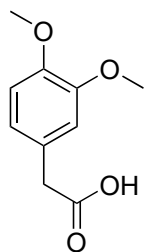


## Synthesis Challenge 90

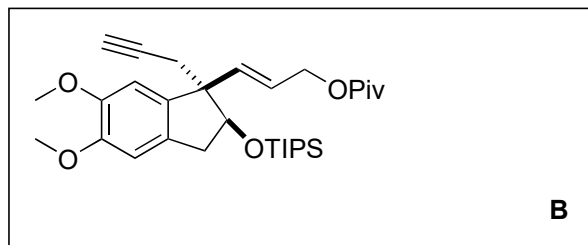
Total Synthesis of Cryptotrine, M.-Y. Lyu, Z. Zhong, V. Kar-Yan Lo, H. N.

C. Wong, X.-S. Peng, Angew. Chem. Int. Ed. **2020**, ASAP: DOI:

/10.1002/anie.202009355

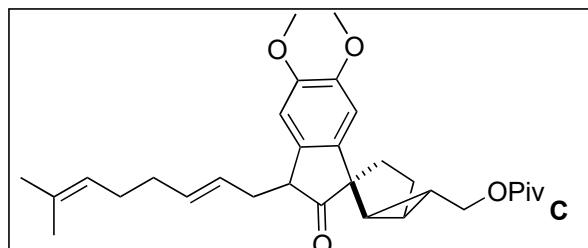


**A**



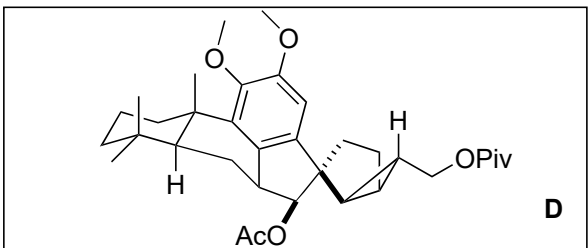
**B**

1-5



**C**

6-8

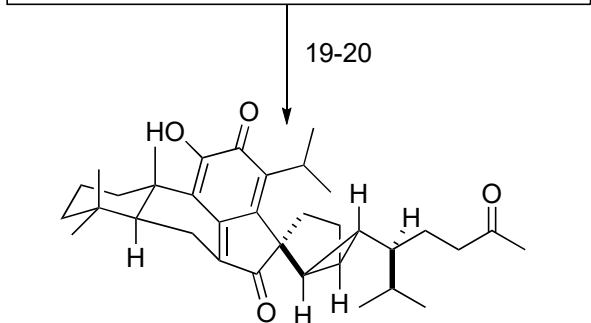
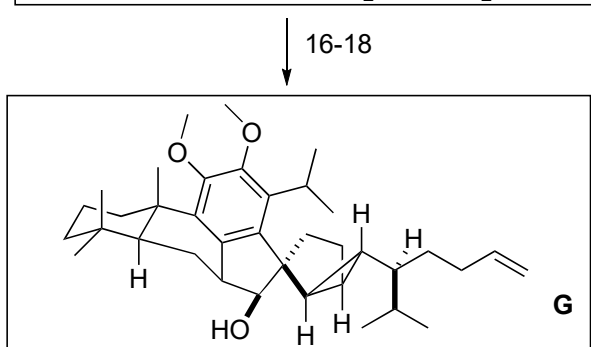
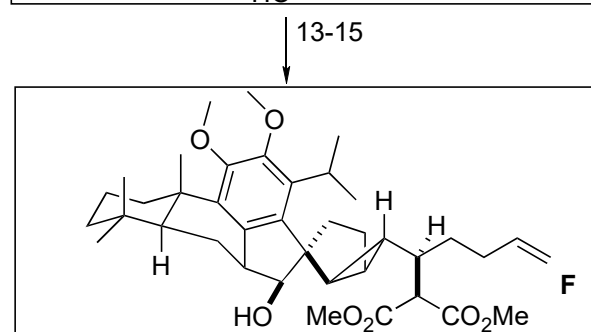
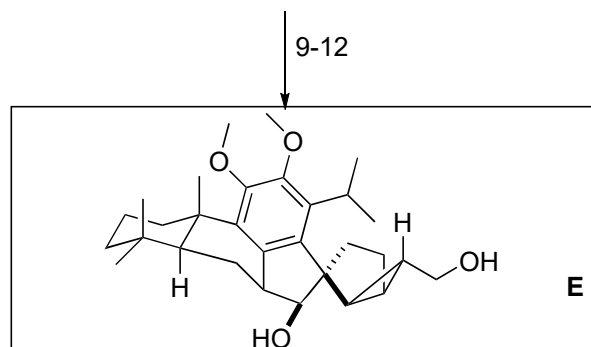


**D**

Please, provide a strategy how to synthesize **B** from **A**.

- 1)  $\text{PtCl}_4$ , dioxane,  $100^\circ\text{C}$
- 2) TBAF, THF
- 3) Pd/C,  $\text{H}_2$ , MeOH
- 4) DMP,  $\text{NaHCO}_3$ ,  $\text{CH}_2\text{Cl}_2$
- 5) Geranyl bromide, LDA, THF/DMPU

- 6) L-selectride, THF,  $-78^\circ\text{C}$
- 7)  $\text{Ac}_2\text{O}$ ,  $\text{NEt}_3$ ,  $\text{CH}_2\text{Cl}_2$
- 8)  $\text{Bi}(\text{OTf})_3$ ,  $\text{CH}_3\text{NO}_2$



- 9) NBS, DMF/HFIP  
 10) Pd(OAc)<sub>2</sub>, PPh<sub>3</sub>, I, dioxane/H<sub>2</sub>O  
 11) DIBAL-H, CH<sub>2</sub>Cl<sub>2</sub>, -78°C  
 12) Pd/C, H<sub>2</sub> (15 atm), MeOH, rt

- 13) PIDA, TEMPO, CH<sub>2</sub>Cl<sub>2</sub>  
 14) L-Proline, methyl malonate, DMSO, 40°C  
 15) II, Li<sub>2</sub>CuCl<sub>4</sub>, THF, -78°C

- 16) LAH, THF, rt  
 17) TsCl, Et<sub>3</sub>N, CH<sub>2</sub>Cl<sub>2</sub>  
 18) NaBH<sub>4</sub>, DMSO, 80°C

- 19) NaH, EtSH, DMF, 140°C, then MnO<sub>2</sub>  
 20) PdCl<sub>2</sub>, CuCl, O<sub>2</sub>, DME/H<sub>2</sub>O

