

## A STUDY OF THE COMPOSITION OF THE ALKALOIDS OF ERGOTS OF THE ERGOMETRINE STRAIN

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A chemical study of the ergotamine strain has been reported previously [1]. In this paper we give the results of a study of ergots of the ergometrine strain.

Ergots collected from production crops of the experimental base of VILR [All-Union Scientific-Research Institute for Medicinal Plants] (Moscow region) were used. The alkaloids were extracted from the comminuted ergots with dichloroethane, from which they were exhaustively extracted with tartaric acid solution. The tartaric extracts were made alkaline with ammonia and the bases were extracted with chloroform. The extracts were dried over sodium sulfate and the solvent was evaporated off to small volume. On standing in the cold, white crystals deposited with mp 159-160° C (from methyl ethyl ketone and ethyl acetate) with the composition  $C_{19}H_{23}O_2N_3$ ,  $[\alpha]_D^{20} +41^\circ$  (c 1.8, ethanol). The base is readily soluble in methanol, ethanol, and acetone, and moderately soluble in benzene and water; it forms a hydrochloride with mp 175° C (decomp.), a hydrobromide with mp 239-240° C (decomp), and an oxalate with mp 189-190° C (decomp). From its composition, its melting point, and that of its salts, a mixed melting point with an authentic sample, and its IR spectrum [2] it was identified as ergometrine. The mother liquor, after the isolation of the ergometrine, yielded a second base with the composition  $C_{19}H_{23}O_2N_3$ , mp 193-194° C (decomp),  $[\alpha]_D^{20} +412^\circ$  (c 0.5, chloroform), readily soluble in ethanol, methanol, and acetone, and sparingly soluble in chloroform and water, giving a hydrochloride with mp 175-180° C (decomp). From its composition, melting point, and those of its salts, and a mixed melting point with an authentic sample it was identified as ergometrine.

### REFERENCES

1. A. N. Ban'kovskaya and A. I. Ban'kovskii, *Lekarstvennye rasteniya*, Khimiya, 15, 219, 1969.
2. A. Hofmann, *Die Mutterkornalkaloide*, Enke Stuttgart, 1964.

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