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Supporting Information

The synthesis of ZnO/SnO_2 porous nanofibers for dye adsorption and degradation

Xiang Chen, Feng Zhang, Qian Wang, Xiao Han, Xin Li, Jiuyu Liu, Huiming Lin *, Fengyu Qu*

College of Chemistry and Chemical Engineering, Harbin Normal University, P. R. China, Harbin 150025

Corresponding author: Tel/Fax: +86 0451 88060653.

E-mail address:qufengyu@ hrbnu.edu.cn and linhuiming@hrbnu.edu.cn

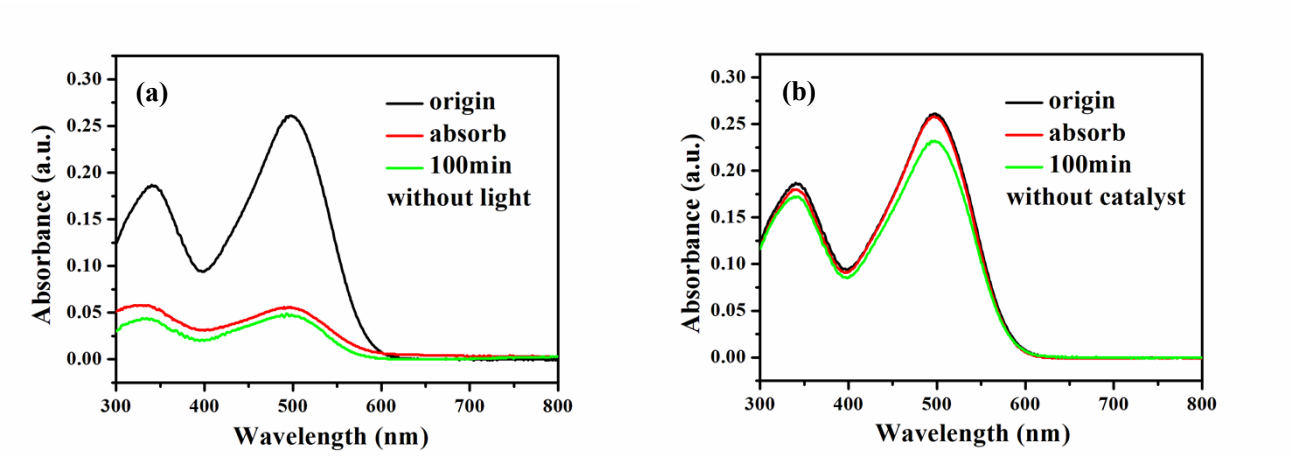

Fig. S1 Adsorption spectra of Congo red solution (10mg/L), (a) without light irradiation in the presence of ZnO/SnO_2-2 nanofibers; (b) without catalyst under light irradiation.

The photodegradation efficiency of ZnO/SnO_2-2 nanofibers towards CR in the absence of light and catalyst were also investigated at the same condition, the suspensions were magnetically stirred in the dark for 1 h to ensure an adsorption/desorption equilibrium as shown in Fig. S1. From Fig. S1a, the decrease of 81.9 % CR was ascribed to the adsorption onto the catalyst for 160 min without the irradiation. And Fig. S1b shows only 10 % decrease of CR after 100 min in the absence of catalyst. However, the irradiation is associated with ZnO/SnO_2-2 nanofibers to reveal the enhanced photocatalytic efficiency (98.8 % 20min). It is confirmed that the excellent photocatalytic performance is derived by both irradiation and catalyst.

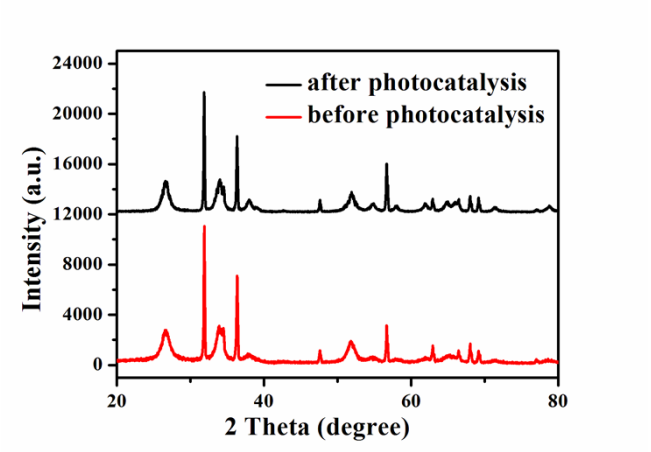

Fig. S2 XRD patterns of the as-synthesised ZnO/Sn_2O-2 before and after the photocatalytic reaction.

The X-ray diffraction (XRD) patterns of the as-electrospun ZnO/SnO_2-2 before and after the photocatalytic reaction are shown in Fig. S2. From the images, there is no obvious difference of all the diffraction peaks before and after the photocatalytic reaction, confirming that the photocatalytic process does destroy the structure of the catalyst.