Electronic Supplementary Information (ESI) File:

Simple and Facile Preparation of Silver – Polydopamine (Ag – PDA) Core – Shell Nanoparticles for Selective Electrochemical Detection of Cysteine

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Figures:

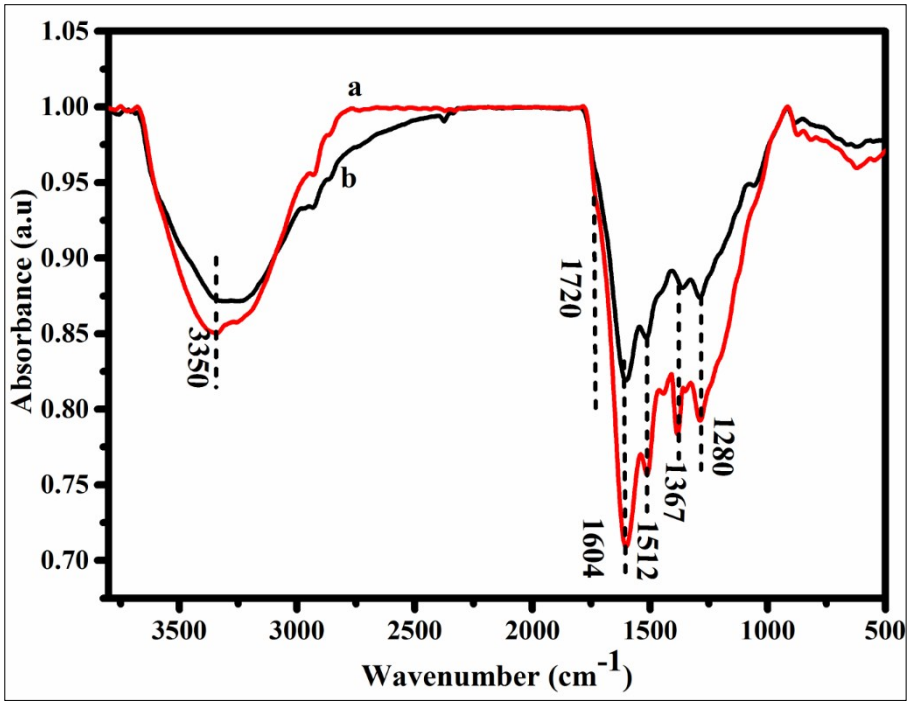

Figure S1: FTIR spectra of a) PDA and b) Ag–PDA nanoparticles.

