Supporting Information

Constructing TiO_2/PDA core/shell nanorod array electrode as a highly sensitive and stable photoelectrochemical glucose biosensor

Wei Xu[a], Wenke Yang[a], Hongkai Guo[a], Lianyuan Ge[a],Jinchun Tu[a,]and Chao Zhen[b,*]*

[a] State Key Laboratory of Marine Resource Utilization in South China Sea, College of Materials and Chemical Engineering, Hainan University, Haikou 570228, PR China

[b] Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, 72# Wenhua RD, Shenyang 110016, China.

[*] Corresponding author: tujinchun@hainu.edu.cn(Jinchun Tu)
[*] Corresponding author: czhen@imr.ac.cn(Chao Zhen)

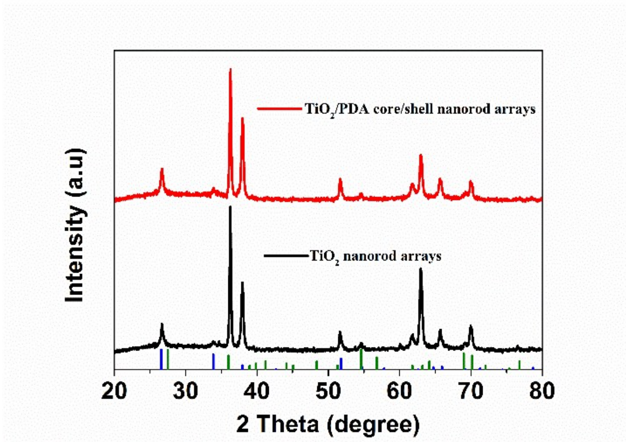

Fig S1. XRD patterns of the TiO_2 nanorod arrays(black one) and TiO_2/PDA core/shell nanorod arrays (red one) on the FTO substrate. (The vertical line of green and blue are the peaks corresponding to the PDF card of R-TiO_2, SnO_2, respectively. Meanwhile, the interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.).

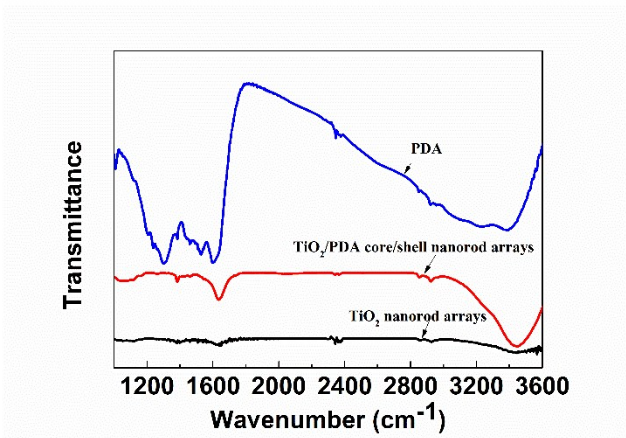

Fig S2. FTIR spectra of TiO_2 nanorod arrays, PDA and TiO_2/PDA core/shell nanorod arrays.

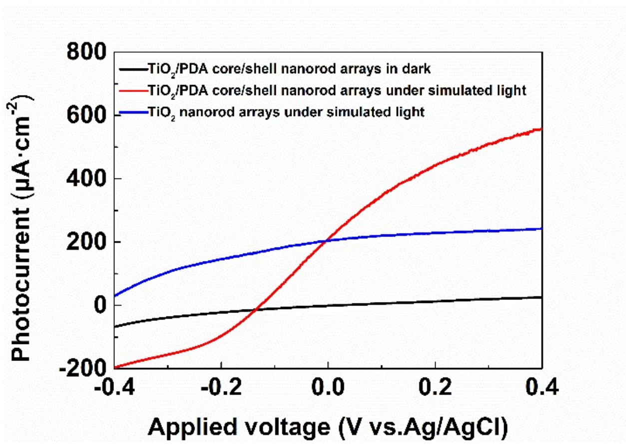

Fig S3. J-V curves of TiO_2 nanorod arrays under simulated light, TiO_2/PDA core/shell nanorod arrays in the dark and under simulated light.

