

MS35-P23 | STRUCTURAL AND VIBRATIONAL STUDY OF NEW 2-ETHYLANILINIUM PHOSPHITE (C₈H₁₂N)H₂PO₃

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Chemical preparation, crystal structure and vibrational study are reported for a new 2-ethylanilinium phosphite (C₈H₁₂N)H₂PO₃. This organic cationic phosphate was synthesized by the action of phosphoric acid on an aqueous solution of Dimethylamine, (C₈H₁₂N)H₂PO₃ crystallizes in the triclinic system with centric space group P-1. Its unit-cell dimensions are $a = 4.6042(2) \text{ \AA}$, $b = 10.3863(4) \text{ \AA}$, $c = 10.7848(5) \text{ \AA}$, $\alpha = 90.115(3)^\circ$, $\beta = 97.878(3)^\circ$, $\gamma = 98.462(3)^\circ$, $Z = 2$ and $V = 505.18(4) \text{ \AA}^3$. The crystal structure was refined down to $R = 0.0362$, $R_w = 0.0495$ for 1989 reflections satisfying criterion $I \geq 2\sigma(I)$.

The vibrational study using IR absorption spectroscopy shows the presence of bands characterized by the vibrations of the H₂PO₃⁻ ion in the structure.