

2022 Technical Poster Program

Monday, November 14: E-Poster Session; 11:30am – 12:25pm	
#	Title/Authors
261	<i>Determination of Creatinine, Ascorbic and Uric Acid in Citrus Fruits, Pharmaceutical Formulations and Human Fluids by HILIC</i> , <u>Yuegang Zuo</u> , Si Zhou, University of Massachusetts-Dartmouth
236	<i>Cannabis Potency Testing - Which Column Dimension is Right for You?</i> , <u>Justin Steimling</u> , Jamie York, Melinda Urich, Cathy Hetrick, Restek
179	<i>Understanding Dispersion in HPLC Absorbance Detectors</i> , <u>Cable Warren</u> , Charles Shelor, Purnendu Dasgupta, University of Texas at Arlington
174	<i>Shape and Frequency-Based Peak Identification Techniques for Chromatography</i> , <u>Cable Warren</u> , Purnendu Dasgupta, University of Texas at Arlington, Akinde Kadjo, Thermo Fisher Scientific
252	<i>Electrochemical Method for the Detection of Gunshot and Metal Residues</i> , <u>Molly Trautman</u> , Donald Dahlberg, Michelle Rasmussen, Lebanon Valley College
209	<i>The Separation of Dextro- and Levomethorphan on CHIRALPAK® Immobilized Chiral Columns</i> , <u>Weston Umstead</u> , Daicel Chiral Technologies
221	<i>Non-Invasive Discrimination Between Pregnancy and Pseudopregnancy in Giant Panda Using Near-Infrared Spectroscopy (NIRS)</i> , <u>Qingyu Sheng</u> , Andrew Kouba, Carrie Vance, Mississippi State University
257	<i>Understanding Photo-Chemical Properties and Degradation Pathways of Cadmium-based Pigments Using Pump-Probe Microscopy</i> , <u>Yue Zhou</u> , Warren Warren, Martin Fischer, Duke University, Marta Ghirardello, Daniela Comelli, Politecnico di Milano
203	<i>Kinetic and Equilibrium Studies on the Adsorption Cadmium and Lead Adsorption with Biowaste Adsorbent from Aqueous Solutions for Environmental Pollution Contro</i> , <u>Taha Allah</u> , Enju Wang, Ali Shohatee, Louis Trombetta, St. John's University, Kaltrina Jusuf, University of Prishtina
29	<i>The Commercialization Effort for a Universal Method for Body Fluid Identification for Forensic Purpose</i> , <u>Alexis Weber</u> , Igor Lednev, University at Albany
116	<i>Considerations for HILIC Method Migration</i> , <u>Elom Pedanou</u> , Kevin Witter, Lise Gauthier, Paula Hong, Waters Corporation
183	<i>Investigation of RPLC Method Migration Risks using Chromatographic Simulator</i> , <u>Norris Wong</u> , Zhimin Li, Lise Gauthier, Kaveh Amini, Corey Reed, Fabrice Gritti, Martin Gilar, Waters Corporation
225	<i>Automation of Analytical Methods for Oral Compressed Tablets</i> , <u>Calvin Huang</u> , Merck & Co., Inc.
131	<i>Digitalization of Laboratory Processes with Cloud Based Solution, Tablets, and QR Codes</i> , <u>Henry Tat</u> , Merck & Co., Inc.
213	<i>Development of a Dual Electrospray Ionization Source with In-Line Absorbance-Based Voltage Control</i> , <u>Samuel Foster</u> , Christopher Piccolo, Deklin Parker, Matthew Will, James Grinias, Rowan University
240	<i>Application of Trapped-Ion-Mobility Spectrometry (TIMS) Time-of-Flight (TOF) Mass-Spectrometry in Expediting Conventional Food Analysis of Simple and Complex Carbohydrates</i> , <u>Artem Filipenko</u> , Bruker

