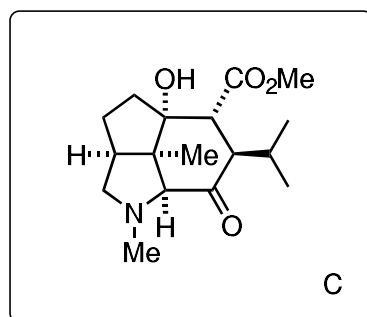
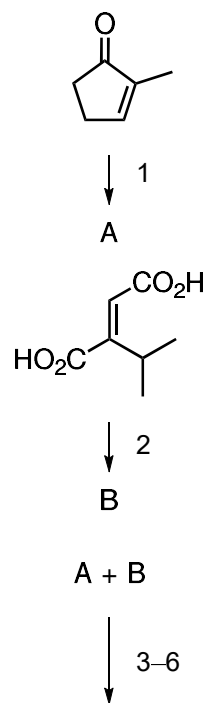


An Efficient, Stereocontrolled, Total Synthesis of the Orchidaceae Alkaloid (±)-Dendrobine

Cheol Hae Lee, Mark Westling, Tom Livinghouse, and Andrew C. Williams
J. Am. Chem. Soc. 1992, 114, 4089–4095.



1) LiCH_2NC , HMPA, THF, *then* TBSCl

2) SOCl_2 , CH_2OH

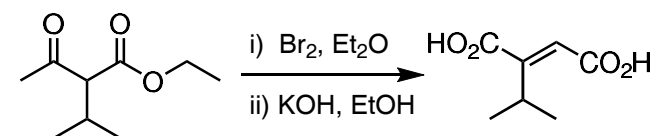
3) MS, CH_2Cl_2 , reflux, *then* AgBF_4 , DCE, $-78\text{ }^\circ\text{C}$ to $-20\text{ }^\circ\text{C}$

4) MeOTf

5) $\text{K}[\text{HB}(\text{O}t\text{Bu})_3]$, $-78\text{ }^\circ\text{C}$

6) Sml_2 , THF, $25\text{ }^\circ\text{C}$

Tetrahedron 1987, 43, 24, 5899–5908.

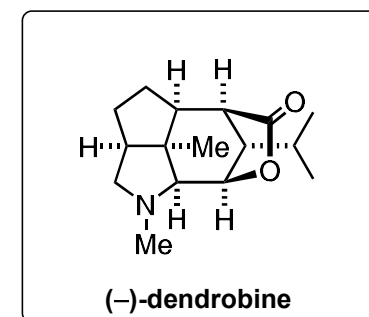


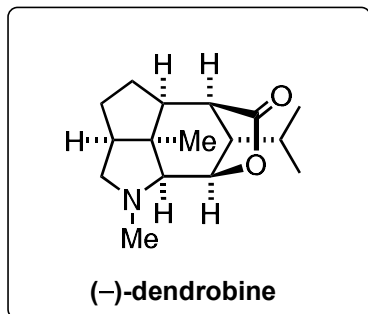
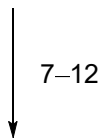
How would you prepare the diacid?

Hint: methanolysis at only one position

Step 3: Please provide a mechanism.

Step 6: A different main product is observed with HMPA at $-78\text{ }^\circ\text{C}$, which?

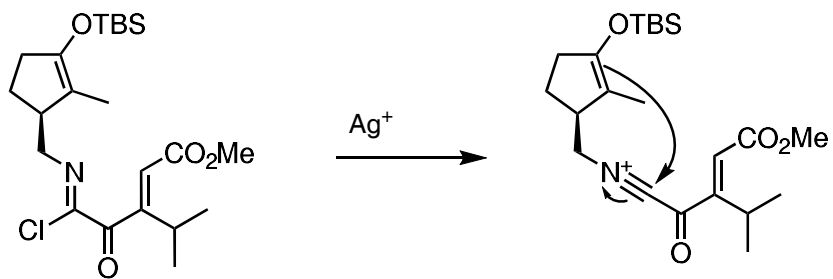




- 7) SOCl_2 , NEt_3 , EtOAc , $0\text{ }^\circ\text{C}$ to $25\text{ }^\circ\text{C}$
- 8) DBU , 1,4-dioxane, reflux
- 9) PtO_2 , H_2 , AcOH , $25\text{ }^\circ\text{C}$
- 10) NaBH_4 , $i\text{-PrOH}$

Step 9: Hint: Two reactions occur.

Step 3



Step 6

