Supporting Information

Novel fabrication of efficient solid base: carbon-doped MgO-ZnO composite and its CO_2 capture at 473 K

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Table S1. Carbon content of 82MZ-s, 82MZ-g and 82MZ samples.

Samples	82MZ-s	82MZ-g	82MZ
Carbon content (wt-%)	1.7	2.0	1.2

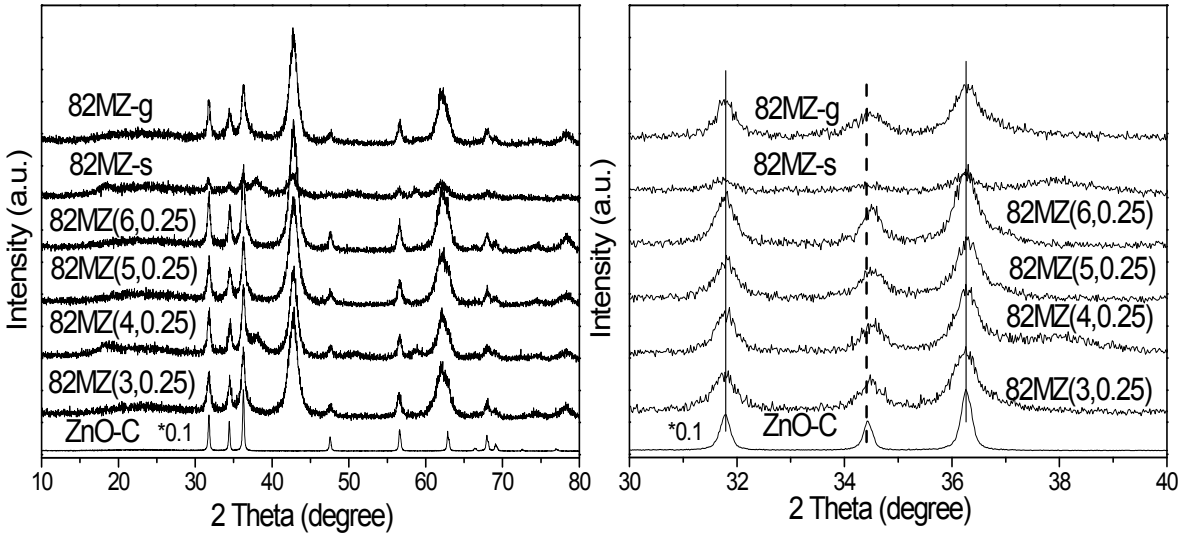

Figure S1. (a) Wide-angle XRD patterns of 82MZ (t, v), 82MZ-s, and 82MZ-g composites, (b) the amplified XRD patterns of (a).

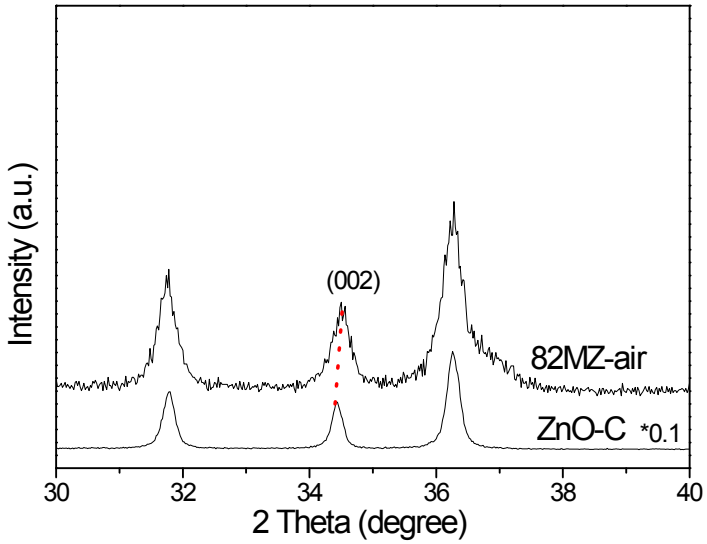

Figure S2. Shift of ZnO (002) peak on the wide angle XRD pattern of 82MZ-air sample.

