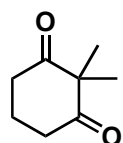


Total Synthesis of 1-Hydroxytaxinine

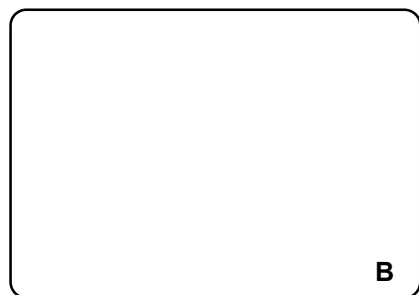
Y. Imamura, S. Yoshioka, M. Nagatomo, M. Inoue, *Angew. Chem. Int. Ed.* **2019**,
doi:10.1002/anie.201906872



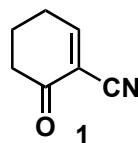
↓ 1-7



↓ 8-13

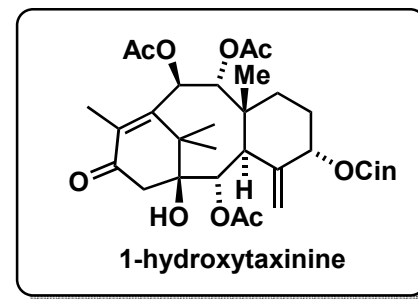


- 1) $(\text{CH}_2\text{OH})_2$, (+)-CSA
- 2) $\text{LiN}(\text{SiMe}_3)_2$, MeI
- 3) NH_2NH_2
- 4) I_2 , DBN
- 5) $\text{Pd}(\text{PPh}_3)_4$, methyl acrylate
- 6) AD-mix- β
- 7) $\text{Me}_2\text{C}(\text{OMe})_2$, PPTS



- 8) LiOH
- 9) *i*-BuOCOC(OMe), $(\text{PhTe})_2$, NaBH_4
- 10) Et_3B , air, **1**, then DDQ, 2,6-lutidine
- 11) MeMgBr , CuI, NaBH_4
- 12) MsCl, DBU
- 13) *i*-Bu₂AlH

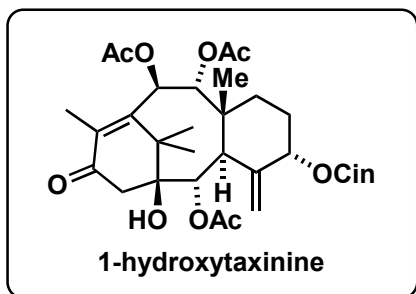
Step 10: Please propose a mechanism.



14–21



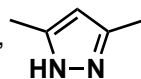
22–26



14) TiCl_4 , Zn, pyridine

15) Ac_2O , DMAP

16) CrO_3 (24 equiv),



17) TsNHNH_2

18) catecholborane, $\text{NaOAc}\cdot 3\text{H}_2\text{O}$

19) OsO_4 , NMO

20) cinnamic acid, 2,4,6-trichlorobenzoyl chloride

21) PCC

22) MeMgBr

23) $\text{CF}_3\text{CO}_2\text{H}$, Ac_2O

24) Me_2HSiCl

25) Burgess reagent

26) $\text{HF}\cdot\text{pyridine}$

Step 25: What is the structure of the reagent? Please propose a mechanism.

