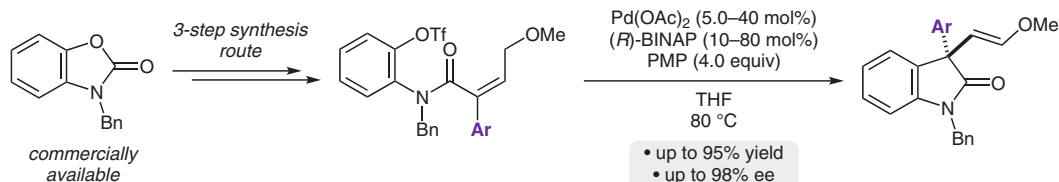
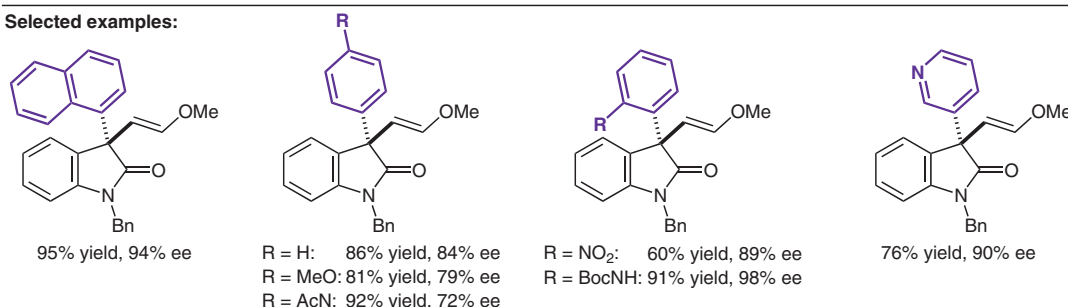


A. B. DOUNAY, K. HATANAKA, J. J. KODANKO, M. OESTREICH, L. E. OVERMAN*,
 L. A. PFEIFER, M. M. WEISS (UNIVERSITY OF CALIFORNIA, IRVINE, USA)
 Catalytic Asymmetric Synthesis of Quarternary Carbons Bearing Two Aryl Substituents. Enantioselective Synthesis of 3-Alkyl-3-Aryl Oxindoles by Catalytic Asymmetric Intramolecular Heck Reactions
J. Am. Chem. Soc. **2003**, *125*, 6261–6271, DOI: 10.1021/ja034525d.

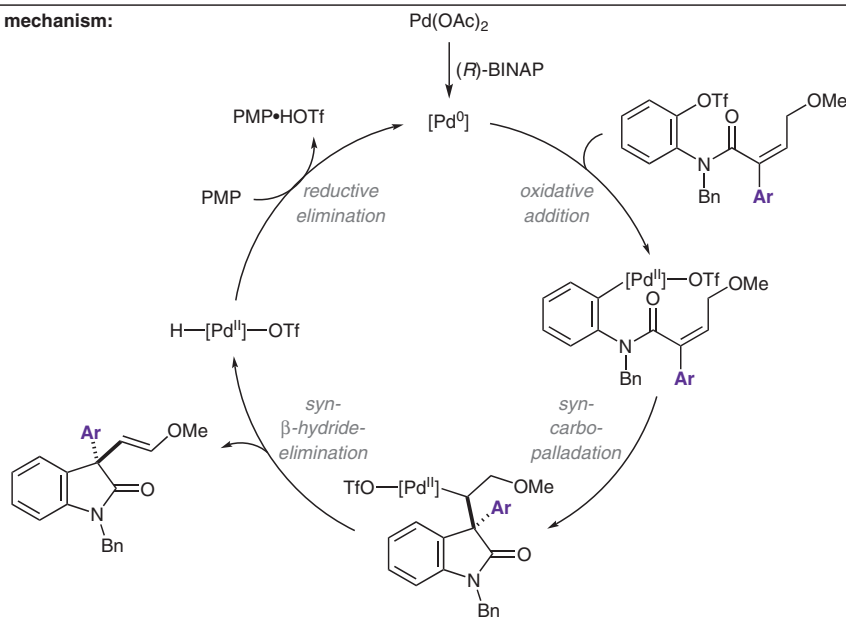
The Overman Asymmetric Intramolecular Heck Reaction for the Synthesis of 3-Alkyl-3-Aryloxindoles



Selected examples:



Proposed mechanism:



Significance: In 2003, Overman and co-workers disclosed a palladium(0)-catalyzed asymmetric intramolecular Heck cyclization to form oxindoles with an all-carbon quaternary stereocenter in high enantioselectivities.

Comment: The synthesis of 3-alkyl-3-aryloxindoles by catalytic enantioselective Heck cyclization was implemented in the total synthesis of several natural products.

Review: TA. B. Dounay, L. E. Overman *Chem. Rev.* **2003**, *103*, 2945–2964.

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Category

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intramolecular Heck
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