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Beverage Analysis

A Notebook of Top Peer Reviewed Articles and Papers

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Contents

Introduction

The power of peer reviewed articles cannot be underestimated. Years of research within the beverage industry has led to the discovery of anti-oxidants in coffee and wine, the origin of raw ingredients when analysing for beverage authenticity and pesticides in fruit juices.

This comprehensive notebook represents a broad spectrum of publications that can be accessed easily online, specifically for the beverage industry. A collection of beverage analyses are presented, providing an insight into analytical chromatography research that is taking place today within the community. Techniques described include gas chromatography-mass spectrometry, liquid chromatography-mass spectrometry, ion chromatography, automated photometry and trace elemental analyses.

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iCAP™ RQ ICP-MS system

Beer and Cider Analysis

Instrumentation	Abstract Title	Authors	Publication
FTIR	Data-fusion for multi-platform characterization of an Italian craft beer aimed at its authentication	Alessandra Biancolillo, Remo Bucci, Antonio L. Magrì, Andrea D. Magrì, Federico Marini	Analytica Chimica Acta 820 (2014) 23-31
GC-GC Quadrupole-MS	Characterization of the Key Aroma Compounds in Two Bavarian Wheat Beers by Means of the Sensomics Approach	Daniel Langos, Michael Granvogl, and Peter Schieberle	J. Agric. Food Chem. 2013, 61, 11303–11311
GC-IRMS	Accurate Method for the Determination of Intramolecular ^{13}C Isotope Composition of Ethanol from Aqueous Solutions	Alexis Gilbert, Keita Yamada, and Naohiro Yoshida	Anal. Chem. 2013, 85, 6566–6570
GC-MS Ion Trap	Estimation of furan contamination across the Belgian food chain	G. Scholl , M.-L. Scippo , E. De Pauw , G. Eppe and C. Saegerman	Food Additives and Contaminants (2012) 29, 2, 172–179
GC-MS Quadrupole	A survey of levels of ethyl carbamate in alcoholic beverages in 2009–2012, Hebei Province, China.	Yinping Liu , Shuhui Wang, Ping Hu	Food Additives & Contaminants: Part B, (2013) 5, 214-217
GC-MS Quadrupole	Optimal design of experiments applied to headspace solid phase microextraction for the quantification of vicinal diketones in beer through gas chromatography-mass spectrometric detection	Joao M. Leça, Ana C. Pereira , Ana C. Vieira, Marco S. Reis, Jose C. Marques	Analytica Chimica Acta 887 (2015) 101-110
GC-MS Quadrupole	Use of Chemical Indicators of Beer Aging for Ex-post Checking of Storage Conditions and Prediction of the Sensory Stability of Beer	Pavel Čejka, Jiří Čulík, Tomáš Horák, Marie Jurková, and Jana Olšovská	J. Agric. Food Chem. 2013, 61, 12670–12675
GC-MS Quadrupole	Chemometric analysis of the volatile fraction evolution of Portuguese beer under shelf storage conditions	Ricardo Rendall, Marco S. Reis, Ana Cristina Pereira, Cristina Pestana, Vanda Pereira, José Carlos Marques	Chemometrics and Intelligent Laboratory Systems (2015) 142, 131–142
GC-MS Quadrupole & LC-Q-Exactive	Occurrence of Odorant Polyfunctional Thiols in Beers Hopped with Different Cultivars. First Evidence of an S-Cysteine Conjugate in Hop *Humulus lupulus*	Jacques Gros, Florence Peeters, and Sonia Collin	J. Agric. Food Chem. 2012, 60, 7805–7816
IC	Purification and characterisation of arabinoxylan arabinofuranohydrolase I responsible for the filterability of barley malt	Xiaomin Li, Fei Gao, Guolin Cai, Zhao Jin, Jian Lu, Jianjun Dong, Hua Yin, Junhong Yu, Mei Yang	Food Chemistry 174 (2015) 286–290
ICP-MS	Elemental fingerprint profile of beer samples constructed using 14 elements determined by inductively coupled plasma–mass spectrometry (ICP-MS): multivariation analysis and potential application to forensic sample comparison	Nazia Mahmood, Nicolas Petraco & Yi He	Anal Bioanal Chem (2012) 402:861–869

Beer and Cider Analysis

Instrument Type	Title (Abstract)	Authors	Publication
ICP-MS	Characterization and quantification of silver nanoparticles in nutraceuticals and beverages by asymmetric flow field flow fractionation coupled with inductively coupled plasma mass spectrometry	K. Ramos, L. Ramos, C. Cámara, M.M. Gómez-Gómez	Journal of Chromatography A, 1371 (2014) 227–236
ICP-MS	Selenite biotransformation during brewing. Evaluation by HPLC–ICP-MS	Maria Sánchez-Martínez, Erik Galvão P. da Silva, Teresa Pérez-Corona, Carmen Cámara, Sergio L.C. Ferreira, Yolanda Madrid	Talanta 88 (2012) 272–276
Ion Selective Electrode	Beer classification by means of a potentiometric electronic tongue	Xavier Cetó, Manuel Gutiérrez-Capitán, Daniel Calvo, Manel del Valle	Food Chemistry 141 (2013) 2533–2540
IRMS & Elemental Analysis	A global survey of the stable isotope and chemical compositions of bottled and canned beers as a guide to authenticity	J.F. Carter, H.S.A. Yates, U. Tinggi	Science and Justice (2015) 55, 18–26
LC-MS Ion Trap	Monitoring of selected aflatoxins in brewing materials and beer by liquid chromatography /mass spectrometry	Karolína Benešová, Sylvie Běláková, Renata Mikulíková, Zdeněk Svoboda	Food Control 25 (2012) 626-630,
LC-MS Quadrupole	In-Tube Extraction-GC-MS as a High-Capacity Enrichment Technique for the Analysis of Alcoholic Beverages	Jens Laaks, Maik A. Jochmann, Beat Schilling, Karl Molt, and Torsten C. Schmidt	J. Agric. Food Chem. 2014, 62, 3081–3091
LC-Orbitrap	Analysis of volatile thiols in alcoholic beverages by simultaneous derivatization/extraction and liquid chromatography-high resolution mass spectrometry	Stefania Vichi, Nuria Cortés-Francisco, Josep Caixach	Food Chemistry 175 (2015) 401–408
LC-Orbitrap MS	Deoxynivalenol Oligoglycosides: New “Masked” Fusarium Toxins Occurring in Malt, Beer, and Breadstuff	Milena Zachariasova, Marta Vaclavikova, Ondrej Lacina, Lukas Vaclavik, and Jana Hajslova	J. Agric. Food Chem. 2012, 60, 9280–9291
LC-Orbitrap MS	Mass spectrometry strategies for mycotoxins analysis in European beers	J. Rubert, C. Soler, R. Marín, K.J. James, J. Mañes	Food Control 30 (2013) 122-128
LC-Orbitrap MS	Detection of histamine in beer by nano extractive electrospray ionization mass spectrometry	Jiuxiao Cai, Ming Li, Xingchuang Xiong, Xiang Fang and Ruifeng Xu	J. Mass Spectrom. (2014) 49, 9–12
LC-Orbitrap MS	Rapid determination of amino acids in foods by hydrophilic interaction liquid chromatography coupled to high-resolution mass spectrometry	Vural Gökmen, Arda Serpen, Burçe Ataç Mogol	Anal Bioanal Chem (2012) 403:2915–2922
LC-Q-Exactive	Proteomics, Peptidomics, and Immunogenic Potential of Wheat Beer (Weissbier)	Gianluca Picariello, Gianfranco Mamone, Adele Cutignano, Angelo Fontana, Lucia Zurlo, Francesco Addeo, and Pasquale Ferranti	J. Agric. Food Chem. 2015, 63, 3579–3586
LC-Q-Exactive	Effects of a Proline Endopeptidase on the Detection and Quantitation of Gluten by Antibody-Based Methods during the Fermentation of a Model Sorghum Beer	Rakhi Panda, Katherine L. Fiedler, Chung Y. Cho, Raymond Cheng, Whitney L. Stutts, Lauren S. Jackson, and Eric A. E. Garber	J. Agric. Food Chem. 2015, 63, 10525–10535
LC-UV	Occurrence of biogenic amines in beers produced with malted organic Emmer wheat *Triticum dicoccum*	Massimo Mozzon, Emanuele Boselli, Mieczysław W. Obiedziński and Natale G.Frega	Food Additives & Contaminants: Part A, (2015) 32, 5, 756–767

Beer and Cider Analysis

Instrument Type	Title (Abstract)	Authors	Publication
Orbitrap-MS	Beer Thiol-Containing Compounds and Redox Stability: Kinetic Study of 1-Hydroxyethyl Radical Scavenging Ability	Natália E. C. de Almeida, Marianne N. Lund, Mogens L. Andersen, and Daniel R. Cardoso	J. Agric. Food Chem. 2013, 61, 9444–9452
Orbitrap-MS	Investigations on the Maillard Reaction of Dextrins during Aging of Pilsner Type Beer	Stefan J.Rakete, Alexander Klaus, and Marcus A. Glomb	Agric. Food Chem. 2014, 62, 9876–9884
Orbitrap-MS	Chemical Characterization of Beer Aging Products Derived from Hard Resin Components in Hops (*Humulus lupulus* L.)	Yoshimasa Taniguchi, Makiko Yamada, Harumi Taniguchi, Yasuko Matsukura, and Kazutoshi Shindo	J. Agric. Food Chem. 2015, 63, 10181–10191
UV-Vis Spectrophotometer	Differentiation of blonde beers according to chemical quality indicators by means of pattern recognition techniques	Ángela Alcázar, José M. Jurado, Ana Palacios-Morillo, Fernando de Pablos, María J. Martín	Food Anal. Methods (2012) 5:795–799
UV-Vis Spectrophotometer	Recognition of the geographical origin of beer based on support vector machines applied to chemical descriptors	Ángela Alcázar, José Marcos Jurado, Ana Palacios-Morillo, Fernando de Pablos, María Jesús Martín	Food Control 23 (2012) 258-262
UV-Vis Spectrophotometer	Fermentation optimization for a probiotic local northeastern Indian rice beer and application to local cassava and plantain beer production	Arup Jyoti Das, Dibyakanta Seth, Tatsuro Miyaji and Sankar Chandra Deka	J. Inst. Brew. (2015) 121, 273–282
XPS	Fluorescent Nanoparticles from Several Commercial Beverages: Their Properties and Potential Application for Bioimaging	Han Liao, Chengkun Jiang, Wenqiang Liu, Juan Manuel Vera, Oscar David Seni, Kevin Demera, Chenxu Yu, and Mingqian Tan	J. Agric. Food Chem. 2015, 63, 8527–8533
GC-MS Quadrupole	Changes in the profile of volatile compounds and amino acids during cider fermentation using dessert variety of apples	Mengqi Ye, Tianli Yue, Yahong Yuan	Eur Food Res Technol (2014) 239:67–77
IRMS	Carbon isotopic characterization of cider CO^2 by isotope ratio mass spectrometry: a tool for quality and authenticity assessment	Ana I. Cabañero and Mercedes Rupérez	Rapid Commun. Mass Spectrom (2012) 26, 1753–1760

Did you know

- A collector of beer bottles is a called a labeorphilist
- A beer lover or enthusiast is called a cerevisaphile
- Cenosillicaphobia is the fear of an empty glass.

Beer should ONLY be beer

Bottled Water and Functional Drinks Analysis

Instrument Type	Title (Abstract)	Authors	Publication
FTIR	Biotin–streptavidin-amplified real-time immune-PCR assay for detecting dimethyl phthalate in beverage and drinking water samples	Ruiyan Sun & Huisheng Zhuang	Anal Bioanal Chem (2015) 407:1261–1265
GC-MS Quadrupole	Migration of plasticisers from Tritan™ and polycarbonate bottles and toxicological evaluation	Albert Guart, Martin Wagner, Alejandro Mezquida, Silvia Lacorte, Jörg Oehlmann, Antonio Borrell	Food Chemistry 141 (2013) 373–380
GC-MS Quadrupole	Rapid analysis of phthalates in beverage and alcoholic samples by multi-walled carbon nanotubes/ silica reinforced hollow fibre-solid phase microextraction	Jia Li, Qiong Su, Ke-Yao Li, Chu-Feng Sun, Wen-Bo Zhang	Food Chemistry 141 (2013) 3714–3720
ICP-MS	Chemical and isotopic compositions of bottled waters sold in Korea: chemical enrichment and isotopic fractionation by desalination	Go-Eun Kim, Jong-Sik Ryu, Woo-Jin Shin, Yeon-Sik Bong, Kwang-Sik Lee, and Man-Sik Choi	Rapid Commun. Mass Spectrom (2012) 26, 25–31
ICP-MS	Effect of temperature on the release of intentionally and non-intentionally added substances from polyethylene terephthalate (PET) bottles into water: Chemical analysis and potential toxicity	Cristina Bach, Xavier Dauchy, Isabelle Severin, Jean-François Munoz, Serge Etienne & Marie-Christine Chagnon	Food Chemistry 139 (2013) 672–680
LC-MS/MS Quadrupole	Trace determination of 13 haloacetamides in drinking water using liquid chromatography triple quadrupole mass spectrometry with atmospheric pressure chemical ionization	Wenhai Chu, Naiyun Gao, Daqiang Yin, Stuart W. Krasner, Michael R. Templeton	Journal of Chromatography A, 1235 (2012) 178– 181
LC-Delta IRMS	Caffeine in Your Drink: Natural or Synthetic?	Lijun Zhang, Dorothea M. Kujawinski, Eugen Federherr, Torsten C. Schmidt, and Maik A. Jochmann	Anal. Chem. 2012, 84, 2805–2810
XPS	Fluorescent Nanoparticles from Several Commercial Beverages: Their Properties and Potential Application for Bioimaging	Han Liao, Chengkun Jiang, Wenqiang Liu, Juan Manuel Vera, Oscar David Seni, Kevin Demera, Chenxu Yu, and Mingqian Tan	J. Agric. Food Chem. 2015, 63, 8527–8533

Did you know

The term seltzer used to refer to effervescent mineral water obtained from natural springs in Germany. Now, seltzer is used to describe well-filtered water with added artificial carbonation.

Bottled Water should ONLY be bottled water

Coffee and Cocoa Analysis

Instrument Type	Title (Abstract)	Authors	Publication
ICP-AES	Provenance establishment of coffee using solution ICP-MS and ICP-AES	Jenna L. Valentin , R. John Watling	Food Chemistry 141 (2013) 98–104
ICP-MS	Geographic determination of coffee beans using multi-element analysis and isotope ratios of boron and strontium	Hou-Chun Liu, Chen-Feng You, Chiou-Yun Chen, Yu-Ching Liu, Ming-Tsung Chung	Food Chemistry 142 (2014) 439–445
ICP-MS	Li, Cr, Mn, Co, Ni, Cu, Zn, Se and Mo levels in foodstuffs from the Second French TDS	Laurent Noël, Rachida Chekri, Sandrine Millour, Christelle Vastel, Ali Kadar, Véronique Sirot, Jean-Charles Leblanc, Thierry Guérin	Food Chemistry 132 (2012) 1502–1513
LC-Delta IRMS	Caffeine in Your Drink: Natural or Synthetic?	Lijun Zhang, Dorothea M. Kujawinski, Eugen Federherr, Torsten C. Schmidt, and Maik A. Jochmann	Anal. Chem. 2012, 84, 2805–2810
LC-MS Ion Trap	Rapid mixed mode solid phase extraction method for the determination of acrylamide in roasted coffee by HPLC–MS/MS	Renzo Bortolomeazzi, Marina Munari, Monica Anese, Giancarlo Verardo	Food Chemistry 135 (2012) 2687–2693
LC-MS Ion Trap	Development of Stable Isotope Dilution Assays for the Quantitation of Amadori Compounds in Foods	Michael Meitinger, Sandra Hartmann, and Peter Schieberle	J. Agric. Food Chem. 2014, 62, 5020–5027
LC-MS Ion Trap	Roasting-induced changes in arabinotriose, a model of coffee arabinogalactan side chains	Ana S. P. Moreira, Manuel A. Coimbra, Fernando M. Nunes, M. Rosário M. Domingues	Food Chemistry 138 (2013) 2291–2299
LC-MS Ion Trap	Free a-dicarbonyl compounds in coffee, barley coffee and soy sauce and effects of in vitro digestion	Adele Papetti, Dora Mascherpa, Gabriella Gazzani	Food Chemistry 164 (2014) 259–265

Did you know

Coffee carbohydrates constitute the major part (at least 50% of the dry weight) of raw coffee beans. Carbohydrates are also good tracers for assessing the authenticity of soluble (instant) coffee.

