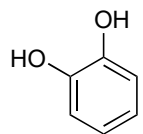


Enantioselective Synthesis of Azamerone

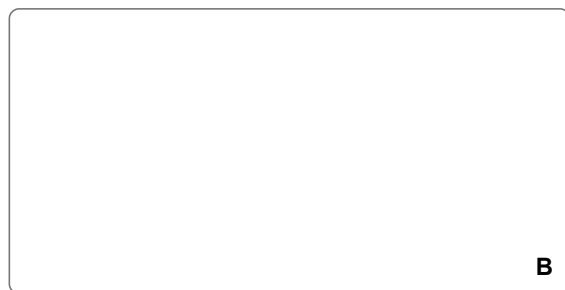
Matthew L. Landry, Grace M. McKenna, and Noah Z. Burns
J. Am. Chem. Soc. **2019**, *141*, 2867-2871.



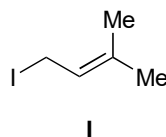
↓ 1 - 4



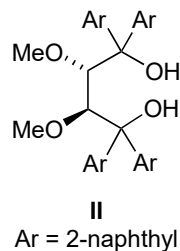
↓ 5 - 8



- 1) NaIO_3 , MeOH, 60 °C
- 2) PhMgBr
- 3) BBr_3 , then air, aq. CuSO_4
- 4) Proton Sponge, **I**



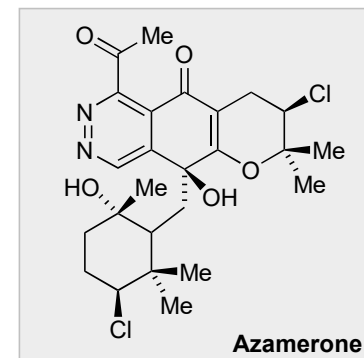
- 5) $\text{CITi}(\text{O}i\text{-Pr})_3$, **II**, $t\text{-BuOCl}$, quinoline
- 6) aq. HClO_4
- 7) $(\text{COCl})_2$, DMF
- 8) TsNHNH_2 , then NaOH



2) *hint*: formal etherification

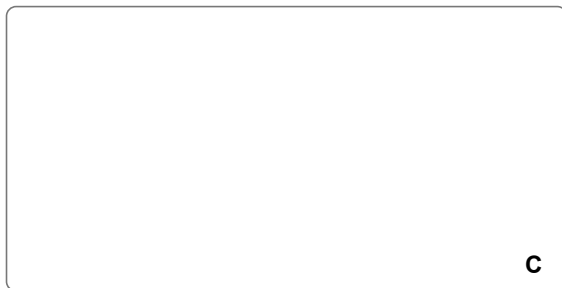
4) Structure and pK_A of Proton Sponge?

5) Please provide a mechanism and name the ligand class.

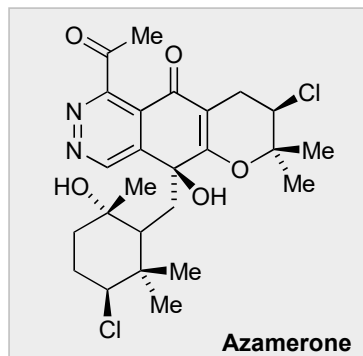


geranyl acetate

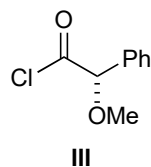
9 - 14



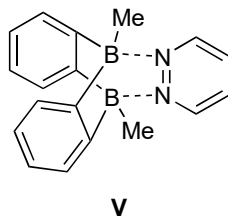
15 - 19



- 9) $\text{Hg}(\text{OTFA})_2$, then aq. NaCl, then Cl_2 , LiCl, pyridine
- 10) K_2CO_3 , MeOH
- 11) **III**, pyridine
- 12) K_2CO_3 , MeOH
- 13) Tf_2O , 2,6-lutidine, then DBU
- 14) $\text{BH}_3\text{-SMe}_2$

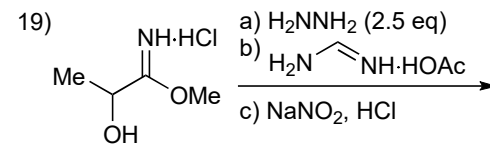


- 15) **B**, SPhos-Pd G3, K_3PO_4
- 16) SPhos-Pd G3, K_2CO_3 *i*-PrOH
- 17) TBSOTf, DIPEA (excess), then NaOH
- 18) $\text{PhI}(\text{OTFA})_2$, MeCN / H_2O
- 19) **IV**, **V**, 110 °C, air, then HCl



11) What chiral acid is **III** derived from?

14) Name the heterocycle in **C**.



IV

19) Name the heterocycle in **IV** and classify the reaction(s).

Name the heterocycle in Azamerone.