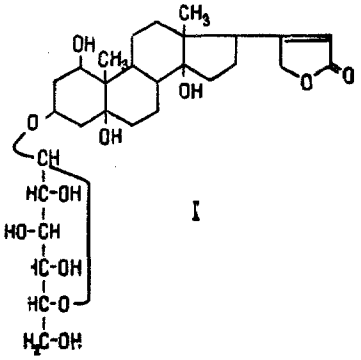
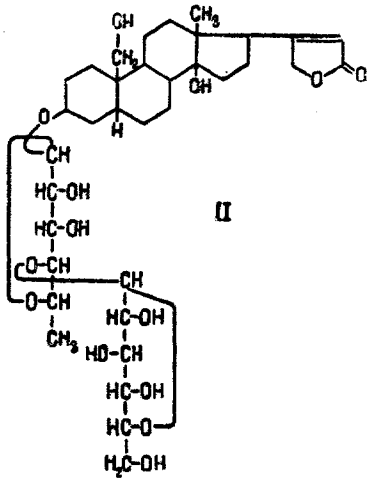
The hydrolysis of I with the enzymes of the grape snail Helix pomatia gave an aglycone and a monosaccharide. The The aglycone had mp 273–276° C and from the results of paper chromatography, a mixed melting point, coloration with concentrated H_2SO_4, and the IR spectrum, it was identified as evogenin. The monosaccharide with mp 150–152° C, $[\alpha]_D^{22}$ + 53 ± 6° (c 0.2; water, after the establishment of equilibrium; phenylosazone, mp 202–208° C) was identified as D-glucose. An analysis of the molecular rotation of the glycoside I and its aglycone according to Klyne's rule [3] showed that the D-glucose is attached to the aglycone by a β-glycosidic bond. The sugar component is obviously present in the pyranose form since the glycoside is hydrolyzed with difficulty by dilute mineral acids. Thus, glucoevonogenin is 3-(β-D-glucosyl)-1β,5β,14β-trihydroxycard-20(22)-enolide.



I



II

Glucoevonoloside (II) was isolated in small amount in an amorphous but chromatographically individual state. The glycoside II has $[\alpha]_D^{20}$ −8.75 ± 5° (c 1.0; methanol). It is soluble in concentrated H_2SO_4 giving a coloration changing with time: 0 min, brown; 90 min, blue-green; 150 min, emerald. The hydrolysis of II with the enzymes of the grape snail formed a monoglycoside and a monosaccharide. After direct comparison with an authentic sample, the monoglycoside, with mp 158–160° C, $[\alpha]_D^{20}$ −13.3 ± 5° (c 0.37; methanol) was identified as evonoloside [2]. The monosaccharide was identified by paper chromatography as D-glucose. The facts presented, and also the results of a comparison of the polarity of glucoevonoloside with other cardiac glycosides and the observation of the dynamics of enzymatic hydrolysis permit the conclusion that it is the bioside cannogenol 3-α-L-rhamnosyl-β-D-glucoside, with the probable structure II.

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PREPARATION OF APOKHLORIN

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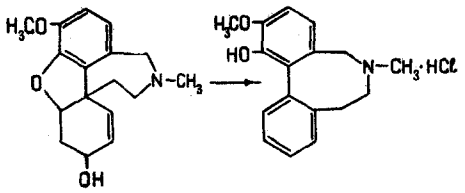
Apokhlorin (a preparation of methylapogalanthamine hydrochloride) (II) has been confirmed by the Pharmacological Committee of the Ministry of Public Health of the USSR as a new Soviet hypertensive preparation for wide medicinal use.



I II

The starting material for this preparation is galanthamine (I) [1–3]. The action of mineral acids on galanthamine forms methylapogalanthamine [4, 5].

Concentration of hydrochloric acid, %	Time of heating						
	1 hr	1 hr 30 min	2 hr	2 hr 30 min	3 hr	3 hr 30 min	4 hr
	Yield of methylapogalanthamine hydrochloride, % of theory						
15	25	35	47	55	65	67	70
20	35	50	68	70	85	84	80
25	40	55	65	71	85	75	71
30	38	52	60	68	80	72	67

To obtain methylapogalanthamine hydrochloride we heated galanthamine hydrobromide with hydrochloric acid (1 : 5) under various conditions (table).

Thus, the maximum yield of the preparation is obtained when galanthamine is heated with 20% hydrochloric acid for 3 hr.

Galanthamine hydrobromide (5.0 g) was heated in the boiling water bath with 25 ml of 20% hydrochloric acid for 3 hr. The crystals that deposited were separated off, the solution was treated with alkali, and the base that separated was converted by means of hydrochloric acid into the hydrochloride. Yield 3.52 g (85%). Recrystallization from ethanol (1 : 2.5) gave 3.3 g of a preparation with mp 163–166° C (with foaming) in the form of white crystals with a slight creamy tinge readily soluble in water and ethanol.

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ALKALOIDS OF DICTAMNUS ANGUSTIFOLIUS

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Dictamnine and skimmianine have previously been found in D. angustifolius (D. albus Linn.) [1]. We have studied the seeds and roots of D. angustifolius collected in the autumn of 1966 in the Angren valley (village of Karabauvsai, Tashkent region). The cleaned seeds (1000 g) were defatted with petroleum ether giving 400 g (40%) of oil. Chloroform extracted 0.025% of total alkaloids from the defatted seeds.