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Supporting material

A promising photoelectrochemical sensor based on a ZnO particle decorated N-doped reduced graphene oxide modified electrode for simultaneous determination of catechol and hydroquinone

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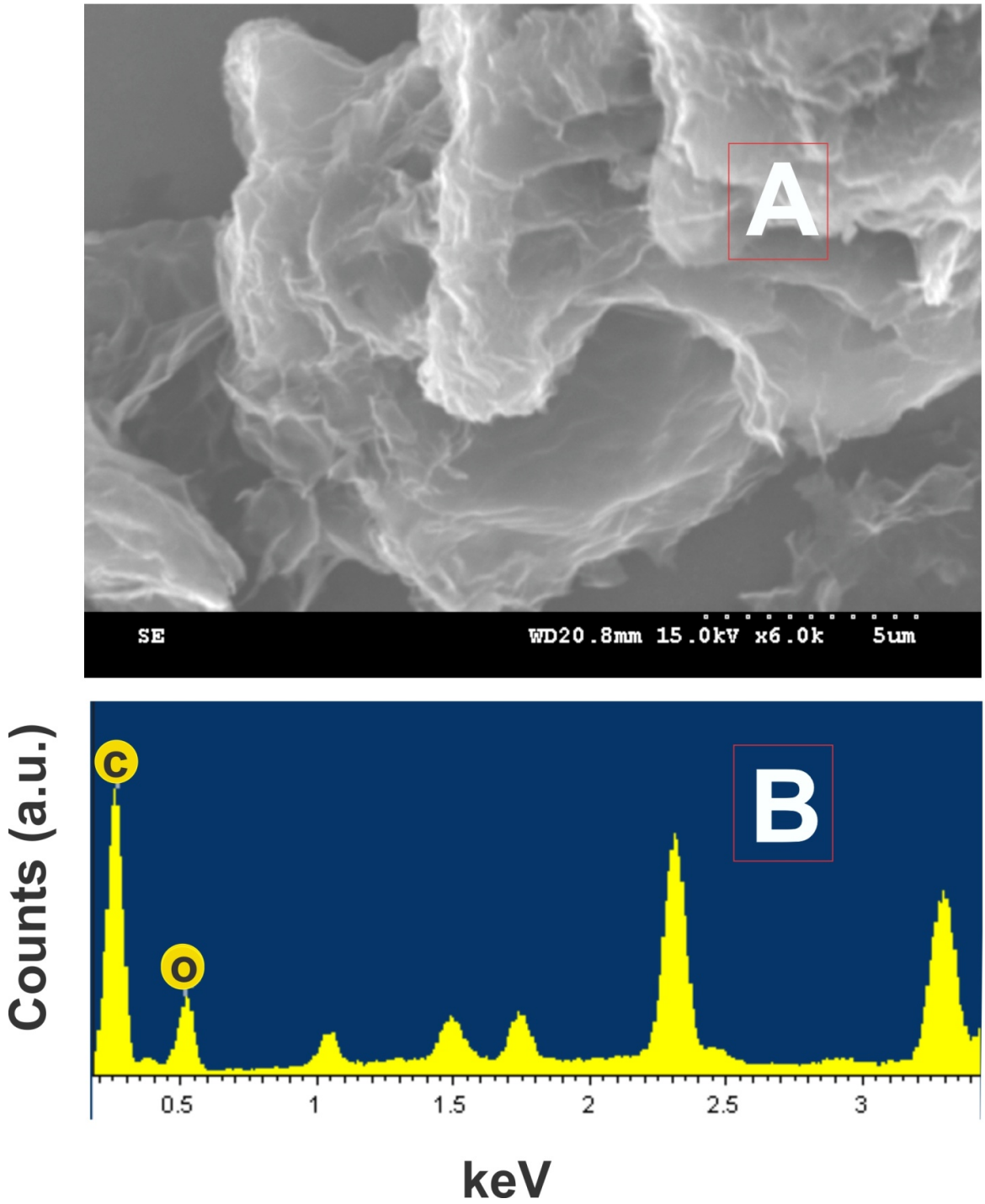

Fig. S1. SEM images of RGO modified film (A), and (B) EDX images of RGO modified film.

