect the large-scale signature. This is the reason why sedimentary OP profiles from the urbanized part of the lake Bourget watershed were selected for the rest of this study.

**Table S4**. PAH profiles (%) from the literature overview for the selection of the large-scale reference and the respective literature references

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | Categories | Flu | Phe | Ant | Fla | Pyr | BaA | Chr | BbF | BkF | BaP | Ip | BghiP | DbahA | References |
| Escura | remote European sediment | 1.4 | 8.1 | 0.3 | 12.5 | 8.0 | 2.3 | 9.6 | 15.1 | 10.4 | 3.7 | 14.5 | 11.7 | 2.3 | (Fernández, Vilanova, et Grimalt 1999) |
| Cimera | remote European sediment | 0.6 | 5.7 | 0.3 | 12.5 | 8.5 | 2.7 | 14.2 | 16.4 | 9.6 | 2.9 | 13.0 | 11.9 | 1.6 |
| Caldera | remote European sediment | 2.8 | 27.5 | 0.5 | 11.8 | 8.5 | 2.8 | 10.5 | 8.5 | 6.0 | 3.0 | 9.2 | 7.2 | 1.8 |
| Redo | remote European sediment | 0.5 | 8.0 | 0.6 | 15.4 | 8.9 | 3.6 | 14.6 | 23.2 | 4.1 | 2.7 | 10.0 | 7.0 | 1.4 |
| Noir | remote European sediment | 0.5 | 5.8 | 0.3 | 13.0 | 8.5 | 3.5 | 16.8 | 18.1 | 8.5 | 4.0 | 10.5 | 8.8 | 1.7 |
| Schwarz | remote European sediment | 0.9 | 7.0 | 0.5 | 12.3 | 7.5 | 2.8 | 10.7 | 15.9 | 9.9 | 5.5 | 13.6 | 11.3 | 2.0 |
| Gossenkølle | remote European sediment | 0.5 | 7.7 | 0.7 | 11.8 | 8.2 | 3.5 | 13.2 | 11.8 | 11.7 | 5.0 | 16.3 | 7.7 | 2.0 |
| Dlugi | remote European sediment | 0.3 | 4.4 | 0.3 | 13.2 | 7.6 | 3.2 | 14.2 | 17.0 | 9.0 | 4.4 | 13.2 | 11.3 | 1.8 |
| Staro | remote European sediment | 0.1 | 4.0 | 0.4 | 13.4 | 8.9 | 2.9 | 12.3 | 17.8 | 11.0 | 5.3 | 13.0 | 9.3 | 1.6 |
| Maam | remote European sediment | 0.4 | 6.0 | 0.4 | 9.5 | 4.9 | 2.7 | 18.3 | 23.2 | 10.0 | 2.6 | 10.4 | 9.7 | 2.0 |
| øvre | remote European sediment | 0.3 | 3.6 | 0.4 | 7.4 | 6.1 | 3.1 | 8.9 | 26.4 | 7.8 | 6.1 | 13.9 | 14.0 | 1.8 |
| Arresjøen | remote European sediment | 1.9 | 13.8 | 0.8 | 7.9 | 5.9 | 1.7 | 8.4 | 15.3 | 6.9 | 2.5 | 16.8 | 15.8 | 2.3 |
| Tatras | remote European sediment | 1.0 | 5.1 | 1.0 | 17.3 | 11.2 | 4.1 | 14.3 | 16.3 | 6.1 | 4.1 | 10.2 | 7.1 | 2.0 | (Fernández et al. 2000) |
| Loch Coire Nan Arr | remote European sediment | NA | 6.7 | 0.7 | 10.4 | 6.7 | 3.3 | 10.0 | 13.3 | 8.9 | 3.3 | 16.6 | 17.7 | 2.4 | (Rose et al. 2005) |
| Lille Lungegårdsvannet | Urban European sediment | 1.5 | 6.8 | 2.9 | 16.5 | 0.6 | 8.1 | 8.4 | 13.1 | 6.2 | 10.2 | 9.9 | 13.2 | 2.7 | (Andersson et al. 2014) |
| Klip | urban European sediment | 6.5 | 14.2 | 3.2 | 18.1 | 13.7 | 7.9 | 5.8 | 7.5 | 4.6 | 3.0 | 4.2 | 4.9 | 6.4 | (Pheiffer et al. 2018) |
| Tillet | urban European sediment | 0.1 | 3.4 | 1.4 | 15.8 | 10.9 | 14.3 | 8.1 | 10.2 | 4.3 | 9.8 | 10.7 | 8.2 | 2.9 | BIOSED program |
| Central arctic ocean | arctic sediment | 2.9 | 28.6 | 0.6 | 4.7 | 5.2 | 1.9 | 9.1 | 22.5 | 5.7 | 1.7 | 7.0 | 7.7 | 2.4 | (Ma et al. 2017) |
| Svalbard lakes | arctic sediment | 5.6 | 15.0 | 2.5 | 13.4 | 3.2 | NA | 9.2 | 13.0 | 6.4 | 7.4 | 9.3 | 10.8 | 4.2 | (Jiao et al. 2009) |
| Svalbard marine coast | arctic sediment | 13.2 | 45.3 | 1.6 | 8.5 | 7.0 | NA | 9.7 | 2.5 | 1.8 | 1.5 | 1.9 | 2.1 | 4.8 |
