

ABSTRACT

Photocatalytic removal of cationic methylene blue dye has been performed by using reduced graphene oxide doped iron oxide with manganese, cobalt and copper nanocomposites under sunlight and compare their percentage degradation. The nanocomposites of rGO/MnFe₂O₄, rGO/CoFe₂O₄ and rGO/CuFe₂O₄ are prepared by a convenient hydrothermal method at 180 °C for 4 hours and then calcined to improve photocatalytic activity. These nanocomposites are characterized by FTIR, PL and UV-visible spectroscopy. Their crystalline structures and shapes are determined using X-ray diffraction technique and crystal size is determined by using Williamson-Hall and Scherrer equation.