

**B063 Application of solid-phase microextraction (SPME) with GC-MS for investigation of the composition of the essential oil from herb and fruits of *Peucedanum tauricum* Bieb.**

*K. Glowniak*<sup>a</sup>, *M. Bartnik*<sup>a</sup> and *M. Mardarowicz*<sup>b</sup>

<sup>a</sup> Department of Pharmacognosy, Medical University, Peowiaków 12 St., 20-007 Lublin, Poland. <sup>b</sup> Department of Chemical Physics, Faculty of Chemistry, Maria Curie-Skłodowska University, sq. M. Curie-Skłodowskiej 3, 20-031 Lublin, Poland.

Solid-phase microextraction (SPME), a new sample preparation technique was developed by Arthur and Pawliszyn (1). The main advantages of SPME are: small sample volume, solventless, simplicity, rapidity, high sensitivity if used with GC, and high selectivity if connected to GC-MS (2,3).

Investigations of the composition of essential oil from non crushed and crushed (*in-situ*) dried herb and mature dried fruits of *Peucedanum tauricum* Bieb. (Umbelliferae) collected by SPME technique in comparison with the composition of the essential oil obtained from dried herb and dried mature fruits of this plant with hydrodistillation with *m*-xylene, was the aim of this work. Composition of obtained essential oils was monitored by GC-MS (FID). The same compounds (above 90% sesquiterpenes) were detected (GC-MS) by both techniques. SPME technique can be used for a quick determination of qualitative composition of essential oils with small amounts of plant material, without tedious extraction procedures or hydrodistillation techniques and chemical solvents.

**References:** 1. Arthur C., Pawliszyn J. (1990) Anal. Chem. 62: 2145 - 2148. 2. Junting L. et al. (1998) Forensic Sci. Int. 97: 93 - 100. 3. de Fátima Apendurada M. (2000) J. Chromatogr. A 889: 3-14.

**B064 Investigations on the quality of volatile oils from the chosen coriander lines**

*E. Sarer*<sup>a</sup>, *A. Can Agca*<sup>a</sup> and *N. Aslan*<sup>b</sup>

<sup>a</sup> Department of Pharmacognosy, Faculty of Pharmacy, University of Ankara, 06100, Ankara, Turkey. <sup>b</sup> Department of Agronomy, Faculty of Agriculture, University of Ankara, 06110, Ankara, Turkey.

*Coriandrum sativum* L. (Apiaceae) is an aromatic, annual, herbaceous plant known as coriander. Coriander is native to Southern Europe and Asia. It is widely cultivated in many countries favored by a suitable climate. Coriander is well-known as a culinary herb and its fruits and volatile oil, which is obtained from the fruits, are used in food industry, in perfumes, in flavoring alcoholic beverages and in medical preparations such as tonics and stomachics. Coriander has also several pharmacological activities (antifertility, antihyperglycemic, antihyperlipidemic, antioxidant, hypotensive, anticonvulsant, etc.). The volatile oil of coriander is characterized by high amounts of linalool, depending on geographical locations and other factors.

In the Turkish flora the genus *Coriandrum* is represented by two species; *C. sativum* and *C. tordylium*. *C. sativum* is also cultivated in different regions of Turkey. The fruits of the plant are used in food industry and as a folk remedy.

In this study, we investigated the quality of the oils of the winter cultures from chosen ten coriander lines, belonging to different origins. The plant materials were collected from the Botanical Garden of Faculty of Agriculture in Ankara, in September 2000 and 2001.

The dried and crushed fruits of ten samples were water-distilled in a Clevenger type apparatus for 3 hours. And then the oils were analyzed by GC and GC/MS using a fused-silica capillary column coated with OV-1. The constituents were identified by comparing their retention times and Kovats indices with those of authentic reference compounds and by comparison with published MS data and from Computer library searches.

Yields of the volatile oils of the fruits from the chosen coriander lines were 0.28-0.77%. The major component of the different samples was linalool (71.1-79.6%). The other components of the volatile oils of the samples differed from each other according to the origin.