

Supporting Information

for

Ratiometric colorimetric detection of nitrite using CoMnO₃ nanofibers as oxidase-like enzyme to induce diazotization reaction

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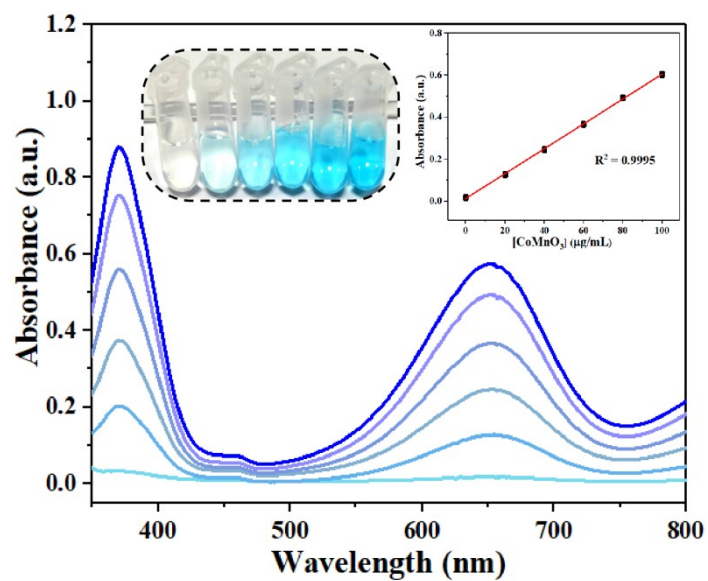


Fig. S1 UV-vis absorption spectra of TMB catalyzed by various concentrations of CMO (the inset show the visually recognizable color changes of the reaction system and the absorbance values of TMB at 652 nm catalyzed by different concentrations of CMO).

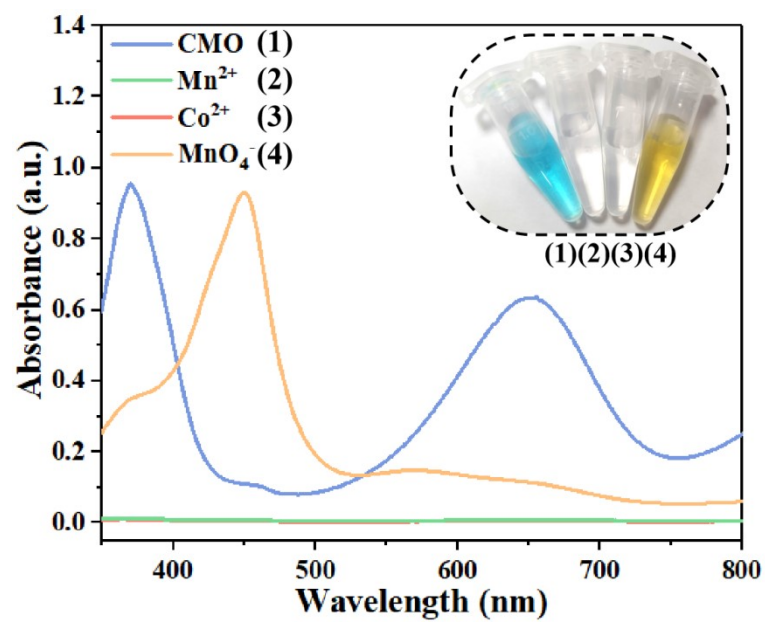


Fig. S2 UV-vis absorption spectra of TMB catalyzed by various substrates (the inset show the visually recognizable color changes of the reaction system).

