

A STEROID GLYCOSIDE FROM *Smilax excelsa*

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We [1] have previously reported the isolation and identification of steroid sapogenina from the epigeal part of *Smilax excelsa* (family Liliaceae).

Continuing our study of the glycosides of this plant, we have obtained a less polar substance with the empirical formula  $C_{33}H_{52}O_7$ , mp 220-222°C,  $[\alpha]_D^{20} - 112^\circ$  (c 0.8; ethanol), which gives a positive reaction for steroid glycosides.

The present paper gives information showing the complete structure of this glycoside. On acid hydrolysis the substance split into L-rhamnose and diosgenin. The elementary analysis and also the molecular weight of the glycoside found from the yield of diosgenin show that it is a monoside. The compound obtained was methylated with methyl iodide in the presence of barium oxide. Hydrolysis of the completely methylated glycoside formed 2,3,4-tri-O-methyl-L-rhamnose, which confirms the pyranose form of the L-rhamnose.

The difference in the molecular rotations [2] between the monoside and diosgenin ( $[M]_D$  of the monoside - 627°,  $[M]_D$  of diosgenin - 509°,  $\Delta[M]_D - 118^\circ$ ) showed the  $\alpha$  configuration of the glycosidic center. Thus, the facts given above show that the substance has the structure of diosgenin 3-O- $\alpha$ -L-rhamnopyranoside.

This is the first time that a monoside with such a structure has been isolated from *Smilax excelsa*.

LITERATURE CITED

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2. W. Klyne, *Biochem.*, 47, No. 4, xli (1950).

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