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Supporting Information

Facile Synthesis of Laccase Mimic Cu-BTC MOF for Efficient Dye Degradation and Detection of Phenolic Pollutants

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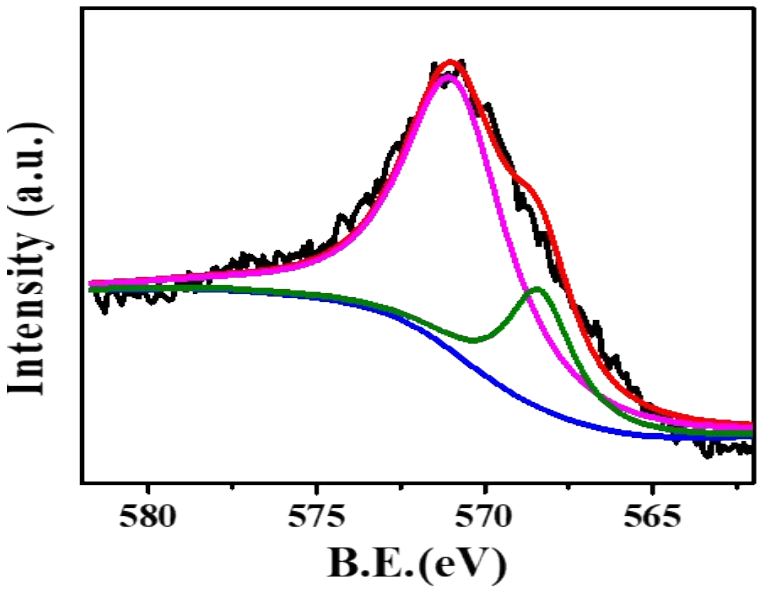


Fig. S1 Cu LMM Auger spectra of Cu/H3BTC. There are two peak fittings observed in the Auger Cu LMM spectra. The peak fitting at 572.9 eV were used to conform the existence of Cu+ and the other peak fitting at 568.2 were attributed to Cu^{2+}.

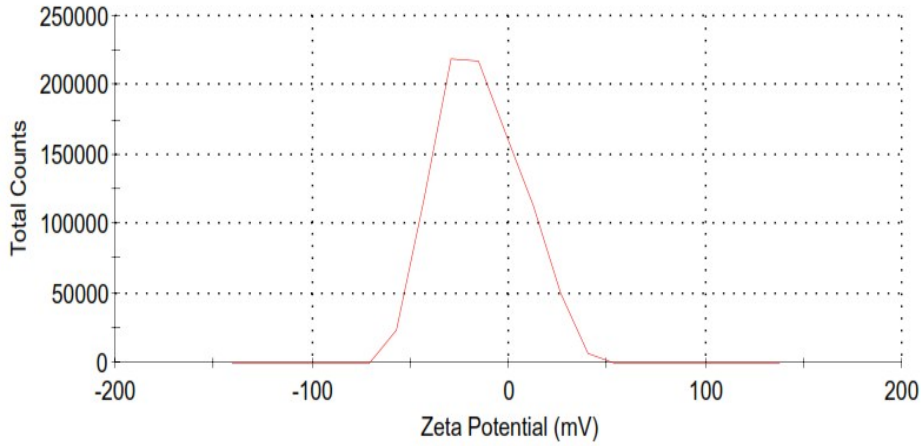


Fig. S2 Zeta Potential of Cu/H3BTC MOF.

