RECYCLIZATION OF PAPAVERINE IODOALKYLATES UNDER THE ACTION OF NUCLEOPHILIC AGENTS

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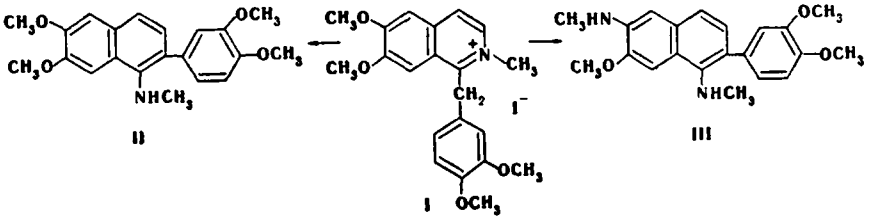
Under the action of alcohol and aqueous solutions of alkylamines, salts of 1,2-dialkylisoquinolines are recyclicized to substituted 1-naphthylamines [1]. We have established that papaverine iodomethylate (I) with heating in a 35% alcohol solution of methylamine at 100°C for a period of 50-60 h gives, not the expected 1-methylamino-2-(3,4-dimethoxyphenyl)-6,7-dimethoxynaphthalene (II), but the product of restructuring III, in which one of the methoxy groups of the isoquinoline ring is substituted by a methylamino group (on the basis of the data of ^{13}C NMR spectra, most probably in position 6); yield 23%, mp 177-178°C (from benzene). IR spectrum (in $CHCl_3$): 3455, 3365 cm^{-1} (N—H). UV spectrum (in CH_3OH), λ_{max} (log ε): 230 (4.53), 256 (4.59), 344 nm (3.47 sh). PMR spectrum (in CCl_4): 2.74 (3H, s, CH_3N), 2.90 (3H, s, CH_3N), 3.76 (3H, s, CH_3O), 3.78 (3H, s, CH_3O), 3.92 (3H, s, CH_3O), 6.56-7.26 ppm (7H, m, aromatic protons). Found: C 71.6; H 7.0; N 7.9%. $C_{21}H_{24}N_2O_3$. Calculated: C 71.6; H 6.9; N 7.9%.



II III I

The product of "pure" regrouping II can be obtained with a yield of 5% with the heating of the salt I with a mixture (1:1) of methylamine acetate and ethyl alcohol at 110°C for 50-60 h; mp 178-179°C (from benzene). IR spectrum (in $CHCl_3$): 3365 cm^{-1} (N—H). UV spectrum (in CH_3OH), λ_{max} (log ε): 231 (4.64), 261 nm (4.62). PMR spectrum (CCl_4): 2.74 (3H, s, CH_3N), 3.76 (3H, s, CH_3O), 3.78 (3H, s, CH_3O), 3.84 (3H, s, CH_3O), 3.86 (3H, s, CH_3O), 6.80-7.33 ppm (7H, m, aromatic protons). Found: C 71.5; H 6.6; N 4.1%. $C_{21}H_{23}NO_4$. Calculated: C 71.5; H 6.6; N 4.0%. Acetyl derivative, mp 168-169°C (from benzene), from data of [2], mp 166-169°C.

Recyclization takes place analogously with papaverine iodoethylate.

LITERATURE CITED

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