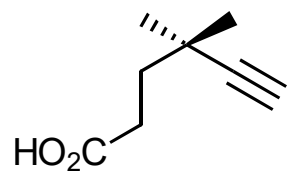


# Synthesis Challenge # 68

AG Wegner  
02.11.2017

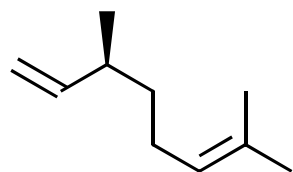


A

↓ 1-5



- 1)  $(\text{COCl})_2$ , DMF,  $\text{CH}_2\text{Cl}_2$
- 2) **I**
- 3)  $\text{NaN}(\text{TMS})_2$ , THF
- 4) MeI
- 5) LiOH,  $\text{H}_2\text{O}_2$ ,  $\text{H}_2\text{O}$ -THF



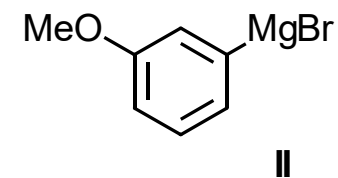
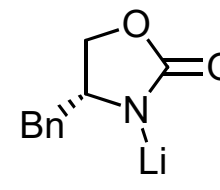
C

↓ 6-9



- 6) mCPBA,  $\text{CH}_2\text{Cl}_2$
- 7)  $\text{H}_5\text{IO}_6$ ,  $\text{Et}_2\text{O}$
- 8) **II**, THF
- 9) Swern oxidation

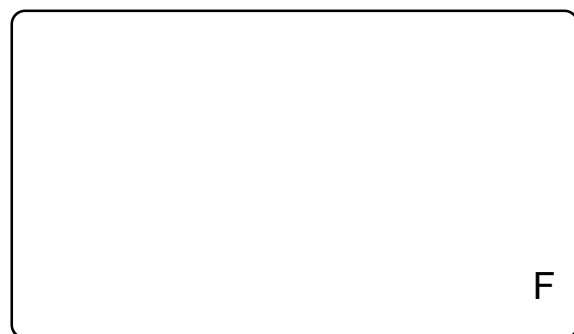
Please provide a synthesis for A.



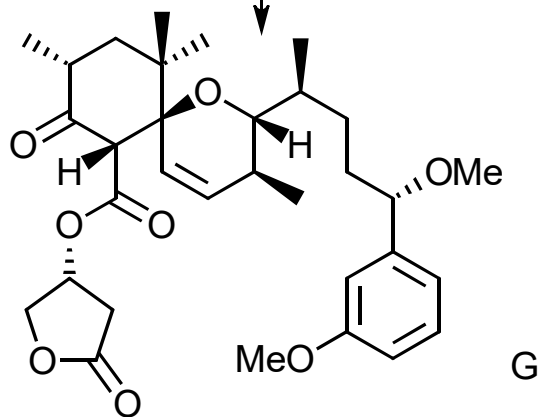
↓ 10-15



↓ 16-19



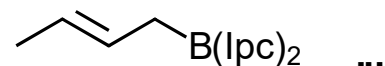
↓ 23-25



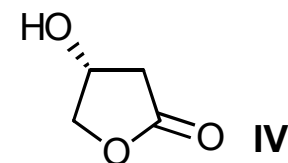
- 10) HCO<sub>2</sub>H, Et<sub>3</sub>N, (S,S)-Ru(II) cat
- 11) NaH, MeI
- 12) O<sub>3</sub>, pyridine, MeOH, then Ph<sub>3</sub>P
- 13) III, BF<sub>3</sub>\*OEt<sub>2</sub>, THF, then, H<sub>2</sub>O<sub>2</sub>, NaOH
- 14) TESOTf, 2,6-lutidine
- 15) O<sub>3</sub>, pyridine, MeOH, then Ph<sub>3</sub>P

- 16) **B**, *n*-BuLi/THF, then **E**
- 17) DMP, CH<sub>2</sub>Cl<sub>2</sub>
- 18) Amberlyst-15, CH<sub>2</sub>Cl<sub>2</sub>
- 19) CDI, MeCN, then CH<sub>2</sub>(CO<sub>2</sub>Me)CO<sub>2</sub>K, MgCl<sub>2</sub>, Et<sub>3</sub>N

- 20) TIPSCl, DBU, CH<sub>2</sub>Cl<sub>2</sub>
- 21) LiBH<sub>4</sub>, Et<sub>2</sub>O
- 22) BF<sub>3</sub>\*OEt<sub>2</sub>, CH<sub>2</sub>Cl<sub>2</sub>, -78°C, MS 4Å
- 23) **IV**, DMAP, toluene, reflux



**III**



**IV**