Bio-functionalized graphene-graphene oxide nanocomposite based electrochemical immunosensing

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Supporting Information

Figures S1-S4: Characterization of chemically synthesized GO and electrochemically transformed fG-GO.

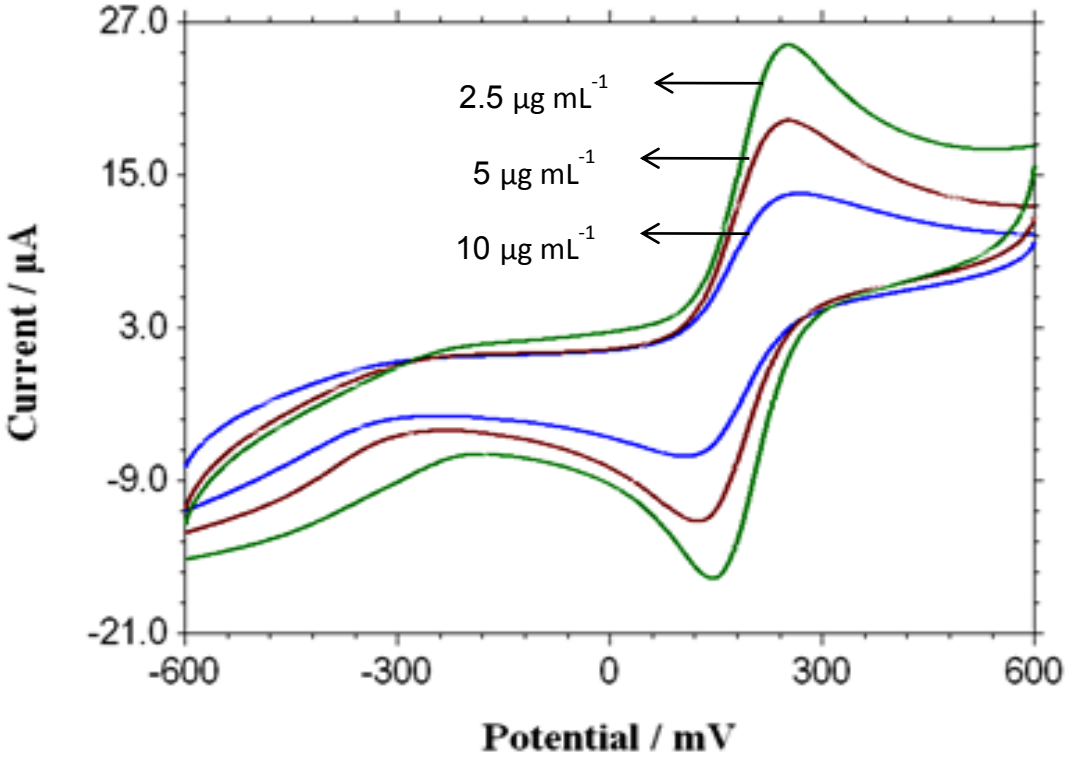

Figure S1. Cyclic Voltammograms recorded in 2.5 mM ferrocyanide solution after three reductive scans of GO. Concentration optimisation of different concentrations (2.5 - 10 µg mL^{-1}) of GO dropcasted on SPE and CV scans were taken after the reductive scans.