2022 Technical Poster Program

Monday, November 14: E-Poster Session; 12:30pm – 1:25pm	
Title/Authors	
237	<i>The Detection of Flavonoids in Hemp Flower by LC-MS/MS</i> , <u>Justin Steimling</u> , Jamie York, Cathy Hetrick, Restek
267	<i>Cannabinoid Extraction Efficiency for Potency Analysis: An in Depth Look of Multiple Techniques</i> , <u>Justin Steimling</u> , Cathy Hetrick, Melinda Ulrich, Restek Corporation
259	<i>Non-Destructive Discrimination of Starch Adulteration in Ginger Powder Using Digital Images and Tree-Based Algorithms</i> , <u>David Stefany</u> , Thomas Hartman, Rutgers University
278	<i>Investigation into Noise-Suppressed First Derivatives for Rapid Symmetrization and Deconvolution of Peaks in Chiral Chromatography</i> , <u>Troy Handlovic</u> , M. Farooq Wahab, Daniel Armstrong, The University of Texas at Arlington
168	<i>Adsorption of Amine Compounds on Glass Surface and Their Impact on the Development of Analytical Method and Pharmaceutical Process</i> , <u>Xuejun Xu</u> , Jennifer Lott, Kathleen Kelly, Zhongping Shi, Bristol Myers Squibb
206	<i>Performance Improvement of Ultra-High Pressure Liquid Chromatography Mass Spectrometry Using Vacuum Jacketed Column Technology</i> , <u>Fabrice Gritti</u> , Sornanathan Meyyeppan, Jason Hill, Thomas McDonald, Rob Plumb, Waters Corporation
258	<i>Characterization of the Composition of 3-D Printed Devices by Using Pulsed Gas Direct Analysis in Real Time Mass Spectrometry</i> , Brian Musselman, William Fatigante, Artem Filipenko, Bruker, Jenna Covey, University of New Haven
244	<i>Targeted Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Seawater, Plankton, and Shellfish Tissue Using UPLC-MS/MS</i> , <u>Anthony Provasas</u> , Kaitlyn Campbell, Jessica Brandt, Christopher Perkins, Isabella McGrath, University of Connecticut
167	<i>Determination of Total Chlorine in Palm Trees for Early Detection of 3-MCPD in Refined Oil Using ICP-OES</i> , <u>Brady Frill</u> , PerkinElmer
270	<i>Determination of Total PFOS/PFOA: Evaluation of Calibration Standard and Integration Technique</i> , <u>Cynthia Srigley</u> , Susan Genualdi, Wendy Young, Lowri DeJager, United States Food & Drug Administration
214	<i>High-Throughput Analysis of Small Molecules Using Custom Capillary LC Instrumentation</i> , <u>Deklin Parker</u> , Samuel Foster, James Grinias, Rowan University
217	<i>Impact of Instrument Design on Absorptive Carryover</i> , <u>Kaveh Amini</u> , Lise Gauthier, Corey Reed, Paula Hong, Waters Corporation
219	<i>Method Optimization and Validation of PFAS in Human Serum Using On-line SPE UHPLC-MS/MS</i> , <u>Elizabeth Pelczar</u> , Carrie Xu, Linbin Zhong, Shawn O'Leary, Chang Ho Yu, Tina Fan, New Jersey Department of Health
222	<i>Applications for Microscale Separations of Small Molecules at Genentech</i> , <u>Crystal Ye</u> , Mengling Wong, Genentech
238	<i>Cloud-Based Enterprise Solution for Visualization and Reporting of Liquid Chromatography Data</i> , <u>Jonathan Fine</u> , Pankaj Aggarwal, Amanda Mann, Jim Cotrotsios, Merck & Co., Inc.
279	<i>An Investigation of Robust Sample Preparation on an Automated Tablet Processing Workstation, and Lesson Learned</i> , <u>Ujala Patel</u> , Merck & Co., Inc.

