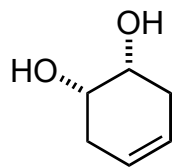
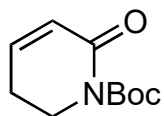
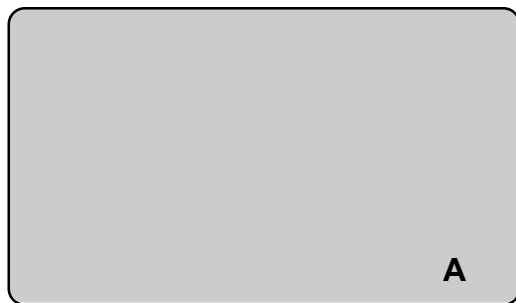


Collective Total Synthesis of C4-Oxygenated Securinine-Type Alkaloids via Stereocontrolled Diversifications on the Piperidine Core

Park, S.; Kang, G.; Kim, C. Kim, D.; Han, S.
Nat. Comm. **2022**, *13*, 5149.

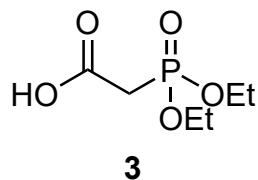
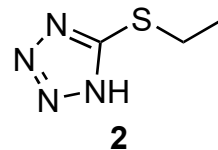
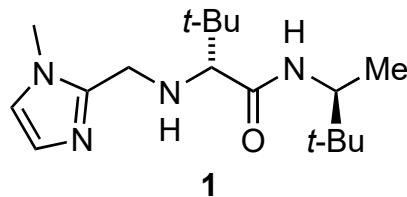


1-7



8-10

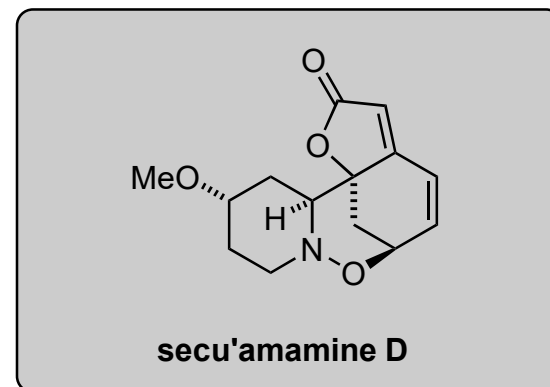
- 1) TBSCl, *i*-Pr₂EtN, **1**, **2**
- 2) VO(OEt)₃, TBHP
- 3) DMP, SiO₂
- 4) TBDPSCI, imidzaole, DMAP
- 5) ZnBr₂, H₂O
- 6) **3**, EDCI
- 7) K₂CO₃, 18-crown-6



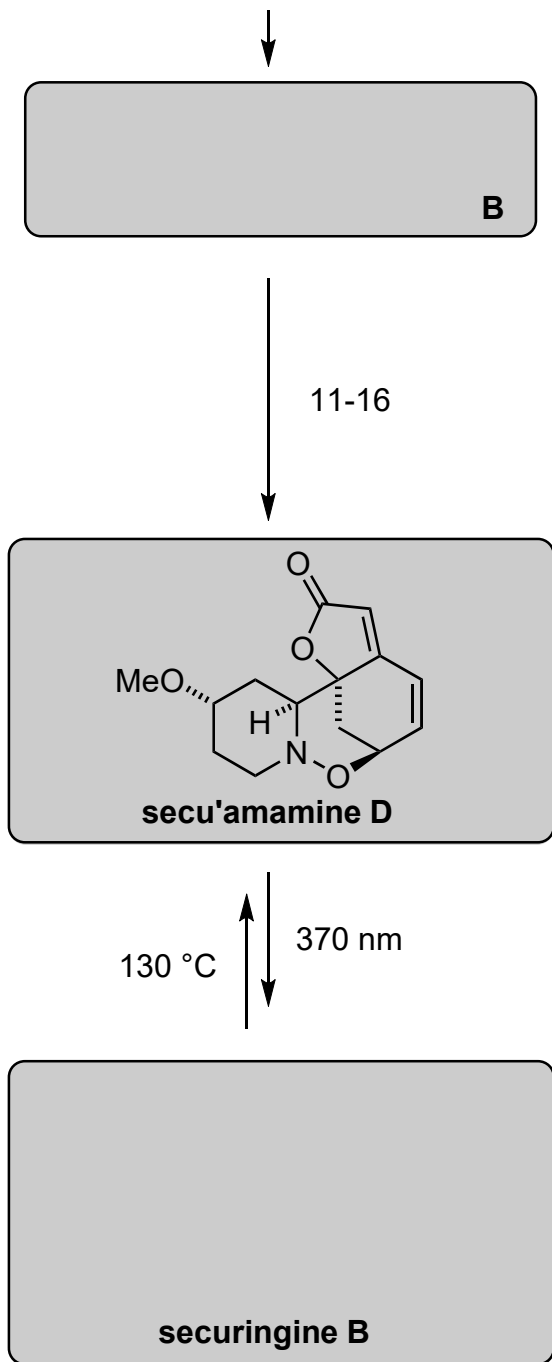
- 8) B₂pin₂, CuCl, NaOt-Bu, Taniaphos *then* NaBO₃
- 9) Meerwein's salt, proton-sponge
- 10) LiEt₃BH

3) HINT: Product is UV active

7) Name of the reaction?



9) What is the structure of Meerwein's salt?



- 11) **A**, TIPSOTf, NEt₃ then **B** then Bu₂BOTf
- 12) TBAF
- 13) TFA
- 14) NEt₃
- 15) MsCl, NEt₃
- 16) *m*-CPBA, K₂CO₃

15) HINT: At this point, you should look retrosynthetically from secu-amamine D.

EXTRA CREDIT: Predict the product
 Synthesis of Securingine B Enables
 Photoresponsive Materials Design
 Han *et al. Chem*,
 DOI: 10.1016/j.chempr.2024.10.003