LARGE CHIRAL CYCLOHEXANOHEMICUCURBIT[N]URILS

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Cucurbiturils (CBs) [1] are a class of macrocyclic receptors, consisting of glycoluril units coupled by the pairs of methylene bridges. Due to their good complexation ability they are widely used, for example as catalysts, constituents of molecular container, supramolecular polymers *etc.* and even as a drug delivery vectors [1,2]. Cucurbiturils, where uril units are connected through single methylene bridges, are called hemicucurbiturils(HC). Synthesized enantiopure cyclohexane urea, was used as monomer to synthesize enantiomerically pure (*all-S,S*)- and (*all-R,R*)-cyclohexanohemicucurbit[6]urils [3] and (*all-R,R*)-cyclohexano-hemicucurbit[8]uril. The idea of template-controlled synthesis of chiral cyclohexano-hemicucurbit[8]uril [4] proved the necessity of an anionic template to drive the reaction toward the formation of cycHC. This idea was utilized in the synthesis of large chiral cyclohexanohemicucurbit[N]uril (refer figure 1). Different reaction conditions were screened for the synthesis of higher homologue of chiral cyclohexano-hemicucurbit[n]uril using cycHC[8] as starting material. Variety of templates corresponding to anion of different acids were tried. Separation and characterization of new homologue - (all-R,R)-cyclohexano-hemicucurbit[10-12]urils from 8-membered homologue will be presented.

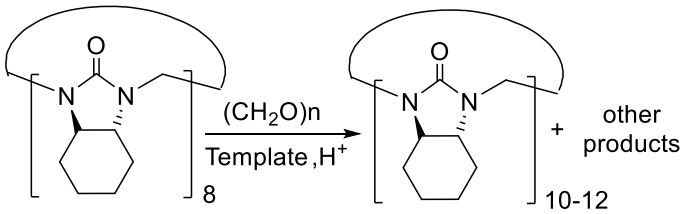

Figure.1. Synthesis of (all-R,R)-cyclohexano-hemicucurbit[10-12]urils from 8-membered homologue

References

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