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Ni-Catalyzed Enantioselective Intermolecular Hydroamination of Branched 1,3-Dienes Using Primary Aliphatic Amines
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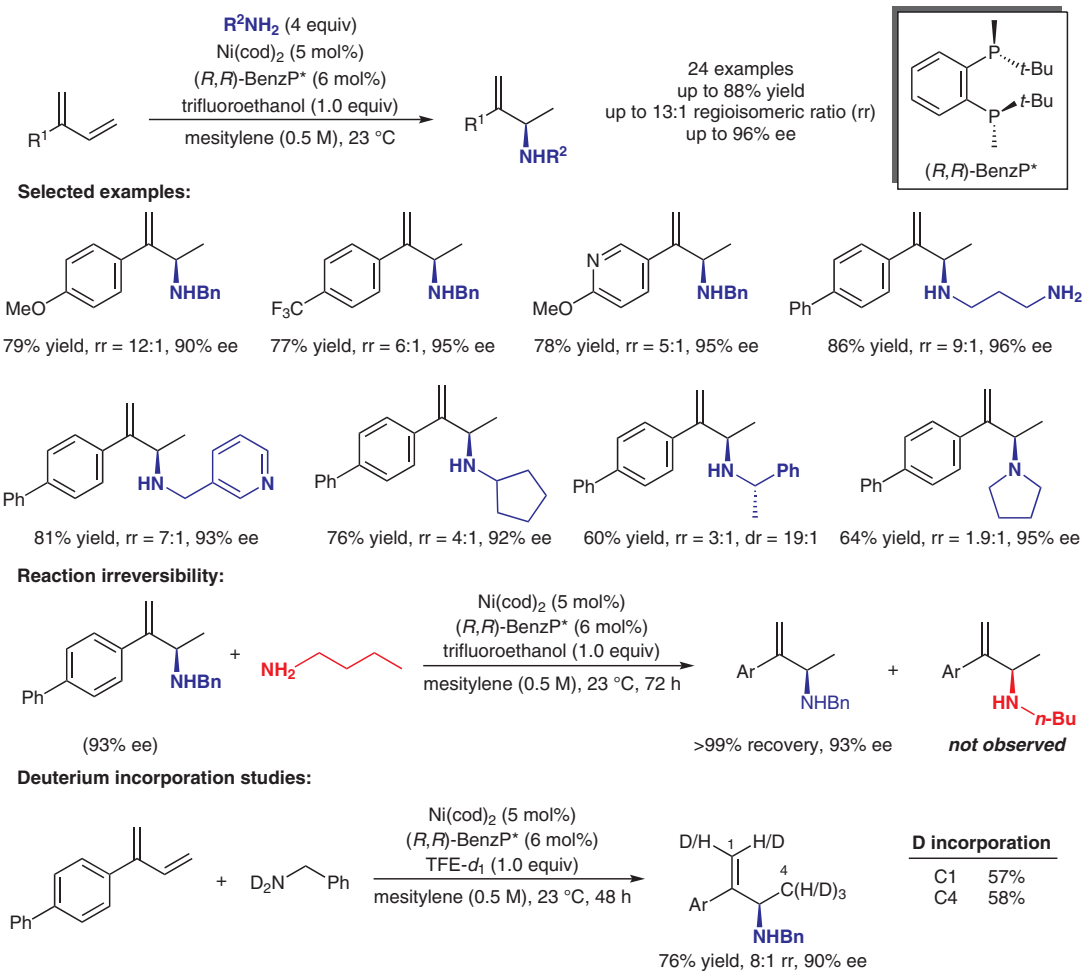
Nickel-Catalyzed Enantioselective Hydroamination of Branched 1,3-Dienes



Significance: The authors report an enantioselective hydroamination of 1,3-dienes by using nickel catalysis. The products were obtained in moderate to good yields and with high enantioselectivities. Reaction monitoring, deuterium labelling, and kinetic studies were performed to elucidate the reaction mechanism.

Comment: Mechanistic experiments reveal the irreversibility of this reaction. Deuterium incorporation was observed in the hydroaminated product when d_2-benzylamine and d_1-TFE were employed. Kinetic studies suggest that a Ni–π-allyl species arising from hydronickelation is the catalyst resting state.

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Metals in Synthesis

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