Julia Laskin, Ph.D.

Curriculum Vitae

William F. and Patty J. Miller Professor of Analytical Chemistry
Department of Chemistry
Purdue University
560 Oval Drive
West Lafayette, IN 47907-2084

Phone: (765)-494-5464
Email: jlaskin@purdue.edu

EDUCATION

M.Sc. 1990 from Leningrad Polytechnic Institute, USSR.
Ph.D. 1998 from the Hebrew University of Jerusalem, Israel.

RESEARCH INTERESTS

My research is focused on obtaining a fundamental understanding of the physical and chemical phenomena underlying chemical analysis of complex molecules in complex mixtures. One area of research is focused on understanding interactions between ions and surfaces for controlling deposition of complex ions following collisions with specially prepared surfaces. To achieve this goal, we have developed unique mass spectrometry instrumentation for studying physical and chemical phenomena underlying ion-surface collisions. Our studies provide important information for understanding charge transfer, reactivity, and self-assembly at complex interfaces. Soft and reactive landing are promising approaches for highly selective surface modification, preparation of novel catalysts, supercapacitors, and biomaterials. Another area of research is focused on the development of new approaches for quantitative label-free imaging of biological systems using nanospray desorption electrospray ionization (nano-DESI) – a new ambient surface ionization technique developed by my group. Nano-DESI enables chemical imaging of biological systems in their native state and quantitative analysis of complex mixtures such as organic aerosols, petroleum, and biofuels directly from solid substrates. Nano-DESI imaging has been established as a robust analytical tool for the simultaneous detection and spatial localization of hundreds of biomolecules including lipids, metabolites, proteins, glycans, and peptides thereby providing detailed molecular snapshots of the biological processes in tissues and imaging of living microbial and yeast colonies. We have also developed new tools for the analysis of complex spectra obtained using high-resolution mass spectrometry. These tools have been used for understanding chemical transformations in organic aerosols providing insights into the relationship between the chemical composition of these complex systems and their possible effect on climate and human health.

ACADEMIC EXPERIENCE

Courses taught at Purdue University
Spring 2018, CHM 116 – general chemistry for science and engineering majors (~800 students)
Fall 2019, CHM 115– general chemistry for science and engineering majors (~660 students)
Spring 2018, CHM 116 – general chemistry for science and engineering majors (~800 students)
Fall 2018, CHM 115– general chemistry for science and engineering majors (~660 students)
Spring 2019, CHM 116– general chemistry for science and engineering majors (~800 students)
Fall 2019, CHM 115– general chemistry for science and engineering majors (~660 students)
Spring 2020, CHM 116– general chemistry for science and engineering majors (~800 students)
Fall 2020, CHM 321/323– quantitative analysis (120 students)
Spring 2021, CHM 116– general chemistry for science and engineering majors (~650 students)

Fall 2021, CHM 321/323– quantitative analysis (130 students)
Spring 2022, CHM 116– general chemistry for science and engineering majors (~650 students)
Fall 2022, CHM 321/323– quantitative analysis (140 students)
Spring 2023, CHM 116– general chemistry for science and engineering majors (~650 students)
Fall 2023, CHM 321– quantitative analysis (125 students)
Spring 2024, CHM 116– general chemistry for science and engineering majors (~650 students)

APPOINTMENTS

2017-present	William F. and Patty J. Miller Professor of Analytical Chemistry, Purdue University
2011-2017	Laboratory Fellow, Pacific Northwest National Laboratory
2008-2011	Chief Scientist, Pacific Northwest National Laboratory
2004-2007	Senior Research Scientist, Pacific Northwest National Laboratory
2002-2004	Research Scientist, Pacific Northwest National Laboratory
1998-2002	Postdoctoral Research Associate with Professor Jean Futrell at the University of Delaware and Pacific Northwest National Laboratory.
1992-1998	Research Assistant with Professor Chava Lifshitz at the Hebrew University of Jerusalem.

HONORS AND AWARDS

NSF Special Creativity Award, 2023
Advances in Measurement Science Lectureship Award, 2023
Manuel Riveros Medal of the Brazilian Mass Spectrometry Society, 2022
Purdue University College of Science Research Award, 2022-23
Mercator Fellowship from the German Research Foundation (DFG), 2022
The Ron Hites Award for an exemplary paper published in the Journal of the American Society for Mass Spectrometry (JASMS), 2019
Innovators Hall of Fame, Purdue Research Foundation, 2018
William F. and Patty J. Miller Professorship, Purdue University, 2017
Medal of the Russian Society for Mass Spectrometry, 2017
PNNL Director's Science and Engineering Achievement Award, 2014
Wiley Research Fellow, EMSL, 2013
Inaugural Rising Star Award of the ACS Women Chemists Committee, 2011
Focus issue of the Journal of the American Society for Mass Spectrometry, 2009
Biemann Medal - American Society for Mass Spectrometry, 2008
DOE's Office of Science outstanding mentor award, 2008
Presidential Early Career Award (PECASE), 2007
DOE's Office of Science Early Career Scientist and Engineer Award, 2007
M.T. Thomas award for outstanding postdoctoral achievement, 2002
Award of the Farkas Center for Light Induced Processes, The Hebrew University of Jerusalem, 1997
Excellence Award of the Israel Chemical Society, 1996
Sara Wolf Foundation Award in Physical Chemistry**,** The Hebrew University of Jerusalem, 1995

PROFESSIONAL ACTIVITIES

Past President of the American Society for Mass Spectrometry, 2024-present
President of the American Society for Mass Spectrometry, 2022-24
ASMS Representative for the International Mass Spectrometry Foundation, 2022-present

Trustee for the International Mass Spectrometry Imaging Society (IMSIS), 2024-present
Councilor of the Imaging Mass Spectrometry Society (IMSS), 2021-2023
Vice-president for Programs, American Society for Mass Spectrometry, 2020-2022
Editor-in-Chief, International Journal of Mass Spectrometry, 2020-present
Editorial Board of Chemistry−Methods, 2020-present
Editorial Advisory Board, Analytical Chemistry, 2018-2023
2019 ASMS Asilomar Conference on Mass Spectrometry, co-organizer with Lingjun Li and Jeffrey Spraggins
Chair of the ACS Publications Committee, 2019-2020
Editorial Board, C&E News, 2019-2021
Associate Editor, International Journal of Mass Spectrometry, 2017-2019
Panel co-chair, DOE/BES workshop on Basic Research Needs for Synthesis Science for Energy Relevant Technology, May 2-4, 2016, Rockville, Maryland
NSF Committee of Visitors Panel, 2016
NSF Review Panels, 2014, 2016
Gordon Research Conference "Gaseous Ions: Structures, Energetics & Reactions", Vice Chair, 2015; Chair, 2017.
ACS Publications Committee, 2014-2021
ASMS, Nominating Committee, 2012-13
DOE's Presidential Early Career Award Committee, 2011
Editorial Board, Journal of the American Society for Mass Spectrometry, 2011-2016
Advisory Board, Analyst, 2008-2015, 2019-2021
Editorial Board, Analyst, 2016-2018
Editorial Advisory Board, Mass Spectrometry Reviews, 2017-present
Editorial Board, Russian Mass Spectrometry Journal, 2012-present
Editorial Board, Frontiers in Microbiological Chemistry, 2011-present
Editorial Board, Advanced Structural and Chemical Imaging, 2014-present
American Society for Mass Spectrometry, Board of Directors, Treasurer, 2006-2008
Editor of a book "Principles of Mass Spectrometry Applied to Biomolecules" for John Wiley & Sons, 2006
Invited editor of a special issue of the Journal of Physical Chemistry A in memory of Prof. Chava Lifshitz, 2006
Reviewer for Journal of the American Chemical Society, Analytical Chemistry, Analyst, Analytica Chimica Acta, Journal of Physical Chemistry, Journal of the American Society for Mass Spectrometry, International Journal of Mass Spectrometry, Physical Chemistry Chemical Physics, and other.

PROFESSIONAL SOCIETIES

American Society for Mass Spectrometry, American Chemical Society, American Vacuum Society, American Association for the Advancement of Science.

MENTORING

Graduate Students: Hilary Brown (2017-2019), Pei Su (2017-2020), Daniela Mesa Sanchez (2017-2022), Daisy Unsihuay (2017-22), Hang Hu (2017-2022), Habib Gholipour (2018-2022), Hugo Samayoa Oviedo (2018-2024), Courtney Rupert (2018-2021), Solita Wilson (2018-2024), Miranda Weigand (2019-2024), Manxi Yang (2019-present), Michael Espenship (2019-present), Emerson Hernly (2021-present), Nazifa Wali (2021-present), Sara Amer (2021-present), Mushfeqa Iqfath (2021-present), Arya Das (2022, SERB-OVDF program), Alyssa Moore (2022-present), Xilai Li (2022-present), Raquel Konzen (2022-present), Behnaz Akbari (summer 2023), Bethany Phillips (2023-present), Tommy Zhang (2023-present), Xindi Tang (2023-present).

Postdoctoral fellows: Omar Hadjar (2005-2008), Peng Wang (2005-2008), Zhibo Yang (2005-2008), Qichi Hu (2009-2011), Grant Johnson (2009-2012), Patrick Roach (2009-2011), Ingela Lanekoff (2011-2014), Don Gunaratne (2012-2015), Dan Du (2012-2013), Venkateshkumar Prabhakaran (2014-2017), Peng Lin (2014-2018), Marshall Ligare (2015-2017), Son Nguyen (2015-2017), Ruichuan Yin (2016-2020), Jonas Warneke (2016-2018), Xiangtang Li (2018-2022), LiXue Jiang (2021-present).
Undergraduate students: John Hache (2001), Jeffrey Smith (2007), Olga Laskina (2008), Alexandra Chang Graham (2009), Michael Lysonski (2009), Ivy Fortmeyer (2010), Peter Eckert (2010, 2011), Thomas Priest (2011, 2012), Brandi Heath (2011), Josh Short (2011, 2012), Naila Al Hasan (2012), Evelyn Maris (2012), Astrid Olivarez (2013, 2014), Tram Ahn Pham (2013), David Kalb (2015), Mary King (2016), Zachary Norberg (2016), Joelle Romo (2017), Kyle George (2017), Steve Creger (2018), Harley Davidson (2018), Sneha Swaroop (2018-19), Amy Chegwidden (2018-20), Andrew Smith (2018-19), D'Angelo Peters (2019), Ryan Lagacy (2019), Veerupaksh Singla (2019), Audra Seifert (2019-20), Chisa Zensho (2020-22), Danny Hristov (2020-24), Lidya Sertse (summer 2021, SURF), Dylan Forbes (2021-24), Josh Greener (2021), Alessandra Latorre Palomino (2022, Research Experience for Peruvian Undergraduates (REPU) program), Ajish Rosemary (summer 2022, SURF), Erik Sveen (2022-present), Holly Bohlin (2022-23), Yufan Hu (2022-23), Ronnie Cutler (2022-present), Liam Ryan (2023-24), Emma Hoffmann (summer 2023, SURF), Haven Wilson (2023-present), Taaran Sajalvinodh (2023), Anya Piarowski (2023), Wyatt Crain (summer 2024, SURF).
High school students: Ranger Kuang (2018-19).
Postbachelor fellows: Brandi Heath (2011-2013), Josh Short (2012-2013).

COLLABORATIONS:
Soft landing of complex ions on self-assembled monolayer surfaces (Graham Cooks –Purdue, Grant Johnson, Venky Prabhakaran –PNNL, Jonas Warneke – U Leipzig, Ellen Matson – Rochester U); chemical and physical properties of secondary organic aerosols (Sergey Nizkorodov – UC Irvine, Alex Laskin –Purdue, Manabu Shiraiwa – UC Irvine, Yinon Rudich – Weizmann Institute of Science); mass spectrometry imaging of biological tissues (Jessie Ellis – East Carolina U, Shihuan Kuang – Purdue, Donghye Ye – Marquette U, James Carson – U Texas Austin, Susan Stevens and Mary Stenzel-Poore – OHSU, S. K. Dey – Cincinnati Children's Hospital Medical Center, Kristin Burnum-Johnson, Paul Piehowski – PNNL, Jeff Spraggins – Vanderbilt, Neil Kelleher – Northwestern, Gaurav Chopra – Purdue, Bingming Chen – Merck; David Wagner, Junhai Li, Andrew Bowden – Abbvie, Shane Tichy – Agilent; Jeff Gilbert – Corteva); development of microfluidic probes (Detlev Belder – U Leipzig).

RESEARCH SUPPORT
Current Projects

NIH RF1MH128866 "Development of a High Throughput System for Molecular Imaging of Different Cell Types in Mouse Brain Tissues". J. Laskin (PI), G. Chopra (MPI) 9/15/2021-9/14/2024, $ 1,551,972 total award amount.

NSF CHE 10001877 "Pushing the Frontiers of the Identification and Coverage in High-Resolution Spatially-Resolved Lipidomics", 8/01/2021-7/31/2024, J. Laskin (PI), $440,440 total cost.

NSF CHE Creativity extension for the award "Pushing the Frontiers of the Identification and Coverage in High-Resolution Spatially-Resolved Lipidomics", 7/31/2024-7/31/2026, J. Laskin (PI), $360,000 total cost.

AFOSR 13001293 "Coupling Gas-Phase and Condensed-Phase Chemistry using Deposition of Well-Defined Gaseous Ions", J. Laskin (PI), 4/1/2023-3/31/2026, $187k/yr.

AFOSR MURI “An Informatics Paradigm for Predicting Organic Chemical Stability”, Role: co-PI; B. Savoie (PI), 06/01/2021-05/31/2026, $7,500,000, total award amount with $100k/yr allocated to J. Laskin.

NIH R01MH136394 “Next-generation spatial -omics: High-throughput, single-molecule proteomic imaging with subcellular resolution”, Role: co-PI; M. Roukes (PI), 9/18/2023 - 07/31/2028, $10M total award amount, $1,501,555 total allocated to J. Laskin.

NSF/IUCRC: Center for Bioanalytic Metrology, 307915PU, “Sensitive Ambient Mass Spectrometry Imaging of Biomolecules in Tissues”, J. Laskin (PI), 01/01/2023-12/31/2023, $50,000.

Corteva “Nano-DESI Mass Spectrometry Imaging Applied to Systems of Agricultural Interest” J. Laskin (PI), 6/5/2023-3/31/2025, $158,655 total cost.

Completed Projects

NIH UG3HL145593 and UH3CA255132 “Novel Platform for Quantitative Subcellular Resolution Imaging of Human Tissues Using Mass Spectrometry”. J. Laskin (PI), 9/1/2018-8/31/2023, $2,003,184 total direct cost.

NSF/IUCRC: Center for Bioanalytic Metrology, 307915PU, “Nano-DESI Mass Spectrometry Imaging of Low-Abundance Biomolecules”, J. Laskin (PI), 01/01/2022-12/31/2022, $50,000.

NSF CHE 1808136 “Quantitative Ambient Imaging and Analysis at a Subcellular Level using Mass Spectrometry”, 8/15/2018-7/31/2021, J. Laskin (PI), $420,000 total cost.

NSF/IUCRC: Center for Bioanalytic Metrology, 307915PU, “Enhancing the Sensitivity and Molecular Coverage of nano-DESI imaging”, J. Laskin (PI), 01/01/2021-12/31/2021, $50,000.

CRDF Global OISE-20-66701-0 “Nanocatalyst-assisted pyrolysis for conversion of lignocellulose waste residues into sustainable biofuels using microwave treatment”, T. Kulyk (PI), role: co-PI, 10/01/2020-09/30/2021, $15,000 to J. Laskin

Merck Sharp & Dohme Corp., 40002399. “Evaluation of nano-DESI system for quantitative mass spectrometry imaging and on tissue metabolite identification”, 08/15/2018–07/31/2020, J. Laskin (PI), $75000.00 total cost.NIH UC4 DK10810 “Single Cell Resolution Omics Analysis of T1D islets”, 09/22/2015 – 9/23/2019, C. Ansong (PI), J. Laskin (co-PI), $516k average annual direct cost.

