Supporting Information

Rapid Detection of Volatile Organic Compounds Emitted from Plants by Multicapillary Column-Ion Mobility Spectrometry

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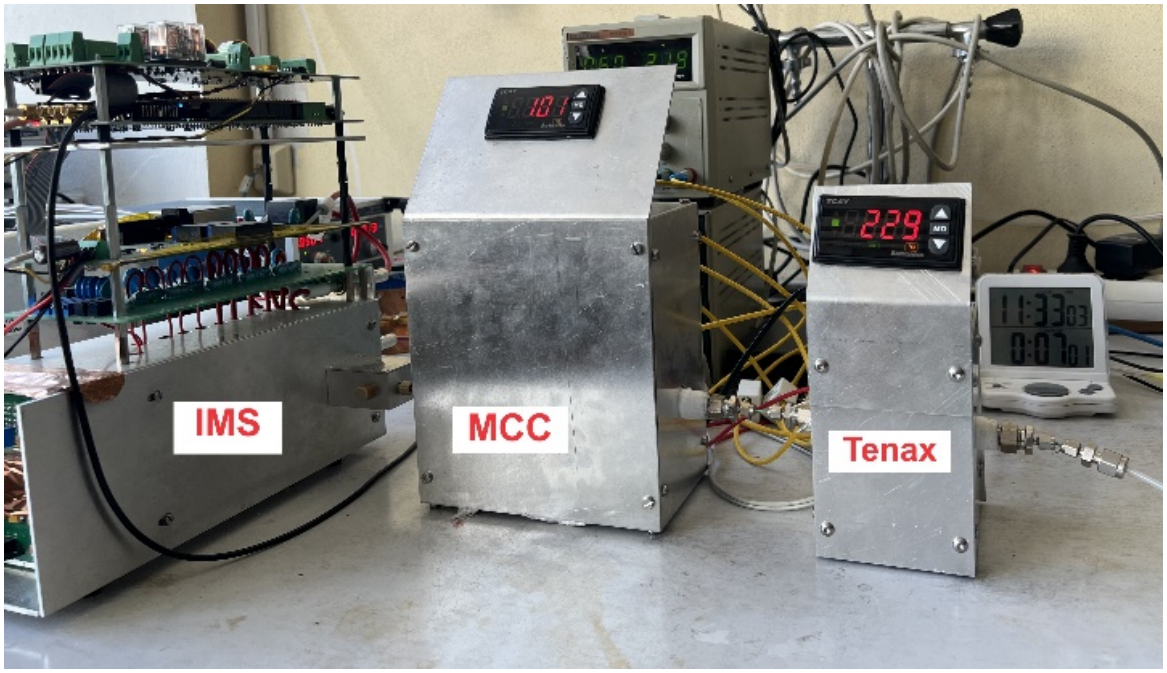

Figure S1. Experimental set up for detection of VOCs by Tenax-MCC-IMS. The VOCs are desorbed from the Tenax surface at 230 °C and entered into a MCC column with temperature of 110 °C via a flow of air with flow rate of 70 ml/min. Then, the separated VOCs are entered into the IMS.

