Supporting Information

From the traditional way of pyrolysis to tunable photoluminescent water soluble carbon nano-onions for cells imaging and selective sensing of glucose

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Contents:

Table S1. Performance comparison between various fluorescence sensors toward glucose molecule.

Methods	Response Time	detection limits	Ref.
i-motif DNA	30 min.	4 μM	[1]
APBA-$CuInS_2$ QDs	40 min.	1.2 μmol L^{-1}	[2]
Optical fiber	10 min.	0.05 μg/ml	[3]
CdTe-QDs	15 min.	50 nm	[4]
BSA-Au nanoclusters	60 min.	5.0×10^{-6}M	[5]
GOx immobilized on Bamboo inner cell membrane	5 min.	58μM	[6]
wsCNO	Immediate	1.3 X 10^{-2} M	this study

2. Calculation of detection limit(LD) of glucose

The detection limitof glucose was calculated with the help of following equation:

$$LD=3SD/K$$

K represents the slope of liner fit curve of the fluorescence turn on values (I/I*o*) *vs.*glucose concentration and SD denoted the the standard deviation. As demonstrated in Figure S2, the K value isobtained to be 234,46, whereas SD is1.05. The LD was thus calculated to be 1.3 X 10^{-2} M.

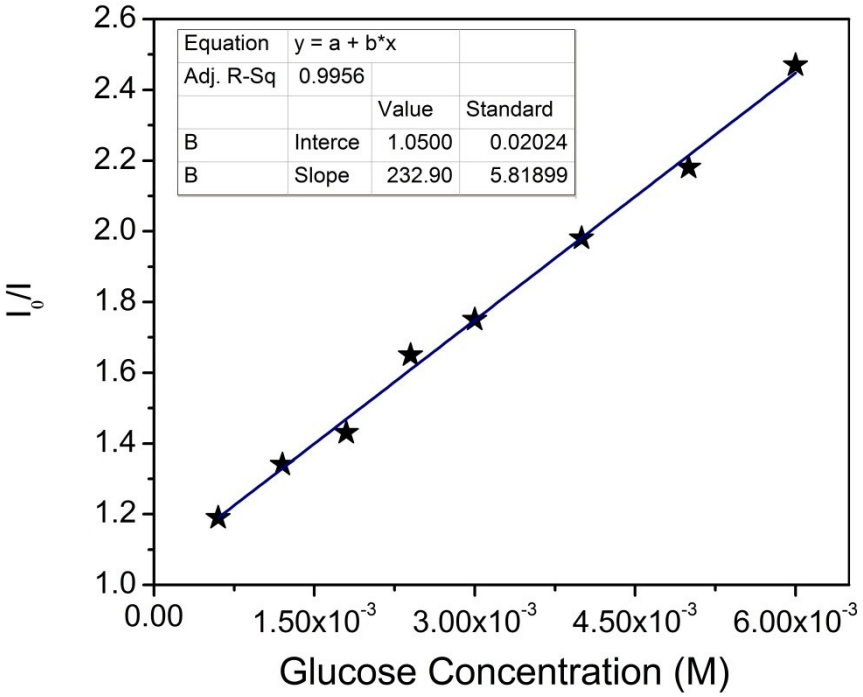

Figure S2. Calibration curve for fluorescence turn on by glucose

References:

1. Q. Ke, Y. Zheng, F.Yang, H. Zhang and X. Yang, *Talanta,* 2014, **129**, 539–544.
2. Z. Liu, L. Liu, M. Sun and X. Su, *Biosens. Bioelectron..*, 2015, **65**, 145–151.
3. D. L. Meadows and J. S. Schultz. *Anal. Chim. Acta.*, 1993, **280** , 21–30.
4. B. Tang, L. Cao, K. Xu, L. Zhuo, J. Ge, Q. Li and L. Yu. *Chem. Eur. J.* 2008, **14,** 3637–3644.
5. L. Jin, L. Shang, S. Guo, Y. Fang, D. Wen, L. Wang, J. Yin and S. Dong, *Biosens Bioelectron.* 2011, **26**, 1965–1969.
6. X. Yang, Z. Zhou, D. Xiao and M. M. F. Choi , *Biosens Bioelectron.* 2006, **21**, 1613–1620.