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Magnetic Mesoporous Microspheres Modified with Hyperbranched Amine for the Immobilization of Penicillin G Acylase

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Research Highlights:

- Fe₃O₄@SiO₂@m-SiO₂ microspheres modified with hyperbranched amine are prepared.
- The advantages of carriers are large specific surface area and high amino content.
- Compared with free PGA, immobilized PGA shows excellent pH and thermo stability.
- The as-prepared immobilized PGA shows excellent operational stability.

Abstract: Fe₃O₄@SiO₂@m-SiO₂ magnetic mesoporous (SmSMM) microspheres were synthesized by two steps Stöber hydrolysis. The surface of the SmSMM microspheres were modified with γ -(2,3-epoxypropoxy)propyltrimethoxysilane (KH560) and dendritic hyperbranched amine (DHA) to obtain SmSMM-DHA microspheres, which were used as carriers for the

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