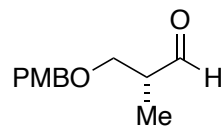
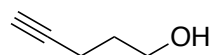
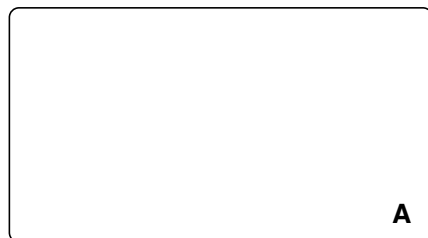


Total Synthesis and Structural Revision of Callipeltoside C

J. Carpenter, A. B. Northrup, D. Chung, J. J. M. Wiener, S.-G. Kim, D. W. C. MacMillan
Angew. Chem. Int. Ed. **2008**, *47*, 3568.



1-6



7-13



- 1) Propionaldehyde, L-proline
- 2) Propargyl bromide, Zn
- 3) PdCl₂(CH₃CN)₂, CO, MeOH
p-benzoquinone
- 4) TBSCl, imidazole
- 5) DDQ
- 6) SO₃·py, Et₃N, DMSO

- 7) AlMe₃, [Cp₂ZrCl₂], then I₂
- 8) Oxalyl chloride, Et₃N, DMSO
- 9) PhNO, L-proline
- 10) NaBH₄
- 11) Zn, AcOH, EtOH
- 12) PMBCl, Bu₂Sn(OMe)₂, TBAI
- 13) TBSCl, imH

1) Explain the stereochemistry. Draw the transition state.

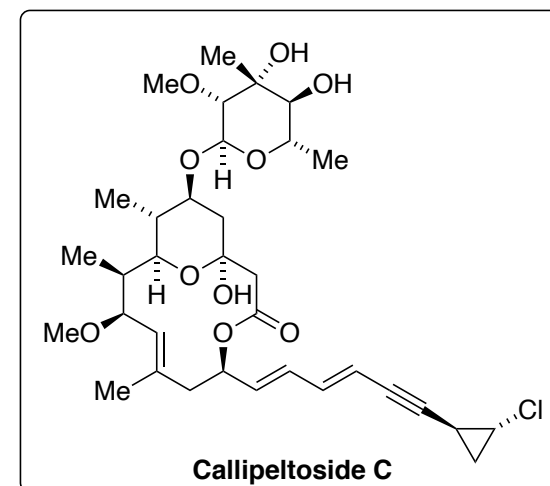
3) Name of the reaction?

6) Name of the reaction?

7) Name of the reaction?

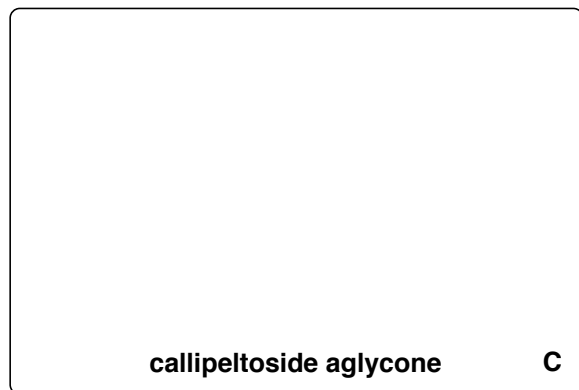
8) Name of the reaction?

9) Explain the stereochemistry. Draw the transition state.

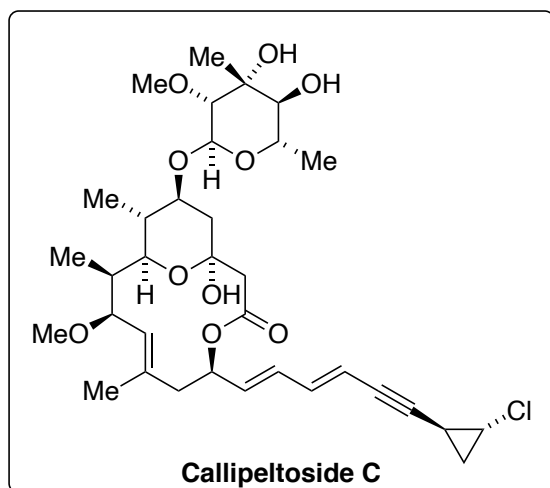


A

14-23



24-25



- 14) $\text{MgBr}_2 \cdot \text{Et}_2\text{O}$, then grignard of **B**
- 15) MeOTf , 2,6-DTBP
- 16) DDQ
- 17) $\text{SO}_3 \cdot \text{py}$, Et_3N , DMSO
- 18) LiHMDS , then **X**
- 19) TBAF
- 20) $\text{Ba}(\text{OH})_2 \cdot 8 \text{H}_2\text{O}$, MeOH
- 21) **Y**, DIPEA, DMAP
- 22) $\text{PPh}_3 \cdot \text{HBr}$, H_2O
- 23) TFA, H_2O , THF

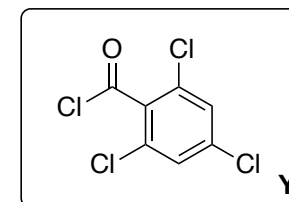
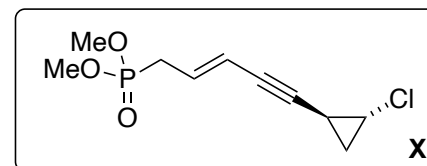
- 24) **Z**, TMSOTf
- 25) TASF

14) Explain the stereochemistry

18) Name of the reaction?

21) Name of the reaction?

Hint: Only one TBS-deprotection occurs in step 19.
In step 21 an elimination side reaction takes places.



24) Name of the reaction?

