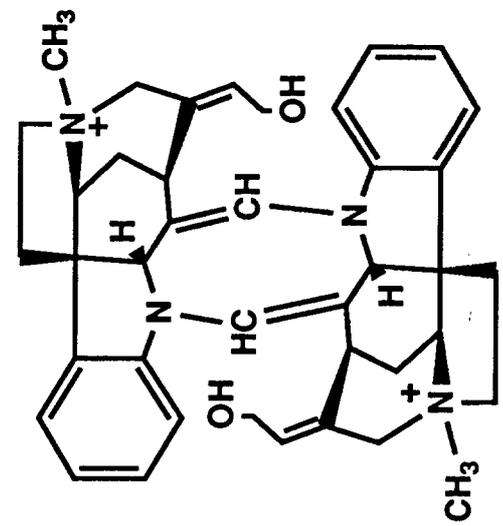
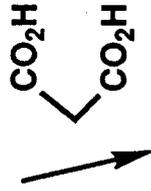
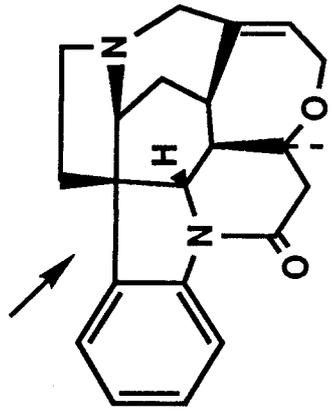
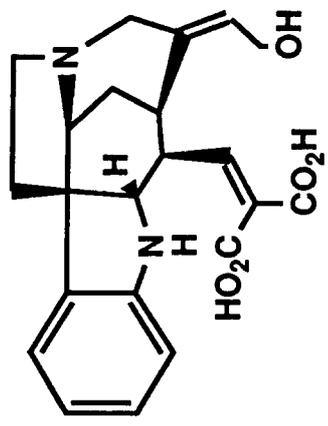


Wieland-Gumlich aldehyde

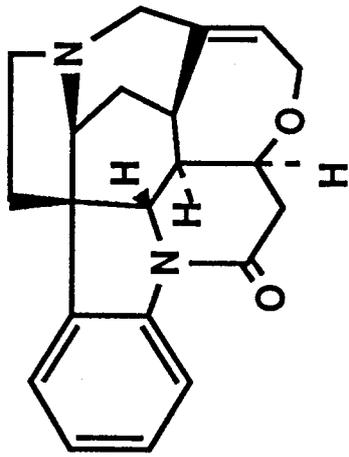


C-TOXIFERINE

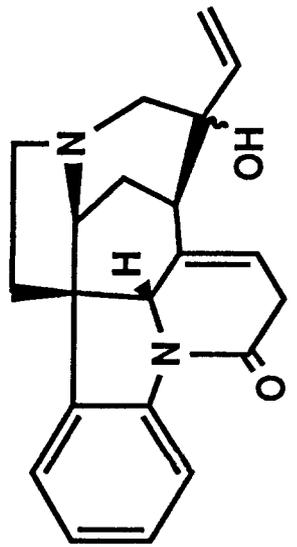
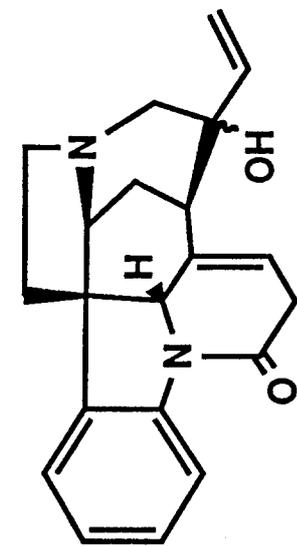
A CURARE ALKALOID



