The configurations of the glycosidic bonds in compounds (III) and (IV) were determined by the method of molecular rotation differences [3].

PMR spectra were taken on a JNM-4H-100 instrument (100 MHz, HMDS, δ scale).

LITERATURE CITED

1. H. P. Albrecht, Ann. Chem., 1429 (1977).
2. A. A. Akimaliev, N. Sh. Pal'yants, and P. K. Alimbaeva, Khim. Prir. Soedin., 668 (1979).
3. W. Klyne, Biochem. J., 47, xli (1950).

DIOSGENIN FROM *Allium nutans* AND *A. cernuum*

A. F. Azarkova, V. A. Stikhin,
O. A. Cherkasov, and N. I. Maisuradze

UDC 547.918+547.92:582.572

Continuing a search for diosgenin among plants of the genus *Allium* [1], we have investigated *A. nutans* L. and *A. cernuum* Roth. (family *Alliaceae*), which have been grown in the introduction section of VILR [All-Union Scientific-Research Institute of Medicinal Plants] and were collected in the mass flowering phase.

The comminuted hypogeal organs (rhizomes with roots, bulbs) and the inflorescences, separately, were defatted with chloroform in a Soxhlet apparatus. The defatted and air-dry raw material was heated with 2 N hydrochloric acid on the boiling water bath for 2 h. The reaction mixture was cooled to 20°C and filtered, and the solid phase of the hydrolysate was washed successively with water, 5% ammonia, and again with water, and was dried at 60°C for 16 h. The hydrolysis products were extracted with petroleum ether.

By rechromatography of the evaporated extracts on columns of KSK silica gel with elution by cyclohexane–ethyl acetate (4:1), both *A. nutans* and *A. cernuum* yielded a substance with the composition $C_{27}H_{42}O_3$, mp 206-208°C (isopropanol), $[\alpha]_D^{20}$ −122.6° (c 1; chloroform) [2].

On the basis of IR and mass spectra [3, 4], a comparison of the PMR spectrum with the spectrum of an authentic sample, and the absence of a depression of the melting point with an authentic sample, the compound isolated was identified as diosgenin. The yields of diosgenin from *A. nutans* L. and from *A. cernuum* Roth. were, respectively: from the inflorescences 0.5 and 0.3%, and from the hypogeal organs 0.2 and 0.1%, of the weight of the absolutely dry raw material.

TLC on KSK silica gel (cyclohexane–ethyl acetate (4:1) system) showed the presence in the chloroform extracts obtained in the defatting of the raw material of a small amount of free diosgenin.

There have been no previous reports of the isolation of diosgenin from these species of *Allium*.

LITERATURE CITED

1. A. F. Azarkova, G. S. Glyzina, T. M. Mel'nikova, N. I. Maisuradze, and L. M. Kogan, Khim. Prir. Soedin., 407 (1974).
2. L. Fieser and M. Fieser, Steroids, Reinhold, New York (1959).
3. Tang Shih Yung, Acta Pharm. Sinica, 11, No. 11, 787 (1964).
4. M. Tomova, D. Panova, and N. S. Vul'fson, Planta Med., 25, No. 3, 231 (1974).

All-Union Scientific-Research Institute of Medicinal Plants, Moscow. Translated from Khimiya Prirodnykh Soedinenii, No. 5, p. 653, September-October, 1983. Original article submitted March 4, 1983.

0009-3130/83/1905-0621$07.50