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DNAzyme Catalytic Beacons-based a label–free biosensor for copper using electrochemical impedance spectroscopy

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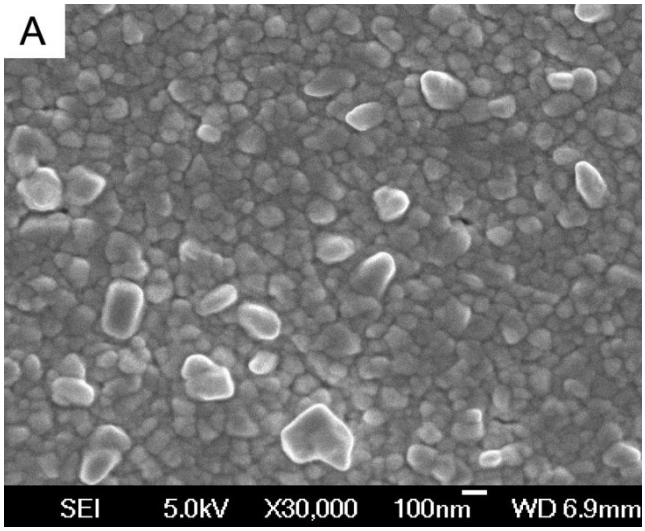

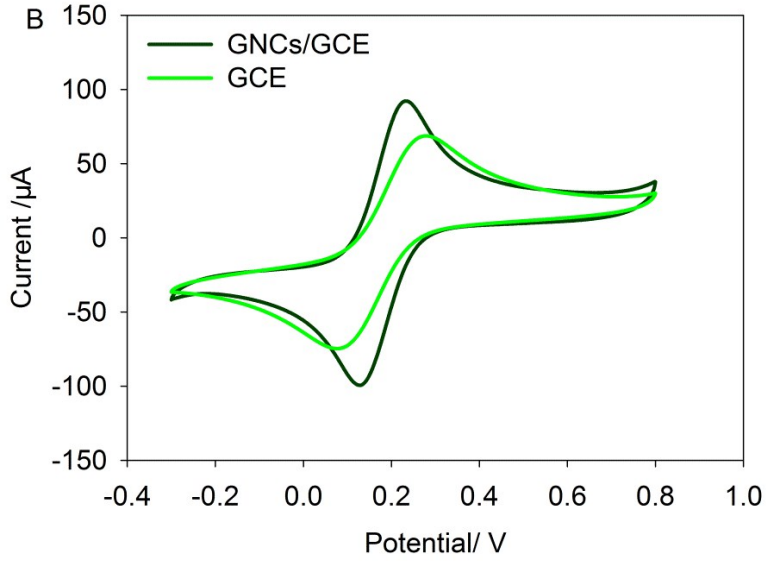

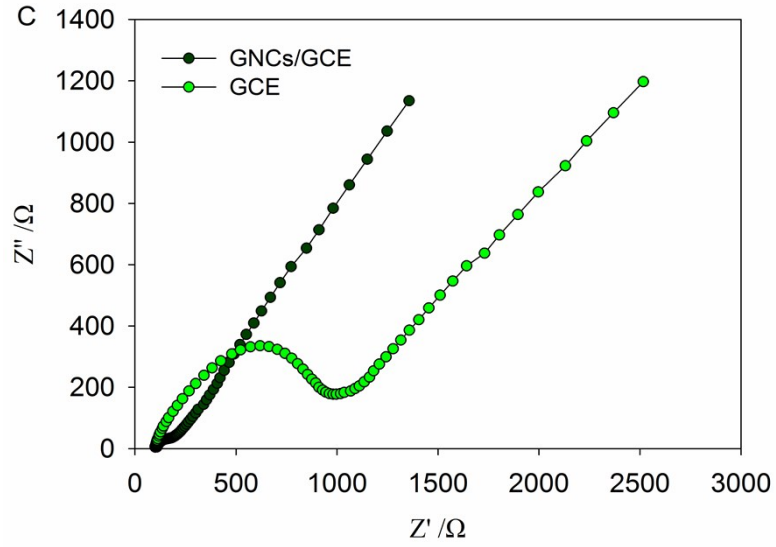

Fig.S-1 (A) The SEM image of GNCs. (B) Cyclic voltammetry diagrams of GCE, GCE/ GNCs, using a 0.1 M KCl solution containing 5.0 mM ferro/ferricyanide, with potential range of –0.3 to 0.8 V, and a

scan rate of 100 $mV \cdot s^{-1}$. (C) Electrochemical impedance spectra of GCE, GCE/ GNCs, using phosphate buffer (pH 7.4) containing 5 mM ferro/ferricyanide and 10 mM KCl, with frequency range of 0.1–10^5 Hz, a bias potential of 0.19 V vs. SCE and an AC amplitude of 5 mV.

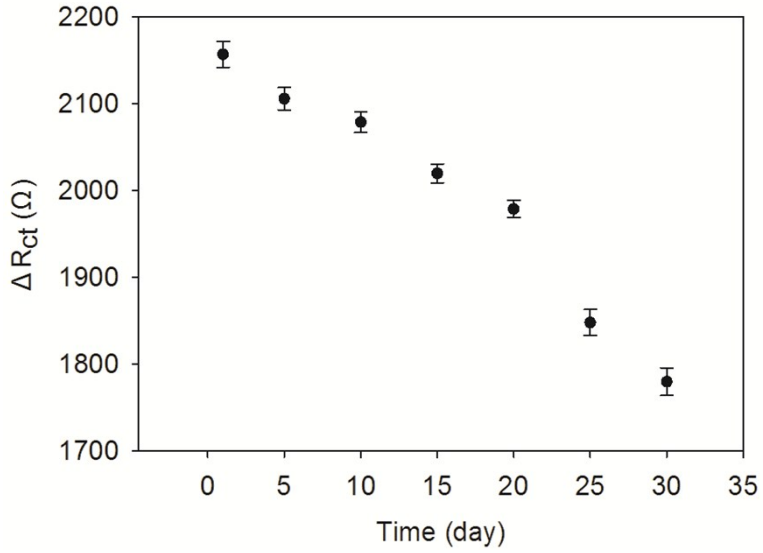

Fig.S-2 The stability of the biosensor.