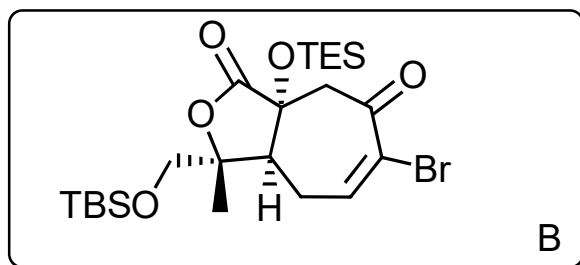
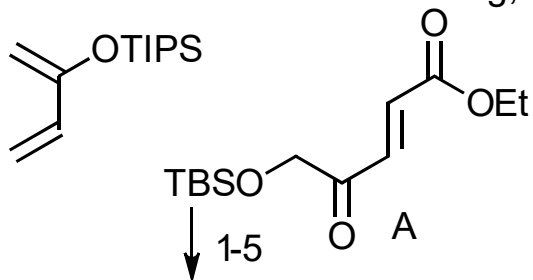


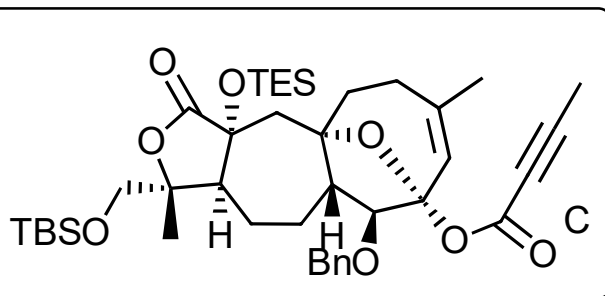
Synthesis Challenge #72

Asymmetric Total Synthesis of Lancifodilactone G Acetate. 2. Final Phase and Completion of the Total Synthesis
 K.-Y. Wang, D.-D. Liu, T.-W. Sun, Y. Lu, S.-L. Zhang, Y.-H. Li, Y.-X. Han, H.-Y. Liu, C. Peng, Q.-Y. Wang, J.-H. Chen,
 Z. Yang, *J. Org. Chem.* **2018**, ASAP: DOI: 10.1021/acs.joc.7b02917

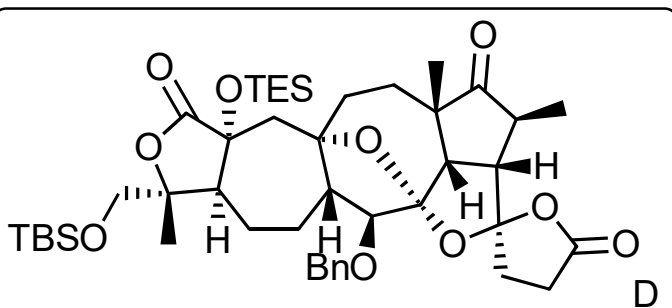
22.03.2018



6-13



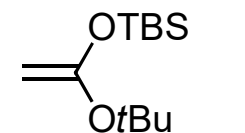
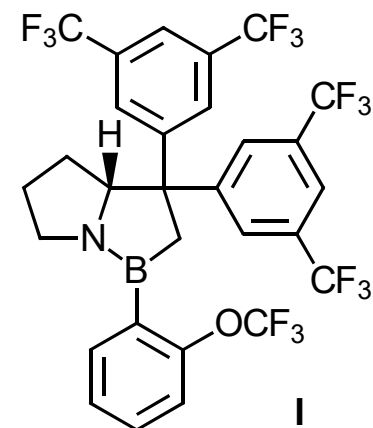
14-18



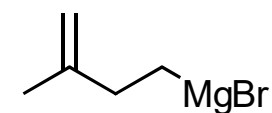
- 1) **I**/Tf₂NH (20mol%)
- 2) MeMgCl, THF
- 3) KHMDS, P(OMe)₃, O₂, THF, then TESCl
- 4) *t*BuOK, CHBr₃
- 5) AgClO₄·H₂O, Ca(CO₃)₂, acetone

