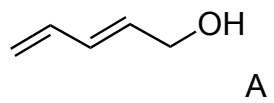


Synthesis Challenge #7 AG Wegner
JLU Giessen
21.11.2013



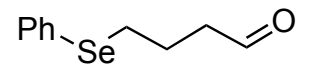
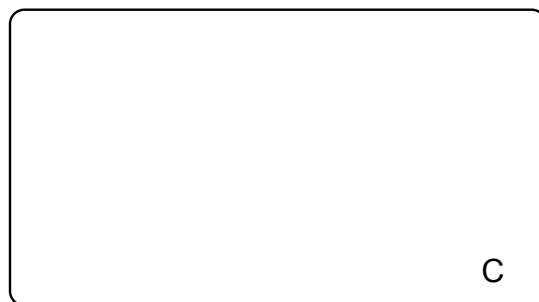
1-2

- 1) NaH, BrCH₂CO₂H, THF – 78°C to rt
- 2) DCC, DMAP, *i*PrOH



1-3

- 3) LDA, THF, –78°C, 15 min; I
- 4) MsCl, Et₃N, CH₂Cl₂, rt
- 5) DBU, THF; pHPLC



6

6) H₂O₂, NaHCO₃, THF, rt

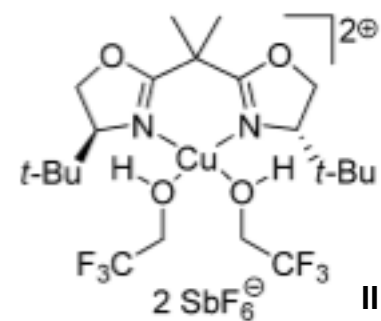
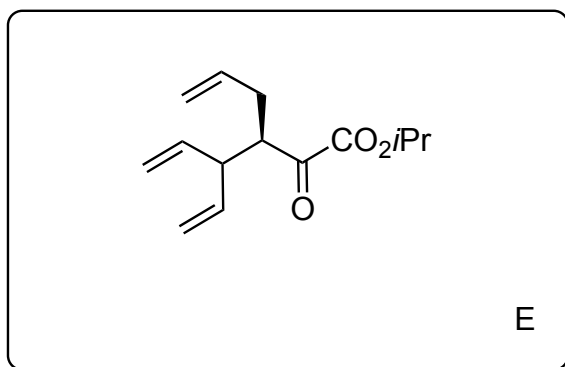
Please, provide mechanism for step 6)



7

7) II (0.1 equiv.), rt

Please, provide mechanism for step 7)

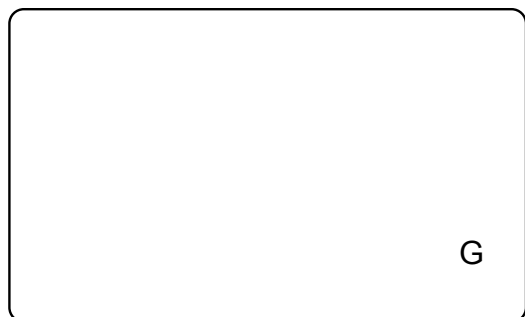


8-9



8) $\text{K}[(\text{sBu})_3\text{BH}]$, THF, -95°C
9) Hoveyda-Grubbs

10-12



10) LAH, THF
11) NaH, THF, 0.5h; TsIm, rt 1h;
CuI, MeMgBr, THF, -50°C to 0°C
12) $\text{H}_2\text{C}=\text{CH}(\text{CH}_2)_7\text{CO}_2\text{H}$, TCBC,
Et₃N, DMAP

What is TCBC and what is the name of the reaction in Step 12?

13



13) Steward-Grubbs

What is the difference between Steward and Hoveyda Grubbs (and Grubbs I and II)?

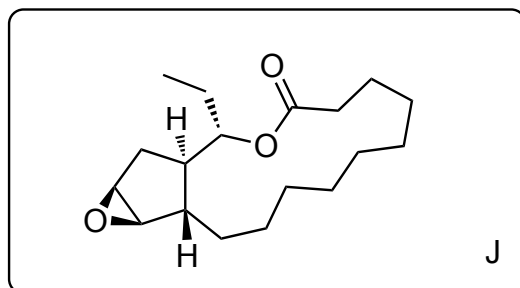
14-15



14) NBS, H₂O, acetone
15) Ag₂O, toluene

Please, rationalize the stereochemical outcome in step 14-15).

16



16) PtO₂, H₂, EtOAc