Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts.

Air conditioning filters as a sampler for semi-volatile organic compounds in indoor and near-building air

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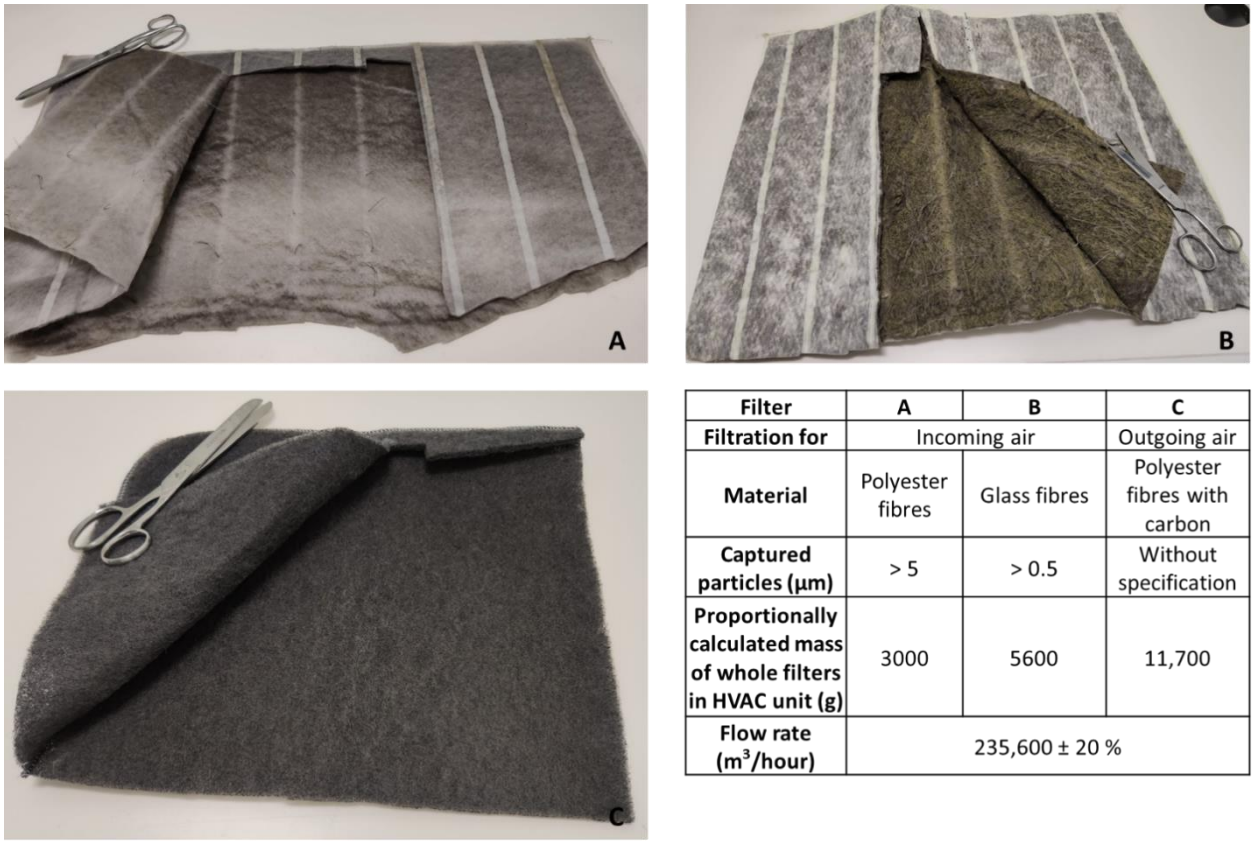
Table S1: Specification of used filters from GEA company (1).

	Filter A	Filter B	Filter C
Type name	MultiSack K55	MultiSack G55	Multi AKK
Mean degree of filtration (%)	96.1	96.8	not specified
Mean degree efficiency (%)	51.9	50.4	
Maximum pressure drop (Pa)	450	450	
Operating temperature (max °C)	80	80	40



Filter	A	B	C
Filtration for	Incoming air		Outgoing air
Material	Polyester fibres	Glass fibres	Polyester fibres with carbon
Captured particles (µm)	> 5	> 0.5	Without specification
Proportionally calculated mass of whole filters in HVAC unit (g)	3000	5600	11,700
Flow rate (m^3/hour)	235,600 ± 20 %		

Figure S1: Photos of parts of the filters A, B and C after half year exposure in HVAC system.

Table S2: Compound abbreviations, full names and CAS numbers.

	Name	CAS number
PAHs		
Lighter PAHs (2-3 rings)	Naphthalene	91-20-3
	Acenaphthylene	208-96-8
	Acenaphthene	83-32-9
	Biphenyl	92-52-4
	Fluorene	86-73-7
	Phenanthrene	85-01-8
	Anthracene	120-12-7
Heavier PAHs (>4 rings)	Pyrene	129-00-0
	Fluoranthene	206-44-0
	Benzo(b)fluorene	243-17-4
	Benzo(ghi)fluoranthene	203-12-3
	Cyclopenta(cd)pyrene	27208-37-3
	Benz(a)anthracene	56-55-3
	Chrysene	218-01-9
	Triphenylene	217-59-4
	Retene	483-65-8
	Benzo(e)pyrene	192-97-2
	Perylene	198-55-0
	Benzo(b)fluoranthene	205-99-2
	Benzo(j)fluoranthene	205-82-3
	Benzo(k)fluoranthene	207-08-9
	Benzo(a)pyrene	50-32-8
	Indeno(1,2,3-cd)pyrene	193-39-5
	Benzo(ghi)perylene	191-24-2
	Anthanthrene	191-26-4
	Dibenz(ah)anthracene	53-70-3
	Dibenz(ac)anthracene	215-58-7
	Coronene	191-07-1
	Benzo(b)naphtho(1,2-d)thiophene	205-43-6
PCBs		
PCB 9	2,5-Dichlorobiphenyl	34883-39-1
PCB 11	3,3'-Dichlorobiphenyl	2050-67-1
PCB 28	2,4,4'-Trichlorobiphenyl	7012-37-5
PCB 52	2,2',5,5'-Tetrachlorobiphenyl	35693-99-3
PCB 101	2,2',4,5,5'-Pentachlorobiphenyl	37680-73-2
PCB 118	2,3',4,4',5-Pentachlorobiphenyl	31508-00-6
PCB 138	2,2',3,4,4',5'-Hexachlorobiphenyl	35065-28-2
PCB 153	2,2',4,4',5,5'-Hexachlorobiphenyl	35065-27-1
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	35065-29-3
OCPs		