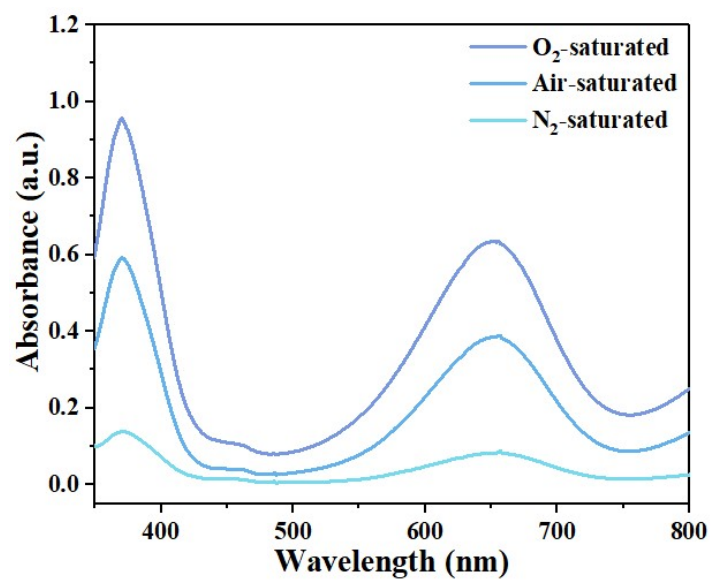


Fig. S3 In the different reaction system's external environment, UV-vis absorption spectra of TMB catalyzed by CMO.

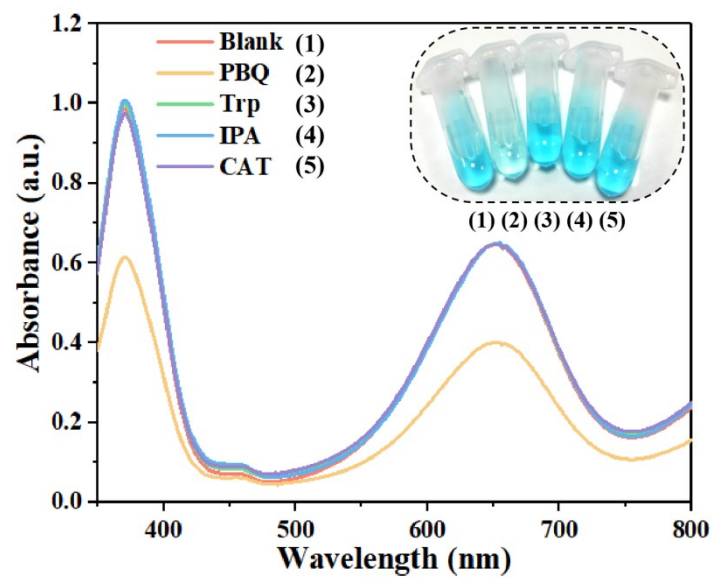


Fig. S4 UV-vis absorption spectra of TMB catalyzed by CMO after treatment with different free radical scavenger (the inset show the visually recognizable color changes of the reaction system).

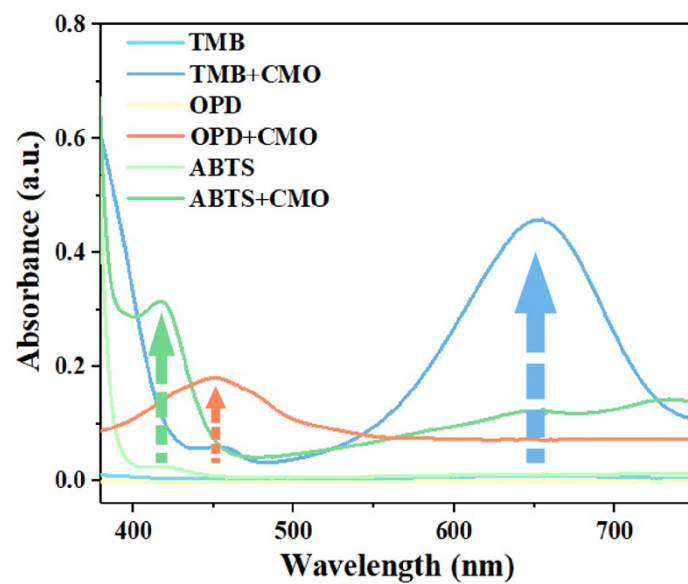


Fig. S5 UV-vis absorption spectra of TMB, OPD, and ABTS catalyzed by CMO.

