LETTERS TO THE EDITOR

New Ambidentate Ligands—Derivatives of 1,2-Benzothiazine-1,1-Dioxide

O. Yu. Korshunov, A. V. Bicherov, and A. D. Garnovskii

Institute of Physical and Organic Chemistry, Rostov State University, pr. Stachki 194/3, Rostov-on-Don, 344104 Russia

Based on 1,2-benzothiazine-1,1-dioxide (HL¹) [1] and with regard to its ambidentate nature, two regio-

selective isomers¹ [2, 3], i.e., chelate compounds **I** and **II**, can be obtained.



 HL^2 should be considered as a model compound forming only chelates of type **I**.

The complexes of the ML_2 composition (as follows from the results of the elemental analysis) were synthesized upon heating methanol solutions containing 0.01 mol of HL^1 or HL^2 and 0.005 mol of nickel or zinc acetate for a short time. These chelates were obtained for the first time. They are crystalline substances with m.p. above 250°C; ZnL_2^1 melts at 224°C.

According to IR and ¹H NMR spectroscopic data, the chelates under study exhibit structure **I** with a coordination core like that of β -diketonate.

In the IR spectra of these compounds, the bands in the range $3200-3300 \text{ cm}^{-1}$, which are due to the stretching vibration of the OH group of HL¹ or HL², are absent while the band due to the NH–SO₂ fragment of HL¹ at 3400 cm⁻¹ remains unchanged.

The ¹H NMR spectra of free ligands exhibit the proton signals of the OH group at 15.80 ppm (HL¹) or 16.00 ppm (HL²). These are not observed in the spectra of zinc complexes. However, the ¹H NMR spectrum of ZnL_2^1 retains the signal at 9.73 ppm due to the proton of the NH group in the HL¹ ligand.

The data of the magnetochemical study also favor the structure **I**. The values of magnetic moments for Ni L_2^1 and Ni L_2^2 equal to 3.08 and 3.25 μ_B , respectively, agree with the intermolecular-associated octahedral structure of the coordination polyhedron that is also typical of other nickel β -diketonates [4].

Note in conclusion that the data we obtained are of great importance in understanding possible methods of competitively binding metals with medicines which are hetercyclic derivatives of 1,2-benzothiazine-1,1-dioxide (pyroxycam, isoxycam etc.); this should sustain the interest of researchers [5–7].

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¹ This type of isomerism is produced by the ambidentate ligands which form complexes with differing localization of the coordination bond.

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