

ODOROBIOSIDE G FROM THE LEAVES OF Digitalis ciliata

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Out of the considerable number of cardenolides of the digitoxigenin group, digiproside, evatromonoside, digitoxigenin bisdigitoxoside, glucoevatromonoside, odoroside H, digitoxin, acetyldigitoxin, deacetyl lanatoside A, and lanatoside A [1-3], have been found previously in the leaves of Digitalis ciliata Trautr.

On partition chromatography of the combined glucosides of the raw material not subjected to fermentation on a column of silica gel, we obtained another cardenolide which gave the colorations characteristic for glycosides of the digitoxin series in the Keller-Kiliani and Svendsen-Jensen reactions. This substance formed white acicular crystals with mp 240-244°C $[\alpha]_D^{20} -6.2^\circ$ (c 0.1; methanol); $\lambda_{\max}^{C_2H_5OH}$ 218 nm (log ϵ 4.16).

The IR spectrum showed absorption bands characteristic for the foxglove cardenolides. A mixture with an authentic sample of odorobioside G showed no depression of the melting point and gave a single spot on a chromatogram.

In the Keller-Kiliani reaction the glycoside did not give the color reaction characteristic for 2-deoxysugars. The absence of digitoxose was also confirmed by a negative Pesez reaction [5].

The enzymatic cleavage of the glycosides gave a monoside mp 228-230°C, $[\alpha]_D^{20} +5.4^\circ$ (c 0.5; methanol) which was characterized as digitoxigenin monodigitaloside, i.e., odoroside H.

Acid hydrolysis of the glycoside with Kiliani's mixture [6] gave the monosaccharides D-glucose and D-digitaloside, and hydrolysis by the Mannich-Siewert method [7] gave digitoxigenin. The presence of D-digitaloside and D-glucose in the carbohydrate moiety was confirmed.

The results obtained led to the conclusion that the cardenolide was digitoxigenin monodigitalosidoglucoside or odorobioside G, which has been described in the literature [8].

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