

## **Cu-MOFs/Hemin : A bionic enzyme with excellent dispersity for the determination of hydrogen peroxide released from living cells**

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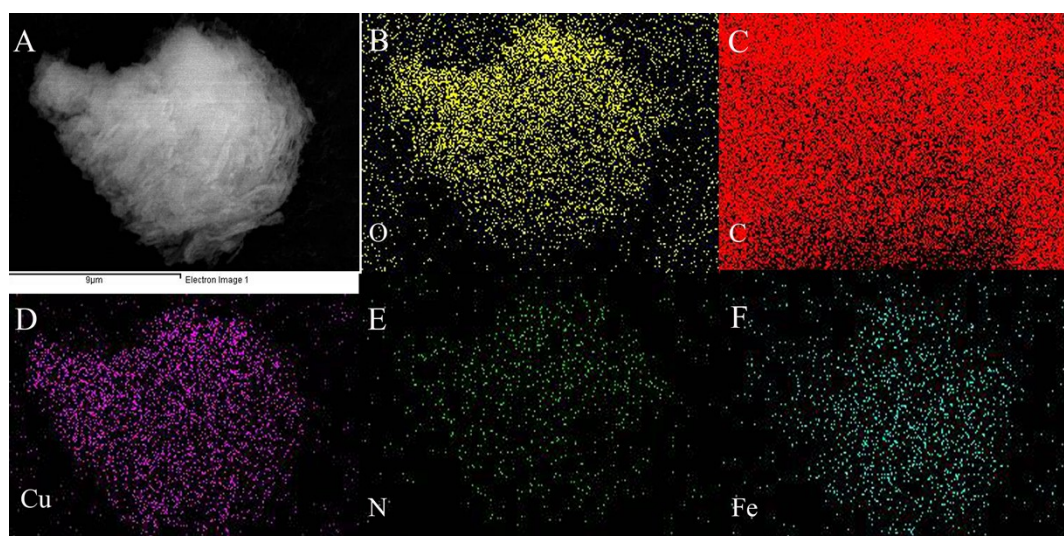
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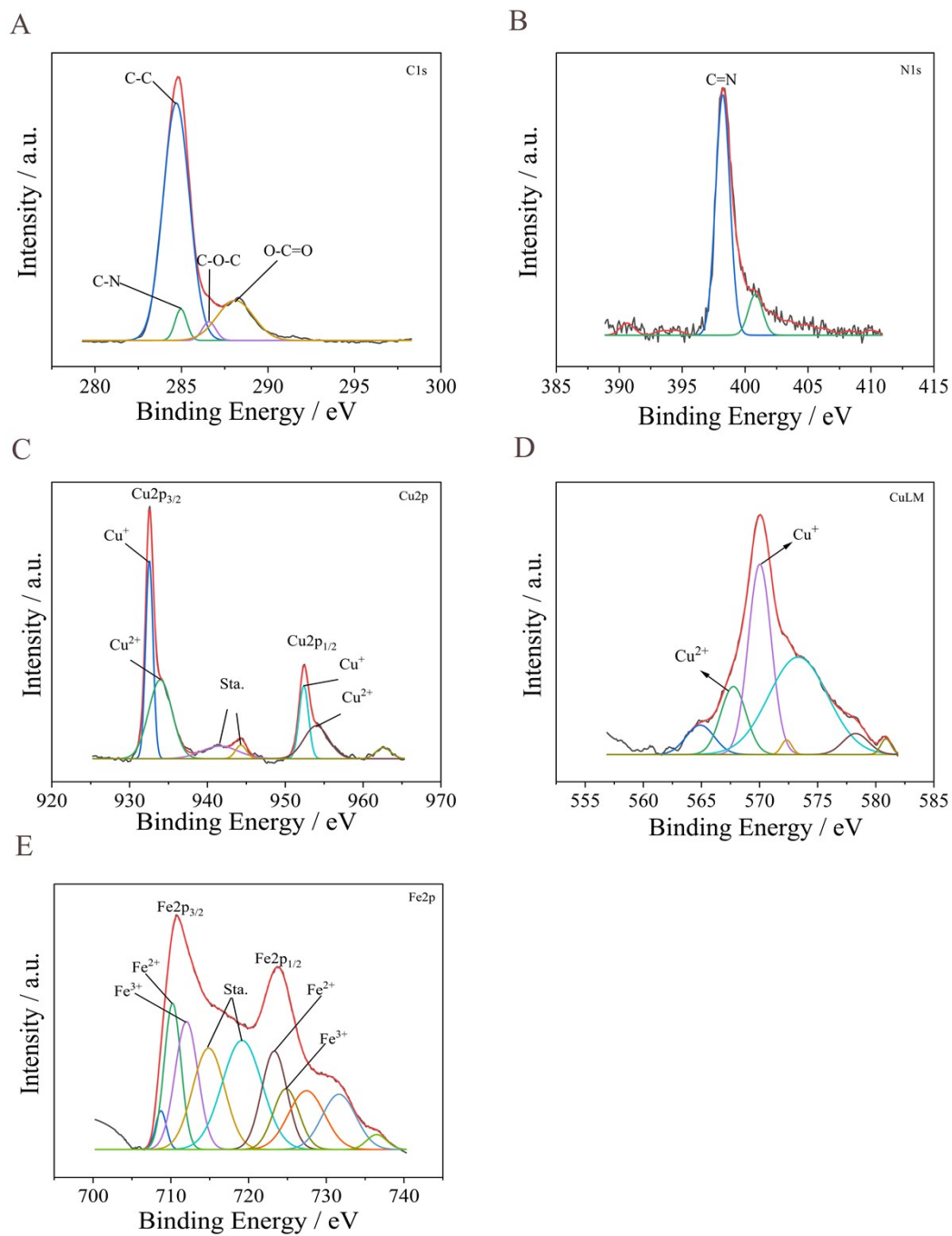
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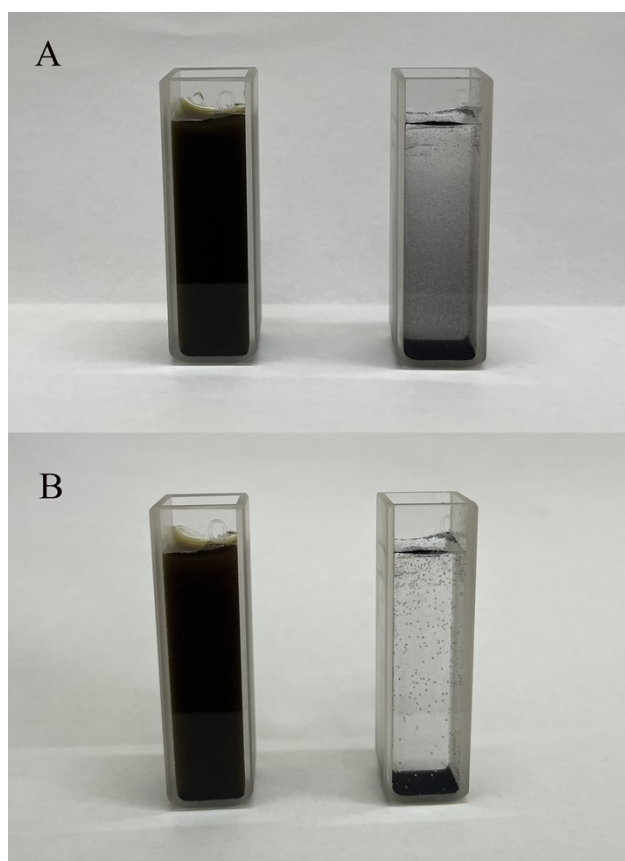
<sup>1</sup> co-first authors



