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Dielectric, Mechanical properties and Raman Analysis of TGS-ADP Mixed crystals

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Abstract:TGS was synthesized by taking the AR grade Glycine ($\text{CH}_2\text{NH}_2\text{COOH}$) and concentrated Sulphuric acid (H_2SO_4) in the molar ratio 3:1 respectively. The synthesized pure TGS is mixed with ADP in the molar ratio (9:1), (8:2), (7:3) and the crystals were grown from aqueous solution by slow evaporation method at room temperature. The grown crystals are subjected to Dielectric studies using a LCR meter. The Dielectric study confirms the contribution of space charge polarization. Vickers micro hardness measurement of the grown crystals reveals that hardness increases with load. The log p versus log d were plotted and work hardening co-efficient or Meyer indices (n) is determined. The functional groups are identified by Raman analysis.

Keywords:Crystal growth, Raman Analysis, Mechanical and Dielectric properties.

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