(1670 cm^{-1}), and of a double bond (1640 cm^{-1}). The OH group was tertiary, since it was not oxidized by chromium trioxide and did not undergo acetylation. A comparison of the composition, melting point, and IR and NMR spectra with those for tauremisin [3, 10] showed their identity. A mixture of an authentic sample of tauremisin and (IV) gave no depression of the melting point.

Substance (V), $C_{15}H_{22}O_4$, had mp 193-194°C. Its IR spectrum showed the bands of OH groups (3470 and 3450 cm^{-1}), of the CO group of a lactone ring (1753 cm^{-1}), and of a double bond (1647 cm^{-1}). It contained a methylene double bond (singlets at 4.96 and 5.14 ppm of 1 H each), an angular methyl group (singlet 0.76 ppm), and a secondary methyl group (doublet at 1.20 ppm, J = 6 Hz). On acetylation, a diacetate $C_{19}H_{26}O_2$ with mp 179-181°C was formed (giving singlets at 2.0 and 2.08 ppm). The IR spectrum of (V) differed from that of erevanin [11]. However, their NMR spectra differed, mainly by the nature of the splitting of one of the geminal protons of the hydroxy groups. Compound (V) is probably a new stereoisomer of erevanin.

The IR spectra were taken on a UR-20 spectrophotometer in paraffin oil and the NMR spectra on a Varian HA-100D spectrometer in $CDCl_3$. The chemical shifts are given in the δ scale. TMS was used as internal standard.

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GUAIOL AND HYDROXYAROMATIC ACIDS OF *Ferula ferulaeoides*

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From the lipophilic fraction of the roots of *Ferula ferulaeoides* (Steud.) Korov collected in the phase of unripe fruit (Kazakhstan, village of Uch-Aral, Taldy-kurgan oblast on August 18, 1972) we have isolated a compound with the composition $C_{15}H_{26}O$ (M^+ 222), mp 91°C, $[\alpha]_D^{27}$ − 26.3° (c 1.9; MeOH).

The substance was identified (on the basis of its constants, composition, and IR spectrum) as a tertiary sesquiterpene alcohol previously isolated from this botanical species and called shairol. According to Kir'yalov [1], shairol is a bicyclic compound (of the guaiane type) with a tertiary hydroxy group and a difficultly hydrogenatable double bond [1]. We have continued the study of this substance.

Its PMR spectrum (Varian HA-100 D, CCl_4, 0 − HMDS) showed the signals of two tertiary and two quaternary methyl groups at 0.92 (d, 3H, J = 7 Hz), 0.95 (d, 3H, J = 7 Hz), 1.06 (c, 3H), and 1.1 ppm (s, 3H).

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With the given composition, the presence of one tertiary OH group and the corresponding values of the mechanical shifts of the quaternary methyl groups, position C_{11} is the most likely for the hydroxy group. The use of $Eu(DPM)_3$ confirmed this assumption, since with only a small change in the signals of the tertiary methyl groups at C_1 and C_4 (0.93, 0.98 ppm), a pronounced downfield shift of the singlets of the equivalent quaternary methyl groups to 1.42 and 1.43 ppm was observed. In its turn, a strong peak with m/e 59 (60.2%) was observed in the mass spectrum of shairol, confirming the presence of a $CH_3-C(OH)-CH_3$ fragment in its molecule.

The absence of signals from olefinic protons unambiguously established the tetrasubstituted nature of the double bond, which could be only in the C_9-C_{10} position, as is explained by the nature and size of the chemical shifts of the methyl groups at C_1 and C_4. However, such a position corresponds to the structure of guaiol, isolated previously from several tropical species of plants [2, 3]. On the basis of a comparison of the PMR and IR spectra, GLC, TLC, and a mixed melting point with an authentic sample (from the firm IFF), the compound shairol was shown to be identical with guaiol. Thus, the compound described previously under the name of shairol must be regarded as guaiol, and F. ferulaeoides as a source for its isolation (yield 0.5% on the weight of the dry raw material).

This is the first time that guaiol has been isolated from plants of the domestic flora.

In addition to guaiol we isolated β-sitosterol and hydroxyaromatic acids not previously found in plants with the compositions $C_7H_6O_4$ (M^+ 154), mp 208°C, and $C_8H_8O_4$ (M^+ 168), mp 188°C, which were identified on the basis of physicochemical characteristics, methylation, and independent synthesis as β-resorcylic and methoxyresorcylic acids.

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CHRYSARTEMIN B – A SESQUITERPENE LACTONE FROM Handelia trichophylla

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We have previously reported the isolation from the inflorescences of Handelia trichophylla Heimerl., together with other sesquiterpene lactones, of a compound with mp 245°C (decomp.) from a mixture of acetone and ether) [1]. The substance has the composition $C_{15}H_{18}O_5$ (I), mol. wt. 278 (mass spectrometry, elementary analysis), $[\alpha]_D^{20}$ + 20.3° (c 0.7; chloroform). IR spectrum: ν_{max}^{KBr} 3440 (OH), 1745 (carbonyl of a γ-lactone conjugated with an exo-methylene group), 1665^{-1} (C = C).

The hydroxy group of (I) is not acetylated by acetic anhydride under the the usual conditions, which shows its tertiary nature. The two remaining oxygen atoms form epoxide groups. The signals of the protons attached to the carbon atoms of the epoxide ring in the PMR spectrum of (I) (JNM 4H-100, DMSO-d_6, 0 – HMDS) appeared in the form of doublets at 3.35 and 3.58 ppm (^3J = 1 Hz). Methyls on carbon atoms with hydroxy and secondary epoxide groups are represented by two singlets at 0.89 and 1.36 ppm, and the signals of the protons of an exo-methylene group by doublets with centers at 5.54 and 5.98 ppm (^4J = 3 Hz). A triplet with its center at 3.86 ppm (^3J = 10.5 Hz) represents the signal of a proton present in the geminal position to the oxygen of a lactone ring,

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