

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

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**Abstract:** The aim of this project is to synthesize new kind of macrobicyclic ligands derived from cross-bridged cyclam for complexation of  $Mn^{2+}$  ions. These complexes may be potentially used as contrast agents in magnetic resonance imaging. Three macrobicyclic ligand with various pendant arms were synthesized. The ability to complex manganese(II) ions were studied by Mass Spectroscopy. Electrochemical properties of manganese(II) complexes with general chelating agents and one synthesized ligand were studied using cyclic voltammetry.

**Keywords:** cross-bridged cyclam, phosphonate, phosphinate, pendant arms, manganese