

2018 AOCS Annual Meeting & Expo

May 6–9 | Minneapolis Convention Center | Minneapolis, Minnesota, USA



Analytical (ANA) Interest Area Tentative Technical Program

As of April 29, 2018

This presentation list is not final and is subject to change.

The presenter is the first author, or the author indicted with an asterisk ().*

Monday Afternoon

ANA 1a: Spectroscopic, Spectrometric and Chemometric Methods for Lipid Analysis

Chairs: Sanjeewa Karunathilaka, US Food and Drug Administration, USA; and Bernd Diehl, Spectral Service AG, Germany

Portable Raman Spectroscopy and Chemometric Methods for the Analysis of Marine Oil Dietary

Supplements. Betsy J. Yakes, Sanjeewa R. Karunathilaka, Kyungeun Lee, Lea Brückner, and Magdi Mossoba, *US Food and Drug Administration, USA*

Vibrational Spectroscopy and Chemometric Procedures for the Rapid Assessment of Olive Oil Authenticity.

Magdi Mossoba, Sanjeewa R. Karunathilaka, Cynthia Srigley, Kyungeun Lee, Lea Brückner, and Betsy J. Yakes, *US Food and Drug Administration, USA*

Automated Multicomponent Phospholipid Analysis using ³¹P NMR Spectroscopy: Example of Vegetable Lecithin and Krill Oil.

Bernd W.K. Diehl and Yulia B. Monakhova, *Spectral Service AG, Germany*

Analysis and Detection of Olive Oil Adulteration using Fourier Transform Near-Infrared Spectroscopy.

Ariel Bohman¹, Kathryn J. Lawson-Wood², and Robert Packer¹, ¹*PerkinElmer, USA*; ²*PerkinElmer, United Kingdom*

ANA 1b: Lipidomic Analysis

Chairs: Francesca Giuffrida, Nestec SA, Switzerland; and J. David Pinkston, Kellogg, USA

Lipidomic Profiling – An Integral Technology for Research and Development. Elizaveta Freinkman, *Metabolon, USA*

Non-targeted Analysis for Quality and Authenticity Determination of Olive Oil. James A. Donarski¹, Victoria Bailey-Horne², Enrico Valli³, Diego L. García González⁴, and Tullia G.T. Gallina Toschi⁵, ¹*Fera Science Ltd., United Kingdom*; ²*Fera Science Ltd., United Kingdom*; ³*University of Bologna*; ⁴*Instituto de la Grasa (CSIC), Spain*; ⁵*Alma Mater Studiorum - University of Bologna, Italy*

Supercritical Chromatography in Lipidomics Applications: “Finally ready for prime time?” Paolo Lecchi¹, Yao Lu¹, Erwin Kaal², Rob Van der Hoeven², and Dominik Burger¹, ¹*DSM Nutritional Products, USA*; ²*DSM Food Specialties, The Netherlands*

A Rapid Non-destructive Method for Determining Quality Parameters of Edible Oils. Kathryn J. Lawson-Wood*¹, Ariel Bohman², and Robert Packer², ¹PerkinElmer, United Kingdom; ²PerkinElmer, USA

Tuesday Morning

ANA 2a: Analysis of Fats and Oils Applying Advanced Lipid Analysis Techniques

Chairs: William Byrdwell, USDA, ARS, BHNRC, FCMDL, USA; and Walter Vetter, University of Hohenheim, Germany

Use of Countercurrent Chromatography (CCC) for the Preparative Isolation of Lipid Compounds. Walter Vetter, Marco Müller, Katharina Wasmer, Andrea Goncalves Peca, and Medisa Muric, *University of Hohenheim, Germany*

Investigation of Olive Oil Substitution with Other Edible Oils by Ultra High Performance Liquid Chromatography Separation of Triglycerides. Pierluigi Delmonte and Andrea Milani, *US Food and Drug Administration, USA* **Development of Lipidomics-based Reference Materials and Reference Data for Oils.** John A. Bowden, *National Institute of Standards and Technology, Marine Biochemical Sciences Group, USA*