Coffee and Cocoa Analysis

Instrument Type	Title (Abstract)	Authors	Publication
UV-Vis Spectrophotometer	Espresso beverages of pure origin coffee: Mineral characterization, contribution for mineral intake and geographical discrimination	Marta Oliveira, Sandra Ramos, Cristina Delerue-Matos, Simone Morais	Food Chemistry 177 (2015) 330–338
UV-Vis Spectrophotometer	The content of Ca, Cu, Fe, Mg and Mn and antioxidant activity of green coffee brews	Ewelina Stelmach, Pawel Pohl, Anna Szymczycha-Madeja	Food Chemistry 182 (2015) 302–308
IRMS	Multi-element, multi-compound isotope profiling as a means to distinguish the geographical and varietal origin of fermented cocoa (*Theobroma cacao* L.) beans	Didier Diomande, Ingrid Antheaume, Maël Leroux, Julie Lalande, Stéphane Balayssac, Gérald S. Remaud, Illa Tea	Food Chemistry 188 (2015) 576–582

Did you know

Brewed coffee, one of the most popular beverages worldwide, is prepared from fermented and roasted coffee plant seeds (beans), typically *Coffea arabica* (Arabica). *Coffea canefora, variant robusta* (Robusta), provides a less desirable flavor, is less costly, and therefore is often blended or adulterated in Arabica to create less expensive coffees or to increase profits.

Coffee should ONLY be coffee

Fruit Juice Analysis

Instrument Type	Title (Abstract)	Authors	Publication
Atomic Absorption Spectrometer	Study of silver ion migration from melt-blended and layered-deposited silver polyethylene nanocomposite into food simulants and apple juice	Maryam Jokar and Russly Abdul Rahman	Food Additives & Contaminants: Part A, (2014) 31, 4, 734–742
DART-Orbitrap MS	Analytical strategies for controlling polysorbate-based nanomicelles in fruit juice	Veronika Krtkova & Vera Schulzova & Ondrej Lacina & Vojtech Hrbek & Monika Tomaniova & Jana Hajslova	Anal Bioanal Chem (2014) 406:3909–3918
DART-Orbitrap MS	Rapid qualitative analysis of phthalates added to food and nutraceutical products by direct analysis in real time/ orbitrap mass spectrometry	Randy L. Self, Wen-Hsin Wu	Food Control 25 (2012) 13-16
FTIR	Efficient Determination of Protocatechuic Acid in Fruit Juices by Selective and Rapid Magnetic Molecular Imprinted Solid Phase Extraction Coupled with HPLC	Lianwu Xie, Junfang Guo, Yuping Zhang, and Shuyun Shi	J. Agric. Food Chem. 2014, 62, 8221–8228
FTIR	Hydrophilic gallic acid–imprinted polymers over magnetic mesoporous silica microspheres with excellent molecular recognition ability in aqueous fruit juices	Xin Hua, Lianwu Xie, Junfang Guo, Hui Li, Xinyu Jiang, Yuping Zhang, Shuyun Shi.	Food Chemistry 179 (2015) 206–212
FTIR	Quantitative analysis of flavanones from citrus fruits by using mesoporous molecular sieve-based miniaturized solid phase extraction coupled to ultra high-performance liquid chromatography and quadrupole time-of-flight mass spectrometry	Wan Cao, Li-Hong Ye, Jun Cao, Jing-Jing Xu, Li-Qing Peng, Qiong-Yao Zhu, Qian-Yun Zhang, Shuai-Shuai Hu	Journal of Chromatography A, 1406 (2015) 68–77
GC-GC Quadrupole-MS	Ripening-dependent metabolic changes in the volatiles of pineapple (*Ananas comosus* L.) Merr.) fruit: II. Multivariate statistical profiling of pineapple aroma compounds based on comprehensive two-dimensional gas chromatography-mass spectrometry	Christof Björn Steingass, Manfred Jutzi, Jenny Müller & Reinhold Carle & Hans-Georg Schmarr	Anal Bioanal Chem (2015) 407:2609–2624
GC-MS Ion Trap	Chemical Markers of Shiikuwasha Juice Adulterated with Calamondin Juice	Kenta Yamamoto, Ayumi Yahada, Kumi Sasaki, Kazunori Ogawa, Nobuyuki Koga, and Hideaki Ohta	J. Agric. Food Chem. 2012, 60, 11182–11187
GC-MS Ion Trap	Rapid screening of phytosterols in orange juice by solid-phase microextraction on polyacrylate fibre derivatisation and gas chromatographic–mass spectrometric	Sébastien Balme, Fazil O. Gülaçar	Food Chemistry 132 (2012) 613–618
GC-MS Quadrupole	Rapid analysis of phthalates in beverage and alcoholic samples by multi-walled carbon nanotubes/ silica reinforced hollow fibre-solid phase microextraction	Jia Li, Qiong Su, Ke-Yao Li, Chu-Feng Sun, Wen-Bo Zhang	Food Chemistry 141 (2013) 3714–3720
GC-MS/MS Quadrupole	Quantitative metabolic profiling of grape, apple and raspberry volatile compounds (VOCs) using a GC/MS/MS method	Urska Vrhovsek, Cesare Lotti, Domenico Masuero, Silvia Carlin, Georg Weingart, Fulvio Mattivi	Journal of Chromatography B, 966 (2014) 132–139

Fruit Juice Analysis

Instrument Type	Title (Abstract)	Authors	Publication
IC	Bioanalytical Characterization of Apple Juice from 88 Grafted and Nongrafted Apple Varieties Grown in Upper Austria	Peter Lanzerstorfer, Jürgen Wruss, Stefan Huemer, Andrea Steininger, Ulrike Müller, Markus Himmelsbach, Daniela Borgmann, Stephan Winkler,‖ Otmar Höglinger, and Julian Weghuber	J. Agric. Food Chem. 2014, 62, 1047–1056
IC-MS	Simultaneous Determination of 16 Organic Acids in Food by Online Enrichment Ion Chromatography– Mass Spectrometry	Zhiyu Xiong, Ying Dong, Hongbin Zhou, Hui Wang & Yunxia Zhao	Food Anal. Methods (2014) 7:1908–1916
ICP-MS	Effects of granulation on organic acid metabolism and its relation to mineral elements in *Citrus grandis* juice sacs	Xian-You Wang, Ping Wang, Yi-Ping Qi, Chen-Ping Zhou, Lin-Tong Yang, Xin-Yan Liao, Liu-Qing Wang, Dong-Huang Zhu, Li-Song Chen	Food Chemistry 145 (2014) 984–990
ICP-MS & IC	Analytical Method for the Determination of Various Arsenic Species in Rice, Rice Food Products, Apple Juice, and Other Juices by Ion Chromatography-Inductively Coupled Plasma/Mass Spectrometry	David Ellingson, Rischard Zywicki, Darryl Sullivan	Journal of AOAC International (2014) 97, 6, 1670-1681
ICP-OES	Elemental Composition of Various Sour Cherry and Table Grape Cultivars Using Inductively Coupled Plasma Atomic Emission Spectrometry Method (ICP-OES)	Snežana S. Mitić, Mirjana V. Obradović, Milan N. Mitić, Danijela A. Kostić, Aleksandra N. Pavlović, Snežana B. Tošić & Milan D. Stojković	Food Anal. Methods (2012) 5:279–286
Ion selective electrode	Optimisation of low temperature extraction of banana juice using commercial pectinase	Sorel Tchewonpi Sagu, Emmanuel Jong Nso, Sankha Karmakar, Sirshendu De	Food Chemistry 151 (2014) 182–190
Ion Selective Electrode	Fluoride content of soft drinks, nectars, juices, juice drinks, concentrates, teas and infusions marketed in Portugal	C. Fojo, M.E. Figueira, C.M.M. Almeida	Food Additives & Contaminants: Part A, (2013) 30: 705–712
LC-AMP	Authenticity Analysis of Pear Juice Employing Chromatographic Fingerprinting	Jamie L. Willems and Nicholas H. Low	J. Agric. Food Chem. 2014, 62, 11737–11747
LC-DAD	Antioxidant Profile and in Vitro Cardiac Radical-Scavenging versus Pro-oxidant Effects of Commercial Red Grape Juices (*Vitis vinifera* L.cv. Aglianico N.)	Gian Carlo Tenore, Michele Manfra, Paola Stiuso, Luigi Coppola, Mariateresa Russo, Isabel Maria Gomez Monterrey, and Pietro Campiglia	J. Agric. Food Chem. 2012, 60, 9680–9687
LC-Exactive	Ultra performance liquid chromatography atmospheric pressure photoionization high resolution mass spectrometric method for determination of multiclass pesticide residues in grape and mango juices	Pragney Deme, Vijayasarathi V.R. Upadhyayula	Food Chemistry 173 (2015) 1142–1149
LC-Exactive & LC-DAD	Thermal degradation of cloudy apple juice phenolic constituents	D. De Paepe, D. Valkenborg, K. Coudijzer, B. Noten, K. Servaes, M. De Loose, S. Voorspoels, L. Diels, B. Van Droogenbroeck	Food Chemistry 162 (2014) 176–185

Fruit Juice Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap	Identification of New Coloured Anthocyanin–Flavanol Adducts in Pressure-Extracted Pomegranate (*Punica granatum* L.) Juice by High-Performance Liquid Chromatography/Electrospray Ionization Mass Spectrometry	Enrique Sentandreu, José L. Navarro, José M. Sendra	Food Anal. Methods (2012) 5:702–709
LC-MS Ion Trap	Polyphenol Profiling of a Red-Fleshed Apple Cultivar and Evaluation of the Color Extractability and Stability in the Juice	Marta Malec, Jean-Michel Le Quéré, Hélène Sotin, Krzysztof Kolodziejczyk, Rémi Bauduin, and Sylvain Guyot	J. Agric. Food Chem. 2014, 62, 6944–6954
LC-MS Ion Trap	Simultaneous determination of bisphenol A, aflatoxin B1, ochratoxin A, and patulin in food matrices by liquid chromatography/mass spectrometry	Wenlu Song, Charlie Li and Bahman Moezzi	Rapid Commun. Mass Spectrom (2013) 27, 671–680
LC-MS Ion Trap	Comparison of Phenolic Composition of Healthy Apple Tissues and Tissues Affected by Bitter Pit	Anka Zupan, Maja Mikulic-Petkovsek, Vlasta Cunja, Franci Stampar, and Robert Veberic	J. Agric. Food Chem. 2013, 61, 12066–12071
LC-MS Ion Trap	Application of Matrix Solid-Phase Dispersion and Liquid Chromatography–Ion Trap Mass Spectrometry for the Analysis of Pesticide Residues in Fruits	Marina M. Radišić, Tatjana M. Vasiljević, Nikolina N. Dujaković & Mila D. Laušević	Food Anal. Methods (2013) 6:648–657
LC-MS Ion Trap	Berry components inhibit a-glucosidase in vitro: Synergies between acarbose and polyphenols from blackcurrant and rowanberry	Ashley S. Boath, Derek Stewart, Gordon J. McDougall	Food Chemistry 135 (2012) 929–936
LC-MS Ion Trap & LC-DAD	HPLC–PDA–MS fingerprinting to assess the authenticity of pomegranate beverages	Gina Borges, Alan Crozier	Food Chemistry 135 (2012) 1863–1867
LC-MS Ion Trap & LC-DAD	Anthocyanins profile, total phenolics and antioxidant activity of blackcurrant ethanolic extracts as influenced by genotype and ethanol concentration	Violeta Nour, Franci Stampar, Robert Veberic, Jerneja Jakopic	Food Chemistry 141 (2013) 961–966
LC-MS Ion Trap & LC-DAD	Investigation of Anthocyanin Profile of Four Elderberry Species and Interspecific Hybrids	Maja Mikulic-Petkovsek, Valentina Schmitzer, Ana Slatnar, Biljana Todorovic, Robert Veberic, Franci Stampar, and Anton Ivancic	J. Agric. Food Chem. 2014, 62, 5573–5580
LC-MS Ion Trap & LC-DAD	High concentrations of anthocyanins in genuine cherry-juice of old local Austrian *Prunus avium* varieties	Elisabeth Schüller, Heidi Halbwirth, Maja Mikulic-Petkovsek, Ana Slatnar, Robert Veberic, Astrid Forneck, Karl Stich, Andreas Spornberger	Food Chemistry 173 (2015) 935–942
LC-MS Ion Trap & LC-DAD	Qualitative and nutraceutical aspects of lemon fruits grown on the mountainsides of the Mount Etna: A first step for a protected designation of origin or protected geographical indication application of the brand name 'Limone dell'Etna'	Margherita Amenta, Gabriele Ballistreri, Simona Fabroni, Flora V. Romeo, Alfio Spina, Paolo Rapisarda	Food Research International 74 (2015) 250–259
LC-MS Ion Trap & LC-DAD	Cashew apple (*Anacardium occidentale* L.) extract from by-product of juice processing: A focus on carotenoids	Fernando Pinto de Abreu, Manuel Dornier, Ana Paula Dionisio, Michel Carail, Catherine Caris-Veyrat, Claudie Dhuique-Mayer	Food Chemistry 138 (2013) 25–31

