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*Supplement of*

## **Investigation of particle and vapor wall-loss effects on controlled wood-smoke smog-chamber experiments**

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The supplemental material includes three figures.

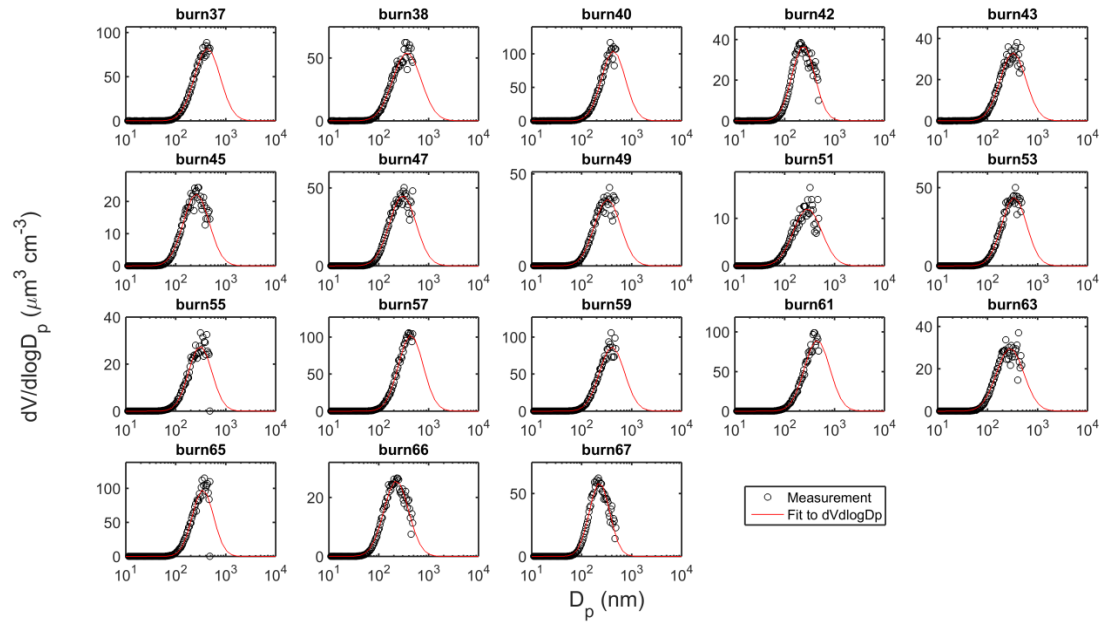


Figure S1 SMPS volume size distribution and lognormal fit with extrapolation to  $1 \mu\text{m}$  for 18 experiments.

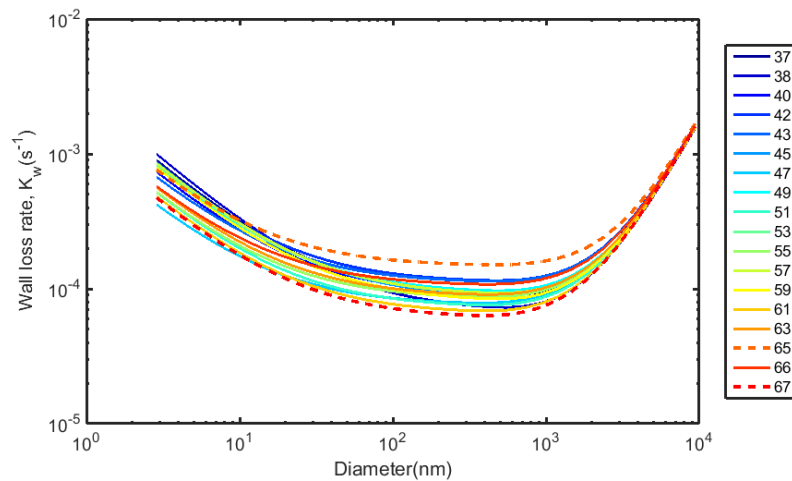


Figure S2 Size resolved wall loss rate,  $k_w$  ( $\text{s}^{-1}$ ) for 18 experiments. The number represents the Burn ID for each experiment.

