

## Supplementary Information

### Particle Wall-loss Correction Methods in Smog Chamber Experiments

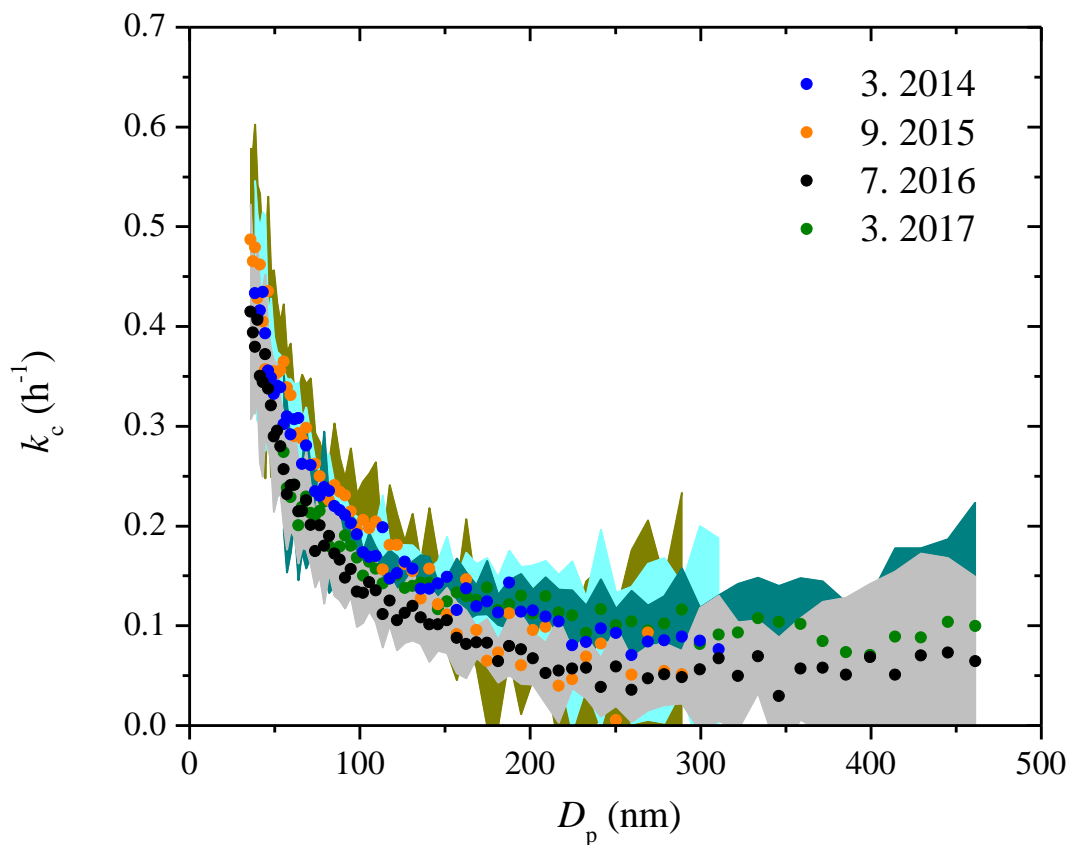
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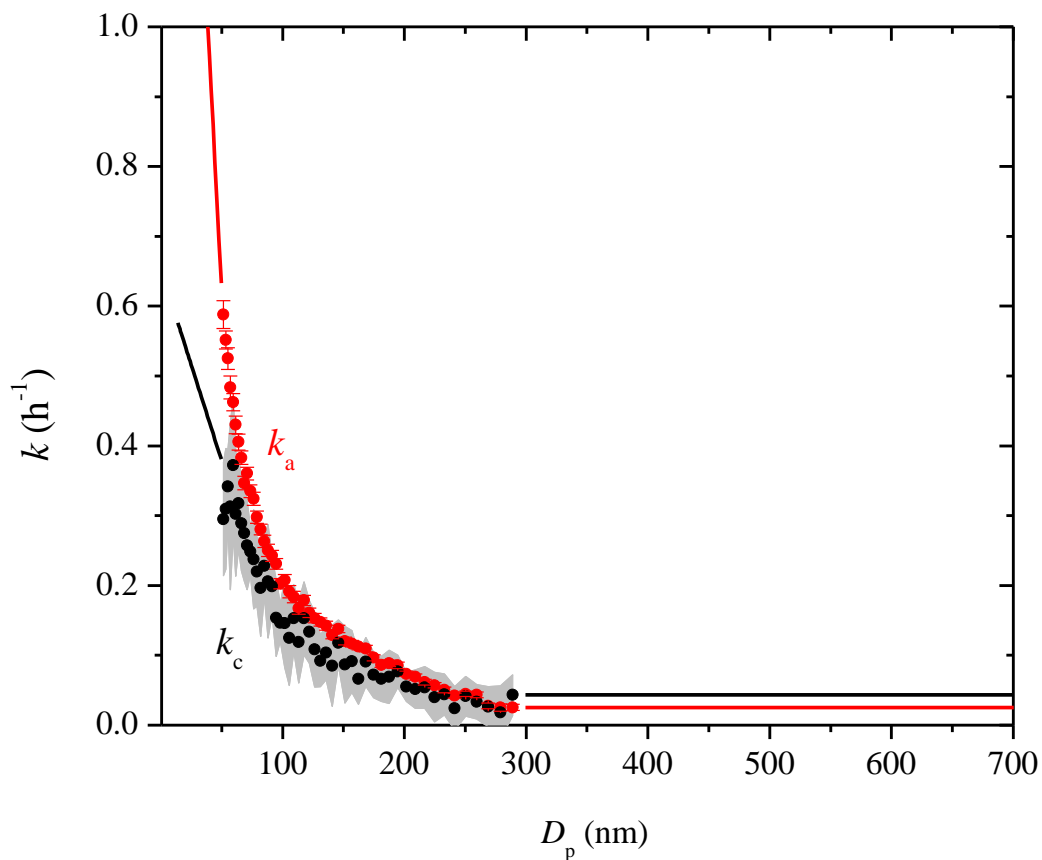
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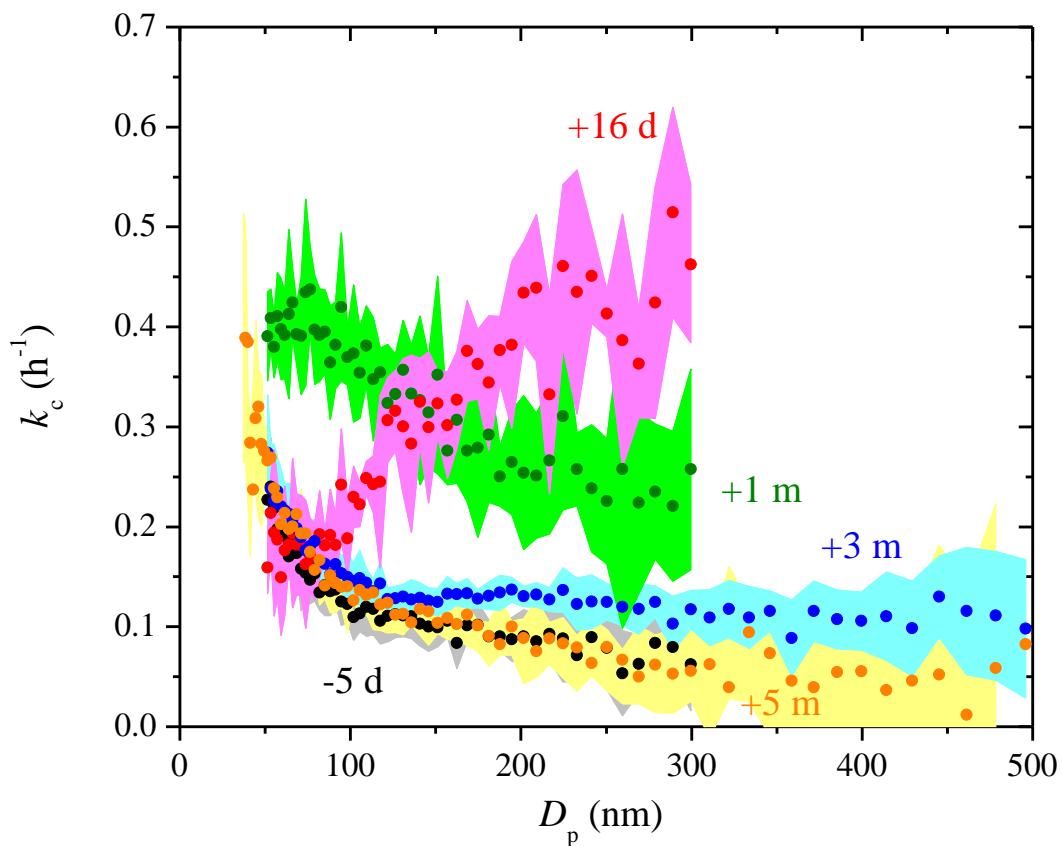
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**Figure S1:** The  $k_c(D_p)$  profiles for the 12 m<sup>3</sup> CMU Teflon chamber over a span of three years. The particle wall-loss rate constants were derived based on SMPS measurements from experiments with only ammonium sulfate particles. The colored area are the uncertainty associated with the corresponding  $k_c$ .



**Fig S2:** The apparent (red) and the coagulation-corrected (black) size-dependent particle wall-loss rate constants together with the fits for Exp. 3 across the SMPS-measured particle sizes. The symbols are model results based on the SMPS measurements, and the lines are fits. Only  $k_a$ 's (red symbols) with an  $R^2 > 0.5$  are shown. The error bars are one standard deviation. The grey area is the uncertainty associated with  $k_c$  (black symbols).



**Figure S3:** The coagulation-corrected particle wall-loss rate constant,  $k_c$ , at each diameter derived from experiments with only ammonium sulfate particles in the 12 m<sup>3</sup> CMU Teflon chamber before and after some major maintenance in the room where the chamber is suspended. The chamber was partially deflated and its walls subjected to friction repeatedly during the maintenance. The colored area are the uncertainties associated with the corresponding  $k_c(D_p)$ .