Comprehensive Dual Liquid Chromatography with Quadruple Mass Spectrometry, LC2MS4, for *Jacaranda Mimosifolia* Triacylglycerols. William C. Byrdwell, *USDA, ARS, BHNRC, FCMDL, USA*

Development of Lipidomics-based Reference Materials and Reference Data for Oils. John A. Bowden, *National Institute of Standards and Technology, Marine Biochemical Sciences Group, USA*

The Hybrid Search: A New Mass Spectral Library Search Approach for Compound Classification. Arun S. Moorthy¹, Brian T. Cooper², William E. Wallace¹, and Stephen E. Stein¹, ¹*National Institute of Standards and Technology, USA*; ²*University of North Carolina at Charlotte, USA*

ANA 2b: Olive Oil, including Sensory Analysis

Chairs: Selina Wang, University of California-Davis, Olive Center, USA; and Susan Seegers, Bunge Oils, USA

Contribution of Flavor Compounds to Explain New Sensory Defects in Virgin Olive Oil: The Example of "Frostbitten Olives". Diego L. García González¹, Inmaculada Romero¹, Ramón Aparicio-Ruiz¹, Noelia Tena¹, Ana Lobo¹, María Teresa Morales², and Aparicio Ramón¹, ¹*Instituto de la Grasa (CSIC), Spain*; ²*University of Seville, Spain*

The Profitable Relation between Sensory and Analytics in Virgin Olive Oil Quality Detection. Tullia Gallina Toschi¹, Sara Barbieri¹, Chiara Cevoli¹, Ole Winkelmann², Karolina Brkić Bubola³, Florence Lacoste⁴, Milena Bučar-Miklavčič⁵, Ummuhan Tibet⁶, Ramón Aparicio-Ruiz⁷, Diego L. García González⁷, and Alessandra Bendini¹, ¹*DISTAL University of Bologna, Italy*; ²*Eurofins Analytik GmbH, Germany*; ³*Institute of Agriculture and Tourism, Poreč, Croatia*; ⁴*Institut des Corps Gras, France*; ⁵*Science and Research Centre Koper, Slovenia*; ⁶*Ulusal Zeytin ve Zeytinyağı Konseyi, Turkey*; ⁷*Instituto de la Grasa (CSIC), Spain*

Deep Insight into the Minor Fraction of Virgin Olive Oil by Using New LC-MS and GC-MS Multi-class Methodologies: Application to Discriminate Samples from Different Protected Designations of Origin. Lucía Olmo-García¹, Juan J. Polari², Xueqi Li³, Aadil Bajoub¹, Karin Wendt⁴, Nikolas Kessler⁴, Carsten Baessmann⁴, Alberto Fernández-Gutiérrez¹, Selina C. Wang^{2,3}, Alegría Carrasco-Pancorbo*¹, ¹*Department of Analytical Chemistry, Faculty of Sciences, University of Granada, Spain*; ²*Department of Food Science and Technology, University of California Davis, USA*; ³*Olive Center, University of California Davis, USA*; ⁴*Bruker Daltonik GmbH, Germany*

¹H NMR—metabolic Profiles of Monocultivar EVOOs for PDO, PGI and 100% Italian Blend Production Assessment. Chiara Roberta Girelli, Laura Del Coco, Federica Angilè, and Francesco Paolo Fanizzi*;
²Dipartimento di Scienze e Tecnologie Biologiche ed Ambientali Università del Salento, Italy

“Musty”, “Fusty, Muddy Sediment”, and “Rancid” Off-flavors in Olive Oils are Well-known: but What is Behind on a Molecular Level? Michael Granvogl, Anja Neugebauer, and Peter Schieberle, *Technical University of Munich, Germany*

ANA 2c / LOQ 2a: Evaluation and Prediction of Oxidative Stability and Shelf-life

Chairs: Min Hu, DuPont Nutrition & Health, USA; and Rick Della Porta, Frito-Lay, USA

The Combination of High Oleic Oils and Natural Antioxidants as a Powerful Tool for Shelf Life Extension.
Susan Knowlton, DuPont Company, Pioneer, USA

