



## New coordination compound of Mn(II) with ligand derived from morpholine-4-carbodithioic acids

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The synthesis and characterization of some new complex of Mn (II) with organic ligands derived from morpholine-4-carbodithioic acid 2-(3,5-diiodo-2-hydroxy-phenyl)-2-oxo-ethyl ester is reported in this paper. The morpholine-4-carbodithioic acid 2-(3, 5-diiodo-2-hydroxy-phenyl)-2-oxo-ethyl ester was utilized as solution, in an ethylic alcohol-water medium (1:1, v: v) while the Mn (II) as a fresh aqueous solution of  $\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$ . The complex is insoluble in the reaction medium and was separated by filtering.

Elemental analysis, ESR, FTIR spectroscopy and thermal analysis performed the characterization of this complex compound. The IR spectra were recorder between 200  $\text{cm}^{-1}$  and 4000  $\text{cm}^{-1}$  using a spectrometer FTIR 660 Plus by the method of KBr pelleting. Study of the IR spectra evidenced the functional groups of complex and the chemical analysis showed that the combination rate of M:L is 1:2 ( $\text{C}_{13}\text{H}_{12}\text{O}_3\text{S}_2\text{NI}_2$ ) $2\text{Mn}$ . The ESR spectra were recorder on solid samples with RES-IFA Bucharest spectrometer. Intensity of magnetic field was 3216.9 Gauss at 9030 MHz frequency. ESR spectra evidenced five odd electrons in inner coordination sphere compound being paramagnetic.

The obtained precipitate was submitted thermogravimetric analysis using MOM Q -1500D derivatograph to 1000°C. Until 850°C, complex is stable but between 850°C-2700°C there are three loss masses. One corresponding waters molecules loss and the second corresponding thermal degradation of parts from ligands. The last loss mass corresponding formation of manganese oxide. Up to 2700°C, the decomposition product is stable from thermal point of view. Based on experimental data and literature indications the structural formula of this compound is assigned. Hybridization of manganese ion is  $\text{sp}^3$  type and the space configuration is tetrahedral, with two coordination liaisons from two oxygen atoms and two covalent liaisons between copper ion and other two oxygen atoms.