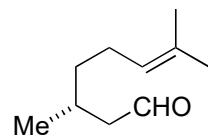
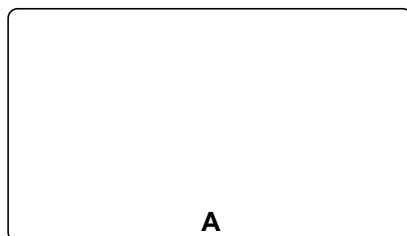


Total Synthesis of Hirsutellone B

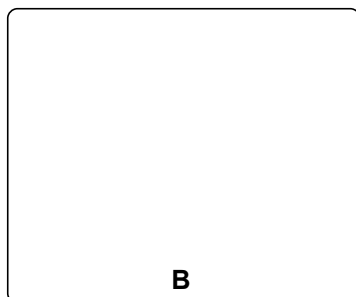
K. C. Nicolaou, D. Sarlah, T. R. Wu, W. Zhan, *Angew. Chem. Int. Ed.* **2009**, *48*, 6870–6874.



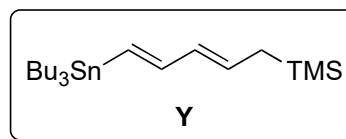
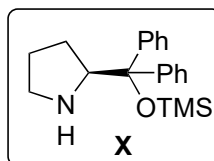
1-5



6-9



- 1) PPh_3CHI
- 2) O_3 , Me_2S
- 3) Ph_3PCHCHO
- 4) **X**, H_2O_2 , then $\text{PPh}_3\text{CHCO}_2\text{Me}$
- 5) **Y**, CuTC



- 6) Et_2AlCl
- 7) *p*- Tol_4BiF , $\text{Cu}(\text{OAc})_2$
- 8) LiAlH_4
- 9) $\text{PhI}(\text{OAc})_2$, TEMPO

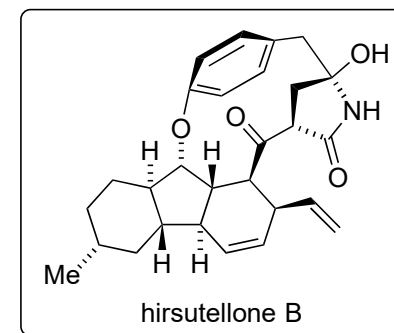
Name the starting material!

Name of step 1?

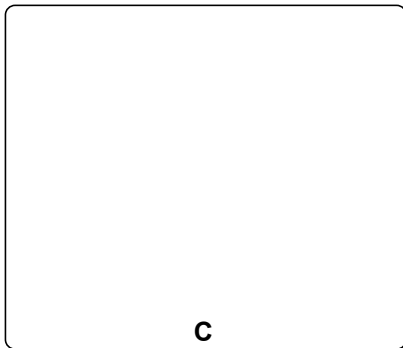
Structure of CuTC?

step 6: Draw a mechanism

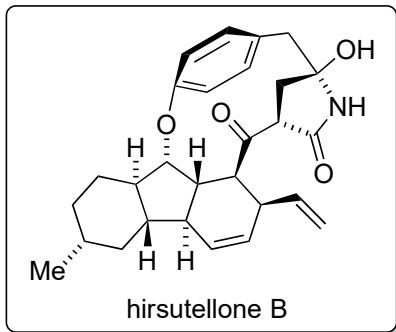
Structure of TEMPO?



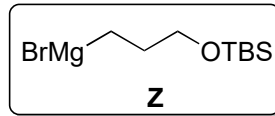
10-16
↓



17-23
↓



- 10) **Z**
- 11) DMP
- 12) CAN
- 13) NaBH(OAc)₃
- 14) ZnI₂, AcSH
- 15) NaOMe
- 16) H₂O₂, Na₂WO₄



step 14: Draw a mechanism

Name of step 17?

Ingredients of AD-mix β?

Name of step 20 and 21?