| Redo summer | remote European air (particulate) | 3.0 | 23.2 | 2.6 | 11.2 | 12.9 | 3.4 | 5.2 | 7.7 | 6.9 | 4.7 | 10.3 | 7.7 | 1.3 | (Fernández et al. 2000) |
| Ovre summer | remote European air (particulate) | 3.3 | 14.8 | 4.1 | 9.8 | 9.8 | 3.2 | 17.2 | 19.7 | 4.9 | 3.3 | 7.4 | 1.2 | 1.2 |
| Gossenkolle summer | remote European air (particulate) | 3.6 | 16.2 | 2.7 | 9.0 | 9.9 | 4.5 | 12.6 | 8.1 | 3.6 | 5.4 | 13.5 | 7.2 | 3.6 |
| Redo winter | remote European air (particulate) | 1.5 | 24.7 | 0.8 | 20.8 | 10.0 | 3.1 | 9.3 | 10.8 | 5.4 | 2.3 | 5.4 | 4.6 | 1.2 |
| Ovre winter | remote European air (particulate) | 0.8 | 8.3 | 1.2 | 19.9 | 14.1 | 7.5 | 9.1 | 10.8 | 6.2 | 5.4 | 9.1 | 5.8 | 1.7 |
| Gossenkølle winter | remote European air (particulate) | 2.7 | 13.7 | 0.5 | 20.1 | 7.3 | 4.6 | 13.7 | 12.8 | 8.2 | 5.5 | 9.1 | 0.9 | 0.9 |
| Izo | remote European air (particulate) | 3.7 | 24.2 | 0.4 | 7.1 | 4.9 | 2.2 | 12.6 | 13.8 | 6.7 | 4.7 | 10.4 | 9.1 | 0.2 | (Drooge et al. 2010) |
| SP | remote European air (particulate) | 4.4 | 8.0 | 2.8 | 15.3 | 11.7 | 4.7 | 9.7 | 10.3 | 6.3 | 6.3 | 9.4 | 8.4 | 2.9 |
| Redo summer | remote European air (gaseous) | 15.0 | 60.0 | 3.8 | 13.1 | 7.5 | 0.1 | 0.4 | 0.1 | ND | 0.0 | 0.0 | 0.0 | 0.0 | (Fernández, Grimalt, et Vilanova 2002) |
| Ovre summer | remote European air (gaseous) | 29.9 | 50.5 | 1.9 | 11.2 | 5.6 | 0.1 | 0.7 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Gossenkølle summer | remote European air (gaseous) | 33.5 | 52.2 | 1.9 | 7.5 | 3.7 | 0.2 | 0.6 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Redo winter | remote European air (gaseous) | 27.6 | 59.1 | 2.0 | 6.9 | 3.9 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ovre winter | remote European air (gaseous) | 20.3 | 67.7 | 1.0 | 7.7 | 1.9 | 0.3 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 |
| Gossenkølle winter | remote European air (gaseous) | 33.8 | 50.7 | 1.9 | 9.4 | 3.8 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Izo | remote European air (gaseous) | 23.2 | 56.5 | 1.4 | 7.2 | 6.2 | 2.1 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | (Drooge et al. 2010) |
| SP | remote European air (gaseous) | 20.6 | 69.0 | 0.5 | 7.0 | 2.3 | 0.2 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Monte Rosa | remote European ice | NA | 62.0 | 1.4 | 14.1 | 7.0 | NA | 4.3 | 2.0 | 1.7 | 1.0 | 2.4 | 3.8 | 0.1 | (Gabrieli et al. 2010) |
| Maggiore | urban European water (dissolved) | 17.3 | 28.0 | 1.3 | 23.3 | 14.7 | 3.3 | 4.7 | NA | 3.3 | 1.3 | 1.3 | 0.7 | 0.7 | (Olivella 2006) |
| Maggiore | urban European water (particulate) | 20.6 | 10.6 | 1.5 | 8.0 | 6.3 | 10.6 | 4.5 | NA | 12.1 | 6.3 | 10.1 | 8.0 | 1.5 |
| Maggiore | urban European rain (particulate) | 14.6 | 16.0 | 1.3 | 33.3 | 25.9 | 3.5 | 2.7 | NA | 0.9 | 0.4 | 0.4 | 0.4 | 0.4 |
| Maggiore | urban European rain (dissolved) | 2.9 | 10.0 | 1.4 | 22.9 | 11.9 | 19.5 | 7.6 | NA | 7.6 | 2.9 | 6.0 | 6.0 | 1.4 |
| Superior | urban European sediment trap | 2.3 | 42.4 | 0.7 | 16.5 | 11.4 | NA | 3.5 | 8.3 | 8.3 | NA | 2.0 | 3.7 | 1.0 | (Jeremiason et al. 1998) |

