Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information of

A novel δ-MnO_2 with carbon nanotubes nanocomposites as enzyme-free sensor for hydrogen peroxide electrosensing

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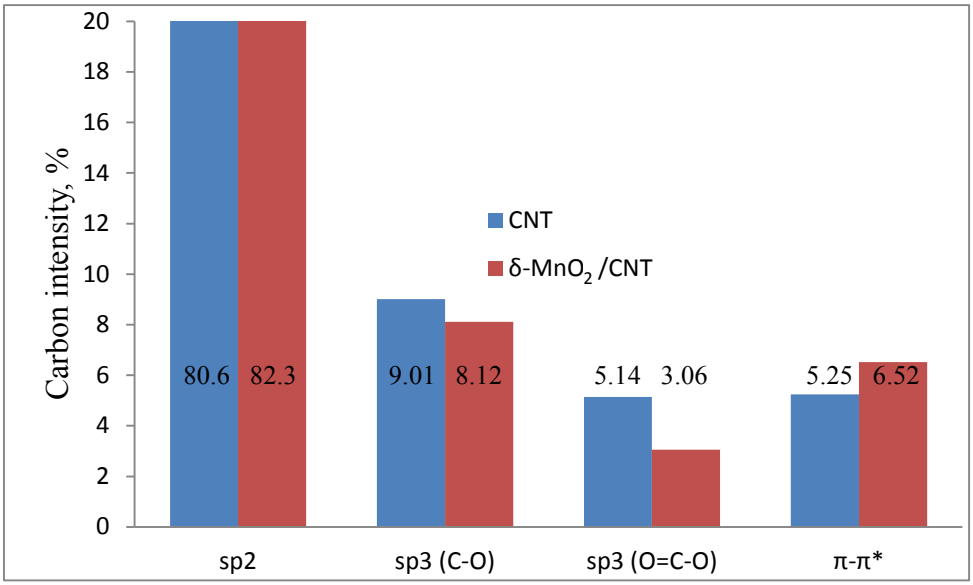

Figure S1: Distribution of carbon species obtained from the C1s peaks by XPS.

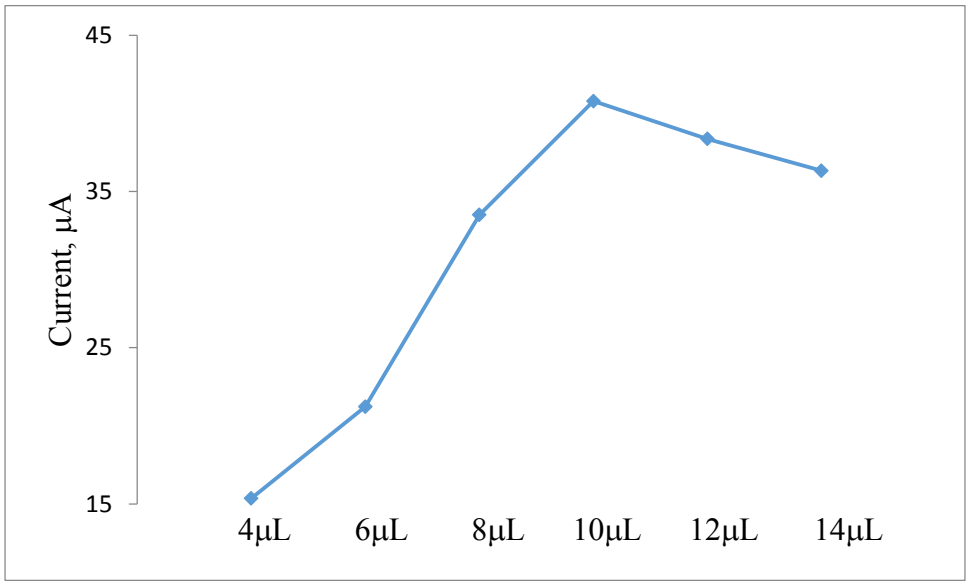

Figure S2: Plot of 1 mM H_2O_2 current response vs. δ-MnO_2/CNTs ink loading (µL) onto GCE by CVs in Ar-saturated 0.1 M PBS at 50 mV s^{-1} scan rate.

