**Supporting Information**

**High-Resolution Mass Spectrometry and Molecular Characterization of Aqueous Photochemistry Products of Common Types of Secondary Organic Aerosols**

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**Figure S1:** Reconstructed mass spectra for all the unphotolyzed O₃ SOA samples (before photolysis) recorded in this work. The x-axis corresponds to the molecular weight of the neutral SOA compounds.

- **MYR/O₃**
- **LIM/O₃**
- **HUM/O₃**
- **BPIN/O₃**
- **APIN/O₃**

**Relative Intensity**

**Molecular Weight (Da)**
Figure S2. Reconstructed mass spectra for all the unphotolyzed NO$_x$ SOA samples (before photolysis) recorded in this work. The x-axis corresponds to the molecular weight of the neutral SOA compounds.
Figures S3. Multiple panels below show the mass spectra of all the SOA solutions before (black) and after (green) 1 h of photolysis. The difference (red, after - before) is representative of the change that occurred during photolysis the time.