Electronic Supplementary Material (ESI) for RSC Advances.

Removal of Reactive Brilliant Red X-3B by Weak Magnetic Field enhanced Fenton-like system with zero-valent iron

Liping Liang ,[ab] Yuting Zhang, [a] Liubiao Cheng, [a] Qian Wu, [a] Yuanyuan Xue, [a] Qian Wang [a] and Xu Meng *[cd]

[a.] *School of Civil Engineering, Shaoxing University, Shaoxing 312000, P. R. China*

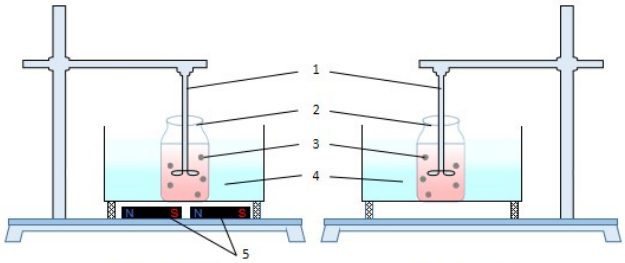
[b.] *College of Life Science, Shaoxing University, Shaoxing 312000, P. R. China*

[c.] *College of Textile and Garment, Shaoxing University, Shaoxing 312000, P. R. China*

[d.] *Key Laboratory of Clean Dyeing and Finishing Technology of Zhejiang Province, Shaoxing University, Shaoxing, 312000, P. R. China*

Corresponding authour: Xu Meng

Supporting Information



A (with WMF) B (without WMF)

1 Mechanical stirrer 2 Reactor 3 ZVI particle 4 Cryostat 5 The permanent magnet

Fig. S1 A laboratory-scale experimental setup used in this experiment

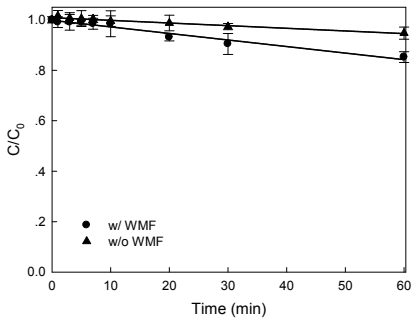


Fig. S2 The effect of WMF on the removal of X-3B by ZVI in the absence of H_2O_2 (pH 4.0, 50 mg L^{-1} X-3B, 0.5 g L^{-1} Fe^0, and T = 25 °C)

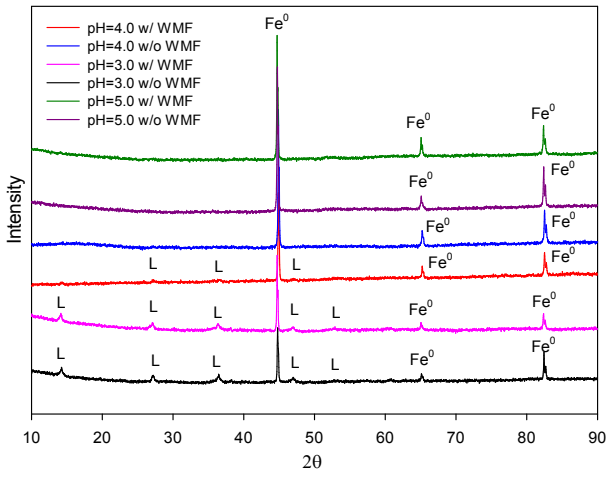


Fig. S3 XRD map of ZVI removal of X-3B under different pH (8 mM H_2O_2, 50 mg L^{-1} X-3B, 0.5 g L^{-1} Fe^0, and T = 25 °C)

