

药物曲美布汀对映体在涂敷三(4-甲基苯甲酸)纤维素酯手性固定相上的HPLC分离

王来来, 吕士杰, 高平, 李树本

中国科学院兰州化学物理研究所羰基合成与选择氧化国家重点实验室

收稿日期 修回日期 网络版发布日期 接受日期

摘要 涂敷15%(wt)三(4-甲基苯甲酸)纤维素酯于大孔硅胶担体上,制备手性固定相,以此手性固定相作填料,湿法装填液相色谱柱,直接分离(±)-

曲美布汀对映体。确定对映体在固定相与洗脱液之间分配的自由能变之差值、焓变之差值和熵变之差值,考察洗脱液正己烷-异丙醇(v/v)中异丙醇含量在色谱分离对映体性能方面的影响。当洗脱液中异丙醇含量增加时,对映体的容量因子逐渐降低,分离因子变化不大,分离度逐渐降低。

关键词 [手征性](#) [固定相](#) [高速液体色谱](#) [对映体](#) [异丙醇](#) [纤维素酯](#) [分离](#) [药物](#)

分类号 [O658](#) [R91](#)

The separation of 3, 4, 5-trimethoxybenzoic acid 2-(dimethylamino)-2- phenylbutyl ester enantiomers on a cellulose tris(4-methylbenzoate) high-performance liquid chromatographic chiral stationary phase

Wang Lailai, Lu Shijie, Gao Ping, Li Shuben

Abstract The cellulose tris(4-methylbenzoate) (CTMB)-coated silanized gel was slurry-packed in stainless steel columns. the complete resolution of racemic 2-(dimethylamino)-2-phenylbutyl ester of 3, 4, 5- trimethoxybenzoic acid by CTMB-CSP (CSP=Chiral Stationary Phase) has been achieved. Effects of the 2-propanol content in mobile phase and different temperature on capacity factor, separation factor, resolution in the separation of 2-(dimethylamino)-2-phenylbutyl ester of 3, 4, 5-trimethoxybenzoic acid enantiomers were studied. The thermodynamic parameters $\Delta\Delta G_{iii}$, $\Delta\Delta H_{iii}$, and $\Delta\Delta S_{iii}$ have been estimated by the separation factor (α) at a given temperature, where the terms $\Delta\Delta G_{iii}$, $\Delta\Delta H_{iii}$, and $\Delta\Delta S_{iii}$ represent the differences in the total free energy, enthalpy, and entropy differences, respectively. It was found that CTMB-CSP is sensitive to small changes in temperature. The resolution increased when the temperature was decreased in the 24.9°C to 45.0°C range.

Key words [CHIRALITY](#) [STATIONARY PHASE](#) [HIGH SPEED LIQUID CHROMATOGRAPHY](#) [ENANTIOMORPH](#) [ISOPROPANOL](#) [CELLULOSE ESTERS](#) [SEPARATION](#) [DRUGS](#)

DOI:

通讯作者

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(378KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“手征性”的 相关文章](#)

▶ 本文作者相关文章

- [王来来](#)
- [吕士杰](#)
- [高平](#)
- [李树本](#)