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A comparative study of two polymorphs of L-aspartic acid hydrochloride

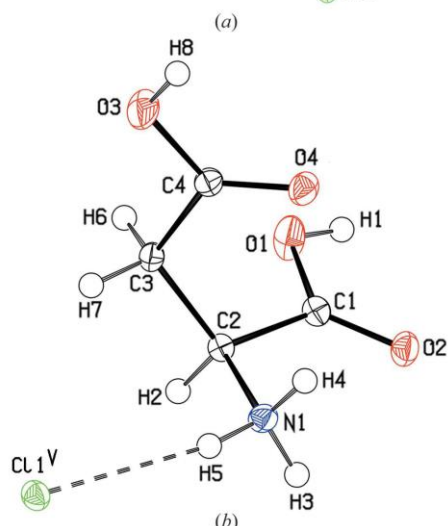
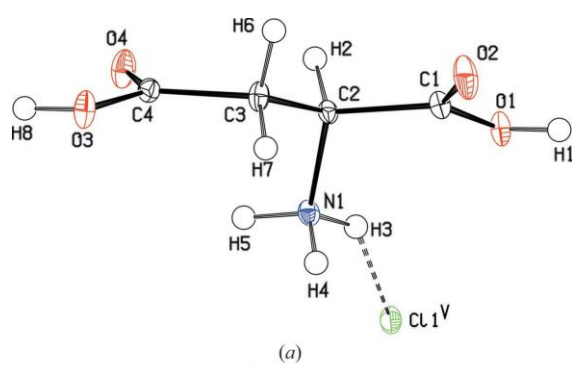
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Two polymorphs of L-aspartic acid hydrochloride, $C_4H_8NO_4+Cl^-$, were obtained from the same aqueous solution. Their crystal structures have been determined from single crystal data collected at 100 K. The crystal structures revealed three- and two-dimensional hydrogen-bonding networks for the triclinic and orthorhombic polymorphs, respectively. The cations and anions are connected to one another via $N-H\dots Cl$ and $O-H\dots Cl$ interactions and form alternating cation-anion layer-like structures.



The two polymorphs share common structural features; however, the conformations of the L-aspartate cations and the crystal packings are different. Furthermore, the molecular packing of the orthorhombic polymorph contains more interesting interactions which seems to be a favourable factor for more efficient charge transfer within the crystal

The molecular packing of (a) polymorph (I) and (b) polymorph (II)

