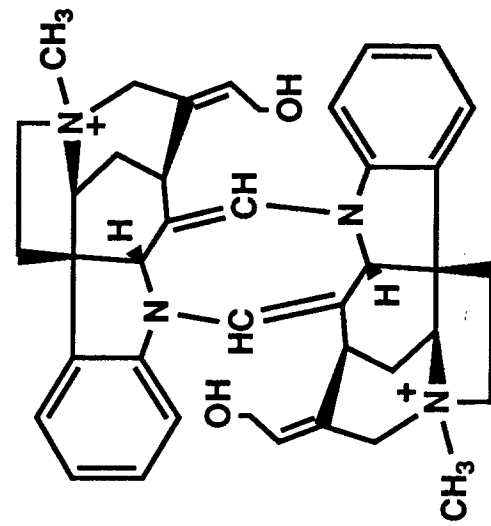
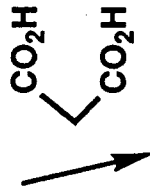
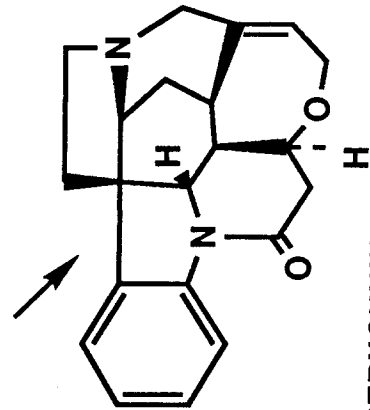
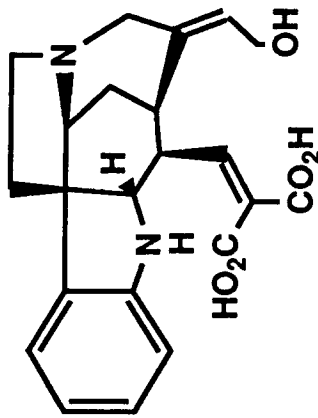


Wieland-Gumlich aldehyde

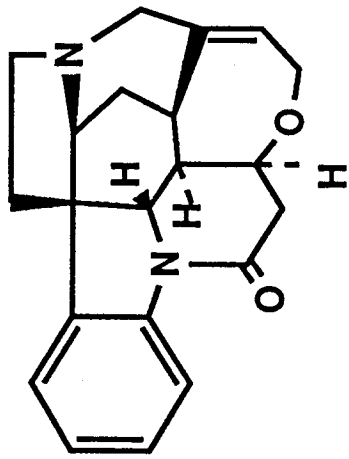


C-TOXIFERINE

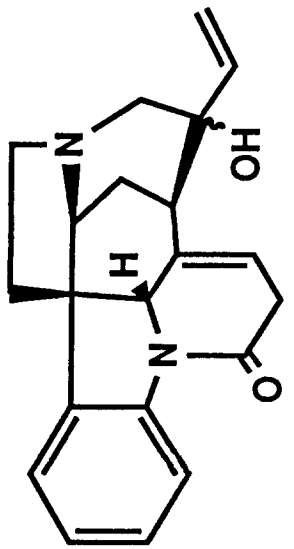
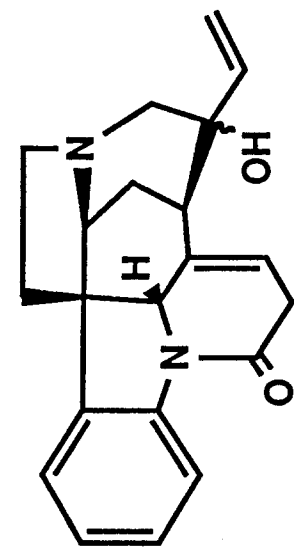
A CURARE ALKALOID



