Supplementary information

Occurrence and human non-dietary exposure of polycyclic aromatic hydrocarbons in soils from Shenzhen, China

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Sensitivity Analysis

We applied a parametric analysis, also known as "one-at-a-time-perturbation", to better understand the controlling variables in the exposure results. With this technique, we could evaluate the effect of each parameter on the output distribution by altering each variable, while holding the others constant.

Inhalation rate, soil ingestion rate and average body weight are three main parameters for the human non-dietary exposure model in this study. Take children aged 0 to 8 sub-group as an example, the average daily exposure dose (*ADD*) to 16 PAHs were recalculated for these parameters increased 2 times, 5 times and 10 times. The results of this calculation are given in Tables S3.

When inhalation rate varies from 8.11 to 81.1 m^3 d^{-1}, the *ADD* of exposure to 16 PAHs increase from 59.2 to 573 ng $(kg\ d)^{-1}$. It is apparent that large uncertainties are inevitable in estimated human non-dietary exposure to PAHs and the inhalation rate is the key factor controlling the error of human non-dietary exposure. In contrast, the extent of influence of soil ingestion rate and average body weight are much lower than that of inhalation rate.

29 **Table S1 Concentrations (ng g^{-1} dry weight) of PAHs in soils from different land categories in Shenzhen area**
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	Traffic land (n = 25)				Commercial land (n = 23)			
	Mean	Median	Min	Max	Mean	Median	Min	Max
naphthalene (NAP) [a]	10.9	7.35	0.53	35.8	17.3	6.20	1.33	90.4
2-methylnaphthalene (2-MNAP)	29.8	16.2	1.35	152	31.4	12.5	1.43	202
1-methylnaphthalene (1-MNAP)	16.6	9.58	0.73	95.0	19.4	6.80	0.83	134
biphenyl (BP)	6.50	4.00	0.30	19.9	7.35	3.53	0.30	50.4
2,6-dimethylnaphthalene (2,6-DNAP)	35.0	17.5	0.40	184	53.2	13.1	0.68	532
acenaphthylene (AC) [a]	6.15	3.45	ND	32.3	4.07	2.13	ND	20.9
acenaphthene (ACE) [a]	2.59	2.03	ND	15.3	2.31	1.48	ND	11.0
2,3,5-trinaphthalene (2,3,5-TNAP)	15.7	9.33	0.48	74.5	22.7	5.95	0.50	149
fluorine (FL) [a]	17.4	8.63	0.38	91.7	14.1	5.75	0.50	70.5
phenanthrene (PHE) [a]	142	48.4	2.70	1222	72.2	28.5	3.45	816
anthracen (ANT) [a]	19.9	5.95	0.38	142	11.2	4.95	0.45	120
2-methylphenanthrene (2-MPHE)	30.2	15.7	0.93	184	15.3	7.53	0.95	117
1-methylphenanthrene (1-MPHE)	17.3	9.45	0.70	93.7	9.56	5.08	0.70	62.7
2,6-dimethlyphenanthrene (2,6-DMPHE)	4.04	2.18	ND	17.8	2.69	1.13	ND	14.5
fluoranthrene (FLU) [a]	235	47.7	2.78	2371	110	33.1	4.85	1596
pyrene (PYR) [a]	172	53.7	2.78	1485	75.9	21.3	3.53	1041
11H-benzo(b)fluorine (11-B*b*F)	48.7	7.88	ND	471	19.0	2.83	0.40	305
benzo(a)anthracene (B*a*A) [a b]	112	20.9	0.55	1021	50.6	9.63	1.65	777
chrysene (CHR) [a b]	180	70.5	3.08	1392	95.9	27.1	5.35	948
benzo(b)fluoranthene (B*b*F) [a b]	252	56.1	ND	2468	141	32.6	7.28	1608
benzo(k)fluoranthene (B*k*F) [a b]	76.7	16.1	ND	770	41.8	9.40	2.28	453
benzo(e)pyrene (B*e*P)	149	79.2	ND	1185	92.0	26.6	4.40	965

