

Supplement for

Contrasting sources and processes of particulate species in haze days with low and high relative humidity in wintertime Beijing

Ru-Jin Huang¹, Yao He¹, Jing Duan¹, Yongjie Li², Qi Chen³, Yan Zheng³, Yang Chen⁴, Weiwei Hu⁵, Chunshui Lin¹, Haiyan Ni¹, Wenting Dai¹, Junji Cao¹, Yunfei Wu⁶, Renjian Zhang⁶, Wei Xu^{1,7}, Jurgita Ovadnevaite⁷, Darius Ceburnis⁷, Thorsten Hoffmann⁸, Colin, D. O'Dowd⁷

¹State Key Laboratory of Loess and Quaternary Geology, Center for Excellence in Quaternary Science and Global Change, and Key Laboratory of Aerosol Chemistry and Physics, Institute of Earth and Environment, Chinese Academy of Sciences, Xi'an 710061, China

²Department of Civil and Environmental Engineering, Faculty of Science and Technology, University of Macau, Taipa, Macau, China

³State Key Joint Laboratory of Environmental Simulation and Pollution Control, College of Environmental Sciences and Engineering, Peking University, Beijing 100871, China

⁴Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing 400714, China

⁵State Key Laboratory of Organic Geochemistry and Guangdong Key Laboratory of Environmental Protection and Resources Utilization, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou 510640, China

⁶RCE-TEA, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing 100029, China

⁷School of Physics and Centre for Climate and Air Pollution Studies, Ryan Institute, National University of Ireland Galway, University Road, Galway H91CF50, Ireland

⁸Institute of Inorganic and Analytical Chemistry, Johannes Gutenberg University of Mainz, Duesbergweg 10-14, 55128 Mainz, Germany

Correspondence to: Ru-Jin Huang (rujin.huang@ieecas.cn)

