E2-25: Syntheses of some new quinoline alkaloids

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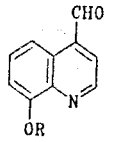
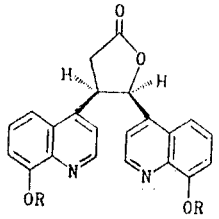
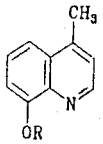
The new quinoline alkaloids, 8-hydroxy-4-quinolinecarboxaldehyde (**I**) and 3,4-bis-(8'-hydroxyquinolin-4-yl)- y-butyrolactone (Broussonetine) (**III**) have been isolated from *Broussonetia zeylanica* (Moraceae) which is endemic to Sri Lanka. Antimicrobial activity of compound (**I**) was reported while the synthetic compound (**II**) showed remarkable antifungal activity. The proposed new structure of compound (**III**) was assigned using spectroscopic evidence. The attempted synthetic pathways for the other new quinoline alkaloids *(Scheme I)*, are discussed.



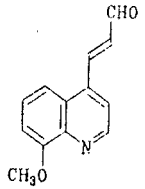
(1) R=H
(2) R=CH_3



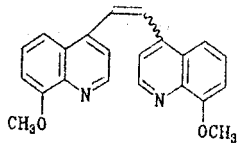
(3) R=H
(4) R=CH_3



(5) R=H
(6) R=CH_3

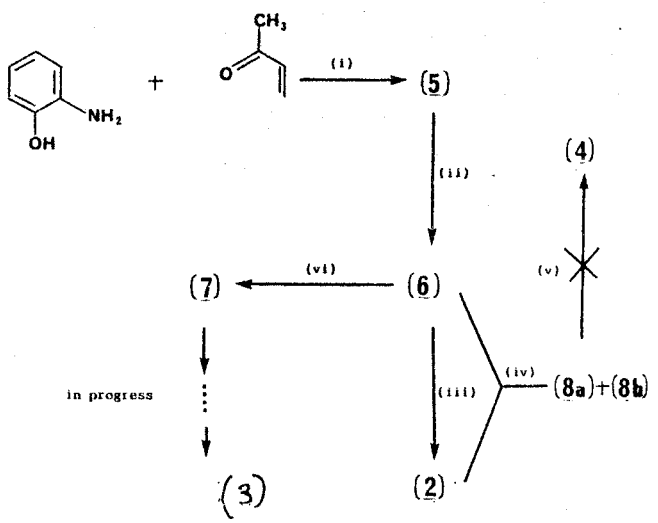


(7)



(8)a, (8)b

Scheme (1)



(i) 70^0C, conc.HCL

(ii) MeI, anhy.K_2CO_3, dry Acetone

(iii) SeO_2, dioxan, reflux

(iv) Glacial AcOH, Ac_2O, 120^0C

(v) $Mn(OAc)_3$, glacial AcOH

(vi) Formylmethylen-triphenyl phosphoran, 2N NaOH