NEW VARIANT OF THE SYNTHESIS OF IMIDAZO[1,2-a]BENZIMIDAZOLE DERIVATIVES

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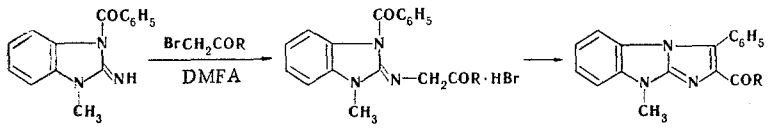
UDC 547.875.5.07

When 3-benzoyl-2-imino-1-methylbenzimidazoline (I) is heated with bromoacetone or phenacyl bromide in dimethylformamide at 80-90°C, an imidazole ring is formed through a step involving II to give 2-acetyl-9-methyl-3-phenylimidazo[1,2-a]benzimidazole (IIIa) [in 58% yield with mp 152° (from octane)] and, respectively, 2-benzoylderivatives IIIb [in 61% yield with mp 156° (from octane)]; according to [1], as a consequence of isomerization of I under these conditions, isomeric 3-acetyl-9-methyl-2-phenyl- or 3-benzoyl-9-methyl-2-phenylimidazo[1,2-a]benzimidazoles are also formed in small yields under these conditions:



I II IIIa, b

II-III a $R = CH_3$; b $R = C_6H_5$

The structures of III were confirmed by the IR and PMR spectra. The results of elementary analysis for C, H, and N were in agreement with the calculated values.

LITERATURE CITED

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