

# Supplementary Materials: Characteristics of Environmentally Persistent Free Radicals in PM<sub>2.5</sub> and the Influence of Air Pollutants in Shihezi, Northwestern China

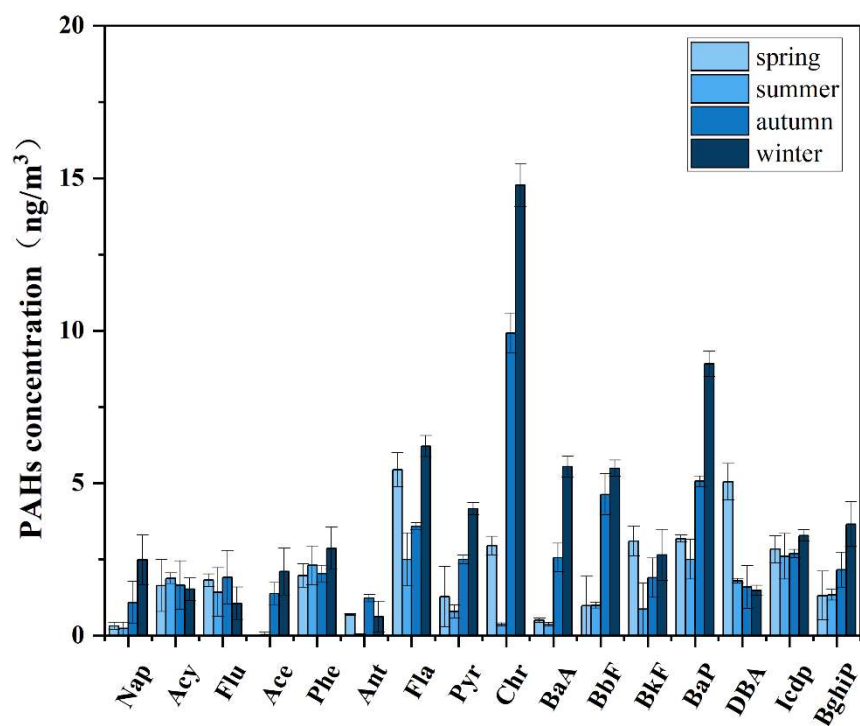
Feifei He, Jianjiang Lu, Zhuoying Li, Min Li, Zilong Liu and Yanbin Tong

**Table S1.** R regression equation, R<sup>2</sup>, detection limit and mean recovery of 16 PAHs.

PAHs	Regression Equation	Correlation Coefficient R <sup>2</sup>	Detection Limit (μg/L)	Average Recovery Rate
Nap	$Y = 5.04 \times 10^5 X + 9.83 \times 10^3$	0.9999	1.25	100.82%
Acy	$Y = 1.29 \times 10^5 X + 1.65 \times 10^4$	0.9994	5	98.63%
Flu	$Y = 5.70 \times 10^4 X + 2.33 \times 10^3$	0.9995	5.5	98.72%
Ace	$Y = 2.76 \times 10^5 X + 7.59 \times 10^3$	0.9998	4	95.19%
Phe	$Y = 8.05 \times 10^4 X + 1.02 \times 10^4$	0.9989	5.5	99.43%
Ant	$Y = 4.71 \times 10^4 X + 5.50 \times 10^3$	0.9996	10	99.11%
Fla	$Y = 1.14 \times 10^5 X + 6.72 \times 10^3$	0.9998	5	102.46%
Pyr	$Y = 5.52 \times 10^4 X + 3.43 \times 10^3$	0.9996	5	101.69%
Chr	$Y = 1.16 \times 10^5 X + 3.21 \times 10^3$	0.9999	5	92.99%
BaA	$Y = 1.26 \times 10^5 X + 4.60 \times 10^3$	0.9997	5	102.80%
BbF	$Y = 1.35 \times 10^5 X + 3.57 \times 10^2$	0.9996	5	103.88%
BkF	$Y = 9.25 \times 10^4 X + 8.01 \times 10^3$	0.9990	5	95.98%
BaP	$Y = 7.84 \times 10^4 X + 4.71 \times 10^3$	0.9990	5	101.34%
DahA	$Y = 1.46 \times 10^5 X + 1.14 \times 10^4$	0.9996	5	87.17%
Icdp	$Y = 3.27 \times 10^4 X + 4.21 \times 10^3$	0.9993	5	106.45%
BghiP	$Y = 2.34 \times 10^5 X + 2.17 \times 10^3$	0.9995	5	100.05%

**Table S2.** Toxicity Equivalent Factors.

Compound	TEF <sub>i</sub>	Compound	TEF <sub>i</sub>
Nap	0.001	BaA	0.1
Acy	0.001	Chr	0.01
Ace	0.001	BbF	0.1
Flu	0.001	BkF	0.1
Phe	0.001	BaP	1
Ant	0.01	IcdP	0.1
Fla	0.001	DahA	1
Pyr	0.001	BghiP	0.01



**Figure S1.** Seasonal distribution trends of 16 PAHs in PM<sub>2.5</sub> in Shihezi between October of 2020 and September of 2021.