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A GAS-CHROMATOGRAPHIC INVESTIGATION OF THE DITERPENOIDS OF PLANTS OF THE GENUS *Lagochilus*

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Lagochilin and its derivatives, isolated from plants of the genus *Lagochilus* (family Lamiaceae) are promising for obtaining physiologically active substances, especially hemostatics [1-3].

We have used GLC for the analysis of lagochilin and lagohirsin, which are found together in some species of the genus *Lagochilus*. Because of their nonvolatility, neither of these compounds forms a peak under the conditions of chromatography. For this reason, we injected their trifluoroacetates in the form of a solution into the evaporator of the chromatograph and obtained the corresponding chromatographic peaks.

For the quantitative determination of lagochilin and lagohirsin we used octyl phthalate as an internal standard forming a peak between those of lagochilin and lagohirsin. A model mixture of lagochilin and lagohirsin was made, and the calibration factors K for the two substances were determined [4]. For lagochilin, $K = 0.83$, and for lagohirsin, $K = 1.90$. The model mixture was analyzed on a Chrom-4 chromatograph with a thermionic detector having a potassium tablet. A glass column (0.3 × 100 cm) filled with Chromaton N-AW (0.16-0.20 mm) impregnated with 5% of the stationary liquid phase OV-17 was used.

The substances were separated at a temperature of the column thermostat of 225°C and of the detector thermostat of 265°C. The pressure of the carrier gas (nitrogen) was 1.2 kg/cm^2, of hydrogen 45, and of air 450, the chart speed being 0.3 cm/min. The volume of the sample injected was 1-2 μl.

To the sample of lagochilin and lagohirsin (0. 1-0.12 g, weighed with an accuracy of 0.0002 g) were added dioctyl phthalate (two drops — 20-30% of the weight of the sample), 2 ml of trifluoroacetic anhydride (in excess), and two drops of freshly distilled pyridine. The mixture was left for 15 min, and the trifluoroacetates of lagochilin and lagohirsin that had been formed (1-2 μl) were charged into the evaporator of the chromatograph.

The retention times were: for the impurities (trifluoroacetic anhydride, trifluoroacetic acid, pyridine) 50 s; for lagochilin tetrakistrifluoroacetate, 2 min 53 s; for dioctyl phthalate, the standard, 8 min 33 sec; and, for lagohirsin bistrifluoroacetate, 13 min 21 sec.

The percentages of the components were calculated from the results of GLC analysis [4].

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