

Interactive
Comment

Interactive comment on “Relative humidity-dependent viscosities of isoprene-derived secondary organic material and atmospheric implications for isoprene-dominant forests” by M. Song et al.

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Comments to the manuscript by Song et al. on the viscosity of isoprene-derived secondary organic material

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Interactive Discussion

Discussion Paper



There are a limited number of studies investigating the viscosity of secondary organic materials (SOM) and their RH and temperature dependence. This paper by Song et al. presents a nice work on the viscosity of isoprene-derived secondary organic materials as a function of RH at 295 K. In Section 4.2 and Figure 8, the authors also discussed and compared the viscosity of isoprene SOM to alpha-pinene SOM from previous studies. Through this comment, I would like to draw the attention to our recent work reporting a method to derive and estimate the viscosity of SOM as a function of atmospheric relevant temperature and RH (Wang et al., JPCA 2014). In that study, we applied a set of parameters to derive the viscosity of alpha-pinene SOM and the estimated viscosity are consistent with the experimental determined values by Renbaum-Wolff et al. (2013).

References:

Renbaum-Wolff, L.; Grayson, J. W.; Bateman, A. P.; Kuwata, M.; Sellier, M.; Murray, B. J.; Shilling, J. E.; Martin, S. T.; Bertram, A. K., Viscosity of α -pinene secondary organic material and implications for particle growth and reactivity. Proc. Natl. Acad. Sci. USA 2013, 110, (20), 8014-8019.

Wang, B.; O'Brien, R. E.; Kelly, S. T.; Shilling, J. E.; Moffet, R. C.; Gilles, M. K.; Laskin, A., Reactivity of Liquid and Semisolid Secondary Organic Carbon with Chloride and Nitrate in Atmospheric Aerosols. The Journal of Physical Chemistry A 2014. DOI: 10.1021/jp510336q.

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