DDT	1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane	50-29-3
DDD	1,1-Dichloro-2,2-bis(4-chlorophenyl)ethane	72-54-8
DDE	1,1-Dichloro-2,2-bis(4-chlorophenyl)ethene	72-55-9
HCH	Hexachlorocyclohexane	608-73-1
PeCB	Pentachlorobenzene	608-93-5
HCB	Hexachlorobenzene	118-74-1
PBDEs		
BDE 28	2,4,4´-Tribromodiphenyl ether	41318-75-6
BDE 47	2,2´,4,4´-Tetrabromodiphenyl ether	5436-43-1
BDE 66	2,3´,4,4´-Tetrabromodiphenyl ether	189084-61-5
BDE 85	2,2´,3,4,4´-Pentabromodiphenyl ether	182346-21-0
BDE 99	2,2´,4,4´,5-Pentabromodiphenyl ether	60348-60-9
BDE 100	2,2´,4,4´,6-Pentabromodiphenyl ether	189084-64-8
BDE 153	2,2´,4,4´,5,5´-Hexabromodiphenyl ether	68631-49-2
BDE 154	2,2´,4,4´,5,6´-Hexabromodiphenyl ether	207122-15-4
BDE 183	2,2´,3,4,4´,5´,6-Heptabromodiphenyl ether	207122-16-5
BDE 209	Decabromodiphenyl ether	1163-19-5
NFRs		
PBBZ	1,2,3,4,5-Pentabromobenzene	608-90-2
TBCT	Tetrabromo-o-chlorotoluene	39569-21-6
PBT	Pentabromotoluene	87-83-2
PBEB	Pentabromoethylbenzene	85-22-3
TBP-DBPE	2,3-Dibromopropyl-2,4,6-tribromophenyl ether	35109-60-5
HBB	Hexabromobenzene	87-82-1
PBBA	Pentabromobenzyl acrylate	59447-55-1
EH-TBB	2-Ethylhexyl-2,3,4,5-tetrabromobenzoate	183658-27-7
T23BPIC	Tris(2,3-dibromopropyl) isocyanurate	52434-90-9
BEH-TEBP	Bis(2-ethylhexyl)tetrabromophthalate	26040-51-7
TBP-AE	2,4,6-Tribromophenyl allyl ether	3278-89-5
α, β, γ, δ-DBE-DBCH	1,2-Dibromo-4-(1,2-dibromoethyl)cyclohexane	3322-93-8
TBX	2,3,5,6-Tetrabromo-p-xylene	23488-38-2
BATE	2-Bromoallyl(2,4,6-tribromophenyl) ether	99717-56-3
α, β-TBCO	1,2,5,6-Tetrabromocyclooctane	3194-57-8
DDC-CO-MA	Dechlorane plus monoadduct	135821-04-4
DBHCTD	Hexachlorocyclopentadienyl-dibromocyclooctane	51936-55-1
BTBPE	1,2-Bis(2,4,6 tribromophenoxy) ethane	37853-59-1
syn, anti-DDC-CO	Dechlorane Plus	13560-89-9
DBDPE	Decabromodiphenyl ethane	84852-53-9

Table S3: Mass fractions of analytes in SRM 2585 house dust samples (n=10), certified or referred values and calculated uncertainties. Uncertainty based on SRM 2585 is percentage difference between measured and certified values. Mass uncertainty was estimated as 10 times the resolution of the analytical balance and uncertainty based on SRM 2585 and mass uncertainty was calculated by error propagation.

	Mass fraction (ng/g)	Standard deviation (ng/g)	Certified mass fraction (ng/g) (2)	Uncertainty based on SRM 2585 (%)	Uncertainty based on SRM 2585 and mass uncertainty (%)
PAHs					
Naphthalene	55.7	7.05	266	79.1	79.1
Acenaphthylene	34.7	15.9		34.3 [a]	34.3
Acenaphthene	14.8	5.65		34.3 [a]	34.3
Biphenyl	63.3	22.3	88.0	28.0	28.0
Fluorene	26.7	16.4		34.3 [a]	34.3
Phenanthrene	2340	1030	1920	22.1	22.2
Anthracene	104	45.6	96.0	8.1	8.19
Pyrene	4520	2130	3290	37.3	37.3
Fluoranthene	6390	3020	4380	45.9	45.9
Benzo(b)fluorene	26.6	1.19		32.4 [b]	32.4
Benzo(ghi)fluoranthene	275	13.4	317	13.1	13.2
Cyclopenta(cd)pyrene	<MDL			32.4 [b]	32.4
Benz(a)anthracene	850	24.1	1160	26.7	26.7
Chrysene	1580	52.1	2260	30.1	30.1
Triphenylene	357	14.3	589	39.5	39.5
Retene	245	9.72	588	58.3	58.3
Benzo(e)pyrene	1440	36.5	2160	33.2	33.2
Perylene	279	8.86	387	27.9	27.9
Benzo(b)fluoranthene	1990	66.0	2700	26.3	26.3
Benzo(j)fluoranthene	946	93.3	1320	28.4	28.4
Benzo(k)fluoranthene	927	31.1	1330	30.3	30.3
Benzo(a)pyrene	772	18.4	1140	32.3	32.3
Indeno(1,2,3-cd)pyrene	1600	56.4	2080	23.1	23.1
Benzo(ghi)perylene	1730	52.5	2280	24.1	24.2
Anthanthrene	39.4	2.37	91.0	56.7	56.7
Dibenz(ah)anthracene	153	13.6	301	49.1	49.1
Dibenz(ac)anthracene	187	15.0	183	2.05	2.37
Coronene	415	25.3	603	31.1	31.2
Benzo(b)naphtho(1,2-d)thiophene	405	17.6		32.4 [b]	32.4
PCBs					
PCB 9	0.416	0.0244		48.3 [c]	48.3
PCB 11	<MDL			48.3 [c]	48.3
PCB 28	6.47	0.439	13.4	51.7	51.7
PCB 52	9.92	0.609	21.8	54.5	54.5
PCB 101	15.1	1.02	29.8	49.4	49.4
PCB 118	15.1	0.868	26.3	42.5	42.5
PCB 138	15.7	1.1	27.6	43.2	43.3
PCB 153	16.0	0.961	40.2	60.2	60.2

PCB 180	11.7	0.341	18.4	36.3	36.3
OCPs					
p,p'-DDT	60.8	3.17	111	45.2	45.2
o,p'-DDT	41.3	1.06	44.5	7.21	7.31
p,p'-DDD	8.52	0.576	27.3	68.8	68.8
o,p'-DDD	6.33	0.168	0.00	68.8 [d]	68.8
p,p'-DDE	194	3.98	261	25.7	25.8
o,p'-DDE	6.28	0.144		25.7 [e]	25.7
α-HCH	<MDL			23.7 [f]	23.8
β-HCH	1.26	0.147		23.7 [f]	23.7
γ-HCH	5.02	7.11	4.06	23.7	23.7
δ-HCH	<MDL			23.7 [f]	23.7
ε-HCH	<MDL			23.7 [f]	23.7
PeCB	17.0	0.559	20.9	18.7	18.7
HCB	0.77	0.0625		18.7 [g]	18.7
PBDEs					
BDE 28	24.8	0.542	46.9	47.2	47.2
BDE 47	<MDL		497		
BDE 66	32.1	1.64	29.5	8.85	8.93
BDE 100	128	11.3	145	11.8	11.9
BDE 99	635	65.7	892	28.8	28.8
BDE 85	61.7	3.79	43.8	40.9	40.9
BDE 154	86.9	5.33	83.5	4.07	4.24
BDE 153	125	8.43	119	5.45	5.58
BDE 183	50.6	3.78	43.0	17.7	17.7
BDE 209	<MDL		2510	83.1[i]	83.1
NFRs					
PBBZ	4.1	0.202		185 [h]	185
PBT	0.39	0.13	<MDL		
PBEB	24.8	0.999	8.96 (3)	177	177
HBB	2.83	0.492	4.45 (3)	36.3	36.4
EH-TBB	100	8.5	53.8 (3)	86.2	86.2
BEH-TEBP	1060	120	502 (3)	110	110
TBP-AE	1.88	1.41	6.00 (4)	68.6	68.6
α-DBE-DBCH	1.59	1.67	1.74 (3)	8.56	8.65
β-DBE-DBCH	2.9	4.87	2.19 (3)	32.6	32.6
TBX	0.057	0.00579	<MDL (4)		
β-TBCO	2.34	0.397		185 [h]	185
α-TBCO	5.51	0.563		185 [h]	185
BTBPE	276	242	62.2 (3)	343	343
syn-DDC-CO	75.9	87.0	18.7 (4)	306	306
anti-DDC-CO	346	213	44.1 (4)	684	684

a – average of uncertainty from lighter (2-3 rings) PAHs

b – average of uncertainty from heavier (>4 rings) PAHs

c – average of uncertainty from PCBs

d – uncertainty from p,p'-DDD

e – uncertainty from p,p'-DDE

f – uncertainty from γ-HCH

g – uncertainty from PeCB

h – average of uncertainty from NFRs

i – half of MDL was used for calculation uncertainty

Table S4: Solvent and filter blanks.

