

PP87. Chemical composition and antioxidant activity of the essential oil of *Artemisia alba* Turra

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The essential oil of the fresh plant material of *Artemisia alba* Turra (collected in Dimitrovgrad, Serbia) was hydrodistilled using a Clevenger-type apparatus and the obtained essential oil was analyzed by GC and GC-MS. The yield of the essential oil was 0.057%, w/w (based on the weight of fresh plant material). Two hundred and eleven different constituents were identified in the volatile fraction of *A. alba* amounting to 98.3% of the total oil. The major volatiles detected were germacrene D (27.8%), *trans-p*-mentha-2,8-dien-1-ol (13.3%), an isomer of santalone (7.8%) and 1,8-cineole (5.6%). The antioxidant activity was screened using two different tests: 2,2-diphenyl-1-picrylhydrazyl radical scavenging assay (DPPH) [1] and 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid) radical cation decolorization assay (ABTS) [2] and the results were quantified as Trolox equivalents (TE) per milligram of the essential oil weight. The antioxidant activity determined by the DPPH assay was 23.3 µg TE/mg of the essential oil, whereas ABTS was 4.5 µg TE/mg of the essential oil. Double bonds existing in the dominant compounds of the essential oil (germacrene D, *trans-p*-mentha-2,8-dien-1-ol) could potentially be free radical binders, which can explain the scavenging activity of the essential oil by free radical inhibition.

References:

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[2] Re, R. et al., 1999. Free Radical Biol. Med. 26, 1231–1237.

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