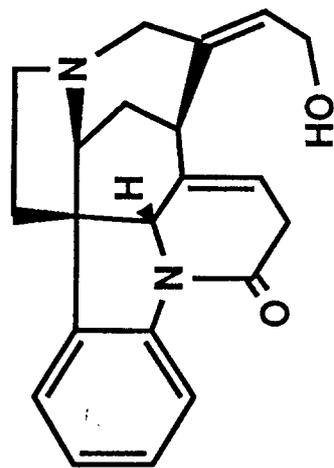
STRYCHNINE



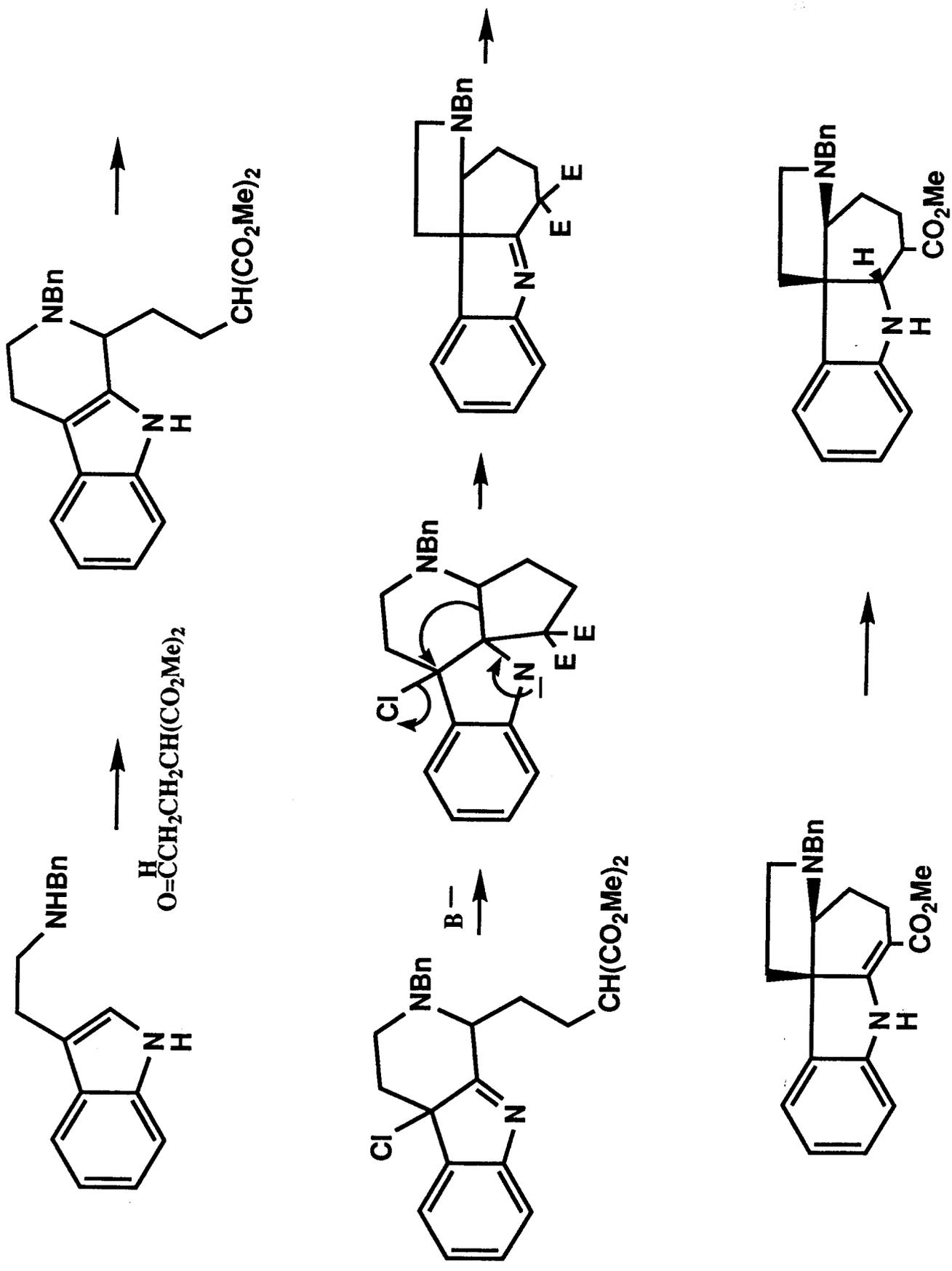
STRYCHNINE

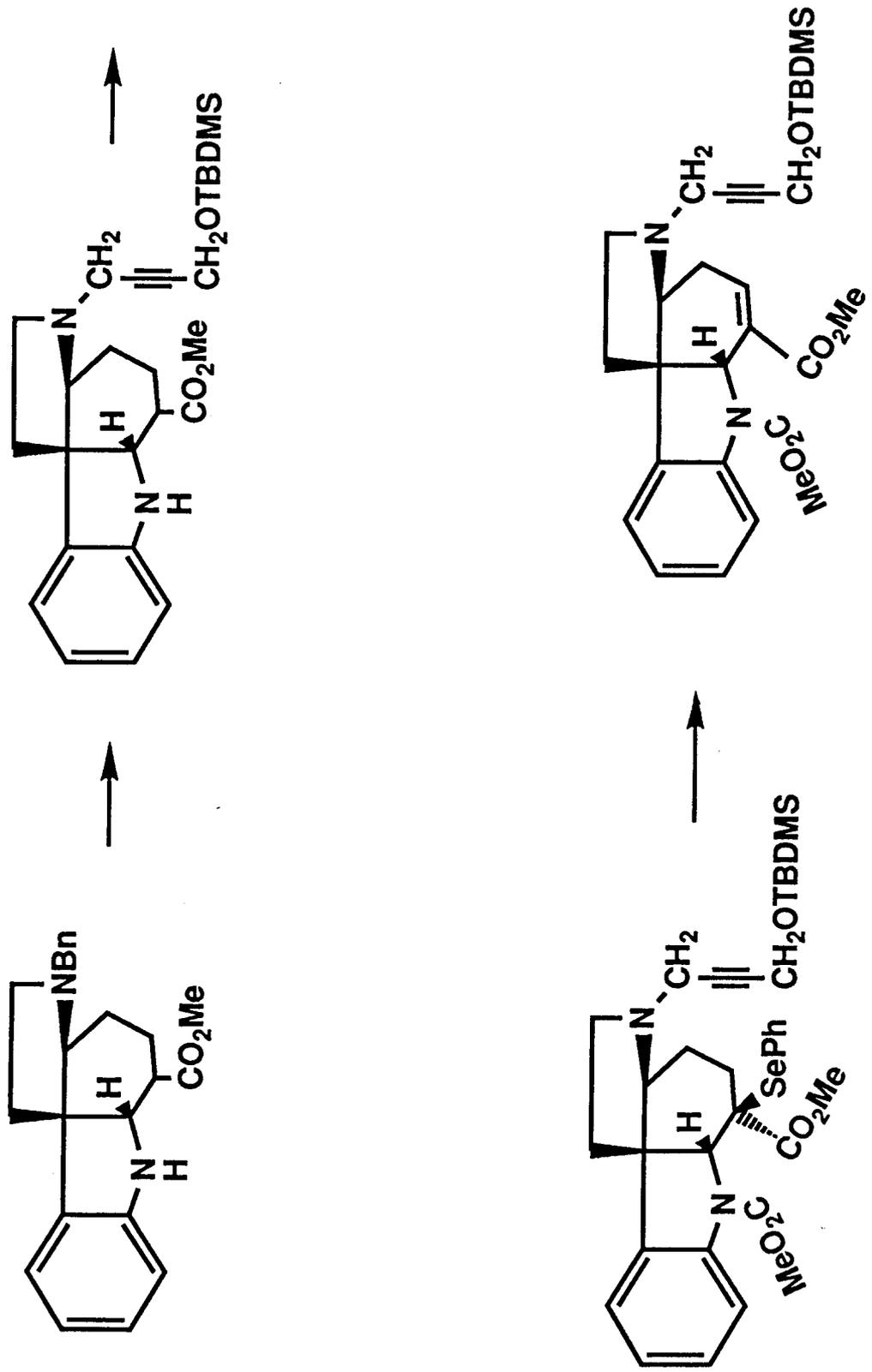


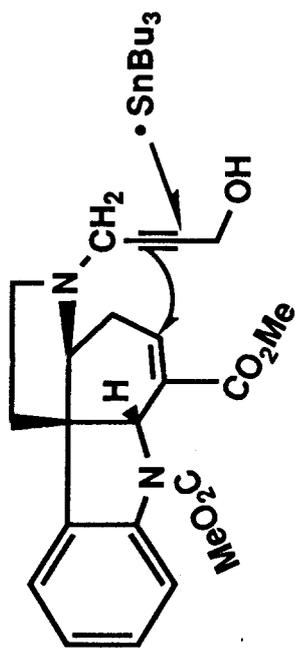