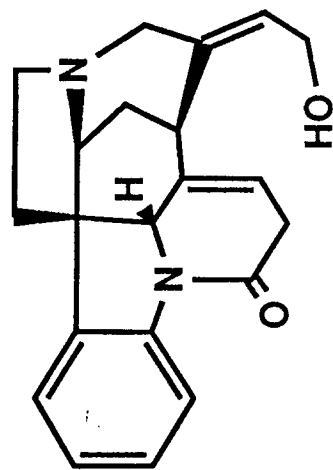
STRYCHNINE



STRYCHNINE

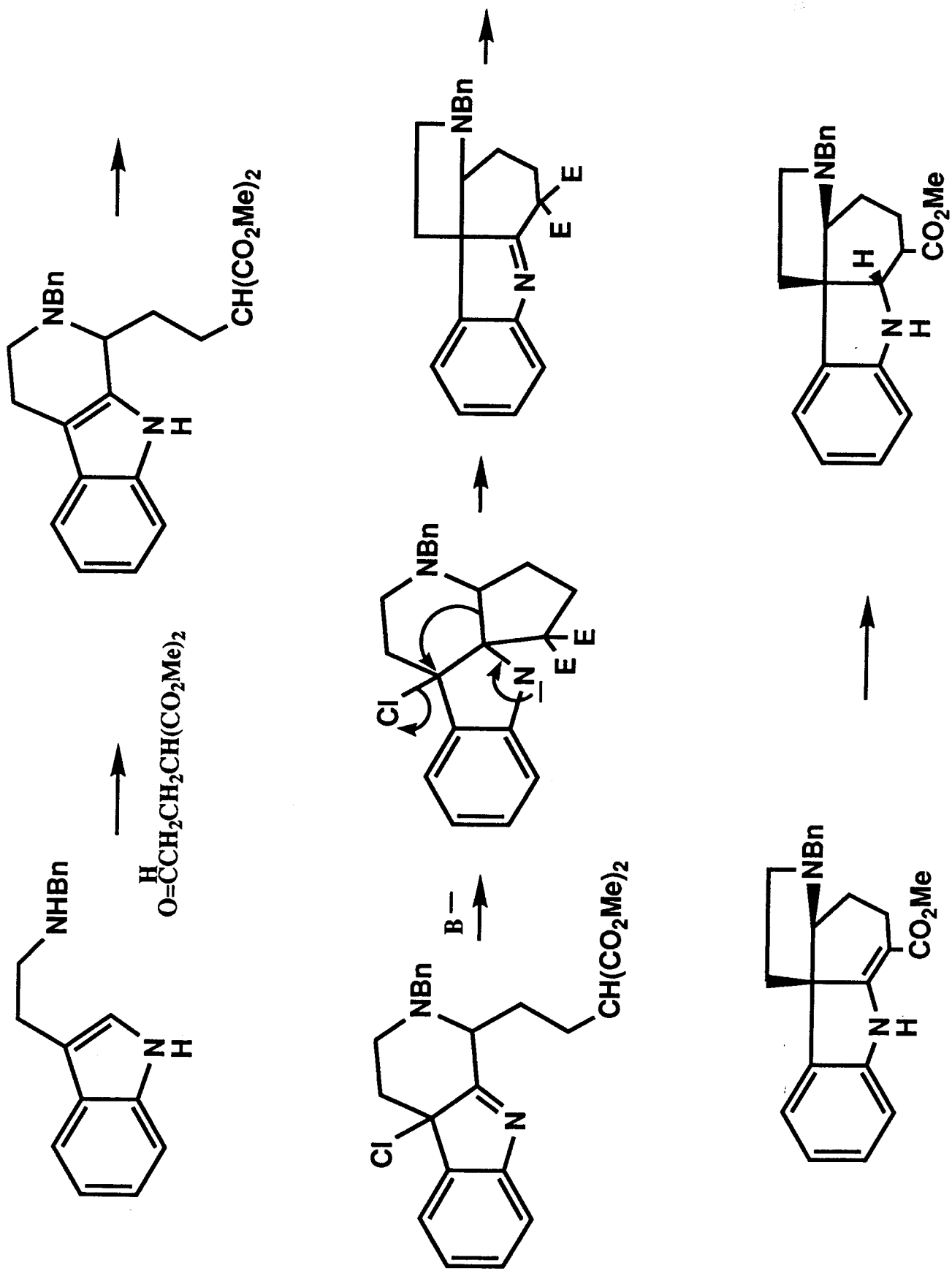


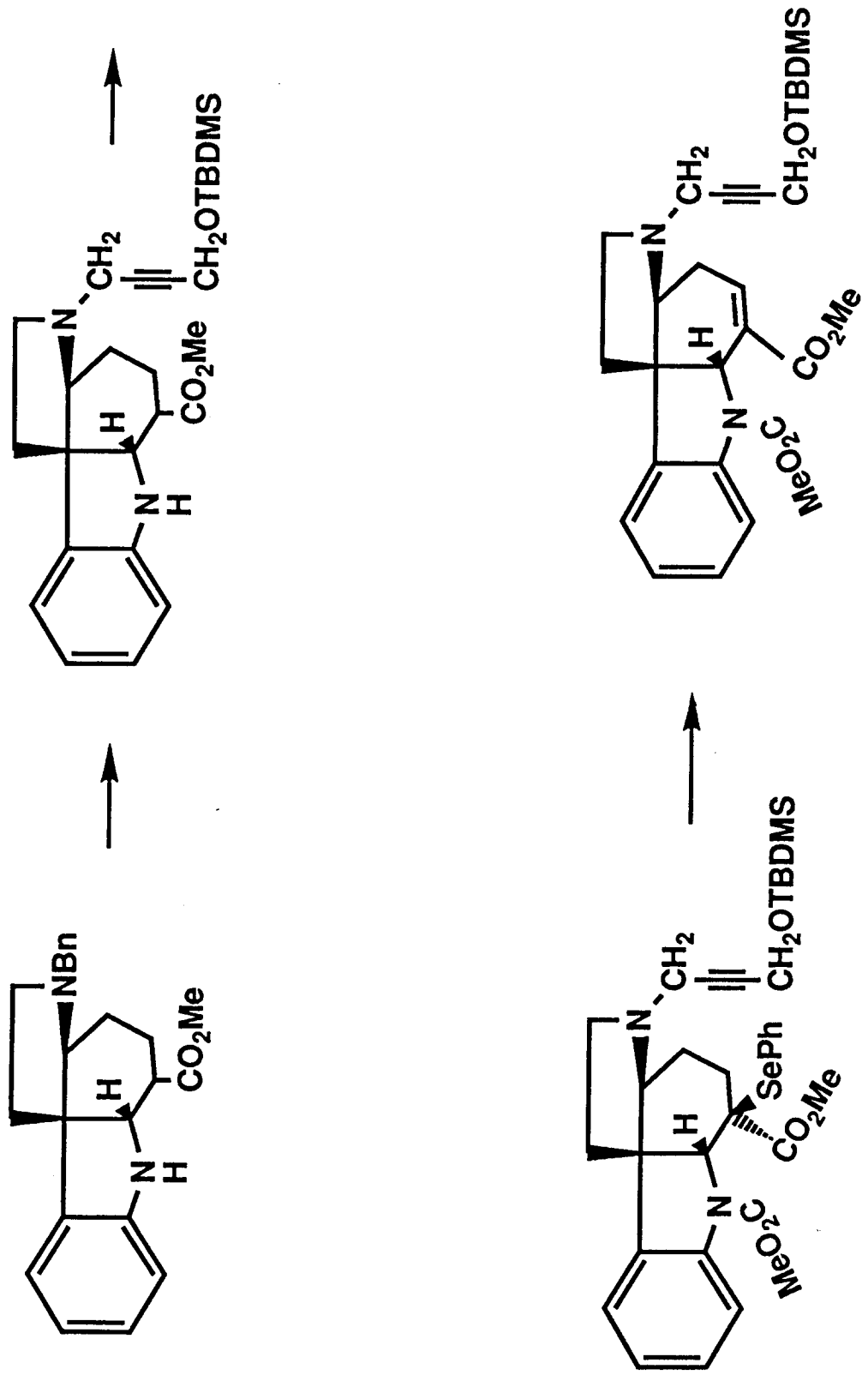
aq. HBr (?)

