Synthesis and construction of the bis-(3-oxo-2,3-digidrobenzo[d]izothiazol-1,1-dioxide)tetraagua-Zn(II) complex compound

© Shakhnoza A. Kadirova,¹* Mukhabat M. Ishankhodzhaeva,²⁺ Nusrat A. Parpiev,¹ and Bakhodirkhodzha Tashkhodzhaev³

¹ Department of General, Inorganic and Analytical Chemistry. Faculty of Chemistry. National University of Uzbekistan Named After M. Ulugbek. Vuzgorodok. Tashkent, 100174. Uzbekistan.

Phone: +7 (10-998-71) 246-07-88.

² Department of Physical and Colloidal Chemistry. St. Petersburg State Technological University of Plant

Polymers. Ivan Chernykh St., 4. St. Petersburg, 198095. Russia. Phone: +7 (812) 786-57-44.

E-mail: mail@gturp.spb.ru

³ Institute of Plant Chemistry Named After S.Y. Yunusov. Uzbek Academy of Sciences.

Mirzo Ulugbek St., 77. Tashkent, 100170. Uzbekistan.

Phone: +7 (10-998-71) 262-78-97. *E-mail: tashkhodjaev@rambler.ru*

*Supervising author; ⁺Corresponding author

Keywords: izothiazol derivative, Zn complex compound, dentate mode, structure, single crystal, tetrahedral bipyramide.

Abstract

bis-(3-oxo-2,3-digidrobenzo[d]izothiazol-1,1-dioxide)tetraaqua-Zn(II) The complex compound C₁₄H₁₆N₂S₂O₁₀Zn was synthesized and this structure was determined by methods of IR spectroscopy and Xray diffraction analysis. It's shown, that complex has form of tetrahedral bipyramide: the atoms of oxygen of four molecules of water occupy coordination sites in the knots of tetrahedral base and atoms of nitrogen of this derivative izothiazolion ligand occupy two apex of of this bipyramide. Two molecules of water take place in the external sphere of the complex compound.