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A SESQUITERPENE ALCOHOL FROM *Ferula karatavica*

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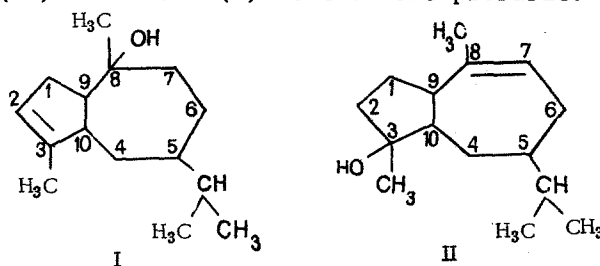
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As the result of the chromatographic separation of the total extractive substances of the roots of *Ferula karatavica* on neutral alumina (activity grade IV), we have isolated a compound not described in the literature with the composition $C_{15}H_{26}O$, M^+ with m/e 222, mp 136-137°C (petroleum ether), which we have called karatavin. Its IR spectrum contains absorption bands at 3320 cm^{-1} (hydroxy group) and 1375 and 1170 cm^{-1} (isopropyl group).

The NMR spectrum of karatavin (Varian JNM-4H 100 MHz, CCl_4 , 0 - TMS, δ scale) contains the signals of protons at 0.88 and 0.79 ppm ($HC(CH_3)_2$, 3 H each, doublet, $J = 7$ Hz), 1.21 ppm ($HO-C-CH_3$, 3 H, singlet), 1.62 ppm ($C=C-CH_3$, 3 H, singlet), and 5.57 ppm ($=CH$, 1 H, doublet, $J = 4$ Hz).

According to its composition and IR spectrum, the karatavin molecule contains an alcoholic group which does not undergo oxidation or acetylation. The PMR spectrum of this compound lacks the signal of a proton geminal to a hydroxy group. Consequently, the alcoholic group is tertiary.

A further comparative study of the spectral characteristics of karatavin with those of guaiol [1-3] shows that these compounds apparently have identical carbon skeletons but differ from one another in the positions of the double bond and of the tertiary alcohol group. On the basis of these facts we propose for karatavin the structure of 8-hydroxyguai-2-ene (I) or of 3-hydroxyguai-7-ene (II). Formula (I) is the more probable.



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