

Synthesis and characterization of bismuth iron oxide nanostructure by sonochemical method

Roghaye karimi boliti,^a Mehdi Mousavi Kamazani*

^aDepartment of Chemical engineering, Faculty of Nano technology, Semnan University, Semnan, Iran

*E-mail: M.mousavi@semnan.ac.ir

So far, considerable attention has been paid to the construction of potential photocatalysts to deal with issues related to environmental degradation and energy crises. Among the multitude of photocatalysts, the photocatalyst based on bismuth iron oxide is flourishing as an adsorption center due to its good chemical stability and easy extraction. This article presents the synthesis and properties of bismuth iron oxide nanocomposite using sonochemical method as well as different techniques for desulfurization of petroleum derivatives. The synthesis of iron oxide bismuth nanocomposite includes preparation of precursor solutions, sonication of solutions, addition of a surfactant, etc. The purity, structure and morphology of the produced nanocomposite were identified by X-ray diffraction (XRD) analysis. Desulfurization of petroleum derivatives is a vital process to reduce sulfur content, which helps to develop efficient and environmentally friendly technologies in this field

Keywords: Bis Bismuth iron oxide, nanostructure, photocatalyst, sonochemistry, desulfurization
muth iron oxide, nanostructure, photocatalyst, sonochemistry, desulfurization

**Iranian
Inorganic
Chemistry Conference**