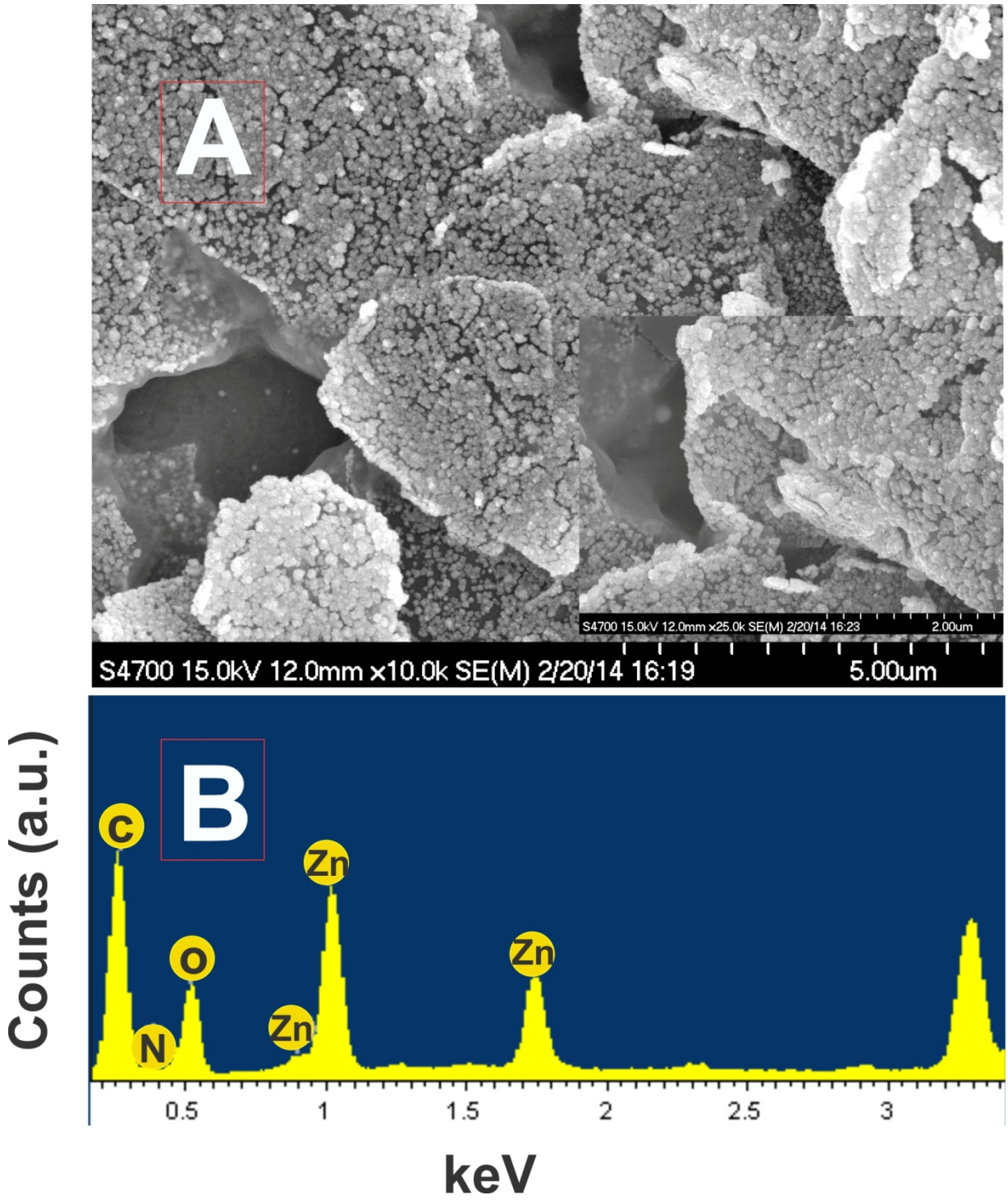

Fig. S2. SEM images of nitrogen doped RGO-ZnO modified film (A), and (B) EDX images of nitrogen doped RGO-ZnO modified film.

