Title: Bifunctional chelators for selective copper(II) binding

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Abstract: In this Master thesis, cyclam bifunctional derivatives bearing pendant phosphinate groups (4-methyl-11-*p*-aminobenzyl-1,4,8,11-tetraazacyclotetradecane-1,8-bis(methylenephosphinic acid)) and phosphonate groups (4-methyl-11-*p*-aminobenzyl-1,4,8,11-tetraazacyclotetradecane-1,8-bis(methylenephosphonic acid)), were prepared and studied as potential ligands for complexation of divalent copper. These ligands are suitable for binding to a macromolecular carrier.

Keywords: radiomedicine, copper, cyclam, chelating agent, phosphinate, phosphonate, kinetic inertness, kinetic lability, thermodynamic stability