Abstract

Present methods for diagnosis of neurodegenerative diseases are rather limited and in clinical practise are missing. This thesis is focused on utilization of the positron emission tomography using isotope ^{64}Cu(II). For the project, two contrast agents were proposed containing ligand for Cu (II) coordination and thioflavine T derivative as fluorescent dye, also as a targeting compound. Structure of the thioflavine T derivative was defined by X-ray structural analysis. The selected fluorescent dye has a high affinity for incipient amyloids and, when bound to their structure, has enhanced fluorescent properties. The proposed ligands are tetraazacyclic. The first one is a diamide, where the thioflavin T derivative is part of a macrocyclic ring. The second selected ligand is linked to the thioflavin T derivative via a linker.

Key words:

complexes; pharmaceuticals; transition metals