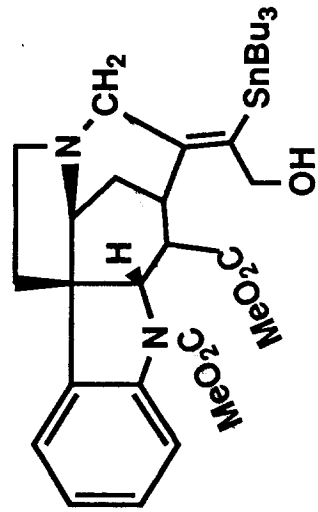
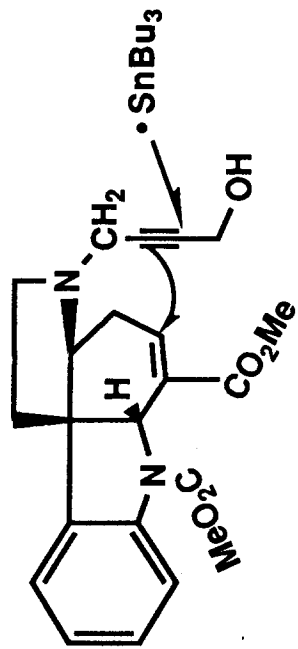
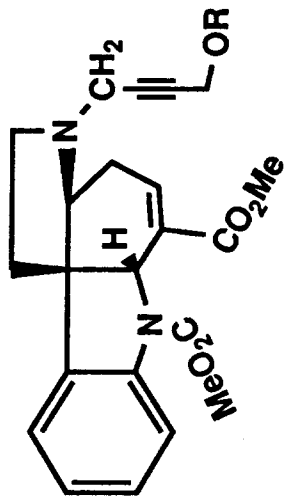


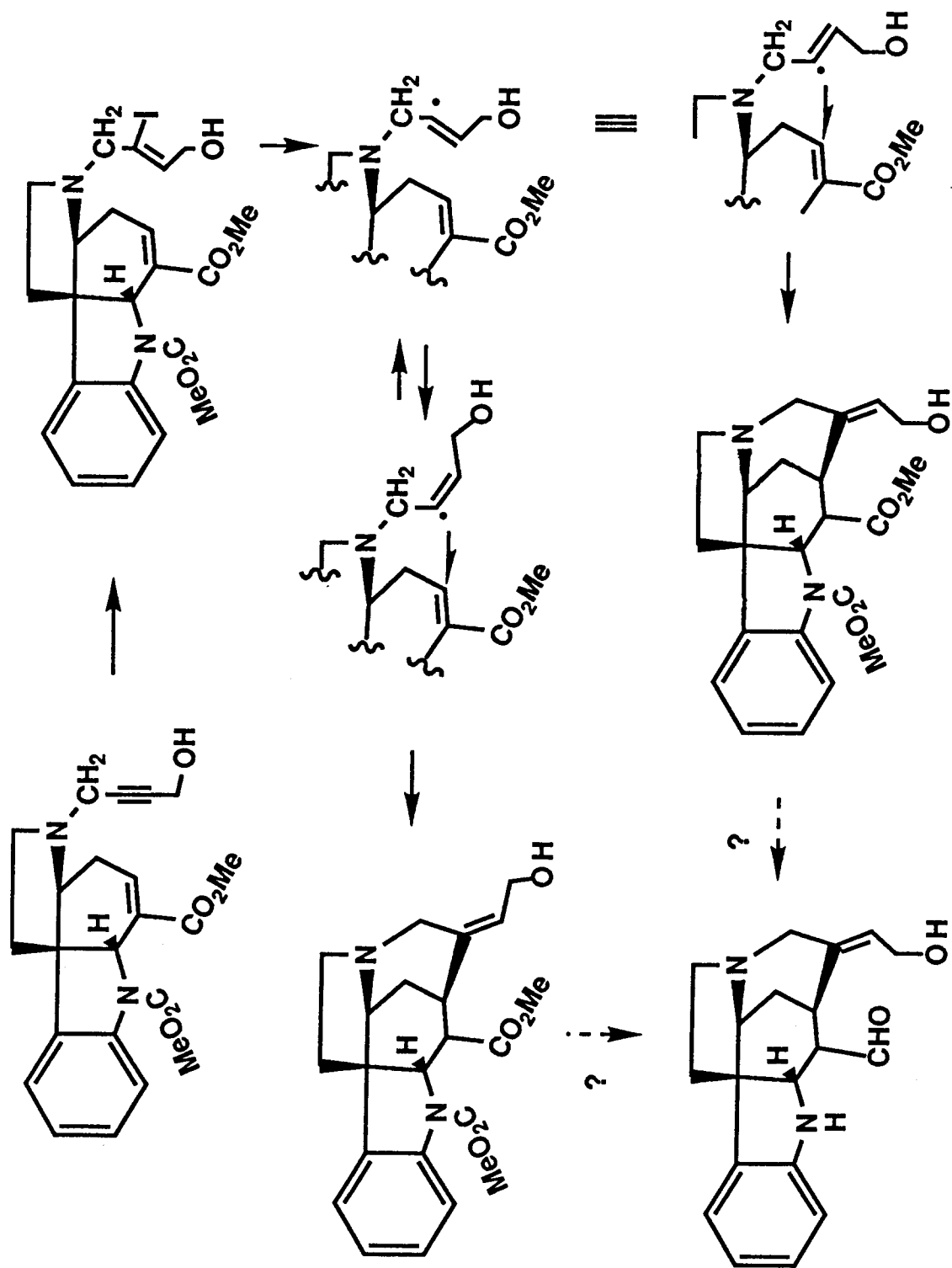
-OH
↑
(Prelog)

