By studying its UV, mass, and PMR spectra and also by direct comparison with an authentic sample, substance (II) was identified as diosmetin (3',5,7-trihydroxy-4'-methoxyflavone) [5].

Substance (III) – $C_{30}H_{48}O_3$, mp 304-305°C (from ethanol) $[\alpha]_D^{20}$ + 72° (methanol); ν_{max}^{KBr}, cm^{-1}: 3500-3400 (OH group, 3030 (>CH.); 1700 (—C—O—) . Mass spectrum: m/z 456 (M^+), 240, 233, 203, 196, 133 – was identified as oleanolic acid.

LITERATURE CITED

1. Ts. Khaidav, B. Altanchimeg, and T. S. Varlamova, Medicinal Plants in Mongolian Medicine [in Russian], Ulan-Bator (1985).
2. G. G. Nikolaeva, V. I. Glyzin, D. K. Fesenko, and A. V. Patudin, Khim. Prir. Soedin., 255, 841 (1980); 392 (1981).
3. V. D. Galinskaya, "Flavonoid content of some Siberian species of gentian," in: Plant Resources of Siberia and Their Use [in Russian], Novosibirsk (1978), p. 50.
4. V. I. Glyzin, G. G. Nikolaeva, and T. D. Dargaeva, Natural Xanthones [in Russian], Nauka, Novosibirsk (1986), p. 174.
5. T. J. Mabry, K. R. Markham, and M. B. Thomas, The Systematic Identification of Flavonoids, Springer, New York (1970), p. 354.

CHEMICAL COMPOSITION OF Potentilla fruitcosa

III. FLAVONOIDS AND FREE STEROLS

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Continuing investigation begun previously [1], from the chloroform-soluble part of an aqueous-methanolic extract of Potentilla fruticosa L. we have obtained two fractions. Fraction (I), containing the total free sterols, was separated on a column of silica gel with elution by hexane–acetone (10:1).

The free sterols were identified by chromato-mass spectrometry. As a result of the analysis we identified components with M^+ 414 – β-sitosterol, M^+ 412 – stigmasterol, and M^+ 400 – campesterol.

In fraction (II) a substance with m/z M^+ 344, $C_{18}H_{16}O_7$, mp 176-178°C, was identified as 3',4',7-trimethylquercetin [2].

From the butanol-soluble fraction of the aqueous methanolic extract, by chromatography on silica gel in the solvent system chloroform–methanol–water (80:35:7) we isolated a flavonoid glycoside $C_{28}H_{16}O_{15}$, mp 200-203°C, $[\alpha]_{546}$ – 59.8° (c 1.17; pyridine). The glycoside obtained was identified as quercetin 3-β-D-galactopyranoside 6"-gallate [3]. The position of attachment of the acyl residue followed from the chemical shifts of the C6" and C5" carbon atoms by +2.4 and −2.3 ppm, respectively, as compared with quercetin galactoside.

The individual compounds were identified by the use of NMR spectroscopy.

This is the first time that any of these compounds have been detected in this plant.

LITERATURE CITED

1. T. V. Ganenko and A. A. Semenov, Khim. Prir. Soedin., 856 (1989).
2. A. G. Valesi, R. Rogrigez, G. V. Velse, and T. J. Mabry, Phytocheistry, 11, 2821 (1982).
3. A. Nahrstedt, K. Dumkow, and B. Janistyn, Tetrahedron Lett., 559 (1974).

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