NOAA Office of Climate and Global Change, “Studies of Atmospheric Brown Carbon Chemistry in Support of the FIREX Campaign”, 8/1/2016 – 7/31/2019, A. Laskin (PI), J. Laskin (co-PI), $120k annual cost.

NIH 1U01HL122703-01 “Research Center for Spatiotemporal Lung Imaging and Omics”, 4/18/2014 – 3/31/2019, R. Corley (PI), J. Laskin (participant), $607k average annual direct cost.

DOE BES, “Chemical Analysis“, 10/01/99-8/14/2017, J. Laskin (PI), $1,080K/ year, time commitment 0.45 FTE.

NIH R21 HD084788 “Pan-omic characterization of the molecular determinants of uterine receptivity”, 9/13/2016 – 7/31/2018, K. Burnum-Johnson (PI), J. Laskin (co-PI), $277k total direct costs.

DOE OBER “W. R. Wiley Environmental Molecular Sciences Laboratory Operations”, period covered 10/1/95 to ongoing, A.A. Campbell (PI), $34M/year, time commitment of 0.45 FTE.

NIH 1R21ES02422901, “Mass spectrometry imaging: Linking neurodegeneration with environmental exposure”, 09/11/2014 – 09/30/2017, J. Laskin (PI), $429k total direct cost.NOAA

Office of Climate and Global Change, "Combined Laboratory and Field Characterization of Nitrogen-Containing Light-Absorbing Organic Compounds", 8/1/2013 – 7/31/2016, A. Laskin (PI), J. Laskin (co-PI),$121k annual cost.

PNNL LDRD, "Understanding Cellular Communication and Controlling Directional Flow of Nutrients", 10/01/2014 - 9/31/2016, J. Laskin (PI), $200K/year.

DOE Small Business Technology Transfer (STTR) Program, "Improved Ambient Ionization Source for Mass Spectrometry", 2/18/2014 – 4/1/2015, G. Moskovets (PI), J. Laskin (consultant), $12k to PNNL.

NSF via CRDF "Nanocatalyst-assisted Pyrolysis for Biofuel Production", 12/4/2013 – 12/31/2015, T. Kulyk (PI), J. Laskin (co-PI), $16k to PNNL.

PNNL LDRD, "Predicting the Response of Complex Biological Systems", 10/1/2013-9/30/2014, J. Laskin (PI), $50k.

PNNL LDRD program, "Development of New Soft Ionization Mass Spectrometry Approaches for Spatial Imaging of Complex Chemical and Biological Systems", 10/01/2011 - 9/31/2013, J. Laskin (PI), $280K/year.

DOE-BES, "Mass Spectrometry for Operando Catalysis Research (PECASE award)", 2/14/2007 - 9/30/2012, J. Laskin (PI), $50K/year.

PNNL Research & Development "Surface-Induced Dissociation on a Thermo LTQ/Orbitrap Instrument", 3/30/2009 - 3/31/2010, J. Laskin (PI), $95K

PNNL LDRD program, "Preparation and Characterization of Peptide Arrays Using Soft Landing",10/01/05 - 9/31/08, J. Laskin (PI), $120K/year.

INVITED PRESENTATIONS:

1. Laskin J, Bailey T, Futrell JH. "Shattering of Peptide Ions on Surfaces." 224th Conference of the American Chemical Society, Boston, MT, August 2002
2. Laskin J. "Collisional Activation of Peptide Ions". 15th Sanibel Conference on Mass Spectrometry, Sanibel Island, FL, January 2003
3. Laskin J. "Activation and Dissociation of Large Molecules in the Gas Phase". *M.T. Thomas Award presentation, PNNL, June 2003*
4. Laskin J "Interaction of Peptide Ions with Self-assembled Monolayer Surfaces", The Hebrew University of Jerusalem, Israel, April, 2005
5. Laskin J, Futrell JH. "Entropy effects in the gas phase dissociation of peptides and proteins". EURESCO Conference "Molecules of Biological Interest in the Gas Phase", Exeter, UK, April 2004
6. Laskin J, Hadjar O, Wang P, Futrell JH, Alvarez J, Green J, Cooks RG. "Interaction of hyperthermal peptide ions with self-assembled monolayer surfaces", 16th International Workshop on Inelastic Ion-Surface Collisions (IISC-16), Schloss Hernstein, Austria, September, 2006
7. Laskin J, Chu IK. "The Energetics and Dynamics of Dissociation of Odd-Electron Peptide Ions", Asilomar Conference on Mass Spectrometry, Pacific Grove, CA, October, 2006
8. Laskin J, Yang Z, Lam C, Chu IK. "Formation and Dissociation of Peptide Radical Cations", 4th International UPPCON Conference on ECD/ETD Mass Spectrometry, Hong Kong, China, December, 2006
9. Laskin J, Yang Z, Lam C, Chu IK. "Surface-Induced Dissociation of Even- and Odd-Electron Peptide Ions", Gordon Research Conference " Gaseous Ions: Structure, Energetics, and Reactions" Ventura, CA, February 2007

10. Wang P, Hadjar O and Laskin J “Surface Modification Using Reactive Landing of Peptides onto Self-Assembled Monolayer Surfaces”, Invited Talk, "From Dynamics to Proteins by Mass Spectrometry: A Symposium Honoring Jean Futrell" 234th ACS meeting Boston, August 2007
11. Laskin J, Wang P, Hadjar O, Futrell JH, Alvarez J, Cooks RG. "Soft-Landing of Large Ions on Self-Assembled Monolayer Surfaces." Presented by Julia Laskin (Invited Speaker) at 18th International Conference on Ion Surface Interactions ISI-2007, Zvenigorod, Russian Federation, August 24-29, 2007
12. Laskin J, Hadjar O, Yang Z, Futrell JH, Alvarez J, Cooks RG. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." International FT-ICR Meeting, Moscow, Russian Federation, August 2007.
13. Laskin J. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." Centre for Research in Mass Spectrometry, Toronto, ON, Canada, January 2008.
14. Laskin J. "Collisions of Large Ions with Self-Assembled Monolayer Surfaces." University of Toronto, Toronto, ON, Canada, January 2008.
15. Laskin J. "Formation and Dissociation of Odd-Electron Peptide Ions." York University, Toronto, ON, Canada, January 2008.
16. Laskin J. "Soft-Landing of Mass-Selected Ions on Surfaces: A Tool for Studying Reactions at Interfaces." AirUCI Annual Workshop, Irvine, CA January 2008
17. "Interaction of Large Ions with Surfaces: Activation, Dissociation, and Soft Landing." PECASE award lecture, Pacific Northwest National Laboratory on February, 2008.
18. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited tutorial lecture, American Society for Mass Spectrometry Conference (ASMS), Denver, CO, June 2008.
19. Laskin J. "Interactions of Ions with Surfaces." Biemann award lecture, American Society for Mass Spectrometry Conference (ASMS), Denver, CO, June 2008.
20. Laskin J. 2008. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." Presented by Julia Laskin (Invited Speaker) at Centre for Research in Mass Spectrometry, Toronto, ON, Canada on January 9, 2008
21. Laskin J. 2008. "Collisions of Large Ions with Self-Assembled Monolayer Surfaces." Presented by Julia Laskin (Invited Speaker) at Toronto University, Toronto, ON, Canada on January 11, 2008
22. Laskin J. 2008. "Formation and Dissociation of Odd-Electron Peptide Ions." Presented by Julia Laskin (Invited Speaker) at York University, Toronto, ON, Canada on January 10, 2008.
23. Laskin J. 2008. "Soft-Landing of Mass-Selected Ions on Surfaces: A Tool for Studying Reactions at Interfaces." Presented by Julia Laskin (Invited Speaker) at AirUCI Annual Workshop, Irvine, CA on January 23, 2008
24. Dessiaterik Y, J Laskin, A Laskin, ML Walser, and S Nizkorodov. "High-Resolution Mass Spectrometric Analysis of Oligomers Formed in Ozonation of Selected Monoterpenes." Presented by Yury Dessiaterik at AGU Annual Conference, San Francisco, CA on December 13, 2007.Laskin J. 2008.
25. "Interaction of Large Ions with Surfaces: Activation, Dissociation, and Soft Landing." PECASE award lecture presented by Julia Laskin (Invited Speaker) at Pacific Northwest National Laboratory on February 1, 2008.
26. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited tutorial lecture presented by Julia Laskin (Invited Speaker) at American Society for Mass Spectrometry Conference (ASMS), Denver, CO on June 2, 2008.
27. Laskin J. "Interactions of Ions with Surfaces." Biemann award plenary lecture presented by Julia Laskin (Invited Speaker) at American Society for Mass Spectrometry Conference (ASMS), Denver, CO on June 4, 2008.

28. Laskin J., Hadjar O., Wang P. “Modification of Self-Assembled Monolayer Surfaces Using Hyperthemal Ion Beams”, Presented by Julia Laskin (Invited Speaker) at National AVS Meeting, Boston, MT on October 21, 2008
29. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited seminar presented by Julia Laskin at the University of Delaware, February 8, 2009
30. Laskin J. "Soft- and Reactive Landing of Biomolecular Ions on Surfaces." Invited talk presented by Julia Laskin at the Desorption Induced by Electronic Transitions (DIET XII) workshop, Pine Mountain, ID, April 2009
31. Laskin J. “Energetics and Dynamics of Peptide Fragmentation from Surface-Induced Dissociation Studies”, Invited talk presented by Julia Laskin at the Peptide Fragmentation Workshop, 18th International Mass Spectrometry Conference, Bremen, Germany. August 29, 2009
32. Laskin J, P Wang, O Hadjar, and Q Hu. 2009. "Soft-Landing of Complex Ions on Surfaces." Invited talk presented by Julia Laskin at the 18th International Mass Spectrometry Conference, Bremen, Germany. August 30- September 4, 2009
33. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2009. "Soft-landing of Complex Ions onto Self-Assembled Monolayer Surfaces." Plenary Lecture presented by J. Laskin at the 43rd Annual Meeting of German Society for Mass Spectometry, Halle / Saale, Germany, March 2010
34. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Selective Deposition of Complex Ions onto Self-Assembled Monolayer Surfaces Using Soft- and Reactive-Landing." Invited talk presented by J. Laskin at the Max Planck Institute, Suttgart, Germany.
35. Laskin J. 2010. "Energetics of Gas Phase Dissociation of Large Molecules from Surface Induced Dissociation Studies in FT ICR MS." Invited talk presented by J. Laskin at the 9th European FTMS Workshop, Lausanne, Switzerland, April 2010.
36. Laskin J, Z Yang, C Lam, and IK Chu. 2010. "The Energetics and Dynamics of Dissociation of Peptide Radical Anions." Invited talk presented by J. Laskin at the Fall 2010 ACS National Exposition, Boston, MA, August 2010
37. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Soft-landing of Complex Ions on Surfaces." Invited seminar presented by J. Laskin at the Hebrew University of Jerusalem, Jerusalem, Israel, October 2010
38. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Selective Deposition of Complex Ions onto Self-Assembled Monolayer Surfaces Using Soft- and Reactive-Landing." Invited seminar presented by J. Laskin at the Weizzmann Institute Seminar, Rehovot, Israel, October 2010.
39. Laskin J. 2010. "Ion-Surface Collisions in Mass Spectrometry." Invited talk presented by J. Laskin at the 1st Middle Eastern and Mediterranean Sea Region Countries Mass Spectrometry Workshop, Rehovot, Israel, October 2010.
40. Laskin J. “Ion-Surface Collisions in Mass Spectrometry.” Invited seminar presented by J. Laskin at Wayne State University, April 19, 2011.
41. Laskin J. 2011. “Secondary Ion Mass Spectrometry in FT-ICR: A New Tool for Studying Soft-Landing of Mass-Selected Ions”, Invited talk presented by J. Laskin at the 8th North American FTMS Conference, Key West, FL, May 2011
42. Laskin J. 2011.” Collisions of Biomolecules with Surfaces: Activation, Dissociation and Deposition.” ." Invited talk presented by J. Laskin at the Gordon Research Conference, Biological Molecules in the Gas Phase & in Solution, Andover, NH, August 3, 2011
43. Laskin J, Hu Q, Johnson GE, Wang P, Hadjar O. 2011. “Preparation of Novel Materials Using Soft- and Reactive Landing of Mass-Selected Ions”, Invited talk presented by J. Laskin at the ACS symposium honoring the 100th Year Anniversary of Marie Curie’s Nobel Prize, August 27, 2011

44. Laskin J. 2011. “Preparation of Novel Materials Using Soft- and Reactive Landing of Mass-Selected Ions.” Invited seminar presented by J. Laskin at the University of Florida, September 20, 2011
45. Laskin J. 2011. “Ion-Surface Collisions for Studying Interactions of Biomolecules with Surfaces.” Department seminar presented by Julia Laskin (Invited Speaker) at the Max Planck Institute for Biophysical Chemistry, November 8, 2011
46. Laskin J, T Song, PW Kong, and IK Chu. 2012. "Energetics, Dynamics and Mechanisms of Dissociation of Peptide Radical Cations." Presented by Julia Laskin (Invited Speaker) at Pittcon Conference and Expo 2012, March 11-15, 2012, Orlando, GA.
47. Laskin J, BS Heath, IT Lanekoff, PJ Roach, JD Watrous, and PC Dorrestein. 2011. "Chemical Imaging of Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Presented by Julia Laskin (Invited Speaker) at the WCC Rising Star Award Symposium at the American Chemical Society (ACS) Spring 2012 National Meeting & Exposition, March 25-29, 2012, San Diego, CA.
48. Laskin J, BS Heath, IT Lanekoff, and PJ Roach. 2012. "Spatial Profiling and Imaging of Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the European FTMS Workshop, Warwick, United Kingdom. April 1-5, 2012
49. Laskin J, BS Heath, IT Lanekoff, PA Eckert, PJ Roach, M Thomas, JP Carson, and A Laskin. 2012. "Chemical Imaging and Analysis Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the FCSD Directorate Advisory Committee Meeting Poster session, Richland, WA on June 12, 2012.
50. Laskin J. 2012. "Ion-Surface Collisions in Mass Spectrometry: Activation, Dissociation and Soft-Landing ." Keynote lecture presented by Julia Laskin at the 19th International Mass Spectrometry Conference IMSC2012, Kyoto, Japan. September 15-21, 2012.
51. Laskin J. 2012. "Preparatory Mass Spectrometry – an Emerging Tool for Controlled Preparation of Novel Materials." Invited plenary lecture presented by Julia Laskin at the 24th meeting of the Australian and New Zealand Society for Mass Spectrometry, February 2-6, Melbourne, Australia.
52. Laskin J, Johnson GE, Priest TA. 2013. "Large Metal and Metal-Oxide Clusters in the Gas Phase and on Surfaces." Invited talk presented by Julia Laskin at a Gordon Research Conference on Gaseous Ions: Structures, Energetics & Reactions, February 24 - March 1, 2013, Galveston, TX.
53. Laskin J, IT Lanekoff, BS Heath, M Thomas, and JP Carson. 2013. "Ambient Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the 2013 Pittcon Conference and Expo, March 16-21, 2013, Philadelphia, PA.
54. Laskin J, GE Johnson, KDD Gunaratne, and Q Hu. 2013. "Soft- and Reactive-Landing of Complex Ions on Surfaces." Presented by Julia Laskin (Invited Speaker) at the ACS National meeting and exposition, April 7-11, 2013, New Orleans, LA.
55. Laskin J, IT Lanekoff, BS Heath, M Thomas, and JP Carson. 2013. "Ambient Imaging Using Nanospray Desorption Electrospray Ionization ." Presented by Julia Laskin (Invited Speaker) at the InnMassSpec 2013 Conference, July, 14-18, 2013, Saint Petersburg, Russian Federation.
56. Laskin J, A Laskin, S Nizkorodov, and IT Lanekoff. 2013. "Reactive Nanospray Desorption Electrospray Ionization Mass Spectrometry for Quantitative Analysis and Imaging of Complex Samples." Presented by Julia Laskin (Invited Speaker) at the 246th ACS National Meeting & Exposition, Indianapolis, IN, September 8-12, 2013.

