Structure of N,N-dimethylaminopyridinium L-malate

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The crystal structure of a new *L*-malic acid salt, N,N- dimethyl-aminopyridinium *L*-malate has been determined at room temperature using single crystal X-ray diffraction techniques. The space group is orthorhombic $P2_12_12_1$ with lattice parameters a= 7.461(1), b= 7.945(1) and c= 20.774(4)Å. Similarly to other *L*-malic salts, the malate anions form hydrogen-bonded head-to-tail (carboxylic and carboxylate groups) infinite chains parallel to the [100] crystal direction. On the other hand, the dimethylaminopyridinium cations are arranged with their mean plane approximately perpendicular to the [100] crystal direction. The N-H group of every cation forms two hydrogen bonds with oxygen atoms of different anion chains connecting *L*-malate chains along the [010] crystal direction. The whole crystal packing can be viewed as parallel two-dimensional hydrogen-bonded molecular arrangements perpendicular to the [001] direction. As in other *L*-malic salts, preliminary measurements show optical second-harmonic generation.

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