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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Secondary organic aerosol formation in cloud droplets and aqueous particles (aqSOA): a review of laboratory, field and model studies" *by* B. Ervens et al.

Anonymous Referee #1

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Review of "Secondary organic aerosol formation in cloud droplets and aqueous particles (aqSOA): A review of laboratory, field and model studies" by Ervens et al.

This manuscript provides a review of the current knowledge of aqueous phase organic reactions and discusses the importance of these processes in influencing atmospheric aerosol particles. The topic should be of great interest to this journal's readers and will serve as a useful reference in future studies examining aqueous processes involving organics. The paper gives proper credit to a wide body of past work and it is written clearly. The Figures and Tables strengthen the manuscript. I recommend publication of this manuscript after minor changes are addressed below.

Pg 22306, Line 19: “OH concentrations”

Pg 22310, Line 9-11: This sentence does not read well. I recommend re-wording it.

Pg 22310, Line 18: “benzene, toluene, and xylene react”

Section 5.4: It would be worth mentioning hydroxymethanesulfonate as a tracer species... Dixon, R. W. and H. Aasen (1999). "Measurement of hydroxymethanesulfonate in atmospheric aerosols." Atmospheric Environment 33(13): 2023-2029.

Figure 1: The image quality should be improved.

Figure 3 Caption: In the third line place a comma before “etc” and place a period at the end of the first sentence. Fix punctuations and spacing in sentence beginning with “(a)”.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 22301, 2011.