

An Electro gap tunable by metal nanoparticle modified Graphene oxide with Organic dye

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In this work, we prepared a band gap tunable by metal modified graphene oxide with an organic dye. Moreover, the product was soluble in organic solvents such as chloroform and dimethyl sulfoxide (DMSO). GO was prepared by hummer method and later, metal was reductioned on the GO surface to facilitate the exfoliation.[2] There is π - π interactions between the complex and GO surface. The complex enhances thermal and electric properties of GO. The complex has electrical conductivity, and thermal stability. The formed GO complex were characterized by Fourier Transform infrared spectroscopy(FT-IR), Scanning electron microscopy(SEM), Thermal gravity analyses (TGA), UV-visible Spectrophotometer(UV-vis), Cyclic voltammetry(CV), X-Ray Diffraction (XRD), Photoluminescence(PL). The complex may have applications in electronic devices, optoelectronic device various applications.