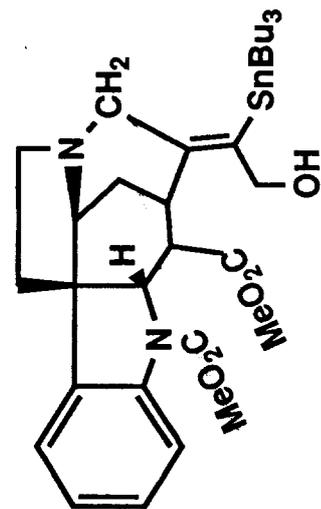
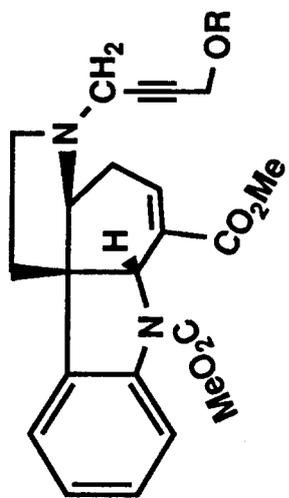
aq. HBr (?)

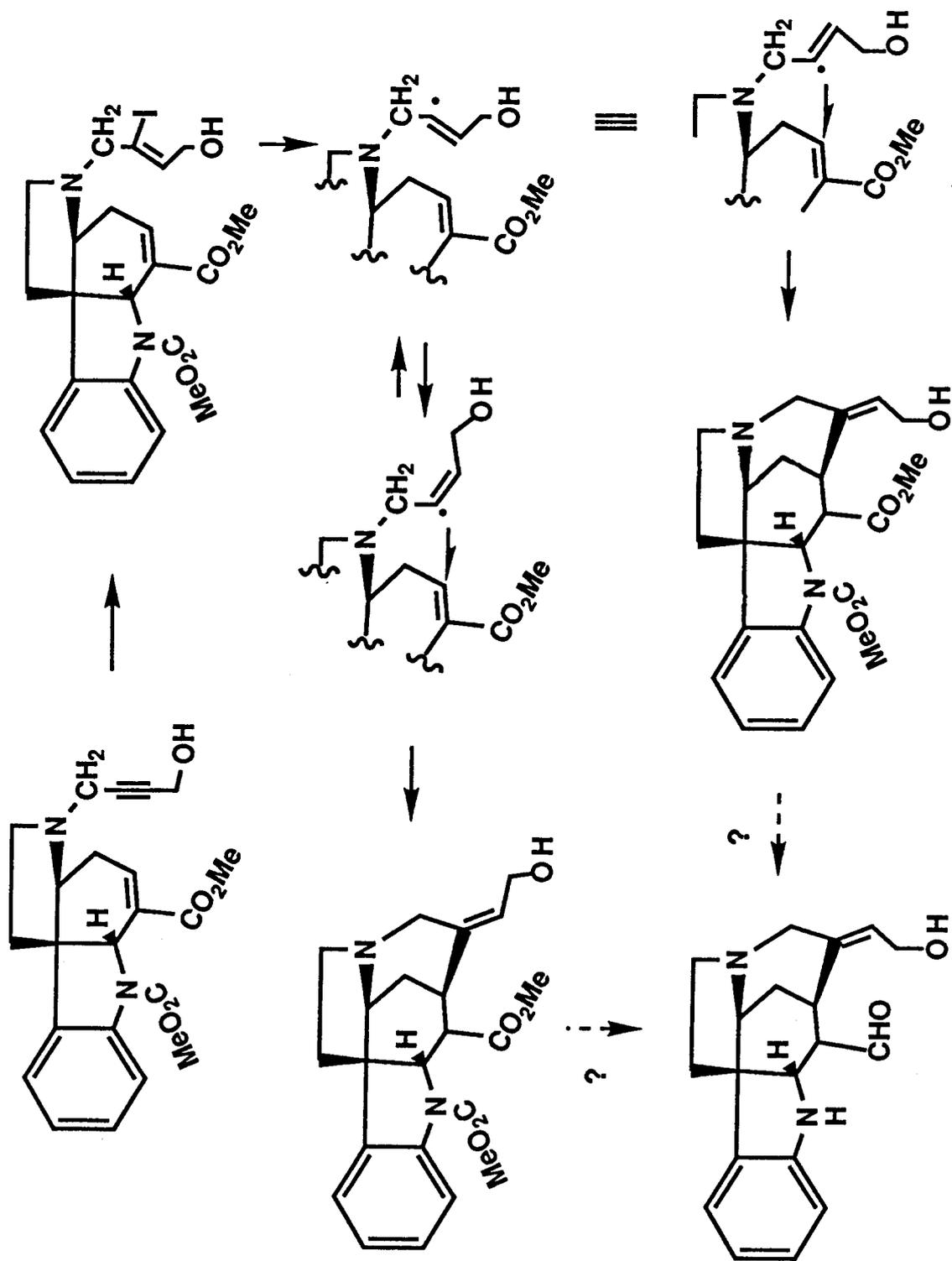


-OH
↑
Strychnine
(Prelog)



