

研究论文

β -环糊精衍生化胰酶的合成及其手性分离性能研究

戴荣继^{*1}, 佟斌³, 唐力^{1,3}, 邓玉林¹, 傅若农^d

(¹北京理工大学生命科学与技术学院 北京100081)

(²北京理工大学材料科学与工程学院 北京100081)

(³浙江万里学院环境科学系 宁波315100)

(⁴北京理工大学理学院化学系 北京100081)

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摘要 研究了 β -环糊精衍生化胰酶的合成以及作为毛细管电色谱手性选择剂的分离性能.

利用乙二醇二环氧丙烷醚作为交联剂, 将 β -环糊精接枝到胰酶蛋白的主链, 得到了 β -环糊精衍生化胰酶.

将其通过化学键合连接到毛细管柱内壁, 制备了 β -环糊精衍生化胰酶毛细管电色谱柱.

在加压毛细管电色谱模式下, 利用该柱分离了色氨酸、扑尔敏、布洛芬、异丙嗪和阿托品等对映异构体,

得到了理想的分离效果, 且在分离扑尔敏时, 随着电压的增加, 对映异构体分离的分离度和相对保留时间均增加.

关键词 [\$\beta\$ -环糊精](#) [胰酶](#) [手性分离](#) [毛细管电色谱](#)

分类号

Synthesis and Properties of β -Cyclodextrin Derivatized Pancreatin Used as Chiral Selector in CEC

DAI Rong-Ji^{*1}, TONG Bin³, TANG Li^{1,3}, DENG Yu-Lin¹, FU Ruo-Nong⁴

(¹ School of Life Science and Technology, Beijing Institute of Technology, Beijing 100081)

(² School of Materials Science and Engineering, Beijing Institute of Technology, Beijing 100081)

(³ Department of Environmental Science, Zhejiang Wanli University, Ningbo 315100)

(⁴ Department of Chemistry, School of Science, Beijing Institute of Technology, Beijing 100081)

Abstract The synthesis and properties of β -cyclodextrin derivatized pancreatin used as chiral selector were investigated in this paper. Such β -cyclodextrin derivatized pancreatin was synthesized using β -cyclodextrin and protein in the presence of ethylene glycol diglycidyl ether in boric acid buffer at pH value 8.7. Amino group was coated on the internal surface of the silica capillary by sol-gel technology with triethoxymethylsiloxane and (3-aminopropyl) trimethoxysiloxane. Covalent binding of β -cyclodextrin derivatized pancreatin was performed by glutaraldehyde. Tryptophan, chlorpheniramine, ibuprofen, promethazine and atropine were baseline separated by β -cyclodextrin derivatized pancreatin in pressure capillary electrochromatography. High resolution and large relative retention time were obtained at high operation voltage in the separation of chlorpheniramine.

Key words [\$\beta\$ -cyclodextrin](#) [pancreatin](#) [chiral separation](#) [capillary electrochromatography](#)

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通讯作者 戴荣继 dairongji@bit.edu.cn

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