REACTION OF N-ACYLISOQUINOLINIUM SALTS WITH THIAZOLIDONES in situ

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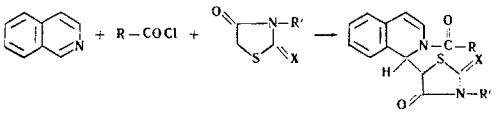
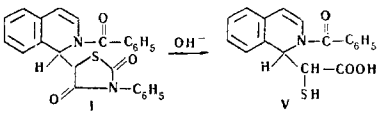
We have previously shown that N-acylisoquinolinium salts are extremely convenient for the electrophilic replacement of a hydrogen atom in nucleophilic aromatic compounds by an isoquinoline residue [1, 2].

Similarly, in the reaction of isoquinoline with various thiazolidones in the presence of acyl halides it was possible to obtain derivatives of 1-acyl-1, 2-dihydroisoquinolylthiazolidones (table).



The compounds obtained by alkaline hydrolysis can easily be converted into thioglycolic acids of the isoquinoline series, for example:



When 5-(2'-benzoyl-1', 2'-dihydroisoquinol-1'-yl)-3-phenylthiazolidine-2, 4-dione (I) was heated with alkali we obtained 2-benzoyl-1, 2-dihydroisoquinol-1-ylthioglycolic acid (V), mp 95.6° C; a qualitative test for a sulfhydryl group with sodium nitroprusside was positive. Found, %: C 66.93; H 4.88; N 4.73; S 9.01. Calculated for $C_{18}H_{15}NO_3S$, %: C 66.44; H 4.64; N 4.30; S 9.85.

1-Acyl-1, 2-dihydroisoquinolylthiazolidone Derivatives

Compound	R	R_1	X	Mp, °C	Empirical formula	Found, %				Calculated, %				Yield, %
						C	H	N	S	C	H	N	S	
I	C_6H_5	C_6H_5	O	189—190	$C_{25}H_{18}N_2O_3S$	70.28 71.05	4.36 4.52	6.81 7.14	 7.25	70.40	4.25	6.56	7.51	64
II	C_6H_5	C_2H_5	S	162.4—163	$C_{21}H_{18}N_2O_2S_2$	63.59 63.89	4.92 5.01	7.30 7.26	16.58 16.34	63.93	4.59	7.10	16.25	51
III	C_6H_5	C_6H_5	N–C_6H_5	212.5—213	$C_{31}H_{23}N_3O_2S$	74.30 73.96	4.94 4.87	8.41 8.58	6.27 6.0	74.23	4.62	8.37	6.39	87
IV	C_6H_5	C_6H_5	S	211—212	$C_{25}H_{18}N_2O_2S_2$	68.44 68.58	4.60 4.76	6.06 6.63	14.35 14.12	67.85	4.09	6.32	14.49	97.7

REFERENCES

1. A. K. Sheinkman and A. K. Tokarev, KhGS [Chemistry of Heterocyclic Compounds], 5, 955, 1969.
2. A. K. Sheinkman and A. A. Deikalo, KhGS [Chemistry of Heterocyclic Compounds] (in press).

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