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Interactive comment on "Evaluation of the atmospheric significance of multiphase reactions in atmospheric secondary organic aerosol formation" *by* A. Gelencsér and Z. Varga

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We have conducted size distribution measurements of simple dicarboxylic acids (DCA) and ionic species using a MOUDI in Hong Kong and Beijing. The results may be useful to the current manuscript on the discussion of the analogy between in cloud formation of sulfate and of DCAs.

In Hong Kong, sulfate aerosols are not completely neutralized because of the relatively low concentration of ammonia. We observed oxalate and malonate in the droplet mode but malonate was sometimes observed in the coarse mode. The observation of droplet

mode oxalate (and sulfate) suggested that cloud processing was important and the observation was independent of season. We also found that cloud processing was also an important process to form DCA in summer in Beijing. However, because of the high concentrations, sulfate particles were completely neutralized and gas-aerosol re-partitioning to form coarse mode oxalate and malonate was not significant. In spring in Beijing, cloud processes were not important due to the very dry weather (RH$<$60%); the droplet mode of oxalate (at 0.7um) was absent. Instead, bi-modal size distributions of oxalate of at 0.5 um and 0.2 um were observed in submicron particles.

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