Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Facile fabrication of three-dimensional gold nanowire array for high-performance electrochemical sensing

Lei Shi, Zhenyu Chu, Yu Liu and Wanqin Jin*

State Key Laboratory of Materials-Oriented Chemical Engineering, College of Chemistry and Chemical Engineering, Nanjing Tech University, Nanjing 210009, P. R. China

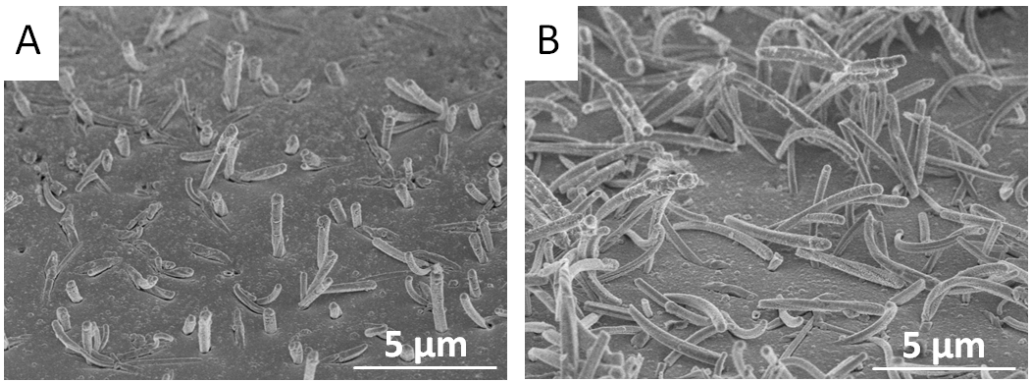

Fig. S1 FESEM images of gold nanowires fabricated with different reaction time in precursor solution (A) 10 min, (B) 30 min.

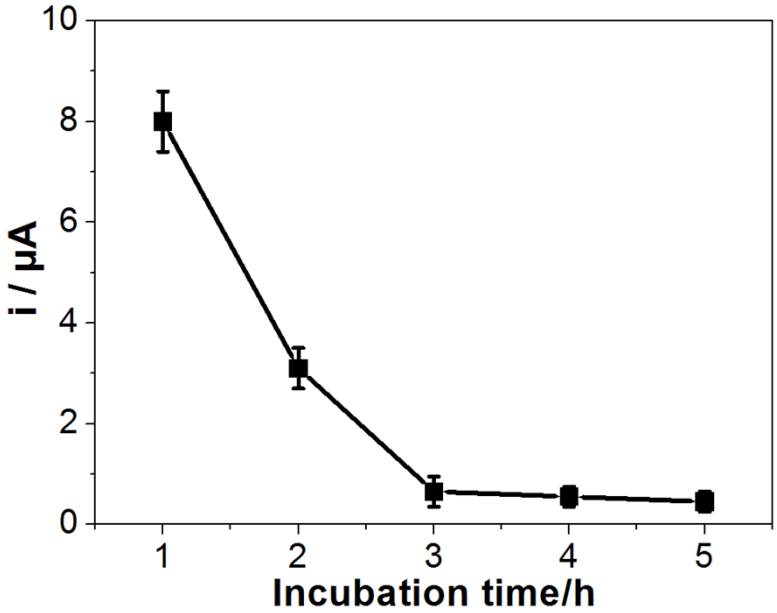

Fig. S2 The signal responses arising from the Rp-T II when the capture probes were hybridized with the Apt-T for 1 h, 2 h, 3 h, 4 h and 5 h respectively.

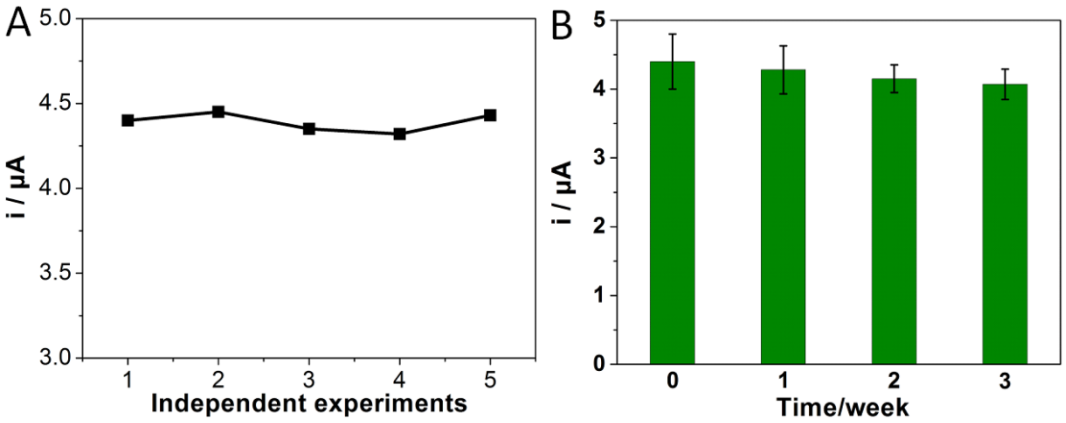

Fig. S3 (A) The reproducibility and (B) stability tests of the fabricated aptasensor.

Table S1. Performance comparisons of different Tob aptasensors.

Sensor type	Linear range	Sensitivity (μA/M)	Detection limit	Reference
Electrochemistry	0.028-3.7 nM	0.15	3.05 pM	1
	0.4 pM-30 nM	1.85	0.15 pM	2
	7.3 pM-7.3 nM	0.68	4.6 pM	3
	6 nM-60 nM	0.17	3 nM	4
	30 pM-10 nM	2.41	10 pM	5
	0.2 pM-15 nM	1.53	0.12 pM	6
	10 pM-0.01 M	0.96	3 pM	7
	10 fM-1 nM	1.68	3 fM	This work

1. J. Chen, X. Jiao, H. Luo and N. Li, *J. Mater. Chem. B*, 2013, **1**, 861-864.

2. A. Sun, Q. Qi, X. Wang and P. Bie, *Biosens. Bioelectron.*, 2014, **57**, 16-21.

3. H. Fan, H. Li, Q. Wang, P. He and Y. Fang, *Biosens. Bioelectron.*, 2012, **35**, 33-36.

4. F. Yan, F. Wang and Z. Chen, *Sens. Actuators B*, 2011, **160**, 1380-1385.

5. L. Shi, Z. Chu, Y. Liu, W. Jin and N. Xu, *Adv. Funct. Mater.*, 2014, **24**, 7032-7041.

6. L. Bai, Y. Chai, R. Yuan, Y. Yuan, S. Xie and L. Jiang, *Biosens. Bioelectron.*, 2013, **50**, 325-330.

7. X. He, G. Wang, G. Xu, Y. Zhu, L. Chen and X. Zhang, *Langmuir*, 2013, **29**, 14328-14334.