Chiral bambusurils for enantioselective recognition of chiral carboxylate anions

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Bambusurils are macrocyclic compounds that can bind anions with high affinity and selectivity. Bambusurils reported until recently are achiral molecules, which were used for binding achiral anionic guests. Hereby we report synthesis of two novel chiral bambusuril macrocycles. These macrocycles are obtained by condensation of enantiomerically pure chiral glycolurils with paraformal dehyde on gram scale without any chromatographic purification. Chiral bambusurils bind chiral carboxylate anions including amino acids and drug molecules with enantioselectivity ranging from 1.1 to 3.2.

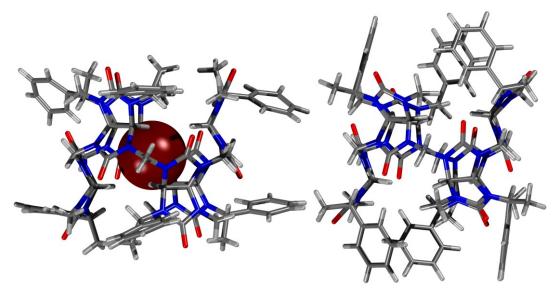


Figure 1. Structure of chiral bambusurils.

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