

# STACHYFLASIDE FROM *Stachys inflata* AND *St. atherocalyx*

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In a study of the flavonoids of *Stachys inflata* Benth. and *St. atherocalyx* C. Koch., we have isolated a flavonoid glycoside with mp 220–224°C,  $[\alpha]_D^{20} -60^\circ$  (c 0.1; ethanol), giving on hydrolysis with 5% sulfuric acid an aglycone  $C_{16}H_{12}O_6$ , mp 340–343°C (decomp.), and the two sugars D-mannose and D-glucose. From its qualitative reactions, UV and IR spectra, and  $R_f$  values on parallel chromatography with an authentic sample in various systems, and also a mixed melting point, the aglycone was identified as 4',5,6,7-tetrahydroxyflavone (scutellarein).

UV spectra with diagnostic reagents [1] showed that the hydroxyl at  $C_7$  of the flavonoid nucleus in the glycoside was substituted by sugar residues. They were stable to hydrolysis with the enzymes of the grape snail, rhamnodistase, and  $\beta$ -glucosidase, which excludes the linkage of the sugars to one another by 1→6 or 1→4 bonds. No free sugars were found in the products of the periodate oxidation of the glycoside. This shows the absence of a 1→3 bond between them. The glycoside was stable to alkaline hydrolysis [2]. The above facts show the probability of a 1→2 linkage of the sugars with one another. Similar properties are possessed by stachyflaside, isolated previously from *St. annua* L. [3]. A comparison of the properties of the glycoside under investigation with stachyflaside showed their identity.

Thus, the flavonoid glycoside obtained from *St. inflata* and *St. atherocalyx* is scutellarein 7-[O- $\beta$ -D-mannopyranosyl-(1→2)- $\beta$ -D-glucopyranoside] (stachyflaside).

## LITERATURE CITED

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