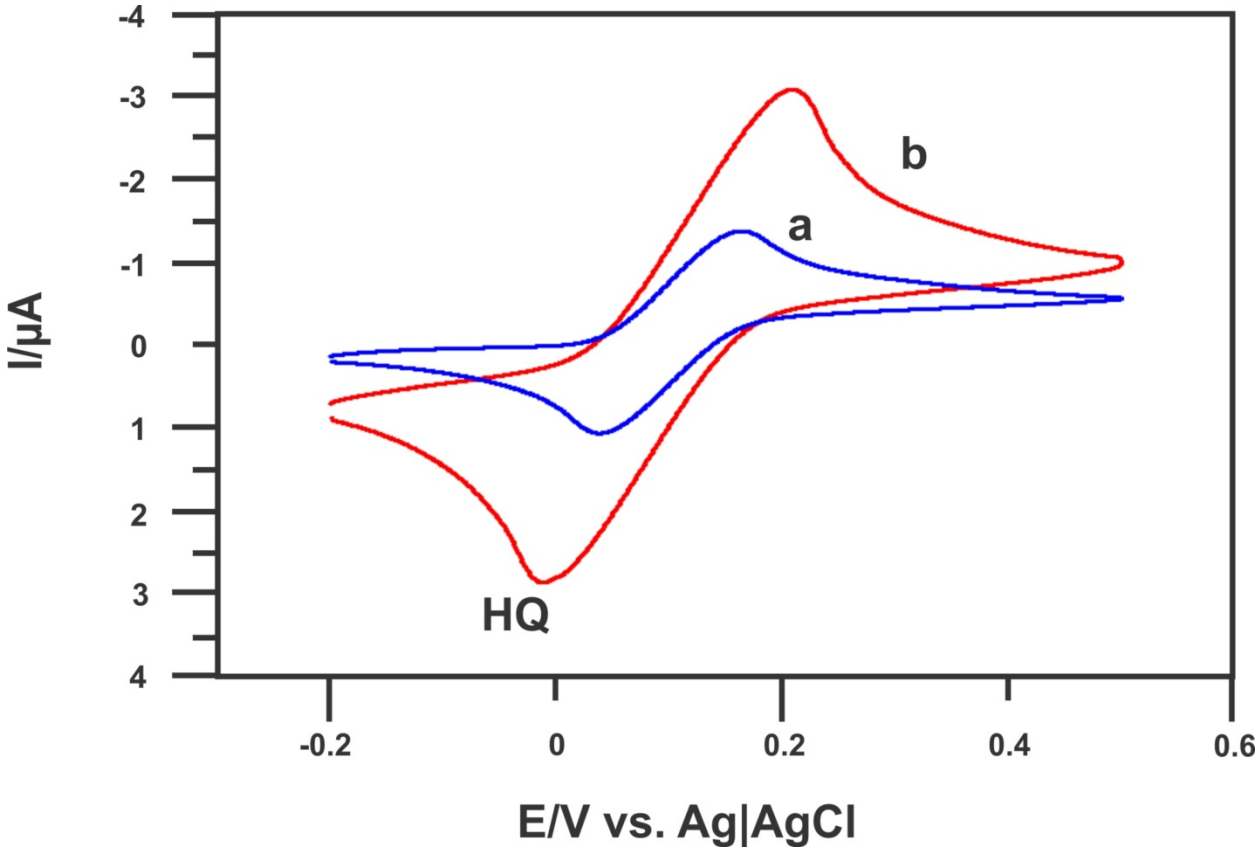

Fig. S3. (A) CV of N doped RGO-ZnO modified film in 0.05 M PBS (pH 7.0) at a scan rate of 100 mV s^{-1} presences of 1 × 10^{-4} M HQ in the (a) dark and under (b) light irradiation.

