

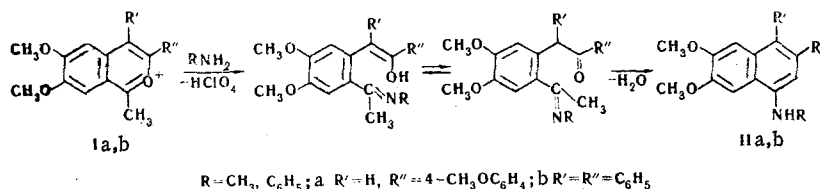
ANOMALOUS REACTION OF 3-ARYL- AND 3,4-DIARYL-
SUBSTITUTED 2-BENZOPYRYLIUM SALTS
WITH PRIMARY AMINES

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It is known that pyridinium and isoquinolinium salts are formed by treatment of monocyclic pyrylium [1] and 3-aryl-substituted 2-benzopyrylium salts [2,3] with primary amines.

We have shown that substituted naphthylamines (II) are formed instead of the expected isoquinolinium salts by the reaction of 3-aryl- (Ia) and 3,4-diaryl-substituted (Ib) 2-benzopyrylium salts with primary amines:



The reaction products were isolated after brief standing of an alcohol solution of salts Ia,b with a threefold to fourfold excess of the primary amine. (Refluxing of the mixture for 5-10 min is necessary in the case of aniline.)

Colorless needles of 1-(methylamino)-3-(4-methoxyphenyl)-6,7-dimethoxynaphthalene with mp 163° (from alcohol) were obtained using this method by the reaction of Ia with methylamine. Found: C 73.8; H 6.5; N 4.5%. $\text{C}_{20}\text{H}_{21}\text{NO}_3$. Calculated: C 74.3; H 6.5; N 4.3%. IR spectrum: 3342, 1662, 1600, 1506, 1280 cm^{-1} . 1-(Methylamino)-3,4-diphenyl-6,7-dimethoxynaphthalene was similarly obtained in 70% yield as colorless needles with mp 184° (from nitromethane) by the reaction of Ib with methylamine. Found: C 80.9; H 6.5; N 3.6%. $\text{C}_{25}\text{H}_{23}\text{NO}_2$. Calculated: C 81.3; H 6.2; N 3.8%. IR spectrum: 3360, 1620, 1600, 1504, 1278 cm^{-1} . 1-Anilino-3,4-diphenyl-6,7-dimethoxynaphthalene was similarly obtained in 65% yield as colorless needles with mp 218° (from nitromethane) by the reaction of Ib with aniline. Found: C 83.5; H 6.1; N 3.4%. $\text{C}_{30}\text{H}_{25}\text{NO}_2$. Calculated: C 83.5; H 5.8; N 3.25%. IR spectrum: 3336, 1620, 1598, 1560, 1510, 1500, 1274 cm^{-1} .

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