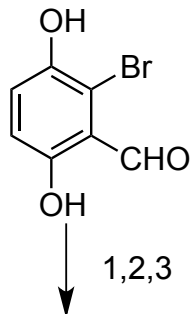
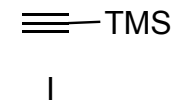


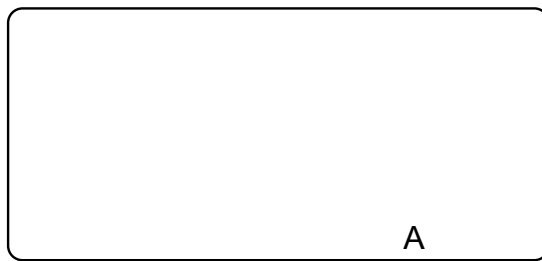
Synthesis Challenge #4 AG Wegner
JLU Giessen
31.10.2013



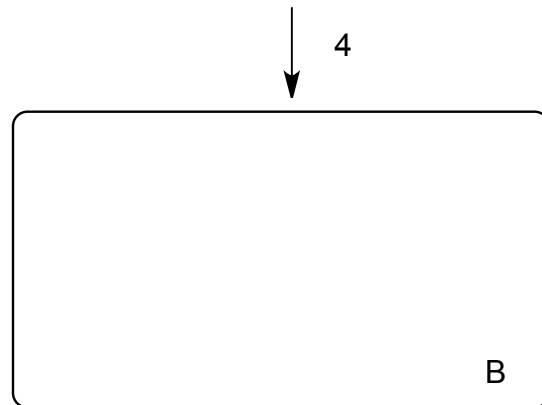
- 1) K_2CO_3 , Me_2SO_4 , DMF, rt
- 2) I, (S)-Binol, Et_2Zn , N-methylimidazole, $Ti(OiPr)_4$
- 3) K_2CO_3 , MeOH, rt



please provide a detailed mechanism for step 2)

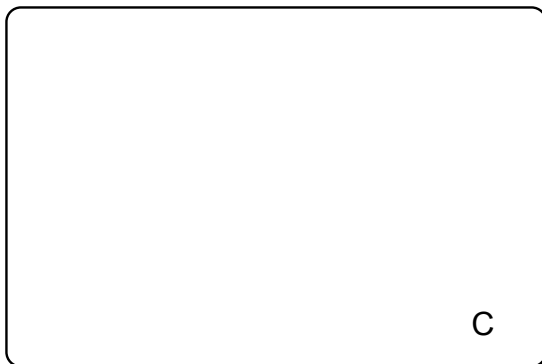


- 4) H_2 , Lindlar cat. Pyridine, EtOAc, rt



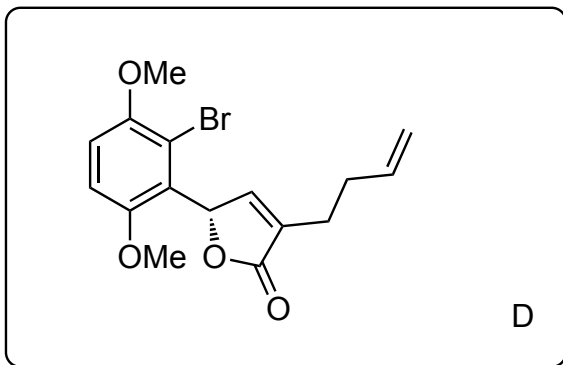
How can you determine the absolute configuration of B?

