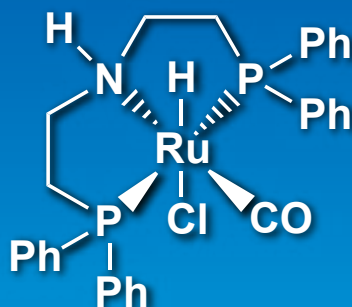


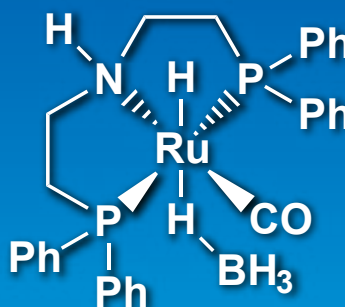
New

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Ruthenium Complex Catalysts for Hydrogenation of Esters to Alcohols



Ru-MACHO®
[R0136]

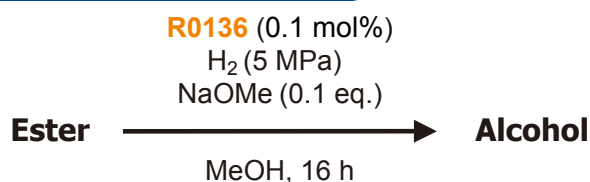


Ru-MACHO®-BH
[R0137]

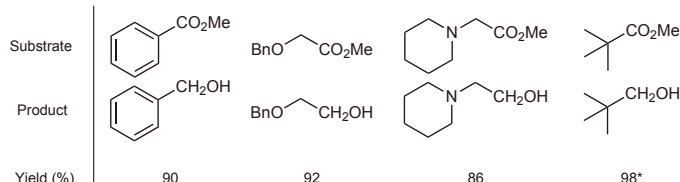
Advantages

- Catalyze the Hydrogenation of Esters to Alcohols
- The Reaction Proceeds in Various Solvents (neat, methanol, THF, etc.)
- It Can Reduce Sterically-bulky Substrates because of its Heat Stability
- The Addition of Base is Unnecessary by Using R0137

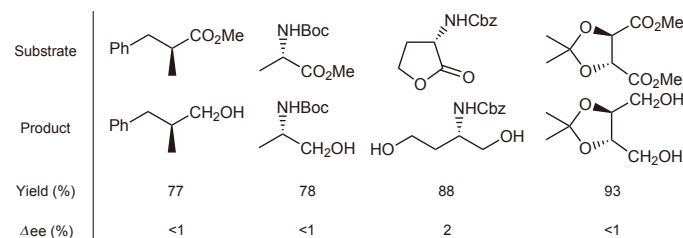
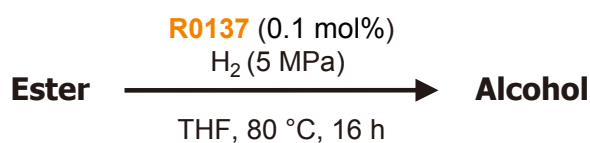
Reaction Examples



W. Kuriyama et al., *Org. Process Res. Dev.* **2012**, *16*, 166.



*neat, 150 °C, 2 h



Δee (%) = (% ee of Substrate) - (% ee of Product)

R0136 Ru-MACHO®
R0137 Ru-MACHO®-BH

200mg / 1g
200mg / 1g

These products were merchandized under the technical tie-up with TAKASAGO INTERNATIONAL CORPORATION.
Ru-MACHO® is a registered trademark of TAKASAGO INTERNATIONAL CORPORATION.

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