

A STUDY OF THE TRITERPENES OF EUPHORBIA JAXARTICA

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Khimiya Prirodnykh Soedinenii, Vol. 5, No. 6, p. 599, 1969

UDC 547.913:618.3

We have previously reported the isolation of carbohydrates, alcohols, and acids from E. lamprocarpa Benth. [1].

In this paper we give the results of a study of the triterpene compounds from E. jaxartica Prokh.

The comminuted raw material was extracted with chloroform. The chloroform was distilled off and the residue was dissolved in acetone. The acetone-soluble fraction was treated with petroleum ether and chromatographed on alumina. Elution was then carried out successively with petroleum ether, benzene, acetone, and methanol.

The benzene eluate deposited crystals with mp 137–138° C, $[\alpha]_D^{20} -36^\circ$ (chloroform), with the composition $C_{23}H_{50}O$. The substance formed an O-acetyl derivative with mp 128–129° C, and an O-benzoyl derivative with mp 145–146° C. By a comparison of the IR spectra and a mixed-melting-point determination, the substance was identified as β -sitosterol [2].

From the first ethereal fraction, after the distillation of the solvent, crystals were obtained with mp 113–114° C, with the composition $C_{30}H_{50}O$, $[\alpha]_D^{20} +29.2^\circ$, forming an O-acetyl derivative with mp 104–105° C and an O-benzoyl derivative with mp 135–137° C.

The physicochemical properties of this compound are similar to those of the euphol which has been isolated previously from plants of the genus Euphorbia [3].

A mixture with an authentic sample of euphol gave no depression of the melting point and their IR spectra were identical.

The second ethereal eluate and the acetone eluate yielded crystals with the composition $C_{31}H_{52}O$, mp 126–127° C, $[\alpha]_D^{20} \pm 0^\circ$. The substance formed an O-acetyl derivative with mp 126° C. The properties of this substance were identical with those of euphorbol, also isolated from spurge [4]. A mixture of the substance that we had obtained with euphorbol gave no depression of the melting point, and their IR spectra were identical.

REFERENCES

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25 June 1969

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