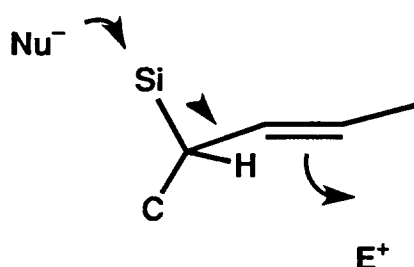
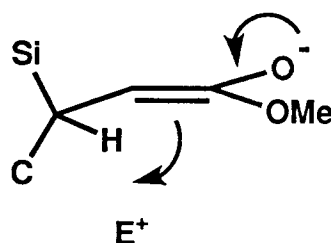


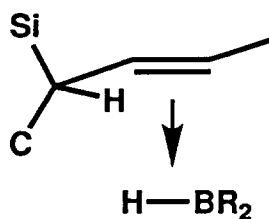
1,3 Transposition



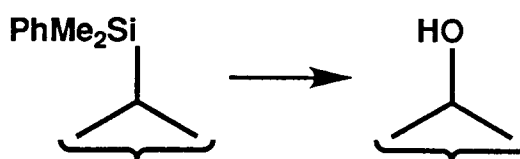
1,2 Control



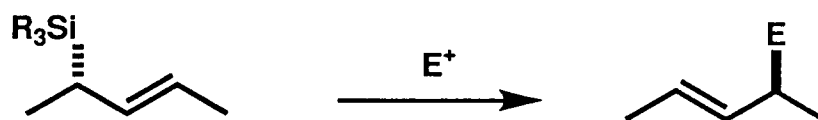
1,3 Control



PhMe₂Si as Masked OH



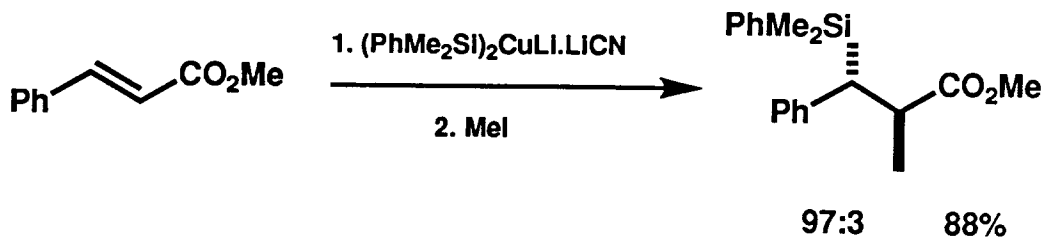
1,3-Transposition of Chiral Centres



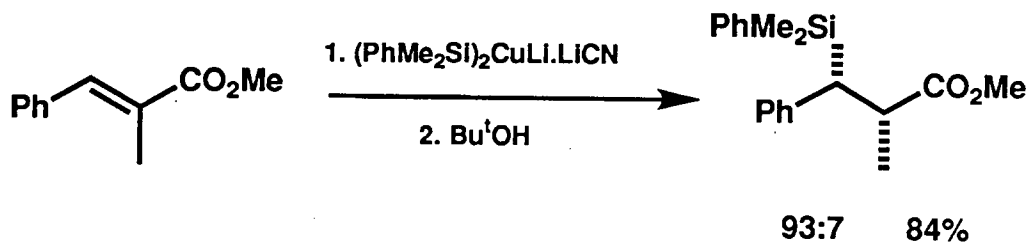
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1,2 Control of Chiral Centres

Alkylation

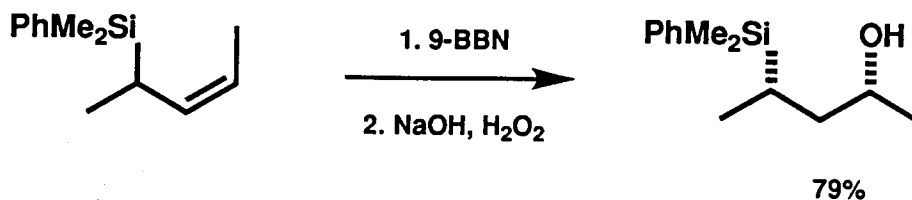
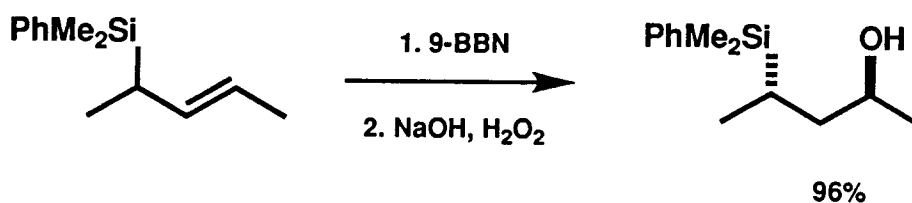


