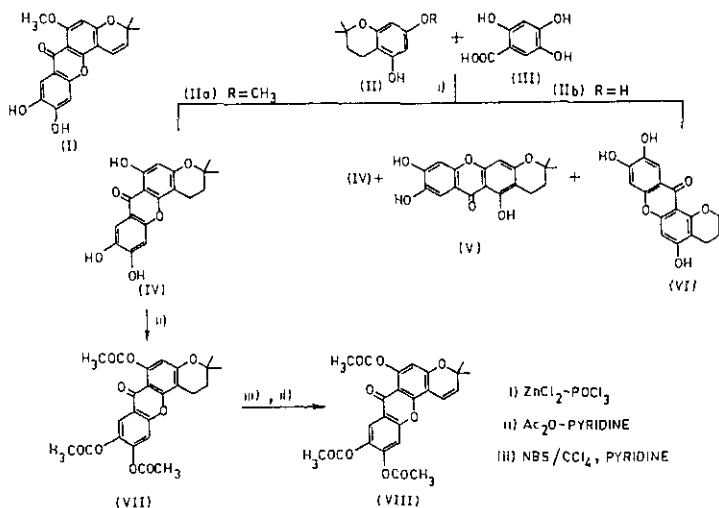


STUDIES IN THE SYNTHESIS OF LOROSTEMIN AND RELATED PYRANOXANTHONES

(Mrs) C.S. RUMJANI IYER & P.R. IYER
Department of Chemistry
Indian Institute of Technology, Bombay
Bombay 400 076, India

Lorostemin, a pyranoxanthone (I) has been isolated from Lorostemon coelhoi Paula and L. negerensis Froes. We report here the results of our studies on the synthesis of (I) and its isomers.



5-Hydroxy-7-methoxy-2,2-dimethylchroman (IIa) was condensed with 2,4,5-trihydroxybenzoic acid (III) in presence of $\text{ZnCl}_2\text{-POCl}_3$. The product after purification in a silica gel column crystallised from methanol as pale yellow plates, m.p. $285\text{-}87^\circ$ and analyzed for $\text{C}_{18}\text{H}_{16}\text{O}_6$. The acetate (VII) obtained by treating this compound with acetic anhydride-pyridine crystallised from pet. ether-acetone as white needles m.p. $239\text{-}41^\circ$ and analyzed for $\text{C}_{24}\text{H}_{22}\text{O}_9$. The signals at 2.35 and 2.38 δ in the PMR spectrum of (VII) integrated for 9 protons of 3 acetyl groups. The signal due to O-methyl protons was absent. Hence compound (IV) is concluded to be de-O-methyldihydro lorostemin and compound (VII) its triacetate. (VII) with NBS followed by pyridine treatment, gave a partially deacetylated product which on re-acetylation gave (VIII). The chroman (IIb) was similarly condensed with acid (III). Only two isomeric products could be isolated from this reaction. The isomer (IV) could not be isolated.