57. Laskin J, GE Johnson, and KDD Gunaratne. 2013. "Ion Soft-Landing – a Unique Tool for Controlled Preparation of Nanomaterials." Presented by Julia Laskin (Invited Speaker) at Symposium on Bimetallic Complexes, Karlsruhe, Germany on September 24, 2013.
58. Laskin J. 2014. "Activation and Dissociation of Non-covalent Complexes Using Ion-Surface Collisions", Presented by Julia Laskin (Invited Speaker) at the 26th Sanibel Conference of Mass Spectrometry, Clearwater Beach, FL, January 30 - February 2, 2014
59. Laskin J. 2014. "Ion-Surface Collisions in Mass Spectrometry: Activation, Dissociation and Soft-Landing". Invited seminar presented by Julia Laskin at Purdue University, West Lafayette, IN, April 16, 2014.
60. Laskin J. 2014. "New Developments in Preparative and Imaging Mass Spectrometry". Invited seminar presented by Julia Laskin at University of Indiana, Bloomington, IN. October 14, 2014.
61. Laskin J. 2015. "Energetics and Kinetics of Peptide Fragmentation Using Surface-Induced Dissociation", Mesilla Chemistry Workshop, Mesilla, NM. February 7-10, 2015.
62. Laskin J, Johnson GE, Priest T, Olivarez A. 2015. "Stability of Phosphine-Ligated Gold Cluster Ions toward Dissociation: Effect of Ligand and Cluster Size", American Physical Society Meeting, San Antonio, TX. March 2-6, 2015
63. Laskin J. 2015. "Preparatory Mass Spectrometry – an Emerging Tool for Controlled Preparation of Novel Materials." Invited seminar presented by Julia Laskin at Ohio State University, Columbus, OH, April 13, 2015.
64. Laskin J. 2015. "New Developments in Preparative and Imaging Mass Spectrometry". Invited seminar presented by Julia Laskin at Ohio University. April 14, 2015.
65. Laskin J. 2015. "Controlled Preparation of Novel Materials Using Ion Soft-Landing". Presented by Julia Laskin (Invited Speaker) at the Bright Ion Source Workshop, Richland, WA. August 4, 2015.
66. Laskin J. 2015. "Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems." Presented by Julia Laskin (Invited Speaker) at the Theo Murphy scientific meeting, Kavli Royal Society, Buckinghamshire, United Kingdom. November 20-23, 2015.
67. Laskin J, Lanekoff I, Thomas M. 2015. "Tandem Mass Spectrometry Imaging of Lipids and Metabolites in Tissue Sections." Presented by Julia Laskin (Invited Speaker) at Pacifichem, Honolulu, HI. December 15-20, 2015.
68. Laskin J, Lanekoff I, Nguyen S. 2016. "Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems." Presented by Julia Laskin (Invited Speaker) at a Workshop on Emerging Technologies to Study the Human Pancreas and Islet: from the Whole Organ to a Single Cell, Miami, FL. February 21, 2016.
69. Laskin J, Johnson GE, Prabhakaran V. 2016. "Soft-Landing of Mass-Selected Cluster Ions for Studies in Catalysis and Energy Storage." Presented by Julia Laskin (Invited Speaker) at the Cluster Surface Interaction Workshop, Argonne National Laboratory. May 31-June 3, 2016.
70. Laskin J, Lanekoff I. 2016. "Quantification and Matrix Effects in Mass Spectrometry Imaging." Presented by Julia Laskin (Invited Speaker) at a Gordon Research Conference: Molecular Structure Elucidation, Mount Snow, VT. August 14-19, 2016.
71. Laskin J. 2016. "Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems." Presented by Julia Laskin (Invited Speaker) at the 21st International Mass Spectrometry Conference, Toronto, Canada. August 20-26, 2016.
72. Laskin J. 2016. "New Approaches for Imaging Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Presented by Julia Laskin (Invited Speaker) at ASMS Asilomar Conference, Pacific Grove, CA, October 14-18, 2016.

73. Laskin J. 2016. “Nanospray Desorption Electrospray Ionization (nano-DESI) Imaging of Biological Systems.” Presented by Julia Laskin (Invited Speaker) at Merck, Rahway, NJ, on November 9, 2016.
74. Laskin J., S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “New Approaches for Multimodal Ambient Imaging of Biological Samples.” Presented by Julia Laskin (Invited Speaker) at PITTCON, Chicago, IL, March 5-9, 2017.
75. Laskin J., S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “Towards Coupling Mass Spectrometry and Electrochemical Microscopy for Imaging of Live Biological Systems.” Presented by Julia Laskin (Invited Speaker) at PITTCON, Chicago, IL, March 5-9, 2017.
76. Laskin J. 2017. “Soft-Landing of Mass Selected Ions for Studies in Materials Synthesis, Energy Storage, and Catalysis”. Invited seminar presented by J. Laskin at Texas Tech, May 4, 2017.
77. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by J. Laskin at Indiana University Purdue University (IUPUI), Indianapolis, September 19, 2017.
78. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by J. Laskin at St. Olaf College, Northfield, MN, September 22, 2017.
79. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Presented by J. Laskin (Invited Speaker) at the Russian Mass Spectrometry Conference, Moscow, Russia, October 9-12, 2017.
80. Laskin J, S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “New Approaches for Multimodal Ambient Imaging of Biological Samples.” Presented by Julia Laskin (Invited Speaker) at the Imaging Mass Spectrometry Conference, Boston, MA, October 15-18, 2017.
81. Laskin J, GE Johnson, V Prabhakaran, J Warneke. 2018. “Rational Design of Solid Interfaces using Soft-Landing of Mass-Selected Ions”. Presented by Julia Laskin (Invited Speaker) at the XXI Symposium on Atomic, Cluster and Surface Physics, Obergurgl, Austria, February 11 - 16, 2018.
82. Laskin J, R Yin, H Brown, S Nguyen, V Prabhakaran, C Ansong, J Carson, K Burnum-Johnson. 2018. “Ambient Imaging of Biological Samples using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”. Presented by Julia Laskin (Invited Speaker) at PITTCON, Orlando, FL, Feb 26-Mar 1, 2018.
83. Laskin J. 2018. “New Approaches for Multimodal Ambient Imaging of Biological Samples.” Presented by Julia Laskin (Invited Speaker) at the AFOSR Workshop on “Chemical Tools for Biological Processes”, Dayton, OH, March 13, 2018.
84. Laskin J, R Yin, V Prabhakaran. 2018. “Metabolite Analysis on a Subcellular Level using Mass Spectrometry.” Webinar presented by Julia Laskin at the HIRN Consortium on Beta Cell Death & Survival (CBDS), June 11, 2018.
85. Laskin J, R Yin, H Brown, S Nguyen, V Prabhakaran, C Ansong, J Carson, K Burnum-Johnson. 2018. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry.” Invited seminar presented by J. Laskin at the University of Leipzig, Germany, June 15, 2018.
86. Laskin J, V Prabhakaran, P Su, GE Johnson, J Warneke. 2018. “Rational Design of Solid Interfaces using Soft-Landing of Mass-Selected Ions”. Invited seminar presented by J. Laskin at the University of Leipzig, Germany, June 15, 2018.
87. Laskin J, V Prabhakaran, P Su, GE Johnson, J Warneke. 2018. “High-Coverage Deposition of Mass-Selected Cluster Anions: Fundamentals and Applications.” Presented by Julia Laskin (Invited Speaker) at the Cluster-Surface Interaction Workshop, Trondheim, Norway, June 19-21, 2018

88. Laskin J, V Prabhakaran, P Su, GE Johnson, J Warneke, Z Lang, A Clotet, JM Poblet. 2018. "High-Coverage Deposition of Mass-Selected Cluster Anions: Fundamentals and Applications." Presented by Julia Laskin (Invited Speaker) at the Fall 2018 ACS National Meeting & Exposition, Boston, MA, August 19-23, 2018.
89. Laskin J. 2018. "Understanding fragmentation of complex ions using Surface-Induced Dissociation Experiments". Presented by Julia Laskin (Invited Speaker) at the XXII International Mass Spectrometry Conference, Florence, Italy, August 26-31, 2018.
90. Laskin J. 2018. "Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry", Invited seminar presented by J. Laskin at the Indiana University Medical School, Indianapolis, September, 23, 2018.
91. Laskin J. 2018. "New Developments in Preparative and Imaging Mass Spectrometry: From Materials Science to Biology", Invited seminar presented by J. Laskin at Baylor University, Vaco, TX, October, 10, 2018.
92. Laskin J., V. Prabhakaran, P. Su, G. E. Johnson, J. Warneke, Z. Lang, A. Clotet, J. M. Poblet. 2018. "Rational Design of Solid Interfaces Using Soft-Landing of Mass-Selected Ions", Presented by Julia Laskin (Invited Speaker) at the 34th Waterloo Symposium on Chemical Physics, Waterloo, Canada, November 4-6, 2018.
93. Laskin J., J. Warneke, V. Prabhakaran, P. Su, G. E. Johnson. 2018. "Connecting Gas Phase and Condensed Phase Chemistry Using Ion Soft-Landing". Presented by Julia Laskin (Invited Speaker) at Gordon Research Conference " Gordon Research Conference: Gaseous Ions: Structure, Energetics, and Reactions" Ventura, CA, February 18-22, 2019.
94. Laskin, J. 2019. "Mass Spectrometry: From Materials Science to Biology", Presented by Julia Laskin (Keynote Speaker) at the University at Buffalo 37th Annual Graduate Student Symposium (GSS), Buffalo, NY, May 20-22, 2019.
95. Laskin J., P. Su, J. Warneke, V. Prabhakaran, H. Hu, G. E. Johnson. 2019. "Interactions of Soft-Landed Molecules and Clusters with Surfaces", Presented by Julia Laskin (Invited Speaker) at the 2019 "Clusters and Nanostructures" Gordon Research Conference, Les Diablerets Conference Center in Les Diablerets, Switzerland, June 16- 21, 2019.
96. Laskin J., P. Su, J. Warneke, V. Prabhakaran, H. Hu, G. E. Johnson. 2019. "Rational Design of Interfaces Using Ion Soft-Landing", Presented by Julia Laskin (Invited Seminar) at the Leibniz Institute of Surface Modification (IOM), Leipzig, Germany, June 22, 2019.
97. Laskin, J., P. Su, V. Prabhakaran, G. E. Johnson. 2019. "Soft-Landing of Mass-Selected Polyoxometalate Anions onto Surfaces: Fundamentals and Applications". Presented by Julia Laskin (Invited Speaker) at the 6th International Symposium of "Frontiers in Metal Oxide Cluster Science" (FMOCS VI), Corvallis, OR, August 19-22, 2019.
98. Laskin J. 2019. "Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry", Presented by Julia Laskin (Invited Speaker) at Corteva Agriscience, Indianapolis, IN, September 5, 2019.
99. J. Laskin, P. Su, J. Warneke, V. Prabhakaran H. Hu, G.E. Johnson.2019. "Selective Preparation of Novel Layered Architectures Using Soft-Landing of Mass-Selected Ions", Invited seminar presented by Julia Laskin at the Advanced Photon Source, Argonne, IL September 11, 2019.
100. J. Laskin, P. Su, H. Hu, J. Warneke, G.E. Johnson, V. Prabhakaran.2019. "Gaseous Cluster Ions as Building Blocks for Multilayer Functional Materials", Presented by Julia Laskin (Invited Speaker) at the 76th Fujihara Seminar: Designer Nanocluster Materials – From Gas Phase to Condensed Phase, Tomakomai, Hokkaido, Japan, September 29-October 2, 2019.
101. Laskin J. 2019. "Imaging of lipids and metabolites using liquid extraction-based ionization techniques", Presented by Julia Laskin (Invited Speaker) at the ASMS Fall Workshop, Philadelphia, November 15, 2019.

102. Laskin J. 2020. “Nanospray Desorption Electrospray Ionization Mass Spectrometry Tissue Imaging”, Presented by Julia Laskin (Invited Speaker) at the Land O’Lakes Annual Bioanalytical Conference, July 13-15, 2020
103. Laskin J. 2020. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization Mass Spectrometry”, Presented by Julia Laskin (Invited Speaker) at the 24-Hr Imaging Mass Spectrometry Conference, November 19, 2020.
104. Laskin J. 2020. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, Presented by Julia Laskin (Invited Speaker) at the Central Ohio Mass Spec Discussion Group (MSDG), Dec 8, 2020
105. Laskin J. 2021. “Rational Design of Solid Interfaces Using Soft-landing of Mass-Selected Ions”, Invited seminar presented by Julia Laskin at the University of New Hampshire, March 2, 2021
106. Laskin J. 2021. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, McElvain Seminar presented by Julia Laskin (Invited Speaker) at the University of Wisconsin-Madison, March 4, 2021
107. Laskin J. 2021. “Soft Landing of Complex Ions on Surfaces: Synergy between Experiments and Theory”, Presented by Julia Laskin (Invited Speaker) at the Spring ACS National Meeting, April 14, 2021
108. Laskin J. 2021. “Rational Design of Solid Interfaces Using Soft-landing of Mass-Selected Ions”, Invited seminar presented by Julia Laskin at the University of Innsbruck, June 2, 2021
109. Laskin J. 2021. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, Plenary lecture presented by Julia Laskin (Invited Speaker) at Annual Meeting of the French Society for Mass Spectrometry, June 17, 2021
110. Laskin J. 2021. “Quantitative Mass Spectrometry Imaging of Biological Tissues Using Nanospray Desorption Electrospray Ionization (nano-DESI)”, Presented by Julia Laskin (Invited Speaker) at the 24th North American ISSX (International Society for the Study of Xenobiotics) Meeting, September 15, 2021
111. Laskin J. 2021. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, Presented by Julia Laskin (Invited Speaker) at the Pacifichem Conference (virtual), December 15-20, 2021
112. Laskin J. 2022. “Mass Spectrometry: From Materials Science to Biology”, Seminar presented by Julia Laskin (Invited Speaker) at the Florida International University, February 4, 2022
113. Laskin J., Li X., Yin R., Unsihuay D., Weigand M., Yang M. 2022. “Ambient Mass Spectrometry Imaging Omics Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, Presented by Julia Laskin (Invited Speaker) at the US HUPO Conference, Charleston, SC, March , 2022
114. Laskin J. 2022. “Mass Spectrometry: From Materials Science to Biology”, Seminar presented by Julia Laskin (Invited Speaker) at the Indiana State University, April 4, 2022
115. Laskin J. 2022. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry.” Seminar presented by Julia Laskin (Invited Speaker) at the Weizmann Institute of Science, Rehovot, Israel, May 10, 2022
116. Laskin J. 2022. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry.” Seminar presented by Julia Laskin (Invited Speaker) at the Hebrew University of Jerusalem, Jerusalem, Israel, May 12, 2022

