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Synthesis of Some 2-Styrylquinolines From Bromo Salicyldehyde as possible Antimalarial

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Abstract :

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

Keywords : styrylquinolines, antimalarial,H-antimicrobiol.

Introduction :

The antimalarial activity[1-2] of quinolone derivatives has been extensively studied, styrylquinolines have been found to possess antiseptic[3], antimicrobial[4],andtrypanocidal activity[5]. Many styryl derivatives are used as the starting materials for the synthesis at cyaninedyes[6]. Antimalarial drugs have been synthesised from 8-aminoquinoline and 4-aminoquinoline.

Although the chemotherapeutic properties of a large number of substituted 2-styryl-quinolium 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.

5-bromosalicylaldehyde, 3:5-dibromosalicyladehyde were condensed with 6-chloro, 6-bromo, 6-nitro, 6-benzamide quinaldines, in the presence of condensing agents styrylquinolines of the type (I) (II) have been obtained in yield ranging from 26 to 93%

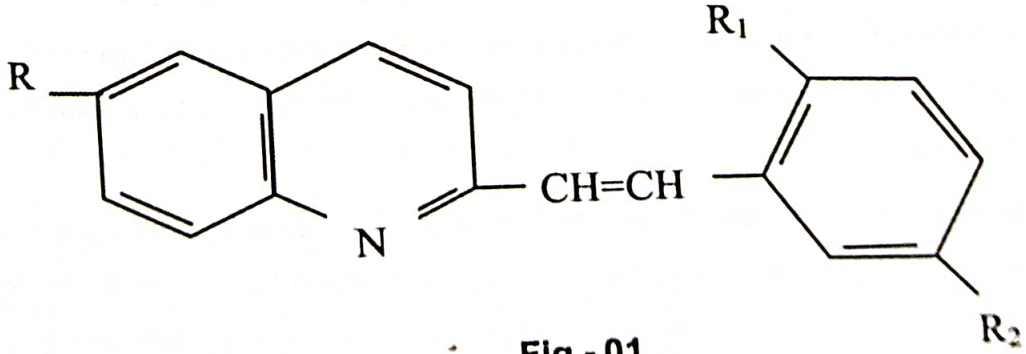

Fig - 01

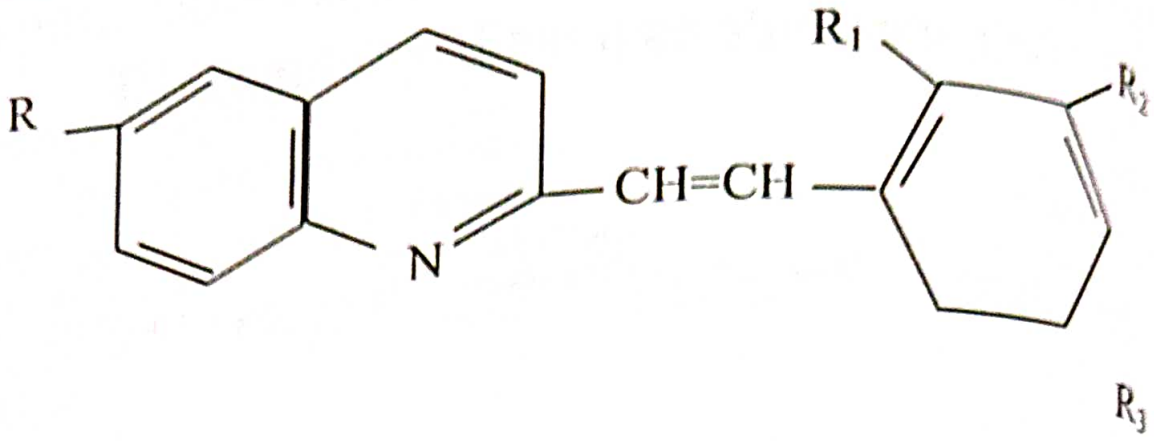

Fig - 02

R = Cl, Br, NO2, NHC6H5.

R1 = OH

R2 = (3-bromo)

R3 = Br (5-bromo)

The structure of the above compounds were supported by their ir spectra which showed bands at 1610 cm-1 (C=N), 1676 cm-1 (Conjugated with ring) 1325 cm-1 (-N?), Phenyl 1, 2, 5, substituted 1578, Phenyl 1, 2, 5 - substituted 1627.

Experimentals -

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

Equimolecular amounts of quinaldine and aldehyde were heated in presence of condensing agents such as zinccholoride or acetic anhydride. The hot solution was poured in to 20% sodium hydroxide solution. The mass was pulverized removed by filtration washed 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.

TABLE -1

Styrylquinolines derived from 5-bromosalicyldehyde

S.No.	Quinaldine.	Styryl-quinoline R.	M.P.C^0	Styrylquinoline yield % condensing agents.		Colour
				Acetio anhydride.	Zino Chloride	
1.	6-chloroquinaldine	Cl.	129	64.0	45.47	Cream.
2.	6-bromoquinaldine	Br.	166	25.3	33.37	Yellow.
3.	6-nitroquinaldine	NO_2	230	50.5	34.61	Red.
4.	6-benzamidoquinaldine	$NHCOC_6H_5$	155	21.4	90.7	Brown.

TABLE-2

STYRYLQUINOKINES DRIVED FROM 3:5 DIBROMO SACICYLALDEHYDE

S.No.	Quinaldine.	Styryl-quinoline R.	M.P.C^0	Styrylquinoline yield % condensing agents.		Colour
				Acetio anhydride.	Zino Chloride	
1.	6-chloroquinaldine	CL.	137	60.0	51.47	Cream.
2.	6-bromoquinaldine	Br.	182	33.8	39.05	Yellow.
3.	6-nitroquinaldine	NO_2.	235	52.5	30.61	Red.
4.	6-benzamidoquinaldine	$NHCOC_6H_5$.	145	27.7	76.7	Brown.

Solvent of crystallisation: a = Acetone

b = Alcohol

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