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Synthesis, growth, vibrational, thermal and birefringence property of NLO active organic crystal: Quinolinium fumarate

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The slow evaporation method is used to grow quinolinium fumarate (QF) at room temperature. The crystal comes under orthorhombic crystallographic system with $Pca2_1$ space group. The FT-IR study confirmed the vibrational groups in the crystal. The thermal measurement is used to analyze the thermal firmness of the crystalline sample. The birefringence measurement is taken on single crystal (QF) by technique named channeled spectrum.

Keywords: Crystal growth, slow evaporation, FT-IR analysis, thermal study, birefringence.