**Abstract**

Pure and Doped(with Glycine) Ammonium Dihydrogen Phosphate (ADP) crystals were grown by slow evaporation method at room temperature. The grown crystals were subjected to powder X–ray diffraction studies to study their structural characteristics. The addition of amino acid is found to improve the quality of the crystal and yields highly transparent crystals with well-defined features. Fourier transform infrared (FTIR) spectral analysis was performed to identify the presence of various functional groups in the crystals. The UV–Visible–NIR spectral analysis was carried out to confirm the improvement in the transparency of the ADP crystal on the addition of Glycine.