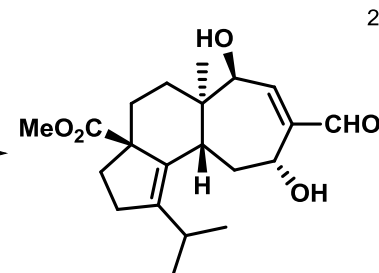
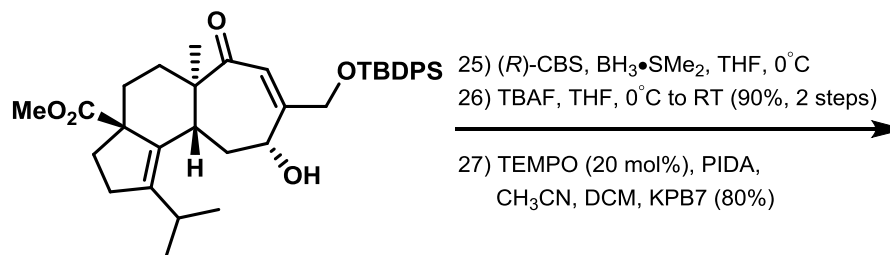
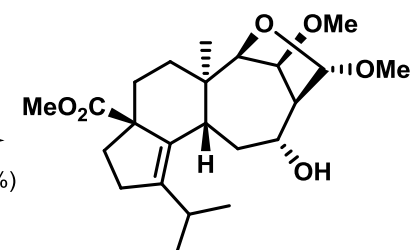


- 20) NaClO₂, NaH₂PO₄, 2-methyl-2-butene, THF, *t*BuOH, H₂O, RT
 21) MeI, K₂CO₃, DMF, RT (74%, 2 steps)
 22) OsO₄ (2.5 mol%), NMO, THF, *t*BuOH, H₂O, RT
 23) triphosgene, pyridine, DMAP, DCM, 0 °C to RT (α - 66%, β - 20%, 2 steps)
 24) DBU, PhH, RT (100%)



- 29) MeI, NaH, THF, RT (99%)
 30) 2M NaOH (aq.), MeOH, 70 °C; then 3M HCl (aq.) (94%)



- 31) BzCl, Et₃N, DMAP, DCM, RT (97%)
 32) (*R*)-CBS, BH₃•SMe₂, THF, 0 °C
 33) TBAF, NH₄Cl, THF, 0 °C to RT (93%, 2 steps)
 34) TEMPO (20 mol%), PIDA, CH₃CN, DCM, KPB7 (97%)

