

GLYCOALKALOIDS AND STEROID SAPOGENINS
OF *Solanum pseudopersicum*

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From the epigeal part of *Solanum pseudopersicum* Pojark. collected in the village of Karakolla, Azerbaidzhan SSR, we have isolated the combined glycoalkaloids and separated them by a method described previously [1]. On a column of silica gel we isolated four substances in the individual state: $C_{45}H_{73}O_{16}N$, mp 275–277°C, $[\alpha]_D^{20} -57.4^\circ$ (c 0.62; pyridine) (I); $C_{45}H_{73}O_{15}N$, mp 306–308°C, $[\alpha]_D^{20} -94.3^\circ$ (c 0.51; CH_3OH) (II); $C_{45}H_{73}O_{15}N$, mp 314–319°C, $[\alpha]_D^{20} -93.2^\circ$ (c 0.75; CH_3OH) (III); and $C_{50}H_{83}O_{21}N$, mp 265–269°C (decomp.), $[\alpha]_D^{20} -56^\circ$ (c 0.63; CH_3OH) (IV).

The absence of a depression of the melting point of mixtures of substances (I), (II), (III), and (IV) with the respective authentic samples, and also the identity of their IR spectra enabled these compounds to be identified as solasonine, solamargine, β -solamargine, and α -soladulcine, respectively [1, 2].

The acid hydrolysis of (I), (II), and (III) led to the same aglycone in each case, $C_{27}H_{43}O_2N$, mp 198–200°C, $[\alpha]_D^{20} -92^\circ$ (c 0.75; CH_3OH), identical with solasodine [1–4, 6].

When the glycoalkaloids (I), (II), and (III) were hydrolyzed, D-glucose, D-galactose, and L-rhamnose were found as the sugar residues in (I), and D-glucose and two molecules of L-rhamnose in (II) and (III). The acid hydrolysis of (IV) gave an aglycone $C_{27}H_{45}O_2N$ with mp 206–207°C (decomp.), $[\alpha]_D^{20} -52.9^\circ$ (c 0.52; chloroform), identical with soladulcidine [2]. The sugar moiety consisted of D-galactose, D-xylose, and two molecules of D-glucose.

In addition, the epigeal part of the plant investigated yielded combined saponins the acid hydrolysis of which gave the combined sapogenins. When this mixture was separated by a method described previously [1, 5], we isolated and identified diosgenin with the composition $C_{27}H_{42}O_3$, mp 206–207°C, $[\alpha]_D^{20} -121.5^\circ$ (c 8; chloroform), R_f 0.44, and tigogenin, with the composition $C_{27}H_{44}O_3$, mp 202–203°C, $[\alpha]_D^{20} -56.5^\circ$ (c 0.82; chloroform), R_f 0.56 [TLC; cyclohexane–ethyl acetate (19:1) system].

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