Green synthesis and study of Cuprous Oxide nanoparticles

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Abstract

Recently, biosynthesis of nanoparticles has attracted more attention due to their different advantages as an eco-friendly, low cost and non toxic alternative approaches. In particular, metal oxide nanoparticles are receiving increasing attention in a large variety of applications. The aim of this work is the synthesis of cuprous oxide (Cu2O) nanoparticles using green method, we have used sulfate copper and Aloe Vera leafs extract with different concentrations as a precursor and a solvent respectively. The synthesized samples were characterized with X-ray diffraction, Fourier transmission infrared FTIR and electron scanning microscopy SEM. X-ray diffraction confirms the formation and the crystalline nature of cuprous oxide. The average size of the particles ranged from 23 to 67nm, the shape of obtained agglomerated particles is octahedral with an average size varied from 536 nm to 1000 nm.

Keywords: Biosynthesis, Cuprous, Aloe Vera, nanoparticles, green synthesis