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H_2O-prompted CO_2 capture on metal silicates generated from SBA-15

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Figure S1 Small-angle x-ray diffraction patterns of pristine SBA-15 and as synthesized metal silicates

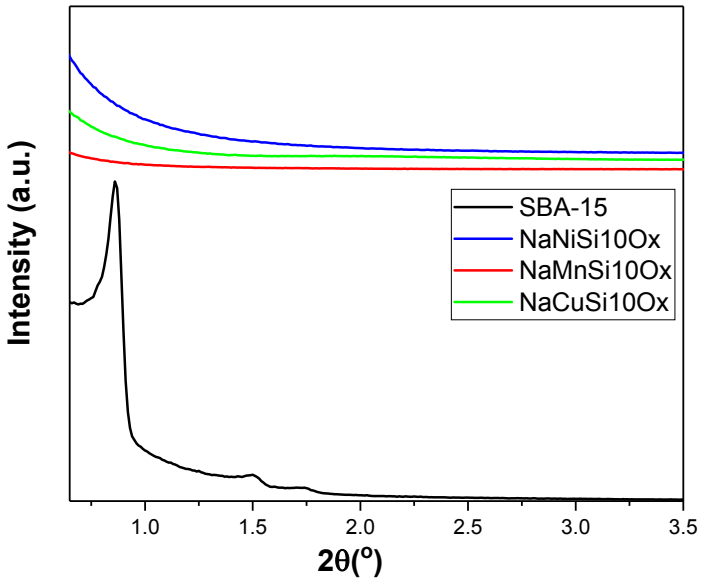


Figure S2 the XRD patterns of metal silicates after CO_2 capture in the presence of H_2O

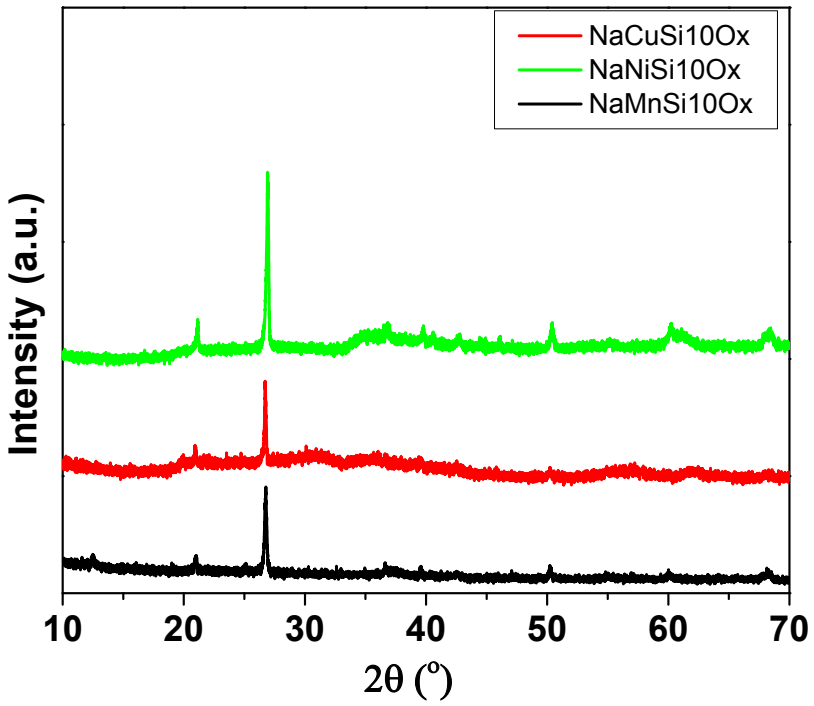
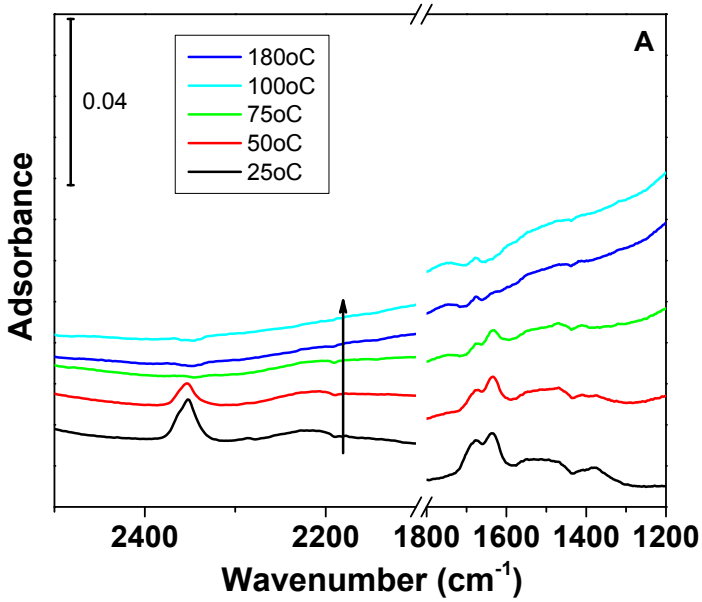


