Supplementary material for:

Six-year source apportionment of submicron organic aerosols from near-continuous measurements at SIRTA (Paris area, France)

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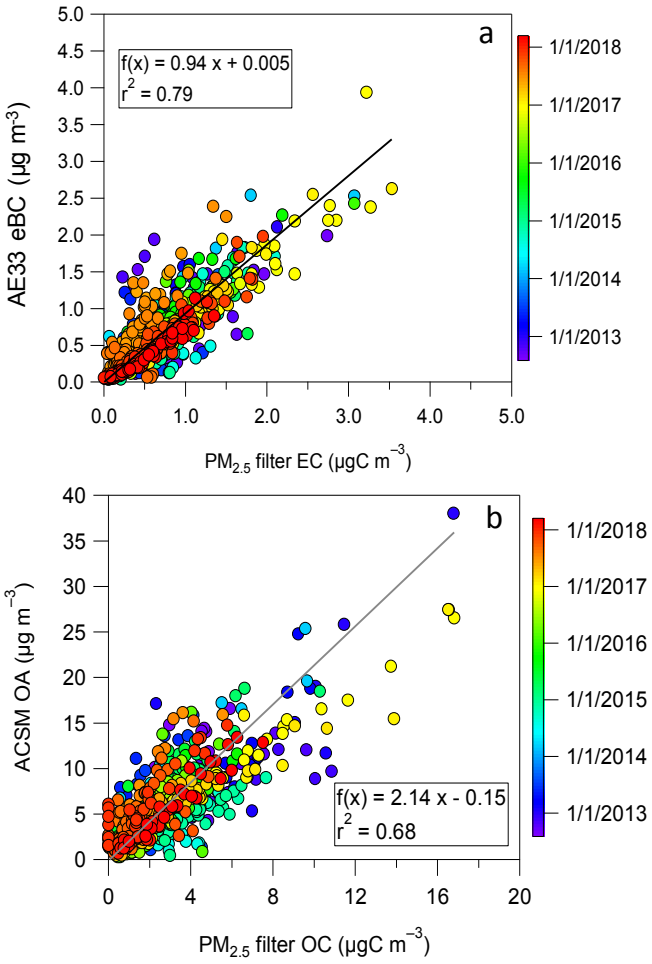

Figure S1 Comparison between online (AE33 and ACSM) and offline ($PM_{2.5}$ daily filters) carbonaceous aerosol measurements: (a) eBC (AE33) vs. EC, and (b) OA (ACSM) vs. OC.