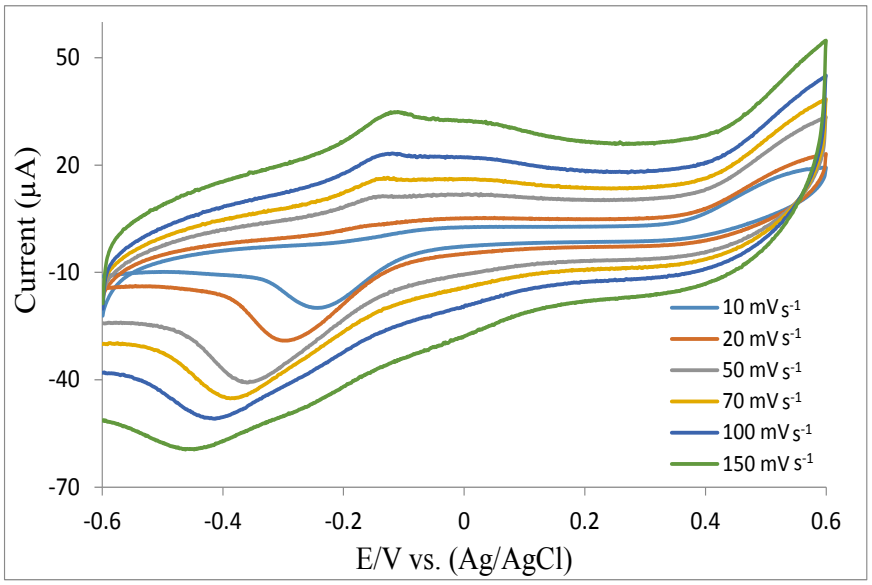

Figure S3: Scan rate dependent CVs recorded in Ar-saturated 0.1 M PBS at pH 7.4 on δ-MnO_2/CNTs/GCE at 10 to 150 mV s^{-1} scan rates.

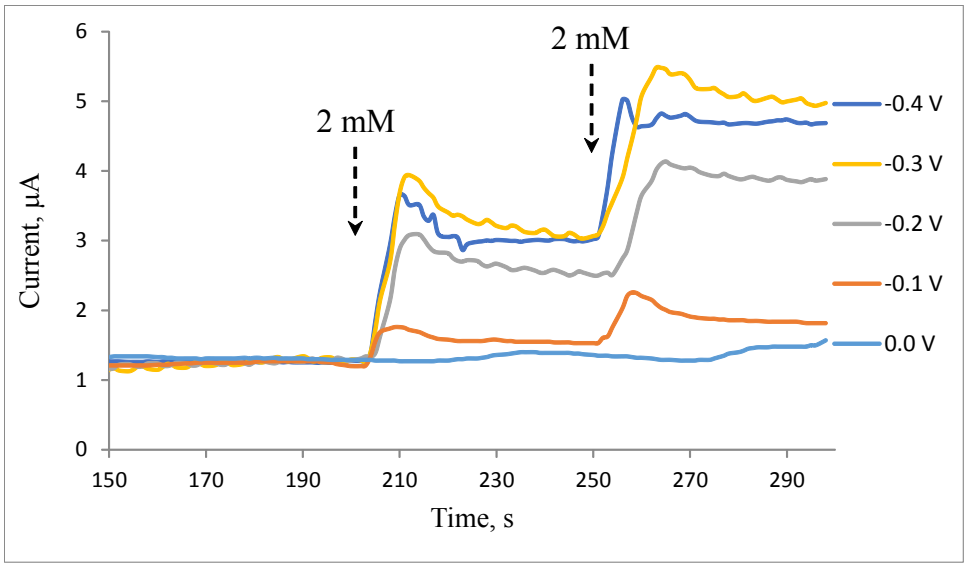

Figure S4: Amperometric response on δ-MnO_2/CNTs/GCE upon addition of 2 mM H_2O_2 in Ar-saturated 0.1 M PBS at different applied potentials for applied potential optimization.

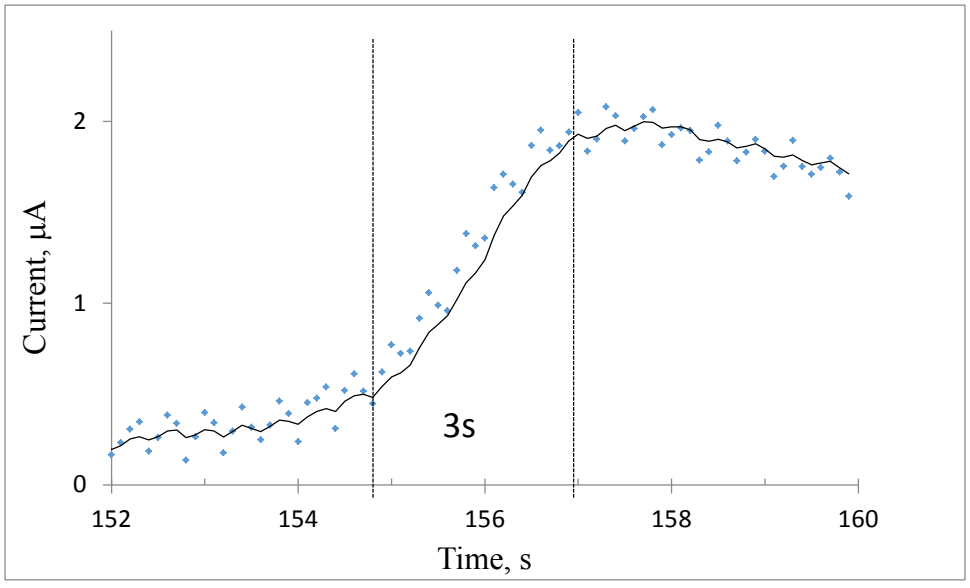

Figure S5: Enlarged amperometric response on δ-MnO_2/CNT/GCE upon addition H_2O_2 in 0.1 M PBS at an applied potential of -0.3 V at cited time range.

