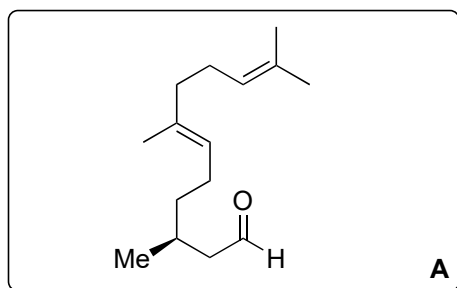
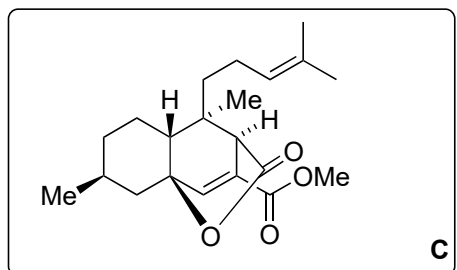


# Short, Enantioselective Total Synthesis of (+)-Chatancin

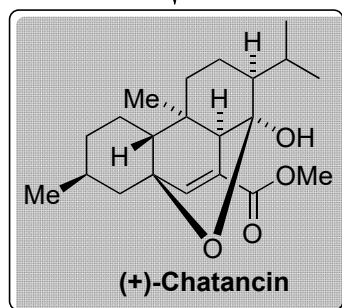
Yu-Ming Zhao and Thomas J. Maimone  
*Angew. Chem. Int. Ed.* **2015**, *54*, 1223-1226



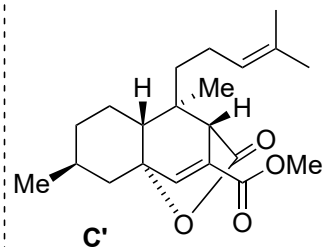
1-4



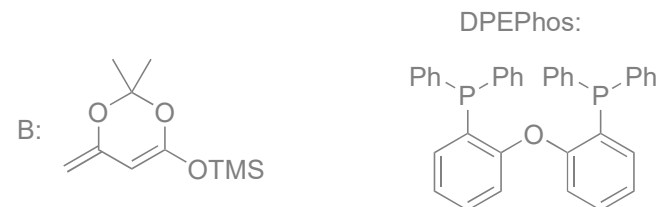
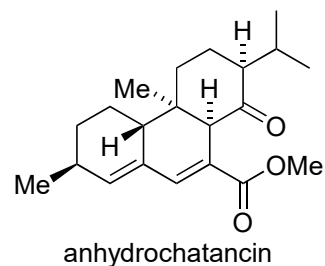
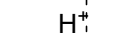
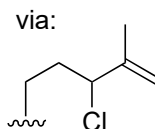
5-7



- 1) **B**,  $\text{BF}_3 \cdot \text{OEt}_2$ , then DMP
- 2) PhMe, reflux, then  $\text{NEt}_3$ ,  $\text{Tf}_2\text{O}$
- 3) CO (1 atm),  $i\text{-Pr}_2\text{NEt}$ , DPEPhos,  $\text{Pd}(\text{OAc})_2$
- 4) PhMe, 100 °C



- 5)  $\text{SO}_2\text{Cl}_2$ ,  $\text{Na}_2\text{CO}_3$ , DCM
- 6) Zn, THF, reflux
- 7)  $\text{H}_2$ , Pd/C

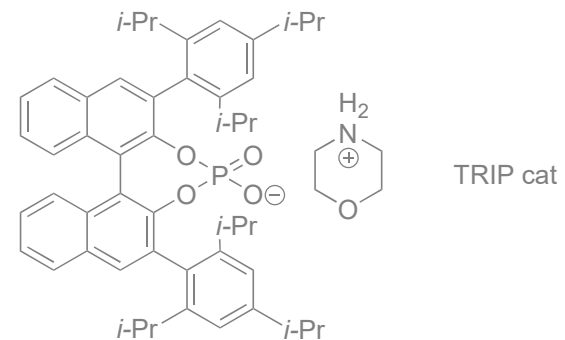
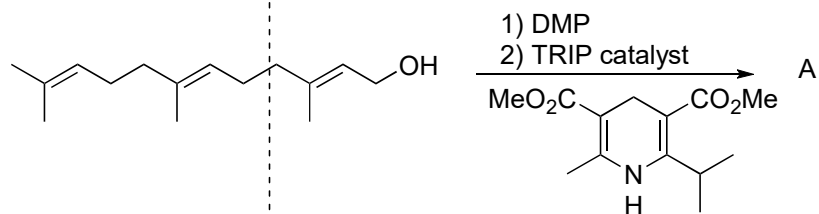


- 1) Mukaiyama aldol followed by oxidation of the primary alcohol
- 2) Release of acetone and pyrone formation (Sato), then triflation
- 3) Fürstner methoxycarbonylation
- 4) [4+2] Diels-Alder cycloaddition

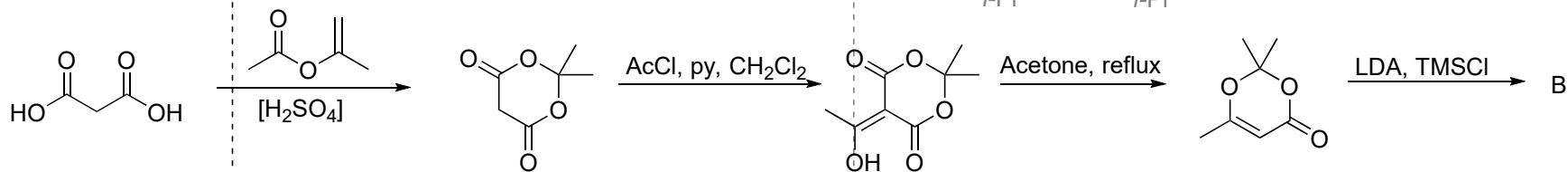
- 5) allylic chlorination
- 6) reductive cyclisation
- 7) hydrogenation of terminal double bond

Chatancin is highly unstable under mildly acidic conditions and forms anhydrochatancin.

Preparation of A:



Preparation of B:



Mechanism step 4:

