The manuscript by Weber et al. introduces dimethyl sulfoxide as a CPC working fluid. Existing commercial CPCs are adopted to operate with DMSO, the CPCs are calibrated using soot, NaCl and AS at several pressures intended for aircraft measurements, and the CPCs were operated side by side to sample atmospheric aerosol for few days. The idea of using DMSO as a working fluid is certainly interesting for the aerosol community, the experiments appear well made and reliable, and the authors were very generous in also giving out lots of practical details about modifying the existing CPCs for DMSO. I have only very minor suggestions that the authors may consider adding to the manuscript final version.

- Intro, there are few previous attempts to use other liquids than butanol, propanol or water as a CPC working fluid. One paragraph could be added to give the reader an idea about the other options that have worked in the past, as this is not the first try

  Answer: In L63 we named several common working fluids. Nevertheless, we will add some information in the introduction:

  Dibutylsebecat/DOS/DEHS; No GHS- Symbols, but only suitable for high temperature applications (Kupper et al. 2020)

  Diethylene Glycol (DEG); Glycin: Great application for sub nm particles, but droplets only grow to very small sizes, so a "Booster" CPC is needed (Iida et al. 2009)

  Theoretical approach for working fluids mostly alkene, alcohols organic acids and several aromatic compounds, but does not include sulfuric solvents (Magnusson et al. 2003)

- L67, alcohols also smell when not vented properly.

  Answer: We stated in the abstract: "…butanol has several disadvantages including its strong, unpleasant odour, negative effects when inhaled over prolonged periods, and flammability, making it troublesome to use in all places with strict safety regulations."
  We will also add (or move?) this information in (to) L67.

- Fig2, wasser

  Answer: Iam sorry, my fault. We will change this.

- L266 forward, here you describe the meaning of the C1/C0, ie. that they are the counts above these thresholds. please add it to the previous section where the correction is introduced.

  Answer: We will add a phrase at L234. "The particle number concentration reported by the Sky-CPC is divided by the C1/C0 value. The reported particle

number concentration is the number of particles that deliver a scattering signal when passing both detection threshold levels C1 and C0. By dividing the reported number concentration by C1/C0, the number concentration is adjusted to the C0 threshold […] The diameters of the DMSO droplets, which correspond to the signal heights of C0 and C1, are 2.5 – 2.9 um and 4.0 – 4.6 um respectively to the different thresholds"

- Table1, please include all data here, also the curves at normal pressure are interesting

  Answer: Our measurement set-up is not suitable to report cut-off efficiencies for normal (1000 hPa) pressure as the Aerosol sample flow is limited by a critical orifice. Without a deltaP, the amount of aerosol entering the measurement line is too low. We could add the information for the curves for 700 hPa, but as visible in the figures: the curves are nearly indistinguishable; therefore the data does not change significantly. We will add this information in the text.

- Section 4, I commend the authors for giving these practical details

  Answer: Authors: 😊 😊😊😊😊😊😊😊😊

References:

Lars-Erik Magnusson, John A. Koropchak, Michael P. Anisimov, Valeriy M. Poznjakovskiy, Juan Fernandez de la Mora; Correlations for Vapor Nucleating Critical Embryo Parameters. *Journal of Physical and Chemical Reference Data* 1 December 2003; 32 (4): 1387–1410.

Kenjiro Iida , Mark R. Stolzenburg & Peter H. McMurry (2009)
Effect of Working Fluid on Sub-2 nm Particle Detection with a Laminar Flow Ultrafine Condensation Particle Counter, Aerosol Science and Technology, 43:1, 81-96, DOI: 10.1080/02786820802488194

Martin Kupper, Martin Kraft, Adam Boies & Alexander Bergmann (2020) High-temperature condensation particle counter using a systematically selected dedicated working fluid for automotive applications, Aerosol Science and Technology, 54:4, 381-395, DOI: 10.1080/02786826.2019.1702920