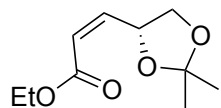




Total synthesis of (-)-dendrobine

L. M. Kreis & E. M. Carreira *Angew. Chem. Int. Ed.*, 2012, 51, 3436-3439.

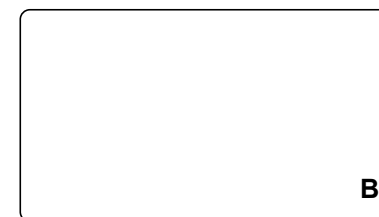
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1) $i\text{PrNO}_2$, TBAF
THF, rt, 4 h
2) Bu_3SnH , AIBN
Toluene, 110 °C, 4 h
76 % (2 steps)



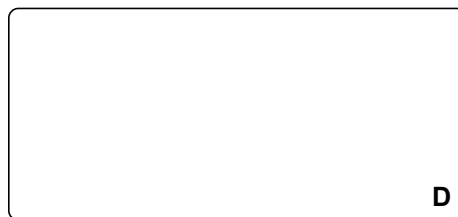
1) LiAlH_4 , THF, 0 °C, 2 h, 95 %
2) PhCOCl , DMAP, NEt_3
 CH_2Cl_2 , 0 °C to rt, 16 h
3) AcOH , H_2O , 50 °C, 2 h
4) TBDMSCl , DMAP, imidazole
 CH_2Cl_2 , 0 °C to rt, 30 h
77 % (3 steps)



1) HF pyridine, THF,
0 °C to rt, 6 h, 84 %
2) $(\text{COCl})_2$, DMSO
 NEt_3 , -78 °C to rt, 16 h
98 %



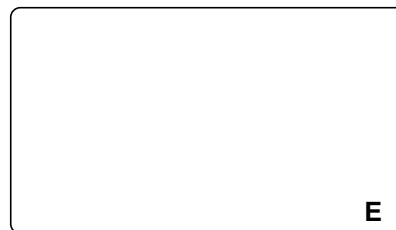
1, $t\text{BuLi}$, Et_2O , -78 °C
Then **C**, 0 °C
Then EtMgBr , 3 h30
81 %, anti : syn = 2.2:1



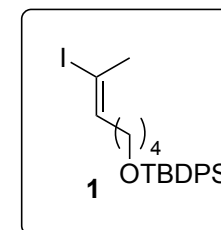
TEMPO, $\text{PhI}(\text{OAc})_2$
 CH_2Cl_2 , 0 °C to rt, 16 h
88 %



1) a) LDA , TMSCl ,
-78 °C to rt, 30 min
b) Toluene, 110 °C, 16 h
2) TMSCHN_2 , Benzene, MeOH
6 °C to rt, 1 h30
95 % (2 steps)



Name of the reaction?





Total synthesis of (-)-Dendrobine

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1) HF pyridine, THF
0 °C to rt, 24 h, 88 %

2) PCC, celite, CH₂Cl₂
rt, 2 h, 76 %

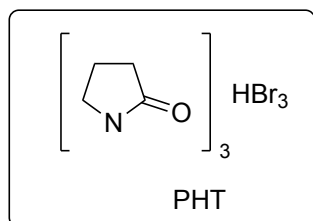


1) BnMeNH, 4 Å MS
Toluene, 110 °C, 16 h

2) H₂, Pd/C, 4 Å MS
MeOH, 0 °C to rt, 5 h30
68 % (2 steps)



PHT, THF,
DMAP, rt
3 days
63%



NaBH₄, *i*PrOH
rt to 50 °C, 5 h
65 %