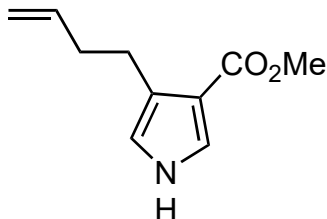


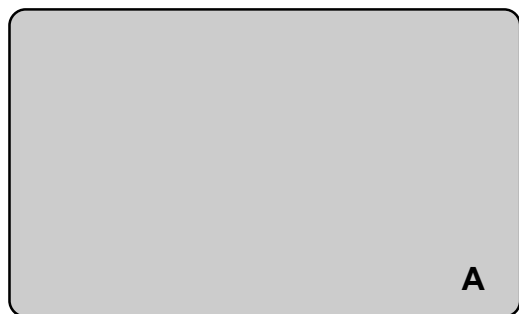
Concise Syntheses of Lycojapomine Alkaloids Enabled by Radical Dearomatization of a Pyrrole

Benjamin M. Gross and Brian M. Stoltz*

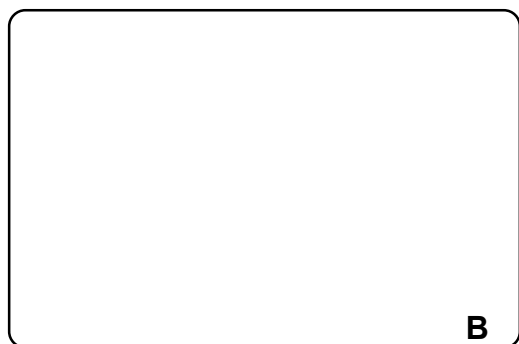
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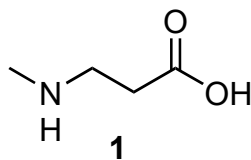
1-4



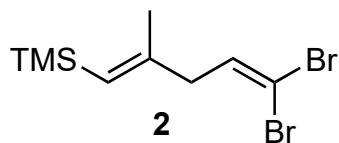
5-6



- 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?

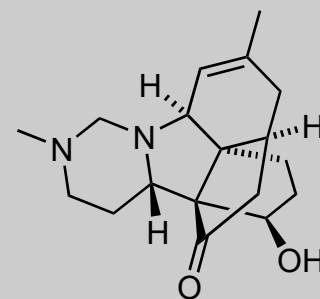
1) Draw a mechanism for the CDI step

5) How would you prepare **2**

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

6) Hint: two cyclizations occur

6) Propose a mechanism, classify the cyclizations

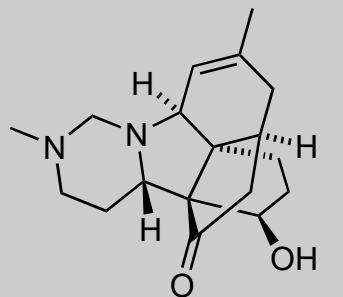


Lycojapomine A

7-10

Lycojapomine B

11



Lycojapomine A

- 7) SnI_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?

11) How do the products of steps 10 and 11 relate?