Supporting Information for "Heterogeneous OH oxidation of secondary brown carbon aerosol"

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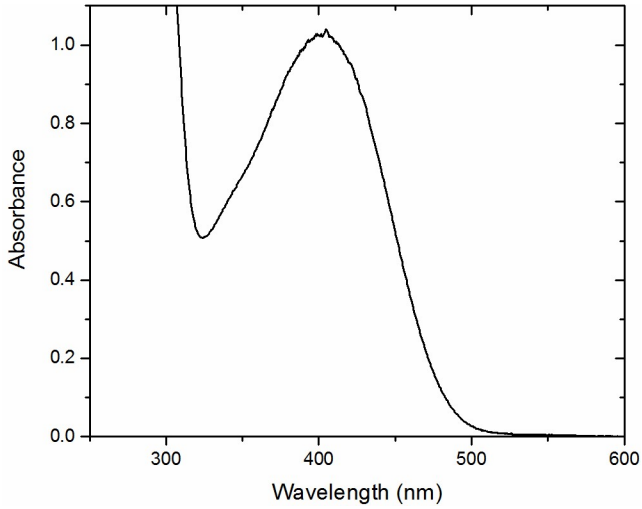

Figure S1. Absorption spectrum of Cibacron Brilliant Yellow 3G-P dye solution.

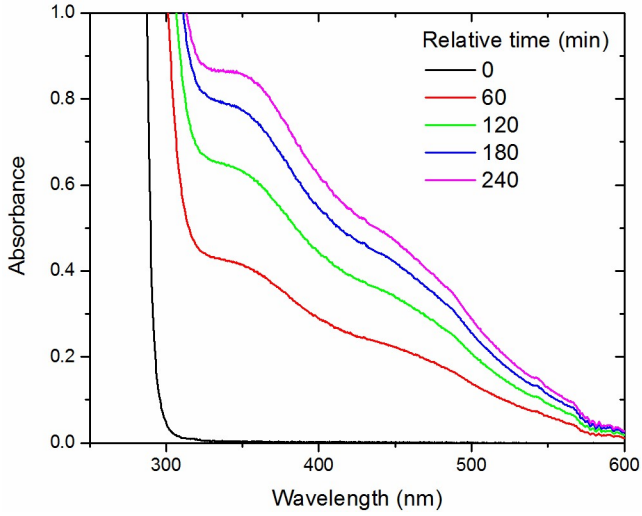

Figure S2. Absorption spectra of the resorcinol product mixture at different irradiation times.

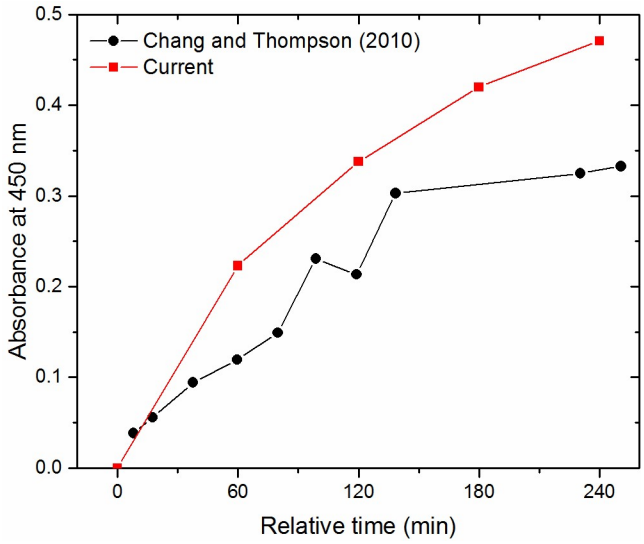

Figure S3. Absorbance at 450 nm of resorcinol product mixture as a function of irradiation time.

