Supplementary Materials

Forced Mineral Carbonation of MgO Nanoparticles Synthesized by Aerosol Methods at Room Temperature

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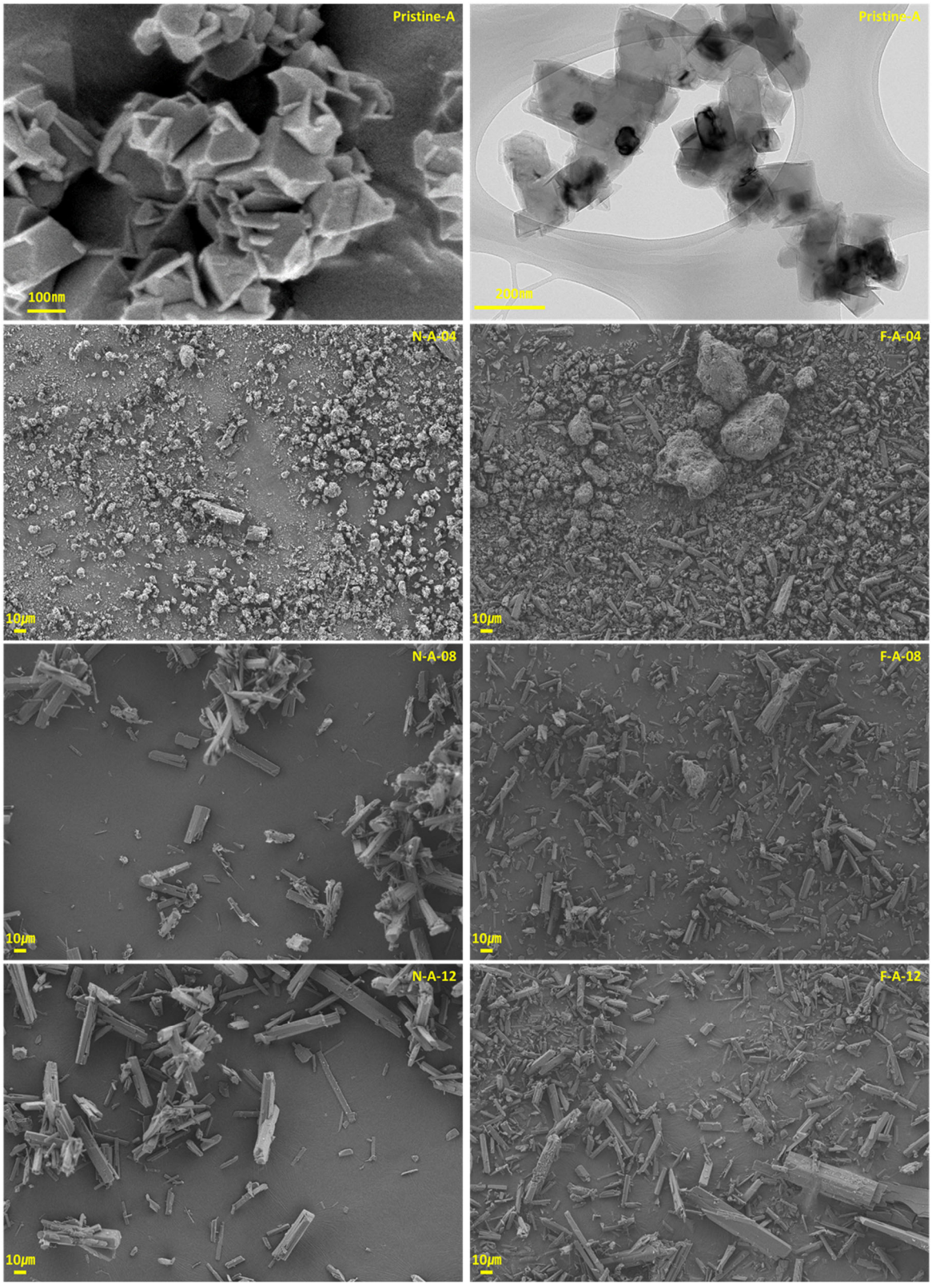


Figure S1. Morphological changes for the A-MgO nano-adsorbent during the forced (F) or non-forced (N) wet carbonation at different carbonation times (scale bars: 100 nm, 200 nm, and 10 μm depending on the images)

