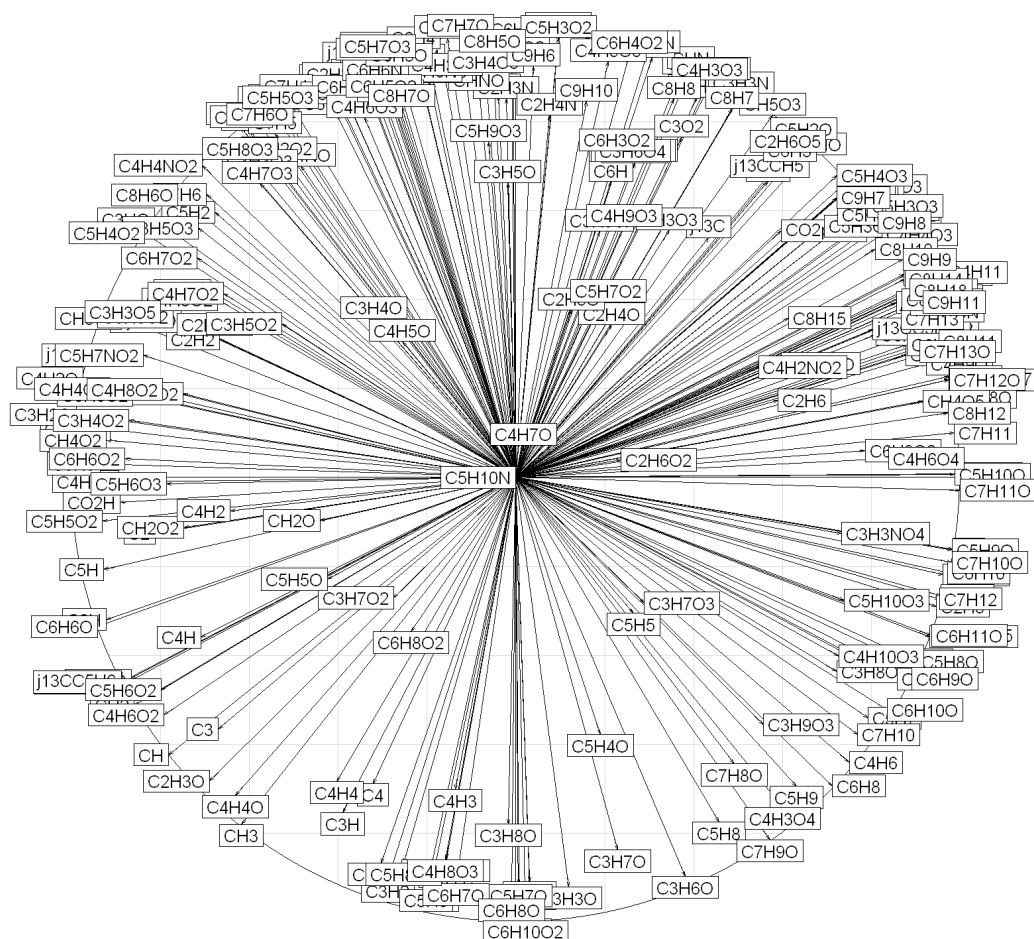
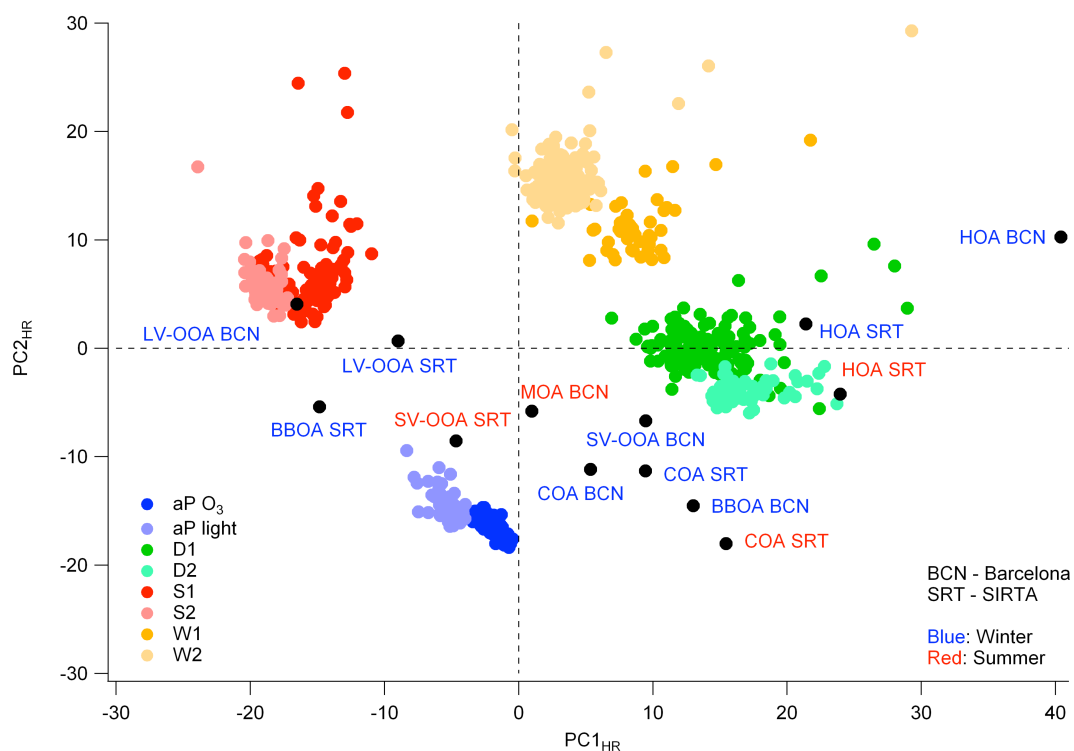


## Supplementary information for manuscript

### A new method to discriminate secondary organic aerosols from different sources using high-resolution aerosol mass spectra



**Figure SI-1.** Loading plot (PC2<sub>HR</sub> vs. PC1<sub>HR</sub>) of the PCA model on the averaged high resolution spectra. The labels show the 337 ions that were fit in the  $m/z$  range 12 - 120. Ions with a weak contribution are found in the center of the graph (e.g. C<sub>5</sub>H<sub>10</sub>N, C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>), ions with a strong contribution are found at the edge. The direction indicates to what direction the ion contributes on PC1 and PC2.



**Figure SI-2.** Projection of the SOA and POA spectra retrieved in Barcelona (BCN) and Sirta (SRT) in summer (red text) and winter (blue text). The primary sources are marked as HOA: hydrocarbon-like OA, BBOA: biomass burning OA, COA: cooking OA and MOA: marine OA. A detailed description of the Barcelona and Sirta data can be found in Mohr et al., 2011 and Crippa et al., 2011 respectively.