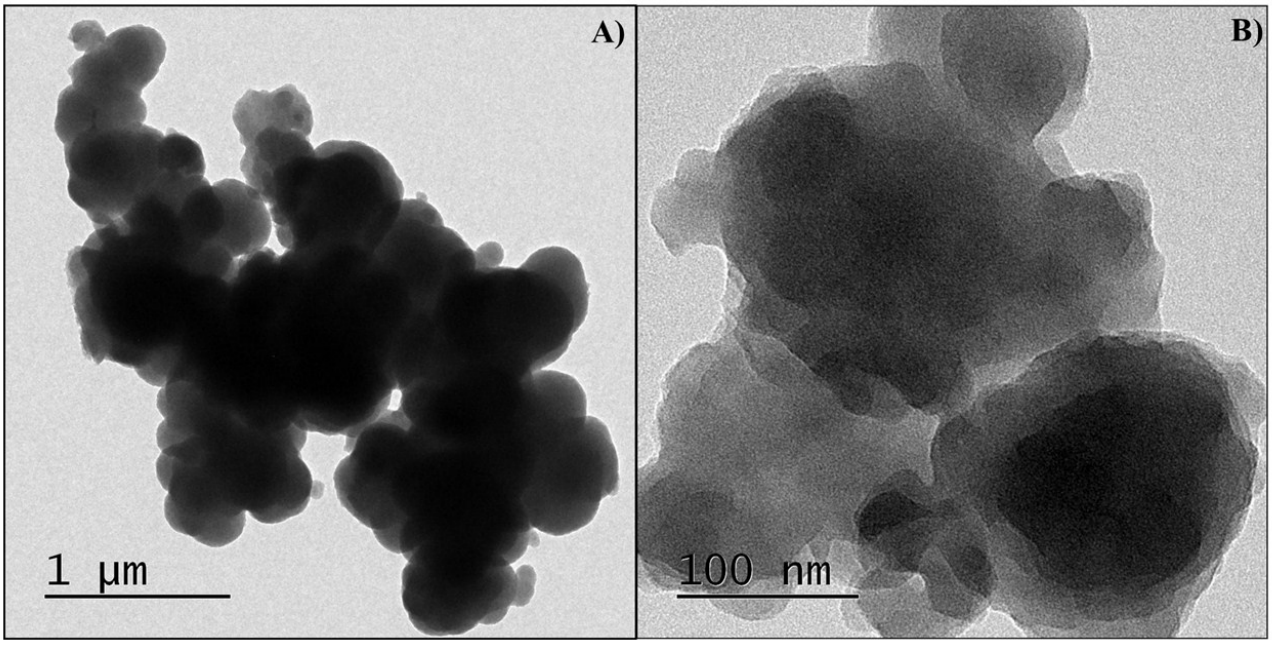

Figure S2: TEM images of PDA in absence of Ag at different scales.

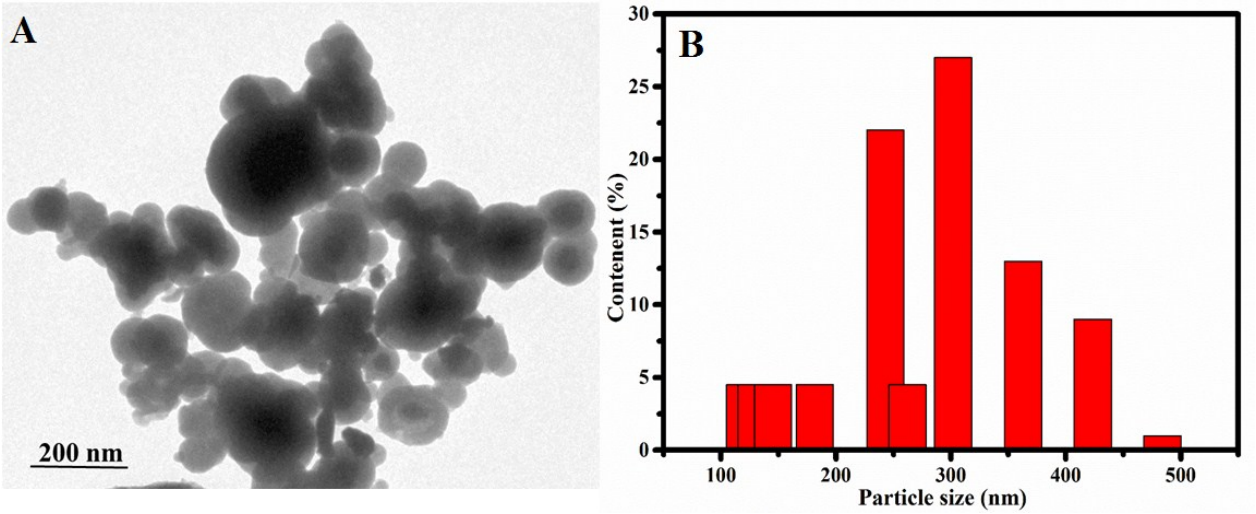

Figure S3: TEM image of Ag–PDA nanoparticles (A) and its corresponding particle size distribution graph (B).