5



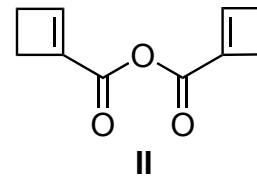
5) LDA, **II**, THF, -78°C to 0°C

6

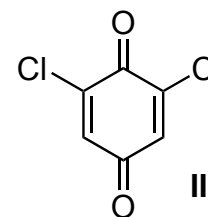


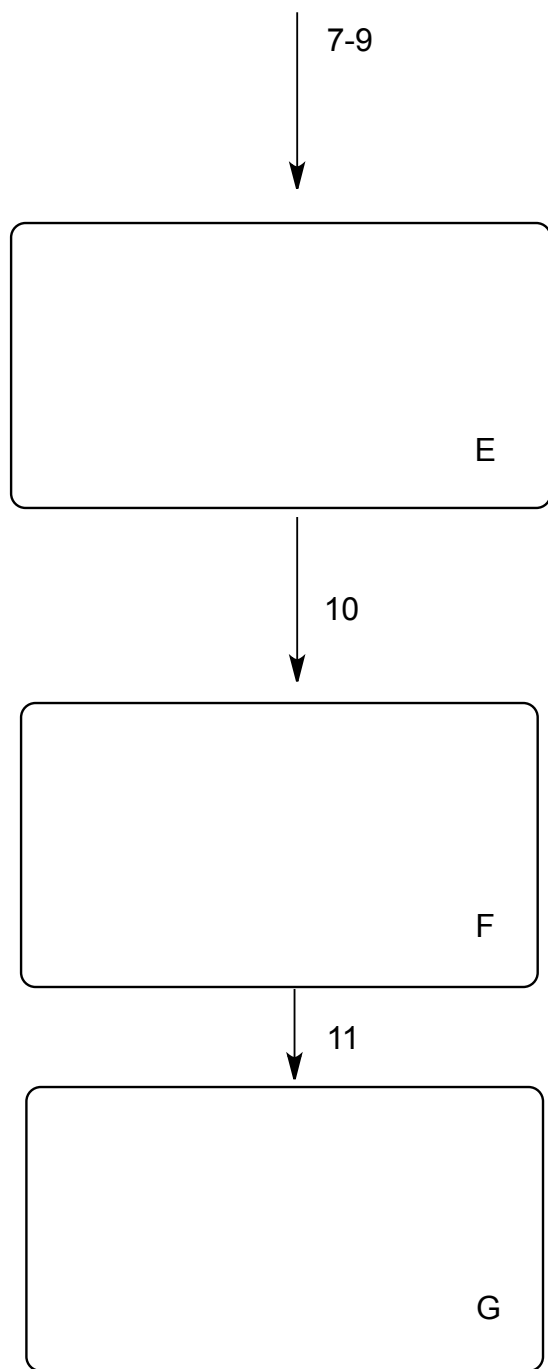
6) 1st Grubbs cat (10 mol%), **III** (50 mol%), toluene, then Ethylene (1 atm), 2nd Grubbs cat (5 mol%), 80°C

Please suggest a synthesis for **II**.



What is the difference between 1st Grubbs and 2nd Grubbs?
Please, give a detailed mechanism of step 6).



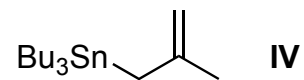


7) DIBALH, THF, -78°C
8) $t\text{Bu}_2\text{Si}(\text{OTf})_2$, Pyridine,
 CH_2Cl_2 , -78°C to rt
9) *m*-CPBA, CH_2Cl_2

10) **IV**, $\text{Pd}(\text{PPh}_3)_4$, CuCl , 1,4-
dioxane, 100°C

11) 2nd Grubbs, **III**, toluene

please provide a detailed mechanism for step 13)



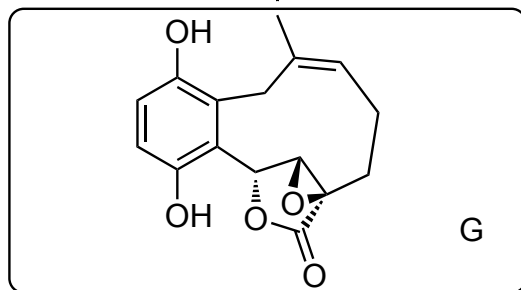
What is the name of the reaction in step 10)?

12-13



12) TBAF, THF, rt
13) TPAP, NMO, MS 4Å, MeCN

14-15



14) CAN, MeCN-H₂O, rt
15) NBH₄, MeOH-H₂O, rt

