Electronic Supplementary Material (ESI) for RSC Advances

Supporting Information

Rapid synthesis of Zn^{2+} doped $SnWO_4$ nanowires with the aim of exploring doping effects on highly enhanced visible photocatalytic activities

Yiguo Su, Lichun Hou, Chunfang Du, Liman Peng, Kai Guan, and Xiaojing Wang[*]

College of Chemistry and Chemical Engineering, Inner Mongolia University, Hohhot, Inner Mongolia 010021, People's Republic of China

wang_xiao_jing@hotmail.com

College of Chemistry and Chemical Engineering, Inner Mongolia University, Hohhot, Inner Mongolia 010021, P. R. China. Fax: +86-471-4992981; Tel: +86-471-4344579.

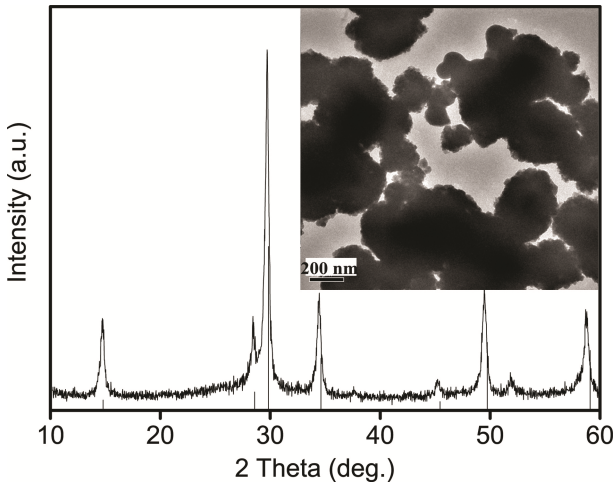

Fig. S1 XRD pattern of $SnWO_4$ nanocrystals with initial Zn dopant concentration at 20%. Inset is the corresponding TEM image. Vertical bars below the patterns represent the standard diffraction data from JCPDS file for Sn_2TiWO_7 (25-0978).

Further increase of the initial Zn dopant concentration to 20%, no diffraction peak belonging to

$SnWO_4$ was observed. The unkonwn phase show the same XRD pattern with that of Sn_2TiWO_7 (25-0978). The sharp diffraction peaks indicate large domain size of the unknown phase, which can be further confirmed by TEM observation.

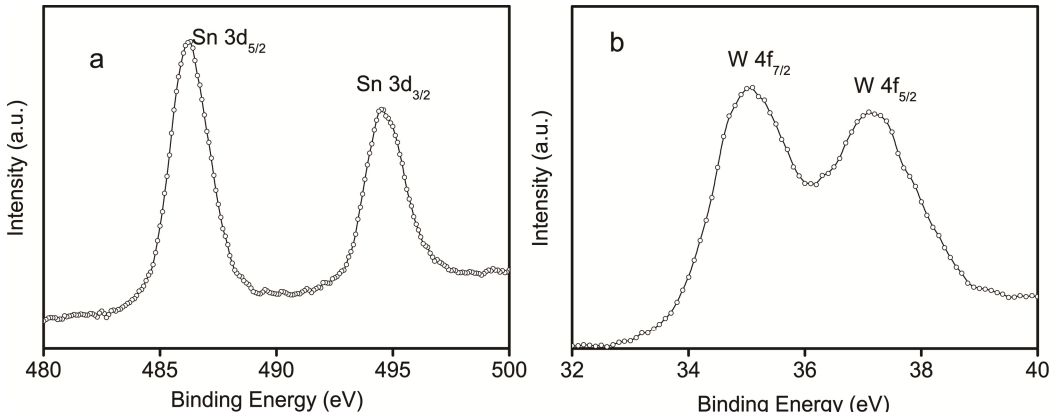

Fig. S2 XPS spectra of $Sn_{1-x}Zn_xWO_4$ nanocrystals

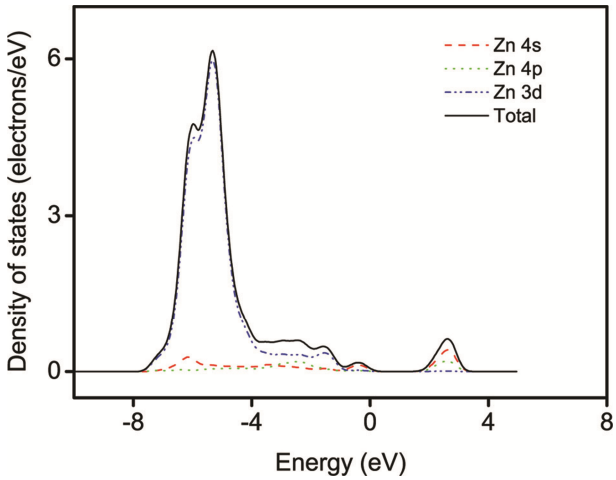

Fig. S3 Density of states (DOS) of Zn in $Sn_{1-x}Zn_xWO_4$.

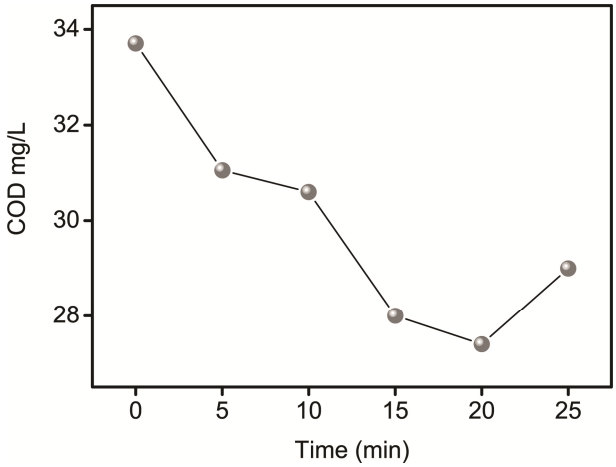

Fig. S4 COD data of MO as a function of irradiation time.