

**SYNTHESIS OF SOME SUBSTITUTED  
4-THIAZOLIDINONE DERIVATIVES**

A RECENT publication by Harhash *et al.*<sup>1</sup>, on the synthesis of 4-thiazolidinone derivatives prompts us to report some of our earlier work on these compounds which are known to exhibit interesting pharmacological properties<sup>2</sup>.

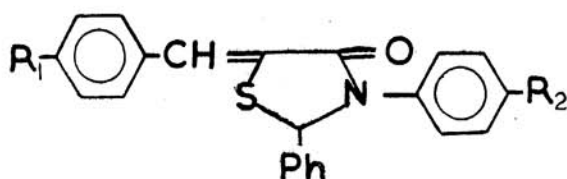
The present work reports the synthesis of some new 2,3-diaryl-5-arylidene-4-thiazolidinones obtained

by the reaction of Schiff bases with  $\beta$ -aryl- $\alpha$ -mercaptoacrylic acids in boiling benzene solution. The thiazolidinones were colourless crystalline compounds (Table I) and were obtained in about 50–60% yields from A (acetic acid), B (benzene) or C (alcohol).

The u.v. spectra of these compounds showed  $\lambda_{\text{max}}^{\text{MeOH}}$  around 230–240 and 320–330 nm. The latter absorption is attributed to conjugation of the phenyl ring in the '5' position. The i.r., spectra (Nujol) showed bands at 1700 (C=O), 1500–1600 (aromatic) and 800–850  $\text{cm}^{-1}$  (*p*-substituted phenyl ring).

To confirm the 4-thiazolidinone structure of the compounds obtained by the above method, the compound VI was synthesised also by a different route. In this case, the Schiff base obtained by condensation of benzaldehyde with *p*-anisidine was reacted with thioglycolic acid as described by Surrey<sup>3</sup> to yield a thiazolidinone derivative which was condensed with *p*-chlorobenzaldehyde in presence of sodium ethoxide to afford VI obtained by the direct reaction of the appropriate Schiff base with  $\beta$ -*p*-chlorophenyl- $\alpha$ -mercaptoacrylic acid prepared as described in literature<sup>4</sup>.

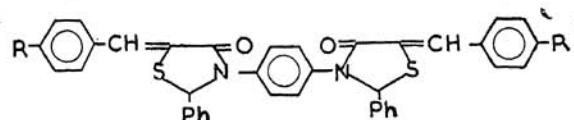
2, 3-Diaryl-5-arylidene- 4-thiazolidinones



No.	R <sub>1</sub>	R <sub>2</sub>	m.p. and Solvent	
I	Cl	COOH	280	(A)
II	Cl	Cl	185	(C)
III	Cl	CH <sub>3</sub>	194	(B, C)
IV	Cl	Br	205	(B)
V	Cl	I	226	(B)
VI	Cl	OCH <sub>3</sub>	198	(B, C)
VII	H	I	181	(C)
VIII	H	COOH	275	(A)

We also prepared thiazolidinone derivatives in about 40% yields by the condensation of the Schiff base, prepared from 2-moles of benzaldehyde and one mole of *p*-phenylenediamine with  $\beta$ -phenyl- and  $\beta$ -4-chlorophenyl- $\alpha$ -mercaptoacrylic acids in

benzene solution to which the following structure was assigned. Both the compounds were obtained as white granular solids from acetic acid.



All the compounds gave satisfactory analysis, for C, H and N.

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