

BRIEF COMMUNICATIONS

D-MANNITOL FROM LIBANOTIS BUCHTARMENSIS

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Libanotis buchtarmensis (Fisch.) D. C. family Umbelliferae has not previously been studied chemically. We have investigated the roots of the plant collected in August 1962 in the valley of the R. Katuni, Gorno-Altai Autonomous Region.

One hundred grams of the ground roots was extracted with ethanol. This gave 14.8 g of a brown solid crystalline mass. Crystallization from alcohol yielded a colorless substance with mp 165°-166° C.

The elemental analysis, quantitative reactions, and IR spectrum of the compound showed that it was a polyhydric alcohol. The melting point [1] and the IR spectrum corresponded with those reported for D-mannitol [2]. The identity of the substance isolated with D-mannitol was confirmed by a mixed melting point with an authentic sample.

The substance was characterized in the form of the hexaacetate, mp 120°-121° C (from ethanol); literature: mp 122° C [3]. $[\alpha]_D^{20} + 21.3^\circ$ (c 2; in chloroform); literature: $[\alpha]_D^{25} 21.53^\circ$ [4].

REFERENCES

1. J. M. Braham, J. Am. Chem. Soc., 41, 1707, 1919.
2. Documentation of Molecular Spectroscopy System, Butterworth's London and Verlag Chemie, Weinheim-Bergstr., no. 4241.
3. E. Pascu and F. V. Rich, J. Am. Chem. Soc., 55, 2023, 1933.
4. W. M. Higgins and M. F. W. Dunker, J. Am. Chem. Soc., 67, 153, 1945.

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OSTHOLE IN THE SEEDS OF PASTINACA SATIVA

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The coumarin osthole has been found in the seeds of Pastinaca sativa L. (parsnip) in addition to furocoumarin compounds [1-4]. This substance was isolated in the crystalline state by the chromatography on alumina of a dichloroethane extract. Petroleum ether was used as the eluant.

Osthole is also present in considerable amounts in the waste material from the production of pastinacin and beroksan. Osthole is also obtained from these wastes by chromatography on acidic alumina. The osthole obtained is a crystalline substance with mp 82°-84° C, after recrystallization from ethanol mp 85° C, R_f 0.88-0.90; it is readily soluble in ether, chloroform, and ethanol, and sparingly soluble in water.

Found, %: C 73.93, 73.67; H 6.66, 6.45. Calculated for C₁₅H₁₆O₃, %: C 73.77; H 6.55.

The analysis of the seeds of mine parsnip varieties by paper chromatography in the petroleum ether-formamide and cyclohexane-formamide systems showed that osthole was present in all the samples of parsnip examined. The different amounts present in the various varieties of parsnip can be estimated from the intensities of the spots. The greatest amount was found in two varieties: Student and Lange grosse weisse, which can be recommended as raw material for the production of osthole.

Osthole has previously been isolated from a number of plants of the family Umbelliferae [5-13] and has been recommended for clinical trials [14].