

Research Article

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Physico-chemical studies of some 3d-metal chelates of potassium propan-1,3-diol di xanthate

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Summary

The present study include the synthesis of potassium propan-1,3-diol di xanthate (PPDDX) along with the preparation of Mn (II), Fe (II and III), Co (II), Ni (II) and Cu (II) chelates of PPDDX. The 1:1 stoichiometry of these chelates is decided with the help of electrometric and chemical analysis. All the complexes are found paramagnetic in nature. The stereo-chemistry and the nature of hybridisation of these chelates are also decided in the present study. All these complexes are found to have high spin octahedral geometry except Cu-complex which is square planar in nature. Excluding Cu-complex all others are found to be sp^3d^2 in nature but Cu-complex has dsp^2 hybridisation. Metal-sulphur bonding in these complexes is established with the help of infrared spectroscopy.

Key words : Xanthate, Complex, Structure, Chelates

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