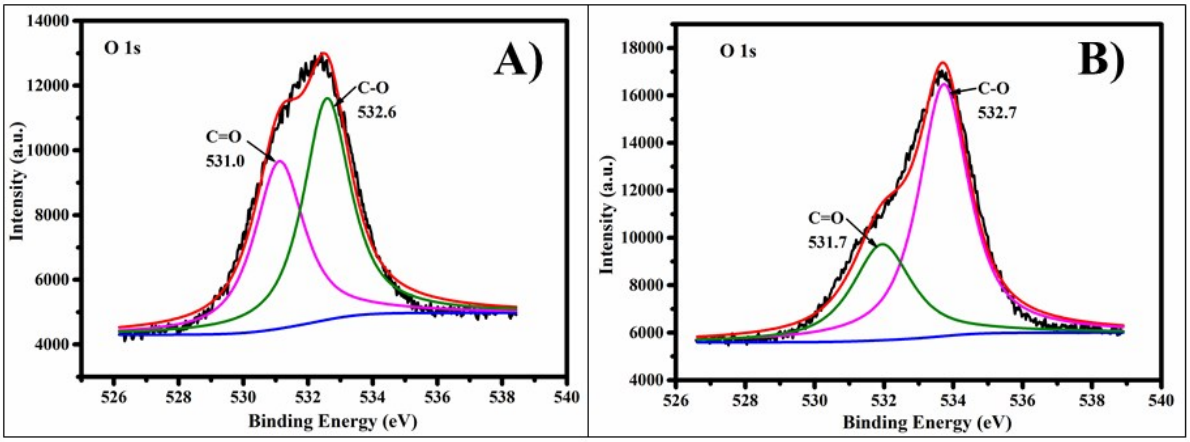

Figure S4: X-ray photoelectron spectra (XPS) corresponding to O 1s region of (A) PDA and (B) Ag–PDA nanoparticles respectively.

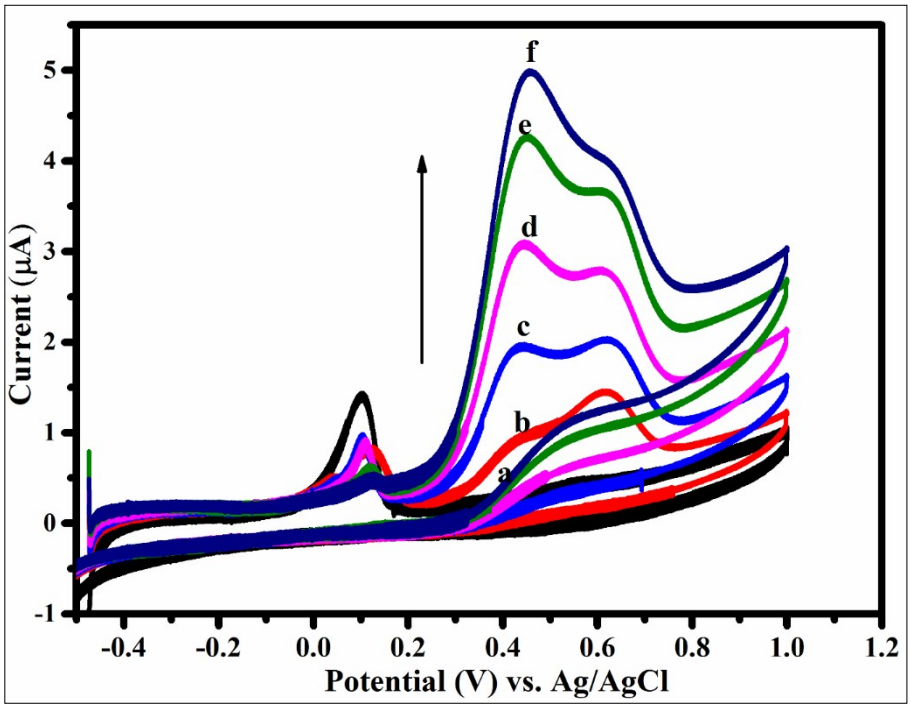

Figure S5: Cyclic voltammograms of Ag–PDA/ITO electrode in 0.1 M PBS (pH = 5.0) buffer solution at a scan rate of 50 mV s^{-1} for (b) 25 μM, (c) 50 μM, (d) 75 μM, (e) 100 μM and (f) 125 μM of CySH concentrations respectively. Here (a) denotes the control experiment where no CySH is added.

