BRIEF COMMUNICATIONS

QUEBRACHITOL FROM THE LEAVES OF Hippophae rhamnoides

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Continuing investigations of the chemical structure of the leaves of Hippophae rhamnoides (common sea buckthorn), we have detected and isolated quebrachitol – the monomethyl ester of inositol – by the following scheme The air-dry comminuted leaves were extracted with 96% ethanol. The concentrated extract deposited crystals, which were purified on a column of alumina (activity grade III).

From an ethanolic eluate we isolated a substance with mp 192-193°C, $[\alpha]_D^{20}$ −75° (c 1; H_2O) [1]. The IR spectra showed a characteristic band at 2830-2815 cm^{-1}. The number of free hydroxy groups was determined by a titrometric method with potassium periodate. Five hydroxy groups were found. An acetyl derivative was obtained with mp 96-97°C, $[\alpha]_D^{20}$ +25.5° (c 4; chloroform) [2].

Demethylation was carried out in a mixture of liquid phenol, hydriodic acid, and acetic anhydride. The excess of acids was neutralized with AV-17 anion-exchange resin. The product obtained, after recrystallization from ethanol, corresponded to L-inositol with mp 235°C, $[\alpha]_D^{20}$ −65° (c 1; H_2O) [3].

Thus, in its physicochemical properties, IR spectrum, and transformation products the substance isolated was identical with quebrachitol. We are the first to have found quebrachitol in sea buckthorn leaves.

LITERATURE CITED

1. T. Posternak, Helv. Chim. Acta, 36, 50 (1952).
2. T. Posternak, J. Am. Chem. Soc., 62, 2194 (1940).
3. T. Posternak, Helv. Chim. Acta, 19, 1007 (1936).

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THE STRUCTURE OF THE GLUCAN OF Arum korolkovii

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The mixture of polysaccharides isolated from the tubers of Arum korolkovii Regel. [1] was fractionated via the copper complex. After the separation of the glucomannan, the mother alkaline solution was dialyzed against distilled water, two volumes of ethanol were added, and the precipitate was filtered off, washed with ethanol and with acetone, and dried. The yield of polysaccharide (PS) was 0.17% of the weight of the raw material, and it gave a red coloration with iodine.

The homogeneity of the substance was checked by gel chromatography on Sephadex G-50 (Fig. 1) in a 66 × 2 cm column. Fractions with a volume of 3 ml each were collected and analyzed by the phenol/sulfuric

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