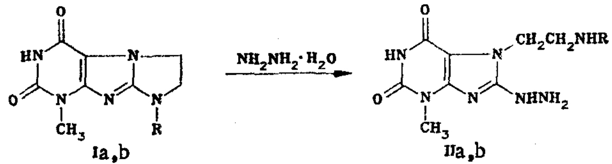
2. M. Uher, A. Rybar, A. Martvon, and J. Leško, Collect. Czech. Chem. Commun., 41, 1551 (1976).
3. Yu. M. Shafran, V. A. Bakulev, V. S. Mokrushin, and Z. V. Pushkareva, Khim. Geterotsikl. Soedin., No. 12, 1696 (1982).

OPENING OF 6,7-DIHYDROIMIDAZO[1,2-f]XANTHINES BY THE ACTION OF HYDRAZINE HYDRATE

B. A. Priimenko, I. V. Fedulova,
N. I. Romanenko, A. Yu. Chervinskii,
and T. M. Pekhtereva

UDC 547.857.4'859.3

We have found that prolonged heating (for 10-30 h) of 1-methyl-3H-8-phenyl-6,7-dihydroimidazo[1,2-f]xanthine (Ia) and 1-methyl-3H-8-(p-tolyl)-6,7-dihydroimidazo[1,2-f]xanthine (Ib) [1] in excess hydrazine hydrate leads to opening of the imidazoline ring to give hydrazinoxanthines IIa,b.



Ia,b IIa,b

I,II a R=Ph; b R=$C_6H_4CH_3$-p

Structure II was assigned to the products of the hydrazinolysis reaction on the basis of data from the IR and PMR spectra. The presence of a hydrazino group is also confirmed by the reaction of IIa,b with aromatic aldehydes, as a result of which brightly colored hydrazones are formed.

3-Methyl-7-(β-phenylaminoethyl)-8-hydrazinoxanthine (IIa). This compound, with mp 208-210°C (decomp., from water), was obtained in 78% yield. IR spectrum (mineral oil): 3350 (NH_2); 1690, 1680 (C=O); 1615 cm^{-1} (C=N). PMR spectrum (CF_3COOH): 3.21 (s, 3H, NCH_3), 3.73 (t, 2H, CH_2–NH), 4.41 (t, 2H, 7-N–CH_2), and 7.14 ppm (s, 5H, C_6H_5).

3-Methyl-7-[β-(p-tolylaminoethyl)]-8-hydrazinoxanthine (IIb). This compound, with mp 223-225°C (from dioxane), was obtained in 56% yield. IR spectrum (mineral oil): 3395 (NH_2); 3140 (NH); 1655, 1650 (C=O); 1600 cm^{-1} (C=N). PMR spectrum (CF_3COOH): 1.88 (s, 3H, CH_3), 3.10 (s, 3H, NCH_3), 3.63 (t, 2H, CH_2NH), 4.25 (t, 2H, 7-N–CH_2), and 6.83 ppm (s, 4H, aromatic).

LITERATURE CITED

1. B. A. Priimenko, N. I. Romanenko, S. N. Garmash, N. I. Gnatov, and A. K. Sheinkman, Khim. Prir. Soedin., No. 5, 623 (1980).

Zaporozhe Medical Institute, Zaporozhe 330074. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 10, pp. 1430-1431, October, 1985. Original article submitted February 21, 1985.

0009-3122/85/2110-1181$09.50