

ABSTRACT

Due to increase in population the need for the industry has been also increased. In order to fulfil these needs water becomes polluted due to its extensive use in dyeing process. To overcome water pollution photocatalytic activity is a good approach. In this work we have synthesized molybdenum oxide (MoO_3) at different reaction time (12, 16 and 20 hours) by hydrothermal method. Graphitic carbon nitride ($\text{g-C}_3\text{N}_4$) was synthesized by thermal poly condensation of thiourea. The nanocomposite of $\text{MoO}_3/\text{g-C}_3\text{N}_4$ was formed by hydrothermal method. Structural, morphological, optical properties of synthesized materials were characterized and analysed by X-Ray diffraction (XRD) technique and UV-vis spectroscopy. Williamson-hall analysis was used to estimate crystallite size and micro strain. Functional groups characteristics were analyzed by Fourier transform infrared spectroscopy (FTIR). The degradation of organic dyes like methylene blue (MB) and methylene orange (MO) was used to test the photo-degradation effectiveness of all the synthesized materials.