



Figure S1. Example of modelled reversible gas-wall uptake onto smog chamber Teflon walls of a compound with  $p_0 = 10^{-5}$  Pa and  $C_w / (M_w \gamma_{w,i}) = 100 \mu\text{mol m}^{-3}$ . The model results are for a  $6 \text{ m}^3$  Teflon chamber with  $k_{g,w} = (V_{\text{chamber}}/V_{\text{wall}})/3000 \text{ s}^{-1}$ . In **(a)** the model results are from simulations where  $\Delta x = 1 \text{ mm}$ , while in **(b)**  $\Delta x = 10 \text{ mm}$ . The relative concentration change is given both for the well mixed chamber air volume and the thin air layer adjacent to the chamber walls. If  $V_{\text{chamber}}/V_{\text{wall}} = 1/300$  this layer is 1 mm thick, while if  $V_{\text{chamber}}/V_{\text{wall}} = 1/30$  this layer is 10 mm thick.