

## Enantioselective Separations by Phenylalanine Imprinted Polymeric Microspheres

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### Abstract

Molecularly imprinted polymers (MIPs) are attractive as versatile and inexpensive materials capable of molecular recognition. MIPs are prepared by various polymerization methods in the presence of template molecules. After extraction, there remain some cavities, which are complementary to the template molecules both in shape and alignment of the functional moieties to interact with the template molecules and have an affinity even in the racemate solution.

In our previous works<sup>[1,2]</sup>, phenylalanine (Phe) imprinted polymers were prepared by the sol-gel transition and wet phase inversion methods. In the present study, Phe imprinted polymeric microspheres were prepared by the suspension polymerization method in order to overcome the problems associated with the conventional bulk polymerization method, i.e., crushing, grinding and sieving of the bulk polymer.

In the current study, we have prepared D-Phe imprinted polymer by the suspension polymerization method using methacrylic acid as a functional monomer, ethylene glycol dimethacrylate as cross-linker, polyvinyl alcohol as stabilizer and sodium dodecylsulfate as surfactant. In the aqueous medium, enantioselective separations of Phe by the prepared polymeric microspheres were evaluated in a batch system. The results will be presented in terms of Phe uptake capacity and adsorption selectivity of the D-Phe imprinted polymeric microspheres under various experimental conditions.

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### References

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