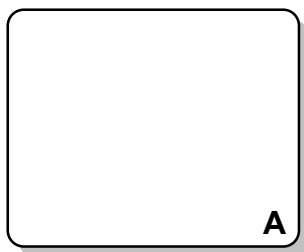
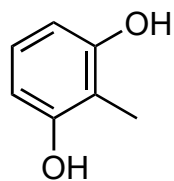
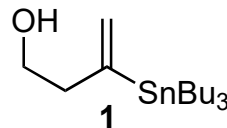


The total synthesis of (±)-11-O-debenzoyltashironin

S. P. Cook, A. Polara, S. J. Danishefsky, *J. Am. Chem. Soc.* **2006**, 128, 16440.



- 1) $\text{Zn}(\text{CN})_2$, HCl,
- 2) TsCl, -10°C
- 3) BnBr, K_2CO_3 , TBAI
- 4) *m*-CBPA then NEt_3 , MeOH/ CH_2Cl_2
- 5) NBS
- 6) TBSCl, NEt_3 ,



- 7) **1**, $\text{Pd}(\text{dba})_3$, $\text{P}(t\text{-Bu})_3$
- 8) DMP
- 9) **2** (4 eq), Et_2Zn , $\text{Ti}(\text{O}i\text{Pr})_4$
- 10) MsCl, NEt_3 then $\text{Me}_2\text{Cu}(\text{CN})\text{Li}_2$
- 11) TBAF, AcOH
- 12) PIDA then μW

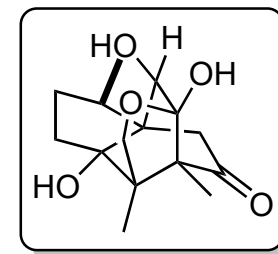
1) Name the reaction

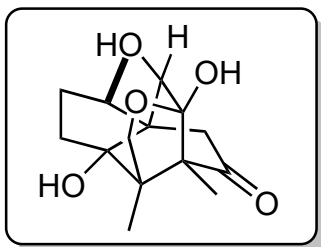
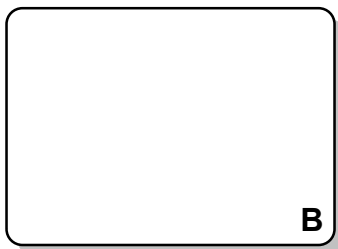
Please draw the active species

4) Name the first transformation

9) Draw the active species

12) Draw the mechanism





(±)-11-O-Debenzoyltashironin

- 13) NaBH₄ -78 °C
- 14) TMS-Imidazole
- 15) *m*-CBPA
- 16) (PPh₃)₃RhCl, H₂ (6.8 bar)
- 17) LiEt₃BH (52 eq)
- 18) DMP
- 19) Hf-pyr, TBAF
- 20) H₂, Pd/C