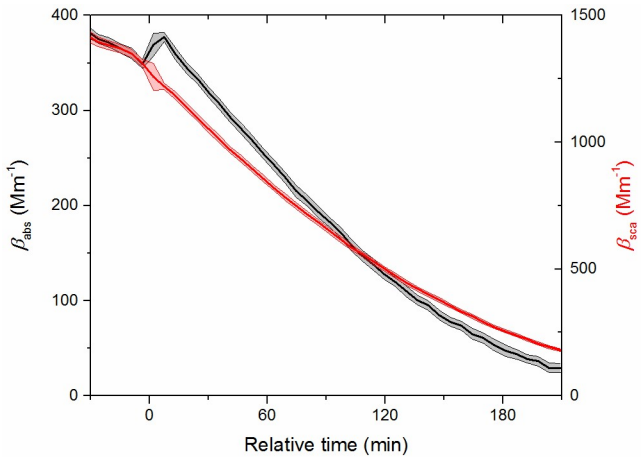

Figure S4. Time series of absorption and scattering coefficients of the secondary BrC surrogate during a heterogeneous OH oxidation experiment at high RH.

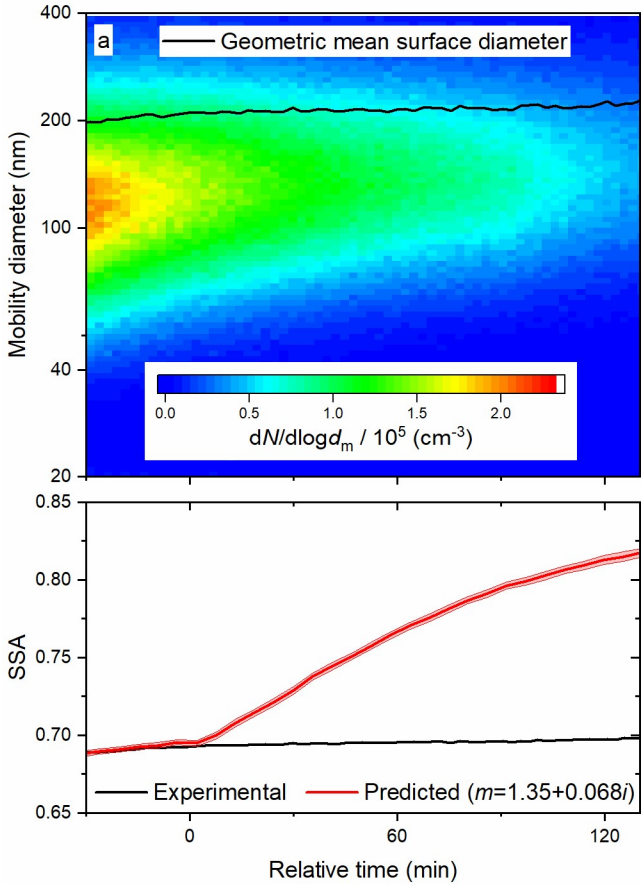

Figure S5. Time series of (a) size distribution and geometric mean surface diameter and (b) predicted (based on size distributions) and observed SSA of the yellow dye aerosol during heterogeneous OH oxidation at high RH. In (b), the upper and lower bounds illustrate one standard deviation about the 5-minute averages.

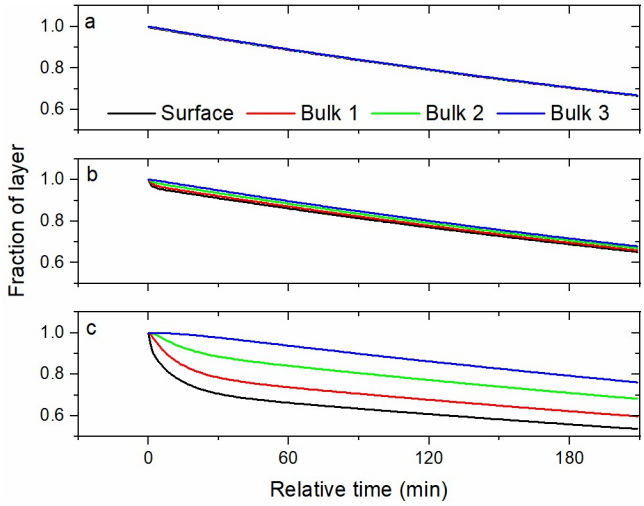

Figure S6. The fraction of each layer composed of species A when the diffusion coefficient is set to (a) 1 x 10^{-14} cm^2 s^{-1}, (b) 1 x 10^{-15} cm^2 s^{-1}, and (c) 1 x 10^{-16} cm^2 s^{-1}.