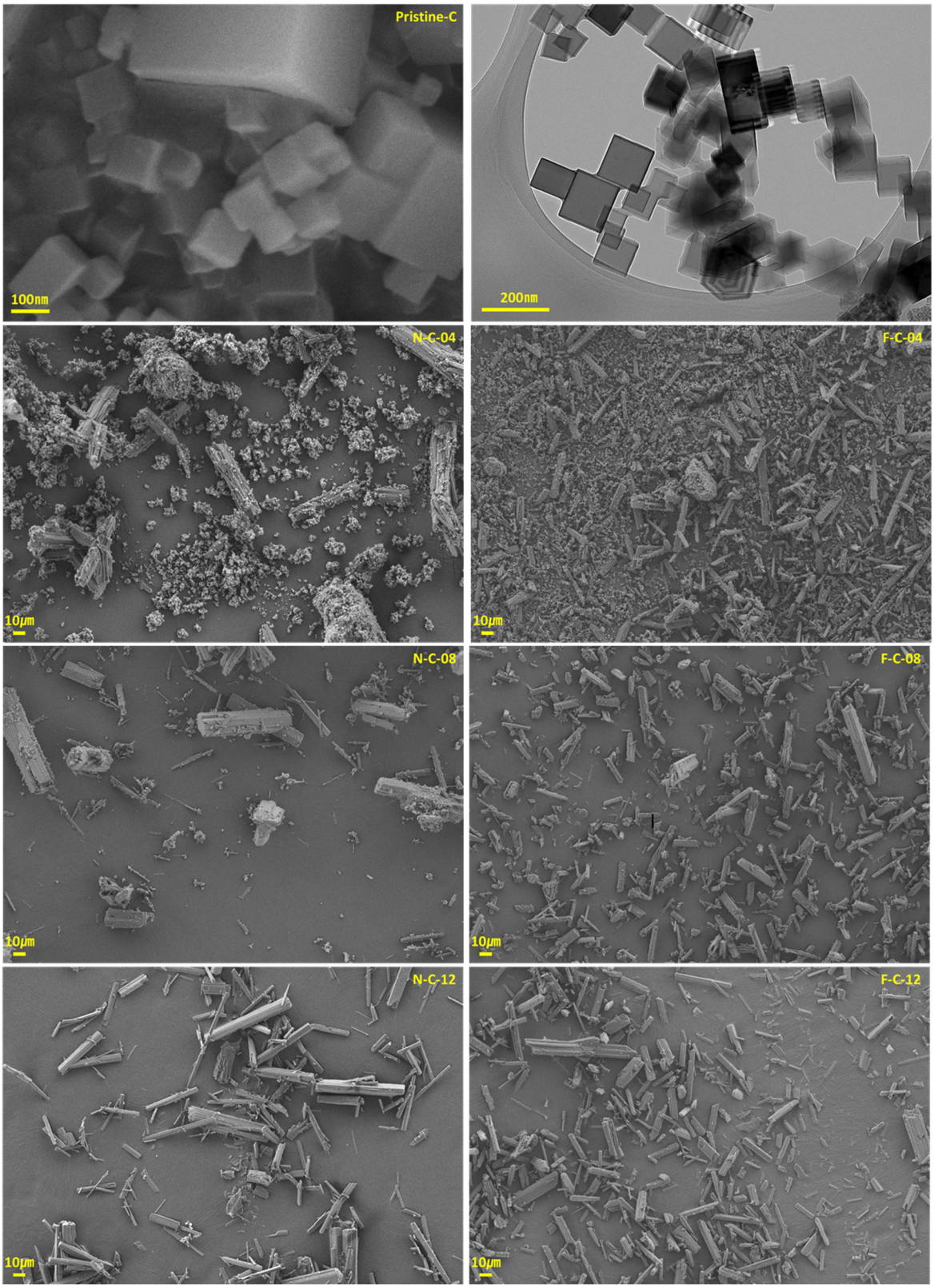


Figure S2. Morphological changes for the A-MgO nano-adsorbent during the forced (F) or non-forced (N) wet carbonation at different carbonation times (scale bars: 100 nm, 200 nm, and 10 μm depending on the images)

