**Abstract**

Anovel electrochemical sensor to determine p-Aminophenol is fabricated using silver nanoparticles decorated reduced graphene oxide- chitosan nanocomposites. TheRGO/CS/Ag nanocomposites are synthesized by chemical reduction method. The structural, spectral, morphological and elemental studies of the synthesized nanocomposites are characterized by x-ray powder diffraction (XRD),Fourier transform infrared spectrum (FTIR), Scanning electron microscopy (SEM) and Energy Dispersive x-ray Analysis (EDAX). The electrochemical investigations indicate that the Glassy carbon electrode modified nanocomposites possessed an excellent performance towards the detection of p-Aminophenol. Under the optimized conditions, the detection limit of p-Aminophenol obtained in this work is 10 μMand a wide linear range of detection is found to be 10 μMto 600 μM. Thus the proposed sensor can be applied in environment for the determination of p-Aminophenol.