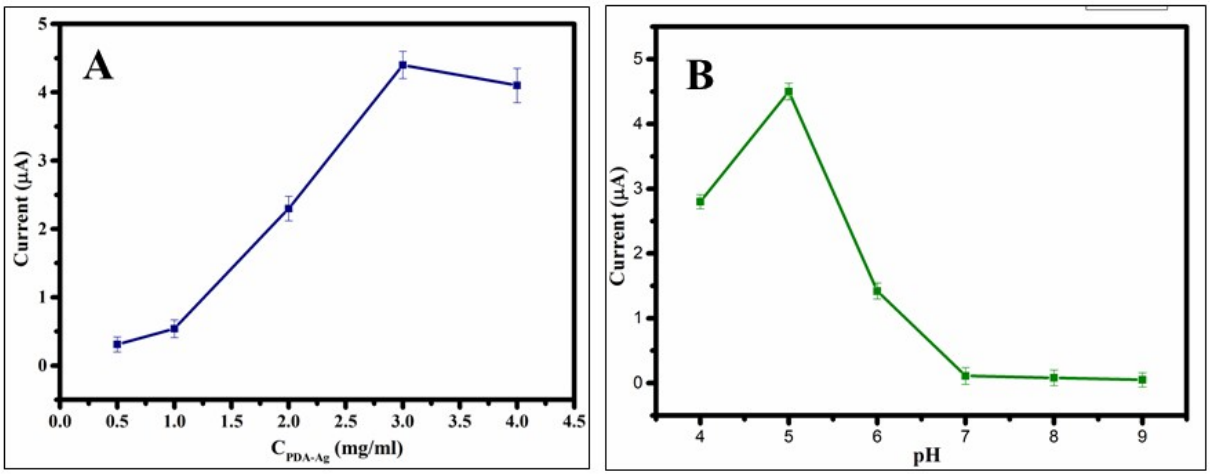

Figure S6: Plots of (A) various concentrations of Ag–PDA nanoparticles namely 0.5 mg/ml, 1 mg/ml, 2 mg/ml, 3 mg/ml and 4 mg/ml vs. oxidation current measured and (B) variation of pH (from 4 to 9) vs. current values corresponding to oxidation of CySH. The oxidation current values are measured from CV responses for 25 μM CySH at a fixed sweep rate of 50 mV s^{-1}.

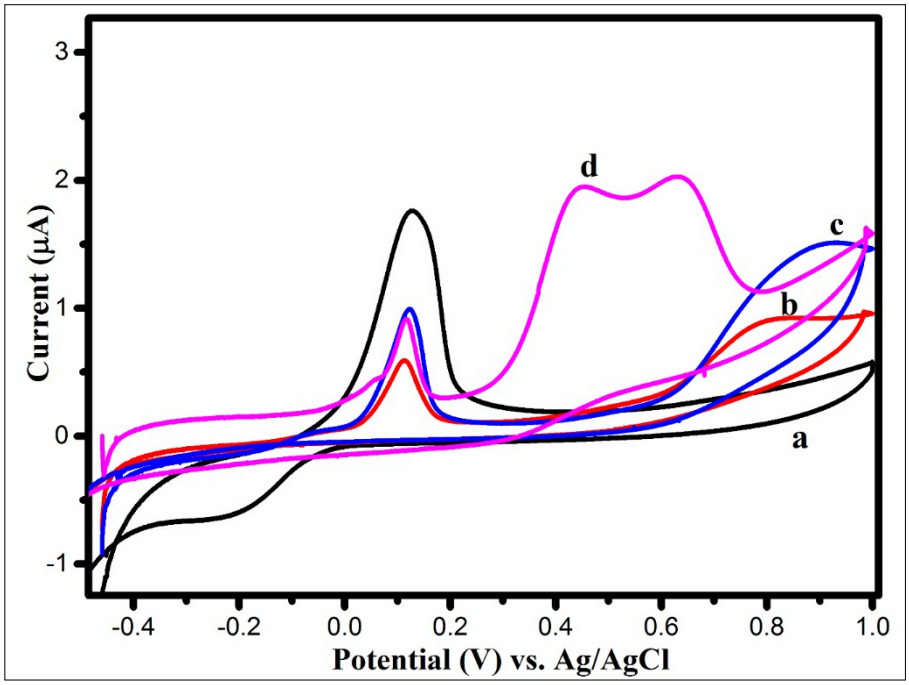

Figure S7: Cyclic voltammograms of Ag–PDA/ITO electrode without any addition of analyte (a) and for the addition of (b) 0.5 mM HCy, (c) 0.5 mM GSH and (d) 50 μM CySH respectively in 0.1 M PBS (pH = 5.0) buffer solution at a fixed scan rate of 50 mV s^{-1}.