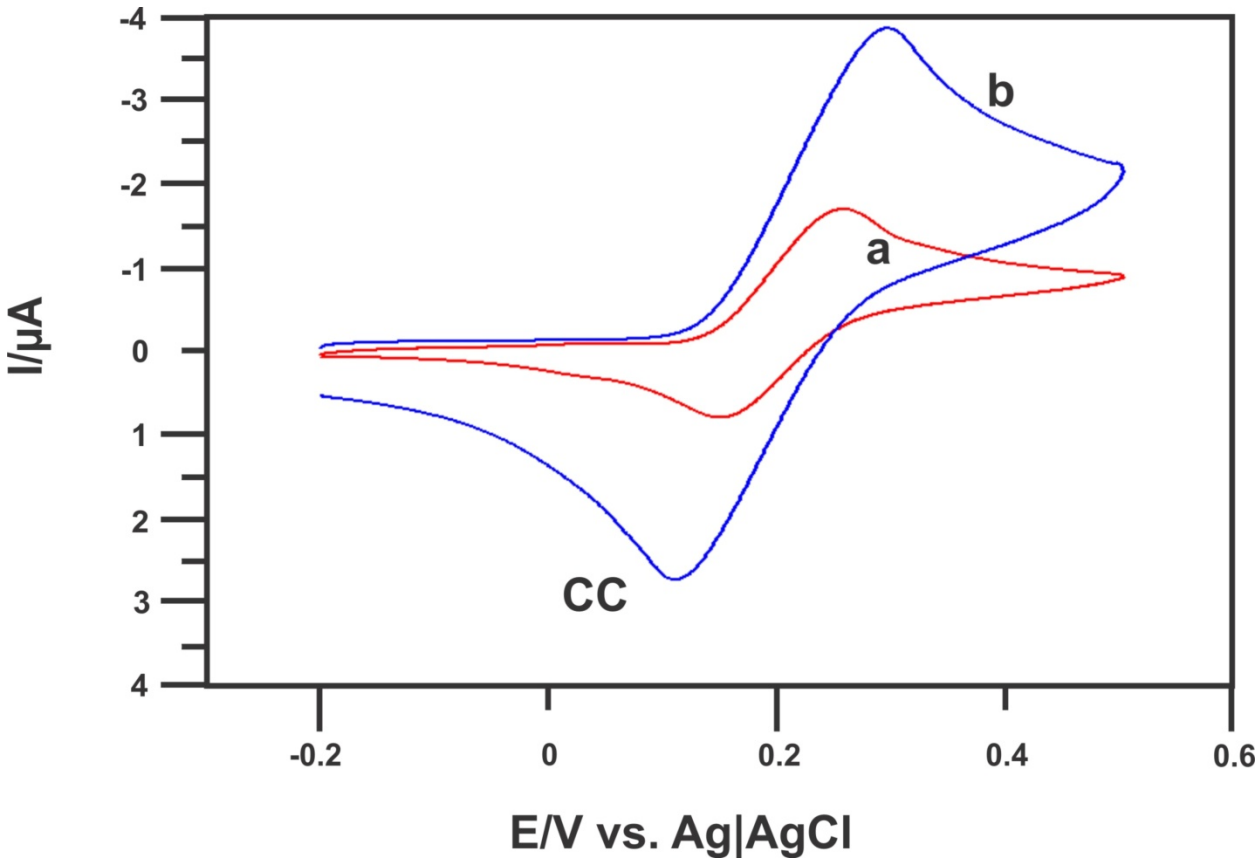

Fig. S4. (A) CV of N doped RGO-ZnO modified film in 0.05 M PBS (pH 7.0) at a scan rate of 100 mV s^{-1} presences of 1×10^{-4} M CC in the (a) dark and under (b) light irradiation.