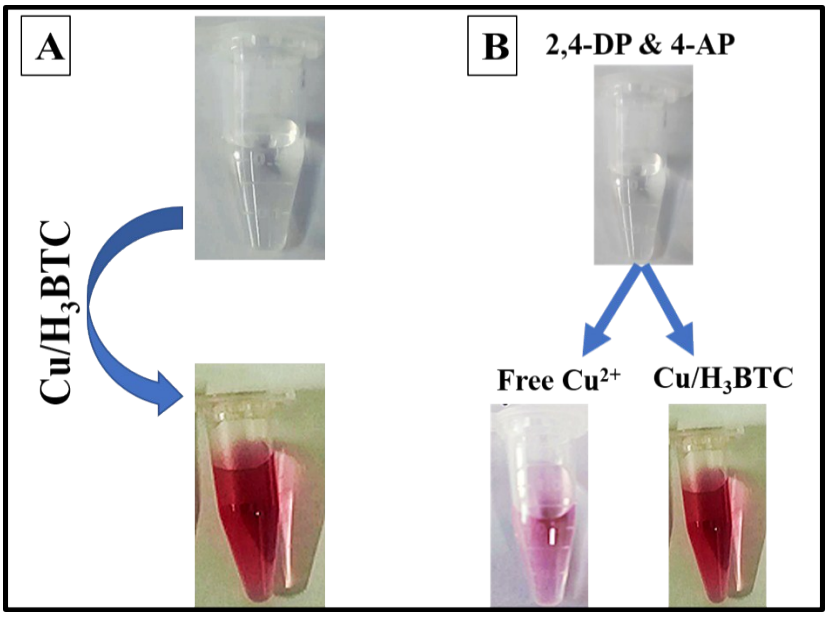


Fig. S3 (A) Reaction of 2,4-DP and 4-AP catalyzed by Cu/H3BTC (B) Control test comparing free Cu2+ and its mixture with H_3BTC for laccase like activity in water.

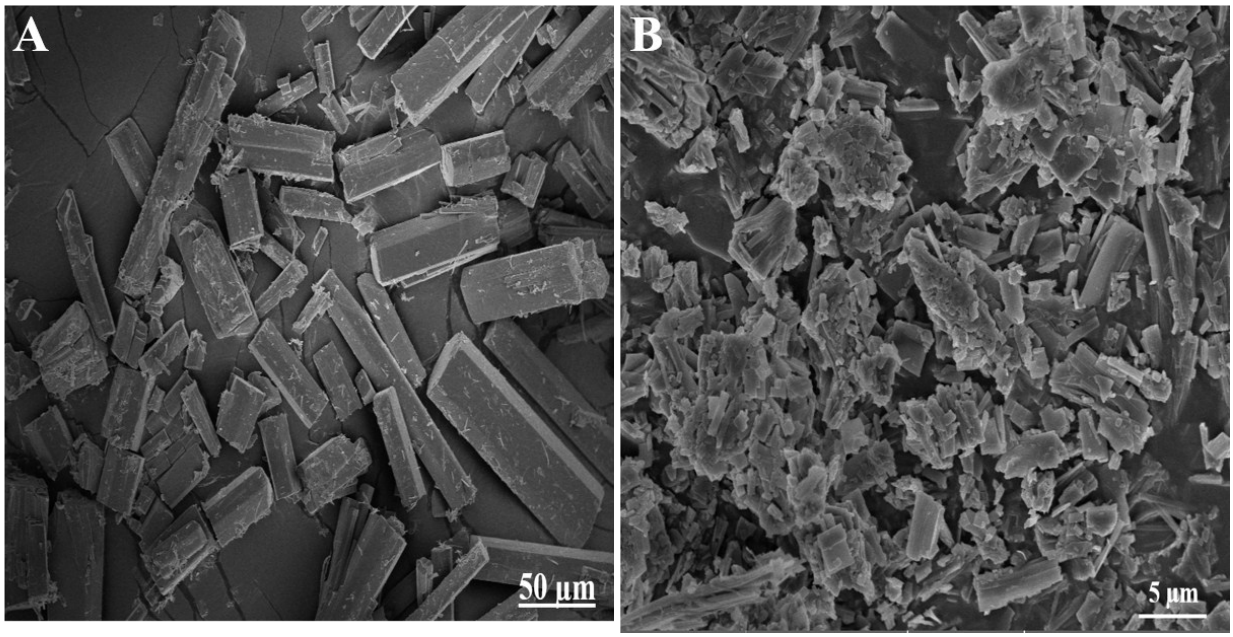
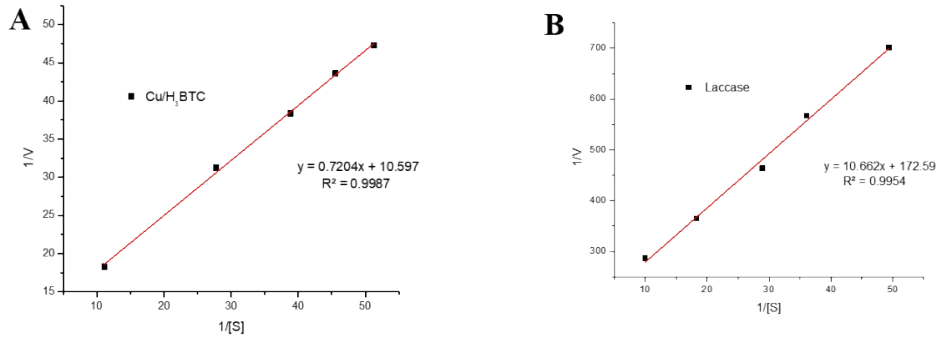


