

PLENARY PRESENTATIONS

ASYMMETRIC HYDROGENATION OF KETONES AND SYNTHESIS OF CHIRAL DRUGS

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Asymmetric hydrogenation is one of the most useful asymmetric reactions for the synthesis of chiral compounds, it has wide application in pharmaceutical production. In the symmetric hydrogenation, chiral catalyst is the key for the enantiocontrol. In last few decades many chiral catalysts have been developed. However, most of the reported chiral catalysts showed high activity and enantioselectivity for limited reactions, sometime for only limited substrates. Very few chiral catalysts provided satisfying activity and enantioselectivity for a wide range of asymmetric reactions. Recently, we developed a new type of chiral catalysts with a spirobiindane framework. Chiral spiro catalysts exhibited excellent activity and enantioselectivity for wide range of asymmetric reactions, such as hydrogenation, carbon-carbon bond-forming and carbon-heteroatom bond-forming reactions. This lecture will present the asymmetric hydrogenation of ketones using chiral spiro catalysts and applications in asymmetric synthesis of chiral drugs.

References:

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