Supporting Information

Encapsulation of Biomimetic Nanozymes in MOF matrices as peroxidase mimetic for sensitive detection of L-cysteine

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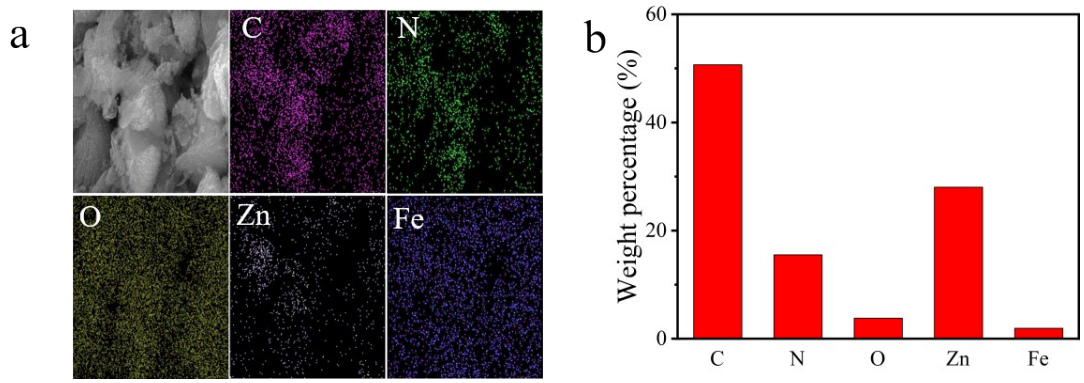

Fig. S1 (a) EDS elemental mapping images and (b) the content of the corresponding elements of FH/hemin@ZIF-8.

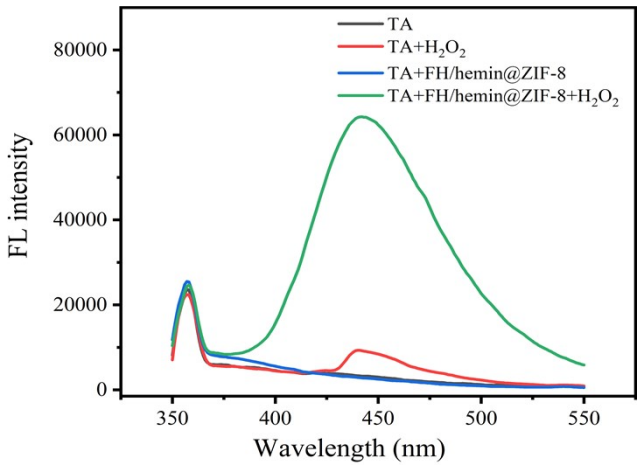

Fig. S2 Fluorescence emission spectra of TA and TA in the presence of H_2O_2, FH/hemin@ZIF-8 and FH/hemin@ZIF-8+H_2O_2. Reaction conditions: 8.0 mg mL^{-1} catalyst, 0.1 M acetate buffer (pH 3), 1 mM H_2O_2, 16.0 mM TA, room temperature for 90 minutes incubation.

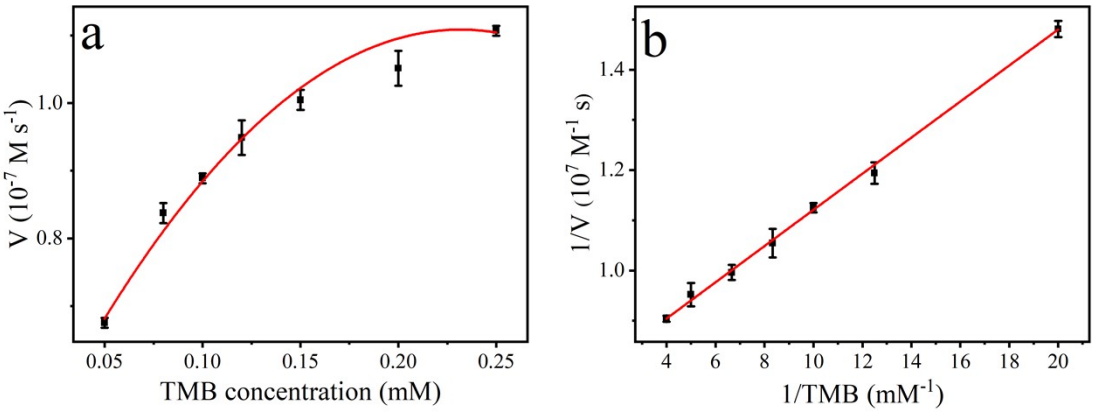

Fig. S3 TMB catalytic kinetics assays of FH/hemin@ZIF-8. (a) Steady-state kinetics curves for TMB. (b) Double-reciprocal plot used to calculate the kinetic constants.

