When compound (I) was heated in methanol in the presence of alkali, 3-amino-1-hydroxyethyl-2-pyrazoline (III) was formed with a yield of 70%, bp 139-141°C ($4 \cdot 10^{-2}$ mm), R_f 0.34 [chloroform—methanol (8:1)]. IR spectrum (1% solution in $CHCl_3$); 1630 cm^{-1} (C=N). PMR spectrum ($CDCl_3$), ppm: 2.76 (t, 2 H, CH_2CH_2O, J = 5.0 Hz), 3.78 (t, 2 H, OCH_2, J = 5.0 Hz), 4.34 (br.s., 3H, NH_2, OH), 2.44 and 3.08 (4 H, A_2B_2 system of methylene groups of the ring, J_{AB} = 9.0 Hz). ^{13}C NMR spectrum ($CDCl_3$), ppm: 32.5 (C-4), 55.5 (C-5), 59.7 (NCH_2), 61.8 (OCH_2), 155.6 (C=N). The spectral characteristics of compound (III) did not change with time.

Thus, it can be stated that, in actual fact, as was to be expected from information given in the literature [2, 3], the tautomerism (IIIA) $\rightleftarrows$ (IIIB) does not take place. By analogy, form (IIIA) is the most preferred. The reason for the doubling of some signals in the ^{13}C NMR spectrum described in [1] is apparently that the work was carried out with a mixture of compounds (I) and (III).

LITERATURE CITED

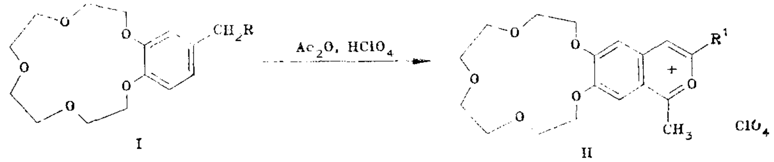
1. G. Yu. Gadzhiev, V. A. Budazov, and Yu. Yu. Samitov, Zh. Org. Khim., 18, 2615 (1982).
2. J.-L. Barascut, J. Elguero, and R. Jacquier, Bull. Soc. Chim. Fr., No. 4, 1571 (1970).
3. W. Walter and H. Weiss, Ann. Chem., 758, 162 (1972).

A NEW APPROACH TO THE SYNTHESIS OF ISOQUINOLINO CROWN ETHERS

V. I. Dulenko, S. L. Bogza, and Yu. A. Nikolyukin

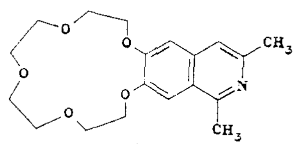
UDC 547.833.6'814'898

The synthesis of isoquinolino-15-crown-5s based on the reaction of 6,7-dihydroxyisoquinolines with 1,11-dichloro-3,6,9-trioxaundecane [1] is known. Using benzo-15-crown-5 as an example, we have shown that crown derivatives of isoquinoline can be obtained from substituted benzo crown ethers (I) by the intermediate formation of the crown-2-benzopyrylium salts (II) using the acid-catalyzed heterocyclization reaction developed by us previously [2].

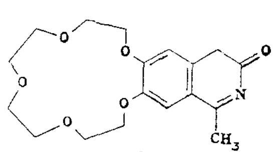


I a) $R=COCH_3$; b) $R=CN$; II a) $R^1=CH_3$; b) $R^1=NHCOCH_3$

Under the action of ammonia, compounds (IIa, b) were converted into the corresponding isoquinoline (III) and isoquinolone (IV), which may be of interest in the synthesis of biologically active substances.



III



IV

LITERATURE CITED

1. F. Vögtle and K. Frensch, Angew. Chem. Int. Ed., 15, 685 (1976).
2. Ya. P. Stradyn', Khim. Geterotsikl. Soedin., No. 10, 1412 (1981).

Institute of Physical Organic Chemistry and Coal Chemistry, Academy of Sciences of the Ukrainian SSR, Donetsk. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 9, p. 1283, September, 1984. Original letter submitted December 12, 1983.