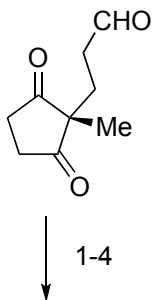


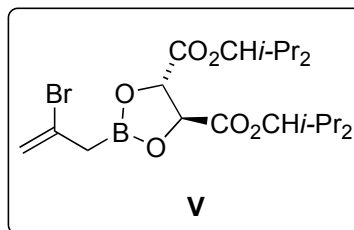
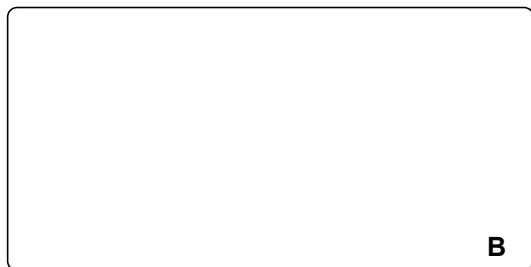
Total Synthesis of Aplysiasecosterol A
 Lu, Z., Zhang, X., Guo, Z., Chen, Y., Mu, T., Li, A.
J. Am. Chem. Soc. **2018**, *140*, 9211-9218.



1-4



5-8

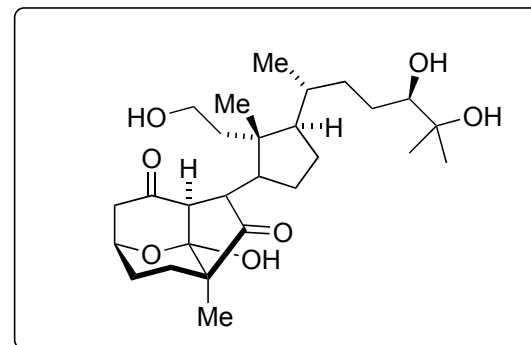


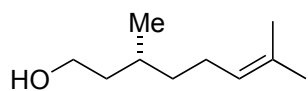
- 1) **V**
- 2) BnOH, MsOH
- 3) TMSOTf, NEt₃
- 4) IBX, MPO

Name of reaction 1, what is the reason for the stereochemical outcome?

- 5) (TMS)₃SiH, 1,1'-azobis(cyanocyclohexane), 100 °C
- 6) KHMDS, TMSCl
- 7) NBS
- 8) O₃, SMe₂

5: Why are ABCN and supersilane used instead of HSnBu₃ and AIBN?





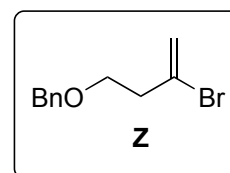
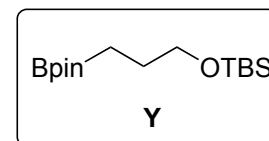
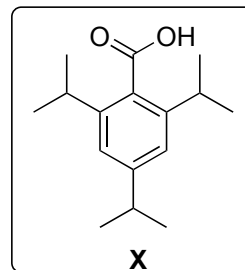
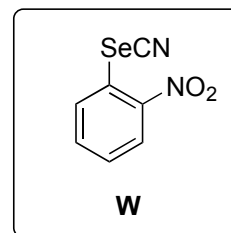
9-13



14-17



- 9) AD-mix- β , MsNH₂
 10) acetone, TsOH
 11) **W**, Bu₃P, *m*-CPBA
 12) O₃, NaBH₄
 13) **X**, PPh₃, DIAD



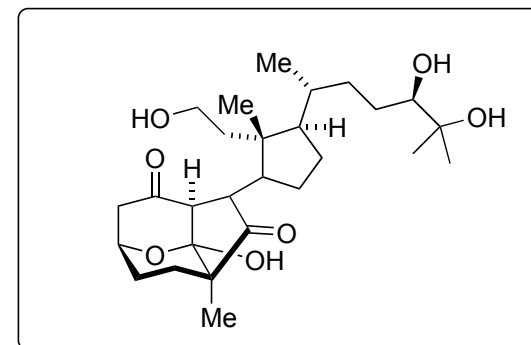
- 14) (+)-sparteine, *s*-BuLi, **Y**
 15) **Z**, *t*-BuLi, NaOMe, I₂
 16) TBAF, AcOH
 17) DMP

step 9: Name of the reaction?

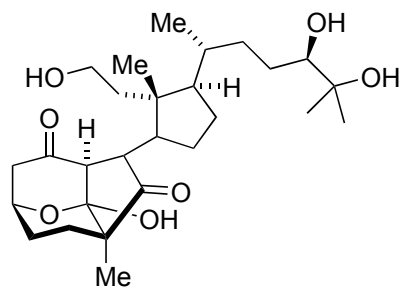
step 11: Name and reaction mechanism

step 15: draw the mechanism and provide reaction name

In which rearrangement are based 14 and 15?



18-22



Aplysiasecosterol A

- 18) **B**, Et₃B, air, Bu₃SnH
- 19) Burgess reagent
- 20) Fe(dpm)₃, Ph(*i*-PrO)SiH₂
- 21) aq. HClO₄
- 22) Pd(OH)₂/C, H₂

step 18: draw the mechanism

step 20: reaction name