Preparation and characterization of amine functionalized graphene oxide with water soluble quantum dots for sensing material

ABSTRACT

Nanocomposite material has been prepared comprises of amine functionalized graphene oxide (NH2-GO) incorporation with water solube CdS Quantum dots nanoparticle to form a new composite material (NH2-GO/QDs). This composite mixture shows highly homogenous without precipitation and have been characterize by using Raman, Fourier transform infrared spectroscopy (FTIR) and the scan electron microscopy (SEM-EDX). Kinetic investigation based on DNA hybridization by cyclic voltammetry shows modified electrode able to achieve high hybridization rate can be used as electrochemical biosensor platform.

Keyword: Graphene oxide; Quantum dots; Electrochemical