5.37 (1 H, t); 6.11 (1 H, J = 9.5 Hz); 6.68 (2 H, m); 7.27 (1 H, d, J = 9.0 Hz); 7.51 (1 H, d, J = 9.5 Hz).

From the results of IR and NMR spectroscopy and its melting point, compound (II) was identified as the coumarin aurapten.

LITERATURE CITED

1. N. P. Kir'yalov, T. V. Bukreeva, and V. A. Gindin, Khim. Prirodn. Soedin., 446 (1972).
2. M. A. Perel'son, Yu. H. Sheinker, and A. A. Savina, The Spectra and Structure of Coumarins, Chromones, and Xanthones [in Russian], Moscow (1975), p. 94.

AN OLEANOLIC ACID GLYCOSIDE FROM *Thalictrum foetidum*

T. V. Ganenko, A. S. Gromova,
V. I. Lutskii, and A. A. Semenov

UDC 547.918+547.914.4

According to the literature *Thalictrum foetidum* L. (fetid meadow rue) contains alkaloids, flavonoids, organic acids, and saponins [1, 2]. In spite of the use of this plant in medicine, its saponins have not been studied.

Fetid meadow rue collected in the period of flowering in the region of Lake Baikal was extracted with 80% methanol. The extract was treated successively with chloroform and butanol. The butanolic extract was passed through alumina, and the saponin fraction was precipitated with acetone. According to TLC, in this fraction three triterpene glycosides predominated, and these were denoted by the letters A, B, and C, in the order of their chromatographic mobility. Saponin C was isolated by repeated chromatography on silica gel.

Saponin C was an amorphous powder with a softening point of 210–212°C and R_f 0.25 in the chloroform–methanol–water (30:35:7) system.

The acid hydrolysis of saponin C led to oleanolic acid and rhamnose arabinose, xylose, and glucose (PC, TLC, GLC [3]).

The oleanolic acid had mp 301–302°C (ethanol, in a capillary). IR spectrum: 1705 cm^{-1} (C=O of an acid group).

Oleanolic acid acetate has mp 260–261°C (ethanol, in a capillary) M^+ 498. IR spectrum: 1705 cm^{-1} (C=O of an acid group); 1730 cm^{-1} (C=O of an ester group). The mass spectrum contained the peaks of ions with m/z 438 ($M^+ - CH_3COOH$), 248 ($C_{16}H_{24}O_2$), 203 ($C_{16}H_{24}O_2$ – COOH), and 190 ($C_{14}H_{22}$).

The presence of the two main fragments with m/z 248 and 190 shows the retrodiene decomposition of the molecule in the position of the double bond at C-12 and the relative intensity of the ions with m/z 248 and 203 confirms an oleanane, rather than an ursane, structure [4].

LITERATURE CITED

1. A. F. Gammerman and I. I. Gram, Wild Medicinal Plants of the USSR [in Russian], Moscow (1976), p. 83.
2. V. V. Telyat'ev, Medicinal Resources of Eastern Siberian [in Russian], Irkutsk (1976), p. 50.
3. A. S. Gromova, V. I. Lutskii, E. V. Kostyleva, N. N. Dedkova, and A. A. Semenov, Izv. Sibirsk. Otd. Akad. Nauk SSSR, Ser. Khim., Series No. 4, Issue No. 9, 129 (1981).
4. H. Budzikiewicz, I. M. Wilson, and C. Djerassi, J. Am. Chem., 85, 3688 (1963).

Irkutsk Institute of Organic Chemistry, Siberian Branch, Academy of Sciences of the USSR.
Translated from Khimiya Prirodnykh Soedinenii, No. 2, p. 262, March-April, 1982. Original article submitted December 23, 1981.

0009-3130/82/1802-0245$07.50