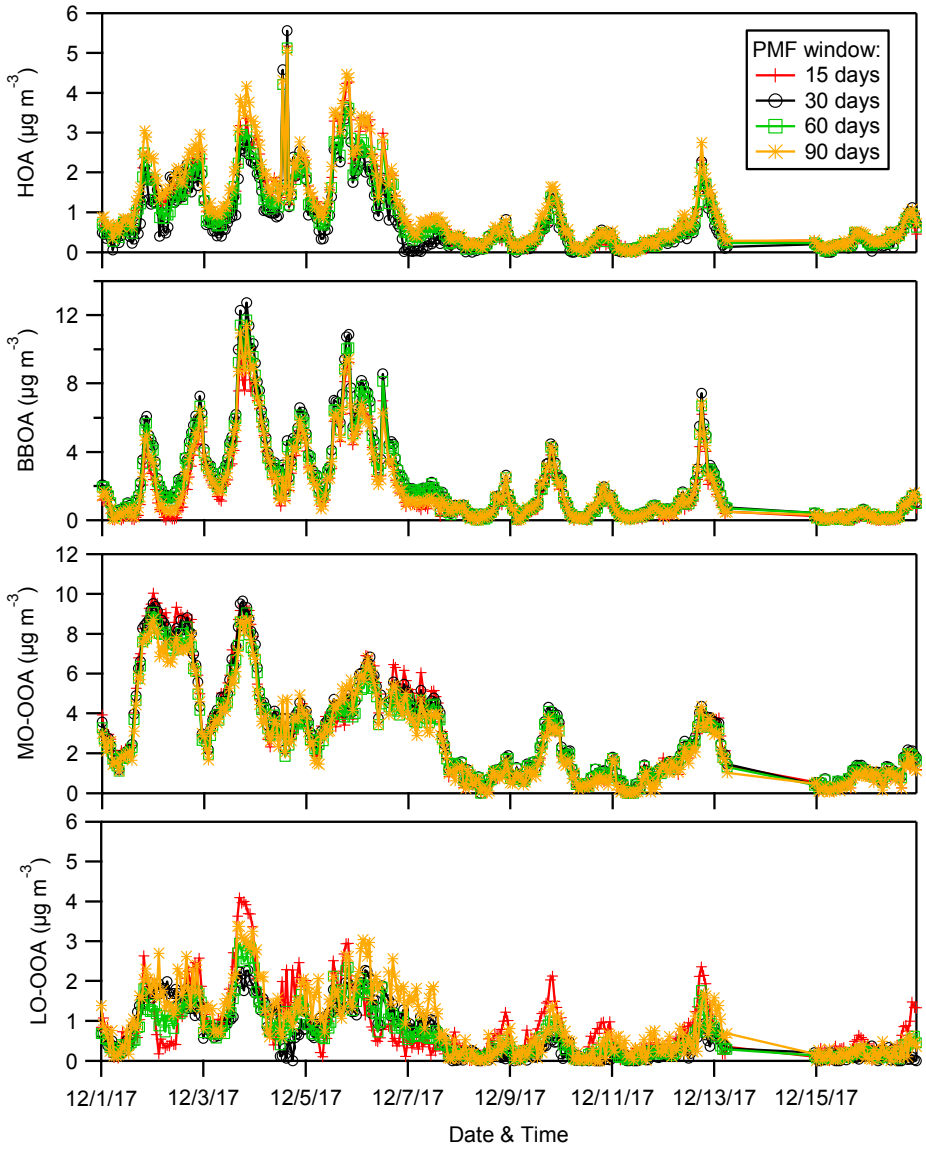

Figure S2. Comparisons of mass concentrations of four OA factors resolved from different PMF windows runs with setting of 15, 30, 60 and 90 days, respectively.

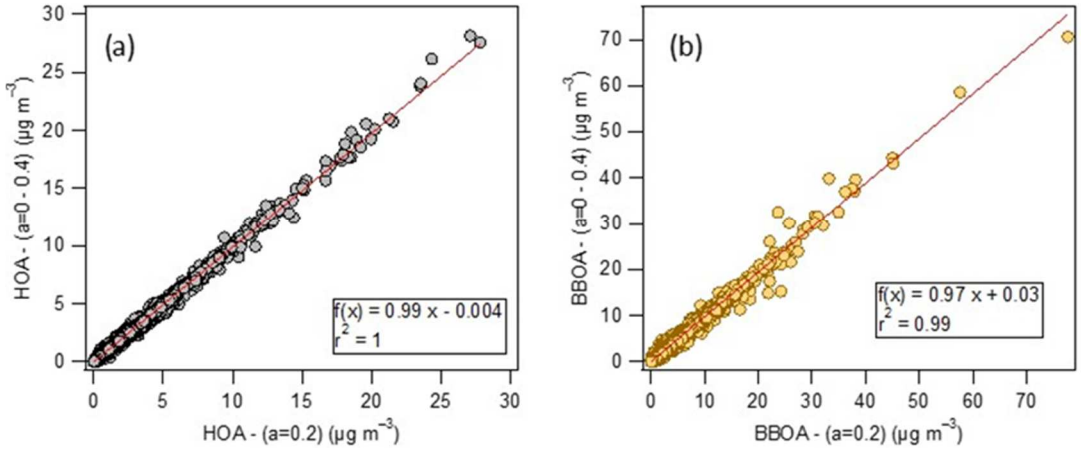

Figure S3. Comparisons of ME-2 runs between two different a-value settings, including a varying range (a=0 - 0.4) and a specific a-value (a=0.2).

