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Article *in* Journal of Essential Oil Research · December 2011

DOI: 10.1080/10412905.1999.9701059

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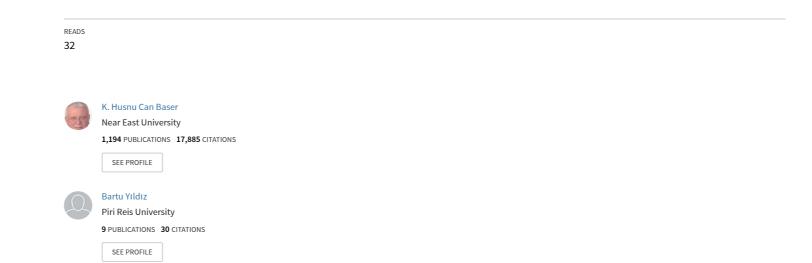
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Composition of the Essential Oil of Nepeta trachonitica Post from Turkey

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Abstract

Water-distilled essential oil from the aerial parts of *Nepeta trachonitica* was analyzed by GC/MS. Sixty seven components were characterized representing 86.7% of the total components detected with spathulenol (22.2%) as the major constituent.

Key Word Index

Nepeta trachonitica, Labiatae, essential oil composition, spathulenol.

Plant Name

Nepeta trachonitica Post (1).

Source

Plant material was collected from Malatya: Beydagi on 10 August 1996 at an altitude of 2200 m in Turkey. Voucher specimens are kept at the Herbarium of the Faculty of Pharmacy, Anadolu University in Eskisehir, Turkey (ESSE 12163).

Plant Part

Air dried aerial parts were subjected to hydrodistillation for 3 h using a Clevenger type apparatus to produce oil in 0.09% yield.

Previous Work

None.

Present Work

The oil was analyzed by GC/MS using a Hewlett-Packard GCD system. Innowax FSC column (60 m x 0.25 mm) was used with helium as carrier gas. GC oven temperature was kept at 60°C for 10 min and programmed to 220°C at a rate of 4°C/min, and then kept constant at 220°C for 10 min and programmed to 240°C at a rate of 1°C/min. Split flow was adjusted at 50 mL/min. The injector and

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Received: December 1996 Accepted: January 1997 detector temperatures were at 250°C. MS were taken at 70 eV. Mass range was from m/z 35 to 425. Library search was carried out using Wiley GC/MS Library and TBAM Library of Essential Oil Constituents. Relative percentage amounts were calculated from Total Ion Chromatogram by the computer. The compounds identified in the oil are as follows:

 α -pinene (0.5%) phellandral (0.2%) α -thujene (0.2%) bicyclogermacrene (3.5%) β-pinene (1.9%) naphthalene (0.3%) sabinene (4.1%) δ -cadinene (0.2%) α-terpinene (0.2%) γ-cadinene (1.0%) limonene (0.9%) cis-sabinol (0.4%) 7-terpinene (0.6%) cuminaldehyde (0.5%) p-cymene (0.5%) myrtenol (1.5%) terpinolene (0.1%) p-mentha-1,5-dien-7-ol (0.5%) (E)-2-hexenyl butyrate (1.4%) trans-carveol (0.4%) (Z)-3-hexenyl 2-methylbutyrate (0.6%) geraniol (0.3%) (Z)-3-hexenyl isovalerate (1.3%) p-cymen-8-ol (0.5%) α-campholenal (0.3%) (E)-geranylacetone (0.3%) **β**-bourbonene (0.6%) benzyl isovalerate (0.3%) linalool (0.7%) β -ionone (0.2%) cis-sabinene hydrate (0.5%) caryophyllene oxide (1.1%) trans-p-menth-2-en-1-ol (0.3%) norbourbonone* (0.6%) pinocarvone (0.6%) (E)-nerolidol (0.3%) terpinen-4-ol (5.6%) p-mentha-1,4-dien-7-ol (0.9%) octyl butyrate (0.3%) germacrene D-4-ol (0.3%) cis-p-menth-2,8-dien-1-ol (0.3%) cubenol (0.2%) octyl 2-methylbutyrate (0.2%) globulol (0.2%) thuj-3-en-10-al (0.2%) cumin alcohol (0.9%) myrtenal (1.1%) spathulenol (22.2%) sabinaketone (0.2%) T-cadinol (3.5%) octyl isovalerate (0.2%) T-muurolol (0.3%) cis-verbenol (0.3%) carvacrol (2.9%) trans-pinocarveol (1.4%) trans-α-bergamotol (1.2%) (E)- β -farnesene (0.5%) α -cadinol (1.3%) trans-verbenol (1.4%) decanoic acid (0.4%) p-mentha-1,8-dien-4-ol (0.4%) benzyl benzoate (0.6%) α-terpineol (0.6%) tetradecanoic acid (1.0%) trans-sabinol (0.3%) hexadecanoic acid (3.4%) germacrene D (7.4%)

Reference

1. P. H. Davis (Edit.), Flora of Turkey and the East Aegean Islands, p 279, University Press, Edinburgh, Vol. 7 (1982).

^{*} Norbourbonone (= 15-nor-4-bourbonone = 11-norbourbonan-1-one), $C_{15}H_{22}O$, MW 206; m/z 164(7), 149(3), 123(19), 93(7), 81(100), 80(20), 79(14), 55(10), 53(6), 41(14)