



Supplement of

Phase state of secondary organic aerosol in chamber photo-oxidation of mixed precursors

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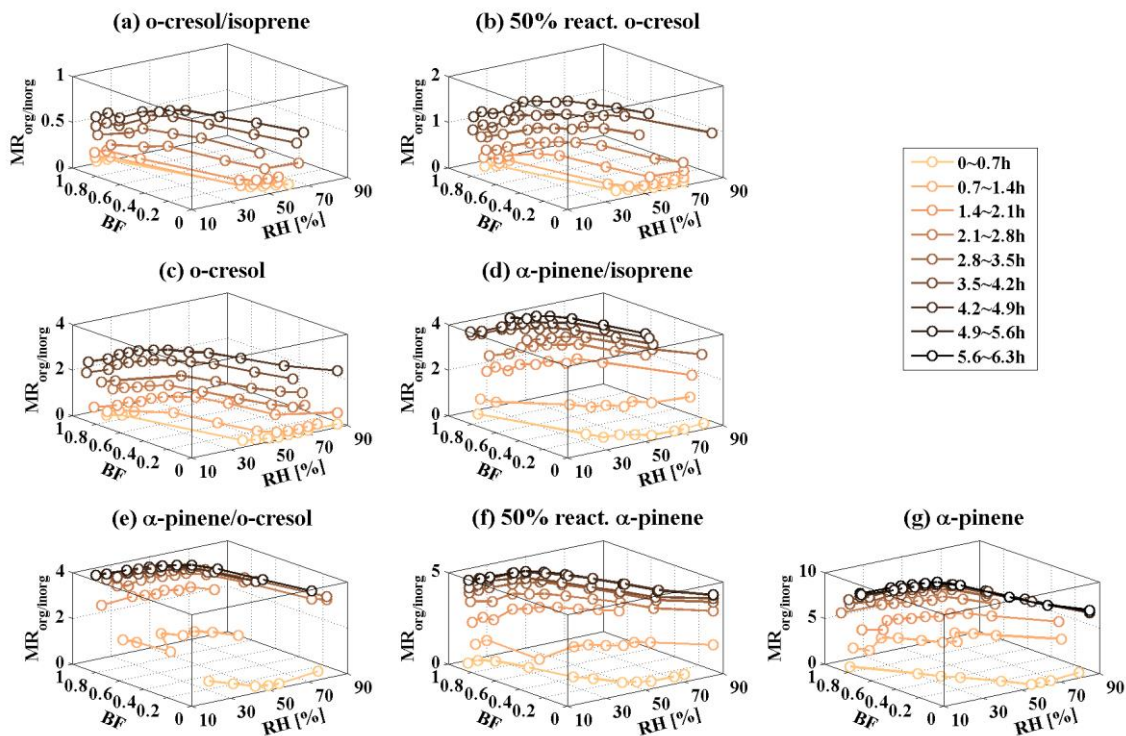


Figure S1. 3-D plot shows the measured rebounding curves changes as a function of organic-inorganic mass ratio ($MR_{org/inorg}$, z-axis) from all investigated VOC systems photochemistry on deliquescent ammonium sulphate seed.

