

## Supporting Information

### Particle size and Structural Control of ZnWO<sub>4</sub> Nanocrystals via Sn<sup>2+</sup> Doping for Tunable Optical and Visible Photocatalytic Properties

*Yiguo Su,<sup>†</sup> Baoling Zhu,<sup>†</sup> Kai Guan,<sup>†</sup> Shushu Gao,<sup>†</sup> Li, Lv,<sup>‡</sup> Chunfang Du,<sup>†</sup> Liman*

*Peng,<sup>†</sup> Lichun Hou,<sup>†</sup> Xiaojing Wang<sup>\*†</sup>*

<sup>†</sup>College of Chemistry and Chemical Engineering, Inner Mongolia University, Hohhot, Inner Mongolia 010021, P. R. China

<sup>‡</sup>Chemical Engineering College of Inner Mongolia University of Technology, Hohhot, Inner Mongolia 010021, P. R. China

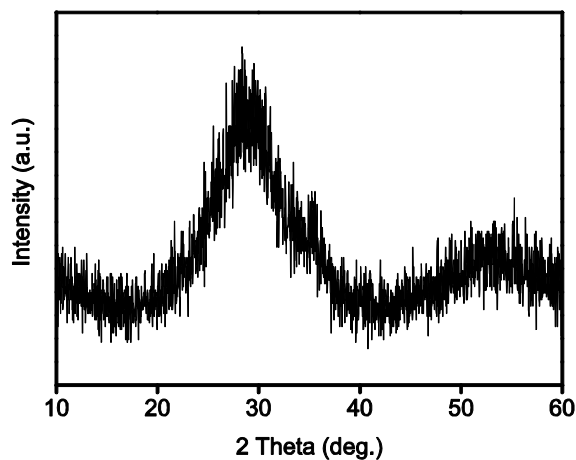


Figure S1 XRD pattern of Sn<sup>2+</sup> doped ZnWO<sub>4</sub> with initial dopant concentration of 0.60.

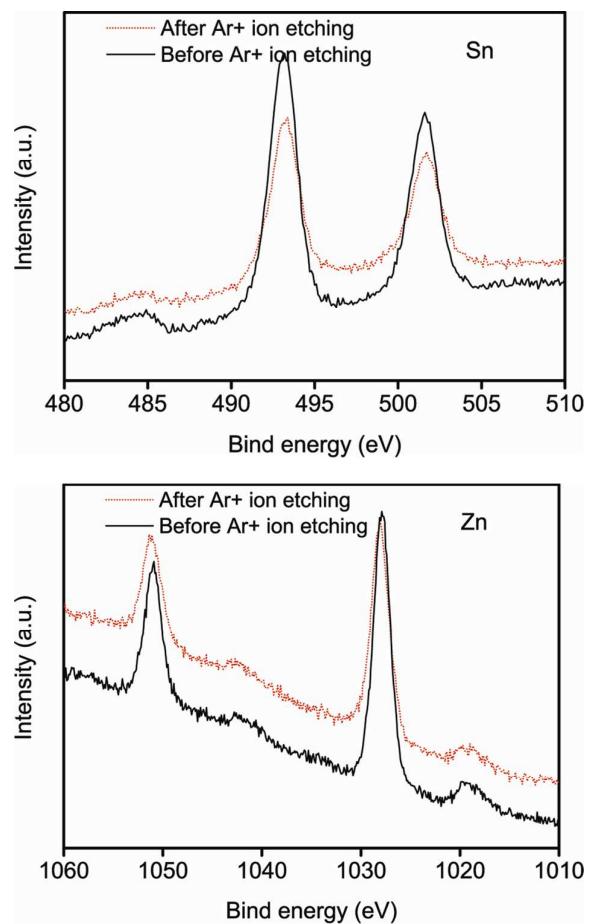


Figure S2 XPS spectra of  $\text{Sn}^{2+}$  doped  $\text{ZnWO}_4$  nanocrystals before and after  $\text{Ar}^+$  ion etching.