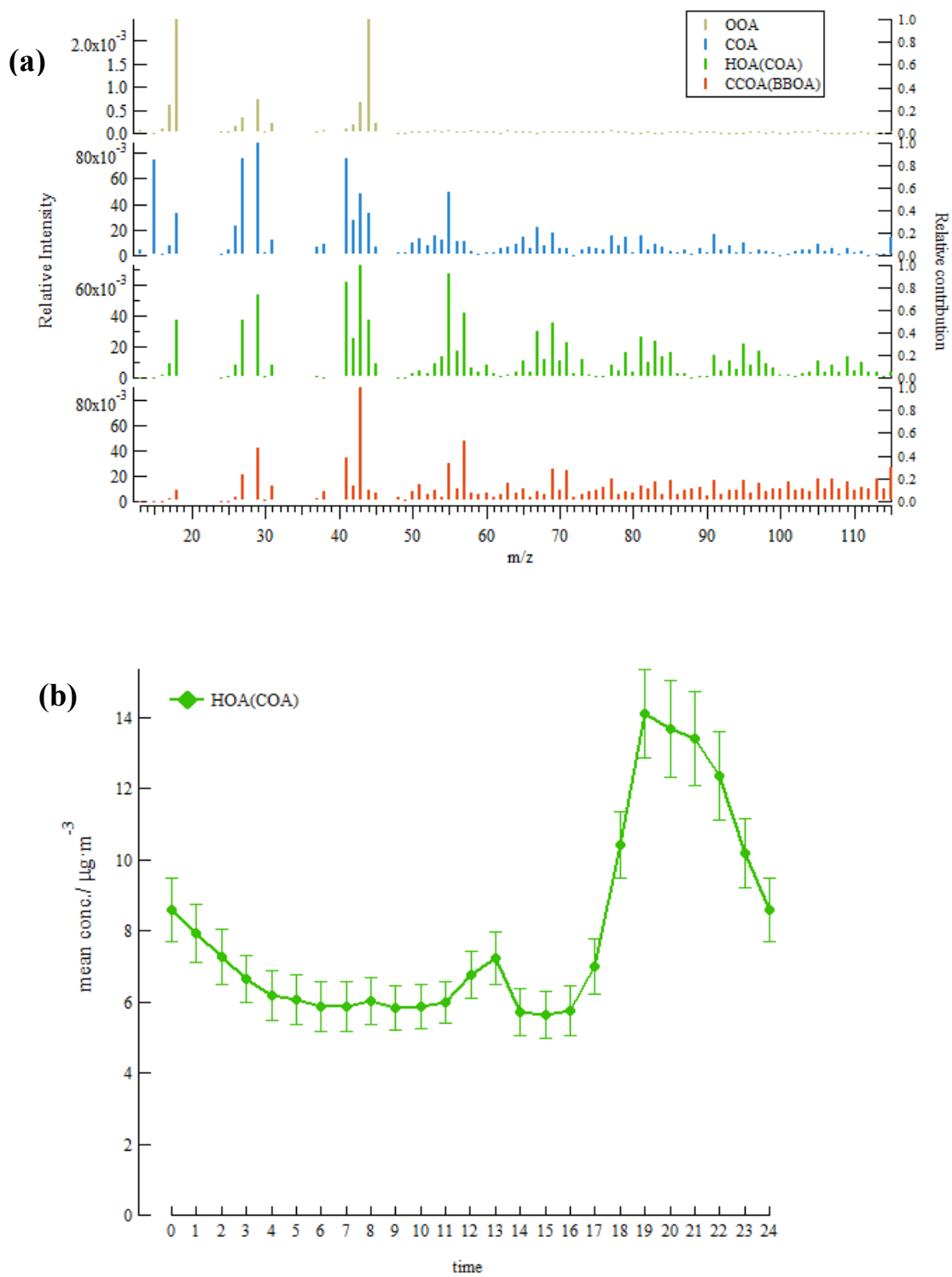


Figure S1. The mass spectra (a) and HOA (COA) diurnal variation (b) for 4-factor solution.

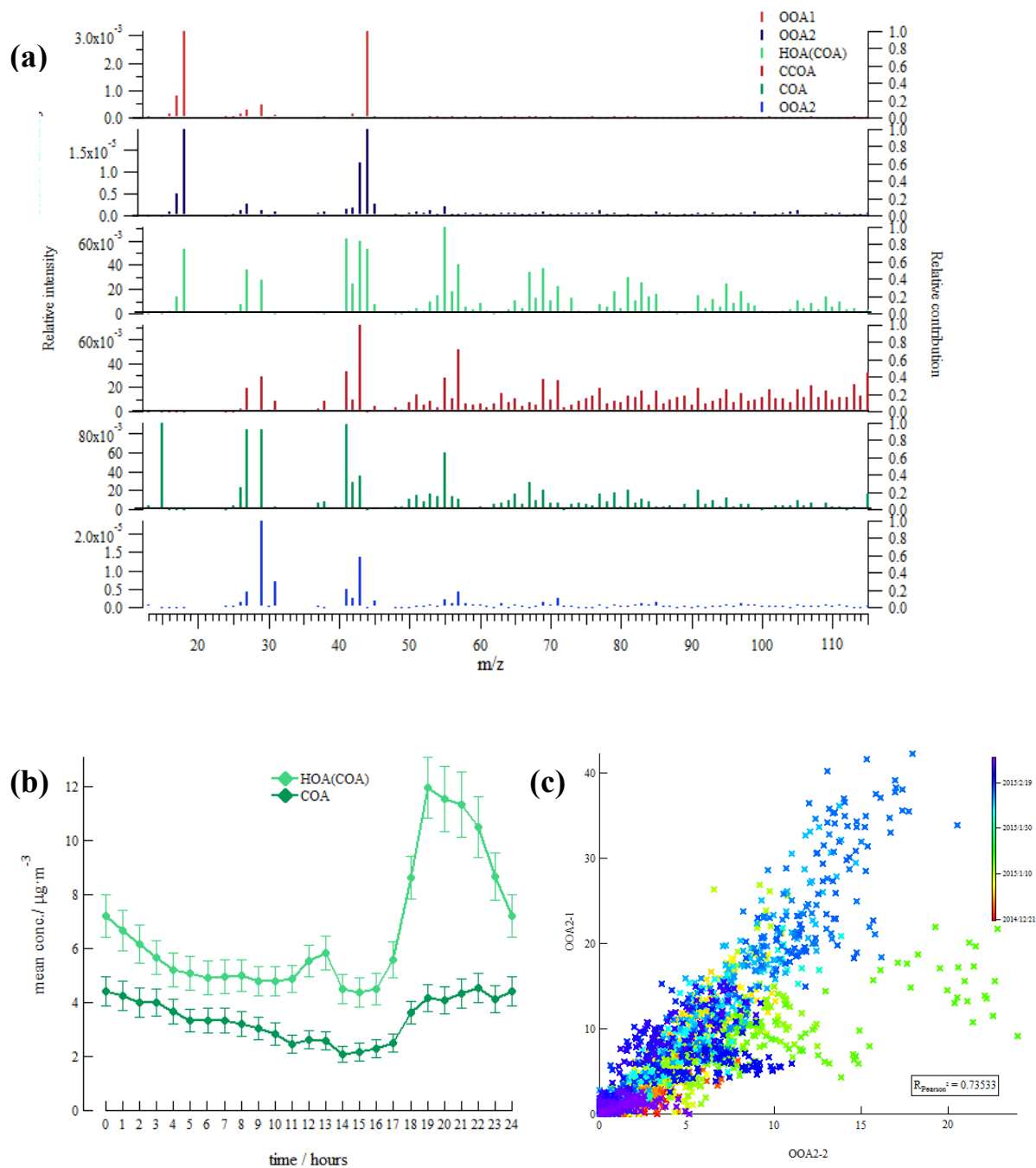


Figure S2. The mass spectra (a), HOA and COA diurnal variations (b), and scatter plot of two OOA2 factors for 6-factor solution.

