Supplementary Information

Aerosol Composition, Sources and Processes during Wintertime in Beijing, China

Y. L. Sun[1], Z. F. Wang[1], P. Q. Fu[1], T. Yang[1], Q. Jiang[1,2], H. B. Dong[1], J. Li[1], J. J. Jia[1]

[1]*State Key Laboratory of Atmospheric Boundary Layer Physics and Atmospheric Chemistry, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing 100029, China*

[2]*Nanjing University of Information Science & Technology, Nanjing 210044, China*

Correspondence to Y. L. Sun (sunyele@mail.iap.ac.cn)

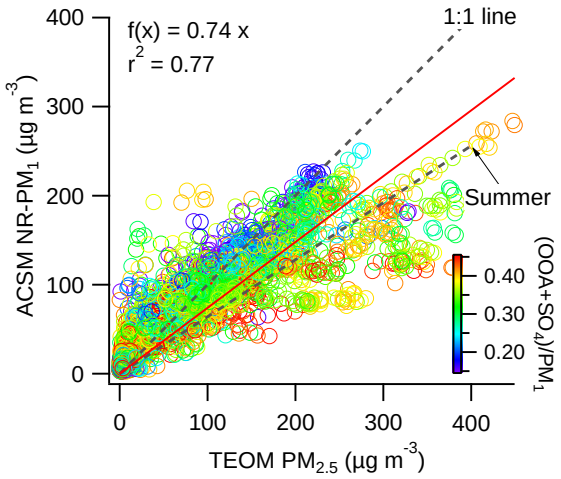

Figure S1. Correlation between NR-PM_1 (= Org+SO_4+NO_3+NH_4+Cl) measured by the ACSM and $PM_{2.5}$ by the TEOM. The plot is color coded with the mass fraction of OOA + SO_4 in NR-PM_1. In addition, the regression slope of 0.64 in summer is also shown.

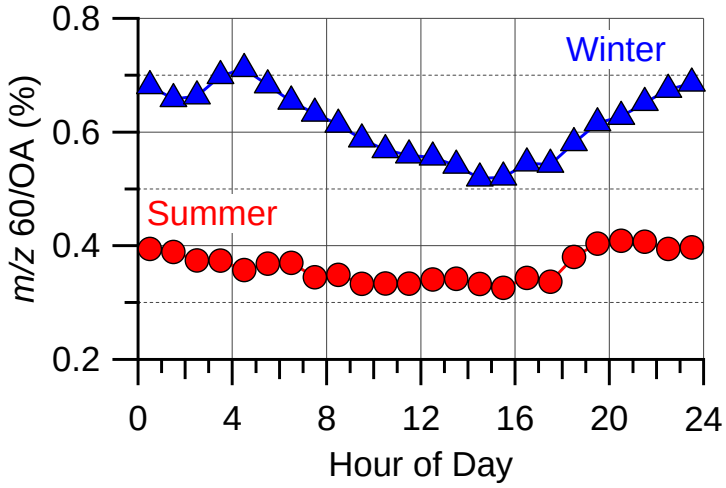

Figure S2. Diurnal profile of fraction of *m/z* 60, i.e., *m/z* 60/OA, in summer and winter, respectively.

