

Atmos. Chem. Phys. Discuss., referee comment RC1
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Comment on acp-2021-775

Anonymous Referee #1

Referee comment on "Comparison of saturation vapor pressures of α -pinene + O₃ oxidation products derived from COSMO-RS computations and thermal desorption experiments" by Noora Hyttinen et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-775-RC1>, 2021

The manuscript by Hyttinen et al. examines the vapor pressures from α -pinene using both state-of-the-art measurement techniques and quantum mechanical simulations. The experiment and analysis are presented clearly and concisely. I recommend the article for publication and have a couple of clarifications to be addressed below.

Page 8 Figure 1: I can't entirely agree that the FIGAERO-CIMS is suited for the LVOC and ELVOC range. From my eye, it looks like the measurement and model data have two different slopes. Then their intercept where they happen to agree is between 225 and 300 g/mol. So I would be more inclined to agree if the slopes of the lines were in agreement for your stated "valid measurement range" and then in disagreement for the range outside.

Page 13 Table 1: Can you add the SIMPOL.1 values to the comparison table. Then add a sentence or two discussing those results and point to the SIMPOL.1 vs. COSMOtherm graph in the SI Figure S12 as you didn't mention that graph in the main text.