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Interakcije kompleksa Rh(III) sa DNK/protein; Ispitivanje citotoksičnosti kompleksa

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Kompleksi prelaznih metala se dugo primenjuju kao farmakološki agensi u medicini. Kompleksi Rh(III) zbog svoje inertnosti i stabilnosti privlače sve veću pažnju kao potencijalni farmakološki agenasi u terapiji bolesti. U okviru ovog istraživanja sintetisali smo i okarakterisali novi kompleks Rh(III) sa ligandom derivatom bis-piridilpiridina i ligandom 1,2,4-triazolom. Kompleks je okarakterisan elementarnom mikroanalizom, kao i spektroskopskim metodama (IR, UV-Vis, ^{1}H i ^{13}C NMR, ESI). Ispitivana je kinetika supstitucionih reakcija ovog kompleksa sa biološki važnim ligandima (5'-GMP, GSH i L-Met). Urađena su i ispitivanja sposobnosti interakcije datog kompleksa sa CT-DNK korišćenjem Uv-Vis spektrofotometrije, fluorescentne spektroskopije, merenjem viskoznosti i ,,docing''. Pored interakcija sa CT-DNK, urađene su i interakcije sa albumin serum proteinom (BSA). Citotoksičnost kompleksa metala je ispitana.

Interactions of the Rh (III) complex with DNA / protein; Testing the cytotoxicity of the complex

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Transition metal complexes have long been used as pharmacological agents in medicine. Complexes of Rh(III), due to their inertness and stability, attract increasing attention as potential pharmacological agents in the treatment of diseases. Within this study, we synthesized and characterized a new Rh(III) complex with a ligand derivative of bis-pyridylpyridine and a ligand of 1,2,4-triazole. The complex was characterized by elemental microanalysis, as well as spectroscopic methods (IR, UV-Vis, ^{1}H and ^{13}C NMR, ESI). Substitution reactions kinetics of this complex with biologically important ligands (5'-GMP, GSH and L-Met) were examined. Analysis of the interaction capabilities of this complex with CT-DNA were performed using Uv-Vis spectrophotometry, fluorescence spectroscopy, and viscosity measurement and docing. In addition to interactions with CT-DNA, interactions with albumin serum proteins (BSA) were also performed. The cytotoxicity of the metal complex was tested.