

Editor:

Comments on Tao et al.

The paper has substantially improved. I have one remaining comment that needs to be addressed:

Response: Thanks for your comments, we really appreciate your feedback.

Suggestions and comments are addressed point-by-point and corresponding responses are listed below.

L 409: It is not stated in the text how the mass fractions of the aerosol chemical components is measured. I would especially wonder how accurate the numbers for the size of 50 nm are.

Response: Thanks for your comments. The mass fractions of aerosol compositions were calculated using the bulk measurements of the AMS, not size-resolved mass concentrations, because the measurements of AMS at 50 nm are quite noisy. We have added the description about the calculation of the mass fractions of the aerosol chemical components in L185 as follow:

“The mass fraction (MF) of each chemical composition is calculated as the bulk mass fraction of each chemical composition in in non-refractory PM₁ (NR-PM₁).”

Minor issues (red: corrections, red italic: comments):

L 31: under the measured supersaturated conditions (you cannot say anything about higher supersaturations)

Response: Thanks for your comments. We have revised it accordingly.

L 91: formations

Response: Thanks for your comments. We have revised it accordingly.

L 249: after a ~~n~~ denuder-bypass

Response: Thanks for your comments. We have revised it accordingly.

L 442: has a similar correlation coefficients ($r \sim 0.65$) and a smaller systematic differences: *either singular or plural but not a combination of both*

Response: Thanks for your comments. We have revised it as:

“has a similar correlation coefficient ($r \sim 0.65$) and a smaller systematic difference”

L 503: low soluble components: *incorrect English*

Response: Thanks for your comments. We have revised it as “poorly water soluble substances”.

L 506: Pöhlker: *typo, also other instances*

Response: Thanks for your comments. We have revised it as “Pöhlker” and that in L 511.

L 548: SAs migrated to a higher mass fraction of BC-free particles smaller than 200 nm to particle size of 200 nm: *not clear*

Response: Thanks for your comments. We have revised it as:

“SAs migrated higher mass fraction of BC-free particles with particle size smaller than 200 nm to particle size of 200 nm”

L 553: that contributes~~s~~

Response: Thanks for your comments. We have revised it accordingly.

L 557: semi-volatile ~~compound~~ component

Response: Thanks for your comments. We have revised it accordingly.

L 1194: curve at large particle: *incorrect English*

Response: Thanks for your comments. We have revised it as “curve at large particle size”.