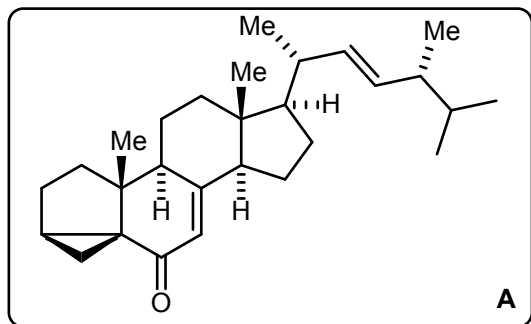
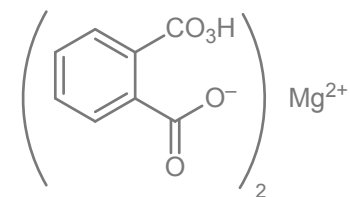
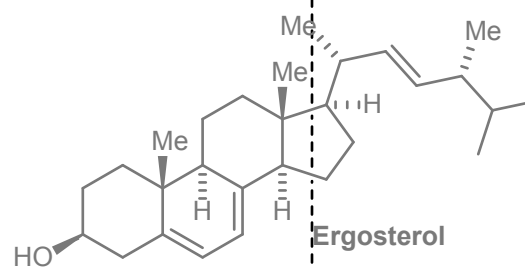


Synthesis of Strophasterol A Guided by a Proposed Biosynthesis and Innate Reactivity

R. C. Heinze, D. Lentz, P. Heretsch *Angew. Chem. Int. Ed.* **2016**, *55*, 11656–11659.



- 1) MsCl, pyridine
- 2) KHCO₃, H₂O, acetone
- 3) CrO₃, pyridine



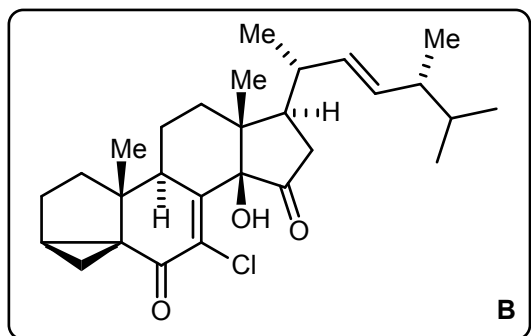
Magnesium monoperoxyphthalate (MMPP)

How would you synthesize **A** from ergosterol?

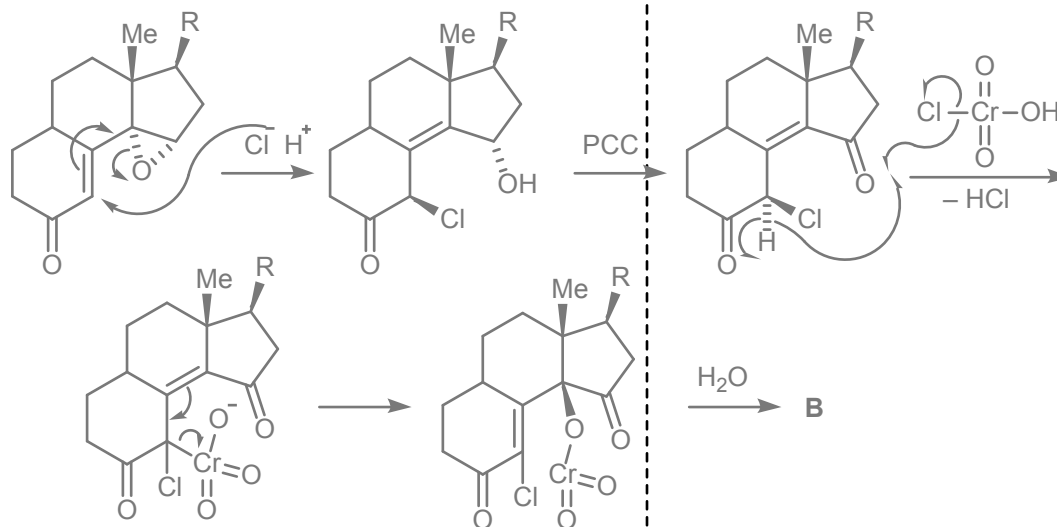
Structure of MMPP?

Think about a mechanism for step 4.

