Synthesis Challenge #72

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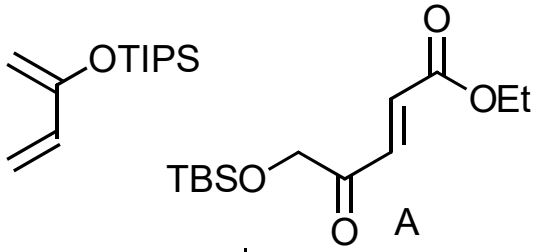
22.03.2018



1-5

B

6-13

C

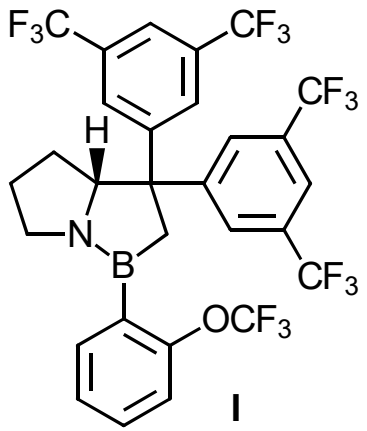
14-18

D

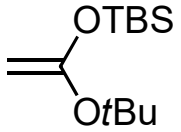
1) **I**/Tf_2NH (20mol%)
2) MeMgCl, THF
3) KHMDS, $P(OMe)_3$, O_2, THF, then TESCl
4) *t*BuOK, $CHBr_3$
5) $AgClO_4$*H_2O, $Ca(CO_3)_2$, acetone

6) **II**, $PdCl_2[P(o\text{-tol})_3]_2$, CuF_2, THF
7) Pd/C, H_2
8) **III**, THF
9) LiHMDS, LiCl, MoOPH
10) Ag_2O, BnBr, DCM
11) vinyl MgBr
12) Hoveyda-Grubbs II toluene
13) KHMDS, THF, **IV**

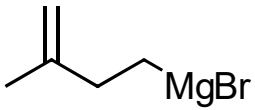
14a) $Co_2(CO)_8$, TMTU, CO-balloon, PhMe, 95ºC; 14b) Pd/C, H_2, then DBU
15) vinylmagnesium bromide (3.0 equiv), THF, −15 °C, 0.5 h
16) methyl acrylate (20 equiv), Hoveyda−Grubbs II catalyst (5 mol %),
17) Pd/C (10 wt %), H_2, EtOAc, rt
18) sodium hydride (10 equiv), THF



I



II



III

IV

19-22

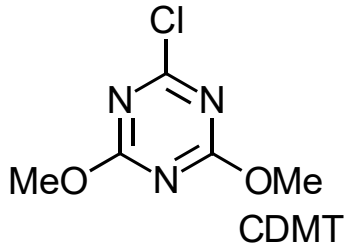
E

19) TBAF (2.0 equiv), THF;
TBSCl (5.0 equiv), 40 °C, 6 h
20) Ac_2O (8 equiv), DMAP (1.5 equiv),
Et_3N (10 equiv)
21) $Pd(OH)_2/C$ (10 wt %), EtOAc
22) LiHMDS (5.0 equiv), THF,

23-25

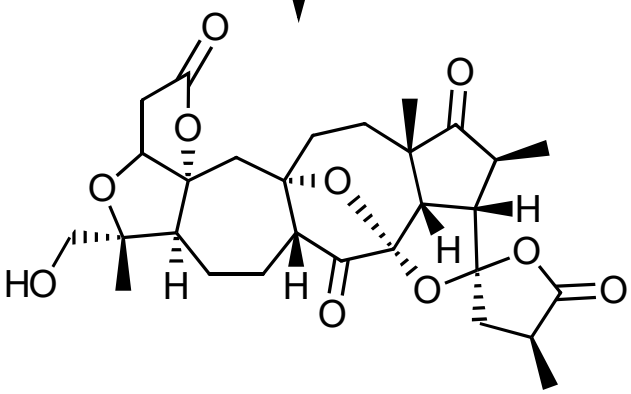
F

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), Et_3N



CDMT

26-27



26) DMP (3 equiv), $NaHCO_3$ (5 equiv),
27) Pd/C (100 wt %), MeOH, rt, 3 h,