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PP99. The chemical composition of chives (*Allium schoenoprasum* L.) essential oil

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Allium schoenoprasum L. (Alliaceae), commonly called chives, is a small bulbous perennial, wild-growing or cultivated, plant widespread in Europe, Asia, and North America. It is commonly used as a culinary herb to impart mild onion flavor to many foods, including salads, soups, vegetables, and sauces. Also, chives are often cultivated in gardens due to their ornamental, as well as insect-repelling properties. However, there are only scarce literature data on the chemical composition of *A. schoenoprasum* essential oil [1,2].

Herein, we performed thorough GC and GC-MS analysis of the essential oil obtained by hydrodistillation of the above-ground parts of *A. schoenoprasum* collected on the Šar Mountains. The analyses of the essential oil revealed that the main class of constituents was the organosulfur compounds representing around 60% of the analyzed oil. Among them, di- and trisulfides bearing a propyl, and alkyl- or alkenyl groups were the most abundant ones. The major component of the oil was methyl propyl trisulfide (8.3%), followed by (*E*)-1-propenyl propyl disulfide (4.6%), dipropyl trisulfide (4.6%), (*E*)-1-propenyl propyl trisulfide (4.5%), and dipropyl disulfide (3.8%). The qualitative composition of the analyzed oil was in a general agreement with the previously reported data [1,2], although the relative abundance of specific compounds differed. A peculiarity about the analyzed oil was that the oil was rich in hetero-penta-/hexa-/hepta- cyclic compounds (containing one or more sulfur and/or nitrogen atoms). Among these, stereoisomeric 4,6-diethyl-1,2,3,5-tetrathianes were the most abundant ones.

References:
[1] Hashimoto, S. et al., 1983. J. Food Sci. 48, 1858–1859.
[2] Mnayer, D. et al., 2014. Molecules 19, 20034–20053.

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