

Nanoreactor of Sarcosine Oxidase Embedded ZIFs Activates Fluorescent Response for Diagnosis of Prostate Cancer

Qianqian Hu^{a, c, #}, Guoning Chen^{a, #}, Lu Wang^a, Xia Cui^a, Chun Chang^a, Qiang Fu^{a, b, *}

^a Department of Pharmaceutical Analysis, School of Pharmacy, Xi'an Jiaotong University, Xi'an 710061, China

^b Department of Pharmaceutical Analysis, College of Pharmacy, Shenzhen Technology University, Shenzhen 518118, China

^c Department of Pharmacy, The Second Affiliated Hospital of Xi'an Medical University, Xi'an 710038, China

* Correspondence: Qiang Fu; E-mail: fuqiang@mail.xjtu.edu.cn.

These authors contributed equally to this work.

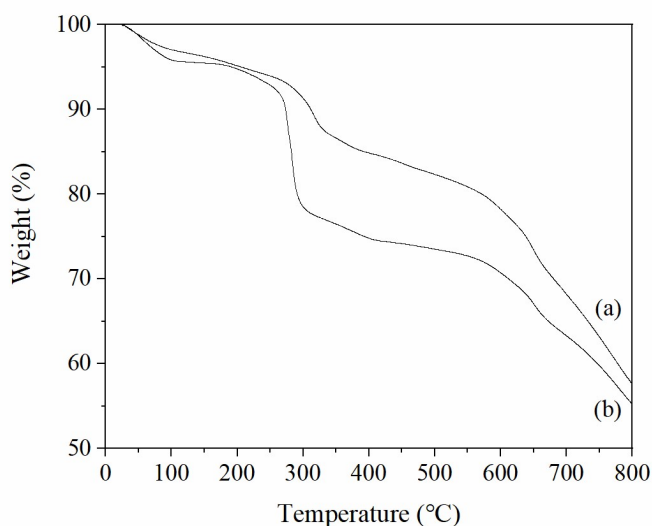


Fig. S1 TGA curves of ZIF-8 (a) and SOX@ZIF-8 (b).

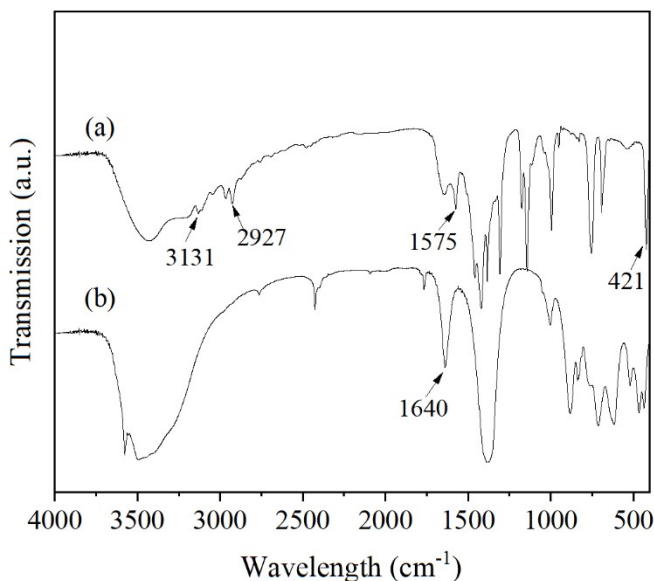


Fig. S2 FT-IR spectra of ZIF-8 (a) and SOX@ZIF-8 (b).

Table S1 The result of nitrogen adsorption-desorption adsorption

Materials	Surface area ($\text{m}^2 \text{g}^{-1}$)	Pore volume ($\text{m}^3 \text{g}^{-1}$)	Pore size (nm)
ZIF-8	1689.76	0.31	21.9
SOX@ZIF-8	4.75	0.23	41.7

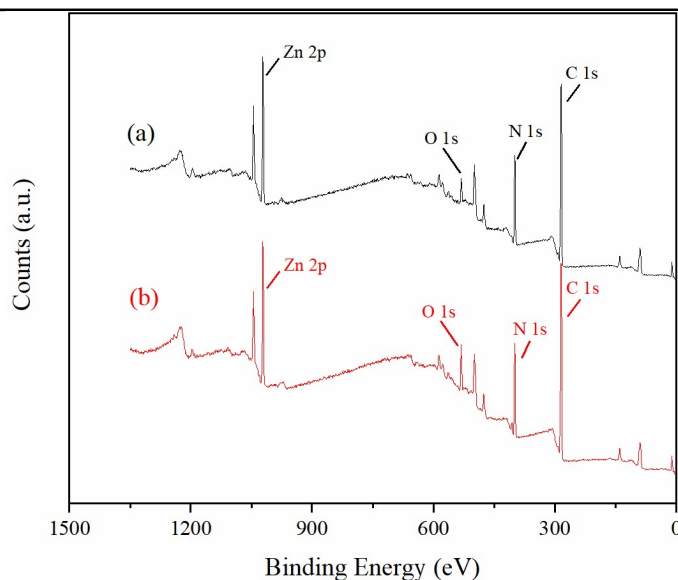


Fig. S3 X-ray photoelectron spectra (XPS) of ZIF-8 (a) and SOX@ZIF-8 (b).

