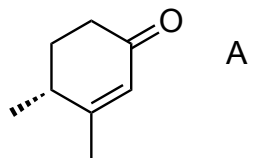


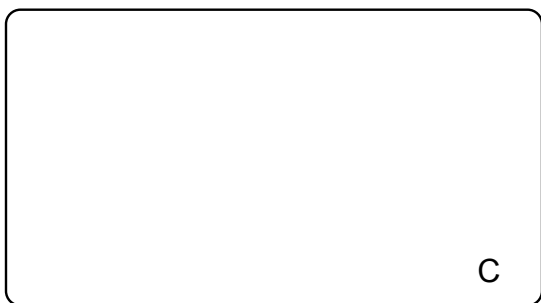
Synthesis Challenge #13 AG Wegner
JLU Giessen
06.03.2014



1-2



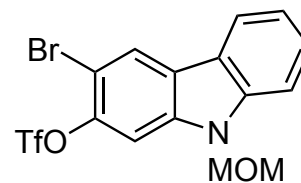
3-4



1) vinylMgBr, CuI, THF, $-78\text{ }^{\circ}\text{C}$
2) HMPA, $\text{Me}_2(\text{iPr})\text{SiCl}$

3) 9-BBN, THF, $-78\text{ }^{\circ}\text{C} \rightarrow \text{rt}$
4) I, $\text{Pd}(\text{PPh}_3)_4$, K_2CO_3 , DMF, $65\text{ }^{\circ}\text{C}$

Please, provide a synthesis of A!
Rationalize the chemoselectivity in step 1).



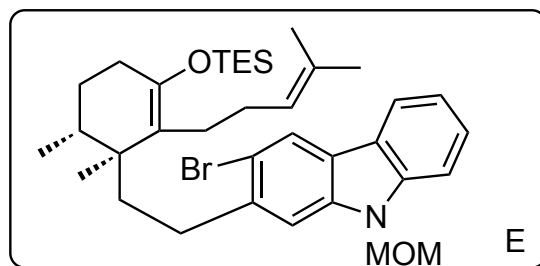
What is the name of the reaction in step 4)?

5-6



5) **II**, 18-crown-6, KF, 35 °C
6) *m*CPBA, CH₂Cl₂, -10 °C

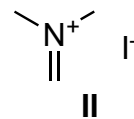
7)



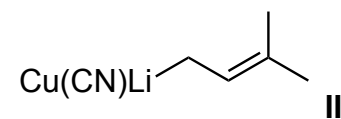
7) **III**, TESCOI, THF, -78 °C

8)

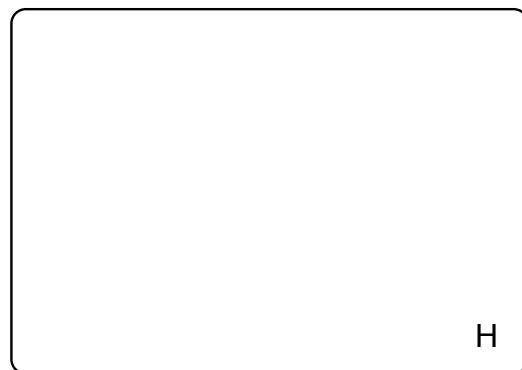
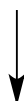
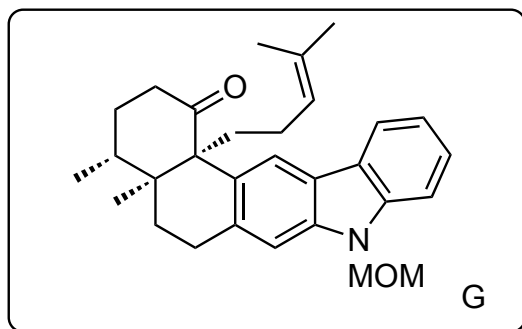
8) NaNH₂, *t*-BuOH, THF



What is the role of 18-crown-6 in step 5)?
What is the name of the reaction in step 6)?
Mechanism?



Please, provide a detailed Mechanism for step 8).



9) 3 N HCl, ethylene glycol, THF,
55 °C
10) Na, *i*PrOH, PhMe

Please, draw a 3D representation of G.