Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Ethylenediamine-assisted Preparation of Carbon Nanofibers Supported Nickel Oxide Electrocatalysts for Sensitive and Durable Detection of Insulin

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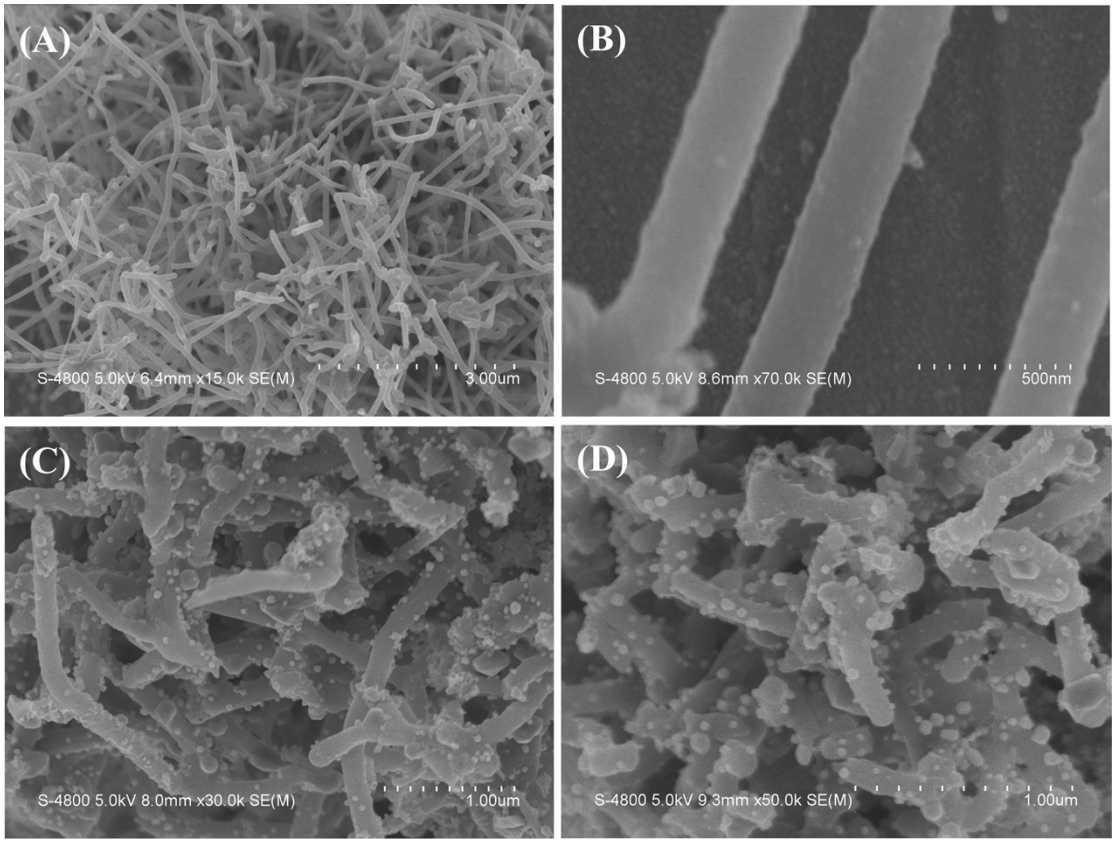

Figure S1. SEM images of (A, B) A-CNFs and (C, D) deposit NiO nanoparticles on the A-CNFs.

