Supplementary Data

Determination of PCB fluxes from Indiana Harbor and Ship Canal using dual-deployed air and water passive samplers

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21 pages: 4 figures and 3 tables.

All the data generated in this research, i.e., individual congener specific masses captured by the PUFs and LDPEs, LOQ for both PUF and LDPE, effective volumes, fraction of equilibrium, internal energy for the transfer of octanol-water, octanol-water partition coefficient at standard temperature, LDPE-water partition coefficient, water-air fugacity ratios, fluxes (net, volatilization and absorption), and the meteorological data, are available at doi:10.1594/PANGAEA.894908 (Martinez et al., 2018).

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Temperature Correction of $K_{LDPE\text{-}W}$ and Water Diffusivity

Congener specific LDPE-water partition coefficient ($K_{LDPE\text{-}W}$) and water diffusivity were corrected with the average water temperature of each deployment time to be used in the graphical user interface (GUI) developed by US EPA (Apell et al., 2016; Tcaciuc et al., 2015; Thompson et al., 2015; USEPA/SERDP/ESTCP, 2017) to obtain the congener specific fraction of equilibrium used in equation 1.

The $K_{LDPE\text{-}W}$ was corrected as follow:

$$K_{PCBi\ ow\ (Tw)} = K_{PCBi\ ow(Tstd)} \times e^{\left(\frac{-\Delta U_{PCBi\ ow}}{R} \times \left(\frac{1}{Tw} - \frac{1}{Tstd}\right)\right)} \tag{S1}$$

$$\log(K_{LDPE-W}) = 1.18 \times \log(K_{PCBi\ ow(Tw)}) - 1.26 \tag{S2}$$

where $K_{PCBi\ ow\ (Tstd)}$ is the octanol-water partition coefficient at standard temperature for the *i*th PCB (L kg^{-1}) (Hawker and Connell, 1988), $\Delta_{UPCBi\ o/w}$ is the internal energy for the transfer of octanol-water for the *i*th PCB (J mol^{-1}) (Li et al., 2003), T_w is the average water temperature for the deployment time (K), T_{std} is the standard temperature (298.15 K), and equation S2 is from (Ghosh et al., 2014).

In the case of the water diffusivity, CO_2 was used as surrogate, following the equations:

$$D_{CO2\ w} = 0.05 \times e^{\left(\frac{19.51}{R \times Tw}\right)} \tag{S3}$$

$$D_{PCBi\ w} = D_{CO2\ w} \times \left(\frac{MW_{PCBi}}{MW_{CO2}}\right)^{-0.5} \tag{S4}$$

where D_{CO2} w is the CO_2 diffusivity in water corrected by water temperature (cm^2 s^{-1}) (Jähne et al., 1987), MW_{PCBi} is the molecular weight for the *i*th PCB (g mol^{-1}), MW_{CO2} is the molecular weight of CO_2 (44.0094 g mol^{-1}), and $D_{PCBi\ w}$ is the diffusivity in the water for the *i*th PCB (cm^2 s^{-1}) (Schwarzenbach et al., 2003).

PCB Flux Calculations

We calculated the net PCB fluxes from IHSC for each of the PCB congeners measured in water ($F_{PCBi}, ng\ d^{-1}m^{-2}$) using the gradient-flux law, i.e., air-water mass transfer coefficient multiplied by water concentration (eq. S5) (Martinez et al., 2010; Schwarzenbach et al., 2003; Totten et al., 2003; Zhang et al., 1999):

$$F_{PCBi} = V_{PCBi\ a/w} \times \left(C_{PCBi\ w} - {C_{PCBi\ a}}/{K_{PCBi\ a/w}}\right) \quad \text{(S5)}$$

where $V_{PCBi\ a/w}$ is the air-water mass transfer coefficient for the *i*th PCB (m d^{-1}) and $C_{PCBi\ w}$ is the freely-dissolved concentration in the water column for the *i*th PCB (ng m^{-3}), $C_{PCBi\ a}$ is the gaseous phase concentration for the *i*th PCB (ng m^{-3}), and $K_{PCBi\ a/w}$ is the equilibrium air-water partition constant (nondimensional Henry's Law constant) for the *i*th PCB corrected by air and water temperatures. We also calculated gross gas absorption (i.e., $C_{PCBi\ w} = 0$ in eq. S5) and gross volatilization (i.e., $C_{PCBia} = 0$ in eq. S5) fluxes.

The mass transfer coefficient was calculated following the Whitman two-film model, where individual velocities across air and water films were calculated to compute the overall air-water mass transfer coefficient (eq. S6):

$$1/V_{PCBi\ a/w} = 1/V_{PCBi\ w} + 1/(V_{PCBi\ a} \times K_{PCBi\ a/w}) \quad \text{(S6)}$$

where $V_{PCBi\ w}$ is the water transfer velocity for the *i*th PCB (m d^{-1}) and $V_{PCBi\ a}$ is the air transfer velocity for the *i*th PCB (m d^{-1}). Temperature correction for Henry's Law Constant was carried out using the van't Hoff equation (Goss, 2006), where the internal energy for the transfer of water to air transfer for the *i*th PCB was from Li et al. (Li et al., 2003). See equations S7 to S9.

$$K_{PCBi\ a/w} = K_{PCBi\ a(Ta)/w(Tw)} = K_{PCBi\ a/w\ (Tw)} \times \frac{Tw}{Ta} \quad \text{(S7)}$$

$$K_{PCBi\ a/w\ (Tw)} = K_{PCBi(Tstd)} \times e^{\left(\frac{-\Delta U_{PCBi\ a/w}}{R} \times \left(\frac{1}{Tw} - \frac{1}{Tstd}\right)\right)} \quad \text{(S8)}$$

$$K_{PCBi\ a/w\ (Tstd)} = HLC_{PCBi} \times \left(\frac{1}{R \times Tstd}\right) \quad \text{(S9)}$$

- $K_{PCBi\ a/w}$ or $K_{PCBi\ a(Ta)/w(Tw)}$ is the water and air temperatures corrected nondimensional Henry's law Constant of the ith PCB (Goss, 2006).
- $K_{PCBi\ a/w(Tw)}$ is the nondimensional Henry's law constant of the *i*th PCB corrected by water temperature (Dunnivant et al., 1992; Goss, 2006; Li et al., 2003).
- $K_{PCBi\ a/w(Tstd)}$ is the nondimensional Henry's law constant of the *i*th PCB at standard temperature (Dunnivant et al., 1992).
- $\Delta U_{PCBi\ a/w}$ is the internal energy for the transfer of water to air for the *i*th PCB (J mol^{-1}) (Li et al., 2003).

- T_w is the water temperature (K).
- T_a is the air temperature (K).

It is important to note that the mass transfer of CO_2, shown as K_{600}, is different for different water bodies. The mass transfer of CO_2 depends mainly on two factors: the concentration gradient between the surface water and the air and the physical transfer or turbulent energy at this interface. In the case of shallow stream and rivers, the K_{600} is influences by the stream depth and flow velocity, and not the wind speed (Raymond and Cole, 2001; Tokoro et al., 2007). Therefore, we employed that relationship to estimate the K_{600} for the different scenarios, as function of the stream depth and the flow velocity (Raymond and Cole, 2001). The kinematic viscosity (i.e. viscosity to density ratio) was computed for each air and water temperature scenarios.

