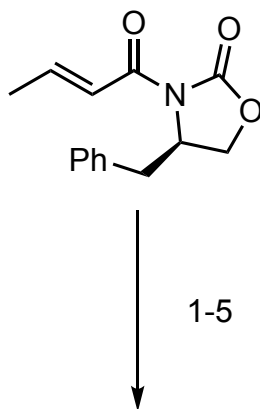


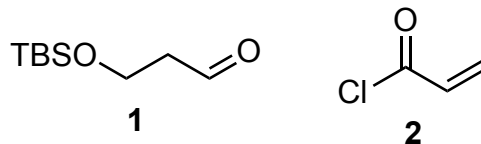
Total Synthesis of the Marine Diterpenoid Blumiolide C

Hamel, C.; Prusov, E. V.; Gertsch, J.; Schweizer, W. B.; Altmann, K-H. *Angew. Chem. Int. Ed.* **2008**, *47*, 10081–10085

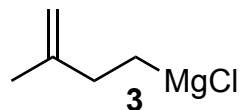


6-10

- 1) Bu_2BOTf , Et_3N , then **1**
- 2) TBSOTf, 2,6-lutidine
- 3) LiBH_4 , MeOH (1 equiv)
- 4) **2**, Et_3N , DMAP
- 5) Grubbs II



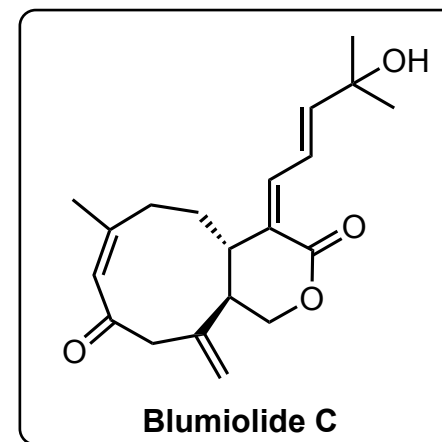
- 6) **3**, CuI
- 7) CSA
- 8) DMSO, $(\text{COCl})_2$, Et_3N
- 9) Vinylmagnesium chloride, ZnCl_2
- 10) PMBTCA, PPTS (3 mol%)



- 1) What's the name of this reaction?
Please explain the diastereoselectivity and draw the transition state
- 5) Grubbs II structure?

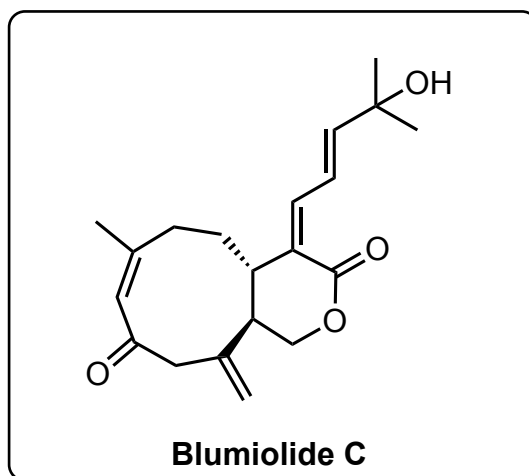
7) *Hint*: A single deprotection occurs

10) Please draw the structures of PMBTCA and PPTS

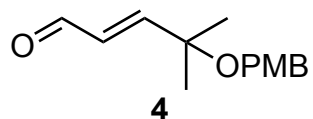




11-23



- 11) Hoveyda-Grubbs II
- 12) DIBAL-H
- 13) MeOH, PPTS (5 mol%)
- 14) TBAF
- 15) TPAP, NMO
- 16) MeMgBr
- 17) Martin's sulfurane
- 18) aq HF
- 19) TPAP, NMO
- 20) LDA, *then* **4**
- 21) neat DCC, CuCl₂
- 22) DDQ
- 23) DMP



17) Please draw the structure of Martin's sulfurane and propose a mechanism