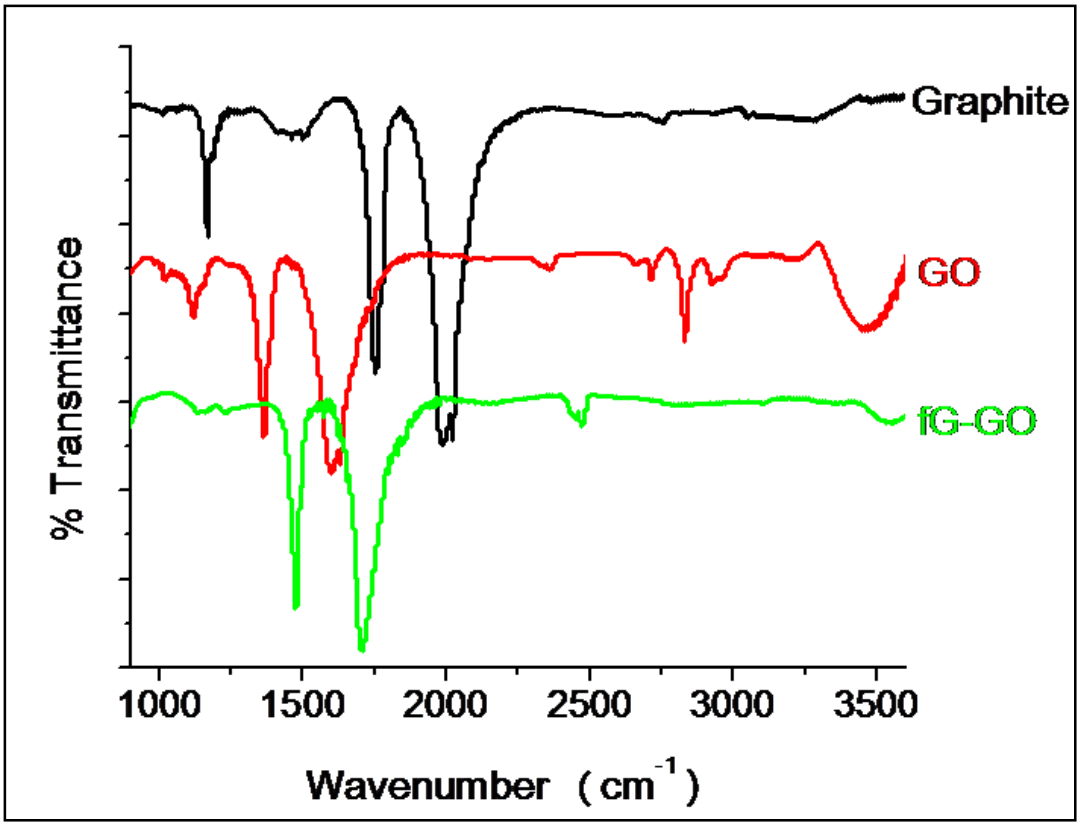

Figure S2. Shows the concentration profile of the diuron induced electrochemical signal change in a competitive assay format. 25 μg mL^{-1} antibody concentration was used for immunoassay development Elemental analysis by FT-IR showing the spectra of graphite, GO and fG-GO. The spectra indicated that no significant peak was found in graphite, whereas the presence of different type of oxygen functionalities in GO were observed.

