## STRUCTURE OF SAPONASIDE A

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The fractions containing mainly saponaside A (remaining after the isolation of the main saponin from <u>Saponaria</u> <u>officinalis</u>-bouncingbet, fullers' herb [1]), were combined and chromatographed in the butanol-ethanol-water (10: 2:5) system. Saponaside A with mp 132-134° C,  $[\alpha]_D^{20}$  +35° (c 2; methanol) was obtained.

On acid hydrolysis, the aglycone obtained was identified by its melting point, specific rotation, and chromatographic behavior as gypsogenin, while glucose and glucuronic acid were identified by paper chromatography of the hydrolysate.

Treatment of the saponin with 10% aqueous ethanolic alkali (80° C, 5 hr) yielded the  $\beta$ -glucuronoside of gypso-genin [2] with mp 203-205° C (decomp.),  $[\alpha]_D^{20}$  +16° (c 1.6; ethanol).

To elucidate the structure of the carbohydrate component, the saponin was methylated by Kuhn's method [3] and the product was subjected to cleavage. 2,3,4,6-Tetra-O-methyl-D-glucose and methyl 2,3,4-tri-O-methyl-D-glucuronate and also 2,4-di-O-methyl-D-glucose, were identified by chromatography on paper and in a thin layer of silica gel. The dimethyl ether mentioned was isolated in preparative amount and was identified as described previously [4]. When the permethylated saponaside A was cleaved with aluminum hydride and the resulting fragments were subjected to methanolysis, it was found that the 2,4-di-O-methyl-glucose, to which two glucose residues were attached, was bound directly to the carboxyl group of the aglycone and glucuronic acid was bound to the hydroxyl group of the gypsogenin. These results were confirmed by the periodate oxidation of the saponin.

The final structure of saponaside A can be represented in the following way:



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## CARDENOLIDES OF CHEIRANTHUS ALLIONI

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From <u>Cheiranthus allioni</u> Hort (<u>Erysimum asperum</u>, plains erysimum) N. P. Maksyutina and one of us [1-3] has obtained the cardiac glycosides allioside A (erysimin, helveticoside), desglucoerycordin, erycordin, allionin, and fiolin [1-3]. The structures of the last two compounds have been investigated partially.