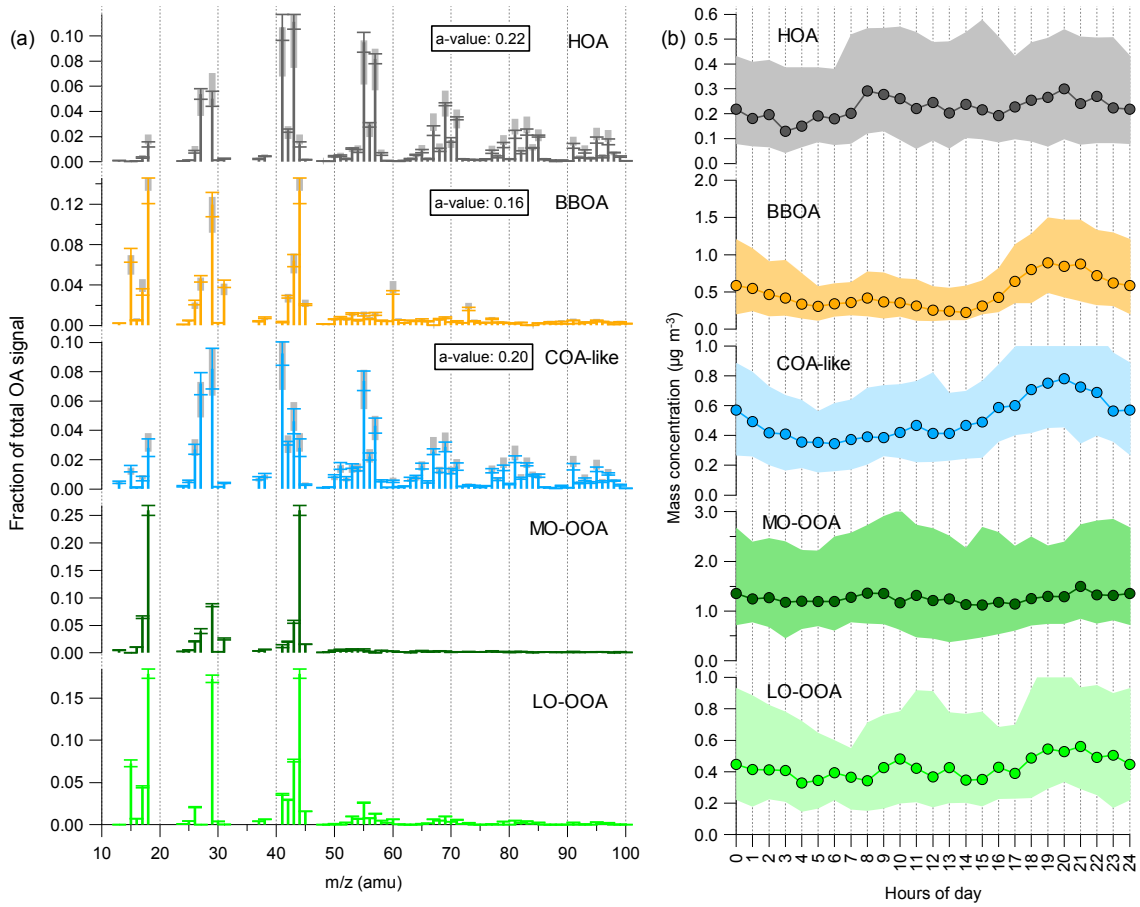

Figure S4. Mass spectra (a) and diel variations (b) of OA factors obtained from the 5-factor solution ME-2 runs for the winter 2017-2018 period. In (a), gray bars describe the range of *a*-value changes for constrained factors (i.e., HOA BBOA and COA-like) during ME-2 runs with the random mode. Errors in each plot present 1 standard deviation. Stick lines indicate average values over all selected ME-2 runs. Averages a-value for constrained factors during the ME-2 runs is also shown**.** In (b), shadow areas present the 25th and 75th percentiles respectively. Solid circle lines are median values.

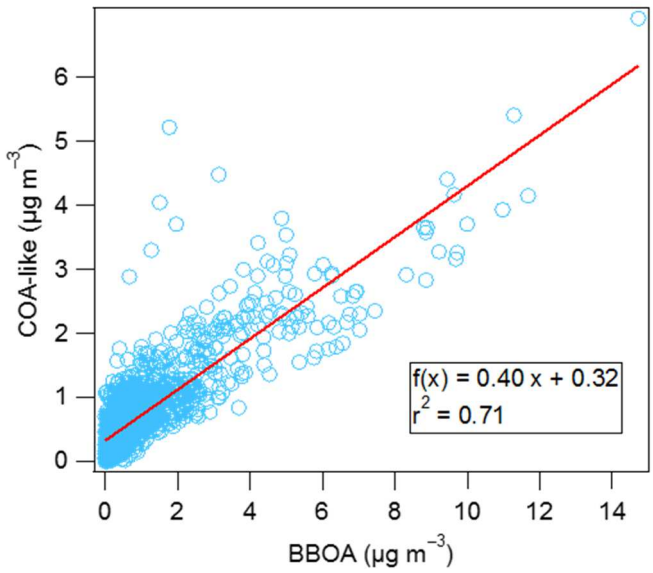

Figure S5. Relationships of constrained COA-like versus BBOA from the 5-factor solution

