



Growth, Characterization and Nucleation Reduction Mechanism of CCT Crystals in Silica Gel Medium at Different Environments

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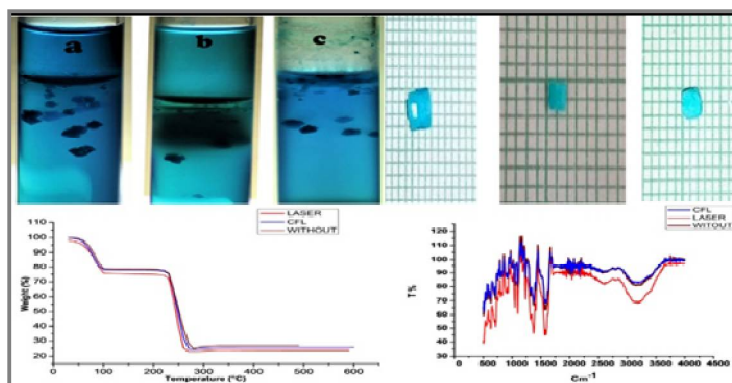
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ABSTRACT

Cadmium doped Copper Tartrate (CCT) crystals were grown in silica gel medium using single diffusion methods at room temperature by passing semiconductor laser and other light radiations. Cadmium doped Copper Tartrate crystals were grown in three different growth faces to attain the total nucleation reduction. The metallic compositions in the crystals were estimated by Energy Dispersive X-ray Analysis (EDX). Thermo Gravimetric Analysis (TGA) of pure and Cadmium doped Copper Tartrate crystals suggest the possibility of the presence of co-ordinate water molecule in the crystalline structure. The functional groups present in the crystals were identified using Fourier transform infrared (FTIR) analysis. UV-Vis-NIR transmission spectrum was recorded to study the optical transparency of the grown crystals.

Graphical Abstract



Keywords: CCT, EDX, TGA, FTIR, UV-VIS-NIR.