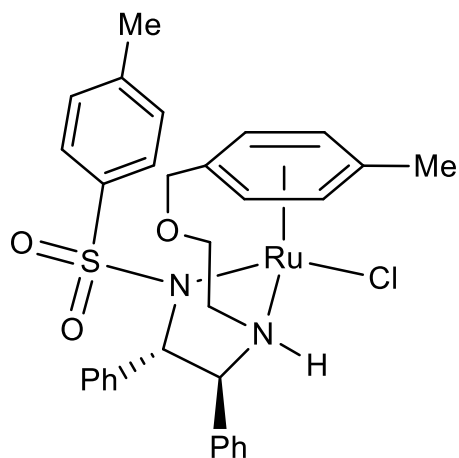


Catalog # 44-0186

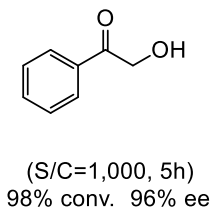
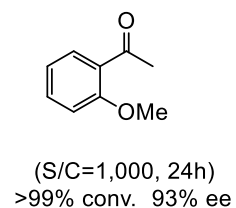
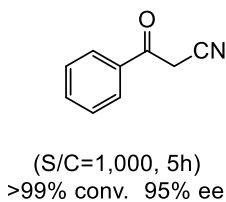
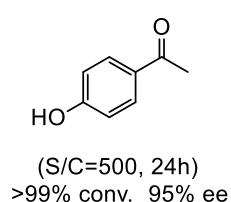
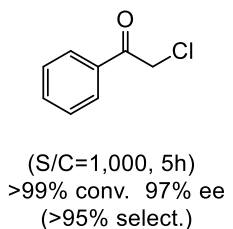
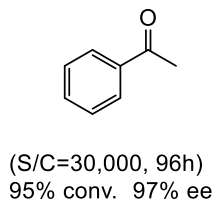
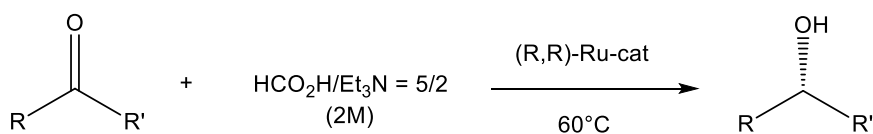
N-[(1S,2S)-1,2-Diphenyl-2-(2-(4-methylbenzyloxy)ethylamino)-ethyl]-4-methylbenzene sulfonamide(chloro)ruthenium(II) (S,S)-Ts-DENE^B



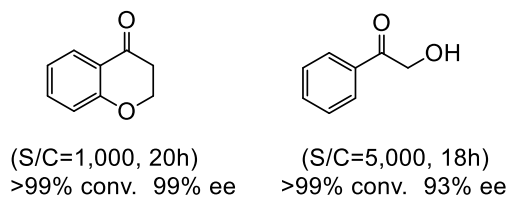
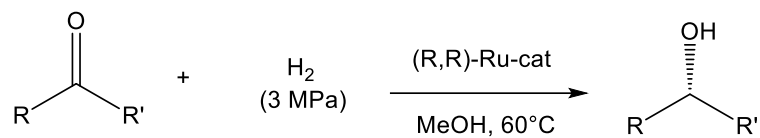
Note: Sold in collaboration with Takasago. US Pat. 9217005, US Pat. 9073827. Reactions for R,R catalyst shown unless otherwise specified;

Technical Notes:

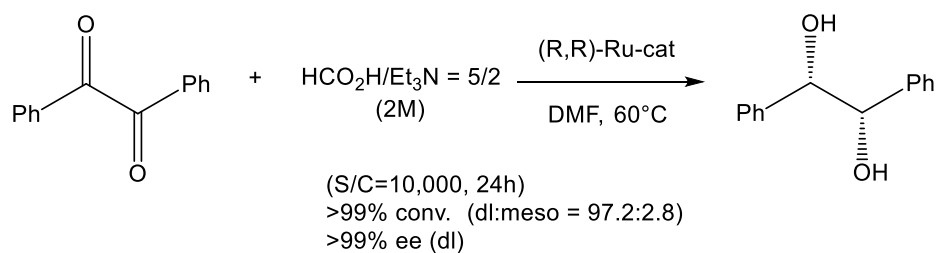
1. Catalyst used for asymmetric α -transfer hydrogenation.
2. Catalyst used for asymmetric H_2 – hydrogenation.
3. Catalyst used for dynamic kinetic resolution.
4. Catalyst used for asymmetric transfer hydrogenation of unsymmetrical benzophenones.
5. Catalyst used for asymmetric transfer hydrogenation of Aryl N-Heteroaryl Ketones.
6. Catalyst used for asymmetric transfer hydrogenation of α -Substituted Ketone.
7. Development of Asymmetric Transfer Hydrogenation with a Bifunctional Ruthenium Catalyst in Flow for the Synthesis of a Ceramide (D-erythro-CER[NDS]).
8. Multiple Absolute Stereocontrol in Cascade Lactone Formation via Dynamic Kinetic Resolution Driven by the Asymmetric Transfer Hydrogenation of Keto Acids with Oxo-Tethered Ruthenium Catalysts.
9. Convincing Catalytic Performance of Oxo-Tethered Ruthenium Complexes for Asymmetric Transfer Hydrogenation of Cyclic α -Halogenated Ketones through Dynamic Kinetic Resolution.



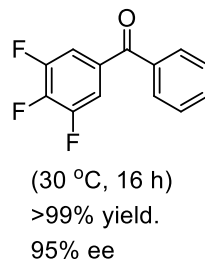
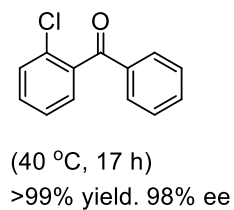
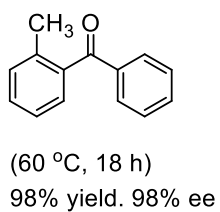
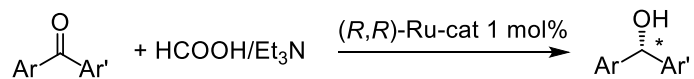
**Tech. Note (1)
Ref. (1)**



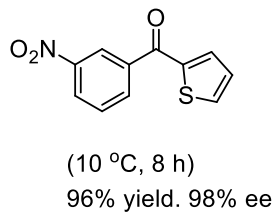
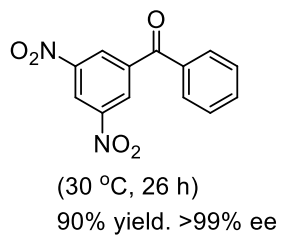
Tech. Note (2)
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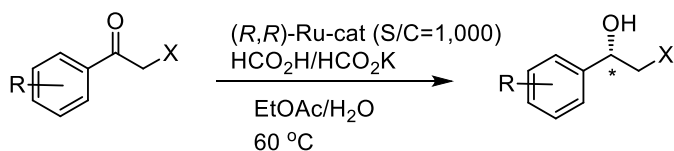
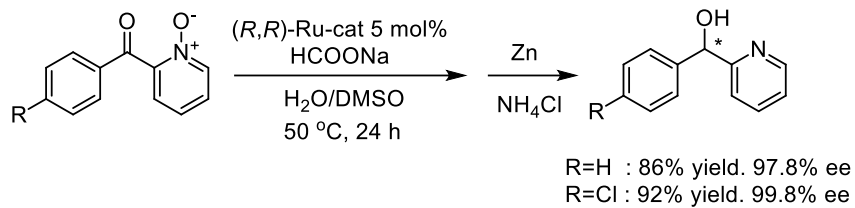


Tech. Note (3)
Ref. (1)

