

The sources of polycyclic aromatic hydrocarbons in road dust and their potential hazard

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Details of the study areas

Kuala Lumpur is the capital city of Malaysia, located approximately 40 kilometres from the coast, within the federal state of Selangor. Its area is 243 square kilometres and as much as 1.8 million people live in its centre. The public rail transportation connecting places to places in Kuala Lumpur is aplenty such as Monorail, Light Rail Transit (LRT), Mass Rapid Transit (MRT) and Keretapi Tanah Melayu (KTM) Commuter. These various rail networks are integrated at the KL Sentral station. Each rail station is equipped with RapidKL feeder buses. The RapidKL feeder buses move between stations and the biggest hub is at Pasar Seni, Kuala Lumpur.

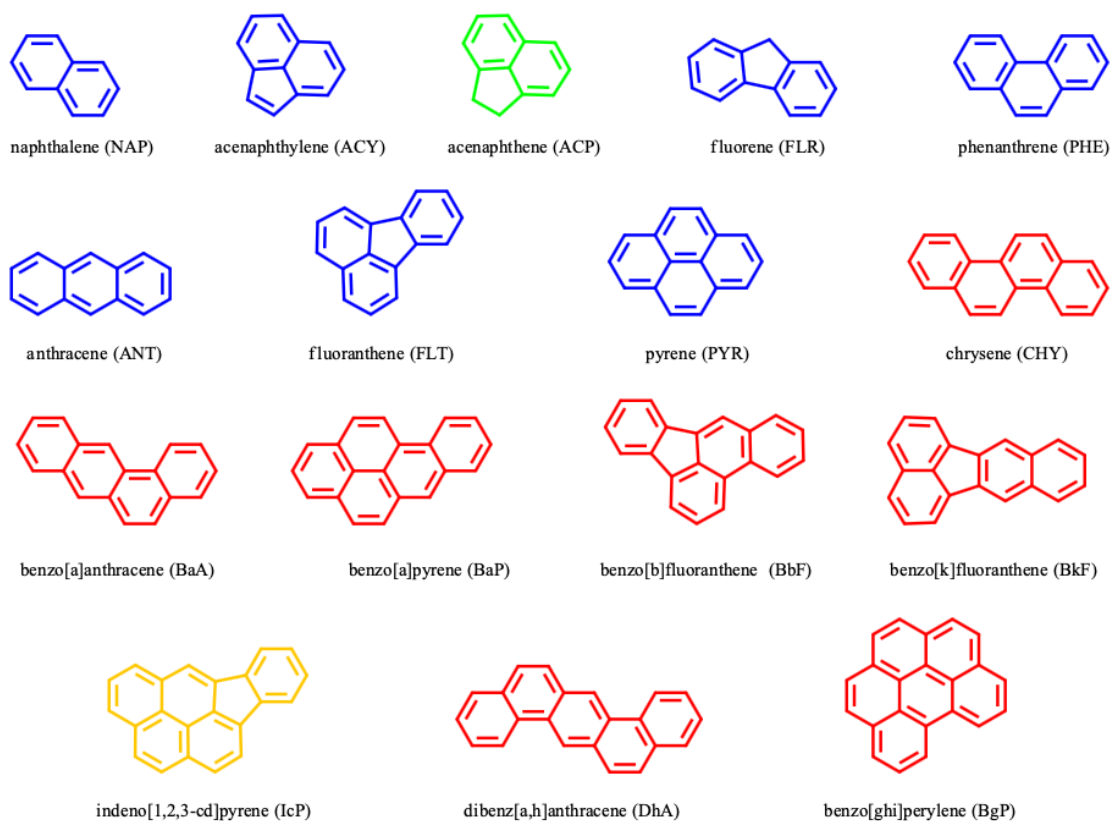


Figure S1: Structure of 16 priority PAHs that listed by EPA

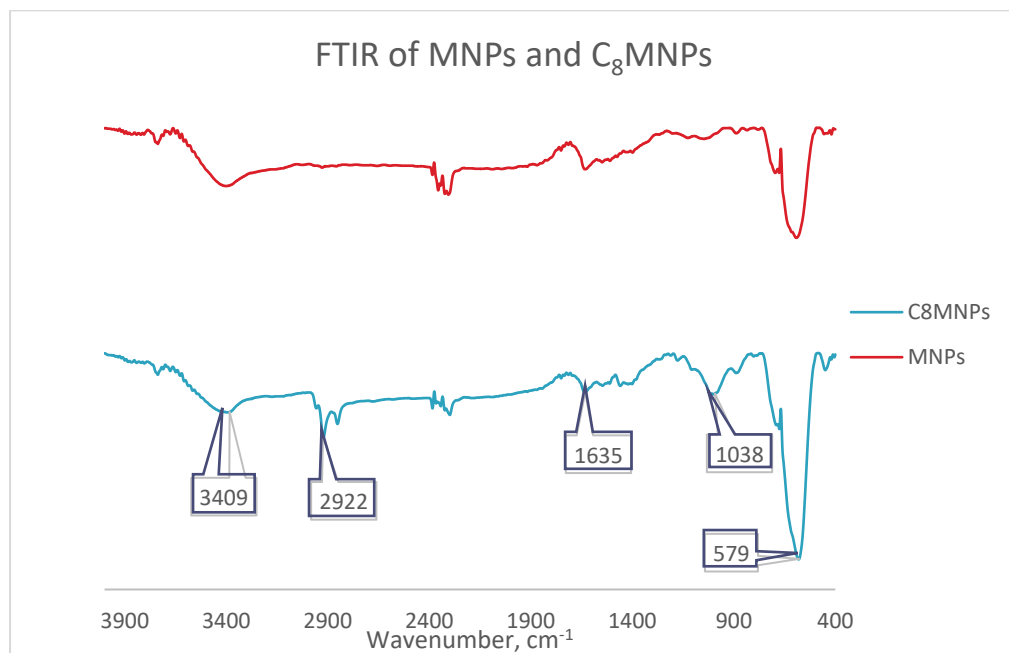


Figure S2: FTIR Spectrum of both MNPs and C₈MNPs

Table S1: Sampling point descriptions in Kuala Lumpur, Malaysia.

Sampling Point	Descriptions	Latitude (°)	Longitude (°)	Sampling date	Time (hours)
KL 1	MRT station, bus stop	3.135779	101.631027	24 Sep 2019	1018
KL 2	Mosque, parking lot	3.145418	101.629281	24 Sep 2019	1107
KL 3	MRT station, bus stop	3.144172	101.663269	24 Sep 2019	1151
KL 4	MRT station, bus station	3.151795	101.665823	24 Sep 2019	1345
KL 5	LRT station, bus stop	3.220156	101.721553	25 Sep 2019	1034
KL 6	LRT station, bus stop	3.205259	101.732330	25 Sep 2019	1058
KL 7	LRT station, bus station	3.058475	101.691762	25 Sep 2019	1250
