A CHEMICAL STUDY OF THE ROOTS OF PRANGOS ORNATA KUZM.

G. A. Kuznetsova and L. M. Belenovskaya

Khimiya Prirodnykh Soedinenii, Vol. 1, No. 6, p. 430, 1965

We have investigated the roots of Prangos ornata Kuzm., collected in Central Asia in the region of Akhangaran in 1964.

Chromatography on alumina (activity grade III, 1.5 kg) of a chloroform extract (68 g) of the roots (5 kg) yielded five coumarin derivatives. From the results of elementary analysis, the similarity of their UV and IR spectra, the absence of depressions of the melting points of mixtures with authentic samples [1], these substances were identified as deltoin, isoimperatorin, imperatorin, alloimperatorin, and oxypeucedanin (table).

Substance	Composition	Mp, °C	IR spectrum, cm^{-1}
Deltoin	$C_{19}H_{20}O_5$	104—105	1725, 1629, 1565
Isoimperatorin	$C_{16}H_{14}O_4$	108—109	1728, 1628, 1607
Imperatorin	$C_{16}H_{14}O_4$	103—104	1718, 1625, 1587
Alloimperatorin	$C_{16}H_{14}O_4$	225—228	1722, 1593
Oxypeucedanin	$C_{16}H_{14}O_5$	142—143	1725, 1618, 1604, 1578

The identity of the substance having mp 108-109°C with isoimperatorin was confirmed by the production of bergaptol on vacuum distillation. On treatment with 10% sulfuric acid, the substance with mp 142-143°C gave a compound with mp 146-147°C corresponding to iso-oxypeucedanin (oxime with mp 192-194°C) [2].

REFERENCES

1. G. A. Kuznetsova, L. M. Belenovskaya, and A. Z. Abyshev, IX Mendeleev Conference on General and Applied Chemistry, Chemistry and Technology of Natural Compounds Section [in Russian], 272, 1965.

2. G. K. Nikonov, ZhOKh, 31, 305, 1961.

5 July 1965

Komarov Botanical Institute AS USSR