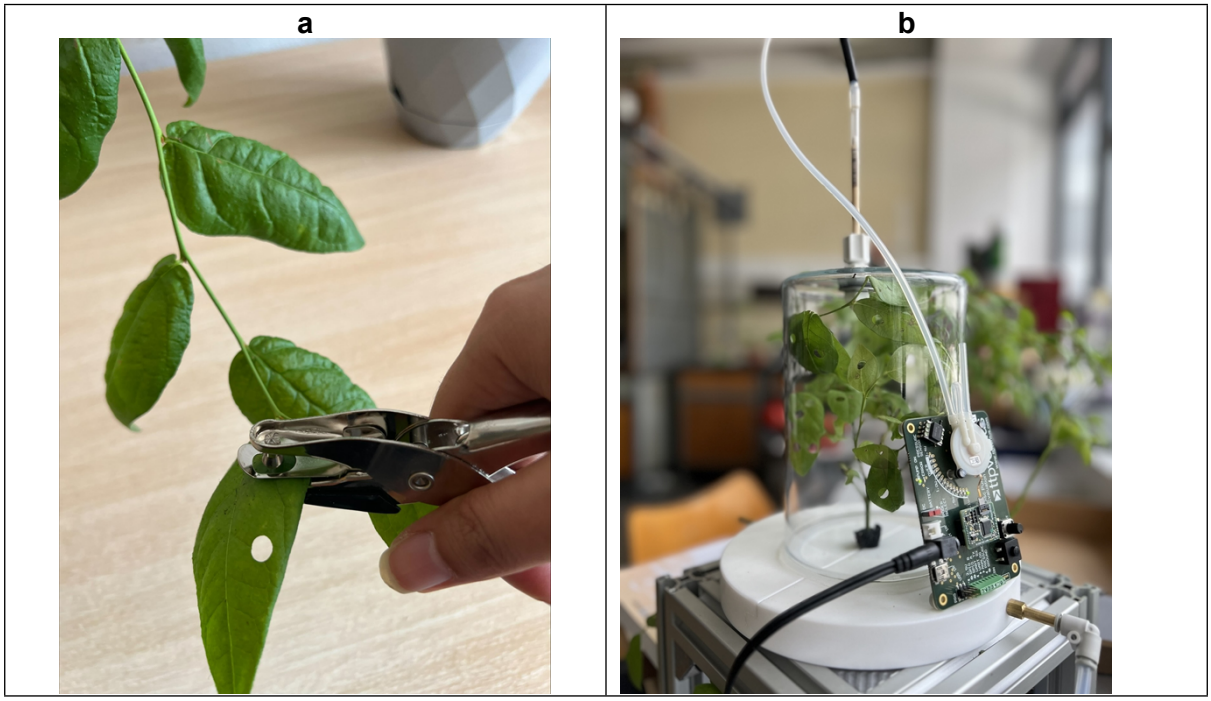

Figure S2. (a) Punching of the blueberry leaves to create holes with diameter of 6 mm. (b) The experimental setup for collecting of the VOCs emitted from the punched leaves of blueberry.

Figure S3. (a) Aphid insects were put on the blueberry leaves and (b) the blueberry plants were stored in a box with lace wall.

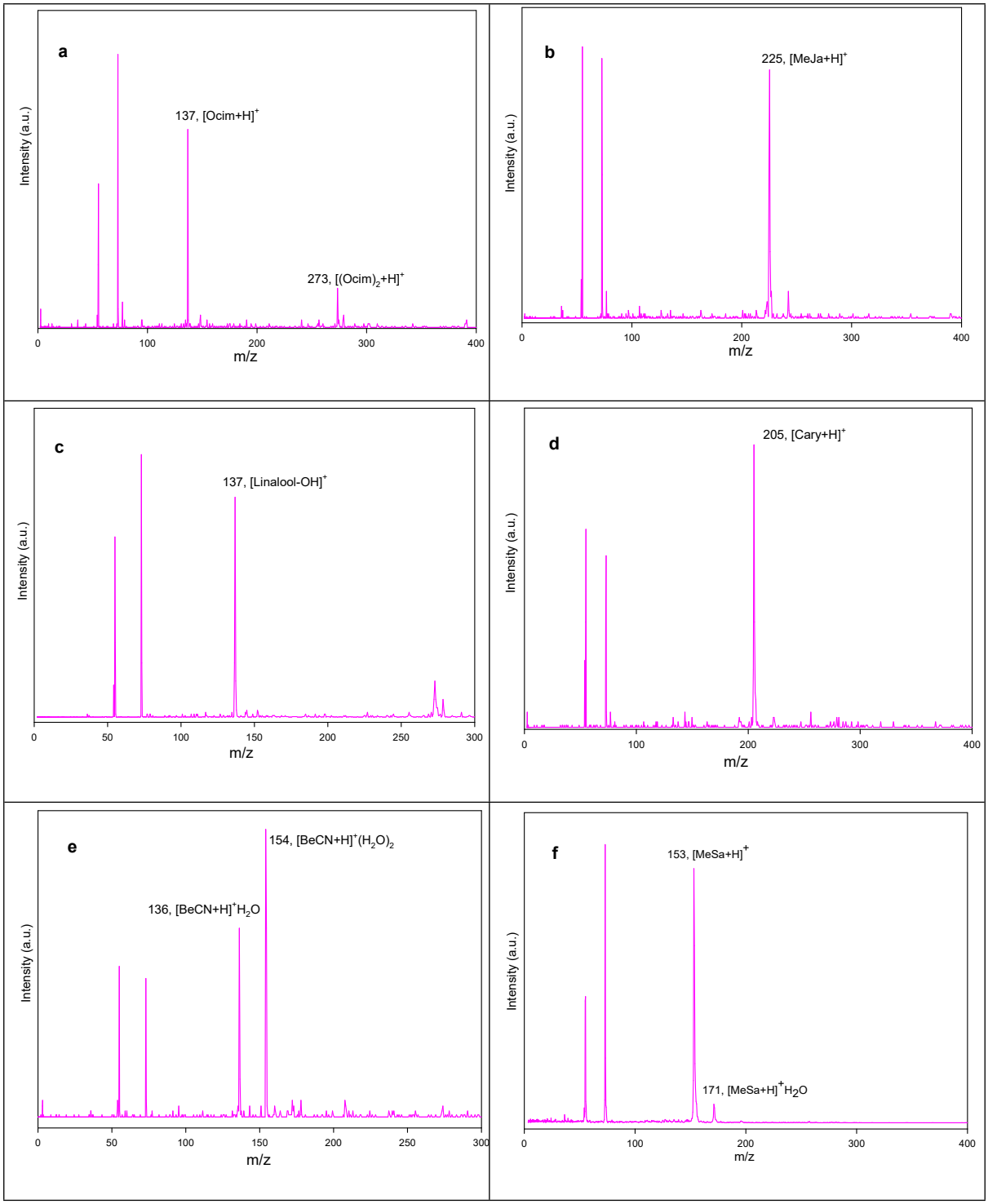

Figure S4. The mass spectra of the vapour of pure standards (a) ocimene, (b) methyl jasmonate (MeJA), (c) linalool, (d) caryophyllene, (e) benzene acetonitrile (BeCN), and methyl salicylate (MeSA).