Figure S3. IR spectra collected during temperature-programmed desorption (TPD) after CO_2 adsorption on $NaCuSi_{10}Ox$: A) in the absence of water vapor, B) in the presence of water vapor



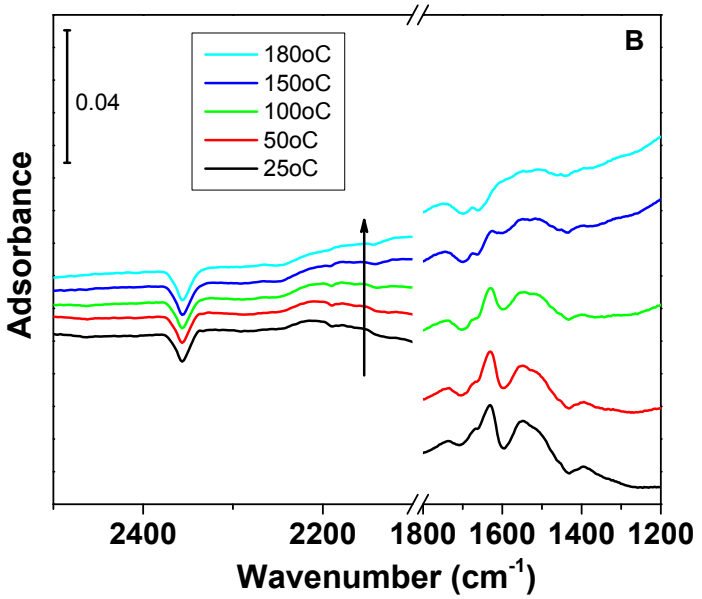


Figure S4. IR spectra from CO_2 adsorption (A and C) and desorption (B and D) (He purging) at room temperature on $NaNiSi_{10}Ox$ for 30 mins: A, B) in the absence of water vapor and C, D) in the presence of water vapor