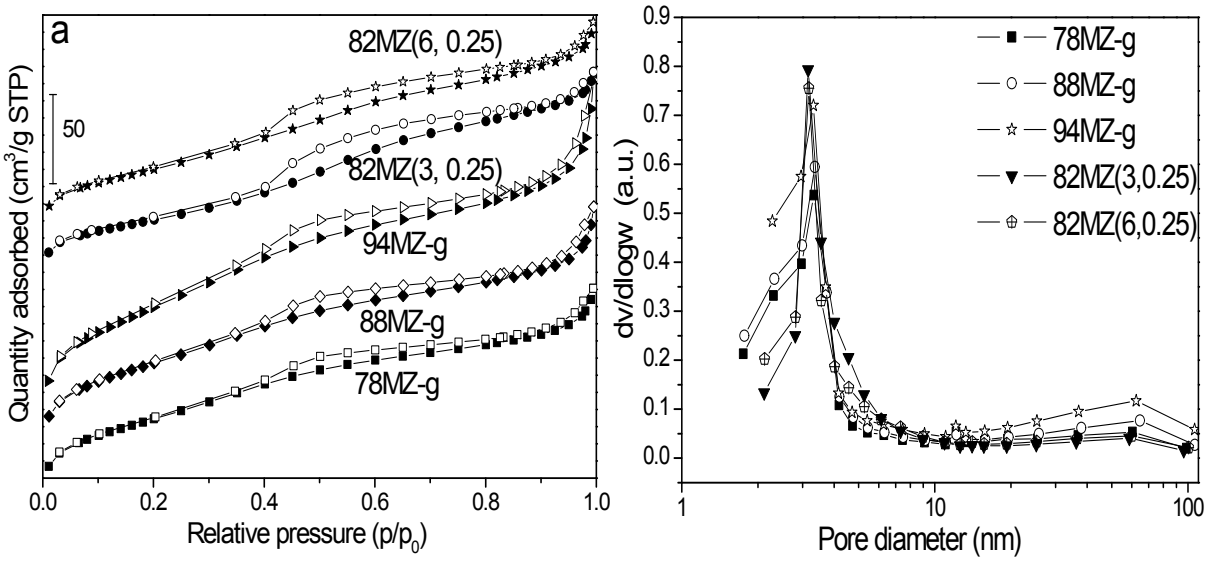

Figure S3. (a) N_2 adsorption-desorption isotherms and (b) pore-size distributions of MZ-g and 82MZ (t, v) samples.

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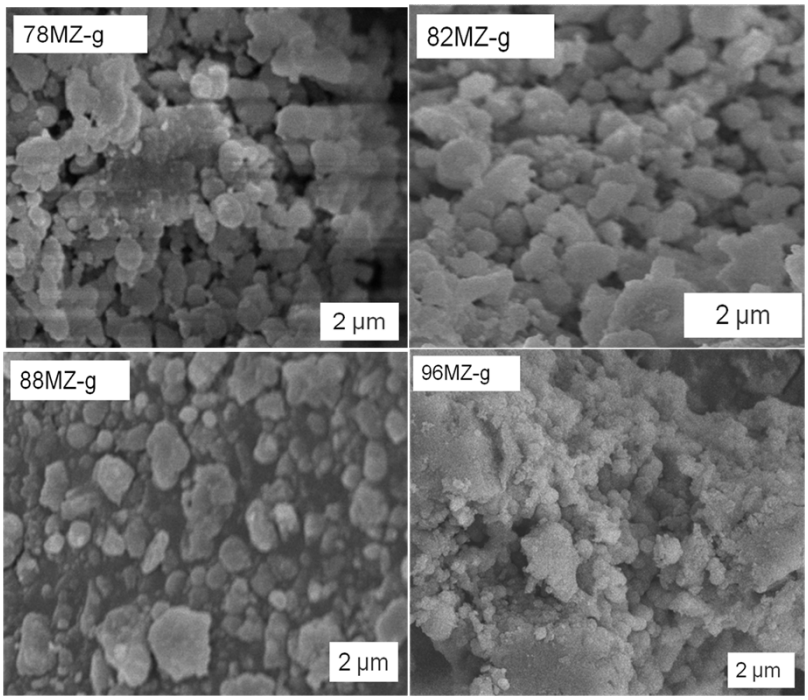

Figure S4. SEM images of MZ-g samples.