2022 Technical Poster Program

Tuesday, November 15: E-Poster Session; 11:30am – 12:25pm STUDENT AWARDEES	
Title/Authors	
	<i>Investigation of the Presence and Migration of Perfluoroalkyl Substances (PFAS) from Nonstick Cookware</i> , <u>Kaylie Kirkwood</u> , North Carolina State University, James Dodds, Erin Baker, The University of North Carolina at Chapel Hill
	<i>Next Generation Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Source for Mass Spectrometry Imaging and High-Throughput Screening</i> , <u>Kevan Knizner</u> , Jacob Guymon, Kenneth Garrard, David Muddiman, North Carolina State University, Guy Bouvrée, GB Conseil & Services, Jeffrey Manni, JGM Associate, Inc., Jan-Peter Hauschild, Kerstin Strupat, Kyle Fort, Lee Earley, Eloy Wouters, Thermo Fisher Scientific, Fan Pu, Andrew Radosevich, Nathaniel Elsen, Jon Williams, AbbVie Inc.
	<i>Evaluation of Figures of Merit that Define a Mass Spectrometry Imaging Platform by Matrix-Assisted Laser Desorption Electrospray Ionization Mass Spectrometry</i> , <u>Olivia Dioli</u> , Hongxia Bai, Kenneth P. Garrard, David C. Muddiman, North Carolina State University
	<i>Modeling and Optimization of Multiple-Quantum Magic-Angle Spinning NMR Spectra</i> , <u>Lexi McCarthy</u> , Brendan Wilson, Deepansh Srivastava, Philip Grandinetti, Ohio State University, Jay Baltisberger, Berea College
	<i>Mrsimulator: An Object-Oriented and Open-Source Software Package for Fast Solid-State NMR Spectral Simulation and Analysis</i> , <u>Matthew D. Giammar</u> , Philip J. Grandinetti, The Ohio State University, Maxwell C. Venetos, University of California Berkeley, Deepansh Srivastava, Hyperfine, Inc.
	<i>Functionalized Gold Nanoparticles with Halogen Bonding Capability – an Avenue for Molecular Detection Schemes</i> , Quang Minh (Harry) Dang, Samuel T. Gilmore, Karthik Lalwani, Richard Conk, Jeffrey Simpson, Michael C. Leopold, University of Richmond
	<i>Impact of Electrolyte Formulations on Potassium Deposition Morphology in Potassium Ion Batteries</i> , <u>Naiara A. Munich</u> , Barnard College, Lauren E. Marbella, Columbia University
	<i>Elucidating Pseudomonas aeruginosa Infection Biomarkers Using Proteomics, Metabolomics, MALDI, and Cyclic-IM-MS</i> , <u>Samuel Krug</u> , Saba Shahzad, William Temple Andrews, Ludovic Muller, Weiliang Huang, Angela Wilks, Maureen Kane, University of Maryland
Tuesday, November 15: E-Poster Session; 11:30am – 12:25pm	
Title/Authors	
177	<i>Investigation and Identification of an Atypical Ghost Peak in a Gas Chromatography Analysis Involving Dimethylsulfoxide (DMSO) as Diluent</i> , <u>Van Truong</u> , Merck & Co., Inc.
228	<i>Multiple Analyte Quantitation Using a Polyarc® for Universal Carbon Detection</i> , <u>Dana Zeigler</u> , Arkema Inc.
227	<i>A Comparison of Normal versus Reversed-Phase Chiral Methodology for an Agrochemical Compound</i> , <u>Austin Whittington</u> , Gloria Chung, Mary Ellen McNally, FMC Corporation
66	<i>Simple Green Synthesis and Characterization for Nano-Sized ZnO</i> , <u>Nazharie Brandon</u> , The University of the District of Columbia
241	<i>Diffusion-Ordered NMR Spectroscopy of Sweet Sorghum Bagasse Lignin Isolated After Low Moisture Anhydrous Ammonia (LMAA) Pretreatment</i> , <u>Gary Strahan</u> , Charles Mullen, Ryan Stoklosa, United States Drug Administration
229	<i>Effect of Organic Solvent in Mobile Phase on Dipole-Dipole Interaction Using Biphenyl Phase</i> , <u>Norikazu Nagae</u> , Tomoyasu Tsukamoto, Ryuji Koyama, Chromanik Technologies, Scott Silver, Pyvot
233	<i>Monoclonal Antibody Analysis with Compact Capillary LC Instrumentation</i> , <u>Benjamin Libert</u> , Taylor Harmon, Barry Boyes, Advanced Materials Technology, Samuel Foster, James Grinias, Rowan University
245	<i>Tandem Column-High Performance Liquid Chromatography Achiral Separation of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)</i> , <u>Megan Malvoisin</u> , Joe Foley, Drexel University
242	<i>Elucidation and Rejection of a New Process Impurity Formed in the Commercial Route to a GMP Pharmaceutical Intermediate</i> , <u>Alison McQuilken</u> , Erin McCarthy, Nelo Rivera, Ben Turnbull, Justin Newman, Taylor Behre, Ryan Cohen, Samantha Burgess, Jiaxuan Yan, Zhixun Wang, Nadine Kuhl, Jimmy DaSilva, Erik Regalado, Derek Henderson, Fuh-Rong Tsay, Merck & Co., Inc.
248	<i>Separation of Bispecific Antibody Variants Using Wide Pore, Small Particle Reversed Phase Chromatography</i> , <u>Erin Wilson</u> , Jeff Roberts, Byron DiPaolo, GlaxoSmithKline