Chickpea Germination Improves the Antioxidative Activity of its Soluble Phenolic Compounds. Minwei Xu and Bingcan Chen, *North Dakota State University, USA*

Antioxidant Activities of Sugars and Protein in Low Moisture Cracker System. Thanh P. Vu, Lili He, D. Julian McClements, and Eric A. Decker, *University of Massachusetts Amherst, USA*

Oxidative Stability of Margarines, Shortenings and Spreads. Min Hu, *DuPont Nutrition & Health, USA*

Shelf-life Extension of Meat and Meat Products by Using Natural Antioxidants. Henna F.S. Lu, *Kalsec Europe Ltd, UK*

Differential Stability of Linoleic Sun, Soy and Rapeseed Oils Using TBHQ and Rosemary in Fried Potatoes.
Richard Della Porta, Frito-Lay, USA

ANA 2d / LOQ 2b: Sensory Analytics and Analytical Methods for Assessing Lipid Oxidation and Shelf-life

Chairs: Jian Kong, Abbott Nutrition, USA; and Rick Della Porta, Frito-Lay, USA

Antioxidant Efficacy and Impact of Storage Conditions. Marie Shen¹, Lan Ban¹, and Chandra Ankolekar*²,
¹Kemin Food Technologies, USA; ²Kemin Industries Inc., USA

Sensory Directed Chemical Analysis of Oxidized Marine Oils. Roy D. Desrochers, *Tufts University Sensory and Science Center, USA*

Developing a Sensory Oxidation Quality Scale. Monica L. Godbout, *Abbott Nutrition, USA*

Assessing Virgin Olive Oil Stability and Shelf Life at Moderate Conditions by FTIR Spectroscopy Endowed with a Mesh Cell Accessory. Noelia Tena¹, Ramón Aparicio-Ruiz¹, Ana Lobo¹, María Teresa Morales², Aparicio Ramón¹, and Diego L. García González*¹, *¹Instituto de la Grasa (CSIC), Spain; ²University of Seville, Spain*

ANA 3: General Analytical

Chairs: Torben Kuchler, Eurofins, Germany; and Pierluigi Delmonte, US Food and Drug Administration, USA

Rapid Identification and Relative Quantification of the Phospholipid Composition in Commercial Lecithins by ³¹P-NMR. Ying Yang, Richard Hiserodt, and Jing Li, International Flavors & Fragrances Inc., R&D, USA

Applications for the LC-GC Technique in Routine Fat and Oil Analysis. Torben Kuchler, *Eurofins Analytik GmbH, Germany*

Overcoming Issues and Challenges in the Analyses of Tocols in Oils. Mei Han Ng and Ahmad Kushairi Din, *Malaysian Palm Oil Board, Malaysia*

Tocopheryl Esters - Analysis of Novel Vitamin E Conjugates in Vegetable Foods: Occurrence, Concentrations and Digestibility. Walter Vetter, Stephanie Krauß, and Vanessa Darwisch, *University of Hohenheim, Germany*

A Method for Detection of Partially Hydrogenated Oils (PHO) in Food Matrices Containing Vegetable Oils. Sneh Bhandari¹, Ming Gao¹, and Pierluigi Delmonte², ¹*Merieux Nutrisciences, USA*; ²*US Food and Drug Administration, USA*

Supplementation Studies Involving Natural trans Fatty Acids: Real Technical Challenges, Actual Solutions. Etienne Guillocheau¹, Daniel Catheline, Philippe Legrand, and Vincent Rioux, *Agrocampus-Ouest, France*

Determination of sn2-position Fatty Acid in Long-chain Triglycerides(LCTs) and Medium- and Long-chain Triglycerides(MLCTs) with Enzymatic Alcoholysis by GC-FID. Wei Ting Ting, Wen Ming Cao, and Yuan Rong Jiang, ¹*Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd, China*

Normal Phase UV Compatible HPLC Separation of Hydroxylated and Non-hydroxylated Lipids for Metabolic Flux Analysis. Hari Kiran Kotapati, and Philip D. Bates, *The University of Southern Mississippi, USA*