benzo(a)pyrene (B*a*P) [a b]	105	26.5	ND	1044	59.8	10.4	2.13	868
perylene (PER)	31.6	10.0	ND	293	20.1	7.35	ND	269
9,10-diphenylanthracen (9,10-DPHA)	0.56	ND	ND	2.73	1.39	ND	ND	20.8
Indeno(1,2,3-cd)pyrene (I*cd*P) [a b]	148	39.5	ND	1325	89.4	22.7	ND	1103
dibenzo(a,h)anthracene (D*ah*A) [a b]	49.9	16.2	ND	501	22.7	3.93	1.03	168
benzo(ghi)perylene (B*ghi*P) [a]	190	93.0	ND	1467	116	33.1	4.48	1182
Σ_{28}PAHs	2105	807	45.5	17767	1218	544	60.6	12529
Σ_{16}PAHs	1720	551	29.4	15369	924	302	46.0	10770
Σ_{7}CarPAHs	924	277	11.0	8523	501	113	23.1	5924

	Industrial land (n = 27)				Residential land (n = 35)			
	Mean	Median	Min	Max	Mean	Median	Min	Max
naphthalene (NAP) [a]	8.59	4.20	1.18	65.9	7.08	3.83	ND	30.9
2-methylnaphthalene (2-MNAP)	14.3	8.65	1.50	118	13.9	5.10	ND	109
1-methylnaphthalene (1-MNAP)	9.20	4.83	0.55	67.0	7.85	3.38	ND	55.7
biphenyl (BP)	3.10	1.65	0.38	18.6	2.60	1.25	ND	12.7
2,6-dimethylnaphthalene (2,6-DNAP)	17.2	7.45	0.38	166	17.2	5.83	0.30	113
acenaphthylene (AC) [a]	1.47	0.70	ND	8.95	0.95	0.43	ND	4.85
acenaphthene (ACE) [a]	0.97	0.60	ND	5.60	0.62	0.48	ND	2.45
2,3,5-trinaphthalene (2,3,5-TNAP)	6.68	3.08	0.63	62.3	6.87	2.30	0.30	47.2
fluorine (FL) [a]	3.78	2.35	0.30	25.6	3.42	1.55	ND	20.2
phenanthrene (PHE) [a]	21.2	12.6	0.83	85.0	12.3	7.15	0.63	53.1
anthracen (ANT) [a]	2.82	1.75	0.25	10.3	2.61	0.90	ND	19.0
2-methylphenanthrene (2-MPHE)	4.64	3.93	ND	15.9	3.85	1.63	ND	25.6
1-methylphenanthrene (1-MPHE)	2.96	2.38	ND	8.83	2.45	1.25	ND	15.8
2,6-dimethlyphenanthrene (2,6-DMPHE)	0.62	0.43	ND	3.40	0.40	0.25	ND	2.53

fluoranthrene (FLU) [a]	29.0	19.5	0.50	136	13.3	6.80	0.40	169
pyrene (PYR) [a]	24.6	15.1	0.45	174	9.86	5.38	0.38	123
11H-benzo(b)fluorine (11-B*b*F)	2.76	1.85	ND	13.5	1.69	0.65	ND	24.9
benzo(a)anthracene (B*a*A) [a b]	9.21	6.03	ND	49.6	4.56	1.85	ND	66.0
chrysene (CHR) [a b]	23.2	17.2	0.25	108	10.7	5.48	0.28	105
benzo(b)fluoranthene (B*b*F) [a b]	32.4	19.6	ND	179	14.7	6.85	0.30	165
benzo(k)fluoranthene (B*k*F) [a b]	9.24	6.08	ND	41.7	5.03	2.28	ND	64.5
benzo(e)pyrene (B*e*P)	22.5	14.0	ND	121	9.71	4.88	0.33	87.5
benzo(a)pyrene (B*a*P) [a b]	12.7	7.35	ND	79.1	5.26	2.20	ND	66.6
perylene (PER)	4.29	2.65	ND	16.8	2.56	1.25	ND	26.7
9,10-diphenylanthracen (9,10-DPHA)	0.10	ND	ND	1.68	0.09	ND	ND	1.40
Indeno(1,2,3-cd)pyrene (I*cd*P) [a b]	21.3	12.0	ND	148	7.34	3.25	ND	76.8
dibenzo(a,h)anthracene (D*ah*A) [a b]	4.03	2.25	ND	21.8	1.86	0.90	ND	17.3
benzo(ghi)perylene (B*ghi*P) [a]	32.3	17.0	ND	205	12.1	5.70	0.48	109
Σ_{28}PAHs	325	195	14.0	1686	181	95.1	7.90	1285
Σ_{16}PAHs	237	142	7.05	1101	112	64.5	4.45	1051
Σ_{7}CarPAHs	112	69.5	0.95	627	49.4	22.1	0.58	562