2022 Technical Poster Program

Tuesday, November 15: E-Poster Session: 12:30pm – 1:25pm	
Title/Authors	
246	<i>Development of Tandem-Column Liquid Chromatographic Methods for Pharmaceutical Compounds Based on Hydrophobic Subtraction Model Simulations</i> , Zhiyang Liu, Joe Foley, Drexel University, Yiyang Zhou, Qinggang Wang, Jonathan Shackman, Bristol Myers Squibb, Dwight Stoll, Gustavus Adolphus College
250	<i>Spectroscopic and HPLC-UV Studies: Porphyrin Aluminum Metal-Organic Framework Reacting with Organosulfur Compound Diethyl Sulfoxide</i> , Amarachukwu Agbim, Alexander Samokhvalov, Morgan State University
271	<i>UHPLC-QToF Detection, Identification and Quantification of PFAS in Face Masks</i> , <u>Hannah Levasseur</u> , James Stuart, Noah Liguori-Bills, Anthony Provatas, University of Connecticut
273	<i>Selectivity Examination of Stationary Phases for Hydrophilic Interaction Chromatography (HILIC) and Use of Multivariate Analysis to Classify Materials Based on Their Chemical Modification</i> , Clinton Corman, Cory Muraco, Michael Ye, Martin Ross, Alok Kuma, MilliporeSigma
263	<i>Study on Matrix Preparation for MALDI-Imaging of Synthetic Polymer Samples</i> , Artem Filipenko, Bruker
208	<i>Analysis of Perfluoroalkyl and Polyfluoroalkyl Substances in Drinking Water: Validation Studies of EPA Method 537.1 Using the QSight 220 UHPLC/MS/MS</i> , <u>Cole Stratman</u> , PerkinElmer
243	<i>Simultaneous Quantification of Methotrexate and its Metabolites via Coated Blade Spray-Tandem MS</i> , <u>Diego Lopez</u> , Ryan Micklitsch, Shane Stevens, German Gomez-Rios, Tom Kane, Restek Corporation
251	<i>Multiplicity-Edited ¹⁹F-¹³C Heteronuclear Single Quantum Coherence Experiment</i> , <u>Sara Maute</u> , Alexander Marchione, Elizabeth Diaz, Chemours
280	<i>Spatially Resolved and Operando Detection of Cathode Degradation in Li-Ion Batteries</i> , Julia Hestenes, Richard May, Lauren Marbella, Columbia University, Jurek Sadowski, Brookhaven National Laboratory, Naiara Munich, Barnard College
169	<i>A Comparison of Techniques for Sampling of Plant Volatiles in Four Plant Varieties</i> , <u>Megan Harper</u> , Jack Stuff, GERSTEL, Inc.
192	<i>Structure Elucidation of Three Non-Ionizable Impurities Formed in an Alternate Processing Route</i> , <u>Xiaoyan Wang</u> , Dawn Pierce, Carlos Amezcua, FMC Corporation
210	<i>Development of an Open-Source Automated Derivatization Process for Fatty Acid Analysis by GC-MS</i> , <u>Joeachin Obasi</u> , Mita Ray, Leah Notarfrancesco, James Grinias, Rowan University
212	<i>Signal Enhancement of Organic Acids in Supercritical Fluid Chromatography-Mass Spectrometry Using a Piperidine-Aniline Derivatization Tag</i> , <u>John Boughton</u> , Faith Wroniuk, Yih Ling Saw, Lark Perez, James Grinias, Rowan University
226	<i>Experimental Design and Chemometrics in Undergraduate Quantitative Analysis</i> , <u>Emily Manna</u> , Michelle Rasmussen, Lebanon Valley College
264	<i>Sensing Biothiols Using Luminescent Water-Soluble Au(I) Complexes Through Photoluminescence and Electrochemical Studies</i> , <u>SunJin Kim</u> , Michelle Rasmussen, Mukunda Ghimire, Lebanon Valley College
2	<i>Large-Scale Supercritical Fluid Chromatography Purification of Unstable STING Agonist Intermediates</i> , <u>Dawn Sun</u> , Dauh-Rung Wu, Peng Li, Henry Yip, Bei Wang, Xiaoping Hou, Rulin Zhao, Huiping Zhang, James Kempson, Arvind Mathur, Bristol Myers Squibb
223	<i>Development of a Spectroscopic Screening Tool to Determine Optimal Sampling Sites for DNA Recovery From Human Skeletal Remains</i> , <u>Kathleen Smith</u> , The University of New Haven, Cody Silverman, The University at Albany, SUNY
231	<i>The Importance of a Comprehensive Raman Spectral Library for the Identification of Minerals in Soil</i> , <u>Chase Notari</u> , University of New Haven, Brooke Kammrath, Henry C. Lee Institute of Forensic Science

