

Supporting Information

Plastic Additives in Ambient Fine Particulate Matter in the Pearl River Delta, China: High-throughput Characterization and Health Implications

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Table S1. Full names, abbreviations, and CAS numbers of target plastic additives and their quantification methods.

Groups	Abbreviation	Full Name	CAS	Supplier	Surrogate standards	Quantification Methods ^a
Organophosphate esters	TEP	Triethyl phosphate	78-40-4	AccuStandard	dTEP	M-1
	TCEP	Tris(2-chloroethyl) phosphate	115-96-8	AccuStandard	dTCEP	M-1
	TCIPP	Tris(2-chloroisopropyl) phosphate	13674-84-5	AccuStandard	dTDCPP	M-1
	TDCIPP	Tris(1,3-dichloro-2-propyl) phosphate	13674-87-8	AccuStandard	dTDCPP	M-1
	TPHP	Triphenyl phosphate	115-86-6	AccuStandard	dTPHP	M-1
	TBP	Tributyl phosphate	126-73-8	AccuStandard	dTBP	M-1
	TCrP	Tricresyl phosphate	1330-78-5	AccuStandard	M6TBEP	M-1
	TPrP	Tripropyl phosphate	513-08-6	AccuStandard	dTCEP	M-1
	TBOEP	Tris(2-butoxyethyl) phosphate	78-51-3	AccuStandard	M6TBEP	M-1
	TEHP	Tris(2-ethylhexyl) phosphate	78-42-2	AccuStandard	M6TBEP	M-1
	EHDPP	2-Ethylhexyl-diphenyl phosphate	1241-94-7	AccuStandard	M6TBEP	M-1
	TDBPP	Tris(2,3-dibromopropyl) phosphate	126-72-7	AccuStandard	M6TBEP	M-1
	T35DMPP	Tris(3,5-dimethylphenyl) phosphate	25653-16-1	Wellington	M6TBEP	M-1
	T2IPPP	Tris(2-isopropylphenyl) phosphate	64532-95-2	AccuStandard	M6TBEP	M-1
	BPDPP	t-butylphenyl diphenyl phosphate	56803-37-3	AccuStandard	M6TBEP	M-1
	V6	Tetrakis(2-chloroethyl)dichloroisopentyl diphosphate	38051-10-4	AccuStandard	M6TBEP	M-1
	DDPP	Isodecyl diphenyl phosphate	29761-21-5	AccuStandard	M6TBEP	M-1
	CDP	Cresyl diphenyl phosphate	26444-49-5	AccuStandard	M6TBEP	M-1
	BPADP	Bisphenol A bis(diphenyl phosphate)	5945-33-5	AccuStandard	M6TBEP	M-1
	RDP	Resorcinol bis(diphenyl phosphate)	57583-54-7	AccuStandard	M6TBEP	M-1
	4tBPDPP	4-tert-Butylphenyl diphenyl phosphate	981-40-8	Wellington	dTPHP	M-2
	2tBPDPP	2-tert-Butylphenyl diphenyl phosphate	56803-37-3	Wellington	dTPHP	M-2
	T4IPPP	Tris (4-isopropylphenyl) phosphate	2502-15-0	Wellington	dTPHP	M-2
	T3IPPP	Tris (3-isopropylphenyl) phosphate	72668-27-0	Wellington	dTPHP	M-2
	T4tBPP	Tris (4-tert-butylphenyl) phosphate	78-33-1	Wellington	dTPHP	M-2
	2IPPDPP	2-Isopropylphenyl diphenyl phosphate	64532-94-1	Wellington	dTPHP	M-2
	24DIPPDPP	2,4-Diisopropylphenyl diphenyl phosphate	NA	Wellington	dTPHP	M-2
	4IPPDPP	4-Isopropylphenyl diphenyl phosphate	55864-04-5	Wellington	dTPHP	M-2
	B2IPPPP	Bis (2-isopropylphenyl) phenyl phosphate	69500-29-4	Wellington	dTPHP	M-2
	B4IPPPP	Bis (4-isopropylphenyl) phenyl phosphate	55864-07-8	Wellington	dTPHP	M-2
	B4tBPPP	Bis (4-tert-butylphenyl) phenyl phosphate	115-87-7	Wellington	dTPHP	M-2

	B2tBPPP	Bis (2-tert-butylphenyl) phenyl phosphate	65652-41-7	Wellington	dTPHP	M-2
	B24DIPPPP	Bis (2,4-diisopropylphenyl) phenyl phosphate	2190501-29-0	Wellington	dTPHP	M-2
	T34DMPP	Tris(3,4-dimethylphenyl) phosphate	3862/11/1	Wellington	dTPHP	M-2
Phthalates esters	MBzP	Monobenzyl phthalate	2528-16-7	AccuStandard	MBzP-d4	M-3
	MBP	Monobutyl phthalate	131-70-4	AccuStandard	MBP-d4	M-3
	MiBP	Monoisobutyl phthalate	30833-53-5	AccuStandard	MBP-d4	M-3
	MEP	Monoethyl phthalate	2306-33-4	AccuStandard	MBP-d4	M-3
	MEHP	Monoethylhexyl Phthalate	4376-20-9	AccuStandard	MBP-d4	M-3
	MHeP	Mono-2-heptyl phthalate	129171-03-5	AccuStandard	MBP-d4	M-3
	MCHP	Monocyclohexyl phthalate	7517-36-4	AccuStandard	MBP-d4	M-3
	MHxP	Monohexyl phthalate	24539-57-9	AccuStandard	MBP-d4	M-3
	MiNoP	Monoisononyl phthalate	106610-61-1	AccuStandard	MBP-d4	M-3
	MiPrP	Monoisopropyl phthalate	35118-50-4	AccuStandard	MBP-d4	M-3
	MMP	Monomethyl phthalate	4376-18-5	AccuStandard	MBP-d4	M-3
	MPeP	Mono-n-pentyl phthalate	24539-56-8	AccuStandard	MBP-d4	M-3
	MOP	Monooctyl phthalate	5393-19-1	AccuStandard	MBP-d4	M-3
	MECPP	Mono (2-ethyl-5carboxypentyl) phthalate	40809-41-4	TRC	MBP-d4	M-3
	MEOHP	Mono (2-ethyl-5-oxohexyl) phthalate	40321-98-0	TRC	MBP-d4	M-3
	MEHHP	Mono (2-ethyl-5-hydroxyhexyl) phthalate	40321-99-1	TRC	MBP-d4	M-3
	MCDP	Monocarboxyisodecyl phthalate	N/A	TRC	MBP-d4	M-3
	BBzP	Butyl benzyl phthalate	85-68-7	AccuStandard	DiBP-d4	M-4
	DEHP	bis(2-ethylhexyl) phthalate	117-81-7	AccuStandard	DEHP-d4	M-5
	DBP	dibutyl phthalate	84-74-2	AccuStandard	DBP-d4	M-4
	DiBP	Diisobutyl phthalate	84-69-5	AccuStandard	DiBP-d4	M-4
	DCHP	Dicyclohexyl Phthalate	84-61-7	AccuStandard	DCHP-d4	M-5
	DEP	Diethyl Phthalate	84-66-2	AccuStandard	DEP-d4	M-4
	DHxP	Dihexyl phthalate	84-75-3	AccuStandard	DHxP-d4	M-4
	DiHxP	Diisoheptyl phthalate	68515-50-4	AccuStandard	DHxP-d4	M-4
	DMP	dimethyl phthalate	131-11-3	AccuStandard	DMP-d4	M-4
	DiPrP	Diisopropyl phthalate	605-45-8	AccuStandard	DPrP-d4	M-4
	DPrP	Di-n-propyl phthalate	131-16-8	TCI America	DPrP-d4	M-4
	DHP	Di-n-heptyl phthalate	3648-21-3	AccuStandard	DOP-d4	M-4
	DiHP	Diisoheptyl phthalate	71888-89-6	AccuStandard	DOP-d4	M-4
	DOP	Di-n-octyl phthalate	117-84-0	AccuStandard	DOP-d4	M-4

	DNP	Dinonyl phthalate	84-76-4	AccuStandard	DOP-d4	M-4
	DiNP	Diisononyl phthalate	68515-48-0	AccuStandard	DOP-d4	M-4
	DUP	Diundecyl phthalate	3648-20-2	AccuStandard	DOP-d4	M-4
	DAIP	Diallyl phthalate	131-17-9	AccuStandard	DEP-d4	M-4
	DAmP	Diamyl phthalate	131-18-0	AccuStandard	DEP-d4	M-4
	DiPeP	Diisopentyl phthalate	605-50-5	AccuStandard	DiPeP-d4	M-4
	iBCHP	Isobutylcyclohexyl phthalate	5334/9/8	AccuStandard	DBP-d4	M-4
	DMiP	Dimethyl isophthalate	1459-93-4	AccuStandard	DBP-d4	M-4
	DPhP	Diphenyl phthalate	84-62-8	AccuStandard	DBP-d4	M-4
	DPiP	Diphenyl isophthalate	744-45-6	AccuStandard	DBP-d4	M-4
	DBzP	Dibenzyl phthalate	523-31-9	AccuStandard	DBzP-d4	M-4
Phthalate replacements	DHeNoA	Di(n-heptyl,n-nonyl) adipate	68515-75-3	AccuStandard	DEHA-d8	M-4
	DBA	Dibutyl adipate	105-99-7	TCI America	DEHA-d8	M-4
	DiBA	Diisobutyl adipate	141-04-8	AccuStandard	DEHA-d8	M-4
	DiDeA	Diisodecyl adipate	27178-16-1	AccuStandard	DEHA-d8	M-4
	DEHA	Bis(2-ethylhexyl) adipate	103-23-1	AccuStandard	DEHA-d8	M-4
	TCaT	Tricapryl trimellitate	27251-75-8	AccuStandard	TributylO-Acetylcitrate-d3	M-4
	DEHT	Bis(2-ethylhexyl) terephthalate	6422-86-2	AccuStandard	DEHT-d4	M-5
	DINCH	Di-isononyl cyclohexane-1,2-dicarboxylate	166412-78-8	AccuStandard	Tributyl O-Acetylcitrate-d3	M-4
	ATBC	Acetyl tri-n-butyl citrate	77-90-7	AccuStandard	Tributyl O-Acetylcitrate-d3	M-4
	TOTM	Trioctyl trimellitate	3319-31-1	TCI America	Tributyl O-Acetylcitrate-d3	M-4
Bisphenol analogues	DiDeAz	Diisodecyl azelate	28472-97-1	AccuStandard	DEHA-d8	M-4
	DCaA	Dicapryl adipate	108-63-4	Sigma-Aldrich	DEHA-d8	M-5
	BPA	Bisphenol A	1980/5/7	AccuStandard	BPA-d6	M-3
	BPAF	Bisphenol AF	1478-61-1	AccuStandard	BPA-d6	M-3
	BPAP	Bisphenol AP	1571-75-1	AccuStandard	BPA-d6	M-3
	BPB	Bisphenol B	77-40-7	AccuStandard	BPA-d6	M-3
	BPBP	Bisphenol BP	1844-01-5	AccuStandard	BPA-d6	M-3
	BPC	Bisphenol C	79-97-0	AccuStandard	BPA-d6	M-3