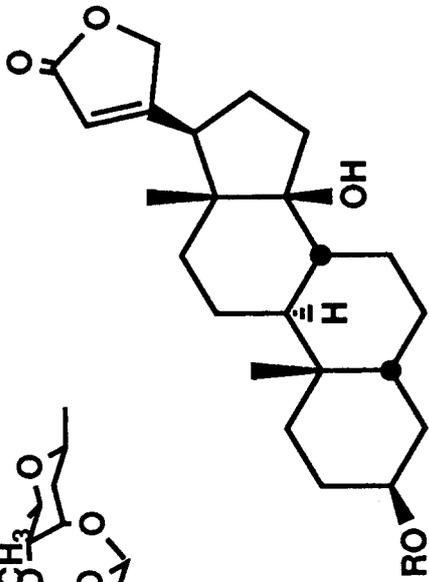
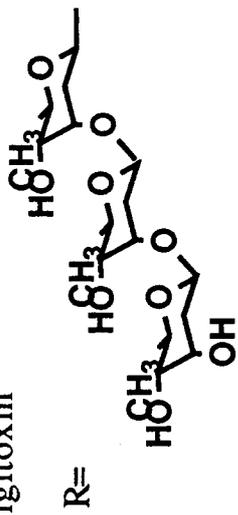






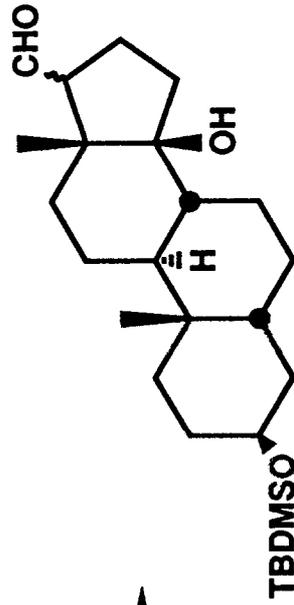
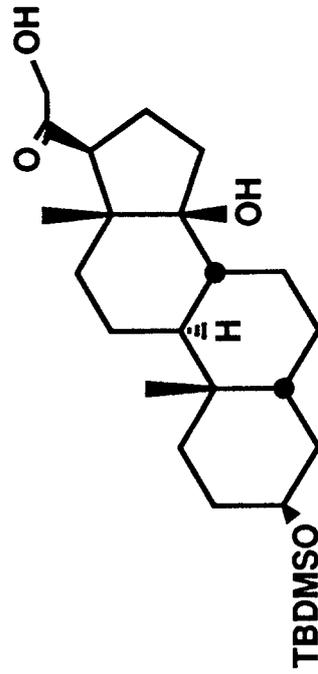
WIELAND-GUMLICH ALDEHYDE