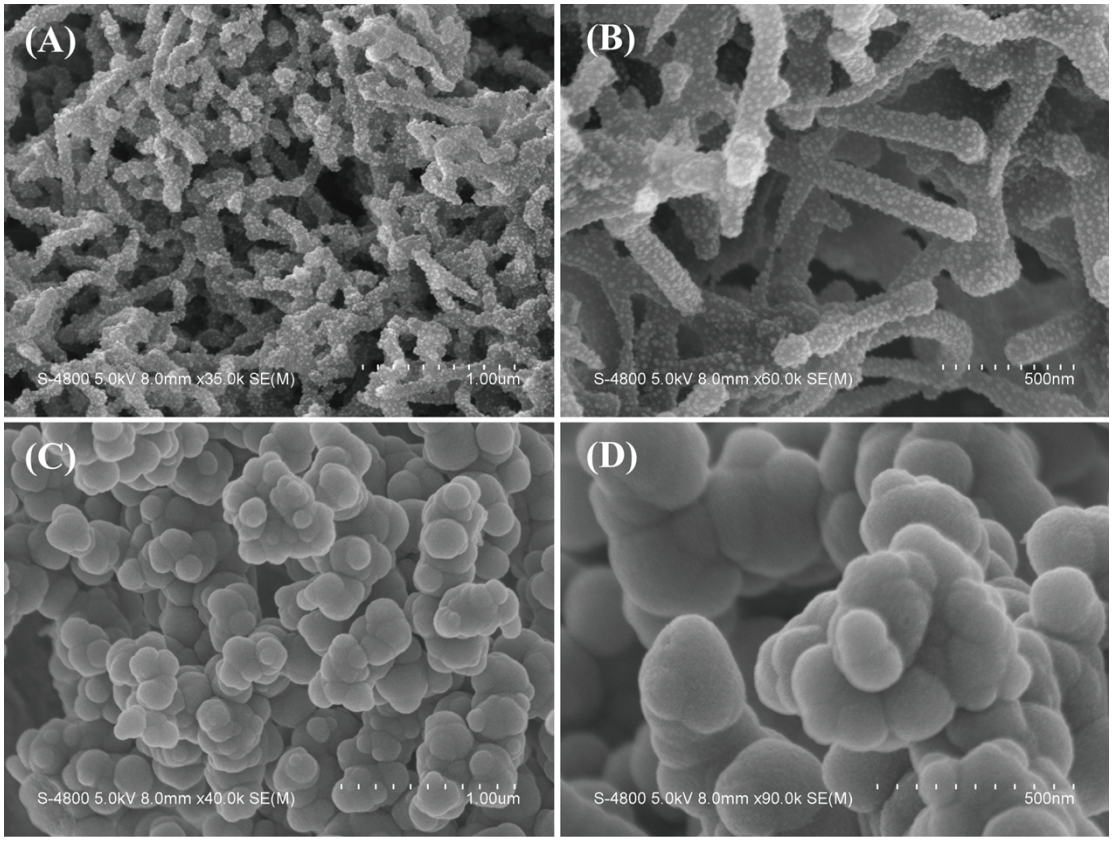

Figure S2. SEM images of (A, B) deposit NiO nanoparticles on the EDA-CNFs and (C, D) pure NiO nanoparticles.

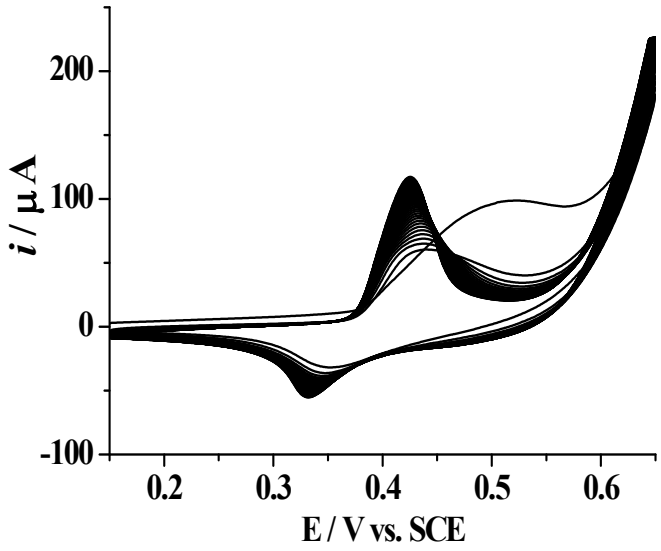

Fig. S3 Cyclic voltammograms of EDA-CNFs-NiO nanocomposites modified glassy carbon electrode in 0.1 M NaOH solution. The potential was continuously cycled at a scan rate of 0.05 V/s between 0.15 and 0.65 V vs. SCE reference electrode.

