

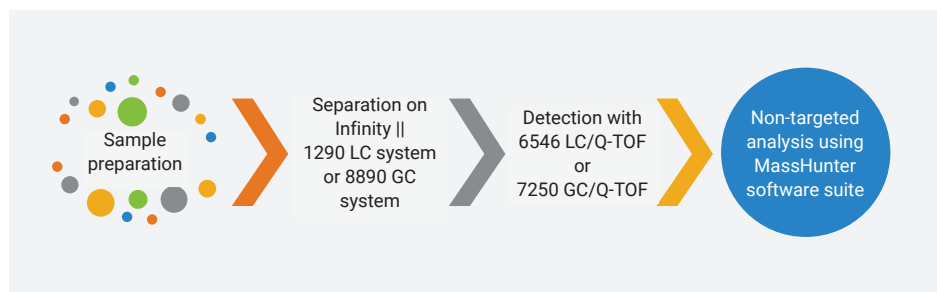
# Identify Emerging Contaminants in Water, Air, and Soil

Agilent high-resolution mass spectrometry workflows



Agilent high-resolution mass spectrometry tools offer comprehensive environmental analyses using a non-targeted approach. This methodology improves upon conventional targeted analyses, which can significantly underestimate the variety of harmful compounds that may persist in the environment.

The Agilent Q-TOF high-resolution mass spectrometry workflow enables fast, accurate, and detailed exploration of environmental samples in a non-targeted fashion.



Non-targeted analysis workflow for environmental samples

Agilent offers a broad selection of sample preparation products, columns, supplies, instruments, and software for non-targeted analysis of environmental samples.



Analytical consumables for environmental samples

## Sample preparation and consumables

- Obtain accurate and reproducible results with our [sample preparation products](#), [LC columns and supplies](#), as well as [GC columns and supplies](#).

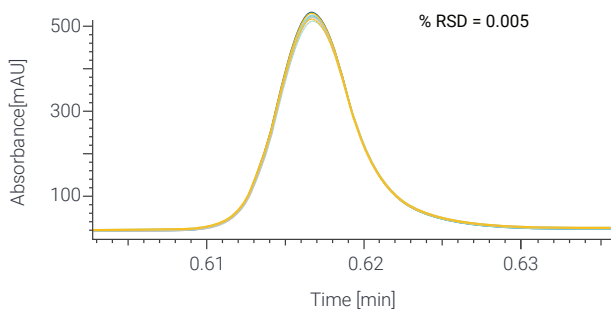


Learn more about Non-targeted screening solutions

[Watch now](#)



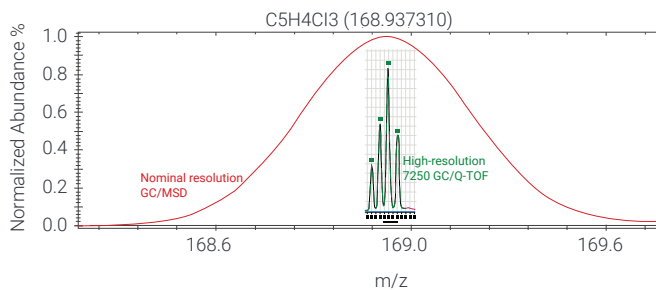
The Agilent 6546 LC/Q-TOF (left) and the Agilent 7250 GC/Q-TOF (right) high-resolution mass spectrometry instruments.



This overlay of 10 chromatograms shows superior retention time precision of the 1290 Infinity II HPLC High-Speed Pump of 0.005% RSD (Relative Standard Deviation), even for ultrafast separations.

## LC and GC separation systems

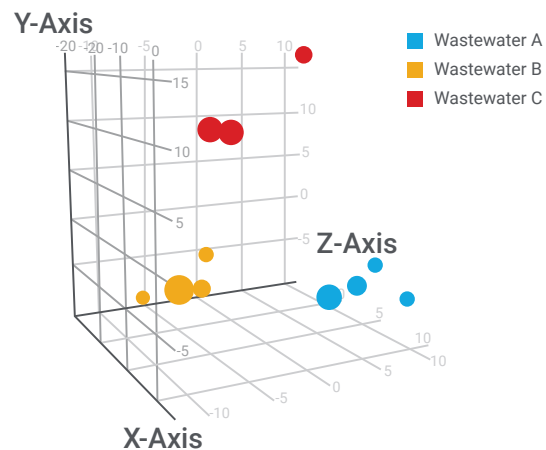
- Improved speed, peak capacity, and sensitivity even for advanced separations with longer run times
- Agilent 1290 Infinity II LC system for both HPLC and high-end UHPLC
- Agilent 8890 GC system for high-throughput gas chromatography



Improved resolving power with Q-TOF instruments

## High-resolution Accurate-Mass Q-TOF instruments

- High mass accuracy and isotopic fidelity combined with high-resolution for greater confidence in compound characterization
- Wide in-spectrum dynamic range in 6546 LC/Q-TOF and 7250 GC/Q-TOF for compounds of varying concentrations
- Excellent data quality even for narrow chromatographic peaks



Principal Component Analysis plot in MPP showing clear separation of wastewater effluent extracts into three distinct groups based on their toxicity

## Software solutions for data processing and analysis

Agilent MassHunter software tools for non-targeted analyses:

- Profinder for feature extraction of LC/Q-TOF and GC/Q-TOF data
- LC/MS and GC/MS screener tool for screening environmental contaminants
- Unknowns Analysis for non-targeted screening of GC/Q-TOF data
- Mass Profiler Professional (MPP) for statistical analysis of high-resolution LC/MS and GC/MS data
- Personal Compound Database and Library (PCDL) for focused analysis of environmental contaminants
- Molecular Structure Correlator (MSC) for structural elucidation

The Agilent high-resolution mass spectrometry tools expand the capabilities for non-targeted screening. Easy sample preparation, compound identification, and integrated software lead to the high-quality results that are required for the quick and effective assessment of environmental contaminants in water, air, and soil.

## References:

- Analysis of Wastewater Effluent Samples to Identify Toxic Chemicals Using the High-Resolution Agilent 7250 GC/Q-TOF, Agilent Technologies application note, publication number, [5994-1345EN](#), 2020
- Agilent 1290 Infinity II LC - Set New Benchmarks In Efficiency – With The Next Generation of UHPLC, Agilent Technologies brochure, publication number, [5991-7456EN](#), 2017
- Intelligent and Configurable: Meet Your Analytical Needs Today and Tomorrow - Agilent 8890 gas chromatography system, Agilent Technologies brochure, publication number, [5994-0478EN](#), 2019
- The Agilent 6546 LC/Q-TOF - Accelerate capabilities, Agilent Technologies brochure, publication number, [5994-0686EN](#), 2019
- Identify. Quantify. Simplify. See the Whole Picture - Agilent 7250 GC/Q-TOF System, Agilent Technologies brochure, publication number, [5991-8109EN](#), 2019
- Your Essential Resource for - Sample Preparation, Agilent Technologies catalogs, publication number, [5994-0114EN](#), 2018
- LC AND LC/MS - Your Essential Resource for Columns & Supplies, Agilent Technologies catalogs, publication number, [5991-1059EN](#), 2012
- GC and GC/MS - Your Essential Resource for Columns and Supplies, Agilent Technologies catalogs, publication number, [5991-5213EN](#), 2016

To learn more about environmental analysis, please visit:

[www.agilent.com/en/solutions/environmental](http://www.agilent.com/en/solutions/environmental)

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© Agilent Technologies, Inc. 2021  
Published in the USA, July 20, 2021  
5994-3662EN