KL 8	LRT station, bus stop	3.089640	101.712745	25 Sep 2019	1318
KL 9	MRT station, bus stop	3.142553	101.720125	25 Sep 2019	1740
KL 10	MRT station, bus stop	3.078634	101.746442	26 Sep 2019	1122
KL 11	MRT station, bus stop	3.104636	101.732534	26 Sep 2019	1221
KL 12	Shopping mall, parking lot	3.124075	101.727573	26 Sep 2019	1311
KL 13	MRT station, bus stop	3.142273	101.701850	26 Sep 2019	1537
KL 14	LRT station, bus stop	3.061188	101.662002	26 Sep 2019	1714
KL 15	LRT station, bus stop	3.062070	101.670175	26 Sep 2019	1738
KL 16	LRT station, bus stop	3.061116	101.686933	26 Sep 2019	1753
KL 17	LRT station, bus stop	3.063412	101.707858	26 Sep 2019	1809
KL 18	Shop lot	3.210009	101.719522	29 Sep 2019	1103
KL 19	KTM station, bus stop	3.112235	101.673539	29 Sep 2019	1227
KL 20	Hospital, traffic light	3.113286	101.651380	26 Sep 2019	1553

Table S2: TOC concentration (ng g^{-1}) of street dust

Sample ID	Concentrations (ng g^{-1})	Sample ID	Concentration (ng g^{-1})
KL-1	2843	KL-11	1711
KL-2	1715	KL-12	6321
KL-3	1146	KL-13	2853
KL-4	1843	KL-14	2196
KL-5	2234	KL-15	1386
KL-6	1384	KL-16	6415
KL-7	2088	KL-17	2373
KL-8	7886	KL-18	2034
KL-9	5687	KL-19	831.3
KL-10	5746	KL-20	1820

Table S3: Comparison of the PAHs in the street dust from the literatures

Location	Number of PAHs	Concentration	References
Kuala Lumpur, Malaysia	13	2457 (137.8 – 5813)	This study
Jeddah, KSA	12	14200 (7620 – 30800)	[1]
Hanoi, Vietnam	19	(830 – 5000)	[2]
Thai Nguyen, Vietnam	19	(490 – 9300)	[2]
Kumasi, Ghana	28	2571 (181 – 7770)	[3]
Xi'an, China	16	10620 (7259 – 18475)	[4]
Kuala Lumpur, Malaysia	17	224 (2 – 43)	[(5)]

