

A Study of Growth and Vibrational Characteristics of Ammonium Dihydrogen Phosphate Doped Triglycine Sulphate Crystals

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Abstract

In the present reserarch work, single crystals of Ammonium Dihydrogen Phosphate, $\text{NH}_4\text{H}_2\text{PO}_4$ (abbreviated as ADP) (10 mol%) doped Triglycine Sulphate, $(\text{NH}_2\text{CH}_2\text{COOH})_3\cdot\text{H}_2\text{SO}_4$ (abbreviated as TGS) were grown by slow evaporation method. The structural and vibrational characteristics of the crystals were studied by X-ray Diffraction (XRD) and Fourier Transform Infrared (FTIR) spectroscopy. The XRD method was used to investigate the crystal structure and lattice parameters of the crystals. The FTIR spectroscopic method was used to analyze the vibrational characteristics of Phosphate, PO_4^{3-} and Sulphate, SO_4^{2-} of the crystals. The experimental results of ADP doped TGS crystals were compared with the undoped TGS crystal.

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