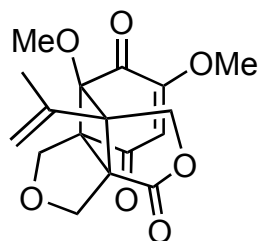


Total Synthesis of Epicolactone

Kravina, A. G.; Carreira, E. M. *Angew. Chem. Int. Ed.* **2018**, 57, 13159–13162.

1,2,3,5-tetramethoxybenzene

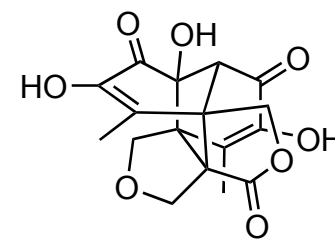
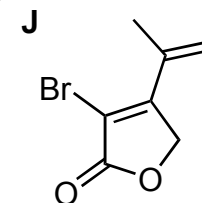
1–6



7–10

1. POCl₃, DMF
2. LiAlH₄
3. (iodomethyl)tributylstannane, *t*-BuOK **What named reaction also employs this reagent?**
4. **J**, Pd(PPh₃)₂Cl₂, 85 °C
5. (NH₄)₂Ce(NO₃)₆
6. Blue LEDs [*Formation of 3 contiguous quaternary centers*]

7. OsO₄, NMO then Pb(OAc)₄
8. BF₃•2AcOH *Hint: Ring-expansion takes place.*
9. PhOCSCI
10. *n*-Bu₃SnH, AIBN

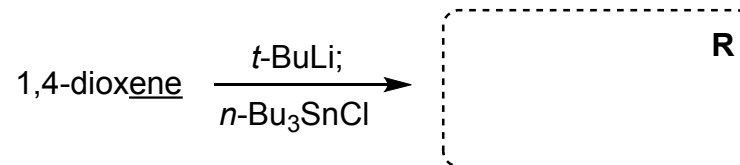


epicolactone

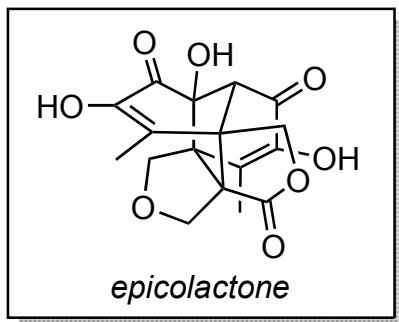
↓ 11–15



11. LDA, PhNTf₂
12. **R**, Pd(PPh₃)₂Cl₂, 85 °C
13. TFA
14. ClSiMe₂CH₂Cl
15. NaI, 80 °C



↓ 16–19



16. Sml₂ then HCl
17. TBHP, DBU then HCl, 110 °C *Hint: A chloroethyl ether is formed.*
18. NaI, 80 °C
19. Zn, EtOH/AcOH, 55 °C

What is the Stork-Danheiser sequence?