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Synthesis, growth and characterization Studies of Semi organic NLO L-ValineCalcium nitrate single crystals

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Abstract :Single crystals of semi organic non-linear L-Valine Calcium nitrate grown by slow evaporation method using water as a solvent. The L-Valine phase was confirmed by single crystal powder X-ray diffraction analysis. Presence of various functional groups of L-Valine was characterized by Fourier transform infra-red spectrum (FT-IR) and the non-linear optical property is analysed by Kurtz powder technique. The optical behavior was examined by Ultra violet –vis spectrum and found that the crystal is transparent in the region between the 245-1100nm. Hence it may be very much useful for the second harmonic generation (SHG) applications.

Keywords: Semi-organic nonlinear single crystal, L-Valine, Slow evaporation method, Second harmonic generation.

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