

We established that during hydrogenation, and particularly intensively in its initial stage, glyceride isomerization takes place through the intermolecular migration of fatty-acid radicals in the following way: $SSU \rightleftharpoons SUS$ and $SUU \rightleftharpoons USU$, so that the total of the disaturated-monounsaturated and of the monosaturated-diunsaturated glycerides remain constant in all samples. A proof of this is the fall in the ratio of the amount of S-acids in the α, α' -position to their amount in the β -position from 4.59 to 1.09 and a rise in the same ratio for the U-acids from 1.50 to 2.71.

REFERENCES

1. H. P. Kaufmann, *Analyse der Fette und Fettprodukte*, 828, 1958.
2. T. P. Hilditch et al., *J. Amer. Chem. Ind.*, **44**, 43-47, 180-189, 1925; **48**, 46-50, 1929.
3. T. P. Hilditch, *Chemical Constitution of Natural Fats*, 322, 1940.

24 June 1968

Institute of the Chemistry of Plant Substances, AS UzSSR

UDC 577.15/17.582.89

FUROCUMARINS OF DICTAMNUS DASYCARPUS

N. F. Komissarenko

Khimiya Prirodnykh Soedinenii, Vol. 4, No. 6, pp. 377-378, 1968

It is known [1] that some species of the genus *Dictamnus* L. cause dermatitis.

We have studied *D. dasycarpus* Turcz., collected in the region of Khabarovsk in order to investigate the presence of furocoumarins with a photosensitizing activity in it. The substances with a coumarin nature were isolated by the following method: the coumarins were extracted from the comminuted leaves and stems with 50% ethanol, the extract was evaporated to an aqueous residue, and this was treated with chloroform. The chloroform extract was evaporated and transferred to a column of acidic alumina [2]. The column was eluted with petroleum ether containing different concentrations of benzene. Two substances were isolated—(I) and (II).

Psoralen (I) was eluted from the column with petroleum ether containing 30-50% of benzene. A substance, $C_{11}H_6O_3$, crystallized from ethanol in the form of needle-like crystals with mp 161-163° C.

In its physicochemical properties, R_f values in various systems of solvents, fluorescence before and after treatment of a methanolic solution with alkali, and melting point of a mixed sample, substance (I) was identified as psoralen.

Xanthotoxin (II) was eluted from the column with petroleum ether containing 50-70% of benzene, mp 143-145° C (from ethanol), $C_{12}H_8O_4$.

It was identified in a similar manner to psoralen (I), the complete identity of substance (II) with xanthotoxin being shown.

These compounds have been detected by paper chromatography in the fruit of *D. dasycarpus* and in the epigeal part and fruit of *D. gymnastyliis* Stev.

Thus, it may be assumed that the dermatitis caused by these plants are due to the presence of psoralen and xanthotoxin in them.

REFERENCES

1. I. F. Satsiperova, "Present state and prospects of the study of plants containing furocoumarins," collection: *Terpenoids and Coumarins* [in Russian], Moscow-Leningrad, p. 13, 1965.
2. D. G. Kolesnikov, N. F. Komissarenko, and V. T. Chernobai, *Med. prom. SSSR*, no. 12, 32, 1961.

10 June 1968

Khar'kov Chemical and Pharmaceutical Scientific-Research Institute