



Vocus PTR-TOF

Online Trace Gas Analysis
with Market Leading Performance



TOFWERK

With sub-ppt limits of detection and mass resolving power up to 15000, the Vocus PTR-TOF is taking laboratory and field analysis of VOCs in exciting new directions.

Market Leading PTR-MS Performance

Sub-ppt Limits of Detection in Seconds

- Quantify trace organic compounds with high sensitivity
- Increase measurement throughput with high speed analysis
- Profile dynamic gas-phase processes with extreme precision

Highest Available PTR-MS Mass Resolving Power

- Resolve isobaric compounds in complex mixtures
- Identify analytes based on exact mass and isotope patterns

Select a Model to Meet Your Needs

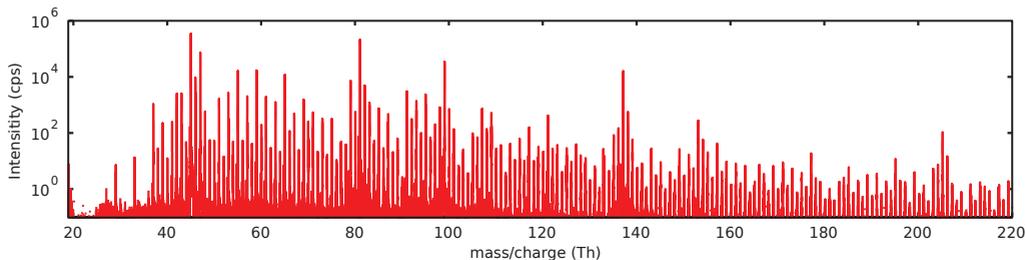
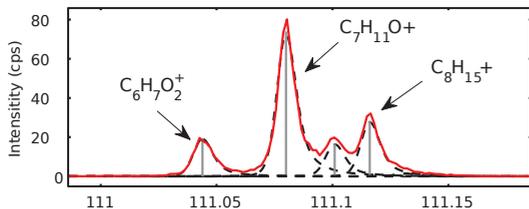
	Sensitivity cps/ppb xylene	Limit of Detection (LOD) 1 min, xylene	Resolving Power at Specified Sensitivity^a M/ Δ M	Maximum Resolving Power^a M/ Δ M
Vocus 2R	10000	1 ppt	10000	15000
Vocus S	10000	1 ppt	5000	7000
Vocus M	800	5 ppt	2000	2500
Vocus Elf	500	20 ppt	500	750

a. Each model can be operated with higher resolving power at reduced sensitivity.

Complex Mixtures

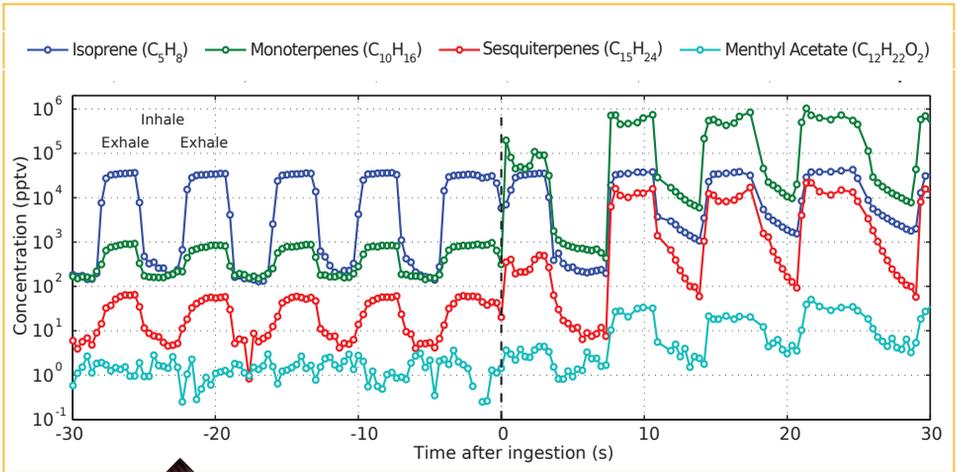
High mass resolving power enables confident analysis of individual compounds within complex mixtures.

This mass spectrum shows the diverse collection of biogenic VOCs that was emitted when a single pine needle was cut in lab air in front of the inlet of the Vocus 2R PTR-TOF. The inset demonstrates the capability of the 2R to separate and identify isobars.



Fast Measurements

The Vocus PTR-TOF can quantify dynamic changes in even ultra-low concentration compounds.

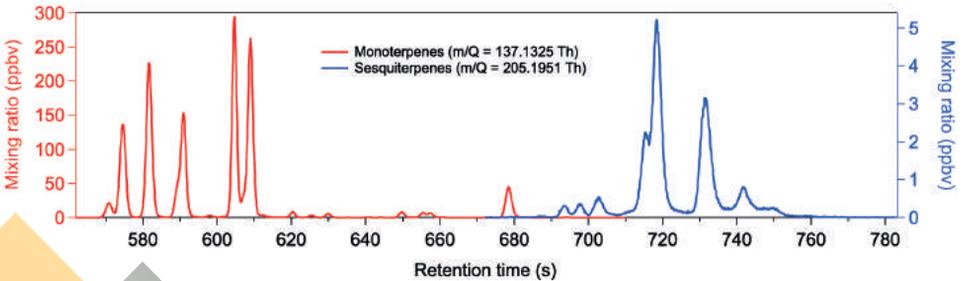


Human breath was monitored in real time at 3 Hz before and after the ingestion of a Ricola™ herb cough drop. Hundreds of compounds were present in the post-ingestion data, including monoterpenes, sesquiterpenes, and other compounds of herbal origin. A subset of detected compounds is shown in order to demonstrate the fast time response and broad dynamic range of the Vocus PTR-TOF.



Isomers

The combination of fast gas chromatography (GC) and the Vocus PTR-TOF provides a rapid, two-dimensional method to characterize isomers.



The headspace of a beer sample was analyzed by fast GC coupled to a Vocus 2R PTR-TOF. The chromatographic separation ahead of the PTR-MS isolates compounds of interest from the high concentration ethanol that typically complicates PTR-MS analysis of alcoholic beverages. The numerous chromatographic peaks in the figure above are isomeric terpenes. Such isomers, which have identical mass/charge but different structure, are not distinguishable by PTR-MS alone, but can be identified and quantified via this fast two-dimensional approach. The overall analysis time was approximately 15 min.





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Talk to Our Team
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