

## Supplemental Information for

# Modeling organic aerosol from the oxidation of $\alpha$ -pinene in a Potential Aerosol Mass (PAM) chamber

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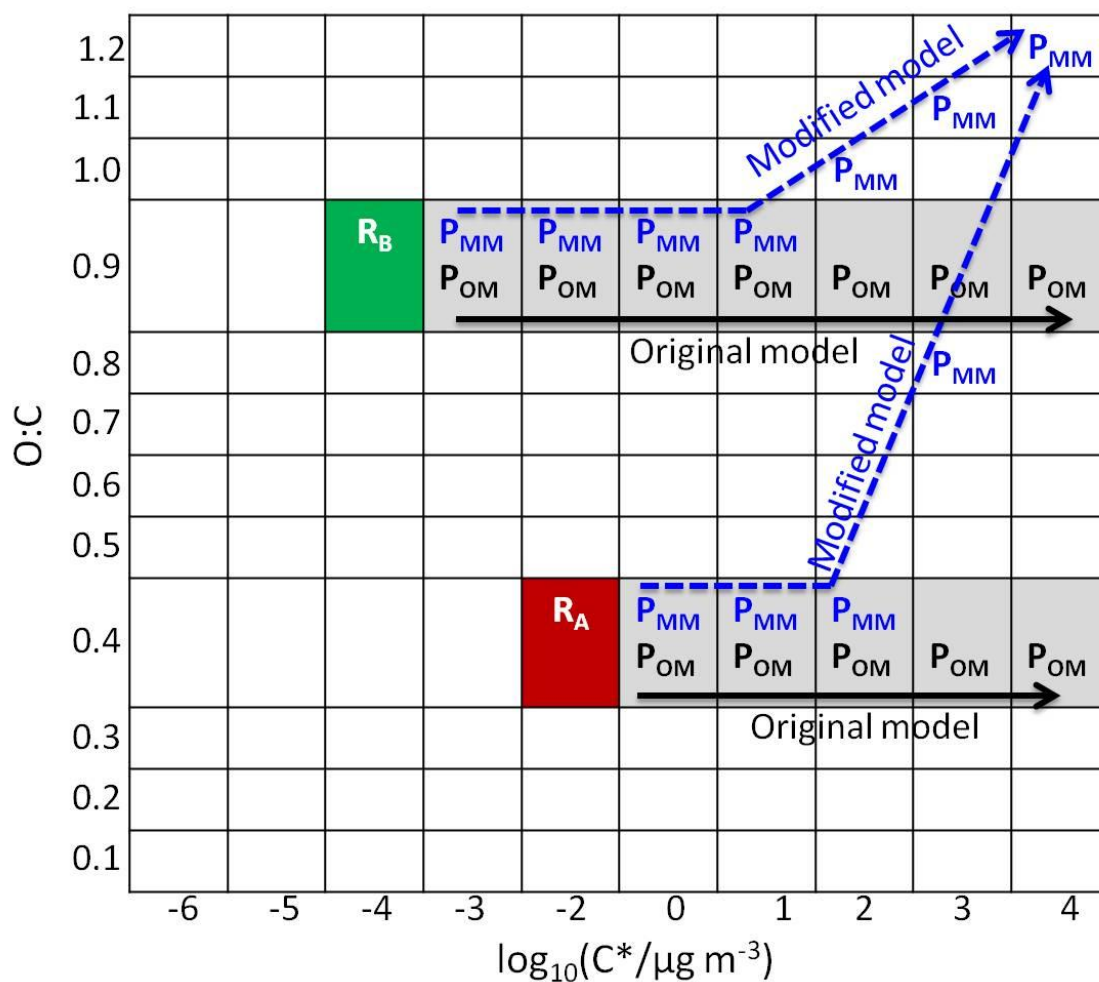
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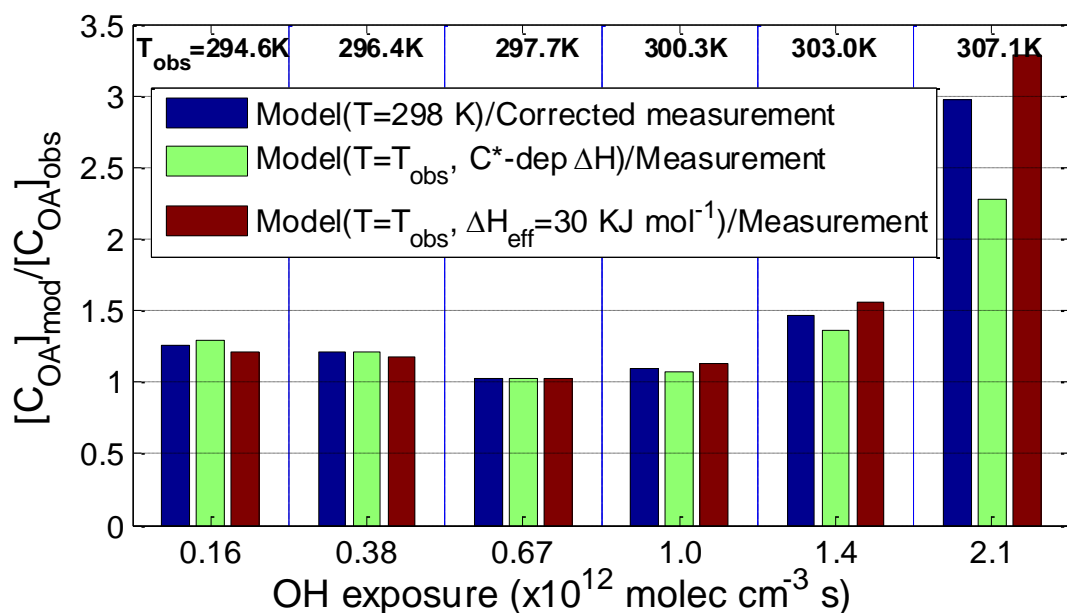
## Figures

**Fig. S1** The distribution of the fragments based on the assumptions in the original model and the modified model (Page S1)

**Fig. S2** The modeled-to-observed ratios of  $C_{OA}$  modeled under 298 K and under measured temperature  $T_{obs}$  with a constant effective  $\Delta H_v$  or  $C_i^*$ -dependent  $\Delta H_v$  as in Epstein et al. (2010) ( $\Delta VOC = 281 \mu\text{g m}^{-3}$ ) (Page S2)



**Fig. S1** The distribution of the fragments formed from two example reactants,  $R_A$  and  $R_B$ .  $P_{OM}$  denotes the fragments based on the assumptions in the original model (OM, the same O:C as the reactant).  $P_{MM}$  denotes the fragments based on the assumptions in the modified model (MM, higher O:C for the lighter fragments).



**Fig. S2** The modeled-to-observed ratios of  $C_{\text{OA}}$  modeled under 298 K and under measured temperature  $T_{\text{obs}}$  with a constant effective  $\Delta H_v$  or  $C_i^*$ -dependent  $\Delta H_v$  as in Epstein et al. (2010) ( $\Delta\text{VOC} = 281 \mu\text{g m}^{-3}$ ).