

Analysis of the Volatile Organic Compounds of Tillandsia Flowers by HS-SPME/GC-MS

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Abstract : Volatile organic compounds (VOCs) emitted by flowers play an important role in plant ecology. However, the Tillandsia genus has been scarcely studied according to the VOCs emitted by flowers. Tillandsia are epiphytic flowering plants belonging to the Bromeliaceae family. The VOCs composition of twelve unscented and two faint-scented Tillandsia species was studied. The headspace solid phase microextraction coupled with gas chromatography combined with mass spectrometry method was used to explore the chemical diversity of the VOCs. This study allowed the identification of 65 VOCs among the fourteen species, and between six to twenty-five compounds were identified in each of the species.

Keywords : tillandsia, headspace solid phase microextraction (HS-SPME), gas chromatography-mass spectrometry (GC-MS), scentless flowers, volatile organic compounds (VOCs), PCA analysis, heatmap

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