	Greenbelt (n = 31)				Forest land (n = 34)			
	Mean	Median	Min	Max	Mean	Median	Min	Max
naphthalene (NAP) [a]	6.05	3.93	ND	19.9	9.66	5.90	ND	71.0
2-methylnaphthalene (2-MNAP)	19.1	4.83	ND	142	29.6	9.11	ND	411
1-methylnaphthalene (1-MNAP)	11.7	2.93	ND	83.6	17.2	5.21	ND	237
biphenyl (BP)	2.48	1.10	ND	13.3	3.63	1.80	ND	36.5
2,6-dimethylnaphthalene (2,6-DNAP)	19.5	5.20	ND	180	24.4	11.3	ND	149
acenaphthylene (AC) [a]	1.12	0.45	ND	7.13	1.54	0.70	ND	16.0

acenaphthene (ACE) [a]	0.72	0.40	ND	2.70	0.91	0.74	ND	4.33
2,3,5-trinaphthalene (2,3,5-TNAP)	9.15	2.80	ND	64.8	9.42	4.23	ND	78.9
fluorine (FL) [a]	4.29	1.78	ND	23.8	5.13	3.19	ND	32.6
phenanthrene (PHE) [a]	9.75	7.65	0.33	39.1	9.74	6.99	0.75	39.5
anthracen (ANT) [a]	2.47	1.40	ND	17.4	1.96	1.56	ND	6.30
2-methylphenanthrene (2-MPHE)	2.53	2.00	ND	11.2	2.14	1.61	ND	8.43
1-methylphenanthrene (1-MPHE)	1.55	1.33	ND	5.33	1.35	1.05	ND	5.53
2,6-dimethlyphenanthrene (2,6-DMPHE)	0.21	ND	ND	0.95	0.13	ND	ND	1.03
fluoranthrene (FLU) [a]	7.32	5.13	0.28	44.3	5.08	3.21	0.30	30.6
pyrene (PYR) [a]	5.52	4.10	ND	33.1	3.35	2.13	ND	20.9
11H-benzo(b)fluorine (11-B*b*F)	0.57	0.43	ND	3.58	0.33	0.13	ND	2.03
benzo(a)anthracene (B*a*A) [a b]	2.18	1.38	ND	15.6	0.77	0.33	ND	7.70
chrysene (CHR) [a b]	5.79	3.68	ND	24.9	3.57	1.91	ND	37.3
benzo(b)fluoranthene (B*b*F) [a b]	8.40	4.80	ND	37.0	4.06	2.19	ND	38.8
benzo(k)fluoranthene (B*k*F) [a b]	2.81	1.50	ND	11.9	1.41	0.68	ND	15.1
benzo(e)pyrene (B*e*P)	5.38	2.83	ND	22.3	2.22	1.19	ND	17.3
benzo(a)pyrene (B*a*P) [a b]	3.21	1.40	ND	16.5	1.37	0.53	ND	7.98
perylene (PER)	1.91	0.65	ND	11.0	0.23	ND	ND	2.03
9,10-diphenylanthracen (9,10-DPHA)	0.02	ND	ND	0.75	0.02	ND	ND	0.58
Indeno(1,2,3-cd)pyrene (I*cd*P) [a b]	4.64	2.38	ND	26.3	1.98	0.94	ND	13.7
dibenzo(a,h)anthracene (D*ah*A) [a b]	1.02	0.40	ND	5.60	0.22	ND	ND	1.78
benzo(ghi)perylene (B*ghi*P) [a]	7.01	3.35	ND	29.7	2.87	1.44	ND	16.4
Σ_{28}PAHs	147	91.7	2.68	602	144	71.0	7.00	1150
Σ_{16}PAHs	72.3	66.0	0.60	276	53.6	35.5	3.20	285
Σ_{7}CarPAHs	28.0	15.5	ND	125	13.4	7.23	ND	121

