

The configuration of the glycosidic centers determined from molecular rotation differences of the glycosides themselves and their progenins correspond to Klyne's rule [5]. On the basis of the facts presented, the preceding structures are proposed for asparagosides C and E.

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STEROID SAPONINS FROM THE ROOTS OF *Asparagus verticillatus*

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A preliminary phytochemical investigation showed that the roots of *Asparagus verticillatus* L. (family Liliaceae) collected on the Apsheron peninsula in the fruit-bearing period contained a considerable amount of steroid saponins [1, 2].

After the raw material had been defatted with chloroform and petroleum ether, the saponins were extracted with 80% methanol.

To study the qualitative composition of the steroid saponins, the methanolic extract was concentrated and was subjected to chromatography in a thin layer of silica gel in the water-saturated butanol and chloroform-methanol-water (65:35:10) systems. This showed the presence of five individual saponins — A, B, C, D, and E.

In order to study the nature of the sapogenin, the purified total saponins were subjected to hydrolysis with 10% H₂SO₄ at 90°C for 8 h. After filtration and washing with water, the sapogenin was dissolved in methanol and the presence of one genin in it was established chromatographically.

As the result of repeated recrystallization from ethyl acetate, colorless transparent acicular crystals of the genin were obtained with mp 198–200°C, $[\alpha]_D^{20} -76^\circ$ (c 0.8; methanol). A consideration of its spectral characteristics in the IR region showed that the spiroketal group of the genin isolated belonged to the nor series [3], and the genin itself proved to be chromatographically identical with sarsasapogenin, which is in harmony with literature information [4, 5].

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GITALOXIN FROM *Digitalis ciliata*

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In the adsorption chromatography of the less polar glycosides of the leaves of *Digitalis ciliata* Trautv. on a column of alumina, we isolated digitoxin and digitoxigenin bis-digitoxoside [1, 2]. When the column was eluted further with chloroform-ethanol (95:5), an individual compound was obtained in the form of a grayish white powder which, after treatment with activated carbon and recrystallization from dilute methanol, formed white acicular crystals with the composition $C_{42}H_{64}O_{15}$, mp 243-245°C. On a paper chromatogram in various systems of solvents the substance was located in the region of an authentic sample of gitaloxin. The Legal, Raymond, Kedde, and Keller-Kiliani reactions were positive. In the latter case, the layer of acetic acid was colored blue and the sulfuric acid was colored crimson. After treatment with the Svendsen-Jensen reagent the bright blue fluorescence in UV light characteristic for gitaloxigenin derivatives appeared. In the UV spectrum $\lambda_{\max}^{C_{22}H_{50}OH}$ 220 nm (log ϵ 4.8). The IR spectrum was also identical with that of the foxglove cardenolides [3, 4]. Under the action of alkalis it underwent saponification with the formation of gitoxin. Acid hydrolysis of the glycoside with 0.1 N H_2SO_4 gave the aglycone gitoxigenin (mp 222-224°C) and the sugar digitoxose.

The results that we obtained permitted the conclusion that the substance studied was gitaloxigenin 3-O-tridigitoxoside or gitaloxin [4, 5].

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