Table S4: Diagnostic ratios of PAHs in street dust sample

Diagnostic Ratio	Location	This Study	Sources
ANT/(ANT + PHE)	KL-13	0.89	Pyrogenic
	KL-14	0.87	Pyrogenic
BaA/(BaA + CHY)	KL-1	0.89	Biomass burning
	KL-2	0.79	Biomass burning
	KL-3	0.86	Biomass burning
	KL-9	0.82	Biomass burning
	KL-13	0.86	Biomass burning
	KL-14	0.82	Biomass burning
IcP/(IcP + BgP)	KL-1	0.58	Diesel
	KL-2	0.55	Diesel
	KL-3	0.57	Diesel
	KL-9	0.56	Diesel
	KL-10	0.54	Diesel
	KL-13	0.58	Diesel
	KL-14	0.56	Diesel
BaP/BgP	KL-1	0.99	Traffic
	KL-2	0.64	Traffic
	KL-3	0.66	Traffic
	KL-9	0.64	Traffic
	KL-10	0.77	Traffic
	KL-13	0.67	Traffic
	KL-14	0.66	Traffic
BgP/BaP	KL-1	1.01	Diesel / Car Gasoline
	KL-2	1.56	Diesel / Car Gasoline
	KL-3	1.51	Diesel / Car Gasoline
	KL-9	1.55	Diesel / Car Gasoline
	KL 10	1.30	Diesel / Car Gasoline
	KL 13	1.48	Diesel / Car Gasoline
	KL 14	1.52	Diesel / Car Gasoline

Table S5: Diagnostic Ratios and indicated sources

Diagnostic Ratio	Value	Sources	a [6]
ANT/(ANT + PHE)	< 0.1	Petrogenic ^{a,b,c}	b [7]
	> 0.1	Pyrogenic ^{a,b,c}	c [8]
FLT/(FLT + PYR)	< 0.4	Petrogenic ^{b,d}	d [9]
	> 0.4	Pyrogenic ^{b,d}	e [10]
	0.4	Gasoline ^{e,f}	f [11]
	0.4 – 0.5	Fuel oil ^{b,d}	g [12]
	>0.5	Grass, wood, coal ^{b,d}	h [13]
	0.6 – 0.7	Diesel ^{e,f}	i [12]
BaA/(BaA + CHY)	< 0.2	Petrogenic ^{g,b,h}	j [14]
	0.2 – 0.35	Coal ^{g,b,h}	k [1]
	> 0.35	Pyrogenic ^{g,b,h}	l [15]
	> 0.5	Wood burning ^{g,b,h}	
IcP/(IcP + BgP)	< 0.2	Petrogenic ^{b,c,i,j}	
	> 0.2	Pyrogenic ^{b,c,i,j}	
	0.2 – 0.5	Petroleum/gasoline ^{b,c,i,j}	
	> 0.5	Grass, wood, coal ^{b,c,i,j}	
	0.82	Oil combustion ^{b,c,i,j}	
	0.35 – 0.70	Diesel ^{b,c,i,j}	
BaP/BgP	< 0.6	Non-traffic ^{b,c}	
	> 0.6	Traffic ^{b,c}	
BgP/BaP	0.9 – 3.3	Diesel/Car gasoline ¹	

Table S6: The BaP_{eq} concentration (ng g⁻¹) of PAHs in street dust sample

Compound	TEF	Mean ± Std. Deviatiaon	Median (Min – Max)
ACY	0.001	0.070 ± 0.021	0.078 (0.037 - 0.090)
ACP	0.001	0.025	0.025 (0.025 - 0.025)
FLR	0.001	0.043 ± 0.013	0.049 (0.019 - 0.049)
PHE	0.001	0.062 ± 0.003	0.062 (0.060 - 0.064)
ANT	0.01	2.659 ± 1.685	2.713 (0.734 - 4.832)
PYR	0.001	0.3480 ± 0.292	0.314 (0.022 - 0.746)
BaA	0.1	57.85 ± 34.85	58.96 (8.471 - 102.3)
CHY	0.01	1.501 ± 0.471	1.588 (0.598 - 1.985)
BbF	0.1	49.13 ± 15.96	50.83 (20.82 - 67.44)
BkF	0.1	19.12 ± 7.658	19.98 (9.378 - 28.05)
BaP	1	429.0 ± 123.9	458.0 (191.8 - 539.5)
IcP	0.1	80.55 ± 30.41	91.75 (29.04 - 109.4)
BgP	0.01	6.221 ± 2.279	7.107 (2.488 - 8.002)
Σ Total PAHs	-	389.9 ± 362.7	382.6 (0.863 - 858.9)

Table S7: Parameters of exposure applied in health risk assessment calculation.

