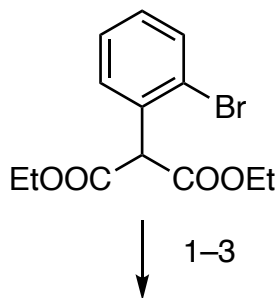


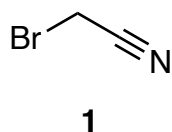
Taming Radical Pairs in the Crystalline Solid State: Discovery and Total Synthesis of Psychotriadine

Dotson, J.; Liepuoniute, I.; Bachman, L.; Hipwell, V.; Khan, S.; Houk, K.; Garg, N.; Garcia-Garibay, M.

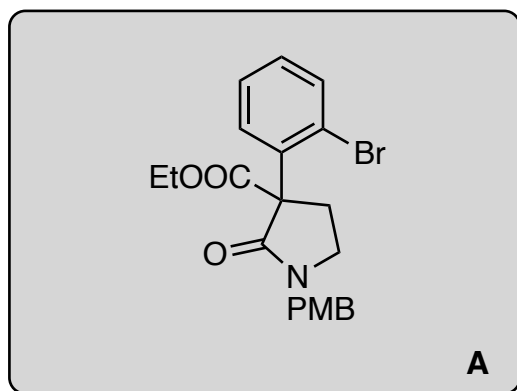
J. Am. Chem. Soc. **2021**, *143*, 4043–4054.



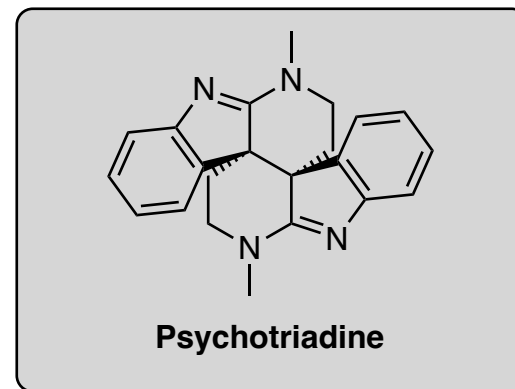
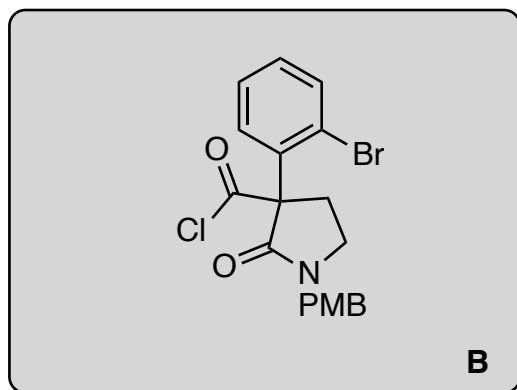
- 1) NaH, *then* **1**
- 2) CoCl₂, NaBH₄
- 3) NaH, *then* PMBCl



- 2) *Hint*: Chemoselective reduction.
5-membered ring forms too.



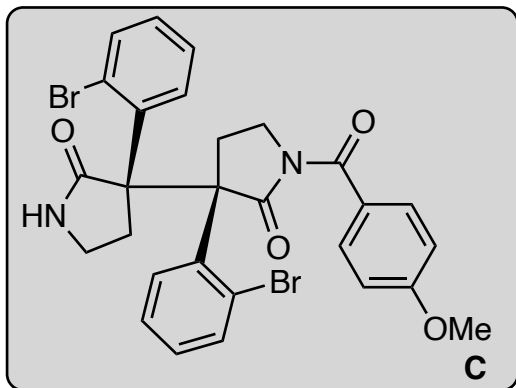
- 4) aq. NaOH
- 5) (COCl)₂, cat. DMF



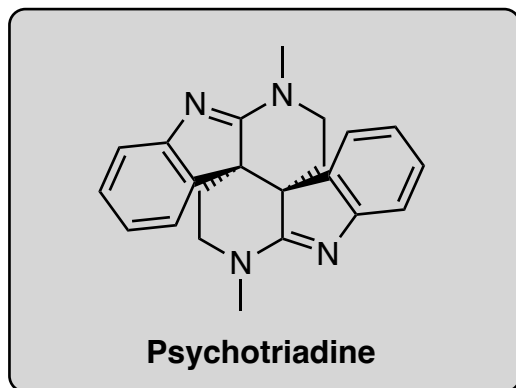
A



6-9



12-14



- 6) aq. NaOH then HCl, Δ
- 7) LiHMDS then **B**
- 8) CAN
- 9) 450 W Hg lamp (>290 nm), sodium dodecyl sulfate

- 10) NH_4OH
- 11) NaH then MeI
- 12) CuI, NaN_3 , L-proline
- 13) LiAlH_4
- 14) TPAP, NMO

6) *Hint:* CO_2 is lost.

8) *Hint:* One protecting group is removed; the other, further oxidized.

9) *Hint:* See title. CO is lost.

13) *Hint:* transamidation happens after reduction.

14) Name of reaction? [Ley-Griffith oxidation](#).