(+)-REMREFIDINE FROM Papaver fugax

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By crystallization from water, we have isolated from the quaternary alkaloid iodide fraction obtained by the method of Slavikova and Slavik [1] from 16 kg of Papaver fugax Poir., collected in June, 1975, in the flowering phase in the region of lake Sevan, 1.85 g (0.011%) of white acicular crystals with mp 221-222°C, $[\alpha]_D^{15}$ 79 ± 5° (c 0.5; methanol). The substance appeared in the form of a single spot with R_f 0.34 [TLC on silica gel in the butan-1-ol–acetic acid–water (5 : 1 : 4) system] and 0.21 [in the ethanol–acetic acid–water (15 : 1 : 9) system]. In its mass spectrum, the strongest peaks were those of fragments with m/e 293, 287, 277, 235, 205, 178, 176, 151, 142, 128, 127, and 58.

Hofmann degradation of the iodide yielded an optically inactive base with mp 81°C, composition $C_{19}H_{19}NO_2$ (from the results of elementary analysis and mass spectrometry). Its NMR spectrum (δ, ppm) showed the signals of 7 aromatic protons (at 8.9 – 1H, multiplet; at 7.8-7.2 – 5H, multiplet group; and at 6.96 – 1H, singlet), of a methylenedioxy group (at 6.02 ppm – 2H, singlet) and of a dimethylaminoethyl group (at 3.34-2.90 and 2.70-2.26 – each 2H, multiplet; and at 2.30 – 6H, singlet).

The results obtained permitted the assumption that the substance isolated was (+)-remrefidine iodide [2] or d-isoremerine methiodide [3] (I), the identity of which has been shown by direct comparison of the iodide and (I) and that of their des-bases by TLC and a mixed melting point.

This is the first time that (+)-remrefidine has been isolated from plants.

LITERATURE CITED

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