	Solvent blanks	Filter A	Filter B	Filter C
PAHs	ng/sample	ng/g filter		
Naphthalene	12.1	30.2	8.94	267
Acenaphthylene	0.846	2.48	0.49	4.58
Acenaphthene	1.32	2.88	0.662	5.65
Biphenyl	9.51	33.8	3.69	43.9
Fluorene	5.17	6.84	2.39	17
Phenanthrene	22	46.8	5.78	64.9
Anthracene	0.0862	0.119	0.288	0.174
Pyrene	7.53	4.48	1.13	14.5
Fluoranthene	8.98	6.27	2.07	23.3
Benzo(b)fluorene	0.24	0.292	0.367	0.669
Benzo(ghi)fluoranthene	0.059	0.0815	0.184	0.119
Cyclopenta(cd)pyrene	0.0892	0.109	0.224	0.249
Benz(a)anthracene	0.872	25.2	0.246	4.07
Chrysene	1.03	1.2	0.445	4.28
Triphenylene	0.653	1.3	0.25	3.27
Retene	0.194	2.2	0.69	14.1
Benzo(e)pyrene	0.205	0.25	0.3	0.572
Perylene	0.267	0.325	0.119	0.744
Benzo(b)fluoranthene	0.186	0.257	0.481	0.375
Benzo(j)fluoranthene	0.203	0.247	0.317	0.567
Benzo(k)fluoranthene	0.231	0.281	0.239	0.643
Benzo(a)pyrene	0.317	0.386	0.301	0.883
Indeno(1,2,3-cd)pyrene	0.181	0.221	0.359	0.505
Benzo(ghi)perylene	0.15	0.183	0.376	0.419
Anthanthrene	0.174	0.211	0.308	0.484
Dibenz(ah)anthracene	0.147	0.179	0.0448	0.409
Dibenz(ac)anthracene	0.147	0.179	0.0689	0.409
Coronene	0.25	0.305	0.431	0.698
Benzo(b)naphtho(1,2-d)thiophene	0.0681	0.0941	0.101	0.137
PCBs	pg/sample	pg/g filter		
PCB 9	0.0503	0.00538	0.00654	0.106
PCB 11	0.290	1.05	0.113	1.0682
PCB 28	0.0992	0.130	0.00875	0.727
PCB 52	0.0115	0.0131	0.0159	0.806
PCB 101	0.0150	0.0184	0.0205	0.534
PCB 118	0.0199	0.0244	0.0272	0.0400
PCB 138	0.0253	0.0311	0.0346	0.378
PCB 153	1.185	0.497	0.0192	1.45
PCB 180	0.00971	0.0119	0.0133	0.0196
OCPs	pg/sample	pg/g filter		
p,p'-DDT	2.19	0.0139	0.0155	1.19
o,p'-DDT	0.0140	0.0171	0.0191	0.516
p,p'-DDD	1.54	0.105	0.0161	0.470
o,p'-DDD	0.00929	0.0114	0.0127	0.135
p,p'-DDE	0.444	0.181	0.0326	0.698
o,p'-DDE	0.00987	0.0121	0.0135	0.0200
α-HCH	0.124	0.0191	0.0232	0.238
β-HCH	0.0106	0.0120	0.0146	0.0204
γ-HCH	0.325	0.00699	0.00849	1.274
δ-HCH	0.0152	0.0173	0.0211	0.0294

ε-HCH	0.0108	0.0123	0.0149	0.0208
PeCB	0.00889	0.0101	0.0123	0.0619
HCB	0.160	0.0164	0.0200	0.346
PBDEs	pg/sample	pg/g filter		
BDE 28	0.00309	0.0889	0.00102	0.0109
BDE 47	0.0496	0.0377	0.0143	0.0997
BDE 66	0.00617	0.0233	0.00103	0.000589
BDE 100	0.00454	0.0268	0.00277	0.000799
BDE 99	0.0469	0.0271	0.0215	0.0458
BDE 85	0.00708	0.0224	0.00561	0.00226
BDE 154	0.0115	0.0366	0.00360	0.00404
BDE 153	0.0170	0.0141	0.00577	0.00293
BDE 183	0.0240	0.329	0.00463	0.0239
BDE 209	1.07	0.802	2.31	2.62
NFRs	pg/sample	pg/g filter		
PBBZ	0.00208	0.0982	0.922	0.171
TBCT	<LOD	<LOD	<LOD	<LOD
PBT	0.00907	0.358	2.53	0.805
PBEB	0.00984	0.0126	0.0577	0.0138
TBP-DBPE	<LOD	<LOD	0.153	<LOD
HBB	0.00546	0.00961	0.784	0.312
PBBA	<LOD	<LOD	<LOD	<LOD
EH-TBB	0.709	0.147	0.0823	0.0555
T23BPIC	<LOD	<LOD	8.44	9.41
BEH-TEBP	2.32	2.20	4.92	3.98
TBP-AE	<LOD	<LOD	0.0239	<LOD
α-DBE-DBCH	<LOD	<LOD	0.257	0.281
β-DBE-DBCH	<LOD	<LOD	0.174	0.193
TBX	<LOD	<LOD	<LOD	<LOD
BATE	<LOD	<LOD	<LOD	<LOD
β-TBCO	<LOD	<LOD	<LOD	<LOD
γ,δ-DBE-DBCH	<LOD	<LOD	<LOD	<LOD
α-TBCO	<LOD	<LOD	<LOD	<LOD
DDC-CO-MA	0.525	<LOD	0.468	0.525
DBHCTD	<LOD	<LOD	<LOD	<LOD
BTBPE	0.0268	0.0277	0.0399	0.0325
syn-DDC-CO	0.363	30.7	36.1	42.7
anti-DDC-CO	1.10	14.3	12.7	12.3
DBDPE	<LOD	<LOD	<LOD	<LOD

Table S5: Method detection limits (MDLs).

	Filter A	Filter B	Filter C
PAHs	ng/sample		
Naphthalene	30.2	8.94	267
Acenaphthylene	2.48	0.49	4.58
Acenaphthene	2.88	0.662	5.65
Biphenyl	33.8	3.69	43.6
Fluorene	6.84	2.39	17
Phenanthrene	46.8	5.78	64.9
Anthracene	0.119	0.288	0.174
Pyrene	4.48	1.13	14.5
Fluoranthene	6.27	2.07	23.3
Benzo(b)fluorene	0.29	0.367	0.67
Benzo(ghi)fluoranthene	0.0815	0.184	0.119
Cyclopenta(cd)pyrene	0.109	0.224	0.249
Benz(a)anthracene	25.2	0.246	4.07
Chrysene	1.2	0.445	4.28
Triphenylene	1.3	0.25	3.27
Retene	2.2	0.69	14.1
Benzo(e)pyrene	0.25	0.3	0.572
Perylene	0.325	0.119	0.744
Benzo(b)fluoranthene	0.257	0.481	0.376
Benzo(j)fluoranthene	0.247	0.317	0.567
Benzo(k)fluoranthene	0.281	0.239	0.643
Benzo(a)pyrene	0.386	0.301	0.883
Indeno(1,2,3-cd)pyrene	0.221	0.36	0.505
Benzo(ghi)perylene	0.183	0.376	0.419
Anthanthrene	0.211	0.308	0.484
Dibenz(ah)anthracene	0.179	0.0448	0.409
Dibenz(ac)anthracene	0.1789	0.0689	0.409
Coronene	0.305	0.431	0.698
Benzo(b)naphtho(1,2-d)thiophene	0.0941	0.101	0.137
PCBs	ng/sample		
PCB 9	0.00540	0.00650	0.106
PCB 11	1.05	0.113	1.07
PCB 28	0.130	0.00870	0.727
PCB 52	0.0131	0.0159	0.806
PCB 101	0.0184	0.0205	0.534
PCB 118	0.0244	0.0272	0.0400
PCB 138	0.0311	0.0346	0.378
PCB 153	0.497	0.0192	1.45
PCB 180	0.0119	0.0133	0.0196
OCPs	ng/sample		
p,p'-DDT	0.0139	0.0155	1.18
o,p'-DDT	0.0171	0.0191	0.516
p,p'-DDD	0.105	0.0161	0.470
o,p'-DDD	0.0114	0.0127	0.134
p,p'-DDE	0.181	0.0326	0.698
o,p'-DDE	0.0121	0.0135	0.0199