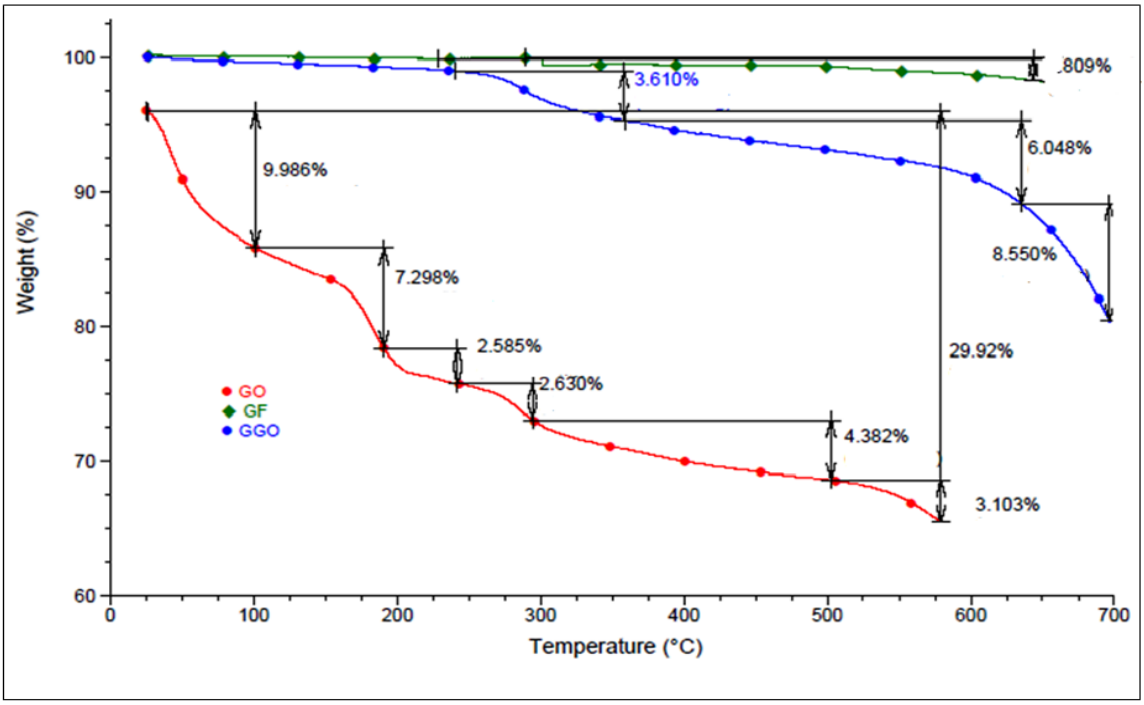

Figure S3. Normalised TGA plots of graphite, GO and fG-GO showing percentage weight loss *vs* decomposition temperature. Heat rate was selected at 10 °C min^{-1} and kept constant for all samples.

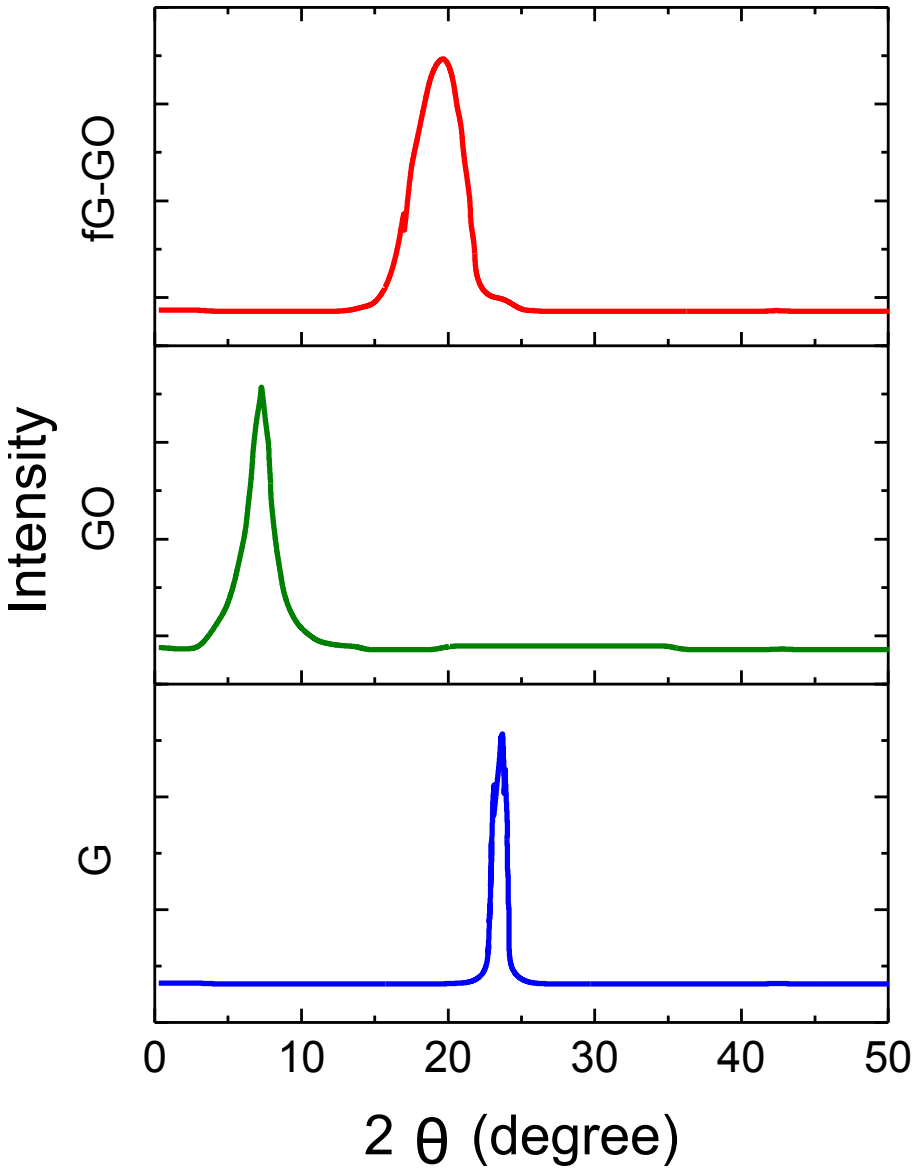

Figure S4: X-ray powder diffraction patterns of graphite flakes (G), graphene oxide (GO) and fG-GO nanocomposite.