

Supplementary material for

“Kinetics and Mechanisms of Heterogeneous Reaction of NO₂ on CaCO₃ Surfaces under Dry and Wet Conditions”

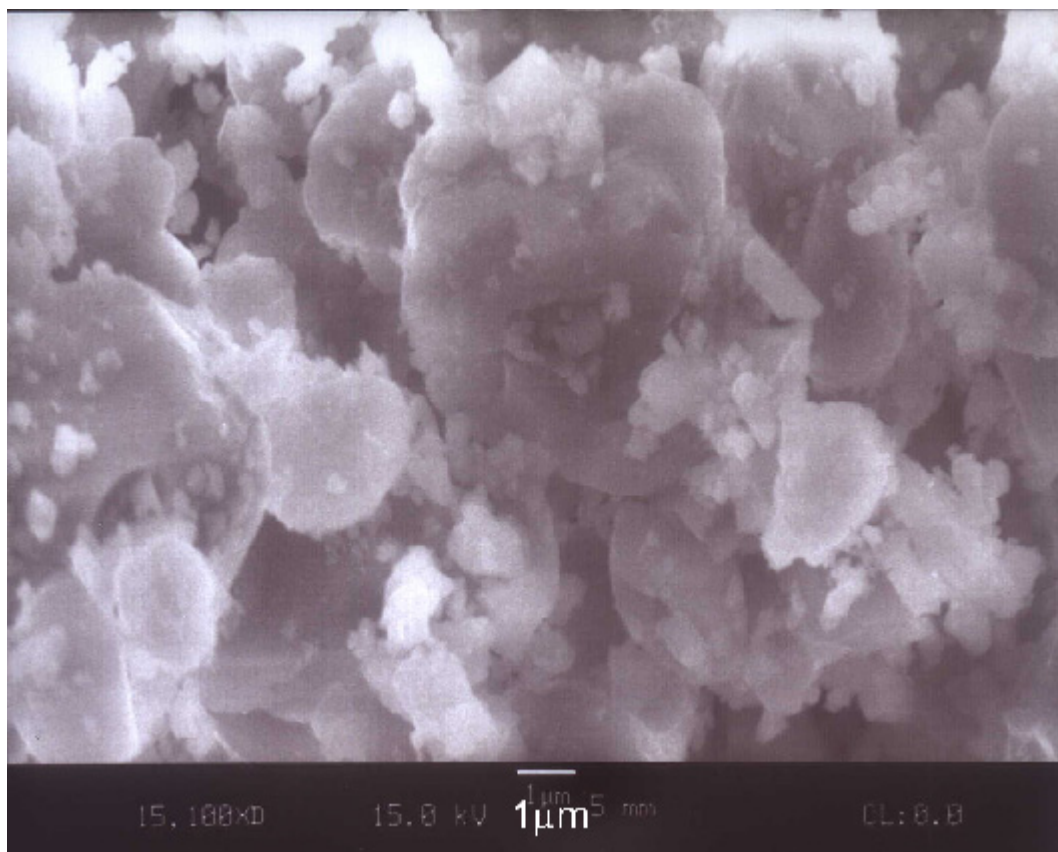


Figure S1. SEM picture of ground CaCO₃. The scale is 1 μm. The size of the ground CaCO₃ was in the range of 1-6 μm.

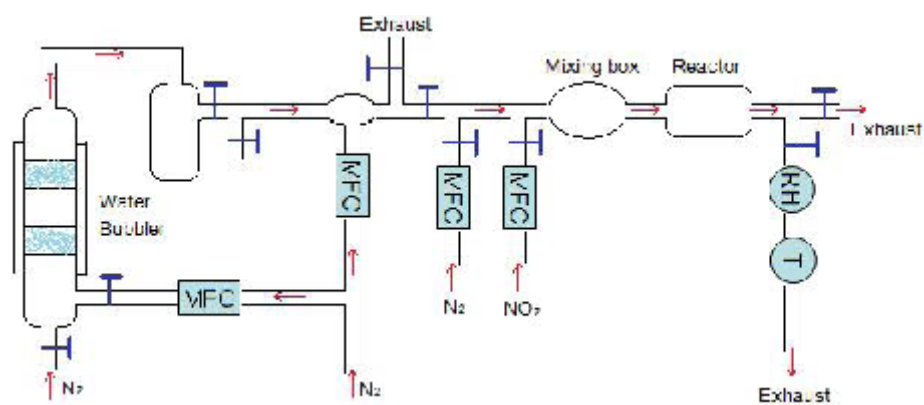


Figure S2. Apparatus for gas preparation.