α-HCH	0.0191	0.0232	0.238
β-HCH	0.0120	0.0146	0.0204
γ-HCH	0.00700	0.00850	1.27
δ-HCH	0.0173	0.0211	0.0294
ε-HCH	0.0122	0.0149	0.0208
PeCB	0.0101	0.0123	0.0619
HCB	0.0164	0.0200	0.346
PBDEs	pg/sample		
BDE 28	0.0889	0.00102	0.0109
BDE 47	0.0377	0.0143	0.0997
BDE 66	0.0233	0.00103	0.000589
BDE 85	0.0224	0.00561	0.0023
BDE 99	0.0271	0.0215	0.0458
BDE 100	0.0268	0.00277	0.000799
BDE 153	0.0141	0.00577	0.00293
BDE 154	0.0366	0.00360	0.00404
BDE 183	0.329	0.00463	0.0239
BDE 209	0.801	2.31	2.62
NFRs	pg/sample		
PBBZ	0.0982	0.922	0.171
PBT	0.358	2.53	0.805
PBEB	0.0126	0.0577	0.0138
HBB	0.00960	0.784	0.312
EH-TBB	0.147	0.0823	0.0555
T23BPIC	8.44	8.44	9.41
BEH-TEBP	2.20	4.92	3.980
TBP-AE	0.0239	0.0239	0.0239
α-DBE-DBCH	0.257	0.257	0.281
β-DBE-DBCH	0.174	0.174	0.193
BTBPE	13.7	32.4	18.9
syn-DDC-CO	3.97	12.8	3.78
anti-DDC-CO	4.09	10.1	6.92
DBDPE	236	370	216

Table S6: Median recoveries (%) for internal standards in blanks and samples.

	Solvent blank	Blank filter A	Blank filter B	Blank filter C	Filter A	Filter B	Filter C
	%						
D8-naphthalene	104	63.1	83.2	80.7	63.1	72.1	75.9
D10-phenanthrene	116	105	115	60.5	114	114	62.8
D12-perylene	108	115	110	43.9	106	101	3.59
PCB 30	108	109	112	105	104	105	88.5
PCB 185	127	127	129	121	119	118	116
13C-BDE 28	62.4	59.5		63.0	80.2	121	42.5
13C-BDE 47	73.9	71.6		72.2	83.3	126	74.0
13C-BDE 99	80.5	131		77.6	87.1	97.8	95.0
13C-BDE 100	65.9	93.7		73.1	76.0	80.9	78.9
13C-BDE 153	53.4	54.7		59.9	54.8	49.1	54.2
13C-BDE 154	44.1	44.4		47.9	44.3	40.6	42.5
13C-BDE 183	76.6	81.2		80.1	80.9	81.3	76.9
13C-BDE 209	153	62.4	*	158	258	259	149
13C-PBBZ	176	103		122	112	132	92.7
13C-HBB	104	77.9		76.7	84.9	88.3	77.5
13C-EH-TBB	140	127		140	127	120	155
13C-BTBPE	211	190		175	228	198	140
13C-BEH-TEBP	23.8	60.4		54.4	112	109	86.2
13C-syn-DDC-CO	166	125		131	145	101	115
13C-anti-DDC-CO	153	106		94.4	118	114	124

* FRs for blank filter B were not measured

Table S7: Detailed pollutant mass fractions (ng/g filter) in filter A, B and C. The uncertainties for individual compounds are reported in Table S3.

a) Filter A

	May	May	May	December	December	May	May	May	December	December	December
	2014	2014	2014	2014	2014	2015	2015	2015	2015	2015	2015
PAHs	ng/g filter										
Naphthalene	7.52	<LOD	29.2	<LOD	<LOD	<LOD	<LOD	<LOD	20	11.5	11.8
Acenaphthylene	5.12	9.82	23.5	17.1	10.8	2.04	16.6	8.11	19.2	14.2	13.1
Acenaphthene	5.22	5.65	14.7	2.94	1.96	<LOD	5.65	2.95	10.5	6.12	6.2
Biphenyl	<LOD	<LOD	20.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Fluorene	5.31	5.08	3.93	8.15	5.76	<LOD	16.3	6.04	11.5	8.23	10.4
Phenanthrene	68.5	82.2	62.9	168	142	<LOD	180	107	202	156	165
Anthracene	8.72	9.57	7.43	21.9	18.4	2.67	17.4	11.4	18.8	15.2	16.7
Pyrene	184	193	171	546	469	48.2	338	226	523	414	451
Fluoranthene	223	235	206	672	569	60.6	415	272	623	487	534
Benzo(b)fluorene	23.5	29.1	23.3	142	131	8.61	60.7	39.5	116	90.1	97.1
Benzo(ghi)fluoranthene	38.4	47	39.3	182	146	13.8	88	60	227	205	217
Cyclopenta(cd)pyrene	<LOD	<LOD	<LOD	48.3	31.2	<LOD	30	23.4	<LOD	0.0199	<LOD
Benz(a)anthracene	71.6	87.4	68.6	270	230	18.6	202	126	386	313	316
Chrysene	108	127	102	340	299	43.7	272	176	618	510	507
Triphenylene	33.4	36.8	32.7	85.9	77.5	16	79.4	49.4	150	113	130
Retene	10.4	14.7	10.6	100	85.9	3.89	28.3	17.5	113	92.8	97.9
Benzo(e)pyrene	140	173	138	241	190	45.3	338	204	328	320	258
Perylene	23.2	22.7	21	37.7	30.1	5.97	43.7	28.5	60.4	49.1	51.6
Benzo(b)fluoranthene	270	339	282	441	349	101	575	364	769	675	718
Benzo(j)fluoranthene	86.3	135	85.9	185	147	43.2	255	134	338	291	263
Benzo(k)fluoranthene	80.6	93.3	76.5	139	115	29.5	195	117	291	229	236
Benzo(a)pyrene	127	135	119	241	193	35.2	274	177	370	300	329
Indeno(1,2,3-cd)pyrene	164	201	167	257	210	48.7	397	238	501	396	433
Benzo(ghi)perylene	159	192	156	242	196	45.4	355	218	472	365	394
Anthanthrene	21.1	25.7	21.6	44.5	34.3	7.33	47.8	32.6	46.6	39.9	43.9
Dibenz(ah)anthracene	17.4	19	15	29.9	21.8	4.91	37.1	23.6	49.2	45.7	47.5

