

Supporting Information

Copper metal organic framework as natural oxidase mimic for effective killing of gram- negative and gram-positive bacteria

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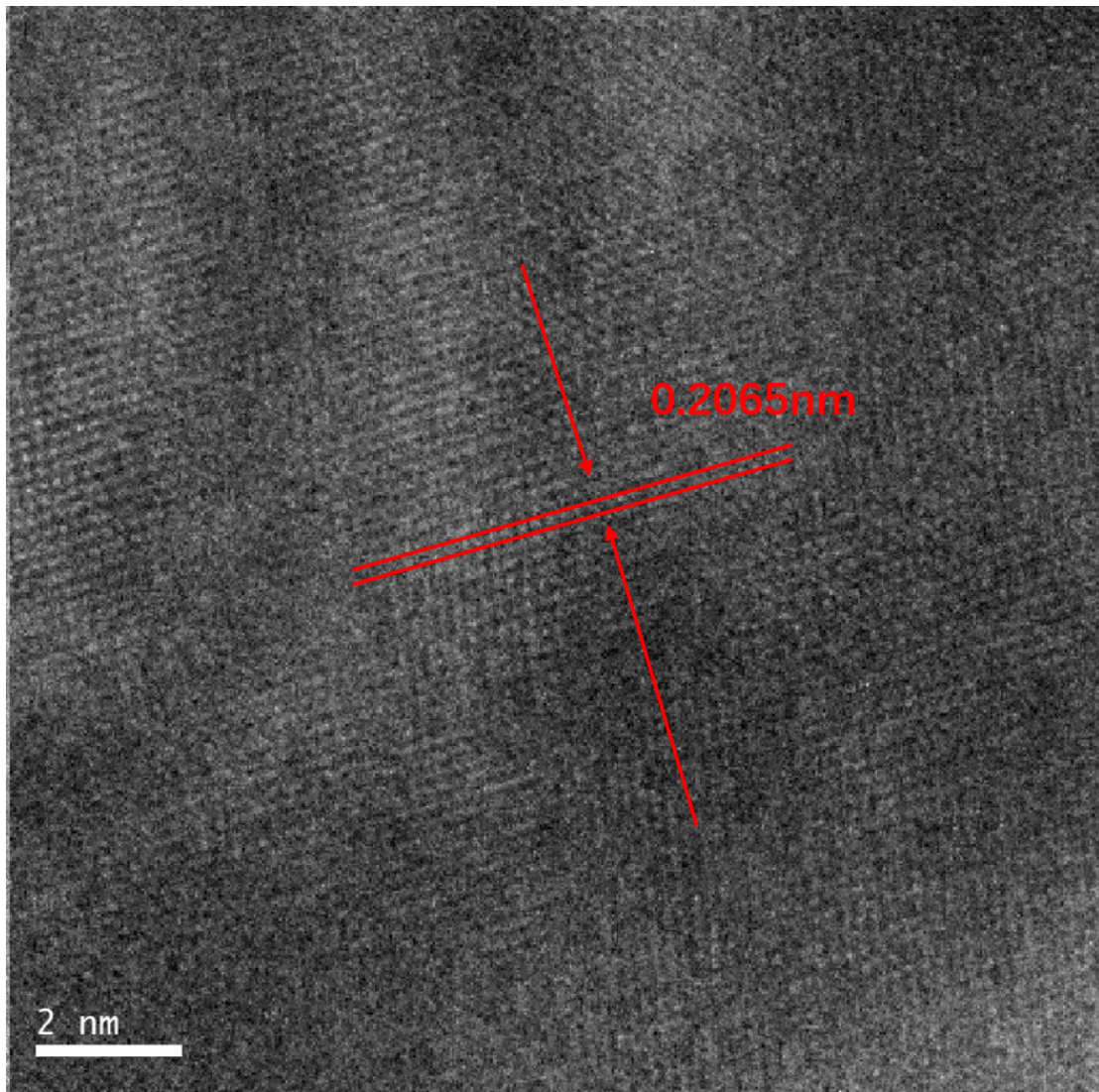


Fig. S1 HRTEM image of Cu-MOFs with measured d-spacings of 0.2065 nm.

