

Electronic Supplementary Material (ESI) for Catal. Sci. Technol.

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**Glucose induced fabrication of Bi/ $\alpha$ -FeC<sub>2</sub>O<sub>4</sub>·2H<sub>2</sub>O heterojunction:  
A bifunctional catalyst with enhanced photocatalytic and Fenton  
oxidation efficiency**

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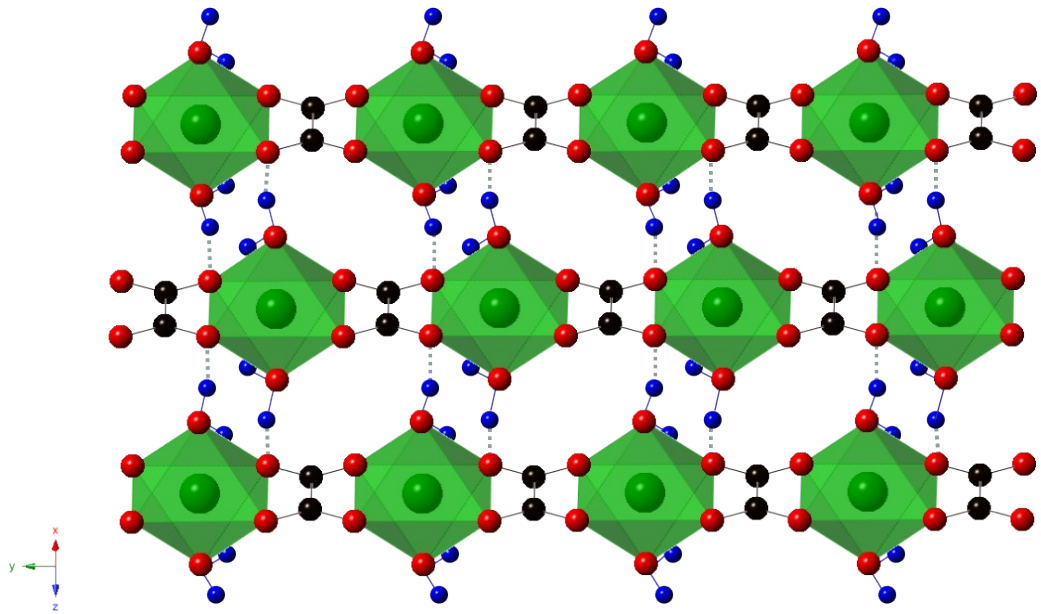
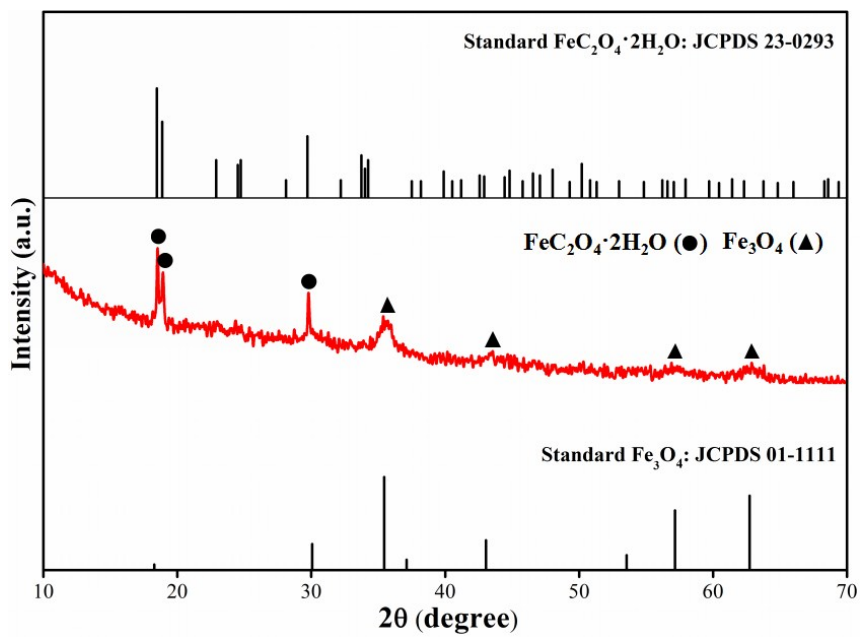


Fig. S1 Crystal structure of  $\alpha$ -FOD.