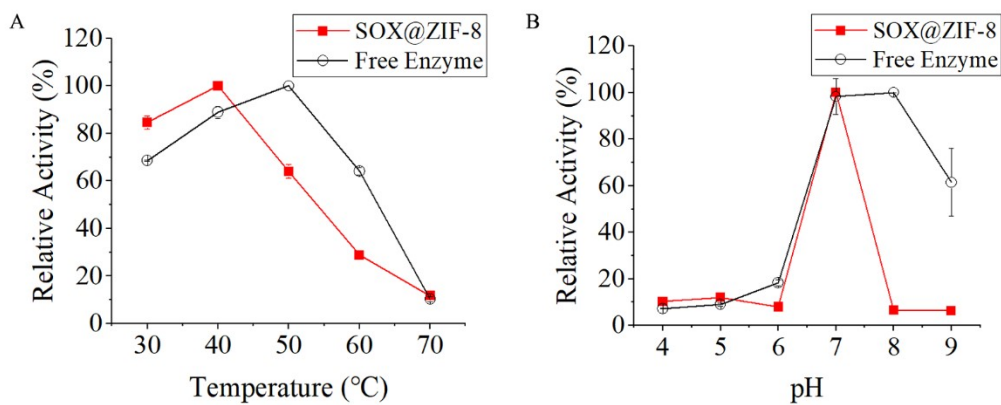


Fig. S4 Optimization of catalytic conditions for SOX@ZIF-8 and free enzyme (n=3)

(A) temperature; (B) pH.

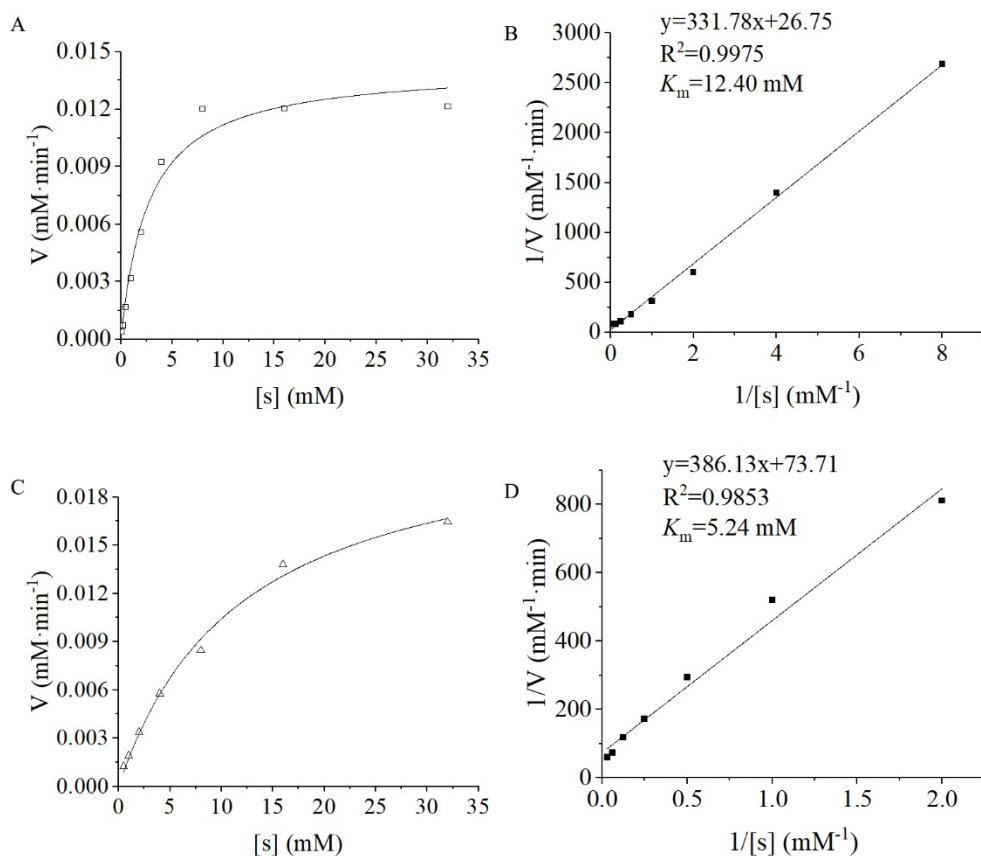


Fig. S5 Enzymatic kinetics of SOX@ZIF-8 and free enzyme. (A) kinetic curve of reaction between SOX@ZIF-8 and sarcosine; (B) Lineweaver-Burk plots of reaction between SOX@ZIF-8 and sarcosine; (C) kinetic curve of reaction between free enzyme and sarcosine; (D) Lineweaver-Burk plots of reaction between free enzyme and sarcosine.