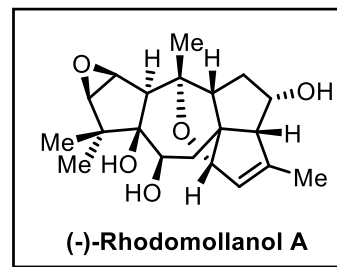


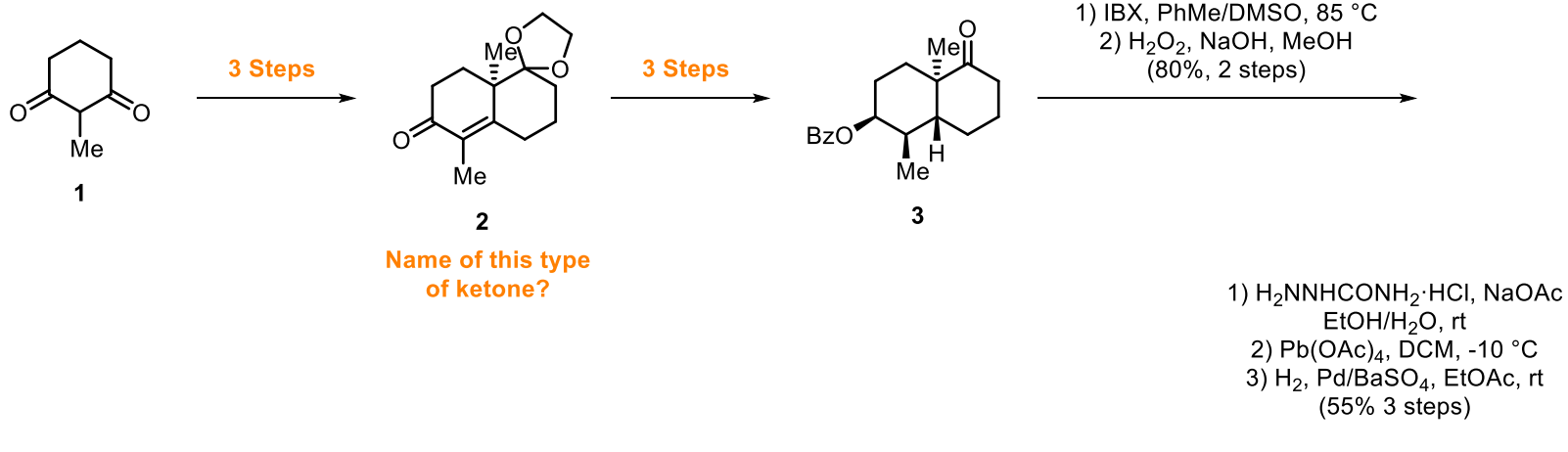
Total Synthesis of (-)-Rhodomollanol A

Gao, J.; Rao, P.; Xu, K.; Wang, S.; Wu, Y.; He, C.; Ding, H.
J. Am. Chem. Soc. **2020**, *142* (10), 4592–4597.

