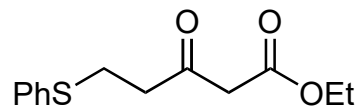


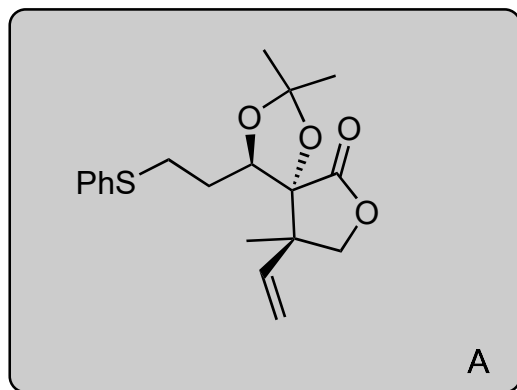
Asymmetric Total Synthesis of (2*R*)-Hydroxynorneomajucin, a Norsesquiterpene from *Illicium jiadifengpi*

Dooley III, C.J.; Rychnovsky, S.D.

Org. Lett. 2022, 24, 3411–3415

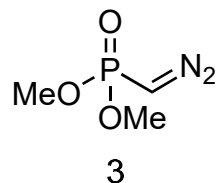
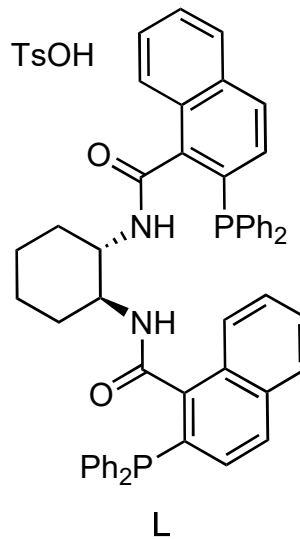
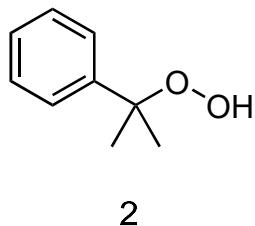
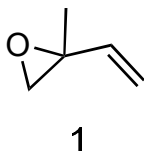


1-4



5-9

- 1) Pd₂dba₃, **1**, L, DCM then DBU
- 2) **2**, quinidine
- 3) NaBH(OAc)₃
- 4) 2,2-dimethoxypropane, TsOH



- 5) H₂O₂, HFIP
- 6) TFAA, Et₃N then MeOH
- 7) **3**, KO^tBu
- 8) LiHMDS, MeI
- 9) aq. HCl, 1,4-dioxane

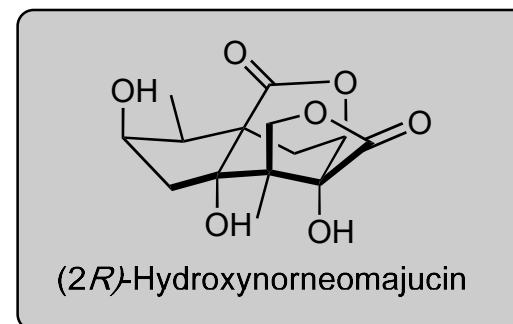
1) Name of reaction?
Tsuji-Trost alkylation
Name and Structure of DBU?

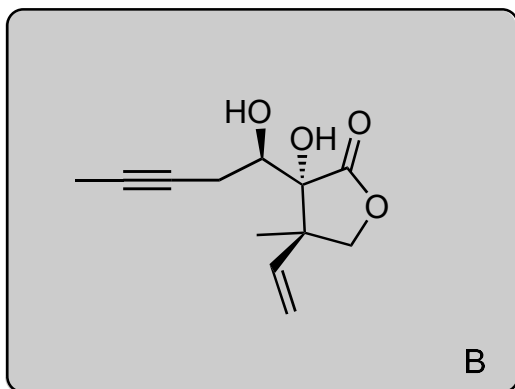
2) Structure of quinidine
Hint: Leave the sulfur alone

6) Name the reaction and draw a mechanism
Pummerer rearrangement

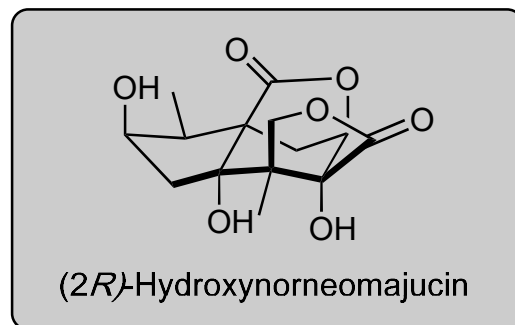
Hint: Think about the functionality necessary for 7)

7) Name and mechanism of the reaction? Name alternatives
Gilbert Seyferth homologation





10-17



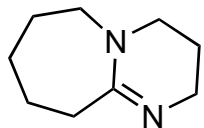
- 10) TBSOTf, pyridine
- 11) $\text{Co}_2(\text{CO})_8$, PhSMe, DCE, *reflux*
- 12) TBAF, THF
- 13) AlEt_3 , TMSCN
- 14) O_2 , $\text{Pd}(\text{OAc})_2$, DMSO, 110 °C
- 15) H_2 , Pd/C
- 16) K-selectride
- 17) O_2 , $\text{Mn}(\text{dpm})_3$, $\text{Ph}(\text{O}i\text{Pr})\text{SiH}_2$

11) Name of reaction?
Pauson-Khand reaction

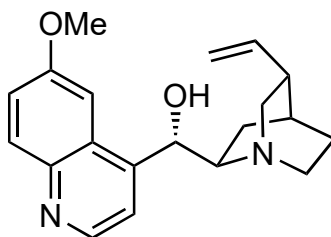
14) Hint: 2 reactions take place,
a second lactone is formed, new signals $\delta = 6.44$
ppm (s, 2H) and $\delta = 5.64$ ppm (s, 1H)

17) Name of reaction?
Mukaiyama hydration

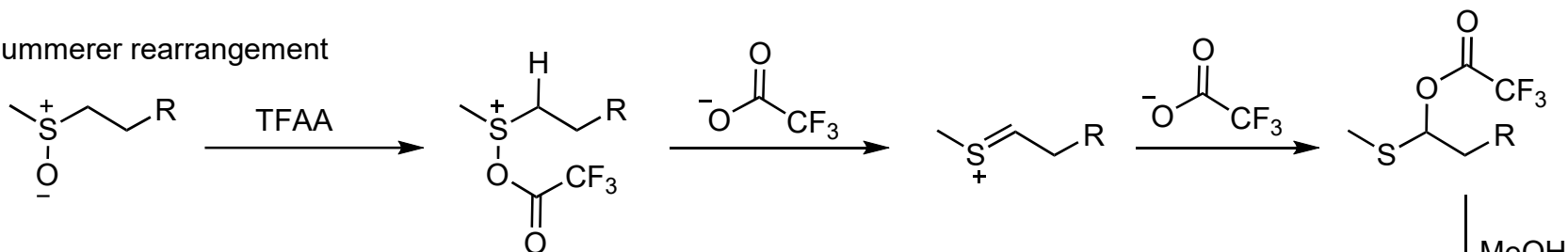
Name and structure of DBU:
1,8-diazabicyclo[5.4.0]undec-7-ene



Quinidine



Pummerer rearrangement



Gilbert-Seyferth homologation

