

Application of Hollow core-Shell type Mesoporous Materials in Asymmetric Catalysis

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The deposition of hydrophilic precursor sol containing surfactants in the hydrophobic solvents onto the mono-dispersed polymer surfaces has been applied to produce the mesoporous shells after calcination. The silica hollow spheres having mesopores in the wall of shell with different macro-cavity sizes could be fabricated, and the chiral catalysts were entrapped inside of silica microcapsules or immobilized non-covalently in the pores. The catalytic activity was examined in the synthesis of chiral β -blockers or other chiral building blocks.