Key words

rhodium

dynamic kinetic asymmetric transformation

allenes

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Rhodium-Catalyzed Dynamic Kinetic Asymmetric Transformations of Racemic Allenes by the [3+2] Annulation of Aryl Ketimines

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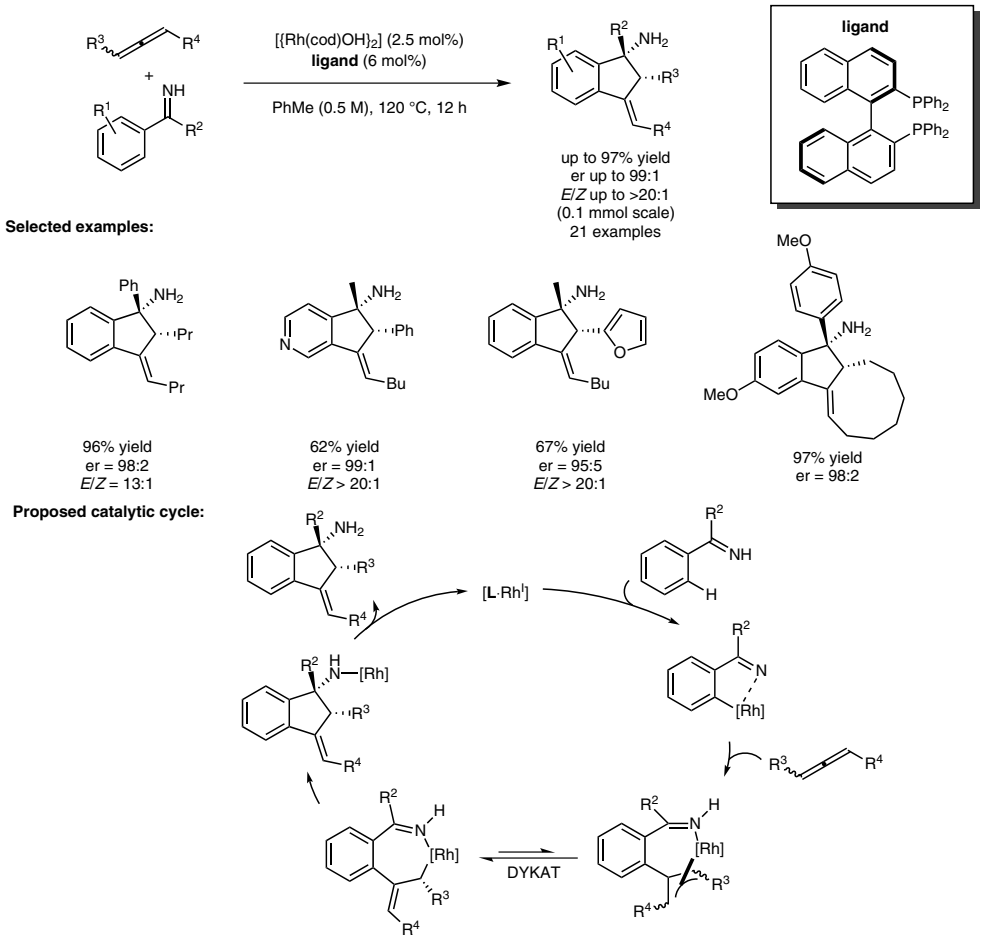
Enantioselective Rhodium-Catalyzed DYKAT of Racemic Allenes



Significance: Chiral amines are present in numerous biologically active compounds (see Book below). Starting from readily accessible racemic allenes, the authors were able to access indane structures containing chiral amines via a dynamic kinetic asymmetric transformation (DYKAT) in a [3+2] cycloaddition.

Comment: The rhodium hydride, formed by the initial directed C–H activation, adds across the racemic allene forming a rhodium allyl species. The rhodium allyl species can then interconvert via σ–π–σ isomerization leading to a chiral intermediate which adds to the imine (see below for a Review on axis-to-center chirality transfer).

Book: *Chiral Amine Synthesis:* T. C. Nugent, Ed.; Wiley-VCH: Weinheim, **2010**.

Review: N. Krause, C. Winter *Chem. Rev.* **2011**, *111*, 1994–2009.

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