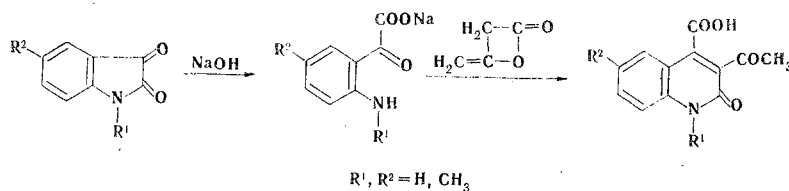


O. M. Radul, S. M. Bukhanyuk,
M. A. Rekhter, G. I. Zhungietu,
and I. P. Ivanova

UDC 547.831.9

We have shown that substituted 2-quinolones are formed in the reaction of isatins with diketene in an alkaline medium.



The reaction is more general in character than the Halberkann synthesis [1], since it makes it possible to synthesize 2-quinolones with an acetyl group in the 3 position and an alkyl residue attached to the nitrogen atom. The structures of the compounds obtained follow unambiguously from the mass-spectral data (50 and 17 eV). For example, the molecular ion of 1,2-dihydro-2-oxo-3-acetylquinoline-4-carboxylic acid undergoes fragmentation with the loss of CH_3 , CO, and CO_2 .

We used this method to obtain 1,2-dihydro-2-oxo-3-acetylquinoline-4-carboxylic acid [43%, mp 288-289°C (from methanol)], 1,2-dihydro-2-oxo-3-acetyl-6-methylquinoline-4-carboxylic acid [47%, mp 280-281°C (from n-propyl alcohol)], and 1,2-dihydro-1-methyl-2-oxo-3-acetylquinoline-4-carboxylic acid [8%, mp 245-247°C (from ethyl acetate-hexane)].

Testing of the compounds obtained with respect to wine yeasts (*S. vini*, *S. oviformis*), pellicular yeasts (*C. vini*), and lactate bacteria (*L. brevis*, *L. oenos*) demonstrated the absence of fungicidal and bactericidal properties.

LITERATURE CITED

1. J. Halberkann, Chem. Ber., 54, 3090 (1921).