Parameter		Unit	Children	Adult
CS	Chemical Concentration in Soil	mg kg ⁻¹	This study	
IR _{inh}	Inhalation Rate	m ³ day ⁻¹	10 ^{m,p,q}	20 ^{m,n,p,r}
IR _{ing}	Ingestion Rate	mg day ⁻¹	200 ^o	100 ^o
EF	Exposure Frequency	day year ⁻¹	180 ^{m,p,q,r}	
ED	Exposure Duration	year	6 ^{n,o}	24 ^o
BW	Body Weight	kg	15 ^{n,o}	61.5 ^{m,p,q,r}
AT _{non-carc}	Averaging Time	day	2190	8760
AT _{carc}	Averaging Time	day	25 550 ^o	
PEF	Particle Emission Factor	m ³ kg ⁻¹	1.36 × 10 ⁹ ⁿ	
AF	Adherence Factor	mg cm ⁻²	0.2 ⁿ	0.07 ⁿ
ABS	Dermal Absorption Factor	No unit	0.13 ⁿ	
SA	Skin Surface Area	cm ² day ⁻¹	2800 ⁿ	5700 ⁿ

^m [16]ⁿ [17]^o [18]^p [19]^q [20]^r [21]**Table S8:** Incremental Lifetime Cancer Risk (ILCR) for children through inhalation pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	3.33× 10 ⁻¹⁵	1.77× 10 ⁻¹⁵	4.31× 10 ⁻¹⁵	3.70× 10 ⁻¹⁵	9.95× 10 ⁻¹⁶
ACP	1	1.20× 10 ⁻¹⁵	1.20× 10 ⁻¹⁵	1.20× 10 ⁻¹⁵	1.20× 10 ⁻¹⁵	-
FLR	5	2.05× 10 ⁻¹⁵	9.23× 10 ⁻¹⁶	2.36× 10 ⁻¹⁵	2.35× 10 ⁻¹⁵	6.30× 10 ⁻¹⁶
PHE	2	2.96× 10 ⁻¹⁵	2.85× 10 ⁻¹⁵	3.07× 10 ⁻¹⁵	2.96× 10 ⁻¹⁵	1.58× 10 ⁻¹⁶
ANT	10	1.27× 10 ⁻¹³	3.51× 10 ⁻¹⁴	2.31× 10 ⁻¹³	1.30× 10 ⁻¹³	8.04× 10 ⁻¹⁴
PYR	11	1.66× 10 ⁻¹⁴	1.06× 10 ⁻¹⁵	3.56× 10 ⁻¹⁴	1.50× 10 ⁻¹⁴	1.40× 10 ⁻¹⁴
BaA	9	2.76× 10 ⁻¹²	4.04× 10 ⁻¹³	4.88× 10 ⁻¹²	2.81× 10 ⁻¹²	1.66× 10 ⁻¹²
CHY	6	7.17× 10 ⁻¹⁴	2.85× 10 ⁻¹⁴	9.48× 10 ⁻¹⁴	7.58× 10 ⁻¹⁴	2.25× 10 ⁻¹⁴
BbF	8	2.35× 10 ⁻¹²	9.94× 10 ⁻¹³	3.22× 10 ⁻¹²	2.43× 10 ⁻¹²	7.62× 10 ⁻¹³
BkF	6	9.13× 10 ⁻¹³	4.48× 10 ⁻¹³	1.34× 10 ⁻¹²	9.54× 10 ⁻¹³	3.66× 10 ⁻¹³
BaP	7	2.05× 10 ⁻¹¹	9.16× 10 ⁻¹²	2.58× 10 ⁻¹¹	2.19× 10 ⁻¹¹	5.91× 10 ⁻¹²
IcP	7	3.85× 10 ⁻¹²	1.39× 10 ⁻¹²	5.22× 10 ⁻¹²	4.38× 10 ⁻¹²	1.45× 10 ⁻¹²
BgP	7	2.97× 10 ⁻¹³	1.19× 10 ⁻¹³	3.82× 10 ⁻¹³	3.39× 10 ⁻¹³	1.09× 10 ⁻¹³
Total PAHs	12	1.86× 10 ⁻¹¹	4.12× 10 ⁻¹⁴	4.10× 10 ⁻¹¹	1.83× 10 ⁻¹¹	1.73× 10 ⁻¹¹

