

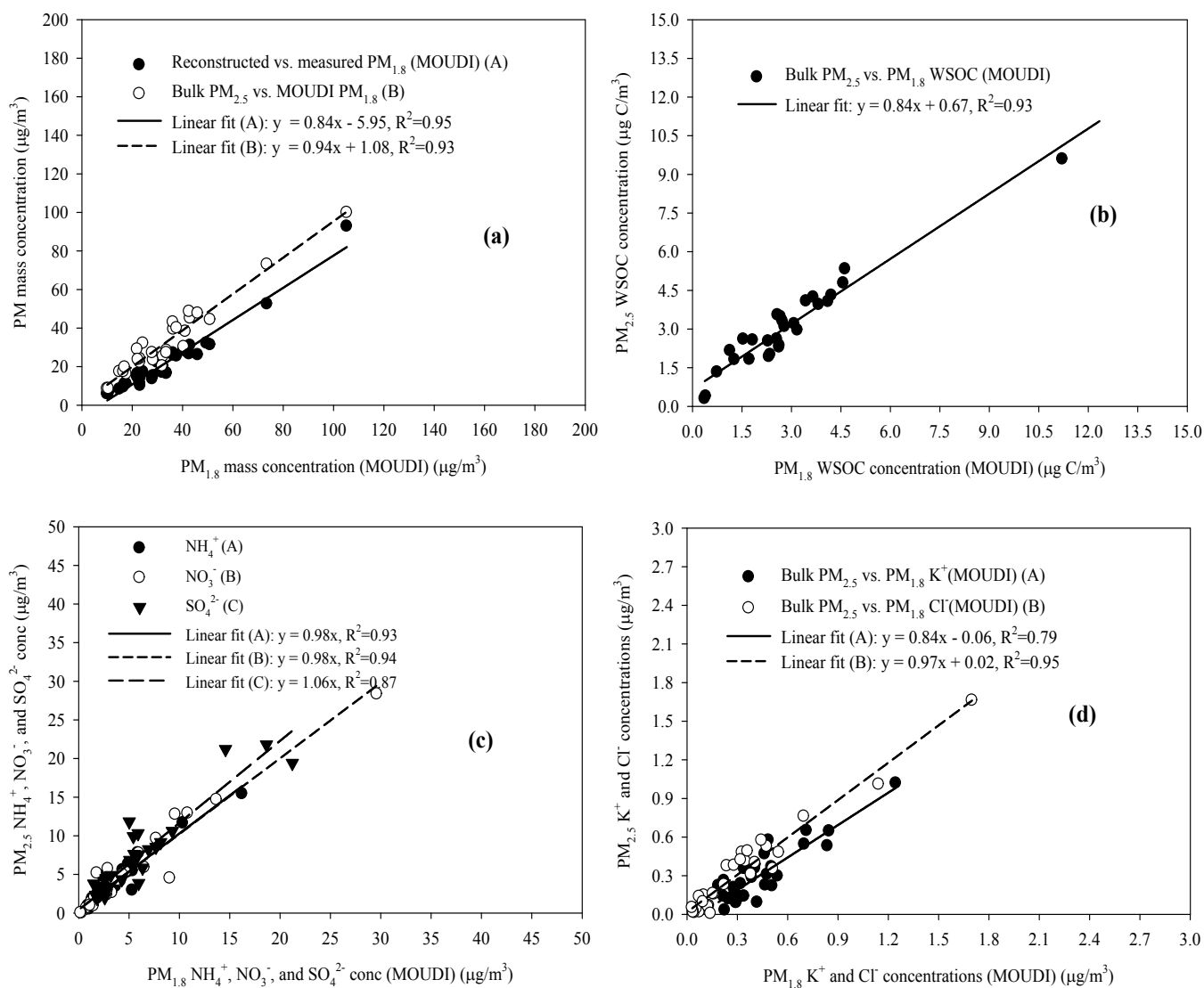
## Supporting Material

### **Source contributions and potential source regions of size-resolved water-soluble organic carbon measured at an urban site over one year**

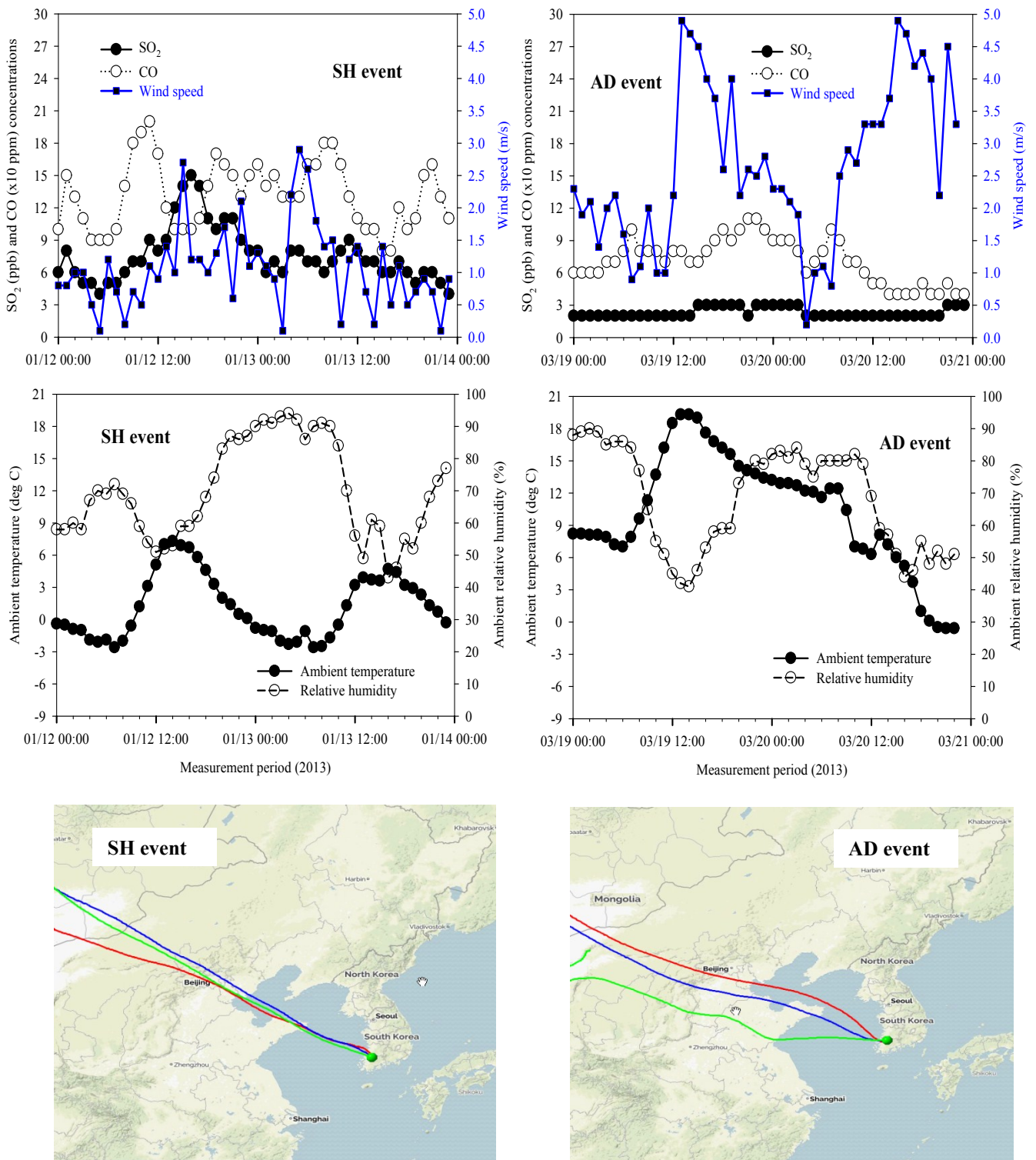
