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STEROID SAPOGENINS OF THE LEAVES OF *Yucca aloifolia*

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The sum of the steroids sapogenins from the leaves of *Yucca aloifolia* (aloe yucca) introduced into the Sukhumi Botanical Gardens was obtained by the direct hydolysis of the saponins in the raw material [1]. On recrystallization from methanol, the combined material yielded 1% of tigogenin. The mother liquor remaining after the separation of the tigogenin was subjected to adsorption chromatography on alumina. The column was washed successively with petroleum ether, benzene, and benzene–chloroform. Petroleum ether and benzene eluted smilagenin, tigogenin, and hecogenin, which have been isolated previously from this plant [2]. The benzene–chloroform fractions yielded two sapogenins. One of them melted at 265-268°C. $[\alpha]_D^{20}$ −77° (c 1.00; chloroform); mp of the diacetate 243-244°C, $[\alpha]_D^{20}$ −98° (c 1.00; chloroform). The IR of the spectra of the genin and the diacetate correspond to those of gitogenin and its acetate [3]. On the basis of the results obtained and a chromatographic comparison of authentic samples, this substance was identified as gitogenin.

The second compound had mp 273-275°C; $[\alpha]_D^{20}$ −45° (c 1.00; chloroform), mp of the diacetate 153-155°C, $[\alpha]_D^{20}$ −39° (c 1.00; chloroform). By a comparison of the IR spectra [3, 4] and also from the results of NMR spectral analysis of the genin and its diacetate, the substance was identified as chlorogenin.

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