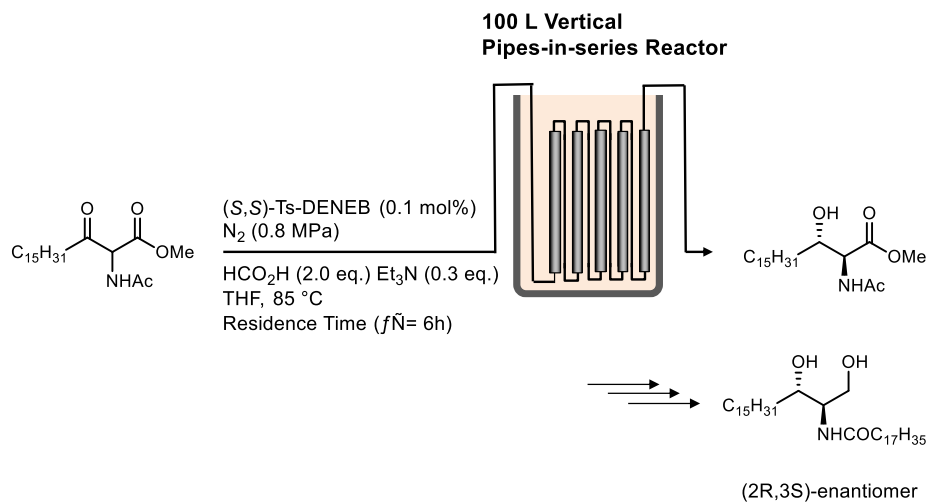
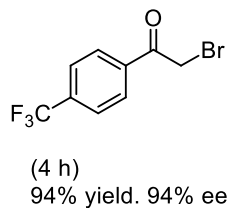
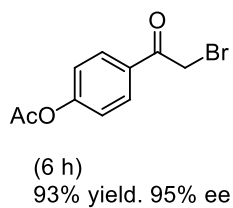
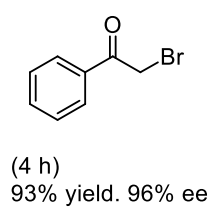


