

ABSTRACT

NiMoO₄/rGO, NiFe₂O₃/rGO, and NiCeO₂/rGO are successfully synthesized by using the hydrothermal method, and for the dopping purpose the graphene is synthesized by using the Hummer method. UV-visible, FTIR spectroscopy, Particle size analyzer, X-ray diffraction, and Scanning Electron Microscopy-Energy Dispersive X-ray (SEM-EDX) spectroscopy were employed for the characterization of the synthesized nanocomposite. From the UV-visible data, the band gap was also calculated using the Wood and Tauc relation. The result from XRD showed cubic structure and crystallite size were found to have an indirect relation with band gap. SEM confirmed the nanoflakes-like morphology of the nanocomposite whereas elemental composition was confirmed through EDX. The photocatalytic efficiency of the nanocomposite was also evaluated through the degradation of Methylene Blue (MB) dye, under the UV light.