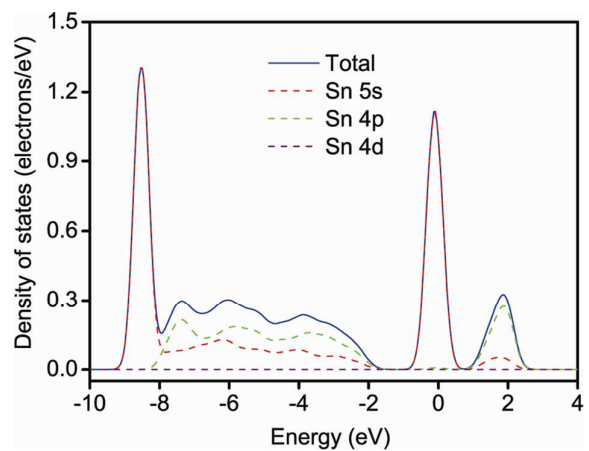


Figure S3 Density of states (DOS) of Sn in  $\text{Sn}^{2+}$  doped  $\text{ZnWO}_4$ .

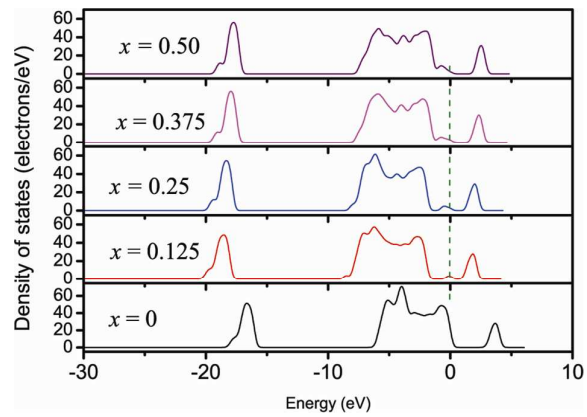


Figure S4 Density of states (DOS) of  $Zn_{1-x}Sn_xWO_4$

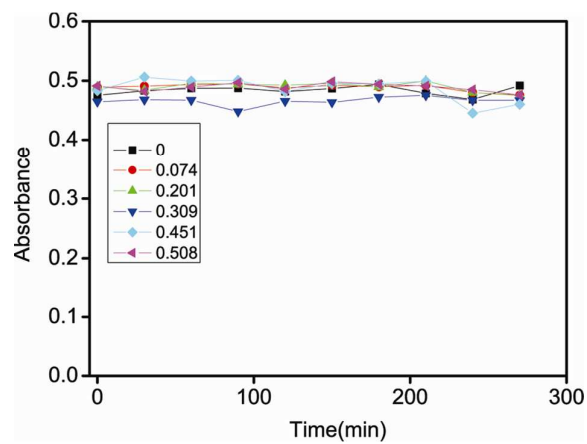


Figure S5 MO absorbance for  $Sn^{2+}$  doped  $ZnWO_4$  nanocrystals before illumination.

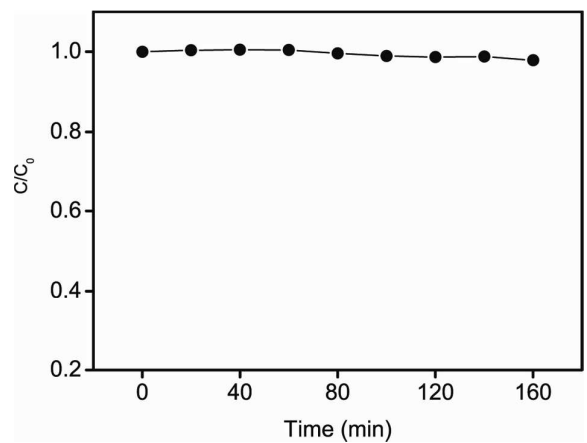


Figure S6 MO direct photodegradation as a function of irradiation time.

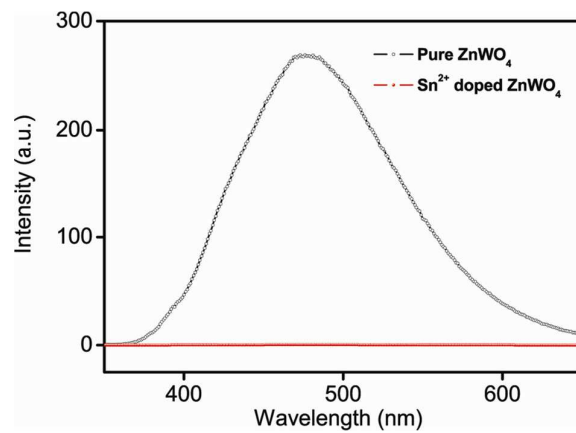


Figure S7 Emission spectra of pure ZnWO<sub>4</sub> and Sn<sup>2+</sup> (Sn = 0.074) doped ZnWO<sub>4</sub> nanocrystals under 285 nm excitation.