



Supplement of

Heterogeneous reactions of NO₂ with CaCO₃–(NH₄)₂SO₄ mixtures at different relative humidities

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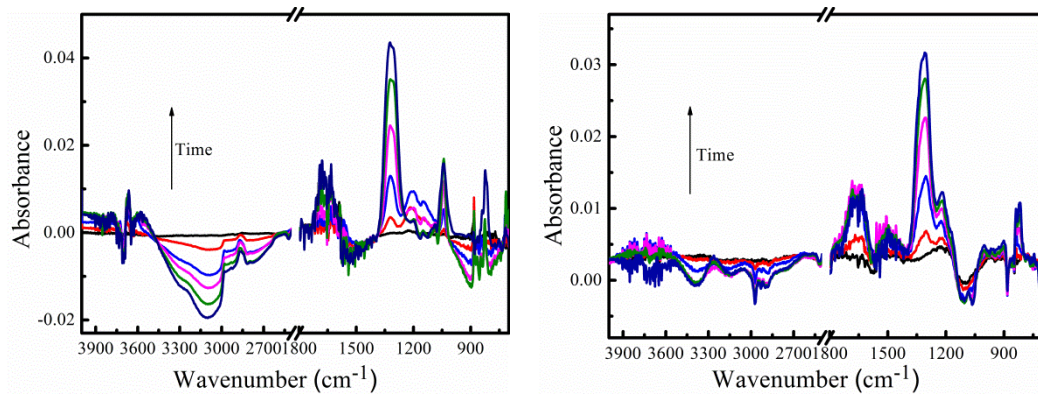


Figure S1. Absorption spectra recorded during the reaction of NO_2 on (a) pure CaCO_3 particle surfaces and (b) the mixture of FAS-57 under dry condition, and reaction times of 0 to 120 min. The concentration of NO_2 was 2.6×10^{15} molecule cm^{-3} .

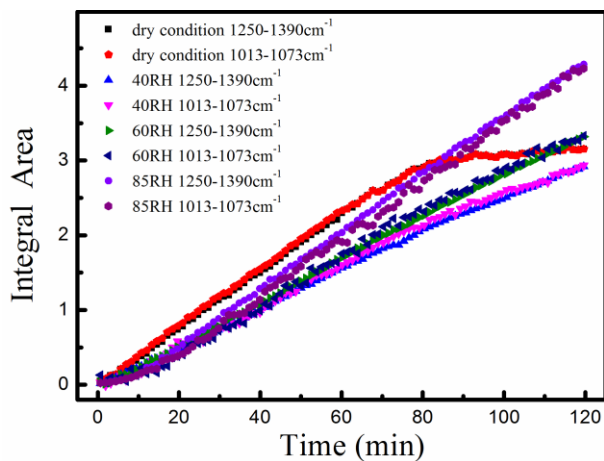


Figure S2: The integrated nitrate absorbance over the ν_1 region (1013-1073 cm^{-1}) and the ν_3 region (1250-1390 cm^{-1}) after the ν_1 region multiplied by 3, 7, 10, 12 under dry condition, 40% RH, 60% RH, and 85% RH, respectively, for the reaction of NO_2 with CaCO_3 particles.

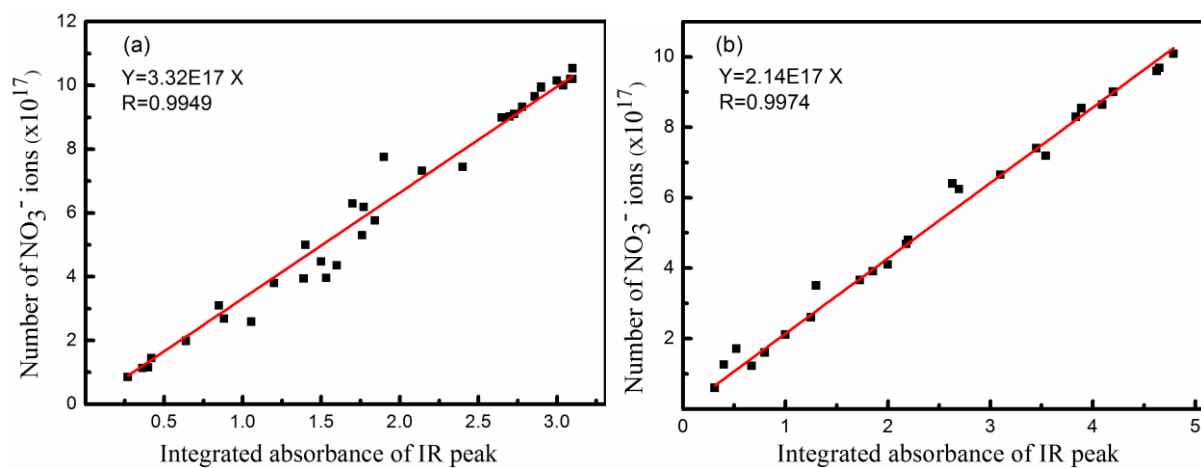


Figure S3. The number of NO_3^- ions detected by IC as a function of integrated absorbance of IR peak between 1390 and 1250 cm^{-1} at (a) dry condition, 40% RH, and 60% RH, (b) 85% RH.