Strychnine



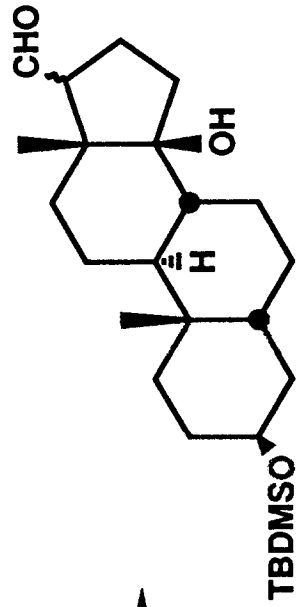
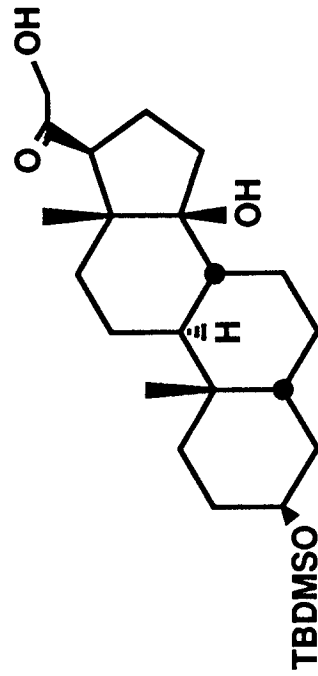
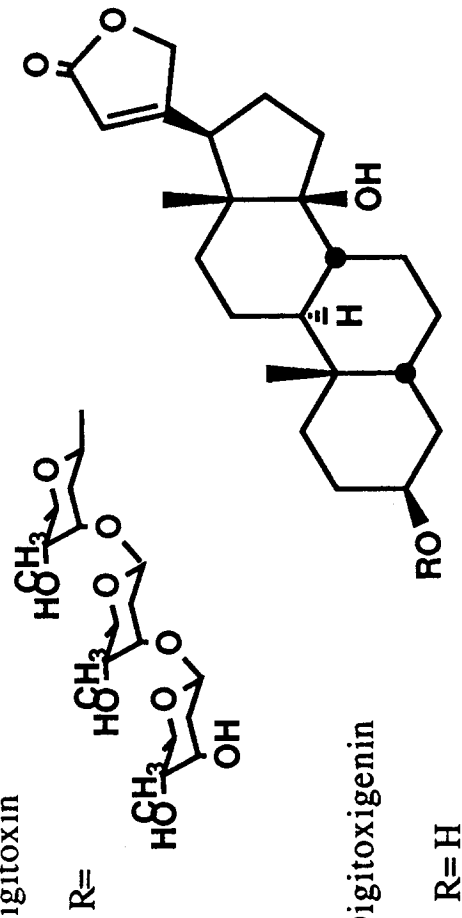


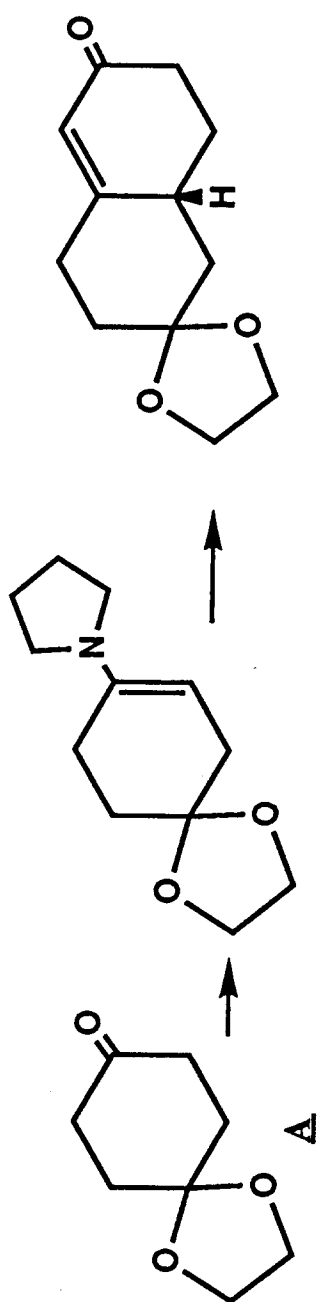




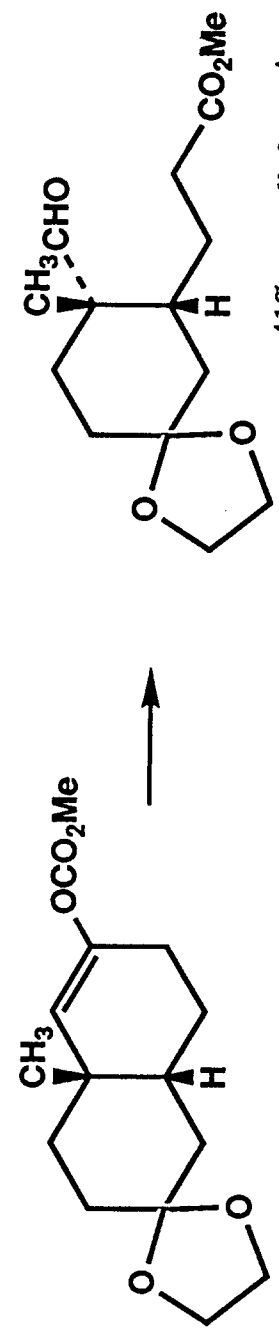
WIELAND-GUMLICH ALDEHYDE

Digitoxin

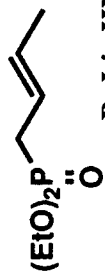
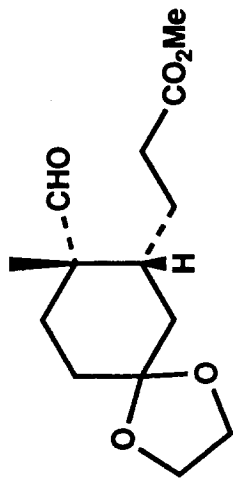




