LACTONES OF Jurinea maxima

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The sesquiterpene lactones of plants of the genus <u>Jurinea</u> (family Compositae) have been studied only in the case of two species [1, 2].

We have studied the epigeal part of <u>Jurinea maxima</u> C. Winkl. collected in May, 1972 in the Samarkand oblast. Alkaloids have been found in this plant previously [3]. The raw material was extracted with hot water and the aqueous extracts were extracted with chloroform, the evaporation of which yielded 0.27% of extractive substances. This mixture was separated on neutral alumina (activity grade IV). The fractions eluted with benzene—petroleum ether deposited a new lactone with the composition $C_{15}H_{20}O_4$, mp 177-178°C, mol. wt. 264 (mass spectrometry), which we have called maximolide.

The IR spectrum of maximolide showed the absorption bands of the stretching vibrations of an OH group (3510 cm $^{-1}$), of a γ -lactone carbonyl (1758 cm $^{-1}$), of a double bond (1650 cm $^{-1}$), and of a carbonyl group in a five-membered ring (1743 cm $^{-1}$). The presence of the latter was also confirmed by an absorption maximum at 280 nm (log ϵ 2.0) in the UV spectrum. The NMR spectrum of maximolide (δ scale) contained doublets due to secondary methyl groups with centers at 1.16 and 1.37 ppm (J=7.8 Hz) and singlets at 4.72 and 5.05 ppm corresponding to methylene protons. The lactone proton was represented in the form of a triplet at 3.95 ppm (J=10 Hz).

These facts enable maximolide to be assigned to the sesquiterpene lactones of the guaiane type.

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