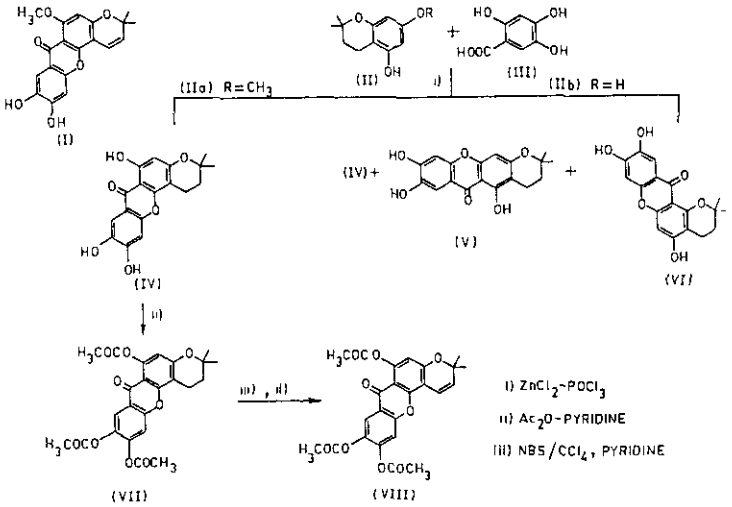
STUDIES IN THE SYNTHESIS OF LOROSTEMIN AND RELATED PYRANOXANTHONES

(Mrs) C.S. RUKMANI 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 $ZnCl_2$-$POCl_3$. The product after purification in a silica gel column crystallised from methanol as pale yellow plates, m.p. 285-87° and analyzed for $C_{18}H_{16}O_6$. The acetate (VII) obtained by treating this compound with acetic anhydride-pyridine crystallised from pet. ether-acetone as white needles m.p. 239-41° and analyzed for $C_{24}H_{22}O_9$. 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 reacetylation 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.