

We thank the editor for her comments and have revised the manuscript accordingly.

1. Page 2 lines 32-33 “for example, inclusion of semi-volatile POA without SOA formation from IVOCs and aging reactions degraded model performance vis-à-vis total OA mass.” Please include the reference for this result.

We have added the reference Robinson et al. (2007).

2. Page 8 line 1: “Biogenic SOA was not aged.” Although the reason is included in the conclusions, it would perhaps be better to mention that here as well.

We have revised the sentence to offer justification for why biogenic SOA was not aged.

3. Page 13 line 32-pg 14 line 3 “Comparison of the POA predictions from the VBS-IVOC model to ambient measurements made by Ban-Weiss et al. (2008) suggests that the on-road gasoline POA in the model may be over-predicted by a factor of 2, although this under-prediction did not significantly change the gasoline/diesel contribution to OA.” This sentence is very unclear to me. The POA is too high in the model but then the under-prediction is discussed. Should this be over-prediction?

Yes, it should have read over-prediction. We have corrected this in the revised manuscript.

4. Pg 15 line 19: This should reference Section 3.4

Corrected.

5. Page 17 line 21: Is 13 the domain average? On page 13 line 26-27 a range for the gasoline contribution to OA of 10-20 times diesel is given. Please clarify.

The 13 value was the median. We have revised the sentence on page 13 line 26-27 to be consistent with the 13 value mentioned in the abstract and conclusions.

Supplement

ALK5 is not included in table S.2 despite its reference in the caption and in the main text. Please update the table.

We have added emissions of ALK5 in Table S.2.