

This manuscript clearly addresses the enhanced formation of HMHP via MSA-catalysed hydrolysis of CH₂OO and highlights its importance in new particle formation. The theoretical results provide valuable guidance for future research on SA- and MSA-derived nucleation.

I recommend the publication of this manuscript after consideration of the following comment:

Fig 6: If I understand correctly, MSA and MA are fixed input parameters (model settings), not measured values, whereas HMHP represents the measured results. This distinction is currently unclear in the figure. I suggest removing MSA and MA from the figure entirely and instead noting them in the caption.