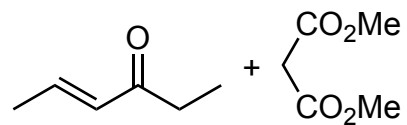


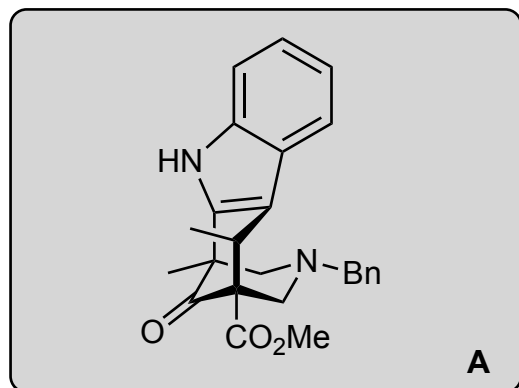
Enantioselective Total Synthesis of (+)-Arboridinine

Zhen Zhang, Sujun Xie, Bin Cheng, Hongbin Zhai, and Yun Li

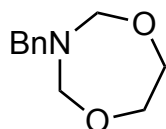
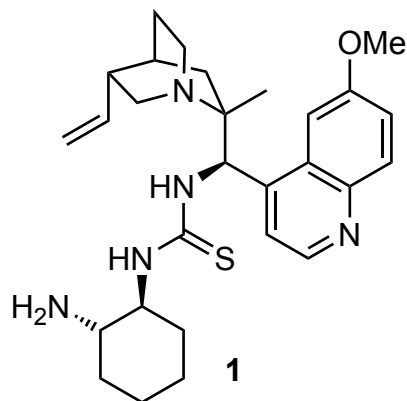
J. Am. Chem. Soc. **2019**, 141(17), 7147-7154



1-6



- 1) **1**, THF
- 2) NaOMe, MeOH, reflux
- 3) **2**, MeSiCl₃, MeCN
- 4) Red-Al, THF
- 5) PhNHNH₂·HCl, AcOH
- 6) DMSO, Ac₂O



2

1) *hint*: (*R*)-Isomer

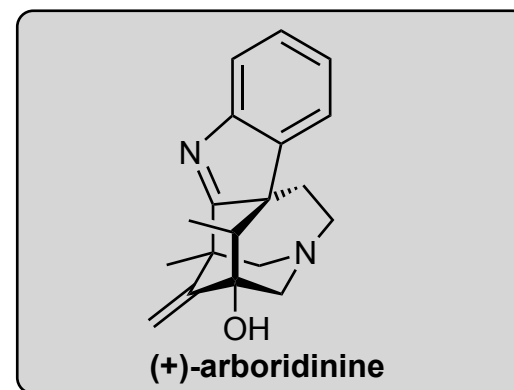
2) Name of reaction? **Dieckmann condensation**

3) Name of reaction? **Mannich**

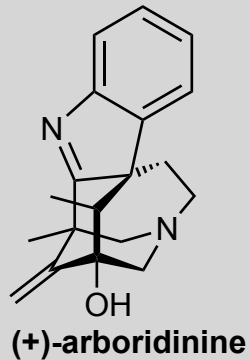
4) What is the structure of Red-Al?
hint: only one carbonyl is reduced

5) Name of reaction? **Fischer Indole Synthesis**

6) Name of reaction? **Albright-Goldman oxidation**

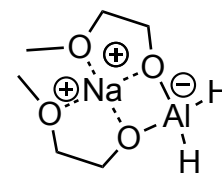


7-14



- 7) TMSCH₂Li, THF
- 8) Pd/C, HCO₂NH₄, MeOH
- 9) KHMDS, THF
- 10) BrCH₂CH₂OH, K₂CO₃, MeOH
- 11) Ph₃P, I₂, THF
- 12) NaH, THF
- 13) NaOH, THF, MeOH
- 14) Co(OAc)₂, PhI(OAc)₂, DCE,
then K₂CO₃, MeOH

9) Name of reaction? **Peterson olefination**



Red-Al