- 6) **II**, PdCl₂[P(*o*-tol)₃]₂, CuF₂, THF
- 7) Pd/C, H₂
- 8) **III**, THF
- 9) LiHMDS, LiCl, MoOPH
- 10) Ag₂O, BnBr, DCM
- 11) vinyl MgBr
- 12) Hoveyda-Grubbs II toluene
- 13) KHMDS, THF, **IV**

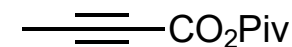
- 14a) Co₂(CO)₈, TMTU, CO-balloon, PhMe, 95°C; 14b) Pd/C, H₂, then DBU
- 15) vinylmagnesium bromide (3.0 equiv), THF, -15 °C, 0.5 h
- 16) methyl acrylate (20 equiv), Hoveyda-Grubbs II catalyst (5 mol %),
- 17) Pd/C (10 wt %), H₂, EtOAc, rt
- 18) sodium hydride (10 equiv), THF



II

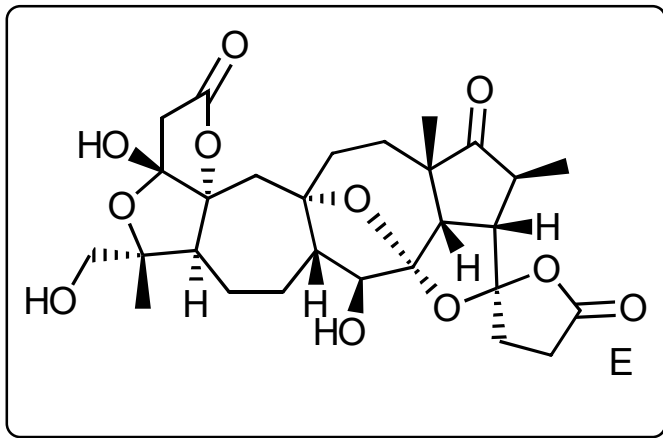


III

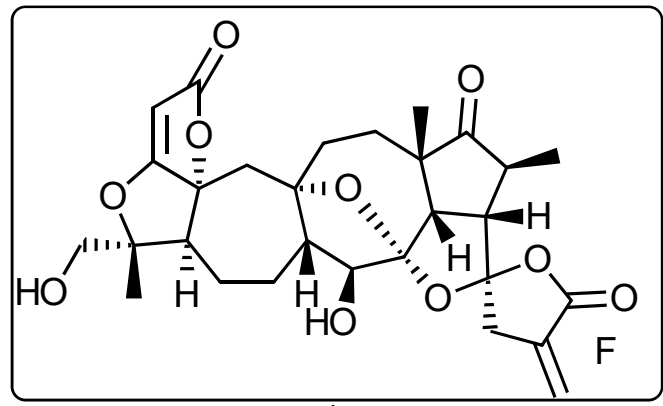


IV

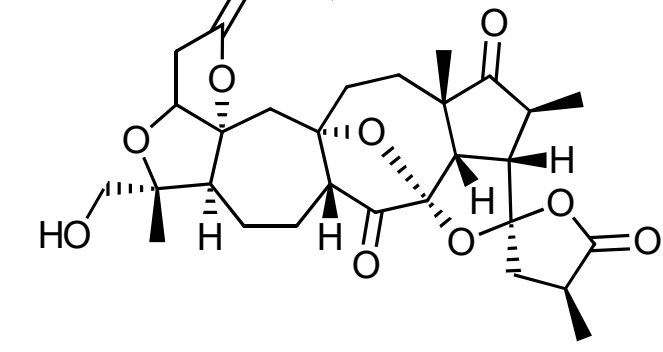
↓19-22



↓23-25



↓26-27



19) TBAF (2.0 equiv), THF;
TBSCl (5.0 equiv), 40 °C, 6 h
20) Ac₂O (8 equiv), DMAP (1.5 equiv),
Et₃N (10 equiv)
21) Pd(OH)₂/C (10 wt %), EtOAc
22) LiHMDS (5.0 equiv), THF,

23) Martin's sulfurane (1.2 equiv)
24) LiHMDS (5.0 equiv), THF, -78 °C,
then Eschenmoser's salt (6.0 equiv);
25) CDMT (5.0 equiv), Et₃N

26) DMP (3 equiv), NaHCO₃ (5 equiv),
27) Pd/C (100 wt %), MeOH, rt, 3 h,

