

Table S1. Incremental Lifetime cancer risk parameters

Factors	Definition	Unit	Values		Reference
			Adults	Children	
CSF	cancer slope factor	kg/(d·mg)	3.14	3.14	
IR	Inhalation rate	m <sup>3</sup> /h	0.68	0.36	
ET	Exposure time	h/d	24	24	(Wang et al., 2020)
EF	Exposure frequency	d/a	365	365	(Wang et al., 2022)
ED	Exposure duration	a	24	6	(Li et al., 2021)
BW	Average body weight	kg	70	15	
AT	Average exposure time	d	25550	25550	

Table S2. The statistics for concentrations of each PAH congener (ng m<sup>-3</sup>)

PAHs	DS			NDS		
	Max	Min	Mean	Max	Min	Mean
NA	0.023	0.000	0.004 ± 0.008	0.070	0.000	0.018 ± 0.024
AC	0.041	0.013	0.025 ± 0.008	0.069	0.013	0.031 ± 0.016
ACL	0.000	0.000	0.000 ± 0.000	0.000	0.000	0.000 ± 0.000
FL	0.043	0.019	0.031 ± 0.008	0.109	0.017	0.040 ± 0.022
PHE	0.517	0.207	0.321 ± 0.119	0.796	0.102	0.364 ± 0.205
AN	0.055	0.020	0.035 ± 0.012	0.097	0.000	0.035 ± 0.022
FA	1.341	0.604	0.922 ± 0.281	2.044	0.251	0.922 ± 0.485
PY	1.299	0.552	0.917 ± 0.300	1.983	0.228	0.871 ± 0.443
BaA	1.129	0.334	0.636 ± 0.268	1.109	0.178	0.570 ± 0.256
CHR	1.106	0.474	0.823 ± 0.235	1.379	0.217	0.683 ± 0.308
BbFA	2.085	1.025	1.444 ± 0.420	2.430	0.344	1.254 ± 0.531
BkFA	0.741	0.359	0.557 ± 0.151	0.734	0.173	0.422 ± 0.164
BeP	0.843	0.245	0.517 ± 0.215	1.025	0.096	0.515 ± 0.235
BaP	1.413	0.424	0.749 ± 0.361	1.470	0.177	0.687 ± 0.337
IP	1.705	0.685	1.169 ± 0.374	1.849	0.330	0.967 ± 0.456
DBahA	1.217	0.434	0.732 ± 0.254	1.900	0.107	0.519 ± 0.463
BghiP	1.683	0.720	1.161 ± 0.361	2.253	0.388	1.005 ± 0.515
COR	0.538	0.153	0.287 ± 0.131	0.618	0.064	0.286 ± 0.138