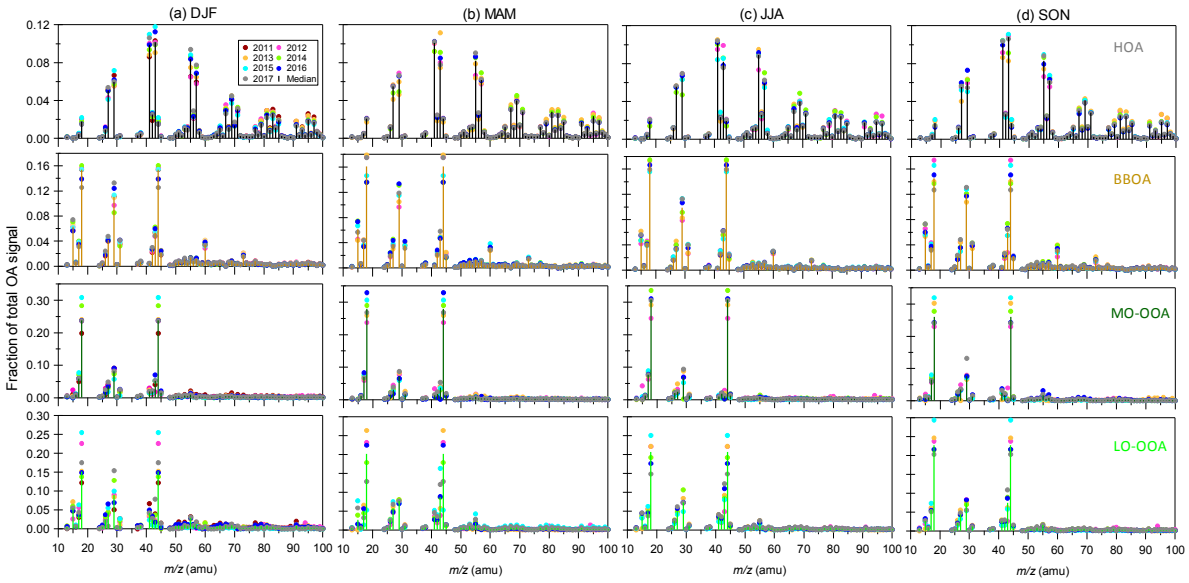

Figure S6. Seasonal mass spectral profiles of the four PMF OA factors determined from winter 2011-2012 to winter 2017-2018.

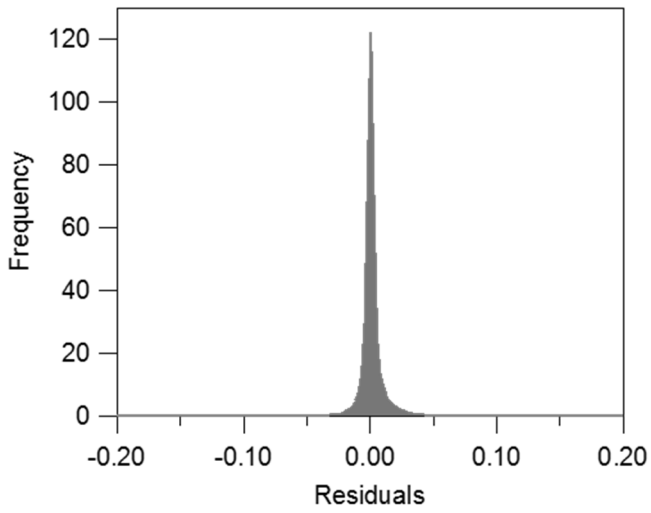

Figure S7. Residual distributions of PMF OA analysis using ME-2 approach (random mode with *a*-value 0 – 0.4) for the entire investigated period.

