

The IR spectrum did not contain the absorption band of a CO group. UV spectrum, λ_{\max} , nm ($\log \epsilon$): 335 (4.46), 233 (4.11) (ethanol). The PMR spectrum contained two signals with an intensity ratio of 4:1 at δ 7.56 and 6.74 ppm. Found: C 50.9; H 2.7; Br 42.2%. $C_{16}H_{10}Br_2O$. Calculated: C 50.8; H 2.7; Br 42.3%.

The filtrate after separation of IIa was extracted with ether, and the extract was dried with magnesium sulfate and vacuum-distilled to give 3.2 g of 2-acetylfuran and 3.6 g of 1-bromo-4-chlorobenzene (mp 66-67°). The residue began to crystallize on standing to give 7.5 g (30% based on the converted acetylfuran) of Ia with mp 90-91° (from benzene). IR spectrum: 1660 cm^{-1} (CO). Found: C 54.0; H 3.5; Br 30.6%. $C_{12}H_9BrO_2$. Calculated: C 54.4; H 3.4; Br 30.1%.

Reaction of p-Chlorobenzenediazonium Chloride with Acetylfuran. This experiment was carried out as described above with 13.7 g (0.125 mole) of acetylfuran. A total of 4.5 g of unchanged 2-acetylfuran, 0.6 g of p-dichlorobenzene (mp 52-53°), and 1.9 g (8% based on the converted acetylfuran) of 2,5-di(p-chlorophenyl)furan (IIb) with mp 168-169° (from hexane) [4] were isolated. Found: C 66.0; H 3.5; Cl 24.8%. $C_{16}H_{10}Cl_2O$. Calculated: C 66.4; H 3.5; Cl 24.6%. The ether extract yielded 9.1 g (52% based on the converted acetylfuran) of 2-acetyl-5-(p-chlorophenyl)furan (Ib) with bp 126-129° (1 mm), mp 60.5-61.5° (from hexane), and R_f 0.5 [hexane-acetone (4:1), Silufol]. Found: C 65.3; H 4.1; Cl 15.7%. $C_{12}H_9ClO_2$. Calculated: C 65.3; H 4.1; Cl 16.1%.

2-Acetyl-5-(p-nitrophenyl)furan (Ic). Furan Ic with mp 164.5-165.5° (from ethyl acetate) was obtained in 80% yield under the conditions described above. The product had R_f 0.42 [chloroform-petroleum ether (1:1), Al_2O_3 , colored spot] and 0.67 (chloroform, Silufol). Found: C 62.6; H 3.9; N 6.0%; $C_{12}H_9NO_4$. Calculated: C 62.3; H 3.9; N 6.1%. The thiosemicarbazone had mp 215-216° (from acetic acid). Found: C 51.7; H 4.2; N 18.2; S 10.0%. $C_{13}H_{12}N_4O_3S$. Calculated: C 51.3; H 4.0; N 18.4; S 10.5%.

5-(p-Chlorophenyl)-2-acetylfuran (Ib). Boron trifluoride etherate (0.3 g) was added to a cooled (to 0°) solution of 3.6 g (0.02 mole) of p-chlorophenylfuran [5] in 8 ml of acetic anhydride. The reaction mass was heated to 110°, cooled rapidly to 0°, and stirred at room temperature for 0.5 h.* The reaction mixture was treated with water and extracted with ether. The extract was washed with sodium carbonate solution and water, dried with sodium sulfate, and evaporated. The residue began to crystallize on standing to give 0.24 g (5%) of yellow crystals of Ib with mp 60.5-61.5° (from hexane). The product did not depress the melting point of a sample of Ib obtained by means of the Meerwein reaction. The product had R_f 0.5 (hexane-acetone (4:1), Silufol).

2,5-Di(p-chlorophenyl)furan (IIb). p-Chloroaniline hydrochloride, obtained from 4.5 g (0.035 mole) of p-chloroaniline, 7 ml of water, and 15 ml of concentrated hydrochloric acid, was diazotized with a solution of 2.3 g (0.033 mole) of sodium nitrite in 10 ml of water. The reaction mixture was stirred at 5° for 20 min and 5.9 g (0.033 mole) of 2-(p-chlorophenyl)furan [5] in 40 ml of acetone and a solution of 0.7 g of cupric chloride in 1.5 ml of water were added. The mixture was then stirred at 15-20° for 4 h, 100 ml of water was added, and the resulting precipitate was removed by filtration and washed with water to give 1.2 g (12%) of IIb with mp 167-168° (from ethanol) [4]. The product did not depress the melting point of the previously obtained sample of IIb.

LITERATURE CITED

1. A. F. Oleinik, T. I. Vozyakova, and K. Yu. Novitskii, *Khim.-Farmats. Zh.*, No. 7, 19 (1971).
2. A. F. Oleinik, T. I. Vozyakova, and K. Yu. Novitskii, *Khim. Geterotsykl. Soedin.*, 1011 (1971).
3. J. Heid and R. Levine, *J. Org. Chem.*, **13**, 409 (1948).
4. G. Nowlin, *J. Am. Chem. Soc.*, **72**, 5754 (1950).
5. D. Ayres and J. Smith, *J. Chem. Soc.*, 2738 (1968).

*The reaction does not proceed under the usual conditions for the acetylation of furan [3].