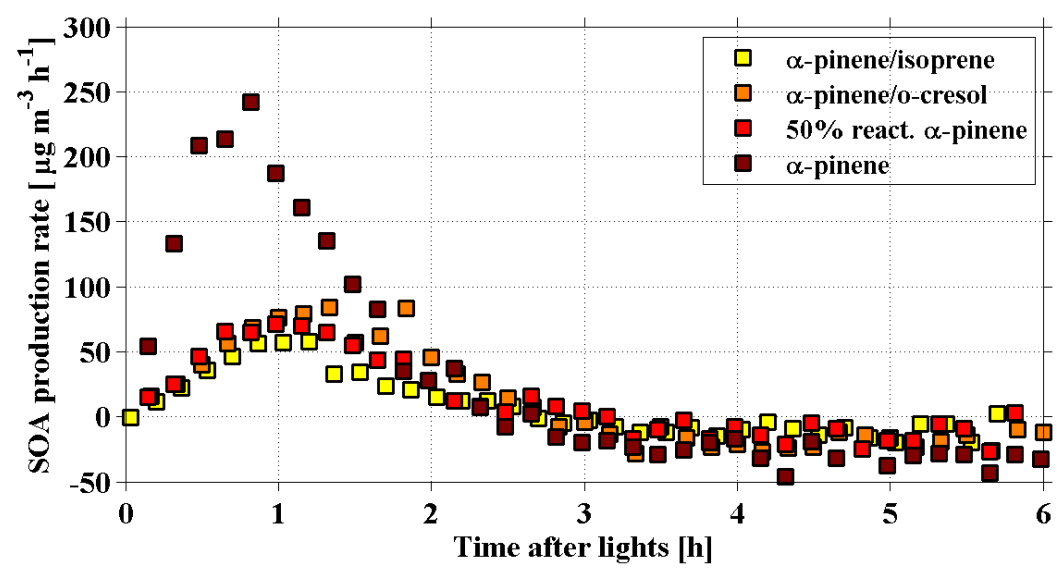
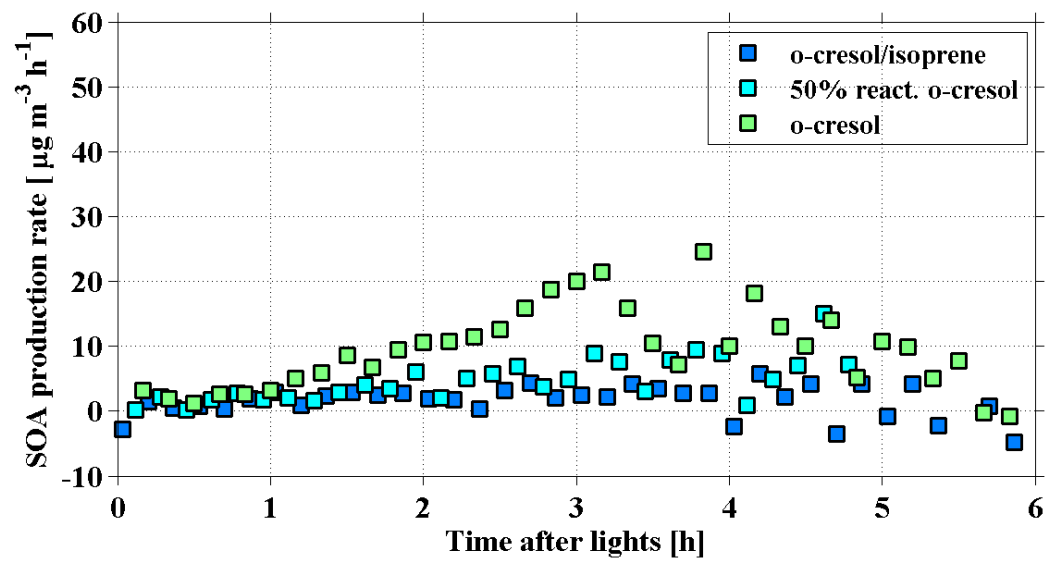


Figure S2. Time series of SOA production rate in various VOC systems photochemistry on ammonium sulphate seed.

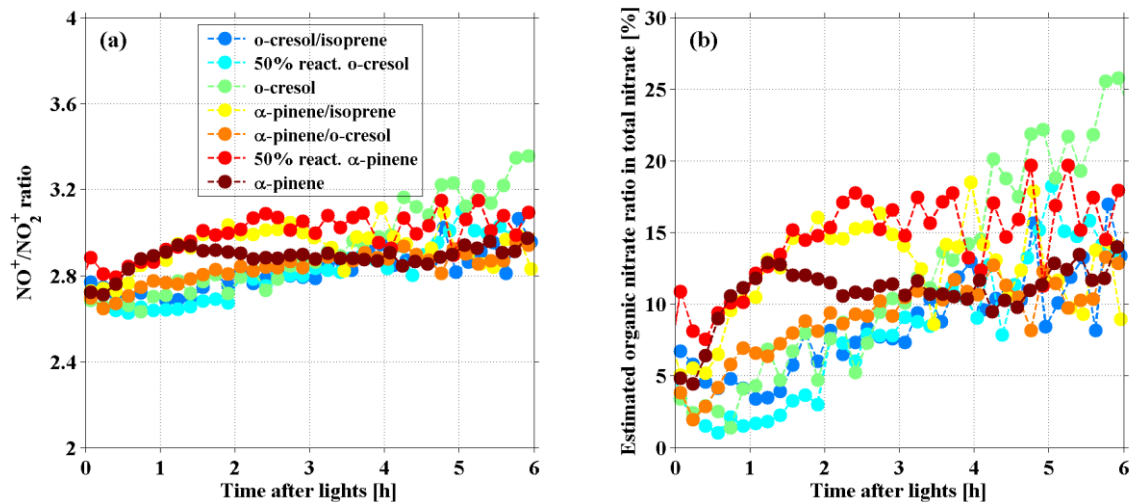


Figure S3. Time series of (a) $\text{NO}^+/\text{NO}_2^+$ ratio and (b) estimated organic nitrate fraction in the total nitrate signal in various VOC systems photochemistry on ammonium sulphate seed. Here, the organic nitrate fraction in the total nitrate signal was estimated based on $\text{NO}^+/\text{NO}_2^+$ ratio method (Bruns et al., 2010; Fry et al., 2009).

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References:

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- 35 Fry, J. L., Kiendler-Scharr, A., Rollins, A. W., Wooldridge, P. J., Brown, S. S., Fuchs, H., Dubé, W., Mensah, A., dal Maso, M., Tillmann, R., Dorn, H. P., Brauers, T., and Cohen, R. C.: Organic nitrate and secondary organic aerosol yield from NO_3 oxidation of β -pinene evaluated using a gas-phase kinetics/aerosol partitioning model, *Atmos. Chem. Phys.*, 9, 1431-1449, 10.5194/acp-9-1431-2009, 2009.