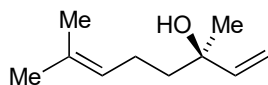
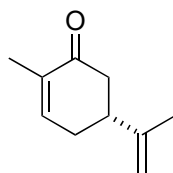


The Total Synthesis of (-)-Scabrolide A

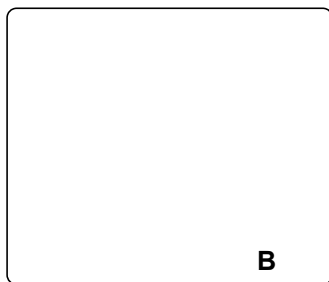
Nicholas J. Hafeman, Steven A. Loskot, Christopher E. Reimann, Beau P. Pritchett, Scott C. Virgil and Brian M. Stoltz
J. Am. Chem. Soc. **2020**, *142*, 8585–8590.



1-7



8-17



- 1) HG-II, *then* NaH, TBSCl
- 2) RuCl_3 , *t*-BuOOH, $\text{Mg}(\text{OAc})_2$
- 3) vinylMgBr, CuBr•DMS, TMSCl
- 4) LiTMP, TESCl
- 5) DDQ, HMDS
- 6) NaBH_4 , $\text{CeCl}_3 \cdot 7 \text{H}_2\text{O}$
- 7) TBAF

- 8) H_2O_2 , NaOH
- 9) H_2SO_4 , THF, H_2O
- 10) NaIO_4
- 11) H_2SO_4 , $(\text{MeO})_3\text{CH}$, MeOH
- 12) NaOH
- 13) DIBAL-H
- 14) $\text{Br}_2\text{CHPPh}_3\text{Br}$, *t*-BuOK
- 15) *n*-BuLi, *then* TMSCl, *then* HCl
- 16) CBr_4 , PPh_3
- 17) *n*-BuLi, *then* CO_2 , *then* TBAF

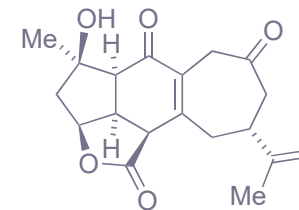
Step 1: Name the starting material and give the structure of HG-II

Step 6: Name the reaction

Step 8: Name the starting material

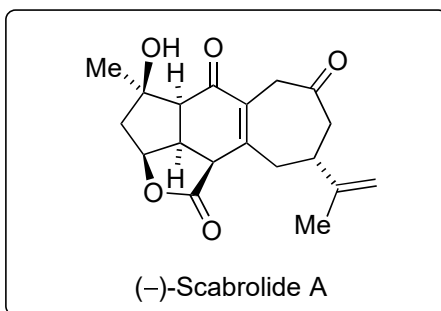
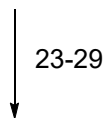
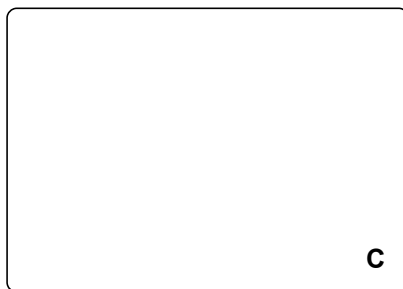
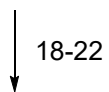
Step 15: Name the reaction

Step 17: Name the reaction



(-)-Scabrolide A

A + B



- 18) DIC, DMAP
- 19) 140 °C, xylenes
- 20) $\text{VO}(\text{acac})_2$, TBHP
- 21) Cp_2TiCl_2 , Mn^0 , collidine•HCl
- 22) IBX

- 23) *m*-CPBA
- 24) $\text{Ph}(\text{CH}_3)_2\text{SiH}$, $[\text{RuCp}^*(\text{MeCN})_3]\text{PF}_6$
- 25) $h\nu$, benzene
- 26) Cp_2TiCl_2 , Mn^0 , collidine•HCl
- 27) $\text{Hg}(\text{OAc})_2$, AcOOH/AcOH
- 28) *o*-NO₂PhSeCN, *n*-Bu₃P, then H₂O₂
- 29) CuI, NIS

Step 19: Name the reaction

Step 27: Name the reaction

Step 28: Name the reaction