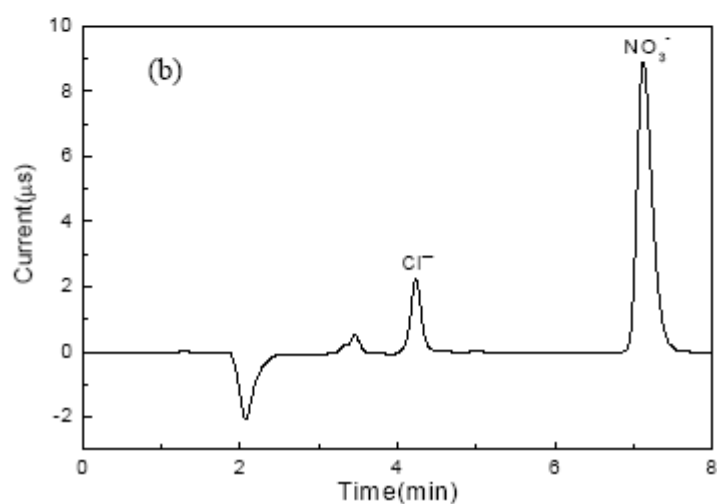
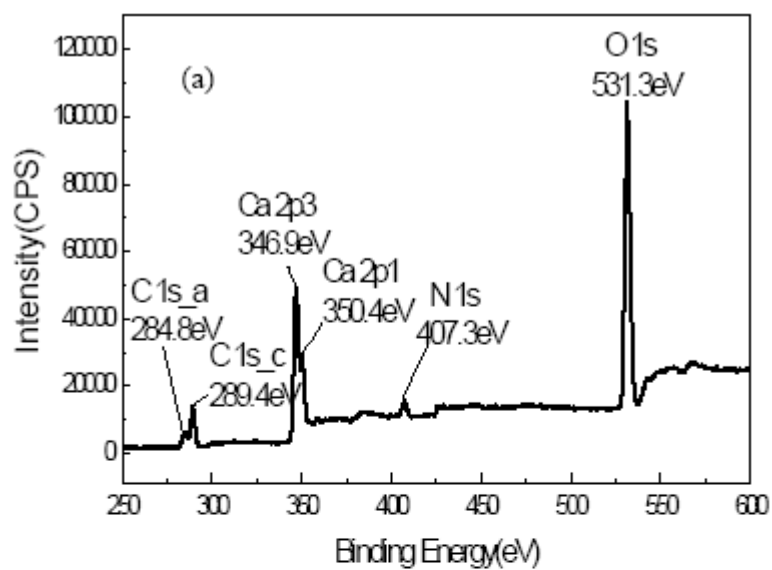


Figure S3. Typical XPS spectrum (a) and IC chromatogram (b) of CaCO₃ particle after reacted with 1.06×10^{15} molecules cm⁻³ NO₂ for 626 min.