	BPE	Bisphenol E	2081/8/5	AccuStandard	BPA-d6	M-3
	BPF	Bisphenol F	620-92-8	AccuStandard	BPA-d6	M-3
	BPG	Bisphenol G	127-54-8	AccuStandard	BPA-d6	M-3
	BPM	Bisphenol M	13595-25-0	AccuStandard	BPA-d6	M-3
	BPP	Bisphenol P	2167-51-3	AccuStandard	BPA-d6	M-3
	BPPH	Bisphenol PH	24038-68-4	AccuStandard	BPA-d6	M-3
	BPS	Bisphenol S	1980/9/1	AccuStandard	BPS-C12	M-3
	BPZ	Bisphenol Z	843-55-0	AccuStandard	BPS-C12	M-3
UV stabilizers	BP-1	2,4-Dihydroxybenzophenone	131-56-6	AccuStandard	BPA-d6	M-3
	BP-3	2-Hydroxy-4-methoxybenzophenone	131-57-7	AccuStandard	BPA-d6	M-3
	BP-6	2,2-Dihydroxy-4,4-dimethoxybenzophenone	131-54-4	AccuStandard	BPA-d6	M-3
	BP-8	2,2'-dihydroxy-4-methoxybenzophenone	131-53-3	ChemService	BPA-d6	M-3
	4-OH-BP	4-Hydroxybenzophenone	1137-42-4	Sigma-Aldrich	BPA-d6	M-3
	BP-4	2-Hydroxy-4-methoxybenzophenone-5-sulfonic Acid Hydrate	4065-45-6	TRC	BPA-d6	M-3
	2,3,4-OH-BP	2,3,4-trihydroxybenzophenone	1143-72-2	Sigma-Aldrich	BPA-d6	M-3
	BP-2	2,2',4,4'-tetrahydroxybenzophenone	131-55-5	Sigma-Aldrich	BPA-d6	M-3
	UV-P	2-(2-Hydroxy-5-methylphenyl) benzotriazole	2440-22-4	AccuStandard	5-Me-BTR-d6	M-4
	UV-PS	2-(5-tert-butyl-2-hydroxyphenyl) benzotriazole	3147-76-0	AccuStandard	5-Me-BTR-d6	M-4
	UV-234	2-(2H-benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl) phenol	70321-86-7	AccuStandard	5-Me-BTR-d6	M-4
	UV-320	2-(3,5-Di-tert-butyl-2-hydroxyphenyl) benzotriazole	3846-71-7	AccuStandard	5-Me-BTR-d6	M-4
	UV-327	2,4-Di-tert-butyl-6-(5-chloro-2H-benzotriazol-2-yl) phenol	3864-99-1	AccuStandard	5-Me-BTR-d6	M-4
	UV-328	2-(2H-benzotriazol-2-yl)-4,6-di-tert-pentylphenol	25973-55-1	AccuStandard	5-Me-BTR-d6	M-4
	UV-350	2-(3-sec-butyl-5-tert-butyl-2-hydroxyphenyl) benzotriazole	36437-37-3	AccuStandard	5-Me-BTR-d6	M-4
	UV-326	2-tert-butyl-6-(5-chloro-2H-benzotriazol-2-yl)-4-methylphenol	3896/11/5	AccuStandard	5-Me-BTR-d6	M-4
	UV-329	2-(2'-Hydroxy-3',5'-di-tert-amylphenyl) benzotriazole	3147-75-9	AccuStandard	DCHP-d4	M-5
	5-Me-1-H-BTR	5-methyl-1-hydrogenbenzotriazole	136-85-6	ChemService	5-Me-BTR-d6	M-4
	1-H-BTR	1-hydrogen-benzotriazole	95-14-7	ChemService	5-Me-BTR-d6	M-4

	1-OH-BTR	1-hydroxybenzotriazole	2592-95-2	TCI America	5-Me-BTR-d6	M-4
	4-Me-1-H-BTR	4-methyl-1-hydrogenbenzotriazole	29878-31-7	Santa Cruz	5-Me-BTR-d6	M-4
	5-Cl-BTR	5-Chloro-1-hydrogenbenzotriazole	94-97-3	Santa Cruz	5-Me-BTR-d6	M-4
	BTH	Benzothiazole	95-16-9	Sigma-Aldrich	5-Me-BTR-d6	M-4
	2-OH-BTH	2-hydroxybenzothiazole/2-Benzothiazole	934-34-9	ChemService	5-Me-BTR-d6	M-4
	2NH2-BTH	2-aminobenzothiazole	136-95-8	ChemService	5-Me-BTR-d6	M-4
	2-Me-S-BTH	2-(Methylthio)benzothiazole	615-22-5	TCI America	5-Me-BTR-d6	M-4
	2-Cl-BTH	2-Chlorobenzothiazole	615-20-3	J&K Scientific	5-Me-BTR-d6	M-4
	2-Mo-BTH	2-(morpholinothio)-benzothiazole	102-77-2	J&K Scientific	5-Me-BTR-d6	M-4
	2-Me-BTH	2-Methylbenzothiazole	120-75-2	J&K Scientific	5-Me-BTR-d6	M-4
	BMDM	4-tert-Butyl-4'-methoxydibenzoylmethane	70356-09-1	AccuStandard	5-Me-BTR-d6	M-4
	HMS	3,3,5-Trimethylcyclohexyl salicylate	118-56-9	AccuStandard	5-Me-BTR-d6	M-3
	IAMC	Isoamyl 4-methoxycinnamate	71617-10-2	TGI	5-Me-BTR-d6	M-4
	OC	2-ethylhexyl 2-cyano-3,3-diphenyl-2-propenoate	6197-30-4	DR.Ehrenstorfer	5-Me-BTR-d6	M-4
	4-MBC	4-Methylbenzylidene camphor	36861-47-9	AccuStandard	5-Me-BTR-d6	M-4
	EHMC	Ethylhexyl methoxycinnamate	5466-77-3	AccuStandard	5-Me-BTR-d6	M-4
	EHS	2-Ethylhexyl salicylate	118-60-5	AccuStandard	5-Me-BTR-d6	M-5
	ODPABA	Octyl dimethyl-p-aminobenzoic acid	21245-02-3	AccuStandard	5-Me-BTR-d6	M-4
Antioxidants	BHT	2,6-di-tert-butyl-4-methylphenol	128-37-0	AccuStandard	DCHP-d4	M-5
	BHT-CHO	3,5-di-tert-butyl-4-hydroxybenzaldehyde	1620-98-0	AccuStandard	DEHA-d8	M-4
	BHT-COOH	3,5-di-tert-butyl-4-hydroxybenzoic acid	1421-49-4	TGI	MBP-d4	M-3
	BHT-Q	2,6-di-tert-butyl-1,4-benzoquinone	719-22-2	TRC	DCHP-d4	M-5
	BHT-OH	2,6-di-tert-butyl-4-(hydroxymethyl)phenol	88-26-6	TRC	MBP-d4	M-3
	Dodecyl gallate	Dodecyl 3,4,5-trihydroxybenzoate	1166-52-5	AccuStandard	MBP-d4	M-3
	Propyl gallate	Propyl 3,4,5-trihydroxybenzoate	121-79-9	AccuStandard	MBP-d4	M-3
	Octyl gallate	Octyl 3,4,5-trihydroxybenzoate	1034-01-1	AccuStandard	MBP-d4	M-3
	TBHQ	Butylated hydroquinone	1948-33-0	TRC	DCHP-d4	M-5
	BHA	2(3)-tert-butyl-4-hydroxyanisole	25013-16-5	AccuStandard	MBP-d4	M-3
	Cyanox 2246	2,2'-Methylenebis(6-tert-butyl-4-methylphenol)	119-47-1	AccuStandard	MBP-d4	M-3
	Cyanox 425	2,2'-Methylenebis(4-ethyl-6-tert-butylphenol)	88-24-4	AccuStandard	MBP-d4	M-3
	Ethanox 330	1,3,5-Trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene	1709-70-2	AccuStandard	DEHA-d8	M-4

Ethanox 702	4,4'-Methylenebis(2,6-di-tert-butylphenol)	118-82-1	AccuStandard	DEHA-d8	M-4
Irganox 3790	Tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl) isocyanurate	40601-76-1	AccuStandard	DEHA-d8	M-4
Irganox 1081	2,2'-Thiobis(6-tert-butyl-p-cresol)	90-66-4	AccuStandard	MBP-d4	M-3
Irganox 565	4-[[4,6-bis(octylsulfanyl)-1,3,5-triazin-2-yl]amino]-2,6-ditert-butylphenol	991-84-4	AccuStandard	DEHA-d8	M-4
Irganox 3114	Tris(3,5-di-tert-butyl-4-hydroxybenzyl) isocyanurate	27676-62-6	AccuStandard	DEHA-d8	M-4
Irganox 1024	1,2-bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl) hydrazine	32687-78-8	AccuStandard	MBP-d4	M-3
TBBC	4,4'-Thiobis(6-tert-butyl-m-cresol)	96-69-5	AccuStandard	MBP-d4	M-3
Naugard 445	Bis[4-(2-phenyl-2-propyl)phenyl]amine	10081-67-1	AccuStandard	DEHA-d8	M-4
Naugard PANA	N-Phenyl-1-naphthylamine	90-30-2	AccuStandard	DEHA-d8	M-4
4(5)-MeMBI	Methyl-2-mercaptobenzimidazole	53988-10-6	AccuStandard	MBP-d4	M-3
BBOT	2,2'-(2,5-thiophenediyl)-bis (5-tert-butylbenzoxazole)	7128-64-5	AccuStandard	DEHA-d8	M-4

