

Problem set 16/1-2026

Total synthesis of (+)-mannolidide B

This problem set focus on the total synthesis of (+)-mannolidide B, published in 2025 by Jia *et al.* Your task is to fill in the missing structures and reagents (marked with a) and answer the questions related to the reactions (marked in blue). Sometimes, you will be given a hint (marked in orange). *Bonne chance!*

Quick facts about (+)-mannolidide B:

- Belongs to the family of *Cephalotaxus* diterpenoids
- 10 stereocenters, 2 quaternary centers
- 2 bridged lactone moieties
- First total synthesis in 2025
- By Peng Chen, Lijun Chen, Hongpeng Lin, and Yanxing Jia *J. Am. Chem. Soc.* 2025, 147, 636-643
- totaling 24 steps
- Structure: up to you to decide!

