

以混旋邻氯扁桃酸为模板的分子印迹聚合物的制备及拆分性能研究

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摘要 以混旋邻氯扁桃酸为模板分子和合成的(S)-(1-萘乙基)-丙烯酸酰胺为手性功能单体制备分子印迹聚合物作为色谱固定相,对混旋邻氯扁桃酸有较好的拆分能力,分离因子 α 达到1.36。但对模板分子的类似物混旋扁桃酸和对氯扁桃酸没有拆分能力。用Hyperchem软件模拟了(S)-邻氯扁桃酸与(S)-(1-萘乙基)-丙烯酸酰胺形成的复合物的结构模型,其在聚合物母体中留下的具有立体构型和作用力双重识别的S-S型空穴,对(S)-邻氯扁桃酸有较强的保留作用,从而达到对混旋物拆分的目的。

关键词 [分子印迹聚合物](#) [邻氯扁桃酸](#) [色谱](#) [固定相](#) [丙烯酸酰胺](#)

分类号 [0621](#)

Preparation of Molecularly Imprinted Polymer with Racemic 2- Chloromandelic Acid and Study on Its Chiral Resolution

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Abstract The molecularly imprinted polymer was prepared by racemic 2- chloromandelic acid as template and synthesized (S)-acryloyl-1- naphthylethylamine as chiral functional monomer. The molecularly imprinted polymers as stationary phase had good chiral resolution ability to 2-chloromandelic acid enantiomers and the separation factor α was calculated as 1.36. But this polymer showed no resolution to the analogues of the template, such as racemic 4-chloromandelic acid and mandelic acid. The structure of (S)-2-chloromandelic acid interacting with (S)-acryloyl-1-naphthylethylamine was simulated by Hyperchem software. The S-S type of cavities left by imprinting in polymer matrix showed double recognition of spatial configuration and binding interaction and had stronger retention capability to (S)-2- chloromandelic acid, so as to get the good enantioseparation.

Key words [molecularly imprinted polymer](#) [2-chloromandelic acid](#) [CHROMATOGRAPHY](#) [STATIONARY PHASE](#) [PROPENAMIDE](#)

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