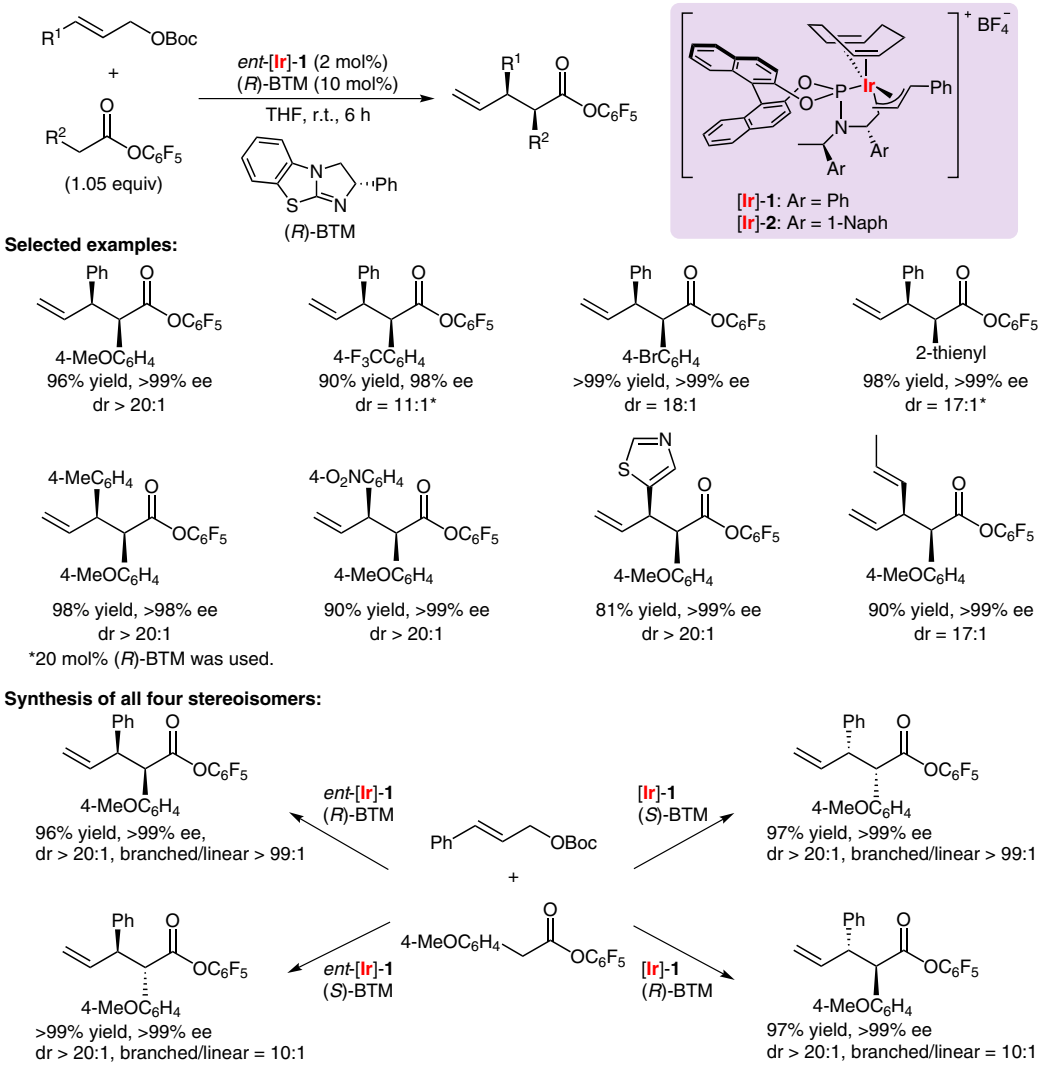
X. JIANG, J. J. BEIGER, J. F. HARTWIG* (UNIVERSITY OF CALIFORNIA, BERKLEY, USA)
Stereodivergent Allylic Substitutions with Aryl Acetic Acid Esters by Synergistic Iridium and Lewis Base Catalysis
J. Am. Chem. Soc. **2017**, *139*, 87–90.

Synergistic Iridium and Lewis Base Catalyzed Stereodivergent Allylic Substitutions



Significance: Catalytic asymmetric construction of all possible stereoisomers by a simple and unified method is a challenging research subject in synthetic organic chemistry. The authors developed a stereodivergent allylic substitution with arylacetic acid esters and synergistic iridium/benzotetramisole (BTM) catalysis.

Comment: The reaction proceeded in the presence of *ent*-[Ir]-**1** and (*R*)-BTM as synergistic catalysts to give the corresponding products bearing two adjacent stereocenters in high yields and with excellent stereoselectivities. The catalyst system permitted the synthesis of all four stereoisomers of the products. Iridium complex [Ir]-**2** also showed catalytic performance in the stereodivergent allylic substitutions.

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Synfacts 2017, 13(04), 0377 Published online: 17.03.2017
DOI: 10.1055/s-0036-1590153; **Reg-No.:** H02317SF

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Category
Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words
allylic substitution
synergistic catalysis
iridium catalysis
Lewis bases
arylacetate esters

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