Refractive Influx Proviso of 4 Amino Pyridinium Picrate (4app) with Kmno4

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Abstract: *Equimolar mixture of 4 amino pyridine with picric acid in methanol solution was stirred well for 60 minutes and the precipitate was filtered to get 4APP and mixed with KMnO4 and monoclinic crystals of 4 APP were obtained. a is 8.5070Å and b is 11.3338Å and c is 14.3317Å and α=γ=90° β≠90°. The refractive influx is 2.325µAm/C*

Keywords: *4APP, KMnO4, 4APP with KMnO4 and influx*

1. EXPERIMENTAL

The crystal is grown by solution growth method and equimolar mixture of 4 amino pyridine with picric acid in methanol solution and mixed with KMnO4 was stirred well for 60 minutes and the precipitate was filtered to get 4APP crystals and monoclinic crystals were obtained.

2. SINGLE CRYSTAL XRD DATA

The single crystal XRD data of 4 APP and 4APP with KMnO4 are given below.

Table1. *Single crystal XRD data of 4 APP and 4APP with KMnO4*

Crystals	4APP	4APP with KMnO4
space group	P21/c	-
a	8.5055	8.5070Å
b	11.3333	11.3338Å
c	14.3307	14.3317Å
Angle	α=γ=90° β≠90°	α=γ=90° β≠90°
System	Monoclinic	Monoclinic

The Empirical formula is $C_{11}H_9N_5O_7$ for 4APP and is of monoclinic form and when mixed with KMnO4, its lattice parameters varies and given in above Table.1.

The $C_5H_7N_2$ acts as cation and $C_6H_2N_3O_7$ acts as anion which constitutes $C_{11}H_9N_5O_7$.

3. KERR'S EFFECT

The Kerr effect, also called the quadratic electro-optic (QEO) effect, is a change in the refractive index of a substance in response to an applied electric field.

All materials show a Kerr effect, but certain liquids display it more strongly than others. Here for 4APP with KMnO4 the refractive influx is **2.325** µ Am/C.

4. CONCLUSION

The 4APP and 4APP with KMnO4 are grown by solution growth method and the lattice parameters are measured using single crystal XRD and the refractive influx is measured by Kerr's effect and found to be **2.325** µ Am/C for 4APP with KMnO4.

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