Supporting information for:

Metal-organic Frameworks Loaded Au Nanozyme with Enhanced Peroxidase-like Activity for Multi-targeted Biodetection

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Notes

The authors declare no competing financial interest.

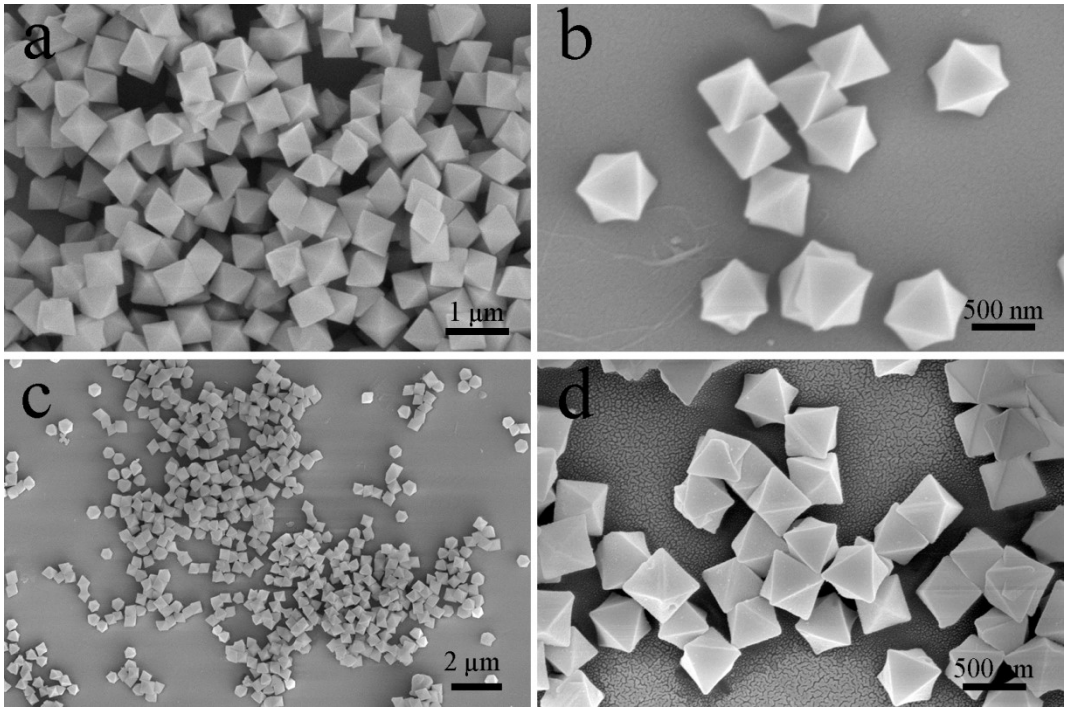

Figure S1 SEM images of UiO-66 (a, b) and Au/UiO-66 nanocomposites (c, d).

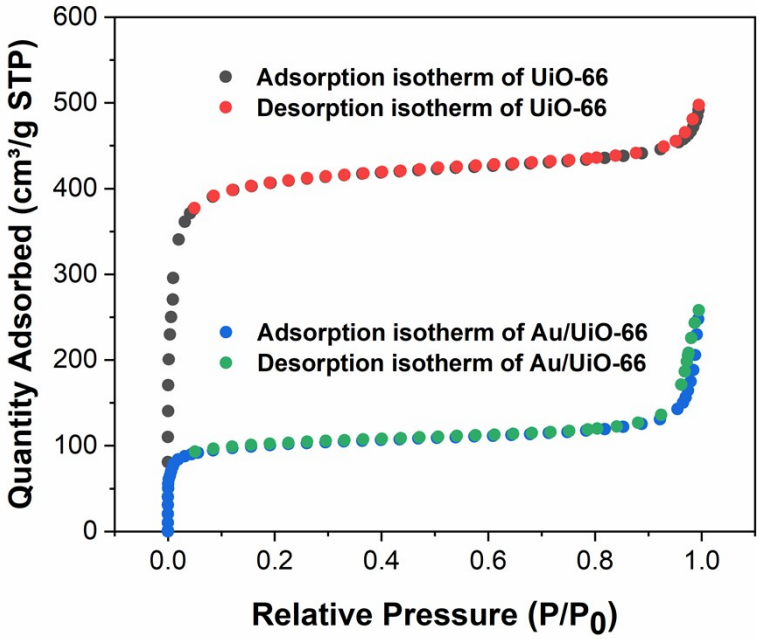

Figure S2 N_2 adsorption-desorption isotherm of UiO-66 (a) and Au/UiO-66 (b)

