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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Hygroscopic behavior of atmospherically relevant water-soluble carboxylic salts and their influence on the water uptake of ammonium sulfate" *by* Z. J. Wu et al.

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This is a very straightforward and easy-to-follow paper measuring the GF of some organic salts using HTDMA, in my opinion, it merits publication in ACP, yet I have a few comments:

(1)Can the authors explain more that in what extent, that those organic salts probably present in the particle, instead of organic acids?

(2)P7696, L5: "The effect of organic compounds on the hygroscopicity of atmospherically relevant inorganic. . .. . ." Here, some thermodynamic works perhaps are worthy to mention. For example: Clegg et al., J. Phys. Chem. A., 5692-5717 and 5718-5734;

Marcolli and Krieger, J. Phys. Chem. A 2006, 110, 1881-1893; Topping et al., Atmos. Chem. Phys., 5, 1223–1242, 2005.

(3) P7695, L15: "Recently, the formation of organic salts such as aminium salts was proposed to be a. . .. . ." There are two recent papers on aminium salts, Ge et al., Atmos. Environ., 2011, 45, 524-546 and 561-577.

(4)Page 7698, Section 2.3. Can the authors discuss in more details about the measurement uncertainty based on the review by Swietlicki et al., Tellus B-Chem. Phys. Meteorol., 60, 432–469, 2008?

(5) Table 1: I think it will be better to add the number of datapoints for each salt (although there is a range for RH). Besides, the footnote of table 1 for GF seems to be wrong, should be: GF=A+B1$\times$RH(1)+ B2$\times$RH(2) + B3$\times$RH(3) + B4$\times$RH(4)

(6)Figure 1: is it possible for the authors provide plots of RH vs molality for these salts? Besides, it will be better if the authors can provide their measured data in the form of tables for each salt for possible use by other researchers in the future(perhaps in the supplement)

(7)P7699, L20: similar to the behavior reported by Pend and Chan (2001). Should be Peng and Chan (2001)

(8)P7699, L25: "The reason is unclear". Not any possible guess?

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 7693, 2011.