

Table S1. Incremental Lifetime cancer risk parameters

| Factors | Definition | Unit | Values | | Reference |
|---------|---------------------------------------|-------------------|--------|----------|-----------------------------|
| | | | Adults | Children | |
| CSF | Inhalation cancer slope factor of Bap | kg/(d·mg) | 3.14 | 3.14 | (Wang <i>et al.</i> , 2020) |
| IR | Inhalation rate | m ³ /h | 0.68 | 0.36 | |
| ET | Exposure time | h/d | 24 | 24 | (Li <i>et al.</i> , 2016) |
| EF | Exposure frequency | d/a | 365 | 365 | |
| ED | Exposure duration | a | 52 | 6 | |
| 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⁻³)

| PAHs | NHS | | | HS | | |
|------|-------|-------|---------------|-------|-------|---------------|
| | Max | Min | Mean | Max | Min | Mean |
| NA | 0.086 | 0.029 | 0.042 ± 0.021 | 0.069 | 0.029 | 0.034 ± 0.013 |
| ACL | 0.029 | 0.029 | 0.029 ± 0.000 | 0.088 | 0.029 | 0.038 ± 0.018 |
| AC | 0.022 | 0.022 | 0.022 ± 0.000 | 0.023 | 0.022 | 0.022 ± 0.000 |
| FL | 0.022 | 0.022 | 0.022 ± 0.000 | 0.077 | 0.022 | 0.033 ± 0.018 |
| PHE | 0.282 | 0.082 | 0.162 ± 0.058 | 1.96 | 0.311 | 0.821 ± 0.383 |
| AN | 0.029 | 0.029 | 0.029 ± 0.000 | 0.158 | 0.029 | 0.062 ± 0.039 |
| FA | 1.13 | 0.195 | 0.551 ± 0.285 | 6.79 | 1.09 | 3.20 ± 1.45 |
| PY | 1.16 | 0.169 | 0.510 ± 0.288 | 5.74 | 0.940 | 2.76 ± 1.25 |
| BaA | 0.78 | 0.084 | 0.396 ± 0.237 | 3.23 | 0.439 | 1.85 ± 0.767 |
| CHR | 1.17 | 0.154 | 0.565 ± 0.323 | 3.85 | 0.825 | 2.27 ± 0.814 |
| BbF | 1.62 | 0.242 | 0.912 ± 0.493 | 4.36 | 1.29 | 2.72 ± 0.861 |
| BkF | 0.418 | 0.044 | 0.228 ± 0.134 | 0.952 | 0.267 | 0.605 ± 0.193 |
| BeP | 5.13 | 0.811 | 2.93 ± 1.58 | 12.42 | 3.73 | 7.98 ± 2.48 |
| BaP | 0.937 | 0.090 | 0.460 ± 0.289 | 2.02 | 0.502 | 1.30 ± 0.452 |
| IP | 0.928 | 0.133 | 0.509 ± 0.293 | 1.56 | 0.491 | 1.06 ± 0.309 |
| DBA | 0.140 | 0.036 | 0.071 ± 0.039 | 0.243 | 0.036 | 0.153 ± 0.049 |
| BgP | 0.735 | 0.134 | 0.411 ± 0.226 | 1.24 | 0.398 | 0.813 ± 0.232 |
| COR | 0.470 | 0.073 | 0.240 ± 0.161 | 0.702 | 0.260 | 0.479 ± 0.127 |

