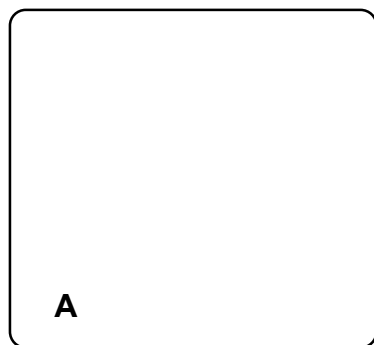
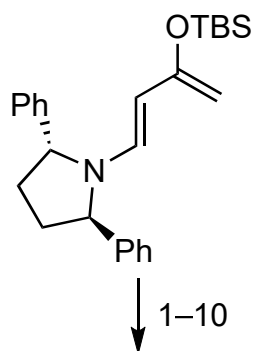
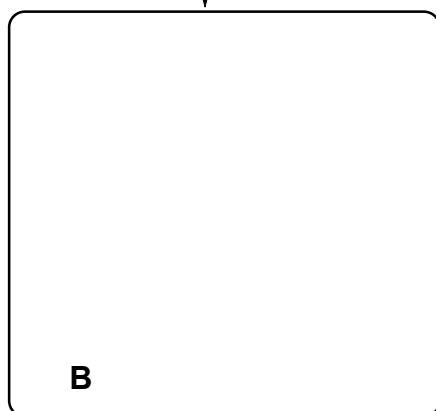


# Total Synthesis of (-)-Okilactomycin

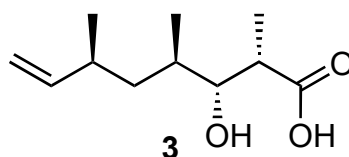
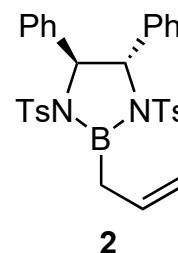
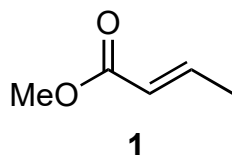
A. B. Smith, K. Basu, T. Bosanac, *J. Am. Chem. Soc.* **2007**, *129*, 14872–14874.



↓ 11–15



- 1) **1**, PhMe
- 2) LiAlH<sub>4</sub>
- 3) NaHMDS, BnBr, TBAI
- 4) 10% HF-MeCN
- 5) L-Selectride, *then* PhNTf<sub>2</sub>
- 6) Pd(PPh<sub>3</sub>)<sub>4</sub>, LiCl, CO, Bu<sub>3</sub>SnH
- 7) **2**
- 8) KH, 18-C-6 *then* Me<sub>2</sub>SO<sub>4</sub>
- 9) *m*CPBA, MeOH
- 10) NaH, 2-naphthylmethyl bromide



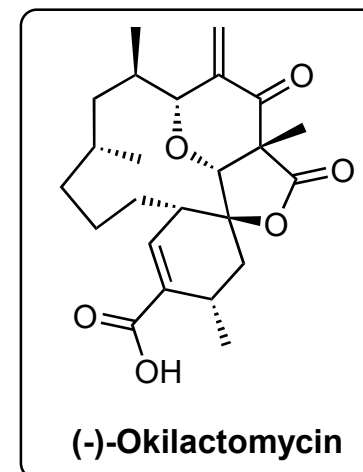
- 11) Cp<sub>2</sub>Zr(H)Cl *then* NBS
- 12) PhSeH, Cs<sub>2</sub>CO<sub>3</sub>
- 13) **3**, *i*-PrOTMS, TMSOTf
- 14) Cp<sub>2</sub>TiMe<sub>2</sub>
- 15) Me<sub>2</sub>AlCl

8) Name of the reaction?

9) Hint: note MeOH as solvent

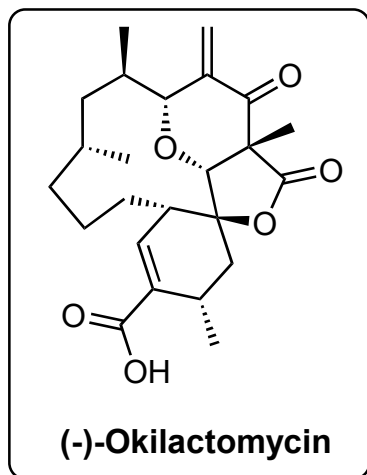
11) Name of the reagent?

14-15) Name of the sequence?



**B**

16-29



- 16) Davis oxaziridine, pyridine
- 17) DDQ
- 18) KHMDS, MeOCOCI
- 19) NaOMe
- 20) MeI, K<sub>2</sub>CO<sub>3</sub>
- 21) HG-II
- 22) H<sub>2</sub>, Pd/C
- 23) *o*-NO<sub>2</sub>PhSeCN, Bu<sub>3</sub>P, pyridine *then* H<sub>2</sub>O<sub>2</sub>
- 24) SeO<sub>2</sub>, *t*-BuOOH
- 25) SOCl<sub>2</sub>
- 26) NaHMDS, PhSeCl
- 27) Me<sub>3</sub>NO
- 28) NaIO<sub>4</sub>
- 29) NaClO<sub>2</sub>, NaH<sub>2</sub>PO<sub>4</sub>, 2-methyl-2-butene

16) Structure of Davis oxaziridine?

18) Hint: excess of each reagent

23) Name of the reaction?

27) Name of the reaction?

29) Name of the reaction?