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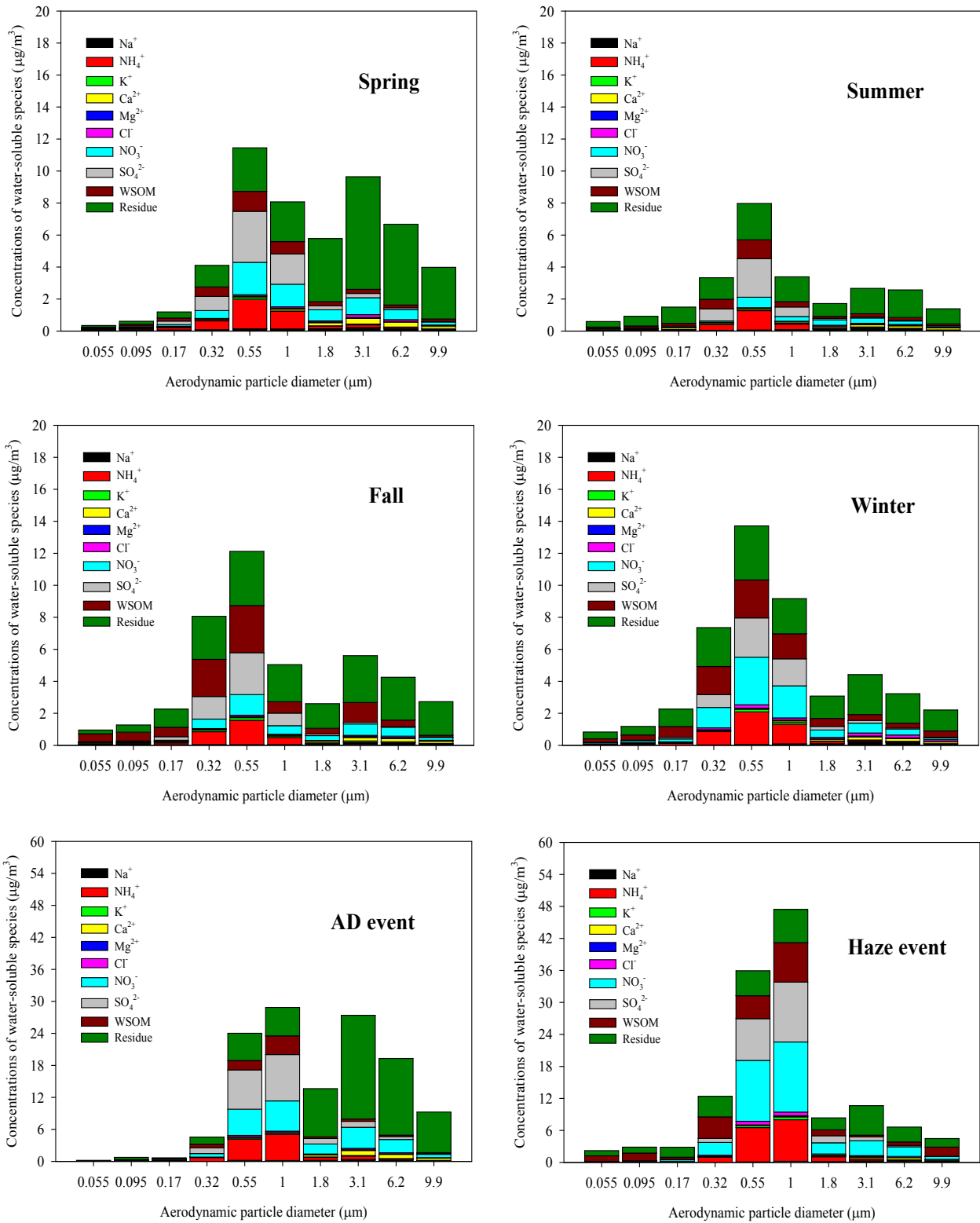
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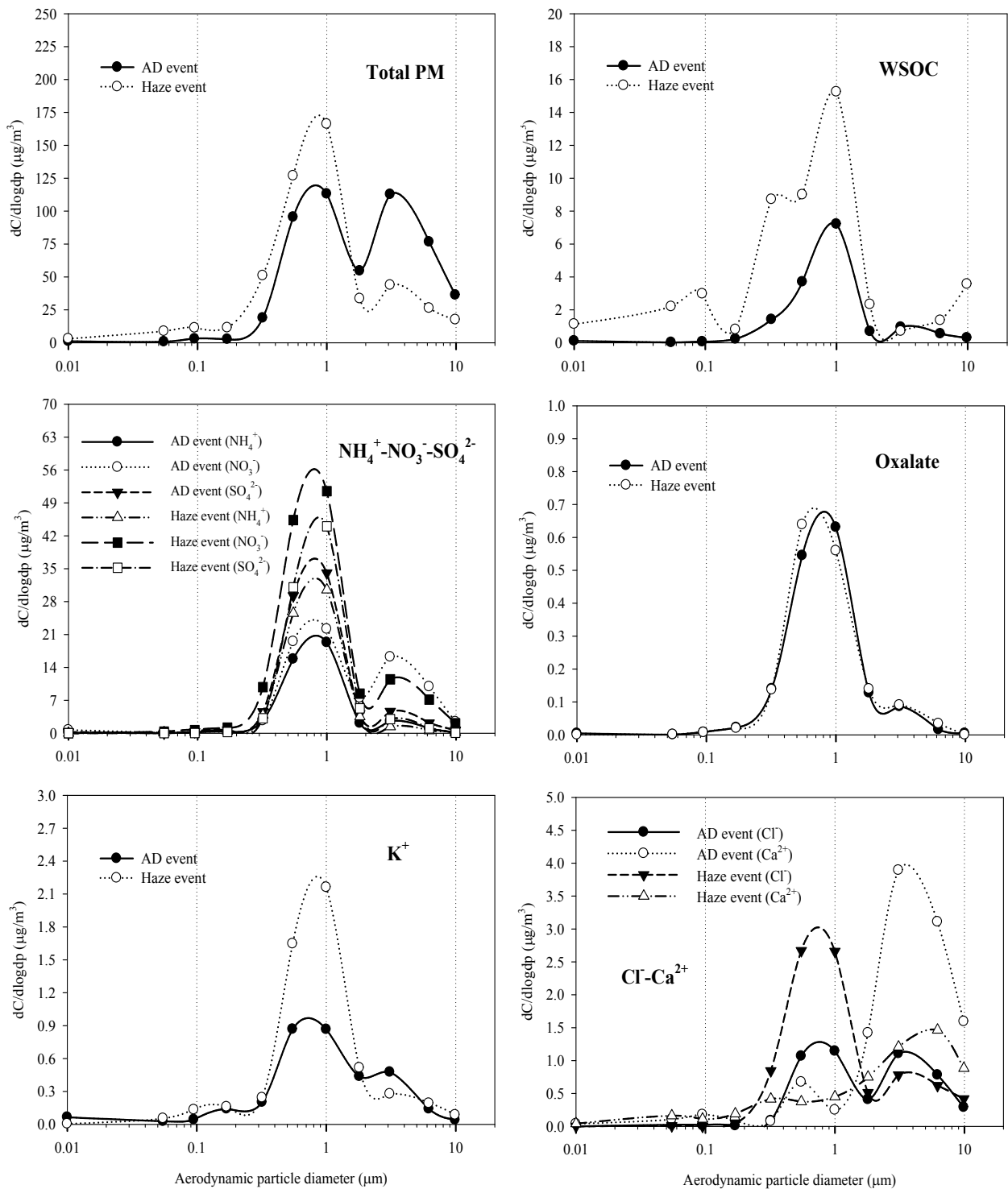
**Figure S1.** Comparison of MOUDI PM<sub>1.8</sub> and bulk PM<sub>2.5</sub> concentrations; (a) mass concentration, (b) WSOC, (c) NH<sub>4</sub><sup>+</sup>, NO<sub>3</sub><sup>-</sup>, and SO<sub>4</sub><sup>2-</sup>, and (d) K<sup>+</sup> and Cl<sup>-</sup>.



**Figure S2.** Temporal profiles of  $\text{SO}_2$ , CO, wind speed, ambient temperature, relative humidity, and transport pathway of air masses during two events. Red, blue, and light green colors in trajectories indicate altitudes of 500 m, 1000 m, and 1500 m AGL, respectively.



**Figure S3.** Size-resolved composition of water-soluble species over seasons and two events



**Figure S4.** Size distribution of PM and its water-soluble species for AD and haze events