Protonation



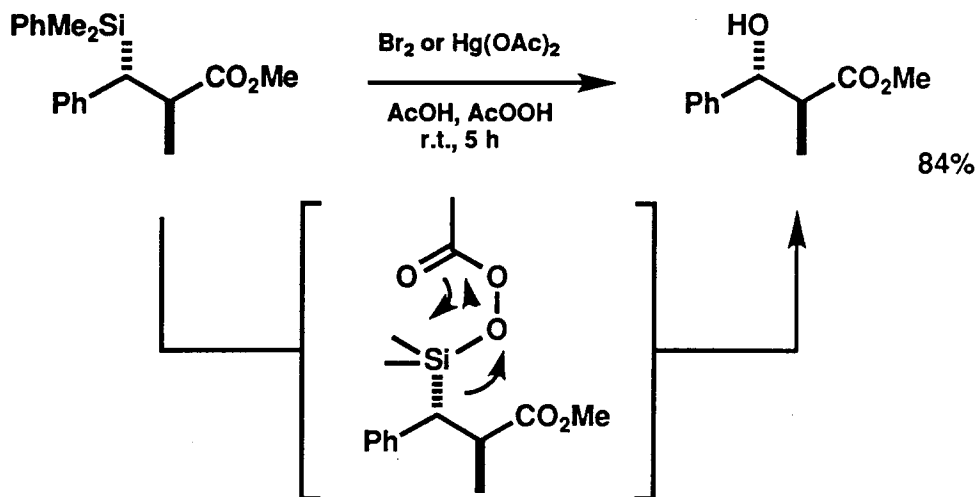
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1,3 Control of Chiral Centres



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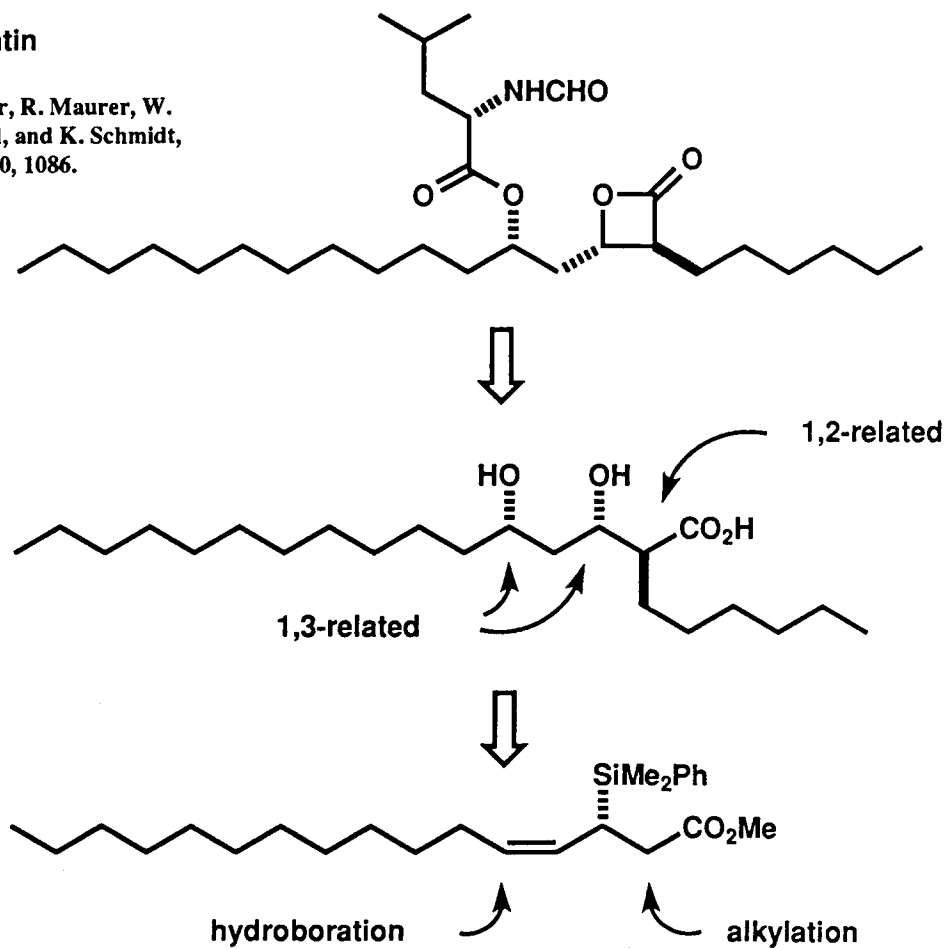
The PhMe₂Si Group as a Masked OH Group