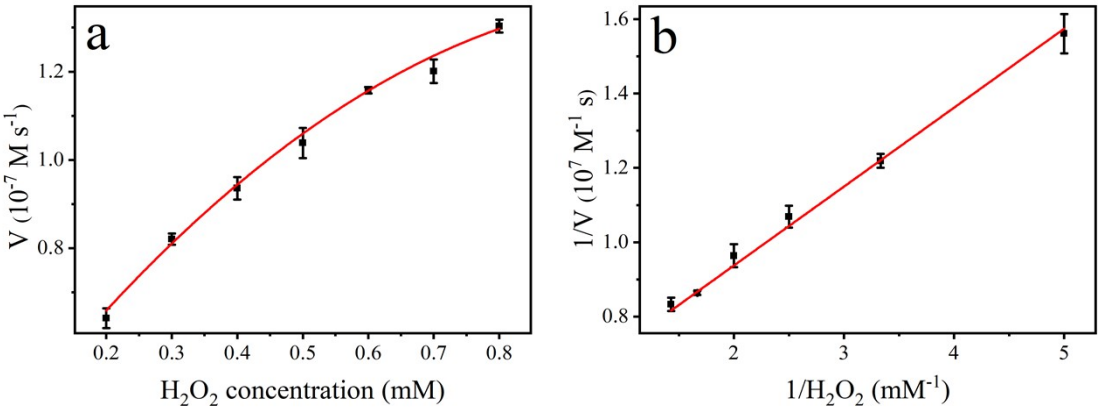

Fig. S4 H_2O_2 catalytic kinetics assays of FH/hemin@ZIF-8. (a) Steady-state kinetics curves for H_2O_2. (b) Double-reciprocal plots used to calculate the kinetic constants.

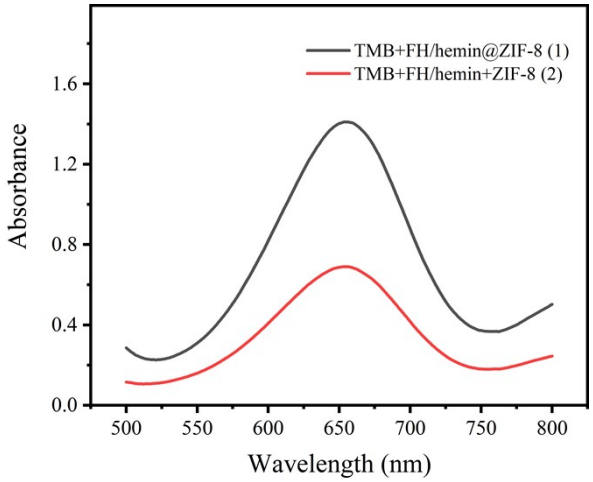

Fig. S5 UV–vis absorption spectra of TMB in the presence of FH/hemin@ZIF-8 (1), and FH/hemin+ZIF-8 (2). Reaction conditions: 8.0 mg mL^{-1} catalyst, 0.1 M acetate buffer (pH 3), 20.0 mM TMB, 1 mM H_2O_2, 60 °C for 5 min incubation.

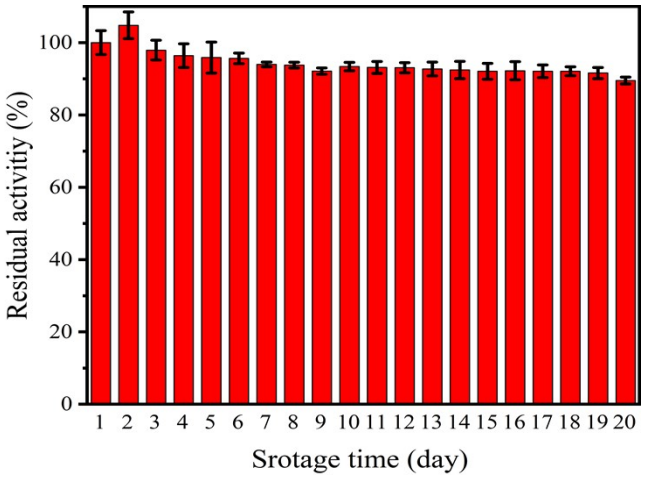

Fig. S6 The storage stability of FH/hemin@ZIF-8 in acetate buffer solution and stored at 4 °C for 20 days. Reaction conditions: 8.0 mg mL^{-1} catalyst, 0.1 M acetate buffer (pH 3), 20.0 mM TMB, 1 mM H_2O_2, 60 ℃ for 5 min incubation.

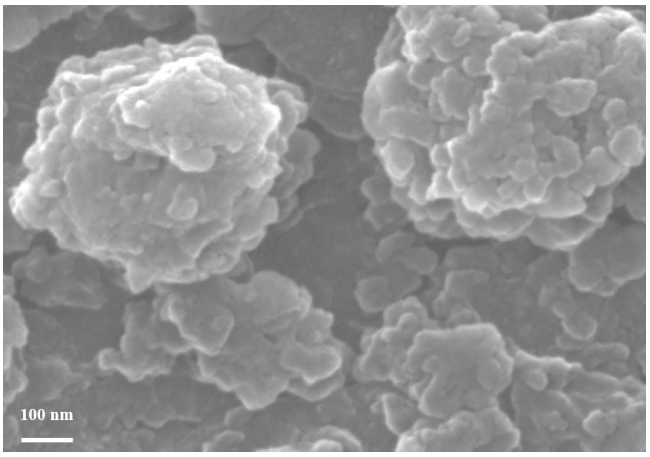

Fig. S7 SEM image of FH/hemin@ZIF-8 after the catalytic reaction.