^aDetails of instrument analysis methods

1. Method 1 (M-1): A Shimadzu UPLC coupled to an AB Sciex 5500 Q Trap MS/MS (Toronto, Canada). Chromatographic separation was achieved by using a Kinetex@5µm EVO C18 100Å (100 mm × 2.1 mm, 5 µm particle size; Phenomenex, Torrance, CA, U.S.). The mobile phase consisted of water (A) and methanol (B), both spiked with 0.1% formic acid. A flow rate of 300 µL/min was used. The gradient was programmed as: 0-3 min, 5% B; 3-5 min, 5% ramped to 40% B (linear); followed by a linear increase to 100% B in 10 min (held for 3 min) and then a change to 5% B in 1 min (held for 5 min). The MS was equipped with a TurboIonSpray® electrospray ionization (ESI) probe and conducted in the positive multiple reaction monitoring (MRM) mode.
2. Method 2 (M-2): A Shimadzu UPLC coupled to an AB Sciex 5500 Q Trap MS/MS (Toronto, Canada). Chromatographic separation was achieved by using a Kinetex@5µm EVO C18 100Å; (100 mm × 2.1 mm, 5 µm particle size; Phenomenex, Torrance, CA, U.S.). The mobile phase consisted of water (A) and methanol (B), both spiked with 0.1% formic acid. A flow rate of 200 µL/min was used. The gradient was programmed as: 0-2 min, 5% B; 2-4 min, 5% ramped to 40% B (linear); followed by a linear increase to 100% B in 15 min (held for 6 min) and then a change to 5% B in 1 min (held for 5 min). The MS was equipped with an ESI probe and conducted in the positive MRM mode.
3. Method 3 (M-3): A Shimadzu UPLC coupled to an AB Sciex 5500 Q Trap MS/MS (Toronto, Canada). Chromatographic separation was achieved by using a ZORBAX Extended-C18 3.5µm 80Å (100 mm × 2.2 mm, 3.5 µm particle size; Agilent, U.S.). The mobile phase consisted of water (A) and methanol (B), both

spiked with 0.02 mM ammonium acetate. A flow rate of 500 $\mu\text{L}/\text{min}$ was used. The gradient was programmed as: 0-0.5 min, 10% B; 0.5-1 min, 10% ramped to 50% B (linear); followed by a linear increase to 99% B in 6 min (held for 3 min) and then a change to 10% B in 1 min (held for 2 min). The MS was equipped with an ESI probe and conducted in the negative MRM mode.

4. Method 4 (M-4): A Shimadzu UPLC coupled to an AB Sciex 5500 Q Trap MS/MS (Toronto, Canada). Chromatographic separation was achieved by using a Luna® 2.5 μm C18(2) 100 Å column (100 mm $\times$ 2.1 mm, 2.5 μm particle size; Phenomenex, Torrance, CA, U.S.). The mobile phase consisted of water (A) and methanol (B), both spiked with 0.1% formic acid. A flow rate of 200 $\mu\text{L}/\text{min}$ was used. The gradient was programmed as: 0-2 min, 5% B; 2-3 min, 5% ramped to 60% B (linear); followed by a linear increase to 100% B in 20 min (held for 5 min) and then a change to 5% B in 1 min (held for 5 min). The MS was equipped with an ESI probe and conducted in the positive MRM mode.
5. Method 5 (M-5): A 7890B gas chromatograph interfaced with a 5977A mass spectrometer in electron impact (EI) mode (GC-MS, Agilent, USA). A 30-m HP-5MS column (0.25 mm i.d., 0.25 μm , J&W Scientific, Agilent, USA) was used for separation. The GC injector was operated in splitless mode and held at 260 °C. Initial oven temperature was held at 80 °C for 3 min, ramped to 150 °C at 10 °C/min, and finally increased to 300 °C at 5 °C/min (held for 10 min). The heated transfer line temperature and quadrupole temperature were set as 280 °C and 150 °C, respectively.

Table S2. Optimized MRM parameters in LC-MS/MS analysis and SIM in GC-MS analysis.

Group	Abbreviation	MRM/SIM	DP (v)	CE (ev)	MRM/SIM	DP (v)	CE (ev)
Organophosphate esters	TEP	183/99	50	24	183/81	50	52
	TCEP	285/99	100	32	285/63	100	44
	TCIPP	329/99	70	33	329/81	70	89
	TDCIPP	431/99	60	34	431/81	60	102
	TPHP	327/77	180	64	327/152	180	52
	TBP	267/99	40	23	267/81	40	70
	TCrP	369/165	200	62	369/91	200	62
	TPrP	225/99	60	28	225/80.9	60	61
	TBOEP	399/199	30	20	399/101	30	20
	TEHP	435/99	50	30	435/81	50	102
	EHDPPH	363/251	60	15	363/76.9	60	63
	TDBPP	698/99	80	85	698/119	80	145
	T35DMPP	411/179	190	51	411/194	190	42
	T2IPPP	452.9/327	180	41	452.9/91	180	93
	BPDPP	383/327	51	29	383/57	55	47
	V6	582.9/65	120	104	582.9/99	120	73
	DDPP	391/251	40	21	391/77	40	76
	CDP	341/91	190	51	341/152	190	51
	BPADP	693/367	15	48	693/178	15	78
	RDP	575/77	200	124	575/152	200	110
	4tBPDPP	383/327	143	28	383/233	175	46.9
	2tBPDPP	383/327	166	26	383/251	161	42
	T4IPPP	453/411	176	30	453/369	176	38
	T3IPPP	453/411	210	30	453/369	223	37.8
	T4tBPP	495/439	195	32	495/383	210	38
	2IPPDPP	369/327	165	26	369/233	162	37
	24DIPPDPP	411/369	166	23.8	411/327	181	35
	4IPPDPP	369/327	181	30	369/233	153	38.7

	B2IPPPP	411/369	171	22.7	411/327	173	34
	B4IPPPP	411/369	190	27	411/327	178	36
	B4tBPPP	439/383	120	47	439/327	120	47
	B2tBPPP	439/383	186	21	439/327	266	24
	B24DIPPPP	495/411	185	35	495/369	200	42
	T34DMPP	411/179	187	51	411/194	201	41
Phthalates esters	MBzP	255/77	-30	-30	255/107	-30	-20
	MBP/MiBP ^a	221/77	-20	-24	221/134	-20	-20
	MEP	193/77	-20	-24	193/121	-20	-18
	MEHP	277/134	-25	-22	277/77	-25	-36
	MHeP	263/113	-25	-20	263/77	-25	-34
	MCHP	247/97	-35	-24	247/77	-35	-30
	MHxP	249/77	-25	-30	249/99	-25	-22
	MiNoP	291/141	-35	-26	291/77	-35	-36
	MiPrP	207/121	-25	-20	207/77	-25	-22
	MMP	179/77	-25	-24	179/107	-25	-14
	MPeP	235/77	-25	-26	235/85	-25	-20
	MOP	277/77	-30	-34	277/127	-30	-24
	MECPP	3079/159	-60	-20	306.9/113	-60	-35
	MEOHP	291/121	-35	-24	291/143	-35	-16
	MEHHP	293/121	-30	-21	293/145	-45	-21
	MCDP	337/167	16	29	337/77	17	92
	BBzP	313/91	11	19	313/149	11	17
	DEHP	167	—	—	149	—	—
	DBP	279/149	16	21	279/205	16	13
	DiBP	279/149	16	21	279/205	16	13
	DCHP	149	—	—	104	—	—
	DEP	223/149	26	23	223/177	26	13
	DHxP/DiHxP ^a	335/149	21	19	335/85	21	17

	DMP	195/163	31	13	195/77	31	45
	DiPrP	251/149	21	21	251/65	21	67
	DPrP	251/149	21	21	251/65	21	67
	DHP/DiHP ^a	335/149	21	19	335/85	21	17
	DOP	391/149	26	23	391/71	26	23
	DNP	419/149	31	23	419/71	31	23
	DiNP	419/149	31	23	419/71	31	23
	DUP	475/149	36	23	475/121	36	71
	DAlP	247/189	60	12	247/149	60	12
	DAmP	307/149	21	21	307/65	21	75
	DiPeP	307/71	26	21	307/149	26	21
	iBCHP	305/223	21	25	305/149	21	25
	DMiP	195/105	70	20	195/91	70	70
	DPhP	319/225	70	10	319/77	70	70
	DPiP	319/225	100	20	319/77	20	100
	DBzP	347/181	10	10	347/91	10	20
Phthalate replacements	DHeNoA	371/129	51	21	371/111	51	29
	DBA/DiBA ^a	259/111	26	25	259/185	26	13
	DiDeA	427/129	21	25	427/85	21	29
	DEHA	371/129	21	19	371/101	21	37
	TCaT	547/193	36	55	547/323	36	21
	DEHT	261	—	—	112	—	—
	DINCH	425/71	80	22	425/155	80	22
	ATBC	403/129	26	35	403/185	26	25
	TOTM	547/305	16	30	547/193	16	60
	DiDeAz	469/171	21	24	469/71	21	25
	DCaA	129	—	—	111	—	—
	BPA	227/133	-30	-34	227/93	-30	-55
	BPAF	335/265	-30	-30	335/69	-30	-69

Bisphenol analogues	BPAP	289/211	-70	-31	289/195	-70	-48
	BPB	241/211	-60	-42	—	—	—
	BPBP	351/273	-20	-42	351/258	-20	-35
	BPC	255/147	-80	-40	255/107	-80	-60
	BPE	213/119	-30	-34	213/93	-30	-32
	BPF	199/93	-70	-28	198.9/77	-70	-34
	BPG	311/175	-22	-47	—	—	—
	BPM	345/251	-30	-43	345/133	-30	-52
	BPP	345/133	-30	-46	345/315	-28	-52
	BPPH	379/209	-30	-48	379/193	-30	-86
	BPS	249/108	-90	-36	249/92	-90	-42
	BPZ	267/173	-32	-37	267/145	-32	-47
UV stabilizers	BP-1	213/91	-130	-35	213/135	-130	-25
	BP-3	227/212	-70	-25	227/183	-70	-50
	BP-6	259/109	-54	-23	259/135	-52	-16
	BP-8	243/93	-72	-27	243/123	-82	-22
	4-OH-BP	197/92	-130	-41	197/120	-128	-32
	BP-4	307/227	-92	-36	307/211	-88	-46
	2,3,4-OH-BP	229/123	-80	-36	229/107	-82	-33
	BP-2	245/135	-114	-18	245/109	-109	-25
	UV-P	226/120	41	27	226/77	41	51
	UV-PS	268/212	41	23	268/65	41	73
	UV-234	448/370	22	30	448/91	22	83
	UV-320	324/212	90	40	324/57	80	40
	UV-327	358/302	20	31	358/246	20	35
	UV-328	352/282	21	25	352/71	20	27
	UV-350	324/212	90	40	324/57	80	40
	UV-326	316/260	30	30	316/107	30	40
	UV-329	322	—	—	351	—	—