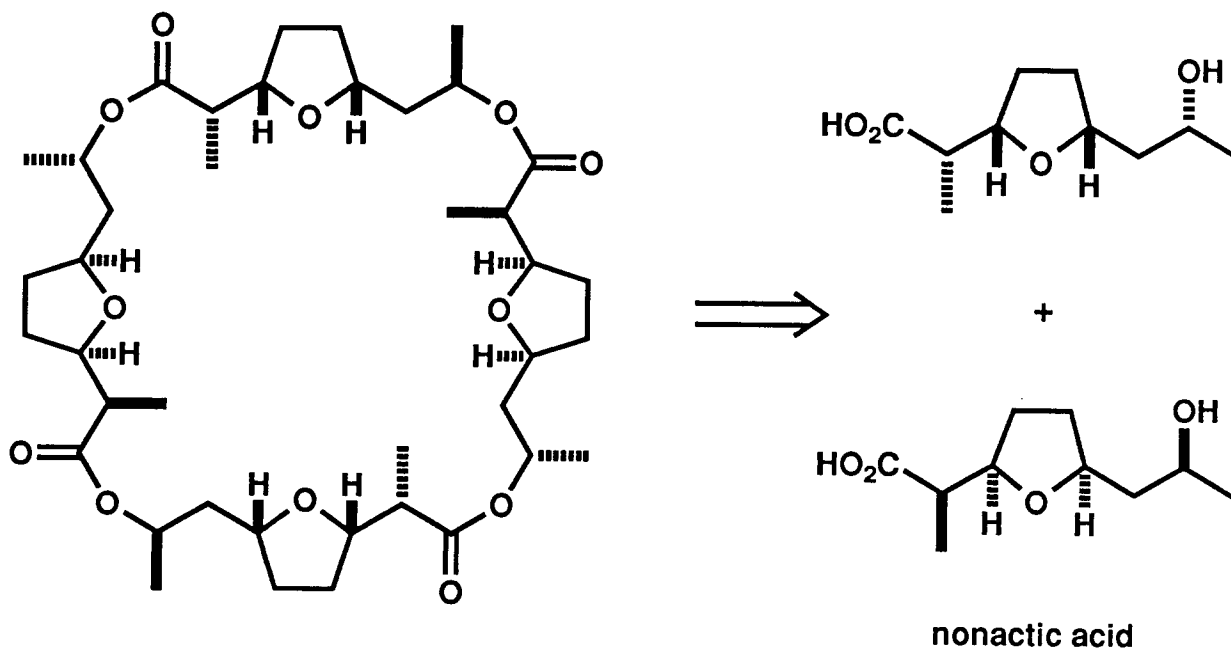
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Tetrahydrolipstatin

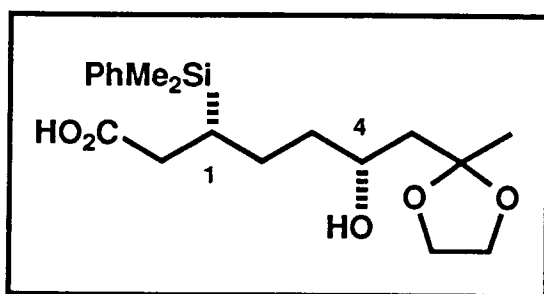
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Nonactin: Retrosynthetic Analysis (1)



