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Glean Investigation of the Photocatalytic Degradation of Anew Designed MWCNT/PANI/Zr(IV)W

Yashfeen Khan ***Department of Chemistry, Faculty of Science, Aligarh Muslim University***

Abstract:

In the last few decades, nano-composites have been the topic of interest. Carbon-nanotubes are of significant scientific importance due to their remarkable properties in almost every field, be it electronic, mechanical, thermoplastic, optical, electrical, biological, and environmental. The area of material science is currently undergoing a shift from developing traditional materials such as metals, ceramics, polymers, and composites to a more revolutionary trend of developing nanostructures, which are functionalized, self-assisting and occasionally even self-healing. Albeit, these advances are potentially game-changing, the excitement must be tempered somewhat as several bottlenecks exist. The functionalized ternary nanostructure MWCNT-PANI/Zr(IV)tungstate, i.e.(MWCNT/PANI/Zr(IV)W) was successfully developed via in situ oxidative polymerization of aniline monomer. The microstructure and morphology of the prepared composites were characterized by using Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM), and high-resolution transmission electron microscopy (HRTEM). The higher photocatalytic degradation rate has been reported by the composite when tested on Rhodamine B(an industrial dye).

Biography:

Yashfeen is a doctoral student under the supervision of Professor Anees Ahmad in the PhD program, Nanoscale Material Science, Department of Chemistry at Aligarh Muslim University, Aligarh. India. Her main research interest centers around Carbon-dots and the development of carbon nanotubes based new nano-composites, to characterize the synthesized nano-composites by SEM, TEM, AFM, NMR, FTIR, RAMAN, XRD and TGA-DTA and various other techniques. Also, to figure-out the un-reported future applications of the synthesized materials in the areas: reinforcement, sensing(chemical and biological), cytotoxicity and cell line culture, anti-bacterial, optical activity, super-capacitance ability. She has been an Active Member of renowned organizations: „‟ CASFGS‟‟(Protection of Sexual Harassment Society), AMU, Aligarh, “ECO CLUB”, AMU , Aligarh. Active Member of Drug society “Registered as a charity by GOVT. of UP, Regd no. 1817 and Soch Beyond Imagination, AMU, Aligarh.

Speaker Publications:

1. Devising Carbon Nanotube, Green Tea, and Polyaniline Based Nanocomposite plus Investigating Its Rheological together with Bactericidal Efficacies
2. Biogenic synthesis of a green tea stabilized PPy/SWCNT/CdS nanocomposite and its substantial applications, photocatalytic degradation and rheological behavior
3. Emerging Materials and Nanotechnolgy

31st Eutopean Congress on Nanotechnology and Materials Engineering, February 12-13, 2020-Paris, France

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