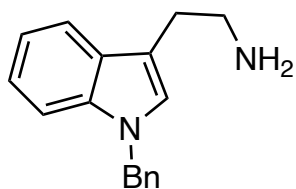


Total Synthesis of (-)-Strepeliopine

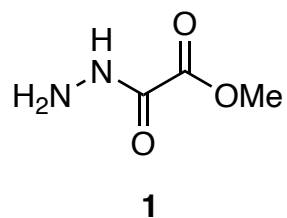
Zeng, X.; Boger, D. L.

J. Am. Chem. Soc. **2021**, *143*, 12412–12417.

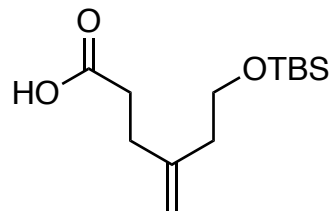


1-5

- 1) CDI
- 2) **1**, AcOH
- 3) TsCl, Et₃N
- 4) **2**, EDCI, DMAP
- 5) Δ



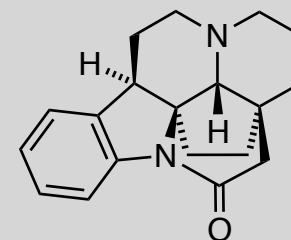
1



2

5) Please draw the mechanism.
Hint: 6/6/5 ring system forms and N₂ is lost.

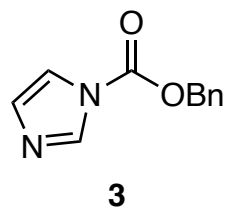
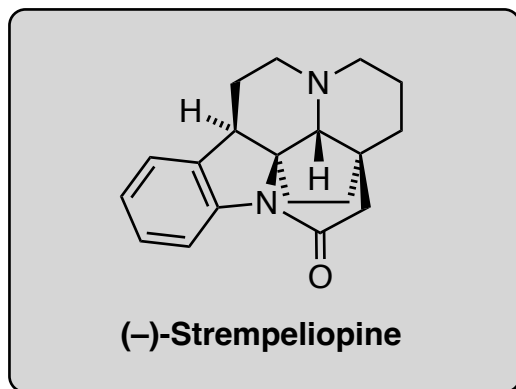
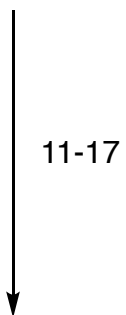
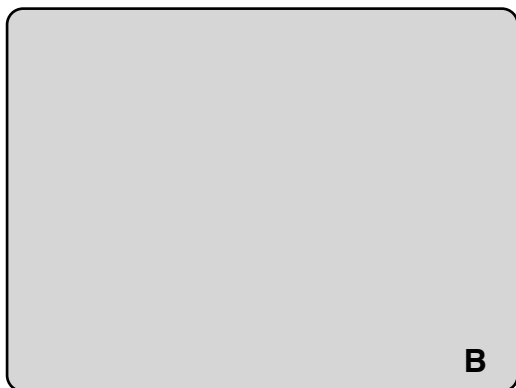
6) *Hint:* a ring is cleaved.



(-)-Strepeliopine

6-10

- 6) NaCNBH₃, AcOH
- 7) Raney Ni, H₂
- 8) CbzCl, K₂CO₃
- 9) NaH, imidazole then CS₂ then MeI
- 10) Δ



- 11) KOH
- 12) Δ
- 13) **3**, DBU
- 14) SmI_2 , $\text{BF}_3 \cdot \text{OEt}_2$
- 15) H_2 , Pd/C
- 16) LiAlH_4
- 17) NMO, TPAP

- 11) *Hint*: All protecting groups are lost too.
- 12) Please draw key intermediates.
Hint: CO_2 is lost and a C–C bond is broken.
- 14) *Hint*: One ring is cleaved and another is formed.
- 17) Name of reaction?