

STUDIES ON THE SYNTHESIS OF ISOCARBOSTYRIL DERIVATIVES

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- 1) The cyclization of 4-phenacylhomophthalimide derivative with p-toluensulfonic acid in the presence of ethylene glycol gave benzo[c]phenanthridine derivative.
- 2) Reduction of 2,4,4-trisubstituted homophthalimide with sodium borohydride gave 3-hydroxy-2,4,4-trisubstituted isocarbostyril derivative, which was converted to 2,4-disubstituted isocarbostyril with p-toluensulfonic acid. The 2,4-disubstituted isocarbostyril was reduced with lithium aluminum hydride to give 1,2-dihydro-2,4-disubstituted isoquinoline, which was heated with concd. hydrochloric acid to give trans-13-methyltetrahydroprotoberberine.
- 3) 4-(3-Oxobutyl)homophthalimide derivatives were converted into 4-(3-oxobutyl)-isocarbostyril derivatives with sodium borohydride, which were reduced with lithium aluminum hydride followed by cyclization with concd. hydrochloric acid gave phenanthridine derivatives.