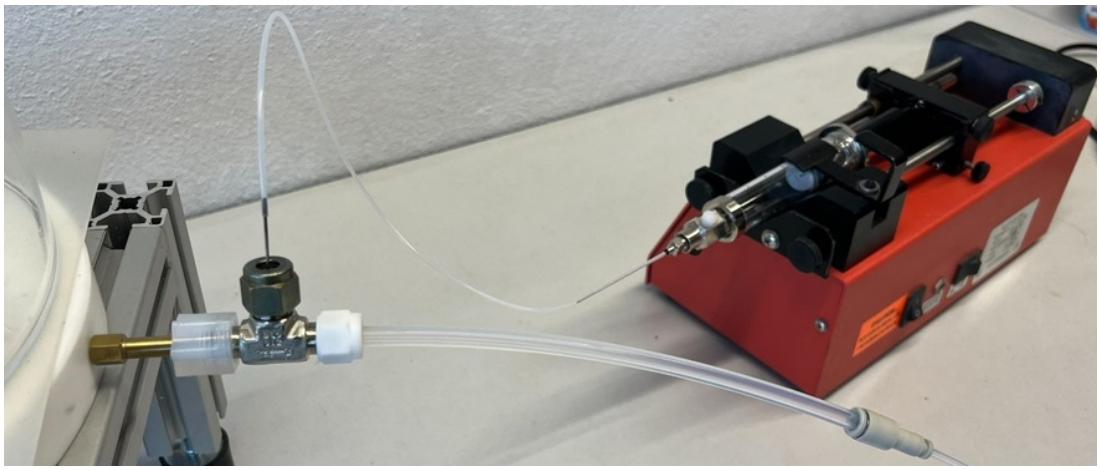

Figure S5. The experimental setup for introduction of diluted headspace of the standard VOCs into the glass chamber with flow rate of 1 ml/min.

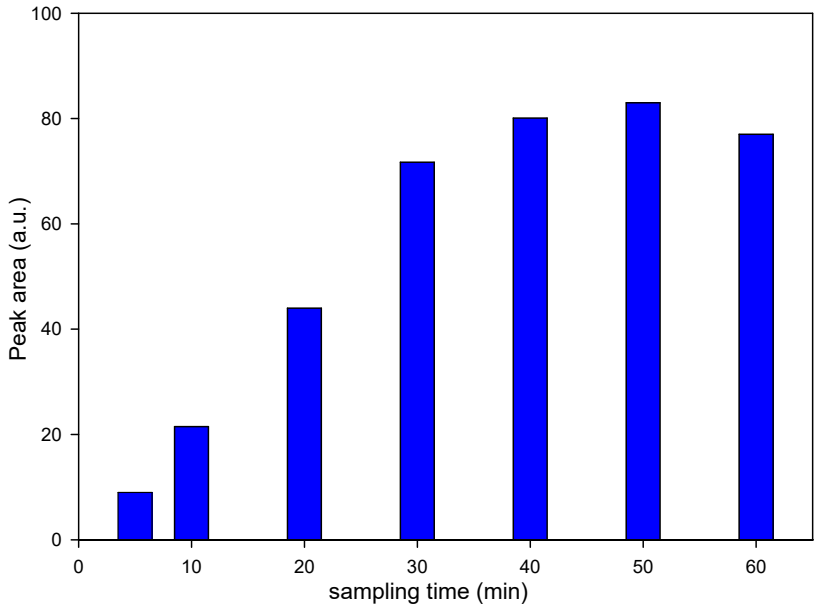

Figure S6. Optimization of the sampling time. The peak area of linalool (~0.004 mmHg) at different sampling times (the time of adsorption of linalool on the Tenax adsorbent).

Table S1. The vapor pressures of the VOCs studied in this work at 25 °C.

VOC	Vapor pressure
Linalool	0.203 mm Hg [a]
Methyl Salicylate	0.0343 mm Hg [b]
Benzene acetonitrile	0.089 mm Hg [b]
Caryophyllene	0.021 mm Hg [c]
Methyl Jasmonate	3.4×10^{-4} mm Hg [b]
Ocimene	1.56 mm Hg [d]

[a] M.A. Espinosa Dıaz, T. Guetachew, P. Landy, J. Jose, A. Voilley, Experimental and estimated saturated vapour pressures of aroma compounds. *Fluid Phase Equilibria* **1999**, 157, 257–270.
[b] https://pubchem.ncbi.nlm.nih.gov/
[c] M. Hoskovec, D. Grygarova, J. Cvacka, L. Streinz, J. Zima, S. P. Verevkin, B. Koutek. Determining the vapour pressures of plant volatiles from gas chromatographic retention data. J. Chromtogr. A. 2005, 1083, 161-172
[d] https://www.parchem.com/