

Interactive comment on “Organic aerosol in the summertime Southeastern United States: Components and their link to volatility distribution, oxidation state and hygroscopicity” by Evangelia Kostenidou et al.

Anonymous Referee #1

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Organic aerosol (OA) is an important aerosol component in the atmosphere; One key to fully understanding OA is to constrain the volatility and hygroscopicity of OA. This manuscript used the measurements by a thermodenuder coupled with a HR-AMS to analyze OA source, volatility distribution, oxidation state and hygroscopicity. This study gives the OA community some insights on OA volatility and hygroscopicity, and pointed out the caveat of deriving the volatility of OA only from its mass fraction remaining (MFR). These findings are worth publishing for sure. I don't have many comments but hope the authors can explain why they only used 3-bin C* distribution (rather than

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5 bins, 10 bins, for example) to fit the measured thermograms. 3 bins cannot cover the whole range of real OA volatilities. Also, can the authors describe more on the approach of Karnezi et al. (2014), that was used to calculate the best fit of MFR and the uncertainties of OA volatility distributions? I find it hard to understand this method based on the current form.

Minor comments

Line 63. Please give the full name of PMF.

Line 87 and 88. The sentence reads odd.

Line 130. Can the authors briefly describes these two papers?

Line 265. Why no measurements above 100 celsius?

Line 367 and 368. This sentence reads odd too.

Line 380. “Evaporation coefficient”, do you mean “accommodation coefficient”?

Line 399. It should be Figure S6, rather than S7.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2017-1010>, 2017.

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