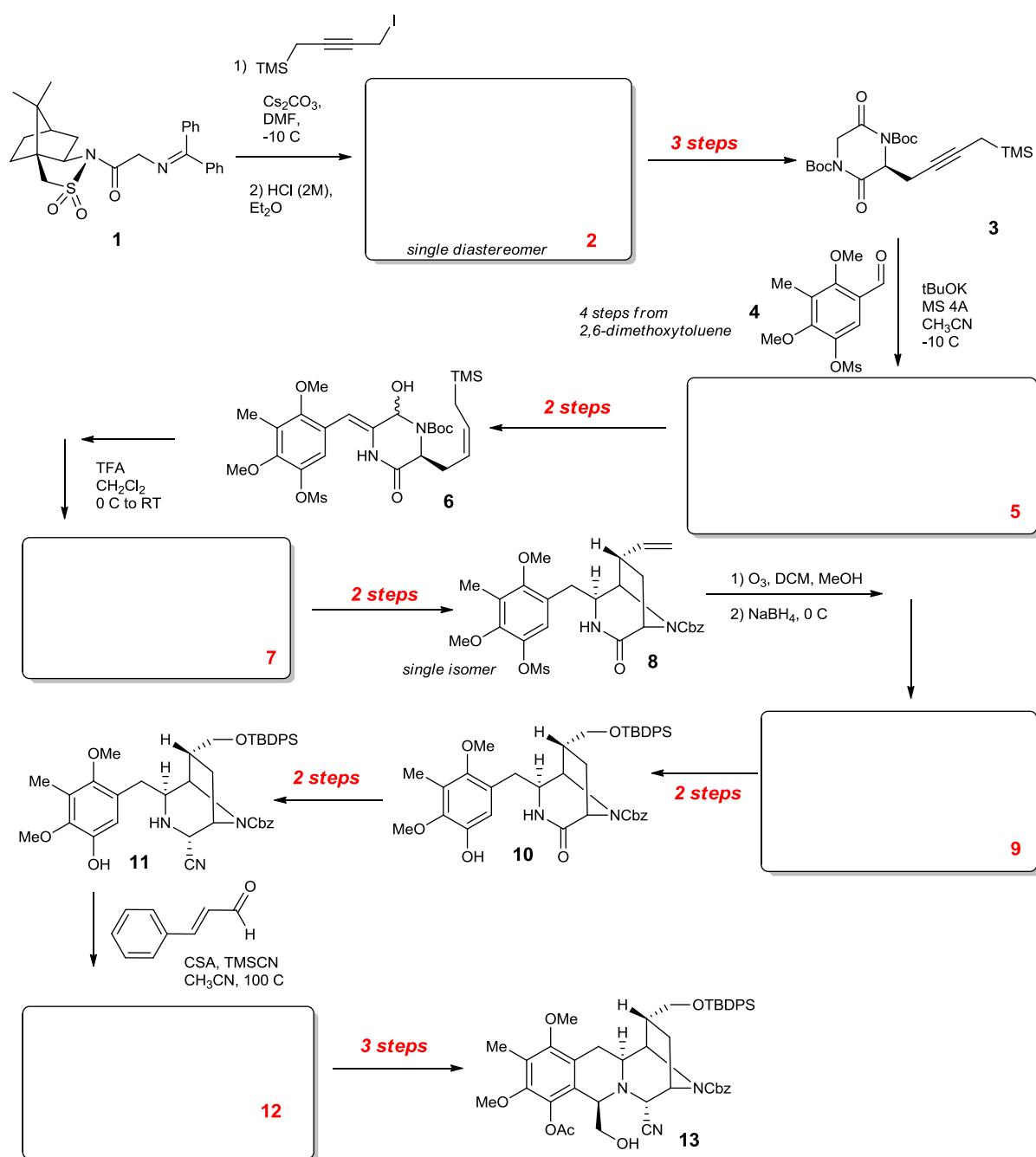
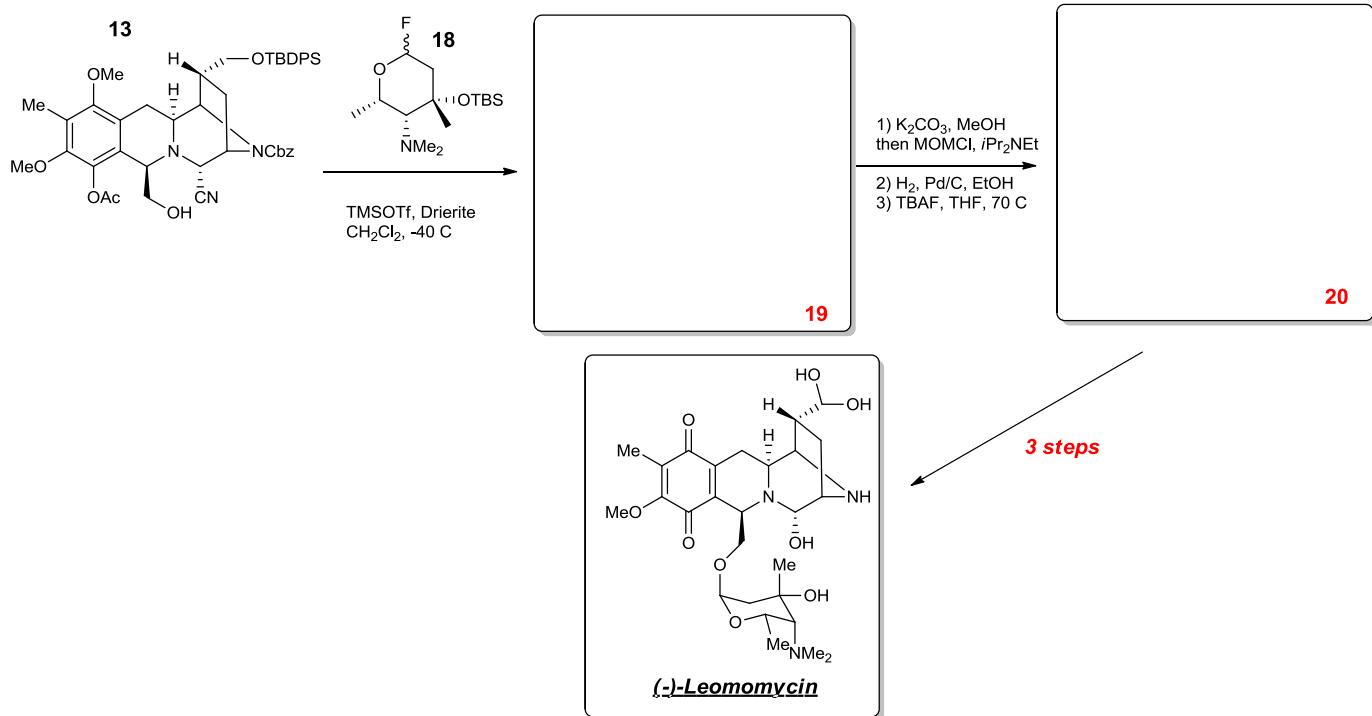
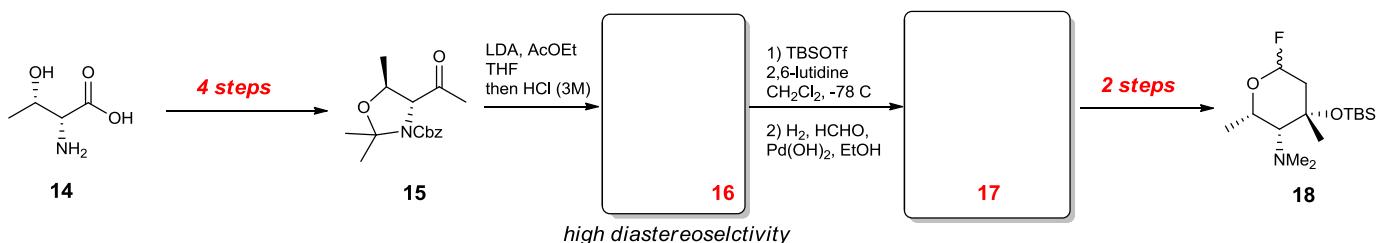