Dibenz(ac)anthracene	17	15.1	14.2	26.7	17	3.38	30.3	16.9	48.7	40.4	37.1
Coronene	82.5	104	82.7	106	80.6	26.6	172	102	195	156	164
Benzo(b)naphtho(1,2-d)thiophene	14.8	12.5	12.3	43.7	23.1	3.10	23.5	15.0	36.3	30.0	33.4
PCBs											
PCB 9	<LOD	0.00077	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PCB 11	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PCB 28	0.0592	<LOD	<LOD	<LOD	<LOD	<LOD	0.0597	<LOD	0.129	0.138	0.101
PCB 52	<LOD	0.0019	<LOD	0.071	<LOD	<LOD	<LOD	<LOD	0.0873	0.0959	0.073
PCB 101	0.194	0.127	0.128	0.499	0.205	<LOD	0.318	0.15	0.314	0.271	0.277
PCB 118	<LOD	<LOD	<LOD	0.205	0.105	<LOD	0.12	<LOD	0.259	0.214	0.203
PCB 138	0.466	0.336	0.415	1.362	0.695	<LOD	0.833	0.468	1.23	0.947	0.947
PCB 153	0.744	<LOD	0.424	1.83	0.865	<LOD	1.14	0.57	1.54	1.46	1.43
PCB 180	0.862	0.625	0.757	2.13	1.19	0.2375	1.53	0.95	2.24	1.93	1.84
OCPs											
p,p'-DDT	0.214	0.163	0.124	1.20	0.933	0.221	0.416	0.324	2.24	1.81	1.38
p,p'-DDD	0.317	0.185	0.217	0.606	0.642	0.158	0.355	0.265	0.797	0.669	0.732
o,p'-DDD	<LOD	<LOD	<LOD	0.163	0.135	<LOD	<LOD	<LOD	0.137	0.107	0.128
p,p'-DDE	0.522	0.454	0.451	2.81	2.12	0.196	0.94	0.543	5.95	5.00	4.81
o,p'-DDE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0798	0.0579	0.0615
α-HCH	<LOD	0.00272	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
β-HCH	<LOD	0.00171	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
γ-HCH	<LOD	0.001	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.171	0.178	0.176
δ-HCH	<LOD	0.00247	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ε-HCH	<LOD	0.00174	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PeCB	<LOD	0.00144	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
HCB	<LOD	0.00234	<LOD	0.0981	0.0790	<LOD	0.0963	0.0829	0.191	0.166	0.182
PBDEs											
BDE 28	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BDE 47	0.177	0.106	0.0885	0.361	0.302	0.0437	0.170	0.121	0.413	0.337	0.34
BDE 66	<LOD	<LOD	<LOD	0.0267	0.018	<LOD	<LOD	<LOD	0.0254	0.0282	0.0171
BDE 85	0.0167	<LOD	<LOD	0.0252	<LOD	<LOD	0.0235	<LOD	0.0572	0.034	0.0421
BDE 99	0.399	0.343	0.263	0.536	0.465	0.118	0.463	0.314	0.607	0.452	0.486
BDE 100	0.077	0.0494	0.045	0.111	0.0912	<LOD	0.0869	0.0553	0.195	0.145	0.111
BDE 153	0.102	0.0719	0.089	0.0968	0.0836	0.0283	0.0984	0.0718	0.144	0.101	0.126
BDE 154	0.0780	0.0767	0.0581	0.0797	0.0619	<LOD	0.0797	0.0494	0.0999	0.074	0.0777

BDE 183	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.328	<LOD	0.499	<LOD	0.413
BDE 209	7.27	6.81	5.54	7.59	5.62	4.83	8.5	4.97	10.3	8.47	9.13
NFRs											
PBBZ	<LOD	0.0909	<LOD	0.159	<LOD	<LOD	<LOD	<LOD	0.259	0.102	0.126
TBCT	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PBT	1.65	0.903	0.793	1.25	0.595	<LOD	0.62	0.427	4.77	1.52	1.48
PBEB	0.035	<LOD	<LOD	0.0506	0.0556	<LOD	0.0294	<LOD	<LOD	0.0504	0.0206
TBP-DBPE	<LOD	0.182	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.228	<LOD	<LOD
HBB	0.303	0.485	0.249	0.672	0.53	<LOD	0.396	0.309	1.02	0.74	0.805
PBBA	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
EH-TBB	0.29	0.476	0.69	0.456	0.364	<LOD	0.563	0.532	0.374	0.688	<LOD
T23BPIC	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BEH-TEBP	<LOD	4.6	2.29	<LOD	4.38	<LOD	<LOD	<LOD	5.73	4.97	3.97
TBP-AE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
α-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.104	0.134
β-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0849	0.137
TBX	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BATE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
β-TBCO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
γ,δ-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
α-TBCO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DDC-CO-MA	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DBHCTD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BTBPE	0.268	0.332	0.332	0.269	0.198	0.37	0.458	0.167	0.504	0.485	0.397
syn-DDC-CO	<LOD	<LOD	<LOD	2240	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
anti-DDC-CO	78.9	<LOD	<LOD	607	<LOD	<LOD	<LOD	<LOD	60.2	75.7	11.2
DBDPE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD

b) Filter B

	December 2014	December 2014	May 2015	May 2015	May 2015	December 2015	December 2015	December 2015
PAHs	ng/g filter							
Naphthalene	51.4	55.9	66.0	82.2	77.7	72.1	64.7	61.9
Acenaphthylene	73.4	96.8	132	161	141	63.1	42.5	47.7
Acenaphthene	13	14.8	16.9	21.3	18.8	11.8	9.35	9.06
Biphenyl	25.2	28.4	40.9	48.6	44.8	32.5	26.6	25.4
Fluorene	66.6	75.2	140	202	178	55.4	64.6	55.1
Phenanthrene	1080	1130	2490	3160	3030	1090	983	1000
Anthracene	138	146	183	236	213	91.6	84.5	83.8
Pyrene	2600	2660	47105	6030	5800	2520	2310	2210
Fluoranthene	2770	2860	5240	6760	6550	2720	2450	2360
Benzo(b)fluorene	656	645	928	1160	1130	477	432	488
Benzo(ghi)fluoranthene	978	1060	1950	25804	2290	1020	924	849
Cyclopenta(cd)pyrene	111	216	193	219	272	221	91.8	236
Benz(a)anthracene	2020	1980	3010	3700	3730	1700	1510	1620
Chrysene	2170	2150	3710	4460	4620	2260	201	2160
Triphenylene	601	562	964	1240	1260	605	555	625
Retene	205	212	448	582	546	223	206	199
Benzo(e)pyrene	2800	2840	4440	5730	5500	3180	2870	3000
Perylene	448	468	670	854	813	456	432	433
Benzo(b)fluoranthene	4560	4920	9490	12300	10500	5320	4920	4310
Benzo(j)fluoranthene	2120	2210	2670	3410	3880	2680	2300	2460
Benzo(k)fluoranthene	1580	1610	2530	3170	3210	1920	1710	1810
Benzo(a)pyrene	2880	3080	4320	5580	5260	3140	2870	3090
Indeno(1,2,3-cd)pyrene	4070	4060	6230	8310	7570	4900	4400	4760
Benzo(ghi)perylene	3590	3680	5750	697	6740	4350	4040	4370
Anthanthrene	389	489	710	927	845	503	511	621
Dibenz(ah)anthracene	451	364	520	747	686	430	323	411
Dibenz(ac)anthracene	311	313	460	612	574	296	312	297
Coronene	1550	1610	2530	3270	2950	1830	1730	1900
Benzo(b)naphtho(1,2-d)thiophene	123	133	197	260	236	112	99.4	92.2