117. Laskin J. 2022. “Design of functional interfaces using ion soft landing”, Presented by Julia Laskin (Invited Speaker) at the ^{123}H Colloquium, University of Leipzig, Leipzig, Germany, June 27, 2022
118. Laskin J. 2022. “Rational Design of Interfaces Using Soft-landing of Mass-Selected Ions.” Seminar presented by Julia Laskin (Invited Speaker) at Karlsruhe Institute of Technology, Karlsruhe, Germany, July 4, 2022
119. Laskin J. 2022. “Rational Design of Interfaces Using Soft-landing of Mass-Selected Ions.” Seminar presented by Julia Laskin (Invited Speaker) at the University of Kaiserslautern, Kaiserslautern, Germany, July 6, 2022
120. Laskin J. 2022. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry.” Seminar presented by Julia Laskin (Invited Speaker) at Thermo Scientific, Bremen, Germany, July 8, 2022
121. Laskin J. 2022. “Ambient Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry.” Seminar presented by Julia Laskin (Invited Speaker) at the Martin-Luther University Halle-Wittenberg, Halle, Germany, July 12, 2022
122. Laskin J. 2022. “Designing Functional Interfaces using Ion Soft Landing”. Presented remotely by Julia Laskin (Invited Speaker) at Frontiers in Native Mass Spectrometry and Single-Molecule Imaging Conference, Oxford, UK, August 14-17, 2022
123. Laskin J., Unsihuay D., Weigand M., Yin R., Li X. 2022. “Lipid imaging using nanospray desorption electrospray ionization (nano-DESI) mass spectrometry”, Keynote lecture presented by Julia Laskin (Invited Speaker) at the International Mass Spectrometry Conference in Maastricht, Netherlands, August 27-September 2, 2022
124. Laskin J., 2022. “High-Resolution Imaging of Biological Tissues using Nano-DESI Mass Spectrometry”. Presented by Julia Laskin (Invited Speaker) at ASMS Asilomar Conference, Pacific Grove, CA, October 7-11, 2022
125. Laskin J., 2022. “Ambient Mass Spectrometry Imaging: Recent Developments and Opportunities”, Presented by Julia Laskin (Invited Speaker) at the 3rd Iberoamerican Conference on Mass Spectrometry, Rio de Janeiro, Brazil, December 10-15, 2022
126. Laskin J., 2023. “Spatial Omics using Ambient Mass Spectrometry Imaging”. Presented by Julia Laskin (Invited Speaker) at the US HUPO Educational Seminar Series "Frontiers in Spatial Omics", January 9, 2022
127. Laskin J., 2023. “Ambient Imaging of Biological Tissues Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, Seminar presented by Julia Laskin (Invited Speaker) at Osaka University, January 28, 2023
128. Laskin J., 2023. “Recent developments in imaging of biological tissues using nanospray desorption electrospray ionization (nano-DESI) mass spectrometry”, Presented by Julia Laskin (Invited Speaker) at the International Symposium on Mass Spectrometry Imaging, Kyoto, Japan, January 29-31, 2023
129. Laskin J., 2023. “Mass Spectrometry: From Materials Science to Biology”, Seminar presented by Julia Laskin (Invited Speaker) at Penn State University, February 14, 2023
130. Laskin J., H. Gholipour-Ranjbar, L. Sertse, 2023. “Gas-Phase Ion Chemistry Guides the Design of Cluster-Based Materials”, Presented by Julia Laskin (poster) at a Gordon Research Conference“, Gaseous Ions: Structure, Energetics, and Reactions” Ventura, CA, February 2023
131. Laskin J., 2023. “Mass Spectrometry: From Materials Science to Biology”, College of Science Research Award Presentation by Julia Laskin (Invited Speaker) at Purdue University, March 9, 2023

132. Laskin J., 2023. "Bringing Ambient Nano-DESI Mass Spectrometry Imaging to the Single-Cell Level", Presented by Manxi yang (substitution for Julia Laskin, Invited Speaker) at the 2023 Spring ACS Conference, March 2023
133. Laskin J., 2023. "Ambient Imaging of Biological Tissues Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry", Seminar presented by Julia Laskin (Invited Speaker) at Texas A&M University, May 2, 2023
134. Laskin J., 2023. "Gas-Phase Ion Chemistry Guides the Design of Cluster-Based Materials", Presented by Julia Laskin (Invited Speaker) at the AFOSR Molecular Dynamics/Theoretical Chemistry Program Review, Arlington, May 16-18, 2023
135. Laskin J., 2023. "Celebrating Jean Futrell's Career as a Mass Spectrometry Pioneer", Presented by Julia Laskin (Invited Speaker) at the American Society for Mass Spectrometry Conference (ASMS), Houston, TX, June 4-9, 2023
136. Laskin J., 2023. "Pushing the frontiers of ambient imaging using nanospray desorption electrospray ionization mass spectrometry", Presented by Julia Laskin (Invited Speaker) at Advancing Mass Spectrometry for Biophysics and Structural Biology, Austin, TX, July 23-26, 2023
137. Laskin J., 2023. "High-resolution Imaging of Biological Samples Using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry", Presented by Julia Laskin (Invited Speaker) at Gordon Research Conference: Chemical Imaging, Stonehill College, Easton, MA, July 30-August 4, 2023.
138. Laskin J., 2023. "Advances in nanospray desorption electrospray ionization (nano-DESI) mass spectrometry imaging", Presented by Julia Laskin (Invited Speaker) at the Advances in Measurement Science Lectureship Award Session, at the ACS National meeting and exposition, San Francisco, CA, August 13-17, 2023.
139. Laskin J., 2023. "Ambient nano-DESI mass spectrometry imaging at the single-cell level", Presented by Julia Laskin (Invited Speaker) at the 1st International Symposium on Single Cell Mass Spectrometry (iSCMS), Provo, UT, October 4-7, 2023.

PEER-REVIEWED PUBLICATIONS

ResearcherID: http://www.researcherid.com/rid/H-9974-2012;
ORCID ID: orcid.org/0000-0002-4533-9644
Scopus Author ID: 7102409836
(*ISI statistics*: total citations – over 18,000; h-index – 73).

1992-1999

1. C. Lifshitz, I. Gotkis, P. Sandler and J. Laskin "Is the resilience of C_{60}^+ towards decomposition a question of time?" *Chem. Phys. Lett*. **200**, 406-410 (1992)
2. C. Lifshitz, Y. Gotkis, A. Ioffe, J. Laskin and S. Shaik "Is Tr^+ Formed from Toluene at its Thermochemical Threshold? *Int. J. Mass Spectrom. & Ion Processes* **125**, R7-R11 (1993)
3. Y. Gotkis, M. Naor, J. Laskin, C. Lifshitz, J.D. Faulk and R.C. Dunbar "Time-resolved Dissociation of Bromonaphthalene Ion Studied by TPIMS and TRPD. Heat of Formation of Naphthyl Ion" *J. Am. Chem. Soc.* **115** , 7402-7406 (1993)
4. C. Lifshitz, Y. Gotkis, J. Laskin, A. Ioffe and S. Shaik "Threshold Formation of Benzylium (Bz^+) and Tropylium (Tr^+) from toluene. Non-statistical Behavior in Franck Condon Gaps" *J. Phys. Chem.* **97** , 12291-12295 (1993)
5. C. Lifshitz, J. Laskin and T. Peres "Metastable Fractions of Fullerenes" *Org. Mass Spectrom.* **28**, 1001-1003 (1993)
6. J. Laskin and C. Lifshitz "Is n=60 a Magic Number for C_n^+ Clusters or Part of a Magic Shell?" *Int. J. Mass Spectrom. & Ion Processes* **138**, 95-106 (1994)

7. C. Lifshitz, E. Nadav, M. Peres, T. Peres, J. Laskin, B. Karsenty and M. Shaked "Ion Source Trapping in Conjunction with Two Sector Mass Spectrometry : Time Resolved CAD" *Int. J. Mass Spectrom. Ion Processes* **133**, L11-L14 (1994)
8. J. Laskin, H.A. Jimenez-Vazquez, R. Shimshi, M. Saunders, M.S. de Vries and C. Lifshitz "Kinetic Energy Releases Upon Dissociation of Endohedral Fullerene Cations" *Chem. Phys. Lett*. **242**, 249-252 (1995)
9. R. Wörgötter, B. Dünser, P. Scheier, T.D. Märk, M. Foltin, C.E. Klots, J. Laskin and C. Lifshitz "Self Consistent Determination of Fullerene Binding Energies BE(C_n^+-C_2) n=58...44" *J. Chem. Phys.* **104**, 1225-1231 (1996)
10. J. Laskin, J.M. Behm, K.R. Lykke and C. Lifshitz "Time-resolved Appearance Energies for Fragment Ions from C_{60}" *Chem. Phys. Lett*. **252** , 277-280 (1996)
11. J. Laskin, C. Weickhardt and C. Lifshitz "Time-resolved kinetic energy releases for $C_{60}^+ \rightarrow C_{58}^+ + C_2$" *Int. J. Mass Spectrom. & Ion Processes* **161**, L7-L11 (1997)
12. J. Laskin and C. Lifshitz "Time-resolved Metastable Fractions of Fullerenes" *Chem. Phys. Lett*. **277**, 564-570 (1997)
13. J. Laskin and C. Lifshitz "Mass Spectrometric Studies of Fullerene Ion Beams" *Israel Journal of Chemistry,* **37**, 467-474 (1997)
14. J.Laskin, T.Peres, C.Lifshitz, M.Saunders, R.J.Cross and A.Khong "An Artificial Molecule of Ne_2 inside C_{70}" *Chem. Phys. Lett.*, **285**, 7-9 (1998)
15. A.Khong, H.A. Jimenez-Vazquez, M. Saunders, R.J. Cross, J.Laskin, T. Peres, C. Lifshitz, R. Strongin and A.B. Smith "An NMR Study of He_2 Trapped Inside C_{70}" *J. Am. Chem. Soc.*, **120**, 6380-6383 (1998)
16. J.Laskin, B. Hadas, C. Lifshitz and T.D. Märk "New Experimental Evidence in Favor of a High (10 eV) C_2 Binding Energy in C_{60}" *Int. J. Mass Spectrom. & Ion Processes*, **177**, L1-L6 (1998)
17. J.Laskin, T.Peres, A.Khong, H.A. Jimenez-Vazquez, R.J. Cross, M. Saunders, D.S. Bethune, M.S. de Vries and C. Lifshitz "A Mass Spectrometric Study of Unimolecular Decompositions of Endohedral Fullerenes" *Int. J. Mass Spectrom.,* **185-187**, 61-73 (1999)
18. S. Matt, M. Sonderegger, R. David, O. Echt, P. Scheier, J.Laskin, C. Lifshitz and T.D. Märk "Kinetic Energy Release for Metastable Fullerene Ions" *Int. J. Mass Spectrom.*, **185/186/187**, 813-823 (1999)
19. S. Matt, O. Echt, M. Sonderegger, R. David, P. Scheier, J.Laskin, C. Lifshitz and T.D. Märk "Kinetic Energy Release Distributions and Evaporation Energies for Metastable Fullerene Ions" *Chem. Phys. Lett*., **303**, 379-386 (1999)
20. S. Matt, R. Parajuli, A. Stamatovic, P. Scheier, T. D. Maerk, J. Laskin and C. Lifshitz "Kinetic Energy Releases and Electron Induced Decay of C_{60}^{z+}"*Eur. Mass Spectrom*., **5**, 477 (1999)

2000-2005 (the corresponding author is marked with *)

21. J. Laskin*, M. Byrd and J. Futrell "Internal Energy Distributions Resulting from Sustained Off-Resonance Excitation in FTMS: I. Fragmentation of the Bromobenzene Radical Cation" *Int. J. Mass Spectrom.*, Bob Squires Sp. Issue,**195/196**, 285-302 (2000)
22. J. Laskin* and J. Futrell "Internal Energy Distributions Resulting from Sustained Off-Resonance Excitation in FT-ICR MS: II. Fragmentation of the 1-Bromonaphthalene Radical Cation" *J. Phys. Chem. A*, **104**, 5484 (2000)
23. J. Laskin* and J. H. Futrell "The Theoretical Basis of the Kinetic Method from the Point of View of Finite Heat Bath Theory"*J. Phys. Chem. A*, **104**, 8829-8837 (2000)
24. J. Laskin***,** E. Denisov and J. H. Futrell "A Comparative Study of Collision-Induced and Surface-Induced Dissociation. I Fragmentation of Protonated Dialanine" *J. Am. Chem. Soc*., **122**, 9703-9714 (2000)

25. J. Laskin*, E. Denisov and J. H. Futrell "A Comparative Study of Collision-Induced and Surface-Induced Dissociation. II Fragmentation of Small Alanine-Containing Peptides in FT-ICR MS" *J. Phys. Chem. B,* **105**, 1895-1900 (2001)
26. J. Laskin and C. Lifshitz* "Kinetic Energy Releases in Mass Spectrometry" *J. Mass Spectrom.,* **Feature Article**, **36**, 459-478 (2001)
27. V. S. Rakov*, E. V. Denisov, J. Laskin and J. H. Futrell "Surface Induced Dissociation of the Benzene Molecular Cation" *J. Phys. Chem. A,* **106***,* 2781-2788 (2002)
28. J. Laskin*, E. Denisov and Jean H. Futrell "Fragmentation Energetics of Small Peptides from Multiple-Collision Activation and Surface-Induced Dissociation in FT-ICR MS" *Int. J. Mass Spectrom.,* Gas-Phase Biopolymers Sp. Issue, **219**, 189-201 (2002)
29. J. Laskin* and J. H. Futrell "On the Efficiency of Energy Transfer in Collisional Activation of Small Peptides" *J. Chem. Phys.,* **116**, 4302-4310 (2002)
30. J. Laskin*, E. V. Denisov, A. K. Shukla, S. E. Barlow and J. H. Futrell "Surface-Induced Dissociation in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer: New Instrument Design and Evaluation" *Anal. Chem.,* **74**, 3255-3261 (2002)
31. J. Laskin*, T. H. Bailey, E. V. Denisov and J. H. Futrell "On the Relative Stability of Singly Protonated des-Arg^1 and des-Arg^9 Bradykinins" *J. Phys. Chem. A,* **106***,* 9832-9836 (2002)
32. J.J.H. Hache, J. Laskin* and J.H. Futrell "Relative Proton Affinities from Kinetic Energy Release Distributions for Dissociation of Proton-Bound Dimers"*J. Phys Chem. A*., ***106,*** 12051-12057 (2002)
33. V. J. Nesatyy* and J. Laskin "Dissociation of noncovalent protein complexes by triple quadrupole tandem mass spectrometry: comparison of Monte Carlo simulation and experiment" *Int. J. Mass Spectrom.*, **221**, 245-262 (2002)
34. T. H. Bailey, J. Laskin* and J. H. Futrell "Energetics of Selective Cleavage at Acidic Residues Studied by Time-and Energy-Resolved Surface-Induced Dissociation in FT-ICR-MS" *Int. J. Mass Spectrom.,* Jack Beauchamp Sp. Issue, **222**, 313-327 (2003)
35. J. Laskin*, T.H. Bailey and J.H. Futrell "Shattering of Peptide Ions on Self-Assembled Monolayer Surfaces" *J. Am. Chem. Soc.,* **125**, 1625-1632 (2003)
36. J. Laskin* and J.H. Futrell "Collisional Activation of Peptide Ions in FT-ICR Mass Spectrometry" *Mass Spectrom. Rev.,* **Invited Review**, **22**, 158-181 (2003)
37. J. Laskin* and J.H. Futrell "Energy Transfer in Collisions of Peptide Ions with Surfaces" *J. Chem. Phys.*, **119**, 3413-3420 (2003)
38. J. Laskin* and J.H. Futrell "Entropy is the Major Driving Force for Fragmentation of Proteins and Protein-Ligand Complexes in the Gas-Phase" *J. Phys. Chem. A*, **107**, 5836-5839 (2003)
39. J. Laskin* and J.H Futrell "Surface-Induced Dissociation of Peptide Ions: Kinetics and Dynamics" *J. Am. Soc. Mass Spectrom.*, **14**, 1340-1347 (2003)
40. J. Laskin* "Energetics and Dynamics of Peptide Fragmentation from Multiple-Collision Activation and Surface-Induced Dissociation Studies" *Eur. J. Mass Spectrom*., Jean Futrell and Burnaby Munson Sp. Issue, **10**, 259-267 (2004)
41. J. Laskin*, K.M. Beck, J.J. Hache, J.H. Futrell "Surface-Induced Dissociation of Ions Produced by Matrix-Assisted Laser Desorption Ionization in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer" *Anal. Chem*., **76**, 351-356 (2004)
42. J. J. Hache, J. H. Futrell and J. Laskin* "Relative Proton Affinities from Kinetic Energy Release Distributions for Dissociation of Proton-Bound Dimers: 2. Diamines as a test case" *Int. J. Mass Spectrom*., Tilmann Märk Sp. Issue, **233**, 223-231 (2004)
43. J. Laskin*, T.H. Bailey and J.H. Futrell "Fragmentation Energetics for Angiotensin II and its Analogs from Time-and Energy-Resolved Surface-Induced Dissociation Studies" *Int. J. Mass Spectrom*., Alan Marshall Sp. Issue, **234**, 89–99 (2004)

