9,14-DIHYDROTETRAZOLO[1',5':1,2]QUINOLINO[3,4-b]QUINOXALINE — A NEW HETEROAROMATIC SYSTEM

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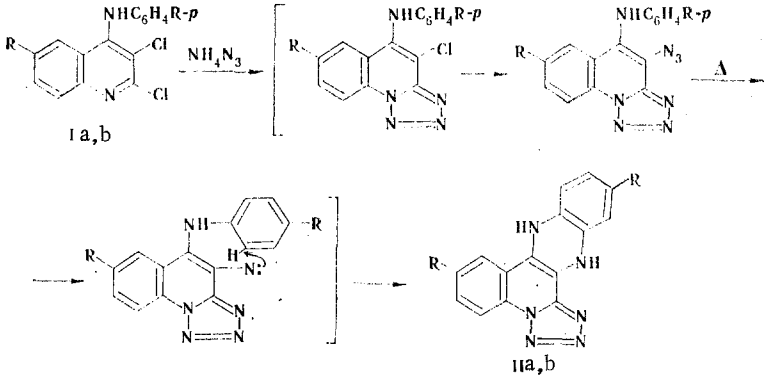
It is known that the quinoline, quinoxaline, and tetrazole heterocyclic systems are included in the compositions of many biologically active substances, particularly medicinal preparations. The possibility that condensed systems of these heterocycles will be of definite practical interest is not excluded.

We have developed a convenient method for the preparation of 9,14-dihydrotetrazolo[1',5':1,2]quinolino[3,4-b]quinoxalines IIa,b in good yields by the reaction of 4-arylamino-2,3-dichloroquinolines [1] with ammonium azide in dimethylformamide (DMF).



I–II a R=H; b R=CH_3

Compound IIa, with mp 276-277°C (from dioxane), was obtained in 72% yield. UV spectrum (CH_3CN), λ_{max} (log ε): 230 (4.51), 270 (4.63), and 360 nm (4.04). IR spectrum (KBr): 3455, 3330, 3185 (NH); 1620, 1600, 1580, 1540, 1500, 1465, 1445 (aromatic C=C); 1355, 1340, 1160, 1140, 1110 cm^{-1} (tetrazole). M^+ 274. Compound IIb, with mp 287-288°C (from dioxane), was obtained in 76% yield. UV spectrum (CH_3CN), λ_{max} (log ε): 235 (4.58), 280 (4.68), and 390 nm (4.08). IR spectrum (KBr): 3085 (NH); 2945, 2925 (CH_3); 1625, 1550, 1530, 1495, 1460 (aromatic C=C); 1345, 1330, 1320, 1250, 1195, 1148, 1110 cm^{-1} (tetrazole). PMR spectrum ($CDCl_3$): 2.62 (3H, s, 7-CH_3), 2.68 (3H, s, 12-CH_3), 8.20 (s, 8-H), 8.80 (s, 13-H), 8.12 and 7.78 (d, 5- and 6-H, J = 8 Hz), 8.44 and 7.65 ppm (d, 10- and 11-H, J = 8 Hz). M^+ 302. The results of elementary analysis of IIa, b were in agreement with the calculated values.

LITERATURE CITED

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