



Enhanced Photocatalytic activity and Improved Stability of Silver Sulphate Modified Cu-Based Metal-Organic Framework

Owais Meharj

Department of Chemistry, National Institute of Technology Srinagar, J&K, (India)

ABSTRACT

In this work we synthesised copper based metal organic frame works via solvothermal route. The as synthesised Cu-MOF was incorporated with various molar ratios of silver sulphate. The as synthesized samples were characterized by various techniques including XRD, FTIR, SEM, TEM, UV-vis DRS, and Photoluminescence techniques. The synthesised samples were used as photocatalysts for the degradation of organic pollutants under Uv-vis light irradiation. It was found that silver sulphate incorporated Cu-MOF showed superior photocatalytic activity for the degradation of organic pollutants than pure components. The enhanced photocatalytic ability was attributed to the efficient charge separation across the heterojunction interface of composite. Further, the as synthesised composites also showed good stability in the recycle experiments.

Keywords: *Composite, Metal-Organic-Framework, organic pollutants, recycle experiments solvothermal, UV-vis light.*