Comment on acp-2022-595
Anonymous Referee #2

Referee comment on "Aqueous SOA formation from photosensitized guaiacol oxidation: Comparison between non-phenolic and phenolic methoxybenzaldehydes as photosensitizers in the absence and presence of ammonium nitrate" by Beatrix Rosette Go Mabato et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2022-595-RC2, 2022

This paper systematically investigated the physicochemical properties of aqueous SOA formed from the photosensitized guaiacol oxidation by using DMB and VL as photosensitizers in the presence and absence of AN. In general, this paper is well written, readable and logical. Before accepted for publication, some revisions should be made. The specific comments are listed as follows:

1. Why did not show aqSOA yields in this work? In my opinion, these data are very useful for readers to understand the importance of these oxidation processes. When these data were described in the paper, the comparison between these date and other similarly reported results should be made.

2. As mentioned in section 2.1, the samples were collected every 30 min for 180 min for offline analyses. Therefore, authors can provide more information about the changes of signal-weighted distributions and visible light absorption of aqSOA formed under different conditions during the whole reaction processes. In addition, the concentration changes of small organic acids during the whole reaction processes should be also supplemented.

3. Please provide the reason why selected the whole reaction times as 180 min.

4. There are still some language mistakes, please carefully check.