PCBs								
PCB 9	<LOD	<LOD	<LOD	<LOD	<LOD	0.0246	0.0381	0.0470
PCB 11	0.176	0.146	0.131	0.264	0.186	0.262	0.272	0.322
PCB 28	0.109	0.111	<LOD	0.119	0.116	0.165	0.146	0.192
PCB 52	<LOD	<LOD	<LOD	0.0636	<LOD	0.0755	0.0639	0.0721
PCB 101	0.137	0.162	0.214	0.266	0.23	0.22	0.191	0.187
PCB 118	0.109	0.11	0.127	0.166	0.172	0.144	0.115	0.135
PCB 138	0.429	0.497	0.841	0.994	0.963	0.681	0.634	0.556
PCB 153	0.581	0.697	1.2	1.5	1.3	1.15	1.44	1.23
PCB 180	0.796	0.913	2.12	2.54	2.45	1.29	1.16	1.18
OCPs								
p,p'-DDT	0.664	0.621	0.849	1.66	1.43	0.954	1.06	0.926
p,p'-DDD	0.443	0.544	0.886	1.13	1.04	0.73	0.749	0.53
o,p'-DDD	0.0865	0.095	0.103	0.116	0.13	0.0783	0.0955	0.0732
p,p'-DDE	1.76	1.87	1.75	2.14	2.02	2.2	2.02	1.92
o,p'-DDE	<LOD	0.0498	0.0647	0.0837	0.0779	0.0586	0.0583	0.0547
α-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0952
β-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
γ-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	0.144	0.222	0.284
δ-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
ε-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PeCB	<LOD	<LOD	<LOD	0.051	<LOD	<LOD	<LOD	<LOD
HCB	0.463	0.485	0.462	0.642	0.609	0.579	0.566	0.618
PBDEs								
BDE 28	0.0123	0.0158	0.0214	0.027	0.0226	0.0537	0.0093	0.00792
BDE 47	0.397	0.389	0.453	0.605	0.592	0.327	0.246	0.268
BDE 66	0.0539	0.0474	0.0689	0.0948	0.0942	0.037	0.0295	0.0345
BDE 85	0.0739	0.0738	0.109	0.139	0.189	0.115	0.0907	0.0978
BDE 99	0.93	0.987	1.293	1.61	1.54	0.89	0.747	0.767
BDE 100	0.173	0.17	0.209	0.283	0.333	0.228	0.146	0.131
BDE 153	0.462	0.458	0.532	0.695	0.695	0.386	0.309	0.327
BDE 154	0.307	0.338	0.416	0.545	0.491	0.287	0.222	0.229
BDE 183	1.18	1.29	1.47	1.90	1.88	0.937	0.825	0.868
BDE 209	4.02	4.06	4.06	5.48	5.35	4.72	3.93	4.07
NFRs								

PBBZ	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
TBCT	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PBT	0.612	0.705	0.965	1.17	1.13	0.977	1.17	0.926
PBEB	0.0043	0.0135	0.00659	0.096	0.00935	0.00578	0.0117	0.0593
TBP-DBPE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
HBB	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
PBBA	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0801	<LOD
EH-TBB	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
T23BPIC	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BEH-TEBP	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
TBP-AE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
α-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0502	<LOD
β-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
TBX	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BATE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
β-TBCO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
γ,δ-DBE-DBCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
α-TBCO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DDC-CO-MA	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0398	<LOD
DBHCTD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BTBPE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
syn-DDC-CO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
anti-DDC-CO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DBDPE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD

c) Filter C

	May 2014	May 2014	May 2014	December 2014	December 2014	May 2015	December 2015	December 2015	December 2015
PAHs	ng/g filter								
Naphthalene	1830	9840	1700	2580	27300	15000	1420	159000	598
Acenaphthylene	120	186	112	673	913	13.6	365	418	368
Acenaphthene	471	784	455	987	1050	41.4	351	1140	604
Biphenyl	5780	26900	6920	20100	21000	2070	2710	21100	9360
Fluorene	4170	2950	3260	4410	4980	314	4650	6750	4430
Phenanthrene	23400	3680	23600	8100	13100	620	29000	8300	9310
Anthracene	231	0.0277	209	157	270	0.0635	782	141	148
Pyrene	2210	27.3	3340	162	546	10.9	4420	210	238
Fluoranthene	6190	87.8	9590	356	1220	38.6	9810	512	601
Benzo(b)fluorene	2640	26.1	3610	7.24	489	51.9	4500	6.16	6.74
Benzo(ghi)fluoranthene	109	0.0189	237	0.0284	8.99	0.0435	240	5.17	4.78
Cyclopenta(cd)pyrene	2.72	9.71	2.57	2.67	2.77	2.65	1.53	2.29	2.5
Benz(a)anthracene	947	137	1730	<LOD	77.7	31	1680	95	102
Chrysene	2460	352	5730	90.8	227	47.4	5000	147	258
Triphenylene	2390	133	4040	<LOD	222	24.2	1650	100	115
Retene	1430	46.5	1990	354	756	17.5	2325	243	320
Benzo(e)pyrene	120	22.3	255	6.15	6.37	6.09	167	5.26	5.76
Perylene	8.13	29.1	7.68	8	8.29	7.93	4.57	6.84	7.49
Benzo(b)fluoranthene	31.5	0.0597	76.2	0.0897	<LOD	0.137	62.6	<LOD	<LOD
Benzo(j)fluoranthene	148	22.1	440	6.1	6.31	6.04	243	5.21	5.71
Benzo(k)fluoranthene	82.6	25.1	231	6.92	7.16	6.85	145	5.91	6.47
Benzo(a)pyrene	9.65	34.5	9.12	9.5	9.84	9.41	5.42	8.12	8.89
Indeno(1,2,3-cd)pyrene	5.52	19.7	5.22	5.44	5.63	5.39	3.1	4.65	5.09
Benzo(ghi)perylene	4.58	16.4	4.33	4.51	4.67	4.47	2.57	3.86	4.22
Anthanthrene	5.29	18.9	5	5.2	5.39	5.16	2.97	4.45	4.87
Dibenz(ah)anthracene	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Dibenz(ac)anthracene	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Coronene	7.62	27.2	7.21	7.5	7.77	7.43	4.28	6.42	7.02
Benzo(b)naphtho(1,2-d)thiophene	55.8	0.0218	43.2	0.0328	<LOD	0.0501	49.8	<LOD	<LOD

PCBs									
PCB 9	2.46	3.72	3.38	3.07	2.92	0.26	1.48	5.39	2.19
PCB 11	1120	385	1230	539	712	13.5	787	452	416
PCB 28	50.3	19.9	111	25.7	49.2	0.602	37.7	109	23.5
PCB 52	19.8	7.18	32.4	9.66	15.3	<LOD	18.2	28.2	9.79
PCB 101	19.6	2.00	20.2	7.84	12.6	<LOD	25.5	6.87	9.71
PCB 118	5.04	<LOD	7.11	0.961	2.43	<LOD	8.40	0.897	1.50
PCB 138	10.3	<LOD	12.9	2.02	5.03	<LOD	19.1	1.65	3.08
PCB 153	23.8	<LOD	24.0	4.49	11.6	<LOD	44	5.01	9.75
PCB 180	4.98	<LOD	6.22	0.821	2.34	<LOD	8.99	0.673	1.28
OCPs									
p,p'-DDT	22.7	<LOD	38.2	3.60	14.0	<LOD	59.3	3.40	8.05
p,p'-DDD	9.26	<LOD	10.2	1.3	4.06	<LOD	11.2	1.23	2.03
o,p'-DDD	2.96	<LOD	2.64	0.826	1.78	<LOD	3.27	0.549	0.798
p,p'-DDE	123	9.557	137	42.4	93.2	0.628	144	30.6	45.2
o,p'-DDE	5.62	0.709	5.77	2.28	3.99	<LOD	6.08	1.82	2.47
α-HCH	37.6	44.4	54.4	18	41.7	0.362	8.45	115	11.9
β-HCH	5.1	<LOD	6.25	2.05	4.48	<LOD	4.92	3.43	1.39
γ-HCH	66	47.2	77.5	257	118	3.88	71	111	45
δ-HCH	18.9	2.65	24.4	1.46	9.92	<LOD	3.24	4.83	0.961
ε-HCH	2.2	0.523	2.78	<LOD	1.26	<LOD	1.60	1.18	<LOD
PeCB	10.1	37.0	11.5	23.7	25.4	2.32	5.09	30.0	17.3
HCB	114	139	107	122	135	7.91	98.8	193	106
PBDEs									
BDE 28	1.19	0.0738	1.53	0.286	0.414	0.00843	2.78	0.152	0.308
BDE 47	5.13	0.103	10.1	0.396	1.48	<LOD	13.3	0.333	0.63
BDE 66	0.374	0.00754	0.847	0.0456	0.138	0.00617	0.00254	0.0244	0.0592
BDE 85	0.0456	0.013	0.0934	0.00806	0.00685	0.0016	0.00828	0.00773	0.00114
BDE 99	1.32	<LOD	2.26	0.042	0.377	<LOD	2.78	0.0573	0.0973
BDE 100	0.488	0.0145	0.851	0.0179	0.139	0.00406	0.947	0.0336	0.0455
BDE 153	0.232	0.0115	0.309	0.0215	0.00901	0.0365	0.434	0.00523	0.00182
BDE 154	0.12	0.0198	0.202	0.0133	0.0132	0.0104	0.277	0.0118	0.00176
BDE 183	0.363	0.0189	0.637	<LOD	0.0468	<LOD	0.42	0.0351	0.0281
BDE 209	23.2	<LOD	54.7	<LOD	<LOD	<LOD	1.83	<LOD	<LOD
NFRs									

