The carbohydrates were hydrolyzed (2 N  $H_2SO_4$ , 100°C, 8 h for the WSPSs, 4 h for the GFs, and 48 h for the HCs), and the hydrolysates were analyzed by PC and GLC [3]. Information on amounts and monosaccharide compositions are given in Table 1.

The amounts of WSPSs in the different species ranged between 2.18 and 6.96%. They consisted of light cream-colored powders containing no starch, as was shown by the negative reaction with iodine. The hydrolysis products of the WSPSs contained rhamnose, galactose, arabinose, and xylose in various proportions.

The amount of GFs was 1.8-6.92%. They consisted of a syrupy mass in which fructose and glucose were detected as the main components. The alkali-soluble polysaccharides (hemicelluloses A and B; total yields from 0.1 to 3.4%) contained, in addition to those of neutral sugars, galacturonic acid residues. The HCs differed little in qualitative composition but did differ in the ratio of the monosaccharide residues.

Thus, the leaves of plants of the genus <u>Eremus</u> lack mucilaginous polysaccharides of the glucomannan type that are characteristic for the tuberous roots [4].

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## O-[1(3),2-DIACYLGLYCERO-3(1)]-N,N,N-TRIMETHYLHOMOSERINE FROM Nephrochloris salina

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In a study of the lipid composition of the yellow-green microalga <u>Nephrochloris</u> <u>salina</u> collected in Peter the Great Bay (Sea of Japan) and adapted to a synthetic medium by L. A. Pautova (Institute of Ecology of the Volga Basin, Academy of Sciences of the USSR, Tol'yatti), it was established that one of the polar lipids is a compound close on chromatographic behavior to diacylglycerotrimethylhomoserine (DGTS). This compound was isolated from the total lipid extracts with the aid of column and preparative chromatography on silica gel as described in [1, 2].

For its complete identification we recorded its IR, <sup>1</sup>H NMR, and mass spectra which basically were identical with the spectra of DGTS isolated from other sources [1-4].

The fatty acid composition of the DGTS from <u>Nephrochloris</u> salina was investigated with the aid of GLC (wt. %): 16:0 - 9.2; 16:1 - 2.3; 18:0 - 6.6; 18:1 - 47.6;  $18:2\omega6 - 1.3$ ;  $18:3\omega3 - 1.2$ ;  $18:4\omega3 - 29.3$ ;  $22.5\omega3 - 2.5$ ; saturated - 15.8; monoenoic - 49.9; dienoic - 1.3; polyenoic - 33.0. The fatty acids were identified as described previously [5, 6]. The main fatty acids of the DGTS were the 18:1 and  $18:4\omega3$  species.

Thus, DGTS has been isolated from a yellow-green microalga and its physicochemical characteristics and fatty acid composition have been studied.

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PRODUCTS OF TRANSFORMATION OF GOSSYPOL IN METHANOL

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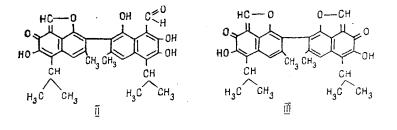
The instability of gossypol in alcoholic solutions has been reported in the literature [1], but there have been practically no investigation to determine the causes of such instability.

We have studied the products of the transformation of gossypol in methanol. With the aid of TLC on Silufol in the benzene-methanol (20:5) system it was found that, on the storage of room temperature of a methanolic solution of pure gossypol [(I),  $R_f$  0.55], substances (II) ( $R_f$  0.37) and (III) ( $R_f$  0.31) giving qualitative reactions for aldehyde groups appeared in addition, and with time the quantitative ratio of all three components (I, II, and III) changed. The spot of (I) gradually diminished, changing into (II) and (III) and finally it was mainly (III) that remained in solution with a very small amount of (II).

A comparison of the behavior (I) in a number of other organic substances showed such transformations only in low-molecular-weight alcohols (methanol, ethanol, and propanol), while they did not take place in acetone, diethyl ether, benzene and chloroform. At the same time, with an increase in the molecular weight of the alcohol the rate of the transformations of gossypol fell. Thus, while (I) in methanol was converted completely into (II) and (III) in a week, in ethanol after the same time a certain amount of gossypol remained and the amount of substance (II) was greater than that of (III); in propanol, only (I) and (II) remained.

In the UV spectra of the products of the transformatin of (I) in methanol a shift of the absorption band of the binaphthyl ring in the direction of shorter wavelengths from 236 to 223 nm and the appearance of three maxima at 249, 261, and 270 nm, absent from the spectrum of gossypol and characteristic for anhydrogossypol [2], were observed. Simultaneously a rise in intensity of the absorption at 261 nm with a fall in that at 376 nm was seen, which was due to a decrease in the amount of aldehyde groups from 96.3 to 10.6% [3].

By preparative TLC it was possible to separate the methanolic products of the transformation of (I) but not to chromatographic purity. According to their UV spectra, the amount of aldehyde groups in (II) was 41.0%, and in (III) 2.2%, which correspond to the hypothesis of a possible dehydration of gossypol [4] with the formation of its anhydro derivatives: with the participation of one aldehyde group for substance (II) and of two aldehyde groups for (III).



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