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Abstract

Nucleation and growth kinetics give valuable information about the crystal growth process, which can be utilized in the growth of large size crystals. Attempt are made to study the nucleation parameters such as solubility, induction period, interfacial tension, Gibbs critical free energy, radius of critical nuclei. The crystal possess positive temperature coefficient of solubility. XRD analysis shows that the crystal crystallizes in monoclinic system with space group C2/c. Thermal stability of the crystal was analyzed by TGA/DTG. The existence of SHG was confirmed by Q-switched Nd:YAG laser technique.

Keywords: A1. Solvents, A1. Stirring, A1. Nucleation A2, Growth from solutions, A1. X-ray diffraction, B2. Nonlinear optical materials

1. Introduction

Since the discovery of second harmonic generation, nonlinear optics gained technological importance as well as occupies wide application. The vital applications of non-linear optical (NLO) single crystals for second harmonic generation (SHG), optical parametric oscillation or amplification, and sum or different frequency mixing have resulted in the development of many