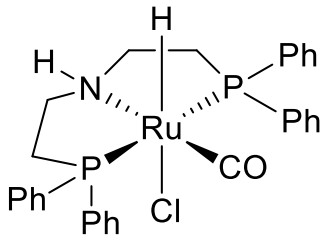
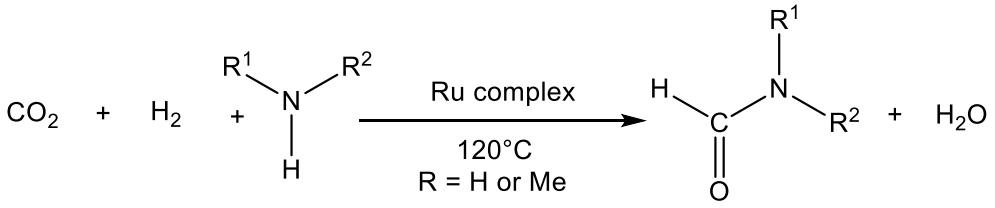
Catalog # 44-0071 Carbonylchlorohydrido{bis[2-(diphenylphosphinomethyl)ethyl]amino}ruthenium(II), min.98% Ru-MACHO®



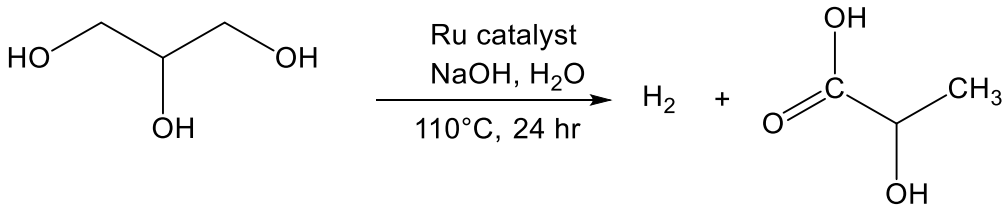
Technical Notes:

1. Highly efficient ruthenium-catalyzed N-formylation of amines with hydrogen and carbon dioxide.
2. Ruthenium- catalyzed hydrogen generation from glycerol and selective synthesis of lactic acid.
3. Effective catalyst for hydrogen transfer reaction catalyzing the *N*-monomethyation of aromatic amines with methanol. Various aromatic amines are transformed into their corresponding monomethylated secondary amines in the presence of potassium tert-butoxide.

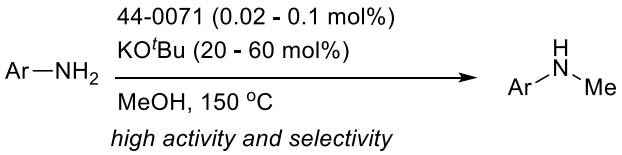


TONs of up to 1940000
12 recycles

Tech Note (1)
Ref. (1)

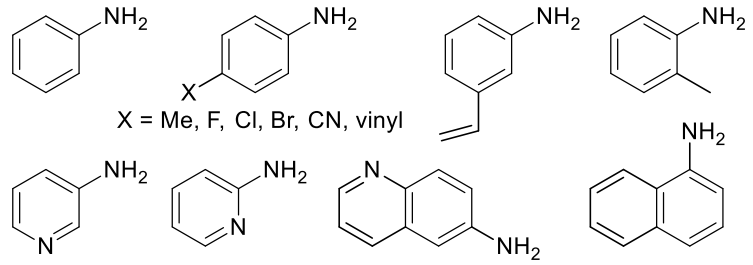


Tech Note (2)
Ref. (2)



high activity and selectivity

Examples of substrates



Tech Note (3)
Ref. (3)

References:

1. *Angew. Chem., Int. Ed.,* **2015**, *54*, 6186.
2. *Green Chem.,* **2015**, *17*, 193.
3. *Org. Lett*. **2018**, *20*, 3866–3870.