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Study of quinolinyl hydrazine benzylidene azobenzenes as anti tubercula

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Abstract
In the current work, 4-methoxy or 2-chloro benzaldehyde when dense with 2,8-dimethyl-4-quinolinyl hydrazine, arranged by known strategy, gave relating quinolinyl hydrazino-4'- methoxy or 2'- chloro benzylidene which when combined with. diazotised arylamines outfitted relating 4-quinolinyl hydrazino benzylidene azobenzenes or formasans. These aldehydes have been chosen on the grounds that methoxy and chloro bunches with CH=N-add to hostile to tubercular movement.

Introduction
Schiff's bases got by consolidating 2.8-dimethyl-4-quinolinyl hydrazines with 4-methoxy or 2-chioro benzaldehyde, were combined with diazotised aryl amines giving particular azobenzenes, called Formasans, which were tried against Mycobacterium $H_{37}R_v$ for antitubercular action against E. coli, B. subtilis, S. aureus and S. paratyphi B for antibacterial movement. Formasans have been tried and announced as hostile to microbial specialists against $H_{37}H_v$[1-3] and microorganisms, for example, S. aureus, S. paratyphi B and E. colt and so on. Some of them have demonstrated powerful even against TB safe endure 5μg/ml[4].

2,8-Dimethyl-4-hydrazino-4'-methoxy benzylidene
A mixture of 2,8-dimethyl-4-quinolinyl hydrazine (1.5 gm, 0.0078 M) and 4-methoxy benzaldehyde (1.1 ml. 0.0078 M) was heated for 2 hrs in glacial acetic acid at 80°C on steam bath. Reaction mixture was cooled, neutralised with ice cooled NH_4OH. The product (2.1 gm) was crystallised from ethanol, yield 85%, m.p. 87-88°C. Similarly 2,8-dimethyl-4-quinolinyl hydrazine was condensed with 2-chlorobenzaldehyde giving 2,8-dimethy1-4-. quinolinyl hydrazino-2'-chloro benzylidene. Yield 88%, m.p. 176-177°C.

2,8-Dimethy1-4-hydrazino-4'-methoxy benzylidene azobenzene
Diazotised o-anisidine prepared by general method was coupled with 2,8-dimethyl-4-quinolinyl hydrazino-4'-methoxy benzylidene in equivalent content in pyridine at 0°C keeping and stirring reaction mixture for 4 hrs which was then treated with ice water giving product, which was crystallised from ethanol. Yield 25%, m.p. 154°C. Additionally other azo items were readied (as shown in table) Melting focuses were resolved in open vessels and are uncorrected. Hostile to bacterial testing was done against E. co/I, S. aureus, B. subtilis and S. paratyphi B with not many MIC conclusions.
The perception of prior specialists that. methoxy and ethoxy upgrade antitubercular action' has been affirmed. Numerous items show great enemy of bacterial movement.

Table 1: IR Spectra Group & PMR Spectra

IR Spectra Group	V cm^{-1}	PMR Spectra Chemical Shift	Assignment
Quinolene ring	1550–1461		
$–OC_2H_5$	2940–2531	2.5 Singlet	CH_1
–N=N–	1583–1565	2.84 Singlet	OCH_2
–C–N |	1350–132	7.44 Multiplet –7.66	Aromatic Proton
=NH	3367–3150	9.25 Singlet	=NH

Table 2: Additionally other azo items readied of Inhibition

S.No.	Compound Name	m. p. *Cyield%	Inhibition		Zone of Inhibition		
	2,8-Dimethyl-4- hydrazino-4'-methoxy benzylidene-N=N-		$H_{37}R_v$ MIC 5µg/ml	E.coli	S.paratyphi B	S. aureus	B. Subtilis
1.	o-methoxy phenyl	154/23	–	14	11	12	17
2.	p-methoxy phenyl	159/24	5.0	14	10	12	13
3.	p-ethoxy phenyl	146/44	6.24	11	8	9	13
4.	p-hydroxy phenyl	288/25	5.0	–	–	–	–
5.	m-hydroxy phenyl	2.87/24	–	10	9	10	10
	2,8-Dimethy1-4-hydrazino-2'-chloro-benzylidene-N=N-						
1.	o-methoxy phenyl	302/31	–	–	–	–	–
2.	p-methoxy phenyl	306/45	12.5	13	12	10	10
3.	p-ethoxy phenyl	300/45	10.0	14	10	7	12
4.	p-hydroxy phenyl	289/45	–	14	7	10	10
5.	m-hydroxy phenyl	288/24	5.0	12	8	8	10

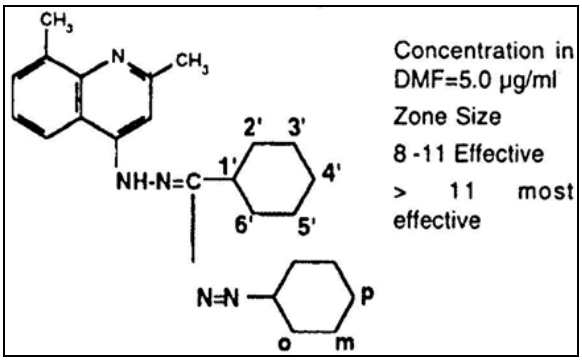

Fig 1: Concentration in DMF Zone Size

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