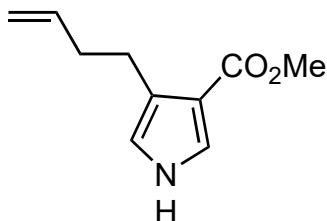


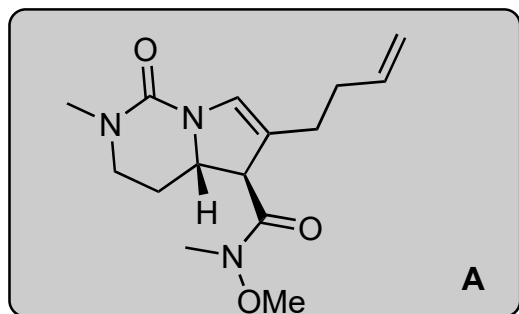
Concise Syntheses of Lycojapomine Alkaloids Enabled by Radical Dearomatization of a Pyrrole

Benjamin M. Gross and Brian M. Stoltz*

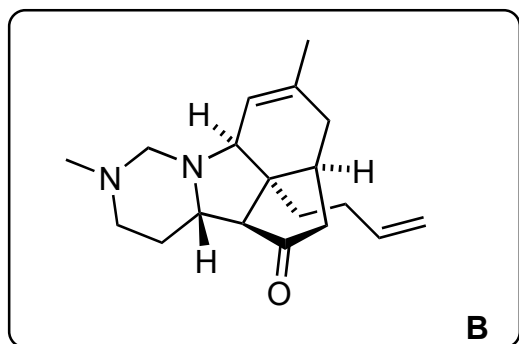
JACS. **2025**, 147, 20200-20204.



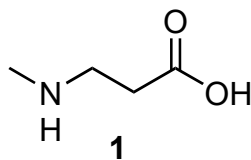
1-4



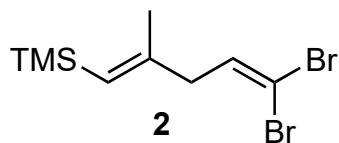
5-6



- 1) CDI, DMAP *then* **1**, DIPEA, MeCN
- 2) NHPht, DIC, DCM
- 3) Ir(ppy)₃, (1 mol%), 450 nm LED, DIPEA
- 4) HCl*MeHN-OMe, *i*PrMgCl



- 5) **2**, *i*PrMgCl*LiCl, *then* **A**
- 6) AgBF₄, HFIP



1) How would you prepare the starting material?

1) Draw a mechanism for the CDI step

5) How would you prepare **2**

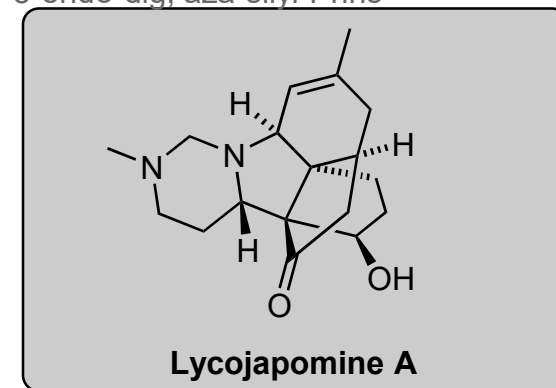
5) What is the rearrangement in the 1st part of step 5 called?

Fritsch-Buttenberg-Wiechell

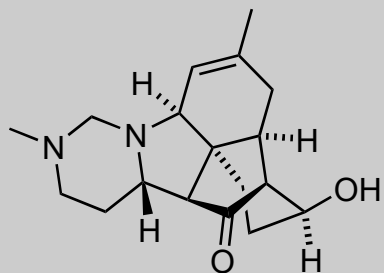
6) Hint: two cyclizations occur

6) Propose a mechanism, classify the cyclizations

5-endo-dig, aza-silyl-Prins

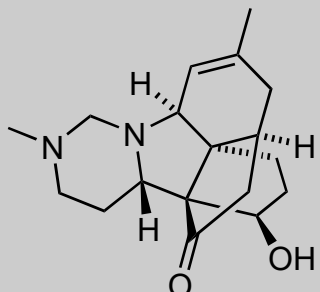


7-10



Lycojapomin B

11



Lycojapomin A

- 7) Sml_2 , 2-naphthalenethiol
- 8) LAH, heat
- 9) DMP, NaHCO_3
- 10) HCl in Et_2O , *then* O_3 ,
then KOH in MeOH for 30 min

11) continue stirring step 10 for 6 hours

10) What is the purpose of the HCl?
Protect the nitrogens from oxidation

11) How do the products of steps 10
and 11 relate?
Lycojapomine B is the kinetic product
and A is the thermodynamic