

4. Werner Herz and P. S. Santhanam, J. Org. Chem., 30, no. 12, 1965.
5. F. Sanchez-Viesca and J. Romo, Tetrah., 19, no. 8, 1285, 1963.
6. A. Romo de Vivar, A. Cabrera, A. Ortega, and J. Romo, Tetrah., 23 (10), 3903-3907, 1967.

25 October 1968

All-Union Scientific-Research Institute for Medicinal Plants

UDC 547-314:633.88

SESQUITERPENE γ -LACTONES FROM ARTEMISIA JACUTICA

V. Benesheva, M. V. Nazarenko, and L. V. Sleptsova

Khimiya Prirodnikh Soedinenii, Vol. 5, No. 3, p. 186, 1969

From a petroleum ether extract obtained from the epigeal part of *Artemisia jacutica* Drob. (*A. sieversiana* var. *septentrionalis* Pamp.) (collected on August 15, 1967 in the village of Ytyk-Kol, Alekseev region of the Yakut ASSR), we have isolated two sesquiterpene γ -lactones. From a comparison of their spectra (IR, UV, NMR) with those of known compounds of this class and from the absence of the depression of the melting point of mixtures with authentic samples, we have identified one of them ($C_{15}H_{20}O_3$, mp 141-142° C) as the guaienolide arborescin (sieversinin) [1] and the other $C_{15}H_{20}O_3$, mp 169° C) as oxopelenolide "b", a sesquiterpene γ -lactone of the germacrane type [2].

REFERENCES

1. M. V. Nazarenko and L. I. Leont'eva, KhPS [Chemistry of Natural Compounds], 2, 399, 1966.
2. M. Suchy, Z. Samek, V. Herout, R. B. Bates, G. Snatzke, and F. Sorm, Coll. Czech. Chem. Comm., 32, no. 11, 3917, 1967.

14 January 1969

Komarov Botanical Institute, AS USSR

UDC 547-314:633.88

ISOLATION OF REPIN FROM CENTAUREA HYRCANICA

R. I. Evstratova, M. N. Mukhametzhano, V. I. Sheichenko, A. I. Shreter, and D. A. Pakaln

Khimiya Prirodnikh Soedinenii, Vol. 5, No. 3, p. 186, 1969

From the leaves and flower heads of *Centaurea hyrcanica* Bornm., family Compositae [1], collected on June 19, 1968, we have isolated by aqueous extraction [2] a colorless crystalline substance with the composition $C_{19}H_{22}O_7$, mp 155-156° C (from ethanol), $[\alpha]_D^{18} + 85.32^\circ$ (c 1.17; chloroform). Yield 0.1%. IR spectrum: 3480 (OH), 1770 (γ -lactone), 1745 (C=O), 1660 and 1640 cm^{-1} (C=C). The NMR spectrum has a pair of doublets with an intensity of one proton unit in the 5.58 and 6.23 ppm regions ($J = 3$ Hz), a pair of singlets also of one proton unit in the 5.00 and 5.21 ppm regions, a multiplet at 5.12 ppm (1H), a quartet at 4.65 ppm (1H), a broadened signal at 4.00 ppm (1H), and a singlet (3H) at 1.62 ppm.

By comparing the information obtained with literature data, we came to the conclusion that the substance obtained is identical with repin—a sesquiterpene lactone from *Acroptilon repens* (L.) D.C. [3]. On chromatography in a thin layer of neutral alumina (activity grade IV) in the benzene-methanol (9:1) and petroleum ether-benzene-chloroform-ethanol (5:4:2:1) systems with a 0.5% solution of $KMnO_4$ in 0.5% H_2SO_4 as revealing agent, the R_f values of repin and the substance isolated coincided. A mixture of the two substances gave no depression of the melting point.

REFERENCES

1. Flora of the USSR [in Russian], Moscow-Leningrad, vol. 28, p. 460, 1963.
2. K. S. Rybalko, A. N. Ban'kovskaya, and R. I. Evstratova, Med. prom., no. 3, 13, 1962.
3. R. I. Evstratova, R. Ya. Rzazade, and K. S. Rybalko, KhPS [Chemistry of Natural Compounds], 2, 290, 1966.

15 January 1969

All-Union Scientific-Research Institute for Medicinal Plants