	5-Me-1-H-BTR	134/77	36	35	134/79	36	35
	1-H-BTR	120/65	70	30	120/92	70	20
	1-OH-BTR	136/64	36	30	—	—	—
	4-Me-1-H-BTR	134/77	36	35	134/79	36	35
	5-Cl-BTR	154/99	36	30	—	—	—
	BTH	136/109	60	22	136/65	60	22
	2-OH-BTH	152/124	70	30	152/92	90	30
	2NH ₂ -BTH	151/124	60	22	151/109	60	22
	2-Me-S-BTH	150/109	108.8	31	—	—	—
	2-Cl-BTH	170/135	48	39	170/109	48	60
	2-Mo-BTH	253/86	36	25	253/56	36	31
	2-Me-BTH	150/109	108.8	31	—	—	—
	BMDM	311/135	46	31	311/161	46	31
	HMS	261/93	-60	-40	260.9/114	-90	-37
	IAMC	249/161	90	20	249/77	70	70
	OC	362/232	12	26	362/279	12	34
	4-MBC	255/77	70	70	255/55	70	40
	EHMC	291/161	12	23	291/179	12	14
	EHS	120	—	—	138	—	—
	ODPABA	278/151	70	40	278/166	70	30
Antioxidants	BHT	205	—	—	220	—	—
	BHT-CHO	226/105	160	27	226/77	160	55
	BHT-COOH	249/205	-50	-30	—	—	—
	BHT-Q	220	—	—	177	—	—
	BHT-OH	235/160	-45	-40	235/145	-45	-50
	Dodecyl gallate	337/124	-50	-45	337/78	-50	-80
	Propyl gallate	211/124	-40	-32	211/78	-40	-48
	Octyl gallate	281/124	-40	-40	281/78	-35	-40
	TBHQ	151	—	—	123	—	—

BHA	179/149	-40	-28	179/108	-40	-42
Cyanox 2246	339/163	-80	-36	339/147	-80	-60
Cyanox 425	367/177	-75	-40	367/162	-75	-56
Ethanox 330	774/219	81	69	774/512	81	41
Ethanox 702	424/219	56	53	424/367	56	31
Irganox 3790	717/191	51	37	717/135	51	81
Irganox 1081	357/194	-55	-36	357/163	-55	-34
Irganox 565	589/289	40	65	589/250	50	58
Irganox 3114	801/219	51	51	801/203	51	111
Irganox 1024	551/73	-80	-72	551/115	-80	-52
TBBC	357/194	-100	-46	357/179	-100	-60
Naugard 445	406/91	101	75	406/199	101	53
Naugard PANA	220/115	51	31	220/142	51	55
4(5)-MeMBI	163/131	-50	-28	163/115	-50	-56
BBOT	431/399	90	60	431/385	90	40

^aCo-eluted in the LC system

Table S3. Recoveries of plastic additives from the treatments of spiking standards into five pre-cleaned sodium sulfate (Recovery-1) and five PM_{2.5} samples (Recovery-2), as well as the limit of quantification (LOQ), detection frequency (DF) and concentration of individual analytes.

Groups	Abbreviation	recovery-1	recovery-2	LOQ (ng/g)	DF (%)	Concentration ranges	
						µg/g	pg/m ³
Organophosphate esters	TEP	0.82±0.12	0.86±0.15	25.0	100	0.131-567	2.07-140
	TCEP ^a	0.87±0.51	0.71±0.11	31.3	100	0.525-41.1	5.00-389
	TCIPP	0.90±0.13	0.54±0.20	17.0	100	3.82-310	5.73-2930
	TDCIPP	0.75±0.24	0.67±0.19	4.5	100	0.233-2.66	0.823-29.0
	TPHP ^a	0.72±0.16	0.98±0.10	1.0	100	0.425-18.8	0.641-173
	TBP	0.73±0.19	0.97±0.22	8.8	100	0.439-68.1	0.615-626
	TCrP	0.71±0.17	1.14±0.13	5.0	100	0.242-83.3	0.363-821
	TPrP	0.76±0.23	0.84±0.08	0.3	14	<LOQ-0.261	<LOQ-2.12
	TBOEP	0.74±0.26	0.99±0.12	1.3	100	0.0171-12.5	0.141-101
	TEHP ^a	0.77±0.25	1.13±0.21	9.0	99	<LOQ-16.1	<LOQ-186
	EHDPHP ^a	0.73±0.16	0.78±0.27	2.2	100	0.439-44.3	0.595-443
	TDBPP	0.68±0.28	0.69±0.12	0.3	0	<LOQ	<LOQ
	T35DMPP	0.73±0.24	0.93±0.10	1.2	57	<LOQ-0.143	<LOQ-2.07
	T2IPPP	0.75±0.13	1.03±0.19	1.2	99	<LOQ-1.42	<LOQ-14.4
	BPDPP	0.89±0.11	0.77±0.27	0.8	100	0.0511-6.01	0.1-59.5
	V6	0.82±0.14	1.04±0.20	1.2	1	<LOQ-0.169	<LOQ-1.43
	DDPP	0.79±0.13	1.12±0.18	2.5	100	0.0768-9.58	0.299-95.7
	CDP	0.75±0.11	0.67±0.31	10.0	86	<LOQ-2.77	<LOQ-16.2
	BPADP	0.68±0.14	0.95±0.28	0.8	99	<LOQ-3.62	<LOQ-46.9
	RDP	0.71±0.23	1.03±0.26	2.7	82	<LOQ-26.5	<LOQ-249
	2IPPDPP	0.81±0.09	0.64±0.25	0.2	100	0.0131-1.12	0.0206-11.4
	4IPPDPP	0.79±0.19	1.12±0.12	0.2	99	<LOQ-0.390	<LOQ-3.97
	24DIPPDPP	0.86±0.21	1.06±0.19	0.2	99	<LOQ-0.397	<LOQ-4.05
	B2IPPP	0.75±0.24	1.21±0.11	0.1	99	<LOQ-0.214	<LOQ-2.18
	B4IPPP	0.74±0.23	1.03±0.19	0.1	84	<LOQ-0.0740	<LOQ-0.748

	T34DMPP	0.89±0.15	0.65±0.12	0.2	95	<LOQ-0.121	<LOQ-1.11
	T4tBPP	0.91±0.13	0.64±0.31	0.1	82	<LOQ-0.0210	<LOQ-0.224
	B24DIPPPP	0.87±0.19	0.75±0.21	0.2	73	<LOQ-0.0338	<LOQ-0.410
	T3IPPP	0.88±0.14	0.95±0.12	0.3	88	<LOQ-0.0977	<LOQ-1.06
	T4IPPP	0.76±0.18	1.09±0.13	0.3	89	<LOQ-0.0879	<LOQ-0.915
	2tBPDPP	0.79±0.13	0.71±0.33	0.3	0	<LOQ	<LOQ
	4tBPDPP	0.82±0.20	1.12±0.14	0.3	99	<LOQ-0.903	<LOQ-8.91
	B2tBPPP	0.73±0.13	1.23±0.23	0.2	62	<LOQ-0.0174	<LOQ-0.174
	B4tBPPP	0.84±0.14	0.62±0.34	0.5	87	<LOQ-0.364	<LOQ-3.59
Phthalates esters	MMP	0.84±0.09	1.13±0.13	24.6	97	<LOQ-31.1	<LOQ-270
	MEP	0.86±0.11	0.96±0.15	7.7	97	<LOQ-7.55	<LOQ-71.1
	MiPrP	0.90±0.12	0.75±0.21	3.1	33	<LOQ-6.23	<LOQ-79.1
	MBP/MiBP ^b	0.92±0.14	0.78±0.25	13.8	100	3.84-130	61.2-1213
	MPeP	0.89±0.10	0.85±0.21	2.4	0	<LOQ	<LOQ
	MCHP	0.85±0.12	1.05±0.18	3.5	39	<LOQ-3.30	<LOQ-15.6
	MHxP	0.75±0.10	1.21±0.19	1.3	30	<LOQ-0.118	<LOQ-1.06
	MBzP	0.74±0.14	0.77±0.16	2.5	62	<LOQ-1.26	<LOQ-10.2
	MHeP	0.82±0.14	0.92±0.13	11.3	0	<LOQ	<LOQ
	MOP	0.78±0.16	0.85±0.21	7.0	0	<LOQ	<LOQ
	MEHP	0.85±0.18	1.06±0.20	10.9	100	3.86-220	21.8-540
	MiNoP	0.79±0.16	1.12±0.13	5.2	100	0.727-40.6	5.58-114
	MEOHP	0.76±0.15	0.73±0.25	1.3	100	0.150-4.47	0.390-61.1
	MEHHP	0.93±0.17	0.88±0.18	6.3	99	<LOQ-4.80	<LOQ-50.8
	MECPP	1.09±0.16	0.79±0.24	2.7	94	<LOQ-0.412	<LOQ-4.95
	MCDP	0.88±0.20	1.19±0.31	8.1	0	<LOQ	<LOQ
	DMP	1.05±0.09	1.21±0.15	62.5	26	<LOQ-234	<LOQ-502
	DEP	1.13±0.12	1.18±0.21	134	100	10.7-291	114-1570
	DAIP	1.12±0.14	0.86±0.24	5.0	100	0.0342-9.41	0.445-76.2
	DiPrP	1.07±0.08	0.79±0.15	0.6	1	<LOQ-0.710	<LOQ-7.44