Definition of Terms

The equations in Figure S1 depict the equations used for the air-water PCB exchange model. The definitions and sources of parameters are defined as follows:

$F_{PCBi\ a/w}$ is the flux between air and water for the *i*th PCB (ng m^{-2} d^{-1}) (Schwarzenbach et al., 2003).
$V_{PCBi\ a/w}$ is the air –water exchange velocity of the *i*th PCB (m d^{-1}) (Schwarzenbach et al., 2003).
T_w is the water temperature (K).
T_a is the air temperature (K).
$K_{PCBi\ a/w(Tw)}$ is the nondimensional Henry's Law Constant of the *i*th PCB corrected by water temperature (Goss, 2006).
$V_{PCBi\ a}$ is the air exchange velocity of the *i*th PCB (m d^{-1}) (Schwarzenbach et al., 2003).
$V_{water\ a}$ is the water vapor exchange velocity in air (m d^{-1}) (Schwarzenbach et al., 2003).
$D_{PCBi\ a}$ is the diffusivity in air for the *i*th PCB (cm^2 s^{-1}) (Schwarzenbach et al., 2003).
$D_{water\ a}$ is the water diffusivity in air corrected by air temperature and atmospheric pressure (cm^2 s^{-1}) (Schwarzenbach et al., 2003).
P is the atmospheric pressure (mbar).
MW_{PCBi} is the molecular weight for the *i*th PCB (g mol^{-1}).
MW_{CO2} is the molecular weight of CO_2 (44.0094 g mol^{-1}).
u_{10} is the wind speed measured at 10 above the water surface (m d^{-1}).
$V_{PCBi\ w}$ is the water exchange velocity of the *i*th PCB (m d^{-1}) (Schwarzenbach et al., 2003).
V_{CO2} or k600 is the CO_2 gas transfer velocity in water (cm h^{-1}) (Raymond and Cole, 2001; Tokoro et al., 2007).
$Sc_{PCBi\ w}$ is the Schmidt number in water for the *i*th PCB (Schwarzenbach et al., 2003).
$Sc_{CO2\ w}$ is the Schmidt number in water for CO_2 (Schwarzenbach et al., 2003).
ν_{water} is the kinematic viscosity of water corrected by water temperature (cm^2 s^{-1}).
$D_{PCBi\ w}$ is the diffusivity in the water for the *i*th PCB (cm^2 s^{-1}) (Schwarzenbach et al., 2003).
$D_{CO2\ w}$ is the CO_2 diffusivity in water corrected by water temperature (cm^2 s^{-1}) (Jähne et al., 1987).
v_x is the flow velocity (cm s^{-1}).
h is the water depth (m).
Q is the water flow (m^3 s^{-1}).

w is the wide of area sampled (3 m).
A is the sectional canal area (m^2).

$$\frac{1}{V_{PCBi\,a/w}} = \left(\frac{1}{V_{PCBi\,w}}\right) + \left(\frac{1}{V_{PCBi\,a} \times K_{PCBi\,a/w}}\right)$$

$$V_{PCBi\,w} = V_{CO_2} \times \left(\frac{Sc_{PCBi\,w}}{Sc_{CO_2 w}}\right)^{-0.5} \times \left(0.24 \frac{h\,m}{day\,cm}\right)$$

$$Sc_{PCBi\,w} = \left(\frac{\nu_{water}}{D_{PCBi\,w}}\right)$$

$$D_{PCBi\,w} = D_{CO_2\,w} \times \left(\frac{MW_{PCBi}}{MW_{CO_2}}\right)^{-0.5}$$

$$D_{CO_2\,w} = f(T_w)$$

$$\nu_{water} = f(T_w)$$

$$V_{CO_2} = 1.72 \times \left(\frac{v_x}{h}\right)^{0.5}$$

$$v_x = \frac{Q}{A} \times \left(100 \frac{cm}{m}\right)$$

$$A = w \times h$$

$$Sc_{CO_2\,w} = \left(\frac{\nu_{water}}{D_{CO_2\,w}}\right)$$

$$V_{PCBi\,a} = V_{water\,a} \times \left(\frac{D_{PCBi\,a}}{D_{water\,a}}\right)^{0.67}$$

$$D_{PCBi\,a} = D_{water\,a} \times \left(\frac{MW_{PCBi}}{MW_{water}}\right)^{-0.5}$$

$$D_{water\,a} = f(T_a, P)$$

$$V_{water\,a} = 0.2 \times u_{10} + 0.3$$

Figure S1 Equations used in the calculation of the overall air-water mass transfer coefficient for individual PCB congeners.

Monte Carlo Parameters

The input parameters were wind speed (u_{10}), air (Ta) and water (T_w) temperatures, atmospheric pressure (P), water flow (Q), water depth of the canal (h), air ($C_{PCBi\ a}$), and freely-dissolved water ($C_{PCBi\ w}$) concentrations, Henry's Law Constant (HLC_{PCBi}) (Dunnivant et al., 1992), octanol-water equilibrium coefficient ($K_{PCBi\ ow}$) (Hawker and Connell, 1988), and the parameters obtained from linear regressions use to calculate the internal energy for the transfer of water to air and octanol to air (Li et al., 2003). The latter was only used when water concentrations from 2006 were corrected by the presence of DOC.

The frequency distribution for each parameter was determined as follows: histograms were plotted and the distribution was obtained for wind speed, air and water temperatures, atmospheric pressure, water flow and water depth of the canal. All of the meteorological and environmental parameters showed normal distributions. Air and freely-dissolved concentrations were considered as normal distribution, and a 20% analytical error was included. The parameters from the one-parameter linear free energy relationships (op-LFER) (i.e., $\Delta U_{PCBi\ a/w}$ and $\Delta U_{PCBi\ o/w}$) used to temperature correct $K_{PCBi\ a/w}$ (eq S8) and $K_{PCBi\ OW}$ (eq S1) were described as normal distributions. We selected a normal distribution because most of the parameters show a small standard deviation in comparison to their arithmetic means (Dunnivant et al., 1992; Hawker and Connell, 1988; Li et al., 2003). **Table S1** depicts all the parameters and PCB chemical properties used in the Monte Carlo simulations, with their respective values (mean ± standard deviation).

The R code for calculating the fugacity air-water ratios, including a Monte Carlo simulation, is available free at:

https://github.com/valdiman/Monte-Carlo-Fugacity-ratios.git

The R code for calculating the air-water PCB fluxes, including a Monte Carlo simulation, is available free at:

https://github.com/valdiman/PCB-flux-calculations.git

Table S1 Monte Carlo parameters and their frequency distribution (mean ± standard deviation)