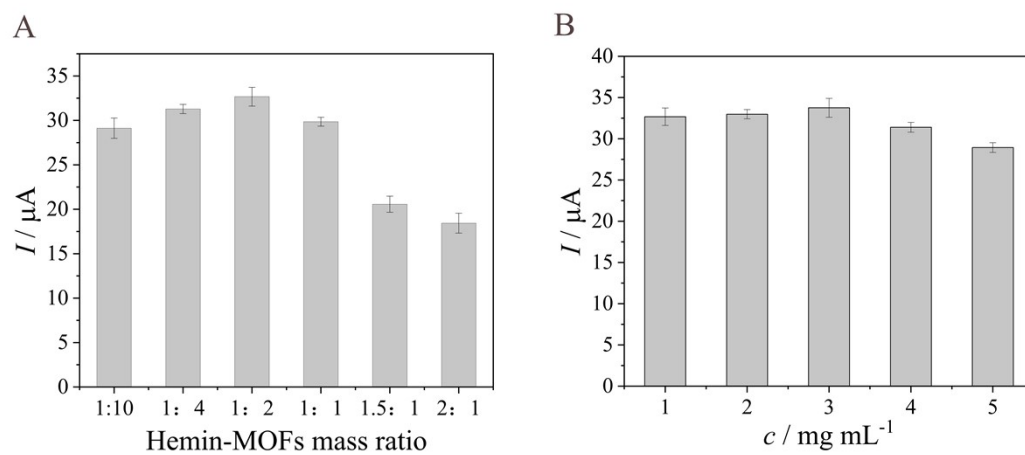
**Fig. S1.** The elemental mapping of Cu-MOFs/Hemin: (B) O, (C) C, (D) Cu, (E) N, and (F) Fe.