	DPrP	1.06±0.07	0.91±0.15	1.7	99	<LOQ-5.28	<LOQ-37.1
	BBzP	1.16±0.11	1.18±0.16	1.5	100	0.245-36.7	1.26-298
	DBP	1.14±0.12	1.21±0.24	251	100	63.3-2510	783-11200
	DiBP	1.12±0.12	1.18±0.21	235	100	63.6-2550	865-9921
	iBCHP	0.97±0.15	1.08±0.18	10.0	69	<LOQ-6.16	<LOQ-67.3
	DAmP	1.02±0.10	0.84±0.14	3.8	100	0.127-5.18	0.844-43.4
	DiPeP	1.08±0.11	0.76±0.21	3.8	100	0.190-20.5	1.44-225
	DHxP/DiHxP ^b	1.09±0.15	0.85±0.20	25.0	100	1.60-223	15.3-531
	DNP	1.21±0.14	1.14±0.23	6.3	0	<LOQ	<LOQ
	DiNP	1.17±0.18	1.07±0.26	25.0	100	23.9-3130	215-11000
	DUP	1.22±0.08	0.89±0.24	0.4	100	0.0631-3.65	0.561-36.6
	DPhP	1.21±0.12	0.77±0.21	1.3	0	<LOQ	<LOQ
	DPiP	1.15±0.13	1.09±0.13	2.5	0	<LOQ	<LOQ
	DMiP	1.13±0.19	1.20±0.15	1.3	45	<LOQ-4.41	<LOQ-53.2
	DBzP	0.92±0.11	1.09±0.16	0.2	50	<LOQ-0.633	<LOQ-5.14
	DOP	1.05±0.13	0.93±0.18	0.6	0	<LOQ	<LOQ
	DHP/DiHP ^b	1.11±0.09	1.31±0.17	2.5	100	0.0991-2.97	0.549-37.7
	DCHP	0.95±0.08	0.83±0.15	125	36	<LOQ-39.7	<LOQ-77.8
	DEHP	1.17±0.06	0.95±0.16	301	100	130-45000	1210-82600
Phthalate replacements	DHeNoA	0.87±0.15	1.22±0.13	15.5	54	<LOQ-2.84	<LOQ-24.6
	DBA/DiBA ^b	0.83±0.17	0.78±0.12	41.3	100	1.23-580	26.1-3070
	DiDeA	0.78±0.21	1.18±0.23	2.5	93	<LOQ-4.84	<LOQ-39.6
	DEHA	0.79±0.22	1.09±0.20	22.0	100	3.99-97.6	14.3-1000
	TCaT	0.85±0.23	1.07±0.21	0.9	100	0.131-6.00	0.953-35.5
	DEHT	0.90±0.16	0.76±0.15	104	100	65.9-10100	164-101000
	DINCH	0.80±0.24	0.96±0.18	7.2	100	2.75-128	20.8-1180
	ATBC	0.76±0.15	0.67±0.19	55.1	100	11.2-222	77.5-1280
	TOTM	0.85±0.17	1.17±0.21	3.0	100	0.221-26.1	2.15-162
	DiDeAz	0.78±0.16	1.06±0.23	17.7	0	<LOQ	<LOQ

	DCaA	0.81±0.15	0.97±0.19	120	98	<LOQ-73.1	<LOQ-645
Bisphenol analogues	BPA	0.74±0.10	1.34±0.13	16.8	100	1.41-183	3.82-1650
	BPE	0.79±0.11	0.96±0.19	15.5	9	<LOQ-1.59	<LOQ-16.2
	BPB	0.72±0.14	0.87±0.17	1.5	3	<LOQ-1.56	<LOQ-8.07
	BPC	0.75±0.12	1.09±0.18	8.5	0	<LOQ	<LOQ
	BPAF	0.89±0.17	0.74±0.15	0.1	82	<LOQ-1.06	<LOQ-8.74
	BPF	0.84±0.11	0.84±0.25	3.8	98	<LOQ-29.8	<LOQ-359
	BPM	0.77±0.13	0.89±0.27	1.3	7	<LOQ-0.0741	<LOQ-0.705
	BPP	0.75±0.15	1.08±0.22	3.7	6	<LOQ-0.410	<LOQ-4.17
	BPG	0.69±0.16	1.19±0.25	3.9	96	<LOQ-8.33	<LOQ-71.5
	BPZ	0.74±0.19	0.79±0.20	1.2	11	<LOQ-0.250	<LOQ-2.73
	BPS	0.71±0.15	1.24±0.26	1.3	86	<LOQ-1.55	<LOQ-10.7
	BPAP	0.75±0.16	0.68±0.22	17.4	0	<LOQ	<LOQ
	BPBP	0.84±0.14	0.77±0.21	1.7	6	<LOQ-0.202	<LOQ-0.851
	BPPH	0.72±0.10	1.16±0.19	6.1	0	<LOQ	<LOQ
UV stabilizers	BP-1	0.84±0.20	0.74±0.28	0.3	99	<LOQ-1.46	<LOQ-14.8
	BP-3	0.79±0.14	0.69±0.24	2.1	99	<LOQ-9.95	<LOQ-59.0
	BP-6	0.77±0.15	0.65±0.30	1.5	5	<LOQ-2.38	<LOQ-14.1
	BP-8	0.76±0.16	0.79±0.17	2.8	18	<LOQ-0.101	<LOQ-0.805
	4-OH-BP	1.09±0.17	0.64±0.25	0.6	100	0.044-3.15	0.277-33.4
	BP-4	1.05±0.16	0.69±0.21	1.3	76	<LOQ-7.85	<LOQ-99.8
	2,3,4-OH-BP	0.79±0.20	0.75±0.18	60.0	0	<LOQ	<LOQ
	BP-2	0.88±0.14	0.64±0.29	0.6	14	<LOQ-0.0170	<LOQ-0.181
	UV-P	0.77±0.24	0.82±0.21	48.4	11	<LOQ-12.5	<LOQ-30.4
	UV-PS	0.76±0.16	0.67±0.25	5.1	0	<LOQ	<LOQ
	UV-234	0.85±0.14	0.65±0.24	0.3	100	0.0168-6.02	0.028-120
	UV-320	0.93±0.28	0.73±0.15	16.5	0	<LOQ	<LOQ
	UV-327	0.86±0.18	0.76±0.27	15.8	11	<LOQ-4.73	<LOQ-41.5

	UV-328	1.08±0.18	0.63±0.26	1.3	100	0.0318-4.52	0.137-21.3
	UV-350	1.15±0.20	0.67±0.27	5.3	0	<LOQ	<LOQ
	UV-326	1.01±0.15	0.68±0.25	33.3	24	<LOQ-61.0	<LOQ-341
	UV-329	0.99±0.14	0.65±0.21	3.8	52	<LOQ-0.436	<LOQ-3.68
	1-H-BTR	0.95±0.21	0.79±0.19	6.3	100	0.225-7.14	1.32-71.8
	5-Me-1-H-BTR	0.78±0.22	0.64±0.18	1.3	100	0.0181-3.48	0.101-35.0
	1-OH-BTR	0.82±0.15	0.68±0.26	4.7	0	<LOQ	<LOQ
	4-Me-1-H-BTR	0.80±0.14	0.70±0.15	1.4	88	<LOQ-3.49	<LOQ-35.1
	5-Cl-BTR	0.92±0.14	0.64±0.22	3.4	83	<LOQ-0.488	<LOQ-2.62
	BTH	1.11±0.15	0.72±0.30	251	81	<LOQ-118	<LOQ-393
	2-Me-BTH	1.05±0.16	0.69±0.25	4.6	61	<LOQ-0.375	<LOQ-2.16
	2-Me-S-BTH	0.98±0.19	0.65±0.28	5.2	45	<LOQ-1.57	<LOQ-8.75
	2-OH-BTH	0.89±0.23	0.73±0.17	25.0	88	<LOQ-51.9	<LOQ-325
	2-Mo-BTH	0.87±0.28	0.76±0.23	0.6	21	<LOQ-0.529	<LOQ-5.32
	2NH2-BTH	0.83±0.18	1.05±0.19	12.5	86	<LOQ-3.00	<LOQ-20.5
	2-Cl-BTH	0.86±0.11	1.14±0.17	218	0	<LOQ	<LOQ
	BMDM	0.64±0.14	0.87±0.21	6.3	27	<LOQ-0.321	<LOQ-2.65
	HMS	0.73±0.17	1.06±0.20	0.5	0	<LOQ	<LOQ
	IAMC	0.76±0.19	0.74±0.26	7.5	0	<LOQ	<LOQ
	OC	0.73±0.14	0.98±0.18	7.6	93	<LOQ-1.67	<LOQ-11.3
	4-MBC	0.77±0.15	0.96±0.21	106	0	<LOQ	<LOQ
	EHMC	0.78±0.17	0.68±0.23	62.5	38	<LOQ-6.88	<LOQ-59.7
	EHS	0.75±0.13	0.79±0.18	213	11	<LOQ-82.2	<LOQ-450
	ODPABA	0.76±0.15	0.89±0.19	0.3	41	<LOQ-0.842	<LOQ-10.7
Antioxidants	BHT	0.78±0.13	0.89±0.26	256	0	<LOQ	<LOQ
	BHT-CHO	0.64±0.14	0.74±0.23	243	43	<LOQ-130	<LOQ-654
	BHT-COOH	0.71±0.16	0.63±0.24	4.8	91	<LOQ-1.92	<LOQ-12.3
	BHT-Q	0.76±0.12	1.23±0.21	281	26	<LOQ-79.1	<LOQ-684
	BHT-OH	0.73±0.18	1.13±0.19	53.4	7	<LOQ-9.01	<LOQ-19.3

Dodecyl gallate	0.64±0.11	0.75±0.30	75.0	0	<LOQ	<LOQ
Propyl gallate	0.69±0.19	0.64±0.21	16.9	2	<LOQ-0.477	<LOQ-4.45
Octyl gallate	0.62±0.12	0.69±0.28	18.3	4	<LOQ-0.261	<LOQ-2.29
TBHQ	0.70±0.16	0.59±0.20	25.0	98	<LOQ-133	<LOQ-68.5
BHA	0.72±0.14	0.64±0.31	4.3	0	<LOQ	<LOQ
Cyanox 2246	0.63±0.21	0.67±0.17	10.8	10	<LOQ-0.269	<LOQ-1.66
Cyanox 425	0.65±0.15	0.85±0.22	2.5	2	<LOQ-0.046	<LOQ-0.339
Ethanox 330	0.75±0.22	0.84±0.18	25.0	0	<LOQ	<LOQ
Ethanox 702	0.71±0.10	0.70±0.19	8.3	0	<LOQ	<LOQ
Irganox 3790	0.85±0.09	1.07±0.20	10.4	6	<LOQ-0.599	<LOQ-7.87
Irganox 1081	0.74±0.21	1.09±0.24	23.1	0	<LOQ	<LOQ
Irganox 565	0.67±0.21	0.75±0.19	1.6	0	<LOQ	<LOQ
Irganox 3114	0.68±0.14	0.64±0.28	16.6	14	<LOQ-1.73	<LOQ-22.3
Irganox 1024	0.79±0.12	0.81±0.25	0.4	7	<LOQ-0.0268	<LOQ-0.241
TBBC	0.65±0.11	0.80±0.23	5.7	1	<LOQ-0.0629	<LOQ-0.515
Naugard 445	0.74±0.19	0.72±0.21	3.3	67	<LOQ-31.3	<LOQ-319
Naugard PANA	0.71±0.18	0.68±0.28	17.7	11	<LOQ-0.556	<LOQ-4.51
4(5)-MeMBI	0.70±0.13	0.89±0.16	22.1	0	<LOQ	<LOQ
BBOT	0.64±0.15	0.91±0.23	0.2	96	<LOQ-3.08	<LOQ-25.3

^a Concentrations of TCEP, TPHP, EHDPPH, and TEHP were reported in reference [1].