Parameters	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Air temperature (Ta, °C)	-0.38 ± 6.5	3.3 ± 6.7	4.4 ± 6.1	12 ± 6.5	13 ± 6.4	21 ± 5.8	24 ± 3.8	21 ± 4.9	21 ± 5.7	17 ± 4.4
Water temperature (Tw, °C)	8.2 ± 2.5	7.8 ± 1.6	9.8 ± 1.2	14 ± 2.5	17 ± 2.2	22 ± 1.9	26 ± 1.2	26 ± 1	24 ± 1.1	21 ± 1.8
Wind speed (u_{10}, m s^{-1})	4.3 ± 2.5	4.4 ± 2.5	4.8 ± 2.7	4.5 ± 3.1	4.4 ± 2.8	3.4 ± 2.6	2.9 ± 2	2.9 ± 2.1	2.6 ± 1.8	3.6 ± 2.1
Atmospheric pressure (P, mbar)	1000 ± 10	990 ± 8	1000 ± 8.7	990 ± 8.1	990 ± 5.2	990 ± 4.8	990 ± 3.5	1000 ± 3.5	1000 ± 5	1000 ± 6.1
Water flow (Q, m^3 s^{-1})	21 ± 17	21 ± 18	22 ± 21	27 ± 24	26 ± 23	22 ± 19	28 ± 25	16 ± 13	16 ± 12	21 ± 18
Water depth (h, m)	4.7 ± 0.56	4.7 ± 0.56	4.8 ± 0.57	4.9 ± 0.59	5.1 ± 0.61	5.1 ± 0.61	5.2 ± 0.63	5.2 ± 0.63	5.2 ± 0.62	5.1 ± 0.61
ΣPCBs gas-phase ($C_{PCBi\ a}$, ng m^{-3})	0.8 ± 0.2	1.1 ± 0.2	1.6 ± 0.3	3.5 ± 0.7	3.9 ± 0.8	4.4 ± 0.9	0 ± 0*	5.9 ± 1.2	5.9 ± 1.2	6.8 ± 1.4
ΣPCBs freely-dissolved water ($C_{PCBi\ w}$, ng L^{-1})	9.03 ± 1.8	10 ± 2.1	10 ± 2.0	14 ± 2.7	13 ± 2.5	13 ± 2.7	16 ± 3.1	16 ± 3.1	16 ± 3.2	18 ± 3.7
$\Delta U_{PCBi\ a/w}$	$\Delta U_{PCBi\ a/w} = a \times MW_{PCB\ i} - b \times northo_{PCB\ i} + c$, a = 0.085 ± 0.007; b = 1 ± 0.5; c = 32.7 ± 1.6 (Li et al., 2003)									
Henry's Law Constant (HLC_{PCBi})	HLC_{PCBi} ± 4.6 (Dunnivant et al., 1992)									
$\Delta U_{PCBi\ o/w}$	$\Delta U_{PCBi\ o/w} = -a2 \times MW_{PCB\ i} + b2 \times northo_{PCB\ i} - c2$, a2 = 0.13 ± 0.02; b2 = 2.9 ± 1.2; c2 = 48 ± 4.3 (Li et al., 2003)									
Octanol-water equilibrium coefficient ($K_{PCBi\ ow}$)	$K_{PCBi\ ow}$ ± 2.1 (Hawker and Connell, 1988)									
DOC (mg L^{-1})	3.9 ± 1.0 (Risch, 2005)									

Dissolved Organic Carbon (DOC) Water Correction

Water samples from August 2006 were collected using a submersible pump that pushed water from approximately 1 meter below the surface. The water was pushed at a rate of approximately 150 mL min^{-1} through a stainless steel pentaplate that held five 0.293 cm glass fiber filters (GFF) in parallel (operationally defined as suspended particles). The filtered water was collected in stainless steel tanks that were covered at the water surface by precleaned aluminum foil. The filtered water was then pulled at a rate of approximately 150 mL min^{-1} through 3 cm I.D. x 30 cm long glass columns packed with a water slurry of XAD-2 resin (operationally defined as dissolved-phase). An average volume of 30 L of water was collected in this manner at each sites (Martinez et al., 2010).

To compare samples from 2006 and 2017, we transformed the dissolved phase obtained from the active sampling from 2006 to freely-dissolved by subtracting the amount of PCBs bond to DOC. We considered a two-phase partitioning model (Burkhard, 2000):

$$C_{PCBi\ w*} = C_{PCBi\ w} + C_{PCBi\ DOC} \qquad \text{(S10)}$$

where $C_{PCBi\ w*}$ is the dissolved-phase concentration for the *i*th PCB (ng L^{-1}) measured using the active sampling via the XAD-2 resin, $C_{PCBi\ w}$ is the freely-dissolved phase for the *i*th PCB (ng L^{-1}) and $C_{PCBi\ DOC}$ is the concentration of the *i*th PCB sorbed to DOC. Then, $C_{PCBi\ DOC}$:

$$C_{PCBi\ DOC} = C_{PCBi\ w} \times [DOC] \times K_{PCBi\ DOC} \qquad \text{(S11)}$$

where [DOC] is the water concentration of DOC (3.9 ± 1.0 mg L^{-1}) from Risch (2005) and $K_{PCBi\ DOC}$ is the partition coefficient between dissolved organic carbon and the freely-dissolved phase for the *i*th PCB ($KPCBi_{\ DOC} = 0.06 \times K_{PCBi\ ow}$) from Burkhard (2000). $K_{PCBi\ ow}$ was temperature corrected using eq S1.

Thus:

$$C_{PCBi\ w} = {C_{PCBi\ w}}^{*} \Big/ (1 + [DOC] \times K_{PCBi\ DOC}) \qquad \text{(S12)}$$

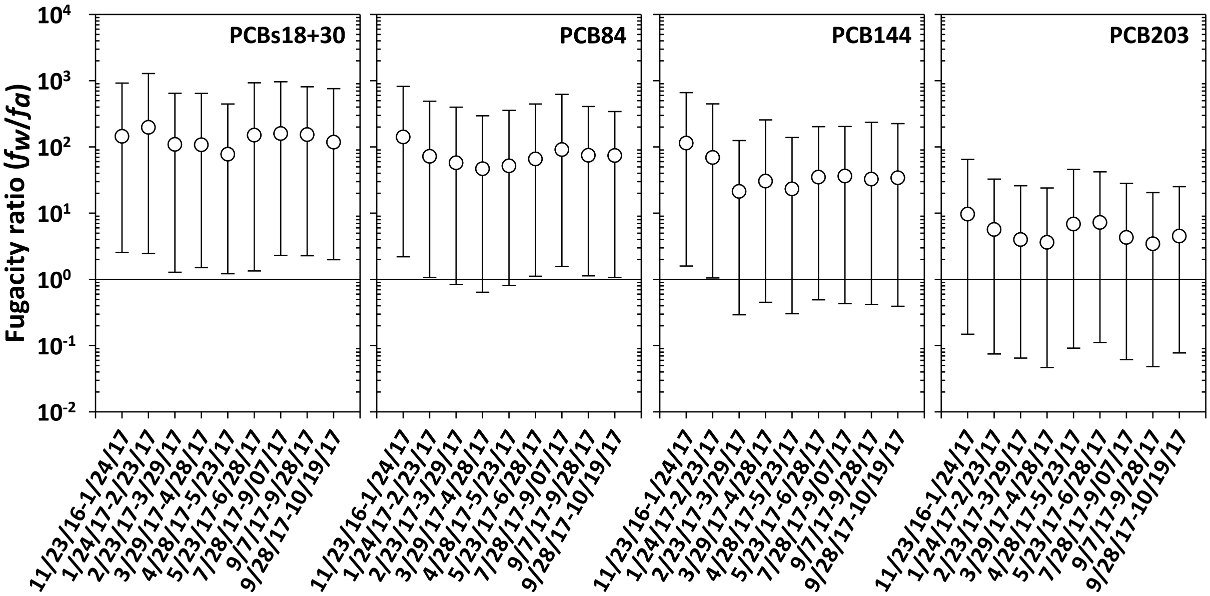

Figure S2 Water-air fugacity ratios for selected PCB congeners (PCBs18+30, 84, 144 and 203) for the nine deployments. Void circles represent the measure values and the error bars represent the 2.5th and 97.5th percentiles (i.e., 95% confidence interval). Monte Carlo simulation was run 1000 times. Fugacity ratio from deployment 6/28/17-7/28/17 was not calculated due to loss of PUF sample. Values > 1, = 1 (line) and < 1 indicate volatilization, equilibrium and absorption, respectively.

