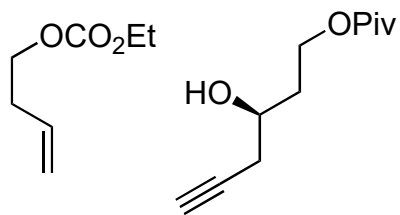


## Total Synthesis of (-)-Dactylolide

S. Y. Yun, E. C. Hansen, I. Volchkov, E. J. Cho Dr., W. Y. Lo, D. Lee, *ACIE* **2010**, *49*, 4261–4263



1–3



3–7

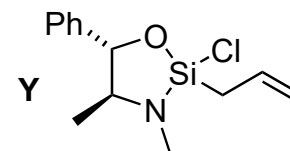
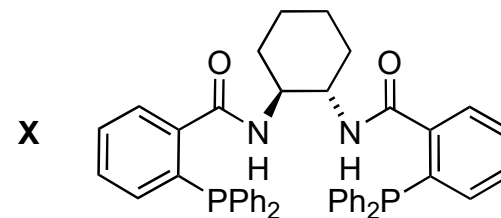


- 1)  $[\text{RuCp}(\text{CH}_3\text{CN})_3]\text{PF}_6$
- 2)  $\text{Pd}_2(\text{dba})_3 \bullet \text{CHCl}_3$ , **X**

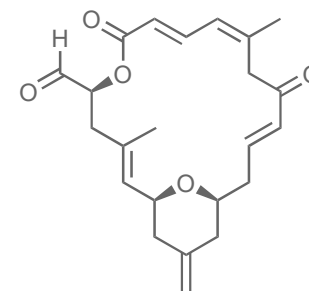
- 3) DIBAL
- 4) IBX
- 5) **Y**
- 6) TBSCl
- 7)  $[\text{RuCp}(\text{CH}_3\text{CN})_3]\text{PF}_6$ ,  
 $\text{---}\equiv\text{---BPin}$

*How would you prepare the starting materials?*

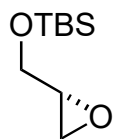
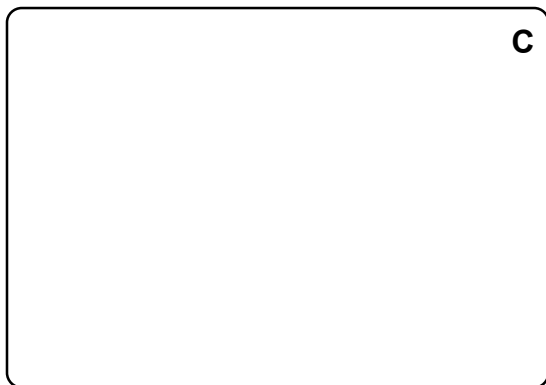
*Steps 1 and 2: what kind of name reactions take place? Think of the mechanism!*



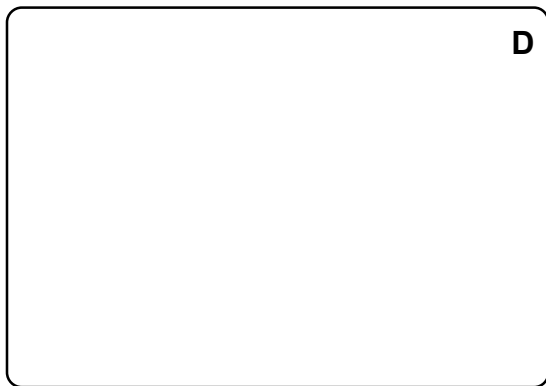
*How would you prepare Y?*



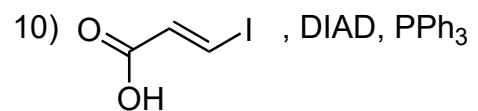
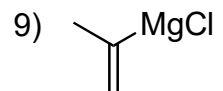
8



9-10



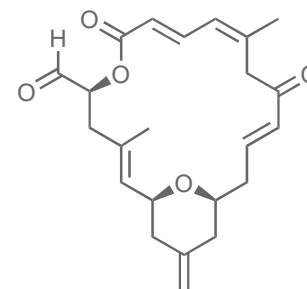
8)  $\text{Re}_2\text{O}_7$



11)  $\text{TIOEt}$ ,  $\text{Pd}(\text{PPh}_3)_4$ , **C**

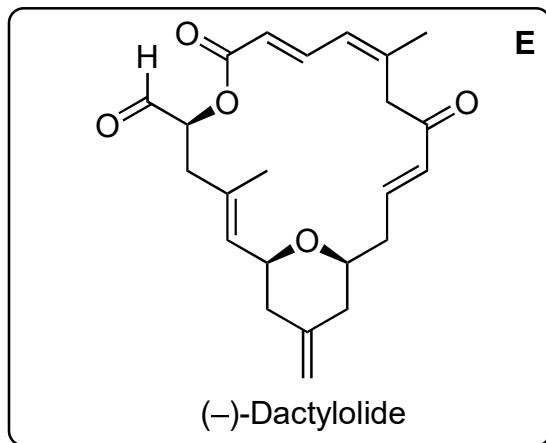
*Step 8: Think of a mechanism!*

*Why Thallium?*



12-15

- 12) DMP
- 13) Grubbs II, benzoquinone
- 14) HCl, MeOH
- 15) DMP



*Why is Benzoquinone added?*

