STACHANNOACISIDE FROM Stachys annua

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We have previously [1] reported the isolated form Stachys annua L. (family Labiatae) of substance C ($C_{37}H_{38}O_{18}$, mp 260-263°C, $[\alpha]_D^{20}$ −90°), which we have now called stachannoaciside.

Ultraviolet spectroscopy with ionizing and complex-forming reagents showed the presence of a free hydroxy group at C-5 in the glycoside under investigation. An ethanolic solution of the substance containing sodium ethoxide was yellow, and the Bargellini reaction was negative.

In addition to the usual frequencies for flavonoids, the IR spectrum of the glycoside had an absorption band in the 1743 cm^{-1} region, which shows the presence of an ester bond in substance C.

The acid hydrolysis of the flavone glycoside with 5% sulfuric acid in the boiling water bath gave 4'-methoxyscutellarein ($C_{16}H_{12}O_6$, mp 250-253°C) [2], D-glucose, D-mannose, and p-hydroxycoumaric acid.

Hydrolysis of the glycoside with 2% sulfuric acid at 50°C, and also alkaline hydrolysis with 2% caustic soda solution led to the splitting off of p-hydroxycoumaric acid with the formation of the previously described 4'-methoxyscutellarein 7-[O-β-D-mannopyranosyl-(1 → 2)-glucopyranoside] (stachannoside, $C_{28}H_{32}O_{16}$, mp 286-289°C, $[\alpha]_D^{20}$ −102°) [1].

Thus, the structure of stachannoaciside C can be represented as 4'-methoxyscutellarein 7-[O-β-D-mannopyranosyl-(1 → 2)-β-D-glucopyranoside] acylated with p-hydroxycoumaric acid.

The position of attachment of the p-hydroxycoumaric acid to the glycoside is being determined.

LITERATURE CITED

1. I. P. Sheremet and N. F. Komissarenko, Khim. Prirodn. Soedin., 7, 583 (1971).
2. I. P. Sheremet and N. F. Komissarenko, Khim. Prirodn. Soedin., 7, 373 (1971).

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