

## Supporting Information

### Degradation mechanisms of cefotaxime using biochar supported

#### Co/Fe bimetallic nanoparticles

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With a  $\beta$ -lactam ring, the structural formula of Cefotaxime (CFX) is shown in Fig. S1.

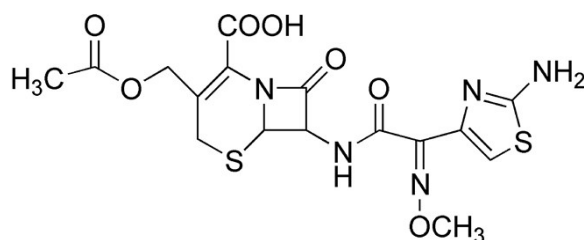


Fig. S1 Molecular structure of cefotaxime

The optimum amount of adsorbent would change with the CFX concentration. The optimized dosages of Co/Fe/MB at different concentrations of CFX were evaluated in Fig. S2. The removal efficiency of CFX by Co/Fe/MB was 82.4% at the dosage of 0.2 g/L when the initial CFX concentration was 3 mg/L. However, the removal efficiency was nearly 92.3%, 95.2% when the dosage of Co/Fe/MB was 0.4 g/L and 0.6 g/L, indicating the optimized dosages of Co/Fe/MB was 0.4 g/L.<sup>1</sup> Using the similar method of analysis, the optimized dosages of Co/Fe/MB could be concluded that 0.4 g/L and 0.8 g/L were the selected dosages for adsorbent when the initial concentrations of CFX were 5 mg/L and 10 mg/L, respectively.

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The authors declare no competing financial interest.

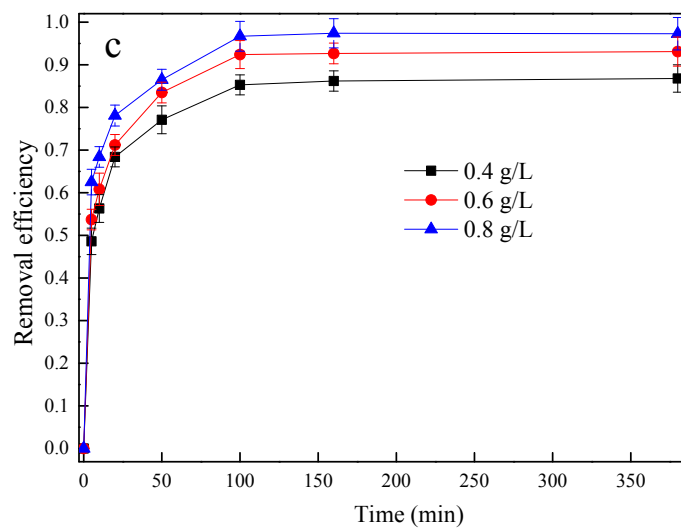
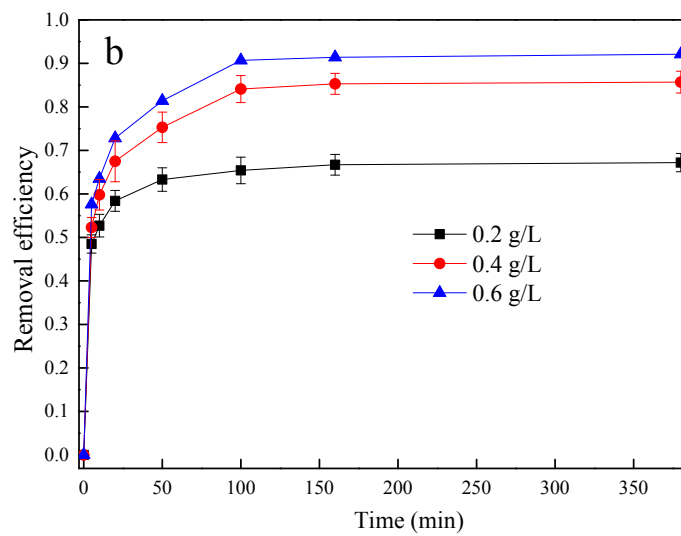
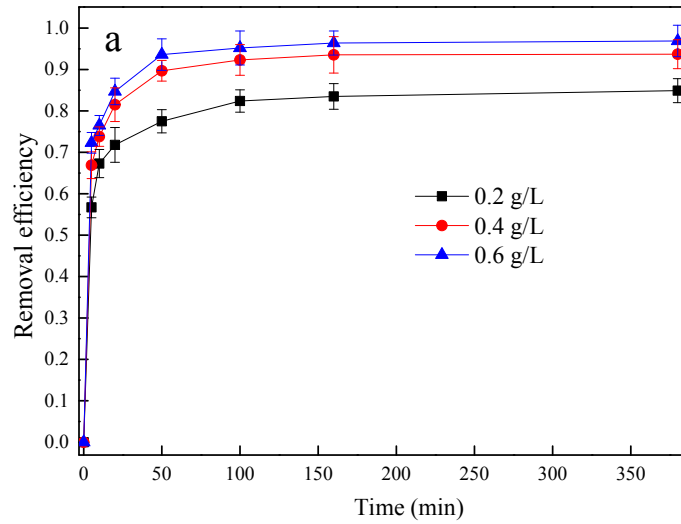


Fig. S2 The effect of Co/Fe/MB dosage on cefotaxime removal efficiency at different cefotaxime concentration (a) 3 mg/L, (b) 5 mg/L, (c) 10 mg/L.

1. X. Weng, Q. Sun, S. Lin, Z. Chen, M. Megharaj and R. Naidu, Enhancement of catalytic degradation of amoxicillin in aqueous solution using clay supported bimetallic Fe/Ni nanoparticles, *Chemosphere*, 2014, 103, 80-85.