Fruit Juice Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap & LC-DAD	HPLC-DAD-MS Profiling of Polyphenols Responsible for the Yellow-Orange Color in Apple Juices of Different French Cider Apple Varieties	Erell Le Deun, Remmelt Van der Werf, Gildas Le Bail, Jean-Michel Le Quéré, and Sylvain Guyot	J. Agric. Food Chem. 2015, 63, 7675–7684
LC-MS/MS	Comprehensive assay of flavanones in citrus juices and beverages by UHPLC–ESI-MS/MS and derivatization chemistry	Leonardo Di Donna, Domenico Taverna, Fabio Mazzotti, Hicham Benabdelkamel, Mohamed Attya Anna Napoli, Giovanni Sindona	Food Chemistry 141 (2013) 2328–2333
LC-MS/MS	Determination of polyphenolic profiles by liquid chromatography-electrospray-tandem mass spectrometry for the authentication of fruit extracts	Lidia Puigventós, Meritxell Navarro, Élida Alechaga, Oscar Núñez, Javier Saurina, Santiago Hernández Cassou & Lluis Puignou	Anal Bioanal Chem (2015) 407:597–608
LC-MS/MS	Comparison of Methods for the Study of Ellagic Acid in Pomegranate Juice Beverages	V. Huerga-González, M. A. Lage-Yusty, M. Lago-Crespo, J. López-Hernández	Food Anal. Methods (2015) 8:2286–2293
LC-MS/MS	Aminocarminic acid in E120-labelled food additives and beverages	Leonardo Sabatino, Monica Scordino, Maria Gargano, Francesco Lazzaro, Marco A. Borzì, Pasqualino Traulo & Giacomo Gagliano	Food Additives and Contaminants: Part B (2012) 5: 295–300
LC-MS/MS & FTIR	Application of Analytical Methods for the Determination of Bioactive Compounds in Some Berries	Shela Gorinstein, Patricia Arancibia-Avila, Fernando Toledo, Jacek Namiesnik, Hanna Leontowicz, Maria Leontowicz, Kyung-Sik Ham, Seong-Gook Kang, Kann Vearasilp, Milan Suhaj	Food Anal. Methods (2013) 6:432–444
LC-Orbitrap & MALDI-Exactive	A comprehensive high-resolution mass spectrometry approach for characterization of metabolites by combination of ambient ionization, chromatography and imaging methods	Arton Berisha, Sebastian Dold, Sabine Guenther, Nicolas Desbenoit, Zoltan Takats,Bernhard Spengler and Andreas Römpp	Rapid Commun. Mass Spectrom (2014) 28, 1779–1791
LC-Orbitrap MS	Improved positive electrospray ionization of patulin by adduct formation: Usefulness in liquid chromatography–tandem mass spectrometry multi-mycotoxin analysis	Svetlana V. Malyshev, José Diana Di Mavungu, Jente Boonenb, Bart De Spiegeleer, Irina Yu. Goryacheva, Lynn Vanhaecke, Sarah De Saeger	Journal of Chromatography A, 1270 (2012) 334– 339
Lc-Orbitrap MS	Combining targeted and nontargeted data analysis for liquid chromatography / high-resolution mass spectrometric analyses	Timothy R. Croley, Kevin D. White, Jon Wong, John H. Callahan, Steven M. Musser, Margaret Antler, Vitaly Lashin, Graham A. McGibbon	J. Sep. Sci. 2013, 36, 971–979
LC-Orbitrap MS	Proteome investigation of the non-model plant pomegranate (*Punica granatum* L.)	Anna Laura Capriotti & Giuseppe Caruso & Chiara Cavaliere & Patrizia Foglia & Susy Piovesana & Roberto Samperi & Aldo Laganà	Anal Bioanal Chem (2013) 405, 9301–9309
LC-Orbitrap MS	Rapid determination of amino acids in foods by hydrophilic interaction liquid chromatography coupled to high-resolution mass spectrometry	Vural Gökmen, Arda Serpen, Burçe Ataç Mogol	Anal Bioanal Chem (2012) 403:2915–2922

Fruit Juice Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-Orbitrap MS & LC-DAD	Changes in polyphenol content during production of grape juice concentrate	Esra Capanoglu, Ric C.H. de Vos, Robert D. Hall, Dilek Boyacioglu, Jules Beekwilder	Food Chemistry 139 (2013) 521–526
LC-Q-Exactive	Chemometric Classification of Apple Juices According to Variety and Geographical Origin Based on Polyphenolic Profiles	Jing Guo, Tianli Yue, Yahong Yuan, and Yutang Wang	J. Agric. Food Chem. 2013, 61, 6949–6963
LC-Q-Exactive	Large pesticide multiresidue screening method by liquid chromatography-Orbitrap mass spectrometry in full scan mode applied to fruit and vegetables	Lukasz Rajski, María del Mar Gómez-Ramos, Amadeo R. Fernández-Alba	Journal of Chromatography A, 1360 (2014) 119–127
LC-Q-Orbitrap MS	Composition of Nonanthocyanin Polyphenols in Alcoholic-Fermented Strawberry Products Using LC–MS (QTRAP), High- Resolution MS (UHPLC-Orbitrap-MS), LC-DAD, and Antioxidant Activity	M. Antonia Álvarez-Fernández, Ana B. Cerezo, Ana M. Cañete-Rodríguez, Ana M. Troncoso, and M. Carmen García-Parrilla	J. Agric. Food Chem. 2015, 63, 2041–2051
LC-Q-Orbitrap MS	Liquid chromatography Orbitrap mass spectrometry with simultaneous full scan and tandem MS/MS for highly selective pesticide residue analysis	María del Mar Gómez-Ramos, Łukasz Rajski, Horacio Heinzen & Amadeo R. Fernández-Alba	Anal Bioanal Chem (2015) 407:6317–6326
LC-UV	Development and Validation of a Method for the Determination of (*E*)-Resveratrol and Related Phenolic Compounds in Beverages Using Molecularly Imprinted Solid Phase Extraction	Maria Anna Euterpio, Imma Pagano, Anna Lisa Piccinelli, Luca Rastrelli, and Carlo Crescenzi	J. Agric. Food Chem. 2013, 61, 1640–1645
UV-Vis Spectrophotometer	Clarification of pomegranate juice with chitosan: Changes on quality characteristics during storage	Ozge Tastan, Taner Baysal	Food Chemistry 180 (2015) 211–218
Discrete Analyzer	Automated Photometry Rapid, Automated L-Ascorbic Acid Analysis in Milk Powder and Juice	Mari Kiviluoma, Sari Hartikainen, Anne-Maria Riihimäki and Annu Suoniemi-Kähärä	J. Chem. Eng. Chem. Res. Vol. 2, No. 11, 2015, pp. 882-888

Did you know

- Cranberry blossoms can last 10 to 12 days, depending on the weather.
- Cranberry bushes thrive in conditions that would not support most plants, including acidic soil with few nutrients and low temperatures.
- The cranberry is one of only a handful of major fruits native to North America. Others include the blueberry and the Concord grape.

Juice should ONLY be juice

Milk Analysis

Instrument Type	Title (Abstract)	Authors	Publication
FTIR	Rapid detection of melamine adulteration in dairy milk by SB-ATR–Fourier transform infrared spectroscopy	Sana Jawaid, Farah N. Talpur, S.T.H. Sherazi, Shafi M. Nizamani, Abid A. Khaskheli	Food Chemistry 141 (2013) 3066–3071
GC-FID & GC-MS Quadrupole	Verification of fresh grass feeding, pasture grazing and organic farming by cows farm milk fatty acid profile	Edoardo Capuano, Grishja van der Veer, Rita Boerrigter-Eenling, Anjo Elgersma, Jan Rademaker, Adriana Sterian, Saskia M. van Ruth	Food Chemistry 164 (2014) 234–241
GC-MS Ion Trap	Effect of ultra high pressure homogenization treatment on the bioactive compounds of soya milk	N. Toro-Funes, J. Bosch-Fusté, M.T. Veciana-Nogués, M.C. Vidal-Carou	Food Chemistry 152 (2014) 597–602
GC-MS/MS	Application of semi-permeable membrane dialysis/ ion trap mass spectrometry technique to determine polybrominated diphenyl ethers and polychlorinated biphenyls in milk fat	Marek Roszko, Małgorzata Rzepkowska, Arkadiusz Szterk, Krystyna Szymczyk, Renata Jedrzejczak & Marcin Bryła	Analytica Chimica Acta (2012) 748: 9–19
GC-MS/MS	Multiresidue analysis of 30 organochlorine pesticides in milk and milk powder by gel permeation chromatography-solid phase extraction-gas chromatography-tandem mass spectrometry	Guocan Zheng, Chao Han, Yi Liu, Jing Wang, Meiwen Zhu, Chengjun Wang, and Yan Shen	J. Dairy Sci. 97 :6016–6026
GFAAS	Total arsenic in rice milk	Ron Shannon and Jose M. Rodriguez	Food Additives & Contaminants: Part B, (2014) 7, 1, 54–56
ICP-MS	Effect of milk type and processing on iodine concentration of organic and conventional winter milk at retail: Implications for nutrition	Laura M. Payling, Darren T. Juniper, Chris Drake, Caroline Rymer, D. Ian Givens	Food Chemistry 178 (2015) 327–330
IRMS	Identification of Milk Origin and Process-Induced Changes in Milk by Stable Isotope Ratio Mass Spectrometry	Matteo Scampicchio, Tanja Mimmo, Calogero Capici, Christian Huck, Nadia Innocente, Stephan Drusch, Stefano Cesco	J. Agric. Food Chem. 2012, 60, 11268–11273
IRMS	Applicability of organic milk indicators to the authentication of processed products	Joachim Molkentin	Food Chemistry 137 (2013) 25–30
IRMS	Combined chemometric analysis of ^{1}H NMR, ^{13}C NMR and stable isotope data to differentiate organic and conventional milk	Sarah Erich, Sandra Schill, Eva Annweiler, Hans-Ulrich Waiblinger, Thomas Kuballa, Dirk W. Lachenmeier, Yulia B. Monakhova	Food Chemistry 188 (2015) 1–7

Milk Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap	Screening and determination of sulphonamide residues in bovine milk samples using a flow injection system	Flávio Cesar Bedatty Fernandes, Aline Santana Silva, José Luiz Rufino, Helena Redigolo Pezza, Leonardo Pezza	Food Chemistry 166 (2015) 309–315
LC-MS Ion Trap	The simultaneous determination of vitamins A, E and b-carotene in bovine milk by high performance liquid chromatography–ion trap mass spectrometry (HPLC–MS^n)	Tim Plozza, V. Craige Trenerry, Domenico Caridi	Food Chemistry 134 (2012) 559–563
LC-MS/MS	Rapid screening of mycotoxins in liquid milk and milk powder by automated size-exclusion SPE-UPLC–MS/MS and quantification of matrix effects over the whole chromatographic run	Xiupin Wang, Peiwu Li	Food Chemistry 173 (2015) 897–904
LC-MS/MS	Method for the determination of thyreostats in milk samples using LC-MS/MS	Aleš Církva, Kamil Šťastný	Food Additives & Contaminants: Part A, (2013) 30: 983–986
LC-MS/MS	Multiresidue LC–MS/MS analysis of cephalosporins and quinolones in milk following ultrasound-assisted matrix solid-phase dispersive extraction combined with the quick, easy, cheap, effective, rugged, and safe methodology	Eftichia Karageorgou, Antonis Myridakis, Euripides G. Stephanou, Victoria Samanido	J. Sep. Sci. 2013, 36, 2020–2027
LC-MS/MS	Rapid multi-method for the determination of growth promoters in bovine milk by liquid chromatography–tandem mass spectrometry	George Kaklamanos, Georgios Theodoridis	Journal of Chromatography B, 930 (2013) 22– 29
LC-MS/MS Ion Trap	Ultra-high-performance liquid chromatography– ion trap mass spectrometry characterisation of milk polar lipids from dairy cows fed different diets	V. Craige Trenerry, Ghazal Akbaridoust, Tim Plozza, Simone Rochfort, William J. Wales, Martin Auldist, Said Ajlouni	Food Chemistry 141 (2013) 1451–1460
LC-Orbitrap MS	Fast simultaneous determination of free and conjugated isoflavones in soy milk by UHPLC–UV	N. Toro-Funes, I. Odriozola-Serrano, J. Bosch-Fusté, M.L. Latorre-Moratalla, M.T. Veciana-Nogués, M. Izquierdo-Pulido, M.C. Vidal-Carou	Food Chemistry 135 (2012) 2832–2838

Milk Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-Orbitrap MS	Identification of quinoline, carboline and glycinamide compounds in cow milk using HRMS and NMR	Pascal Rouge, Agnès Cornu, Anne-Sophie Biesse-Martin, Bernard Lyan, Nadège Rochut, Benoît Graulet	Food Chemistry 141 (2013) 1888–1894
LC-Q-Exactive	Targeted peptides for the quantitative evaluation of casein plasminolysis in drinking milk	Stefano Cattaneo, Milda Stuknytė , Luisa Pellegrino, Ivano De Noni	Food Chemistry 155 (2014) 179–185
LC-Q-Exactive	Effects of Different Industrial Heating Processes of Milk on Site-Specific Protein Modifications and Their Relationship to in Vitro and in Vivo Digestibility	Yasuaki Wada, and Bo Lönnerdal	J. Agric. Food Chem. 2014, 62, 4175−4185
LC-UV	Quantification of dabsylated di- and tri-peptides in fermented milk	T. Eisele, T. Stressler, B. Kranz, L. Fischer	Food Chemistry 135 (2012) 2808–2813
TLX-MS/MS	Multiresidue automated turbulent flow online LC-MS/MS method for the determination of antibiotics in milk	Katerina Bousova, Hamide Senyuva, Klaus Mittendorf	Food Additives & Contaminants (2012) 29:1901–1912
TLX-MS/MS	An Automated Online TurboFlow™ Cleanup LC/MS/MS Method for the Determination of 11 Plasticizers in Beverages and Milk	Ebru Ates, Klaus Mittendorf, Hamide Senyuva	Journal of AOAC International (2012) 96, 5, 1092-1100
Discrete Analyzer	Automated Photometry Rapid, Automated L-Ascorbic Acid Analysis in Milk Powder and Juice	Mari Kiviluoma, Sari Hartikainen, Anne-Maria Riihimäki and Annu Suoniemi-Kähärä	J. Chem. Eng. Chem. Res. Vol. 2, No. 11, 2015, pp. 882-888

Did you know

Milk consumption ranges widely, from as high as an amazing 360 L per capita in Scandinavia to less than 20 L per capita in Asia

Reference: ChartsBin.com 2016

Milk should ONLY be milk

Soft Drinks Analysis

Instrument Type	Title (Abstract)	Authors	Publication
DART-Orbitrap MS	Rapid qualitative analysis of phthalates added to food and nutraceutical products by direct analysis in real time/ orbitrap mass spectrometry	Randy L. Self, Wen-Hsin Wu	Food Control 25 (2012) 13-16
IC	Rapid quantitative method for total brominated vegetable oil in soft drinks using ion chromatography	Ashraf A. Yousef, Alaa B. Abbas, Bassam Sh. Badawi, Wafaa Y. Al-Jowhar, Esam A. Zain and Seham A. El-Mufti	Food Additives and Contaminants (2012) 29, 8, 1239–1243
ICP-MS	Li, Cr, Mn, Co, Ni, Cu, Zn, Se and Mo levels in foodstuffs from the Second French TDS	Laurent Noël, Rachida Chekri, Sandrine Millour, Christelle Vastel, Ali Kadar, Véronique Sirot, Jean-Charles Leblanc, Thierry Guérin	Food Chemistry 132 (2012) 1502–1513
Ion Selective Electrode	Fluoride content of soft drinks, nectars, juices, juice drinks, concentrates, teas and infusions marketed in Portugal	C. Fojo, M.E. Figueira, C.M.M. Almeida	Food Additives & Contaminants: Part A, (2013) 30: 705–712
LC-DAD	Development and analytical validation of a simple multivariate calibration method using digital scanner images for sunset yellow determination in soft beverages	Bruno G. Botelho, Luciana P. de Assis, Marcelo M. Sena	Food Chemistry 159 (2014) 175–180
LC-MS/MS	Determination of 30 Synthetic Food Additives in Soft Drinks by HPLC/Electrospray Ionization-Tandem Mass Spectrometry	Hui Gao, Minli Yang, Minglin Wang, Yansheng Zhao, Ya Cao, Xiaogang Chu	Journal of AOAC International (2013) 96:110-115