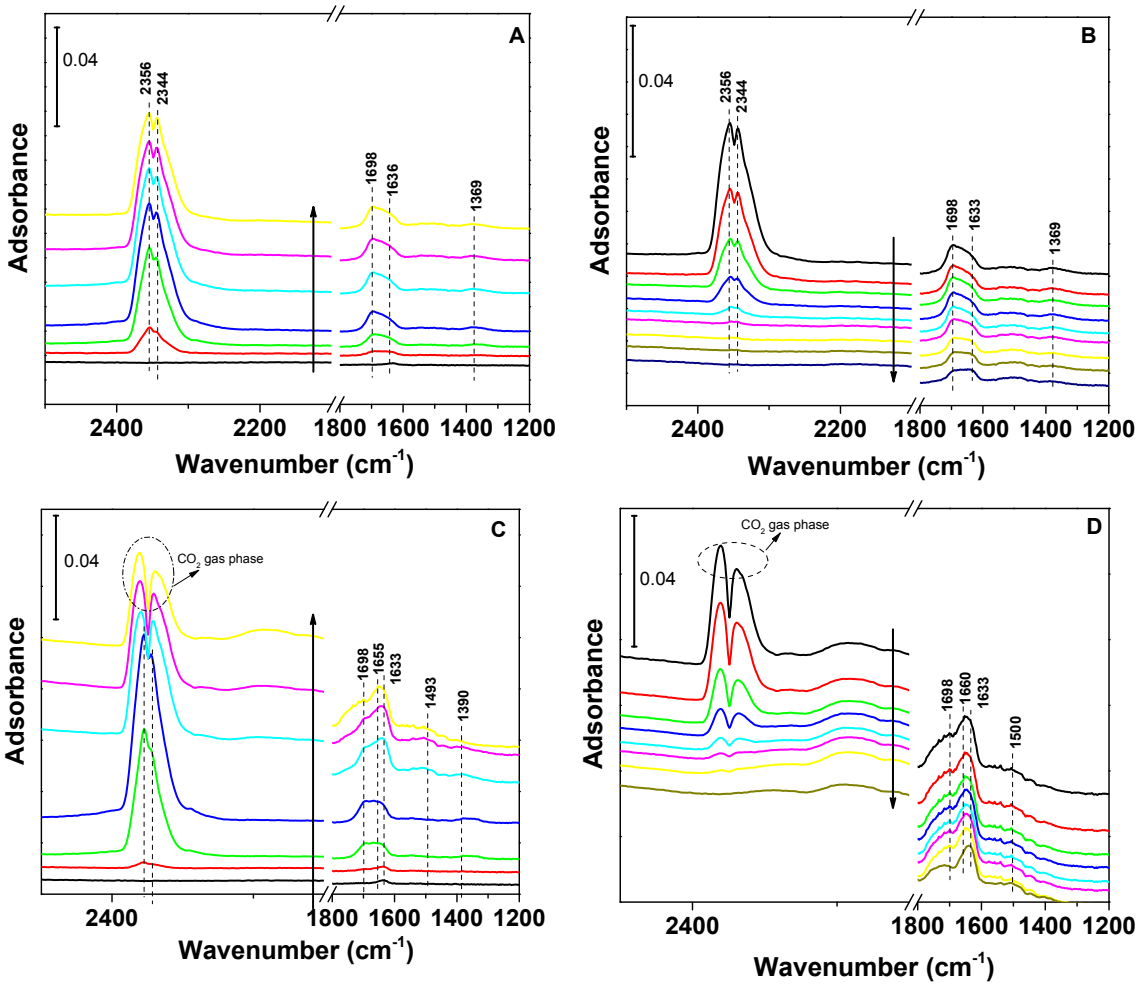


Figure S5. IR spectra from CO_2 adsorption (A and C) and desorption (B and D) (He purging) at room temperature on $NaMnSi_{10}Ox$ for 30 mins: A, B) in the absence of water vapor and C, D) in the presence of water vapor