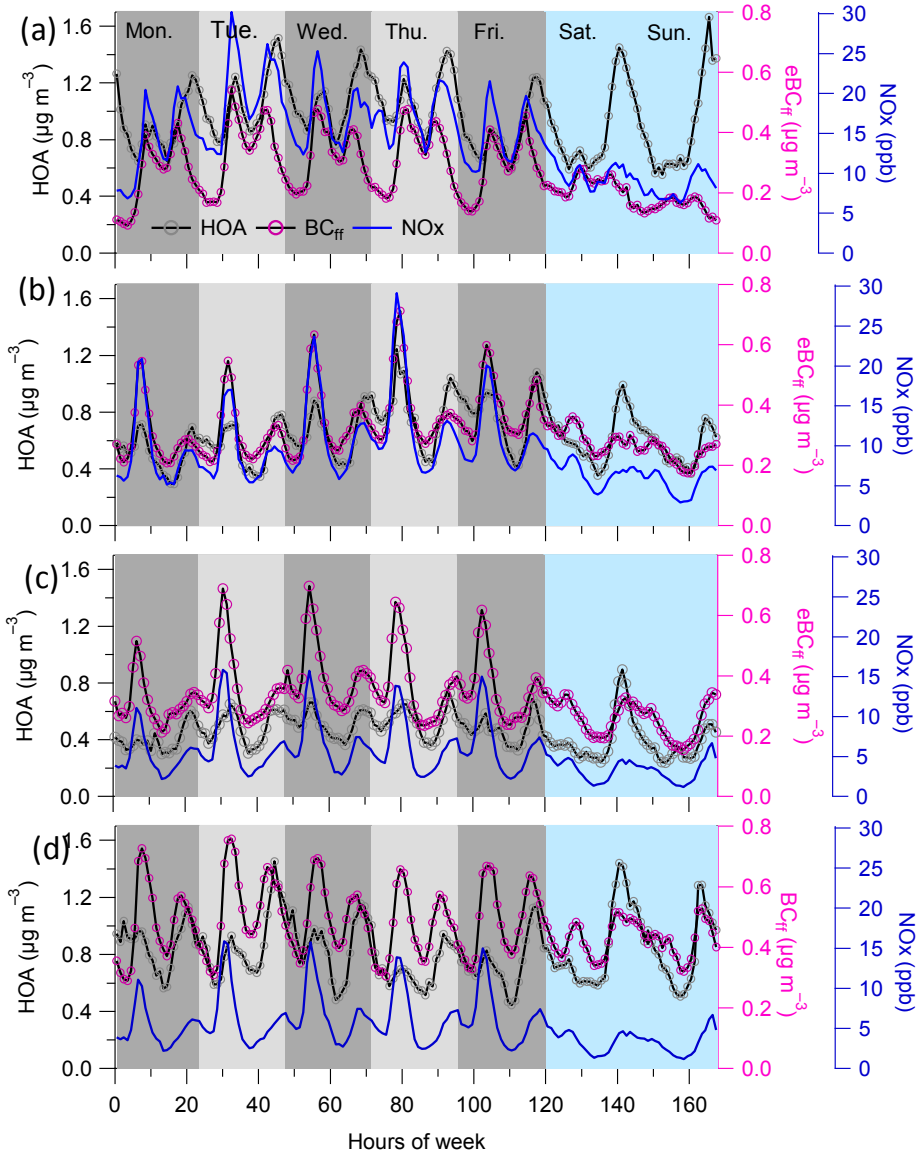

Figure S8. Seasonal weekly diel cycles obtained for HOA along with external tracers (eBC_{ff} and NO_x) in (a) winter, (b) spring, (c) summer, and (d) fall.

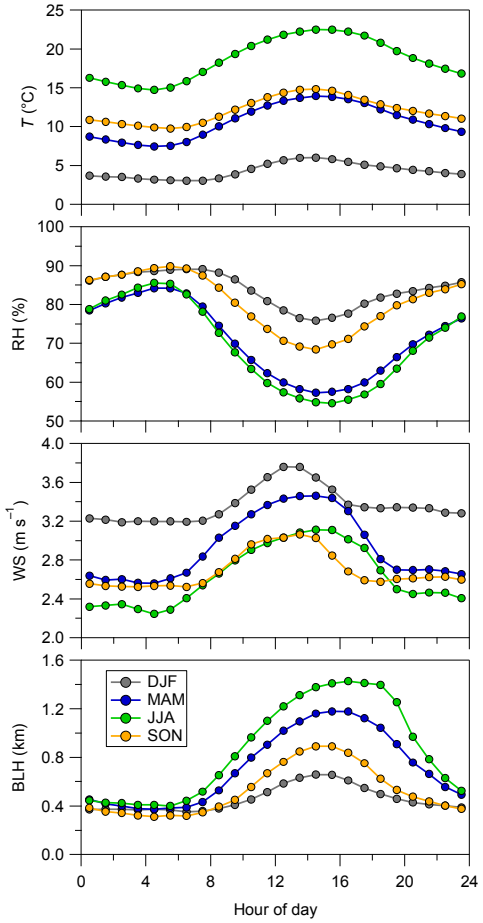

Figure S9. Diel cycles of meteorological parameters (including T, RH, WS, and BLH) in each season, i.e., winter (DJF), spring (MAM), summer (JJA), and fall (SON).

