Crystal Structure Determination of a Valinium Hybrid Compound

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In recent years, organic-inorganic hybrid materials have attracted considerable attention as prefered materials in nonlinear optics (NLO), such as second harmonic generation (SHG) and optical bistability, owing to their large optical nonlinearities [1]. L-valinium hydrogenphosphite, results from our systematic investigation of organic-inorganic hybrid materials obtained by interaction between various phosphoric oxyacids and amino acids [2],[3].

As part of our continuing interest in this field, we report here the crystal structure of L-Valinium hydrogenphosphite [$C_5H_{12}NO_2^+$, $H_2PO_3^-$], it can be described as a stacking of l-valinium and hydrogenphosphite ions. The stability of such an arrangement results from a network of hydrogen bonds, which maintain the cohesion of the organic-inorganic layers in the crystal. The asymmetric unit contains two valinium residues and two hydrogenphosphite ions, one of which is disordered.

[1] Zaccaro J., Bagieu-Beucher M., Espesso J., Ibanez A., *J Cryst. Growth*, 1998, **186**, 224-232. [2] Benali-Cherif N., Abouimrane A., Sbai K., Merazig H., Cherouana A., Bendjeddou L., *Acta Cryst*., 2002, **E58**, o160-o161. [3] Bendheif L., Bouchouit K., Benali-Cherif N., *Acta Cryst.*,2003, **E59**, o1407-o1409.

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