Electronic Supplementary Material (ESI) for RSC Advances.

Interactions of Graphene Oxide with Luminescent Biofunctionalized Semiconductor Nanoparticles: Simultaneous Monitoring in a Protein-Semiconductor Coupled System

Supplementary information

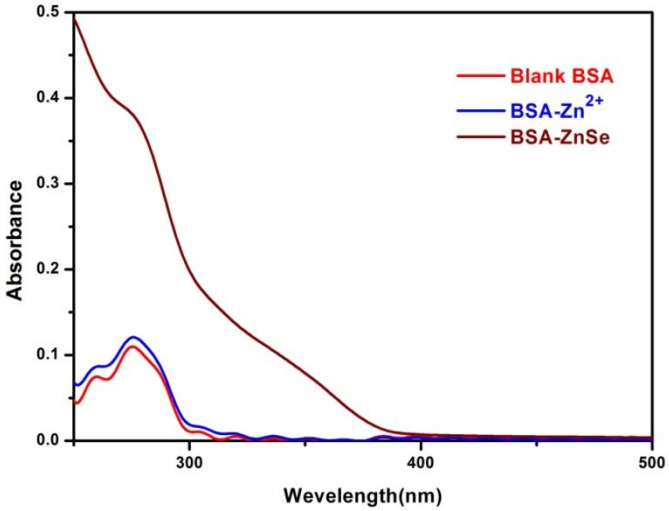

Fig. SA1. Absorption spectra for blank BSA, BSA-Zn^{2+} complex and BSA-ZnSe NPs

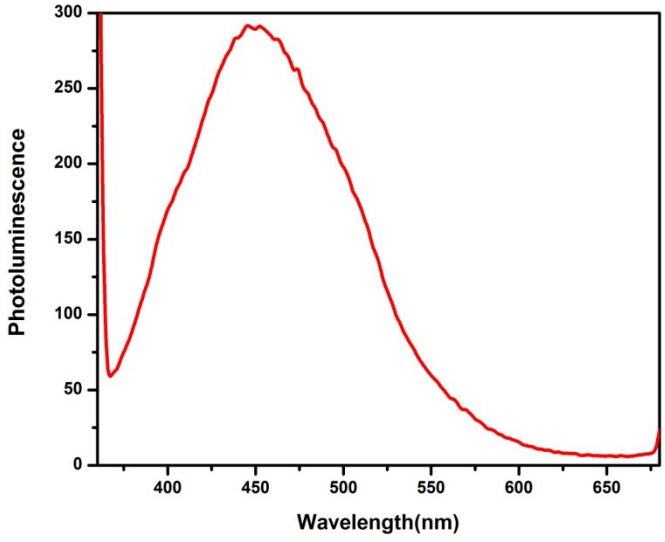

Fig. SA2. Emission profile for BSA-ZnSe NPs at an excitation of 350 nm

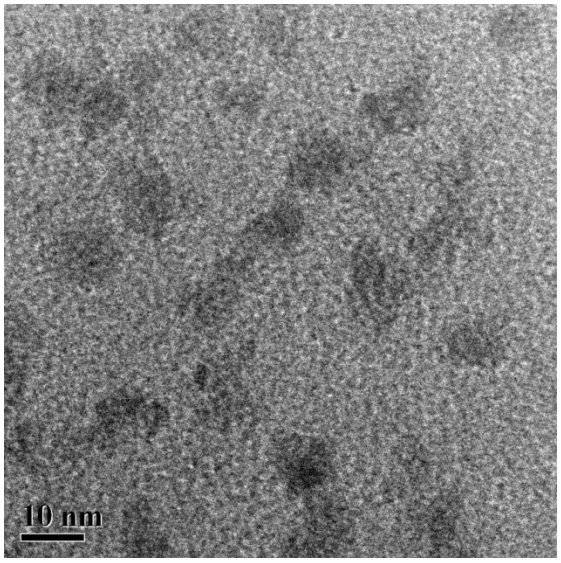

Fig. SA3. A typical TEM image of BSA-ZnSe NPs

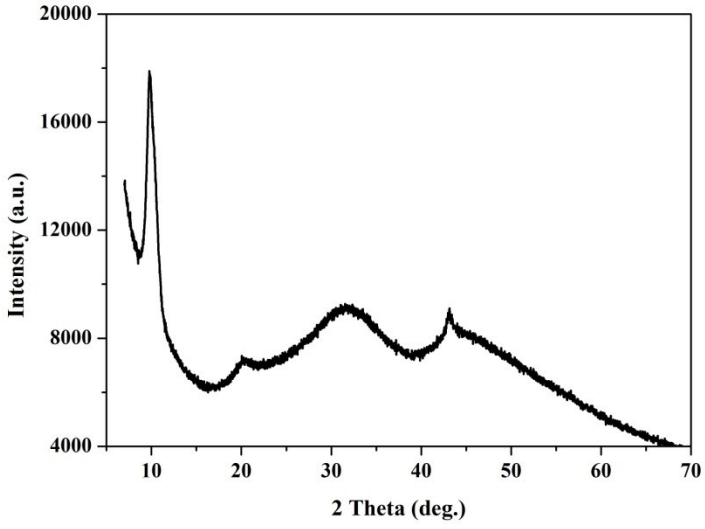

Fig. SA4. XRD pattern for graphene oxide

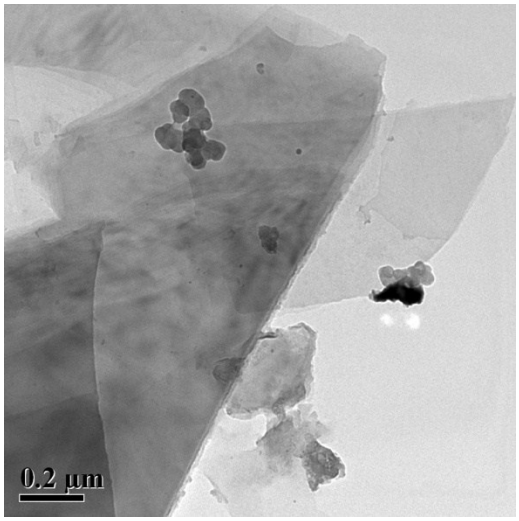

Fig. SA5. A typical TEM image of graphene oxide

Methods

X-ray Diffraction (XRD) Analysis

The asynthesised GO were characterized by X-ray diffraction (XRD) patterns using a Philips Analytical X-ray B.V. diffractometer type-PW1710 equipped with graphite monochromatized Cu K_α radiation (λ = 1.54056A°). Scanning rate employed was 0.02° per 2 s in 2θ range from 10° to 80°. The nanocrystallite powder was pressed inside the sample holder and X-ray data were collected in the step scan mode at generator tension of 40 kV and current 20 mA.

Transmission electron microscopy (TEM)

TEM measurements were carried out on a FEI, Technai S-twin with an acceleration voltage of 200 kV. A drop of aqueous solution of ZnSe NPs was placed on a carbon-coated copper grid of 400 mesh and dried under IR lamp before putting into TEM sample chamber. GO sample for TEM measurements was prepared in the same way.