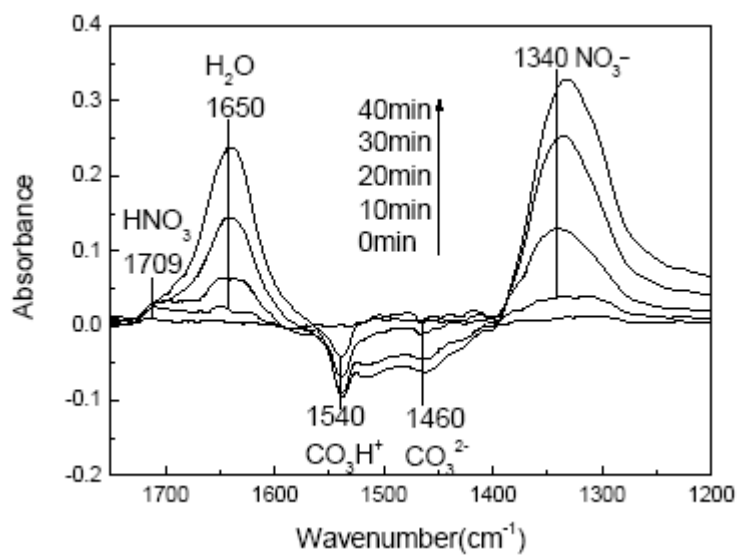


Figure S4. Typical IR spectrum of CaCO₃ after reacted with HNO₃ for 0 to 40 min.

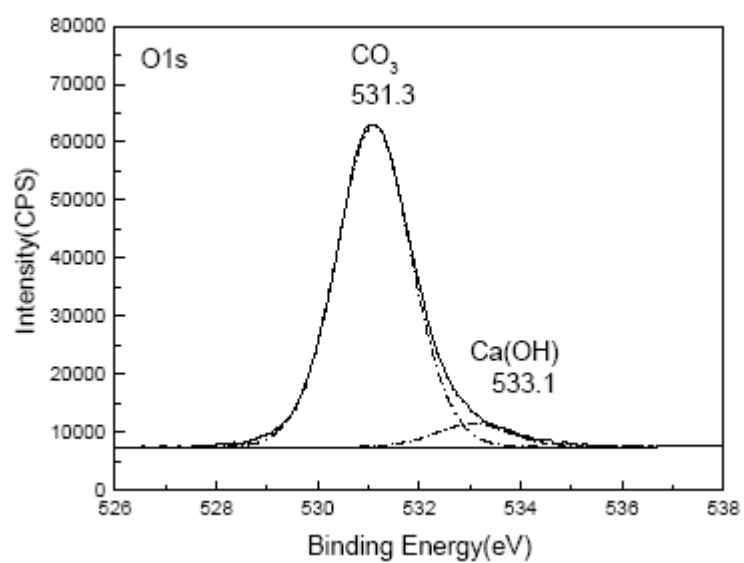


Figure S5. XPS spectrum of O1s at the surface of CaCO₃ particles.

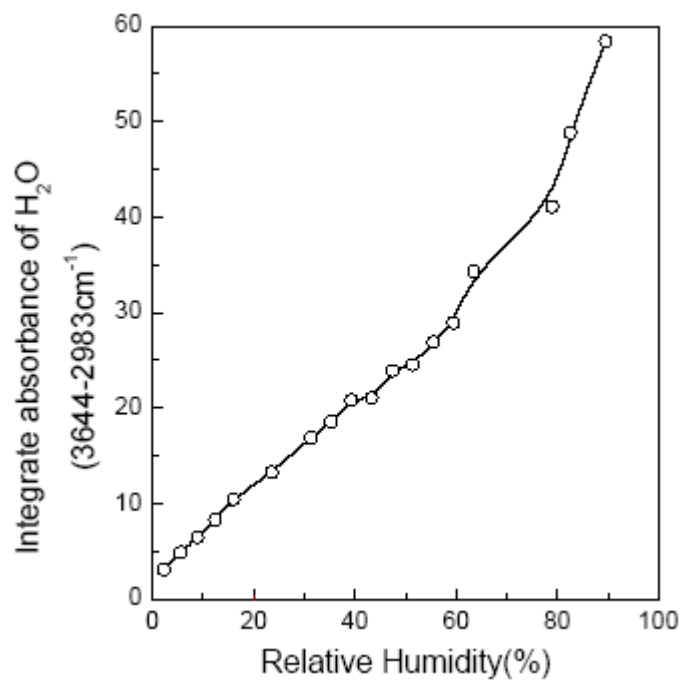


Figure S6. Isotherm adsorption curve of water vapor on CaCO₃ particles at 296 K. IR absorbance of the stretching vibration of -OH of adsorbed water is integrated between 3644 and 2983 cm⁻¹.