A NEW VARIANT OF THE SYNTHESIS OF DERIVATIVES OF 4H-PYRROLO[1,2-*a*]BENZIMIDAZOLE

R. M. Palei and P. M. Kochergin

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Developing previous work [1-4], we have established that derivatives of 4H-pyrrolo[1,2-*a*]benzimidazole (I) can be obtained not only from 1,2-dialkyl- and 2-alkyl-1-arylbenzimidazoles but also from 2-alkylbenzimidazoles (II). The reaction of II with α-bromoketones leads to 1,3-diacetylmethyl-2-alkylbenzimidazoliumbromides (III-V)which, under the action of alkaline agents ($NaHCO_3$, NaOH, etc.), cyclize to form derivatives of I (VI-VIII).

1,3-Diphenacyl-2-methylbenzimidazolium bromide (III). Mp 255-256°C (decomp., from ethanol). Found %: C 64.3; H 4.8; Br 17.9; N 6.2. $C_{24}H_{21}BrN_2O_2$. Calculated %: C 64.1; H 4.7; Br 17.8; N 6.2. 1,3-Di(p-bromophenacyl)-2-ethylbenzimidazolium bromide (IV). Mp 286-288°C (decomp., from a mixture of ethanol and DMFA). Found %: C 48.7; H 3.6; Br 38.5; N 4.4. $C_{25}H_{21}Br_3N_2O_2$. Calculated %: C 48.3; H 3.4; Br 38.6; N 4.5. 1,3-Di(p-dibromophenacyl)-2-benzylbenzimidazolium bromide (V). Mp 244-246°C (decomp., from CH_3COOH). Found %: C 53.1; H 3.4; Br 34.7; N 4.2. $C_{30}H_{23}Br_3N_2O_2$. Calculated %: C 52.7; H 3.4; Br 35.1; N 4.1. 2-Phenyl-4-phenacylpyrrolo[1,2-*a*]benzimidazole (VI). Mp 160-161°C (decomp., from ethanol). Found %: C 81.9; H 5.3; N 8.2. $C_{24}H_{18}N_2O$. Calculated %: C 82.3; H 5.2; N 8.0. 4-p-Bromophenacyl-2-p-bromophenyl-3-methylpyrrolo[1,2-*a*]benzimidazole (VII). Mp 167-169°C (decomp, from a mixture of ethanol and DMFA). Found %: C 57.2; H 3.4; Br 30.3; N 5.2. $C_{25}H_{18}Br_2N_2O$. Calculated %: C 57.5; H 3.5; Br 30.6; N 5.4. 4-p-Bromophenacyl-2-p-bromophenyl-3-pyrrolo[1,2-*a*]benzimidazole (VIII). Mp 196-197°C (decomp., from a mixture of ethanol and DMFA). Found %: C 61.7; H 3.6; Br 27.5; N 4.7. $C_{30}H_{20}Br_2N_2O$. Calculated %: C 61.7; H 3.4; Br 27.3; N 4.8.

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Ordzhonikidze All-Union Scientific-Research Chemical and Pharmaceutical Institute, Moscow