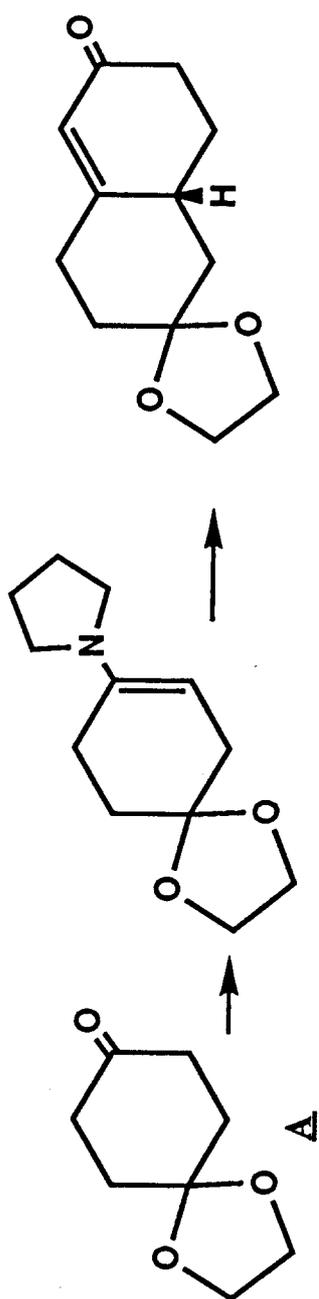
Digitoxin



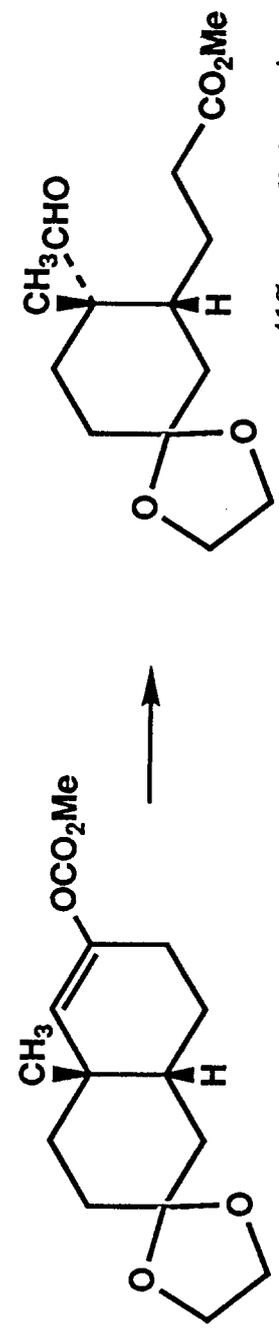
Digitoxigenin

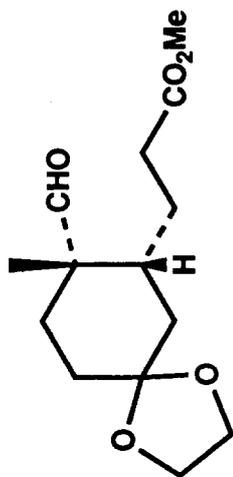
R=H



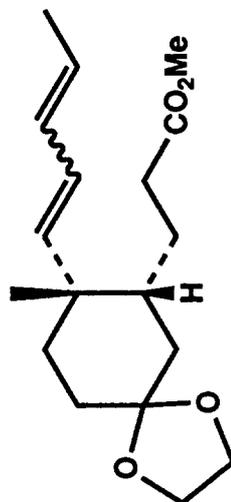


\swarrow $\text{Me}_2\text{CuLi};$
 ClCO_2Me





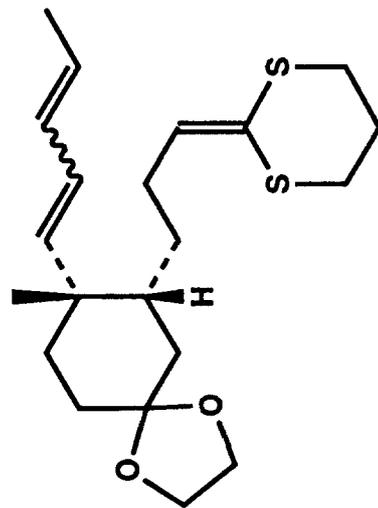
BuLi, HMPA / THF
