

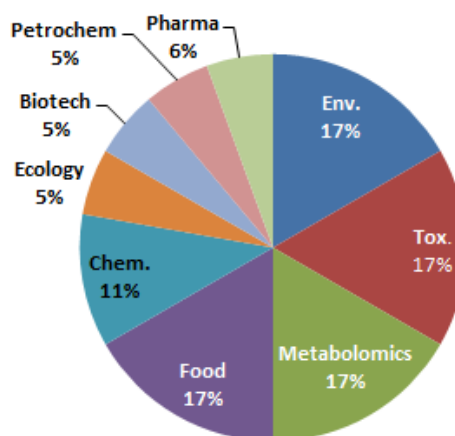


## Přehled aplikací GC-MS

Typ MS	Časové období	Celkem	Aplikace	Publikace	Ostatní
<b>Celkem</b>		<b>671</b>	<b>118</b>	<b>513</b>	<b>40</b>
QTOF	2011-2013	33	5	13	15
TQ	2008-2013	172	37	128	7
MSD	Aplikace: 2005-14 Publikace: 2013/14	466	76	372	18

\* Zdroj: Google Scholar, e-Library

### GC-QTOF 7200 Typy aplikací



### Potravinářské aplikace - GC-QTOF 7200

- Accurate Mass Retention Time Locked Flavor Database by GC/Q-TOF**  
Authors: Baumann S., Conjelko T., Aronova S., LaFond S., David F., Ebeler S.E.  
Abstract: The use of GC/QTOF allows accurate mass measurement with MS/MS capabilities for structural elucidation of novel flavorants in the ppm concentration range, without the need for isolating compounds.
- Accurate Analysis of Medium Volatility Sulfur Compounds in Coffee Using Agilent GC/Q-TOF**  
Authors: N/A  
Abstract: The Agilent 7200 GC/Q-TOF enables a fast and simple method for routine analysis of sulfur compounds in complex food matrices. High sensitivity allows qualitative

and quantitative analysis of volatile sulfur compounds in coffee down of 1 pg on column. The resolution and mass accuracy of the Agilent 7200 Series GC/Q-TOF provide sufficient selectivity for analyte quantitation in complex food matrices. Linearity up to three orders of magnitude facilitates quantitation over a large concentration range.

- **Olive Oil Characterization using Agilent GC/Q-TOF MS and Mass Profiler Professional Software**

Authors: Baumann S., Aronova S.

Abstract: A model was constructed that predicts whether an olive oil will pass the extra virgin sensory test. Using the Agilent 7890A GC system coupled to the accurate-mass Agilent 7200 Q-TOF MS, in both electron ionization (EI) and positive chemical ionization (PCI) modes, a large number of compounds was found in olive oil. Mass Profiler Professional software was used to perform statistical analysis and construct a classification model that uses the presence of five specific compounds to accurately predict whether an olive oil would fail the sensory test.

- **Rapid simultaneous screening and identification of multiple pesticide residues in vegetables**

Authors: Zhanga F., Yub Ch., Wangb W., Fana R., Zhangb Z., Guoa Y.

Abstract: A method for the rapid simultaneous screening and identification of multiple pesticide residues in vegetables was established using a novel database and gas chromatography in combination with hybrid quadrupole time-of-flight mass spectrometry (GC-QTOF MS). A total of 187 pesticides with different chemical species were measured by GC-QTOF MS to create the database, which collected the retention time and exact masses of ions from the first-stage mass spectrum (MS1 spectrum) and second-stage mass spectrum (MS2 spectrum) for each pesticide.

- **Fast comprehensive two-dimensional gas chromatography method for fatty acid methyl ester separation and quantification using dual ionic liquid columns**

Authors: Nosheen A., Mitrevski B., Bano A., Marriott P.J.

Abstract: Safflower oil is a complex mixture of C18 saturated and unsaturated fatty acids amongst other fatty acids, and achieving separation between these similar structure components using one dimensional gas chromatography (GC) may be difficult. This investigation aims to obtain improved separation of fatty acid methyl esters in safflower oil, and their quantification using comprehensive two-dimensional GC (GCxGC). Here, GCxGC separation is accomplished by the coupling of two ionic liquid (IL) column phases: the combination of SLB-IL111 with IL59 column phases was finally selected since it provided excellent separation of a FAME standard mixture, as well as fatty acids in safflower and linseed oil, compared to other tested column sets. Safflower oil FAME were well separated in a short run of 16min. FAME validation was demonstrated by method reproducibility, linearity over a range up to 500mgL(-1), and limits of detection which ranged from 1.9mgL(-1) to 5.2mgL(-1) at a split ratio of 20:1. Quantification was carried out using two dilution levels of 200-fold for major components and 20-fold for trace components. The fatty acids C15:0 and C17:0 were not reported previously in safflower oil. The SLB-IL111/IL59 column set proved to be an effective and novel configuration for separation and quantification of vegetable and animal oil fatty acids.

- **Rapid simultaneous screening of multiple pesticide residues in Food matrices**

Authors: Riener J.

Abstract: Rapid, simultaneous and multi-species screening and identification method, capable of monitoring both target and non-target analytes

- **Tracing the origin of Lambrusco sparkling wines by a metabolomics approach using a HS-SPME-GC-CI-QTOF-MS method**

Authors: Georg W., Fulvio M.

Abstract: Developing tools to protect consumers from food fraudulent practices is one of the main challenges nowadays. In the Ager Enologia2009 project about 100 samples of Lambrusco sparkling wine were collected from four different PDO areas. The volatile fraction of the wines was extracted by SPME and the new Agilent 7200 GC QTOF MS instrument was used to measure the wine volatiles in CI mode. After compound extraction by mass spectra deconvolution a PLS model was calculated with Mass Profiler Professional software, showing an overall accuracy of 97% for correct classification of the samples