

Chalcones IX: Syntheses of Some Methoxy Chalcones

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In pursuit of our interest¹⁻⁴ in chalcones of antimicrobial importance thirteen new phenyl styryl ketones were synthesized to study their antimicrobial activity against *S. aureus* and *E. coli*.

The chalcones were prepared by condensation of 2 : 5-dimethoxy, 4 : 6-dimethoxy-2-methyl, 2 : 4-dimethyl, 4-methoxy-2-methyl, 4-methoxy-3-methyl, and 6-methoxy-3-methyl-acetophenones with aromatic aldehydes in presence of a concentrated solution of sodium methoxide at room-temperature and at 60° in general, the yields of the chloro substituted chalcones were better than the methyl substituted ones. The compounds were characterised by their 2 : 4-dinitrophenylhydrazones and the different colours obtained on treatment with concentrated sulphuric acid.

Table 1 lists thirteen new chalcones. All melting points are uncorrected. The compounds and their 2 : 4-dinitrophenylhydrazones gave analyses for C, H and N within $\pm 0.5\%$ of the theoretical value.

TABLE 1

R'	R	Yield %	Colour and crystal form	M.P. °C* of		Halochromism with Conc. H ₂ SO ₄
				Chal.	2,4-DNP	
2',5'-(OCH ₃) ₂	2-Cl	78	pale yellow needles	98	234	red
2',5'-(OCH ₃) ₂	3-Cl	75	pale yellow needles	167	223	blood-red
2',5'-(OCH ₃) ₂	4-Cl	76	white plates	224	—	pink
2',5'-(OCH ₃) ₂	3-Me	65	lemon yellow solid	151	213	orange
2',5'-(OCH ₃) ₂	4-Me	63	lemon yellow prisms	78	221	blood-red
2',6'-(OCH ₃) ₂ -2'-Me	4-Me	65	yellow hexagon	103	261	brown
4',6'-(OCH ₃) ₂ -2'-Me	2-Cl	73	yellow needles	91	243	reddish brown
4',6'-(OCH ₃) ₂ -2-Me	4-Cl	75	canary yellow solid	115	—	red
2',4'-Me ₂	4-N Me ₂	56	yellow needles	108	278	violet
4'-MeO-2'-Me	2-Cl	78	yellow plates	226	—	orange
4'-MeO-2'-Me**	4-Cl	76	yellow scales	233	—	blood-red
4'-MeO-2'-Me	4-Cl	69	pale yellow prisms	92	211	yellow
6'-MeO-3'-Me	4-N Me ₂	62	lemon yellow needles	141	221	yellowish red

* All melting points are uncorrected.

** Crystallised from ethyl acetate.

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The antimicrobial activity was screened against *S. aureus* and *E. coli* (Conc : 100-130 mg/ml; 50% aqueous ethanol); encouraging results were not obtained.

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