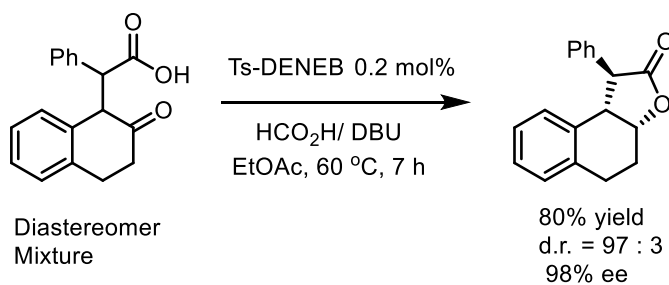
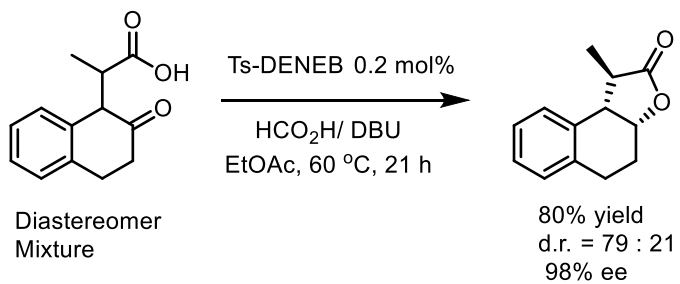
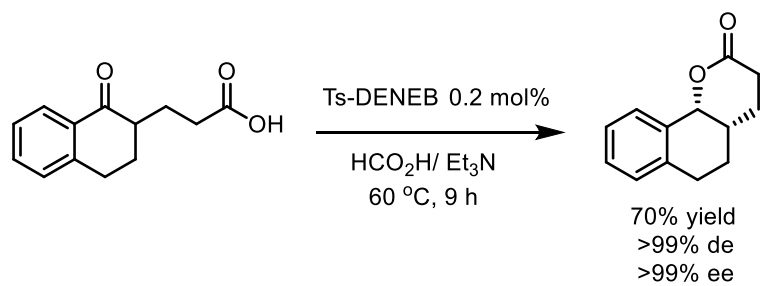
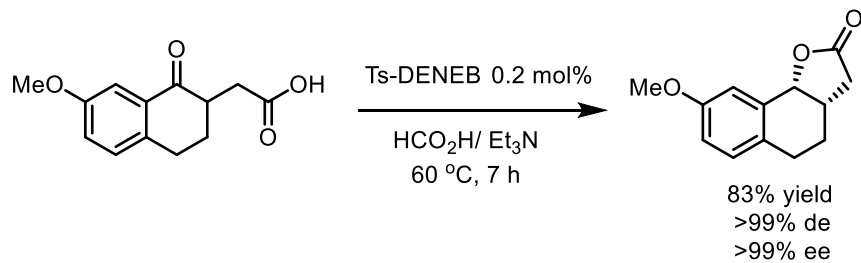
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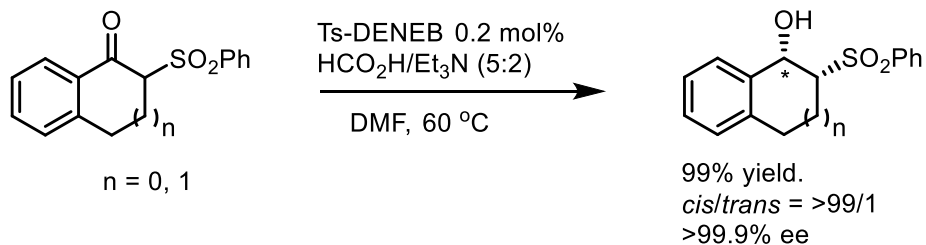
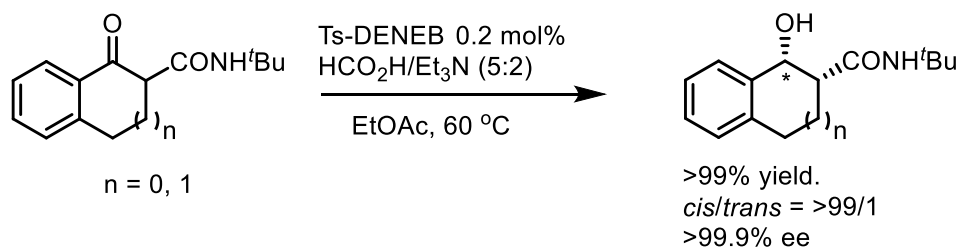
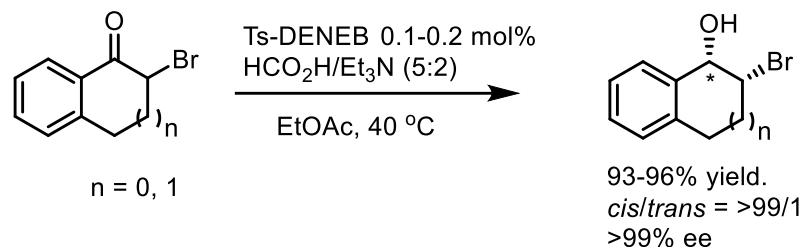
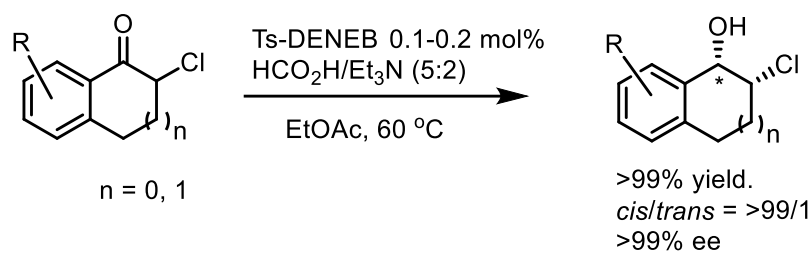


Tech. Note (6)
Ref. (4)





Tech. Note (8)
Ref. (6)



Tech. Note (9)
Ref. (7)

Reference:

1. *J. Am. Chem. Soc.*, **2011**, *133*, 14960.
2. *J. Am. Chem. Soc.* **2016**, *138*, 10084.
3. *Org. Lett.* **2017**, *19*, 2094.
4. *Adv. Synth. Catal.* **2017**, *360*, 568
5. *Org. Process Res. Dev.* **2019**, *23*, 452.
6. *J. Am. Chem. Soc.* **2019**, *141*, 16354.
7. *Org. Lett.* **2021**, *23*, 3070.