

Interactive comment on “Hygroscopic Properties of Aminium Sulphate Aerosols” by Grazia Rovelli et al.

Anonymous Referee #2

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This paper describes a new method of CK-EDB which can determine the hygroscopic properties of aerosol particles. In order to validate the method, the authors provided reproducible data for hygroscopic growth factor over the wide range of water activity. The results shown here agreed well with the results of previous studies that were performed with different methods. The manuscript presents in a clear, concise, and well-structured way, but I am afraid whether this paper is suitable for the scope of Atmos. Chem. Phys publication or not. Since the main focus of this work is to validate the new method, it would be better to be in a technical journal. If the authors would still like to publish the manuscript to ACP, the authors should address and implement my comments as below.

Major comments: The measurements of hygroscopic properties of six aminium sulfate aerosols over the water activity range of $0.5 \sim 1.0$ are in remarkably good agreement

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with the calculations and the previous studies. However, I do wonder to where/for what we could apply these results? To understand why this work is important in the area of atmospheric chemistry and physics, please describe atmospheric implications in more detail with a separate section.

Minor comments:

1. Page 4, line 23, Please add the RH and temperature values.
2. Page 6, line 13, Remove the comma after “mixed, ”
3. Page 6, line 18, Please state at what temperature the amine solution was kept in an ice bath.
4. Page 8, line 12, Cite only once (Qiu and Zhang, 2012)
5. I wonder why there is no data point for MMAS and TMAH from ~ 0.7 to ~ 0.8 aw in Fig. 3.

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-959, 2016.