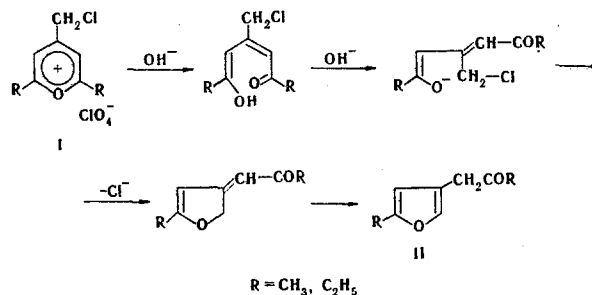


NEW METHOD FOR THE SYNTHESIS OF KETONES
OF THE FURAN SERIESV. I. Dulenko, N. N. Alekseev,
V. M. Golyak, and L. V. Dulenko

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We have found that 5-alkyl-3-(acylmethyl)furans (II) are formed when 4-chloromethylpyrylium salts I are refluxed in dimethylformamide (DMF) for 4 h with a twofold quantity of 10% aqueous sodium hydroxide solution:



This method was used to obtain the following compounds: 1-(5-methyl-3-furyl)propan-2-one, with bp 88-89°C (4 mm), in 80% yield; 1-(5-ethyl-3-furyl)butan-2-one, with bp 92-93°C (4 mm), in 60% yield.

The results of elementary analysis are in agreement with the calculated values. Frequencies of the vibrations of a carbonyl group (1700 cm⁻¹) and a furan ring (1565, 1030, and 800 cm⁻¹) are observed in the IR spectra. The PMR spectrum (in CCl₄) of I (R = CH₃) contains singlets of furan ring protons at 5.8 and 7.1 ppm and of CH₃ (2.0 and 2.17 ppm) and CH₂ (3.27 ppm) groups.

The reaction evidently proceeds through opening of the pyran ring and intramolecular attack on the chloromethyl group by the enolate anion and subsequent isomerization of the resulting 5-alkyl-3-(chloromethyl)-2,3-dihydrofuran as a result of prototropic rearrangement to II.

We will use ketones II for the synthesis of furanopyrylium salts.