Electronic Supplementary Material (ESI) for RSC Advances.

Preparation of protein imprinted polymers via protein-catalyzed eATRP on 3D gold nanodendrites and its application in biosensor

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Supporting Figures:

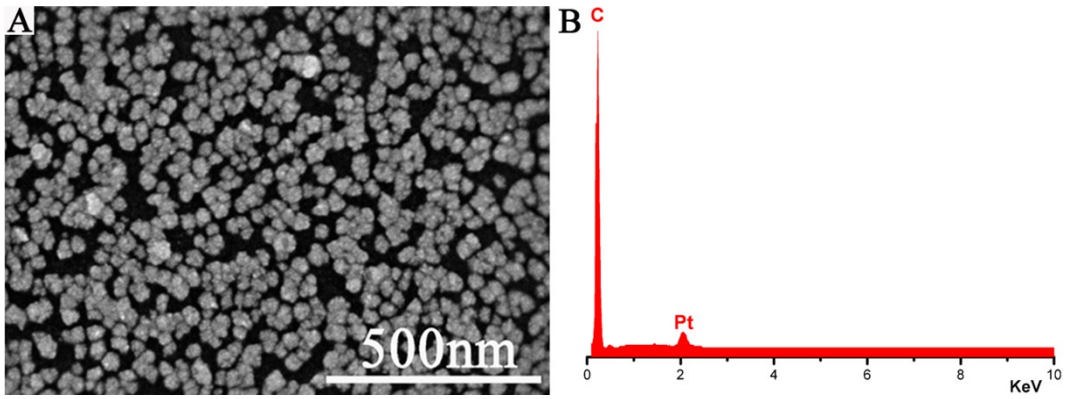

Fig.S1 The SEM image (A) and the EDX spectroscopy (B) of the GCE/PTB/nPt surface.

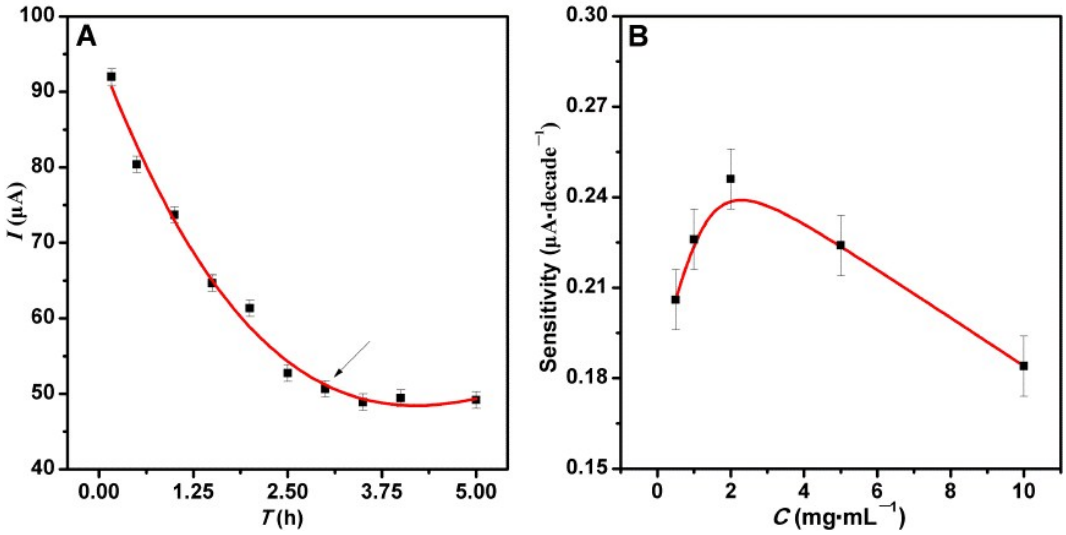

Fig.S2 The selection of polymerization time (A) and the effect of Hb concentration on the sensitivity of the Au/ND/PIPs (B).

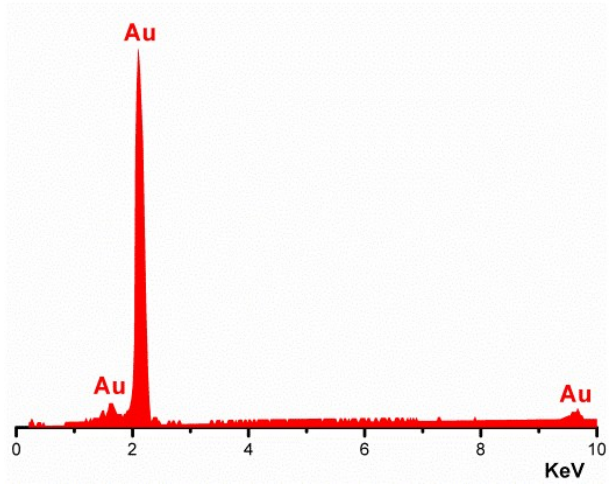

Fig.S3. The EDX spectroscopy of Au/ND.

Table S1 Comparison of the linear range and the detection limit between the proposed and previous reported PIPs for Hb [a]

PIPs	method	Linear range (mg/mL)	Detection limit (mg/L)	Ref
Hb-imprinted polymer layer wrapped on the surface of SiO_2/gold nanoparticles	fluorescence	6.6×10^{-6}～1.32×10^{-3}	1.98×10^{-6}	[1]
MIP used core–shell Fe_3O_4@SiO_2–multi-walled carbon nanotube as the backbone material	chemiluminescent	5.0×10^{-10}～7.0×10^{-7}	1.5×10^{-10}	[2]
poly (γ-glutamic acid)-graft-7-amino -4-methylcoumarin nanoparticles	differential pulse stripping voltammetry (DPSV)	5×10^{-3}～1.0×10^{-1}	1.66×10^{-3}	[3]
polydopamine on the surface of graphene	DPV	1.0×10^{-9}～1.0×10^{-1}	2.0×10^{-10}	[4]
PIPs on planar Au electrode	DPV	1.0×10^{-13}～1.0×10^{-2}	7.8×10^{-14}	[5]
PIPs on 3D gold nanodendrites	DPV	1.0×10^{-13}～1.0×10^{-1}	3.2×10^{-14}	This work

[a] The data units are unified for ease of comparison

Table S2 Determination of Hb in real samples (n=3)

Analyte	Content (mg/mL)	Added (mg/mL)	Found (mg/mL)	Recovery (%)	RSD (%)
Hb	*1.00×10^{-8}	2.00×10^{-8}	3.03×10^{-8}	102.0	3.03
		5.00×10^{-8}	5.86×10^{-8}	97.2	3.95
		1.00×10^{-7}	1.13×10^{-7}	103.0	3.13

*The content was determined by blood test meter

Ref:

[1] Li, H., Wei, X., Zhang, Y., Xu, Y., Lu, K., Li, C., Yan, Y.,2016. J. Alloys Compd. 685, 820-827.

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[3] Zhang, R., Xu, S., Luo, J., Liu, X., 2014. Microchimica Acta 182, 175-183.

[4] Luo, J., Jiang, S., Liu, X.,2014. Sensor. Actuat. B-Chem 203, 782-789.

[5] Sun, Y., Du, H., Lan, Y., Wang, W., Liang, Y., Feng, C., Yang, M., 2016. Biosens. Bioelectron.77, 894-900.