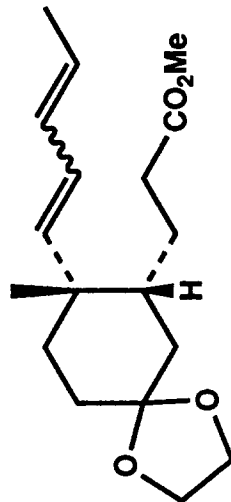
$\text{Me}_2\text{CuLi};$
 ClCO_2Me



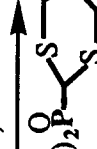
41% overall from **A**



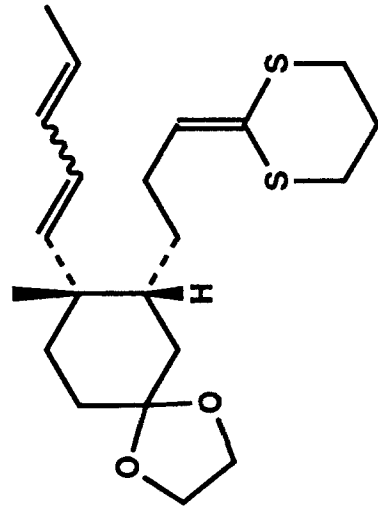
BuLi, HMPA / THF
-78 °C

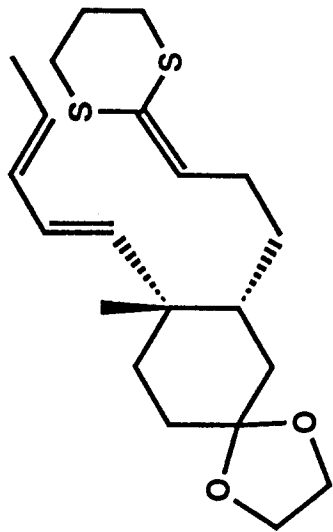


i) DIBAL

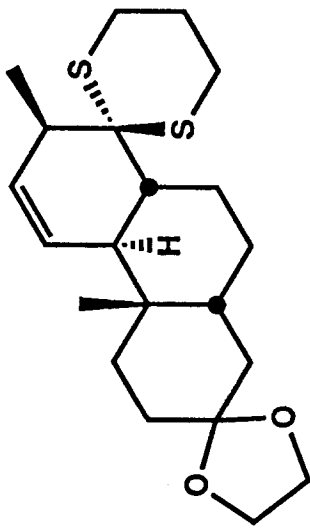


ii) (MeO)2P(=O)(S)2, LiHMDS

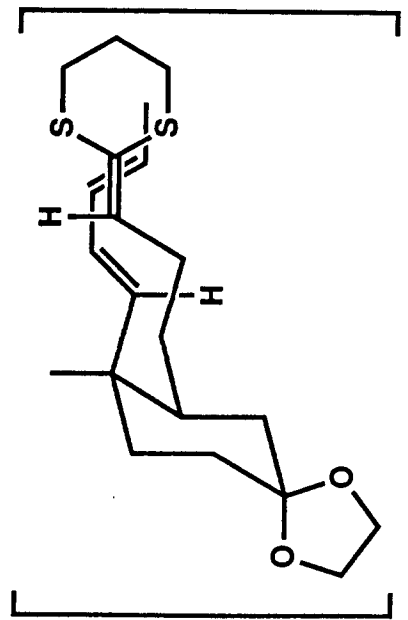


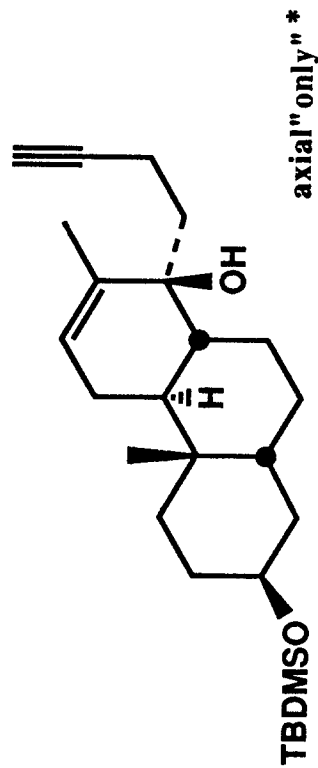
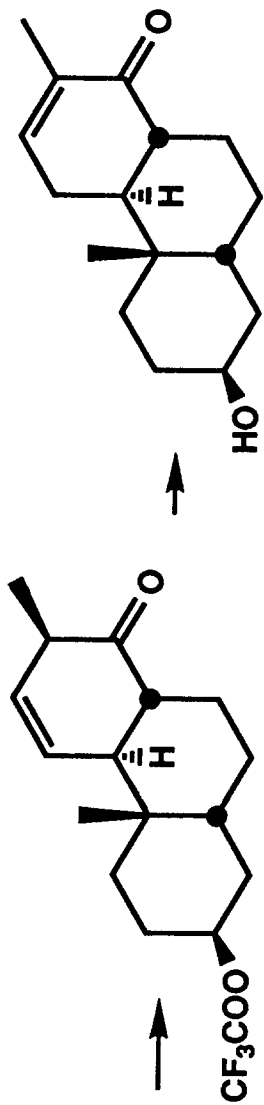
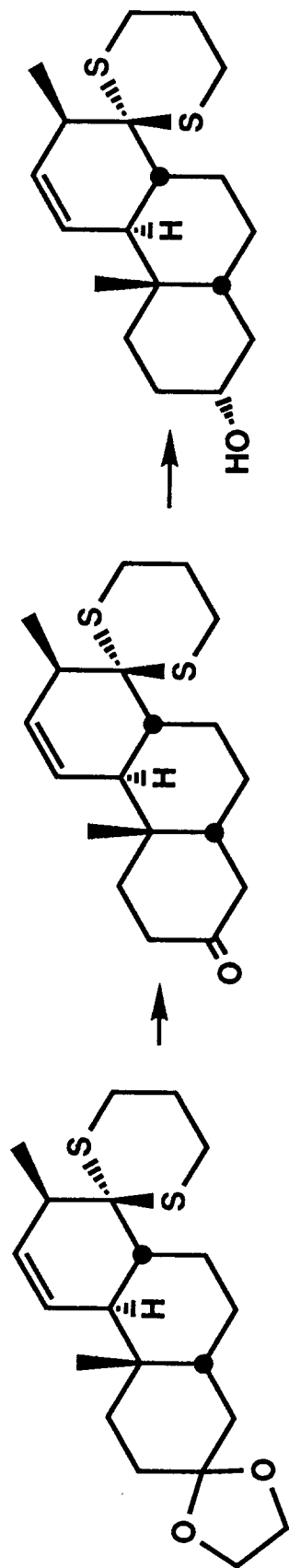


