

REACTION OF QUINOLINE AND ISOQUINOLINE WITH
NUCLEOPHILIC ORGANIC COMPOUNDS IN THE
PRESENCE OF β -CHLOROVINYL KETONESA. K. Sheinkman, A. N. Prilepskaya,
A. O. Ginzburg, A. K. Tokarev, and A. A. Deikalo

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1-Acyl-2-substituted 1,2-dihydroquinolines and isoquinolines form as a result of electrophilic attack of the intermediately formed N-acylcycloammonium cations in the reaction of quinoline and isoquinoline with nucleophilic heterocyclic [1] and aromatic compounds [2] or cyanide ions [3] in the presence of the most diverse acyl halides. The possibility of the use of β -chlorovinyl ketones in this reaction has not been investigated.

We have found that N-ketovinylated derivatives of 1,2-dihydroquinoline or isoquinoline are formed in high yields by brief shaking of a mixture of quinoline or isoquinoline with nucleophilic organic compounds in the presence of β -chlorovinyl ketones (Table 1):

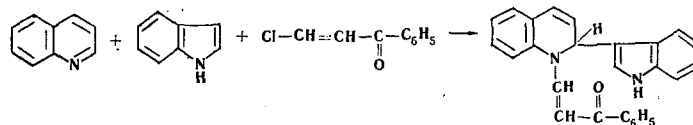
TABLE 1.

1-IV V-VII

Comp.	R	Mp, °C	Empirical formula	Found, %			Calc., %			Yield, %
				C	H	N	C	H	N	
I		195—196	C ₂₆ H ₂₀ N ₂ O	82,85 82,83	5,45 5,73	7,10 7,14	82,95	5,35	7,44	51
II		186—187	C ₂₇ H ₂₂ N ₂ O	82,99	5,87	7,19	83,05	5,68	7,17	40
III	<i>p</i> -C ₆ H ₄ (CH ₃) ₂	231—232	C ₂₆ H ₂₄ N ₂ O	82,08	6,47	7,56	82,07	6,36	7,36	58
IV		222—223	C ₂₈ H ₂₆ N ₂ O	82,55	6,47	7,12	82,73	6,45	6,89	70
V		158—159	C ₂₂ H ₁₈ N ₂ O	81,33	5,36	8,47	80,96	5,56	8,58	60
VI	<i>p</i> -C ₆ H ₄ N(CH ₃) ₂	178—180	C ₂₆ H ₂₄ N ₂ O	81,58	6,01	7,00	82,07	6,36	7,36	60
VII		225—227	C ₂₆ H ₂₀ N ₂ O	82,17	5,60	7,54	82,95	5,35	7,44	50

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The IR spectra of the synthesized compounds contain absorption bands at 1650-1665 ($\text{C}=\text{O}$), 1610-1620 ($\text{C}=\text{C}-\text{Ph}$), and 3230-3250 cm^{-1} (associated $\text{N}-\text{H}$).

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