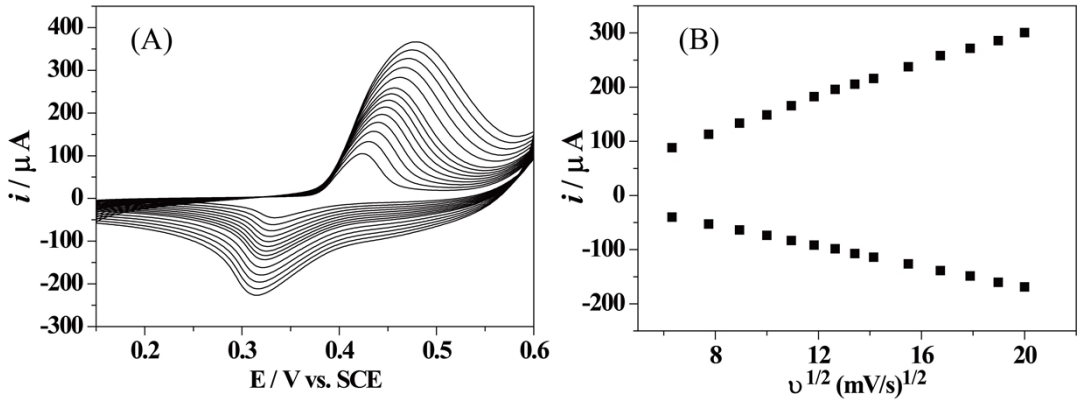

Fig. S4 (A) Cyclic voltammograms of EDA-CNFs-NiO nanocomposites modified glassy carbon electrode in 0.1 M NaOH solution at a scan rate of (from inner to outer): 40, 60, 80, 100, 120, 140, 160, 180, 200, 240, 280, 320, 360, 400 mV/s. (B) The linear relationship between the peak currents and the square root of scan rates.

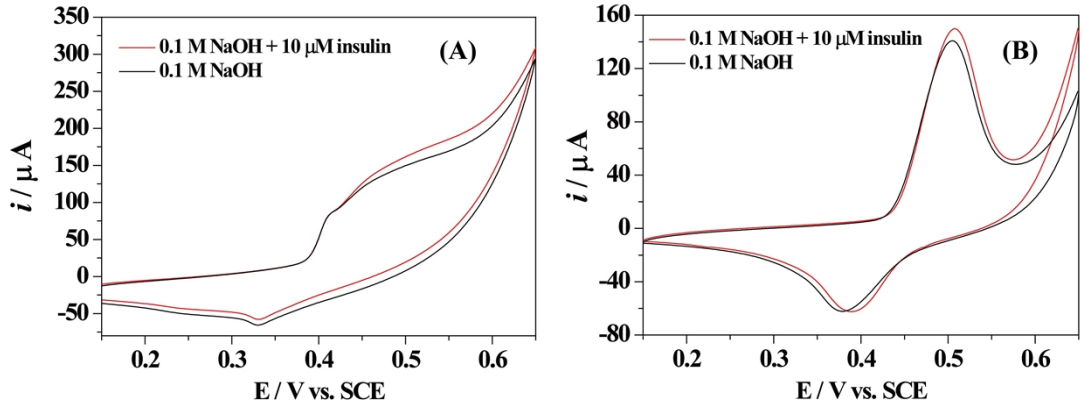

Fig. S5 Cyclic voltammograms of NiO (A) and A-CNFs-NiO (B) modified GCE placed in 0.1 M NaOH solution with 0 and 10 μM of insulin at the scan rate of 0.05 V/s.

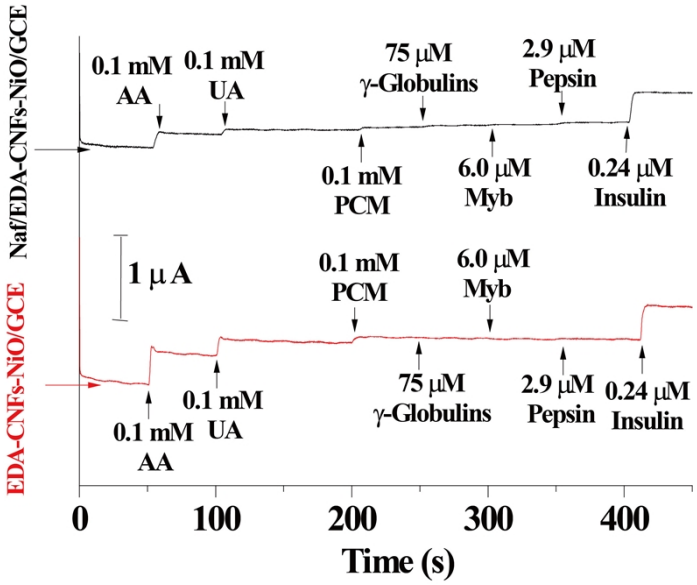

Fig. S6 Red line: typical amperometric response of EDA-CNFs-NiO/GCE to successive addition of interferences (0.1 mM of ascorbic acid, uric acid and paracetamol, 75 μM γ-globulins, 6.0 μM myoblobin and 2.9 μM pepsin) and insulin in 0.1 M NaOH at 0.45V. Black line is for EDA-CNFs-NiO/GCE covered with a layer of Nafion.