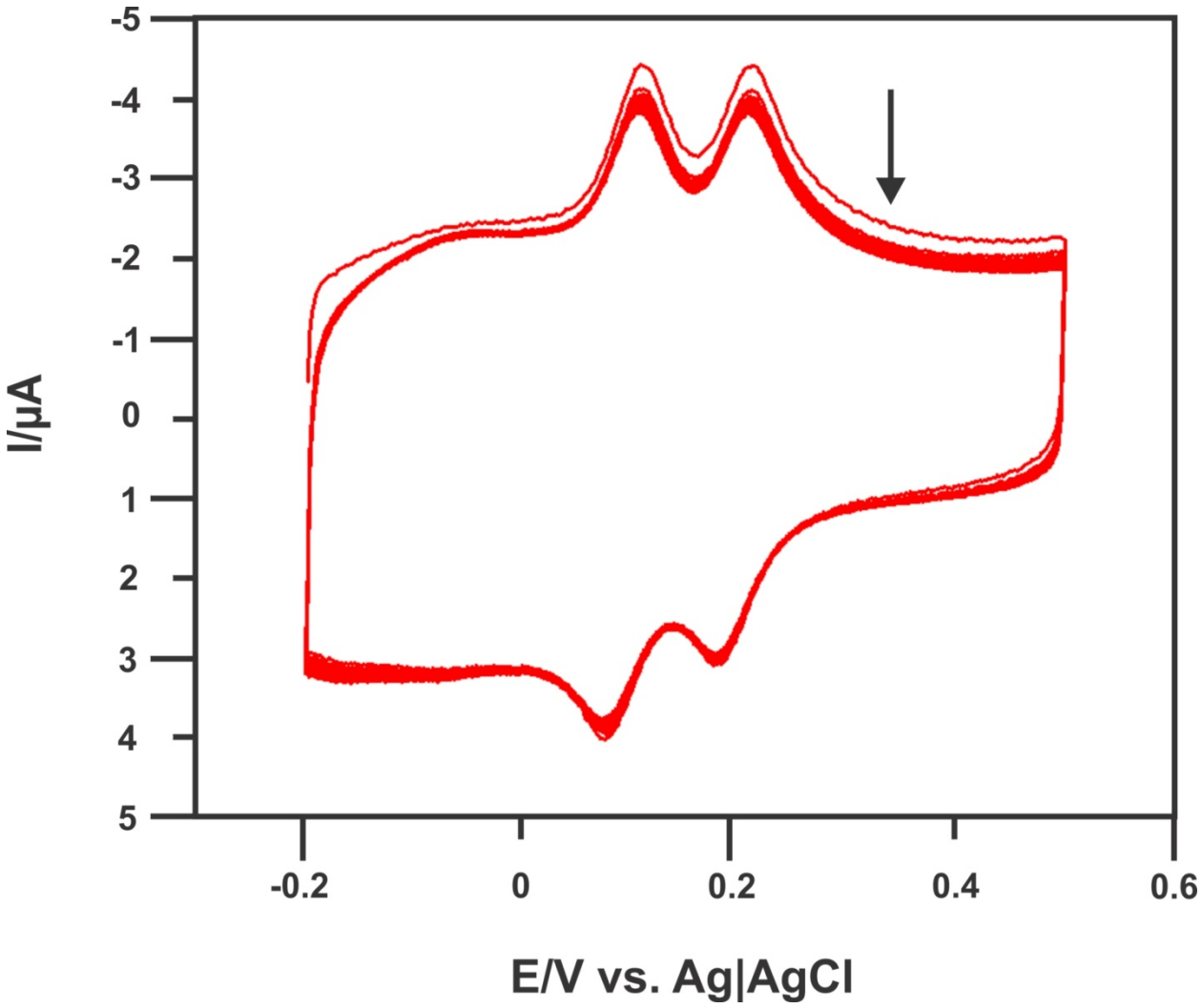

Fig. S5. Cyclic voltammograms of nitrogen doped RGO-ZnO modified film for 100 multiple cycles in presences of 1×10^{-4} M HQ and 1×10^{-4} M CC in 0.05M PBS (pH 7) at a scan rate of 100 mV s^{-1}.