Table S9: Incremental Lifetime Cancer Risk (ILCR) for adult through inhalation pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	1.04× 10 ⁻¹⁴	5.53× 10 ⁻¹⁵	1.35× 10 ⁻¹⁴	1.16× 10 ⁻¹⁴	3.11× 10 ⁻¹⁵

ACP	1	3.76×10^{-15}	3.76×10^{-15}	3.76×10^{-15}	3.76×10^{-15}	-
FLR	5	6.39×10^{-15}	2.88×10^{-15}	7.38×10^{-15}	7.32×10^{-15}	1.97×10^{-15}
PHE	2	9.24×10^{-15}	8.89×10^{-15}	9.59×10^{-15}	9.24×10^{-15}	4.94×10^{-16}
ANT	10	3.96×10^{-13}	1.09×10^{-13}	7.20×10^{-13}	4.04×10^{-13}	2.51×10^{-13}
PYR	11	5.19×10^{-14}	3.30×10^{-15}	1.11×10^{-13}	4.68×10^{-14}	4.36×10^{-14}
BaA	9	8.62×10^{-12}	1.26×10^{-12}	1.52×10^{-11}	8.79×10^{-12}	5.20×10^{-12}
CHY	6	2.24×10^{-13}	8.91×10^{-14}	2.96×10^{-13}	2.37×10^{-13}	7.03×10^{-14}
BbF	8	7.32×10^{-12}	3.10×10^{-12}	1.01×10^{-11}	7.58×10^{-12}	2.38×10^{-12}
BkF	6	2.85×10^{-12}	1.40×10^{-12}	4.18×10^{-12}	2.98×10^{-12}	1.14×10^{-12}
BaP	7	6.40×10^{-11}	2.86×10^{-11}	8.04×10^{-11}	6.83×10^{-11}	1.85×10^{-11}
IcP	7	1.20×10^{-11}	4.33×10^{-12}	1.63×10^{-11}	1.37×10^{-11}	4.53×10^{-12}
BgP	7	9.27×10^{-13}	3.71×10^{-13}	1.19×10^{-12}	1.06×10^{-12}	3.40×10^{-13}
Total PAHs	12	5.81×10^{-11}	1.29×10^{-13}	1.28×10^{-10}	5.70×10^{-11}	5.41×10^{-11}

Table S10: Incremental Lifetime Cancer Risk (ILCR) for children through ingestion pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	1.72×10^{-10}	9.13×10^{-11}	2.22×10^{-10}	1.91×10^{-10}	5.13×10^{-11}
ACP	1	6.21×10^{-11}	6.21×10^{-11}	6.21×10^{-11}	6.21×10^{-11}	-
FLR	5	1.06×10^{-10}	4.76×10^{-11}	1.22×10^{-10}	1.21×10^{-10}	3.25×10^{-11}
PHE	2	1.53×10^{-10}	1.47×10^{-10}	1.58×10^{-10}	1.53×10^{-10}	8.15×10^{-12}
ANT	10	6.55×10^{-9}	1.81×10^{-9}	1.19×10^{-8}	6.68×10^{-9}	4.15×10^{-9}
PYR	11	8.58×10^{-10}	5.45×10^{-11}	1.84×10^{-9}	7.72×10^{-10}	7.20×10^{-10}
BaA	9	1.42×10^{-7}	2.09×10^{-8}	2.52×10^{-7}	1.45×10^{-7}	8.58×10^{-8}
CHY	6	3.70×10^{-9}	1.47×10^{-9}	4.89×10^{-9}	3.91×10^{-9}	1.16×10^{-9}
BbF	8	1.21×10^{-7}	5.13×10^{-8}	1.66×10^{-7}	1.25×10^{-7}	3.93×10^{-8}
BkF	6	4.71×10^{-8}	2.31×10^{-8}	6.91×10^{-8}	4.92×10^{-8}	1.89×10^{-8}
BaP	7	1.06×10^{-6}	4.72×10^{-7}	1.33×10^{-6}	1.13×10^{-6}	3.05×10^{-7}
IcP	7	1.98×10^{-7}	7.15×10^{-8}	2.69×10^{-7}	2.26×10^{-7}	7.49×10^{-8}
BgP	7	1.53×10^{-8}	6.13×10^{-9}	1.97×10^{-8}	1.75×10^{-8}	5.61×10^{-9}
Total PAHs	12	9.60×10^{-7}	2.12×10^{-9}	2.11×10^{-6}	9.42×10^{-7}	8.93×10^{-7}