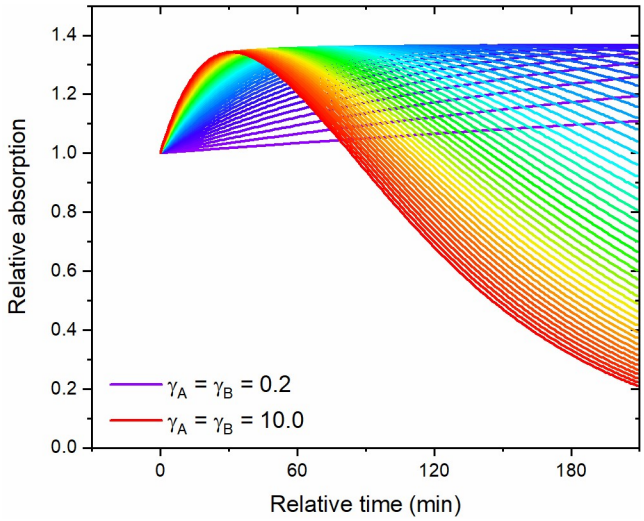

Figure S7. The relative absorption when the diffusion coefficient is set to 1 x 10^{-14} cm^2 s^{-1}, the absorptivities are fixed, and the uptake coefficient is scanned from 0.2 to 10.

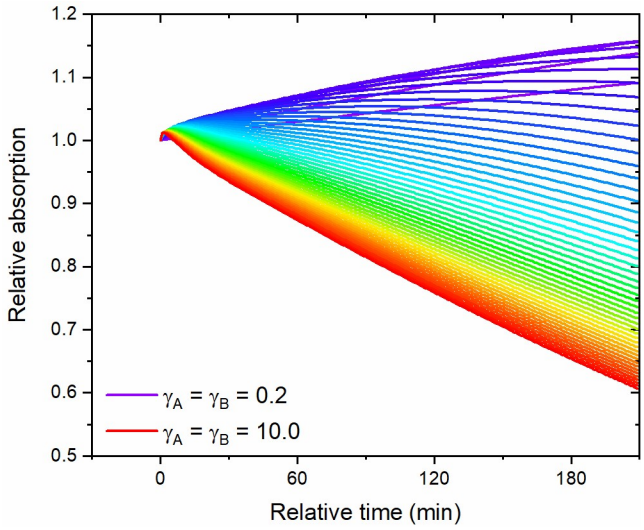

Figure S8. The relative absorption when the diffusion coefficient is set to 1 x 10^{-16} cm^2 s^{-1}, the absorptivities are fixed, and the uptake coefficient is scanned from 0.2 to 10.

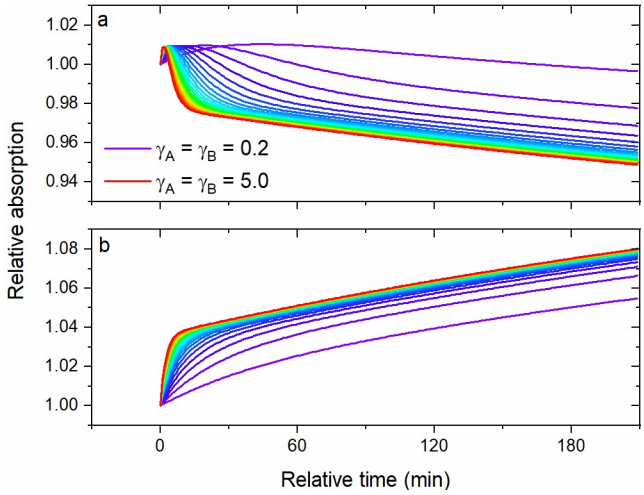

Figure S9. The relative absorption when the diffusion coefficient is set to 1 x 10^{-18} cm^2 s^{-1}, the absorptivities are fixed, and the uptake coefficient is scanned from 0.2 to 5. In (a), species B is absorbing, species C is colourless, and the absorption decays away. In (b), both species B and C are absorbing, and the absorption persists.