

## SUPPLEMENTARY INFORMATIONS FOR

# **Influence of the vapor wall loss on the degradation rate constants in chamber experiments of levoglucosan and other biomass burning markers**

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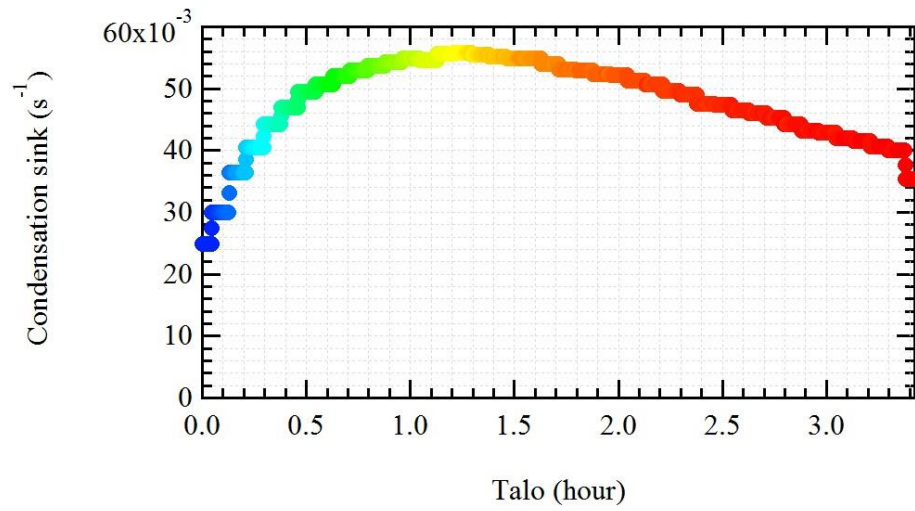
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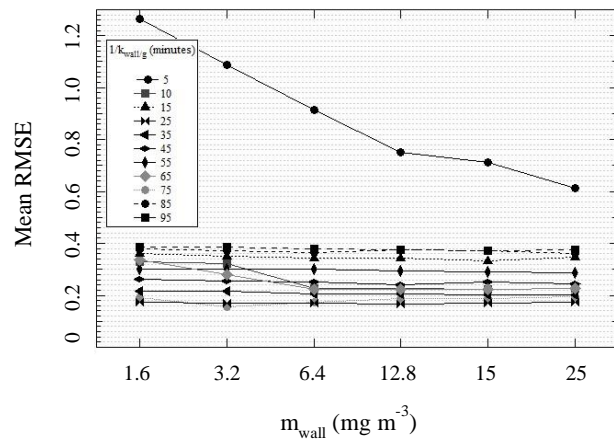
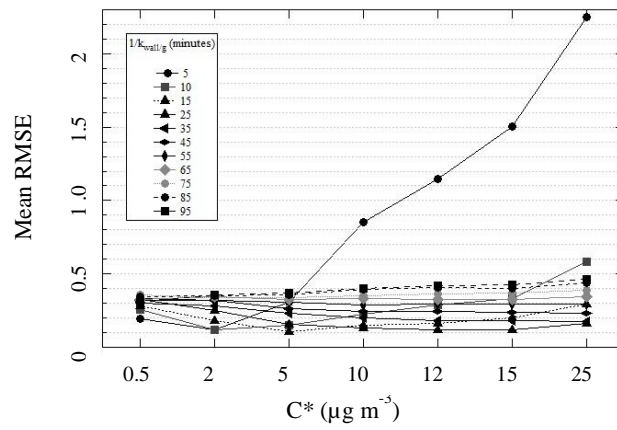
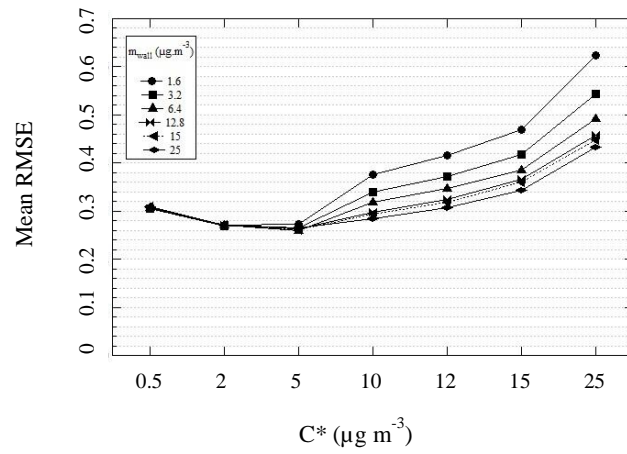
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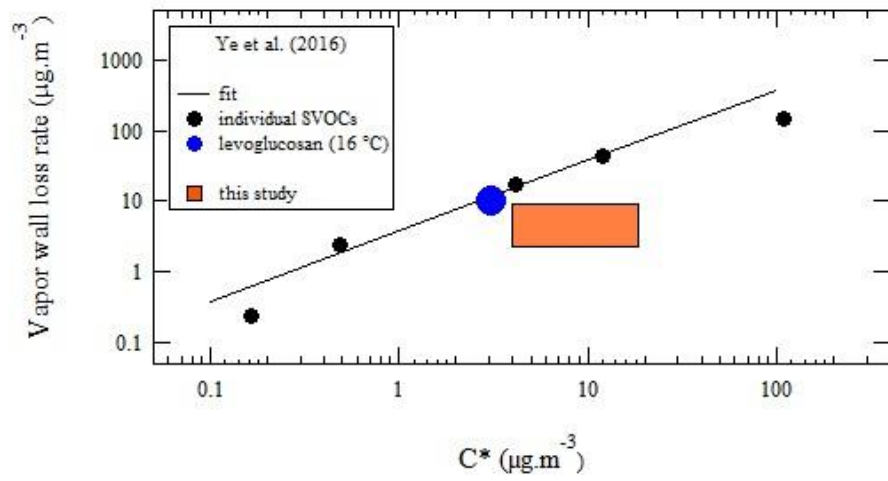
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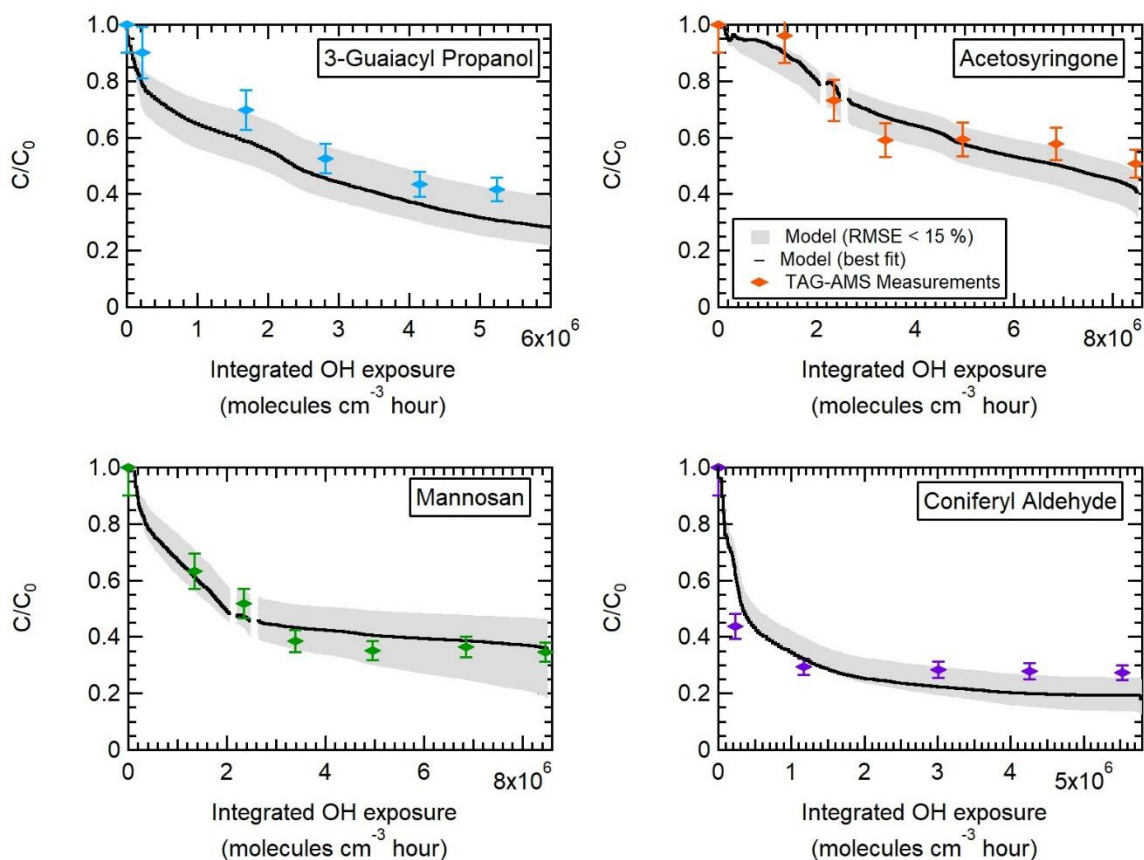
**Figure S1:** Calculate condensation sink  $k_{sink}$  (s<sup>-1</sup>) with an accommodation coefficient  $\alpha$  of 0.1. Talo indicates the time after lights on.



**Figure S2:** Influence of the factors on the model in the case of levoglucosan – mean effect plots for RMSE.



**Figure S3:** Comparison of our results for the saturation vapor concentration  $C^*$  and vapor wall loss rate  $k_{wall/g}$  to those by Ye et al. (2015).



**Figure S4:** Observed and modeled evolution during aging of the particulate-phase concentration corrected for wall loss (and normalized to the initial concentration) of several BBOA markers. The colored markers are the TAG-AMS measurements, the solid black line represents the best fit, and the grey area is all the individual solutions with a RMSE < 15 %. Only one replicate is shown for each compounds (exp. 5 for 3-guaiacyl propanol, exp.6 for acetosyringone and mannosan, and exp.2 for coniferyl aldehyde.)