RECYCLIZATION OF PYRROLO[1,2-a]PYRAZINIUM TO 8-AMINOINDOLIZINE. A NEW SYNTHESIS OF THE INDOLIZINE RING

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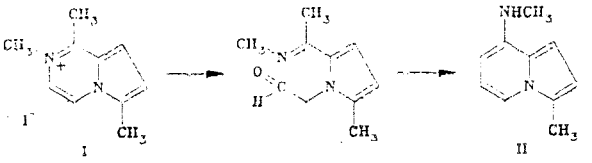
We have for the first time recyclized the pyrrolo[1,2-a]pyrazinium system to 8-aminoindolizine, an example of the Kost–Sagitullin rearrangement [1].

On heating 3,7,8-trimethylpyrrolo[1,2-a]pyrazinium iodide (I) with alcoholic methylamine (sealed ampul, 150°C, 20 h), the 8-aminoindolizine (II) was obtained in 80% yield. Consequently, on treatment with the nucleophile the pyrazine ring in (I) is cleaved at the $C_{(7)}$–N bond, then reclosure occurs at the extranuclear methyl group, present before ring opening in the 8-position.



3-Methyl-8-methylaminoidolizine (II), mp 110-111°C. PMR spectrum ($CDCl_3$), δ: 2.41 (3H, s, CH_3), 2.94 (3H, s, CH_3N), 3.92 (1H, b. s, NH), 5.73 (1H, d, $J_{7,6}$ = 7 Hz, 7-H), 6.23 (1H, d, $J_{1,2}$ = 4 Hz, 1-H), 6.42 (1H, d, $J_{2,1}$ = 4 Hz, 2-H) 6.50 (1H, t, $J_{6,5}$ = 7 Hz, $J_{6,7}$ = 7 Hz, 6-H), 7.22 ppm (1H, d, $J_{5,6}$ = 7 Hz, 5-H). Mass spectrum, m/z 160 (100), 159 (83), 145 (14), 144 (33), 132 (15), 131 (46), 130 (10), 118 (22), 117 (18). IR spectrum: 3450 cm^{-1} (NH).

LITERATURE CITED

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