We thank the editor for the additional comments. Below is our detailed response to each point with the author reply in *italics* and the changes in the manuscript in **bold**. The line numbers are for the revised manuscript with tracked changes.

Editor comments (line numbers refer to the track-change version of the manuscript)

Referee #2, comment 1 ("The data displayed in Figure 1 are interpreted by the authors as primarily indicating a large discrepancy..."): Your response to this comment was very detailed and convincing. Please add some of it to the manuscript.
Author reply: Thank you for this suggestion. We have added some text to the section where we discuss the dependence of molar mass on saturation vapor pressure.
Changes to manuscript (line 250): In addition to molar mass, saturation vapor pressure is known to depend on the functional groups of the molecule, as is seen in the several orders of magnitude difference in the COSMO*therm* estimates of different isomers at the same elemental compositions. We have previously noted that the addition of a CH_2 (~ 14 g mol^{-1}) to a multifunctional molecule has a 0.5 orders of magnitude effect on saturation vapor pressure and the addition of an oxygen atom (~ 16 g mol^{-1}) similarly has a 0.5-1 order of magnitude effect on saturation vapor pressure depending on the functional group (Hyttinen et al., 2021b). This means that addition of an oxygen atom may decrease the saturation vapor pressure (in Pa per g mol^{-1}) either less or more than the addition of a CH_2 group depending on the oxygen containing functional group. The COSMO*therm*-estimated saturation vapor pressures can also vary more than an order of magnitude for different stereoisomers with identical functional groups (Kurtén et al., 2018).

l. 28: mechanism --> mechanisms
Author reply: This was changed in the manuscript.

l. 42: ..is better when measuring at (or ‘in a’) subcooled state...
Author reply: This was changed in the manuscript.

l. 46: In this method --> Using this method
Author reply: This was changed in the manuscript.

l. 56: condense-phase --> condensed-phase

Author reply: This was changed in the manuscript.

l. 142: ‘of this study’ – does ‘this’ refer to here to the current study or to ‘this previously mentioned study by Ylisirniö et al.?

Author reply: By “this study”, we mean the current study. This was clarified in the manuscript

Changes to manuscript: For example, using the our linear fit, 392 K corresponds to $2x10^{-10}$ Pa, ...

l. 201: Please add units to the parameters that are defined for the equation

Changes to manuscript: In COSMO*therm*, the saturation vapor pressure ($p_{sat,i}$ in mbar) of a compound is estimated using the free energy difference of the compound in the pure condensed phase ($G_i^{(l)}$ in kcal mol^{-1}) and in the gas phase ($G_i^{(g)}$ in kcal mol^{-1}):

Here R is the gas constant (in kcal K^{-1} mol^{-1}) and T is the temperature (in K).

l. 337: ‘larger’ than what, than the reactant? Or simply ‘two large fragments’?

Author reply: Yes, we meant “large fragments”, this was changed in the manuscript.

References

Hyttinen, N., Wolf, M., Rissanen, M. P., Ehn, M., Peräkylä, O., Kurtén, T., and Prisle, N. L.: Gas-to-Particle Partitioning of Cyclohexene- and α-Pinene-Derived Highly Oxygenated Dimers Evaluated Using COSMO*therm*, J. Phys. Chem. A, 125, 3726–3738, 2021b.

Kurtén, T., Hyttinen, N., D’Ambro, E. L., Thornton, J., and Prisle, N. L.: Estimating the saturation vapor pressures of isoprene oxidation products C5H12O6 and C5H10O6 using COSMO-RS, Atmos. Chem. Phys., 18, 17 589–17 600, https://doi.org/10.5194/acp-18-17589-2018, 2018.