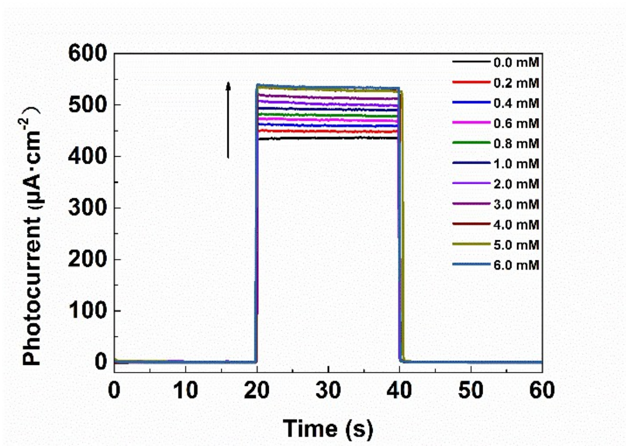

Fig S4. Chronoamperometric i-t response of glucose oxidase modified TiO_2/PDA electrode to glucose with different concentrations in phosphate buffer at 0.4V.

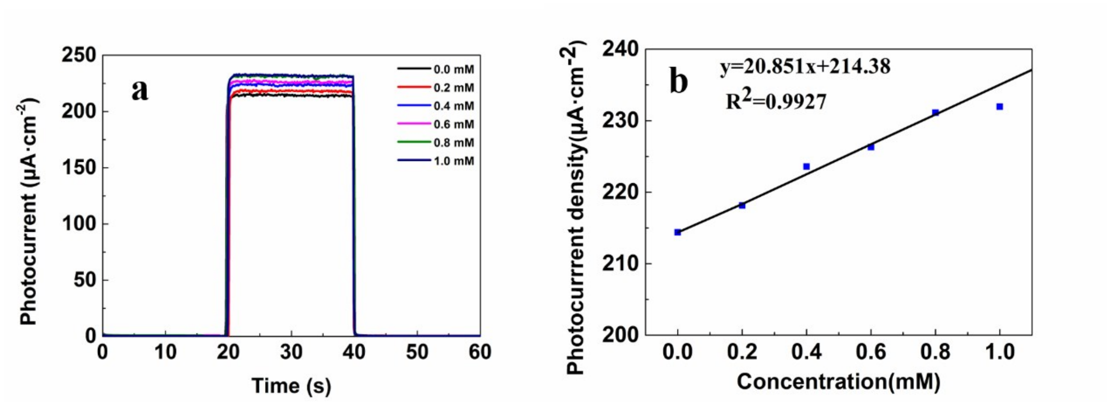

Fig S5. (a) Chronoamperometric i−t response of the glucose oxidase modified TiO_2 electtrode to glucose with different concentrations in phosphate buffer at 0.4V; (b) The calibration curve between glucose concentration vs photocurrent density.

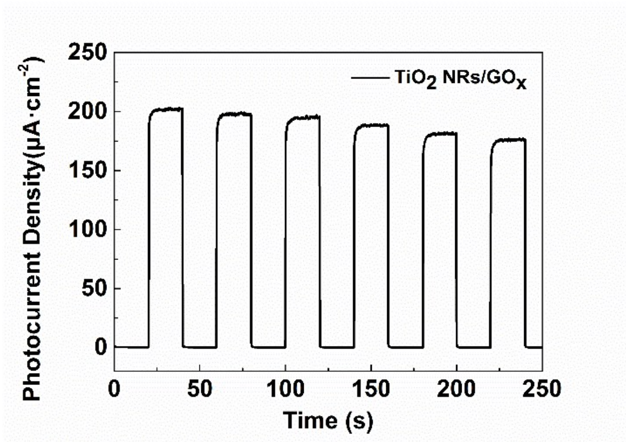

Fig S6. Stability test of the glucose oxidase modified TiO_2/PDA electrode at the concentration of 1 mM glucose.