

Full Papers

多分支中性受体的合成及 α,ω -二羧酸阴离子识别研究

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摘要 通过简单步骤高产率地合成了两种新的含有硫脲和酰胺基团的多分支中性受体**1**和**2**。受体**1**和**2**对丙二酸阴离子具有一个较好的选择性和较高的结合常数。特别是在加入二羧酸阴离子到含有受体**1**在二甲亚砜的溶液中时,可以观测到明显的颜色变化。紫外可见和荧光光谱数据说明了受体**1**或**2**通过多重氢键的相互作用和较短碳链的二羧酸阴离子形成了1:2的络合物,而与较长碳链的二羧酸阴离子形成了1:1的络合物。

关键词 [中性受体](#),[阴离子识别](#),[比色化学传感器](#),[二羧酸](#),[紫外可见光谱](#)

分类号

Two Multi-armed Neutral Receptors for α,ω -Dicarboxylate Anions

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Abstract Two new multi-armed neutral receptors **1** and **2** containing thiourea and amide groups were synthesized by simple steps in good yields. Receptors **1** and **2** have a better selectivity and higher association constants for malonate anion than other anions examined by the present work. In particular, distinct color changes were observed upon addition of dicarboxylate anions to the solution of **1** in DMSO. The UV-Vis and fluorescence spectra data indicate that a 1:2 stoichiometry complex was formed between compound **1** or **2** and dicarboxylate anions of shorter carbon chain, and a 1:1 stoichiometry complex was formed between compound **1** or **2** and dicarboxylate anions of longer carbon chain through hydrogen bonding interactions.

Key words [neutral receptor](#) [anion recognition](#) [colorimetric chemosensor](#) [dicarboxylate](#) [UV-Vis spectrum](#)

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