44. V.N. Nemykin, J. Laskin and P. Basu* "Isolation, Characterization of an Intermediate in an Oxygen Atom Transfer Reaction and the Determination of the Bond Dissociation Energy" *J. Am. Chem. Soc.* (Communication), **126**, 8604-8605 (2004)

2005- 2009 (the corresponding author is marked with *)

45. J. Laskin* and J.H Futrell "Activation of Large Ions in FT-ICR Mass Spectrometry" *Mass Spectrom. Rev*., **Invited Review**, **24**, 135-167 (2005)
46. B. Gologan, J. R. Green, J. Alvarez, J. Laskin and R. G. Cooks* "Ion/Surface Reactions and Ion Soft-Landing" Phys. Chem. Chem. Phys., **7**, 1490-1500 (2005)
47. J. Alvarez, R. G. Cooks, S. E. Barlow, D. J. Gaspar, J. H. Futrell and J. Laskin* "Preparation and *in situ* Characterization of Surfaces Using Soft-Landing in a Fourier Transform Ion Cyclotron Resonance Mass Spectrometer" Anal. Chem., 77, 3452-3460 (2005)
48. J. Alvarez, J. H. Futrell and J. Laskin* "Soft-Landing of Peptides onto Self-Assembled Monolayer Surfaces" J. Phys. Chem. A, 110, 1678-1687 (2006)
49. J. A. Lloyd, J. M. Spraggins, M. V. Johnston* and Julia Laskin* "Peptide Ozonolysis: Product Structures and Proposed Mechanisms for Oxidation of Tyrosine and Histidine", J. Am. Soc. Mass Spectrom., 17, 1289–1298 (2006)
50. J. Laskin,* T.H. Bailey and J.H. Futrell "Mechanisms of Peptide Fragmentation from Time- and Energy-Resolved Surface-Induced Dissociation Studies: Dissociation of Angiotensin Analogs", Int. J. Mass Spectrom., Chava Lifshitz Memorial Issue, 249–250, 462–472 (2006)
51. J. Laskin* "Energy and Entropy Effects in The Gas Phase Dissociation of Peptides and Proteins", in Principles of Mass Spectrometry Applied to Biomolecules, J. Laskin and C. Lifshitz (Eds.), Wiley, Hoboken, NJ, 2006, pp. 619-665
52. Y. Fu, J. Laskin, and L.-S. Wang* "Collision Induced Dissociation of [4Fe-4S] Cubane Cluster Complexes: $[Fe_4S_4Cl_{4-x}(SC_2H_5)_x]^{2-/1-}$ (x = 0 - 4), Int. J. Mass Spectrom., Diethard Bohme Honour Issue, 255-256, 102-110 (2006)
53. F. M. Fernandez, V.H. Wysocki,* J.H. Futrell and J. Laskin* "Protein Identification via Surface-induced Dissociation in an FT-ICR Mass Spectrometer and a Patchwork Sequencing Approach.", J. Am. Soc. Mass Spectrom., 17, 700-709 (2006)
54. J. Laskin* "Fragmentation Energetics of Protonated Leucine Enkephalin from Time-and Energy-Resolved Surface-Induced Dissociation Studies", J. Phys. Chem. A, 110, 8554-8562 (2006)
55. Z. Yang, O. Hadjar and J. Laskin* "Effect of the Surface Morphology on the Energy Transfer in Ion-Surface Collisions", Int. J. Mass Spectrom., Jean Futrell Honor Issue, 265, 124–129 (2007)
56. J. Laskin,* P. Wang, O. Hadjar, J. H. Futrell, J. Alvarez, and R. G. Cooks "Charge Retention by Peptide Ions Soft-Landed onto Self-Assembled Monolayer Surfaces", Int. J. Mass Spectrom., Jean Futrell Honor Issue, 265, 237-243 (2007)
57. O. Hadjar, P. Wang, J. H. Futrell, Y. Dessiaterik, Z. Zhu, J. P. Cowin, M. J. Iedema, and J. Laskin* "Design and Performance of a New Instrument for Soft-Landing of Biomolecular Ions on Surfaces", Anal. Chem., 79, 6566-6574 (2007)
58. P. Wang, O. Hadjar and J. Laskin* "Covalent Immobilization of Peptides on Self-Assembled Monolayer Surfaces using Soft-Landing of Mass-Selected Ions" , J. Am. Chem. Soc. (Communication), 129, 8682-8683 (2007)
59. Y. Fu, J. Laskin, and L.-S. Wang* "Electronic Structure and Fragmentation Properties of $[Fe_4S_4(SEt)_{4-x}(SSEt)_x]^{2-}$, Int. J. Mass Spectrom., 263, 260–266 (2007)
60. W. R. Cannon, D. Taasevigen, D. J. Baxter and J. Laskin "Evaluation of the Influence of Amino Acid Composition in Collision-Induced Fragmentation of Model Peptides", J. Am. Soc. Mass Spectrom., 18, 1625–1637 (2007)

61. H. Lioe, J. Laskin*, G. E. Reid, and R. A. J. O'Hair "Energetics and Dynamics of Fragmentation of Protonated Peptides containing a Methionine Sulfoxide or an Aspartic Acid Residue via Energy- and Time-Resolved Surface Induced Dissociation Study", J. Phys. Chem. A, 111, 10580-10588 (2007)
62. J. Laskin*, Z. Yang, Corey Lam, and I. K. Chu "Charge-Remote Fragmentation of Odd-Electron Peptide Ions", Anal. Chem., 79, 6607-6614 (2007)
63. J. Laskin*, J. H. Futrell and I. K. Chu "Is the Dissociation of Peptide Radical Cations an Ergodic Process?", J. Am. Chem. Soc. (Communication), 129, 9598-9599 (2007)
64. O. Hadjar, J. H. Futrell, J. Laskin* "First Observation of Charge Reduction and Desorption Kinetics of Multiply Protonated Peptides Soft Landed onto Self-Assembled Monolayer Surfaces", J. Phys. Chem. C, 111, 18220-18225 (2007)
65. J. Laskin*, Z. Yang and I. K. Chu "Energetics and Dynamics of Electron Transfer and Proton Transfer in Dissociation of $Metal^{III}$(salen)-Peptide Complexes in the Gas-Phase", J. Am. Chem. Soc., 130, 3218-3230 (2008)
66. P. Wang, O. Hadjar, P. L. Gassman and J. Laskin* "Reactive Landing of Peptide Ions on Self-Assembled Monolayer Surfaces: An Alternative Approach for Covalent Immobilization of Peptides on Surfaces", Phys. Chem. Chem. Phys., 10, 1512 – 1522 (2008)
67. M. L. Walser, Y. Dessiaterik, J. Laskin, A. Laskin, S. A. Nizkorodov* "High-Resolution Mass Spectrometric Analysis of Secondary Organic Aerosol Produced by Ozonation of Limonene", Phys. Chem. Chem. Phys., 10, 1009 – 1022 (2008)
68. J. Laskin*, P.Wang, O. Hadjar " Soft-landing of Peptide Ions onto Self-Assembled Monolayer Surfaces: an Overview", Phys. Chem. Chem. Phys., 10, 1079–1090 (2008)
69. Z. Yang, E. R. Vorpagel, J. Laskin* "Experimental and Theoretical Studies of the Structures and Interactions of Vancomycin Antibiotics with Cell Wall Analogues", J. Am. Chem. Soc., 130, 13013-13022 (2008)
70. P. Wang, J. Laskin* "Helical Peptide Arrays on Self-Assembled Monolayer Surfaces Through Soft- and Reactive Landing of Mass-Selected Ions", *Angew. Chem. Int. Ed.*, **47**, 6678 –6680 (2008)
71. A. P. Bateman, M. L. Walser, Y. Desyaterik, J. Laskin, A. Laskin, S. A. Nizkorodov* "Solvent-analyte reactions of secondary organic aerosol constituents in methanol and acetonitrile", *Environ. Sci. Technol.*, **42**, 7341-7346 (2008)
72. Z. Yang, C. Lam, I. K. Chu, J. Laskin* "The Effect of the Secondary Structure on Dissociation of Peptide Radical Cations: Fragmentation of Angiotensin III and Its Analogues", *J. Phys. Chem. B*, **112**, 12468-12478 (2008)
73. Z. Yang, E. R. Vorpagel, J. Laskin* " Influence of the Charge State on the Structures and Interactions of Vancomycin Antibiotics with Cell Wall Analogue Peptides: Experimental and Theoretical Studies", *Chem. Eur. J.*, 15, 2081-2090 (2009)
74. J. S. Smith, A. Laskin, J. Laskin*" Molecular Characterization of Biomass Burning Aerosols Using High Resolution Mass Spectrometry", *Anal. Chem.*, 81, 1512–1521 (2009)
75. O. Hadjar, P. Wang, J. H. Futrell, J. Laskin* "Effect of the Surface on Charge Reduction and Desorption Kinetics of Soft Landed Peptide Ions", *J. Am. Soc. Mass Spectrom.*, 20, 901–906 (2009)
76. A. Laskin,* J. S. Smith, J. Laskin* "Molecular Characterization of Nitrogen Containing Organic Compounds in Biomass Burning Aerosols Using High Resolution Mass Spectrometry", *Environ. Sci. Technol.*, 43, 3764–3771 (2009)
77. C.-K. Siu, J. Zhao, J. Laskin, I. K. Chu, A. C. Hopkinson, K. W. M. Siu* "Kinetics for Tautomerizations and Dissociations of Triglycine Radical Cations", *J. Am. Soc. Mass Spectrom.*, 20, 996–1005 (2009)
78. T. Song, C.N.W. Lam, D. C.M. Ng, G. Orlova, J. Laskin, D.-C. Fang, I. K. Chu " Experimental and Computational Studies of the Macrocyclic Effect of an Auxiliary Ligand

on Electron and Proton Transfers Within Ternary Copper(II)—Histidine Complexes", *J. Am. Soc. Mass Spectrom.*, 20, 972–984 (2009)

79. P. Wang and J. Laskin* "Surface Modification Using Reactive Landing of Mass-Selected Ions on Surfaces", book chapter, Ion beams in Nanoscience and Technology, H.J. Whitlow , Y. Zhang, R. Hellborg (Eds.), Springer, 2009
80. Q. Hu, P. Wang, P.L. Gassman, and J. Laskin* "*In situ* Studies of Soft- and Reactive Landing of Mass-Selected Ions Using Infrared Reflection Absorption Spectroscopy", Anal. Chem., 81, 7302–7308 (2009)
81. J. M. Spraggins, J. Lloyd, M. V. Johnston, J. Laskin, D. P. Ridge* "Fragmentation Mechanisms of Oxidized Peptides Elucidated by SID, RRKM Modeling and Molecular Dynamics", *J. Am. Soc. Mass Spectrom.*, 9, 1579-1592 (2009)
82. A. P. Bateman, S. A. Nizkorodov,* J. Laskin, A. Laskin "Time-resolved molecular characterization of limonene/ozone aerosol using high-resolution electrospray ionization mass spectrometry", *Phys. Chem. Chem. Phys.*, 11, 7931–7942 (2009)

2010

83. J. Laskin,* P. Wang, O. Hadjar "Soft-Landing of $Co^{III}(salen)^{+}$ and $Mn^{III}(salen)^{+}$ on Self-Assembled Monolayer Surfaces", *J. Phys. Chem. C*, 114, 5305–5311 (2010)
84. J. H. Futrell,* J. Laskin "Surface Induced Dissociation and Soft Landing of Complex Molecules on Self Assembled Monolayer Surfaces", in *Encyclopedia of Spectroscopy and Spectrometry*, 2nd Ed, Academic Press, 2010
85. J. Laskin,* Z. Yang, C. M. D. Ng, I. K. Chu " Fragmentation of α-Radical Cations of Arginine-Containing Peptides", *J. Am. Soc. Mass Spectrom.*, 21, 511-521 (2010)
86. C. M. Ng, T. Song, S. O. Siu, C.-K. Siu, J. Laskin, I. K. Chu* "Formation, Isomerization, and Dissociation of alpha-Carbon-Centered and pi-Centered Glycylglycyltryptophan Radical Cations", *J. Phys. Chem.*, 114, 2270–2280 (2010)
87. T. B. Nguyen, A. P. Bateman, D. L. Bones, S. Nizkorodov,* A. Laskin, J. Laskin "High-Resolution Mass Spectroscopic Analysis of Secondary Organic Aerosol Generated by Ozonolysis of Isoprene", *Atmospheric Environment*, 44, 1032-1042 (2010)
88. J. Laskin,* A. Laskin,* P. J. Roach, G. W. Slysz, G. A. Anderson, S. A. Nizkorodov, D. L. Bones, L. Q. Nguyen "High-Resolution Desorption Electrospray Ionization Mass Spectrometry for Chemical Characterization of Organic Aerosols", Anal. Chem., 82, 2048–2058 (2010)
89. P. J. Roach,* J. Laskin, A. Laskin "Nanospray Desorption Electrospray Ionization Mass Spectrometry", Analyst, 135, 2233–2236 (2010)
90. K. Xu, Y.W. Zhang, B. Tang, J. Laskin, P.J. Roach, H. Chen* "The Study of Highly Selective Thiol Derivatization using Selenium Reagents by Mass Spectrometry", Anal. Chem., 82, 6926–6932 (2010)
91. G. E. Johnson, M. Lysonski, J. Laskin* "In Situ Reactivity and TOF SIMS Analysis of Surfaces Prepared by Soft and Reactive Landing of Mass Selected Ions", Anal. Chem., 82, 5718–5727 (2010)
92. P. J. Roach, J. Laskin*, A. Laskin* "Molecular Characterization of Organic Aerosols Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem., 82, 7979–7986 (2010)
93. A. Bateman, S. Nizkorodov*, J. Laskin, A. Laskin "High-Resolution Electrospray Ionization Mass Spectrometry Analysis of Water Soluble Organic Aerosols Collected with a Particle into Liquid Sampler (PILS)", Anal. Chem., 82, 8010–8016 (2010)
94. Q. Hu, P. Wang, J. Laskin* "Effect of the Surface on the Secondary Structure of Soft Landed Peptide Ions", PCCP, 12, 12802–12810 (2010)

95. G. E. Johnson*, J. Laskin* "Preparation of Surface Organometallic Catalysts by Gas-Phase Ligand Stripping and Reactive Landing of Mass-Selected Ions", *Chem. Eur. J.*, 16, 14433–14438 (2010)
96. J. Laskin*, Z. Yang, T. Song, C. Lam, I. K. Chu "The Effect of the Basic Residue on the Energetics, Dynamics and Mechanisms of Gas-Phase Fragmentation of Protonated Peptides", *J. Am. Chem. Soc.*, 132, 16006–16016 (2010)