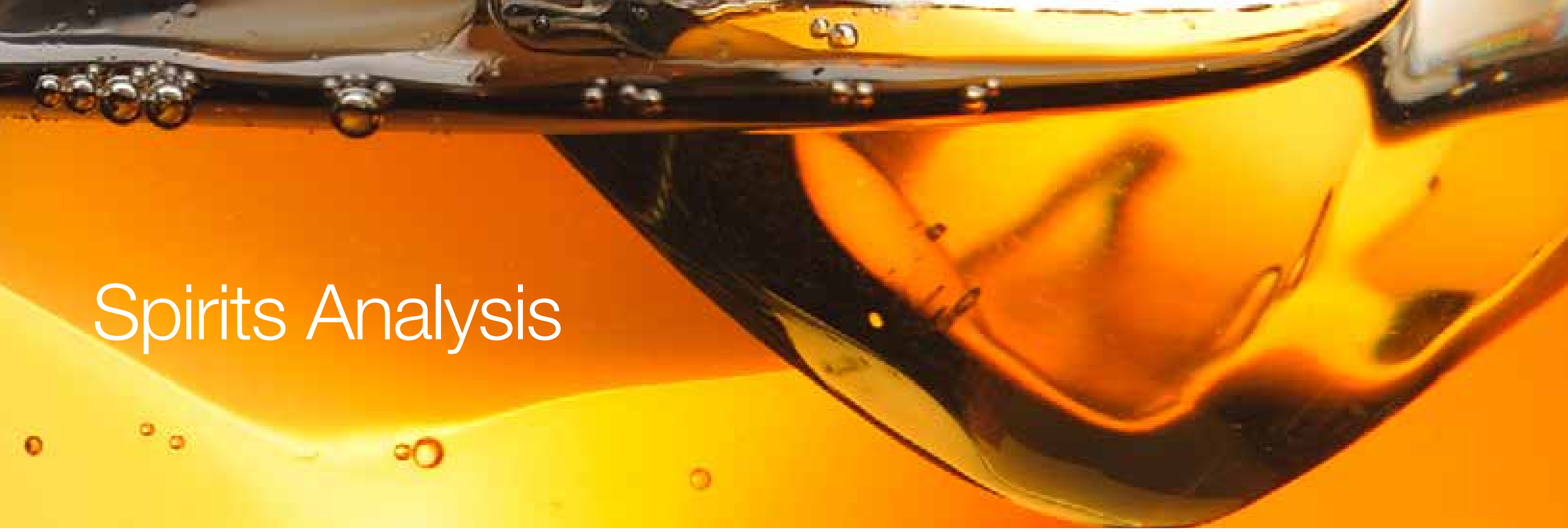
Soft Drinks Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS/MS	Simultaneous Quantitation of 2-Acetyl-4-tetrahydroxybutylimidazole, 2-and 4-Methylimidazoles, and 5-Hydroxymethylfurfural in Beverages by Ultrahigh-Performance Liquid Chromatography–Tandem Mass Spectrometry	Jinyuan Wang and William C. Schnute	J. Agric.Food Chem. 2012, 60, 917–921
LC-MS/MS	Determination of 2-methylimidazole, 4-methylimidazole and 2-acetyl-4-(1,2,3,4-tetrahydroxybutyl)imidazole in caramel colours and cola using LC/MS/MS	Claudia Schlee, Mariya Markova, Julia Schrank, Fanette Laplagne, Rüdiger Schneider, Dirk W. Lachenmeier	Journal of Chromatography B, 927 (2013) 223– 226
LC-MS/MS	Aminocarminic acid in E120-labelled food additives and beverages	Leonardo Sabatino, Monica Scordino, Maria Gargano, Francesco Lazzaro, Marco A. Borzì, Pasqualino Traulo & Giacomo Gagliano	Food Additives and Contaminants: Part B (2012) 5: 295–300
TLX-MS/MS	An Automated Online TurboFlow™ Cleanup LC/MS/MS Method for the Determination of 11 Plasticizers in Beverages and Milk	Ebru Ates, Klaus Mittendorf, Hamide Senyuva	Journal of AOAC International (2012) 96, 5, 1092-1100

Did you know

Coca-Cola® was originally created by a chemist searching for a headache and handover remedy. John Pemberton added kola nut extract to coca extract to produce Coca-Cola.

Cola should ONLY be cola



Spirits Analysis

Instrument Type	Title (Abstract)	Authors	Publication
All	The Analysis of Vodka: A Review Paper	Paulina Wiśniewska, Magdalena Śliwińska, Tomasz Dymerski, Waldemar Wardencki & Jacek Namieśnik	Food Anal. Methods (2015) 8:2000–2010
FT-ICR-MS	Whisky analysis by electrospray ionization-Fourier transform mass spectrometry	Jerusa S. Garcia, Boniek G. Vaz, Yuri E. Corilo, Christina F. Ramires , Sérgio A. Saraiva, Gustavo B. Sanvido, Eduardo M. Schmidt, Denison R.J. Maia, Ricardo G. Cosso, Jorge J. Zacca , Marcos Nogueira Eberlin	Food Research International 51 (2013) 98–106
GC-IRMS	Gas chromatography/isotope ratio mass spectrometry: Analysis of methanol, ethanol and acetic acid by direct injection of aqueous alcoholic and acetic acid samples	Guomin Ai, Tong Sun and Xiuzhu Dong	Rapid Commun. Mass Spectrom (2014) 28, 1674–1682
GC-IRMS	Evaluation of Gas Chromatography–Combustion–Isotope Ratio Mass Spectrometry (GC-C-IRMS) for the Quality Assessment of Citrus Liqueurs	Luisa Schipilliti, Ivana Bonaccorsi, Antonella Cotroneo, Paola Dugo, and Luigi Mondello	J. Agric. Food Chem. 2013, 61, 1661–1670
GC-IRMS	Accurate Method for the Determination of Intramolecular ^{13}C Isotope Composition of Ethanol from Aqueous Solutions	Alexis Gilbert, Keita Yamada, and Naohiro Yoshida	Anal. Chem. 2013, 85, 6566–6570
GC-MS Ion Trap	Estimation of furan contamination across the Belgian food chain	G. Scholl , M.-L. Scippo , E. De Pauw , G. Eppe and C. Saegerman	Food Additives and Contaminants (2012) 29, 2, 172–179
GC-MS Quadrupole	Characterization of the aroma-active compounds in Daqu: a tradition Chinese liquor starter	Chunlin Zhang, Zonghua Ao, WeiQiang Chui, Caihong Shen, Wenyi Tao, Suyi Zhang	Eur Food Res Technol (2012) 234:69–76

Spirits Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-MS Quadrupole	An Improved and Validated Sample Cleanup Method for Analysis of Ethyl Carbamate in Chinese Liquor	Qiang Xia, Huawei Yuan, Chongde Wu, Jia Zheng, Suyi Zhang, Caihong Shen, Bin Yi, and Rongqing Zhou	Journal of Food Science (2014) 79, 9, 1854-1860
GC-MS Quadrupole	Derivatization followed by gas chromatography-mass spectrometry for quantification of ethyl carbamate in alcoholic beverages	Xuejiao Xu, Yihan Gao, Xiujun Cao, Xiang Wang, Guoxin Song, Jianfeng Zhao, Yaoming Hu	J. Sep. Sci. 2012, 35, 804–810
ICP-MS	Assessment of minerals in aged grape marc distillates by FAAS/FAES and ICP-MS. Characterization and safety evaluation	Raquel Rodríguez-Solana, José Manuel Salgado, José Manuel Domínguez, Sandra Cortés	Food Control 35 (2014) 49-55
IRMS	Detection of counterfeit scotch whisky by ^{2}H and ^{18}O stable isotope analysis	W. Meier-Augenstein, H.F. Kemp, S.M.L. Hardie	Food Chemistry 133 (2012) 1070–1074
IRMS	Rapid Method for the Determination of the Stable Oxygen Isotope Ratio of Water in Alcoholic Beverages	Daobing Wang, Qiding Zhong, Guohui Li, and Zhanbin Huang	J. Agric. Food Chem. 2015, 63, 9357–9362
IRMS & Elemental Analysis	$\delta^{18}O$ of Ethanol in Wine and Spirits for Authentication Purposes	Matteo Perini and Federica Camin	Journal of Food Science (2013) 78, 6, 839-844
LC-MS/MS	Effect of experimental parameters in the pressurized solvent extraction of polyphenolic compounds from white grape marc	Marta Álvarez-Casas, Carmen García-Jares, María Llompart, Marta Lores	Food Chemistry 157 (2014) 524–532
On-Line SPE-LC & Q-Exactive	Identification and quantification of 56 targeted phenols in wines, spirits, and vinegars by online solid-phase extraction –ultrahigh-performance liquid chromatography – quadrupole-orbitrap mass spectrometry,	C. Barnaba, E. Dellacassa, G. Nicolini, T. Nardin, M. Malacarne, R. Larcher	Journal of Chromatography A, 1423 (2015) 124–135

Spirits should ONLY be spirits

Tea Analysis

Instrument Type	Title (Abstract)	Authors	Publication
DART-Orbitrap MS	Rapid control of Chinese star anise fruits and teas for neurotoxic anisatin by Direct Analysis in Real Time high resolution mass spectrometry	Yao Shen, Teris A. van Beek, Frank W. Claassen, Han Zuilhof, Bo Chen & Michel W.F. Nielen	Journal of Chromatography A, 1259 (2012) 179– 186
DART-Q-Exactive & DART-MS/MS Ion Trap	Monitoring tea fermentation/manufacturing by direct analysis in real time (DART) mass spectrometry	Karl Fraser, Geoff A. Lane, Don E. Otter, Scott J. Harrison, Siew Young Quek, Yacine Hemar , Susanne Rasmussen	Food Chemistry 141 (2013) 2060–2065
Elemental Analysis	Poly(ionic liquid) immobilized magnetic nanoparticles as newadsorbent for extraction and enrichment of organophosphorus pesticides from tea drinks	Xiaoyan Zheng, Lijun He, Yajing Duan, Xiuming Jiang, Guoqiang Xiang, Wenjie Zhao, Shusheng Zhang	Journal of Chromatography A, 1358 (2014) 39–45
FTIR	Chemometric Models for the Quantitative Descriptive Sensory Properties of Green Tea (*Camellia sinensis* L.) Using Fourier Transform Near Infrared (FT-NIR) Spectroscopy	Hui Jiang, Quansheng Chen	Food Anal. Methods (2015) 8:954–962
FTIR	Changes of major tea polyphenols and production of four new B-ring fission metabolites of catechins from post-fermented Jing-Wei Fu brick tea	Yun-Fei Zhu, Jing-Jing Chen, Xiao-Ming Ji, Xin Hu, Tie-Jun Ling, Zheng-Zhu Zhang, Guan-Hu Bao, Xiao-Chun Wana	Food Chemistry 170 (2015) 110–117
FTIR	α-Glucosidase Inhibition and Antihyperglycemic Activity of Phenolics from the Flowers of *Edgeworthia gardneri*,	Yan-Yan Ma, Deng-Gao Zhao, Ai-Yu Zhou, Yu Zhang, Zhiyun Du, and Kun Zhang	J. Agric. Food Chem. 2015, 63, 8162–816
GC-FID	Assessment of dietary exposure to flavouring substances via consumption of flavoured teas. Part 1: occurrence and contents of monoterpenes in Earl Grey teas marketed in the European Union	Anne-Marie Orth, Lu Yu, Karl-Heinz Engela	Food Additives & Contaminants: Part A, (2013) 30: 1701-1714
GC-FID	Assessment of dietary exposure to flavouring substances via consumption of flavoured teas. Part II: transfer rates of linalool and linalyl esters into Earl Grey tea infusions	Anne-Marie Orth, Iulia Poplacean, Oxana Fastowski and Karl-Heinz Engel	Food Additives & Contaminants: Part A, (2014) 31, 2, 207–217

Tea Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-MS Ion Trap	Study on the residue and degradation of fluorine-containing pesticides in Oolong tea by using gas chromatography-mass spectrometry	Lei Chen, Liang Min Shang Guan, YongNing Wu, LiangJun Xu, FengFu Fu	Food Control 25 (2012) 433-440
GC-MS Quadrupole	Homogalacturonans from Preinfused Green Tea: Structural Characterization and Anticomplementary Activity of Their Sulfated Derivatives	Huijun Wang, Songshan Shi, Xuelan Gu, Chao Zhu, Guodong Wei, Hongwei Wang, Bin Bao, Hongwei Fan, Wuxia Zhang, Jinyou Duan, and Shunchun Wang	J. Agric. Food Chem. 2013, 61, 10971–10980
GC-MS/MS	Development of a candidate certified reference material of cypermethrin in green tea	Della W.M. Sin, Pui-kwan Chan, Samuel T.C. Cheung, Yee-Lok Wong, Siu-kay Wong, Chuen-shing Mok & Yiu-chung Wong	Analytica Chimica Acta (2012) 721: 110– 114
ICP-MS	Solidified floating organic drop microextraction for speciation of selenium and its distribution in selenium-rich tea leaves and tea infusion by electrothermal vapourisation inductively coupled plasma mass spectrometry	Shizhong Chen, Shengping Zhu, Dengbo Lu	Food Chemistry 169 (2015) 156–161
ICP-MS	Li, Cr, Mn, Co, Ni, Cu, Zn, Se and Mo levels in foodstuffs from the Second French TDS	Laurent Noël, Rachida Chekri, Sandrine Millour, Christelle Vastel, Ali Kadar, Véronique Sirot, Jean-Charles Leblanc, Thierry Guérin	Food Chemistry 132 (2012) 1502–1513
LC-DAD	Simulated gastrointestinal digestion, intestinal permeation and plasma protein interaction of white, green, and black tea polyphenols	Gian Carlo Tenore, Pietro Campiglia, Daniela Giannetti, Ettore Novellino	Food Chemistry 169 (2015) 320–326
LC-DAD & LC-UV	Determination of Catechins and Caffeine in *Camillia sinensis* Raw Materials, Extracts, and Dietary Supplements by HPLC-UV: Single-Laboratory Validation	Mark C. Roman, Jana Hildreth, Silvia Bannister	Journal of AOAC International (2012) 95, 5, 933-941
LC-Delta IRMS	Caffeine in Your Drink: Natural or Synthetic?	Lijun Zhang, Dorothea M. Kujawinski, Eugen Federherr, Torsten C. Schmidt, and Maik A. Jochmann	Anal. Chem. 2012, 84, 2805–2810
LC-MS Ion Trap	Validation of a LC–MS Method for the Determination of Urea Contamination in Market Teas	Haipeng Jiang & Yinhua Zhang & Kailian Yang & Jing Zou	Food Anal. Methods (2014) 7:13–20

Did you know

- There is only one working tea plantation in the USA and it is located on Wadmalaw Island just outside Charleston, South Carolina.
- The UK consumes 165 million cups of tea daily. The average person in the UK will consume around 80,000 cups of tea during their live.
- Apart from tourism, tea is the biggest industrial activity in India.

