

# Key Technology Areas

## Asymmetric synthesis and chiral compounds

- Asymmetric Hydrogenation
- Asymmetric Transfer Hydrogenation
- Asymmetric Synthesis with Enzymes
- Enantiomer Separations via SMB Chromatography



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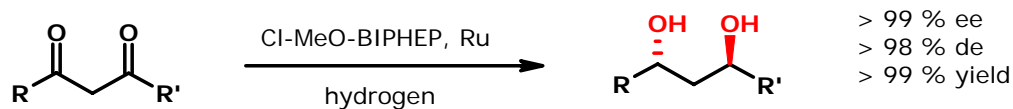
**saltigo**  
customized competence

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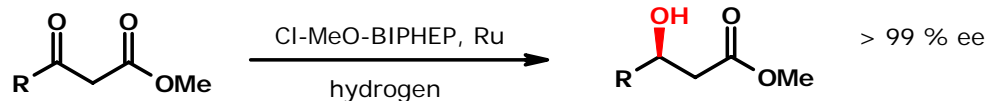
Key Technologies | Classic Reactions | Exceptions

# Asymmetric Hydrogenation

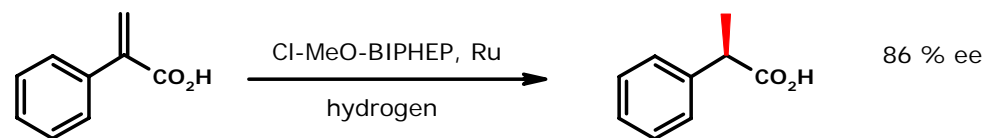
## Saltigo's proprietary ligand Cl-MeO-BIPHEP



for R, R' = methyl: pilotation scale

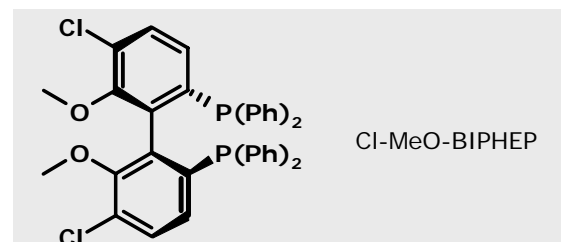


ton scale production



### Cl-MeO-BIPHEP is

- highly active and selective
- available in multi kg amounts
- utilized in ton scale productions



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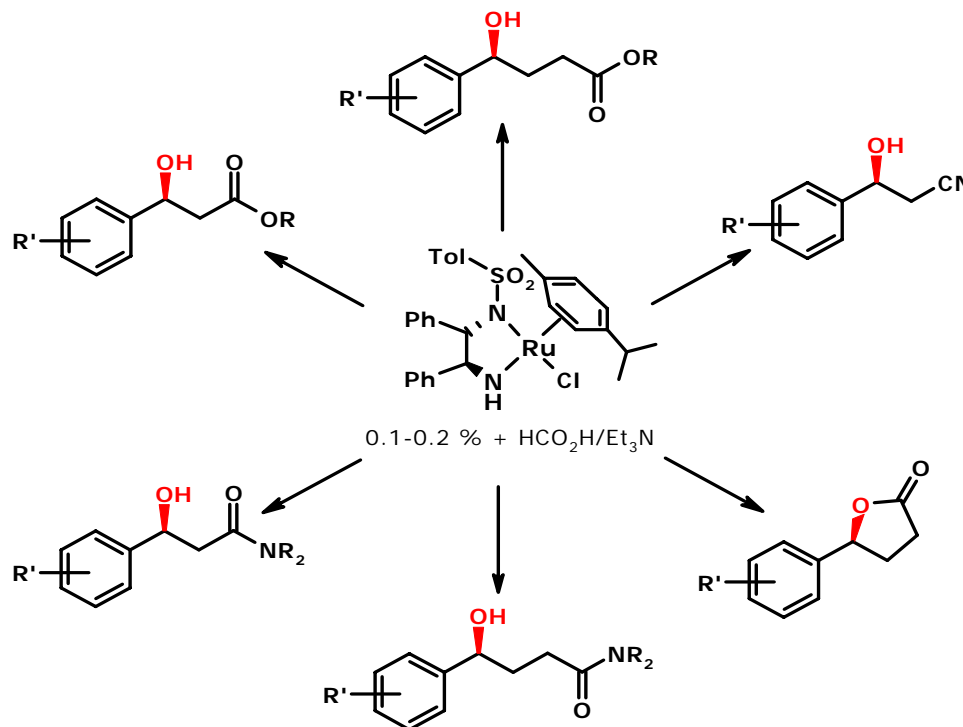
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# Asymmetric Transfer Hydrogenation

## Reduction of carbonyl compounds using Noyori type catalysts

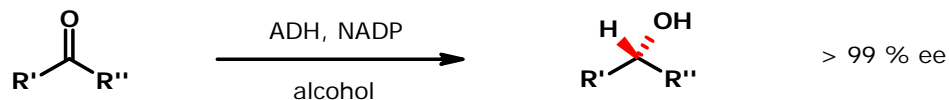
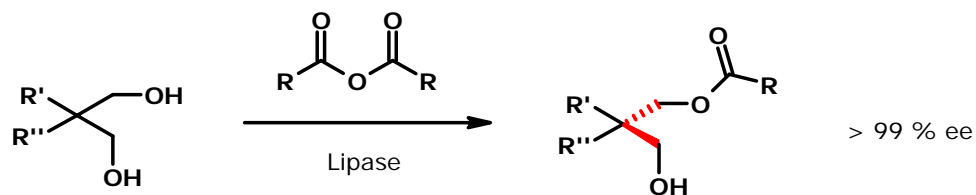


### Key to success

- simple one-pot catalyst system yielding high enantiomeric excesses
- inexpensive commercial sources

# Asymmetric Synthesis with Enzymes

Saltigo offers multi ton scale-up of enzymatic reactions



## Key to success

- optimization of space time yield
- experience in removal of biomass

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# Simulated Moving Bed Chromatography (SMB)

- suitable for separation of 100 – 5000 kg (\*) racemic mixtures per year
- operation under cGMP
- clean-room environment
- explosion-proof environment
- highly skilled dedicated staff
- twenty-four-seven operation



(\*) Screening and smaller-scale projects are handled via our partner Bayer Technology Services at the Leverkusen site

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