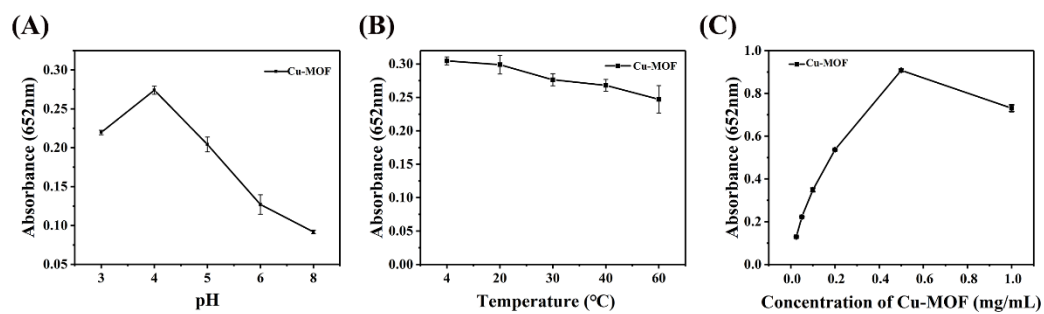


Fig. S2 (A) PH-dependent spectra of TMB catalyzed by Cu-MOFs. (B) Absorption spectra of TMB catalyzed by Cu-MOFs with different reaction temperature. (C) Absorption spectra of TMB catalyzed by different concentration of Cu-MOFs.

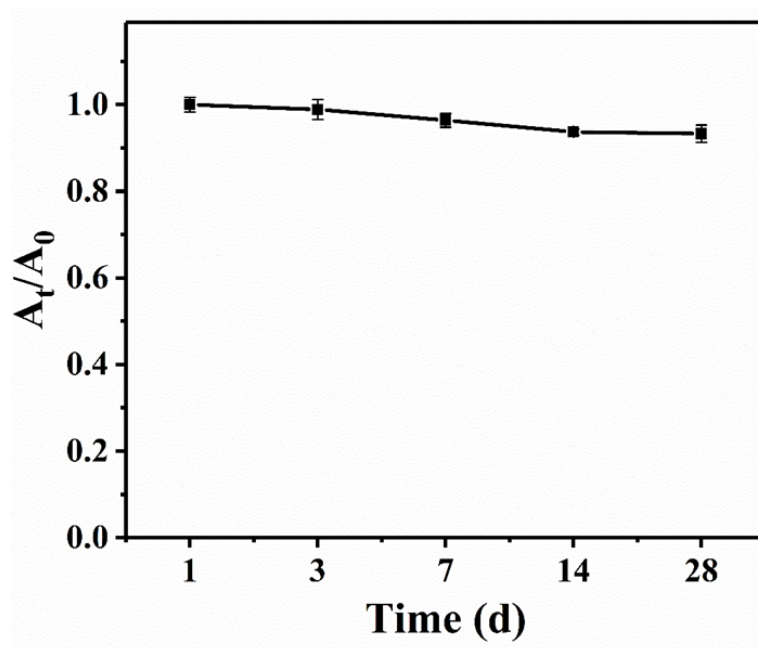


Fig. S3 Time stability tests of TMB catalyzed by Cu-MOFs.

