

Dear Daniel

Thank you for the careful reading of our manuscript.

Below are our responses written in italic.

Best wishes

Claudia

Page 2, line 6: If you cite Zobrist et al., 2007, wouldn't it be fair to also cite these studies on this topic: Cantrell, W.; Robinson, C. Geophys. Res. Lett. 2006, 33, L07802, Knopf and Forrester, J. Phys. Chem. A 2011, 115, 5579–5591 ?

*We added these references.*

Page 3, line 24 following: "Therefore,..." . When reading the text, I had the impression you talk about immersion freezing (IMCA/ZINC) but then you argue with contact ice nucleation for particles < 40 nm. Maybe I am just missing something. The section title mentions IMCA/ZINC which are the immersion freezing experiments and Figure 1 is discussed.

*This section is indeed about immersion freezing. We referred to Langer et al. (1978) as an example of 20 nm particles that were shown to be ice nucleating. Because the freezing mode is not important for this general statement, we remove this information to avoid confusion.*

Page 4, line 27 & Page 9, section 4: Figure 2: The median freezing temperatures are given. I believe it would be very beneficial to also plot the uncertainties such as 10 and 90 percentiles (or 25, 75, or 20, 80 percentiles). I would not be surprised that for some data sets, the trend is within the scatter/uncertainty of the freezing data. I am aware, that it may be difficult to derive for all data the percentiles (and this depends on the number of data points as well). In this case, maybe use experimental uncertainty (temperature error, etc.).

*We agree that error bars would be beneficial. However, the information provided in the different studies does not allow to derive any percentiles. Error bars would be arbitrary and therefore not helpful to judge the consistency between measurements.*

Page 9, line 16: I assume you meant Fig. 2?

*Yes, thank you for pointing this out.*

Page 20, B3: I believe Appendix B3 is not referred to in the main text.

*Thank you for pointing this out. We added the reference on page 12, line 10.*

Technical correction:

Page 4, line 6: "...supercooled liquid particle..."

*We added "supercooled"*