

Mesoporous  $(\text{ZnO})_x(\text{MgO})_{1-x}$  nanoplates: template-free solvothermal  
synthesis, optical properties, and their applications in water treatment

Electronic Supplementary Information

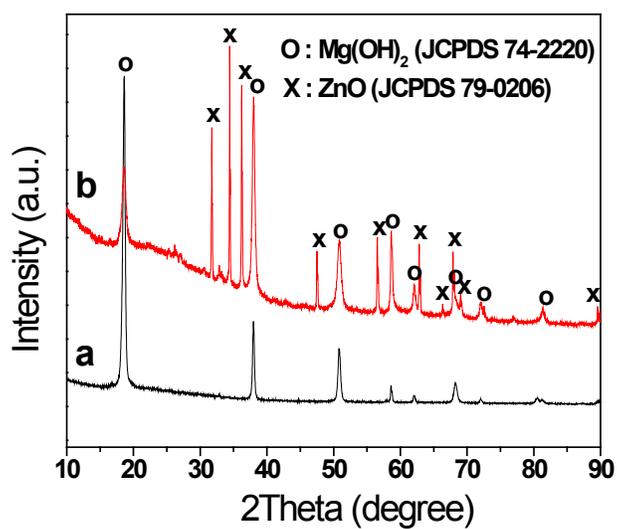
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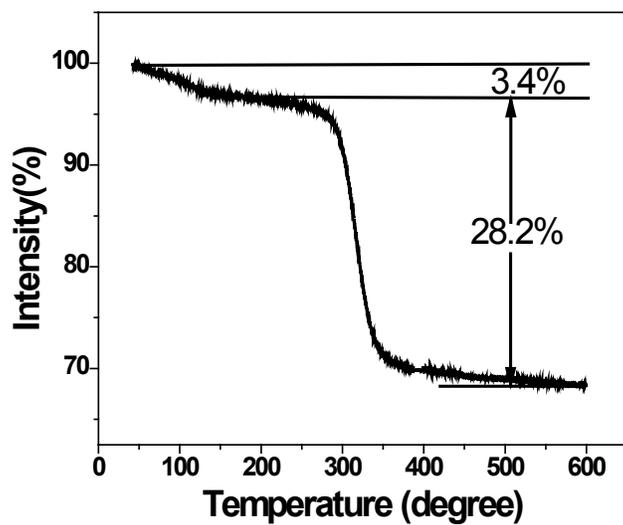
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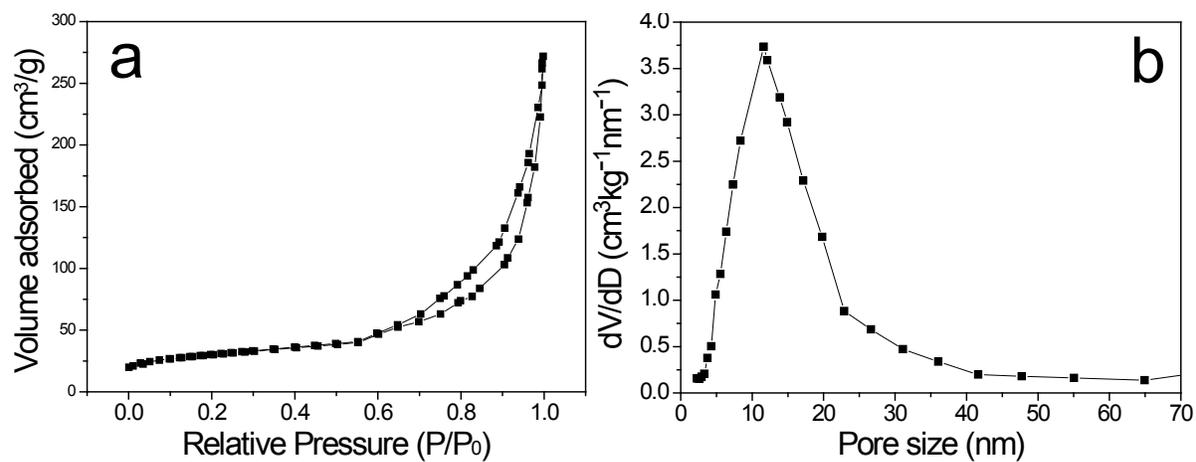
**Fig. S1** The corresponding XRD patterns of S-1 (a) and S-2 (b) before being annealed.



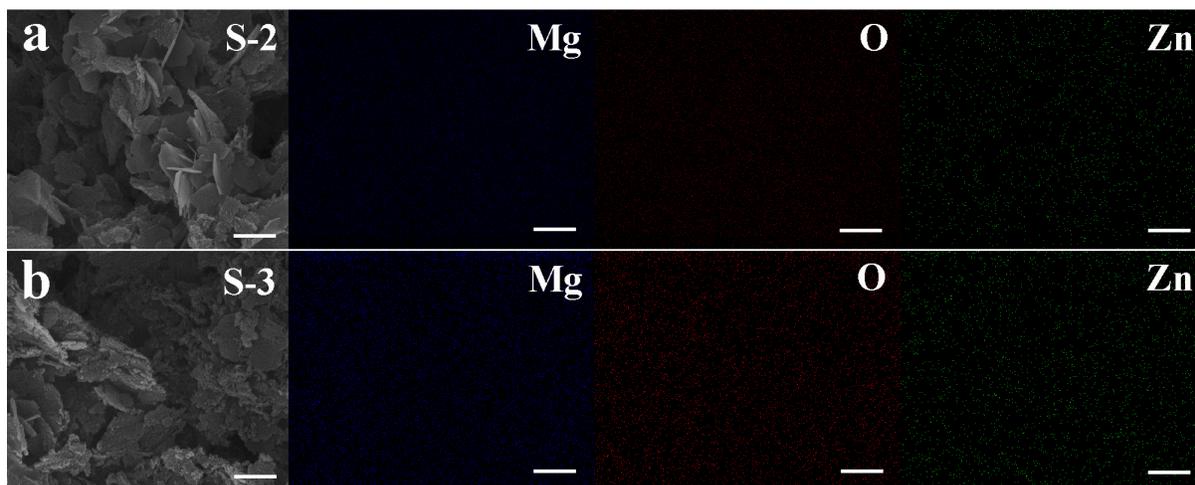
**Fig. S2** TGA curve of the as-prepared precursor ZnO/Mg(OH)<sub>2</sub> nanoplates (S-2 before being annealed).



**Fig. S3** (a) Nitrogen adsorption–desorption isotherm and (b) the pore size distribution curve of the mesoporous nanoplates.



**Fig. S4** The elemental chemical maps of Mg, O, and Zn for the sample S-2 (a) and S-3 (b), respectively. All scale bars are 400 nm.



**Fig. S5** UV-vis absorption spectra of MO solutions after being treated with the samples S-1 (a), S-2 (b), S-3 (c), and S-4 (d) at different time intervals, respectively.

