

## **Crystal Growth and Characterization of Non-linear Optical L-tyrosine Chloride**

Sampyady M. Dharmaprakash, B. Narayana Moolya, A. Jayarama,  
*Department of Physics, Mangalore University, Mangalagangothri*  
574199, India. E-mail: [smdharma@yahoo.com](mailto:smdharma@yahoo.com)

L-tyrosine hydrochloride (L-THC) a semiorganic non-linear optical material has been synthesized at ambient temperature and characterized by chemical analysis, melting point measurement and FTIR studies. The solubility of L-THC was determined in different solvents at different temperatures. Bulk single crystals of L-THC were grown by slow evaporation method. Powder X-ray diffraction pattern of the grown L-THC has been recorded. Thermal properties of L-THC were studied by recording TGA/DTA and DSC curves. The Kurtz powder second harmonic generation test shows that the crystal is a potential candidate for frequency conversion in the optical region of electromagnetic spectrum. The L-THC crystal has a wide transparency window in the UV - vis-IR region.

**Keywords:** crystal growth, L-tyrosine chloride, second harmonic generation