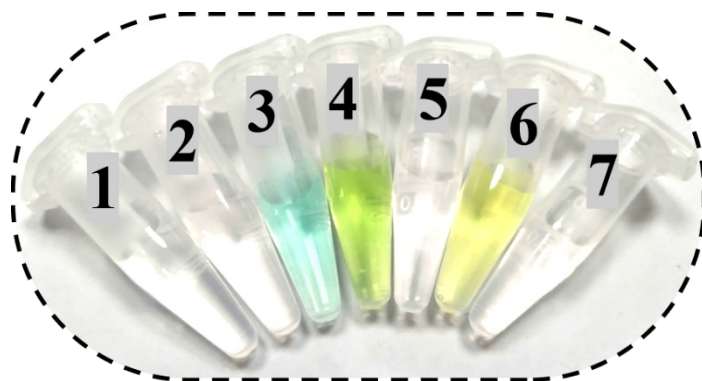


Fig. S6 The digital image of different reaction systems: 1. TMB; 2. CMO; 3. TMB + CMO; 4. TMB + CMO + NO_2^- ; 5. TMB + CMO + NO_2^- + AA; 6. TMB + NO_2^- ; 7. TMB + NO_2^- + AA.

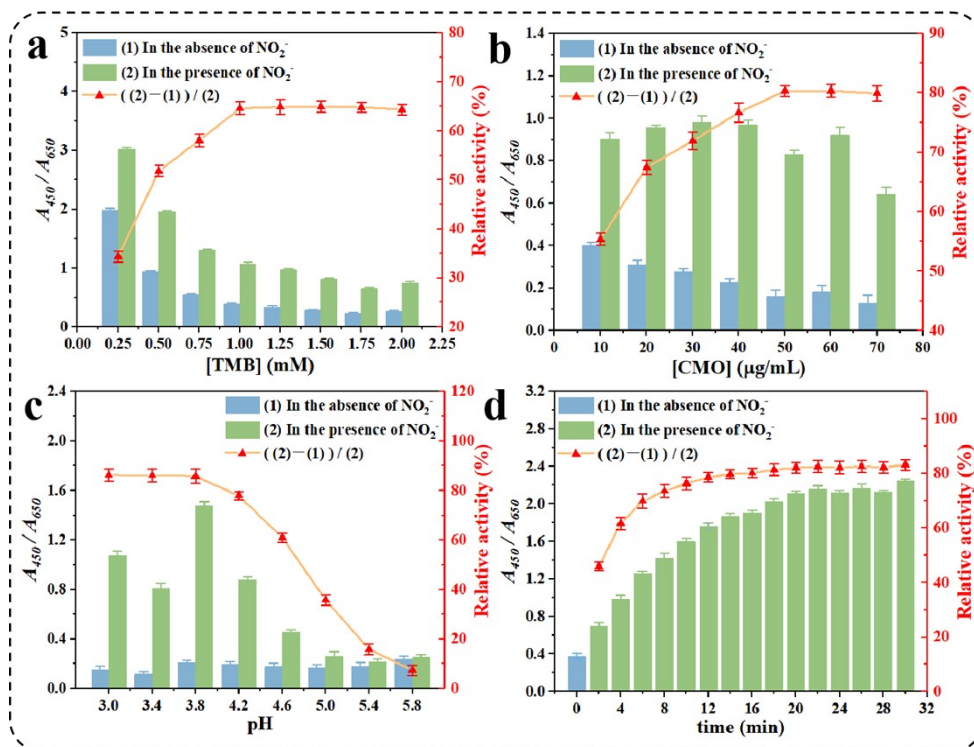


Fig. S7 The factors of the concentration of TMB (a) and CMO (b), pH (c), and the second step reaction time (d) affecting value $(A-A_0)/A$.

Table S1. The K_m and V_{max} values of the CoMnO₃ NFs and other oxidase-like catalysts for the substrate of TMB.

Materials	Morphology	K_m (mM)	V_{max} (10^{-8} M S ⁻¹)	Ref.
HRP	-	0.434	10	[1]
Fe ₃ O ₄	nanoparticle	0.098	3.44	[1]
MnO ₂	nanosheet	0.095	26	[2]
Mn ₂ O ₃	nanoparticle	0.13	15	[3]
Mn ₃ O ₄	nanoparticle	5.1	92	[4]
CoOOH	nanoflake	0.98	5.79	[5]
Co(OH) ₂	nanocage	0.362	6.06	[6]
Co ₃ O ₄	nanoparticle	0.063	1.88	[7]
CoMnO ₃	nanofiber	0.105	63.7	This work

References

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