Hydrogen Bonding in new Hybrid Compounds

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Studies of organic-inorganic hybrid materials, including amino acids and various inorganic acids **[1,2,3],** have received a great deal of attention in recent years, because of their electrical, magnetic and optical properties **[4]**. Hydrogen bonds in hybrid compounds are of interest because of their widespread biological occurrence. The potential importance of hydrogen bonding in the structure and function of biomolecules is well established [5], in particular, N-H…O hydrogen bonds are predominant in determining the formation of secondary structure elements in proteins, and base-pairing in nucleic acids and their biomolecular interactions.

The present structure analysis of new hybrid compounds, was undertaken as part of our systematic investigation of organic-inorganic hybrid materials, including organic cations and various inorganic acids, to study the nature of hydrogen bonding in the crystalline forms of these compounds **[6,7,8,9].**

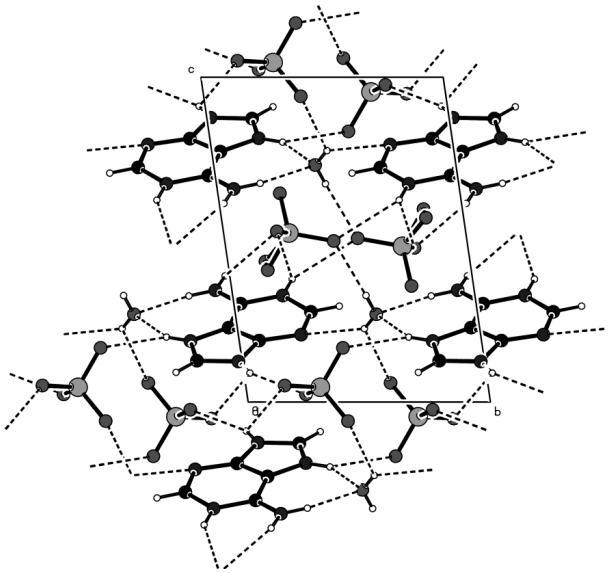

Figure. *View of diprotonated adeninium diperchlorate hydrate at 120 K **[10],** showing the immediate hydrogen-bonded surroundings of anions and cation.*

The crystal structure of these compounds is built up from intricate cation-anion, anion-anion and/or cation-cation hydrogen bonds, resulting in two-dimensional and/or three-dimensional comparable networks.

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