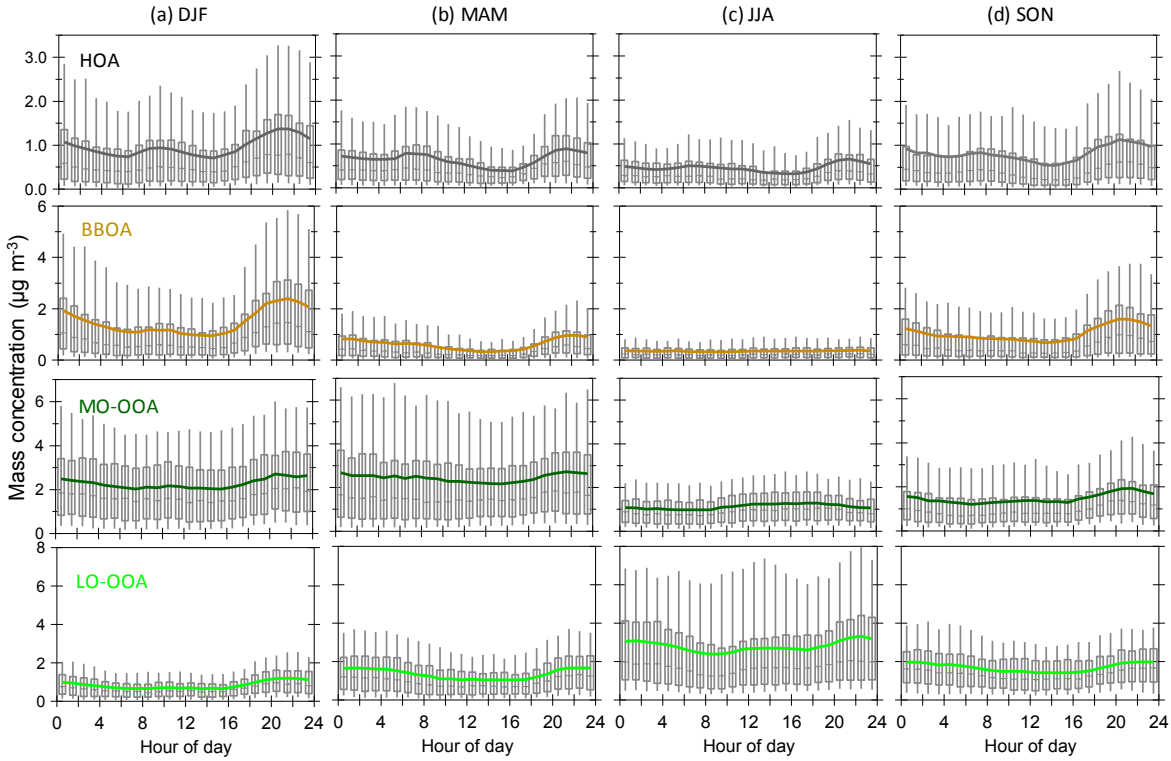

Figure S10. Average diel variations of the four PMF OA factors in each season.

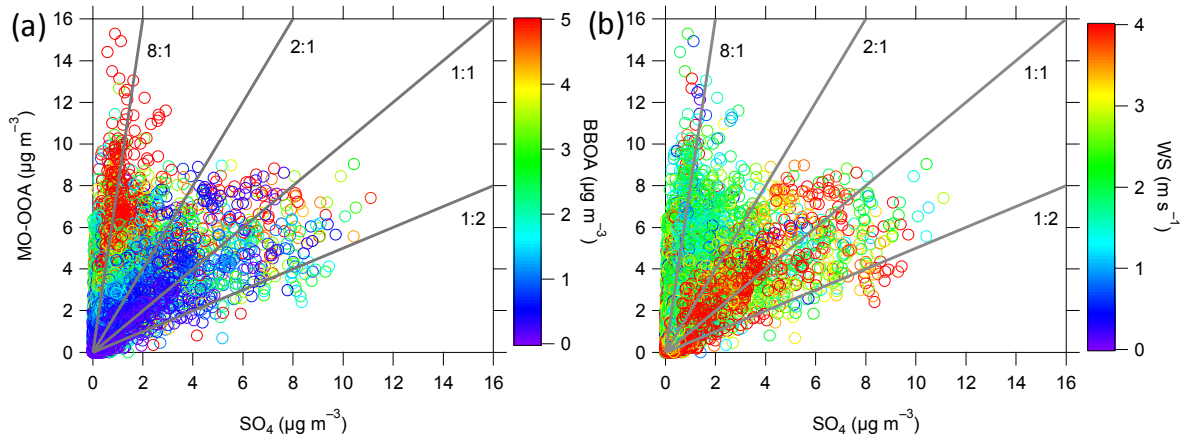

Figure S11. Relationship between MO-OOA and sulfate (SO_4) during wintertime, where the data points are colored by (a) mass concentration of BBOA; and (b) wind speed (WS).

