Supplement of

Chemistry of α -pinene and naphthalene oxidation products generated in a Potential Aerosol Mass (PAM) chamber as measured by acetate chemical ionization mass spectrometry

P. S. Chhabra et al.

Correspondence to: P. S. Chhabra (puneet@aerodyne.com)

Supp. Fig. 1. Mass defect plot of α -ozonolysis CIMS spectra (Expt. 1). The text of each marker represents the chemical formula of the identified CIMS anion. The size of each marker represents the mass fraction of that ion in the spectra. The color of each ion is scaled to indicate how much of its signal is subtracted and given to its base ion (molecular formula less C₂H₄O₂). A gray color indicates less than 1% of the signal is moved.

Supp. Fig. 2. Mass defect plot of naphthalene photooxidation CIMS spectra (Expt. 12). The text of each marker represents the chemical formula of the identified CIMS anion. The size of each marker represents the mass fraction of that ion in the spectra. The color of each ion is scaled to indicate how much of its signal is subtracted and given to its base ion (chemical formula less C₂H₄O₂). A gray color indicates less than 1% of the signal is moved.

1. pinonic acid
2. hydroxy pinonic acid
3. norpinonic acid
4. pinic acid
5. norpinic acid
6. 3-hydroxy-2,2-dimethylglutaric acid
7. 3-hydroxyglutaric acid
8. 3-methyl-1,2,3-butanetricarboxylic acid
9. terebic acid

Supp. Fig. 3. Van Krevelen plot of tracer acids shown in Figure 3, Panel A. Tracers are numbered, corresponding to their names shown below. Tracers identified by Yu et al. (1999) are in black and tracers identified by Claeys et al. (2013) are in red.

1. cinnamic acid
2. dihydroxy cinnamic acid
3. benzoic acid
4. hydroxy benzoic acid
5. formyl cinnamic acid
6. carboxycinnamic acid
7. phthaldehydic acid
8. phthalic acid
9. hydroxy phthalic acid
10. dihydroxy phthalic acid

Supp. Fig. 4. Van Krevelen plot of tracer acids shown in Figure 3, Panel A (Kautzman et al., 2009). Tracers are numbered, corresponding to their names shown below.

Supp. Fig. 5. Estimated Log c^* as a function of carbon number and O/C for two different naphthalene photooxidation experiments. Panels A and C represent extracted gas and particle spectra of Expt. 12 respectively, and Panels B and D represent the same of Expt. 15. Marker size is proportional to the fraction of mass. The factor and arrow in red represents the relative mass scale between gas and particle spectra. For example $\times 20$ between panels A and C indicate that markers of equal area represent 20 times more mass in the gas-phase spectrum.

References

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