spectrum shows the presence of two tertiary methyls, a lactone proton, an exomethylene group, and two hydroxyls. It forms a monoacetyl derivative with mp 216-219°C. The facts obtained show the possible identity of lactone (V) with rupin A [3].

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LACTONES OF Artemisia ashurbajevii

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The sesquiterpenes from the epigeal part of Artemisia ashurbajevii C. Winki, collected in July at Chonkemine, Kirghiz SSR, were extracted with chloroform. The concentrated extract was treated with 60% ethanol. The precipitate that deposited was filtered off, and the filtrate was extracted with chloroform. The resin obtained after the evaporation of the chloroform was separated on a column of neutral alumina (activity grade IV) by successive elution with benzene–petroleum ether (in ratios of 1 : 7 and 7 : 3), benzene, and benzene containing 2% of acetone.

The benzene fractions yielded a colorless crystalline substance with the composition $C_{15}H_{20}O_3$ (I), mp 189°C (ethyl acetate–hexane); mol. wt. 248 (mass spectrometry), and from the fraction eluted by benzene–acetone we isolated a substance with the composition $C_{15}H_{20}O_4$ (II), mp 195-197°C (benzene–methanol); mol. wt. 264 (mass spectrometry). On TLC (alumina) in the benzene–methanol (9:1) system, substance (I) and (II) gave spots with R_f 0.57 and 0.41, respectively.

The IR spectrum of (I) (tablets with KBr) showed absorption bands at 3480 cm^{-1} (OH group), 1745 cm^{-1} (carbonyl of a γ-lactone), and 1662 cm^{-1} (C=C bond).

The IR spectrum of (II) showed absorption bands at 1765 cm^{-1} (carbonyl of a γ-lactone), 1653 and 1668 cm^{-1} (C=C bond), and 3450-3150 cm^{-1} (OH group). The presence of lactone rings in (I) and (II) is also confirmed by the fact that the substance dissolved on heating in dilute alkalis and when the solutions were acidified they were recovered unchanged. Substance (I) was identified as hanphyllin [1] by direct comparison. The properties of (II) corresponded to those of granilin [2], as was confirmed by comparing its IR spectrum with that of a sample of granilin isolated from Inula grandis and by a mixed melting point.

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