PBBZ	179	11.5	170	28.5	78.1	1.00	122	22.9	37.6
TBCT	0.100	0.0168	0.140	0.0316	0.0766	<LOD	0.133	0.0548	<LOD
PBT	448	21.5	656	95.2	241	3.93	554	69.6	130
PBEB	14.4	0.03	17.8	3.44	6.78	<LOD	17.5	2.08	2.17
TBP-DBPE	447	<LOD	627	51.3	144	2.51	1230	44.5	67.9
HBB	122	1.48	150	64.2	57.0	1.38	335	13.5	30.2
PBBA	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
EH-TBB	32.0	0.102	59.5	0.856	10.6	<LOD	10.6	0.441	0.636
T23BPIC	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BEH-TEBP	<LOD	<LOD	3.36	4.28	6.78	<LOD	4.06	11.6	<LOD
TBP-AE	<LOD	<LOD	0.583	0.212	0.379	<LOD	1.337	0.331	0.233
α-DBE-DBCH	11.0	4.34	11.9	8.61	7.51	0.76	13.7	11.1	12.2
β-DBE-DBCH	6.76	3.18	8.13	6.22	5.28	0.52	10.4	7.733	8.10
TBX	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BATE	16.2	2.2	22	12.7	16.0	0.654	32.7	8.82	11.6
β-TBCO	<LOD	<LOD	<LOD	0.596	<LOD	<LOD	<LOD	<LOD	0.77
γ,δ-DBE-DBCH	2.20	1.11	<LOD	1.99	1.91	<LOD	3.486	2.51	2.79
α-TBCO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DDC-CO-MA	17.25	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DBHCTD	1.846	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
BTBPE	0.228	<LOD	0.495	0.0388	0.213	0.0809	0.525	0.0548	0.146
syn-DDC-CO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
anti-DDC-CO	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
DBDPE	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD

Table S8: p-values from Mann Whitney test for differences between incoming (filters A+B) and outgoing (filter C) levels for PAHs, PCBs, OCPs, PBDEs and NFRs, median levels (ng/g filter) and ration of outgoing to incoming air. Red indicates statistically significant differences at 5%.

	p-values	median incoming air (filters A+B)	median outgoing air (filter C)	ratio
PAHs				
Naphthalene	0.000636	45.3	9840	217
Acenaphthylene	0.00814	60.3	365	6.05
Acenaphthene	0.000636	10.7	604	56.7
Biphenyl	0.000636	19.8	9360	473
Fluorene	0.000636	48.6	4410	90.7
Phenanthrene	0.00814	784	9310	11.9
Anthracene	0.136	99.6	157	1.58
Pyrene	0.112	1890	238	0.126
Fluoranthene	0.268	2050	601	0.293
Benzo(b)fluorene	0.532	471	51.9	0.11
Benzo(ghi)fluoranthene	0.000636	744	5.17	0.00695
Cyclopenta(cd)pyrene	0.000636	148	2.65	0.0179
Benz(a)anthracene	0.0141	1390	102	0.0731
Chrysene	0.194	1640	258	0.158
Triphenylene	0.268	449	133	0.295
Retene	0.229	177	354	2
Benzo(e)pyrene	0.000636	2110	6.37	0.00301
Perylene	0.000636	317	7.93	0.025
Benzo(b)fluoranthene	0.000636	3590	0.0897	0.000025
Benzo(j)fluoranthene	0.000636	1720	6.31	0.00367
Benzo(k)fluoranthene	0.000636	1310	7.16	0.00548
Benzo(a)pyrene	0.000636	2150	9.41	0.00437
Indeno(1,2,3-cd)pyrene	0.000636	3310	5.39	0.00163
Benzo(ghi)perylene	0.000636	2990	4.47	0.00149
Anthanthrene	0.000636	383	5.16	0.0135
Dibenz(ah)anthracene	0.000636	301	4.36	0.0145
Dibenz(ac)anthracene	0.000636	215	4.36	0.0203
Coronene	0.000636	1280	7.43	0.00582
Benzo(b)naphtho(1,2-d)thiophene	0.000636	95.1	0.0328	0.000345
PCBs				
PCB 9		<LOD	2.92	
PCB 11	0.000636	0.146	539	3690
PCB 28	0.000636	0.0869	37.7	434
PCB 52	0.00526	0.0331	15.3	463
PCB 101	0.00814	0.219	9.71	44.4
PCB 118	0.0606	0.146	1.5	10.3
PCB 138	0.0606	0.748	3.08	4.12
PCB 153	0.0606	1.16	9.75	8.39
PCB 180	0.885	1.44	1.28	0.889
OCPs				
p,p'-DDT	0.0606	1.06	8.05	7.56
p,p'-DDD	0.0606	0.676	2.03	3.00
o,p'-DDD	0.0606	0.0955	0.826	8.65

p,p'-DDE	0.00814	2.04	45.2	22.1
o,p'-DDE	0.00705	0.0526	2.47	47.0
∑HCH		<LOD	128	
PECB		<LOD	17.3	
HCB	0.000636	0.426	114	268
PBDEs				
BDE 28	0.00334	0.0121	0.308	25.3
BDE 47	0.229	0.358	0.63	1.76
BDE 66	0.962	0.0408	0.0456	1.12
BDE 85	0.00334	0.0748	0.00806	0.108
BDE 99	0.268	0.799	0.0973	0.122
BDE 100	0.361	0.147	0.0455	0.309
BDE 153	0.0108	0.331	0.0215	0.0651
BDE 154	0.00814	0.234	0.0133	0.0567
BDE 183	0.000901	0.812	0.0351	0.0432
BDE 209		5.38	<LOD	
NFRs				
PBBZ	0.000636	0.0179	37.6	2100
TBCT	0.00814	<LOD	0.0548	
PBT	0.000636	0.932	130	139
PBEB	0.0141	0.0228	3.44	151
TBP-DBPE		<LOD	67.9	
HBB	0.000636	0.21	57.0	272
EH-TBB	0.0304	0.145	0.856	5.91
BEH-TEBP	0.268	0.692	3.36	4.85
TBP-AE		<LOD	0.233	
α-DBE-DBCH		<LOD	11.0	
β-DBE-DBCH		<LOD	6.76	
BATE		<LOD	12.7	
γ,δ-DBE-DBCH		<LOD	1.99	
BTBPE	0.81	0.134	0.146	1.09

Table S9: Comparison of percentage content of OCPs, PCBs and NFRs in present and previous study (5) with highest contributors in bold.

