

Synthesis and characterization of ZnO nanogranules

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Abstract : In this paper, we report the synthesis of ZnO nanogranules by a solid state mixing of zinc nitrate tetrahydrate $\text{ZnO}(\text{NO}_3)_2$ with citric acid monohydrate $\text{C}_6\text{H}_8\text{O}_7$, followed by aging and calcination at different temperatures of 400°C to 600°C. The crystallinity, structure and morphology of as prepared ZnO-nanocrystals have been characterized using powder X-ray diffraction (XRD), scanning electron Microscopy (SEM) and Fourier transform infrared spectroscopy (FTIR). Optical properties of ZnO nanoparticles were also studied using an ultraviolet–visible (UV–vis) spectrophotometer.

Keywords : Zinc oxide, nanogranules, ZnO nanopowder.