

Synthesis and Characterization of Polyaniline/Graphene Oxide Nanocomposite

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The use of polymer-based graphene and graphene oxide nanocomposite has attracted the attention due to their application in energy storage and conversion [1]. Graphene oxide is interesting because it can be readily dispersed in different types of solvent such as water. In this work graphene oxide was obtained by using a modified Hummer's method [2]. Raman and FTIR results indicated that it was obtained graphene oxide. The AFM results indicated that single layer graphene oxide was obtained from the aqueous dispersion of the graphene oxide. From the graphene oxide aqueous dispersion it was obtained a stable aqueous dispersion of polyaniline-HDBSA/graphene oxide aqueous dispersion was obtained. The UV-VIS results from the polyaniline-HDBSA/graphene oxide aqueous dispersion presented strong absorption in the visible region of the spectra, indicating the interaction between polyaniline and the graphene oxide.

[1] R. Verdejo, M.M. Bernal, L.J. Romasanta, M.A. Lopez-Machado, *J. Mat. Chem.* **21**, (2011) 3301.

[2] W.S. Hummers, R.E. Offeman, *J. Am. Chem. Soc.* **80**, (1958) 1339.