Tea Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap	Structural Identification of Theaflavin Trigallate and Tetragallate from Black Tea Using Liquid Chromatography/Electrospray Ionization Tandem Mass Spectrometry	Huadong Chen, Kelly Shurlknight, TinChung Leung, and Shengmin Sang	J. Agric. Food Chem. 2012, 60, 10850–10857
LC-MS Ion Trap	Efficient improvement of surface activity of tea saponin through Gemini-like modification by straightforward esterification	Jin Feng, Ying Chen, Xin Liu, Songbai Liu	Food Chemistry 171 (2015) 272–279
LC-MS/MS	Determination of pyrrolizidine alkaloids in tea, herbal drugs and honey	Dorina Bodi, Stefan Ronczka, Christoph Gottschalk, Nastassja Behr, Anne Skibba, Matthias Wagner, Monika Lahrssen-Wiederholt, Angelika Preiss-Weigert and Anja These	Food Additives & Contaminants: Part A, (2014) 31, 11, 1886–1895
LC-MS/MS Quadrupole	Determination of Pesticide Residues in Tea by Gas Chromatography/Triple Quadrupole Mass Spectrometry with Solid-Phase Extraction	Chang Le Zhao, Rui Yan Ding, Lu Ge Huo, Hui Don Li, Zhan Dong, Fen En Wang, Guo Sheng Yang, Xiao Lu, Hassan Y Aboul Enein	Journal of AOAC International (2014) 97, 4, 1001-1006
LC-MS/MS Quadrupole	A novel method based on MSPD for simultaneous determination of 16 pesticide residues in tea by LC–MS/MS	Yalin Cao, Hua Tang, Dazhou Chen, Lei Li	Journal of Chromatography B, 998-999 (2015) 72–79
LC-Orbitrap MS	Non-targeted analysis of tea by hydrophilic interaction liquid chromatography and high resolution mass spectrometry	Karl Fraser, Scott J. Harrison, Geoff A. Lane, Don E. Otter, Yacine Hemar, Siew-Young Quek, Susanne Rasmussen	Food Chemistry 134 (2012) 1616–1623
LC-Orbitrap MS	Gut Microbial Metabolism of Polyphenols from Black Tea and Red Wine/Grape Juice Is Source-Specific and Colon-Region Dependent	F. A. van Dorsten, S. Peters, G. Gross, V. Gomez-Roldan, M. Klinkenberg, R.C. de Vos,E.E. Vaughan, J. P. van Duynhoven, S. Possemiers, T. van de Wiele,and D. M. Jacobs	J. Agric. Food Chem. 2012, 60, 11331–11342
LC-Orbitrap MS	Structural Annotation and Elucidation of Conjugated Phenolic Compounds in Black, Green, and White Tea Extracts	Justin J. J. van der Hooft, Moktar Akermi, Fatma Yelda Ünlü, Velitchka Mihaleva, Victoria Gomez Roldan, Raoul J. Bino, Ric C. H. de Vos and Jacques Vervoort	J. Agric. Food Chem. 2012, 60, 8841–8850
LC-Orbitrap MS	Identification and quantification of phytochemicals in nutraceutical products from green tea by UHPLC–Orbitrap-MS	Noelia López-Gutiérrez, Roberto Romero-González, Patricia Plaza-Bolaños, José Luis Martínez Vidal, Antonia Garrido Frenich	Food Chemistry 173 (2015) 607–618

Tea Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-Orbitrap MS	Automatic Chemical Structure Annotation of an LC–MS^n Based Metabolic Profile from Green Tea	Lars Ridder, Justin J. J. van der Hooft, Stefan Verhoeven, Ric C. H. de Vos, Raoul J. Bino & Jacques Vervoort	Anal. Chem. (2013) 85: 6033–6040
LC-Orbitrap MS	Rapid determination of amino acids in foods by hydrophilic interaction liquid chromatography coupled to high-resolution mass spectrometry	Vural Gökmen, Arda Serpen, Burçe Ataç Mogol	Anal Bioanal Chem (2012) 403:2915–2922
LC-Q-Exactive	Survey of pyrrolizidine alkaloids in teas and herbal teas on the Swiss market using HPLC-MS/MS	Caroline Mathon & Patrick Edder & Stefan Bieri & Philippe Christen	Anal Bioanal Chem (2014) 406:7345–7354
LC-Q-Orbitrap MS	High-throughput screening of vitamins and natural antioxidants in nutraceuticals from green tea extracts by liquid chromatography coupled to quadrupole orbitrap mass spectrometry	Wei Jia, Xiaogang Chu, James Chang, Feng Zhang	Journal of Chromatography A, 1406 (2015) 337–341
NIR	Measurement of total anthocyanins content in flowering tea using near infrared spectroscopy combined with ant colony optimization models	Huang Xiaowei, Zou Xiaobo, Zhao Jiewen, Shi Jiyong, Zhang Xiaolei, Mel Holmes	Food Chemistry 164 (2014) 536–543
UV-Vis Spectrophotometer	Simultaneous determination of 15 phenolic compounds and caffeine in teas and mate using RP-HPLC/UV detection: Method development and optimization of extraction process	In Kyung Bae, Hyeon Mi Ham, Min Hee Jeong, Dong Ho Kim, Ho Jin Kim	Food Chemistry 172 (2015) 469–475

Did you know

- Tea was accidentally discovered in 2737 BC when Chinese Emperor Shen Nung found tea leaves that had blown into a pot of boiling water that produced a pleasing aroma.
- Tea was introduced to England in 1669. At that time, the drink was enjoyed only by the aristocracy because a pound of tea cost an average British laborer the equivalent of nine months in wages.

Tea should ONLY be tea

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
ASE & LC-MS Ion Trap	Characterization of seed and skin polyphenolic extracts of two red grape cultivars grown in Croatia and their sensory perception in a wine model medium	N. Ćurko, K. Kovačević Ganić, L. Gracin, M. Đapić, M. Jourdes, P.L. Teissedre	Food Chemistry 145 (2014) 15–22
ASE & LC-MS Ion Trap	A preliminary characterization of Aglianico (*Vitis vinifera* L. cv.) grape proanthocyanidins and evaluation of their reactivity towards salivary proteins	A. Rinaldi, M. Jourdes, P.L. Teissedre, L. Moio	Food Chemistry 164 (2014) 142–149
FTIR	Application of dispersive solid-phase extraction and ultra-fast liquid chromatography–tandem quadrupole mass spectrometry in food additive residue analysis of red wine	Xiao-Hong Chen, Yong-Gang Zhao, Hao-Yu Shen, Mi-Cong Jin	Journal of Chromatography A, 1263 (2012) 34– 42
FTIR	Use of Attenuated Total Reflectance Mid-Infrared Spectroscopy for Rapid Prediction of Amino Acids in Chinese Rice Wine	Zhengzong Wu, Enbo Xu, Jie Long, Fang Wang, Xueming Xu, Zhengyu Jin, and Aiquan Jiao	Journal of Food Science (2015) 80, 8, 1670-1679
FTIR	Discrimination Between Shaoxing Wines and Other Chinese Rice Wines by Near-Infrared Spectroscopy and Chemometrics	Fei Shen, Danting Yang, Yibin Ying, Bobin Li, Yunfeng Zheng , Tao Jiang	Food Bioprocess Technol (2012) 5:786–795
FTIR	Comparison of near infrared and mid infrared spectroscopy to discriminate between wines produced by different *Oenococcus Oeni* strains after malolactic fermentation: A feasibility study	D. Cozzolino, J. McCarthy, E. Bartowsky	Food Control 26 (2012) 81-87
FTIR	A Multivariate Approach Using Attenuated Total Reflectance Midinfrared Spectroscopy To Measure the Surface Mannoproteins and β-Glucans of Yeast Cell Walls during Wine Fermentations	John P. Moore, Song-Lei Zhang, Hélène Nieuwoudt, Benoit Divol, Johan Trygg, and Florian F. Bauer	J. Agric. Food Chem. 2015, 63, 10054−10063
FTIR	Application of FTIR-ATR to Moscatel dessert wines for prediction of total phenolic and flavonoid contents and antioxidant capacity	Sandra D. Silva, Rodrigo P. Feliciano, Luís V. Boas, Maria R. Bronze	Food Chemistry 150 (2014) 489–493
FTIR	Study of phenolic profile and antioxidant activity in selected Moravian wines during winemaking process by FT-IR spectroscopy	Jana Preserova, Vaclav Ranc, David Milde, Vladimira Kubistova, Jan Stavek	J Food Sci Technol (2015) 52(10), 6405–6414
FTIR	Direct and Simultaneous Quantification of Tannin Mean Degree of Polymerization and Percentage of Galloylation in Grape Seeds Using Diffuse Reflectance Fourier Transform-Infrared Spectroscopy	Christos Pappas, Maria Kyraleou, Eleni Voskidi, Yorgos Kotseridis, Petros A. Taranilis, and Stamatina Kallithraka	Journal of Food Science (2015) 80, 2, 298-306

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
FTIR	Synchronous two-dimensional MIR correlation spectroscopy (2D-COS) as a novel method for screening smoke tainted wine	Anthea L. Fudge, Kerry L. Wilkinson, Renata Ristic, Daniel Cozzolino	Food Chemistry 139 (2013) 115–119
FTIR	Direct determination of organic acids in wine and wine-derived products by Fourier transform infrared (FT-IR) spectroscopy and chemometric techniques	U. Regmi, M. Palma, C.G. Barroso	Analytica Chimica Acta 732 (2012) 137–144
FTIR	Rapid Determination of Process Variables of Chinese Rice Wine Using FT-NIR Spectroscopy and Efficient Wavelengths Selection Methods	Zhengzong Wu, Enbo Xu, Fang Wang, Jie Long, Xueming Xu Aiquan Jiao, Zhengyu Jin	Food Anal. Methods (2015) 8:1456–1467
FTIR	Monitoring of fermentation process parameters of Chinese rice wine using attenuated total reflectance mid-infrared spectroscopy	Zhengzong Wu, Enbo Xu, Jie Long, Yujing Zhang, Fang Wang, Xueming Xu, Zhengyu Jin, Aiquan Jiao	Food Control 50 (2015) 405-412
FTIR	Monitoring *Saccharomyces cerevisiae* Grape Must Fermentation Process by Attenuated Total Reflectance Spectroscopy	Miquel Puxeu, Imma Andorra, Sílvia De Lamo-Castellví	Food Bioprocess Technol (2015) 8:637–646
FTIR	Biotin–streptavidin-amplified real-time immune-PCR assay for detecting dimethyl phthalate in beverage and drinking water samples	Ruiyan Sun & Huisheng Zhuang	Anal Bioanal Chem (2015) 407:1261–1265
GC-FID	Determination of Volatile Compounds in Wine by Gas Chromatography-Flame Ionization Detection: Comparison Between the U.S. Environmental Protection Agency 3s Approach and Hubaux-Vos Calculation of Detection Limits Using Ordinary and Bivariate Least Squares	Rosario Caruso, Monica Scordino, Pasqualino Traulo, and Giacomo Gagliano	Journal of AOAC International (2012) 95, 2, 459-471
GC-FID	Chemical and sensory characterisation of Sangiovese red wines: Comparison between biodynamic and organic management	Giuseppina Paola Parpinello, Adamo Domenico Rombolà, Marco Simoni, Andrea Versari	Food Chemistry 167 (2015) 145–152
GC-FID	Effect of commercial mannoproteins on wine colour and tannins stability	A. Rodrigues, J.M. Ricardo-Da-Silva, C. Lucas, O. Laureano	Food Chemistry 131 (2012) 907–914
GC-FID	Volatile phenols depletion in red wine using molecular imprinted polymers	Rafaela Teixeira, Sonia Dopico-García, Paula B. Andrade, Patrícia Valentão, José M. López-Vilariño, Victoria González-Rodríguez, Concepción Cela-Pérez, Luís R. Silva	J Food Sci Technol (2015) 52(12):7735–7746
GC-GC	Characterization of Muscat wines aroma evolution using comprehensive gas chromatography followed by a post-analytic approach to 2D contour plots comparison	Matteo Bordiga, Maurizio Rinaldi, Monica Locatelli, Gianluca Piana, Fabiano Travaglia, Jean Daniel Coïsson, Marco Arlorio	Food Chemistry 140 (2013) 57–67

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-IRMS	Identification of gum Arabic in white wine based on colloid content, colloid composition and multi-element stable isotope analysis	Sabrina Sprenger, Klaus Meylahn, Anne Zaar, Helmut Dietrich, Frank Will	Eur Food Res Technol (2015) 240:909–921
GC-IRMS	Quantifying the Contribution of Grape Hexoses to Wine Volatiles by High-Precision [$U^{13}C$]-Glucose Tracer Studies	Mark A. Nisbet, Herbert J. Tobias, J. Thomas Brenna, Gavin L. Sacks, and Anna Katharine Mansfield	J. Agric. Food Chem. 2014, 62, 6820–6827
GC-IRMS	Accurate Method for the Determination of Intramolecular ^{13}C Isotope Composition of Ethanol from Aqueous Solutions	Alexis Gilbert, Keita Yamada, and Naohiro Yoshida	Anal. Chem. 2013, 85, 6566–6570
GC-MS Ion Trap	Evaluation of an analytical method for determining phthalate esters in wine samples by solid-phase extraction and gas chromatography coupled with ion-trap mass spectrometer detector	Mario Vincenzo Russo, Ivan Notardonato, Giuseppe Cinelli & Pasquale Avino	Anal Bioanal Chem (2012) 402:1373–1381
GC-MS Ion Trap	Rapid analysis of six phthalate esters in wine by ultrasound-vortex-assisted dispersive liquid–liquid micro-extraction coupled with gas chromatography-flame ionization detector or gas chromatography–ion trap mass spectrometry	Giuseppe Cinelli , Pasquale Avino, Ivan Notardonato, Angela Centola, Mario Vincenzo Russo	Analytica Chimica Acta 769 (2013) 72– 78
GC-MS Ion Trap	Impact of phytosanitary treatments with fungicides (cyazofamid, famoxadone, mandipropamid and valifenalate) on aroma compounds of *Godello* white wines	M. González-Álvarez, C. González-Barreiro, B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 131 (2012) 826–836
GC-MS Ion Trap	Changes of the sensorial attributes of white wines with the application of new anti-mildew fungicides under critical agricultural practices	M. González Álvarez, R. Noguerol-Pato, C. González-Barreiro, B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 130 (2012) 139–146
GC-MS Ion Trap	Aroma potential of Brancellao grapes from different cluster positions	R. Noguerol-Pato, C. González-Barreiro, B. Cancho-Grande, J.L. Santiago, M.C. Martínez, J. Simal-Gándara	Food Chemistry 132 (2012) 112–124
GC-MS Ion Trap	Active odorants in Mouratón grapes from shoulders and tips into the bunch	R. Noguerol-Pato, C. González-Barreiro, J. Simal-Gándara, M.C. Martínez, J.L. Santiago, B. Cancho-Grande	Food Chemistry 133 (2012) 1362–1372
GC-MS Ion Trap	Aroma profile of Garnacha Tintorera-based sweet wines by chromatographic and sensorial analyses	R. Noguerol-Pato, M. González-Álvarez, C. González-Barreiro, B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 134 (2012) 2313–2325
GC-MS Ion Trap	Influence of new generation fungicides on *Saccharomyces cerevisiae* growth, grape must fermentation and aroma biosynthesis	R. Noguerol-Pato, A. Torrado-Agrasar, C. González-Barreiro, B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 146 (2014) 234–241

