

Electronic Supplementary Information

Evaluation of sialic acid based on electrochemical cytosensor with 3D micro/nanostructured sensing interface

Shangshang Ma^{a†}, Sisheng Hu^{b†}, Qi Wang^a, Yuhong Liu^a, Guangyao Zhao^a, Qicheng Zhang^a, Chun Mao^{a*}, Bo Zhao^{a*}

a National and Local Joint Engineering Research Center of Biomedical Functional Materials, School of Chemistry and Materials Science, Nanjing Normal University, Nanjing, 210023, China

b State Key Laboratory of Pharmaceutical Biotechnology, School of Life Sciences, Institute of Chemistry and BioMedical Sciences, Nanjing University, Nanjing, 210093, China.

E-mail: (maochun@njnu.edu.cn (C. Mao), zhaobo@njnu.edu.cn (B. Zhao))

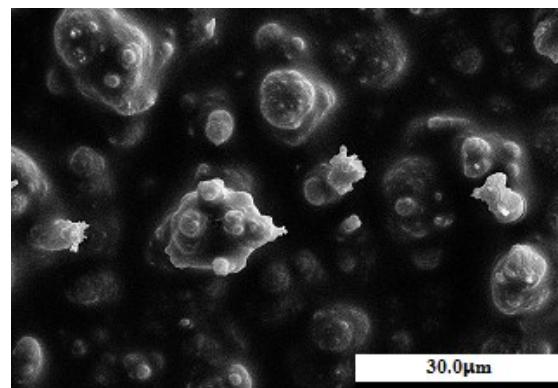


Fig. S1. SEM image of cPPy film.

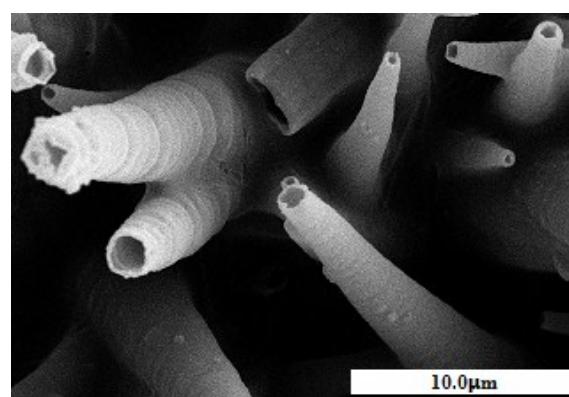


Fig. S2. Enlarged SEM image of hPPy film.

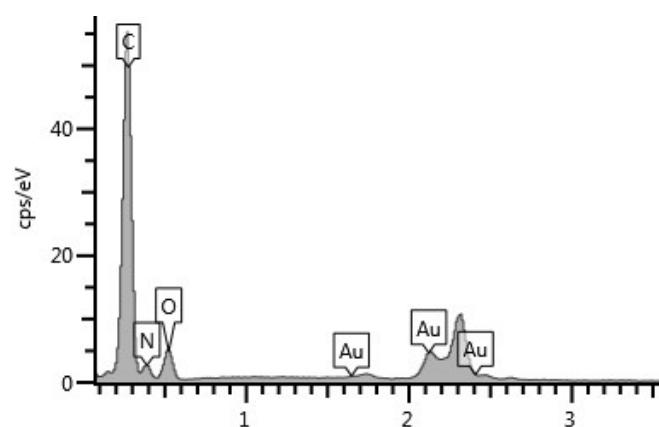


Fig. S3. Elemental surface analysis (by EDS spectrum) of hPPy/CS-Au film.

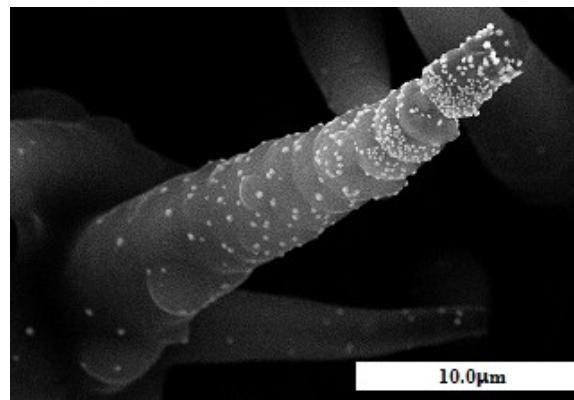


Fig. S4. Enlarged SEM image of CS-Au hPPy film.

Table S1. Comparison of the detection performance of different sensors for cell detection				
sensor	analyte	linear range (cells mL ⁻¹)	detection limit (cells mL ⁻¹)	reference
GCE/MWNT/ AuNP/SNA	A549 cell	3.0×10^4 to 3.0×10^7	700	[1]
GCE/BSA-incorporated Ag nanoflowers/GA/SNA	DLD-1 cell	1.35×10^2 to 1.35×10^7	40	[2]
HRP-CNS/AuNP-SNA	MCF-7 cell	1.0×10^2 to 1.0×10^6	40	[3]
GE/PPy- Ag@BSA/PDITC/APBA	786-O cell	1.7×10 to 1.7×10^6	6	[4]
hPPy film/CS-AuNP/SNA	A549	1.0×10 to 1.0×10^7	2	this work

	cell			
--	------	--	--	--

- 1 X. Zhang, Y. Teng, Y. Fu, L. Xu, S. Zhang, B. He, C. Wang and W. Zhang, *Anal. Chem.*, 2010, **82**, 9455-9460
- 2 H. Cao, D. P. Yang, D. Ye, X. Zhang, X. Fang, S. Zhang, B. Liu, and J. Kong, *Biosens. Bioelectron.*, 2015, **68**, 329-335.
- 3 P. Geng, C. Feng, L. Zhu, J. Zhang, F. Wang, K. Liu, Z. Xu and W. Zhang, *Electroanalysis*, 2016, **28**, 1331-1339.
- 4 L. Zhang, C. Yu, R. Gao, Y. Niu, Y. Li, J. Chen and J. He, *Biosens. Bioelectron.*, 2017, **92**, 434-441.