

Interactive comment on “Large contribution of organics to condensational growth and formation of cloud condensation nuclei (CCN) in remote marine boundary layer” by Guangjie Zheng et al.

Anonymous Referee #3

Received and published: 25 July 2020

Zheng et al. reported long-term measurements of hygroscopicity and composition of pre-CCN particles in a remote marine boundary layer site. They found that for most of the particle condensational growth events, the dominant condensing species are organics instead of sulfate. This paper is well written. I recommend publishing the paper after some minor revisions:

1. Given that there were in-situ ACSM measurements, the authors may be able to separate MSA from the rest of the organics in the ACSM spectra (m/z 79) to better quantify the contribution of MSA and non-DMS VOC to aerosol growth. (Ref: Hodshire et al., The potential role of methanesulfonic acid (MSA) in aerosol formation and growth

C1

and the associated radiative forcings, 2019 ACP, Supporting Information)

2. Line 61: It is unclear in the manuscript what the kappa value is for MSA.

3. Some figure captions in the manuscript are very short. I suggest that the authors include more descriptive information in figure captions. For example, what do the blue dotted lines in Figure 5 represent?

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-625>, 2020.

C2