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BOOK OF ABSTRACTS

(ed. Judit Hohmann)

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Isolation and evaluation of antimicrobial properties of non-volatile compounds from sweet marjoram

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Sweet marjoram (*Origanum majorana* L.) is a perennial plant that is extensively utilized in the traditional and modern therapy, and as a spice and condiment in many cuisines to add flavour to dishes. In the folk medicine, sweet marjoram was used for the treatment of respiratory or gastrointestinal disorders and urinary tract infection and also as a spasmolytic, antirheumatic, diuretic and antiasthmatic remedy. *O. majorana* is cultivated in the regions of Central Europe, Egypt and Morocco. In many studies, EO and its constituents, were investigated for antibacterial and antifungal effects on a variety of bacterial and fungal strains, including some drug-resistant clinical isolates [1,2]. Because there is no reference in the literature regarding the antibacterial and antifungal effects of the compounds of *O. majorana* outside EO and its constituents, the present study was designed to examine the antimicrobial activity of non-volatile compounds.

In the present study, the chloroform extract of sweet marjoram was subjected to a bioactivity-guided isolation process, including OCC, VLC, RPC and HPLC methods, resulting eight pure compounds. Their structures were determined by 1D and 2D NMR and HRESIMS experiments. The compounds belong to the groups of phenolic compounds and terpenoids, among them four previously undescribed ones. The isolated compounds were investigated for antibacterial, antifungal, biofilm formation inhibitory and bacterial efflux pump inhibitory activities.

References

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