Total Synthesis of (-)-Curvulamine

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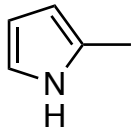
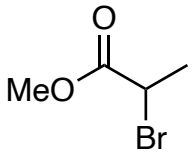


1-3

A

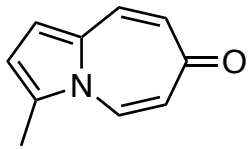
4-7

1) NaH, **1**, DMF, 0 to 23 °C
2) DIBAL, PhMe, -78 °C
3) TMSCN, $LiClO_4$, CH_2Cl_2, 23 °C



1

4) NaHMDS, LiCl, THF, -78 °C, *then* **2**, *then* NIS
5) hv (390 nm), $NaHCO_3$, 5:1 MeCN/*t*-BuOH, 23 °C
6) ethyl vinyl ether, t-BuLi, THF, -78 °C
7) NaOMe, MeOH, 90 °C



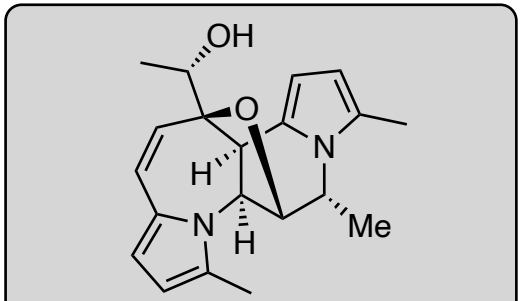
2

2) *Hint:* 1.1 eq of DIBAL

4) How would you make **2**?

6) *Hint:* Two transformations

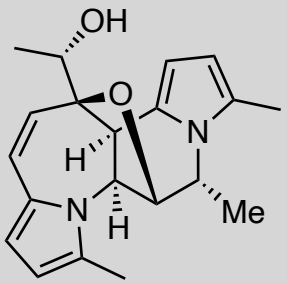
7) *Hint:* Look for most acidic proton



(-)-curvulamine

B

8-10



(-)-curvulamine

8) KHMDS, ClCSOPh, DMAP, THF, -78 °C
9) $HSnBu_3$, BEt_3, O_2, THF, 45 °C, *then* HCl
10) (*R*)-CBS, BH_3•DMS, CH_2Cl_2, 23 °C

9) Name of reaction?

10) Draw structure of CBS