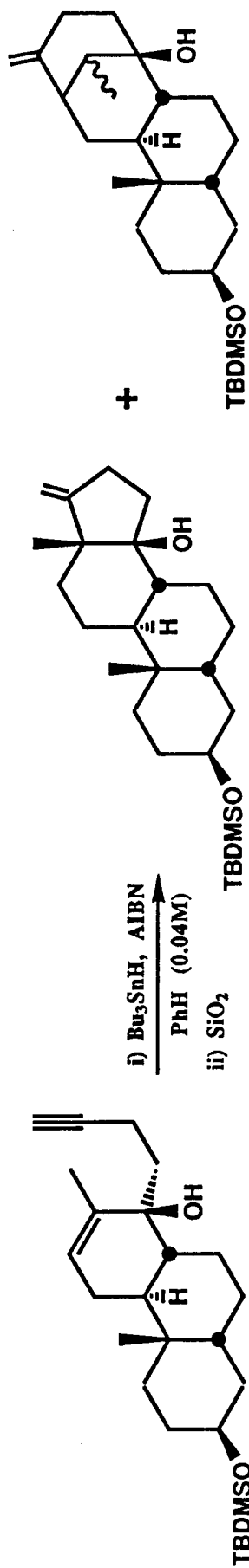
210° C
PhH, 2 days, 62%



X-RAY

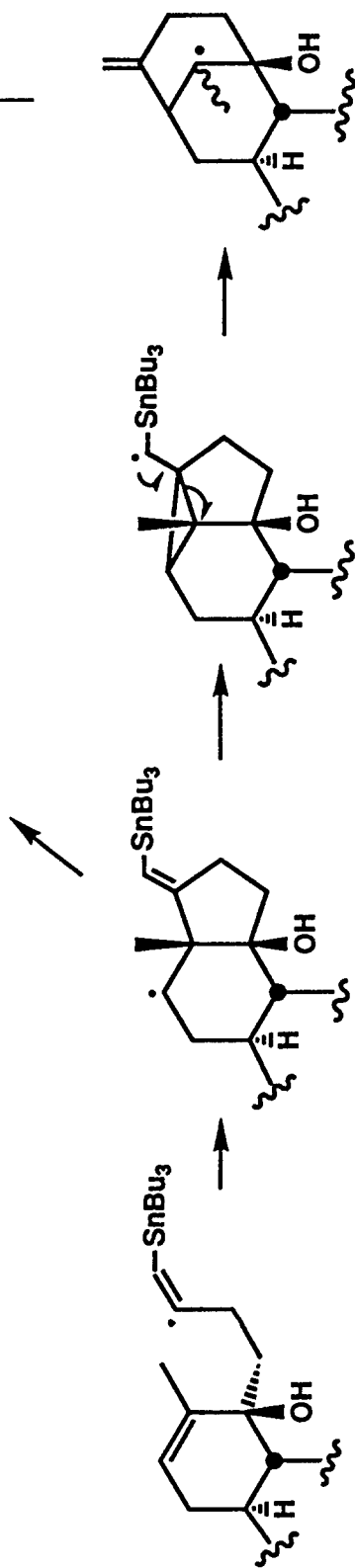




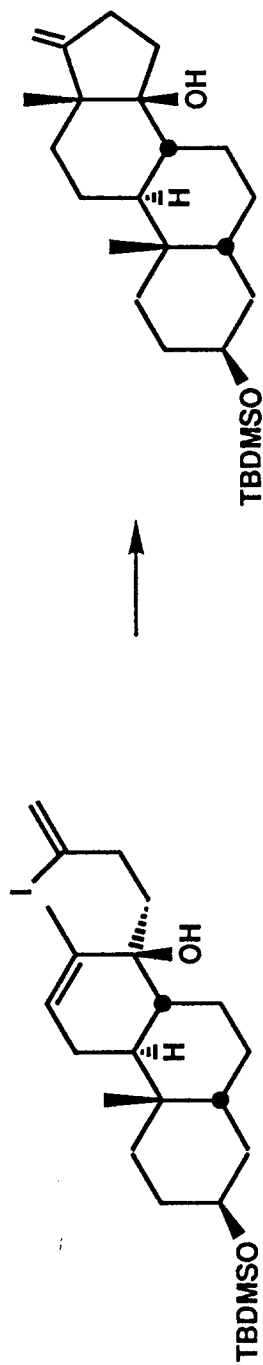


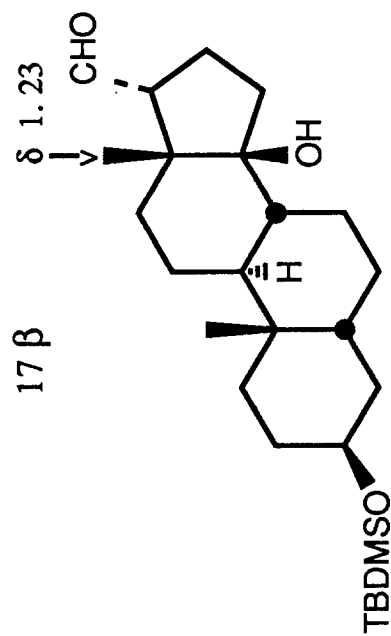
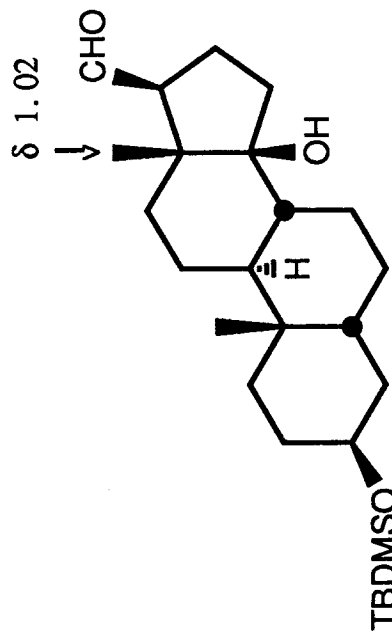
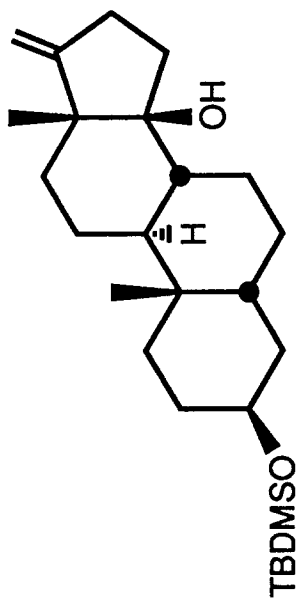
A

4 : 3

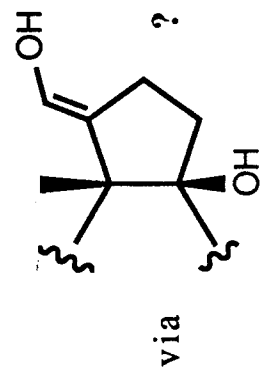
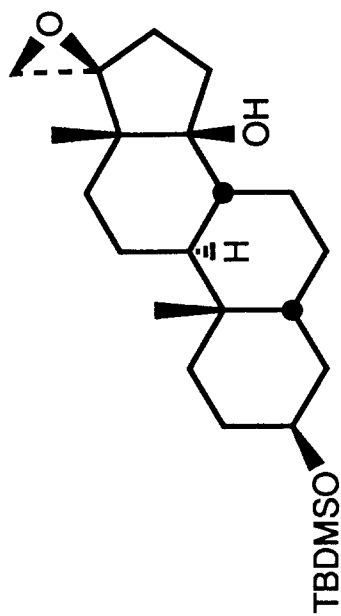
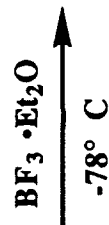