-78 °C

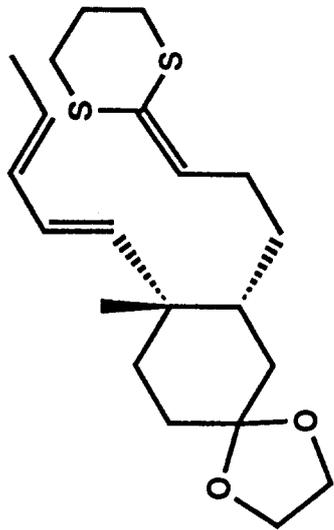


i) DIBAL

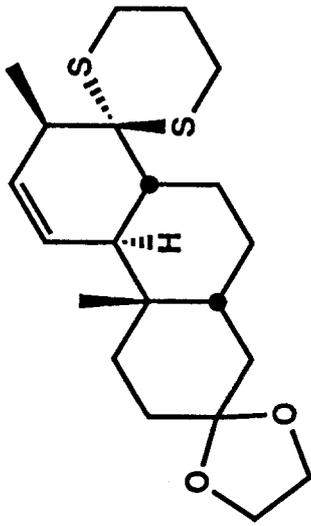


ii) (MeO)₂P(=O)(S)₂, LiHMDS

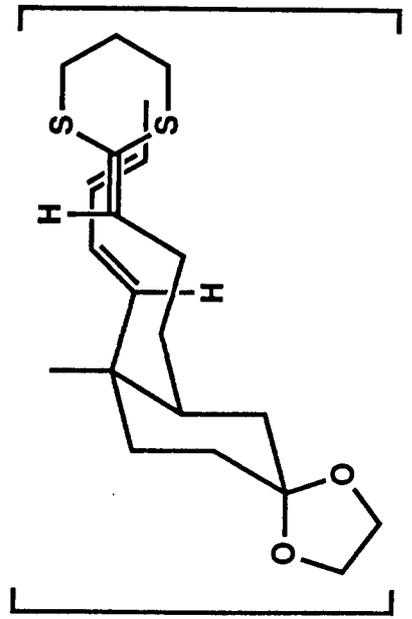


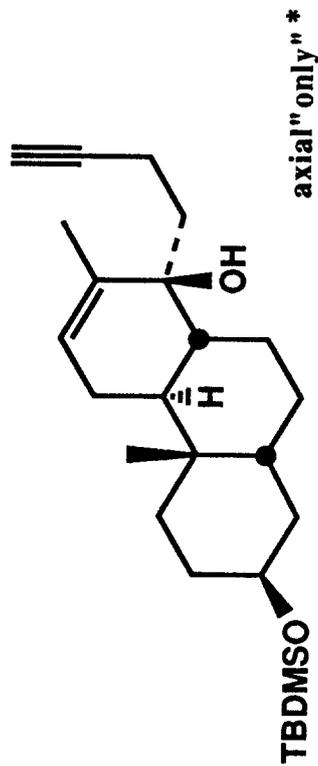
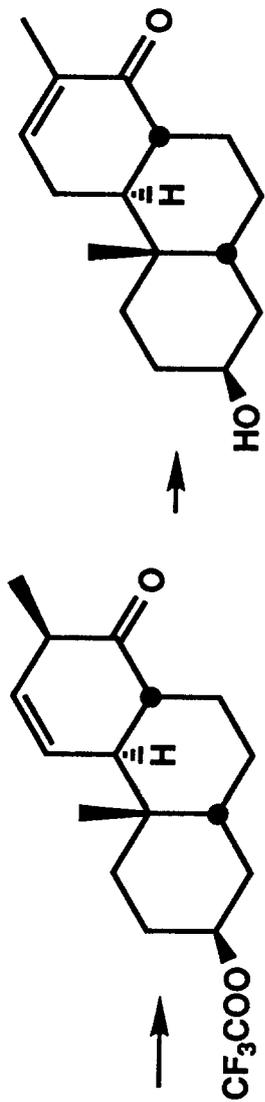
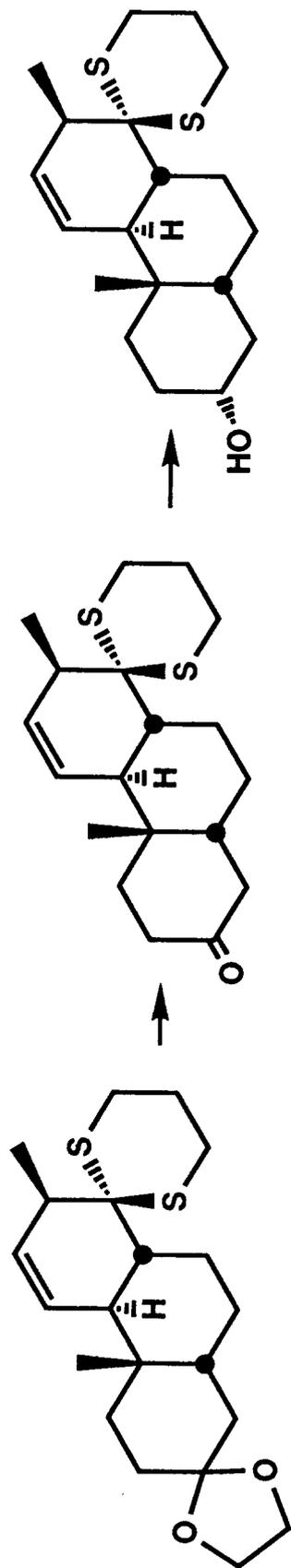


