MACEDONIC ACID FROM THE ROOTS OF *Glycyrrhiza pallidiflora*

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Macedonic acid was first isolated from the roots of *Glycyrrhiza macedonica* Boiss et Orph. [1]. It is also present in the roots of *Glycyrrhiza echinata* L. [2, 3]. According to our previous work [4], macedonic acid is the aglycone of the saponins present in the species of liquorice mentioned. The structure of the acid was established by N. P. Kir'yalov.

We have investigated the roots of *Glycyrrhiza pallidiflora* Maxim. grown as a culture in the Central Botanical Garden of the Academy of Sciences of the Belorussian SSR (Minsk).

The combined saponins (4.5%) were extracted from the roots of the plant with 1% ammonia solution. It was established by paper electrophoresis [3] that they consisted of two substances. The saponins were hydrolyzed with 2.5% sulfuric acid in 100 ml of methanol. After two hours' heating, an amorphous gray-white precipitate began to deposit, and this was filtered off periodically. The time of hydrolysis was 20 h, with a total yield of precipitate of 0.8 g. The substance obtained was sparingly soluble, dissolving only on heating in acetic acid, dioxane, and pyridine, while it dissolved in an ethanolic solution of ammonia at 37-40°C. Its melting point was 339-342°C (dioxane). Qualitative reactions [7] showed the triterpene nature of the substance.

From its R_f value of 0.84 in the chloroform–acetic acid–toluene (10:5:10) system, its UV spectrum (λ_{max} 242, 251, and 258 nm, log ε 4.1-4.3) and IR spectrum (2890-3600, 1735, 1176 cm^{-1}, etc.), and by means of a mixed melting point with an authentic sample, the substance was identified as macedonic acid.

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