ISSN 2393-031X

Synthesis of Some 2-Styrylquinolines from Nitro-Hydroxy-Benzaldehyade as Possible Antimalarial

Malti Dubey (Rawat)
Department of Chemistry
Govt. Girls P.G. Auto. College of Excellence SAGAR (M.P.)

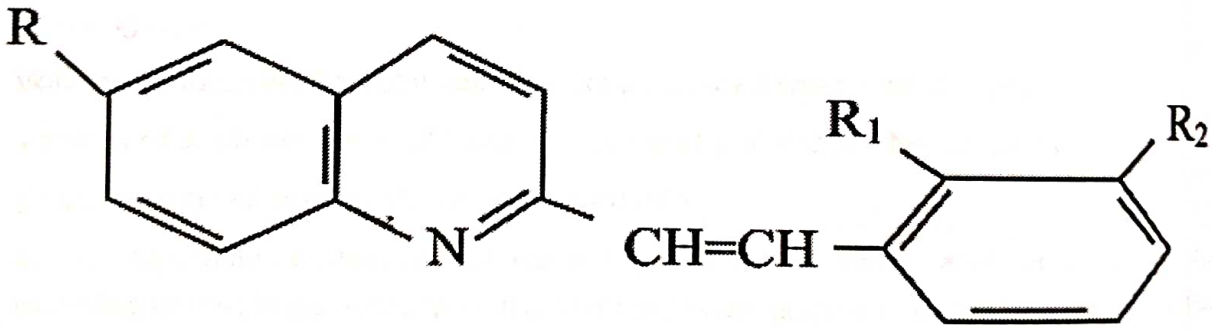
Abstract :

Different types of quinolones were condensed with some aldehydes in the presence of condensing agents yielded Styrylquinolines.

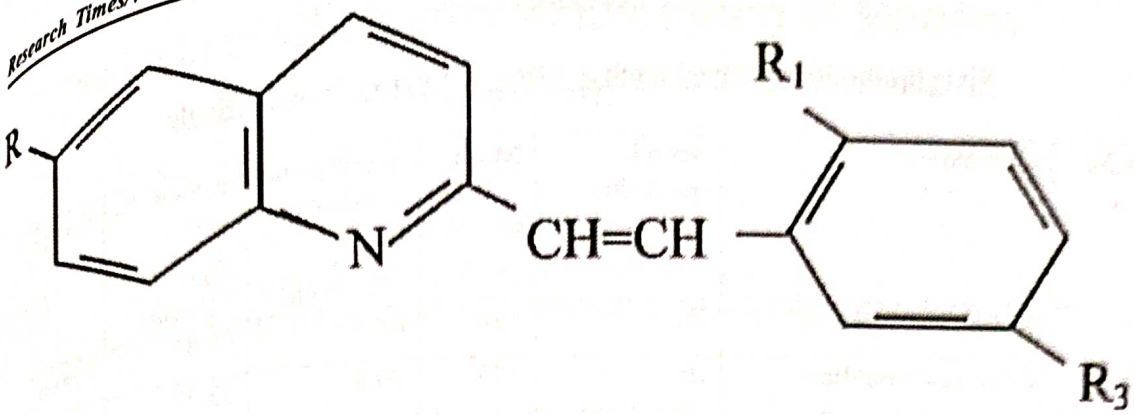
Keywords : Stgryl, Quinolines, Quinoldines, Hydroxy.

Although the chemotherapeutic properties of a large number of substituted 2-styrylquinolium salts have been rather intensively studied. Styrylquinolines bearing dimethyl amino group or NN-bis-2-cyanoethyl amino group have not come to notice therefore it seemed of interest to prepare new styrylquinoline bearing these groups for therapeutic evaluation.

3- Nitro Salicylaldehyde and 5-Nitro Salicylaldehyde were condensed with 6-chloro, 6- bromo, 6-Nitro, 6-benzamido quinoldines in the presence of condensing agents, styrylquinolines of the type (I) and (II) have been obtained in yield ranging from 26 to 83%



Type (I)



Type (II)

R = Cl, Br, NO2,-NHC_6H_5

R_1= OH

R_2= 3-NO_2 (3-Nitro)

R_3= 5-NO_2 (5-Nitro)

The structure of the above compounds were supported by their IR spectra which showed bands at

1610 Cm-1 (C=N), 1678 Cm-1 (Conjugated with ring)

1325 Cm-1 (-N<), Phenyl 1, 2, 3 substituted 1580, Phenyl 1, 2, 5 substituted 1682 etc.

Experiment :-

The Starting materials 6-nitro quinaldine, 6-bromoquinaldine7, 6-nitro-quinaldine8, 6-benzamidoquinaldine8, were synthesized by the reported procedure.

Equimolecular amounts of quinaldine and aldehyde were in presence of condensing agents such as zincchloride or acetic anhydride. The hot solution was poured in to 20% hydroxide solution. The mass was pulverized removed by filtration was well with water and dissolved in concentrated hydrochloric acid on dilution with water the product separated which was suspended in water and made alkaline with ammonium hydroxide.

Difficulties were encountered in the isolation and purification of styryl-quinolines. Several solvents such as ethanol, acetone or acetic acid and mixture of these solvents in appropriate proportions had to be tried for obtaining pure samples.

ISSN 2395-051X

TABLE-1

Styrylquinolines derived from 3-Nitro-2Hydroxy-Benzaldehyde

S.No.	Quinaldine	Styryl-quinoline R.	M.P.C	Styrylquinoline yield % condensing agents.		Colour
				Acetie anhydride.	Zine Chloride	
1.	6-chloro quinaldine	C1.	130	68.0	49.47	Cream.
2.	6-bromoquinaldine	Br.	175	29.3	33.37	Yellow.
3.	6-Nitro quinaldine	NO_2	230	46.5	30.6	Red.
4.	6-Benzamidoquinaldine	$NHCOC_6H_5$	180	18.3	76.8	Brown.

TABLE-2

Styrylquinolines derived from 5-Nitro-2Hydrox-Benzaldehyde

S.No.	Q inaldine.	Styryl-quinoline R.	M.P.C	Styrylquinoline yield % condensing agents.		Colour
				Acetie anhydride.	Zine Chloride	
1.	6-chloro quinaldine	CL.	115	65.0	45.6	Cream.
2.	6-bromoquinaldine	Br.	165	21.8	30.6	Yellow.
3.	6-Nitro quinaldine	NO_2.	214	59.6	37.8	Red.
4.	6-Benzamidoquinaldine	$NHCOC_6H_5$.	155	16.3	70.4	Brown.

Thanks are due to the Director, C.D.R.I. Lucknow for providing IR spectra and science college, Gwalior (M.P.) for valuable guidance.

References :

1. ELDERFIELD etal J.Amer. Chem. Soc. 70. 40. (1948).
2. KENYON. WIESMER and KWARTLER Ind. Eng. Chem 41. 654 (1949).
3. PROC .ROY. SOC. B. 100. 193 (1926).
4. OPANASENKO. E.P. PALU. P.U. KHIM. Farm. Z. 11. 8(9)18. 21 (1974).
5. PROC ROY. Soc. B. 105. 99 (1929).
6. L.G.S. BROOKER and R.H. SPRAGUE. J. AM. Chem. Soc. 831. 7 (1930).
7. JHONSON and ADAMS. J. Amer. Chem. Soc. 831. 7 (1930).
8. F.M. HAMER. J. Chem. Soc. 119. 1432 (1921).

❖ ❖ ❖