	Orchard land (n = 20)				Agricultural land (n = 8)			
	Mean	Median	Min	Max	Mean	Median	Min	Max
naphthalene (NAP) [a]	12.9	9.15	0.88	61.4	13.7	10.4	ND	34.3
2-methylnaphthalene (2-MNAP)	33.3	15.5	1.00	176	16.6	12.8	1.85	54.1
1-methylnaphthalene (1-MNAP)	18.6	8.31	0.55	97.1	8.42	6.70	1.10	25.1
biphenyl (BP)	4.57	2.15	ND	21.9	4.00	3.65	0.70	9.38
2,6-dimethylnaphthalene (2,6-DNAP)	35.6	10.5	0.95	215	16.9	13.4	3.65	41.9
acenaphthylene (AC) [a]	1.83	0.81	ND	7.80	1.88	1.19	ND	5.83
acenaphthene (ACE) [a]	0.92	0.79	ND	3.10	1.18	0.93	0.45	2.55
2,3,5-trinaphthalene (2,3,5-TNAP)	11.9	4.15	0.28	57.7	7.85	4.39	1.38	29.0
fluorine (FL) [a]	6.64	2.78	ND	23.2	4.86	4.16	1.50	12.6
phenanthrene (PHE) [a]	10.2	7.66	0.48	26.1	26.4	15.3	4.50	76.0
anthracen (ANT) [a]	2.29	1.75	ND	7.23	4.13	2.06	0.50	13.2
2-methylphenanthrene (2-MPHE)	2.28	1.95	ND	8.20	4.78	3.45	1.05	13.5
1-methylphenanthrene (1-MPHE)	1.32	1.30	ND	4.70	3.27	2.68	0.78	8.35
2,6-dimethlyphenanthrene (2,6-DMPHE)	0.15	ND	ND	0.75	0.52	0.40	ND	1.68
fluoranthrene (FLU) [a]	4.17	3.35	ND	12.4	30.8	9.45	2.93	106
pyrene (PYR) [a]	2.83	2.44	ND	8.38	27.5	7.48	2.28	99.6
11H-benzo(b)fluorine (11-B*b*F)	0.25	0.29	ND	0.70	1.57	0.81	ND	4.63
benzo(a)anthracene (B*a*A) [a b]	0.56	0.30	ND	2.20	7.59	2.73	0.28	20.5
chrysene (CHR) [a b]	2.74	1.64	ND	10.1	16.6	5.81	1.03	48.6
benzo(b)fluoranthene (B*b*F) [a b]	3.01	1.81	ND	10.7	21.2	10.3	1.40	57.9
benzo(k)fluoranthene (B*k*F) [a b]	1.04	0.59	ND	4.75	7.09	3.19	0.60	19.3
benzo(e)pyrene (B*e*P)	1.67	1.03	ND	6.25	14.9	6.03	1.08	55.7
benzo(a)pyrene (B*a*P) [a b]	0.65	0.34	ND	2.48	8.36	4.10	0.30	27.1
perylene (PER)	0.16	ND	ND	0.80	3.00	1.08	ND	11.6

9,10-diphenylanthracen (9,10-DPHA)	0.03	ND	ND	0.53	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene (I*cd*P) [a b]	1.38	0.78	ND	5.85	15.5	7.28	1.00	50.7
dibenzo(a,h)anthracene (D*ah*A) [a b]	0.20	ND	ND	0.83	3.43	0.96	ND	10.6
benzo(ghi)perylene (B*ghi*P) [a]	2.27	1.45	ND	9.00	24.3	10.3	1.88	75.0
Σ_{28}PAHs	163	100	5.78	654	296	172	38.5	748
Σ_{16}PAHs	53.6	48.6	2.45	147	215	95.9	26.6	625
Σ_{7}CarPAHs	9.58	5.69	ND	34.2	79.7	34.3	4.85	220

[a] identified as the priority pollutants and [b] indentified as the probable carcinogens by the United States Environmental Protection Agency

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32 **Table S2 The exposure to 16 US EPA priority PAHs for five sub-groups in Shenzhen**