^b Co-eluted in the LC system

Table S4. Parameters used in the determination of estimated daily intake (EDI).

Parameters	Adults	Children	Reference
Inhalation rate (IR)	16 m ³ /day	8.5 m ³ /day	2, 3
Body weight (BW)	60.5 kg	18.2 kg	

Table S5. Tolerable daily intake (TDI) values of target analytes and parameters used in the prediction of TDI.

Abbr.	TDI (µg/kg-day)	Type ^a	Study type ^b	Species	UF ^c				Source ^d
					UF1	UF2	UF3	UF4	
TCEP	7	Rfd	—	—	1	1	1	1	Wignall
TCIPP	10	Rfd	—	—	1	1	1	1	PPRTV (ORNL)
TDCIPP	20	Rfd	—	—	1	1	1	1	RSL
TBP	10	Rfd	—	—	1	1	1	1	Wignall
TCrP	20	Rfd	—	—	1	1	1	1	RSL
TEHP	100	Rfd	—	—	1	1	1	1	Wignall
BBzP	500	TDI	—	—	1	1	1	1	EFSA
DEHP	20	Rfd	—	—	1	1	1	1	Alaska DEC
DBP	10	TDI	—	—	1	1	1	1	EFSA
DEP	800	Rfd	—	—	1	1	1	1	Alaska DEC
DUP	30	Rfd	—	—	1	1	1	1	PPRTV (ORNL)
DEHA	300	TDI	—	—	1	1	1	1	EFSA
DEHT	1000	TDI	—	—	1	1	1	1	EFSA
DINCH	1000	TDI	—	—	1	1	1	1	EFSA
ATBC	1000	TDI	—	—	1	1	1	1	EFSA
BPA	50	TDI	—	—	1	1	1	1	EFSA
TPHP	3450	NOAEL	repeat dose ^e	rat	10	10	2	1	ECHA IUCLID
TBOEP	100	NOAEL	subchronic	rat	10	10	2	1	ECHA
EHDPPH	40	NOAEL	subacute	rat	10	10	5	1	ECHA
DDPP	3.3	LOAEL	subchronic	rat	10	10	10	3	ECHA
BPADP	2000	NOAEL	subacute	rat	10	10	5	1	ECHA
RDP	5995	NOAEL	repeat dose	rat	10	10	2	1	ECHA IUCLID
MBzP	750	NOAEL	subacute	rat	10	10	5	1	ToxRefDB

DHxP	550	NOAEL	chronic	mouse	10	10	1	1	DOE Wildlife Benchmarks
DiNP	385	NOAEL	subchronic	rat	10	10	2	1	HPVIS
DAmP	47.9	NOAEL	chronic	rat	10	10	1	1	ToxRefDB
DBA	1500	NOAEL	repeat dose	rat	10	10	2	1	ECHA IUCLID
TOTM	1125	NOAEL	subchronic	rat	10	10	2	1	ECHA
BPS	80	NOAEL	subacute	rat	10	10	5	1	ECHA
BP-1	500	NOAEL	repeat dose	rat	10	10	2	1	ECHA IUCLID
BP-3	1965	NOAEL	subchronic	rat	10	10	2	1	ECHA
UV-234	110	NOAEL	subchronic	rat	10	10	2	1	ECHA
UV-328	150	NOAEL	subchronic	dog	10	10	2	1	ECHA
UV-329	11316	NOAEL	subacute	rat	10	10	5	1	HPVIS
BTH	25.5	NOAEL	subchronic	rat	10	10	2	1	EFSA2
OC	875	NOAEL	subchronic	rat	10	10	2	1	ECHA
TBHQ	2000	NOAEL	chronic	rat	10	10	1	1	ToxRefDB
Naugard 445	80	NOAEL	subacute	rat	10	10	5	1	ECHA
BBOT	12500	NOAEL	repeat dose	dog	10	10	2	1	ECHA IUCLID
TEP	20.9	LD50	acute	rat	10	10	10	10	TEST
T35DMPP	553.7	LD50	acute	rat	10	10	10	10	TEST
T2IPPP	1580	LD50	acute	rat	10	10	10	10	TEST
BPDPP	310.8	LD50	acute	rat	10	10	10	10	TEST
CDP	364.6	LD50	acute	rat	10	10	10	10	TEST
4tBPDPP	1580	LD50	acute	rat	10	10	10	10	TEST
T4IPPP	531.7	LD50	acute	rat	10	10	10	10	TEST
T3IPPP	232.1	LD50	acute	rat	10	10	10	10	TEST
T4tBPPP	731.5	LD50	acute	rat	10	10	10	10	TEST
2IPPDPP	1000	LD50	acute	rat	10	10	10	10	TEST

24DIPDPP	19.1	LD50	acute	rat	10	10	10	10	TEST
4IPDPP	332.9	LD50	acute	rat	10	10	10	10	TEST
B2IPPPP	944.6	LD50	acute	rat	10	10	10	10	TEST
B4IPPPP	196.5	LD50	acute	rat	10	10	10	10	TEST
B4tBPPP	310.4	LD50	acute	rat	10	10	10	10	TEST
B2tBPPP	523.8	LD50	acute	rat	10	10	10	10	TEST
B24DIPPPP	506.1	LD50	acute	rat	10	10	10	10	TEST
T34DMPP	1005.2	LD50	acute	rat	10	10	10	10	TEST
MBP	345	LD50	acute	rat	10	10	10	10	TEST
MEP	314.9	LD50	acute	rat	10	10	10	10	TEST
MEHP	134	LD50	acute	rat	10	10	10	10	TEST
MiNoP	610.9	LD50	acute	rat	10	10	10	10	TEST
MMP	188.7	LD50	acute	rat	10	10	10	10	TEST
MECPP	406.5	LD50	acute	rat	10	10	10	10	TEST
MEOHP	454.9	LD50	acute	rat	10	10	10	10	TEST
MEHHP	256.4	LD50	acute	rat	10	10	10	10	TEST
DiBP	1039.2	LD50	acute	rat	10	10	10	10	TEST
DPrP	457.6	LD50	acute	rat	10	10	10	10	TEST
DHP	2474	LD50	acute	rat	10	10	10	10	TEST
DAIP	66.7	LD50	acute	rat	10	10	10	10	TEST
DiPeP	200	LD50	acute	rat	10	10	10	10	TEST
iBCHP	1604.8	LD50	acute	rat	10	10	10	10	TEST
DBzP	1404.6	LD50	acute	rat	10	10	10	10	TEST
DheNoA	1580	LD50	acute	rat	10	10	10	10	TEST
DiDeA	2050	LD50	acute	rat	10	10	10	10	TEST
TcaT	2869.5	LD50	acute	rat	10	10	10	10	TEST

DcaA	952.5	LD50	acute	rat	10	10	10	10	TEST
BPAF	35	LD50	acute	rat	10	10	10	10	TEST
BPF	421	LD50	acute	rat	10	10	10	10	TEST
BPG	287.6	LD50	acute	rat	10	10	10	10	TEST
4-OH-BP	1208.6	LD50	acute	rat	10	10	10	10	TEST
BP-4	640	LD50	acute	rat	10	10	10	10	TEST
5-Me-1-H-BTR	160	LD50	acute	rat	10	10	10	10	TEST
1-H-BTR	52	LD50	acute	rat	10	10	10	10	TEST
4-Me-1-H-BTR	87.2	LD50	acute	rat	10	10	10	10	TEST
5-Cl-BTR	96.9	LD50	acute	rat	10	10	10	10	TEST
2-OH-BTH	63	LD50	acute	rat	10	10	10	10	TEST
2NH2-BTH	76.9	LD50	acute	rat	10	10	10	10	TEST
2-Me-S-BTH	70.2	LD50	acute	rat	10	10	10	10	TEST
BHT-COOH	141.4	LD50	acute	rat	10	10	10	10	TEST

^aTDI: tolerable daily intake; RfD: reference dose; NOAEL: no-observable-averse-effect-level; LOAEL: no-observable-averse-effect-level; LD₅₀: lethal dose causing 50% mortality in rats;

^bThe exposure duration of the study from which the NOEAL, LOEAL or LD₅₀ was determined;

^cUF: uncertainty factor; the values applied to UFs were based on the guidelines described in Reference 4;

UF1 represents the uncertainty in the extrapolation from experimental animal data to humans (a default value of 10 was applied);

UF2 represents the variation in susceptibility among individuals within the human population (a default value of 10 was applied);

UF3 represents the uncertainty in the extrapolation from data obtained in a study with less-than-lifetime exposure (a default value of 1 for chronic study; an assigned value of 2 for subchronic study; 5 for subacute study; and 10 for acute study);

UF4 represents the uncertainty for the use of LOAEL or LD₅₀ instead of NOAEL (a value of 3 for the use of LOAEL and 10 for the use of LD₅₀);

^dSources of data used in the prediction of TDI. Sources with links are listed in the United States Environmental Protection Agency Chemistry Dashboard.⁵ TEST means the LD₅₀ value was estimated using the Environmental Protection Agency Toxicity Estimation Software Tool (TEST);⁶

^eThe exposure duration was not specified in the source; a subchronic study was assumed.

Table S6. Estimated daily intakes (EDI, ng/kg bw/day) via inhalation of PM_{2.5} for adults and children and hazard quotient (HQ, unitless) for selected plastic additives (detection frequency > 50%).