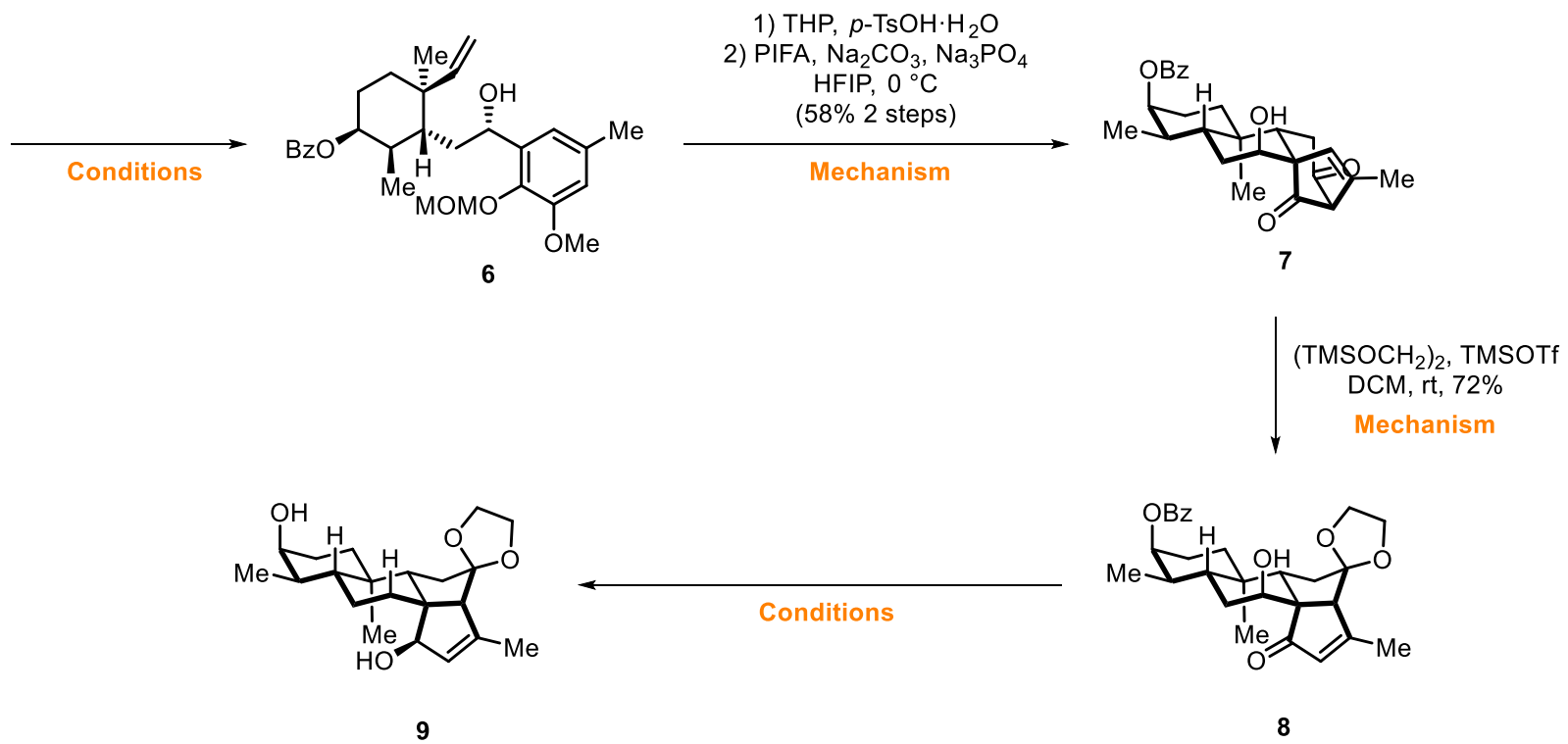
- Unusual [3,5,7,5,5,5] hexacyclic carbon framework
- 11 contiguous stereogenic centers
- Moderate PTP1B inhibitory activity



Ericaceae plants

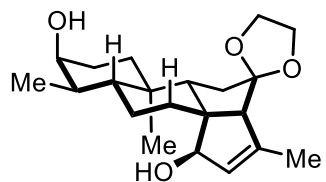


5



9

8



9

VO(acac)₂, ^tBuOOH
DCM, 0 °C, 87%

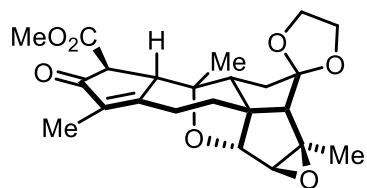
1) (PhSeO)₂O, pyridine
toluene, 90 °C
2) NaBH₄, CeCl₃·7H₂O
MeOH/DCM, -20 °C
(37% 2 steps)