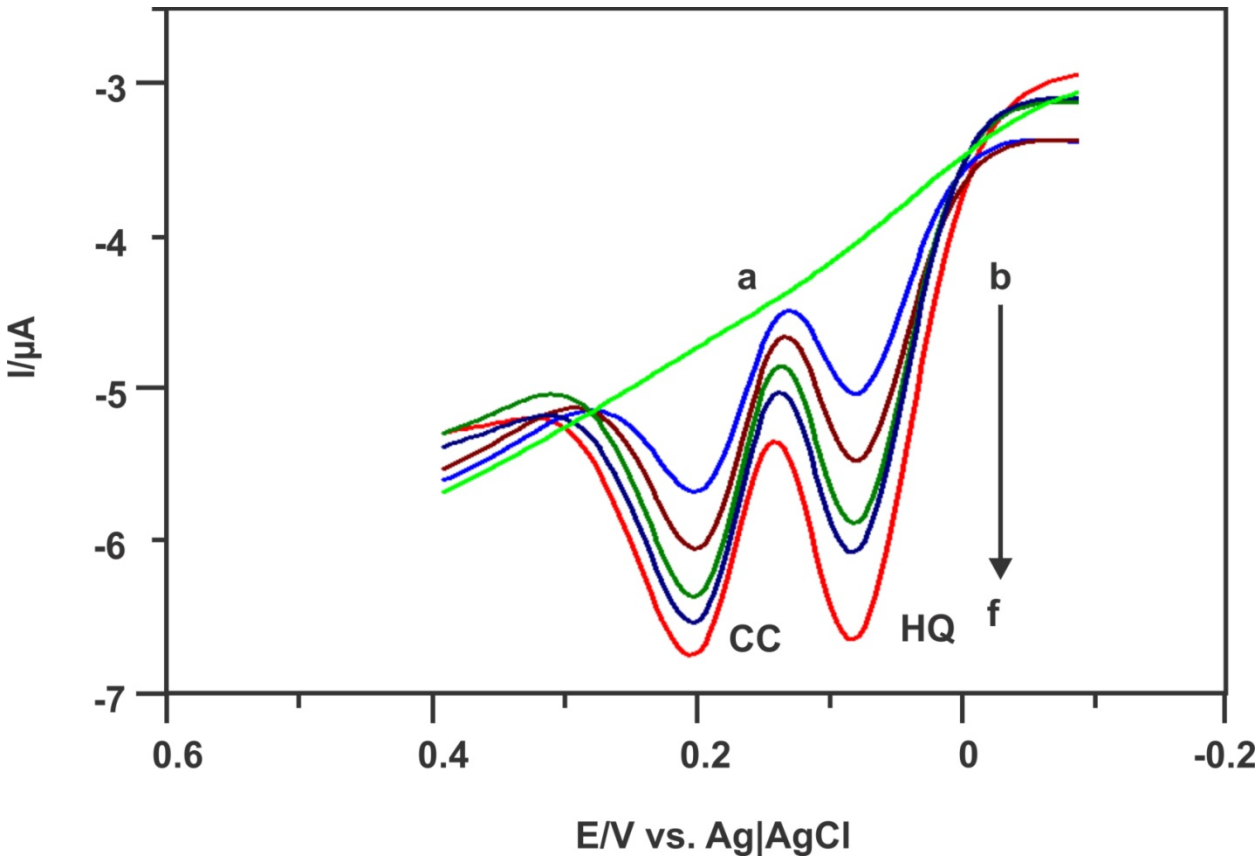

Fig. S6. SWVs of the nitrogen doped RGO-ZnO modified Au electrode at different concentrations of HQ= CC from (a) without Diluted skin whitening cream (b) 20 μM (c) 40 μM (d) 60 μM, (e) 80 μM and (f) 100 μM inN_2 saturated PBS (Diluted skin whitening cream) at the scan rate of 50 mVs^{-1}.