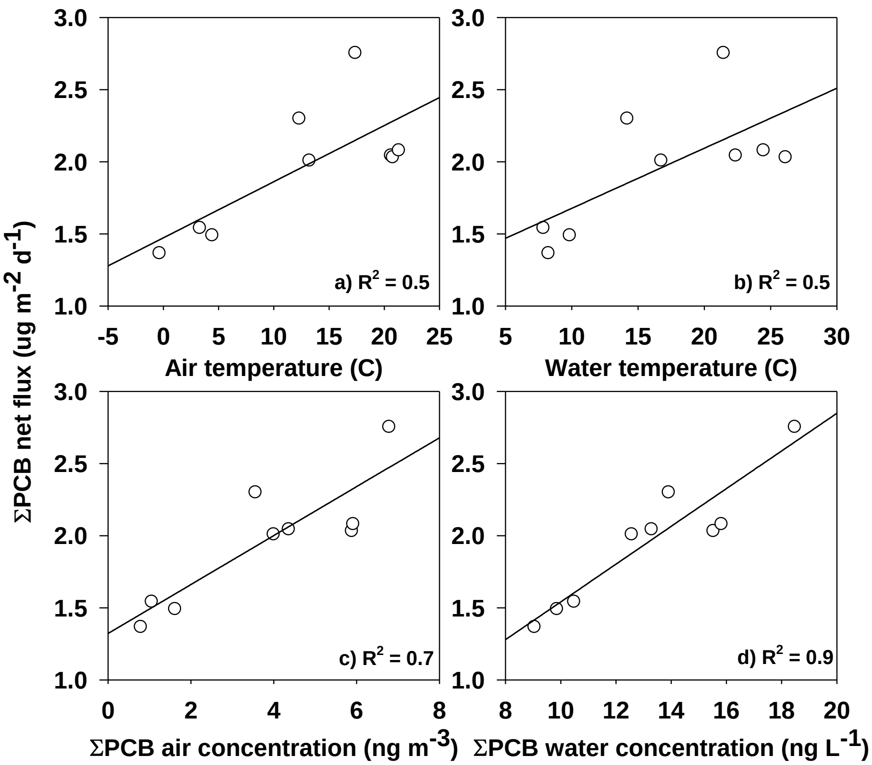

Figure S3 ΣPCB net fluxes correlated to air (a) and water (b) temperatures, and gas-phase (c) and freely-dissolved (d) concentrations. All correlations are statistical significant ($p < 0.05$).

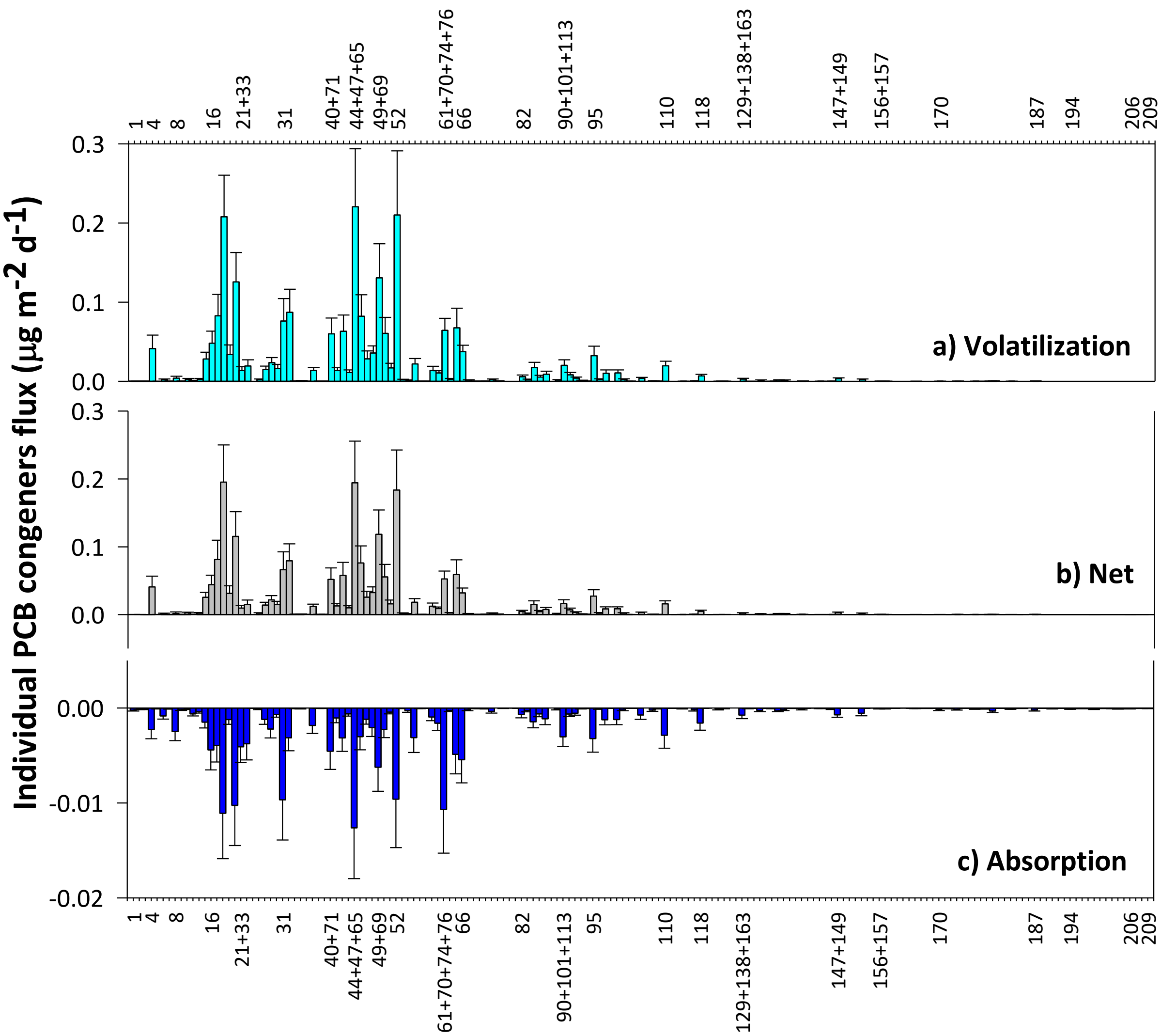

Figure S4 Average individual PCB congener volatilization (a), net (b) and absorption (c) fluxes from measured samples from the sampling periods. Error bars represent the standard deviation calculated from the samples analyzed. Please note the difference in the y-axis scale for plot (c). Congeners are ordered by IUPAC nomenclature.

Table S2 PUF-PAS gas-phase concentrations of individual PCB congener collected in IHSC (pg m^{-3}).

