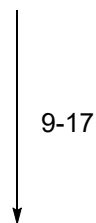
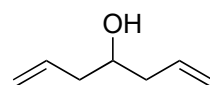
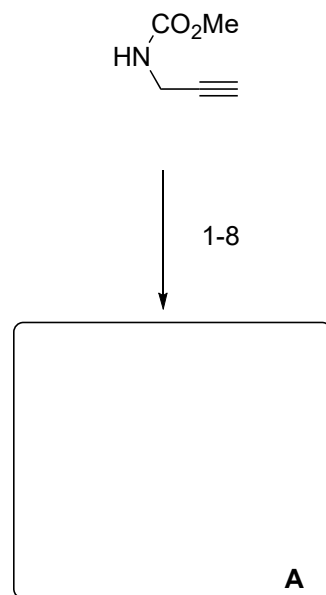


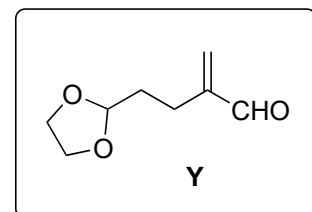
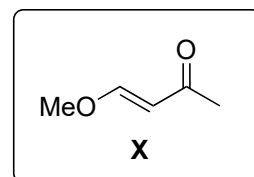
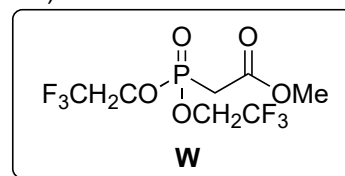
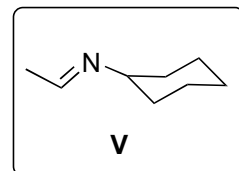
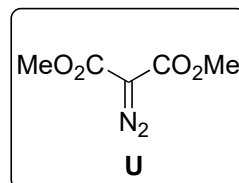
Total Synthesis of Leucascandrolide A

Ying Wang, Jelena Janjic, and Sergey A. Kozmin *J. Am. Chem. Soc.* **2002**, *124*, 13670–13671.

Sergey A. Kozmin *Org. Lett.* **2001**, *3*, 755–758.



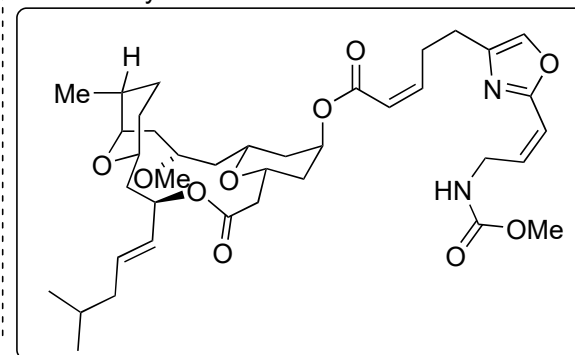
- 1) *n*-BuLi, TIPSOTf, then *n*-BuLi, TsCN
- 2) **U**, Rh₂(OAc)₄, then HF
- 3) H₂, Pd/CaSO₄
- 4) LiEt₃BH
- 5) PPh₃, CBr₄
- 6) **V**, Et₂NLi, HMPA
- 7) **W**, KHMDS
- 8) LiOH



- 9) **X**, PPTS,
- 10) TFA, then LiOH
- 11) benzyl 2,2,2-trichloroacetimidate, TfOH
- 12) **Y**, Cy₂BCl, TEA
- 13) MeCHO, Sml₂
- 14) MeOTf, 2,6-di-*t*-Bu-pyridine
- 15) LAH
- 16) (Me₂HSi)₂NH, H₂PtCl₆
- 17) TBAF

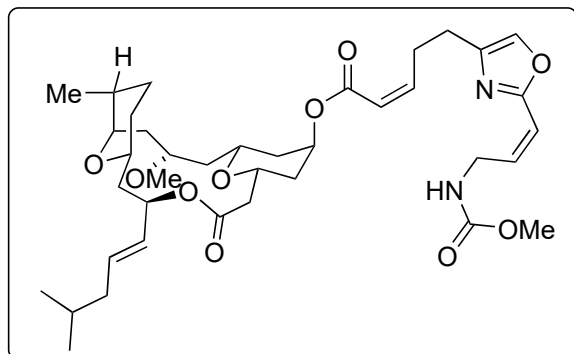
Name of step 7?

step 11: Name of the reagent?
 Name of step 13? Explain the selectivity by providing a transition state.
 Which conditions lead to the opposite selectivity?





18-26



18) cat. H₂SO₄, *then* Ac₂O, pyridine

19) ZnCl₂, **Z**

20) L-Selectride

21) OsO₄, NMO

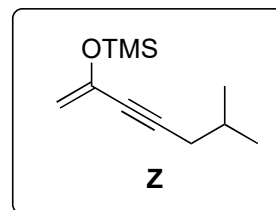
22) Red-Al

23) Pb(OAc)₄

24) PCC

25) DDQ

26) DIAD, PPh₃, **A**



Structure of Red-Al?