On the basis of the physicochemical properties of the initial substance, the products of its cleavage, and also results of parallel chromatography with an authentic sample of harpagide acetate obtained from V. I. Litvinenko [3], the iridoid isolated with R_f 0.51 was identified as harpagide acetate.

Harpagide – a substance with R_f 0.41 – was isolated in the form of a white amorphous powder with the empirical formula $C_{15}H_{24}O_9$, $[\alpha]_D^{20}-136°$ (c 0.1; ethanol), which proved to be identical with the deacyl derivative obtained from harpagide acetate.

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ALANTOLACTONE FROM Inula grandis

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From fresh rosette leaves of Inula grandis Schrenk. [1, 2], collected on May 10, 1974 on the slopes of the foothills of the Khirgiz range, by extraction with chloroform followed by chromatography on alumina, from a petroleum ether–benzene (7:3) fraction we have isolated a substance (I) with mp 76-78°C. IR spectrum: 1754 cm^{-1} (γ-lactone), 1645, 893, 885, and 813 cm^{-1} (>C=CH_2), and 862 cm^{-1} (–CH=C<). NMR spectrum (ppm): doublets at 6.04 and 5.48 (J = 2 Hz) (exocyclic methylene on a lactone ring); 5.00 (J = 4 Hz) (H-8 lactone proton); singlet at 3.43 (proton in the vicinal position to a lactone; H-7); singlet at 1.10 (3H, methyl at C_{10}); doublet at 1.00 ppm (J = 7 Hz, methyl at C_4).

Substance (I) has also been isolated from the rosette leaves of Inula grandis cultivated in the botanical gardens of the Academy of Sciences of the Khirgiz SSR.

From the roots of Inula grandis in the fruit-bearing stage (5-yr growth) cultivated in the botanical garden we have isolated a substance (II) with mp 113-115°C. IR spectrum (cm^{-1}): 1770 (γ-lactone), 1645, 890 (> C = CH_2), 826 (> C = CH_2). NMR spectrum (ppm): doublets at 5.96 and 5.45 (J = 1.5 Hz) and 4.62 and 4.30 (J = 2 Hz) (exocyclic methylene groups on a lactone ring), multiplet at 4.40 (h-8 lactone proton), sextet with its center at 2.82 ($J\Sigma$ = 32 Hz) (H), singlet at 0.75 (3H, methyl at C_{10}).

The results of a comparison of the physicochemical properties with literature information permitted the assumption that substance (I) is alantolactone and (II) isoalantolactone [3-8].

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