Congener	11/23/16 -1/24/17	1/24/17-2/23/17	2/23/17-3/29/17	3/29/17-4/28/17	4/28/17-5/23/17	5/23/17-6/28/17	7/28/17-9/07/17	9/07/17-9/28/17	9/28/17-10/19/17
PCB 1	4.1	3.0	3.7	5.0	4.2	3.4	3.7	5.5	6.6
PCB 2	1.1	1.2	1.8	2.6	3.0	1.5	1.6	2.1	2.8
PCB 3	1.4	1.3	1.8	2.8	2.8	1.9	2.3	3.1	3.5
PCB 4	24.0	22.0	37.0	65.0	62.0	50.0	44.0	59.0	85.0
PCB 5	0.6	0.8	1.1	1.6	1.6	1.1	1.2	1.3	1.7
PCB 6	6.7	8.4	14.0	24.0	23.0	21.0	21.0	23.0	25.0
PCB 7	0.8	0.8	1.2	2.4	2.2	2.1	2.1	2.4	2.8
PCB 8	18.0	21.0	34.0	62.0	58.0	55.0	69.0	82.0	110.0
PCB 9	1.6	1.7	2.6	4.9	4.6	4.0	4.3	5.3	6.6
PCB 10	1.1	1.2	1.9	3.4	3.4	3.1	3.2	3.6	4.9
PCB 11	2.5	5.8	9.3	14.0	15.0	16.0	23.0	15.0	15.0
PCBs 12+13	1.6	2.8	4.4	9.1	9.3	8.4	9.3	8.8	10.0
PCB 15	5.5	8.2	13.0	28.0	31.0	30.0	40.0	41.0	53.0
PCB 16	25.0	26.0	48.0	96.0	100.0	93.0	110.0	130.0	190.0
PCB 17	28.0	33.0	58.0	120.0	120.0	110.0	120.0	140.0	190.0
PCBs 18+30	74.0	85.0	150.0	280.0	310.0	270.0	320.0	360.0	520.0
PCB 19	11.0	11.0	21.0	40.0	44.0	40.0	49.0	53.0	69.0
PCBs 20+28	54.0	70.0	110.0	250.0	270.0	270.0	300.0	320.0	400.0
PCBs 21+33	20.0	23.0	39.0	87.0	90.0	90.0	110.0	120.0	160.0
PCB 22	16.0	18.0	30.0	65.0	74.0	71.0	91.0	97.0	120.0
PCB 23	0.1	0.0	0.1	0.3	0.0	0.0	0.0	0.3	0.0
PCB 24	0.8	0.9	1.4	3.1	3.1	2.3	3.3	3.6	4.8
PCB 25	7.5	9.3	15.0	31.0	37.0	33.0	37.0	36.0	42.0
PCBs 26+29	12.0	16.0	26.0	55.0	63.0	57.0	64.0	68.0	83.0
PCB 27	4.9	5.6	9.7	20.0	23.0	20.0	26.0	28.0	35.0
PCB 31	51.0	67.0	110.0	220.0	250.0	230.0	280.0	290.0	400.0
PCB 32	21.0	26.0	45.0	91.0	110.0	96.0	120.0	130.0	170.0
PCB 34	0.3	0.0	0.6	1.4	1.8	1.4	1.4	1.4	1.7
PCB 35	0.2	0.8	0.8	1.7	1.9	3.8	4.2	3.8	3.3
PCB 36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 37	4.0	7.0	10.0	24.0	30.0	37.0	49.0	47.0	52.0
PCB 38	0.0	0.0	0.3	0.5	1.0	0.0	1.0	0.9	0.9
PCB 39	0.0	0.0	0.0	0.7	0.0	0.0	1.4	1.2	1.7
PCBs 40+71	20.0	28.0	42.0	110.0	130.0	140.0	190.0	200.0	220.0
PCB 41	3.5	5.2	8.9	21.0	21.0	23.0	38.0	40.0	49.0
PCB 42	13.0	17.0	26.0	63.0	75.0	82.0	110.0	120.0	130.0
PCB 43	5.2	6.1	8.4	17.0	19.0	15.0	18.0	20.0	24.0
PCBs 44+47+65	49.0	71.0	100.0	260.0	280.0	310.0	410.0	420.0	470.0
PCB 45	17.0	23.0	36.0	88.0	93.0	94.0	110.0	120.0	150.0
PCB 46	6.4	8.4	13.0	30.0	33.0	34.0	46.0	46.0	56.0
PCB 48	11.0	15.0	20.0	50.0	54.0	58.0	75.0	81.0	97.0
PCBs 49+69	35.0	50.0	69.0	170.0	180.0	200.0	250.0	260.0	300.0
PCBs 50+53	17.0	21.0	32.0	73.0	81.0	81.0	100.0	100.0	120.0
PCB 51	2.9	4.9	5.5	15.0	19.0	19.0	23.0	26.0	24.0
PCB 52	44.0	30.0	86.0	170.0	210.0	340.0	450.0	470.0	530.0
PCB 54	0.3	0.4	0.6	1.5	1.5	1.5	1.7	1.7	2.3
PCB 55	0.0	1.0	2.2	6.4	6.2	5.8	6.7	7.7	6.5
PCB 56	6.6	10.0	15.0	39.0	48.0	64.0	99.0	94.0	90.0
PCBs 59+62+75	0.1	0.0	0.4	0.9	0.9	1.0	1.3	1.4	1.3
PCB 58	0.0	0.0	0.3	0.0	0.4	0.0	0.8	0.7	0.0
PCBS 59 + 62 +75	3.8	6.4	9.1	21.0	25.0	28.0	39.0	39.0	42.0
PCB 60	3.9	5.8	8.5	21.0	25.0	33.0	52.0	49.0	49.0
PCBs 61+70+74+76	32.0	54.0	71.0	180.0	210.0	260.0	360.0	360.0	350.0
PCB 63	0.7	1.3	1.7	5.1	5.2	6.9	9.5	10.0	9.9
PCB 64	20.0	28.0	41.0	99.0	120.0	130.0	190.0	190.0	210.0
PCB 66	15.0	24.0	34.0	92.0	100.0	140.0	190.0	190.0	180.0
PCB 67	0.6	1.3	1.5	3.9	4.0	4.9	7.4	7.3	7.3
PCB 68	0.0	0.6	0.6	1.2	1.1	1.2	1.4	1.4	1.9
PCB 72	0.2	0.4	0.4	1.5	1.5	1.6	1.7	1.9	1.8
PCB 73	0.0	0.0	2.5	0.0	4.0	0.0	0.0	0.0	0.0

