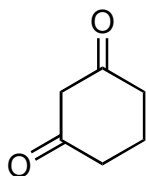
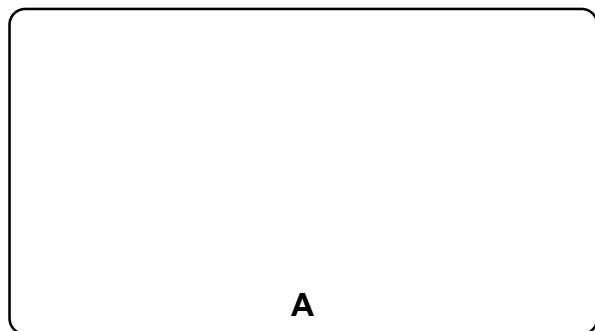


Enantioselective Total Synthesis of (–)-Limaspermidine and (–)-Kopsinine by a Nitroaryl Transfer Cascade Strategy

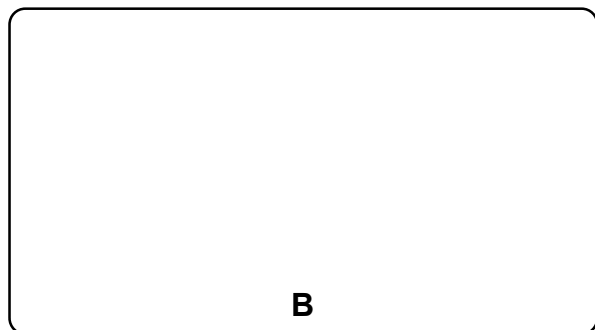
B. Horst, D. S. Verdoorn, S. Hennig, G. van der Heijden, E. Ruijter, *Angew. Chem., Int. Ed.* **2022**, *61*, e202210592.



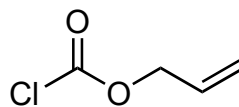
1-6



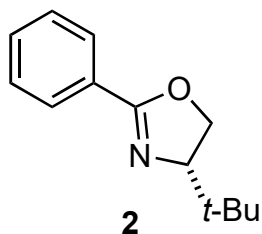
7-9



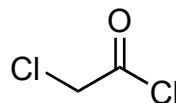
1. *i*-BuOH, TsOH
2. LDA, **1**
3. allyl cyanide, K₂CO₃
4. Pd₂(dba)₃, **2**
5. DIBAL-H, then LiAlH₄
6. NsCl, NEt₃ then HCl, H₂O



1



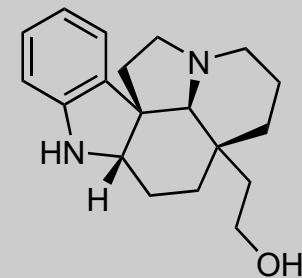
2



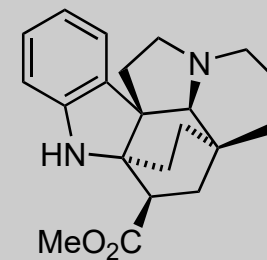
3

7. Cs₂CO₃, then **3**
8. Fe, AcOH
9. NaI, acetone, then AgOTf

4. structure of dba?



(–)-Limaspermidine



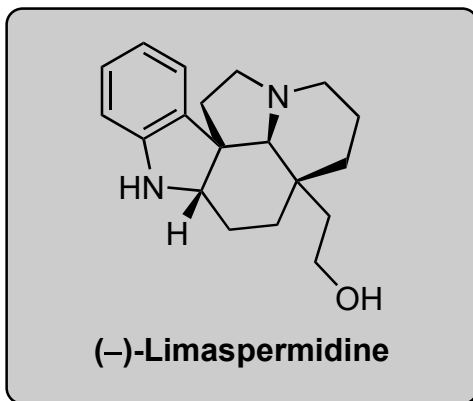
(–)-Kopsinine

7. suggest a mechanism!

9. name of the reaction?

B

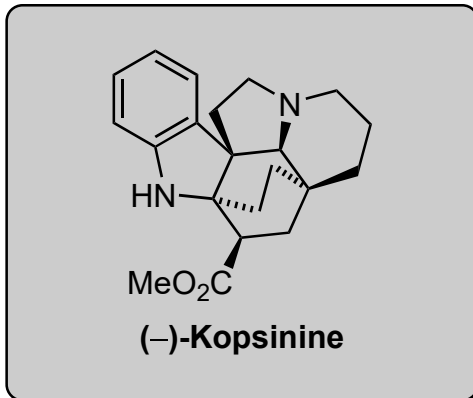
10+11



B



12-19



10. LiAlH₄
11. HCl, MeOH, *then* O₃, *then* NaBH₄

12. LDA (1 equiv.), Mander's Reagent
13. Boc₂O, DMAP
14. O₃, *then* NaBH₄
15. I₂, PPh₃, Imidazole
16. SmI₂, HMPA
17. TFA
18. Lawesson's reagent
19. RaNi

15. name of the reaction?

18. structure of Lawesson's reagent?