



International Journal of ChemTech Research CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555 Vol.9, No.05 pp 395-400, 2016

## Synthesis and Characterization of Reduced Graphene Oxide/Ag<sub>2</sub>S nanocomposites by co-precipitation Method using Thiourea as Sulfur source and reducing agent

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**Abstract** : Graphene based nanocomposites are emerging as a new class of materials for many applications. Reduced graphene oxide/Ag<sub>2</sub>S composites were synthesized through a simple coprecipitation method. The composite materials were characterized by X- ray diffractometer (XRD), Fourier transform infrared (FTIR), Ultraviolet – Visible (UV-Vis) and Raman spectroscopy measurements. The chemical state and its Binding Energy investigations of the rGO/Ag<sub>2</sub>S were carried out by X-ray photoelectron spectroscopy (XPS). The surface morphology of the composite material was studied by Field emission- Scanning electron Microscope (FE-SEM) and Transmission electron Microscope (TEM) shows that the Ag<sub>2</sub>S nanoparticles are heavily deposited on the surface of the reduced graphene Oxide layers. **Keywords** : Reduced graphene oxide, Silver sulfide, Thiourea, Nanocomposite, and Coprecipitation.

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