

Electronic Supplementary Information

Flexible, nonenzymatic glucose biosensor based on Ni-coordinated, vertically
aligned carbon nanotube arrays

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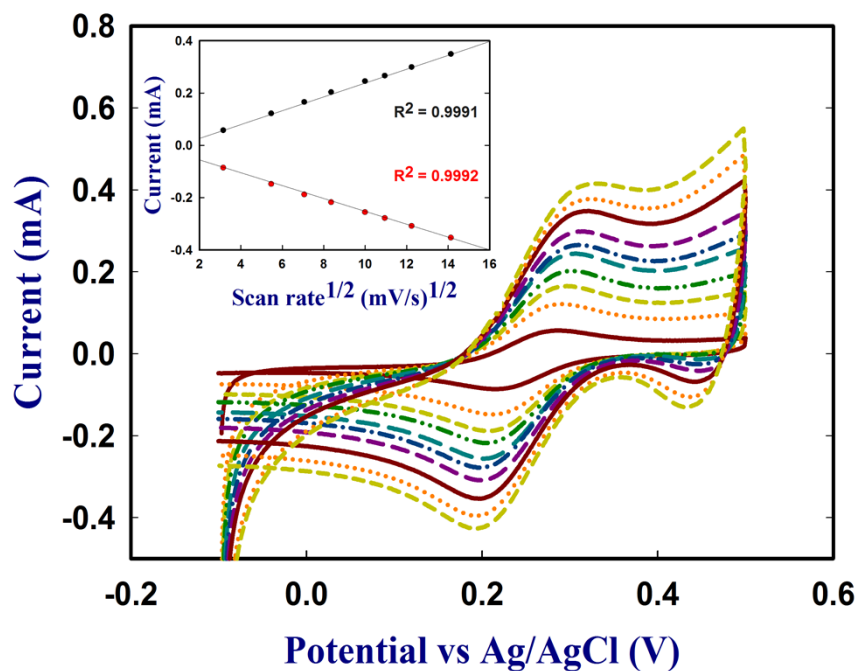


Fig. S1 Cyclic voltammograms of Ni/VCNTs/G electrode in 5.0 mM $K_3[Fe(CN)_6]$ containing 1.0 M KCl in 1.0 M phosphate buffered saline at different scan rates (10 – 200 $mV \cdot s^{-1}$). Insets are the plots of peak current vs. scan rate^{1/2}. The electrochemical active surface area of the Ni/VCNTs/G was calculated by Randles–Sevcik equation:

$$I_p = 2.69 \times 10^5 A D^{1/2} n^{3/2} \gamma^{1/2} C$$

- I_p : the peak current (A)
- A : the electrochemically effective surface area of the working electrode (cm^2)
- D : the diffusion coefficient ($7.64 \times 10^{-6} cm^2 \cdot s^{-1}$ for $K_3[Fe(CN)_6]$ at 25 °C)
- n : the number of electrons involved in the reaction
- γ : the scan rate ($V \cdot s^{-1}$)
- C : the concentration of the reactant ($mol \cdot cm^{-3}$)

Table S1. The detection of glucose in human serum samples. (from three separate experiments)

Sample	Concentration (mM)	RSD (%)	Added (mM)	Recovery (%)
1	0.959	1.50	0.1	98.3
2	2.329	3.28	0.1	99.9
3	3.622	3.34	0.1	101.2