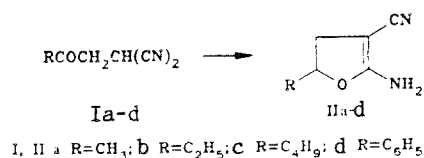


# ANOMALOUS FORMATION OF A 5-ACYLIMINO-(5H)-FURYLIUM CATION

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On treatment of 1-cyano- and 1-ethoxycarbonyl-1-(3,4-dimethoxyphenyl)acetones with acyl perchlorates, an acylation of the activated benzene ring takes place with cyclization of the thus-formed diketones into 4-cyano- and 4-ethoxycarbonylbenzo[c]pyrylium perchlorates [1]. We found that under similar conditions the ester of 3-cyano-3-(3,4-dimethoxyphenyl)pyruvic acid (I) does not give the expected 3-ethoxycarbonyl-4-cyanobenzo[c]pyrylium salts (II), but as a result of cyclization of the cyanopyruvic fragment, converts into 5-acylimino-(5H)-furylium salts (III) in a 65-80% yield.



**5-Acetylimino-3-acetoxy-4-(3,4-dimethoxyphenyl)-2-ethoxy-(5H)-furylium perchlorate (IIIa)** was obtained by the reaction of the cyanoketo ester I with acetic anhydride in the presence of perchloric acid in an 80% yield. mp 143-147°C (decomp.). IR spectrum: 1760, 1720, 1660, 1620, 1100 cm<sup>-1</sup>. PMR spectrum (CF<sub>3</sub>COOH): 1.15 (3H, t, CH<sub>3</sub>, J = 7.2 Hz); 2.32 (3H, s, CH<sub>3</sub>); 3.17 (3H, s, CH<sub>3</sub>); 4.00 (3H, s, CH<sub>3</sub>O); 4.05 (3H, s, CH<sub>3</sub>O); 4.40 (2H, q, CH<sub>2</sub>, J = 7.2 Hz); 7.08 (1H, d, H<sub>arom</sub>, J = 9 Hz); 7.12 (1H, s, H<sub>arom</sub>); 7.15 ppm (1H, d, H<sub>arom</sub>, J = 9 Hz).

**4-(3,4-Dimethoxyphenyl)-5-propionylimino-3-propionyloxy-2-ethoxy-(5H)-furylium Perchlorate (IIIb).** Yield 67%, mp 165-169° (decomp.). IR spectrum: 1755, 1720, 1660, 1615, 1100 cm<sup>-1</sup>. PMR spectrum (CF<sub>3</sub>COOH): 1.20 (3H, t, CH<sub>3</sub>, J = 7 Hz); 1.30 (3H, t, CH<sub>3</sub>, J = 7 Hz); 1.63 (3H, t, CH<sub>3</sub>, J = 7 Hz); 2.40 (2H, q, CH<sub>2</sub>, J = 7 Hz); 3.40 (2H, q, CH<sub>2</sub>, J = 7 Hz); 4.00 (3H, s, CH<sub>3</sub>O); 4.07 (3H, s, CH<sub>3</sub>O); 4.37 (2H, q, CH<sub>2</sub>, J = 7 Hz); 7.18 ppm (3H, m, H<sub>arom</sub>).

## LITERATURE CITED

1. Yu. A. Nikolyukin, S. L. Bogza, and V. I. Dulenko, *Khim. Geterotsikl. Soedin.*, No. 4, 465 (1990).

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