**Fig. S2** XRD pattern of the solvothermal production of Fe(NO<sub>3</sub>)<sub>3</sub>·9H<sub>2</sub>O

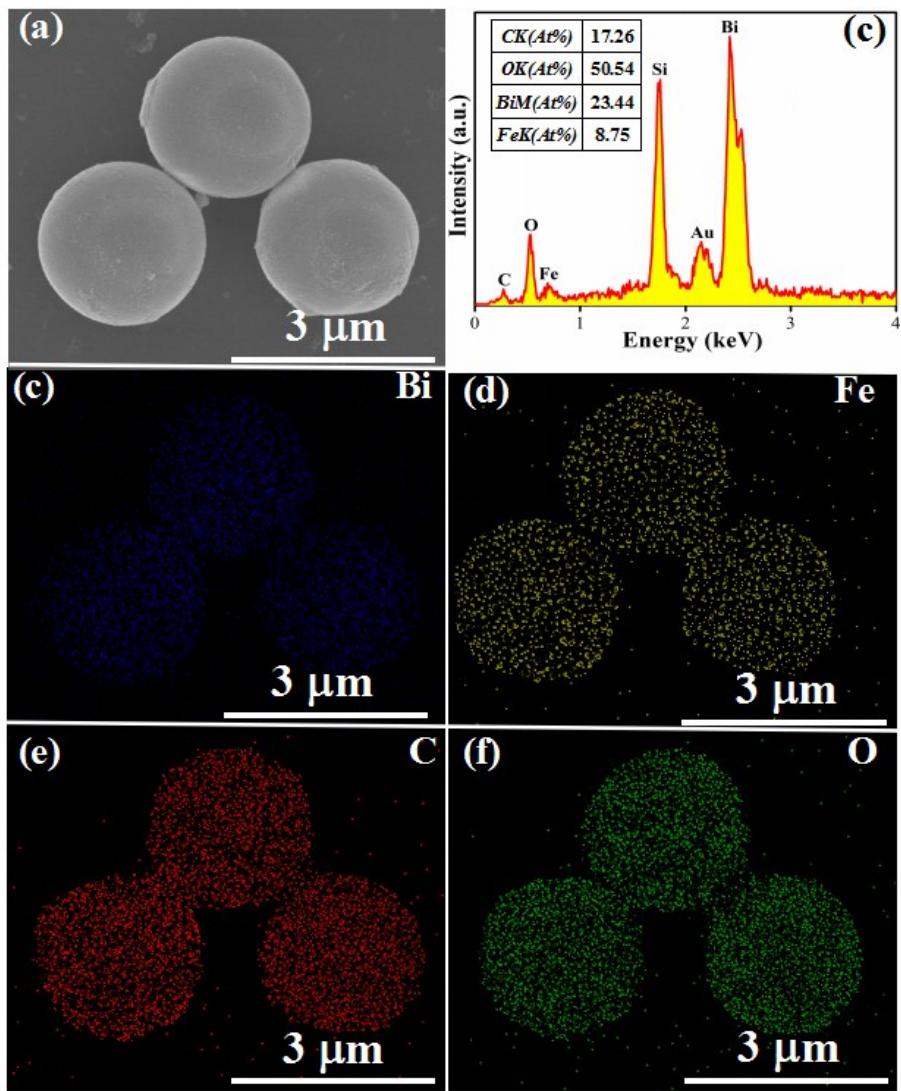
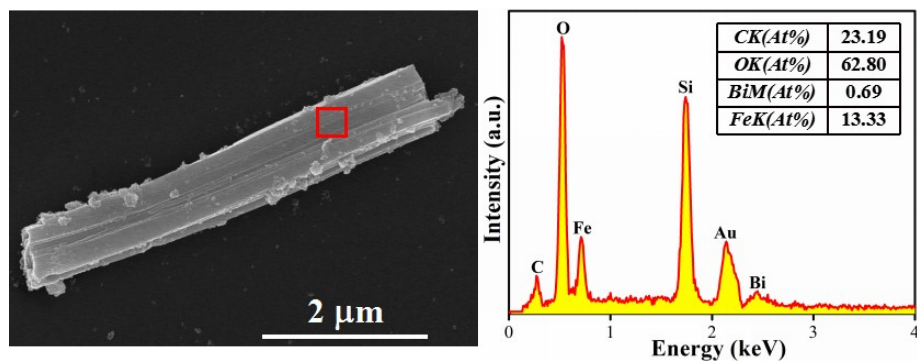
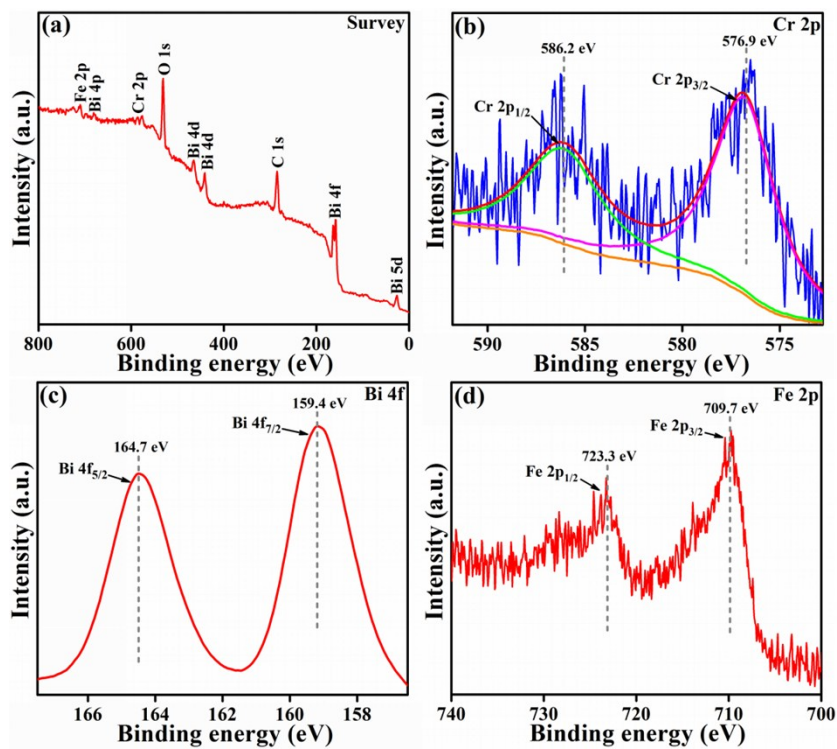