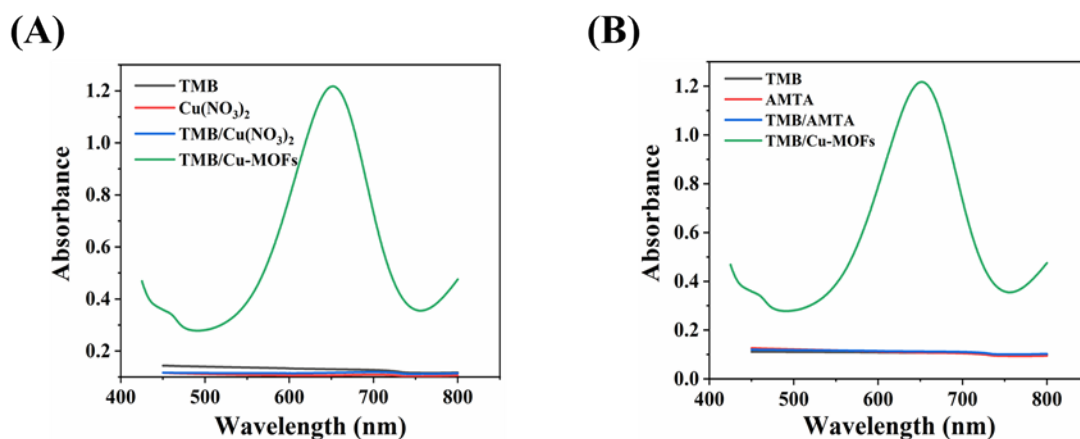


Fig. S4 The UV-vis spectra of TMB in the presence of Cu(NO₃)₂ (A) and AMTA (B).

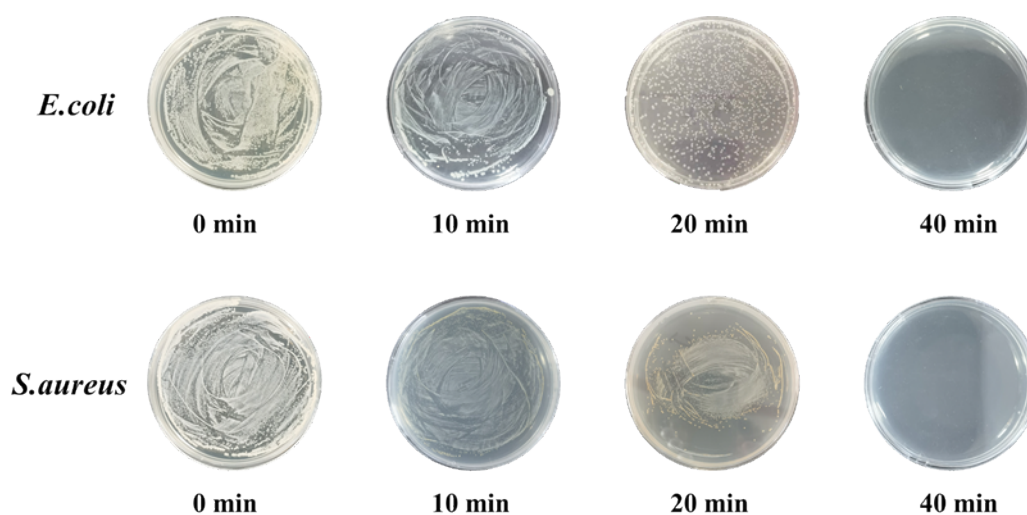


Fig. S5 Antibacterial performance towards *E. coli* and *S. aureus* of Cu-MOFs (12.5 µg/mL) with the time from 0 to 40 min.

Table. S1. Comparison of the Michaelis–Menten constant (Km) and the Maximum Reaction Velocity (Vmax) Of this works with other nanomaterials with oxidase-like activity.

Catalysts	Km (mM)	Vmax ($10^{-7} \text{ M}\cdot\text{S}^{-1}$)	Reference
Co ₄ S ₃ / Co(OH) ₂ HNTs	1.33	4.66	[1]
CeO ₂ NPs	3.8	7	[2]
nanoceria (isPNC/ isDNC)	3.8/1.8	7/5	[2]
Au nanoparticles	4.73	6.8	[3]
MnO ₂ nanowire	49.1	73.5	[4]
Cu-MOF	1.09	170.6	This work

Reference

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