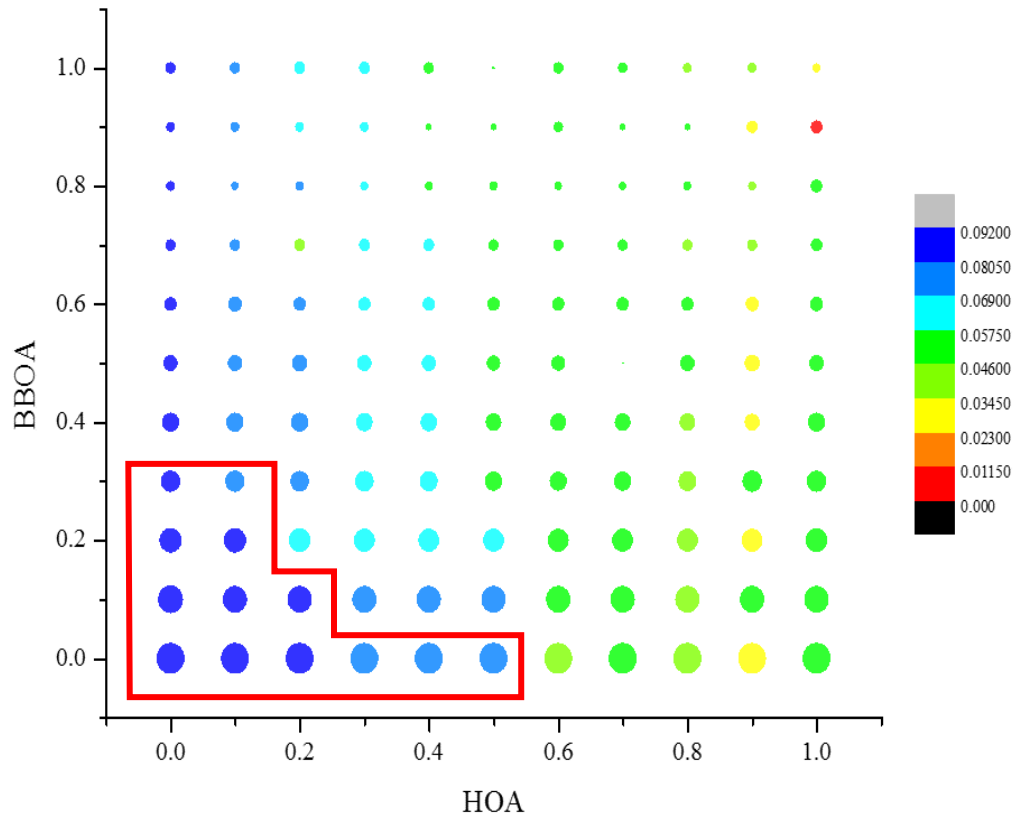


Figure S3. f_{60} of HOA (a, color coded) and f_{57} of BBOA (b, dot size).

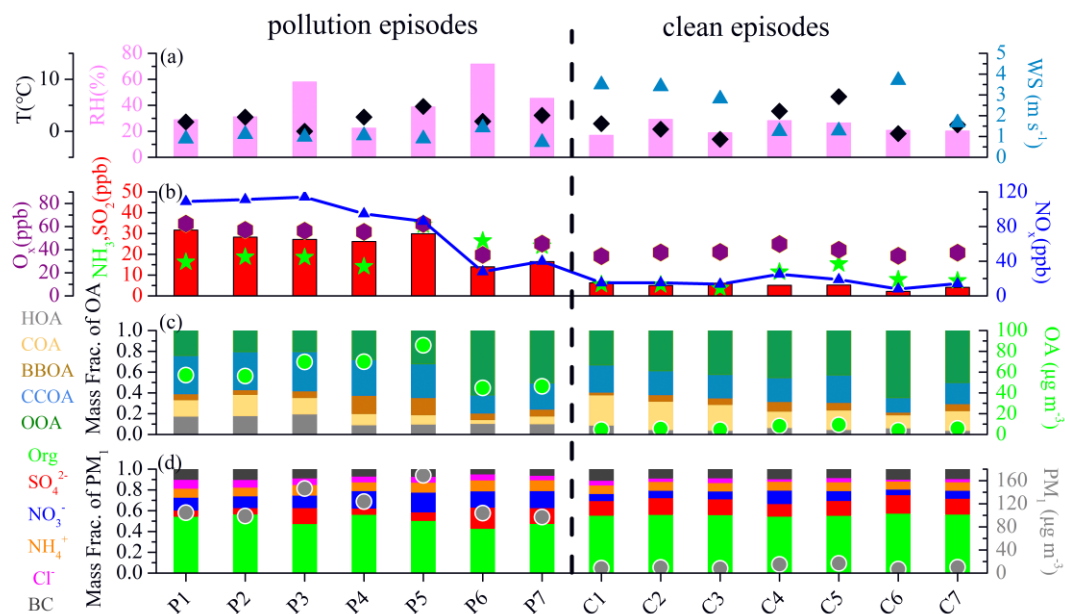


Figure S4. The meteorological parameters (wind speed (WS), temperature (T), and relative humidity (RH)), gas pollutants (O_x , SO_2 , NH_3 , and NO_x), the fraction contributions and mass concentrations of OA factors and PM_{10} components during the pollution (P1-P7) and clean (C1-C7) episodes.