Supporting Information

Synergetic effect of photocatalysis and peroxymonosulfate activated by $FeWO_4$ for enhance photocatalytic activity under visible light irradiation

Di Li,*[a] MingYang Long,[a] Qianqian Zhao,[a] Hongmiao Li,[a] Qi Wen[a] and Fang Song[b]

[a]School of Chemistry and Chemical Engineering, Xi'an University of Architecture and Technology, Xi'an, 710055, China

[b]Instrument Analysis Center, Xi'an University of Architecture and Technology, Xi'an, 710055, China

Table 1 A summary of photocatalysts for photocatalytic degradation of doxycycline hydrochloride.

Sample	Catalyst (mg)	DOX ($mg \cdot L^{-1}$)	Remival rate (%)
$FeWO_4$	50	40 (100 mL)	68.975 (60min)
$Fe_2(MoO_4)_3$	50	40 (100 mL)	67.704 (60min)
$FeVO_4$	50	40 (100 mL)	70.109 (60min)

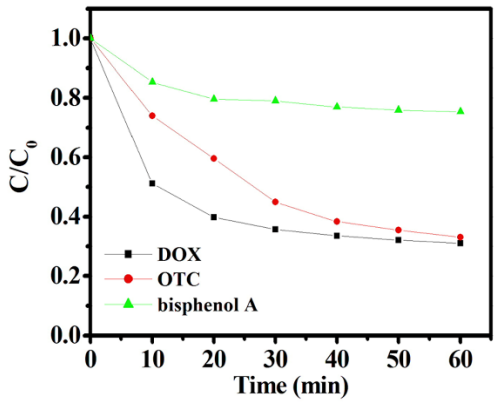

Fig. 1 The degradation rate of $FeWO_4$/Vis/PMS system for different pollutants ([$FeWO_4$] = 0.5 g/L, [PMS] = 2 mM, [DOX] = [OTC] = 40 mg/L, [bisphenol A] = 10 mg/L).

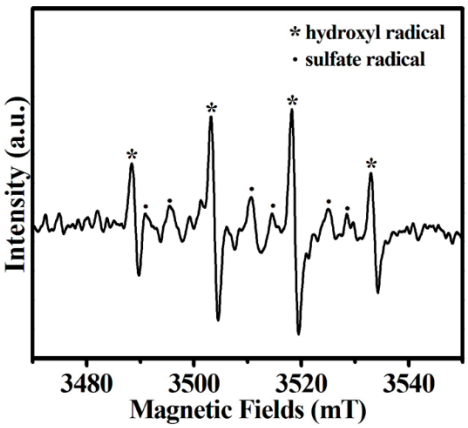

Fig. 2 EPR spectra of $FeWO_4$/PMS under visible light irradiation (DMPO as the radical trapper).

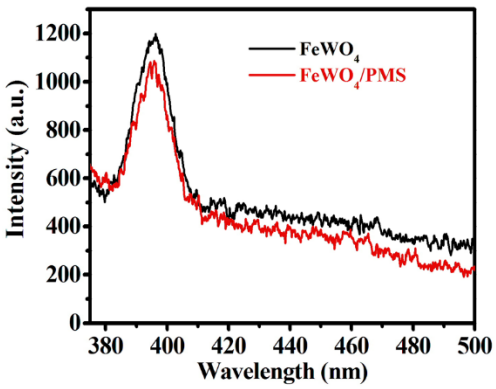

Fig. 3 Photoluminescence spectra for $FeWO_4$ suspension with and without PMS ([$FeWO_4$] = 0.5 g/L, [PMS] = 2 mM).

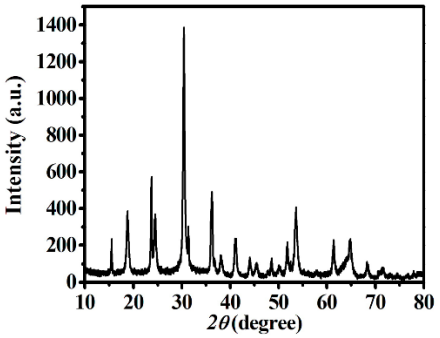

Fig. 4 XRD pattern of $FeWO_4$ after photocatalytic oxidation of DOX.

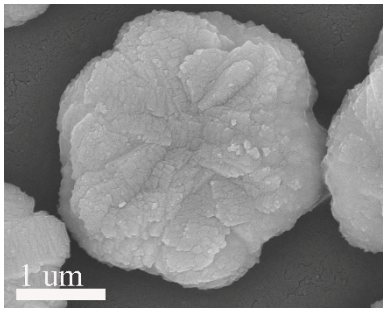

Fig. 5 SEM image of $FeWO_4$ after photocatalytic oxidation of DOX.

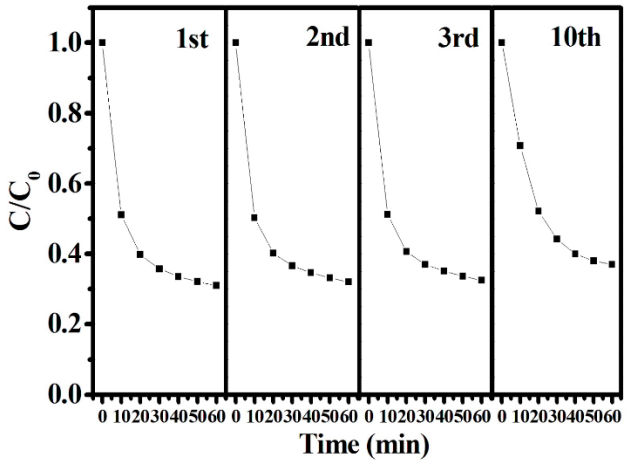

Fig. 6 Cycling runs in the photocatalytic degradation of DOX in the presence of $FeWO_4$ under visible light irradiation ([$FeWO_4$] = 0.5 g/L, [PMS] = 2 mM, [DOX] = 40 mg/L).