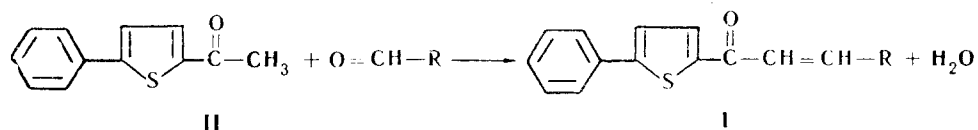


SYNTHESIS OF 2-PHENYLTHIOPHENE α , β -UNSATURATED KETONES

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Khimiya Geterotsiklicheskikh Soedinenii, Vol. 2, No. 3, pp. 476-477, 1966

There is no information in the literature regarding condensation products derived from 2-phenylthiophene ketones. We have now prepared some α , β -unsaturated ketones of type I by crotonaldehyde-type condensation of 5-phenyl-2-acetylthiophene (II) with aromatic and heterocyclic aldehydes in alkali, the equation being



2-Phenylthiophene was synthesized as described in [1], and II by acetylating this with acetyl chloride in benzene, in the presence of SnCl_4 (previously II has been synthesized using TiCl_4 as the catalyst [2]). The I compounds (see table) synthesized were yellow and crystalline, soluble in benzene, ether, dioxane, less soluble in ethanol, and insoluble in water. All exhibited halochromism, and in sulfuric acid solution their colors deepen to bluish-violet. Research on the condensation products from ketones of the 2-phenylthiophene series is continuing.

Melting Points, Yields, and Analytical Data for the I Compounds

R	Mp °C	Formula	S. %		Yield, %
			Found	Calculated	
	155—156	$\text{C}_{19}\text{H}_{14}\text{OS}$	11.13	11.04	69.7
	156—158	$\text{C}_{17}\text{H}_{12}\text{O}_2\text{S}_2$	11.47	11.44	54.0
	178—179	$\text{C}_{17}\text{H}_{12}\text{OS}_2$	21.37	21.64	52.0
	144—146	$\text{C}_{23}\text{H}_{16}\text{OS}$	9.66	9.42	74.2
	178—180	$\text{C}_{19}\text{H}_{13}\text{NO}_3\text{S}$	9.32	9.56	61.0
	257—258	$\text{C}_{19}\text{H}_{13}\text{NO}_3\text{S}$	9.64	9.56	75.5

* All the I compounds were recrystallized from 95% EtOH.

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5 August 1965

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