

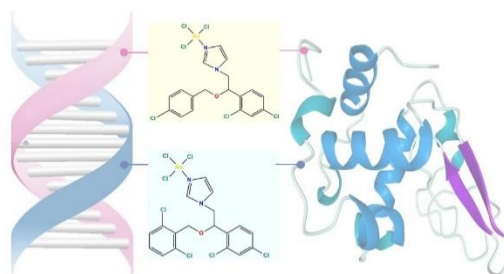
DNA/BSA BINDING STUDY OF GOLD(III) COMPLEXES WITH ECONAZOLE AND ISOCONAZOLE

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Aromatic nitrogen-containing heterocycles (*N*-heterocycles), including azoles, have attracted considerable attention as a valuable source for synthesis of compounds used in many different pharmacological fields, ranging from vitamins and herbicides to antifungal, antibacterial and anticancer agents [1]. In the present study, antifungal azoles, namely econazole (ecz) and isoconazole (iso), were used for synthesis of two mononuclear gold(III) complexes, $[\text{AuCl}_3(\text{ecz})]$ (**1**) and $[\text{AuCl}_3(\text{iso})]$ (**2**). These complexes were obtained in the reactions of equimolar amounts of potassium tetrachloridoaurate(III) and corresponding azole in ethanol under reflux for 3 h. The corresponding azole is monodentately coordinated to Au(III) ion, while the remaining coordination sites in the square-planar plane are occupied by the chloride ions. The interactions of gold(III) complexes **1** and **2** with calf thymus DNA (ct-DNA) and bovine serum albumin (BSA) were investigated by fluorescence emission spectroscopy. The obtained results have shown that the values of binding constants (K_A) for both complexes are high enough to indicate their binding to BSA, which can transport them to the corresponding biological targets. On the other hand, the interaction of complexes **1** and **2** with ct-DNA is rather electrostatic since the obtained K_A values are much lower than that for ethidium bromide, the well-known DNA intercalator.



- [1] N.Lj. Stevanović, J. Kljun, I. Aleksic, S. Skaro Bogojevic, D. Milivojevic, A. Veselinovic, I. Turel, M.I. Djuran, J. Nikodinovic-Runic, B.Đ. Glišić, Dalton Trans. 51 (2022) 5322–5334.