

Supplementary Materials

Table S1. Mean Concentrations of Six Elements of Ambient Air Quality in the Study Area during 2015–2018

| Pollutants | 2015 | 2016 | 2017 | 2018 | Mean ± SD | Concentration limits | | unit |
|--------------------|---------------|---------------|---------------|---------------|---------------|----------------------|----------|-------------------|
| | | | | | | Grade I | Grade II | |
| PM _{2.5} | 55.53 ± 30.32 | 51.94 ± 27.05 | 42.36 ± 25.80 | 43.70 ± 23.40 | 48.39 ± 27.29 | 15 | 35 | |
| PM ₁₀ | 82.21 ± 43.88 | 74.14 ± 38.23 | 66.60 ± 38.34 | 66.70 ± 36.01 | 72.41 ± 39.71 | 40 | 70 | |
| SO ₂ | 11.03 ± 5.62 | 10.91 ± 3.67 | 11.27 ± 3.60 | 8.67 ± 2.53 | 10.47 ± 4.14 | 20 | 60 | µg/m ³ |
| NO ₂ | 28.27 ± 11.66 | 28.08 ± 10.06 | 30.78 ± 9.50 | 30.08 ± 11.28 | 29.30 ± 10.71 | 40 | 40 | |
| O ₃ _8h | 49.95 ± 31.24 | 61.82 ± 27.36 | 87.70 ± 34.80 | 88.09 ± 34.78 | 71.38 ± 35.96 | -- | -- | |
| CO | 0.81 ± 0.34 | 0.78 ± 0.24 | 0.68 ± 0.23 | 0.69 ± 0.20 | 0.74 ± 0.26 | | | mg/m ³ |

Table S2. Number of Days of Air Pollutions at Different Levels in the Study Area during 2015–2018

| | Excellent (I) | Good (II) | Mild pollution (III) | Moderate pollution(IV) | Heavy pollution (V) |
|------|---------------|-----------|----------------------|------------------------|---------------------|
| 2015 | 68 | 224 | 49 | 18 | 6 |
| 2016 | 101 | 201 | 56 | 5 | 3 |
| 2017 | 94 | 219 | 44 | 8 | 0 |
| 2018 | 104 | 214 | 40 | 6 | 1 |

Table S3. Correlation Coefficient Table between AQI and Meteorological Factors in the Study Area during 2015–2018

| | AQI | SO ₂ | NO ₂ | PM ₁₀ | CO | O ₃ | PM _{2.5} | T | AP | RH | WS | P | HV |
|-------------------|----------|-----------------|-----------------|------------------|----------|----------------|-------------------|----------|----------|----------|---------|---------|----|
| AQI | 1 | | | | | | | | | | | | |
| SO ₂ | 0.113** | 1 | | | | | | | | | | | |
| NO ₂ | 0.659** | 0.160** | 1 | | | | | | | | | | |
| PM ₁₀ | 0.985** | 0.151** | 0.665** | 1 | | | | | | | | | |
| CO | 0.771** | 0.136** | 0.520** | 0.741** | 1 | | | | | | | | |
| O ₃ | -0.342** | 0.140** | -0.164** | -0.296** | -0.454** | 1 | | | | | | | |
| PM _{2.5} | 0.993** | 0.099** | 0.647** | 0.969** | 0.791** | -0.381** | 1 | | | | | | |
| T | -0.429** | 0.127** | -0.394** | -0.392** | -0.502** | 0.541** | -0.447** | 1 | | | | | |
| AP | 0.417** | -0.105** | 0.436** | 0.389** | 0.384** | -0.526** | 0.427** | -0.850** | 1 | | | | |
| RH | -0.132** | -0.167** | -0.107** | -0.198** | 0.036 | -0.481** | -0.083** | -0.366** | 0.277** | 1 | | | |
| WS | -0.352** | -0.100** | -0.382** | -0.344** | -0.306** | 0.440** | -0.364** | 0.106** | -0.265** | -0.167** | 1 | | |
| P | -0.414** | 0.039 | -0.286** | -0.439** | -0.314** | 0.215** | -0.403** | 0.264** | -0.300** | 0.144** | 0.240** | 1 | |
| HV | -0.549** | -0.035 | -0.393** | -0.484** | -0.601** | 0.446** | -0.585** | 0.604** | -0.440** | -0.473** | 0.177** | 0.116** | 1 |

**means that the correlation is significant on the confidence level (double tests) of 0.01