

研究简报

分子印迹整体柱快速分离烟酰胺及烟酸

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摘要 以药物烟酰胺为模板分子, 甲基丙烯酸为功能单体, 乙二醇二甲基丙烯酸酯为交联剂, 甲苯和正十二醇的混合溶液为致孔剂, 采用原位聚合法制备了具有特定识别性能和分离能力的分子印迹聚合物, 并将其作为高效液相色谱固定相, 实现了模板分子与烟酸在2 min内的快速分离。在规格为50 mm×4.6 mm i. d. 色谱柱上, 以纯水为流动相(流速为7.0 mL/min)、操作温度为室温的色谱条件下, 模板分子与烟酸的分离度达1.8。讨论了流动相中有机溶剂含量、醋酸及碱含量和流速对分离的影响。结果表明, 原位聚合法制备的整体分子印迹聚合物在以纯水作流动相时对模板分子与其类似物有快速分离能力, 这对于体内药物的分离富集研究具有很好的应用前景。

关键词 [分子印迹聚合物](#) [整体柱](#) [快速分离](#) [烟酰胺](#) [烟酸](#)

分类号

Fast Separation of Nicotinamide and Nicotinic Acid with Molecularly Imprinted Monolithic Column

Abstract

Nicotinamide has been employed as template for the preparation of molecularly imprinted monolithic polymer (MIP) which was used as liquid chromatographic stationary phase. It showed that the nicotinamide-MIP monolithic column was capable of recognizing the difference between nicotinamide and nicotinic acid, while the non-imprinted polymer had no such ability. The content of organic solvent, flow rate and pH of the mobile phase were investigated in the experiments. The following high performance liquid chromatographic conditions were selected: column, 50 mm×4.6 mm i.d.; mobile phase, water; flow rate, 7.0 mL/min; experiment temperature, room temperature. The resolution between nicotinamide and nicotinic acid was 1.8. The results showed that the two compounds could be separated by the nicotinamide-MIP monolithic column. The column is very useful for the enrichment and detection of nicotinamide in body fluids.

Key words [molecularly imprinted polymer](#) [monolithic column](#) [fast separation](#) [nicotinamide](#) [nicotinic acid](#)

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