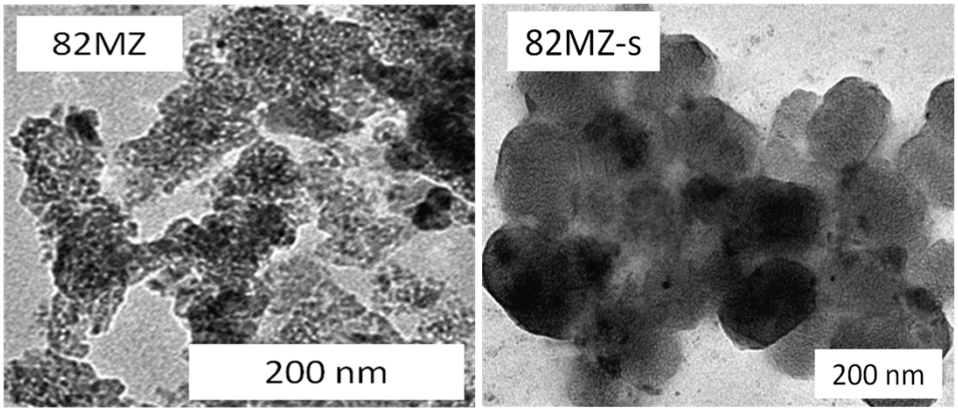

Figure S5. TEM images of 82MZ and 82MZ-s samples.

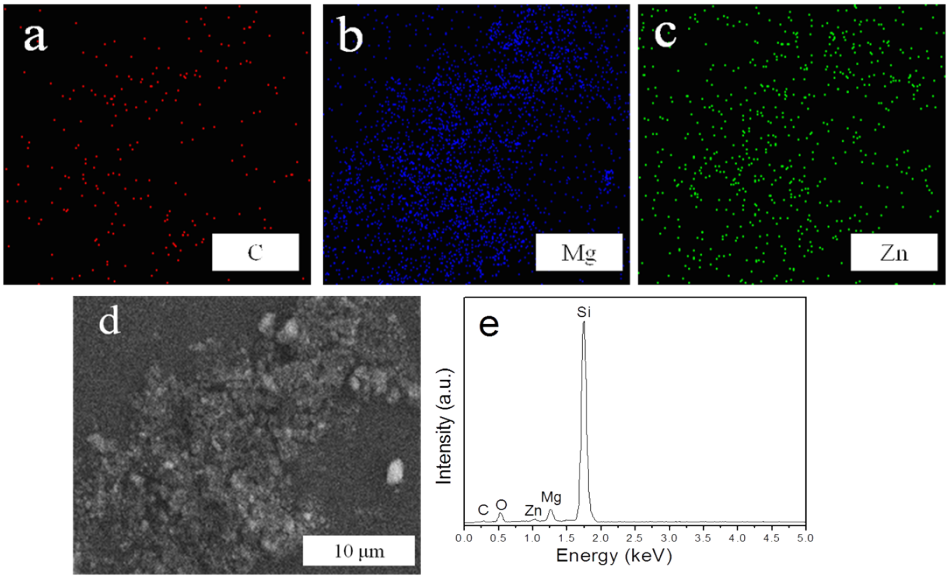

Figure S6. X-ray mapping (a, b, c), SEM images (d) and EDX spectrum (e) of 82MZ-s sample, in which the magnification is 4000.

