

the GLC method [12]. The hydrolyzate was found by PC in the butan-1-ol - benzene - pyridine - water (5 : 1 : 3 : 3) system [13] to contain glucose, arabinose, xylose, and rhamnose.

LITERATURE CITED

1. T. Ya. Cherikovskaya and A. F. Mikheeva, *Apteknoe Delo*, **5**, 61 (1952).
2. V. G. Bukharov and S. P. Shcherbak, *Khim. Prirodn. Soedin.*, 280 (1967).
3. A. S. Saratikov, E. A. Krasnov, G. D. Shadrina, M. I. Zotova, M. F. Nekhoda, R. A. Aksenova, and L. P. Alekseeva, *Izv. Sibirskogo Otd. Akad. Nauk SSSR, Ser. Biol.*, No. 2, 88 (1970).
4. V. V. Vereskovskii and I. I. Chekalinskaya, Abstracts of Lectures at a Seminar on the Physiology and Biochemistry of Phenolic Compounds [in Russian], Tartu (1972), p. 63.
5. V. V. Vereskovskii, I. I. Chekalinskaya, and I. A. Prishchepa, *Vestn. Akad. Nauk Beloruss. SSR, Ser. Biol.*, No. 1, 59 (1974).
6. N. K. Abubakirov, *Khimiya i Zhizn'*, **11**, 57 (1975).
7. E. A. Krasnov, A. S. Saratikov, and G. D. Yakunina, *Khim. Prirodn. Soedin.*, 550 (1976).
8. R. Tschesche and G. Wulff, *Fortsch. Chem. Org. Naturstoffe*, **30**, 461 (1973).
9. E. P. Zinkevich and L. P. Vecherko, in: *Medicinal Plants* [in Russian], Vol. 15 (1969), p. 640.
10. P. K. Kintya, V. N. Mel'nikov, and V. Ya. Chirva, *Khim. Prirodn. Soedin.*, 803 (1974).
11. L. G. Mzhel'skaya, V. K. Yatsyn, and N. K. Abubakirov, *Khim. Prirodn. Soedin.*, 421 (1966).
12. V. V. Krokhmalyuk, in: *Investigations in the Field of Pharmacy* [in Russian], Kishinev (1975), p. 151.
13. A. Ya. Khorlin and A. G. Ven'yaminova, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1447 (1964).

α -AMYRIN ACETATE FROM *Apocynum*

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When ethanolic extracts of the roots of various species of dogbane are concentrated, a light grayish precipitate consisting mainly of triterpene sapogenins usually deposits [1]. Their yield not infrequently amounts to more than 2% of the weight of the air-dry raw material.

The nature of the petroleum-ether-soluble terpenoids of *Apocynum cannabinum* L. has been studied previously [2]. Oleanolic acid, α -amyrin, and lupeol were isolated in crystalline form.

We have now studied the triterpenoid sapogenins of *A. androsaemifolium* L. and, again, those of *A. cannabinum*. Thin-layer chromatography on silica gel [benzene-petroleum ether (3 : 1)] showed that in addition to the compounds mentioned the mixture of triterpenoids contained another substance less polar than the others. Its amount was considerably greater than those of the others. This main component of the triterpenoids of *A. androsaemifolium* L. and *A. cannabinum* was separated from the accompanying compounds by chromatography on silica gel. The column was eluted with benzene. As a result, from 2 g of the combined sapogenins we isolated 1.4 g of a crystalline substance with mp 154-156°C [from chloroform-ethanol (4 : 1)], $[\alpha]_D^{20} + 59.0 \pm 2^\circ$ (c 1.75; benzene).

The IR spectrum of this substance lacked the absorption band of a hydroxy group (3300-3600 cm^{-1}), while the bands of a carbonyl group (1740 cm^{-1}), of a double bond (1645 cm^{-1}), and of a C-O-C bond (1250 cm^{-1}) were distinct. The mass spectrum of the sapogenin had an intense molecular peak, M^+ 468, and the presence of peaks of the fragmentary ions 425 ($M - \text{CH}_3\text{CO}$) and 408 ($M - \text{CH}_3\text{COOH}$) permitted the assumption that the product $\text{C}_{32}\text{H}_{52}\text{O}_2$ that we were investigating was the acetate of lupeol or of α -amyrin. In addition to the fragment

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