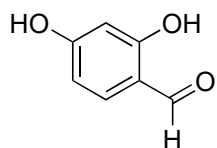


Total Synthesis of (±)-Phomoidride D

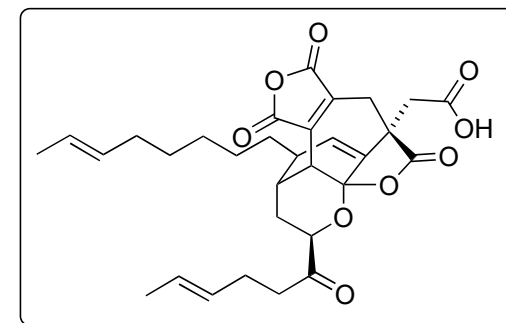
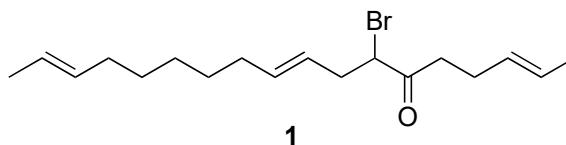
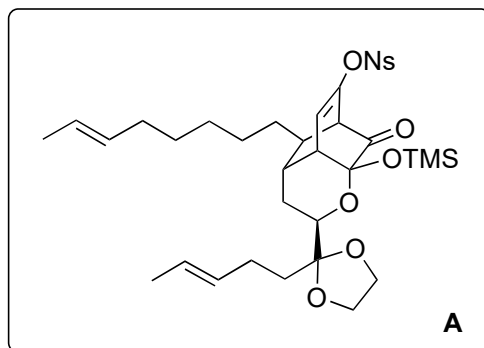
J. C. Leung, A. A. Bedermann, J. T. Njardarson, D. A. Spiegel, G. K. Murphy, N. Hama, B. M. Twenter, P. Dong, T. Shirahata, I. M. McDonald, M. Inoue, N. Taniguchi, T. C. McMahon, C. M. Schneider, N. Tao, B. M. Stoltz, J. L. Wood, *Angew. Chem. Int. Ed.* **2018**, *57*, 1991–1994.



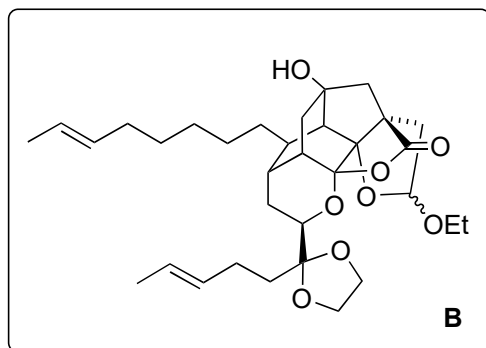
1-7

- 1) NsCl, K₂CO₃, then allylbromide
- 2) *m*CPBA, then K₂CO₃, MeOH
- 3) **1**, Cs₂CO₃
- 4) ethylene glycol, TMSOTf, TMSCl
- 5) Pd(PPh₃)₄, NaBH₄
- 6) Pb(OAc)₄, then SiO₂
- 7) TMSCl, NEt₃

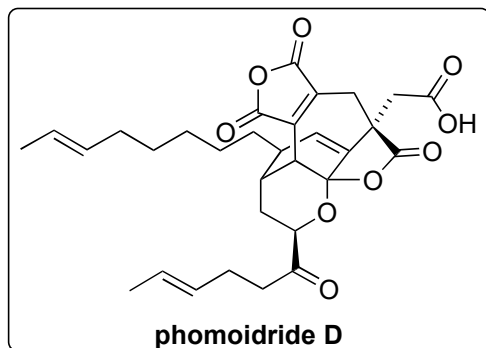
Step 2: Please name the reaction
Dakin Oxidation



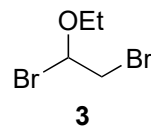
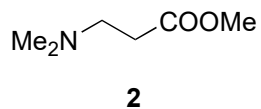
8-13



14-22



- 8) **2**, LDA
- 9) PhSH, Cs₂CO₃
- 10) *m*CPBA, Al₂O₃
- 11) TBAF, AcOH
- 12) **3**, *N,N*-dimethylaniline
- 13) Sml₂



- 14) Ac₂O, Mg(ClO₄)₂
- 15) 1,3-propanedithiol, BF₃·OEt₂
- 16) MsCl, NEt₃, DMAP
- 17) KOH
- 18) NsCl, NEt₃
- 19) LHMDs, Mander's reagent
- 20) NaH, Comin's reagent
- 21) Pd(OAc)₂, P(2-furyl)₃, Hünig's base, H₂O, CO
- 22) MeI, CaCO₃, aq. MeCN
- 23) NaClO₂, NaH₂PO₄, 2-methyl-2-butene

Step 10: Please name the reaction
Cope elimination

Step 17: Please name the reaction
Wharton fragmentation