Name

10

LiCl, DMSO/H₂O
120 °C, 81%

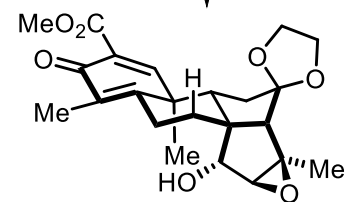
Name



13

hν (254 nm)
AcOH, 18 °C, 70%

Mechanism

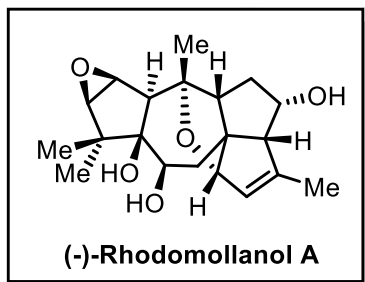


12

11
4 steps

14

13 steps

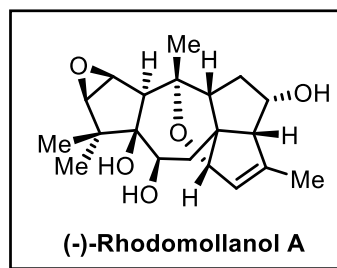


Solutions

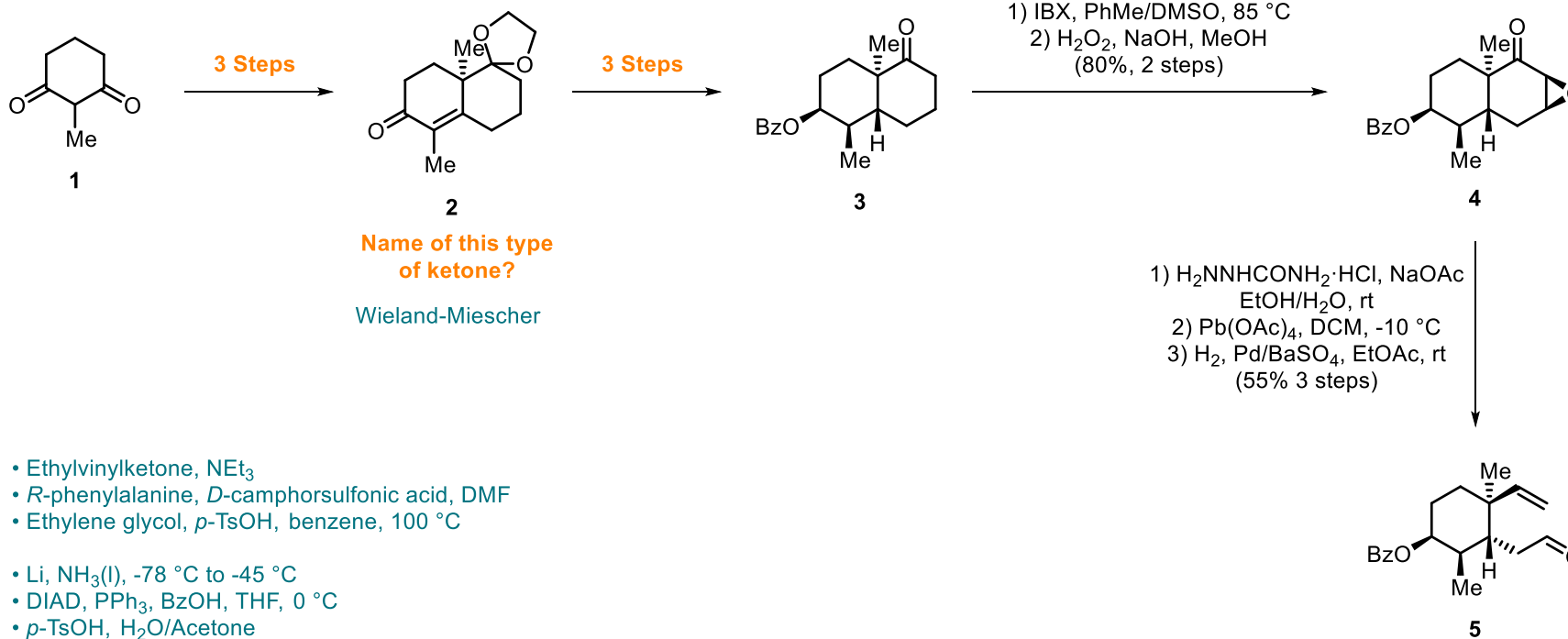
Total Synthesis of (-)-Rhodomollanol A

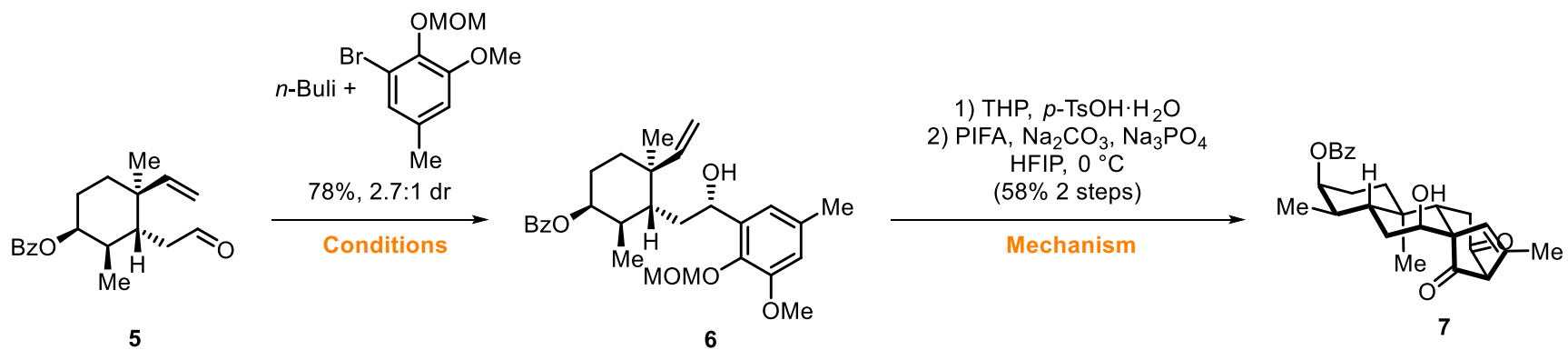
Gao, J.; Rao, P.; Xu, K.; Wang, S.; Wu, Y.; He, C.; Ding, H.
J. Am. Chem. Soc. **2020**, *142* (10), 4592–4597.

- Unusual [3,5,7,5,5,5] hexacyclic carbon framework
- 11 contiguous stereogenic centers
- Moderate PTP1B inhibitory activity



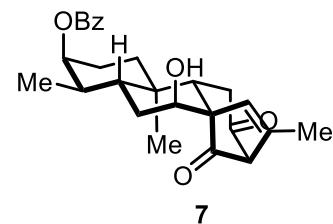
Ericaceae plants





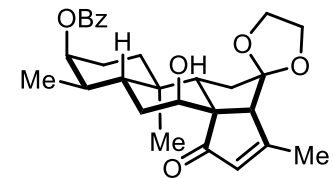
1) THP, *p*-TsOH·H₂O
 2) PIFA, Na₂CO₃, Na₃PO₄
 HFIP, 0 °C
