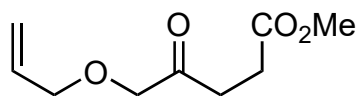


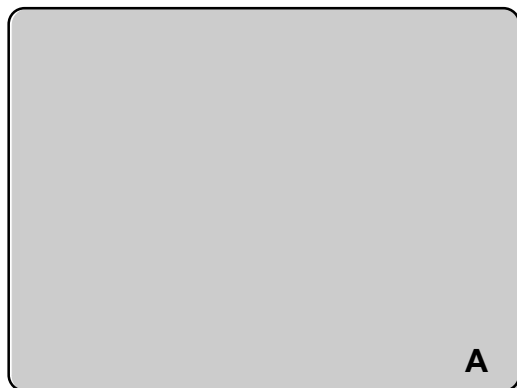
Unified Total Synthesis of Pyrroloazocine Indole Alkaloids Sheds Light on Their Biosynthetic Relationship

Miloserdov, F. M.; Kirillova, M. S.; Muratore, M. E.; Echavarren, A. M.

J. Am. Chem. Soc. **2018**, *140*, 5393–5400.

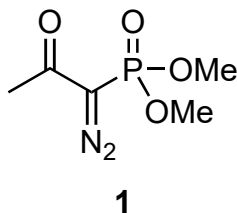


1-5



6-10

- 1) tryptamine, toluene, NEt₃, reflux *then* HCl
- 2) **1**, K₂CO₃, MeOH
- 3) AuCl (cat.), AcOH
- 4) NaHMDS, ClCO₂Me
- 5) OsO₄, NMO *then* NaIO₄



- 6) H₂, Pd/C
- 7) SiCl₄, pyridine *N*-oxide, *t*-BuNC *then* MeOH
- 8) Ph₃PBr, NBu₄Br, imidazole
- 9) [(dppmAuCl)₂] (2 mol%), Na₂CO₃, UV LEDs
- 10) H₂SO₄ (50% aq)

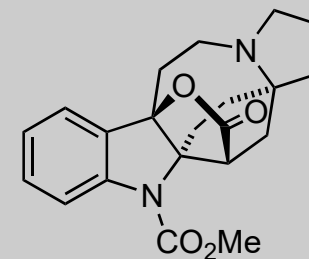
1) *hint: cyclization followed by rearrangement*
draw out the mechanism

2) Name reaction?

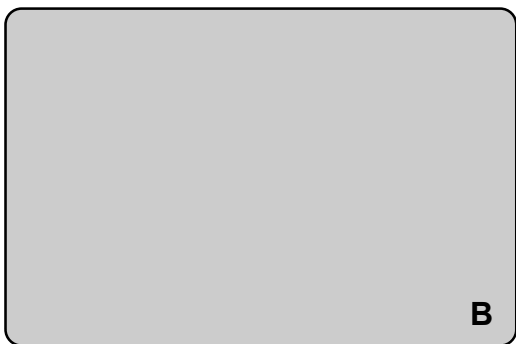
3) *hint: 8-membered ring is formed*

7) *hint: product is α-hydroxy ester*
8) Name reaction?

10) *hint: lactonization*

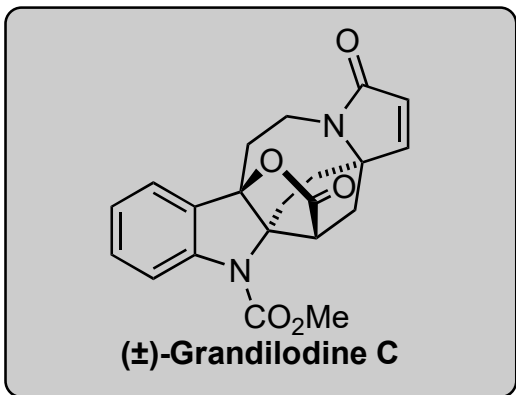


(±)-Lapidilectine B



11-13

- 11) Lawesson's reagent, toluene
- 12) *p*-TolSOCl, *i*-Pr₂NEt
- 13) *m*-CPBA



14

- 14) Me₃OBF₄ then NaBH₄