PCB 77	0.0	1.3	0.9	3.4	4.0	5.5	11.0	8.7	6.7
PCB 78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 79	0.0	0.0	0.0	0.0	0.6	0.0	1.2	1.5	0.8
PCB 80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 81	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
PCB 82	1.1	2.0	3.0	7.9	10.0	15.0	26.0	20.0	19.0
PCB 83	0.5	0.6	0.9	3.1	4.0	6.0	13.0	14.0	9.8
PCB 84	4.3	7.3	11.0	27.0	32.0	46.0	66.0	60.0	59.0
PCBs 85+116	1.4	2.7	3.0	9.3	11.0	14.0	28.0	22.0	19.0
PCBs 86+97+109+119	2.0	4.1	5.5	14.0	19.0	27.0	53.0	42.0	37.0
PCBs 88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 89	0.4	0.6	1.0	2.6	3.1	4.0	5.9	5.7	5.9
PCBs 90+101+113	11.0	26.0	29.0	60.0	66.0	77.0	120.0	110.0	100.0
PCB 91	2.8	4.3	5.4	15.0	17.0	25.0	32.0	30.0	29.0
PCB 92	2.0	4.7	5.4	11.0	13.0	15.0	23.0	20.0	19.0
PCBs 93+100	0.5	0.9	1.0	1.8	2.3	2.5	3.2	3.0	3.1
PCB 94	0.2	0.3	0.4	0.8	1.0	1.6	2.0	1.8	2.1
PCB 95	9.7	20.0	28.0	73.0	81.0	110.0	150.0	140.0	140.0
PCB 96	0.5	0.7	0.9	2.4	2.8	3.6	4.1	4.2	4.8
PCBs 87+125	3.1	5.3	7.5	18.0	21.0	28.0	47.0	43.0	38.0
PCB 98	0.0	0.0	0.3	0.0	0.3	0.6	0.0	0.0	0.0
PCB 99	3.6	6.5	8.4	21.0	23.0	33.0	60.0	55.0	49.0
PCB 102	1.1	1.7	2.1	6.0	5.5	7.3	9.1	8.5	9.0
PCB 103	0.1	0.2	0.3	0.7	0.8	1.2	1.4	1.4	1.3
PCB 104	0.0	0.0	0.0	0.0	0.0	1.5	0.1	0.0	0.0
PCB 105	0.7	1.7	2.1	5.2	7.8	12.0	33.0	19.0	15.0
PCB 106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 108	0.8	3.1	2.9	4.0	4.5	2.6	5.0	3.8	0.0
PCBs 107+124	0.0	0.0	0.0	0.0	1.0	1.9	3.0	2.1	1.8
PCB 110	5.8	12.0	16.0	42.0	56.0	83.0	140.0	110.0	98.0
PCB 111	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
PCB 112	0.1	0.2	0.0	0.0	0.0	0.9	0.6	0.4	0.8
PCB 114	0.0	0.3	0.3	0.0	1.1	1.0	2.3	2.0	1.5
PCB 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 117	0.0	3.5	3.1	4.6	4.5	5.4	3.3	0.0	0.0
PCB 118	0.0	8.2	8.9	18.0	21.0	28.0	65.0	41.0	35.0
PCB 120	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
PCB 121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 122	3.0	0.0	0.0	0.0	0.6	0.8	1.7	1.2	1.1
PCB 123	0.0	0.2	0.3	0.8	0.7	1.2	2.1	1.5	1.3
PCB 126	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 127	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCBs 129+138+163	1.9	3.8	3.2	6.8	8.1	12.0	36.0	21.0	19.0
PCB 130	0.1	0.1	0.1	0.2	0.5	0.9	2.4	1.5	1.5
PCB 131	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.5	0.6
PCB 132	0.9	1.6	1.5	3.0	4.2	6.6	14.0	9.8	9.6
PCB 133	0.0	0.0	0.0	0.0	0.1	0.3	0.7	0.5	0.5
PCB 134	0.2	0.2	0.5	0.8	0.9	2.0	2.8	2.4	2.1
PCBs 135+151	1.3	2.3	2.1	4.9	6.0	9.0	16.0	13.0	12.0
PCB 136	0.8	1.3	1.5	2.8	3.6	5.2	11.0	11.0	11.0
PCB 137	0.1	0.0	0.1	0.3	0.0	0.7	1.7	1.2	1.0
PCBs 139 + 140	0.0	0.0	0.1	0.2	0.2	0.5	0.9	0.7	0.5
PCB 141	0.3	0.7	0.7	1.3	1.8	3.0	6.8	4.4	4.1
PCB 142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 143	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2
PCB 144	0.1	0.2	0.3	0.6	1.0	1.3	2.3	1.8	1.5
PCB 145	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
PCB 146	0.2	0.5	0.4	1.1	1.5	2.3	5.4	3.6	2.8
PCBs 147+149	2.9	4.8	4.5	9.7	13.0	19.0	37.0	27.0	25.0
PCB 148	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
PCB 150	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
PCB 152	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
PCBs 153+168	1.6	3.2	3.0	5.8	7.9	12.0	30.0	19.0	17.0
PCB 154	0.0	0.0	0.0	0.1	0.2	0.4	0.6	0.4	0.4
PCB 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCBs 156+157	0.0	0.0	0.0	0.0	0.0	0.8	2.5	1.6	1.7

PCB 158	0.1	0.3	0.2	0.6	0.7	1.1	3.4	2.1	2.0
PCB 159	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
PCB 160	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
PCB 161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 162	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
PCB 164	0.1	0.0	0.1	0.4	0.5	0.7	2.4	1.5	1.5
PCB 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 167	0.0	0.0	0.0	0.0	0.0	0.4	1.1	0.6	0.7
PCB 169	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
PCB 170	0.7	2.3	0.0	0.0	2.0	0.0	5.4	3.2	0.0
PCBs 171+173	0.1	0.0	0.1	0.3	1.0	1.5	2.6	1.6	1.7
PCB 172	0.0	0.0	0.0	0.0	0.4	0.0	1.8	1.0	1.1
PCB 174	0.4	1.5	0.9	1.5	2.0	2.7	8.3	4.9	4.3
PCB 175	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.5
PCB 176	0.0	0.2	0.1	0.2	0.4	0.7	1.3	0.9	0.8
PCB 177	0.2	0.7	0.4	0.7	1.0	1.8	4.6	2.6	2.6
PCB 178	0.1	0.2	0.1	0.3	0.5	1.0	1.9	1.4	0.9
PCB 179	0.3	0.5	0.6	1.2	1.5	2.2	5.2	3.6	3.6
PCBs 180+193	0.7	2.0	1.2	2.1	2.9	3.3	14.0	8.5	7.2
PCB 181	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0
PCB 182	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.0
PCB 183	0.2	0.6	0.5	0.9	1.2	2.2	5.5	3.2	2.9
PCB 184	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
PCB 185	0.0	0.0	0.0	0.0	0.0	2.4	0.8	0.6	0.8
PCB 186	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 187	0.6	1.5	1.2	2.5	3.1	4.1	13.0	8.0	7.2
PCB 188	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
PCB 189	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
PCB 190	0.3	1.0	0.0	0.0	1.3	0.0	1.6	0.0	0.0
PCB 191	0.0	0.0	0.0	0.0	0.3	0.0	0.6	0.3	0.5
PCB 192	0.0	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0
PCB 194	0.2	0.8	0.5	0.6	0.8	0.9	2.2	1.9	1.5
PCB 195	0.1	0.0	0.0	0.0	0.4	0.5	1.1	0.9	0.9
PCB 196	0.1	0.0	0.3	0.4	0.5	0.9	1.9	1.6	1.3
PCB 197	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.7	0.0
PCBs 198+199	0.3	1.3	0.7	1.0	1.3	1.9	6.1	4.7	4.4
PCB 200	0.0	0.0	0.2	0.6	0.4	0.8	0.9	0.8	0.9
PCB 201	0.1	0.0	0.1	0.2	0.4	0.5	1.1	0.9	0.9
PCB 202	0.1	0.8	0.3	0.6	0.8	1.2	2.3	1.9	1.9
PCB 203	0.2	0.7	0.4	0.7	0.8	1.2	2.9	2.4	2.0
PCB 205	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
PCB 206	0.2	0.0	0.0	0.4	0.6	1.8	1.6	1.3	1.4
PCB 207	0.0	0.0	0.0	0.0	0.2	0.0	0.6	0.4	0.7
PCB 208	0.1	0.3	0.0	0.2	0.3	0.4	0.9	0.7	0.8
PCB 209	0.0	1.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
ΣPCB (pg m^{-3})	**780.0**	**1000.0**	**1600.0**	**3500.0**	**4000.0**	**4400.0**	**5900.0**	**5900.0**	**6800.0**
ΣPCB (ng m^{-3})	**0.8**	**1.0**	**1.6**	**3.5**	**4.0**	**4.4**	**5.9**	**5.9**	**6.8**

Table S3 LDPE freely-dissolved concentrations of individual PCB congener collected in IHSC (pg L^{-1}).