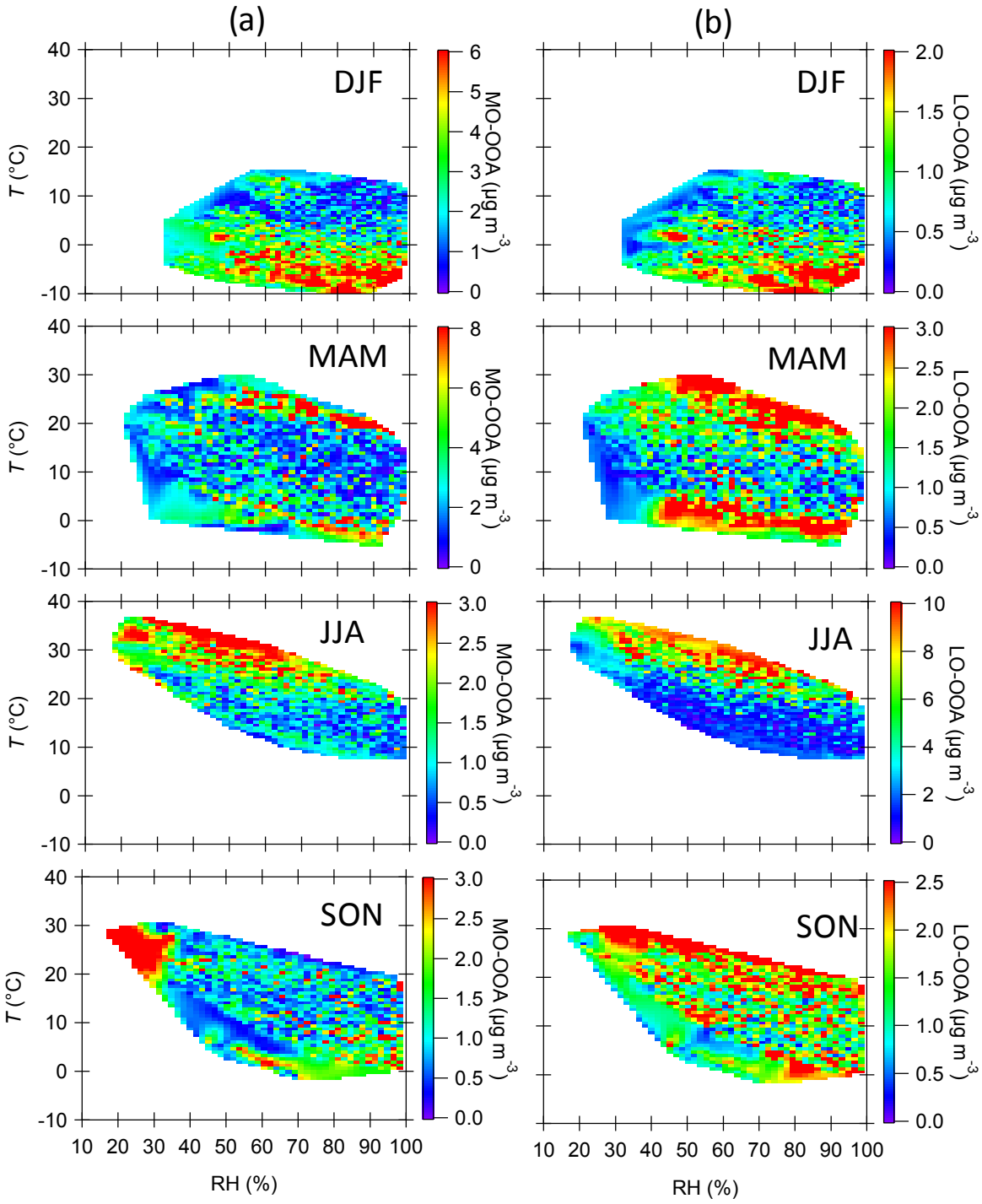

Figure S12. Temperature (*T*) and relative humidity (RH) dependence variations of the mass loadings of two OOA fractions.

