Title: Design and synthesis of selective copper(II) chelators

Author: Jan Havlík
Department: Department of Inorganic Chemistry, Faculty of Science
Supervisor: assoc. prof. RNDr. Jan Kotek, Ph.D.
Supervisor's e-mail address: modrej@natur.cuni.cz

The aim of this work was to prepare selective copper(II) chelators. Within the frame of this thesis were synthesized 13 compounds, from which 7 are new. All compounds were fully characterized by NMR spectroscopy and mass spectrometry. Copper(II) complex of synthesized ligand 1,11-bis(methylphosphinic acid)cyclam, (1,11-dipin), was studied in thermodynamic and formation/decomplexation studies. For 1,11-dipin–copper(II) complex were determined values of rate constants and activation parameters.

Keywords: selective chelator, copper, cyclam derivatives, macrocyclic ligands, methylphosphonate, methylphosphinate