Congener	11/23/16 -1/24/17	1/24/17- 2/23/17	2/23/17- 3/29/17	3/29/17- 4/28/17	4/28/17- 5/23/17	5/23/17- 6/28/17	6/28/17- 7/28/17	7/28/17- 9/07/17	9/07/17- 9/28/17	9/28/17- 10/19/17
PCB 1	0.4	0.0	0.0	0.0	2.2	3.5	0.0	1.1	3.7	3.5
PCB 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	2.1
PCB 3	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
PCB 4	250.0	300.0	270.0	300.0	230.0	150.0	130.0	140.0	150.0	400.0
PCB 5	0.0	0.2	0.0	0.0	0.5	1.6	1.1	0.5	1.6	1.4
PCB 6	2.7	15.0	4.9	10.0	14.0	21.0	14.0	13.0	13.0	13.0
PCB 7	0.4	1.6	0.8	1.7	2.3	2.4	2.1	1.9	2.0	2.1
PCB 8	4.0	24.0	7.2	18.0	33.0	45.0	23.0	24.0	24.0	33.0
PCB 9	0.6	2.7	1.1	2.5	3.1	4.1	2.7	2.3	2.9	3.3
PCB 10	14.0	11.0	10.0	14.0	12.0	12.0	16.0	15.0	16.0	30.0
PCB 11	0.9	1.4	2.2	0.0	4.1	5.6	7.2	7.1	7.5	8.6
PCBs 12+13	2.7	17.0	7.3	18.0	17.0	14.0	20.0	15.0	19.0	20.0
PCB 15	100.0	150.0	120.0	160.0	160.0	140.0	190.0	180.0	190.0	270.0
PCB 16	220.0	330.0	320.0	410.0	320.0	200.0	230.0	210.0	240.0	390.0
PCB 17	420.0	550.0	570.0	730.0	530.0	330.0	370.0	330.0	360.0	580.0
PCBs 18+30	880.0	1100.0	1100.0	1600.0	1200.0	930.0	1200.0	1100.0	1200.0	1700.0
PCB 19	120.0	130.0	130.0	180.0	150.0	170.0	240.0	230.0	270.0	330.0
PCBs 20+28	480.0	760.0	740.0	1000.0	810.0	660.0	680.0	560.0	640.0	980.0
PCBs 21+33	31.0	110.0	74.0	120.0	88.0	75.0	77.0	63.0	74.0	110.0
PCB 22	24.0	130.0	87.0	110.0	100.0	120.0	160.0	130.0	150.0	210.0
PCB 23	0.0	0.5	0.2	0.5	0.8	0.0	0.0	0.0	0.0	1.0
PCB 24	9.1	10.0	10.0	15.0	11.0	12.0	17.0	15.0	18.0	22.0
PCB 25	57.0	120.0	97.0	110.0	100.0	78.0	81.0	63.0	71.0	110.0
PCBs 26+29	100.0	160.0	150.0	190.0	150.0	110.0	130.0	100.0	120.0	170.0
PCB 27	60.0	60.0	61.0	86.0	75.0	92.0	120.0	120.0	130.0	140.0
PCB 31	260.0	610.0	540.0	660.0	530.0	360.0	350.0	280.0	320.0	580.0
PCB 32	290.0	310.0	330.0	470.0	410.0	490.0	610.0	630.0	690.0	770.0
PCB 34	2.3	4.3	3.7	4.5	3.8	3.0	3.3	2.6	2.6	4.4
PCB 35	0.7	2.8	2.1	3.9	3.7	4.7	5.8	5.2	6.3	7.2
PCB 36	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
PCB 37	81.0	69.0	89.0	120.0	94.0	79.0	89.0	73.0	89.0	130.0
PCB 38	1.5	0.9	1.1	2.1	2.2	2.7	3.0	3.4	4.2	4.1
PCB 39	1.4	0.4	0.0	2.6	2.3	2.9	2.9	2.5	0.0	2.0
PCBs 40+71	220.0	230.0	220.0	340.0	310.0	380.0	460.0	490.0	490.0	540.0
PCB 41	76.0	79.0	81.0	100.0	88.0	70.0	79.0	74.0	97.0	140.0
PCB 42	260.0	220.0	250.0	360.0	350.0	430.0	500.0	510.0	530.0	590.0
PCB 43	50.0	43.0	45.0	69.0	57.0	69.0	82.0	81.0	91.0	97.0
PCBs 44+47+65	910.0	800.0	860.0	1300.0	1200.0	1500.0	1800.0	1800.0	1800.0	2000.0
PCB 45	280.0	310.0	310.0	460.0	400.0	520.0	610.0	670.0	690.0	730.0
PCB 46	99.0	100.0	110.0	150.0	140.0	170.0	210.0	230.0	250.0	260.0
PCB 48	170.0	160.0	170.0	240.0	210.0	220.0	240.0	210.0	250.0	310.0
PCBs 49+69	530.0	460.0	470.0	700.0	680.0	860.0	1000.0	1100.0	1000.0	1100.0
PCBs 50+53	210.0	210.0	220.0	320.0	300.0	370.0	450.0	500.0	500.0	520.0
PCB 51	64.0	52.0	60.0	95.0	81.0	93.0	120.0	140.0	140.0	150.0
PCB 52	790.0	700.0	720.0	1100.0	1200.0	1500.0	1900.0	2000.0	1700.0	1300.0
PCB 54	6.5	7.1	7.3	11.0	10.0	11.0	15.0	16.0	17.0	17.0
PCB 55	10.0	8.0	8.4	15.0	7.0	7.5	8.7	6.9	9.1	12.0
PCB 56	89.0	120.0	95.0	140.0	140.0	170.0	180.0	170.0	180.0	220.0
PCBs 59+62+75	1.3	1.7	1.2	1.9	1.9	2.7	3.1	3.0	2.9	3.2
PCB 58	0.8	0.8	0.7	1.2	1.2	2.0	1.9	1.8	1.6	1.7
PCBS 59 + 62 +75	52.0	50.0	48.0	72.0	68.0	93.0	110.0	120.0	120.0	120.0
PCB 60	55.0	64.0	53.0	77.0	71.0	77.0	78.0	67.0	78.0	110.0
PCBs 61+70+74+76	350.0	400.0	310.0	460.0	450.0	440.0	410.0	360.0	400.0	560.0
PCB 63	12.0	13.0	9.8	14.0	14.0	19.0	23.0	23.0	22.0	25.0
PCB 64	250.0	240.0	230.0	350.0	340.0	440.0	560.0	600.0	590.0	610.0
PCB 66	220.0	220.0	180.0	270.0	270.0	260.0	240.0	210.0	230.0	310.0
PCB 67	8.0	9.2	6.6	9.4	9.6	11.0	12.0	11.0	11.0	14.0
PCB 68	0.9	1.0	0.7	1.2	1.4	1.9	2.0	2.1	2.0	2.3
PCB 72	1.8	1.9	1.3	1.9	2.3	2.7	3.3	3.5	3.2	3.4
PCB 73	2.0	1.1	2.0	4.0	0.7	1.7	2.8	3.3	3.5	4.1