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-MS Ion Trap	Identification, quantitation and sensory evaluation of methyl 2- and methyl 3-methylbutanoate in varietal red wines	C. Pavez, M. Steinhaus, G. Casaubon, P. Schieberle and E. Agosin	Australian Journal of Grape and Wine Research (2015) 21, 189–193
GC-MS Ion Trap	Evaluation of the effect of fenhexamid and mepanipyrim in the volatile composition of Tempranillo and Graciano wines	R. Noguerol-Pato, T. Sieiro-Sampedro, C. González-Barreiro, B. Cancho-Grande, J. Simal-Gándara	Food Research International 71 (2015) 108–117
GC-MS Ion Trap	Mass spectrometry identification of alkyl-substituted pyrazines produced by *Pseudomonas* spp. isolates obtained from wine corks	Lluís Bañeras, Rosalia Trias, Anna Godayol, Laura Cerdán, Thorben Nawrath, Stefan Schulz, Enriqueta Anticó	Food Chemistry 138 (2013) 2382–2389
GC-MS Ion Trap	Estimation of furan contamination across the Belgian food chain	G. Scholl , M.-L. Scippo , E. De Pauw , G. Eppe and C. Saegerman	Food Additives and Contaminants (2012) 29, 2, 172–179
GC-MS Ion Trap & GC-MS Quadrupole	Characterization and analysis of structural isomers of dimethyl methoxypyrazines in cork stoppers and ladybugs (*Harmonia axyridis* and *Coccinella septempunctata*)	Petra Slabizki, Charlotte Legrum, Reinhard Meusinger & Hans-Georg Schmarr	Anal Bioanal Chem (2014) 406:6429–6439
GC-MS Quadrupole	Colloidal silver complex as an alternative to sulphur dioxide in winemaking	Pedro M. Izquierdo-Cañas, Esteban García-Romero, Belén Huertas-Nebreda, Sergio Gómez-Alonso	Food Control 23 (2012) 73-81
GC-MS Quadrupole	Contribution of oak wood ageing to the sweet perception of dry wines	A. Marchal, A. Pons, V. Lavigne and D. Dubourdieu	Australian Journal of Grape and Wine Research (2103) 19, 11–19
GC-MS Quadrupole	Volatile Compounds in Red Wines Processed on an Industrial Scale by Short Pre-fermentative Cold Maceration	D. Albanese, G. Attanasio, L. Cinquanta, M. Di Matteo	Food Bioprocess Technol (2013) 6:3266–3272
GC-MS Quadrupole	Volatile profile of Madeira wines submitted to traditional accelerated ageing	Vanda Pereira, Juan Cacho, José C. Marques	Food Chemistry 162 (2014) 122–134
GC-MS Quadrupole	Melatonin treatment of pre-veraison grape berries to increase size and synchronicity of berries and modify wine aroma components	Jiang-Fei Meng, Teng-Fei Xu, Chang-Zheng Song, Yong Yu, Fan Hua, Li Zhang, Zhen-Wen Zhang, Zhu-Mei Xi	Food Chemistry 185 (2015) 127–134
GC-MS Quadrupole	Effects of Fermentation Temperature on Key Aroma Compounds and Sensory Properties of Apple	Bangzhu Peng, Fuling Li, Lu Cui, and Yaodong Guo	Wine Journal of Food Science (2015) 80, 12, 2937-2943
GC-MS Quadrupole	Cyclic voltammetry: A tool to quantify 2,4,6-trichloroanisole in aqueous samples from cork planks boiling industrial process	António M. Peres, Patrícia Freitas, Luís G. Dias, Mara E.B.C. Sousa, Luís M. Castro, Ana C.A. Veloso	Talanta (2013), 117, 438–444
GC-MS Quadrupole	Sorption of 4-ethylphenol and 4-ethylguaiacol by suberin from cork	Joan-Josep Gallardo-Chacón, Thomas Karbowiak	Food Chemistry 181 (2015) 222–226

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-MS Quadrupole	The potential of ion mobility spectrometry (IMS) for detection of 2,4,6-trichloroanisole (2,4,6-TCA) in wine	Zeev Karpas, Ana V. Guamán, Daniel Calvo, Antonio Pardob, Santiago Marco	Talanta 93 (2012) 200–205
GC-MS Quadrupole	Dissipation of Fungicide Residues during Winemaking and Their Effects on Fermentation and the Volatile Composition of Wines	Raquel Noguerol-Pato, Tania Fernández-Cruz, Thais Sieiro-Sampedro, Carmen González-Barreiro, Beatriz Cancho-Grande, Diego-Augusto Cilla-García, Mariá García-Pastor, Mariá -Teresa Martínez-Soria, Jesús Sanz-Asensio, and Jesús Simal-Gándara	J. Agric. Food Chem. 2016, 64, 1344–1354
GC-MS Quadrupole	Rapid and sensitive methodology for determination of ethyl carbamate in fortified wines using microextraction by packed sorbent and gas chromatography with mass spectrometric detection	João M. Lec, Vanda Pereira, Ana C. Pereira, José C. Marquesa	Analytica Chimica Acta 811 (2014) 29– 35
GC-MS Quadrupole	Improved sample preparation for GC–MS–SIM analysis of ethyl carbamate in wine	Ian C.C. Nóbrega, Giuliano E. Pereira, Marileide Silva, Elainy V.S. Pereira, Marcelo M. Medeiros, Danuza L. Telles, Eden C. Albuquerque Jr. c, Juliane B. Oliveira, Dirk W. Lachenmeier	Food Chemistry 177 (2015) 23–28
GC-MS Quadrupole	The influence of packaging on wine conservation	R. Ghidossi, C. Poupot, C. Thibon, A. Pons, P. Darriet, L. Riquier, G. De Revel, M. Mietton Peuchot	Food Control 23 (2012) 302-311
GC-MS Quadrupole	Malolactic Fermentation and Secondary Metabolite Production by *Oenoccocus oeni* Strains in Low pH Wines	Patricia Ruiz, Pedro Miguel Izquierdo, Susana Sesena, Esteban García, and Maria Llanos Palop	Journal of Food Science (2012) 77, 10, 579-585
GC-MS Quadrupole	Evolution of quality parameters during red wine dealcoholization by osmotic distillation	Loredana Liguori, Paola Russo, Donatella Albanese, Marisa Di Matteo	Food Chemistry 140 (2013) 68–75
GC-MS Quadrupole	Rapid analysis of phthalates in beverage and alcoholic samples by multi-walled carbon nanotubes/ silica reinforced hollow fibre-solid phase microextraction	Jia Li, Qiong Su, Ke-Yao Li, Chu-Feng Sun, Wen-Bo Zhang	Food Chemistry 141 (2013) 3714–3720
GC-MS Quadrupole	Derivatization followed by gas chromatography-mass spectrometry for quantification of ethyl carbamate in alcoholic beverages	Xuejiao Xu, Yihan Gao, Xiujun Cao, Xiang Wang, Guoxin Song, Jianfeng Zhao, Yaoming Hu	J. Sep. Sci. 2012, 35, 804–810
GC-MS Quadrupole & GC-FID	Determination of Wine Aroma Compounds by Dehydration Followed by GC/MS	Alberto Anggioni, Giorgio A.M. Pintore, Pierluigi Caboni	Journal of AOAC International (2012) 95, 3, 813-819
GC-MS/MS	Comprehensive lipidome profiling of Sauvignon blanc grape juice	Sergey Tumanov, Yuri Zubenko, Marc Greven, David R. Greenwood, Vadim Shmanai, Silas G. Villas-Boas	Food Chemistry 180 (2015) 249–256

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
GC-MS/MS	Development of reliable analytical tools for evaluating the influence of reductive winemaking on the quality of Lugana wines	Fulvio Mattivi, Bruno Fedrizzi, Alberto Zenato, Paolo Tiefenthaler, Silvano Tempest, Daniele Perenzoni, Paolo Cantarella, Federico Simeonia, Urska Vrhovsek	Analytica Chimica Acta 732 (2012) 194–202
GC-MS/MS Ion Trap	Analysis of six fungicides and one acaricide in still and fortified wines using solid-phase microextraction-gas chromatography/tandem mass spectrometry	Joana Martins, Cristina Esteves, Ana Limpo-Faria, Paulo Barros, Natália Ribeiro, Tomás Simões, Manuela Correia, Cristina Delerue-Matos	Food Chemistry 132 (2012) 630–636
GC-MS/MS Quadrupole	Comparison of electron and chemical ionization modes for the quantification of thiols and oxidative compounds in white wines by gas chromatography–tandem mass spectrometry	Cécile Thibon, Alexandre Pons, Nadia Mouakka, Pascaline Redon, Raphaël Méreau, Philippe Darriet	Journal of Chromatography A, 1415 (2015) 123–133
GC-MS/MS Quadrupole	Determination of fungicides in white grape bagasse by pressurized liquid extraction and gas chromatography tandem mass spectrometry	Maria Celeiro, Maria Llompart, J. Pablo Lamas, Marta Lores, Carmen Garcia-Jares, Thierry Dagnac	Journal of Chromatography A, 1343 (2014) 18–25
Headspace GC-MS Quadrupole	Fingerprinting of red wine by headspace solid-phase dynamic extraction of volatile constituents	Jens Laaks, Thomas Letzel, Torsten C. Schmidt & Maik A. Jochmann	Anal Bioanal Chem (2012) 403:2429–2436
Headspace GC-MS Quadrupole	Comparison of the sensitivity of different aroma extraction techniques in combination with gas chromatography–mass spectrometry to detect minor aroma compounds in wine	Amparo Gamero, Wilma Wesselink, Catrienus de Jong	Journal of Chromatography A, 1272 (2013) 1– 7
ICP-AES	The multi-element determination and regional discrimination of Australian wines	Alexander E. Martin, R. John Watling, Garry S. Lee	Food Chemistry 133 (2012) 1081–1089
ICP-AES	Identification of Wine Provenance by ICP-AES Multielement Analysis	A. A. Kaunova, V. I. Petrov, T. G. Tsyupko, Z. A. Temerdashev, V. V. Perekotii, and A. A. Luk'yanov	Journal of Analytical Chemistry, 2013, Vol. 68, No. 9, pp. 831–836.
ICP-AES	Combination of Acid-Free Open-Vessel Wet Digestion and Poly(amidoamine) Dendrimer-Enhanced Capillary Electrophoresis for Determination of Metal Ions in Wines	Chenling Zhang, Yuan Zhang, Weidong Qin	Food Anal. Methods (2014) 7:165–171
ICP-MS	Li, Cr, Mn, Co, Ni, Cu, Zn, Se and Mo levels in foodstuffs from the Second French TDS	Laurent Noël, Rachida Chekri, Sandrine Millour, Christelle Vastel, Ali Kadar, Véronique Sirot, Jean-Charles Leblanc, Thierry Guérin	Food Chemistry 132 (2012) 1502–1513
ICP-MS	Application of data fusion techniques to direct geographical traceability indicators	Michele Silvestri, Lucia Bertacchini, Caterina Durante, Andrea Marchetti, Elisa Salvatore, Marina Cocchi	Analytica Chimica Acta 769 (2013) 1– 9

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
ICP-MS	Classification of Croatian wine varieties using multivariate analysis of data obtained by high resolution ICP-MS analysis	Dasa Kruzlicova, Željka Fiket, Goran Kniewald	Food Research International 54 (2013) 621–626
ICP-MS	Geographical traceability based on $^{87}Sr/^{86}Sr$ indicator: A first approach for PDO Lambrusco wines from Modena	Caterina Durante, Carlo Baschieri, Lucia Bertacchini, Marina Cocchi, Simona Sighinolfi, Michele Silvestri, Andrea Marchetti	Food Chemistry 141 (2013) 2779–2787
ICP-MS	A traceability study on the Moscato wine chain	Maurizio Aceto, Elisa Robotti, Matteo Oddone, Massimo Baldizzone, Gabriella Bonifacino, Guido Bezzo, Rocco Di Stefano, Fabio Gosetti, Eleonora Mazzucco, Marcello Manfredi, Emilio Marengo	Food Chemistry 138 (2013) 1914–1922
ICP-MS	Intraregional classification of wine via ICP-MS elemental fingerprinting	P.P. Coetzee, F.P. van Jaarsveld, F. Vanhaecke	Food Chemistry 164 (2014) 485–492
ICP-MS	Evaluation of the multi-element capabilities of collision/ reaction cell inductively coupled plasma–mass spectrometry in wine analysis	Guillermo Grindlay, Juan Mora, Margaretha T.C.de Loos-Vollebregt, Frank Vanhaecke	Talanta (2014), 128, 379–385
ICP-MS	Suspension Columns with Grain Sorbents Retained in an Ultrasonic Field for Separation and Determination of Rare Earth Elements in Wines	R. Kh. Dzhenloda, V. M. Shkinev, T. V. Danilova, Z. A. Temerdashev,V. K. Karandashev, and B. Ya. Spivakov	Journal of Analytical Chemistry, (2015)70, 12,1456–1462.
ICP-MS & ICP-AES	Trace metals in wine and vineyard environment in southern Ukraine	Yuliya Vystavna, Liliya Rushenko, Dmytro Diadin, Olga Klymenko, Mykola Klymenko	Food Chemistry 146 (2014) 339–344
ICP-OES	Quantitative analysis of free and bonded forms of volatile sulfur compounds in wine. Basic methodologies and evidences showing the existence of reversible cation-complexed forms	Ernesto Franco-Luesma, Vicente Ferreira	Journal of Chromatography A, 1359 (2014) 8–15
Ion selective electrode	Instrumental measurement of wine sensory descriptors using avoltammetric electronic tongue	Xavier Cetó, Andreu González-Calabuig, Josefina Capdevila, Anna Puig-Pujol, Manel del Valle	Sensors and Actuators (2015) B 207, 1053–1059
Ion Selective Electrode & UV-Vis Spectrophotometry	Bio Electronic Tongue for the quantification of total polyphenol content in wine	Xavier Cetó, Francisco Céspedes, Manel del Valle	Talanta 99(2012)544–551
IRMS	Pathogenesis-Related Proteins Limit the Retention of Condensed Tannin Additions to Red Wines	Lindsay F. Springer, Robert W. Sherwood, and Gavin L. Sacks	J. Agric. Food Chem. 2016, 64, 1309–1317
IRMS	Mass Spectrometric Analysis of the $^{13}C/^{12}C$ Abundance Ratios in Vine Plants and Wines Depending on Regional Climate Factors (Krasnodar krai and Rostov oblast, Russia)	A. M. Zyakun, L. A. Oganesyants, A. L. Panasyuk, E. I. Kuz'mina, A. A. Shilkin, B. P. Baskunov, V. N. Zakharchenko, and V. P. Peshenko	Journal of Analytical Chemistry, (2013) 68, 13, 1136–1141

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
IRMS	The effect of stopping alcoholic fermentation on the variability of H, C and O stable isotope ratios of ethanol	M. Perini, R. Guzzon, M. Simoni, M. Malacarne, R. Larcher, F. Camin	Food Control 40 (2014) 368-373
IRMS	O–H–C isotope ratio determination in wine in order to be used as a fingerprint of its regional origin	B. Raco, E. Dotsika, D. Poutoukis, R. Battaglini, P. Chantzi	Food Chemistry 168 (2015) 588–594
IRMS	H, C, and O Stable Isotope Ratios of *Passito* Wine	Matteo Perini, Luca Rolle, Pietro Franceschi, Marco Simoni, Fabrizio Torchio, Vincenzo Di Martino, Rosa Maria Marianella, Vincenzo Gerbi, and Federica Camin	J. Agric. Food Chem. 2015, 63, 5851–5857
IRMS	Site-specific $^{13}C/^{12}C$ isotope abundance ratios in dicarboxylic oxyacids as characteristics of their origin	Anatoly M. Zyakun, Lev A. Oganesyants, Alexander L. Panasyuk, Elena I. Kuz'mina, Aleksey A. Shilkin, Boris P. Baskunov, Vladimir N. Zakharchenko and Valentina P. Peshenko	Rapid Commun. Mass Spectrom (2015) 29, 2026–2030
IRMS	Rapid Method for the Determination of the Stable Oxygen Isotope Ratio of Water in Alcoholic Beverages	Daobing Wang, Qiding Zhong, Guohui Li, and Zhanbin Huang	J. Agric. Food Chem. 2015, 63, 9357–9362
IRMS & Elemental Analysis	$\delta^{18}O$ of Ethanol in Wine and Spirits for Authentication Purposes	Matteo Perini and Federica Camin	Journal of Food Science (2013) 78, 6, 839-844
LC-DAD	Differentiation of Romanian Wines on Geographical Origin and Wine Variety by Elemental Composition and Phenolic Components	Elisabeta Irina Geana, Adrian Marinescu, Andreea Maria Iordache, Claudia Sandru, Roxana Elena Ionete, Camelia Bala	Food Anal. Methods (2014) 7:2064–2074
LC-DAD	Recovery of Squalene from Wine Lees Using Ultrasound Assisted Extraction-A Feasibility Study	Eleni Naziri, Fani Mantzouridou, and Maria Z. Tsimidou	J. Agric. Food Chem. 2012, 60, 9195–9201
LC-DAD	Study of anthocyanic profiles of twenty-one hybrid grape varieties by liquid chromatography and precursor-ion mass spectrometry	M. De Rosso, L. Tonidandel, R. Larcher, G. Nicolini , V. Ruggeri, A. Dalla Vedova, F. De Marchi, M. Gardiman, R. Flamini	Analytica Chimica Acta 732 (2012) 120–129
LC-DAD	Anthocyanins and flavonols berries from L. cv. Brancellao separately collected from two different positions within the cluster	M. Figueiredo-González, J. Simal-Gándara, S. Boso b, M.C. Martínez, J.L. Santiago, B. Cancho-Grande	Food Chemistry 135 (2012) 47–56
LC-DAD	Proanthocyanidin Composition and Antioxidant Potential of the Stem Winemaking Byproducts from 10 Different Grape Varieties (*Vitis vinifera* L.)	María Reyes González-Centeno, Michael Jourdes, Antoni Femenia, Susana Simal, Carmen Rosselló, and Pierre-Louis Teissedre	J. Agric. Food Chem. 2012, 60, 11850–11858
LC-DAD	Polyphenolic pattern and in vitro cardioprotective properties of typical red wines from vineyards cultivated in Scafati (Salerno, Italy)	Gian Carlo Tenore, Michele Manfra, Paola Stiuso, Luigi Coppola, Mariateresa Russo, Alberto Ritieni, Pietro Campiglia	Food Chemistry 140 (2013) 803–809

