Lanthanide(III) and lead(II) complexes of a chiral nonaaza macrocyclic amine based on 1,2-diaminocyclopentane.

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Streszczenie

The macrocyclic nonaaza 3 + 3 amine based on diaminocyclopentane forms enantiopure helical complexes with lanthanide(III) ions. In contrast to analogous complexes based on 1,2-*trans*-diaminocyclohexane, no clear helicity process is observed. Crystal structures of these compounds show tight helical wrapping of the macrocycle around the lanthanide(III) ion leading to the formation of a double helix. In contrast, more “open” conformation is observed for the free macrocycle. Similar double-helical conformation of the ligand was also observed for the lead(II) complex. In the case of this complex the NMR spectra indicate a dynamic process in which the C_2-symmetric molecule observed in the solid state gives rise to an effective, averaged D_3-symmetry in solution at elevated temperatures.

Adres publiczny

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