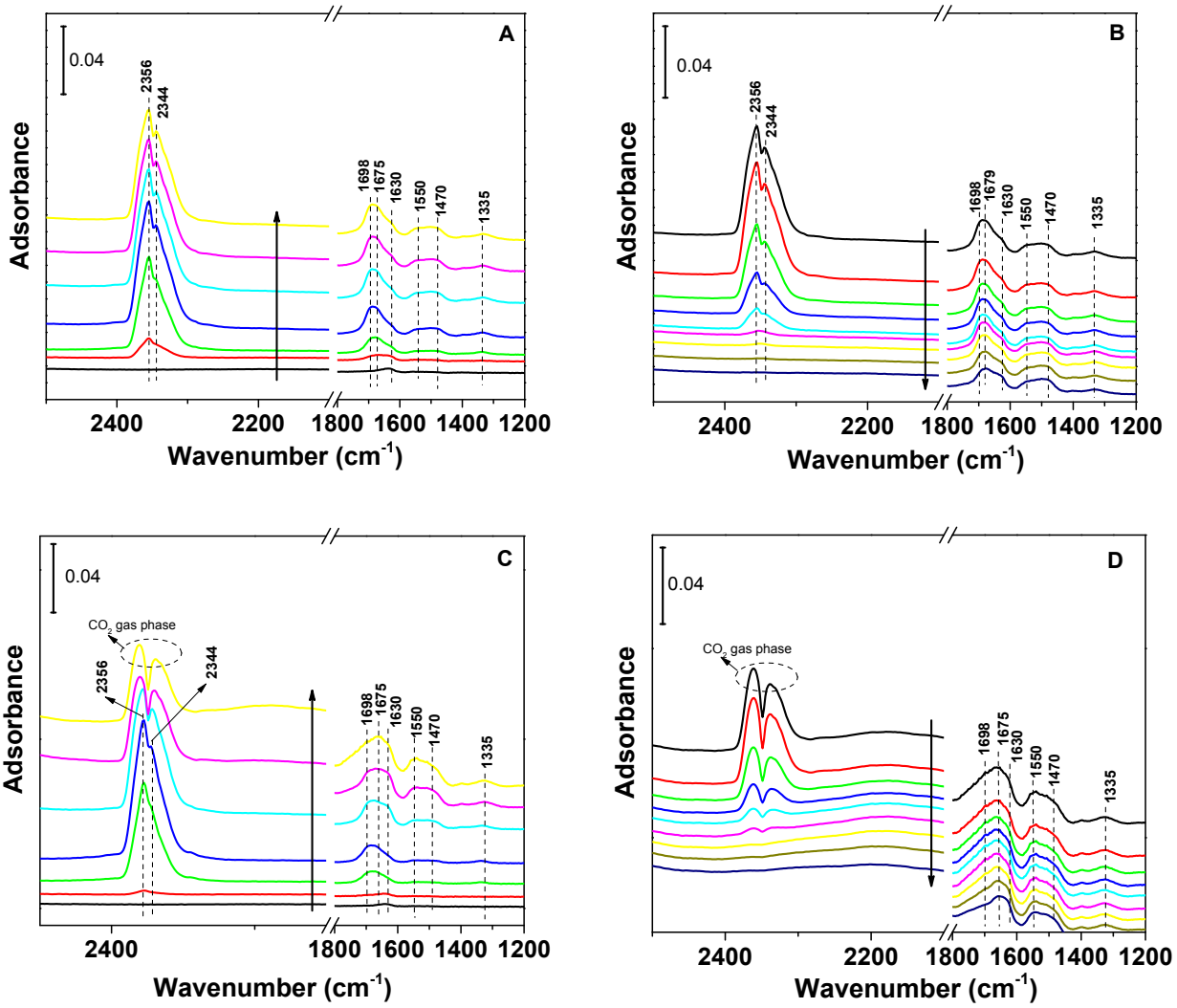
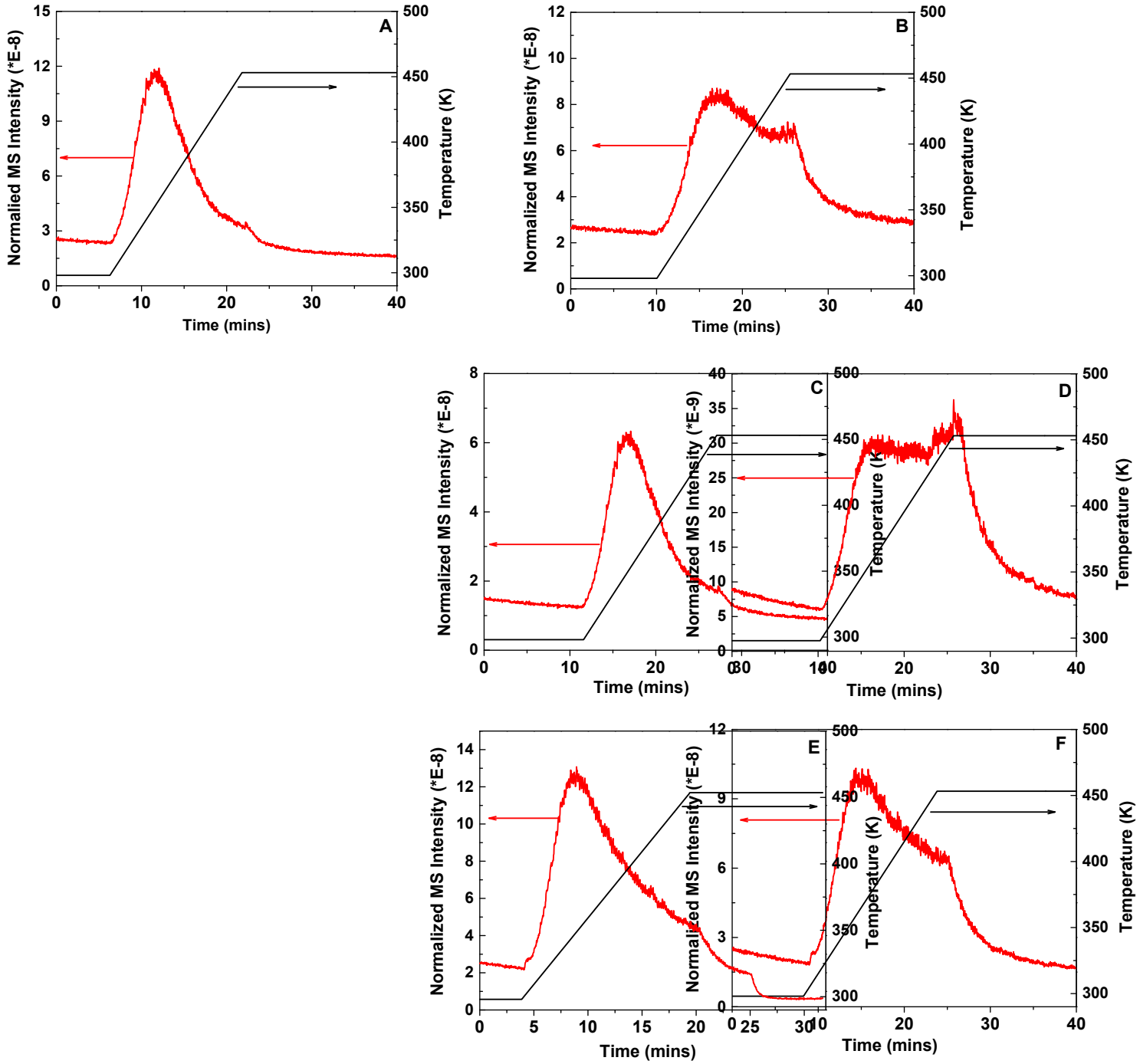



Figure S6. The corresponding QMS profiles (mass 44 signal) of temperature-programmed desorption (TPD) after CO_2 adsorption on A, B) $NaCuSi_{10}Ox$, C,D) $NaNiSi_{10}Ox$, and E,F) $NaMnSi_{10}Ox$ in the absence (A,C and E) and presence (B,D and F) of water.