

## STEROID SAPONINS AND SAPOGENINS OF *Allium*

### V. NEOAPIGENIN FROM *Allium giganteum*

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UDC 547.926+547.918

From 5 kg of the skins of the bulbs of *Allium giganteum* Rgl. (family Alliaceae), collected at the stage of the end of fruit-bearing (Turkmen SSR, district of the village of Morgunovka), by extraction with methanol, we obtained 500 g of combined substances giving a positive reaction for steroid saponins [1]. Part of the total material isolated (40 g) was washed with acetone, and the insoluble residue (30 g) was chromatographed on a column of  $\text{SiO}_2$ . Elution was performed by the gradient method using chloroform with increasing proportions of methanol. Chloroform-methanol (90:1) and (80:1) yielded 2 g of a crystalline compound  $\text{C}_{27}\text{H}_{44}\text{O}_5$ , mp 269-270°C (methanol),  $[\alpha]_D^{20} - 76.0^\circ$  (c 1.45 chloroform), which we have called neoapigenin (I). The mass spectrum of (I) contained, in addition to the peak of the molecular ion with m/e 488, peaks with m/e 389, 379, 376, 334, 319, 305, 139, 115, which are characteristic for steroid sapogenins [2]. The IR spectrum of the genin (I) had absorption bands characteristic for sapogenins with the 25S configuration (858, 910-930, 975  $\text{cm}^{-1}$ ) [3] and for an OH group (3200-3500  $\text{cm}^{-1}$ ). The acetylation of the sapogenin (I) with acetic anhydride in pyridine (25°C, four days) gave the triacetate,  $\text{C}_{33}\text{H}_{50}\text{O}_8$ , mp 118-122°C (methanol),  $[\alpha]_D^{20} - 117.3^\circ$  (c 1.76; chloroform), mol. wt. 574 (mass spectrometry). The IR spectrum of the triacetate of the genin had absorption characteristic for an ester grouping (1740  $\text{cm}^{-1}$ ), and there was no absorption in the region of hydroxy groups.

The genin that we have isolated of the neo-(25S) series with three acetyltable hydroxy groups has constants differing from those of the 25S-trihydroxysapogenins described in the literature.

#### LITERATURE CITED

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Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR. Translated from *Khimiya Prirodnkh Soedinenii*, No. 3, p. 438, May-June, 1973. Original article submitted December 30, 1972.

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