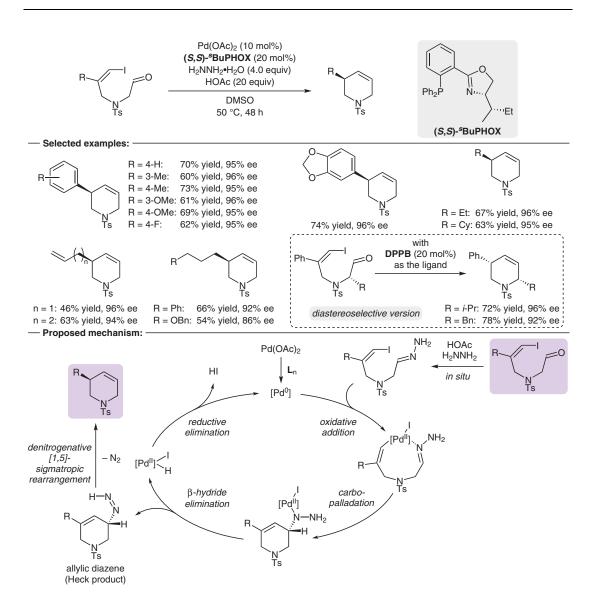
S. YU, L. ZHOU, S. YE, X. TONG* (TAIZHOU UNIVERSITY, ZHEJIANG, P. R. OF CHINA)

Domino Sequences Involving Stereoselective Hydrazone-Type Heck Reaction and Denitrogenative [1,5]-Sigmatropic Rearrangement

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An Asymmetric Intramolecular Heck-Type Reaction of in situ Generated Hydrazones



Significance: Tong and co-workers have disclosed a domino sequence of a hydrazone-type Heck reaction followed by a stereospecific denitrogenative [1,5]-sigmatropic rearrangement to access 3-substituted tetrahydropyridines in good yields and excellent enantioselectivities.

Comment: Using chiral substrates derived from amino alcohols, high diastereoselectivities were obtained using DPPB [1,4-bis(diphenylphosphino)-butane] as the ligand (see dashed box). Mechanistic studies such as deuterium-labeling experiments support the shown mechanism.

Category

Metals in Synthesis

Key words

Heck-type reaction hydrazones palladium catalysis [1,5]-sigmatropic rearrangement tetrahydropyridines



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