

ESSENTIAL OIL FROM *Artemisia macrocephala*

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The amount of essential oil obtained by steam distillation from the air-dry epigeal part of *Artemisia macrocephala* Jacq. collected in the environs of the village of Kosh-Agach, Gorno-Altai autonomous region, in the flowering phase amounted to 0.45–0.50%. The oil was dark blue with a specific odor.

The acids isolated from the oil by means of sodium bicarbonate were investigated by descending paper chromatography (LM paper) in butan-1-ol saturated with 25% ammonia solution using markers [1]. The indicator was a 0.1% ethanolic solution of Bromothymol Blue. Acetic acid (R_f 0.17), propionic acid (R_f 0.22), isovaleric acid (R_f 0.57), and enanthic acid (R_f 0.78) were identified. The phenols were extracted from the oil with a 5% solution of caustic soda.

The residual oil was studied by gas-liquid chromatography on a KhL-4 chromatograph with a thermal conductivity detector using helium as the carrier gas. For greater reliability, the analysis was performed twice with a change in the conditions of chromatography. Column 1 (length 2.4 m, diameter 0.5 cm) was filled with Chromosorb W (80–100 mesh) with 15% of 1,2,3-tri(2-cyanoethoxy)propane as the liquid phase. The column temperature was 100–130°C, and the rate of flow of gas 50 ml/min. Column 2 (length 4.2 m) contained as the stationary phase 15% of polyethyleneglycol with mol. wt. 20,000 on the same solid support. The substance was analyzed at 110 and 150°C. The rate of flow of gas was 75 ml/min. The components of the essential oil were identified by their relative retention times and by mixed melting points with authentic samples. The conditions used for column 2 were found to be better.

The oil was found to contain α - and β -pinenes, camphene, Δ^3 -carene, limonene, p-cymene, 1,8-cineole, camphor, and borneol. An azulene was isolated by column chromatography on alumina (Brockmann activity grade II). From its UV and IR spectra and the melting point of its picrate (114–115°C) [2, 3] the azulene was identified as chamazulene.

LITERATURE CITED

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