1-4



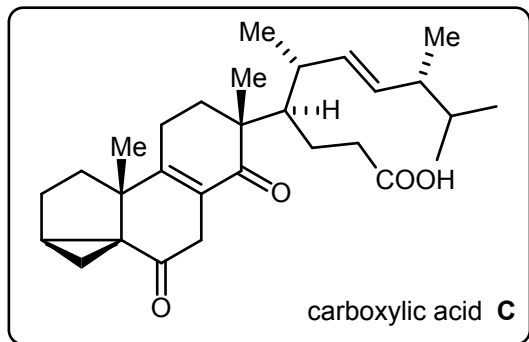
- 1) SeO₂, *t*-BuOOH
- 2) Burgess' reagent
- 3) MMPP
- 4) PCC, 4-Chloropyridine·HCl



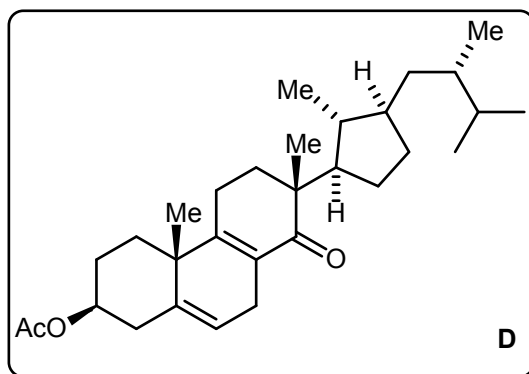
5

- 5) KOH, *t*-BuOH

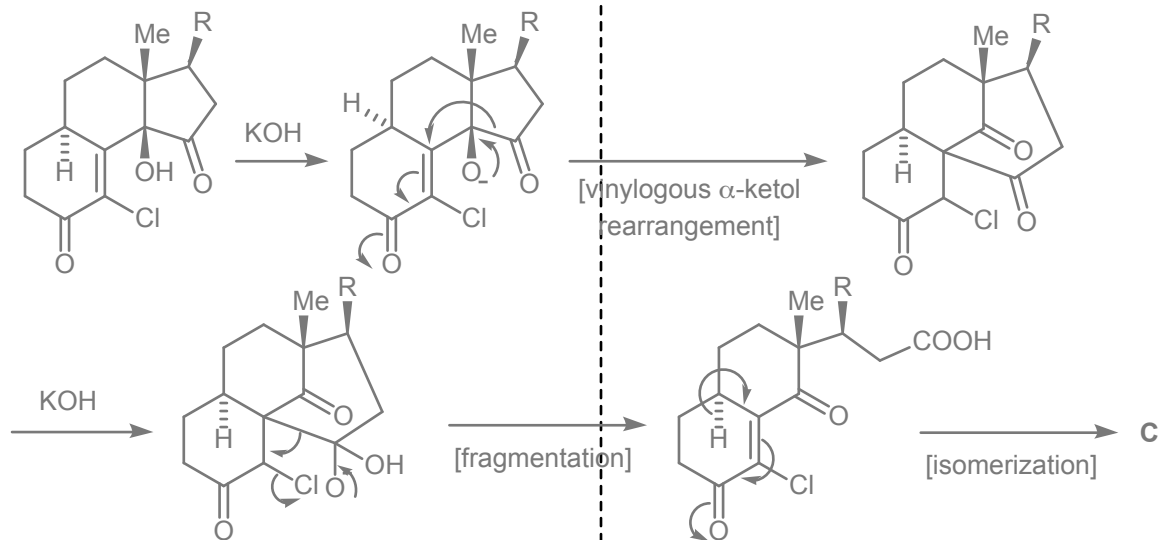
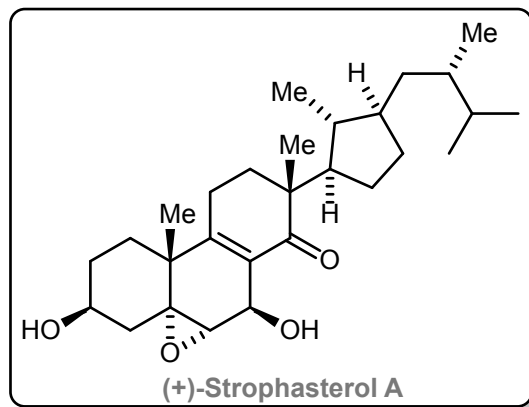
Come up with a mechanism for step 5.



6-11



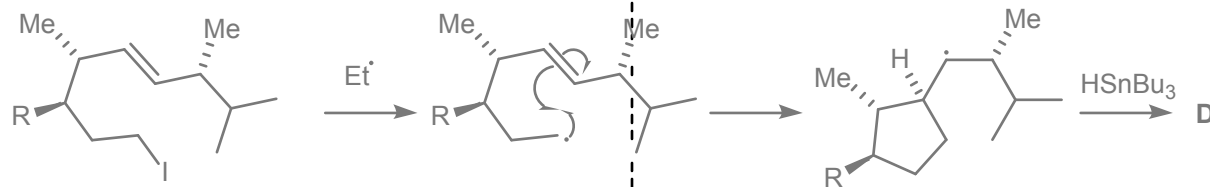
12-15



- 6) EtSH, EDC·HCl, DMAP
- 7) TESH, Pd/C
- 8) NaBH₄
- 9) BF₃·Et₂O, AcOH
- 10) I₂, PPh₃, imidazole
- 11) Et₃B, O₂, *n*-Bu₃SnH

Step 6-7: Who invented this protocol?
Fukayama

Come up with a mechanism for step 11.



- 12) MMPP
- 13) PDC, *t*-BuOOH
- 14) NaBH₄
- 15) KOH