210° C
PhH, 2 days, 62%

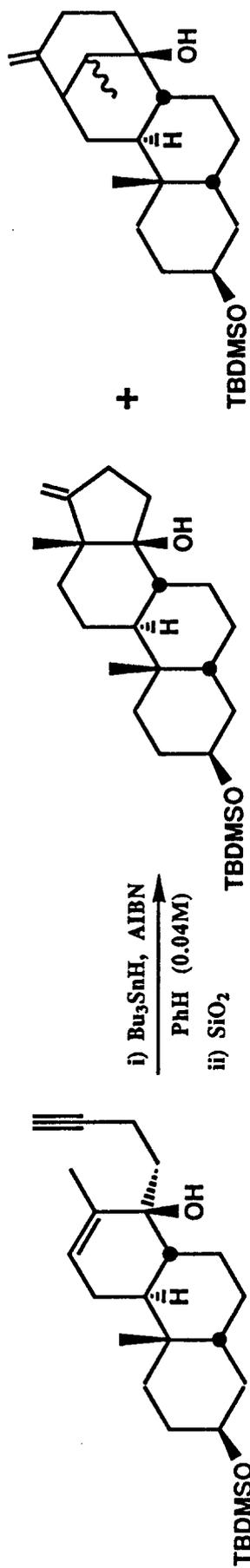


X-RAY



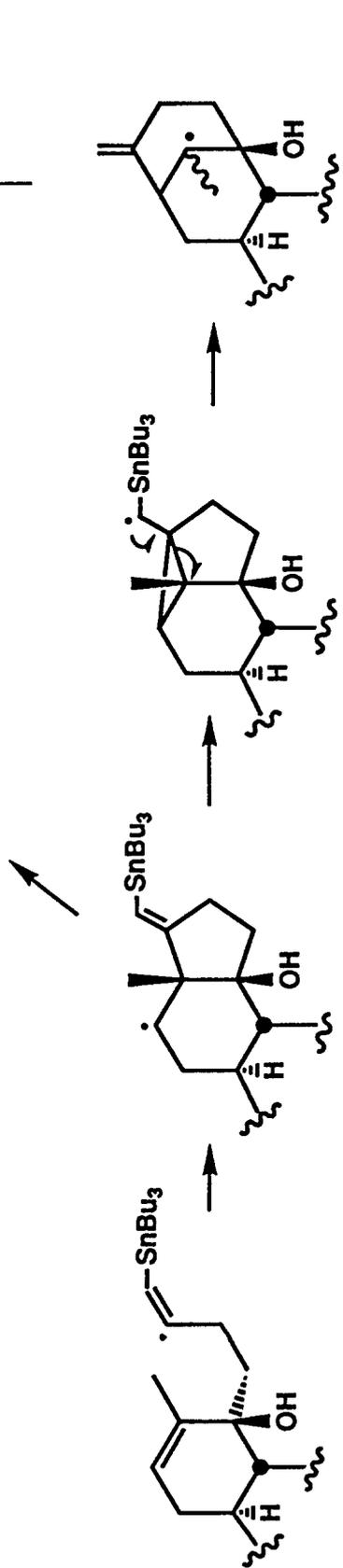


axial" only" *



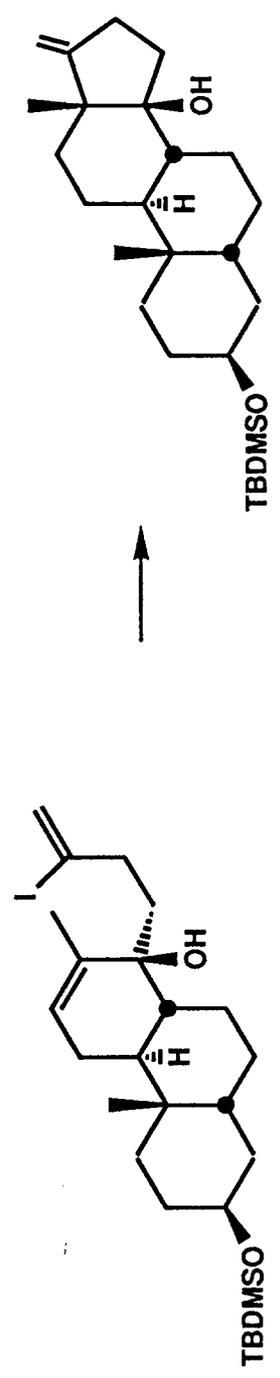
A

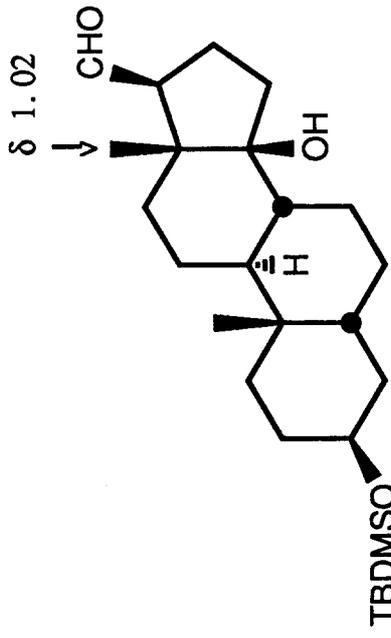
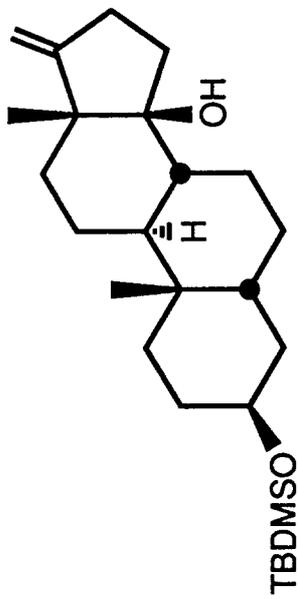
4 : 3



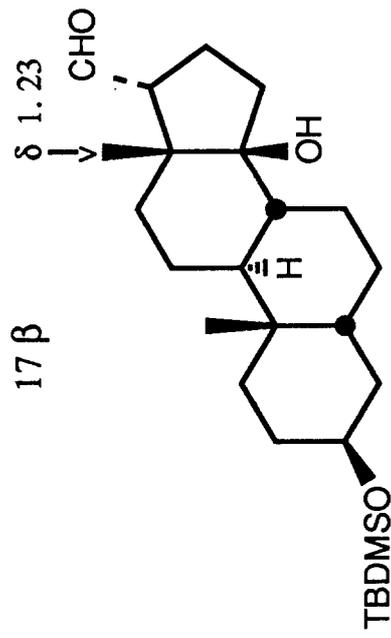
A

i) Me₃SnCu · Me₂S
ii) I₂





} (bracket indicating a group of structures)

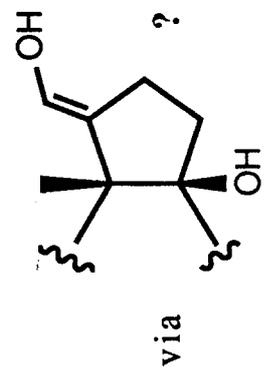
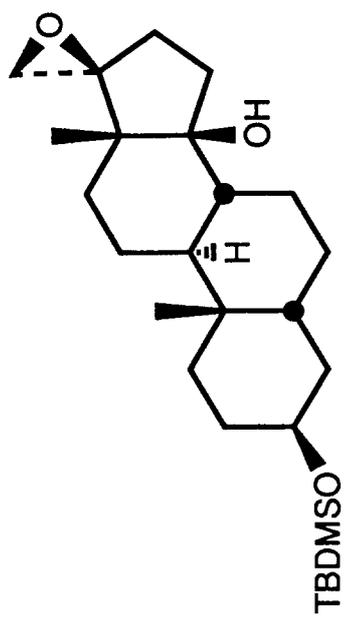


