

## SYNTHESIS

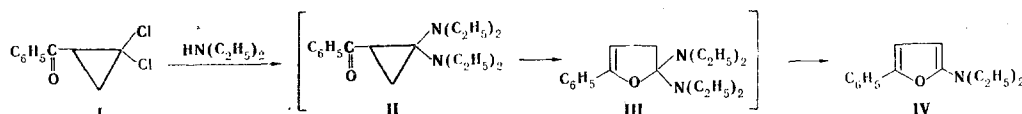
## OF 2-DIETHYLAMINO-5-PHENYLFURAN

## FROM 1-BENZOYL-2,2-DICHLOROCYCLOPROPANE

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The reaction of 1-acyl-2,2-dichlorocyclopropanes with sodium alkoxides leads to the formation of substituted 5,5-dialkoxy-4,5-dihydrofurans [1]. We have found that 1-benzoyl-2,2-dichlorocyclopropane is converted to 2-diethylamino-5-phenylfuran (IV) in 70% yield when it is refluxed in diethylamine for 4 h. The reaction probably proceeds by nucleophilic substitution of the chlorine atoms through a step involving dehydrohalogenation [1] with subsequent isomerization of activated cyclopropyl ketone II to dihydrofuran III. The possibility that opening of the three-membered ring occurs in the product of replacement of one chlorine atom in starting ketone I by a diethylamino group is also not excluded.



Aminofuran IV was isolated by chromatography with a column filled with  $\text{Al}_2\text{O}_3$  (elution with hexane) in the form of an unstable (in air) oil with  $n_D^{17}$  1.5723. PMR spectrum ( $\text{CCl}_4$ ): 1.10 (6H, t,  $J=7$  Hz,  $\text{CH}_3$ ), 3.20 (4H, q,  $J=7$  Hz,  $\text{CH}_2$ ), 4.90 (1H, d,  $J=3$  Hz, 3-H), 6.43 (1H, d,  $J=3$  Hz, 4-H), and 6.90–7.50 ppm (5H, m,  $\text{C}_6\text{H}_5$ ). The results of elementary analysis for C, H, and N were in agreement with the calculated values.

## LITERATURE CITED

1. I. G. Tishchenko, O. G. Kulinkovich, and M. V. Masalov, *Zh. Org. Khim.*, **16**, 1203 (1980).