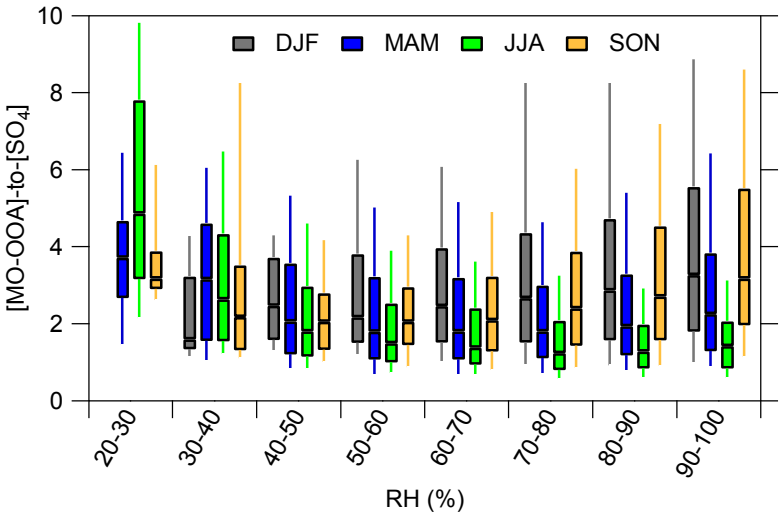

Figure S13. [MO-OOA]-to-[SO_4] ratio as a function of RH during each season.

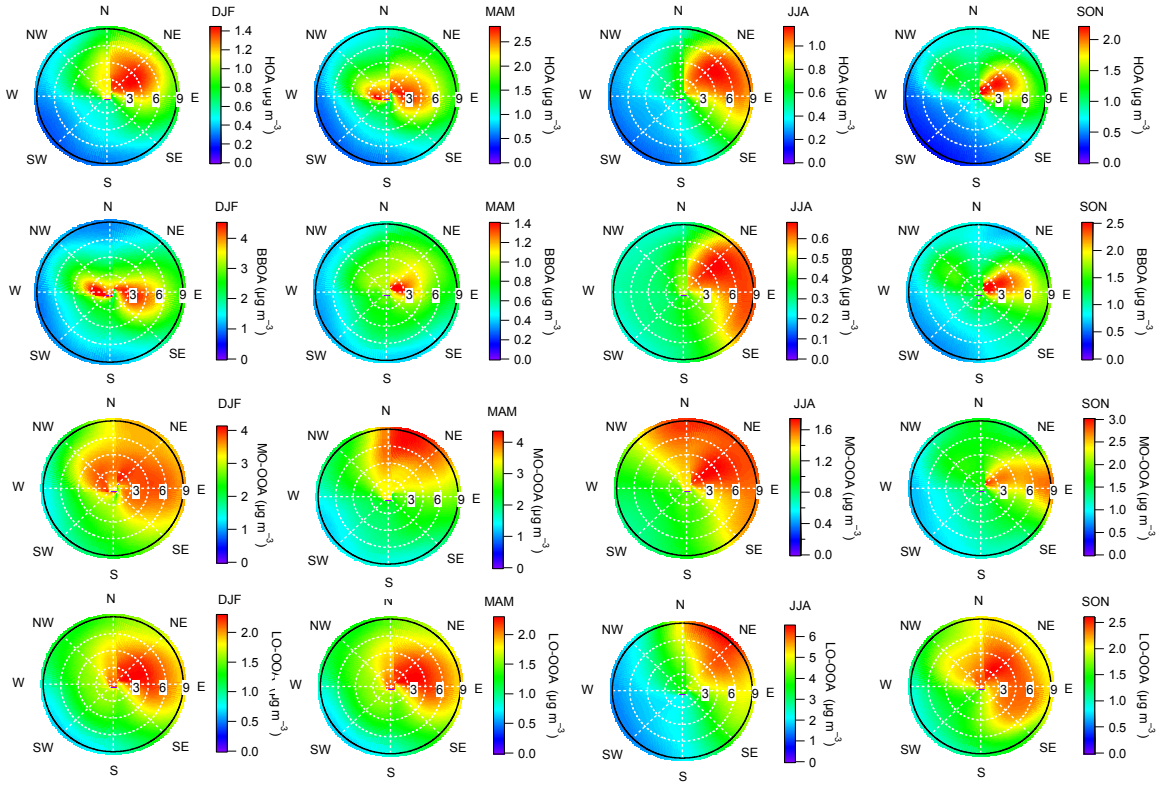

Figure S14. Wind-dependent analysis of OA factors during each season, i.e., winter (DJF), spring (MAM), summer (JJA), and fall (SON).