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Tunable and Chemoselective Syntheses of Dihydroisobenzofurans and Indanones via Rhodium-Catalyzed Tandem Reactions of 2-Triazole-benzaldehydes and 2-Triazole-alkylaryl Ketones
Org. Lett. **2014**, *16*, 5588–5591.

Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

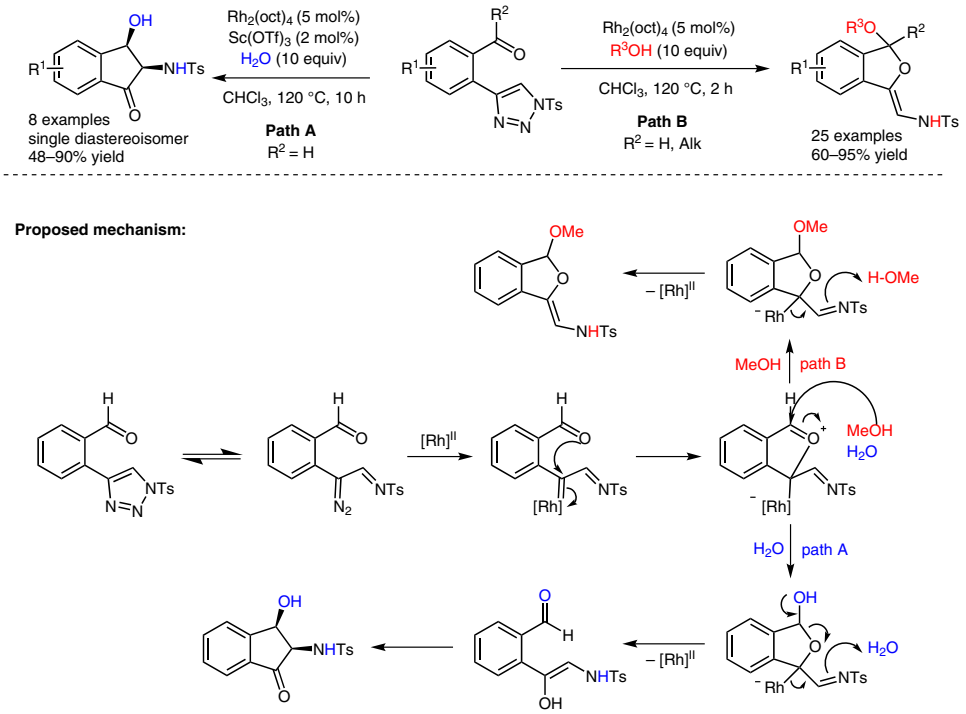
triazoles

rhodium

carbenoids

indanones

Divergent Reactivity of 2-Triazole Benzaldehydes under Rhodium Catalysis



Significance: *N*-Sulfonyl 1,2,3-triazoles can serve as convenient diazo compound precursors, when reacted with a suitable rhodium(II) catalyst. In the present report, the authors present the reaction of 2-triazole benzaldehydes and 2-triazole alkylaryl ketones with water and alcohols. The products generated are either valuable 2-amino-3-hydroxylindanones or dihydroisobenzofurans.

Comment: To support the existence of an oxonium intermediate, the starting triazole was reacted with the rhodium catalyst for two hours in the absence of nucleophiles. Upon addition of water, alcohol and $Sc(OTf)_3$, products arising from paths A and B were formed in comparable yield, suggesting the presence of this common intermediate.

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Synfacts 2015, 11(1), 0051 Published online: 15.12.2014
DOI: 10.1055/s-0034-1379688; **Reg-No.:** L15414SF

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