

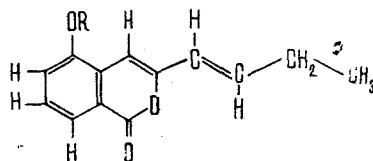
From a chloroform extract of the roots of *Artemisia dracuncululus* L. (collected in August, 1975, at Kara-chukhur, Alai valley, Oshk oblast), by chromatography on a column of alumina and silica gel we have isolated artemidin [1], artemidiol [2], herniarin [3], and a new isocoumarin with the composition $C_{13}H_{12}O_3$, mp 180–181°C (from benzene), M^+ 216, R_f 0.7 on silica gel [petroleum ether–diethyl ether (1:1)], which we have called artemidinol (I).

Artemidinol has a UV spectrum that is characteristic for isocoumarins: λ_{max} 250, 284, 294, 307, and 365 nm ($\log \epsilon$ 4.25, 4.01, 4.11, 4.08, and 3.80). Its IR spectrum shows the absorption bands of a hydroxy group (3180 cm^{-1}) of an isocoumarin nucleus (1690, 1645, 1600, and 1580 cm^{-1}), and of a trans-disubstituted double bond (970 cm^{-1}).

In the NMR spectrum of the compound taken on a JNM-4H-100 instrument in deuterated pyridine (the chemical shifts are recorded in the τ scale from the signal of HMDS taken as 10), there are, in the weak field, a one-proton quartet at 2.08 ppm ($C_8\text{-H}$), $J_{ortho} = 7$, $J_{meta} = 1.5\text{ Hz}$, a three-proton multiplet with its center at 2.78 ppm, and a one-proton singlet at 3.06 ppm relating to the protons of a benzene ring, a hydroxy group, and an α -pyrone ring. In addition, there is a one-proton sextet at 3.6 ppm ($J_1 = 16$ and $J_2 = 6.5\text{ Hz}$) and a one-proton doublet at 4.02 ppm ($J = 16\text{ Hz}$). These two signals relate to the protons on a double bond. The spin-spin coupling constant of 16 Hz shows the trans arrangement and that at 6.5 Hz shows that there is a CH_2 group adjacent to the double bond (quintet, 8.03 ppm, $J = 6.5\text{ Hz}$). This methylene group is connected with a methyl group (triplet, 9.19 ppm, $J = 6.5\text{ Hz}$). Consequently, the side chain of artemidinol, like that of artemidin

has the structure $\begin{array}{c} \text{H} \\ | \\ -\text{C}=\text{C}-\text{CH}_2-\text{CH}_3 \\ | \\ \text{H} \end{array}$. It is located at C_3 , since the NMR spectrum of acetyl-
artemidinol (II), unlike that of (I) shows a singlet at 3.48 ppm. This corresponds to a proton at C_4 of an α -pyrone ring.

The splitting in the NMR spectrum of (I) of the signal of the C_8 proton with $J = 7$ and $J = 1.5\text{ Hz}$ shows the presence of protons at C_7 and C_6 . Then the hydroxy group can be present only at C_5 , and artemidinol must have structure (I) and its acetate structure (II):



I. $R = H$
II. $R = Ac$

LITERATURE CITED

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2. A. Mallabaev and G. P. Sidyakin, *Khim. Prirodn. Soedin.*, 720 (1974).
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