Enantioseparation of phenylalanine racemates using D-phenylalanine imprinted microbeads prepared by a newly developed suspension polymerization

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In our previous investigations, MIP microbeads were prepared by a modified suspension polymerization method using D-Phe as template. These microbeads were packed into a stainless steel column and were evaluated as HPLC stationary phase for the enantioseparation of phenylalanine isomers. The selection of a suitable mobile phase and mobile phase composition were investigated. In the current study further optimizations were carried out for the mobile phase pH and flow rates to obtain the best enantioseparation of D- and L-phenylalanine racemate. Maximum resolution was obtained for a mobile phase of pH 4.75. The separation factor and resolution decreased with an increase in the mobile phase flow rate. These microbeads were found superior to the majority of the reported molecularly imprinted polymers with respect to chiral separation ability.

References

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