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-DAD	Nutraceutical properties and polyphenolic profile of berry skin and wine of *Vitis vinifera* L. (cv. Aglianico)	Mauro De Nisco, Michele Manfra, Adele Bolognese, Adriano Sofo, Antonio Scopa, Gian Carlo Tenore, Francesco Pagano, Ciro Milite, Maria Teresa Russo	Food Chemistry 140 (2013) 623–629
LC-DAD & LC-MS Ion Trap	Phenolic and furanic compounds of Portuguese chestnut and French, American and Portuguese oak wood chips	Raquel Garcia, Bruno Soares, Cristina Barrocas Dias, Ana Maria Costa Freitas, Maria João Cabrita	Eur Food Res Technol (2012) 235:457–467
LC-Exactive	New Approach for Differentiating Sessile and Pedunculate Oak: Development of a LC-HRMS Method To Quantitate Triterpenoids in Wood	Axel Marchal, Andréi Prida, and Denis Dubourdieu	J. Agric. Food Chem. 2016, 64, 618–626
LC-FL	Ochratoxin A levels in Greek retail wines	Yiannis Sarigiannis, John Kapolos, Athanasia Koliadima, Theodore Tsegenidis, George Karaiskakis	Food Control 42 (2014) 139-143
LC-FL & FT-NIR	Rapid Measurement of Antioxidant Activity and γ-Aminobutyric Acid Content of Chinese Rice Wine by Fourier-Transform Near Infrared Spectroscopy	Zhengzong Wu, Enbo Xu , Jie Long, Fang Wang, Xueming Xu, Zhengyu Jin, Aiquan Jiao	Food Anal. Methods (2015) 8:2541–2553
LC-MS	Study of ochratoxin A content in South Moravian and foreign wines by the UPLC method with fluorescence detection	Renata Mikulíková, Sylvie Běláková, Karolína Benešová, Zdeněk Svoboda	Food Chemistry 133 (2012) 55–59
LC-MS Ion Trap	Development of a Method for the Quantification of Caseinate Traces in Italian Commercial White Wines Based on Liquid Chromatography–Electrospray Ionization–Ion Trap–Mass Spectrometry	Ilario Losito, Barbara Introna, Linda Monaci, Silvana Minella, and Francesco Palmisano	J. Agric. Food Chem. 2013, 61, 12436–12444
LC-MS Ion Trap	Biochemical features of native red wines and genetic diversity of the corresponding grape varieties from Campania region	Livio Muccillo, Angelita Gambuti, Luigi Frusciante, Massimo Iorizzo, Luigi Moio, Katia Raieta, Alessandra Rinaldi, Vittorio Colantuoni, Riccardo Aversano	Food Chemistry 143 (2014) 506–513
LC-MS Ion Trap	Rapid and simple method for the quantification of flavan-3-ols in wine	Maria A. Silva, Isabelle Ky, Michael Jourdes, Pierre-Louis Teissedre	Eur Food Res Technol (2012) 234:361–365
LC-MS Ion Trap	Structural Features of Copigmentation of Oenin with Different Polyphenol Copigments	Natércia Teixeira, Luís Cruz, Natércia F. Brás, Nuno Mateus, Maria João Ramos, and Victor de Freitas	J. Agric. Food Chem. 2013, 61, 6942–6948
LC-MS Ion Trap	Effects of Pulsed Electric Fields on Cabernet Sauvignon Grape Berries and on the Characteristics of Wines	Cristèle Delsart, Céline Cholet, Rémy Ghidossi, Nabil Grimi, Etienne Gontier, Laurence Gény, Eugène Vorobiev, Martine Mietton-Peuchot	Food Bioprocess Technol (2014) 7:424–436

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap	Migration of phenolic compounds from different cork stoppers to wine model solutions: antioxidant and biological relevance	J. Azevedo, I. Fernandes, P. Lopes, I. Roseira, M. Cabral, N. Mateus, V. Freitas	Eur Food Res Technol (2014) 239:951–960
LC-MS Ion Trap	Application of gas-diffusion microextraction to the analysis of free and bound acetaldehyde in wines by HPLC–UV and characterization of the extracted compounds by MS/MS detection	Manuel P. Cruz, Inês M. Valente, Luís M. Gonçalves, José A. Rodrigues & Aquiles A. Barros	Anal Bioanal Chem (2012) 403:1031–1037
LC-MS Ion Trap	Cabernet sauvignon red wine astringency quality control by tannin characterization and polymerization during storage	Kleopatra Chira, Michael Jourdes, Pierre-Louis Teissedre	Eur Food Res Technol (2012) 234:253–261
LC-MS Ion Trap	Effects of solar ultraviolet radiation and canopy manipulation on the biochemical composition of Sauvignon Blanc grapes	S.M. Gregan, J.J. Wargent, L. Liu, J. Shinkle, R. Hofmann, C. Winefield, M. Trought and B. Jordan	Australian Journal of Grape and Wine Research (2012) 18, 227–238
LC-MS Ion Trap	The response of phenolic compounds in grapes of the variety ‘Chardonnay’ (*Vitis vinifera* L.) to the infection by phytoplasma Bois noir	Denis Rusjan, Robert Veberič, Maja Mikulič-Petkovšek	Eur J Plant Pathol (2012) 133, 965–974
LC-MS Ion Trap	Isolation, characterization, and determination of a new compound in red wine	Sandy Fabre & Christelle Absalon & Noël Pinaud & Christiane Venencie & Pierre-Louis Teissedre & Eric Fouquet & Isabelle Pianet	Anal Bioanal Chem (2014) 406:1201–1208
LC-MS Ion Trap	Origin of the Pinking Phenomenon of White Wines	Jenny Andrea-Silva, Fernanda Cosme, Luís Filipe Ribeiro, Ana S. P. Moreira, Aureliano C. Malheiro, Manuel A. Coimbra, M. Rosário M. Domingues, and Fernando M. Nunes	J. Agric. Food Chem. 2014, 62, 5651–5659
LC-MS Ion Trap	Phenolic responses in 1-year-old canes of *Vitis vinifera* cv. Chardonnay induced by grapevine yellows (Bois noir)	D. Rusjan and M. Mikulic Petkovsek	Australian Journal of Grape and Wine Research (2015) 21, 123–134
LC-MS Ion Trap & LC-DAD	Fingerprinting of anthocyanins from grapes produced in Brazil using HPLC–DAD–MS and exploratory analysis by principal component analysis	Karina Fraige, Edenir R. Pereira-Filho, Emanuel Carrilho	Food Chemistry 145 (2014) 395–403
LC-MS Ion Trap & LC-DAD	Structural characterization of a A-type linked trimeric anthocyanin derived pigment occurring in a young Port wine	Joana Oliveira, Mara Alhinho da Silva, A. Jorge Parola, Nuno Mateus, Natércia F. Brás, Maria João Ramos, Victor de Freitas	Food Chemistry 141 (2013) 1987–1996
LC-MS Ion Trap & LC-DAD	Kinetics of Browning, Phenolics, and 5-Hydroxymethylfurfural in Commercial Sparkling Wines	A. Serra-Cayuela, M. Jourdes, M. Riu-Aumatell, S. Buxaderas, P.-L. Teissedre	J. Agric. Food Chem. 2014, 62, 1159–1166

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS Ion Trap & LC-UV	Aroma Profile, and *In Vitro* Antioxidant Activity of Italian Dessert Passito Wine from Saracena (Italy)	Monica R. Loizzo, Marco Bonesi, Giuseppe Di Lecce, Emanuele Boselli, Rosa Tundis, Alessandro Pugliese, Francesco Menichini, and Natale Giuseppe Frega	Journal of Food Science (2013) 78, 703-708
LC-MS Ion Trap & LC-UV	Occurrence and Formation Kinetics of Pyranomalvidin-Procyanidin Dimer Pigment in Merlot Red Wine: Impact of Acidity and Oxygen Concentrations	Laurent Pechamat, Liming Zeng, Michael Jourdes, Rémy Ghidossi, and Pierre-Louis Teissedre	J. Agric. Food Chem. 2014, 62, 1701–1705
LC-MS Quadrupole	Metabolite and transcript profiling of berry skin during fruit development elucidates differential regulation between Cabernet Sauvignon and Shiraz cultivars at branching points in the polyphenol pathway	Asfaw Degu, Uri Hochberg, Noga Sikron, Luca Venturini, Genny Buson, Ryan Ghan, Inbar Plaschkes, Albert Batushansky, Vered Chalifa-Caspi, Fulvio Mattivi, Massimo Delledonne, Mario Pezzotti, Shimon Rachmilevitch, Grant R Cramer and Aaron Fait	BMC Plant Biology (2014) 14, 188
LC-MS Quadrupole	Extraction of Aflatoxins from Liquid Foodstuff Samples with Polydopamine-Coated Superparamagnetic Nanoparticles for HPLC MS/MS Analysis	Cassandra McCullum, Paul Tchounwou, Li-Sheng Ding, Xun Liao, and Yi-Ming Liu	J. Agric. Food Chem. 2014, 62, 4261–4267
LC-MS Quadrupole	Colour and phenolic compounds in sweet red wines from Merlot and Tempranillo grapes chamber-dried under controlled conditions,	Ana Marquez, Maria P. Serratosa, Azahara Lopez-Toledano, Julieta Merida	Food Chemistry 130 (2012) 111–120
LC-MS Quadrupole	Metatartaric acid: physicochemical characterization and analytical detection in wines and grape juices	Sabrina Sprenger, Stefan Hirn, Helmut Dietrich, Frank Will	Eur Food Res Technol (2015) 241:785–791
LC-MS Quadrupole	Monitoring of glutathione concentration during winemaking by a reliable high-performance liquid chromatography analytical method	D.Fracassetti and A. Tirelli	Australian Journal of Grape and Wine Research (2015) 21, 389–395
LC-MS Quadrupole & LC-MS Ion Trap	Influence of Wood Barrels Classified by NIRS on the Ellagitannin Content/Composition and on the Organoleptic Properties of Wine	Julien Michel, Michael Jourdes, Alexandra Le Floch, Thomas Giordanengo, Nicolas Mourey, and Pierre-Louis Teissedre	J. Agric. Food Chem. 2013, 61, 11109–11118
LC-MS/MS	Rapid method to determine natamycin by HPLC-DAD in food samples for compliance with EU food legislation	R. Paseiro-Cerrato, P. Otero-Pazos, A. Rodríguez-Bernaldo de Quirós, R. Sendón, I. Angulo, P. Paseiro-Losada	Food Control 33 (2013) 262-267
LC-MS/MS	Pattern recognition of three *Vitis vinifera* L. red grapes varieties based on anthocyanin and flavonol profiles, with correlations between their biosynthesis pathways	M. Figueiredo-González, E. Martínez-Carballo, B. Cancho-Grande, J.L. Santiago, M.C. Martínez, J. Simal-Gándar	Food Chemistry 130 (2012) 9–19

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS/MS	Electronic tongue-based discrimination of Korean rice wines *makgeolli* including prediction of sensory evaluation and instrumental measurements	Bo-Sik Kang, Jang-Eun Lee, Hyun-Jin Park	Food Chemistry 151 (2014) 317–323
LC-MS/MS	Evolution of colour and phenolic compounds during *Garnacha Tintorera* grape raisining	M. Figueiredo-González B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 141 (2013) 3230–3240
LC-MS/MS	The phenolic chemistry and spectrochemistry of red sweet wine-making and oak-aging	M. Figueiredo-González, B. Cancho-Grande, J. Simal-Gándara, N. Teixeira, N. Mateus, V. De Freitas	Food Chemistry 152 (2014) 522–530
LC-MS/MS Ion Trap	Degradation of white wine haze proteins by Aspergillopepsin I and II during juice flash pasteurization	Matteo Marangon, Steven C. Van Sluyter, Ella M.C. Robinson, Richard A. Muhlack, Helen E. Holt, Paul A. Haynes, Peter W. Godden, Paul A. Smith, Elizabeth J. Waters	Food Chemistry 135 (2012) 1157–1165
LC-MS/MS Ion Trap	Investigation of different sample pre-treatment routes for liquid chromatographyetandem mass spectrometry detection of caseins and ovalbumin in fortified red wine	Monica Mattarozzi, Marco Milioli, Chiara Bignardi, Lisa Elviri, Claudio Corradini, Maria Careri	Food Control 38 (2014) 82-87
LC-MS/MS Ion Trap	Wine extracts from Sardinian grape varieties attenuate membrane oxidative damage in Caco-2 cell monolayers	Monica Deiana, Debora Loru, Alessandra Incani, Antonella Rosa, Angela Atzeri, Maria Paola Melis, Barbara Cabboi, Laurent Hollecker, Maria Barbara Pinna, Francesca Argiolas, Mariano Murru, Maria Assunta Dessì	Food Chemistry 134 (2012) 2105–2113
LC-MS/MS Ion Trap	Assessment of pomegranate wine lees as a valuable source for the recovery of (poly)phenolic compounds	Pedro Mena, Juan A. Ascacio-Valdés, Amadeo Gironés-Vilaplana, Daniele Del Rio, Diego A. Moreno, Cristina García-Viguera	Food Chemistry 145 (2014) 327–334
LC-MS/MS Ion Trap	Determination of free and total diacetyl in wine by HPLC-UV using gas-diffusion microextraction and pre-column derivatization	Rui Miguel Ramos, João Grosso Pacheco, Luís Moreira Gonçalves, Inês Maria Valente, José António Rodrigues, Aquiles Araújo Barros	Food Control 24 (2012) 220-224
LC-MS/MS Ion Trap	Characterization of a Grape Class IV Chitinase	Simone Vincenzi, Jan Bierma, Samanthi I. Wickramasekara, Andrea Curioni, Diana Gazzola, and Alan T. Bakalinsky	J. Agric. Food Chem. 2014, 62, 5660–5668
LC-MS/MS Quadrupole	Identification and Organoleptic Contribution of Vanillylthiol in Wines	Morgan Floch, Svitlana Shinkaruk, Philippe Darriet, and Alexandre Pons	J. Agric. Food Chem. 2016, 64, 1318–1325