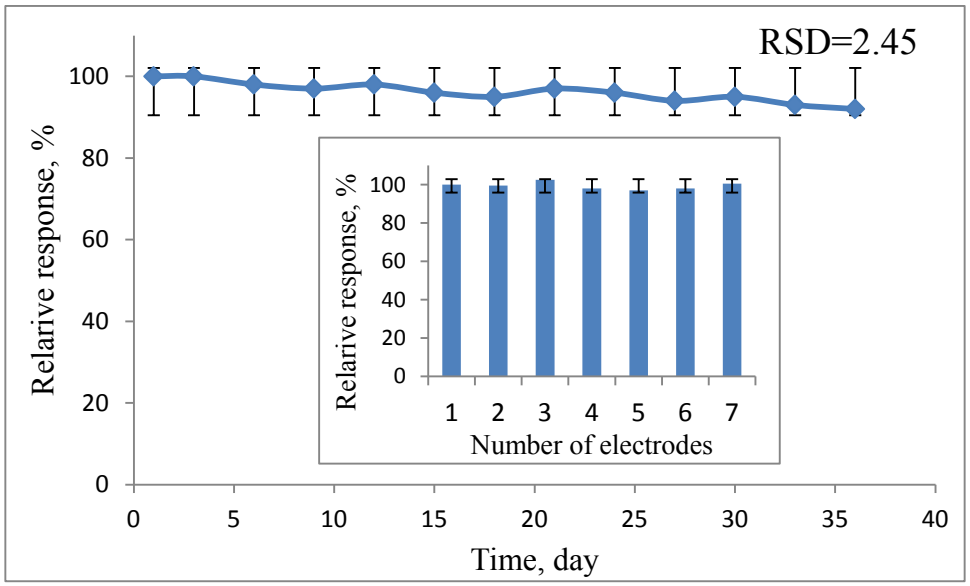

Figure S6: The stability and reproducibility of δ-MnO_2/CNT/GCE by CVs response in Ar-saturated 0.1 M PBS with 1 mM H_2O_2 at a scan rate of 50 mV s^{-1}; inset: the reproducibility of seven different modified electrodes.

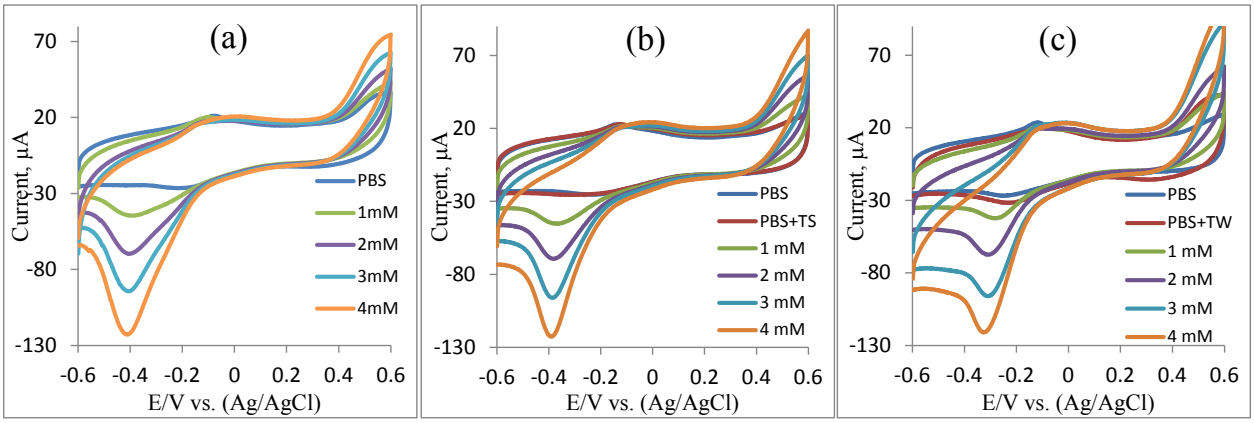

Figure S7: CVs response for real sample analysis on δ-MnO_2/CNT/GCE in Ar-saturated 0.1 M PBS (a), 0.1 M PBS + Tomato sauce (TS) (b), and 0.1 M PBS + Tap water (TW) (c) with the subsequent addition of 1, 2, 3, 4 mM H_2O_2 at a scan rate of 50 mV s^{-1}.