

## Growth and Xrd, Sem Characterisation of 4 Aminopyridinium Picrate Single Crystals

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**Abstract:** The single crystals of 4 Amino pyridinium Picrate has been grown by solution growth method. Its a second order organic NLO material. The grown crystal is subjected to Single crystal XRD study and found that it is monoclinic in nature; the space group is  $P_{21}/c$ . The single crystals are grown in 18 days. The CHNS analysis shows that the percentage of elemental composition of the grown crystal. The theoretical calculation reveals that the mass of the titled material. The SEM study delineates the morphology of the grown crystal. The PL study represents the wavelength of emission of 4 Amino pyridinium Picrate crystals.

**Keywords:** 4 Amino pyridinium Picrate, XRD, SEM ....

### 1. INTRODUCTION

NLO materials have many applications in the field of frequency mixing, opto-electronic, switching... Here the 4 Amino pyridinium Picrate is grown by solution growth method and characterized by SEM, XRD.

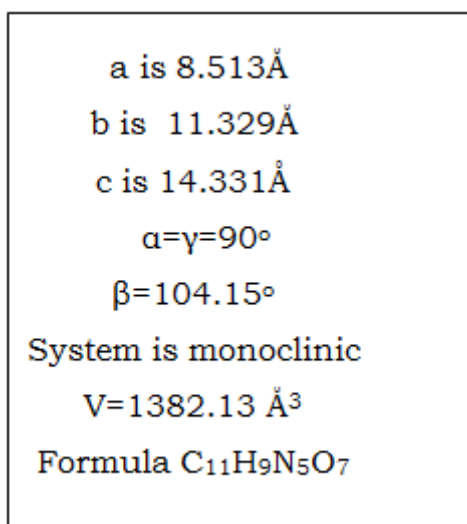
### 2. EXPERIMENTAL

4 Aminopyridine is mixed the Picric acid in 1:1 ratio. The solvent is methanol or Acetone, the crystals of 4 Amino pyridinium Picrate is grown in 18 days.

### 3. SINGLE CRYSTAL XRD

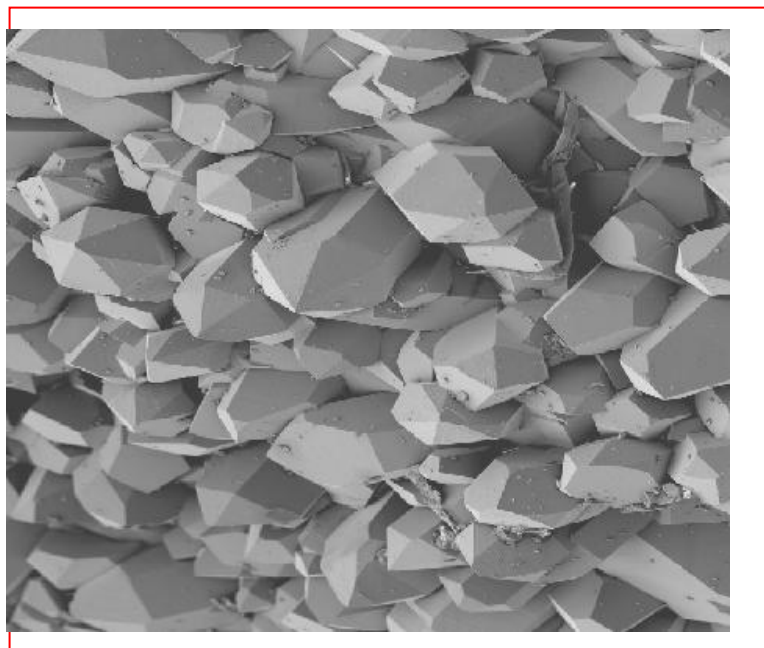
The single crystal XRD specifies the lattice parameters of crystal, since crystals are anisotropic in nature.

For 4 Aminopyridinium Picrate crystals the lattice parameters are



### 4. SEM IMAGE

SEM is scanning electron microscope used to identify the surface morphology of crystals and the representation of pattern or void space or arrangement of atom in crystals.



Here in the case of 4 Amino pyridinium Picrate crystals the SEM image shows that the crystals have no major flaws or defects or void space and are having no cracks.

### 5. CONCLUSION

4 Amino pyridinium Picrate is grown by solution growth method and is monoclinic in nature found by XRD, and SEM study reveals that the crystals have no major flaws or defects.

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