

The manuscript has improved a lot since the first version, therefore now I can imagine it being accepted for publication. However, I still have some comments and recommendations for the authors. And I still have to say, another language editing for the second half of the paper would be really nice. It is still very hard to read.

Line 239: black carbon is assumed to be hydrophilic -> non-hydrophilic or non-hygroscopic

Line 338-339: GF-PDF, SPAR is a function of the diameter, if you discuss an increase (or whatever) of these properties, please always indicate at which diameter you mean it

Line 343: was be found: please remove "be"

Line 361-386: Please discuss the fit parameters, the main parameters of the SPAR curves rather than the SPAR value at a certain diameter (at 300nm). Looking at Figure 3 (b and c) makes it clear what happens, and I do not read that from the paper, as it is written now. What I see there is, that  $D_a$  values are almost exactly the same at low and high RH, which means that the hygroscopicity of this particle population is the same at high and low RH, during the SA formation there is for both cases a little decrease in  $D_a$  which means a slight hygroscopicity increase due to the more hygroscopic SA material. There is a significant difference between the MAF values, but outside of the SA formation, so the fraction of the (as you call it) hygroscopic particles at low RH was lower in PA, and good part of this difference disappears during the presence of the SA formation. And with this the message for me would be, the hygroscopicity of the SA formed under low and high RH conditions is very similar, and the difference what you see in  $N_{CCN}$  is mainly because the mass/number and size of formed SA particles is different at low and at high RH.

Line 419-422: Please delete/correct these sentences, they are not correct. You cannot compare volume to number like this. You should compare  $N_{CCN}$  to the number concentration, that makes sense. But you have already discussed what happens with the SPAR value, which is exactly the same, the ratio of them.

Line 431 and 342: within -> below

Line 441-451: Figure 3b shows that the hygroscopicity increase during SA formation was very similar in both low and high RH cases

Line 486: variation of MAF = changes in aerosol hygroscopicity is not true. You write that yourself one sentence before that the MAF represents the fraction of the hygroscopic particles. Please change this sentence.

Line 487-494: Please let the reader know here, that this, what you talk about (trying to estimate the changes of the MAF from other measurements) here will be shown in the next part of the paper

Line 495-497: please rephrase this sentence, very hard to understand

Line 503: can be -> is

Figures 6 and 7: taking into account that MAF is less than 1 makes your prediction much better. What is not clearly stated, where is the  $D_a$  coming from in this case? Please indicate it. It should be the chemistry/growth factor derived  $D_a$  and not the one which was originally derived from the SPAR curves.