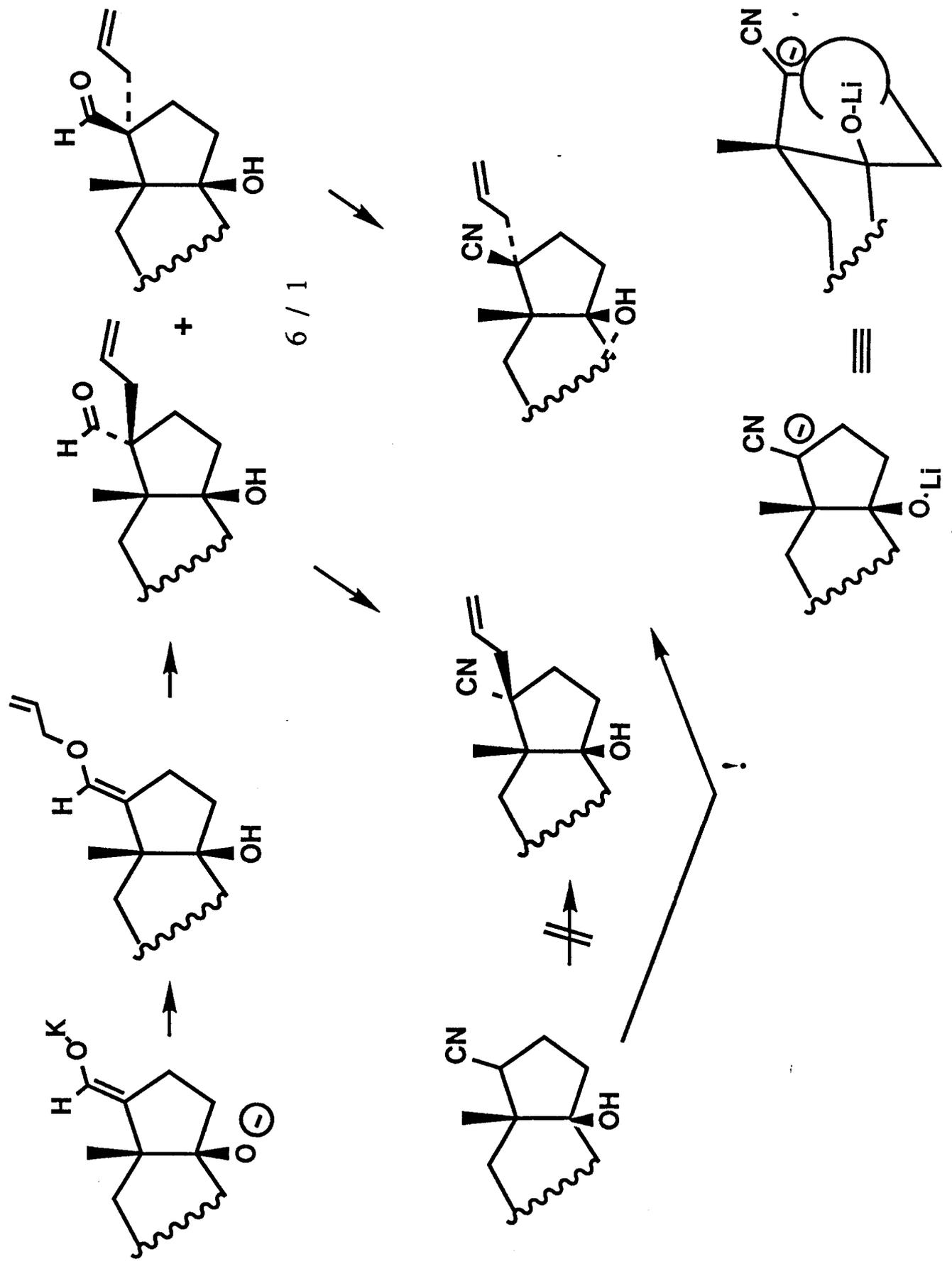
17 β

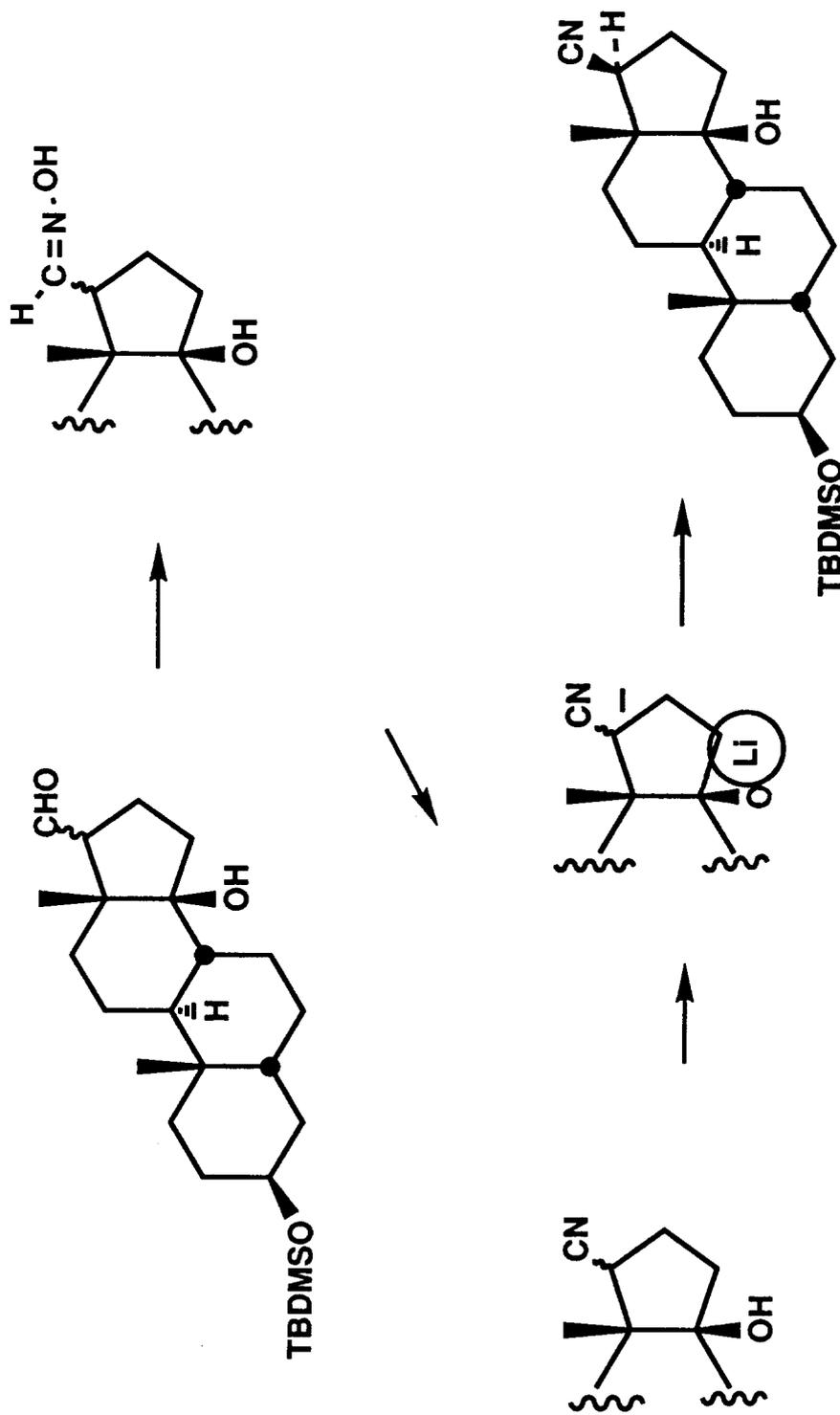
17 α

17 β / 17 α = 1 / 9 !

BF₃ · Et₂O
-78° C







proton source 17β / 17α
 water 1 / 1
 2,6-di-*tert*-butyl-4-methylphenol 5,6 / 1