Mitigating the Deteriorating Effect of Biofuel in Engine Oil. Jerome D.A. Kpan¹, and Juergen Krahl², ¹*Technology Transfer Automotive Centre of Coburg University of Applied Sciences and Arts, Germany, Germany*; ²*Coburg University of Applied Sciences and Arts; Ostwestfalen-Lippe University of Applied Sciences, Germany*

ANA 3.1a / PCP 3a: Bioprocessing for New/Value-added Protein Utilization: Digestibility Issues/Analytical Measurements

Chairs: Sneh Bhandari, Merieux Nutrisciences, USA; Buddhi Lamsal, Iowa State University, USA; and Bishnu Karki, Dept. of Biology and Microbiology, South Dakota State University, USA

Matrix Effect on the *in vitro* Immunodetection of Food Allergens. Qinchun Rao, Xingyi Jiang, and Behnam Keshavarz, *Florida State University, USA*

Protein Quality Evaluation in Protein Enhanced Formulations Including Those Based on Oilseed Based Proteins. Sneh Bhandari, *Merieux Nutrisciences, USA*

Simultaneous Quantification of Hydrolysis Degree, Protein and Mean Weight of Peptides Released during Enzymatic Proteolysis. Sophie Beaubier¹, Irina Ioannou¹, Xavier Framboisier², Olivier Galet³, and Romain Kapel², ¹*LRGP - UMR CNRS 7274, France*; ²*Reaction and Process Engineering Laboratory UMR-7274, France*; ³*Avril Group, France*

Nutritional Evaluation of Modified Carinata Meals in Finfish. Tom Kasiga and Michael Brown, *Dept. of Natural Resource Management, South Dakota State University, USA*

Wednesday Morning

ANA 4: Trace Contaminants, including Processing Contaminants

Chairs: Jessica Beekman, US Food and Drug Administration, USA; and Mark Collison, Archer Daniels Midland Co., USA

Comparison of Analytical Methodologies for the Analysis of Bound MCPD and Glycidol in Edible Oils and Infant Formula. Jessica K. Beekman¹, Kaitlin Grassi², Shaun MacMahon¹, Jan Kuhlmann³, Adam Becalski⁴, Greg Jaudzems⁵, and Fabien Robert⁵, ¹*US Food and Drug Administration, USA;* ²*U.S. Food and Drug Administration, USA;* ³*SGS Germany GmbH, Germany;* ⁴*Health Canada, Canada;* ⁵*Nestle Quality Assurance Center, USA*

Detection Limits and Challenges in Low Level Analysis of MCPD and Glycidol using AOCS Method Cd 29c-13. Mark W. Collison and Kevin Adlaf, *Archer Daniels Midland Co., USA*

Recent Status of EU-regulation on 3-MCPD and Glycidol in Oils/Fats, Infant Formulae and Analytical Solutions Available. Jan Kuhlmann, *SGS Germany GmbH, Germany*

Modern Analytical Tools in MCPD and Glycidol Analysis: Research and Routine Analysis Perspectives. Katerina Mastovska¹, Vojtech Hrbek², Beverly Belkova², Barbara A. Mitchell³, Urairat Koesukiwat⁴, and Jana Hajslova², ¹*Covance Food Solutions, USA;* ²*University of Chemistry and Technology, Czech Republic;* ³*Covance Labs, Inc., USA;* ⁴*Covance Food Solutions, Singapore*

Toxicity Evaluation of 2-MCPD and Estimation of Intestinal Absorption of the Monoesters. Toxicity Evaluation of 2-MCPD and Estimation of Intestinal Absorption of the Monoesters. Yomi Watanabe¹, Naoki Kaze², Kaeko Murota³, Hirofumi Sato¹, Yuri Osafune⁴, and Araki Masuyama⁴, ¹*Osaka Research Institute of Industrial Science and Technology, Japan;* ²*Ueda Oils & Fats MFG., Japan;* ³*Shimane University, Japan;* ⁴*Osaka Institute of Technology, Japan*