Abbr.	EDI-adult			EDI-child			HQ-adult			HQ-child		
	5th	median	95th	5th	median	95th	5th	median	95th	5th	median	95th
TEP	8.5E-03	2.1E-02	8.8E-02	1.5E-02	3.7E-02	1.6E-01	4.07E-07	1.00E-06	4.21E-06	7.18E-07	1.77E-06	7.66E-06
TCEP	2.2E-02	8.1E-02	2.9E-01	3.9E-02	1.4E-01	5.2E-01	3.14E-06	1.16E-05	4.14E-05	5.57E-06	2.00E-05	7.43E-05
TCIPP	1.4E-01	6.2E-01	3.2E+00	2.5E-01	1.1E+00	5.7E+00	1.40E-05	6.20E-05	3.20E-04	2.50E-05	1.10E-04	5.70E-04
TDCIPP	4.5E-03	1.3E-02	3.9E-02	8.0E-03	2.3E-02	7.0E-02	2.25E-07	6.50E-07	1.95E-06	4.00E-07	1.15E-06	3.50E-06
TPHP	1.6E-02	5.0E-02	3.1E-01	2.9E-02	8.9E-02	5.4E-01	4.64E-09	1.45E-08	8.99E-08	8.41E-09	2.58E-08	1.57E-07
TBP	1.4E-02	7.2E-02	5.4E-01	2.5E-02	1.3E-01	9.6E-01	1.40E-06	7.20E-06	5.40E-05	2.50E-06	1.30E-05	9.60E-05
TCrP	9.2E-03	5.9E-02	2.3E-01	1.6E-02	1.0E-01	4.0E-01	4.60E-07	2.95E-06	1.15E-05	8.00E-07	5.00E-06	2.00E-05
TBOEP	6.3E-04	6.6E-03	2.6E-02	1.1E-03	1.2E-02	4.5E-02	6.30E-09	6.60E-08	2.60E-07	1.10E-08	1.20E-07	4.50E-07
TEHP	1.4E-02	7.7E-02	1.9E-01	2.5E-02	1.4E-01	3.4E-01	1.40E-07	7.70E-07	1.90E-06	2.50E-07	1.40E-06	3.40E-06
EHDPHP	1.3E-02	6.5E-02	1.7E-01	2.2E-02	1.1E-01	3.1E-01	3.25E-07	1.63E-06	4.25E-06	5.50E-07	2.75E-06	7.75E-06
T35DMPP	2.1E-05	3.6E-04	1.5E-03	3.8E-05	6.4E-04	2.7E-03	3.79E-11	6.50E-10	2.71E-09	6.86E-11	1.16E-09	4.88E-09
T2IPPP	3.0E-04	1.9E-03	8.9E-03	5.3E-04	3.3E-03	1.6E-02	1.90E-10	1.20E-09	5.63E-09	3.35E-10	2.09E-09	1.01E-08
BPDPP	2.3E-03	8.7E-03	3.5E-02	4.1E-03	1.5E-02	6.2E-02	7.40E-09	2.80E-08	1.13E-07	1.32E-08	4.83E-08	1.99E-07
DDPP	3.0E-03	2.0E-02	1.2E-01	5.3E-03	3.6E-02	2.2E-01	9.00E-07	6.00E-06	3.60E-05	1.59E-06	1.08E-05	6.60E-05
CDP	4.4E-04	5.1E-03	2.7E-02	7.8E-04	9.1E-03	4.7E-02	1.21E-09	1.40E-08	7.41E-08	2.14E-09	2.50E-08	1.29E-07
BPADP	7.9E-04	7.5E-03	4.2E-02	1.4E-03	1.3E-02	7.5E-02	3.95E-10	3.75E-09	2.10E-08	7.00E-10	6.50E-09	3.75E-08
RDP	1.4E-04	7.0E-03	1.2E-01	2.4E-04	1.2E-02	2.1E-01	2.34E-11	1.17E-09	2.00E-08	4.00E-11	2.00E-09	3.50E-08
4tBPDPP	2.6E-04	1.1E-03	5.7E-03	4.6E-04	2.0E-03	1.0E-02	1.65E-10	6.96E-10	3.61E-09	2.91E-10	1.27E-09	6.33E-09
T4IPPP	2.2E-06	1.7E-04	6.8E-04	4.0E-06	3.1E-04	1.2E-03	4.14E-12	3.20E-10	1.28E-09	7.52E-12	5.83E-10	2.26E-09
T3IPPP	2.0E-06	2.3E-04	8.8E-04	3.6E-06	4.1E-04	1.6E-03	8.62E-12	9.91E-10	3.79E-09	1.55E-11	1.77E-09	6.89E-09
T4tBPPP	1.8E-06	5.3E-05	1.6E-04	3.1E-06	9.4E-05	2.9E-04	2.46E-12	7.25E-11	2.19E-10	4.24E-12	1.29E-10	3.96E-10
2IPPDPP	5.0E-04	2.2E-03	7.0E-03	8.9E-04	3.8E-03	1.2E-02	5.00E-10	2.20E-09	7.00E-09	8.90E-10	3.80E-09	1.20E-08

24DIPDPDP	6.3E-05	7.0E-04	3.0E-03	1.1E-04	1.2E-03	5.2E-03	3.30E-09	3.66E-08	1.57E-07	5.76E-09	6.28E-08	2.72E-07
4IPDPDP	1.0E-04	8.0E-04	3.1E-03	1.8E-04	1.4E-03	5.6E-03	3.00E-10	2.40E-09	9.31E-09	5.41E-10	4.21E-09	1.68E-08
B2IPPPP	1.1E-04	6.0E-04	2.2E-03	1.9E-04	1.1E-03	3.9E-03	1.16E-10	6.35E-10	2.33E-09	2.01E-10	1.16E-09	4.13E-09
B4IPPPP	6.5E-07	6.8E-05	3.1E-04	1.1E-06	1.2E-04	5.5E-04	3.31E-12	3.46E-10	1.58E-09	5.60E-12	6.11E-10	2.80E-09
B4tBPPP	4.5E-06	4.7E-04	3.2E-03	8.0E-06	8.3E-04	5.6E-03	1.45E-11	1.51E-09	1.03E-08	2.58E-11	2.67E-09	1.80E-08
B2tBPPP	4.5E-07	5.5E-05	1.5E-04	7.9E-07	9.8E-05	2.7E-04	8.59E-13	1.05E-10	2.86E-10	1.51E-12	1.87E-10	5.15E-10
B24DIPPPP	3.0E-07	5.6E-05	2.9E-04	5.3E-07	9.9E-05	5.1E-04	5.93E-13	1.11E-10	5.73E-10	1.05E-12	1.96E-10	1.01E-09
T34DMPP	1.8E-05	3.7E-04	2.1E-03	3.3E-05	6.6E-04	3.8E-03	1.79E-11	3.68E-10	2.09E-09	3.28E-11	6.57E-10	3.78E-09
MBzP	1.2E-05	9.3E-04	4.7E-03	2.1E-05	1.7E-03	8.3E-03	1.60E-11	1.24E-09	6.27E-09	2.80E-11	2.27E-09	1.11E-08
MBP/MiBP	2.0E-01	4.0E-01	1.2E+00	3.5E-01	7.1E-01	2.2E+00	5.80E-07	1.16E-06	3.48E-06	1.01E-06	2.06E-06	6.38E-06
MEP	9.7E-03	2.3E-02	8.0E-02	1.7E-02	4.1E-02	1.4E-01	3.08E-08	7.30E-08	2.54E-07	5.40E-08	1.30E-07	4.45E-07
MEHP	9.1E-02	3.1E-01	8.1E-01	1.6E-01	5.6E-01	1.4E+00	6.79E-07	2.31E-06	6.04E-06	1.19E-06	4.18E-06	1.04E-05
MiNoP	1.7E-02	7.0E-02	1.7E-01	2.9E-02	1.2E-01	3.1E-01	2.78E-08	1.15E-07	2.78E-07	4.75E-08	1.96E-07	5.07E-07
MMP	3.0E-02	1.6E-01	2.7E-01	5.4E-02	2.7E-01	4.8E-01	1.59E-07	8.48E-07	1.43E-06	2.86E-07	1.43E-06	2.54E-06
MECPP	3.5E-05	1.8E-03	4.6E-03	6.2E-05	3.2E-03	8.1E-03	8.61E-11	4.43E-09	1.13E-08	1.53E-10	7.87E-09	1.99E-08
MEOHP	2.9E-03	1.2E-02	2.8E-02	5.2E-03	2.2E-02	4.9E-02	6.38E-09	2.64E-08	6.16E-08	1.14E-08	4.84E-08	1.08E-07
MEHHP	3.1E-03	1.2E-02	2.8E-02	5.5E-03	2.1E-02	4.9E-02	1.21E-08	4.68E-08	1.09E-07	2.15E-08	8.19E-08	1.91E-07
BBzP	8.3E-03	2.1E-02	1.2E-01	1.5E-02	3.7E-02	2.2E-01	1.66E-08	4.20E-08	2.40E-07	3.00E-08	7.40E-08	4.40E-07
DEHP	5.5E+00	2.0E+01	1.1E+02	9.8E+00	3.6E+01	2.0E+02	2.75E-04	1.00E-03	5.50E-03	4.90E-04	1.80E-03	1.00E-02
DBP	2.8E+00	8.3E+00	1.7E+01	4.9E+00	1.5E+01	3.0E+01	2.80E-04	8.30E-04	1.70E-03	4.90E-04	1.50E-03	3.00E-03
DiBP	2.0E+00	7.7E+00	1.6E+01	3.6E+00	1.4E+01	2.8E+01	1.92E-06	7.41E-06	1.54E-05	3.46E-06	1.35E-05	2.69E-05
DEP	2.8E-01	8.9E-01	2.1E+00	5.0E-01	1.6E+00	3.7E+00	3.50E-07	1.11E-06	2.63E-06	6.25E-07	2.00E-06	4.63E-06
DHxP/DiHxP	5.2E-02	2.5E-01	5.5E-01	9.2E-02	4.4E-01	9.8E-01	9.45E-08	4.55E-07	1.00E-06	1.67E-07	8.00E-07	1.78E-06
DPrP	3.0E-03	1.1E-02	4.7E-02	5.3E-03	2.0E-02	8.4E-02	6.56E-09	2.40E-08	1.03E-07	1.16E-08	4.37E-08	1.84E-07
DHP/DiHP	4.0E-03	1.1E-02	2.4E-02	7.0E-03	1.9E-02	4.3E-02	1.62E-09	4.45E-09	9.70E-09	2.83E-09	7.68E-09	1.74E-08
DiNP	5.6E-01	2.8E+00	9.6E+00	9.9E-01	5.0E+00	1.7E+01	1.45E-06	7.27E-06	2.49E-05	2.57E-06	1.30E-05	4.42E-05