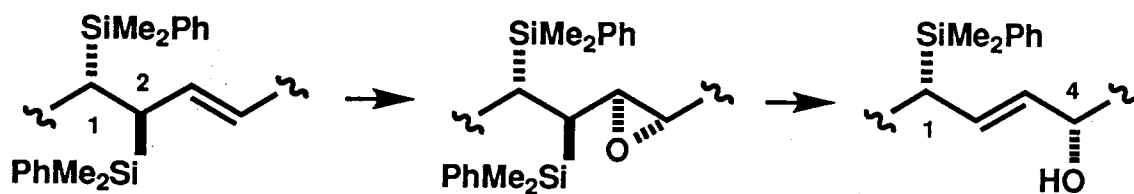
J. Dominguez, J. D. Dunitz, H. Gerlach and V. Prelog, *Helv. Chim. Acta*, 1962, 45, 129;
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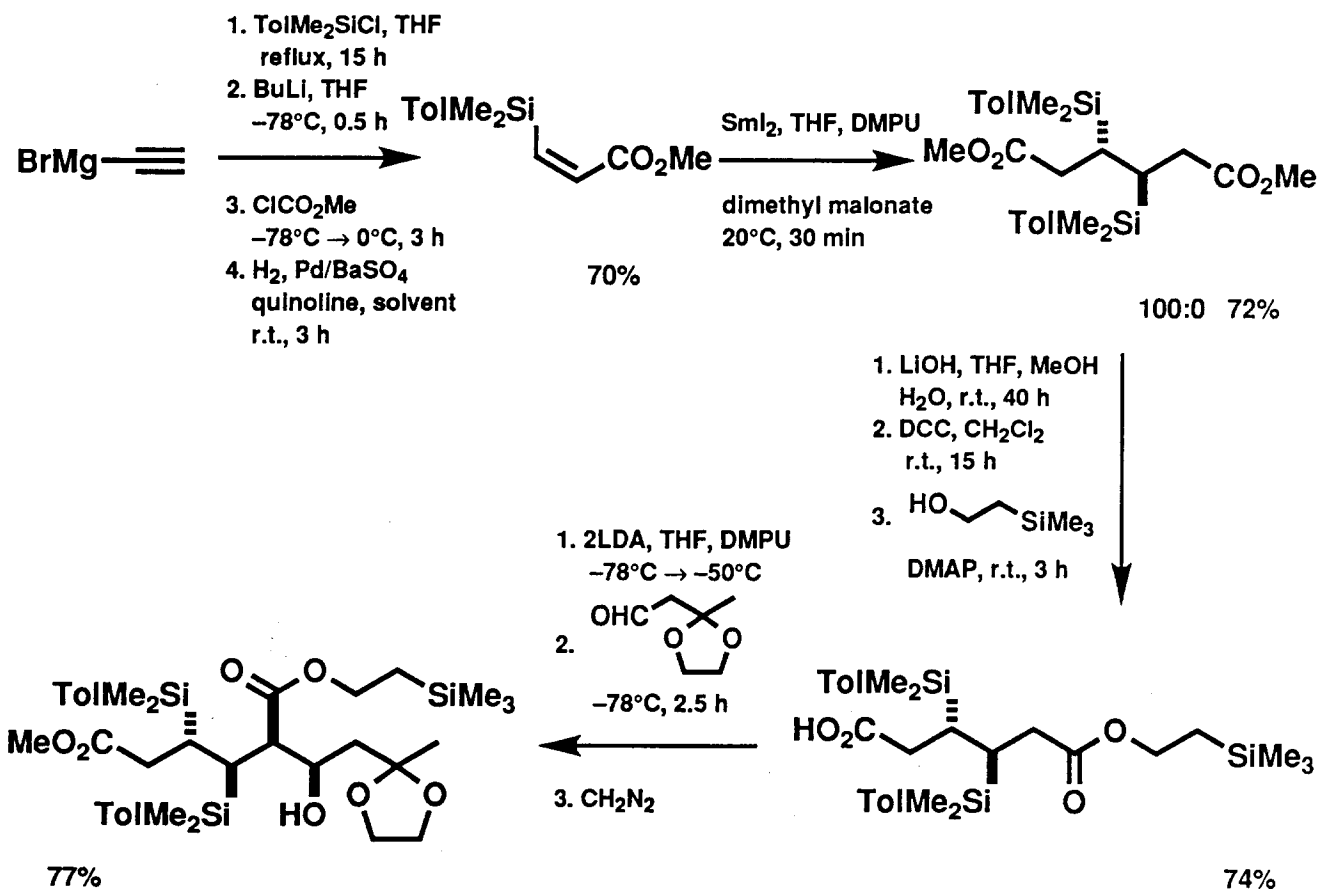
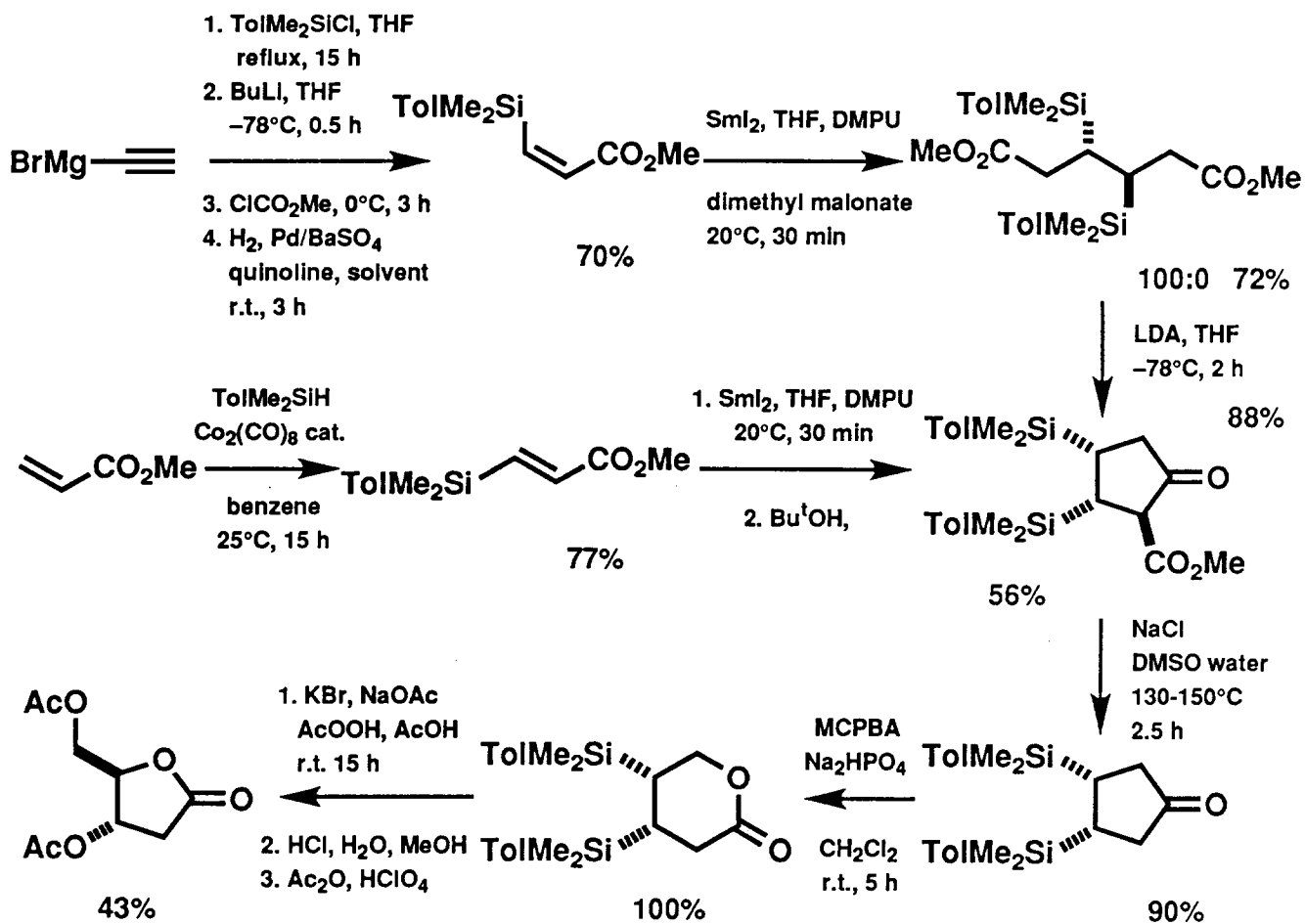


