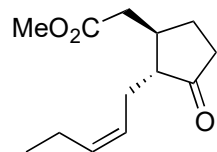
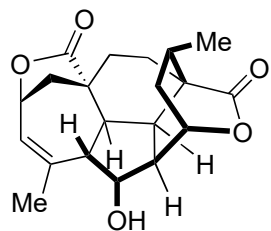


## Total Synthesis of (+)-Mannolide B

Chen, P.; Chen, L.; Lin, H.; Jia, Y. *J. Am. Chem. Soc.* **2025**, *147* (1), 636–643.

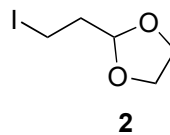
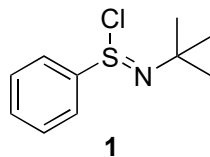


1-24



**(+)-Mannolide B**

- 1) LDA, **1**, THF
- 2) NaBH<sub>4</sub>, LaCl<sub>3</sub> • 7H<sub>2</sub>O
- 3) TBSCl, Imid.
- 4) LiHMDS, allyl bromide
- 5) LDA, **2**
- 6) HG-II
- 7) TMSOTf, collidine
- 8) Ohira-Bestmann reagent, K<sub>2</sub>CO<sub>3</sub>, MeOH
- 9) Co<sub>2</sub>(CO)<sub>8</sub>
- 10) K<sub>2</sub>OsO<sub>4</sub> • 2H<sub>2</sub>O, NMO
- 11) BzCl, Et<sub>3</sub>N, DMAP
- 12) vinylMgBr, CuBr • Me<sub>2</sub>S
- 13) Sc(OTf)<sub>3</sub>, TMSCHN<sub>2</sub>, 4 Å MS
- 14) O<sub>3</sub> *then* Me<sub>2</sub>S
- 15) NaClO<sub>2</sub>, NaH<sub>2</sub>PO<sub>4</sub>, 2-methylbut-2-ene *then* TMSCHN<sub>2</sub>
- 16) LDA, **1**
- 17) AlMe<sub>3</sub>, Ni(acac)<sub>2</sub>
- 18) NaBH<sub>4</sub>
- 19) K<sub>2</sub>CO<sub>3</sub>
- 20) DMP
- 21) Ac<sub>2</sub>O, CH<sub>2</sub>(NMe<sub>2</sub>)<sub>2</sub>
- 22) TsNHNH<sub>2</sub>, PPTS, AcOH
- 23) NaBH<sub>3</sub>CN, AcCl, Et<sub>3</sub>N, MeOH
- 24) TBAF



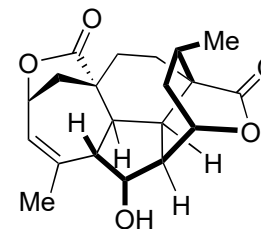
6) Name of reaction:

8) Structure of Ohira-Bestmann reagent

9) Hint: ring formation

12) Name of reaction:

15) Name of reaction:



**(+)-Mannolide B**