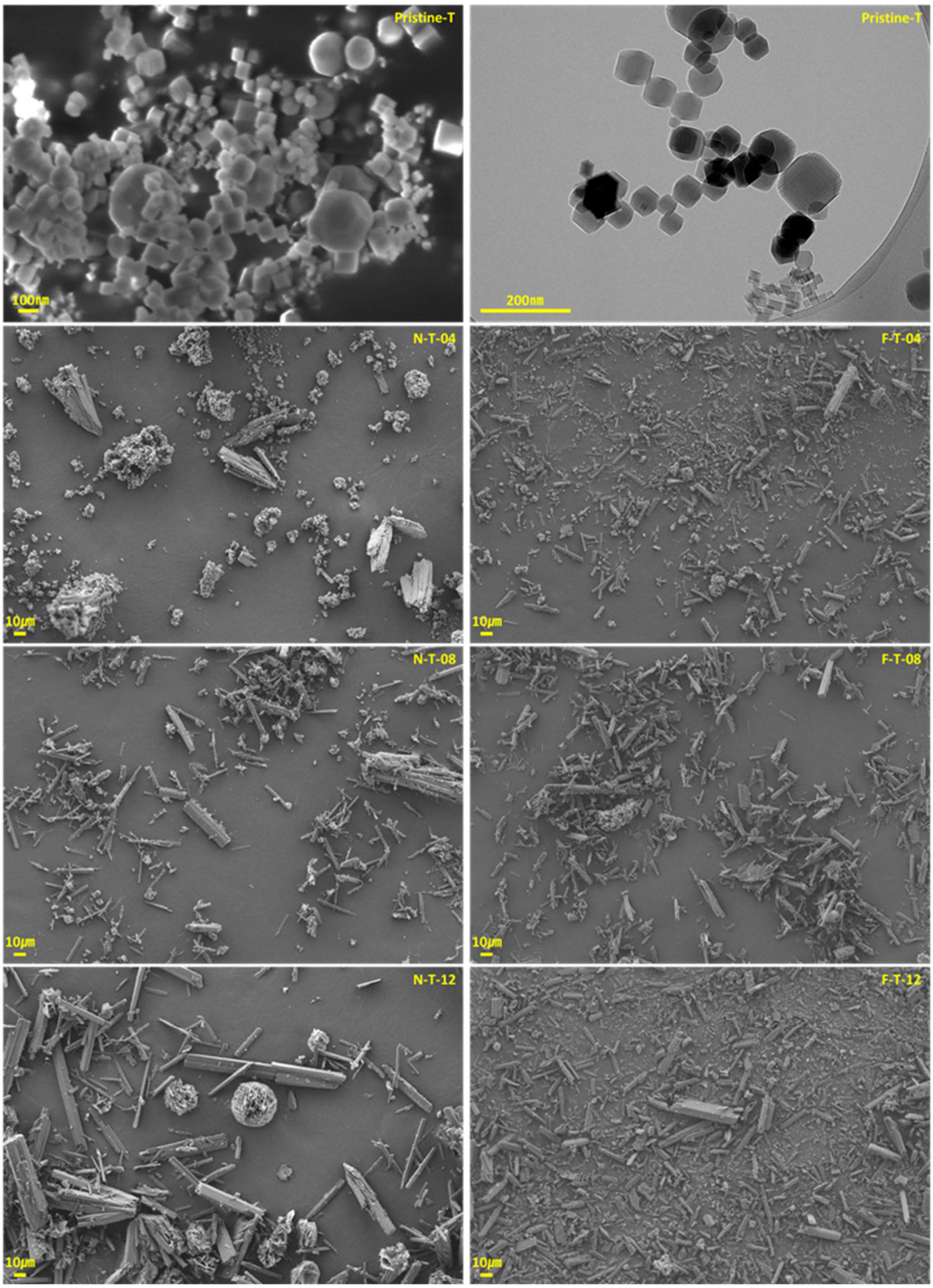


Figure S3. Morphological changes for the A-MgO nano-adsorbent during the forced (F) or non-forced (N) wet carbonation at different carbonation times (scale bars: 100 nm, 200 nm, and 10 μm depending on the images)

