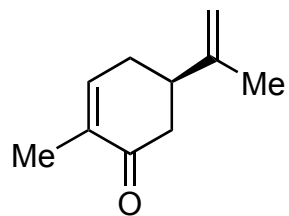
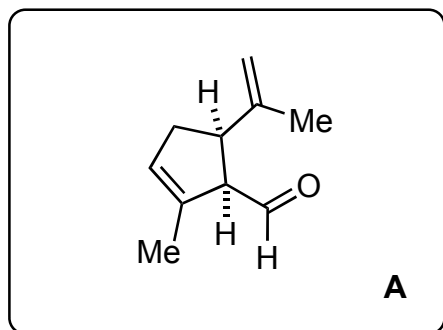


Synthesis of Eupalinilide E, a Promoter of Human Hematopoietic Stem and Progenitor Cell Expansion

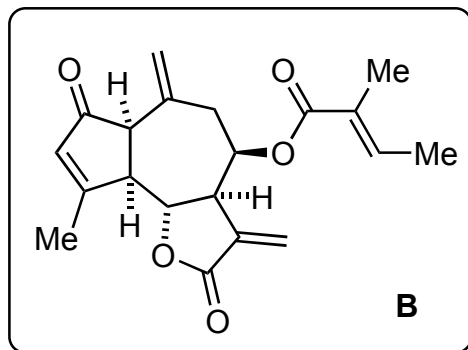
T. C. Johnson, M. R. Chin, T. Han, J. P. Shen, T. Rana, D. Siegel
J. Am. Chem. Soc. **2016**, *138*, 6068-6073



1-8

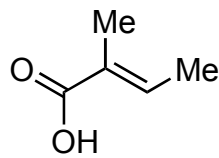


9-16



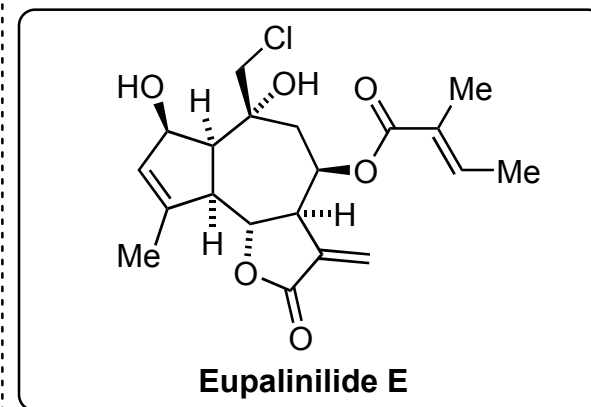
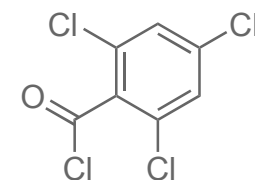
- 1) HBr, AcOH
- 2) Br₂, AcOH
- 3) *i*-PrNH₂, Et₂O
- 4) AcOH (10% aq.), THF, 50 °C
- 5) LiAlH₄, Et₂O
- 6) Ac₂O, 150 °C
- 7) LiAlH₄, Et₂O
- 8) DMP, NaHCO₃, CH₂Cl₂

- 9) *n*-BuLi, tetravinyltin, -78 to 23 °C, then **A**, -78 °C then HMPA, propargyl bromide
- 10) *n*-BuLi, -78 °C then TMSCl
- 11) Pd(OAc)₂ (5 mol %), B₂pin₂, PhMe, MeOH then H₂O₂, NaOH, THF
- 12) (COCl)₂, DMSO, Et₃N
- 13) Et₂AlCl, CH₂Cl₂
- 14) tiglic acid, 2,4,6-TCBC, Et₃N, DMAP
- 15) TFA, CH₂Cl₂
- 16) CrO₃, 3,5-DMP, CH₂Cl₂

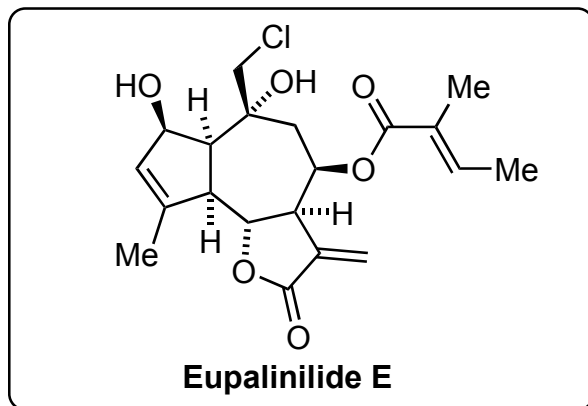


tiglic acid

- 1) Starting material name - *R*-carvone
- 2) *Hint*: after step 2 you have a tri-Br compound
- 11) *Hint*: borylative enyne cyclization
- 12) Name reaction - *Swern oxidation*
- 14) Name reaction and structure of 2,4,6-TCBC - *Yamaguchi esterification*



17-20



- 17) $\text{Yb}(\text{OTf})_3$, NaBH_4 , MeOH/THF
- 18) $\text{Al}(\text{Osec-Bu})_3$, TBHP, CH_2Cl_2
- 19) LiCl , HCl , THF

17) Name reaction - *Lucho reduction*

