

URSOLIC ACID AND β -SITOSTEROL FROM

Ziziphora pamiralaica

M. Isamukhamedova, R. U. Umarova,
and N. K. Abubakirov

UDC 547.917.4+547.926

An extract of Ziziphora bungeana (family Labiatae), possesses cardiotonic, hypotensive, and antiarrhythmic activity [1].

We have studied the isoprenoids of Ziziphora pamiralaica Juz. In the epigeal part of the plant we have detected several substances of steroid and triterpenoid nature.

The air-dry comminuted herbage of the plant under investigation was treated with chloroform. The chloroform extract, after concentration, was chromatographed on a column of silica gel with elution by the solvent system benzene-ethyl acetate (10:1). A substance was isolated with a melting point of 136-138°C (from acetone), which was identified as β -sitosterol [2] from its mass and IR spectra and also by a direct comparison with an authentic sample in TLC.

Washing the column with the same solvent system led to fractions the rechromatography of which using the benzene-acetone (3:1) system gave a substance with mp 280-283°C (from ethanol), $[\alpha]_D^{24} +70 \pm 2^\circ$ (c 1.0; chloroform), corresponding to ursolic acid [3, 4]. The IR, UV, mass, and PMR spectra of the compound that we had isolated and of ursolic acid coincided. The yield on the air-dry weight of the plant was 0.2%.

LITERATURE CITED

1. A. A. Bimurzaev and G. K. Nikonov, in: Abstracts of Lectures at the IIInd Congress of Pharmacists of the Kirghiz SSR [in Russian], Frunze (1984), p. 157.
2. L. J. Swift, J. Am. Chem. Soc., 74, 1009 (1952).
3. T. J. Halsall and R. T. Aplin, Fortschr. Chem. Org. Naturst., 22, 153 (1964).
4. R. Tschesche and G. Wulf, Fortschr. Chem. Org. Naturst., 30, 461 (1973).

Institute of the Chemistry of Plant Substances of the Uzbek Academy of Sciences, Tashkent. Translated from Khimiya Prirodnnykh Soedinenii, No. 5, pp. 651-652, September-October, 1986. Original article submitted June 9, 1986.