Fig. S4 (A) SEM images of Cu/H_3BTC (A) Before AB-10B dye degradation (B) After ten (10) successive cycles of degradation



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	K_m(µmol/L)	V_{max} (µmol/L/min)
Cu/H_3BTC MOF	67.98	94
Laccase	61.988	5.81

Fig. S5 The Lineweaver-Burk curve of (A) Cu/H_3BTC and (B) laccase for oxidizing epinephrine in MES buffer solution (50 mM, pH 6.8) at room temperature. (C) The kinetic parameters for Cu/H_3BTC and laccase.

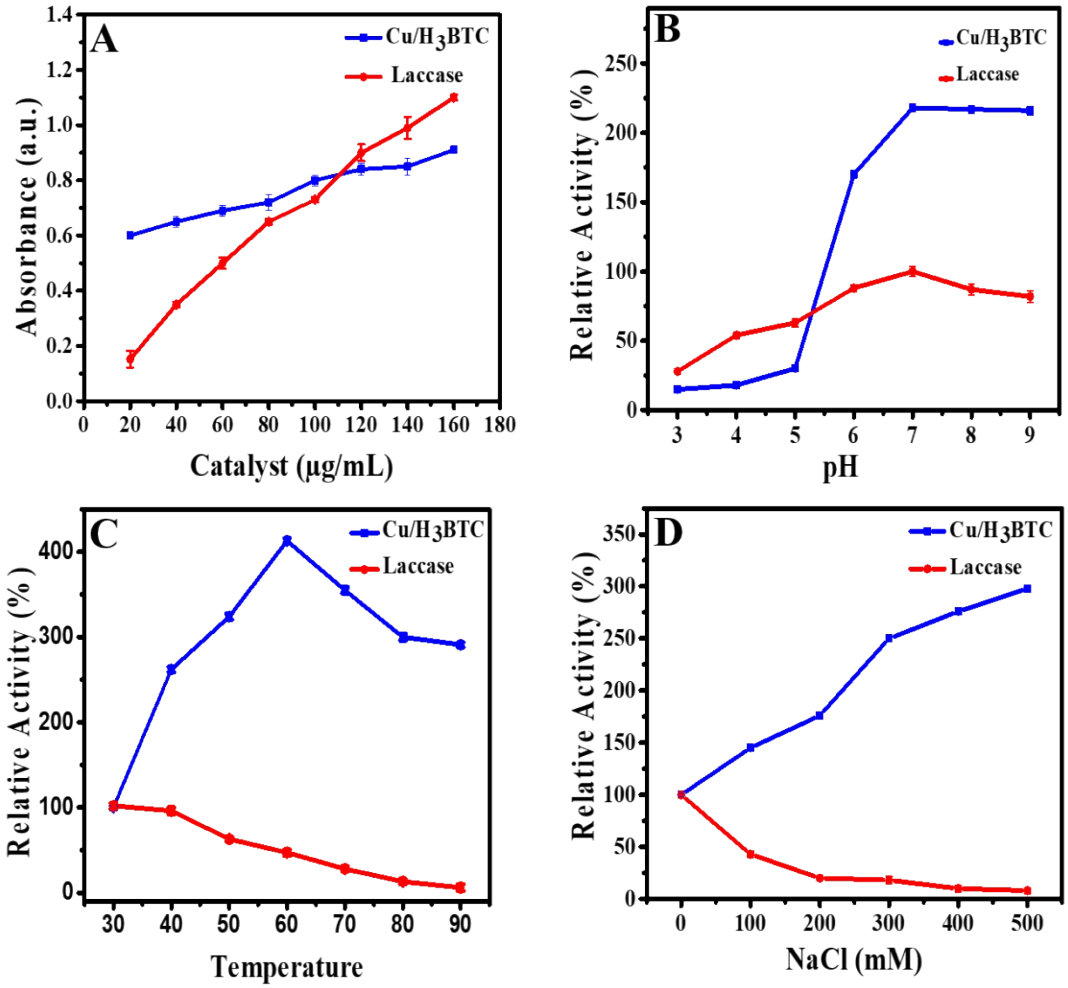

Fig. S6 (A) Comparability the catalysis efficiency of Cu/H_3BTC and laccase as a function of enzyme concentration. Constancy of Cu/H_3BTC comparison with same laccase concentration at various (B) pH (C) temperature and (D) NaCl concentration.