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

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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 Taxol and monoclinic crystals of 4 APP were obtained.*

The empirical formula is C11H9N5O7. They were colourless crystals and space group was P21/c.

a is 8.5070Å and b is 11.3338Å and c is 14.3317Å and α=γ=90o β≠90o. The refractive influx is 2.225μAm/C.

Keywords: *4APP, Taxol, 4APP with Taxol 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 Taxol was stirred well for 60 minutes and the precipitate was filtered to get 4APP crystals and monoclinic crystals were obtained.

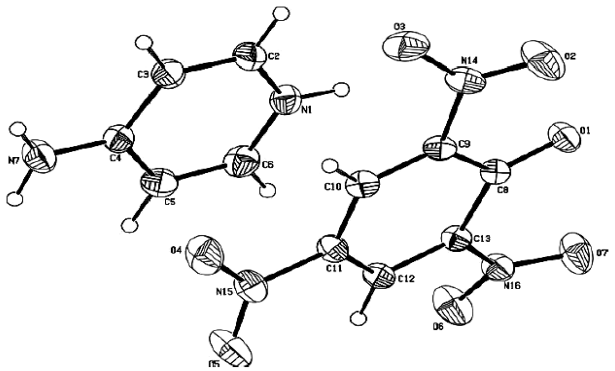

Fig1. *Oak Ridge Thermal Ellipsoid Plot Programmed Diagram*

Fig.1 shows the ORTEP diagram of 4APP crystals from which we can identify the atomic arrangement like C, H, N and O in 4APP.

2. Single Crystal XRD Data

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

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

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

The Empirical formula is $C_{11}H_9N_5O_7$ for 4APP and is of monoclinic form and when mixed with Taxol, 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. The Kerr effect is distinct from the Pockel's effect in that the induced index change is directly proportional to the square of the electric field instead of varying linearly with it.

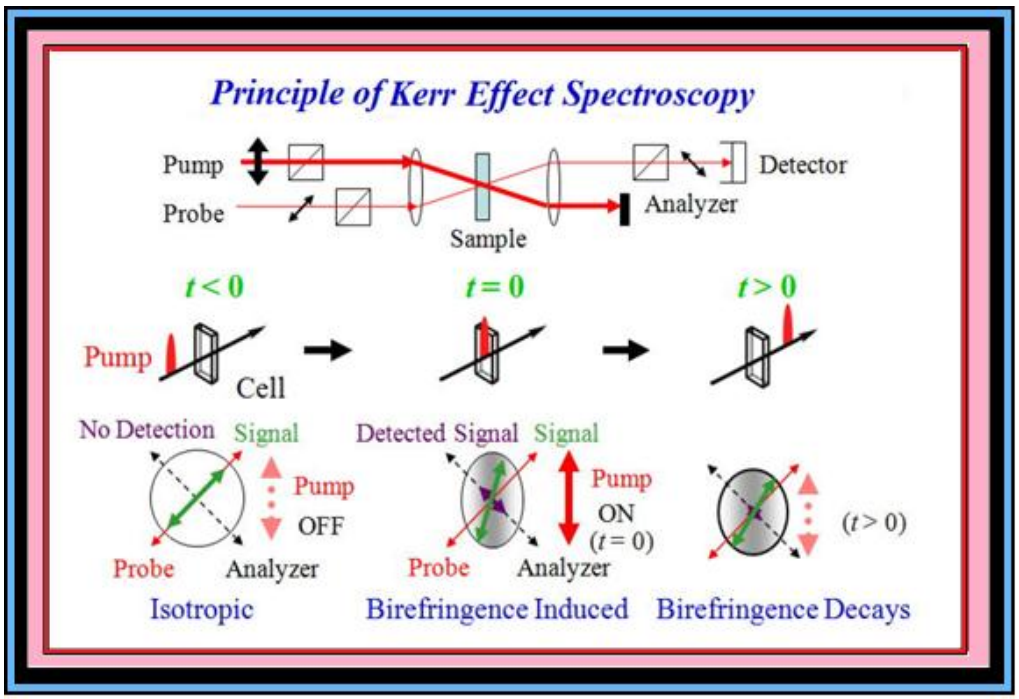

Fig2. *Kerr's Effect Spectroscopy- Block Diagram*

All materials show a Kerr effect, but certain liquids display it more strongly than others. Here for 4APP the refractive influx is 2.203 μ Am/C and for 4APP with Taxol the refractive influx is 2.225 μ Am/C.

4. CONCLUSION

The 4APP and 4APP with Taxol 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 2.225 μ Am/C for 4APP with Taxol.

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