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NOTES

Thiazolidinediones: Synthesis of Some New 5-(ω-carboxy propyl/pentyl)-2,4-thiazolidinedione and 3-substituted phenyl-5-(ω-carboxy propyl/pentyl)-2,4-thiazolidinediones

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3-Substituted phenyl-5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones and 5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones have been prepared from 2-phenyl imino-3-substituted phenyl-5-(ω-carboxy propyl/pentyl)-4-thiazolidinone and 2-phenyl imino-5-(ω-carboxy propyl/pentyl)-4-thiazolidinones, prepared by the condensation of 2-bromo adipic/suberic acid and thioureas, by the treatment of hydrochloric acid.

In continuation of our work on 4-thiazolidinones[1], we herein report some new 3-substituted phenyl-5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones and 5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones, a hydrolysis product of 2-phenyl imino-3-substituted phenyl-5-(ω-carboxy propyl/pentyl)-4-thiazolidinones and 2-phenylimino-5-(ω-carboxy propyl/pentyl)-4-thiazolidinones (Scheme 1). The details of the instruments used are given as reported in previous paper.

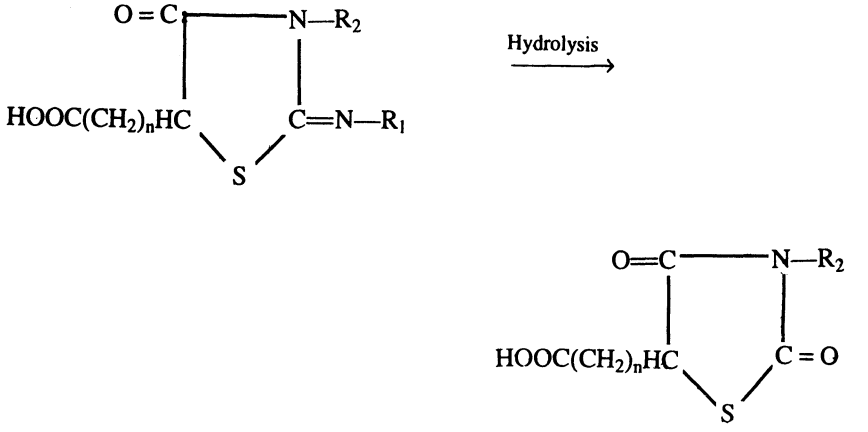
Preparations of diester of adipic/suberic acid and monoester of adipic/suberic acid were carried out by reported methods. 2-Bromo adipic/suberic acid were prepared by reported method[2, 3]. Symmetrical 1,3-diaryl 2-thioureas were prepared by the method described earlier[4].

Preparation of 2-phenyl imino-3-substituted phenyl-5-(ω-carboxy propyl/pentyl)-4-thiazolidinones and 2-phenyl imino-5-(ω-carboxy propyl/pentyl)-4-thiazolidinones has been carried out by the method described earlier[1].

Preparation of 3-substituted phenyl-5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones and 5-(ω-carboxy propyl/pentyl) 2,4-thiazolidinediones I

In a 100 mL round bottom flask, fitted with a condenser was taken 2-phenyl imino-3-substituted phenyl-5-(ω-carboxy propyl/pentyl)-4-thiazolidinone (1 g)/ 2-phenyl imino-5-(ω-carboxy propyl/pentyl)-4-thiazolidinone (1 g), absolute ethyl alcohol 15 mL) and concentrated hydrochloric acid. The mixture was heated for 6–8 h. The reaction mixture was cooled and poured on 40 mL water and filtered. The solid 2,4-thiazolidinedione thus obtained was dissolved in sodium-bicarbonate solution and filtered. 3-Substituted phenyl-5-(ω-carboxy propyl/

pentyl)-2,4-thiazolidinedione/5-(ω-carboxy propyl/pentyl)-2,4-thiazolidinedione was precipitated at pH 3 by concentrated hydrochloric acid. The product thus obtained was filtered, washed with water, dried and recrystallised from ethyl alcohol (60–70%). The compounds prepared by this method are as follows.



	Compounds	m.p. (°C)		Compounds	m.p. (°C)
1.	n = 3, R_2 = —H	116	7.	R_2 = —*p*-$C_6H_4CH_3$	105
2.	R_2 = —C_6H_5	65	8.	R_2 = —*o*-$C_6H_4OCH_3$	103
3.	R_2 = —*m*-C_6H_4Cl	78	9.	R_2 = —*m*-$C_6H_4OCH_3$	101
4.	R_2 = —*p*-C_6H_4Cl	130	10.	n = 5, R_2 = —H	128
5.	R_2 = —*o*-$C_6H_4CH_3$	138	11.	R_2 = —C_6H_5	100
6.	R_2 = —*m*-$C_6H_4CH_3$	78	12.	R_2 = —*p*-$C_6H_4CH_3$	130

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