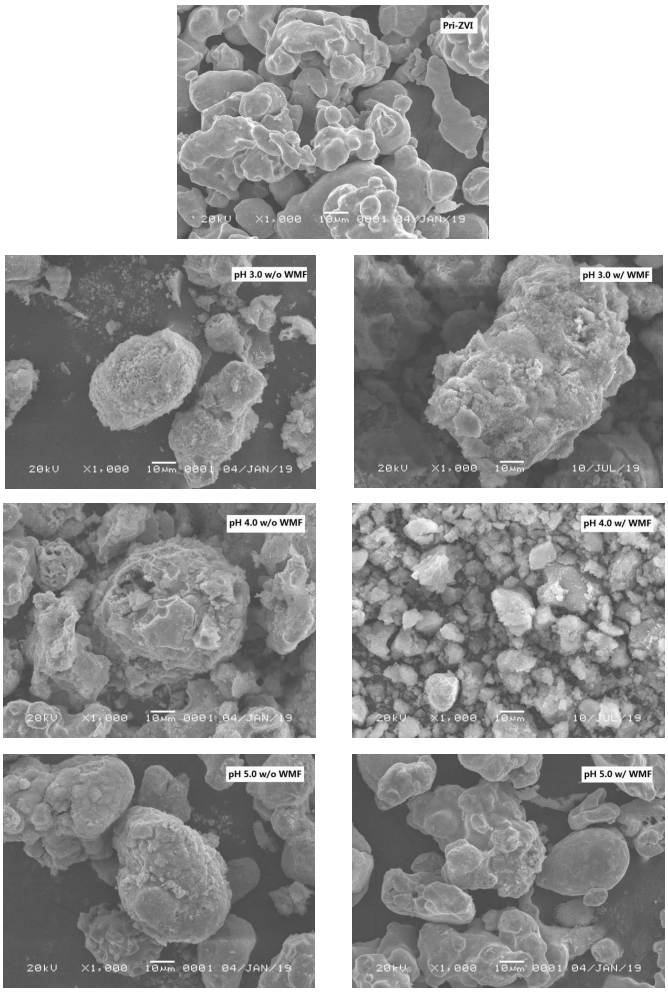


Fig. S4 SEM diagram for removal of X-3B by ZVI under different pH (8 mM H_2O_2, 50 mg L^{-1} X-3B, 0.5 g L^{-1} Fe^0, and T = 25 °C)

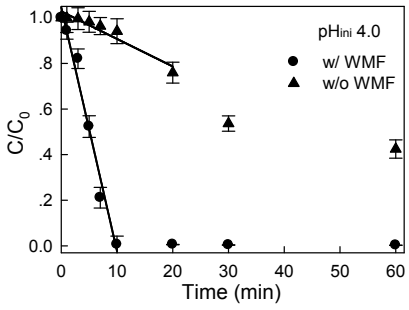


Fig. S5 Effect of WMF on ZVI/H_2O_2 removal of X-3B at pH 4.0 (8 mM H_2O_2, 50 mg L^{-1} X-3B, 0.5 g L^{-1} Fe^0, and T = 25 ^oC)

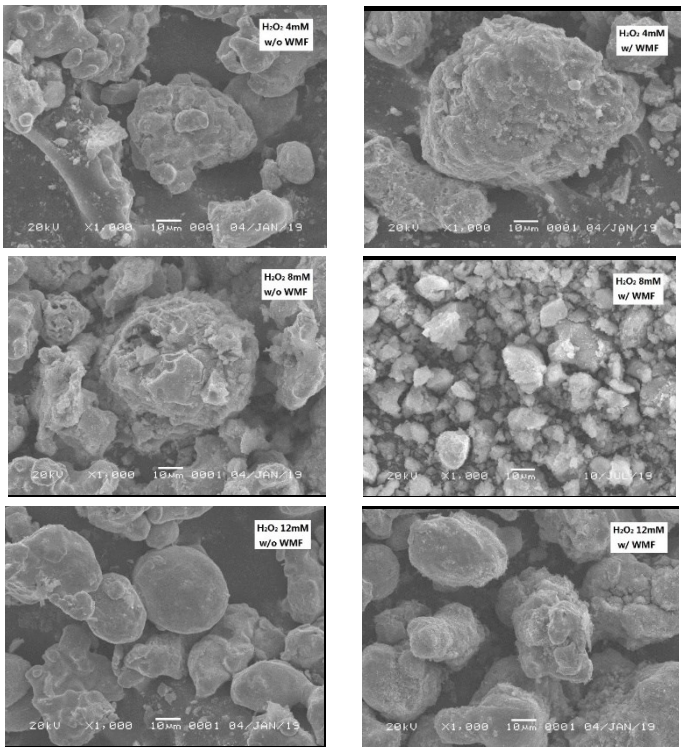


Fig. S6 SEM diagram for removal of X-3B by ZVI under different H_2O_2 concentrations (pH 4.0, 50 mg L^{-1} X-3B, 0.5 g L^{-1} Fe^0, and T = 25 ^oC)