

Composition of the Essential Oil of *Seseli buchtormense* (Fisch. ex Sprengel) W. Koch from Altai

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Essential oil from 5 samples of freshly collected whole flowering tops of *Seseli buchtormense* (Fisch. ex Sprengel) W. Koch (whole flowering plants) growing wild in Altai region was studied by GC-MS using a quadrupole MS (Hewlett-Packard MSD 5971) coupled to a HP 5890/II GC fitted with an HP-5 fused silica column (30 m×0.25 mm, film thickness 0.25 µm, (5%)-diphenyl-(95%)-dimethylsiloxane copolymer). Samples of the crude oils were analyzed “as is” by GC-MS followed by analysis of the fractions to complete identification. Fractionation was carried out as follows. A sample of the crude oil (10 ml) was slowly heated (40°C→100°C) at vigorous stirring in vacuum (20→2 mm Hg) to distill off the most volatile components. The residue was then fractionized by column chromatography (SiO₂, hexane-Me-O-*tert*-Bu) to give sesquiterpene hydrocarbons, low polar components (ethers, esters, ketones, etc.) and polar compounds (alcohols). Percentages were calculated from GC peak areas without using a correction factor. Oil components were identified by a combination of retention times and standard mass spectra. Most of the components were identified using standard mass-spectra, retention indexes and high-field ¹H and ¹³C NMR spectra.

The main constituents of the oils were α-pinene (5-15%), sabinene (17-25%), β-pinene (1-2%), β-myrcene (3-7%), α-phellandrene (0.1-1.5%), limonene (1-5%), β-phellandrene (2-7%), *cis*-β-ocimene (1-4%), γ-terpinene (0.5-1.2%), fenchone (1-7%), linalool (0.3-2%), terpineol-4 (1-1.5%), germacrene D (2-4%), α-muurolene (1-1.5%), γ-cadinene (0-2%), δ-cadinene (3-6%), kessane (0-2%), *E*-nerolidol (5-12%), germacrene D-4-ol (3-5%), *epi*-α-cadinol (1-3%), α-cadinol (2-3%), α-bisabolol (0-8%), 6-α-hydroxy-germacra-1(10),4-diene (2-5%).