



Johnson Matthey Catalysts

Ru-124 (1,5 cyclooctadiene)bis(2-Me-allyl)Ruthenium(II)

A versatile catalyst precursor - **Now available at commercial scale!**

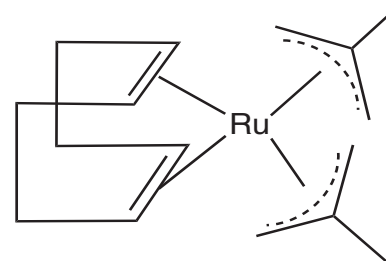
Excellent catalyst precursor in terms of ease of activation to form a variety of catalysts with the aid of various chiral/achiral ligands.

Physical Appearance: White to off-white solid

Solubility: Soluble in THF, Toluene, Pentane

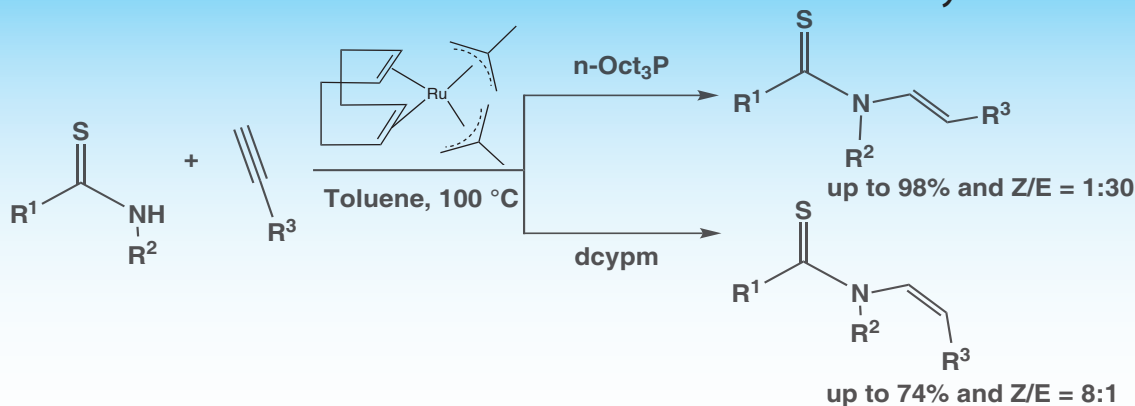
Molecular Formula: C₁₆H₂₆Ru

Molecular Weight: 319.5



Ru-124
CAS #: 12289-94-0

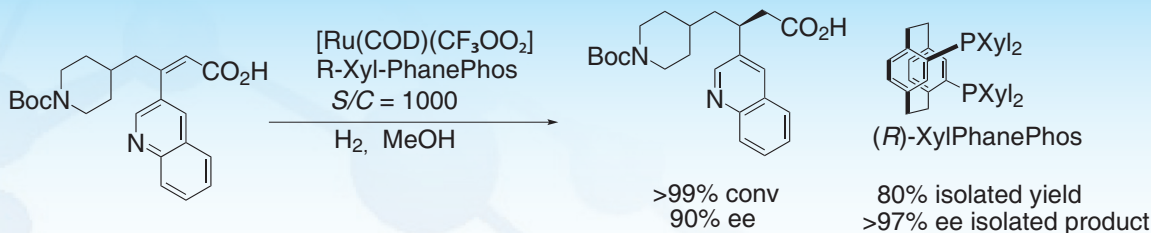
Stereoselective anti-Markovnikov-Addition to Alkynes



An in situ catalyst system generated from Ru(Me-allyl)₂(COD) with a phosphine ligand was found to efficiently catalyze addition of thioamides to terminal alkynes with exclusive formation of the anti-Markovnikov thioenamide products.

L. J. Goossen, M. Blanco, K. S. Salih, R. Karch, A. Rivas-Nass *Org. Lett.*, **2008**, 10, 4497

Enantioselective hydrogenation of α, β unsaturated acids



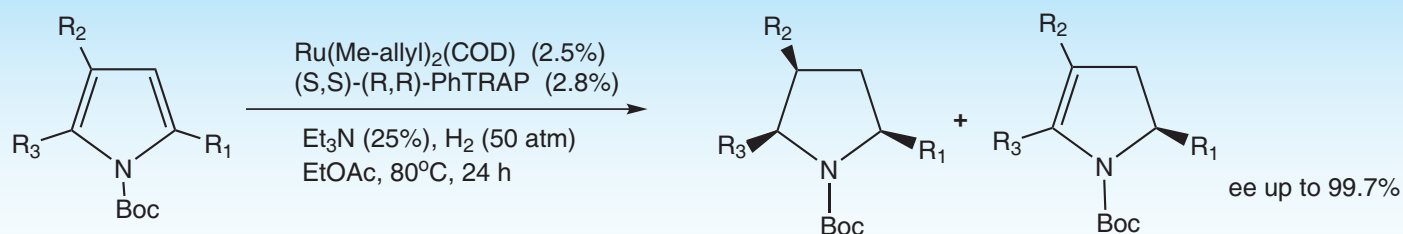
A useful catalyst precursor for making chiral bisphosphine based Ru acetate or trifluoroacetate catalysts, for example, [Ru(COD)(CF₃COO)₂]/R-Xyl PhanePhos, a highly active and efficient catalytic system for the hydrogenation of an unsaturated acid.

G.A. Grasa, A. Zanotti-Gerosa, S. Ghosh, C. A. Teleha, W. A. Kinney, B. E. Maryanoff *Tet. Lett.* **2008**, 49, 5328



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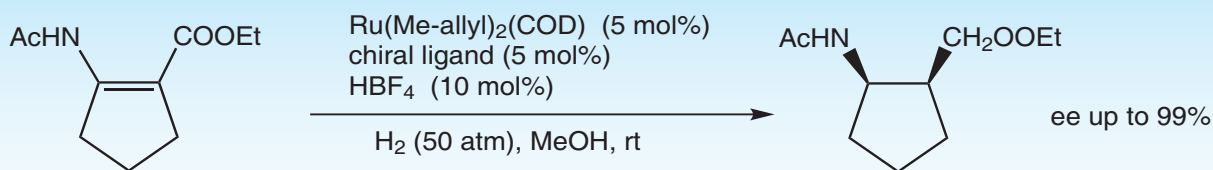
Enantioselective Hydrogenation of C=C double bonds in N-Boc-pyrroles



The first reported successful enantioselective hydrogenation of a pyrrole.

R. Kuwano, M. Kashiwabara, M. Ohsumi, H. Kusano *J. Am. Chem. Soc.*, **2008**, 130, 808

Hydrogenation of cyclic or acyclic β -(acylamino) crylates



$\text{Ru}(\text{Me-allyl})_2(\text{COD})$ in conjunction with chiral biaryl ligands provides an efficient catalytic method for the synthesis of both cis and trans chiral cyclic β -amino acid derivatives.

W. Tang, S. Wu, X. Zhang *J. Am. Chem. Society*, **2003**, 125, 9570

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