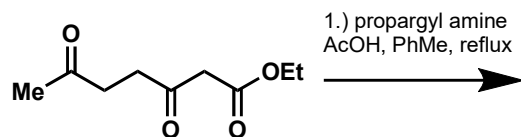


Total Synthesis of Bipolamine I

Xiang Qiu and Joshua G. Pierce; *J. Am. Chem. Soc.* **2022**, *144*, 12638–12641.

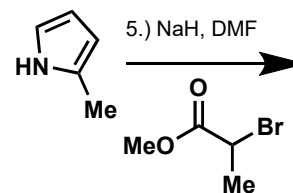
Denksport Philipp Schoch 23.11.22



A

2.) D/BAI-H, -78°C
3.) VinylMgBr
4.) TBSCl, ImH, DMAP

B



C

6.) LAH

D

B

7.) KOtBu, tBuOH

E

D
8.) 10 mol% HClRu(CO)(PPh₃)₂,
10 mol% dippf, 115°C

F

9.) Grubbs II
10.) TBAF

G

11.) MnO₂

K

14.) Sml₂

J

13.) TBSCl, DMAP, ImH

I

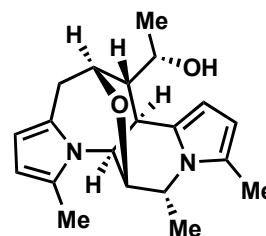
12.) LiHMDS, acetaldehyde

H

15.) KHMDS, DMAP,
phenyl thionochloroformate

L

16.) BEt₃, *n*-Bu₃SnH
then TBAF



(±)-bipolamine I

Hints:
Step 8: Cascade begins with alkyne-allene isomerization,
Step 11: MnO₂ oxidizes more than one position;
an ether bridge is formed