

Abstrakt

The aim of this Thesis was the preparation of macrocyclic ligands (Figure 1) for the complexation of lanthanoides 3^+ . Their complexes can be used in nuclear medicine (in case of ligand **L1**) or as MRI contrast agents (in case of ligand **L2**).

Ligand **L1** was designed to increase the rate of complexation due to the weakly binding pendant group based on iminodiacetic acid (IDA). The complexation mechanism was spectrophotometrically studied with Ce^{3+} . Spectrophotometric kinetic measurements proved that ligand **L1** not only shown no improvement in the complexation rate but its complexation is rather noticeable slowed.

Ligand **L2** contains amino group whose protonization/coordination could be influenced by pH or temperature. It can be utilized in determination of physical status of different tissues. However, it is difficult to obtain the ligand **L2** in sufficient purity for further studies

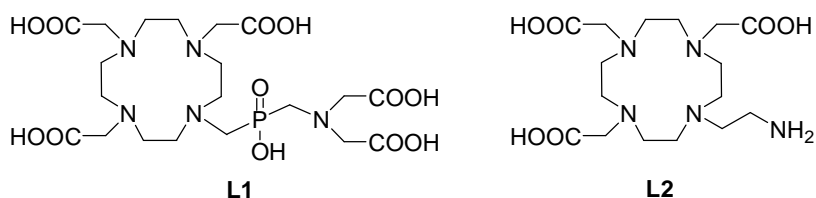


Figure 1: Ligands prepared in course of this Bc Thesis