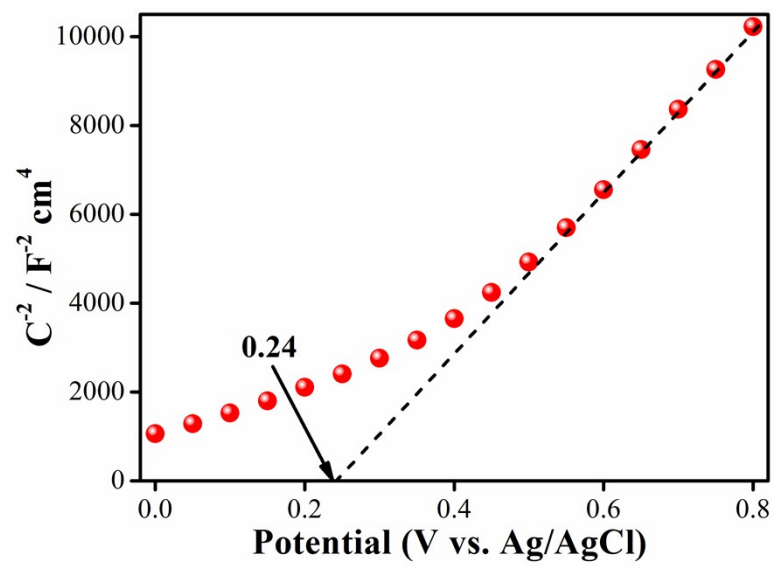
Fig. S3 EDS spectrum and elemental mapping of the BF5 sample.



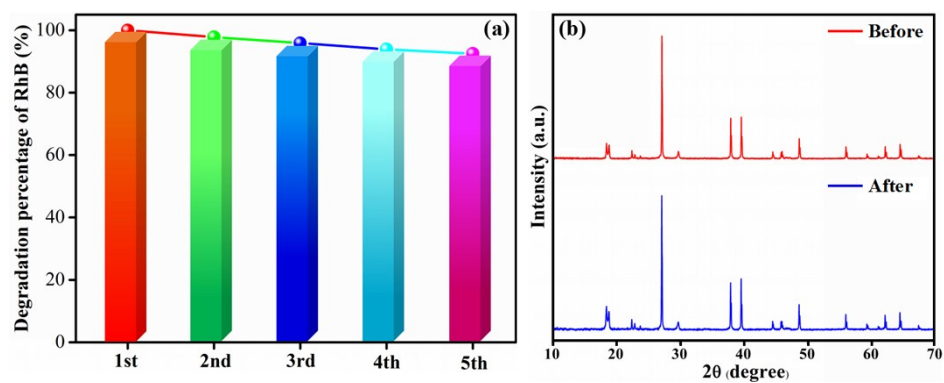
**Fig. S4** EDS spectrum of the microrod among as-prepared sample.



**Fig. S5** XPS spectra of the recycled BF5 sample: (a) XPS survey spectrum, (b) Cr<sub>2p</sub> spectrum, (c) Bi<sub>4f</sub> spectrum, and (d) Fe<sub>2p</sub> spectrum.

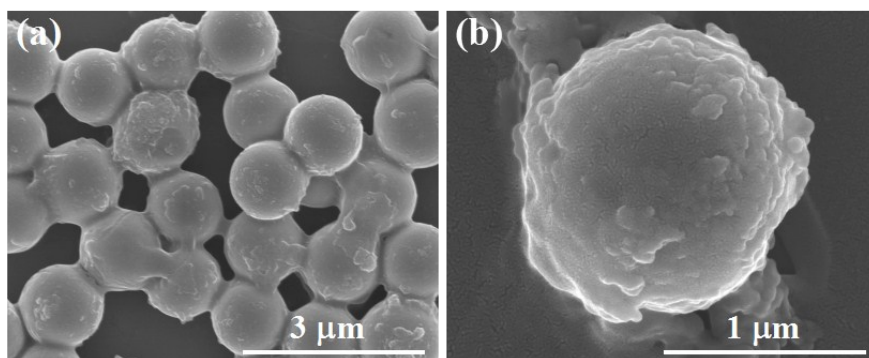


**Fig. S6** Mott-Schottky plot of  $\alpha$ -FOD.



**Fig. S7** (a) The recycled Fenton oxidation experiments of the BF5 sample for the degradation of RhB; (b) The XRD patterns of BF5 sample before and after the 5th run cycle Fenton oxidation experiments.





**Fig. S8** SEM images of recycled BF5 sample after the 5th run cycle Fenton oxidation experiments.