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	children aged 0 to 8			
	ADD (ng (kg d)$^{-1}$)	ADD_{air} (ng (kg d)$^{-1}$)	ADD_{soil} (ng (kg d)$^{-1}$)	absolute exposure (ng d^{-1})
NAP (2-ring)	2.25	2.20	0.05	42.4
AC (2-ring)	0.62	0.60	0.01	11.6
ACE (2-ring)	3.41	3.41	0.01	64.2
FL (2-ring)	9.01	8.97	0.04	169
PHE (3-ring)	22.1	21.9	0.19	416
ANT (3-ring)	2.27	2.24	0.03	42.7
FLU (3-ring)	5.40	5.13	0.27	102
PYR (4-ring)	4.21	4.01	0.20	79.2
B*a*A (4-ring)	0.77	0.65	0.12	14.4
CHR (4-ring)	1.90	1.68	0.21	35.7
B*b*F (4-ring)	1.64	1.34	0.30	30.8
B*k*F (4-ring)	1.08	0.99	0.09	20.4
B*a*P (5-ring)	0.99	0.86	0.12	18.6
I*cd*P (5-ring)	1.65	1.47	0.18	31.0
D*ah*A (5-ring)	0.57	0.52	0.05	10.7
B*ghi*P (6-ring)	1.36	1.12	0.24	25.7
2-ring	15.3	15.2	0.11	288
3-ring	29.8	29.3	0.49	560
4-ring	9.60	8.67	0.93	180
5-ring	3.21	2.85	0.36	60.3
6-ring	1.36	1.12	0.24	25.7

Σ_{16}PAHs	59.2	57.1	2.13	1114
Σ_{7}CarPAHs	8.59	7.50	1.09	162

	children aged 9 to 18 (male)			
	ADD (ng (kg d)$^{-1}$)	ADD_{air} (ng (kg d)$^{-1}$)	ADD_{soil} (ng (kg d)$^{-1}$)	absolute exposure (ng d^{-1})
NAP (2-ring)	1.69	1.66	0.02	80.1
AC (2-ring)	0.46	0.46	0.00	21.9
ACE (2-ring)	2.58	2.58	0.00	122.6
FL (2-ring)	6.80	6.79	0.02	323
PHE (3-ring)	16.7	16.6	0.08	791
ANT (3-ring)	1.71	1.70	0.01	81.2
FLU (3-ring)	3.99	3.88	0.11	190
PYR (4-ring)	3.11	3.03	0.08	148
B*a*A (4-ring)	0.54	0.49	0.05	25.5
CHR (4-ring)	1.36	1.27	0.09	64.5
B*b*F (4-ring)	1.13	1.01	0.12	53.8
B*k*F (4-ring)	0.79	0.75	0.04	37.4
B*a*P (5-ring)	0.70	0.65	0.05	33.3
I*cd*P (5-ring)	1.18	1.11	0.07	56.1
D*ah*A (5-ring)	0.41	0.39	0.02	19.6
B*ghi*P (6-ring)	0.94	0.85	0.10	44.9
2-ring	11.5	11.5	0.04	548
3-ring	22.4	22.2	0.19	1062
4-ring	6.93	6.56	0.37	329

5-ring	2.30	2.15	0.14	109
6-ring	0.94	0.85	0.10	44.9
Σ_{16}PAHs	44.1	43.2	0.84	2092
Σ_{7}CarPAHs	6.11	5.68	0.43	290

	children aged 9 to 18 (female)			
	ADD (ng (kg d)$^{-1}$)	ADD_{air} (ng (kg d)$^{-1}$)	ADD_{soil} (ng (kg d)$^{-1}$)	absolute exposure (ng d^{-1})
NAP (2-ring)	1.47	1.45	0.02	63.7
AC (2-ring)	0.40	0.40	0.01	17.5
ACE (2-ring)	2.24	2.24	0.00	97.3
FL (2-ring)	5.92	5.90	0.02	257
PHE (3-ring)	14.5	14.4	0.08	628
ANT (3-ring)	1.49	1.48	0.01	64.5
FLU (3-ring)	3.50	3.38	0.12	151
PYR (4-ring)	2.73	2.64	0.09	118
B*a*A (4-ring)	0.48	0.43	0.05	20.7
CHR (4-ring)	1.20	1.11	0.09	52.0
B*b*F (4-ring)	1.01	0.88	0.13	43.8
B*k*F (4-ring)	0.69	0.65	0.04	30.0
B*a*P (5-ring)	0.62	0.57	0.05	26.9
I*cd*P (5-ring)	1.04	0.96	0.08	45.2
D*ah*A (5-ring)	0.36	0.34	0.02	15.8
B*ghi*P (6-ring)	0.84	0.74	0.11	36.5
2-ring	10.0	9.99	0.05	435

