lated tetrahydro-γ-carbolines (form example, V-VIII). Trifluoroethylation was either not observed or occurred to a very small extent (in one case up to 7%) [2] in the reaction of borohydrides with indoles and indolines in CF_3COOH.

LITERATURE CITED

1. N. N. Komzolova, N. F. Kucherova, and V. A. Zagorevskii, Khim. Geterotsikl. Soedin., No. 4, 668 (1968).
2. G. Gribble, P. Skotnicke, S. Dietz, J. Eaton, and J. Johnson, J. Amer. Chem. Soc., 96, 7812 (1974).

ANOMALOUS REACTION OF 1-ETHYL(BENZYL)-3-METHYL-2-BENZOPYRYLIUM SALTS WITH DIMETHYLAMINE

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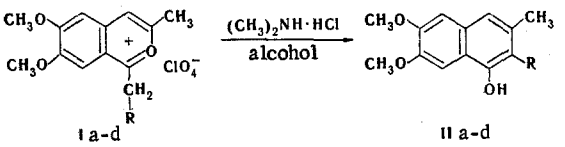
It is known that 2-benzopyrylium salts [1] react with secondary amines to give aromatic amine derivatives.

We have observed that heating of 1-ethyl(benzyl)-3-alkyl-2-benzopyrylium salts (I) for 2 h with a twofold excess of dimethylamine hydrochloride in alcohol gives substituted naphthols (II) in considerably higher yields (70-83%) than in the case of alkaline recyclization [2] (~40%).



I a-d II a-d

I, II a R = CH_3; b R = 3,4-$(OCH_3)_2C_6H_3$; c R = 2-Br-4,5-$(OCH_3)_2C_6H_2$; d R = 2-I-4,5-$(OCH_3)_2C_6H_2$

Naphthols IIa-d were isolated in the form of colorless crystals after dilution of the reaction mixtures with water. Naphthol IIa, with mp 149° (from benzene), was obtained in 70% yield. PMR spectrum (CF_3COOH, 60°C): s, 1.88 (3H); 1.95 (3H); 3.63 (6H); m, 6.70-7.10 ppm (3H). Compound IIb, with mp 177° (from alcohol) (mp 177° [2]), was obtained in 83% yield. Naphthol IIc, with mp 162° (from methanol), was obtained in 80% yield. Naphthol IId, with mp 171° (from methanol), was obtained in 83% yield.

The results of analysis for C, H, Br, and I of all of the compounds obtained were in agreement with the calculated values. The IR spectra contained characteristic absorption bands at 3480-3520, 1610-1620, and 1580-1589 cm^{-1}.

LITERATURE CITED

1. M. Vaida and F. Ruff, Acta Chim. Hung., 40, 295 (1964).
2. E. V. Kuznetsov, I. V. Shcherbakova, and G. N. Dorofeenko, Khim. Geterotsikl. Soedin., No. 6, 747 (1976).

Rostov-on-Don 344711. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 7, pp. 996-997, July, 1977. Original article submitted February 18, 1977.