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-MS/MS Quadrupole	metaMS: An open-source pipeline for GC–MS-based untargeted metabolomics	Ron Wehrens, Georg Weingart, Fulvio Mattivil	Journal of Chromatography B, 966 (2014) 109–116
LC-MS/MS Quadrupole & LC-DAD	Garnacha Tintorera-based sweet wines: Detailed phenolic composition by HPLC/DAD–ESI/MS analysis	M. Figueiredo-González, J. Regueiro, B. Cancho-Grande, J. Simal-Gándara	Food Chemistry 143 (2014) 282–292
LC-MS/MS Quadrupole & LC-DAD	The measure and control of effects of botryticides on phenolic profile and color quality of red wines	Noelia Briz-Cid, María Figueiredo-González, Raquel Rial-Otero, Beatriz Cancho-Grande, Jesús Sima Gandara	Food Control 50 (2015) 942-948
LC-Orbitrap	Analysis of volatile thiols in alcoholic beverages by simultaneous derivatization/extraction and liquid chromatography-high resolution mass spectrometry	Stefania Vichi, Nuria Cortés-Francisco, Josep Caixach	Food Chemistry 175 (2015) 401–408
LC-Orbitrap MS	Multi-allergen quantification of fining-related egg and milk proteins in white wines by high-resolution mass spectrometry	Linda Monaci, Ilario Losito, Elisabetta De Angelis, Rosa Pilolli, Angelo Visconti	Rapid Communications in Mass Spectrometry (2013) 27: 2009–2018
LC-Orbitrap MS	Isorhapontigenin: A novel bioactive stilbene from wine grapes	María Isabel Fernández-Marín, Raúl F. Guerrero, María Carmen García-Parrilla, Belén Puertas, Tristan Richard, Miriam Adriana Rodriguez-Werner, Peter Winterhalter, Jean-Pierre Monti, Emma Cantos-Villar	Food Chemistry 135 (2012) 1353–1359
LC-Orbitrap MS	Identification of phenolic compounds in red wine extract samples and zebrafish embryos by HPLC-ESI-LTQ-Orbitrap-MS	Anna Vallverdú-Queralt, Nuria Boix, Ester Piqué, Jesús Gómez-Catalan, Alexander Medina-Remon, Gemma Sasot, Mercè Mercader-Martí, Juan M. Llobet, Rosa M. Lamuela-Raventos	Food Chemistry 181 (2015) 146–151
LC-Orbitrap MS	Screening of Anthocyanins and Anthocyanin-Derived Pigments in Red Wine Grape Pomace Using LC-DAD/MS and MALDI-TOF Techniques	Joana Oliveira, Mara Alhinho da Silva, Natércia Teixeira, Victor De Freitas, and Erika Salas	J. Agric. Food Chem. 2015, 63, 7636–7644
LC-Orbitrap MS	Analysis of Ochratoxin A in Wine by High-Resolution UHPLC-MS	Jianhui Li, Xin Liu, Shen Han, Jing Li, Qin Xu, Hong Xu, Yongwei Wang, Fei Liu, Zhaohui Zhang	Food Anal. Methods (2012) 5:1506–1513
LC-Orbitrap MS	Physicochemical, Antioxidant and Sensory Properties of Peach Wine Made from Redhaven Cultivar	Sonja M. Davidović, Mile S. Veljović, Milica M. Pantelić, Rada M. Baošić, Maja M. Natić, Dragana Č. Dabić, Sonja P. Pecić, and Predrag V. Vukosavljević	J. Agric. Food Chem. 2013, 61, 1357–1363

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
LC-Orbitrap MS	Rapid determination of amino acids in foods by hydrophilic interaction liquid chromatography coupled to high-resolution mass spectrometry	Vural Gökmen, Arda Serpen, Burçe Ataç Mogol	Anal Bioanal Chem (2012) 403:2915–2922
LC-Orbitrap MS & LC-Exactive MS	Development of an analytical methodology using Fourier transform mass spectrometry to discover new structural analogs of wine natural sweeteners	Axel Marchal, Eric Génin, Pierre Waffo-Téguo, Alice Bibès, Grégory Da Costa, Jean-Michel Mérillon, Denis Dubourdieu	Analytica Chimica Acta 853 (2015) 425–434
LC-Orbitrap MS FTIR	How stereochemistry influences the taste of wine: Isolation, characterization and sensory evaluation of lyoniresinol stereoisomers	Blandine N. Cretin, Quentin Sallembien, Lauriane Sindt, Nicolas Daugey, Thierry Buffeteau, Pierre Waffo-Teguo, Denis Dubourdieu, Axel Marchal	Analytica Chimica Acta 888 (2015) 191-198
LC-Q-Exactive	A metabolomics based approach for understanding the influence of terroir in *Vitis Vinifera* L.	Paul T. Tarr, Mark L. Dreyer, Michael Athanas, Mona Shahgholi, Keith Saarloos, Tonya P. Second	Metabolomics (2013) 9:S170–S177
LC-Q-Exactive	Diversity of Mycotoxin-Producing Black Aspergilli in Canadian Vineyards	Tianyu F. Qi, Justin B. Renaud, Tim McDowell, Keith A. Seifert, Ken K.-C. Yeung, and Mark W. Sumarah	J. Agric. Food Chem. 2016, 64, 1583–1589
LC-Q-Exactive	Determination of ethyl carbamate in fermented liquids by ultra high performance liquid chromatography coupled with a Q Exactive hybrid quadrupole-orbitrap mass spectrometer	Xirong Zhao, Changxing Jiang	Food Chemistry 177 (2015) 66–71
LC-RI	A simple method for total quantification of mannoprotein content in real wine samples	Manuel Quirós, Ramon Gonzalez, Pilar Morales	Food Chemistry 134 (2012) 1205–1210
LC-UV	High-throughput method based on quick, easy, cheap, effective,rugged and safe followed by liquid chromatography-multi-wavelength detection for the quantification of multiclass polyphenols in wines	Ariel R. Fontana, Rubén Bottini	Journal of Chromatography A, 1342 (2014) 44–53
LC-UV	Effect of Esca disease on the phenolic and sensory attributes of Cabernet Sauvignon grapes, musts and wines	B. Lorrain, I. Ky, G. Pasquier, M. Jourdes, L. Guerin Dubrana, L. Gény , P. Rey, B. Donèche and P.-L. Teissedre	Australian Journal of Grape and Wine Research (2012) 18, 64–72
LC-UV	Assessment of grey mould (*Botrytis cinerea*) impact on phenolic and sensory quality of Bordeaux grapes, musts and wines for two consecutive vintage	I. Ky, B. Lorrain, M. Jourdes, G. Pasquier, M. Fermaud, L. Gény, P. Rey, B. Doneche and P.-L. Teissedre	Australian Journal of Grape and Wine Research (2012)18, 215–226
LC-UV	Application of exogenous 24-epibrassinolide enhances proanthocyanidin biosynthesis in *Vitis vinifera* 'Cabernet Sauvignon' berry skin	Fan Xu, Xiang Gao, Zhu-mei Xi, Hui Zhang, Xiao-qin Peng, Zhi-zhen Wang, Tian-min Wang, Ying Meng	Plant Growth Regul (2015) 75, 741–750

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Instrument Type	Title (Abstract)	Authors	Publication
LC-UV	Development and Validation of a Method for the Determination of (*E*)-Resveratrol and Related Phenolic Compounds in Beverages Using Molecularly Imprinted Solid Phase Extraction	Maria Anna Euterpio, Imma Pagano, Anna Lisa Piccinelli, Luca Rastrelli, and Carlo Crescenzi	J. Agric. Food Chem. 2013, 61, 1640–1645
LC-Vis Spectrom	Ultrasensitive, simple and solvent-free micro-assay for determining sulphite preservatives (E220–228) in foods by HS-SDME and UV–vis micro-spectrophotometry	E. Gómez-Otero & M. Costas & I. Lavilla & C. Bendichoi	Anal Bioanal Chem (2014) 406:2133–2140
On-Line SPE-LC & Q-Exactive	Identification and quantification of 56 targeted phenols in wines, spirits, and vinegars by online solid-phase extraction –ultrahigh-performance liquid chromatography – quadrupole-orbitrap mass spectrometry	C. Barnaba, E. Dellacassa, G. Nicolini, T. Nardin, M. Malacarne, R. Larcher	Journal of Chromatography A, 1423 (2015) 124–135
Photometric Analyser	Effect of headspace volume, ascorbic acid and sulphur dioxide on oxidative status and sensory profile of Riesling wine	Ksenia Morozova, Oliver Schmidt, Wolfgang Schwack	Eur Food Res Technol (2015) 240:205–221
Photometric Analyser	Impact of elevated temperature and water deficit on the chemical and sensory profiles of Barossa Shiraz grapes and wines	M. Bonada, D.W. Jeffery, P.R. Petrie, M.A. Moran and V.O. Sadras	Australian Journal of Grape and Wine Research (2015) 21, 240–253
Photometric Analyser	Influence of Grape Composition on Red Wine Ester Profile: Comparison between Cabernet Sauvignon and Shiraz Cultivars from Australian Warm Climate	Guillaume Antalick, Katja Šuklje, John W. Blackman, Campbell Meeks, Alain Deloire, and Leigh M. Schmidtke	J. Agric. Food Chem. 2015, 63, 4664–4672
Photometric Analyser	Implementation of an on-line near infrared/visible (NIR/VIS) spectrometer for rapid quality assessment of grapes upon receival at wineries	J.U. Porep, A. Mattes, M.S. Pour Nikfardjam, D.R. Kammerer and R. Carle	Australian Journal of Grape and Wine Research (2015) 21, 69–79
Sequential Analyser & Spectrophotometer	Changes in analytical and volatile compositions of red wines induced by pre-fermentation heat treatment of grapes	Olivier Geffroy, Ricardo Lopez, Eric Serrano, Thierry Dufourcq, Elisa Gracia-Moreno, Juan Cacho, Vicente Ferreira	Food Chemistry 187 (2015) 243–253
TIMS	High-Precision $^{87}Sr/^{86}Sr$ Analyses in Wines and Their Use as a Geological Fingerprint for Tracing Geographic Provenance	Sara Marchionni, Eleonora Braschi, Simone Tommasini, Andrea Bollati, Francesca Cifelli, Nadia Mulinacci, Massimo Mattei, and Sandro Conticelli	J. Agric. Food Chem. 2013, 61, 6822–6831

Trivia Question

Q: Do you know how many grapes it takes to make a bottle of wine?

A: It takes approximately 2 ½ pounds of grapes to make one bottle of wine.

Wine Analysis

Instrument Type	Title (Abstract)	Authors	Publication
TLX-MS/MS	Coupled Turbulent Flow Chromatography: LC–MS/MS Method for the Analysis of Pesticide Residues in Grapes, Baby Food and Wheat Flour Matrices	Laszlo Hollosi, Klaus Mittendorf, Hamide Z. Senyuva	Chromatographia (2012) 75, 1377–1393
UV-Vis Spectrophotometer	Rapid Method for Proline Determination in Grape Juice and Wine	Danfeng Long, Kerry L. Wilkinson, Kate Poole, Dennis K. Taylor, Tristan Warren, Alejandra M. Astorga, and Vladimir Jiranek	J. Agric. Food Chem. 2012, 60, 4259–4264
UV-Vis Spectrophotometer	A multivariate methodology to distinguish among wine *Appellations of Origin*	María Reyes González-Centeno, Simón Adrover-Obrador, Susana Simal, Miquel Angel Frau, Antoni Femenia, Carmen Rosselló	Agron. Sustain. Dev. (2015) 35:295–304
UV-Vis Spectrophotometer	Comparison of tyrosinase biosensor based on carbon nanotubes with DPPH spectrophotometric assay in determination of TEAC in selected Moravian wines	Milan Sýs, Radovan Metelka, Karel Vytřas	Monatsh Chem (2015) 146:813–817
UV-Vis Spectrophotometer	Improving Resveratrol Bioaccessibility Using Biopolymer Nanoparticles and Complexes: Impact of Protein–Carbohydrate Maillard Conjugation	Gabriel Davidov-Pardo, Sonia Pérez Ciordia, Mariá R. Marıń-Arroyo, and David Julian McClements	J. Agric. Food Chem. 2015, 63, 3915–3923
UV-Vis Spectrophotometer	Influence of Grape Maturity and Maceration Length on Color, Polyphenolic Composition, and Polysaccharide Content of Cabernet Sauvignon and Tempranillo Wines	Mariona Gil, Nikolaos Kontoudakis, Elena González, Mireia Esteruelas, Francesca Fort, Joan Miquel Canals, and Fernando Zamora	J. Agric. Food Chem. 2012, 60, 7988–8001
UV-Vis Spectrophotometer	The Combined Effects of Storage Temperature and Packaging Type on the Sensory and Chemical Properties of Chardonnay	Helene Hopfer, Susan E. Ebeler, and Hildegarde Heymann	J. Agric. Food Chem. 2012, 60, 10743–10754
UV-Vis Spectrophotometer	Antimicrobial activity of ozone. Effectiveness against the main wine spoilage microorganisms and evaluation of impact on simple phenols in wine	R. Guzzon, T. Nardin, O. Micheletti, G. Nicolini and R. Larcher	Australian Journal of Grape and Wine Research (2013) 19, 180–188
UV-Vis Spectrophotometer	Sequential injection system for the enzymatic determination of ethanol in alcoholic beverages with in-line dilution	Teresa F.M. Pais, Susana S.M.P. Vidigal, Ildikó V. Tóth, António O.S.S. Rangel	Food Control 30 (2013) 616-620

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Instrument Type	Title (Abstract)	Authors	Publication
UV-Vis Spectrophotometer	Influence of partial dealcoholization by reverse osmosis on red wine composition and sensory characteristics	M. Gil, S. Estévez, N. Kontoudakis, F. Fort, J. M. Canals, F. Zamora	Eur Food Res Technol (2013) 237:481–488
UV-Vis Spectrophotometer	The Combined Effects of Storage Temperature and Packaging on the Sensory, Chemical, and Physical Properties of a Cabernet Sauvignon Wine	Helene Hopfer, Peter A. Buffon, Susan E. Ebeler, and Hildegarde Heymann	J. Agric. Food Chem. 2013, 61, 3320–3334
UV-Vis Spectrophotometer	Influence of Short-Term Postharvest Ozone Treatments in Nitrogen or Air Atmosphere on the Metabolic Response of White Wine Grapes	Katya Carbone, Fabio Mencarelli	Food Bioprocess Technol (2015) 8:1739–1749
UV-Vis Spectrophotometer	Antioxidant activity and phenolic profiles of Sauvignon Blanc wines made by various maceration techniques	K.J. Olejar, B. Fedrizzi and P.A. Kilmartin	Australian Journal of Grape and Wine Research (2015) 21, 57–68
XPS	Preparation of poly(butylmethacrylate-co-ethyleneglyceldimethacrylate) monolithic column modified with β-cyclodextrin and nano-cuprous oxide and its application in polymer monolithic microextraction of polychlorinated biphenyls	Haijiao Zheng, Qingwen Liu, Qiong Jia	Journal of Chromatography A, 1343 (2014) 47–54

Did you know

- There are 24,000 names for varieties of wine grapes, corresponding to between 5,000 and 10,000 actual varieties. However, only about 150 are commercially important.
- There is about 90 pounds per square in pressure in a bottle of Champagne, approximately three times the pressure in your automobile tires.

Wine should ONLY be wine

Your Brand is Everything

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