ND = “Non Detected”

NA = “Non Available”

**Table S5.** PCB profiles (%) from the literature overview for the selection of the large-scale reference and the respective literature references

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | Categories | PCB28 | PCB52 | PCB101 | PCB118 | PCB138 | PCB153 | PCB180 | References |
| Redon | remote European sediment | 1.8 | 7.3 | 14.6 | 10.6 | 14.6 | 26.8 | 24.4 | (Grimalt et al. 2004) |
| Gossenkølle | remote European sediment | 3.0 | 5.0 | 10.0 | 7.0 | 30.0 | 30.0 | 15.0 | (Carrera et al. 2002) |
| Estany | remote European sediment | 5.0 | 10.0 | 16.0 | 22.0 | 13.0 | 18.0 | 16.0 |
| Ovre | remote European sediment | 1.0 | 10.3 | 20.5 | 7.2 | 26.7 | 24.6 | 9.7 |
| Loch Coire nan Arr | remote European sediment | 5.0 | 7.9 | 13.3 | 8.3 | 20.8 | 25.0 | 19.6 | (Rose et Rippey 2002) |
| Opeongo | remote Canadian sediment | 18.8 | 21.9 | 18.8 | 6.3 | 18.8 | 9.4 | 6.3 | (Macdonald et Metcalfe 1991) |
| Wood | remote Canadian sediment | 26.3 | 26.3 | 2.6 | 10.5 | 21.1 | 7.9 | 5.3 |
| Boshkung | remote Canadian sediment | 3.7 | 14.8 | 14.8 | 18.5 | 14.8 | 22.2 | 11.1 |
| St Nora | remote Canadian sediment | 18.2 | 24.2 | 6.1 | 12.1 | 18.2 | 12.1 | 9.1 |
| Tillet | urban European sediment | 1.0 | 7.5 | 16.1 | 6.0 | 23.1 | 29.1 | 17.1 | BIOSED program |
| Rhône | urban European sediment | 4.3 | 4.8 | 10.7 | 6.4 | 21.4 | 29.9 | 22.5 | (Desmet et al. 2012) |
| Huveaune | urban European sediment | 6.6 | 7.5 | 12.3 | 9.9 | 24.2 | 26.8 | 12.8 | (Kanzari et al. 2014) |
| Berre Lagoon | urban European sediment | 8.5 | 7.9 | 14.1 | 17.5 | 30.0 | 14.2 | 7.8 |
| Ellasjøen | arctic sediment | 3.2 | 2.9 | 1.6 | 14.3 | 28.7 | 36.6 | 12.7 | (Evenset et al. 2007) |
| Sierram | arctic sediment | 1.6 | 6.6 | 9.8 | 23.0 | 32.8 | NA | 26.2 | (Vartiainen et al. 1997) |
| Pahtajärvi | arctic sediment | 4.1 | 14.5 | 35.2 | 19.3 | 15.9 | NA | 11.0 |
| Hazen | arctic sediment | 10.1 | 20.2 | 18.0 | 15.7 | 18.0 | 13.5 | 4.5 | (Muir et al. 1996) |
| Estany | remote European air (gaseous + particulate) | 17.6 | 23.5 | 28.4 | 9.8 | 9.8 | 8.8 | 2.0 | (Carrera et al. 2002) |
| Ovre | remote European air (gaseous + particulate) | 17.7 | 17.2 | 24.9 | 12.4 | 15.3 | 11.5 | 1.0 |
| Gossenkølle | remote European air (gaseous + particulate) | 19.2 | 24.0 | 24.0 | 10.6 | 8.7 | 9.6 | 3.8 |
| Gossenkølle 2007 | remote European air (gaseous + particulate) | 5.4 | 20.0 | 27.5 | 12.1 | 10.3 | 21.4 | 3.3 | (Arellano et al. 2015) |
| Muzelle summer | remote European snow | NA | 26.8 | 19.7 | NA | 15.3 | 17.8 | 20.4 | (Nellier et al. 2015) |
| Muzelle winter | remote European snow | NA | 26.9 | 20.0 | NA | 15.2 | 15.9 | 22.1 |
| Plan Vianney summer | remote European snow | NA | 25.6 | 20.6 | NA | 15.6 | 17.5 | 20.6 |
| Plan Vianney winter | Remote European snow | NA | 25.7 | 22.1 | NA | 17.1 | 15.0 | 20.0 |
| Estany | Remote European water (dissolved + particulate) | 15.6 | 20.8 | 21.6 | 8.8 | 14.8 | 12.0 | 6.4 | (Carrera et al. 2002) |
| Ovre | Remote European water (dissolved + particulate) | 19.0 | 18.3 | 23.0 | 7.1 | 16.7 | 15.9 | 0.0 |
| Gossenkølle | Remote European water (dissolved + particulate) | 5.7 | 19.8 | 23.6 | 9.4 | 16.0 | 19.8 | 5.7 |

ND = “Non Detected”

NA = “Non Available”

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