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INVESTIGATION OF THE TRITERPENES IN SOME SPECIES OF PLANTS

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In the investigation of certain plants, various substances have been isolated and identified: from the roots of Fagus taurica Popl., β-sitosterol (I) and betulinic acid (II), and from the roots of Juglans regia L., β-sitosterol (III) and betulin (IV). In the epigeal parts of Salvia beckeri Trautv. we have found betulin (V) and in Cornus mas L. ursolic acid (VI). Ursolic acid (VII) has also been isolated from the stems of Periploca graeca L.

The substances isolated and their derivatives have the following melting points, ° C:

Substance	Natural compound	Acetate	Methyl ester	Acetate of the methyl ester
(I)	134—135	117—118	—	—
(II)	—	—	219—221	205—207
(III)	135	116—118	—	—
(IV)	—	213-216	—	—
(V)	256	217—218	—	—
(VI)	277—280	—	—	241—243
(VII)	271—274	—	162	237—239

The results of the analysis of the substances isolated and their derivatives agreed with the calculated figures. The melting points of all the compounds agreed with those given in the literature. Their identity with authentic samples was confirmed by the mixed melting point method.

The general method of isolating the substances consisted of extraction with chloroform, separation of the neutral and acidic fractions, chromatography of the neutral substances on alumina (activity grade III) and of the acids on deactivated alumina, and recrystallization from various solvents.

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A TRITERPENE GLYCOSIDE FROM GYPSOPHILA PATRINII

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Kochetkov, Khorlin, and Ovodov isolated a saponin, gypsoside, from Gypsophila pacifica and established its structure as a nonaoside of gypsogenin [1]. The same saponin was later found in Gypsophila paniculata [2].

The extraction of the roots of a gypsophila (Gypsophila patrinii) collected in the Altai with methanol gave 20% of extract (of the weight of the roots). By means of ion-exchange chromatography on Dowex-1 resin, we isolated a glycoside with decomposition point 175°-185° C, $[\alpha]_D^{18}$ +26±3° (c 4.0; water), mp of the acetate 177°-178° C, $[\alpha]_D^{18}$ +10± 3° (c 1.9; chloroform). The yield of purified glycoside was 5% of the extract.

As the results of a comparison of the constants obtained with those given by the authors mentioned [1] have shown, this glycoside and, particularly, its acetate, have low specific rotations. The same discrepancy has recently been