Novel chiral hexaazamacrocycles for the enantiodiscrimination of carboxylic acids.

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New enantiopure amines (*R*,*R*)-**1** and (*S*,*S*)-**1** were obtained from (*R*)- or (*S*)-2,2′-diamino-1,1′-binaphthyl and 2,6-diformylpyridine in a synthesis templated by lead(II) or lanthanide(III) ions, reduction with $NaBH_4$ and subsequent demetallation. Similarly new amines (*R*,*R*,*R*,*R*)-**2** and (*S*,*S*,*S*,*S*)-**2** were obtained from (1*R*, 2*R*)- or (1*S*, 2*S*)-1,2-diphenylethylenediamine. The X-ray crystal structure of the Pb(II) complex with macrocyclic Schiff base precursor of (*R*,*R*)-**1** indicates helical twisted conformation of this macrocycle, while the ROESY spectrum of *R*,*R*-**1** suggests less twisted conformation. (*R*,*R*)-**1** and (*R*,*R*,*R*,*R*)-**2** were tested as chiral shift reagents (chiral solvating agents) for various α-substituted carboxylic acids, including non steroidal anti-inflammatory drugs. Enantiodiscrimination of carboxylate ^{1}H NMR signals was observed with $\Delta\Delta\delta$ values up to 0.1 ppm.

Słowa kluczowe

macrocycles, Chiral recognition, carboxylic acids, amines, solvating agents

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