The Importance of Aligning Analytical Limits with Health-based Guidance Values: Process-formed Compounds Case Study. Paul R. Hanlon, *Abbott Nutrition, USA*

Healthy but also Flavorful Food: Mitigation Strategies for Food-borne Toxicants Combined with Sensory Properties Accepted by Consumers. Michael Granvogel, *Technical University of Munich, Germany*

MOSH/MOAH and Plasticizers: Status quo of Analysis and Activities of the Authorities in the EU. Jan Kuhlmann, *SGS Germany GmbH, Germany*

Immuno Magnetic Solid Phase Extraction Combined with Cleanup to Determine Aflatoxin B1 in Vegetable Oils. Hongshun Yang and Xi Yu, *National University of Singapore, Singapore*

Effect of the Composition and Structure of Excipient Emulsion on the Bioaccessibility of Pesticide Residue in Agricultural Products. Ruojie Zhang¹, D. Julian McClements¹, Lili He¹, Zipei Zhang¹, Wenhao Wu², Yeonhwa Park¹, and Baoshan Xing², ¹*University of Massachusetts Amherst, USA;* ²*Stockbridge School of Agriculture, University of Massachusetts Amherst, USA*

Wednesday Afternoon

ANA 5: Marine Oils and Other Products

Chairs: Cynthia Srigley, US Food and Drug Administration, USA; and Adam Ismail, Global Organization for EPA and DHA

Omega-3s, USA

Oxidative Status and Nutrient Label Claim Accuracy of the Top 50 Selling Omega-3 Products in the US. Adam Ismail, *Global Organization for EPA and DHA Omega-3s, USA*

Sensory Vocabulary for Marine Omega-3 Oils. Wenche Emblem Larssen, *Mjøreforsking, Norway*

An Examination of Marine and Vegetable Oil Oxidation Data from a Multi-Year, Third-Party Database. Anna A. De Boer¹, Adam Ismail², Keri Marshall³, Gerard Bannenberg², Kevin L. Yan¹, and William J. Rowe¹,
¹*Nutrastore, Canada*; ²*Global Organization for EPA and DHA Omega-3s, USA*; ³*DSM Nutritional Products, USA*

Chemical Changes During the Acute Oxidations of Fish Oils. Austin S. Phung¹, Selina C. Wang¹, Adam Ismail², Gerard Bannenberg², and Ameer Taha³, ¹*University of California-Davis, Olive Center, USA*; ²*Global Organization for EPA and DHA Omega-3s, USA*; ³*University of California, Davis, USA*

Compositional Analysis of Algal Biomass, an Emphasis of Unique Contribution of Algal Lipids. Lieve Laurens, *National Renewable Energy Laboratory, USA*

Sterol Fingerprinting in Algae, a New Method for a New Feedstock. Stefanie Van Wycken and Lieve Laurens*, *National Renewable Energy Laboratory, USA*

Analysis of Omega-3 Polyunsaturated Fatty Acids (PUFA) in Phospholipid Oils: A Design of Experiment Approach for Method Optimization. Cynthia Srigley and Isa C. Orr-Tokle, *US Food and Drug Administration, USA*

Evaluation of an Ultra Inert WAX-phase Column for the Analysis of Fatty Acids and FAMES. Gustavo Serrano Izaguirre, Allen Vickers, Yun Zou, and Daron Decker, *Agilent, USA*

Trans-fat Determination by Gas Chromatography Vacuum Ultraviolet Detection. Jonathan Smuts¹, and Barbara A. Mitchell², ¹*VUV Analytics, USA*; ²*Covance Labs, Inc., USA*

ANA-P: Analytical Poster Session

Chair: Diliara Iassonova, Cargill, USA

Posters will be available for viewing from noon on Monday, May 7 through 2:00 p.m. Wednesday, May 9, 2018.

