

Interactive comment on “Sensitivity of a Q-ACSM to chamber generated SOA with different oxidation states” by Xiaoxiao Li et al.

Anonymous Referee #3

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In this work, Li et al. have investigated the response factor of a Q-ACSM to secondary organic aerosols generated under different oxidation states and from various VOC precursors. The subject of this work is certainly within the scope of AMT and the results of this work are of practical interests to the ACSM/AMS community. The advantage of this work is that the aerosol standards were generated in situ and their oxidation states can be pre-defined. The experiments were designed with some novelty and were carefully executed. The manuscript was clear written. However, the manuscript still can be improved. A native English speaker is highly recommended to proofread the manuscript before it can be published. Overall, I think this work can be a valuable contribution to the AMS/ACSM community. Therefore, I would recommend this manuscript for publication after the authors address the following comments:

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Specific comments:

- 1) The authors shall pay more attention to the special terms and jargons used by the ACSM/AMS community. For example, the RF is not clearly defined here. The sensitivity of the ACSM/AMS has been investigated extensively in previous works. The results of this work seem to be in line with previous results. But the authors need to reorganize the manuscript to make the results of this work inter-comparable with other similar works, i.e., the results of this work can be evaluated under the same established framework.
- 2) For Fig. 8, how is this figure generated and how valid is this result? The author may want to provide more discussion and support information for validation.

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