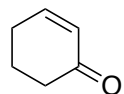


## Synthesis Challenge 91

AG Wegner

10.12.2020

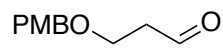
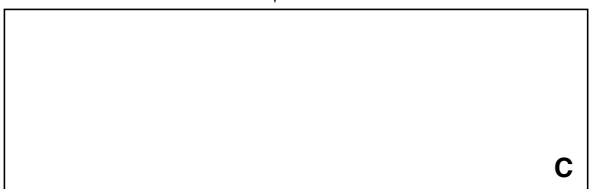


1-2

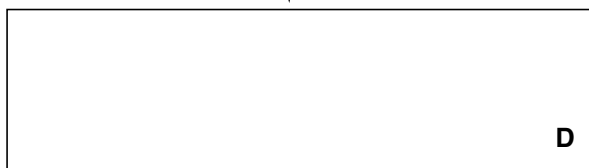
**A**



3-7



8-9



6-8

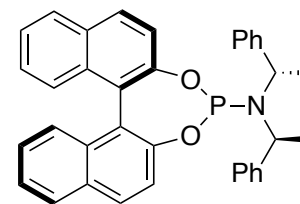


- 1) (I) Me<sub>2</sub>Zn, Cu(OTf)<sub>2</sub>, (**R,S,S**)-**I**
  - (II) MeLi
  - (III) **II**
- toluene, -78°C to 0°C
- 2) MeI, NaOtBu, MeOH, 0°C to rt

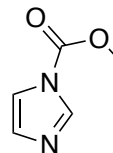
- 3) MeMgBr, THF, 0°C
- 4) pTsOH·H<sub>2</sub>O, toluene, reflux
- 5) LiAlH<sub>4</sub>, Et<sub>2</sub>O, 0°C to rt
- 6) IBX, DMSO
- 7) nBuLi, **III**, THF, 0 to 60°C

- 8) (I) EtPPh<sub>3</sub>l, nBuLi
  - (II) I<sub>2</sub>
  - (III) NaHMDS
- THF, -78°C to rt
- 9) tBuLi, **IV**, Et<sub>2</sub>O, -78°C,

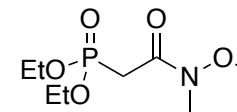
- 10) IBX, DMSO, rt
- 11) (+)-DIPCl, Et<sub>2</sub>O, -30 to 18°C
- 12) TESOTf, 2,6-lutidine, CH<sub>2</sub>Cl<sub>2</sub>, -78°C
- 13) DDQ, CH<sub>2</sub>Cl<sub>2</sub>/pH<sub>7</sub>-buffer, 0°C to rt
- 14) PPh<sub>3</sub>, imidazole, I<sub>2</sub>, CH<sub>2</sub>Cl<sub>2</sub>, 0°C



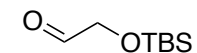
**(R,R,S)-I**



**II**



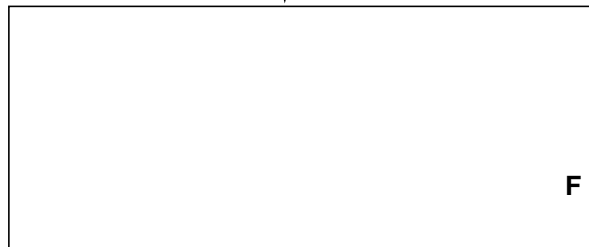
**III**



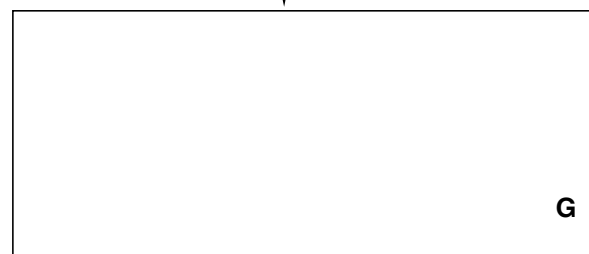
**IV**

C + E

↓ 15-17



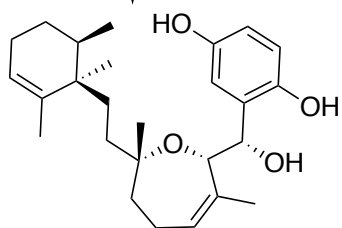
↓ 18-19



↓ 20-21



↓ 22-23



15) tBuLi, Et<sub>2</sub>O, -78°C  
16) Co(acac)<sub>2</sub>, DiBAIH, THF, -78 to 0°C  
17) PPTS, MeOH/THF, 0°C

18) (2,4,6-collidine)<sub>2</sub>PF<sub>6</sub>, CH<sub>2</sub>Cl<sub>2</sub>, 0°C  
19) LiEt<sub>3</sub>BH, THF, rt to 65°C

20) TBAF, THF, 0°C  
21) IBX, DMSO, rt

22) (I) **V**, EtMgBr, Et<sub>2</sub>O, 0°C to rt  
(II) CH<sub>2</sub>Cl<sub>2</sub>, ), 0 to 39°C  
23) TBAF