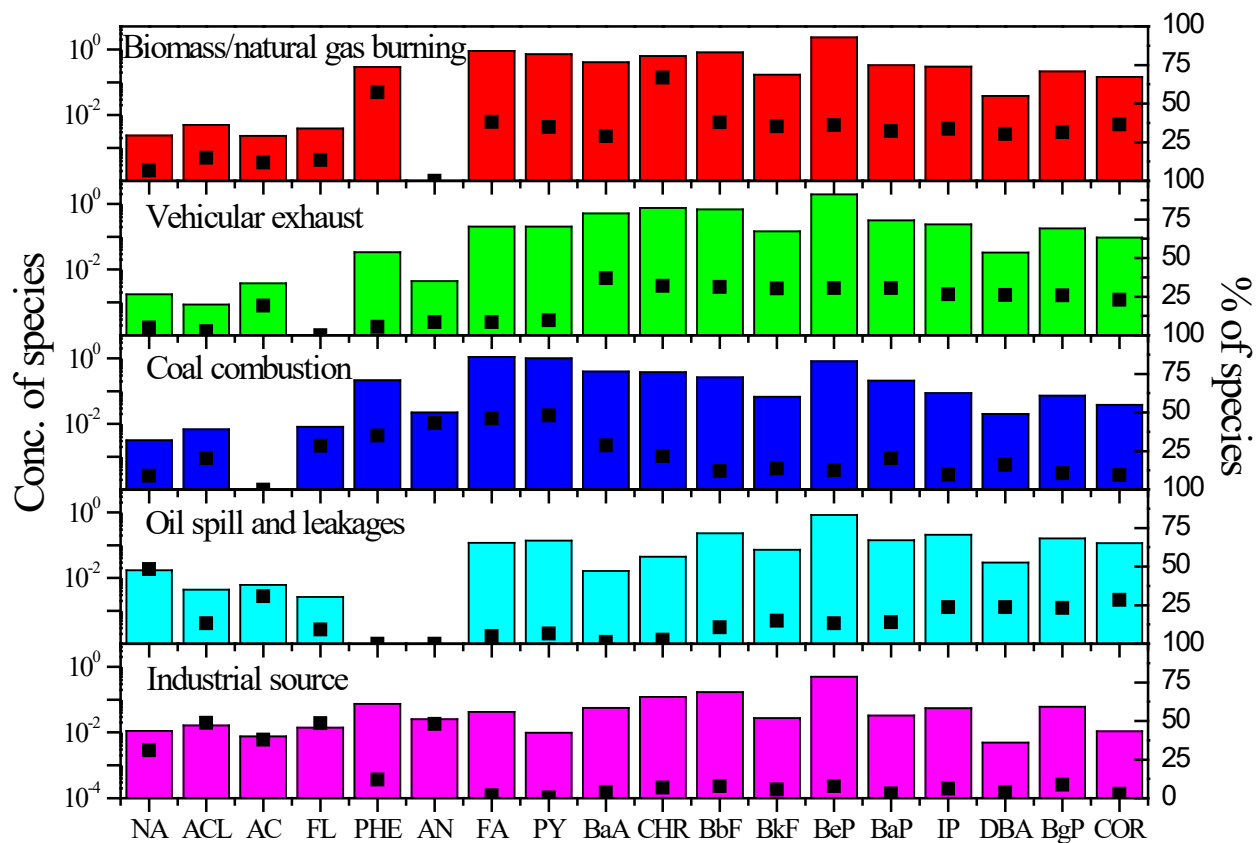


Fig. S1. Source profiles of four PAH sources identified by PMF model for whole sampling period

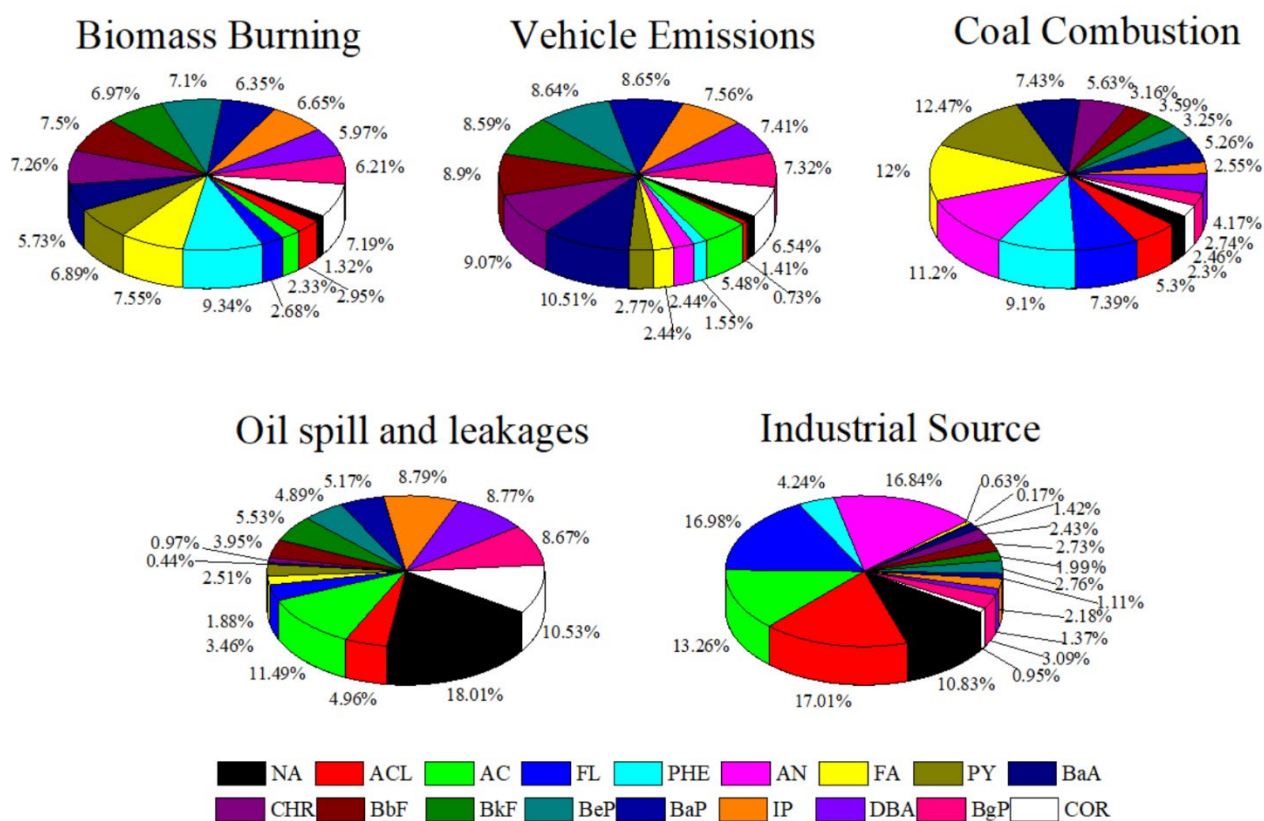


Fig. S2. Mass percentages of 18 kinds of individual PAHs in PM_{2.5} for non-heating season, heating season, and whole sampling period.