2022 Technical Poster Program

Wednesday, November 16: E-Poster Session: 12:30pm – 1:25pm	
Title/Authors	
269	<i>Assessing the Limit of Linearity of Cannabinoid Analogs ($\Delta 8$-THC, $\Delta 10$-THC, and CBD) and their Major Metabolites in Six Commercial Homogeneous Cannabinoid Urine Screening Kits</i> , <u>Ashley Pokhai</u> , Justin Poklis, Grace Williams, Carl Wolf, Virginia Commonwealth University
281	<i>Analysis of Cannabis Plant Materials by Near Infrared (NIR) Spectroscopy and Multivariate Data Analysis for Differentiating Low-THC and High-THC Cannabis</i> , <u>Aaron Urbas</u> , Walter Wilson, NIST, Ewelina Mistek-Morabito, Igor Lednev, University at Albany
274	<i>Peak Tailing Investigation of Organic Acids in Reverse Phase Liquid Chromatography</i> , <u>Yiyang Zhou</u> , Qinggang Wang, Bristol Myers Squibb
285	<i>New Porous Monodisperse Particles for Increasing Resolution in Liquid Chromatography</i> , <u>Edward Faden</u> , MAC-MOD Analytical, Yvonne Walsh, Ken Butchart, Mark Woodruff, Fortis Technologies
286	<i>New Porous Monodisperse HPLC Particles</i> , <u>Edward Faden</u> , MAC-MOD Analytical, Yvonne Walsh, Ken Buchart, Mark Woodruff, Fortis Technologies
33	<i>Optimizing Your Ion Exchange Chromatography Instrument and Process</i> , <u>James King</u> Jodie Wall, Inorganic Ventures
265	<i>Proteomic Analysis of Human Breast Milk using Mass Spectrometry to Reveal Protein Biomarkers for Early Breast Cancer Detection</i> , <u>James Lowe</u> , Danielle Whitham, Roshanak Aslebagh, Devika Channaveerappa, Costel C. Darie, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts
262	<i>A Proteomics Investigation of Human Sera from African American Donors with Invasive Ductal Carcinoma Breast Cancer and Matched Controls</i> , <u>Norman Haaker</u> , Panashe Mutsengi, Danielle Whitham, Costel C. Darie, Clarkson University, Brian Pentecost, Kathleen F. Arcaro, University of Massachusetts-Amherst
266	<i>Structural Characterization of Snakes Skins: A Proteomics Investigation</i> , <u>Celeste Darie</u> , Danielle Whitham, James Wait, Alisa G. Woods, Arzu Colak, Costel C. Darie, Clarkson University
260	<i>Investigation of the Effects of Human Jumping Translocation Breakpoint (hJTB) Protein for Potential Use as a Cancer Biomarker</i> , <u>Taniya Jayaweera</u> , Madhuri Jayathirtha, Danielle Whitham Whitham, Shelby Alwine, Hannah Yorkey, Costel C. Darie, Clarkson University
211	<i>Low-Cost Microfluidic Platform to Assay Bacterial Biofilm Formation in Flow</i> , <u>Christopher Piccolo</u> , Dylan Winkens, Tajrian Khan, Aarsh Patel, James Grinias, Lark Perez, Rowan University
255	<i>The Impact of Pomalyst® Capsule Size Change on API Release – A Comparative Dissolution Study</i> , <u>Lyudmila Khalatyan</u> , Minshan Shou, Naseer Alam, Emma Ianutolo, Evan Bekos, Bristol Myers Squibb
256	<i>Determination of Impurity Profile for Vidaza (Azacitidine for Injection) by Forced Degradation</i> , <u>Matthew Feliciano</u> , Sangeeta Dey, Minshan Shou, Evan Bekos, Bristol Myers Squibb
70	<i>Risk and Control Strategy Development for Small Molecule Drug (API-1) Potential Aldehyde Adducts Through the Disruptive qNMR Method in Combination of Small Scale Formulation Processing</i> , <u>Zhengyang (Allen) Xin</u> , Ryan Cohen, Zhixun Wang, Kweku Amponsah-Efah, Cyndi Qixin He, Merck & Co., Inc.
282	<i>Assessing Syringe Filter Performance for Liquid Chromatography Samples</i> , <u>Geoff Faden</u> , MAC-MOD Analytical, Mark Fever, Matt James, Tony Edge, Avantor
283	<i>Optimizing Sample Throughput in Bioanalytical Workflows</i> , <u>Geoff Faden</u> , MAC-MOD Analytical, Matt James, Tony Edge, Avantor
284	<i>The Impact of Plasmonically Driven Hot Carrier Generation on Surface Enhanced Raman Spectroscopy (SERS) Signal</i> , <u>Chelsea Goetzman</u> , Zachary Schultz, The Ohio State University
290	<i>Evaluation of Pump Performance for Long Shallow Gradient Peptide Mapping Analysis</i> , <u>Andrew Steere</u> , Norris Wong, Paula Hong, Waters Corporation