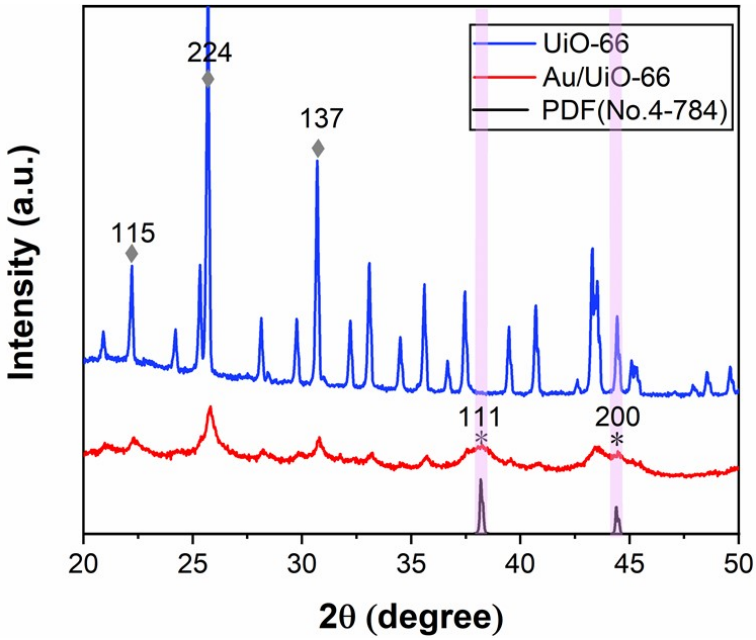

Figure S3 XRD patterns of pure UiO-66 and Au/UiO-66 nanocomposites.

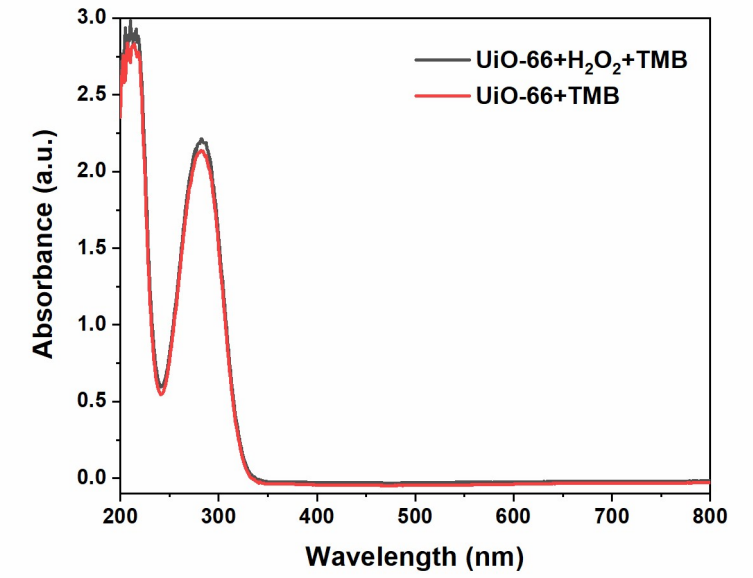

Figure S4 UV-Vis absorption spectra of UiO-66/TMB in the presence and absence of H_2O_2 could not oxidized TMB**.**

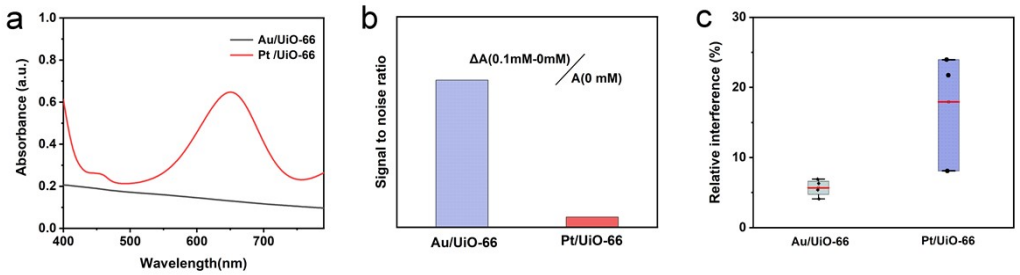

Figure S5 (a) Comparison of oxidase-like background signal interference between Au/UiO-66 and Pt/UiO-66 (no H_2O_2). (b) Signal noise ratio (SNR) of Au/UiO-66 and Pt/UiO-66 at their added amount of 0.1 mM. (c) Relative interference of other substances in Au/UiO-66 and Pt/UiO-66 glucose detection.

Table. S1 Comparison of kinetic parameters among the nanozymes.

Nanozymes	Substrate	K_m (mM)	V_{max} (10^{-8} M^{-1})	Ref
HRP	TMB	0.434	10	1
	H_2O_2	37	8.71	
Au-Ft	TMB	0.097	7.46	2
	H_2O_2	199.4	9.34	
Au NPs	TMB	0.0112	8.3	3
	H_2O_2	33	6.1	
Cu_2O-Au	H_2O_2	0.54	1.94	4
Au/UiO-66	TMB	0.036	6.1	This work
	H_2O_2	0.58	4.82	

References

1. L. Gao, J. Zhuang, L. Nie, J. Zhang, Y. Zhang, N. Gu, T. Wang, J. Feng, D. Yang, S. Perrett and X. Yan, *Nature Nanotechnology*, 2007, **2**, 577-583.
2. C. S. Xin Jiang , Yi Guo, Guangjun Nie , L i X u *Biosensors and Bioelectronics*, 2015, **64**, 165-170.
3. Y. Liu, C. Wang, N. Cai, S. Long and F. Yu, *Journal of Materials Science*, 2014, **49**, 7143-7150.
4. D. Dai, H. Liu, H. Ma, Z. Huang, C. Gu and M. Zhang, *Journal of Alloys and Compounds*, 2018, **747**, 676-683.