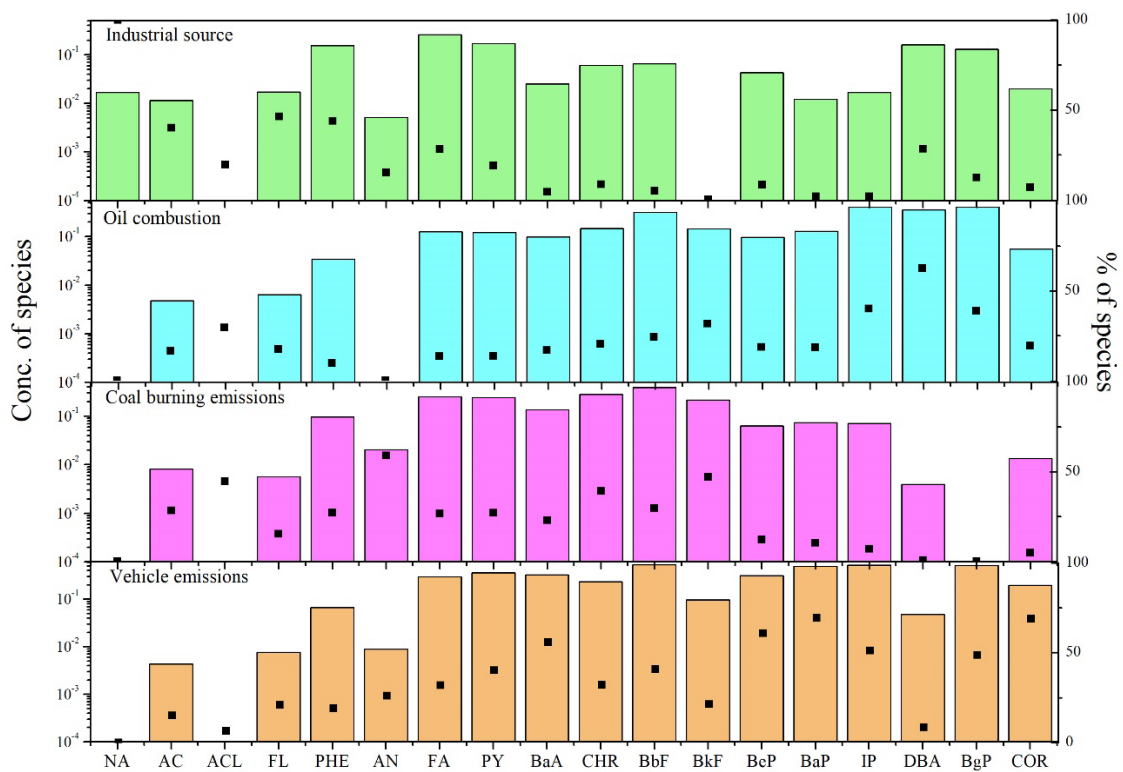


Fig. S1. Source profiles of four PAH sources identified by PMF model for whole sampling period



Fig. S2. PAH source contributions for each day.

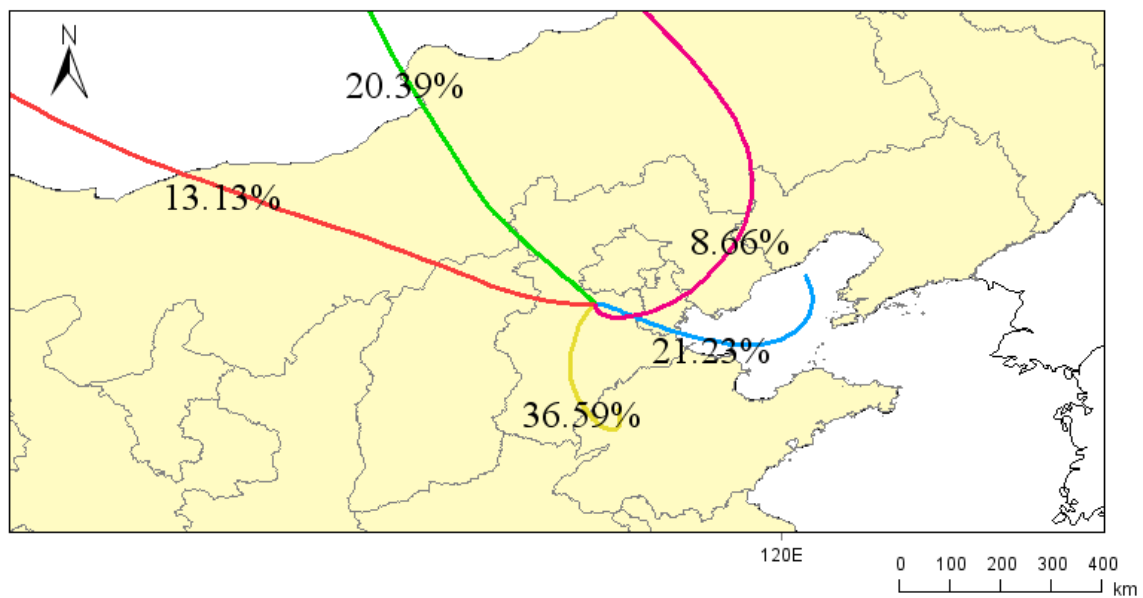


Fig. S3. Backward trajectory clustering in the entire sampling period.