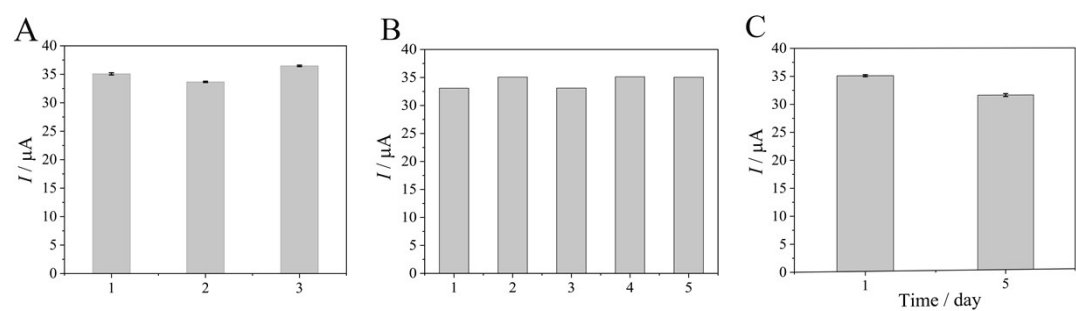
**Fig. S2.** The XPS spectra of Cu-MOFs/Hemin: (A) C1s, (B) N1s, (C) Cu2p, (D) CuLM, and (E) Fe2p.



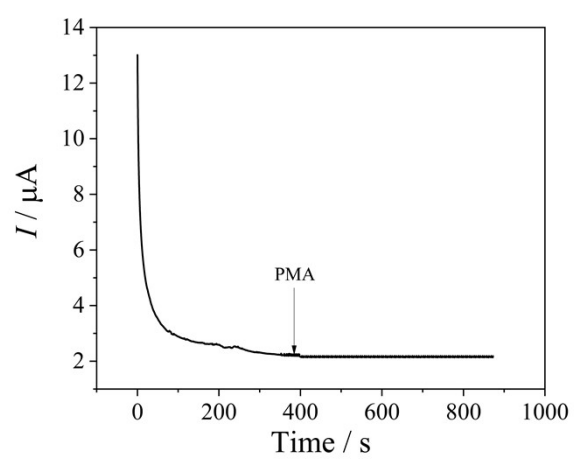
**Fig. S3.** (A) Images showing the aggregation and dispersion of Cu-MOFs/Hemin (left) and Hemin (right) dissolved in water, respectively. (B) Phenomenon after 30min placement.



**Fig. S4.** (A) The comparison of reduction peak value of different mass ratio of Hemin and Cu-MOFs. (B) The histogram of reduction peak current with the Cu-MOFs/Hemin concentration.



**Fig. S5.** (A) The current response of 3 different Cu-MOFs/Hemin/GCEs prepared under the same conditions in PBS containing 1.0 mM  $\text{H}_2\text{O}_2$ . (B) The current response of 6 repeated amperometric measurements using the same Cu-MOFs/Hemin/GCE in PBS containing 1.0 mM  $\text{H}_2\text{O}_2$ . (C) Stability test over 5 days in the air at room temperature.



**Fig. S6.** Typical amperometric responses of the Cu-MOFs/Hemin/GCE for the reduction of  $\text{H}_2\text{O}_2$  release from HepG2 cells induced by PMA with catalase.