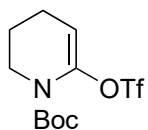
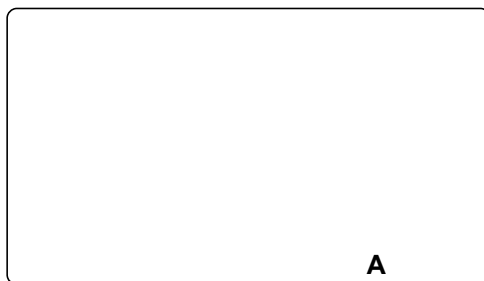


Total Synthesis of Lyconesidine B

T. Kurose, C. Tsukano, T. Nanjo, Y. Takemoto, *Org. Lett.* **2021**, *23*, 676–681.



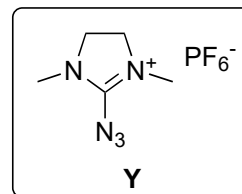
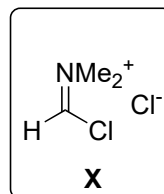
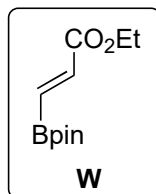
1-7



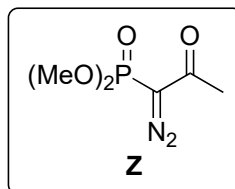
8-12



- 1) **W**, Pd(OAc)₂, KF, JohnPhos
- 2) Cu(OAc)₂·2H₂O, PMHS, dppbe
- 3) **X**, then aq. NaOAc
- 4) NaBH₄
- 5) TBSCl, imH
- 6) LDA, MeCN
- 7) 4-Me-Morpholine, **Y**



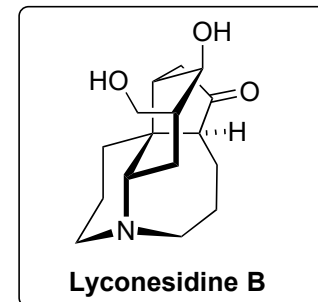
- 8) Rh₂(NHCOt-Bu)₄, then NaBH(O₂CCF₃)₃
- 9) allyl bromide, Cs₂CO₃
- 10) TBAF
- 11) TPAP, NMO
- 12) **Z**, K₂CO₃, MeOH



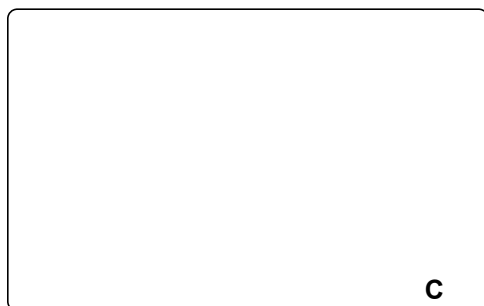
Name of **X**?

Name of step 7? Mechanism?

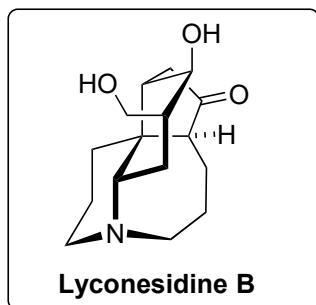
Name of **Z**? How is it prepared?



13-21



22-30



- 13) heat, toluene
- 14) Li naphthalenide
- 15) TFA
- 16) crotyl bromide, K_2CO_3
- 17) crotyl bromide, 60 °C
- 18) Grubbs II
- 19) $Na_2S \cdot 9H_2O$
- 20) H_2O_2 , Cl_3CCN
- 21) H_2 , Pd/C

- 22) TESOTf, 2,6-lutidine
- 23) H_2 , Pd/C
- 24) TMSOTf, 2,6-lutidine
- 25) $(CHO)_n$, $Sc(OTf)_3$
- 26) $TsOH \cdot H_2O$
- 27) TESOTf, 2,6-lutidine
- 28) $NaBH(OAc)_3$, AcOH
- 29) AZADOL, CuCl, bpy, DMAP
- 30) $TsOH \cdot H_2O$

Structure of Grubbs II?

Name of step 20?

Name of step 25?

Structure of AZADOL?