ESSENTIAL OIL FROM Artemisia compacta

V. V. Dudko, T. P. Berezovskaya,
and R. V. Usynina

UDC 577.15/17:582.89

The amount of essential oil obtained by steam distillation from the air-dry epigeal part of Artemisia compacta Fisch. collected in the flowering phase in the environs of the village of Kosh-Agach, Gorno-Altai autonomous region, was 0.35%. The oil has a yellowish-greenish color with a characteristic odor, n_D^{20} 1.4650, d_{20}^{20} 0.900. The acids isolated from the oil with sodium hydrogen carbonate were investigated by descending paper chromatography (LM paper) using butanol saturated with 25% aqueous ammonia as eluent in the presence of markers [1]. The indicator was a 0.1% ethanolic solution of Bromthymol Blue. The acid fraction consisted solely of enanthic acid. The phenol from the essential oil was isolated by means of a 3% solution of caustic soda and was identified as creosol from the melting point of its picrate (112-113°C) [2].

The residue of the oil after the elimination of the acids and phenols was studied by GLC on a KhL-4 chromatograph with a thermal-conductivity detector using helium as the carrier gas at a rate of 50 ml/min. The analysis was performed with a column 1.8 m long and 0.5 mm in diameter filled with Chromosorb W (80-100 mesh) upon which 15% of 1,2,3-tri(2-cyanoethoxy)propane had been deposited. The analysis was performed at 130°C. The components of the essential oil were identified by their retention times and by the addition of markers to the sample. The following compounds were identified in the oil: α- and β-pinenes, camphene, limonene, cineole, p-cymene, camphor, borneol, and bornyl acetate.

LITERATURE CITED

1. E. K. Alimova and A. T. Astvatsatur'yan, The Investigation of Fatty Acids and Lipids by Chromatography [in Russian], Moscow (1967).
2. M. Goryaev and I. Pliva, Methods of Investigating Essential Oils [in Russian], Alma-Ata (1962).

Tomsk State Medical Institute. Translated from Khimiya Prirodnykh Soedinenii, No. 5, pp. 678-679, September-October, 1972. Original article submitted March 6, 1972.