Total Synthesis of (–)-Jiadifenin

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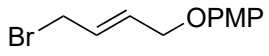


1-6

10

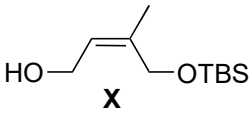
A

7-8

B

1) 1-bromo-1-propene, *n*BuLi, CuI, –78 °C
2) AD-mix-β, $MeSO_2NH_2$, *t*BuOH/H_2O, 0 °C
3) KOH, CH_2I_2, 18-c-6
4) CAN, $MeCN/H_2O$
5) Jones reagent
6) DCC, DMAP, **X**

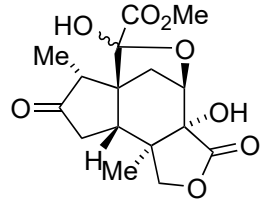
7) LDA, TMSCl, THF –78 °C to reflux
8) $TsOH•H_2O$, MeOH, Δ



X

what's jones reagent?

name the reaction in 7) and draw the transition state



(–)-jiadifenin

B

9-12

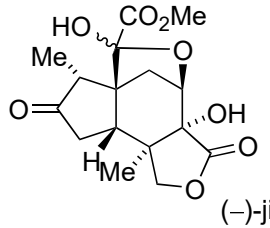
9) $Ph_3C\ BF_4$, CH_2Cl_2, Δ
10) TBSOTf, Et_3N, CH_2Cl_2, r.t.
11) $[Co_2(CO)_8]$, Bu_3PS,toluene, Δ
12) $h\upsilon$, allene, THF –78 °C

B

13-18

13) O_3, MeOH, then Me_2S –78 °C
14) NaOMe, MeOH
15) LDA, TMSCl, Et_3N
16) $Pd(OAc)_2$, O_2,
17) TBAF
18) NaHMDS, –78 °C
(–)-trans-(phenylsulfonyl)-3-phenyloxaziridine
19) Jones reagent,then MeOH

name reaction 15+16



(–)-jiadifenin