2011

97. W.-P. Peng, G. E. Johnson, I. Fortmeyer, P. Wang, O. Hadjar, R. G. Cooks*, J. Laskin* "Redox Chemistry in Thin Films of Organometallic Complexes Prepared Using Ion Soft Landing", *Phys. Chem. Chem. Phys*, 13, 267 – 275 (2011)
98. O. Hadjar*, G. E. Johnson, G. Kibelka, S. Shill, J. Laskin "IonCCDTM for direct position-sensitive charged particle detection: from electrons and keV ions to hyperthermal biomolecular ions", J. Am. Soc. Mass Spectrom., (**Cover Article**) 22, 612-623 (2011)
99. A. L. Chang-Graham, L. T. Profeta, T. J. Johnson, R. J. Yokelson, A. Laskin,* J. Laskin* "A Case Study of Water Soluble Metal Containing Organic Constituents of Biomass Burning Aerosol", Environ. Sci. Technol. 45, 1257–1263 (2011)
100. G. E. Johnson, Q. Hu, J. Laskin* "Soft-Landing of Complex Molecules on Surfaces", Annu. Rev. Anal. Chem., (**Invited Review**) 4, 83–104 (2011)
101. S. N. Nizkorodov, J. Laskin, A. Laskin "Molecular Chemistry of Organic Aerosols Through Applications of the High Resolution Mass Spectrometry", (**Cover Article**) PCCP, 13, 3612–3629 (2011)
102. J. Laskin, Z. Yang, A. S. Woods "Competition between Covalent and Noncovalent Bond Cleavages in Dissociation of Phosphopeptide-Amine Complex", PCCP, 13, 6936–6946 (2011)
103. A. P. Bateman, S. A. Nizkorodov*, J. Laskin, A. Laskin "Photochemical processing of secondary organic aerosols dissolved in cloud droplets", (**Cover Article**) PCCP, 13, 12199–12212 (2011)
104. G. E. Johnson*, O. Hadjar, J. Laskin "Characterization of the Ion Beam Focusing in a Mass Spectrometer using an IonCCD Detector", *J. Am. Soc. Mass Spectrom.*, 22,1388-1394 (2011)
105. P. J. Roach, J. Laskin*, A. Laskin "Higher-Order Mass Defect Analysis for Mass Spectra of Complex Organic Mixtures", *Anal. Chem*., 83, 4924–4929 (2011)
106. T. B. Nguyen, P. J. Roach, J. Laskin, A. Laskin, S. A. Nizkorodov* "Effect of Humidity on the Composition and Yield of Isoprene Photooxidation Secondary Organic Aerosol", *Atmos. Chem. Phys.*, 11, 6931-6944 (2011)
107. H. Huang, J. Shi, J. Laskin, Z. Liu, D. S. McVey, X. S. Sun* "Design of a shear-thinning recoverable peptide hydrogel from native sequences and application for influenza H1N1 vaccine adjuvant", (**Cover Article**) Soft Matter, 7, 8905 – 8912 (2011)
108. T. B. Nguyen, J. Laskin, A. Laskin, S. A. Nizkorodov* Nitrogen-Containing Organic Compounds and Oligomers in Secondary Organic Aerosol Formed by Photooxidation of Isoprene" *Environ. Sci. Technol*., **45**, 6908–6918 (2011)
109. J. Laskin* and Z. Yang "Energetics and Dynamics of Dissociation of Deprotonated Peptides: Fragmentation of Angiotensin Analogs", *Int. J. Mass Spectrom*. (John Eyler special issue), 308, 275-280 (2011)
110. I. C. K. Chu,* J. Laskin* "Formation of peptide radical ions through dissociative electron transfer in ternary metal–ligand–peptide complexes", Eur. J. Mass Spectrom., 17, 543-556 (2011)
111. G. E. Johnson, C. Wang, T. Priest, J. Laskin "TEM Analysis of Monodisperse Au_{11} Clusters Prepared by Soft Landing of Mass Selected Ions", Anal. Chem., 83, 8069–8072 (2011)

2012

112. T. B. Nguyen, P. B. Lee, K. M. Updyke, D. L. Bones, J. Laskin, A. Laskin, S. A. Nizkorodov "Formation of Nitrogen- and Sulfur-Containing Light-Absorbing Compounds Accelerated by Evaporation of Water from Secondary Organic Aerosols", Journal of Journal of Geophysical Research, Atmospheres, 117, D01207, doi:10.1029/2011JD016944 (2012)
113. J. Laskin,* B. S. Heath, P. J. Roach, L. Cazares, O. J. Semmes "Tissue Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem.., **84**, 141-148 (2012)
114. G. E. Johnson, T. Priest, J. Laskin "Charge Retention by Gold Clusters on Surfaces Prepared Using Soft Landing of Mass Selected Ions", ACS Nano, 6, 573–582 (2012)
115. P. A. Eckert, P. J. Roach, A. Laskin, J. Laskin "Chemical Characterization of Crude Petroleum Using Nanospray Desorption Electrospray Ionization Coupled with High-Resolution Mass Spectrometry", Anal. Chem., 84, 1517−1525 (2012)
116. J. Laskin, Z. Yang, C. Lam, I. K. Chu "Energy and Entropy Effects in Dissociation of Peptide Radical Anions", *Int. J. Mass Spectrom*. (Alex Harrison special issue), 316– 318 251– 258 (2012) DOI: 10.1016/j.ijms.2012.01.006
117. J. Watrous, P. Roach, T. Alexandrov, B. Heath, J. Yang, R. Kersten, M. van der Voort, K. Pogliano, H. Gross, J. M. Raaijmakers, B. S. Moore, J. Laskin, N. Bandeira, P. C. Dorrestein "Mass spectral molecular networking of living microbial colonies", Proc. Natl. Acad. Sci., 109, E1743-E1752 (2012) DOI : 10.1073/pnas.1203689109
118. D. R. Fooshee, T. B. Nguyen, S. A. Nizkorodov, J. Laskin, A. Laskin, P. Baldi "COBRA: A Computational Brewing Application for Predicting the Molecular Composition of Organic Aerosols". *Environ. Sci. Technol*., 46, 6048−6055 (2012) DOI: 10.1021/es3003734
119. T. B. Nguyen, A. Laskin, , J. Laskin, S. A. Nizkorodov, "Direct Aqueous Photochemistry of Isoprene High-NOx Secondary Organic Aerosol", *PCCP*, 14, 9702–9714 (2012) DOI: 10.1039/C2CP40944E
120. P. Liu, I. T. Lanekoff, J. Laskin, H. Chen "The Study of Electrochemical Reactions Using Nanospray Desorption Electrospray Ionization-Mass Spectrometry", *Anal. Chem.*, 84, 5737−5743(2012)
121. A. Laskin, J. Laskin, S. A. Nizkorodov, "Mass Spectrometric Approaches for Chemical Characterization of Atmospheric Aerosols: Critical Review of Most Recent Advances", *Environ. Chem.*, 9, 163–189 (2012) DOI: 10.1071/EN12052
122. J. Laskin, P. A. Eckert, P.J. Roach, B. S. Heath, S. A. Nizkorodov,A. Laskin "Chemical Analysis of Complex Organic Mixtures Using Reactive Nanospray Desorption Electrospray Ionization Mass Spectrometry", *Anal. Chem.*, 84, 7179−7187 (2012)
123. A. P. Bateman, J. Laskin, A. Laskin, S. A. Nizkorodov "Applications of High-Resolution Electrospray Ionization Mass Spectrometry to Measurements of Average Oxygen to Carbon Ratios in Organic Aerosols", *Environ. Sci. Technol*., 46, 8315-8324 (2012)
124. I. Lanekoff, B. S. Heath, A. Liyu, M. Thomas, J. P. Carson, J. Laskin "An Automated Platform for High-Resolution Tissue Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem., 84, 8351−8356 (2012)
125. J. Laskin, R.P.M. Kong, T. Song, I. K. Chu "Effect of the Basic Residue on the Energetics and Dynamics of Dissociation of Phosphopeptides", *Int. J. Mass Spectrom.* (Armentrout Issue), 330–332, 295–301 (2012)
126. M. Thomas, B. S. Heath, J. Laskin, D. Li, A. P. Kuprat, K. Kleese van Dam, J. P. Carson. "Visualization of High Resolution Spatial Mass Spectrometric Data during Acquisition." In 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 5545-48 (2012)

127. K. K. van Dam, J. Carson, A. Corrigan, D. Einstein, Z. Guillen, B. Heath, A. Kuprat, I. Lanekoff, C. Lansing, J. Laskin, D. S. Li, Y. Liu, M. Marshall, E. Miller, G. Orr, P. P. da Silva, S. Ryu, C. Szymanski, M. Thomas, and Ieee, "Velo and REXAN - Integrated Data Management and High Speed Analysis for Experimental Facilities", in *2012 IEEE 8th International Conference on E-Science* (2012).
128. G. E. Johnson, T. Priest, J. Laskin "Coverage-dependent Charge Reduction of Cationic Gold Clusters on Surfaces Prepared Using Soft Landing of Mass-selected Ions", J. Phys. Chem. C, 116, 24977−24986 (2012)

2013

129. T. B. Nguyen, S. A. Nizkorodov, A. Laskin, J. Laskin "An approach toward quantification of organic compounds in complex environmental samples using high-resolution electrospray ionization mass spectrometry", *Anal. Methods*, (**Cover Article**), 5, 72-80 (2013) DOI: 10.1039/c2ay25682g
130. R. O'Brien, A. Laskin, J. Laskin, R. Weber, A. H. Goldstein "Molecular Characterization of Organic Aerosol Using Nanospray Desorption/Electrospray Ionization Mass Spectrometry: CalNex 2010 field study", *Atmospheric Environment*, 68, 265-272 (2013)
131. T. Song, I. K. Chu, C. –K. Siu, J. Laskin "Mechanistic Examination of C_β–C_γ Bond Cleavages of Tryptophan Residues During Dissociations of Molecular Peptide Radical Cations", J. Phys. Chem. A, 117, 1059–1068 (2013)
132. R. E. O'Brien, T. B. Nguyen, A. Laskin, J. Laskin, P. L. Hayes, S. Liu, J. L. Jimenez, L. M. Russell, S. A. Nizkorodov, A. H. Goldstein "Probing Molecular Associations of Field-Collected and Laboratory-Generated SOA with Nano-DESI High-Resolution Mass Spectrometry", J. Geophys. Res., 118:1042-1051 (2013). doi:10.1002/jgrd.50119
133. I. Lanekoff , M. Thomas, J. P. Carson, J. N. Smith, C. Timchalk, J. Laskin "Imaging of Nicotine in Rat Brain Tissue Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem., 85, 882−889 (2013)
134. I. Lanekoff, O. Geydebrekht, G. E. Pinchuk, J. Laskin "Spatially-Resolved Analysis of Glycolipids and Metabolites in Living Synechococcus sp. PCC 7002 Using Nanospray Desorption Electrospray Ionization", Analyst, (**Cover Article**), 138, 1971–1978 (2013)
135. J. Laskin, A. Laskin, S. N. Nizkorodov "New Mass Spectrometry Techniques for Studying Physical Chemistry of Atmospheric Heterogeneous Processes", Int. J. Phys. Chem. Rev., (**Cover Article**), 32, 128–170 (2013)
136. B. Bzdek, J. DePalma, D. Ridge, J. Laskin*, M. Johnston* "Fragmentation Energetics of Clusters Relevant to Atmospheric New Particle Formation", J. Am. Chem. Soc., 135, 3276−3285 (2013)
137. N. M. Al Hasan, G. E. Johnson, J. Laskin* "Gas-Phase Synthesis of Multiply Charged Poloxovanadate Anions Employing Electrospray Ionization and Collision Induced Dissociation", J. Am. Soc. Mass Spectrom., 24,1385-1395 (2013)
138. H. J. Lee, A. Laskin, J. Laskin, S. A Nizkorodov* "Excitation-emission spectra and fluorescence quantum yields for fresh and aged biogenic secondary organic aerosols", Env. Sci. Technol., 47, 5763-5770 (2013)
139. T. B. Nguyen, A. Laskin, J. Laskin, S. A. Nizkorodov* "Brown carbon formation from ketoaldehydes of biogenic monoterpenes." Faraday Discussions, 165, 473-494 (2013). DOI: 10.1039/C3FD00036B
140. G. E. Johnson*, T. Priest, J. Laskin* "Synthesis and Characterization of Novel Gold Clusters Ligated with 1,3-Bis(dicyclohexylphosphino)propane", ChemPlusChem, 78, 1033–1039 (2013)
141. D. R. Baer*, M. H. Engelhard, G. E. Johnson, J. Laskin, J. Lai, K. T. Mueller, P. Munusamy, S. Thevuthasan, H. Wang, N. M. Washton, A. C. Elder, B. L. Baisch, A. S. Karakoti, S. V.

N. T. Kuchibhatla, D.-W. Moon "Surface Characterization of Nanomaterials and Nanoparticles: important needs and challenging opportunities", J. Vac. Sci. Technol. A 31, 050820 (2013). DOI:10.1116/1.4818423

142. G. E. Johnson*, N. M. Al Hasan, J. Laskin* "Influence of Heteroanion and Ammonium Cation Size on the Composition and Gas-Phase Fragmentation of Polyoxovanadates", *Int. J. Mass Spectrom*. (Detlef Schroeder memorial issue), 354–355 (2013) 333–341
143. I. Lanekoff, K. Burnum-Johnson, M. Thomas, J. Short, J. P. Carson, J. Cha, S. K. Dey, P. Yang, M. C. Prieto Conaway, J. Laskin* "High-Speed Tandem Mass Spectrometric in Situ Imaging by Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem., 85, 9596−9603 (2013). DOI:10.1021/ac401760s
144. J. Watrous, P. Roach, B. Heath, J. Laskin, P. Dorrestein* "Metabolic profiling directly from the Petri dish using nanoDESI imaging mass spectrometry", Anal. Chem., 85, 10385–10391 (2013)

2014

145. B. S. Heath, M. J. Marshall, J. Laskin "The Characterization of Living Bacterial Colonies Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", In *Engineering and Analyzing Multicellular Systems: Methods and Protocols* (Methods in Molecular Biology, Book 1151), L. Sun and W. Shou (Eds.), 199-208 (2014). DOI: 10.1007/978-1-4939-0554-6_14.
146. G. E. Johnson*, K. D. D. Gunaratne, J. Laskin* "In Situ SIMS and IR Spectroscopy of Well-Defined Surfaces Prepared by Soft Landing of Mass-Selected Ions", Journal of Visualized Experiments, 88 (2014). DOI: 10.3791/51344
147. W. Zhang, D. Du, D. Gunaratne, R. Colby, Y. Lin, J. Laskin* "Polyoxometalate-Graphene Nanocomposite Modified Electrode for Electrocatalytic Detection of Ascorbic Acid", Electroanalysis, 26, 178-183 (2014). DOI:10.1002/elan.201300343
148. I. Lanekoff, M. Thomas, J. Laskin* "Shotgun approach for quantitative imaging of phospholipids using nanospray desorption electrospray ionization mass spectrometry", Anal. Chem., 86, 1872−1880 (2014). DOI: 10.1021/ac403931r
149. Q. Hu, J. Laskin* "Reactive Landing of Dendrimer Ions onto Activated Self-assembled Monolayer Surfaces", J. Phys. Chem., 118, 2602−2608 (2014). DOI:10.1021/jp411637w
150. J. Laskin*, P. Wang "Charge Retention by Organometallic Dications on Self-Assembled Monolayer Surfaces", Int. J. Mass Spectrom. (Tilmann Märk's Special Issue), 365–366, 187–193 (2014). DOI: 10.1016/j.ijms.2014.01.012
151. M. Xu, S. Tao, X. Mu, C.-K. Lai, C.-K. Siu, J. Laskin, I. K. Chu* "Discovery and Mechanistic Studies of Facile N-Terminal C_{α}–C Bond Cleavages in the Dissociation of Tyrosine-Containing Peptide Radical Cations, J. Phys. Chem. B, 118, 4273–4281 (2014)
152. G. E. Johnson, T. Priest, J. Laskin* "Size-dependent stability toward dissociation and ligand binding energies of phosphine-ligated gold cluster ions", Chem. Sci., 5, 3275–3286 (2014). DOI: 10.1039/c4sc00849a
153. I. Lanekoff, S.L. Stevens, M. P. Stenzel-Poore, J. Laskin* "Matrix Effects in Biological Mass Spectrometry Imaging: Identification and Compensation", Analyst, (**Cover Article**), 139, 3528–3532 (2014)
154. A. Olivarez, J. Laskin*, G. E. Johnson* "Investigating the Synthesis of Ligated Metal Clusters in Solution Using a Flow Reactor and Electrospray Ionization Mass Spectrometry", J. Phys. Chem. A, 118, 8464−8470 (2014)
155. J. M. Flores, R. A. Washenfelder, G. Adler, H. J. Lee, L. Segev, J. Laskin, A. Laskin, S. A. Nizkorodov, S. S. Brown, Y. Rudich* "Complex refractive indices in the near-ultraviolet spectral region for biogenic secondary organic aerosol aged with ammonia", Phys. Chem. Chem. Phys., 16, 10629-10642 (2014)

