

[Bis(3-ammonium-1-hydroxypropylidene-1,1-bisphosphonato)iron(II)]: The Fe²⁺ Salt of Pamidronate, a Clinically Effective Diphosphonate Ligand

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Dedicated to Professor Gerhard Thiele on the occasion of his 70th birthday

The solvent-free title compound $2[\text{Fe}^{\text{II}}\{\text{H}_3\text{N}^+\text{CH}_2\text{CH}_2\text{C}(\text{OH})(\text{PO}_3\text{H}^-)(\text{PO}_3\text{H}^-)\}_2]$ was prepared by hydrothermal synthesis and consists of (4,4)-nets of iron octahedra (as the nodes) linked by corner sharing tetrahedra of the phosphonate groups. These layers are stacked in an ABB'A' sequence and are connected to give a three-dimensional network by hydrogen bonds between the non-Fe-bridging phosphonate groups. Pamidronate, $\text{C}_3\text{H}_{10}\text{NO}_7\text{P}_2^-$ is a zwitterion with an overall charge of -1 .

Key words: Iron(II), Diphosphonate, Pamidronate, Hydrogen Bonding, Hydrothermal Synthesis