PCB 77	13.0	17.0	9.6	14.0	17.0	19.0	22.0	22.0	20.0	23.0
PCB 78	0.0	0.0	0.0	0.0	1.3	0.0	0.6	0.0	8.0	11.0
PCB 79	0.4	0.3	0.3	0.6	0.7	1.0	0.9	0.9	1.2	1.4
PCB 80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 81	0.4	0.6	0.0	0.7	0.8	0.0	1.4	0.6	1.1	1.0
PCB 82	27.0	25.0	20.0	30.0	33.0	45.0	58.0	60.0	54.0	55.0
PCB 83	7.1	8.0	6.0	7.1	9.8	15.0	17.0	16.0	22.0	24.0
PCB 84	74.0	65.0	61.0	89.0	93.0	130.0	160.0	160.0	160.0	160.0
PCBs 85+116	25.0	25.0	18.0	26.0	32.0	45.0	54.0	56.0	45.0	47.0
PCBs 86+97+109+119	40.0	39.0	29.0	43.0	49.0	69.0	83.0	88.0	94.0	90.0
PCBs 88	0.5	0.3	0.0	0.5	0.0	0.7	0.0	0.5	0.6	0.0
PCB 89	6.9	6.1	5.3	8.0	8.8	12.0	15.0	15.0	14.0	14.0
PCBs 90+101+113	91.0	92.0	65.0	99.0	120.0	150.0	180.0	200.0	160.0	170.0
PCB 91	35.0	31.0	26.0	38.0	43.0	59.0	75.0	79.0	69.0	67.0
PCB 92	19.0	19.0	13.0	19.0	23.0	30.0	35.0	38.0	32.0	34.0
PCBs 93+100	4.8	3.5	3.4	5.1	5.1	7.3	9.2	10.0	8.9	7.9
PCB 94	2.1	1.9	1.6	2.4	2.7	3.6	4.3	4.6	4.1	4.1
PCB 95	130.0	120.0	110.0	160.0	170.0	230.0	280.0	310.0	270.0	280.0
PCB 96	9.9	8.0	8.4	12.0	12.0	17.0	20.0	22.0	22.0	21.0
PCBs 87+125	44.0	44.0	33.0	51.0	65.0	86.0	110.0	110.0	78.0	85.0
PCB 98	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
PCB 99	47.0	48.0	33.0	51.0	61.0	79.0	93.0	100.0	87.0	90.0
PCB 102	11.0	10.0	8.0	13.0	13.0	17.0	22.0	23.0	19.0	19.0
PCB 103	1.4	1.2	1.0	1.4	1.7	2.2	2.6	2.9	2.5	2.5
PCB 104	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3
PCB 105	21.0	27.0	15.0	22.0	28.0	33.0	35.0	41.0	32.0	40.0
PCB 106	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
PCB 108	3.1	3.9	2.1	3.1	4.1	5.0	4.9	6.1	4.7	6.0
PCBs 107+124	1.5	1.9	1.0	1.6	2.0	2.4	2.4	2.7	2.1	2.8
PCB 110	93.0	110.0	66.0	110.0	120.0	150.0	160.0	190.0	160.0	180.0
PCB 111	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 112	0.6	0.6	0.4	0.9	0.2	0.7	0.0	0.0	0.7	1.1
PCB 114	1.4	1.7	1.0	1.7	1.8	2.2	2.3	2.5	2.1	2.8
PCB 115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
PCB 117	2.1	2.5	1.9	3.1	4.2	5.4	4.8	5.2	4.7	5.5
PCB 118	39.0	49.0	28.0	40.0	52.0	59.0	54.0	64.0	49.0	68.0
PCB 120	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.2	0.2	0.1
PCB 121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 122	1.2	1.3	0.8	1.6	1.4	1.7	1.5	1.9	1.5	1.9
PCB 123	1.2	1.4	0.7	1.2	1.4	1.7	1.6	1.9	1.5	2.1
PCB 126	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 127	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCBs 129+138+163	23.0	32.0	9.8	13.0	19.0	24.0	25.0	31.0	20.0	25.0
PCB 130	1.3	1.7	0.6	0.8	1.1	1.5	1.4	1.7	1.1	1.5
PCB 131	0.4	0.5	0.2	0.2	0.3	0.4	0.5	0.6	0.4	0.5
PCB 132	10.0	13.0	4.3	6.1	8.5	11.0	12.0	14.0	9.7	12.0
PCB 133	0.3	0.4	0.1	0.2	0.3	0.3	0.3	0.4	0.3	0.4
PCB 134	2.2	2.4	0.9	1.3	1.6	2.3	2.3	2.6	2.2	2.4
PCBs 135+151	12.0	14.0	4.7	6.5	9.1	12.0	12.0	15.0	11.0	12.0
PCB 136	8.0	7.8	3.5	4.8	6.5	9.2	12.0	12.0	14.0	14.0
PCB 137	0.8	1.1	0.4	0.5	0.7	0.8	0.9	1.1	0.7	0.9
PCBs 139 + 140	0.4	0.5	0.2	0.3	0.3	0.5	0.5	0.6	0.4	0.5
PCB 141	4.4	6.0	1.8	2.5	3.6	4.5	4.3	5.7	3.7	4.8
PCB 142	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 143	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1
PCB 144	1.4	1.8	0.6	0.9	1.2	1.4	1.5	1.8	1.3	1.6
PCB 145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 146	3.0	3.9	1.2	1.6	2.4	3.1	2.9	3.9	2.5	3.1
PCBs 147+149	26.0	32.0	11.0	14.0	20.0	26.0	27.0	33.0	23.0	28.0
PCB 148	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 150	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
PCB 152	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
PCBs 153+168	18.0	25.0	7.8	9.9	15.0	18.0	17.0	23.0	15.0	18.0
PCB 154	0.3	0.4	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3
PCB 155	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCBs 156+157	3.7	5.4	1.3	1.6	2.2	2.0	1.7	2.5	4.0	6.2

PCB 158	1.8	2.7	0.8	1.1	1.6	1.8	1.8	2.4	1.6	2.1
PCB 159	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.2
PCB 160	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
PCB 161	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 162	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 164	1.2	1.7	0.5	0.8	1.2	1.4	1.1	1.7	1.1	1.6
PCB 165	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 167	0.5	0.8	0.2	0.3	0.5	0.5	0.5	0.6	0.4	0.6
PCB 169	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
PCB 170	2.4	4.2	1.2	1.4	2.1	2.5	2.3	3.0	2.2	3.0
PCBs 171+173	0.9	1.4	0.4	0.5	0.8	0.9	0.9	1.2	0.9	1.1
PCB 172	0.4	0.8	0.2	0.3	0.4	0.5	0.4	0.6	0.4	0.6
PCB 174	3.4	5.4	1.6	2.0	3.0	3.6	3.3	4.5	3.1	4.2
PCB 175	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2
PCB 176	0.5	0.7	0.2	0.3	0.5	0.6	0.6	0.8	0.5	0.6
PCB 177	1.9	3.0	0.9	1.1	1.7	2.1	2.0	2.6	1.7	2.3
PCB 178	0.7	1.1	0.3	0.3	0.6	0.7	0.7	0.9	0.6	0.9
PCB 179	2.0	2.6	0.9	1.1	1.8	2.3	2.4	2.8	2.0	2.4
PCBs 180+193	5.8	10.0	2.9	3.3	4.9	5.7	5.2	6.8	4.8	6.6
PCB 181	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 182	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 183	1.8	3.1	0.9	1.1	1.7	1.9	1.8	2.3	1.6	2.1
PCB 184	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 185	0.3	0.5	0.1	0.2	0.2	0.4	0.3	0.4	0.3	0.4
PCB 186	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 187	4.0	6.4	1.9	2.3	3.5	4.1	3.8	5.1	3.5	4.6
PCB 188	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 189	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
PCB 190	0.5	0.9	0.2	0.3	0.5	0.5	0.5	0.6	0.5	0.7
PCB 191	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
PCB 192	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCB 194	0.7	1.5	0.4	0.5	0.7	0.7	0.7	0.8	0.6	0.9
PCB 195	0.3	0.6	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.4
PCB 196	0.4	0.9	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.5
PCB 197	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
PCBs 198+199	0.3	0.6	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.5
PCB 200	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
PCB 201	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
PCB 202	0.2	0.4	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
PCB 203	0.5	1.0	0.3	0.3	0.5	0.6	0.5	0.6	0.5	0.6
PCB 205	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
PCB 206	0.2	0.6	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3
PCB 207	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
PCB 208	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
PCB 209	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.2	0.2
ΣPCB (pg L^{-1})	**9000.0**	**10000.0**	**9800.0**	**14000.0**	**13000.0**	**13000.0**	**16000.0**	**16000.0**	**16000.0**	**18000.0**
ΣPCB (ng L^{-1})	**9.0**	**10.0**	**9.8**	**14.0**	**13.0**	**13.0**	**16.0**	**16.0**	**16.0**	**18.0**

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