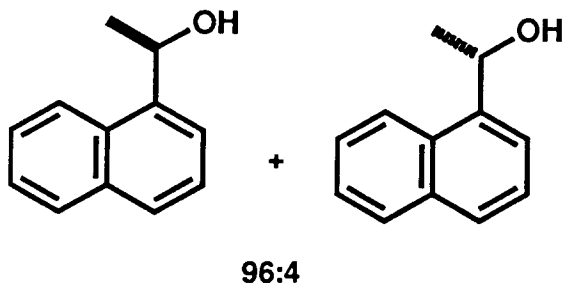
1,4-relationship ?

One possibility:

The epoxidation of an allylsilane: a 1,3-transposition

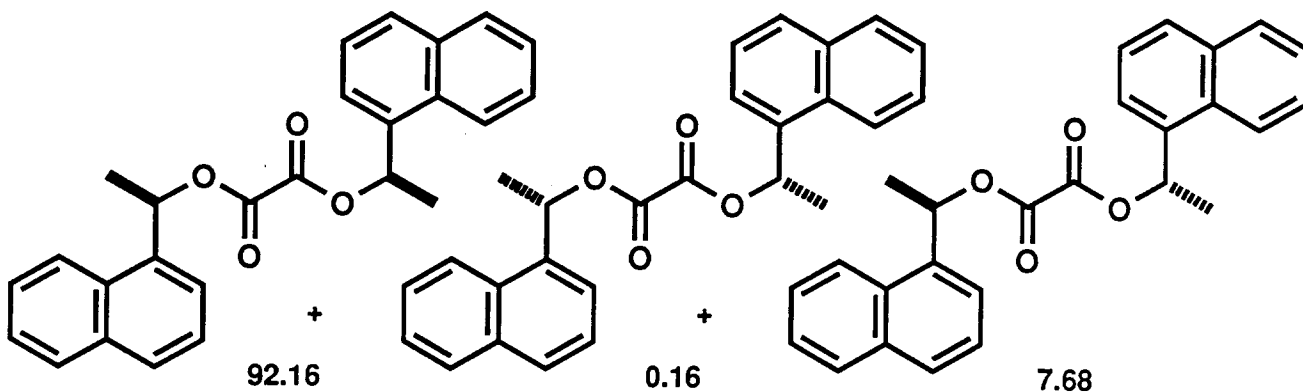




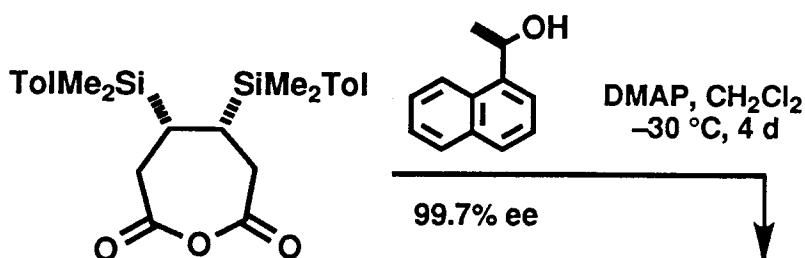


(COCl)₂, DMAP
CH₂Cl₂, r.t., 2 h

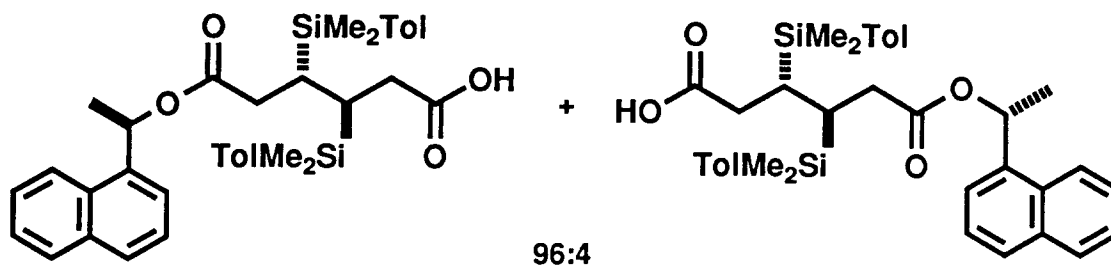
P. D. Theisen and C. H. Heathcock,
J. Org. Chem., 1988, 53, 2374.



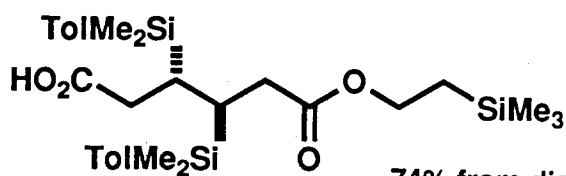
m.p. 122-124 °C 99.83:0.17 100%



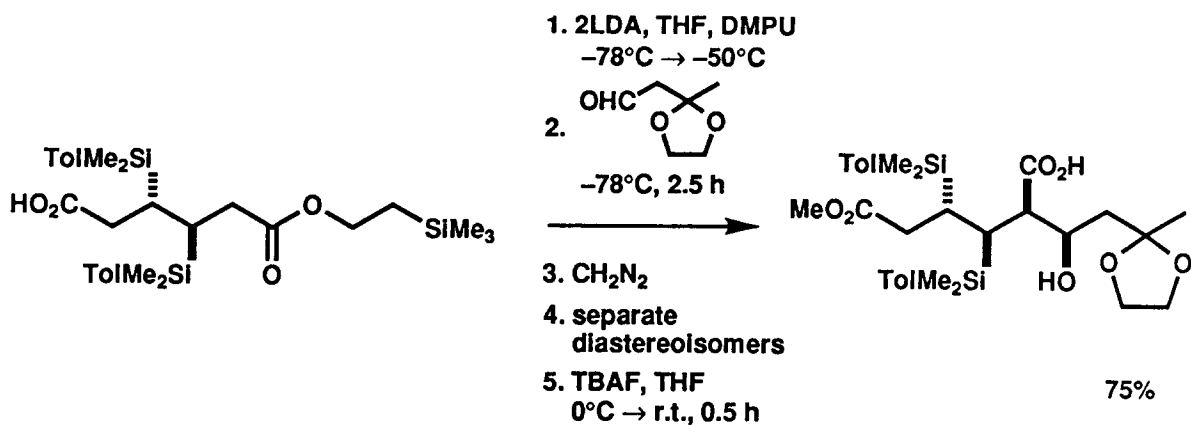
P. D. Theisen and C. H. Heathcock,
J. Org. Chem., 1988, 53, 2374.