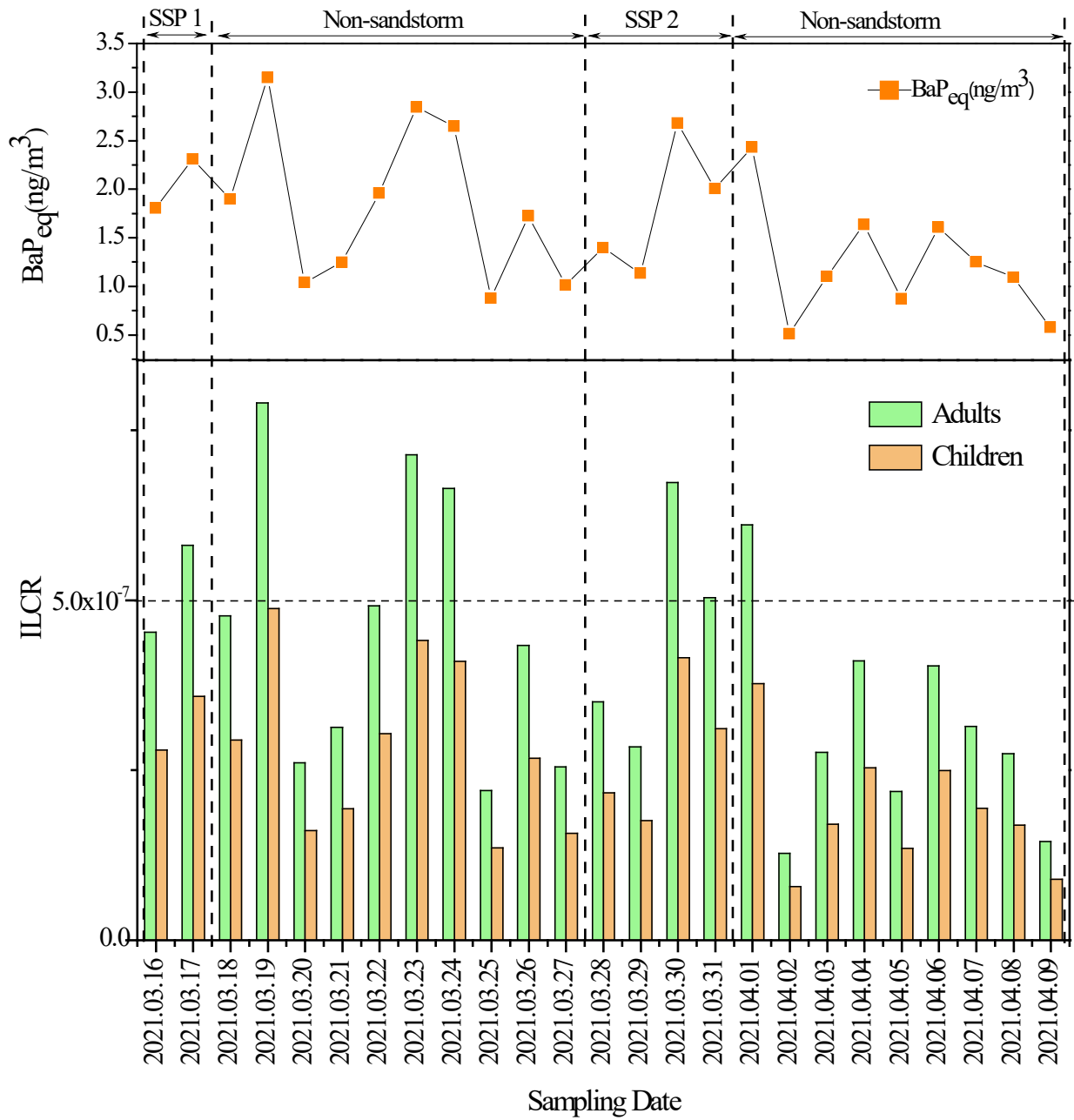


Fig. S4. Time series of BaP<sub>eq</sub> values and Incremental lifetime cancer risks.