3-ring	19.5	19.3	0.21	844
4-ring	6.11	5.70	0.40	265
5-ring	2.03	1.87	0.16	87.9
6-ring	0.84	0.74	0.11	36.5
Σ_{16}PAHs	38.5	37.6	0.92	1669
Σ_{7}CarPAHs	5.41	4.94	0.47	234

	adults over 19 years old (male)			
	ADD (ng (kg d)$^{-1}$)	ADD_{air} (ng (kg d)$^{-1}$)	ADD_{soil} (ng (kg d)$^{-1}$)	absolute exposure (ng d^{-1})
NAP (2-ring)	1.18	1.17	0.01	78.0
AC (2-ring)	0.32	0.32	0.00	21.4
ACE (2-ring)	1.82	1.82	0.00	120
FL (2-ring)	4.79	4.78	0.01	316
PHE (3-ring)	11.7	11.7	0.03	774
ANT (3-ring)	1.20	1.20	0.00	79.3
FLU (3-ring)	2.77	2.73	0.04	183
PYR (4-ring)	2.17	2.14	0.03	143
B*a*A (4-ring)	0.36	0.34	0.02	23.9
CHR (4-ring)	0.93	0.90	0.03	61.3
B*b*F (4-ring)	0.76	0.71	0.04	50.0
B*k*F (4-ring)	0.54	0.53	0.01	35.8
B*a*P (5-ring)	0.48	0.46	0.02	31.6
I*cd*P (5-ring)	0.81	0.78	0.03	53.4
D*ah*A (5-ring)	0.28	0.28	0.01	18.7

B*ghi*P (6-ring)	0.63	0.60	0.03	41.8
2-ring	8.11	8.09	0.02	536
3-ring	15.7	15.6	0.07	1037
4-ring	4.75	4.62	0.13	314
5-ring	1.57	1.52	0.05	104
6-ring	0.63	0.60	0.03	41.8
Σ_{16}PAHs	30.7	30.4	0.30	2033
Σ_{7}CarPAHs	4.15	4.00	0.15	275

	adults over 19 years old (female)			
	ADD (ng (kg d)$^{-1}$)	ADD_{air} (ng (kg d)$^{-1}$)	ADD_{soil} (ng (kg d)$^{-1}$)	absolute exposure (ng d^{-1})
NAP (2-ring)	1.03	1.03	0.01	58.1
AC (2-ring)	0.28	0.28	0.00	15.9
ACE (2-ring)	1.59	1.59	0.00	89.3
FL (2-ring)	4.19	4.18	0.01	235
PHE (3-ring)	10.2	10.2	0.03	576
ANT (3-ring)	1.05	1.05	0.01	59.0
FLU (3-ring)	2.44	2.39	0.05	137
PYR (4-ring)	1.90	1.87	0.03	107
B*a*A (4-ring)	0.32	0.30	0.02	18.1
CHR (4-ring)	0.82	0.78	0.04	46.1
B*b*F (4-ring)	0.67	0.62	0.05	37.9
B*k*F (4-ring)	0.48	0.46	0.02	26.9
B*a*P (5-ring)	0.42	0.40	0.02	23.8

I*cd*P (5-ring)	0.71	0.68	0.03	40.1
D*ah*A (5-ring)	0.25	0.24	0.01	14.1
B*ghi*P (6-ring)	0.56	0.52	0.04	31.7
2-ring	7.09	7.08	0.02	399
3-ring	13.7	13.7	0.08	772
4-ring	4.20	4.04	0.16	236
5-ring	1.39	1.33	0.06	78.0
6-ring	0.56	0.52	0.04	31.7
Σ_{16}PAHs	27.0	26.6	0.36	1516
Σ_{7}CarPAHs	3.68	3.50	0.18	207

