

# Development of Novel Crystals Having Nonlinear Optical Characteristics : Thiosemicarbazide Cadmium Bromide Hydrate $\text{Cd}(\text{NH}_2\text{NHCSNH}_2)\text{Br}_2 \cdot \text{H}_2\text{O}$

**Dr. Vipin Kumar**

Department of Chemistry, H.N.B. Govt. P.G. College, Naini, Prayagraj, U.P.  
vipinktiwari2010@gmail.com

**Abstract:** *The discovery of transistor and other optical, electronic and magnetic devices motivated the major effort in crystal production and fabrication. Keeping in view, the difficulties that come across during solidification of metallic system, it was considered worth searching some transparent organic crystals in which components could be easily purified and their solidification behaviour involved low transition temperature, minimized convection effects and possibility of visual examination of the solidification process to transparency of the materials. Considering these points, the material in the present investigation has been selected.*

*X-ray powder diffraction was used to determine the crystal lattice parameters. Analysis was done by matching the X-ray line from the compound to a standard pattern. Optical transparency test was used to evaluate the grown boules. Electro-optic measurements (E.O.) was done with the original and very sensitive method, In all the observations and computations the internationally accepted current units, dimensions, notations, abbreviations and standard data have been used with the due consideration of significant figures.*

**Keywords:** Crystal growth, Optical nonlinearity, TSCCB