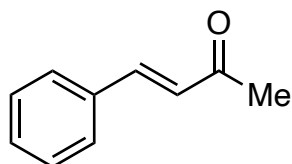


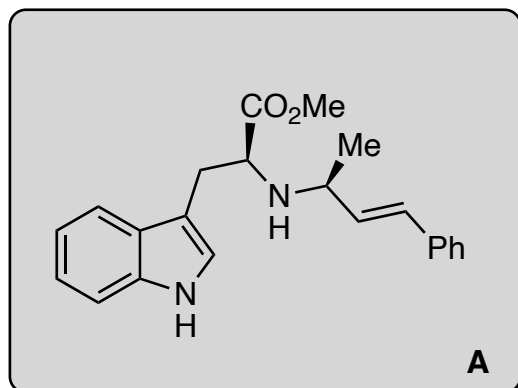
Total Synthesis of (–)-Rauvomine B via a Strain Promoted Intramolecular Cyclopropanation

Aquilina, J.M.; Banerjee, A.; Morais, G.N., Chen, S.; Smith, M.W.

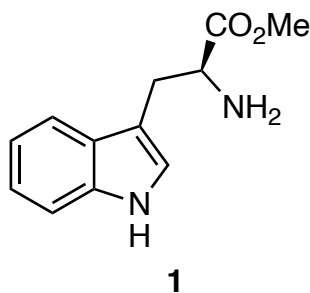
J. Am. Chem. Soc. **2024**, *146*, 22047–22055.



1-4



- 1) NaBH₄, MeOH
- 2) Novozyme-435, vinyl acetate (See Hint)
- 3) Ac₂O, NEt₃, DMAP
- 4) **1**, cat. Pd(dppe)₂, NEt₃



2) Hint: Enzymatic kinetic resolution. *R*-enantiomer reacts and is removed. Unreacted *S*-enantiomer is carried forward

6) Name of reaction? Parikh-Doering oxidation

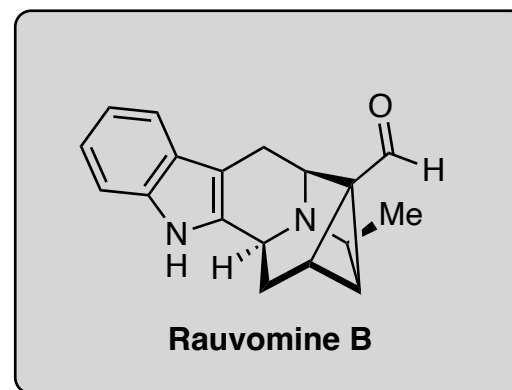
7) Name of reaction? Pictet-Spengler

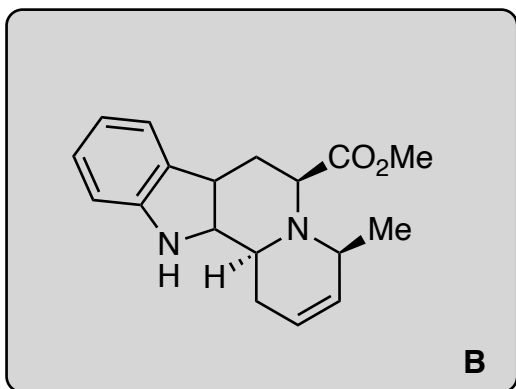
9) Structure of HG II?



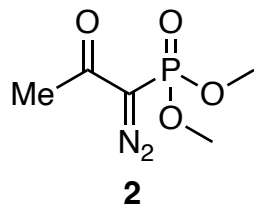
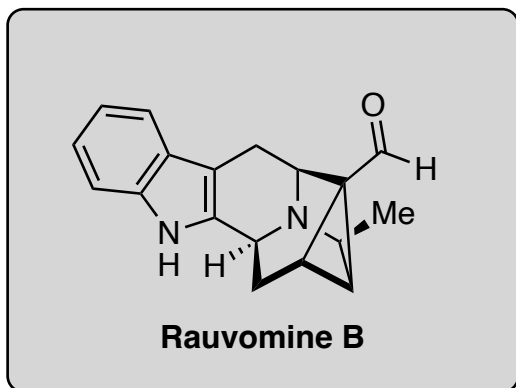
5-9

- 5) Ph₂Se₂, LiAlH₄, 120 °C
- 6) O₃S·Py, pyridine, NEt₃, DMSO
- 7) **A**, AcOH, 4A mol. sieves.
- 8) NaIO₄, MeOH/H₂O, then Na₂CO₃, toluene, 110 °C
- 9) Hoveyda-Grubbs II





10-14



- 10) DIBAL-H, -78 °C then
- 2**, NaOMe, MeOH
- 11) Boc_2O , DMAP
- 12) TsN_3 , cat. CuTC
- 13) cat. $\text{Rh}_2(\text{OAc})_4$, K_2CO_3 , DCE, 80 °C
- 14) TFA

10) Name of reaction/reagent?
Ohira–Bestmann homologation

13) Provide a mechanism