DUP	2.5E-03	9.8E-03	2.7E-02	4.4E-03	1.7E-02	4.7E-02	8.33E-08	3.27E-07	9.00E-07	1.47E-07	5.67E-07	1.57E-06
DAIP	2.0E-03	8.6E-03	6.6E-02	3.5E-03	1.5E-02	1.2E-01	3.00E-08	1.29E-07	9.90E-07	5.25E-08	2.25E-07	1.80E-06
DAmP	3.8E-03	1.2E-02	5.7E-02	6.7E-03	2.1E-02	1.0E-01	7.93E-08	2.51E-07	1.19E-06	1.40E-07	4.38E-07	2.09E-06
DiPeP	6.5E-03	2.2E-02	1.1E-01	1.1E-02	4.0E-02	2.0E-01	3.25E-08	1.10E-07	5.50E-07	5.50E-08	2.00E-07	1.00E-06
iBCHP	2.0E-04	5.0E-03	2.3E-02	3.5E-04	8.9E-03	4.0E-02	1.25E-10	3.12E-09	1.43E-08	2.18E-10	5.55E-09	2.49E-08
DBzP	3.3E-06	2.3E-04	6.1E-03	5.8E-06	4.1E-04	1.1E-02	2.35E-12	1.64E-10	4.34E-09	4.13E-12	2.92E-10	7.83E-09
DHeNoA	2.9E-04	6.3E-03	3.8E-02	5.1E-04	1.1E-02	6.7E-02	1.84E-10	3.99E-09	2.41E-08	3.23E-10	6.96E-09	4.24E-08
DBA/DiBA	1.1E-01	4.2E-01	1.4E+00	2.0E-01	7.4E-01	2.4E+00	7.33E-08	2.80E-07	9.33E-07	1.33E-07	4.93E-07	1.60E-06
DiDeA	5.3E-05	6.7E-03	5.0E-02	9.4E-05	1.2E-02	8.8E-02	2.59E-11	3.27E-09	2.44E-08	4.59E-11	5.85E-09	4.29E-08
DEHA	1.7E-01	4.8E-01	1.1E+00	3.0E-01	8.4E-01	1.9E+00	5.67E-07	1.60E-06	3.67E-06	1.00E-06	2.80E-06	6.33E-06
TCaT	4.2E-03	1.2E-02	2.8E-02	7.4E-03	2.2E-02	5.0E-02	1.46E-09	4.18E-09	9.76E-09	2.58E-09	7.67E-09	1.74E-08
DEHT	7.5E-01	6.3E+00	1.6E+01	1.3E+00	1.1E+01	2.8E+01	7.50E-07	6.30E-06	1.60E-05	1.30E-06	1.10E-05	2.80E-05
DINCH	7.1E-02	2.9E-01	1.4E+00	1.3E-01	5.2E-01	2.5E+00	7.10E-08	2.90E-07	1.40E-06	1.30E-07	5.20E-07	2.50E-06
ATBC	3.9E-01	9.7E-01	2.4E+00	6.8E-01	1.7E+00	4.3E+00	3.90E-07	9.70E-07	2.40E-06	6.80E-07	1.70E-06	4.30E-06
TOTM	8.1E-03	3.3E-02	9.2E-02	1.4E-02	5.8E-02	1.6E-01	7.20E-09	2.93E-08	8.18E-08	1.24E-08	5.16E-08	1.42E-07
DCaA	3.4E-02	1.9E-01	1.0E+00	6.1E-02	3.3E-01	1.8E+00	3.57E-08	1.99E-07	1.05E-06	6.40E-08	3.46E-07	1.89E-06
BPA	4.4E-02	2.4E-01	2.0E+00	7.9E-02	4.3E-01	3.6E+00	8.80E-07	4.80E-06	4.00E-05	1.58E-06	8.60E-06	7.20E-05
BPAF	8.6E-07	1.5E-04	7.2E-03	1.5E-06	2.7E-04	1.3E-02	2.44E-11	4.25E-09	2.04E-07	4.25E-11	7.65E-09	3.68E-07
BPF	2.9E-03	2.8E-02	1.4E-01	5.1E-03	5.0E-02	2.5E-01	6.88E-09	6.65E-08	3.32E-07	1.21E-08	1.19E-07	5.93E-07
BPG	9.2E-04	1.6E-02	7.3E-02	1.6E-03	2.9E-02	1.3E-01	3.20E-09	5.56E-08	2.54E-07	5.56E-09	1.01E-07	4.52E-07
BPS	4.6E-05	2.6E-03	5.5E-03	8.1E-05	4.6E-03	9.7E-03	5.75E-10	3.25E-08	6.88E-08	1.01E-09	5.75E-08	1.21E-07
BP-1	1.1E-04	6.6E-04	1.9E-03	2.0E-04	1.2E-03	3.3E-03	2.20E-10	1.32E-09	3.80E-09	4.00E-10	2.40E-09	6.60E-09
BP-3	9.4E-04	3.0E-03	1.3E-02	1.7E-03	5.3E-03	2.3E-02	4.78E-10	1.53E-09	6.62E-09	8.65E-10	2.70E-09	1.17E-08
4-OH-BP	2.2E-03	5.2E-03	1.1E-02	3.8E-03	9.2E-03	2.0E-02	1.82E-09	4.30E-09	9.10E-09	3.14E-09	7.61E-09	1.65E-08
BP-4	5.8E-05	5.2E-03	3.4E-02	1.0E-04	9.2E-03	6.1E-02	9.06E-11	8.13E-09	5.31E-08	1.56E-10	1.44E-08	9.53E-08
UV-234	6.1E-04	4.9E-03	2.6E-02	1.1E-03	8.6E-03	4.6E-02	5.55E-09	4.45E-08	2.36E-07	1.00E-08	7.82E-08	4.18E-07

UV-328	1.3E-03	4.3E-03	1.2E-02	2.4E-03	7.6E-03	2.1E-02	8.67E-09	2.87E-08	8.00E-08	1.60E-08	5.07E-08	1.40E-07
UV-329	5.6E-05	6.0E-04	4.5E-03	9.9E-05	1.1E-03	8.0E-03	4.95E-12	5.30E-11	3.98E-10	8.75E-12	9.72E-11	7.07E-10
5-Me-1-H-BTR	5.0E-04	2.9E-03	1.5E-02	8.9E-04	5.2E-03	2.7E-02	3.13E-09	1.81E-08	9.38E-08	5.56E-09	3.25E-08	1.69E-07
1-H-BTR	4.7E-03	2.1E-02	7.9E-02	8.3E-03	3.7E-02	1.4E-01	9.04E-08	4.04E-07	1.52E-06	1.60E-07	7.12E-07	2.69E-06
4-Me-1-H-BTR	6.4E-05	2.7E-03	1.3E-02	1.1E-04	4.7E-03	2.3E-02	7.34E-10	3.10E-08	1.49E-07	1.26E-09	5.39E-08	2.64E-07
5-Cl-BTR	1.4E-05	1.1E-03	3.1E-03	2.5E-05	1.9E-03	5.4E-03	1.44E-10	1.14E-08	3.20E-08	2.58E-10	1.96E-08	5.57E-08
BTH	1.5E-02	1.3E-01	5.6E-01	2.7E-02	2.3E-01	1.0E+00	5.88E-07	5.10E-06	2.20E-05	1.06E-06	9.02E-06	3.92E-05
2-OH-BTH	1.8E-03	1.5E-01	4.9E-01	3.2E-03	2.6E-01	8.6E-01	2.86E-08	2.38E-06	7.78E-06	5.08E-08	4.13E-06	1.37E-05
2NH2-BTH	5.4E-03	8.9E-03	2.2E-02	9.6E-03	1.6E-02	4.0E-02	7.02E-08	1.16E-07	2.86E-07	1.25E-07	2.08E-07	5.20E-07
2-Me-S-BTH	5.9E-05	8.7E-04	2.5E-03	1.0E-04	1.5E-03	4.5E-03	8.40E-10	1.24E-08	3.56E-08	1.42E-09	2.14E-08	6.41E-08
OC	9.4E-05	5.4E-03	1.4E-02	1.7E-04	9.6E-03	2.5E-02	1.07E-10	6.17E-09	1.60E-08	1.94E-10	1.10E-08	2.86E-08
BHT-COOH	8.7E-05	4.3E-03	8.2E-03	1.5E-04	7.6E-03	1.4E-02	6.15E-10	3.04E-08	5.80E-08	1.06E-09	5.37E-08	9.90E-08
TBHQ	5.3E-03	1.5E-02	1.2E-01	9.3E-03	2.6E-02	2.2E-01	2.65E-09	7.50E-09	6.00E-08	4.65E-09	1.30E-08	1.10E-07
Naugard 445	3.9E-05	3.7E-03	2.7E-02	6.9E-05	6.5E-03	4.8E-02	4.88E-10	4.63E-08	3.38E-07	8.63E-10	8.13E-08	6.00E-07
BBOT	8.8E-06	3.3E-03	1.6E-02	1.6E-05	5.8E-03	2.9E-02	7.04E-13	2.64E-10	1.28E-09	1.28E-12	4.64E-10	2.32E-09
Sum	1.3E+01	5.2E+01	1.9E+02	2.4E+01	9.2E+01	3.4E+02	5.85E-04	1.97E-03	7.83E-03	1.03E-03	3.55E-03	1.41E-02

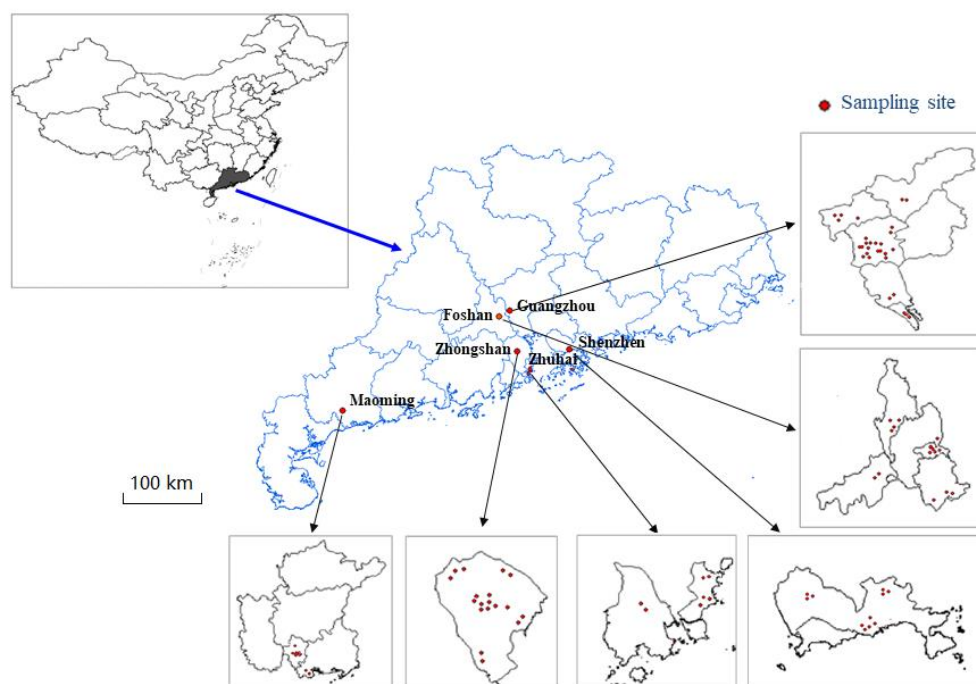


Figure S1. The distributions of 94 sampling sites in the Pearl River Delta, China.

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