Abstract

Single crystal of L-Prolinium Tartrate (LPT) was grown from aqueous solution by slow evaporation technique. The crystalline nature of the material has been confirmed by single crystal X-ray diffraction. The optical transmission study reveals the transparency of the crystal in the entire visible region and the cut off wavelength has been found to be 220 nm. The optical band gap is found to be 3.60 eV. The transmittance of LPT crystal has been used to calculate the refractive index n, the extinction coefficient K and both the real \(\varepsilon_r\) and imaginary \(\varepsilon_i\) components of the dielectric constant as functions of wavelength. The AC and DC conductivity studies of the crystals were carried out to determine the activation energy for conduction process. The photoconductivity studies reveal that the crystal exhibits negative photoconductivity.

References

Index Terms

Computer Science  Applied Sciences

Keywords

Single Crystal  Slow Evaporation Technique  Single Crystal X-ray Diffraction  Ac And Dc Conductivity Studies And Photoconductivity Studies