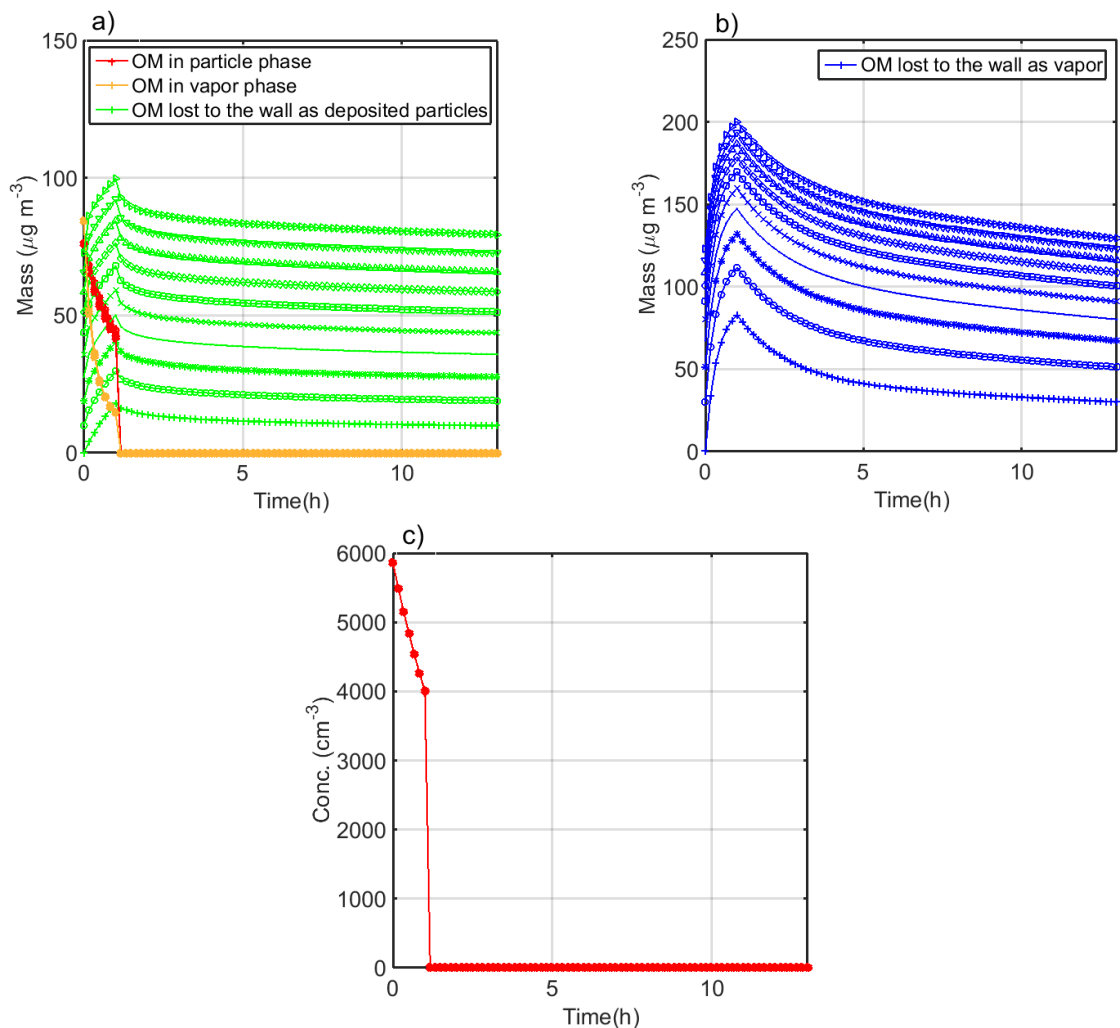


Figure S3 The 13-hr evolution with 1th hr experiments and following 12 hrs “flushing” of a) organic matter (OM,  $\mu\text{g m}^{-3}$ ) in the particle phase, vapor phase and lost to the wall as deposited particles; b) OM lost to the wall as vapor; c) number concentration ( $\text{cm}^{-3}$ ) taking into account the influence of the deposited particles and vapor on the wall based on the data for Burn 37. The different symbols represent the different times of experiments. The order of symbols from 1 to 10 time simulation is '+', 'o', '\*', ',', 'x', '\square', '\diamond', '\Delta', '\nabla', and '\triangleright'.