FORMATION OF PYRIMIDO[1,2-a]BENZIMIDAZOLES IN REACTION OF 1,2-DIAMINOBENZIMIDAZOLE WITH CHALCONES

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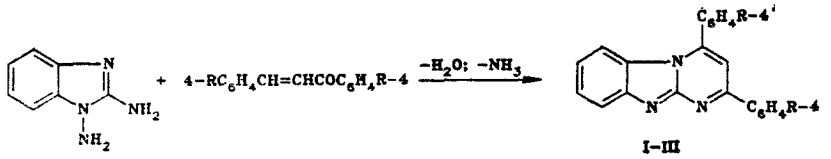
The cyclocondensation of 2-aminobenzimidazole with 1,3-diketones is a known method for the synthesis of 2,4-disubstituted pyrimido[1,2-a]benzimidazoles [1]. We found that 2,4-diaryl-substituted derivatives of this bicyclic compound I-III are formed by boiling solutions of 1,2-diaminobenzimidazole and 1,3-diarylpropenones in DMFA for 8 h. The reaction is accompanied by elimination of an amino group from the diamine in the 1-position in the form of ammonia:



I-III

Compound I: R = H, yield 52%, mp 314°C (according to the data in [1], 312-315°C), $\nu_{C=N}$ (KBr) 1624 cm^{-1}; λ_{max} ($\varepsilon \cdot 10^{-3}$); 343 (16.8), 390 nm (5.5).

Compound II: R = Cl, yield 44%, mp 302-304°C, $\nu_{C=N}$ (KBr) 1624 cm^{-1}; λ_{max} ($\varepsilon \cdot 10^{-3}$): 346 (18.0), 390 nm (5.6).

Compound III: R = Br, yield 55%, mp 298-299°C, $\nu_{C=N}$ 1624 cm^{-1}; λ_{max} ($\varepsilon \cdot 10^{-3}$): 345 (19.1), 390 nm (5.7).

The data of the elemental analysis and mass-spectral determination of the molecular weight of compounds I-III obtained correspond to the calculated values.

LITERATURE CITED

1. W. Ried and W. Muller, J. Prakt. Chem., 8, 132 (1959).

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