

研究论文

新型手性不对称脲石胆酸分子裂缝的设计合成

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摘要 以刚性的石胆酸甲酯为骨架, 手性不对称脲为侧链, 通过三光气桥连, 设计合成了一类新型的手性分子裂缝. 7个分子裂缝均为新化合物, 其结构均经¹H NMR, IR, MS和元素分析确证, 并且考察了其对卤素阴离子Cl⁻, Br⁻, I⁻的识别性能. 初步的实验结果表明, 这类分子裂缝不仅可与所考察的卤素阴离子形成1: 1型超分子配合物, 而且对卤素阴离子具有良好的识别选择性.

关键词 [石胆酸](#) [分子裂缝](#) [合成](#) [手性不对称脲](#)

分类号

Design and Synthesis of Novel Chiral Lithocholic Acid-Based Molecular Clefts Containing Unsymmetrically Disubstituted Urea Unit

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Abstract A novel type of chiral molecular clefts has been designed and synthesized by linking a chiral unsymmetrically disubstituted urea to rigid methyl lithocholate via triphosgene. Seven molecular clefts are new compounds. Their structures were confirmed by ¹H NMR, IR, MS spectra and elemental analyses. The recognition properties of these molecular clefts for halogen anions have been investigated by UV-visible spectral titration. The preliminary results indicated that these molecular clefts not only possessed the ability to form 1: 1 complex with anions examined, but also showed good selectivity for halogen anions.

Key words [lithocholic acid](#) [molecular cleft](#) [synthesis](#) [chiral unsymmetrical urea](#)

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