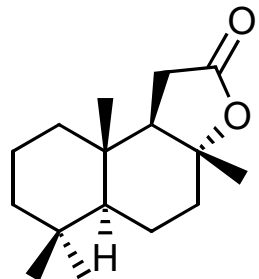


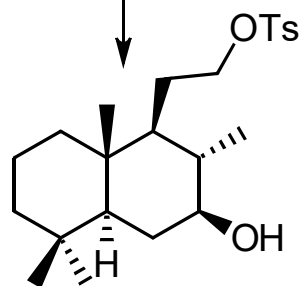
# Synthesis Challenge # 61

AG Wegner

02.03.2017



A



B

↓3-5



C

↓6-7



D

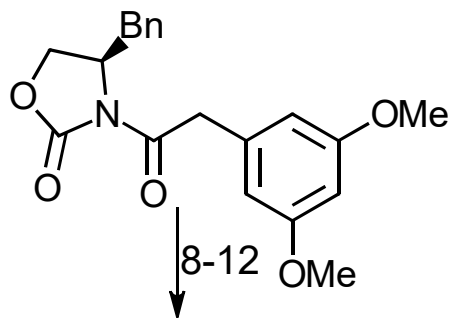
multiple steps, then:

- 1) TBAF, THF
- 2) TsCl, NEt<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>

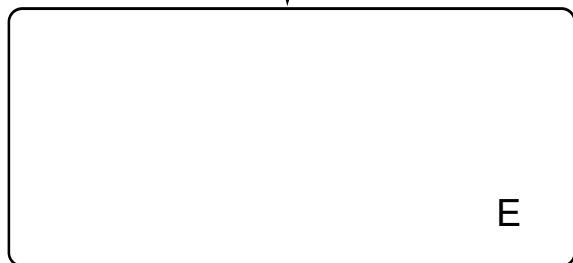
- 3) TESOTf, 2,6-lutidine, CH<sub>2</sub>Cl<sub>2</sub>,  
-78 to -50 °C
- 4) NaI, acetone, reflux
- 5) TMS acetylene, *n*BuLi, THF, HMPA;  
TBAF, THF

- 6) AlMe<sub>3</sub>, ZrCp<sub>2</sub>Cl<sub>2</sub>, then I<sub>2</sub>, CH<sub>2</sub>Cl<sub>2</sub>
- 7) MsCl, NEt<sub>3</sub>, DMAP;  
LiBr, Li<sub>2</sub>CO<sub>3</sub>, DMF, 150°C

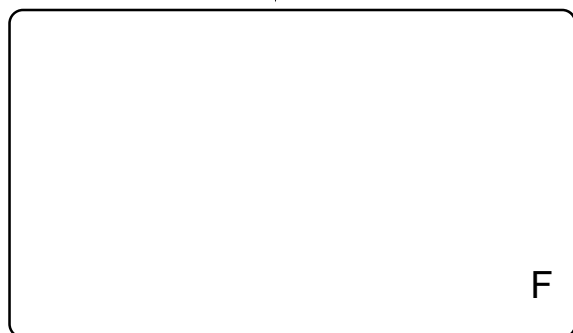
Please provide a synthesis strategy from A to B.



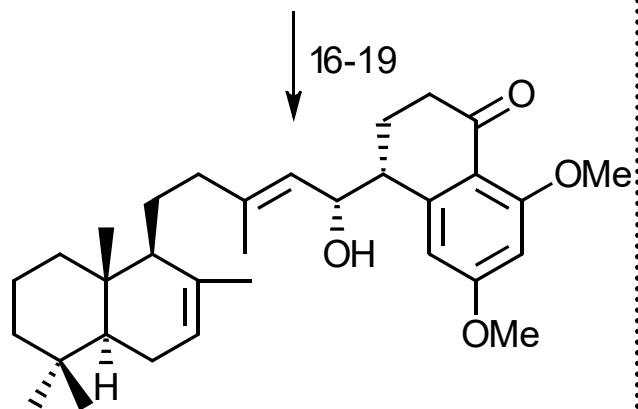
- 8) LiHMDS, allyl bromide, THF, -78 to -30°C
- 9) LiBH<sub>4</sub>, THF/MeOH, 0°C-RT
- 10) TIPSCl, imidazole, CH<sub>2</sub>Cl<sub>2</sub>
- 11) 9-BBN, THF ; then H<sub>2</sub>O<sub>2</sub>, Na<sub>2</sub>CO<sub>3</sub> (aq.)
- 12) SO<sub>3</sub>·Py, DMSO, NEt<sub>3</sub>



- 13) *p*-TSA, toluene
- 14) Pd/C, H<sub>2</sub>, EtOH ;
- 15) TBAF, THF; Dess-Martin periodinane, CH<sub>2</sub>Cl<sub>2</sub>, NaHCO<sub>3</sub>



- 16) D, *n*BuLi, Et<sub>2</sub>O, then F, -78°C to -60°C, d.r.=5:1
- 17) PNB-Cl, DMAP, NEt<sub>3</sub>, CH<sub>2</sub>Cl<sub>2</sub>
- 18) DDQ, dioxane, buffer pH 7.0
- 19) LiOH, THF/H<sub>2</sub>O



TMCDA = *trans*-*N,N,N',N'*-tetramethyl  
1,2-diamino-cyclohexane

PNB = *p*-nitrobenzoyl chloride