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35 **Table S3 Human non-dietary exposure to 16 PAHs for children aged 0 to 8 were calculated in the Sensitivity Analysis for**
36 **inhalation rate, soil ingestion rate and average body weight**
37

	ADD (ng (kg d)$^{-1}$)
inhalation rate (m^3 d^{-1})	
8.11 (base value)	59.2
16.2	116
40.6	288
81.1	573
soil ingestion rate (mg d^{-1})	
100 (base value)	59.2
200	61.4
500	67.8
1000	78.4
average body weight (kg)	
18.8 (base value)	59.2
37.6	29.6
94.0	11.9
188	5.92

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42 **Fig. S1** Map of Shenzhen

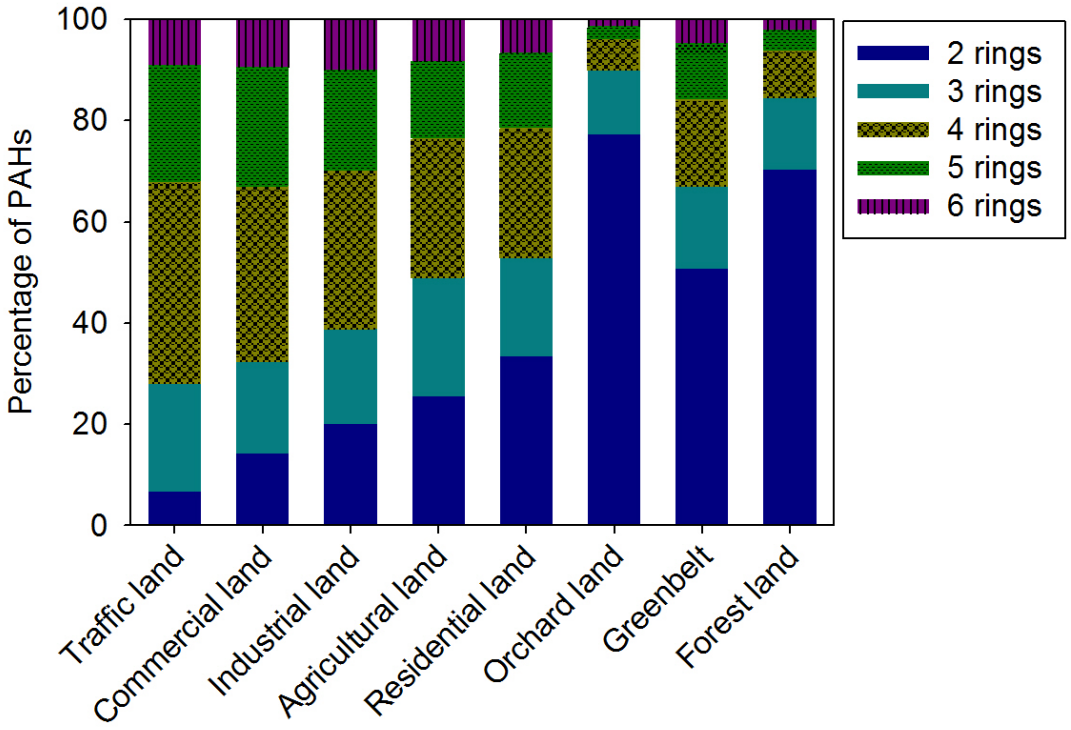

Fig. S2 Fingerprint of PAHs in different land uses in Shenzhen. Individual PAHs were grouped according to their aromatic ring number. 2-ring: NAP, 2-MNAP, 1-MNAP, BP, 2,6-DNAP, AC, ACE, 2,3,5-TNAP, FL; 3-ring: PHE, ANT, 2-MPHE, 1-MPHE, 2,6-DMPHE, FLU; 4-ring: PYR, 11-B*b*F, B*a*A, CHR, B*b*F, B*k*F; 5-ring: B*e*P, B*a*P, PER, 9,10-DPHA, I*cd*P, D*ah*A; 6-ring: B*ghi*P.