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THE CRYSTAL STRUCTURES OF TWO IZOMERIC FORMS OF COPPER(II) CHLORIDE COMPLEXES OF 2-(2-(PHENYL(PYRIDIN-2-YL)METHYLENE)-HYDRAZINYL)BENZOTHIAZOLE

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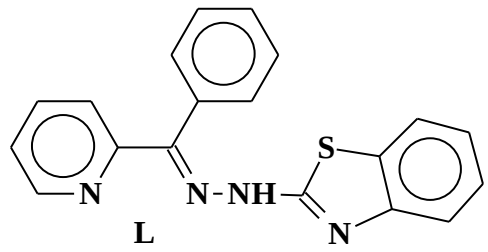
Benzothiazole derivatives are widely used in medicine in treating various types of diseases. All of them have a wide range of reactive atoms and form with metal ions biologically active coordination compounds with various composition and properties. It was determined that in many cases biological activity of this compounds consists with their structure. Therefore, the synthesis and determination of crystal structure features of benzothiazole derivatives are of both scientific and practical interest. In the present research two isomeric forms of copper(II) chloride coordination compounds with 2-(2-(phenyl(pyridin-2-yl)methylene)-hydrazinyl)benzothiazole (L) were synthesized and their crystal structures were determined by X-ray analysis. The mixture of two isomeric forms with composition $CuLCl_2$ were obtained as a result of the template reaction between 2-hydrazinyl-1,3-benzothiazole and 2-benzoylpyridine in presence of copper(II) chloride dihydrate. It was found that the first coordination compound (Fig. 1) has a monomeric structure. The second substance (Fig. 2) has a dimeric structure. In these compounds molecules of ligands are electrically neutral and coordinate to the metal ions by N, N, N set of donor atoms. Chloride ions complete the internal sphere of the coordination compounds. In second compound these chloride ions act as bridge atoms. Chloride ions also occupy the external sphere of both coordination compounds.



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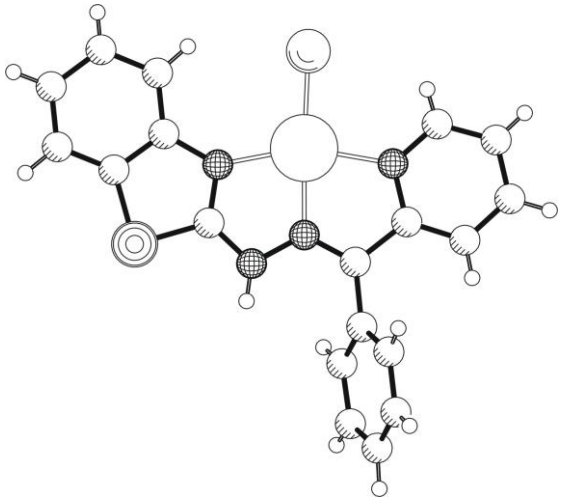

Fig. 1. *The crystal structure of the complex* **I**.

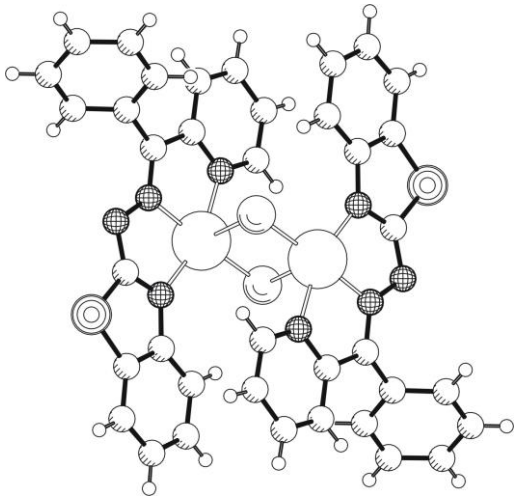

Fig. 2. *The crystal structure of the complex* **II**.

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