Table S11: Incremental Lifetime Cancer Risk (ILCR) for adult through ingestion pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	1.34×10^{-10}	7.13×10^{-11}	1.73×10^{-10}	1.49×10^{-10}	4.01×10^{-11}
ACP	1	4.85×10^{-11}	4.85×10^{-11}	4.85×10^{-11}	4.85×10^{-11}	-
FLR	5	8.24×10^{-11}	3.72×10^{-11}	9.51×10^{-11}	9.44×10^{-11}	2.54×10^{-11}
PHE	2	1.19×10^{-10}	1.15×10^{-10}	1.24×10^{-10}	1.19×10^{-10}	6.36×10^{-12}
ANT	10	5.11×10^{-9}	1.41×10^{-9}	9.29×10^{-9}	5.21×10^{-9}	3.24×10^{-9}
PYR	11	6.70×10^{-10}	4.26×10^{-11}	1.43×10^{-9}	6.03×10^{-10}	5.62×10^{-10}

BaA	9	1.11×10^{-7}	1.63×10^{-8}	1.97×10^{-7}	1.13×10^{-7}	6.70×10^{-8}
CHY	6	2.89×10^{-9}	1.15×10^{-9}	3.82×10^{-9}	3.05×10^{-9}	9.06×10^{-10}
BbF	8	9.44×10^{-8}	4.00×10^{-8}	1.30×10^{-7}	9.77×10^{-8}	3.07×10^{-8}
BkF	6	3.68×10^{-8}	1.80×10^{-8}	5.39×10^{-8}	3.84×10^{-8}	1.47×10^{-8}
BaP	7	8.25×10^{-7}	3.69×10^{-7}	1.04×10^{-6}	8.80×10^{-7}	2.38×10^{-7}
IcP	7	1.55×10^{-7}	5.58×10^{-8}	2.10×10^{-7}	1.76×10^{-7}	5.84×10^{-8}
BgP	7	1.20×10^{-8}	4.78×10^{-9}	1.54×10^{-8}	1.37×10^{-8}	4.38×10^{-9}
Total PAHs	12	7.49×10^{-7}	1.66×10^{-9}	1.65×10^{-6}	7.35×10^{-7}	6.97×10^{-7}

Table S12: Incremental Lifetime Cancer Risk (ILCR) for children through the dermal pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	2.14×10^{-10}	1.14×10^{-10}	2.77×10^{-10}	2.38×10^{-10}	6.40×10^{-11}
ACP	1	7.74×10^{-11}	7.74×10^{-11}	7.74×10^{-11}	7.74×10^{-11}	-
FLR	5	1.32×10^{-10}	5.93×10^{-11}	1.52×10^{-10}	1.51×10^{-10}	4.05×10^{-11}
PHE	2	1.90×10^{-10}	1.83×10^{-10}	1.97×10^{-10}	1.90×10^{-10}	1.02×10^{-11}
ANT	10	8.16×10^{-9}	2.25×10^{-9}	1.48×10^{-8}	8.33×10^{-9}	5.17×10^{-9}
PYR	11	1.07×10^{-9}	6.80×10^{-11}	2.29×10^{-9}	9.62×10^{-10}	8.97×10^{-10}
BaA	9	1.78×10^{-7}	2.60×10^{-8}	3.14×10^{-7}	1.81×10^{-7}	1.07×10^{-7}
CHY	6	4.61×10^{-9}	1.83×10^{-9}	6.09×10^{-9}	4.88×10^{-9}	1.45×10^{-9}
BbF	8	1.51×10^{-7}	6.39×10^{-8}	2.07×10^{-7}	1.56×10^{-7}	4.90×10^{-8}
BkF	6	5.87×10^{-8}	2.88×10^{-8}	8.61×10^{-8}	6.13×10^{-8}	2.35×10^{-8}
BaP	7	1.32×10^{-6}	5.89×10^{-7}	1.66×10^{-6}	1.41×10^{-6}	3.80×10^{-7}
IcP	7	2.47×10^{-7}	8.91×10^{-8}	3.36×10^{-7}	2.82×10^{-7}	9.33×10^{-8}
BgP	7	1.91×10^{-8}	7.64×10^{-9}	2.46×10^{-8}	2.18×10^{-8}	6.99×10^{-9}
Total PAHs	12	1.20×10^{-6}	2.65×10^{-9}	2.64×10^{-6}	1.17×10^{-6}	1.11×10^{-6}

Table S13: Incremental Lifetime Cancer Risk (ILCR) for adult through the dermal pathway