Total Synthesis of (-)-Lemonomycin

(-)-Lemonomycin belongs to a large family of tetrahydroisoquinoline (THIQ) alkaloids and was isolated from the fermentation broth of *Streptomyces candidus* (LLAP191) in 1964. In 2000, researchers at Wyeth–Ayerst discovered that it shows antibacterial activity against methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus faecium* (VREF), as well as cytotoxicity to a human colon-tumour cell line (HCT-116).





Boc = *tert*-butyloxycarbonyl, CSA = 10-camphorsulfonic acid, DIBAL = diisobutylaluminium hydride, DMAP = 4-dimethylaminopyridine, EDCI = 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide, HOEt = 1-hydroxybenzotriazole, LiHMDS = lithium hexamethyldisilazide, Ms = mesyl, TBDPS = *tert*-butyldiphenylsilyl, TFA = trifluoroacetic acid, TMS = trimethylsilyl

DAST = *N,N*-diethylaminosulfur trifluoride, LDA = lithium diisopropylamide, NMM = *N*-methylmorpholine, TBS = *tert*-butyldimethylsilyl, TfO = trifluoromethanesulfonate

Drierite = anhydrous calcium sulfate, CAN = ceric ammonium nitrate, MOM = methoxymethyl, TBAF = tetrabutylammonium fluoride