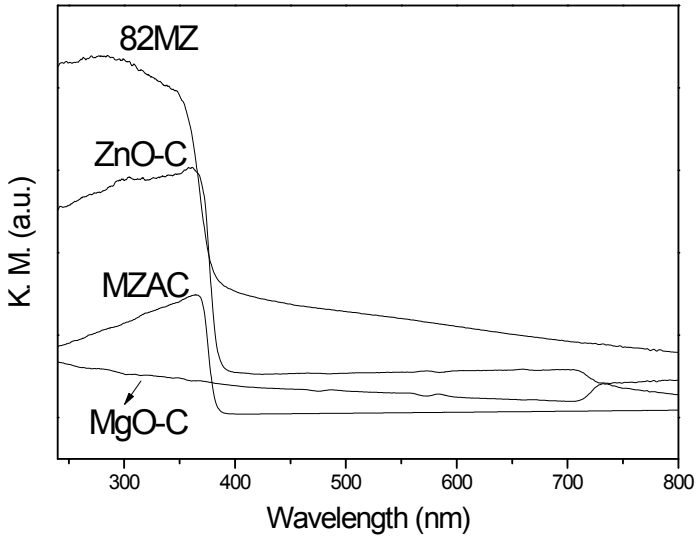

Figure S7. UV-vis diffuse reflectance spectra of 82MZ, MZAC, MgO-C and ZnO-C composites.

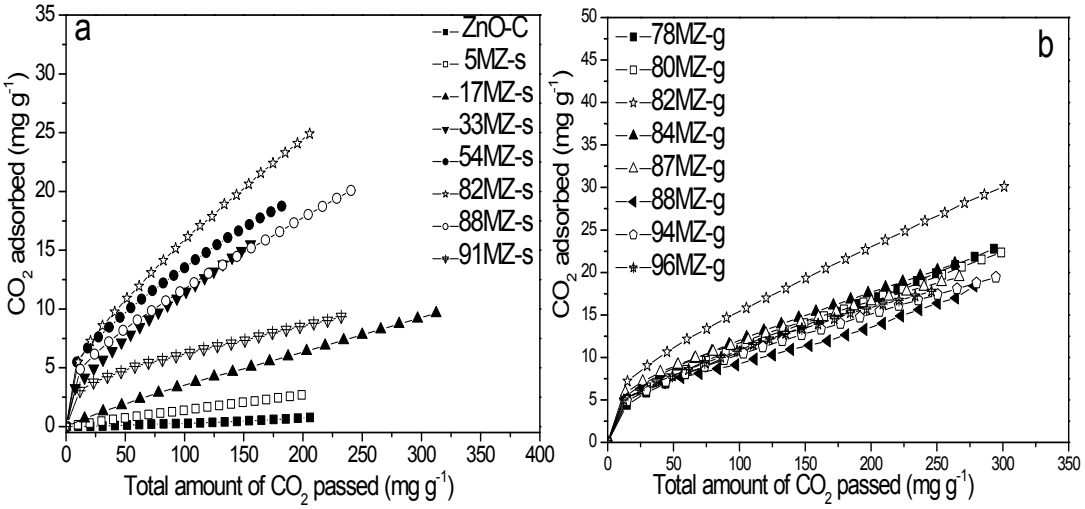

Figure S8. Instantaneous CO_2 adsorption at 473 K on the carbon-doped MgO-ZnO composites made from (a) solution-evaporation and (b) grinding methods.

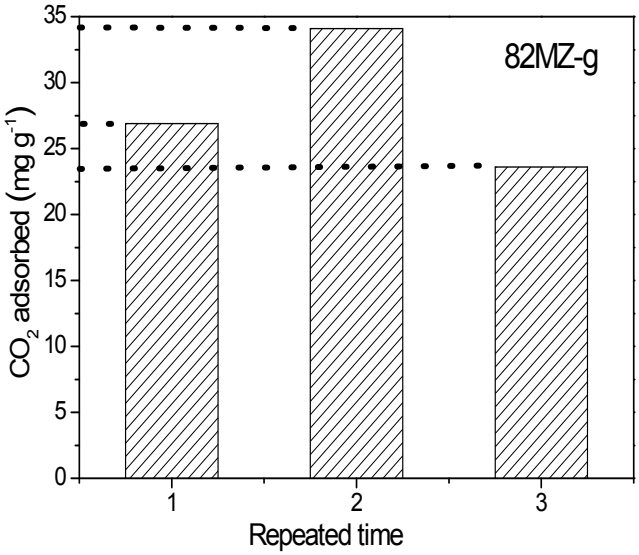

Figure S9. Repeated CO_2 adsorption on 82MZ-g at 473 K for three times in the same condition.