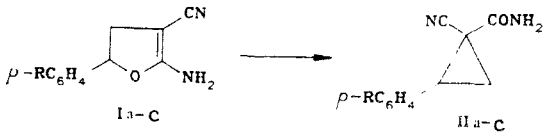
LETTERS TO THE EDITOR

THERMAL REARRANGEMENT OF 2-AMINO-5-ARYL-4,5-DIHYDRO-3-CYANOFURANS

I. V. Moiseeva, O. E. Nasakin, P. M. Lukin, V. N. Romanov, V. A. Tafeenko, A. Kh. Bulai, and P. A. Sharbatyan

UDC 547.724

We found that on boiling in high-boiling solvents, 2-amino-5-aryl-4,5-dihydro-2-aminofurans rearrange with the formation of amides of cyanocyclopropanecarboxylic acids.



I a–c

II a–c

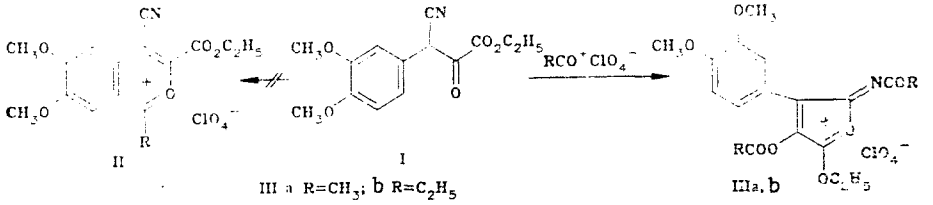
I, II a R=H, b R=CH_3, c R=Cl

The structure of cyclopropanes IIa-c was established from x-ray diffraction analysis data, IR, and mass spectra.

2-Phenyl-1-cyanocyclopropanecarboxamide (IIa). mp 171-172°C. Yield 67%. IR spectrum: 3460-3160, 1610 (NH_2); 2250 (CN), 1685 cm^{-1} (C=O). Unit-cell parameters: a = 9.286, b = 10.118, c = 10.081 Å, β = 91.61°, sp. gr. $P2_1/n$,n =1758, R = 0.046.

2-p-Tolyl-1-cyanocyclopropanecarboxamide (IIb). mp 161-163°C. Yield 59%. IR spectrum (suspension in mineral oil): 3415-3190, 1610 (NH_2); 2250 (CN), 1680 cm^{-1} (C=O).

2-p-Chlorophenyl-1-cyanocyclopropanecarboxamide (IIc). mp 169-171°C. Yield 51%. IR spectrum: 3100-3430, 1600 (NH_2); 2260 (CN), 1685 cm^{-1} (C=O).



II I

III a R=CH_3; b R=C_2H_5

IIIa, b

I. N. Ul'yanov Chuvash State University, Cheboksary 428015. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 7, p. 990, July, 1990. Original article submitted June 26, 1988.

 0009-3122/90/2607-0828$12.50