

Interactive comment on “Water activity in polyol/water systems: new UNIFAC parameterization” by C. Marcolli and Th. Peter

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We thank the reviewer for his/her comments and remarks, which we discuss below.

General comments

- We add a general definition of the water activity to Section 3 (page 1504, line 24). Moreover, we add a sentence to the paragraph that describes Figure 2 (page 1507, line 28) to explain more explicitly the effects of hydrophobicity and molecular weight on water activity. We also add a plot to Figure 2 that shows the water activity as a function of the mole fractions of the diols.
- A comparison of particle diameters at different relative humidities is added to the manuscript (page 1511, starting from line 6 and the new Figure 6).

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Specific comments

p. 1503, l. 13: we change the sentence to “to model the influence of organic compounds on fog droplet number concentration”.

p. 1508, section 4.2: we reorder this section according to the suggestion of the reviewer.

p. 1511, l. 6-8: we reword the sentence.

Figure 3: water activities greater than 1 indicate that the mixture is not stable as a one phase system. Indeed, n-butanol, 2-butanol and isobutanol are not miscible with water at any molar ratio. We discuss this aspect in the manuscript on pp. 1510 - 1511.

We modify the manuscript according to the technical comments of the reviewer.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 1501, 2005.

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