Purification of Native Cyanogenic Glycosides from Flaxseed. Veronique J. Barthet and Tao Fan, *Canadian Grain Commission, Canada*

Crystalline Pattern of Phytosterols in High Oleic Sunflower Oil for Food Applications. Mayanny G. Silva, Valéria S. Santos, Lisandro P. Cardoso, Maria Helena A. Santana, and Ana Paula B. Ribeiro, *University of Campinas, Brazil*

Thermal Properties and Solid Profiles of Hardfats-Soybean Oil Blends for Formulation of Lipid Carriers. Mayanny G. Silva and Ana Paula B. Ribeiro, *University of Campinas, Brazil*

Comparative Recovery Analysis of Conjugated Linoleic Acids (CLA) Following Different Methylation Protocols. Yiyi Li, Raad S. Gitan, Deborah L. Chance, James K. Waters, and Thomas P. Mawhinney, *University of Missouri, USA*

¹H-NMR Measurement of Polar Phenolic Compounds: Reliable Determination of the Geographical Origin of Olive Oils. Torben Küchler and Ole Winkelmann, *Eurofins Analytik GmbH, Germany*

Using GC-MS and Helium to Resolve Positional Isomers of trans-C16:1 and trans-C18:1 Fatty Acids. Etienne Guillocheau, Daniel Catheline, Philippe Legrand, and Vincent Rioux, *Agrocampus-Ouest, France*

Rapid Measuring and Modelling Total Polar Compounds in Frying Oils using a Flash Gas Chromatography Electronic Nose. Lirong Xu¹, Li Xu², Qingzhe Jin³, and Xingguo Wang³, ¹*Jiangnan university, China*; ²*School of Food Science and Technology, Jiangnan University, China*; ³*Jiangnan University, China*

Electron Paramagnetic Resonance Spectroscopy Study of Milk Fat Globule Membrane Dynamics during Simulated Digestion. Maha Alshehab, Madhu S. Budamagunta, John C. Voss, and Nitin Nitin, *University of California, Davis, USA*

Infrared Spectroscopy and PLS Procedures for the Rapid Prediction of EPA and DHA Contents in Marine Oil Dietary Supplements. Sanjeeva R. Karunathilaka, Cynthia Srigley, Betsy J. Yakes, Sung Hwan Choi, Lea Brückne¹, and Magdi Mossob¹, ¹*US Food and Drug Administration, USA*

Applying High Speed Gas Chromatography for the Speciation of Fats in Foods and Edible Oils. Joseph D. Konschnik, Colton Myers, Kristi Sellers, and Scott Adams, *RESTEK Corporation, USA*

Buffer Optimization for Accelerated SDS Depletion by Transmembrane Electrophoresis in Top-down Proteomic Workflows. Subin R. C. K. Rajendran¹, Khaldun Al Azzam², Nicole Unterlander¹, and Alan Doucette¹, ¹*Dept. of Chemistry, Dalhousie University, Canada*; ²*Al-Ghad International College for Applied Medical Sciences, Saudi Arabia*

Isolation and Identification of Stearidonic Acid Geometric Isomers. Pierluigi Delmonte, Andrea Milani, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, USA

A Method for Analyzing TAGs Composition of Human Milk Fat using UPC2-Q-TOF-MS. Xinghe Zhang¹ and Guanjun Tao², ¹*School of Food Science and Technology, Jiangnan University, China*; ²*State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, China*

The Rapid Analysis of Terpenes in Cannabis. Ron R. Honnold, *Agilent, USA*

HPTLC with Tandem MS and HR-MS for Structural Identification in Lipidomic and Other Complex Lipid Samples. Vicente L. Cebolla¹, María P. Lapieza², Luis Membrado¹, Maria Savirón³, Jesus Orduna⁴, and Judith Nichols*⁵, ¹*Instituto de Carboquímica/CSIC*; ²*Instituto de Carboquímica/CSIC, Spain*; ³*CEQMA/CSIC, Spain*; ⁴*ICMA / CSIC*; ⁵*CAMAG Scientific, Inc., USA*

