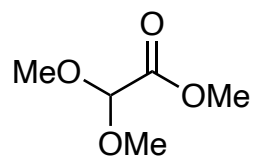
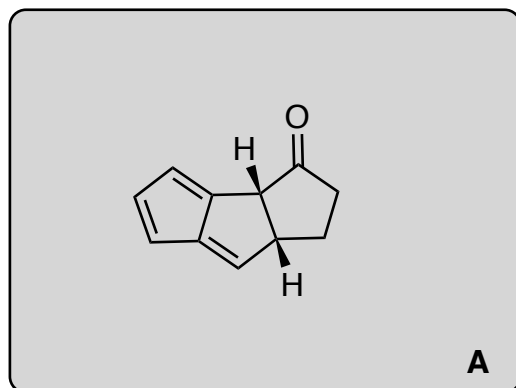


# Concise Total Synthesis of (-)-Bipolarolide

Sun, S. ; Wei, Q.; Liu, Y.; Lu, Z.  
*J. Am. Chem. Soc.* **2024**, ASAP

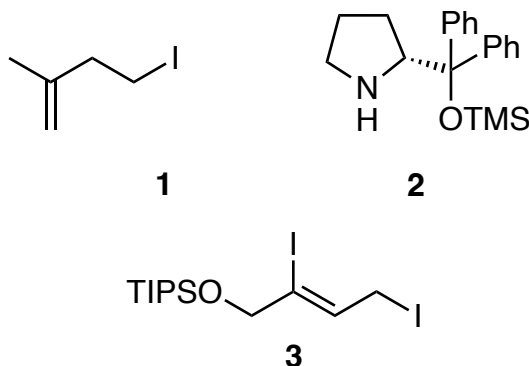


1-6



7-11

- 1) LDA, HMPA then **1**
- 2) DIBAL-H (1.2 eq.)
- 3) NaH, cyclopentadiene
- 4) 9-BBN then NaOH, H<sub>2</sub>O<sub>2</sub>
- 5) PDC
- 6) **2**, PhCOOH, 4A molecular sieves then 0.5 M HCl (aq.)

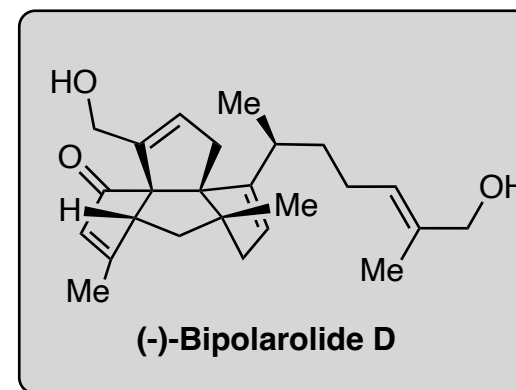


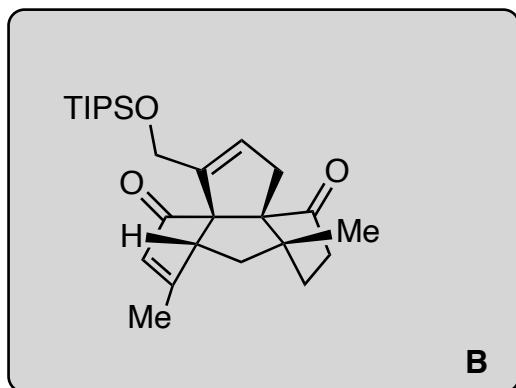
- 7) **3**, *t*-BuOK, Cu
- 8) Pd(OAc)<sub>2</sub>, *R*-BINAP, AgOAc
- 9) 1.0 M NaOH (aq.)
- 10) [Rh(COD)<sub>2</sub>]<sub>2</sub>BF<sub>4</sub> then MeMgBr
- 11) PDC

6) *Hint*: Cycloaddition  
Draw a mechanism for this step and classify [X+X] **[6+2]**

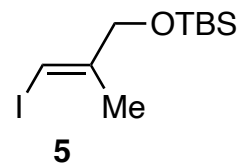
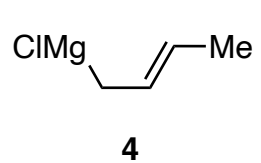
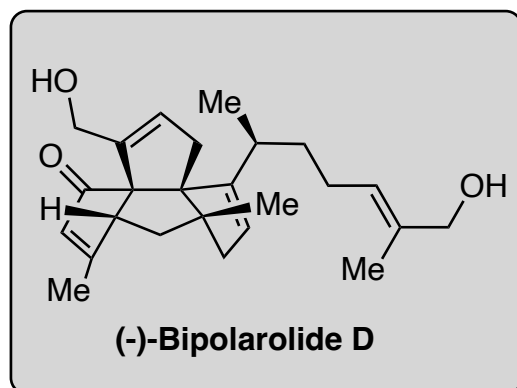
8) Name of reaction? **Heck**  
*Hint*: Interception of π-allyl with acetate

9) *Hint*: Hydrogen transfer reaction





12-15



- 12) **4**
- 13) 9-BBN, *then* 2M NaOH,  
Pd(PPh<sub>3</sub>)<sub>4</sub>, **5**
- 14) SOCl<sub>2</sub>, 2,6-lutidine
- 15) HF

- 12) *Hint*: 3 stereocenters are formed
- 13) Name of Reaction? **Suzuki**
- 14) Structure of 2,6-lutidine?