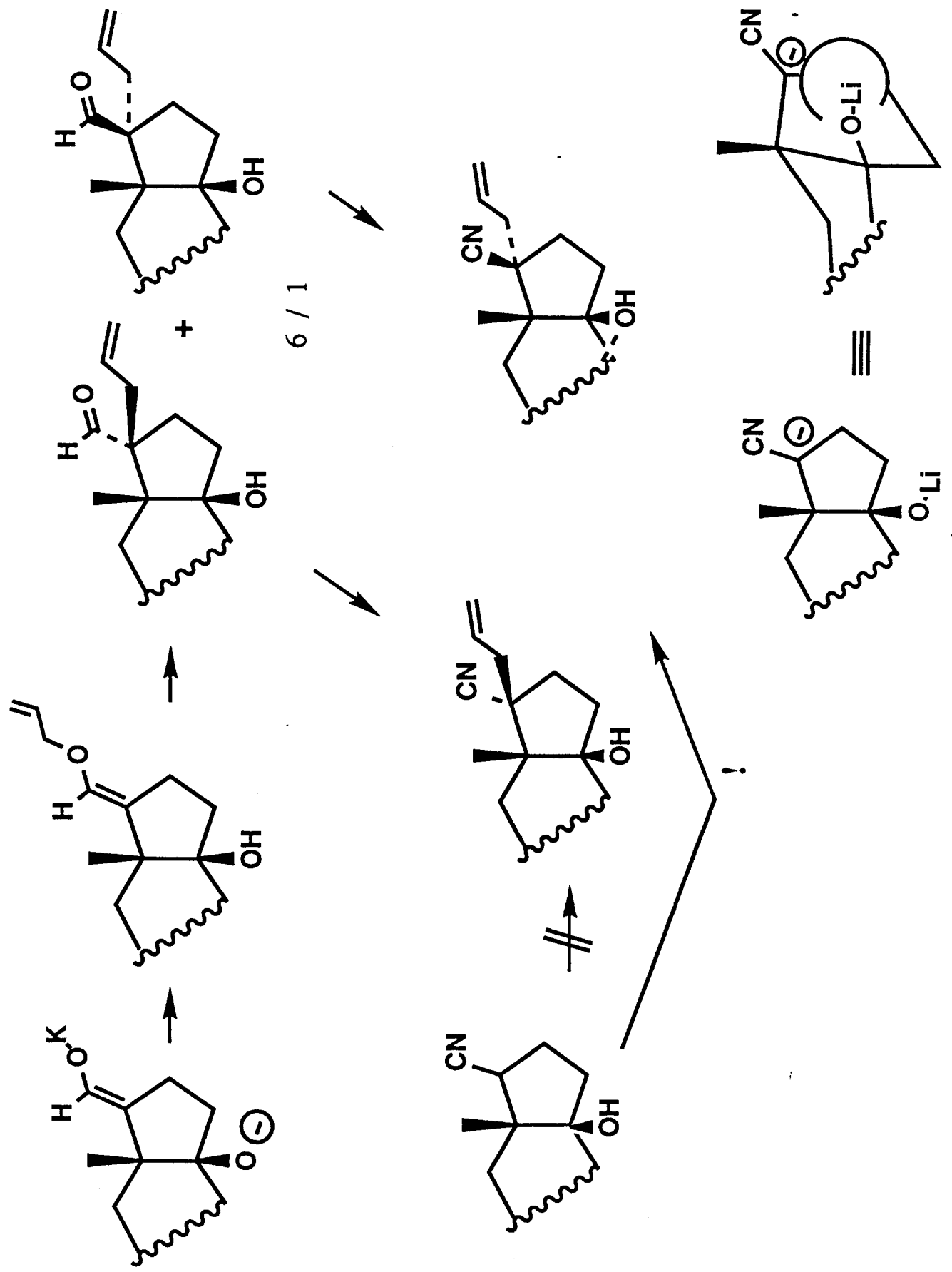
A

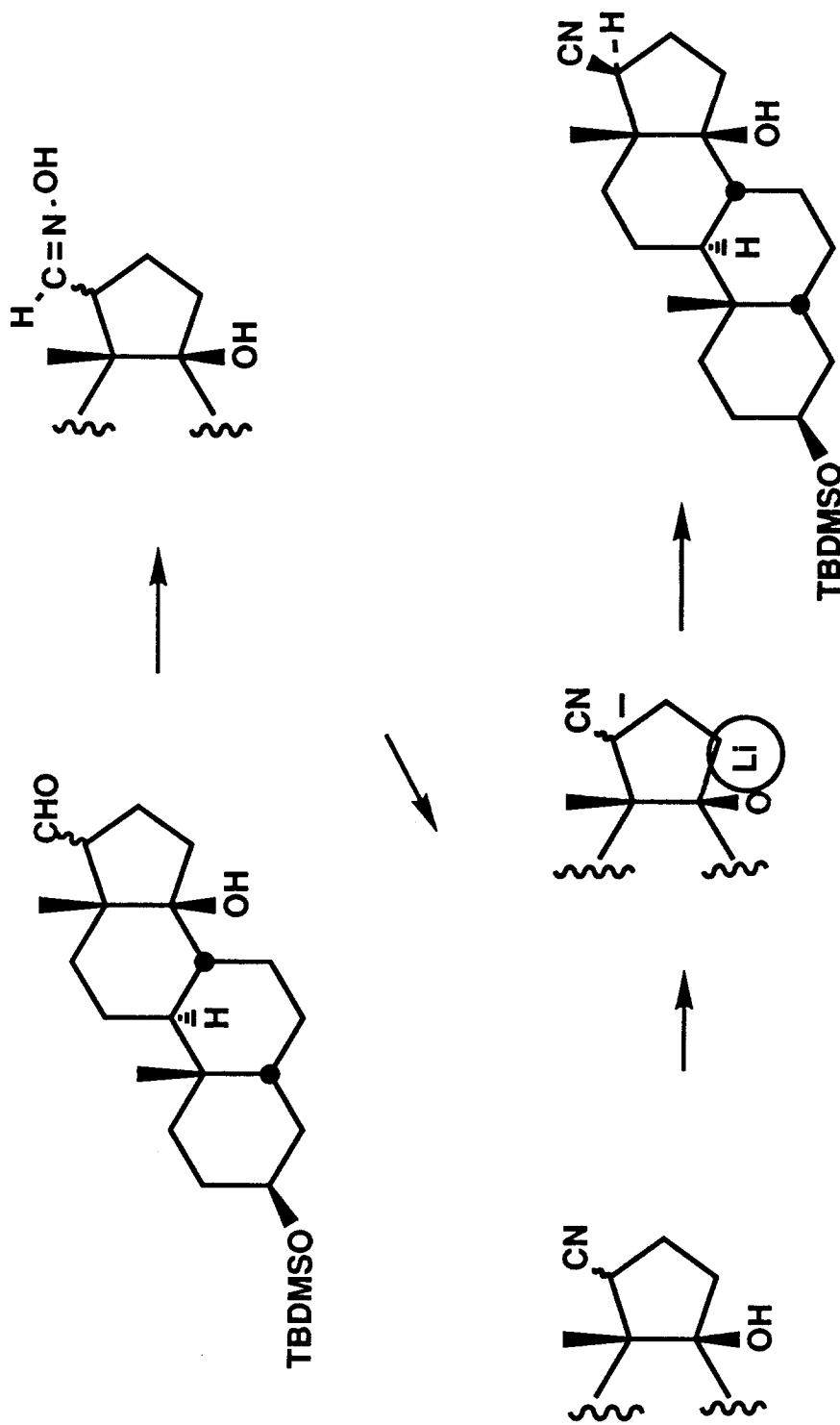




} 17β / 17α = 1/9 !







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