1. HO-CH₂-CH₂-SiMe₃
DCC, DMAP
r.t., 15 h
2. H₂, Pd/C
EtOAc, r.t., 7 d

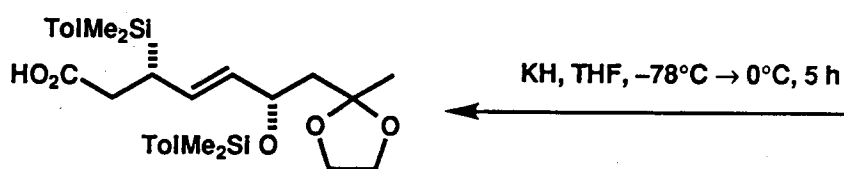
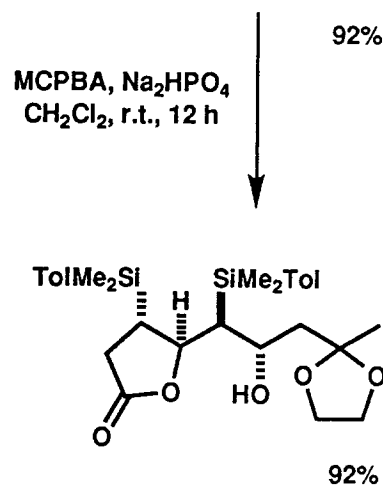
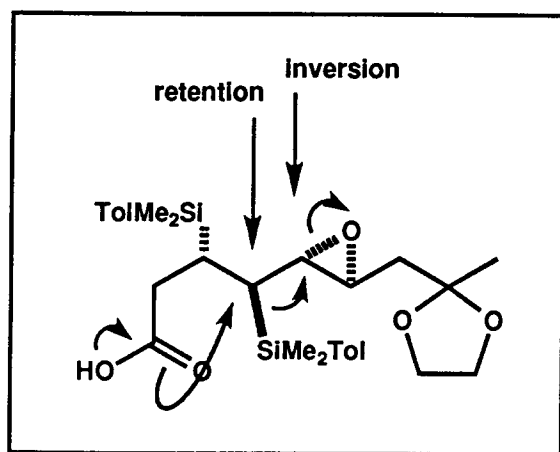
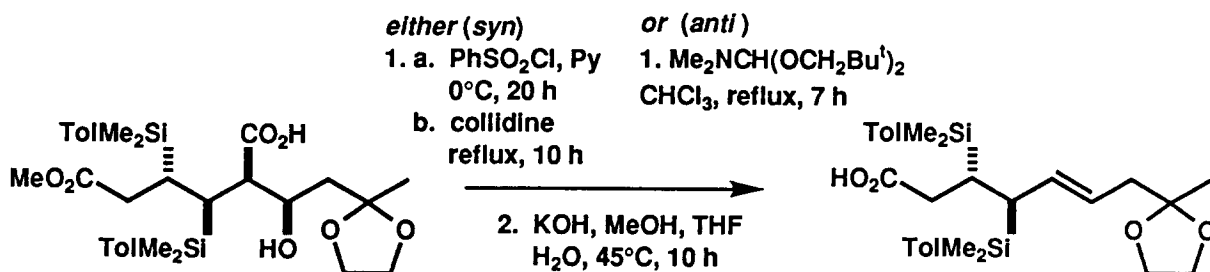


