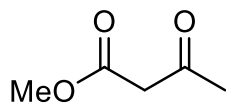


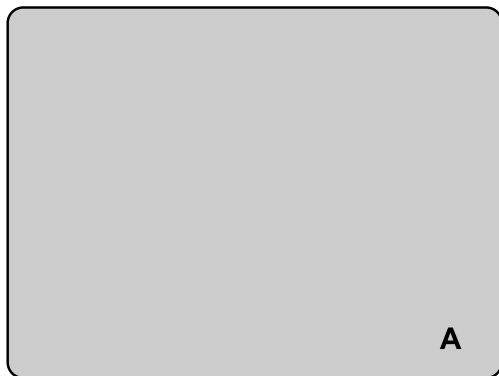
Total Synthesis of (±)-Isostemofoline

A. S. Kende, T. L. Smalley, H. Huang

Journal of the American Chemical Society **1999** 121 (32), 7431-7432

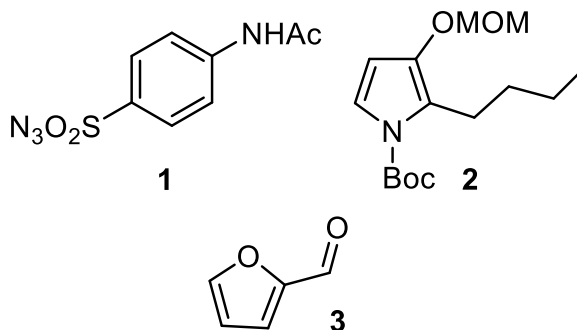


1-6



7-12

- 1) **1**, Et₃N
- 2) TBSOTf, Et₃N
- 3) **2**, [Rh(OOCC₇H₁₅)₂]₂, pentane, reflux
- 4) TBAF
- 5) H₂, Pd/C
- 6) H₂O, DMSO, 150 °C



- 7) **3**, NaOH, MeOH, H₂O, reflux
- 8) LiHMDS, DMPU, then allyl iodide
- 9) toluene, 110 °C
- 10) K₂OsO₄, NaIO₄
- 11) Zn(BH₄)₂
- 12) TIPSCl, imidazole

1) Name reaction?

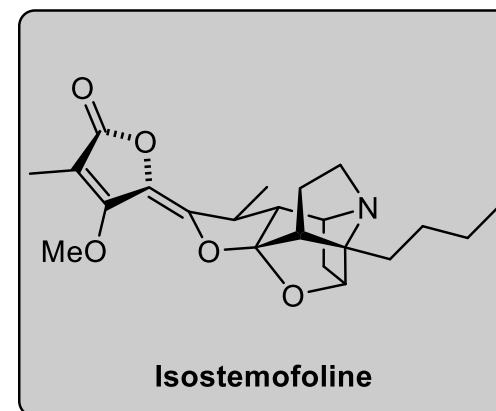
3) Classify the reaction?

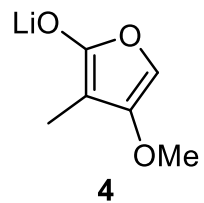
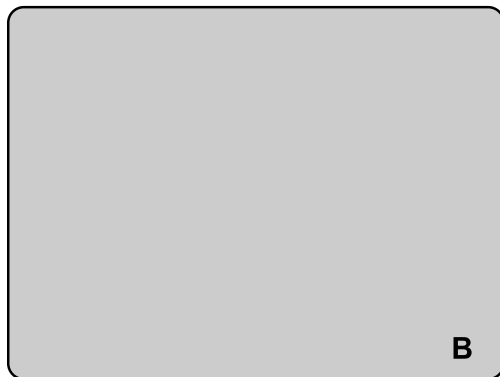
6) Name reaction?

8) Hint: The reaction gave 2 products, the major undesired one could be converted via step 9 into the desired one.

9) Name reaction?

10) Name reaction?





13-23

- 13) MeLi, DMPU, Et₂O, -40 °C
- 14) TBAF
- 15) TsCl, pyridine
- 16) O₃, DCM *then* Me₂S
- 17) *i*-BuOCOCl, *N*-methyl-morpholine, THF
- 18) NaBH₄
- 19) DMP ox.
- 20) **4**, THF, -78°C
- 21) DMP ox.
- 22) TFA, *then* aq. NaHCO₃
- 23) Tf₂O, DCM

19) Draw the reagent.

