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Structural, thermal and electrical characterisation of ferroelectric single crystal: Guanidinium Cobalt Sulphate Heptahydrate

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Abstract : Semi organic single crystal of guanidinium cobalt sulphateheptahydratewas grown from its aqueous solution by slow evaporation solution growth technique. Powder X- ray diffraction analysis (PXRD) was carried out to confirm the formation of the crystalline compound. The functional groups present in the crystal were identified by FTIR spectroscopic analysis. Thermo gravimetric and differential thermo gravimetric analyses (TG-DTG) were performed to analyse the thermal behaviour of the grown crystal. The dielectric constant and dielectric loss of the grown crystal were studied as a function of frequency of the applied field. The ferroelectric nature of the grown crystal was analysed by P-E hysteresis loop. **Key words :** Slow evaporation, PXRD, TG-DTG, P-E hysteresis loop.

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