

Abstract Submitted
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Plasma-enhanced preparation of graphene composites with polyaniline and polypyrrole¹ AYSEGUL UYGUN OKSUZ, Suleyman Demirel University Department of Chemistry, SADIK COGAL, Mehmet Akif Ersoy University Polymer Engineering, GAMZE CELIK COGAL, Suleyman Demirel University Department of Chemistry, EMRE UYGUN, LUTFI OKSUZ, Suleyman Demirel University Department of Physics — This study presents the preparation of graphene (GR) nanocomposites with polyaniline (PANI) and polypyrrole (PPy) through the fast, versatile and environmentally friendly process of radiofrequency (RF) -plasma polymerization. Morphological characterization of nanocomposites was performed using scanning electron microscopy (SEM) and showed that the PANI and PPy conducting polymers coated the GR surface. The surface properties of the GR nanocomposites were determined using Fourier transform infrared spectroscopy (FTIR) and X-ray photoelectron spectroscopy (XPS) analysis. [1] G. Gustafsson, Y. Cao, G. M. Treacy, F. Klavetter, N. Colaneri, and A. J. Heeger, “Flexible light-emitting diodes made from soluble conducting polymers”, *Nature*, 357 (6378) (1992) 477–479. [2] A. J. Heeger, “Semiconducting and Metallic Polymers: The Fourth Generation of Polymeric Materials”, *J. Phys. Chem. B*, 105 (36) (2001) 8475–8491. [3] A. K. Geim, “Graphene: status and prospects”, *Science*, 324 (5934), (2009) 1530–1534.

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