New Journal of Chemistry

Supplementary Material for:

Improved photocatalytic and sterilization performance of Cu doped sea urchin-like WO_{3-x}

Xingrui Qi [ab], Zhidong Zhao [abc], Nian Li [ab], Zijian He [ab] , Yufang Chen [abdefg] , Tao Jin *[abdefg]

[a] Guangzhou Institute of Chemistry, Chinese Academy of Sciences, 510650, Guangzhou, P. R. China

[b] University of Chinese Academy of Sciences, 100000, Beijing, P. R. China

[c] Guizhou Police College, Guizhou, 550005, China

[d] CAS Testing Technical Services (Guangzhou) Co. Ltd., 510650, Guangzhou, P. R. China

[e] CAS Engineering Laboratory for Special Fine Chemicals, Chinese Academy of Sciences, Guangzhou 510650, P. R. China

[f] Guangdong Provincial Key Laboratory of Organic Polymer Materials for Electronics, Guangzhou 510650, P. R. China

[g] West Center, Guangzhou Institute of Chemistry, Chinese Academy of Sciences, Chongqing 400714, P. R. China

Corresponding Author Email: jintao@gic.ac.cn

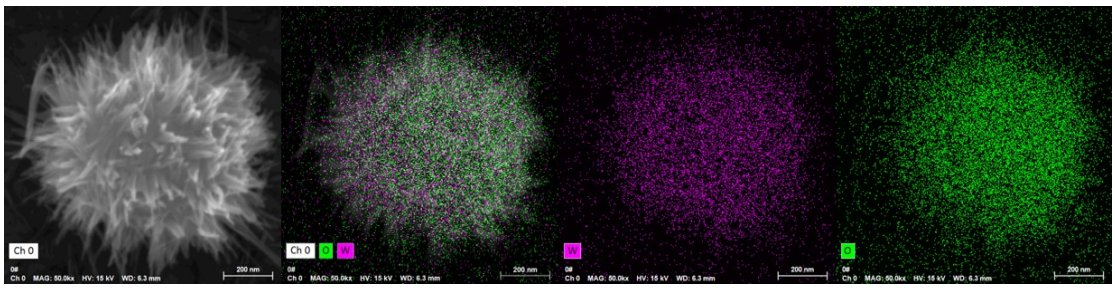

Fig. S1. SEM images of prepared WO_{3-x} (a) and corresponding EDS spectrum of WO_{3-x}(b-d)

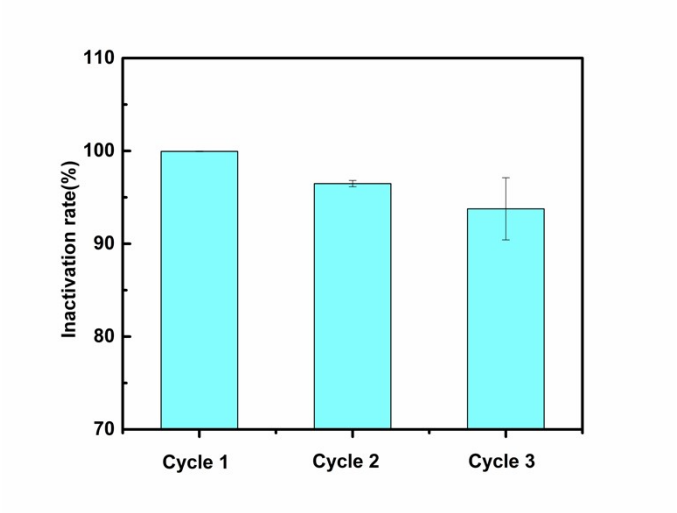

Fig. S2. The bactericidal effect of *E. coli* was tested in three cycles with 0.5 mg/mL CW3.

Table S1. Crystallographic data of CW3

2θ (Degree)	hkl planes	FWHM	Cryst. size (A°)
23.2	(010)	0.486	160
47.5	(020)	0.639	194

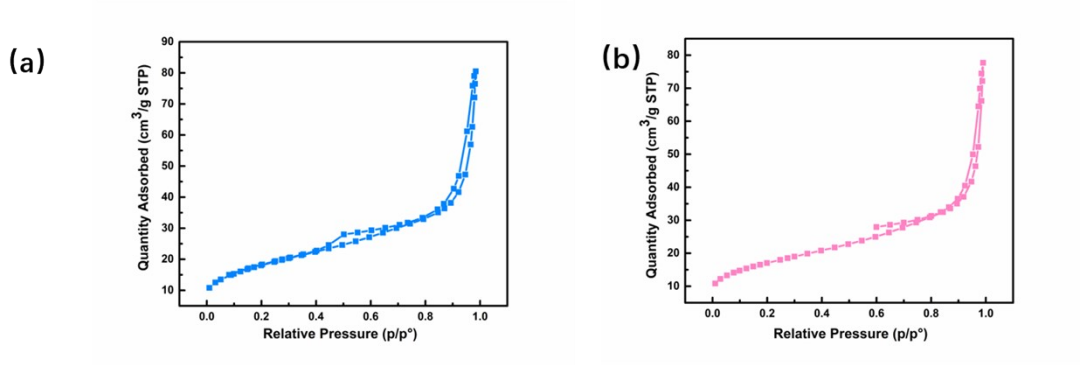

Fig.S3. Nitrogen adsorption-desorption isotherms of WO_{3-x} (a) and CW3 (b).

Table. S2. Physical properties of WO_{3-x} and CW3.

Catalysts	**Surface Area (m^2/g)**	**Pore Diameter (nm)**	**Pore Volume (mL/g)**
WO_{3-x}	**65.4880**	**7.6058**	**0.124523**
CW3	**61.3476**	**7.8341**	**0.120151**