	Percentage content [%]	
	This study	Vojta et al. (5)
p,p'-DDT	3	3
o,p'-DDT	2	3
p,p'-DDD	1	1
o,p'-DDD	0	0
***p,p'*-DDE**	**14**	**22**
o,p'-DDE	1	1
α-HCH	**12**	**15**
β-HCH	1	1
γ-HCH	**23**	**15**
δ-HCH	1	6
PeCB	6	3
HCB	**36**	**29**
PCB 9	0	0

	Percentage content [%]	
	This study	Vojta et al.(5)
PBBZ	**11**	**12**
TBCT	0	0
PBT	**39**	**7**
PBEB	1	0
TBP-DBPE	**20**	**4**
HBB	**17**	**75**
PBBA	0	0
EH-TBB	0	0
T23BPIC	0	0
BEH-TEBP	1	0
TBP-AE	0	0
α-DBE-DBCH	3	1
β-DBE-DBCH	2	1
TBX	0	0

PCB 11	**87**	**30**
PCB 28	**6**	**49**
PCB 52	2	11
PCB 101	2	3
PCB 118	0	2
PCB 138	0	2
PCB 153	2	2
PCB 180	0	2

BATE	4	0
β-TBCO	0	0
γ,δ-DBE-DBCH	1	0
α-TBCO	0	0
DPMA	0	0
DBHCTD	0	0
BTBPE	0	0
s-DDC-CO	0	0
a-DDC-CO	0	0
DBDPE	0	0

Table S10: p-values from Mann Whitney test for seasonality of PAH, PCB, OCP, PBDE and NFR levels in filters A+B for incoming air with median mass fraction (ng/g filter) and ratios for winter/spring and summer/autumn season. Red colour indicates statistically significant differences at 5%.

	p-values	median summer/autumn	median winter/spring	ratio
PAHs				
Naphthalene	0.551	44.4	50.6	1.14
Acenaphthylene	0.0369	47.8	94.5	1.98
Acenaphthene	0.0736	9.5	13.2	1.39
Biphenyl	0.0369	17.4	29.1	1.68
Fluorene	0.0369	44.9	118	2.63
Phenanthrene	0.0369	764	2010	2.63
Anthracene	0.0369	66.2	145	2.2
Pyrene	0.0369	1820	3860	2.12
Fluoranthene	0.0369	1990	4360	2.19
Benzo(b)fluorene	0.0369	352	751	2.13
Benzo(ghi)fluoranthene	0.0369	701	1520	2.16
Cyclopenta(cd)pyrene	0.371	144	153	1.06
Benz(a)anthracene	0.0369	1240	2470	2
Chrysene	0.0369	1530	3000	1.96
Triphenylene	0.0369	421	835	1.98
Retene	0.0369	168	362	2.15
Benzo(e)pyrene	0.0369	1980	3650	1.84
Perylene	0.0369	305	540	1.77
Benzo(b)fluoranthene	0.0369	3320	6980	2.1
Benzo(j)fluoranthene	0.0736	1600	2310	1.44
Benzo(k)fluoranthene	0.0369	1190	2130	1.78
Benzo(a)pyrene	0.0369	2070	3490	1.69
Indeno(1,2,3-cd)pyrene	0.0369	3000	5020	1.67
Benzo(ghi)perylene	0.0369	2760	4460	1.62
Anthanthrene	0.0369	344	562	1.63
Dibenz(ah)anthracene	0.0369	284	455	1.6
Dibenz(ac)anthracene	0.0369	210	380	1.81
Coronene	0.0369	1180	1960	1.65
Benzo(b)naphtho(1,2-d)thiophene	0.0369	85.4	159	1.86
PCBs				
PCB 9	0.233	0.016	<LOD	
PCB 11	0.551	0.171	0.121	0.709
PCB 28	0.371	0.143	0.0753	0.526

PCB 52		0.0724	<LOD	
PCB 101	0.766	0.219	0.202	0.925
PCB 118	0.371	0.15	0.112	0.747
PCB 138	0.766	0.743	0.79	1.06
PCB 153	1.00	1.28	1.04	0.814
PCB 180	0.0736	1.41	1.93	1.36
OCPs				
p,p'-DDT	0.551	1.08	1.04	0.964
p,p'-DDD	0.136	0.601	0.77	1.28
o,p'-DDD	0.0369	0.0993	0.0753	0.758
p,p'-DDE	0.0369	2.93	1.5	0.514
o,p'-DDE	0.766	0.0571	0.0507	0.888
∑HCH		0.153	<LOD	
HCB	0.766	0.426	0.425	0.998
PBDEs				
BDE 28	0.233	0.00803	0.0147	1.83
BDE 47	0.233	0.357	0.428	1.2
BDE 66	0.0369	0.0329	0.0614	1.86
BDE 85	0.136	0.0709	0.099	1.4
BDE 99	0.0369	0.791	1.11	1.41
BDE 100	0.551	0.145	0.214	1.48
BDE 153	0.0369	0.301	0.478	1.58
BDE 154	0.0369	0.222	0.337	1.52
BDE 183	0.0369	0.767	1.22	1.6
BDE 209	0.551	5.49	5.22	0.951
NFRs				
PBBZ		0.0441	<LOD	
PBT	0.371	1.12	0.886	0.793
PBEB	1.00	0.0252	0.00609	0.241
HBB	0.0369	0.258	0.108	0.418
EH-TBB	0.881	0.13	0.186	1.42
BEH-TEBP		1.53	<LOD	
BTBPE	0.551	0.139	0.129	0.932

Table S11: Comparison of estimated indoor air concentration with air concentration (both in pg/m^3) measured by active air sampler for measured PCBs, OCPs, PBDEs, and NFRs in both studies (5). PAHs were not reported in Vojta et al.

	Estimated indoor concentration (pg/m^3) (this study)	Indoor air concentration (pg/m^3) measured by active air sampler (5)	Ratio
PCBs			
PCB 28	5.46±3.02	76.7	14.1
PCB 52	1.80±1.04	20.8	11.6
PCB 101	1.34±0.711	3.16	2.37
PCB 118	0.338±0.158	1.30	3.84
PCB 138	0.692±0.330	1.42	2.05
PCB 153	1.57±0.996	2.30	1.46
PCB 180	0.324±0.134	1.23	3.79
OCPs			
p,p'-DDT	1.91±0.945	1.20	0.629
p,p'-DDD	0.502±0.360	0.407	0.810
o,p'-DDD	0.164±0.118	0.139	0.844

p,p'-DDE	8.00±2.61	7.04	0.880
o,p'-DDE	0.368±0.120	0.273	0.744
α-HCH	4.25±1.32	10.8	2.54
β-HCH	0.354±0.110	0.151	0.428
γ-HCH	10.2±3.16	15.4	1.51
δ-HCH	0.848±0.263	1.80	2.12
PeCB	2.08±0.570	2.61	1.26
HCB	13.1±3.59	31.3	2.39
PBDEs			
BDE 28	0.086±0.0442	0.116	1.34
BDE 47	0.402±0.0805	0.345	0.858
BDE 66	0.0193±0.00422	0.112	5.83
BDE 85	0.00237±0.00108	0.0850	35.8
BDE 99	0.0891±0.0313	0.220	2.47
BDE 100	0.0325±0.00756	0.0993	3.06
BDE 153	0.0136±0.00282	0.0888	6.55
BDE 154	0.00856±0.00175	0.0572	6.68
BDE 183	0.0199±0.00531	0.154	7.73
BDE 209	1.15±0.980	4.56	3.98
NFRs			
PBBZ	8.33±15.5	7.29	0.875
TBCT	0.00708±0.0132	0.0116	1.64
PBT	28.4±5.69	3.46	0.122
PBEB	0.822±1.47	0.683	0.831
TBP-DBPE	33.5±62.3	14.5	0.432
HBB	9.91±4.11	21.5	2.17
TBP-AE	0.0393±0.0281	0.0156	0.397
α-DBE-DBCH	1.04±0.226	8.35	8.05
BATE	1.57±2.92	0.117	0.0743
DBHCTD	0.0236±0.0439	0.420	17.8
BTBPE	0.0228±0.0784	0.0771	3.39

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