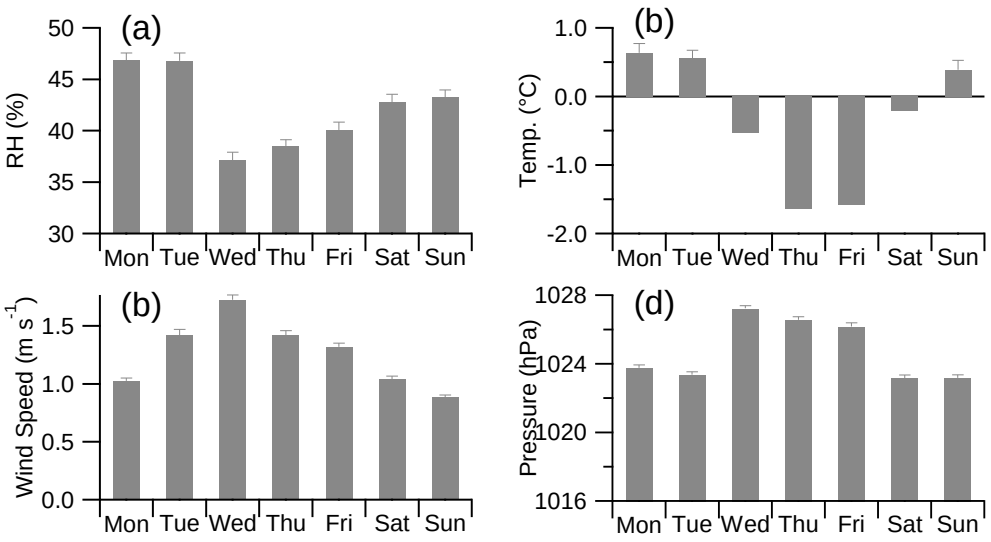

Figure S3. Day-of-week variations of meteorology including relative humidity (RH), temperature (Temp.), wind speed, and pressure for the entire study.

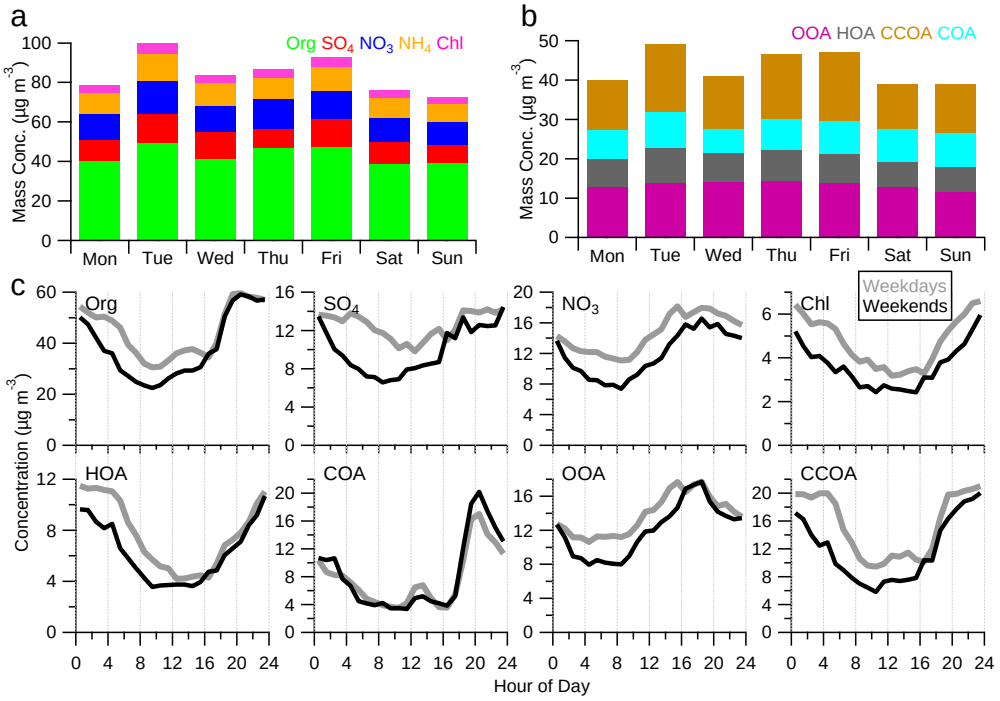

Figure S4. Day-of-week variations of (a) NR-PM_1 composition and (b) OA composition after excluding the clean periods marked in Fig. 1. (c) shows a comparison of the diurnal variations of NR-PM_1 species and OA components between weekdays and weekends