

**Cu(II), Mn(II) COORDINATION COMPOUNDS WITH CONDENSATION
PRODUCT OF «HYDAZEPAM» AND ISATIN**

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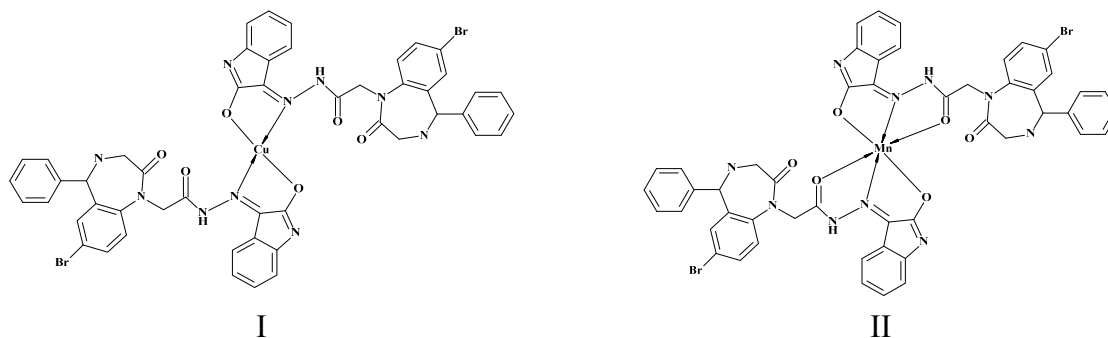
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The creation of new drugs based on the coordination compounds of biologically active metals and organic ligands is one of the topical trends in modern bioorganic chemistry. Particularly promising is the use as bio-ligands used in medical practice of pharmaceuticals.

For the first time the coordination compounds of copper(II), manganese(II) ("metals of life") with hydrazone – the condensation product of the daily tranquilizer "hydazepam" – 2-(7-bromo-2-oxo-5-phenyl-3H-1,4-benzodiazepin-1-yl)acetohydrazide (Hydr) with isatin (Hz) have been synthesized and studied.

By self-assembling in the systems $\text{Cu}(\text{CH}_3\text{COO})_2 - \text{Hydr} - \text{Hz} - 2\text{-propanol}$, $\text{Mn}(\text{CH}_3\text{COO})_2 - \text{Hydr} - \text{Hz} - 2\text{-propanol}$ the complexes $[\text{Cu}(\text{HydrHz})_2]$ (I), $[\text{Mn}(\text{HydrHz})_2]$ (II) have been synthesized. Their composition is determined by elemental analysis, measurement of electroconductivity, mass-spectroscopy, thermogravimetry. Ligand coordination mode in the complexes was determined by comparison of IR spectra of initial Hydr, Hz and the corresponding complexes I and II. Schemes for the structure of complexes are proposed:



Their validity was confirmed by X-ray absorption spectroscopy (EXAFS), EPR spectroscopy, and magnetic susceptibility. Based on the analysis of the CuK-edge (for I) and the MnK-edge (for II), the composition of the first coordination sphere (CS) including nitrogen/oxygen atoms is determined: for I – two with a distance $R = 1.92 \text{ \AA}$ and two with $R = 2.00 \text{ \AA}$; for II – two with $R = 2.10 \text{ \AA}$, two with $R = 2.20 \text{ \AA}$ and two with $R = 2.27 \text{ \AA}$.

The EPR spectrum of a polycrystalline sample II is satisfactorily modeled by a spin Hamiltonian (SH) with a thin interaction, characteristic for rhombic symmetry, with parameters: $g = 2.00$; $D = 0.0281 \text{ cm}^{-1}$ (total spin $S = 5/2$). The ESR spectrum of complex II in ethanol at $T = 293 \text{ K}$ is described by an isotropic SH of spin $1/2$ and includes the Zeeman and hyperfine interaction. The parameters of the SH are: $g = 1.99$; $A = 8.062 \cdot 10^{-3} \text{ cm}^{-1}$.