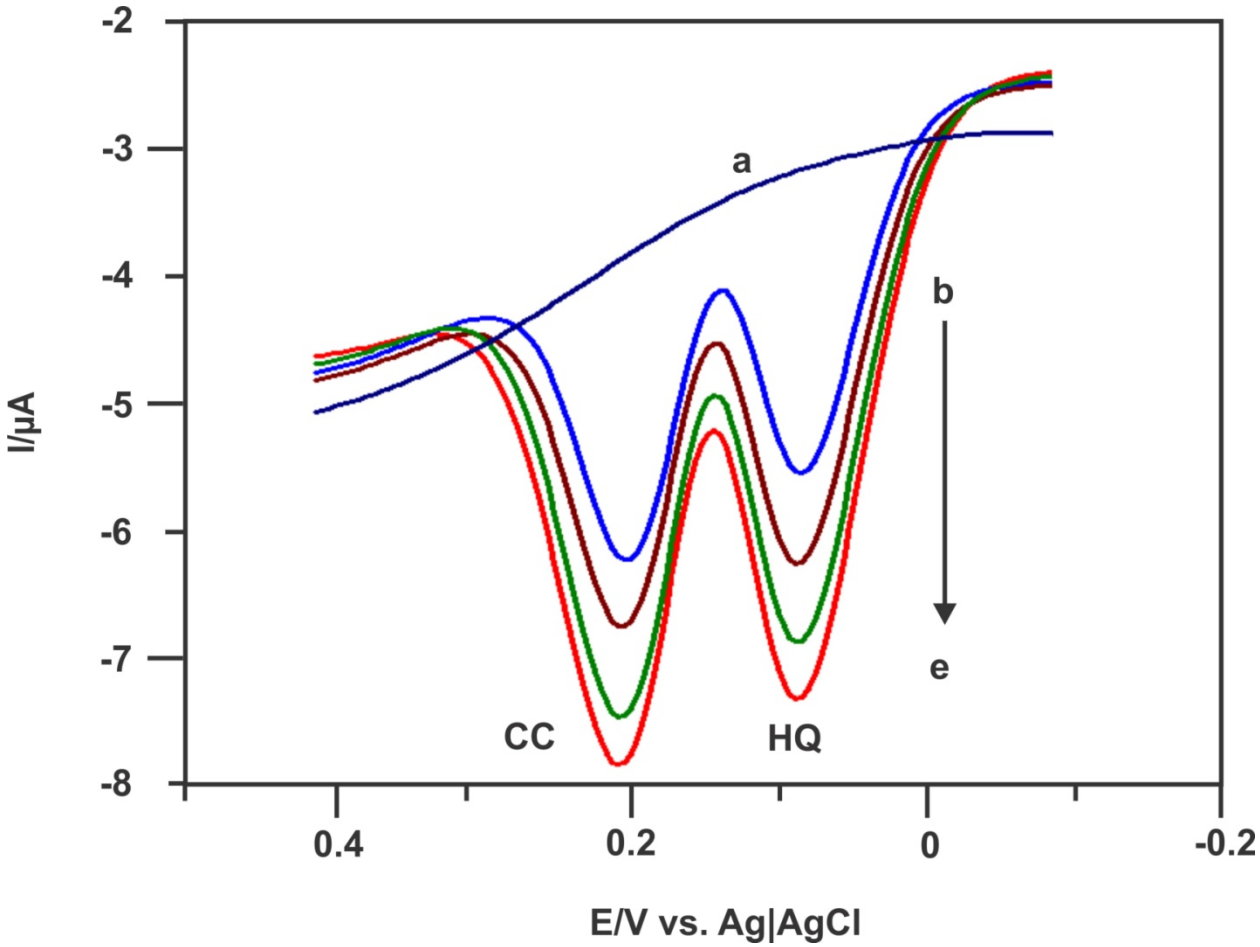

Fig. S7. SWVs of the nitrogen doped RGO-ZnO modified Au electrode at different concentrations of HQ= CC from (a) without Diluted lake water (b) 20 μM (c) 40 μM (d) 60 μM and (e) 80 μM inN_2 saturated PBS (Diluted lake water) at the scan rate of 50 mVs^{-1}.