Crystal structure and physico-chemical properties of cobalt(II) and manganese(II) complexes with imidazole-4-acetate anion.

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Streszczenie

Crystal complexes of the general formula $[M(4\text{-iaa})_2(H_2O)_2]H_2O$ have been obtained from aqueous solutions containing a double excess of the sodium salt of imidazole-4-acetic acid (Na 4-iaa · H_2O) with respect to the nitrates of cobalt(II) and manganese(II). The complexes have been characterized by X-ray studies, electronic UV–VIS–NIR spectra, IR spectra and the complex of manganese(II) by EPR spectra. In the present complexes the imidazole-4-acetate anion is a chelating ligand where an azomethine nitrogen atom of the imidazole ring and an oxygen atom of the carboxyl group are donor atoms. The immediate environment of the central ion in both complexes is described by distorted *cis*-octahedron. The molecular structure and the physico-chemical properties of the isostructural complexes of cobalt(II) and manganese(II) with imidazole-4-acetate (4-iaa) of the generalized formula $[M(4\text{-iaa})_2(H_2O)_2]H_2O$ are presented here. In these complexes 4-iaa is a chelating ligand. The oxygen atom of the carboxyl group and the azomethine nitrogen atom of the heterocyclic ring are donors in the coordinate bonds. The immediate environment of the central ion is described by distorted *cis*-octahedral.

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