

TANACIN - A NEW GERMACROLIDE
FROM *Tanacetum pseudoachillea*

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UDC 547.913

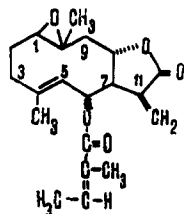
We have previously [1] reported the isolation of two sesquiterpene lactones - tanacin and tachillin - from *Tanacetum pseudoachillea* C. Winkl. [1].

Tachillin, with the composition $C_{20}H_{26}O_5$, mp 209-211°C (ethanol), $[\alpha]_D^{18} +48.5^\circ$ (c 1.0; methanol) was identified by a mixed melting point and comparison of IR spectra as chrysanin [2], a sample of which was kindly given to us by Dr. R. W. Duskotch (Columbus, Ohio).

Tanacin has the composition $C_{20}H_{26}O_5$, mp 128-129°C (ethanol), $[\alpha]_D^{21} -74^\circ$ (c 1.0; methanol). The hydrogenation of tanacin in the presence of platinum oxide gave tetrahydrotanacin, $C_{20}H_{30}O_5$, mp 141-143°C, mol. wt. 350 (mass spectrometry). It has been established that hydrogenation takes place at exomethylene and ester groups.

Of the five oxygen atoms present in the tanacin molecule, two form a lactone ring, the third an epoxy group, and the fourth and fifth are present in an ester group.

The action of 50% sulfuric acid [3] on tanacin gave β -cyclotanacin, identical with chrysanin. Consequently, tanacin has the structure of 6-angeloyloxy-1,10-epoxygermacra-4(5),11(13)-dien-8,12-olide, which agrees with the results of a spectral analysis of this lactone:



LITERATURE CITED

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3. I. S. Akhmedov, Sh. Z. Kasymov, and G. P. Sidyakin, *Khim. Prirodn. Soedin.*, 691 (1970).

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR. Translated from *Khimiya Prirodnikh Soedinenii*, No. 2, p. 262, March-April, 1975. Original article submitted December, 27, 1974.

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