Compound	Valid N	Mean	Min	Max	Median	Std dev.
ACY	6	2.38×10^{-10}	1.27×10^{-10}	3.08×10^{-10}	2.65×10^{-10}	7.12×10^{-11}
ACP	1	8.61×10^{-11}	8.61×10^{-11}	8.61×10^{-11}	8.61×10^{-11}	-
FLR	5	1.46×10^{-10}	6.60×10^{-11}	1.69×10^{-10}	1.68×10^{-10}	4.51×10^{-11}
PHE	2	2.12×10^{-10}	2.04×10^{-10}	2.20×10^{-10}	2.12×10^{-10}	1.13×10^{-11}
ANT	10	9.08×10^{-9}	2.51×10^{-9}	1.65×10^{-8}	9.26×10^{-9}	5.75×10^{-9}
PYR	11	1.19×10^{-9}	7.56×10^{-11}	2.55×10^{-9}	1.07×10^{-9}	9.98×10^{-10}
BaA	9	1.98×10^{-7}	2.89×10^{-8}	3.49×10^{-7}	2.01×10^{-7}	1.19×10^{-7}
CHY	6	5.13×10^{-9}	2.04×10^{-9}	6.78×10^{-9}	5.42×10^{-9}	1.61×10^{-9}
BbF	8	1.68×10^{-7}	7.11×10^{-8}	2.30×10^{-7}	1.74×10^{-7}	5.45×10^{-8}
BkF	6	6.53×10^{-8}	3.20×10^{-8}	9.58×10^{-8}	6.82×10^{-8}	2.61×10^{-8}
BaP	7	1.46×10^{-6}	6.55×10^{-7}	1.84×10^{-6}	1.56×10^{-6}	4.23×10^{-7}

IcP	7	2.75×10^{-7}	9.91×10^{-8}	3.74×10^{-7}	3.13×10^{-7}	1.04×10^{-7}
BgP	7	2.12×10^{-8}	8.49×10^{-9}	2.73×10^{-8}	2.43×10^{-8}	7.78×10^{-9}
Total PAHs	12	1.33×10^{-6}	2.95×10^{-9}	2.93×10^{-6}	1.31×10^{-6}	1.24×10^{-6}

Table S14: Hazard quotient (HQ) of children for street dust near bus station through inhalation

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	2.19×10^{-9}	2.43×10^{-9}	1.16×10^{-9}	2.83×10^{-9}
ACP	1	7.90×10^{-10}	7.90×10^{-10}	7.90×10^{-10}	7.90×10^{-10}
FLR	5	2.02×10^{-9}	2.31×10^{-9}	9.09×10^{-10}	2.33×10^{-9}
PHE	2	1.64×10^{-8}	1.64×10^{-8}	1.58×10^{-8}	1.70×10^{-8}
ANT	10	1.67×10^{-9}	1.70×10^{-9}	4.60×10^{-10}	3.03×10^{-9}
PYR	11	2.18×10^{-8}	1.97×10^{-8}	1.39×10^{-9}	4.68×10^{-8}
BaP	7	2.69×10^{-6}	2.87×10^{-6}	1.20×10^{-6}	3.38×10^{-6}
BgP	7	3.90×10^{-8}	4.45×10^{-8}	1.56×10^{-8}	5.02×10^{-8}
Σ Total HQ	12	1.62×10^{-6}	1.71×10^{-6}	1.39×10^{-9}	3.50×10^{-6}

Table S15: Hazard quotient (HQ) of adults for street dust near bust station through inhalation

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	1.88×10^{-9}	2.08×10^{-9}	9.96×10^{-10}	2.42×10^{-9}
ACP	1	6.78×10^{-10}	6.78×10^{-10}	6.78×10^{-10}	6.78×10^{-10}
FLR	5	1.73×10^{-9}	1.98×10^{-9}	7.79×10^{-10}	1.99×10^{-9}
PHE	2	1.41×10^{-8}	1.41×10^{-8}	1.35×10^{-8}	1.46×10^{-8}
ANT	11	1.30×10^{-9}	1.06×10^{-9}	3.94×10^{-10}	2.60×10^{-9}
PYR	11	1.87×10^{-8}	1.69×10^{-8}	1.19×10^{-9}	4.01×10^{-8}
BaP	7	2.30×10^{-6}	2.46×10^{-6}	1.03×10^{-6}	2.90×10^{-6}
BgP	7	3.34×10^{-8}	3.82×10^{-8}	1.34×10^{-8}	4.30×10^{-8}
Σ Total HQ	12	1.39×10^{-6}	1.46×10^{-6}	1.19×10^{-9}	3.00×10^{-6}

Table S16: Hazard quotient (HQ) of children for street dust near bus station through ingestion

