

DAIDZIN FROM *Psoralea acaulis*

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The comminuted roots of *Psoralea acaulis* Stev., family Leguminosae, collected in the vegetation period in the Adzhar ASSR were extracted with methanol, and the extract was evaporated to the state of a thick syrup and was cooled. The precipitate that deposited was recrystallized several times from methanol and water. This gave colorless crystals with the composition $C_{24}H_{20}O_9 \cdot H_2O$, mp 222-225°C.

On acid hydrolysis (10% HCl, 100°C, 4 h) D-glucose and an aglycone identified as daidzein (4',7-dihydroxyisoflavone) from its composition, $C_{15}H_{10}O_4$, its molecular weight, 254 (mass spectrometry), and its mp, 278°C, were isolated.

In the NMR spectrum (100 MHz, CCl_4 , internal standard HMDS), the trimethylsilyl ether of the glycoside had the signals of a 4',7-substituted isoflavone: two doublets with $J=9$ Hz at 7.32 ppm (H-2',6') and 6.72 ppm (H-3',5'), doublet with $J=9$ Hz at 8.09 ppm (H-5); quadruplet at 6.92 ppm ($J=2.5$; $J_1=9$ Hz) (H-6); singlets at 6.86 ppm (H-8) and 7.75 ppm (H-2); and also the signals of glucose: doublet at 4.85 ppm, with $J=7$ Hz (1H) and a multiplet at 3.2-3.8 ppm (6H). In DMSO, the signal of H-2 of the glycoside shifted to 8.46 ppm.

The acetylation of the glycoside gave a pentaacetate $C_{31}H_{30}O_{14}$ with mp 186-188°C, the NMR spectrum of which ($CDCl_3$) showed the singlets of four glucose acetoxy groups (1.97-2.03 ppm, 12H) and one aromatic AcO group (2.25 ppm).

The absence of changes in the UV spectrum of the glycoside (λ_{max} 262 nm) on the addition of NaOAc and a bathochromic shift for the aglycone (λ_{max} 250 → 256 nm) showed that the glucose was attached to the 7-OH group of the aglycone.

Thus, the compound isolated is 4',7-dihydroxyisoflavone 7-O- β -D-glucopyranoside (daidzin).

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