 (58% 2 steps)

Mechanism



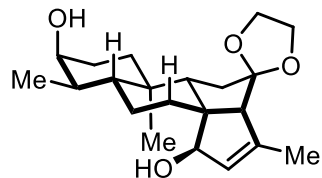
(TMSOCH₂)₂, TMSOTf
 DCM, rt, 72%

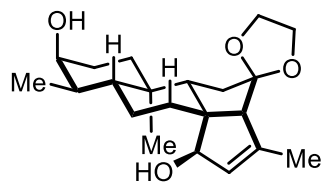
Mechanism



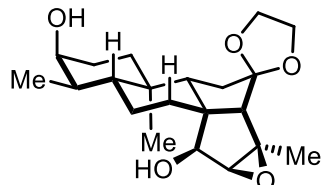
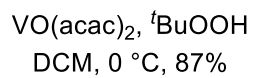
1) NaH, CS₂, MeI, THF, 65 °C
 2) AIBN, *n*-Bu₃SnH, toluene, 60 °C
 3) DIBAL-H, DCM, -78 °C
 (58% 3 steps)

Conditions

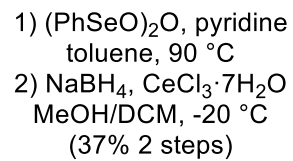




9

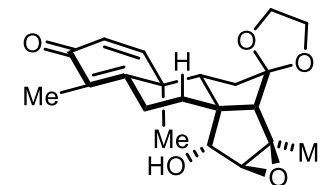


10



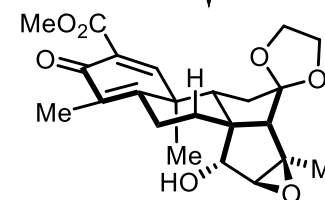
Name

Luche conditions

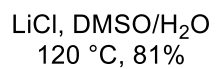


11

4 steps

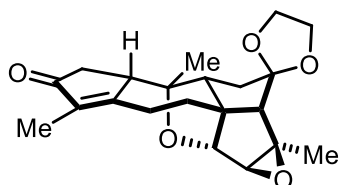


12



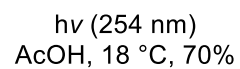
Name

Krapcho decarboxylation

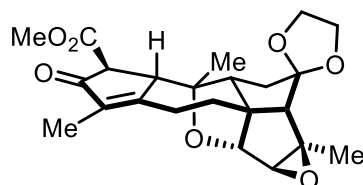


14

13 steps



Mechanism



13