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	1.49×10^{-5}	1.65×10^{-5}	7.90×10^{-6}	1.92×10^{-5}
ACP	1	5.38×10^{-6}	5.38×10^{-6}	5.38×10^{-6}	5.38×10^{-6}
FLR	5	1.37×10^{-5}	1.57×10^{-5}	6.18×10^{-6}	1.58×10^{-5}
PHE	2	1.12×10^{-4}	1.12×10^{-4}	1.07×10^{-4}	1.16×10^{-4}
ANT	10	1.13×10^{-5}	1.16×10^{-5}	3.13×10^{-6}	2.06×10^{-5}
PYR	11	1.49×10^{-4}	1.34×10^{-4}	9.44×10^{-6}	3.18×10^{-4}
BaP	7	1.83×10^{-2}	1.95×10^{-2}	8.17×10^{-3}	2.30×10^{-2}
BgP	7	2.65×10^{-4}	3.03×10^{-4}	1.06×10^{-4}	3.41×10^{-4}
Σ Total HQ	12	1.10×10^{-2}	1.16×10^{-2}	9.44×10^{-6}	2.38×10^{-2}

Table S17: Hazard quotient (HQ) of adult for street dust near bus station through ingestion

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	1.59×10^{-6}	1.77×10^{-6}	8.46×10^{-7}	2.06×10^{-6}
ACP	1	5.76×10^{-7}	5.76×10^{-7}	5.76×10^{-7}	5.76×10^{-7}
FLR	5	1.47×10^{-6}	1.68×10^{-6}	6.62×10^{-7}	1.70×10^{-6}
PHE	2	1.20×10^{-5}	1.20×10^{-5}	1.15×10^{-5}	1.24×10^{-5}
ANT	10	1.21×10^{-6}	1.24×10^{-6}	3.35×10^{-7}	2.21×10^{-6}
PYR	11	1.59×10^{-5}	1.43×10^{-5}	1.01×10^{-6}	3.41×10^{-5}
BaP	7	1.96×10^{-3}	2.09×10^{-3}	8.76×10^{-4}	2.46×10^{-3}
BgP	7	2.84×10^{-5}	3.25×10^{-5}	1.14×10^{-5}	3.65×10^{-5}
Σ Total HQ	12	1.18×10^{-3}	1.24×10^{-3}	1.01×10^{-6}	2.55×10^{-3}

Table S18: Hazard quotient (HQ) of children for street dust near bus station through dermal

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	5.41×10^{-6}	6.02×10^{-6}	2.88×10^{-6}	6.99×10^{-6}
ACP	1	1.96×10^{-6}	1.96×10^{-6}	1.96×10^{-6}	1.96×10^{-6}
FLR	5	4.99×10^{-6}	5.72×10^{-6}	2.25×10^{-6}	5.76×10^{-6}
PHE	2	4.06×10^{-5}	4.06×10^{-5}	3.91×10^{-5}	4.22×10^{-5}
ANT	10	4.13×10^{-6}	4.21×10^{-6}	1.14×10^{-6}	7.50×10^{-6}
PYR	11	5.41×10^{-5}	4.87×10^{-5}	3.44×10^{-6}	1.16×10^{-4}
BaP	7	6.66×10^{-3}	7.11×10^{-3}	2.98×10^{-3}	8.37×10^{-3}
BgP	7	9.65×10^{-5}	1.10×10^{-4}	3.86×10^{-5}	1.24×10^{-4}
Σ Total HQ	12	4.00×10^{-3}	4.22×10^{-3}	3.44×10^{-6}	8.67×10^{-3}

Table S19: Hazard quotient (HQ) of adults for street dust near bus station through dermal

Compound	Valid N	Mean	Median	Minimum	Maximum
ACY	6	8.27×10^{-7}	9.19×10^{-7}	4.39×10^{-7}	1.07×10^{-6}
ACP	1	2.99×10^{-7}	2.99×10^{-7}	2.99×10^{-7}	2.99×10^{-7}
FLR	5	7.62×10^{-7}	8.73×10^{-7}	3.43×10^{-7}	8.79×10^{-7}
PHE	2	6.21×10^{-6}	6.21×10^{-6}	5.97×10^{-6}	6.44×10^{-6}
ANT	11	5.73×10^{-7}	4.69×10^{-7}	1.74×10^{-7}	1.14×10^{-6}
PYR	11	8.25×10^{-6}	7.43×10^{-6}	5.25×10^{-7}	1.77×10^{-5}
BaP	7	1.02×10^{-3}	1.09×10^{-3}	4.54×10^{-4}	1.28×10^{-3}
BgP	7	1.47×10^{-5}	1.68×10^{-5}	5.89×10^{-6}	1.90×10^{-5}
Σ Total HQ	12	6.11×10^{-4}	6.44×10^{-4}	5.25×10^{-7}	1.32×10^{-3}

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