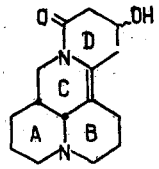

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THALSIMIDINE– A NEW BISBENZYLISOQUINOLINE ALKALOID FROM THALICTRUM SIMPLEX

S. Kh. Maekh, Z. F. Ismailov, and S. Yu. Yunusov

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From the epigeal part of Th. simplex L., collected on 5 July 1966 in the Fergana Valley in the gorge of the R. Naukatsai we have isolated 0.7% of total alkaloids, from which we have obtained 0.49% of thalsimine [1] and 0.02% of a crystalline base (I) with mp 195° C (ethanol) $[\alpha]_D^{14}$ +48° (c 1.10; chloroform). The homogeneity of I was checked by chromatography in a thin layer of silica gel G in the benzene–chloroform–DEA (1.5:0.40:0.1), benzene–methanol (8:2), and chloroform–acetone–DEA (1.0:0.8:0.2) systems. UV spectrum: λ_{max} 280, 312 mμ (log ε 4.12; 3.76), similar to the UV spectrum of thalsimine. The base is insoluble in aqueous solutions of alkalies and in Claisen's cryptophenol reagent [2], but it gives a positive Millon reaction [3]. IR spectrum: 3490 cm^{-1} (hydroxy group), 1630 cm^{-1} (conjugated double bond). The reduction of I on an Adams platinum catalyst gave a dihydro derivative (II). UV spectrum: λ_{max} 285 mμ (log ε 3.94). The acetylation of II with acetic anhydride in the presence of pyridine gave an acetyl derivative (III). IR spectrum: 1650 cm^{-1} (amide carbonyl group), 1778 cm^{-1} (phenol ester).

By interpreting the bands in the IR spectrum in a solid sample of III [4], two acetyl groups were found.

We have established for I the composition $C_{37}H_{38}O_7N_2$ and the developed formula $C_{32}H_{22}O_2(OCH_3)_4(OH)$ (–N=) (NCH_3), mol. wt. 622 (mass spectrometry).

The properties of I mentioned above indicate that the base is a bisbenzylisoquinoline alkaloid. We have called it thalsimidine.

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