

- i) (*R*)-Me-CBS,  
N,N-Diethylaniline, HBCat,  
Toluene, -55 to -45 °C, **57%**  
ii) TBSCl, Im., DMF, rt, **86%**

**A**

- i) LiHMDS, TMSCl,  
THF, 0 °C  
ii) Pd(OAc)<sub>2</sub>, O<sub>2</sub>, DMSO, rt  
**93% (two steps)**

Name?

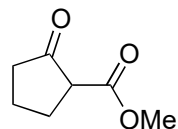
**B**

- i) K<sub>2</sub>CO<sub>3</sub>, DMAP, I<sub>2</sub>,  
THF/H<sub>2</sub>O (1:1), 0 °C  
ii) VinylMgBr, Et<sub>2</sub>O, -60 °C  
**72% (two steps)**  
iii) MOMBr, NaI, DIPEA,  
DME, rt to 80 °C, **77%**

**C**

- i) O<sub>3</sub>, DCM/MeOH/Py (4:4:1),  
-78 °C, then Me<sub>2</sub>S  
ii) NaBH<sub>4</sub>, MeOH, rt,  
**80% (two steps)**  
iii) Sn<sub>2</sub>Me<sub>6</sub>, Pd(PPh<sub>3</sub>)<sub>4</sub>,  
benzene, 80 °C, **50%**

**D**



- i) NaH, HMPA, *n*BuLi,  
1-bromobut-2-yne,  
THF, -78 °C to rt  
ii) InCl<sub>3</sub> (cat.), DCE, 80 °C,  
**62% (two steps)**

Name of ii) ?

**E**

- i) CuBr (cat.), BzOO*t*Bu,  
PhCl, 100 °C, **49%**  
ii) NaBH<sub>4</sub>, MeOH, 0 °C  
iii) DIPEA, MOMBr, DCM, 0 °C  
**72% (two steps)**

Name & mechanism of i) ?

**F**

- i) TMSCH<sub>2</sub>Li, THF, 0 °C  
then MeOH, **70%**  
ii) TESOTf, 2,6-lutidine,  
DCM, 0 °C, **80%**

**G**

- i) KHMDS, Comins' reagent,  
THF, -78 °C,  
then 1M HCl, **68%**  
ii) PDC, DCM, 0 °C, **96%**

**H**



# Total Synthesis of Mollanol A

Yuran Wang, Rong Zhao, and Ming Yang\*; *J. Am. Chem. Soc.* **2022**, *144*, 33, 15033

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