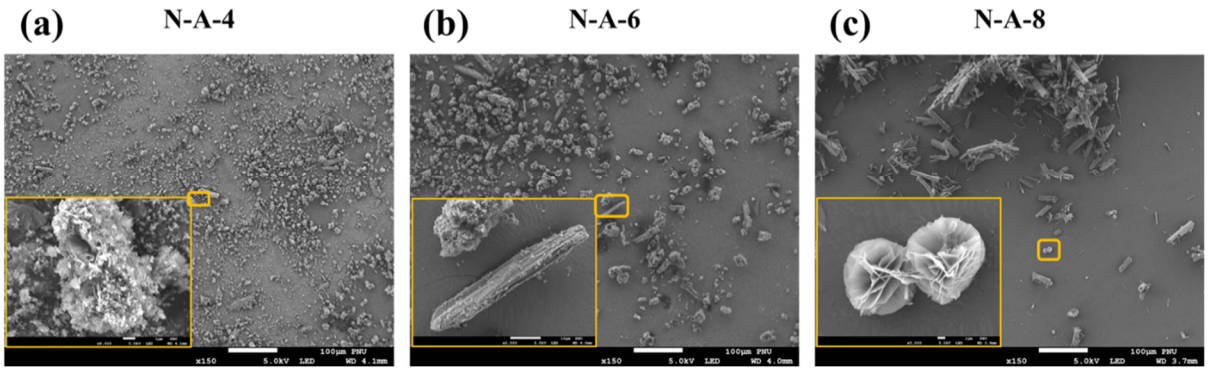


Figure S4. Morphological changes of the A-MgO nanoparticles during the Non-forced wet carbonation. (scale bars: 100 μm for all three larger image (N-A-4, 6, 8) and 10 (N-A-6) and 1 μm (N-A-4 and N-A-8) for Smaller image)

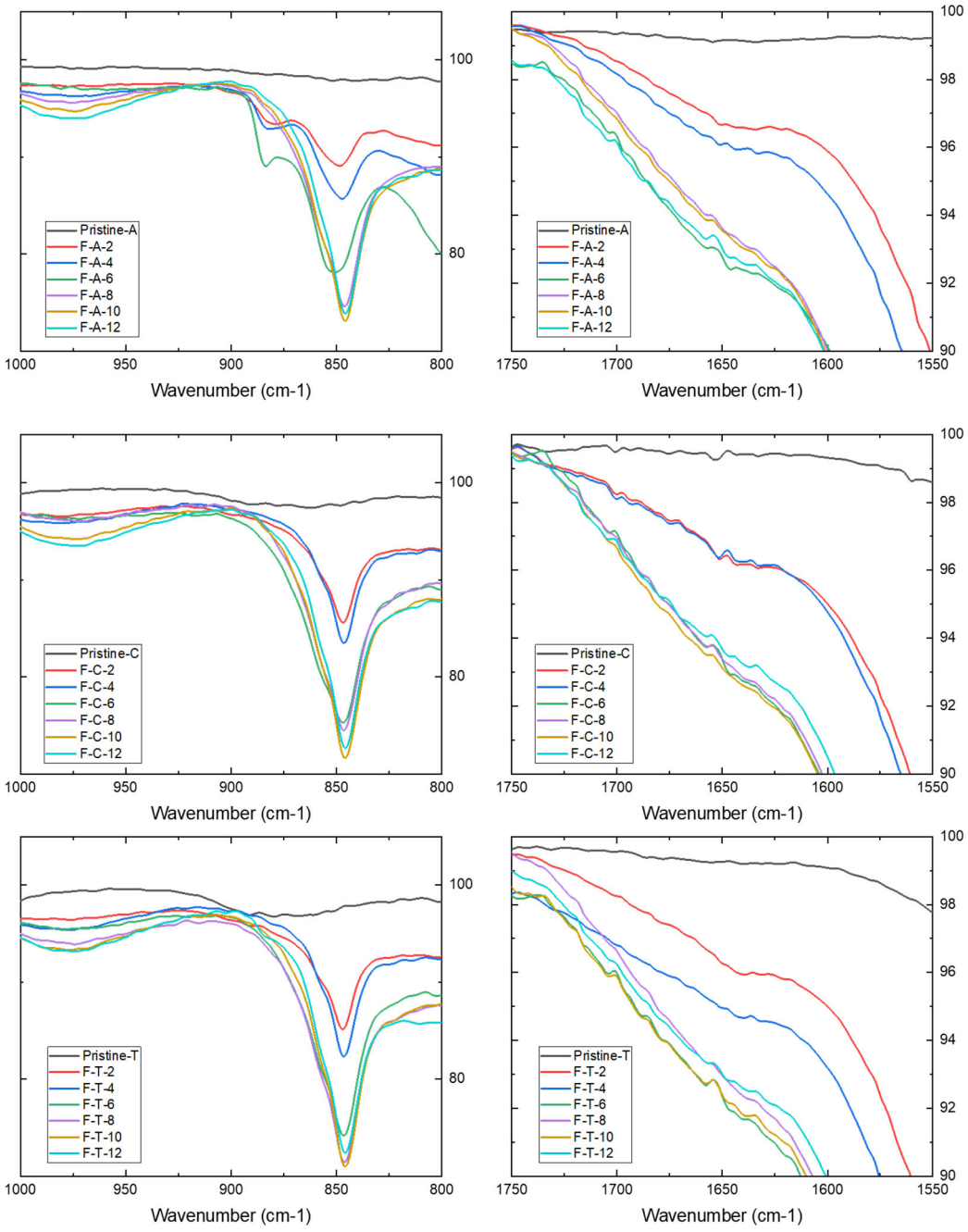


Figure S5. Detailed FT-IR spectra for the 3 forced carbonation samples in the ranges of 800 – 1000 cm^{-1} (left, HCO_3^-) and 1550 – 1750 cm^{-1} (right, H_2O)

