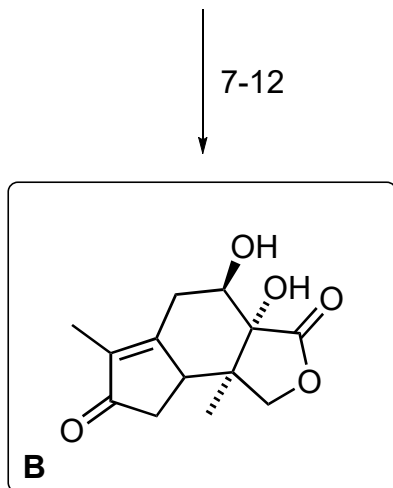
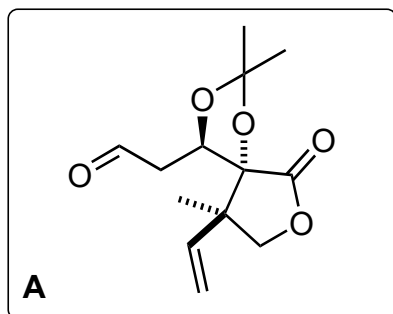
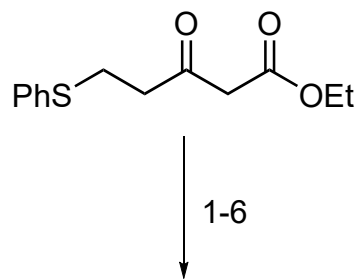
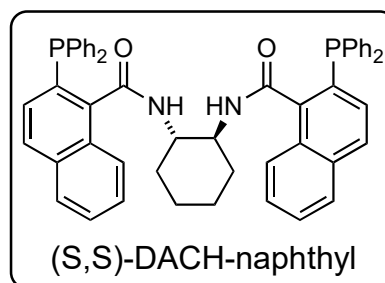
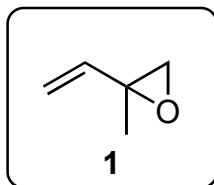


Asymmetric Total Synthesis of (2R)-Hydroxynorneomajucin, a Norsesquiterpene from *Illicium jiadifengpi*

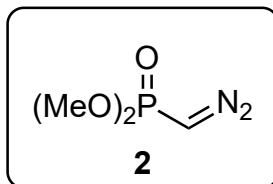
Dooley, C.; Rychnovsky, S.
Organic Letters 2022



- 1) **1**, Pd₂dba₃•2CHCl₃, (S,S)-DACH-naphthyl then DBU
- 2) Quinidine, CumyloOH
- 3) NaBH(OAc)₃
- 4) 2,2-dimethoxypropane, TsOH
- 5) H₂O₂
- 6) TFAA, Et₃N then MeOH



- 7) **2**, KO-*t*Bu, -78 °C
- 8) LiHMDS, MeI
- 9) 6 M HCl
- 10) TBSOTf, pyr.
- 11) CO₂(CO)₈, PhSMc, DCE, reflux
- 12) TBAF

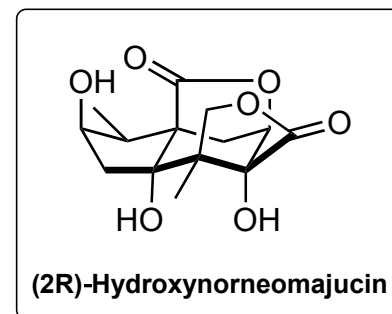


- 1) Reaction name? Rationalize stereochemical outcome.
Tsuji-Trost allylation (asymmetric)

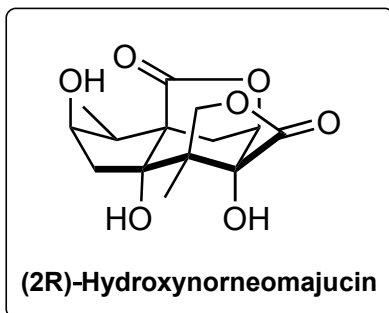
- 5-6) Reaction name?
Pummerer rearrangement

- 7) Reaction name?
Seyferth-Gilbert homologation

- 10) hint: mono-protection
- 11) Reaction name?
Pauson-Khand reaction



13-17



- 13) Et_3Al , TMS-CN, THF, reflux
- 14) O_2 , $\text{Pd}(\text{OAc})_2$, DMSO, $110\text{ }^\circ\text{C}$
- 15) H_2 , Pd/C
- 16) K-selectride
- 17) O_2 , $\text{Mn}(\text{dpm})_3$, $\text{Ph}(\text{O}i\text{-Pr})\text{SiH}_2$

14) Reaction name? hint: it happens twice and a hydrolysis also occurs

Saegusa-Ito reaction

15) hint: mono-reduction

17) Reaction name?

Mukaiyama hydration