156. S. Tao, X. Lu, N. Levac, A. Bateman, T. Nguyen, D. Bones, S. Nizkorodov, J. Laskin, A. Laskin*, X. Yang* "Molecular Characterization of Organosulfates in Organic Aerosols from Shanghai and Los Angeles Urban Areas by Nanospray-Desorption Electrospray Ionization High-Resolution Mass Spectrometry", Environ. Sci. Technol., 48, 10993–11001 (2014)
157. H. J. Lee, P. Aiona, A. Laskin, J. Laskin, S. A. Nizkorodov* "Effect of Solar Radiation on the Optical Properties and Molecular Composition of Naphthalene Secondary Organic Aerosol", Environ. Sci. Technol., 48, 10217–10226 (2014)
158. J. Laskin*, A. Laskin*, S.A. Nizkorodov, P. Roach, P. Eckert, M.K. Gilles, B. Wang, H.J. Lee, Q. Hu "Molecular Selectivity of Brown Carbon Chromophores", Environ. Sci. Technol., 48, 12047–12055 (2014). DOI: 10.1021/es503432r
159. S. Pratihar, D. G. Bhakta, S. C. Kohale, J. Laskin, W. L. Hase* "Dynamics of Energy Transfer and Soft-Landing in Collisions of Protonated Dialanine with Perfluorinated Self-Assembled Monolayer Surfaces", Phys. Chem. Chem. Phys., 16, 23769—23778 (2014). DOI: 10.1039/C4CP03535F
160. R. E. O'Brien, A. Laskin, J. Laskin, C. L. Rubitschun, J. D. Surratt, A. H. Goldstein* "Molecular Characterization of S- and N-containing Organic Constituents in Ambient Aerosols by High-Resolution Nanospray Desorption Electrospray Ionization Mass Spectrometry: CalNex 2010 field study", J. Geophys. Res., 119, 2014JD021955 (2014). DOI: 10.1002/2014JD021955
161. K. D. Gunaratne, G. E. Johnson, A. Andersen, D. Du, W. Zhang, V. Prabhakaran, Y. Lin, J. Laskin* "Controlling the Charge State and Redox Properties of Supported Polyoxometalates via Soft Landing of Mass Selected Ions", J. Phys. Chem. C, (**Cover Article**) 118, 27611−27622 (2014)
162. L. Yu, J. Smith, A. Laskin, C. Anastasio, J. Laskin, and Q. Zhang* "Chemical characterization of SOA formed from aqueous-phase reactions of phenols with the triplet excited state of carbonyl and hydroxyl radical", ACP, 14, 13801–13816 (2014)

2015

163. I. Lanekoff, J. Laskin* "Imaging of Lipids and Metabolites Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", in Methods in Molecular Biology, Vol. 1203, Ed. Lin He, Humana Press, USA, 2015
164. I. Lanekoff, K. Burnum-Johnson, M. Thomas, J. Short, J. P. Carson, J. Cha, S. K. Dey, P. Yang, M. C. Prieto Conaway, J. Laskin* "Three-Dimensional Imaging of Lipids and Metabolites in Tissues by Nanospray Desorption Electrospray Ionization Mass Spectrometry", Analytical Bioanalytical Chemistry, 407, 2063–2071 (2015). DOI 10.1007/s00216-014-8174-0
165. D. E. Romonosky, A. Laskin, J. Laskin, S. A. Nizkorodov* "High-Resolution Mass Spectrometry and Molecular Characterization of Aqueous Photochemistry Products of Common Types of Secondary Organic Aerosols", J. Phys. Chem. A, 119, 2594–2606 (2015). DOI: 10.1021/jp509476r
166. G. E. Johnson*, R. Colby, J. Laskin "Soft Landing of Bare Nanoparticles with Controlled Size, Composition, and Morphology", Nanoscale, 7, 3491–3503 (2015). DOI: 10.1039/c4nr06758d
167. J. Laskin* "Ion-Surface Collisions in Mass Spectrometry: Where Analytical Chemistry Meets Surface Science", Int. J. Mass Spectrom. (History of Mass Spectrometry Special Issue), 377, 188–200 (2015). DOI: 10.1016/j.ijms.2014.07.004
168. G. E. Johnson* and J. Laskin "Soft Landing of Mass-Selected Gold Clusters: Influence of Ion Origin and Ligand Length on Charge Retention and Reactivity", Int. J. Mass Spectrom. (History of Mass Spectrometry Special Issue), 377, 205-213 (2015). DOI: 10.1016/j.ijms.2014.05.013

169. J. Laskin* and J.H. Futrell "New Approach for Studying Slow Fragmentation Kinetics in FT-ICR: Surface-Induced Dissociation Combined with Resonant Ejection", Int. J. Mass Spectrom. (Bierbaum Special Issue), 378, 160–168 (2015). DOI: 10.1016/j.ijms.2014.07.029
170. K. Don D. Gunaratne, Venkateshkumar Prabhakaran, Yehia M. Ibrahim, Randolph V. Norheim, Grant E. Johnson, and Julia Laskin* "Design and Performance of a High-Flux Electrospray Ionization Source for Ion Soft-Landing", Analyst (**Cover Article**), 140, 2957-2963 (2015). DOI: 10.1039/c5an00220f
171. M. Thomas, K. Kleese-van Dam, M. J. Marshall, A. Kuprat, J. Carson, C. Lansing, Z. Guillen, E. Miller, I. Lanekoff, J. Laskin "Towards Adaptive, Streaming Analysis of X-ray Tomography Data", Synchrotron Radiation News, 28, 10-14 (2015). DOI: 10.1080/08940886.2015.1013414
172. K. D. D. Gunaratne, V. Prabhakaran, G. E. Johnson, J. Laskin* "Gas-Phase Fragmentation Pathways of Mixed-Addenda Keggin Anions: $PMo_{12-n}W_nO_{40}^{3-}$ (n = 0-12)", J. Am. Soc. Mass Spectrom., 26, 1027-1035 (2015). DOI: 10.1007/s13361-015-1090-5
173. G. E. Johnson*, A. Olivarez, D. Hill, J. Laskin*. "Cationic Gold Clusters Ligated with Differently Substituted Phosphines: Effect of Substitution on Ligand Exchange and Binding", Physical Chemistry Chemical Physics, 17, 14636-14646 (2015). DOI: 10.1039/C5CP01686J
174. A. Laskin,* J. Laskin, S. A. Nizkorodov "Chemistry of Atmospheric Brown Carbon", Chem. Rev. (**Invited Review**), 115, 4335–4382 (2015). DOI: 10.1021/cr5006167
175. G. E. Johnson*, R. Colby, M. Engelhard, D. Moon, J. Laskin "Soft Landing of Bare PtRu Alloy Nanoparticles for Electrochemical Reduction of Oxygen", Nanoscale, 7, 12379–12391 (2015). DOI: 10.1039/c5nr03154k
176. E. J. Boone, A. Laskin, J. Laskin, C. Wirth, P. B. Shepson, B. H. Stirm, K. A. Pratt* "Aqueous Processing of Atmospheric Organic Particles in Cloud Water Collected via Aircraft Sampling", Environ. Sci. Technol., 49, 8523–8530 (2015). DOI: 10.1021/acs.est.5b01639
177. J. Laskin* "Surface-induced Dissociation: A Unique Tool for Studying Energetics and Kinetics of Gas-phase Fragmentation of Large Ions", Eur. J. Mass Spectrom. (**Invited Perspective**), 21, 377-389 (2015). DOI: 10.1255/ejms.1358
178. P. Lin, J. Liu, J. E. Shilling, S. M. Kathmann, J. Laskin, A. Laskin* "Molecular Characterization of Brown Carbon (BrC) Chromophores in Secondary Organic Aerosol Generated From Photo-Oxidation of Toluene", PCCP (**Cover Article**), Phys. Chem. Chem. Phys., 17, 23312-23325 (2015). DOI: 10.1039/C5CP02563J
179. D. R. Fooshee, P. K. Aiona, A. Laskin, J. Laskin, S. A. Nizkorodov, P. F. Baldi "Atmospheric Oxidation of Squalene: Molecular Study Using COBRA Modeling and High-Resolution Mass Spectrometry", Env. Sci. Technol., 49, 13304–1331(2015). DOI: 10.1021/acs.est.5b03552
180. J. Laskin* "Effect of the Basic Residue on the Kinetics of Peptide Fragmentation Examined Using Surface-Induced Dissociation Combined with Resonant Ejection", Int. J. Mass Spectrom. (Gaskell Special Issue), 391, 24–30 (2015). DOI: 10.1016/j.ijms.2015.07.01
181. P. Lin, J. Laskin, S. A. Nizkorodov, A. Laskin* "Revealing Brown Carbon Chromophores Produced in Reactions of Methylglyoxal with Ammonium Sulfate ", Env. Sci. Technol., 49 (2015) 14257. DOI: 10.1021/acs.est.5b03608R.
182. P. Z. El-Khoury,* G. E. Johnson, I. V. Novikova, Y. Gong, A. G. Joly, J. E. Evans, M. Zamkov, J. Laskin, W. P. Hess* "Enhanced Raman Scattering from Aromatic Dithiols Electro-Sprayed into Plasmonic Nanojunctions", Faraday Discuss., 184, 339-357 (2015). DOI: 10.1039/C5FD00036J

2016

183. J. Laskin,* I. Lanekoff* "Ambient Mass Spectrometry Imaging Using Direct Liquid Extraction Techniques", Anal. Chem. (**Invited Review**), 88, 52–73 (2016). DOI: 10.1021/acs.analchem.5b04188
184. G. E. Johnson*, K. D. Gunaratne, J. Laskin* "Soft- and Reactive Landing of Ions onto Surfaces: Concepts and Applications", Mass Spectrom. Rev. (**Invited Review**), 35, 439–479 (2016). DOI: 10.1002/mas.21451
185. Cochran, O. Laskina, T. Jayarathne, A. Laskin, J. Laskin, P. Lin, C. Sultana, C. Lee, K. Moore, C. D. Cappa, T. H. Bertram, K. A. Prather, V. H. Grassian,* E. A. Stone* "Analysis of Organic Anionic Surfactants in Fine (PM2.5) and Coarse (PM10) Fractions of Freshly Emitted Sea Spray Aerosol", Environ. Sci. Technol., 50, 2477–2486 (2016). DOI: 10.1021/acs.est.5b04053
186. M. L. Hinks, M. V. Brady, H. Lignell, M. Song, J. Grayson, A. K. Bertram, P. Lin, A. Laskin, J. Laskin, S. A. Nizkorodov* "Effect of Viscosity on Photodegradation Rates in Complex Secondary Organic Aerosol Materials", Phys. Chem. Chem. Phys., 18, 8785-8793 (2016). DOI:10.1039/C5CP05226B
187. L. Yu, J. Smith, A. Laskin, K. George, C. Anastasio, J. Laskin, A. Dillner, and Q. Zhang "Molecular transformations of phenolic SOA during photochemical aging in the aqueous phase: competition among oligomerization, functionalization, and fragmentation", Atm. Chem. Phys., 16, 4511-4527 (2016). DOI:10.5194/acp-16-4511-2016
188. V. Prabhakaran, L. Mehdi, J. J. Ditto, M. H. Engelhard, B. Wang, K. D. D. Gunaratne, D. C. Johnson, N. D. Browning, G. E. Johnson, J. Laskin* "Rational design of efficient electrode–electrolyte interfaces for solid-state energy storage using ion soft landing", Nat. Comm., 7, 11399 (2016). DOI:10.1038/ncomms11399
189. K. D. Gunaratne, V. Prabhakaran, A. Andersen, G. E. Johnson, J. Laskin* "Charge Retention of Soft-Landed Phosphotungstate Keggin Anions on Self-Assembled Monolayers", Phys. Chem. Chem. Phys., 18, 9021 – 9028 (2016). DOI: 10.1039/C5CP06954H
190. G. E. Johnson*, J. Laskin "Understanding Ligand Effects in Gold Clusters using Mass Spectrometry", Analyst, (**Invited Article**) 141, 3573–3589 (2016). DOI: 10.1039/C6AN00263C
191. Q. Hu, J. Laskin* "Secondary Structures of Ubiquitin Ions Soft-Landed onto Self-Assembled Monolayer Surfaces", J. Phys. Chem. B, 120, 4927–4936 (2016). DOI: 10.1021/acs.jpcb.6b02448
192. S. Pratihar, G. L. Barnes, J. Laskin, W. L. Hase "Dynamics of Protonated Peptide Ion Collisions with Organic Surfaces. Consonance of Simulation and Experiment", J. Phys. Chem. Lett. (**Feature Article, Cover**), 7, 3142–3150 (2016). DOI: 10.1021/acs.jpclett.6b00978
193. J. Laskin, G. E. Johnson, V. Prabhakaran "Soft-Landing of Mass-Selected Cluster Ions for Studies in Catalysis and Energy Storage", J. Phys. Chem. C (**Feature Article, Cover**), 120, 23305−23322 (2016). DOI: 10.1021/acs.jpcc.6b06497
194. J. Liu, P. Lin, A. Laskin, J. Laskin, S. Kathmann, M. Wise, R. Caylor, F. Imholt, V. Selimovic, and J. Shilling "Optical Properties and Aging of Light Absorbing Secondary Organic Aerosol", Atm. Chem. Phys., 16, 12815–12827 (2016). DOI: 10.5194/acp-2016-482.
195. I. Lanekoff, J. Cha, J. E. Kyle, S. K. Dey, J. Laskin, K. Burnum-Johnson* "Trp53 deficient mice predisposed to preterm birth display region-specific lipid alterations at the embryo implantation site", Scientific Reports, 6, 33023 (2016). DOI: 10.1038/srep33023

196. P. Lin, P. K. Aiona, Y. Li, M. Shiraiwa, J. Laskin, S. A. Nizkorodov, A. Laskin "Molecular Characterization of Brown Carbon in Biomass Burning Aerosol Particles", Env. Sci. Technol., 50, 11815–11824 (2016). DOI: 10.1021/acs.est.6b03024.
197. G. E. Johnson, T. Moser, M. Engelhard, N. D. Browning, J. Laskin "Fabrication of Electrocatalytic Ta Nanoparticles by Reactive Sputtering and Ion Soft Landing", J. Chem. Phys., J. Chem. Phys. 145, 174701 (2016). DOI: 10.1063/1.4966199.
198. V. Prabhakaran, G. E. Johnson, B. Wang, and J. Laskin "In situ solid-state electrochemistry of mass selected ions at well-defined electrode-electrolyte interfaces", PNAS, 113, 13324-13329 (2016). DOI:10.1073/pnas.1608730113

