

$^1\text{J}_{\text{C}(3)\text{H}} = 176$, $^3\text{J}_{\text{CO},\text{s-H}} = 2$, and $^3\text{J}_{\text{C}(5),\text{s-H}} = 9$ Hz. The results of elementary analysis of II and III were in agreement with the calculated values.

2-Formylpyrrole (I). PMR spectrum (CD_3OD), δ : 9.33 (CHO), 7.05 (5-H), 6.88 (3-H), and 6.18 ppm (4-H); $^3\text{J}_{3,4} = 3.6$, $^3\text{J}_{4,5} = 2.4$, $^4\text{J}_{3,5} = 1.4$, $^5\text{J}_{5-\text{H}_2\text{CHO}} = 1$ Hz. ^{13}C NMR spectrum (CD_3OD), δ : 180.8 (CO), 134.2 [$\text{C}(2)$], 128.3 [$\text{C}(5)$], 122.5 [$\text{C}(3)$], and 111.9 ppm [$\text{C}(4)$]; $^1\text{J}_{\text{CHO}} = 170$, $^1\text{J}_{\text{C}(5)\text{H}} = 182$, $^1\text{J}_{\text{C}(3)\text{H}} = 168$, $^1\text{J}_{\text{C}(4)\text{H}} = 170$, $^1\text{J}_{\text{C}(5),\text{s-H}} = 4$, $^3\text{J}_{\text{C}(3),\text{s-H}} = 6$, $^2\text{J}_{\text{C}(4),\text{s-H}} = 7.5$, $^2\text{J}_{\text{C}(4),\text{s-H}} = 3.5$, $^2\text{J}_{\text{C}(5),\text{s-H}} = 8$, and $^3\text{J}_{\text{C}(5),\text{s-H}} = 8$ Hz.

LITERATURE CITED

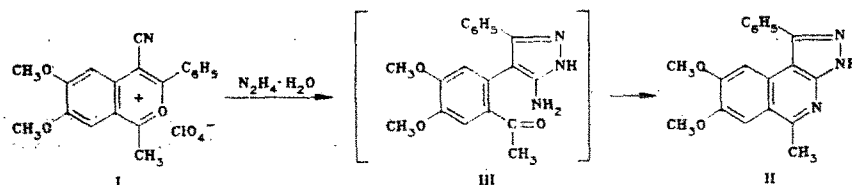
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RECYCLIZATION OF 4-CYANOBENZO[c]PYRYLIUM SALTS UPON REACTION WITH HYDRAZINE

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In a study of the reaction of benzo[c]pyrylium salt I with hydrazine we observed that the previously undescribed 5-methyl-7,8-dimethoxy-1-phenylpyrazolo[5,4-c]isoquinoline (II) is formed in 40% yield as a result of the reaction. The conversion of perchlorate I to pyrazoloisoquinoline II evidently includes the formation of intermediate 5-aminopyrazole derivative III.



Pyrylium Salt I. This salt, with mp 210-212°C (dec.), was obtained by treatment of α -benzoylhomoveratronic nitrile with acetic anhydride in the presence of an equimolar amount of perchloric acid. IR spectrum (in Nujol): 1100 (ClO_4^-), 1605 (pyrylium cation), and 2250 cm^{-1} ($\text{C}\equiv\text{N}$). PMR spectrum (60 MHz, CF_3COOH), δ : 3.20 (3H, s, CH_3), 3.97 (3H, s, OCH_3), 4.13 (3H, s, OCH_3), 7.30 (5H, s, C_6H_5), and 7.67 and 7.80 ppm (each 1H, s, 5- and 7-H).

Compound II. This compound had mp 272-273°C (from xylene). IR spectrum (in Nujol): 1620 cm^{-1} (ring $\text{C}=\text{N}$). PMR spectrum (60 MHz, CF_3COOH), δ : 3.23 (3H, s, CH_3), 3.80 (3H, s, OCH_3), 4.07 (3H, s, OCH_3), and 7.67 ppm (7H, s, H_{arom}).

The results of elementary analysis of the compounds were in agreement with the calculated values.