74% from diester

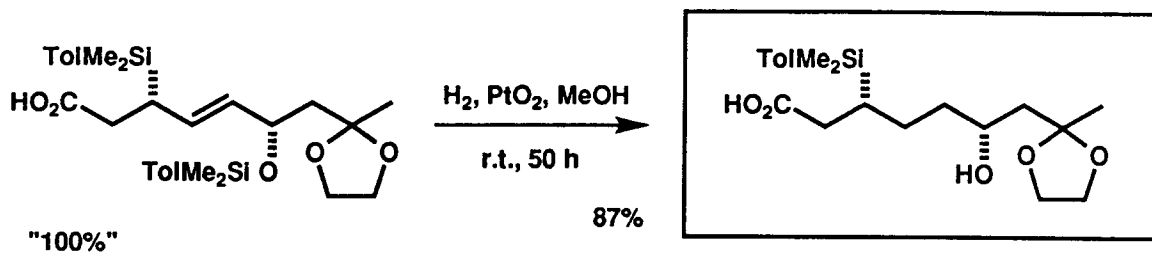


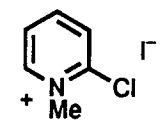
4 diastereoisomers 76 : 9 : 9 : 6

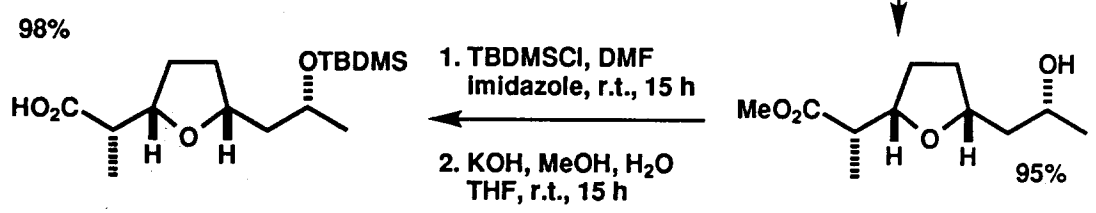
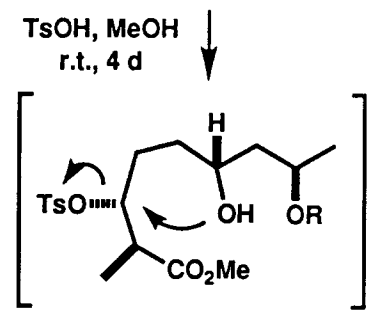
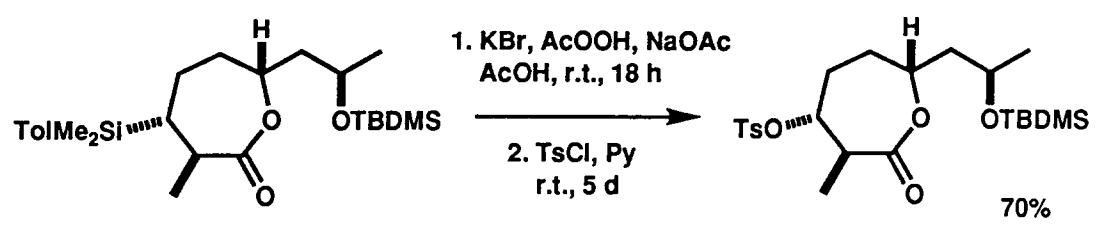
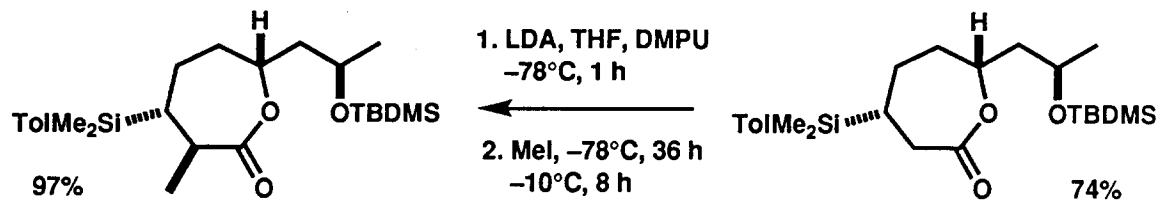
76	<i>syn, syn</i>	1. PhSO ₂ Cl, Py, 0°C, 20 h
9	<i>anti, syn</i>	2. collidine, reflux, 10 h
9	<i>syn, anti</i>	Me ₂ NCH(OCH ₂ Bu ^t) ₂
6	<i>anti, anti</i>	CHCl ₃ , reflux, 7 h

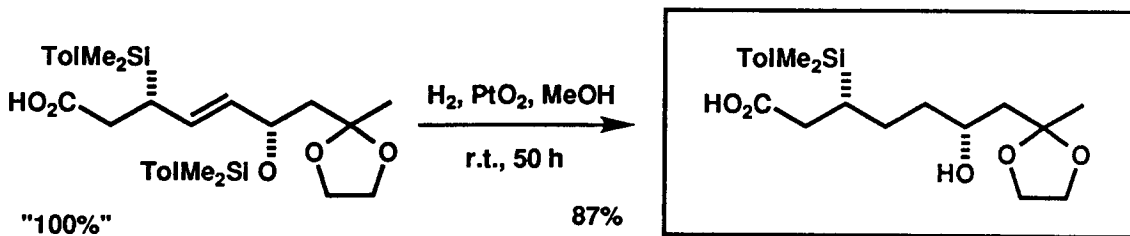


"100%"



1. $\text{PyH}^+ \text{OTs}$, Me_2CO , H_2O , reflux, 7 h
2. $\text{Me}_4\text{N}^+ \text{BH}(\text{OAc})_3$, AcOH , MeCN , -25°C , 48 h
3.  + Et_3N , CH_2Cl_2 , reflux, 10 h
4. recrystallise (92% ee \rightarrow 99% ee)
5. TBDMSCl , DMF , imidazole , r.t., 15 h





1. CH_2N_2
2. $\text{PyH}^+ \text{OTs}$
 $\text{Me}_2\text{CO}, \text{H}_2\text{O}$
reflux, 2.5 h
3. $\text{NaBH}_4, \text{Bu}_2\text{BOMe}$
THF, MeOH
 -78°C , 15 h
4. $\text{PyH}^+ \text{OTs}$
 $\text{Me}_2\text{C}(\text{OMe})_2$
r.t., 15 h