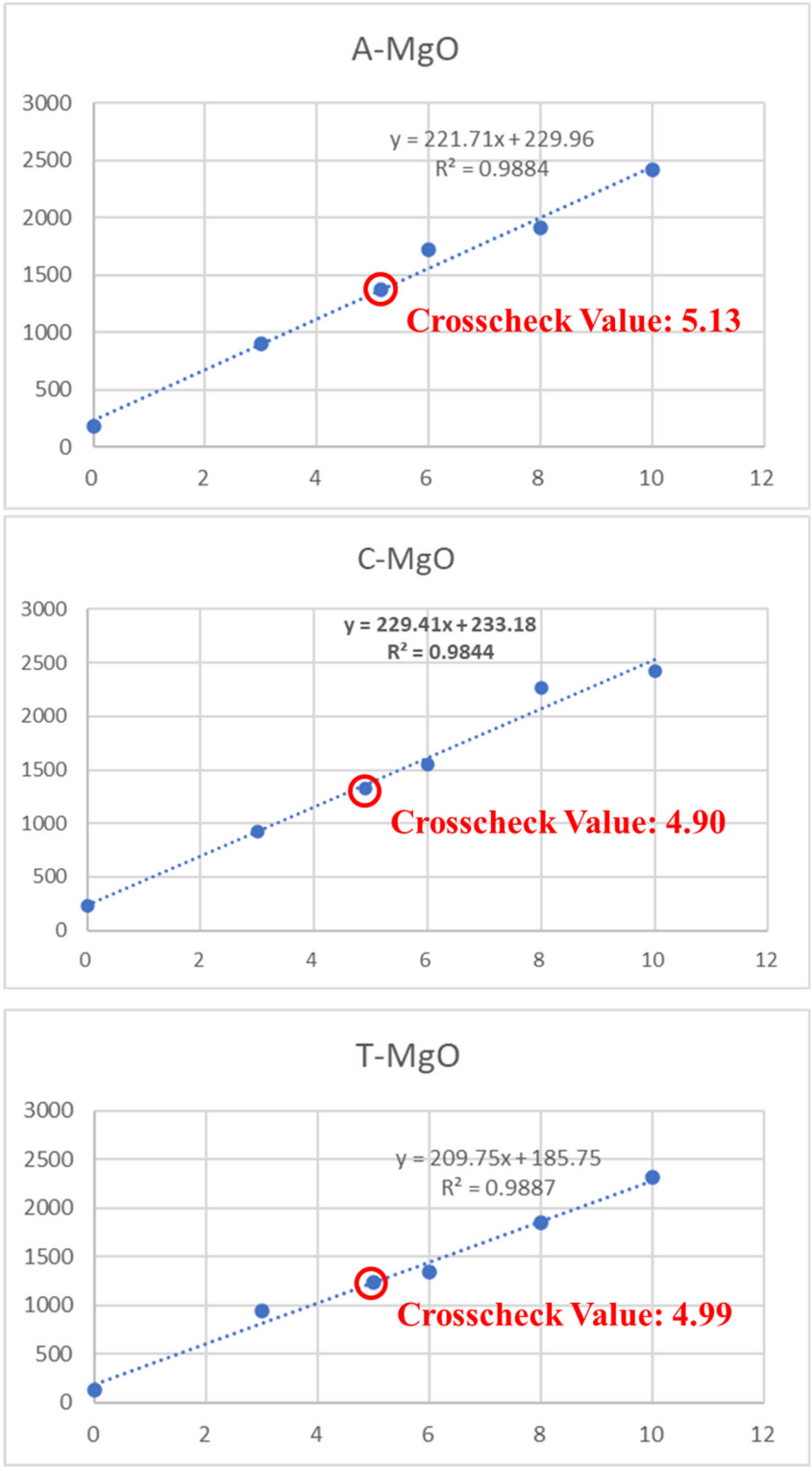


Figure S6. Calibration curve of each MgO nano-adsorbent with different Hydromagnesite ratio in 10mg powder and crosscheck value which was 5 mg of Hydromagnesite