



Chelating dihydroxamic acids: study of metal speciation and co-ordination compounds with Ni^{2+} and Cu^{2+} .

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Streszczenie

Solution (potentiometric, absorption, EPR) as well as solid state studies (X-ray, EPR, magnetic susceptibility) have shown that the binding ability of oxalodihydroxamic acid (H_2oxha) with two hydroxamic groups next to each other differs distinctly from that observed for aliphatic dihydroxamic acids, $\text{HONHOC}(\text{CH}_2)_n\text{CONHOH}$ ($n = 3-8$). H_2oxha was found to be a very powerful ligand for Ni^{II} and Cu^{II} due to an N,N' -chelating binding mode. The availability of the mixed nitrogen-oxygen donor systems results in formation of polymeric complexes with Cu^{II} . The crystal structure of $\text{K}_2[\text{Ni}(\text{oxha})_2] \cdot 2\text{H}_2\text{O}$ has shown two very characteristic features of the dihydroxamic ligand: (i) two short intramolecular hydrogen bonds stabilising very effectively the complex formed and (ii) very specific binding modes of K^+ ions, which play a bridging role between $[\text{Ni}(\text{oxha})_2]^{2-}$ ions. The latter finding demonstrates a capacity of H_2oxha -based anionic complex species to form polynuclear complexes with different bridging modes.

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