Identification of Degradation Products after Subcritical Water Hydrolysis of Hemp Oil using GC-MS and FTIR-ATR. Andres F. Aldana Rico¹, Ruben O. Morawicki¹, Jerry W. King², Rohana Liyanage², Chris Mazzanti¹, Marco E. Sanjuan Mejia¹, and Antonio J. Bula Silvera¹, ¹*Universidad del Norte, Colombia*; ²*Critical Fluid Symposia, USA*

Analysis of Heavy Metal Concentrations and Human Exposure from Hemp Oils and Hemp Products. Patricia Atkins and Sean Curran, *SPEX CertiPrep, USA*

Fatty Acid Analysis with Applied Retention Time Locking. Barbara A. Mitchell, Scott Wejrowski*, Youa Herr, and Thomas Vennard, *Covance Labs, Inc., USA*

Analysis of Vitamin D and Previtamin D in Food Products. Jinchuan Yang, *Waters, USA*

Unique GC Column Selectivity for Time and Cost-efficient Separation of Complex cis/trans Fatty Acid Methyl Esters in Food. Ramkumar Dhandapani, *Phenomenex, USA*

New Method for Fast and Straightforward Determination of Oxidation Stability of Fats and Oils. Carolin Edinger, Anton Paar ProveTec GmbH, Germany

FET Analysis of Solvents in Cannabis Oil: Adapting to Changing Regulations. Amanda Rigdon¹, Anne Jurek², Julie Kowalski³, and Frank Dorman⁴, ¹*Emerald Scientific, USA*; ²*EST Analytical, USA*; ³*Trace Analytics, USA*; ⁴*Pennsylvania State University, USA*

Fast Simultaneous Determination of Capsaicin, Dihydrocapsaicin and Nonivamide for Adulteration in Edible and Crude Vegetable Oils Coupled with UPLC-MS/MS. Chuan Zhou, Dianping Ma, Wen Ming Cao, Hai Ming Shi, and Yuan Rong Jiang, *Wilmar Biotechnology Research & Development Center (Shanghai) Co., Ltd, China, China*

Determination Polycyclic Aromatic Hydrocarbons in Tocopherol and Ether Compound by Gas Chromatography Tandem Mass Spectral. Tong Li, Ruifeng Zhang, Chuan Zhou², Hong Yang¹, Wen Ming Cao³, and Yuan Rong Jiang³, ¹*Wilmar (Shanghai) Biotechnology Research & Development Center Co., Ltd., China*; ²*Wilmar Biotechnology Research & Development Center (Shanghai) Co., Ltd, China, China*; ³*Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*

A Primary Animal Fat Adulteration Application: Determination Branched Chain Fatty Acid in Beef and Mutton Tallow with GC-Q-TOF & GC-FID and Evaluation. Tong Li, Peijin Tong, Hong Yang, Wen Ming Cao, and Yuan Rong Jiang, *Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*

A Novel Method for Quantitative Analysis of Blend Oil Based on GC-FID and NPDA. Peijin Tong, Hong Yang, Wei Ting Ting, Tong Li, Wen Ming Cao, and Yuan Rong Jiang, *Wilmar Biotechnology R&D Center (Shanghai) Co., Ltd., China*

The LC-UV Analysis of 16 Cannabinoids of Interest in Commercially Available CBD Oils. Joseph D. Konschnik, Justin A. Steimling, and Ashlee M. Reese, *Restek Corporation, USA*

Extending GC Column and Detector Lifetime Using Cartridge Style Gas Management Filters. Ramkumar Dhandapani, *Phenomenex, USA*

A Microscopy Study of the Structure of Njangsa and Other Selected Seeds: Method Development. Benjamain M. Bougouneau¹, Michael Moore², Samuel A. Besong³, and Alberta N A Aryee⁴, ¹*Department of Human Ecology, Delaware State University, Dover, DE 19901, United States*; ²*Optical Center for Applied Research, Department of Physics and Engineering, Delaware State University, USA*; ³*Dept. of Human Ecology, College of Agricultural Sciences, Delaware State University, USA*; ⁴*Delaware State University, USA*

Research on Nutrient Components of Camellia Oil and Olive Oil in China. Dong Zhang, Lin Zhu, and Zhangqun Duan, *Academy of State Administration of Grain, China*