

Electronic Supporting Material

Zinc Pyrovanadate Nanorods with Excellent Peroxidase-like Activity at Physiological pH for Colorimetric Assay of H₂O₂ and Epinephrine

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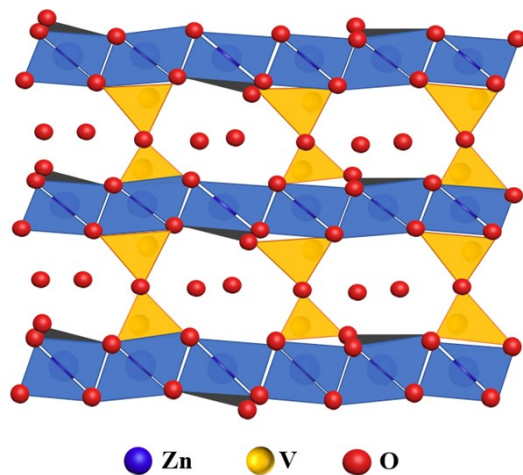


Fig. S1 Crystal structure of $\text{Zn}_3\text{V}_2\text{O}_7(\text{OH})_2 \cdot 2\text{H}_2\text{O}$.

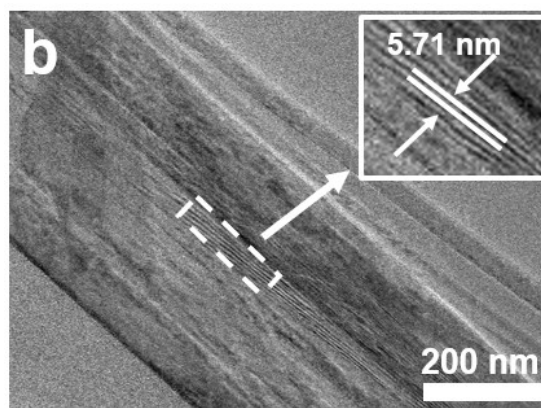


Fig. S2 TEM images of $\text{Zn}_3\text{V}_2\text{O}_7(\text{OH})_2 \cdot 2\text{H}_2\text{O}$ nanorods.

Table S1 Comparison of kinetic parameters (K_m and V_{max}) at physiological pH.

Nanozymes	K_m/mM		$V_{max}/10^{-8} \text{ Ms}^{-1}$		Ref.
	TMB	H_2O_2	TMB	H_2O_2	
Au-NCs+ ZIF-8/CQDs+ heparin	2.93	36.28	10.53	3.13	1
Cu/Fe ₃ O ₄ @FeOOH	1.369	1.087	5.61	5.66	2
GO-AuNCs	0.16	142.39	-	-	3
Pt@CNNS	0.37	-	3.2	-	4
$\text{Zn}_3\text{V}_2\text{O}_7(\text{OH})_2 \cdot 2\text{H}_2\text{O}$	0.859	2.005	17.51	9.98	This work

- 1 F. Ran, Y. Xu, M. Ma, X. Liu and H. Zhang, *Talanta*, 2022, **250**, 123702.
- 2 Y. Huang, G. Liang, T. Lin, L. Hou, F. Ye and S. Zhao, *Anal Bioanal Chem*, 2019, **411**, 3801-3810.
- 3 Y. Tao, Y. Lin, Z. Huang, J. Ren and X. Qu, *Adv Mater*, 2013, **25**, 2594-2599.
- 4 X. Li, X. Li, Q. Chen, J. Chen and P. Wu, *Chem Commun (Camb)*, 2022, **58**, 6930-6933.