2017

199. S. N. Nguyen, A. Liyu, R. K. Chu, C. R. Anderton, J. Laskin "Constant-Distance Mode Nanospray Desorption Electrospray Ionization Mass Spectrometry Imaging of Biological Samples with Complex Topography", Anal. Chem., 89, 1131-1137 (2017). DOI: 10.1021/acs.analchem.6b03293
200. S. L. Blair, A. C. MacMillan, G. T. Drozd, A. H. Goldstein, R. Chu, L. Pasa-Tolic, J. Shaw, N. Tolic, P. Lin, J. Laskin, A. Laskin, S. A. Nizkorodov "Molecular Characterization of Organosulfur Compounds in Biodiesel and Diesel Fuel Secondary Organic Aerosol", Env. Sci. Technol., 51, 119-127 (2017). DOI: 10.1021/acs.est.6b03304
201. S. E. Dautel, J. E. Kyle, G. C. Clair, R. L. Sontag, K. K. Weitz, A. K. Shukla, S. N. Nguyen, Y.-M. Kim, E. M. Zink, T. Luders, C. Frevert, S. A. Gharib, J. Laskin, T. O. Metz, R. A. Corley, C. Ansong "Lipidomics reveals dramatic lipid compositional changes in the maturing postnatal lung." Scientific Reports, 7:40555 (2017). DOI: 10.1038/srep40555
202. G. E. Johnson*, J. Laskin "In Plane Multi-Magnetron Approach to Gas Aggregation Synthesis of Nanoparticles", in Gas-Phase Synthesis of Nanoparticles, Y. Huttel (Ed.), Wiley-VCH, Weinheim (2017), pp. 79-100
203. J. Laskin, Q. Hu "Reactive Landing of Gramicidin S and Ubiquitin Ions onto Activated Self-Assembled Monolayer Surfaces", J. Am. Soc. Mass Spectrom., 28, 1304-1312 (2017). DOI:10.1007/s13361-017-1614-2
204. I. Lanekoff, J. Laskin "Quantitative Mass Spectrometry Imaging of Molecules in Biological Systems", (**Invited Review**) Adv. Chromatogr., vol. 54, pp. 43-72, N. Grinberg, E. Grushka, Eds., CRC Press, Taylor Francis Group, 2017
205. R. E. Cochran, O. Laskina, J. Trueblood, A. Estillore, H. S. Morris, T. Jayarathne, C. Sultana, C. M. Sultana, C. Lee, P. Lin, J. Laskin, A. Laskin, J. Dowling, Z. Qin, C. D. Cappa, T. H. Bertram, A.V. Tivanski, E. A. Stone, K. A. Prather, V. H. Grassian "Molecular Characterization of Individual Particles from Freshly Emitted Sea Spray Aerosol: Influence of Ocean Biology on Individual Particle Composition and Interactions with Water Vapor", Chem, 2, 655–667 (2017). DOI: 10.1016/j.chempr.2017.03.007
206. D. Romonosky, Y. Li, M. Shiraiwa, A. Laskin, J. Laskin, S. A. Nizkorodov "Aqueous Photochemistry of Secondary Organic Aerosol of α-Pinene and α-Humulene Oxidized with Ozone, Hydroxyl Radical, and Nitrate Radical", J. Phys. Chem. A, 121, 1298-1309 (2017). DOI: 10.1021/acs.jpca.6b10900
207. M. R. Ligare, G. E. Johnson, J. Laskin "Observing the Real Time Formation of Phosphine-Ligated Gold Clusters by Electrospray Ionization Mass Spectrometry", PCCP, 19, 17187-17198 (2017). DOI: 10.1039/C7CP01402C
208. M. R. Ligare, E. Baker, J. Laskin, G.E. Johnson "Ligand Induced Structural Isomerism in Phosphine Coordinated Gold Clusters Revealed by Ion Mobility Mass Spectrometry", Chem. Comm., 53, 7389 – 7392 (2017). DOI: 10.1039/c7cc02251d
209. J. Montoya, J. R. Horne, M. L. Hinks, L. T. Fleming, V. Perraud, P. Lin, A. Laskin, J. Laskin, D. Dabdub, S. A. Nizkorodov "Secondary Organic Aerosol from Atmospheric

Photooxidation of Indole", Atm. Chem. Phys., 17, 11605–11621 (2017). DOI: 10.5194/acp-17-11605-2017

210. P. K. Aiona, H. J. Lee, P. Lin, F. Heller, A. Laskin, J. Laskin, S. A. Nizkorodov "A Role for 2-Methyl Pyrrole in the Browning of 4-Oxopentanal and Limonene Secondary Organic Aerosol", Env. Sci. Technol., 51, 11048–11056 (2017). D OI: 10.1021/acs.est.7b02293
211. P. Lin, N. Bluvshtein, Y. Rudich, S. Nizkorodov, J. Laskin, A. Laskin, A, "Molecular Chemistry of Atmospheric Brown Carbon Inferred from a Nationwide Biomass Burning Event", Env. Sci. Technol., 51, 11561–11570 (2017). DOI: 10.1021/acs.est.7b02276
212. P. K. Aiona, H. J. Lee, R. Leslie, P. Lin, A. Laskin, J. Laskin, S. A. Nizkorodov "Photochemistry of Products of the Aqueous Reaction of Methylglyoxal with Ammonium Sulfate", ACS Earth and Space Chemistry, 1, 522-532 (2017). DOI: 10.1021/acsearthspacechem.7b00075

2018

213. J. Laskin, A. Laskin, S. A. Nizkorodov "Mass Spectrometry Analysis in Atmospheric Chemistry", Anal. Chem., (**Invited Review, Cover Article**), 90, 166-189 (2018). DOI: 10.1021/acs.analchem.7b04249
214. S. N. Nguyen, R. L. Sontag, J. P. Carson, R. A. Corley, C. Ansong, J. Laskin* "Towards High-Resolution Tissue Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry Coupled to Shear Force Microscopy", J. Am. Soc. Mass Spectrom., 29, 316-322 (2018). DOI: 10.1007/s13361-017-1750-8
215. M. Hinks, J. Montoya, L. Ellison, P. Lin, A. Laskin, J. Laskin, M. Shiraiwa, D. Dabdub, S. Nizkorodov "Effect of Relative Humidity on the Yield and Composition of Secondary Organic Aerosol from Oxidation of Toluene", Atmos. Chem. Phys., 18, 1643-1652 (2018)
216. L. T. Fleming, P. Lin, A. Laskin, J. Laskin, R. Weltman, R. D. Edwards, N. K. Arora, A. Yadav, S. Meinardi, D. R. Blake, A. Pillarisetti, K. R. Smith, S. A. Nizkorodov "Molecular composition of particulate matter emissions from dung and brushwood burning household cookstoves in Haryana, India", Atmos. Chem. Phys., 18, 2461-2480 (2018). DOI: 10.5194/acp-18-2461-2018
217. J. Warneke, M. E. McBriarty, , S. L. Riechers, S. China, M. H. Engelhard, E. Aprà, R. P. Young, N. M. Washton, C. Jenne, G. E. Johnson, J. Laskin "Self-organizing layers from complex molecular anions", Nat. Commun., 9:1889 (2018). DOI: 10.1038/s41467-018-04228-2
218. W.-S. DeRieux, Y. Li, P. Lin, J. Laskin, A. Laskin, A. Bertram, S. A. Nizkorodov, M. Shiraiwa "Predicting the glass transition temperature and viscosity of secondary organic material using molecular composition", Atm. Chem. Phys., 18, 6331–6351, 2018. DOI: 10.5194/acp-18-6331-2018
219. R. Yin, J. Kyle, K. Burnum-Johnson, K. Bloodsworth, L. Sussel, C. Ansong, J. Laskin "High Spatial Resolution Imaging of Mouse Pancreatic Islets Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Anal. Chem., 90, 6548–6555 (2018). DOI: 10.1021/acs.analchem.8b00161
220. R. Yin, V. Prabhakaran, J. Laskin "Quantitative Extraction and Mass Spectrometry Analysis at a Single Cell Level", Anal. Chem., 90, 7937−7945 (2018). DOI: 10.1021/acs.analchem.8b00551
221. Grant E. Johnson, V. Prabhakaran, N. D. Browning, B. L. Mehdi, J. Laskin, P. A. Kottke, A. G. Fedorov "DRILL Interface Makes Ion Soft Landing Broadly Accessible for Energy Science and Applications", Batteries & Supercaps, 1, 97-101 (2018). DOI: 10.1002/batt.201800042

222. P. Su, V. Prabhakaran, G. E. Johnson, J. Laskin "In situ Infrared Spectroelectrochemistry for Understanding Structural Transformations of Precisely-Defined Ions at Electrochemical Interfaces", Anal. Chem., 90, 10935-10942 (2018). DOI:10.1021/acs.analchem.8b02440
223. J. Montoya-Aguilera, M. Hinks, P. Aiona, L. Wingen, J. Horne, S. Zhu, D. Dabdub, A. Laskin, J. Laskin, P. Lin, S. N. Nizkorodov "Reactive Uptake of Ammonia by Biogenic and Anthropogenic Organic Aerosols", ACS Symposium Series volume 1299, Chapter 7, pp 127-147 in "Multiphase Environmental Chemistry in the Atmosphere", Hunt S., Laskin A., Nizkorodov S.A. Eds., 2018; ISBN13: 9780841233638. DOI:10.1021/bk-2018-1299.ch007
224. A. Laskin, P. Lin, J. Laskin, S. N. Nizkorodov, L. Fleming "Molecular Characterization of Atmospheric Brown Carbon", ACS Symposium Series volume 1299, Chapter 13, pp 261-274 in "Multiphase Environmental Chemistry in the Atmosphere", Hunt S., Laskin A., Nizkorodov S.A. Eds., 2018; ISBN13: 9780841233638. DOI: 10.1021/bk-2018-1299.ch013
225. P. Lin, L. Fleming, S. Nizkorodov, J. Laskin, A. Laskin "Comprehensive Molecular Characterization of Atmospheric Brown Carbon by High Resolution Mass Spectrometry with Electrospray and Atmospheric Pressure Photoionization", Anal. Chem., 90, 12493–12502 (2018). DOI: 10.1021/acs.analchem.8b02177
226. J. Laskin, G. E. Johnson, J. Warneke, V. Prabhakaran "From Isolated Ions to Multilayer Functional Materials Using Ion Soft-Landing", Angew. Chem., (**Invited Review**), 57, 16270-16284 (2018). DOI: 10.1002/anie.201712296

2019

227. J. Warneke, M. Rohdenburg, J. Kuan-Yu Liu, E. Johnson, X. Mal, R. Kumar, P. Su, E. Aprà, X. Wang, C. Jenne, A. Himmelspach, S. Z. Konieczka, M. Finze, H. I. Kenttämaa, J. Laskin "Gas Phase Fragmentation of Adducts Between O_2 and *closo*-Borate Radical Anions", Int. J. Mass Spectrom., Helmut Schwarz Special Issue, 436, 71-78 (2019). DOI: 10.1016/j.ijms.2018.11.005
228. K. A. Bemis, D. Guo, A. J. Harry, M. Thomas, I. Lanekoff, M. P. Stenzel-Poore , S. L. Stevens, J. Laskin, O. Vitek "Statistical detection of differentially abundant ions in mass spectrometry-based imaging experiments with complex designs", Int. J. Mass Spectrom.,437, 49-57 (2019). DOI: 10.1016/j.ijms.2018.07.006
229. V. Prabhakaran, Z. Lang, A. Clotet, J. Poblet, G.E. Johnson, J. Laskin "Controlling the Activity and Stability of Electrochemical Interfaces Using Atom-by-Atom Metal Substitution of Redox Species", ACS Nano, 13, 458−466 (2019). DOI: 10.1021/acsnano.8b06813
230. J. Warneke, S. Z. Konieczka, G.-L. Hou, E. Aprà, C. Kerpen, F. Keppner, T. C. Schäfer, M. Deckert, Z. Yang, E. J. Bylaska, G. E. Johnson, J. Laskin, S. S. Xantheas, X.-B. Wang, M. Finze Properties of perhalogenated {c*loso*-B_{10}} and {*closo*-B_{11}} multiply charged anions and a critical comparison with {*closo*-B_{12}} in the gas and the condensed phase, PCCP, 21, 5903-5915 (2019). DOI: 10.1039/C8CP05313H
231. P. Su, H. Hu, J. Warneke, M. E. Belov, G. A. Anderson, J. Laskin "Design and Performance of a Dual-Polarity Instrument for Ion Soft Landing", Anal. Chem., 91, 5904-5912 (2019). DOI: 10.1021/acs.analchem.9b00309
232. R. Yin, V. Prabhakaran, J. Laskin "Electroosmotic extraction coupled to mass spectrometry analysis of metabolites in live cells", Methods in Enzymology, 628, 293-307 (2019). DOI: 10.1016/bs.mie.2019.06.018
233. S. N. Nguyen, J. E. Kyle, S. E. Dautel, R. Sontag, T. Luders, R. Corley, C. Ansong, J. Carson, J. Laskin "Lipid Coverage in Nanospray Desorption Electrospray Ionization Mass Spectrometry Imaging (nano-DESI MSI) of Mouse Lung Tissues", Anal. Chem., 91, 11629-11635 (2019). DOI: 10.1021/acs.analchem.9b02045

234. P. Su, A. J. Smith, J. Warneke, J. Laskin "Gas Phase Fragmentation of Host-Guest Complexes of Polyoxometalates and Cyclodextrins", J. Am. Soc. Mass Spectrom., Helmut Schwarz Honor Issue, 30, 1934-1945 (2019). DOI: 10.1007/s13361-019-02266-8
235. M. R. Ligare, J. U. Reveles, N. Govind, G. E. Johnson, J. Laskin "Influence of Interligand Interactions and Core-Charge Distribution on Gold Cluster Stability: Enthalpy Versus Entropy", J. Phys. Chem. C, 123, 24899-24911 (2019). DOI:10.1021/acs.jpcc.9b06597
236. Snyder, M. P.; Lin, S.; Posgai, A.; Atkinson, M.; Regev, A.; Rood, J.; Rozenblatt-Rosen, O.; Gaffney, L.; Hupalowska, A.; Satija, R.; Gehlenborg, N.; Shendure, J.; Laskin, J.; Harbury, P.; Nystrom, N. A.; Silverstein, J. C.; Bar-Joseph, Z.; Zhang, K.; Börner, K.; Lin, Y.; Conroy, R.; Procaccini, D.; Roy, A. L.; Pillai, A.; Brown, M.; Galis, Z. S.; Cai, L.; Shendure, J.; Trapnell, C.; Lin, S.; Jackson, D.; Snyder, M. P.; Nolan, G.; Greenleaf, W. J.; Lin, Y.; Plevritis, S.; Ahadi, S.; Nevins, S. A.; Lee, H.; Schuerch, C. M.; Black, S.; Venkataraaman, V. G.; Esplin, E.; Horning, A.; Bahmani, A.; Zhang, K.; Sun, X.; Jain, S.; Hagood, J.; Pryhuber, G.; Kharchenko, P.; Atkinson, M.; Bodenmiller, B.; Brusko, T.; Clare-Salzler, M.; Nick, H.; Otto, K.; Posgai, A.; Wasserfall, C.; Jorgensen, M.; Brusko, M.; Maffioletti, S.; Caprioli, R. M.; Spraggins, J. M.; Gutierrez, D.; Patterson, N. H.; Neumann, E. K.; Harris, R.; deCaestecker, M.; Fogo, A. B.; van de Plas, R.; Lau, K.; Cai, L.; Yuan, G.-C.; Zhu, Q.; Dries, R.; Yin, P.; Saka, S. K.; Kishi, J. Y.; Wang, Y.; Goldaracena, I.; Laskin, J.; Ye, D.; Burnum-Johnson, K. E.; Piehowski, P. D.; Ansong, C.; Zhu, Y.; Harbury, P.; Desai, T.; Mulye, J.; Chou, P.; Nagendran, M.; Bar-Joseph, Z.; Teichmann, S. A.; Paten, B.; Murphy, R. F.; Ma, J.; Kiselev, V. Y.; Kingsford, C.; Ricarte, A.; Keays, M.; Akoju, S. A.; Ruffalo, M.; Gehlenborg, N.; Kharchenko, P.; Vella, M.; McCallum, C.; Börner, K.; Cross, L. E.; Friedman, S. H.; Heiland, R.; Herr, B.; Macklin, P.; Quardokus, E. M.; Record, L.; Sluka, J. P.; Weber, G. M.; Nystrom, N. A.; Silverstein, J. C.; Blood, P. D.; Ropelewski, A. J.; Shirey, W. E.; Scibek, R. M.; Mabee, P.; Lenhardt, W. C.; Robasky, K.; Michailidis, S.; Satija, R.; Marioni, J.; Regev, A.; Butler, A.; Stuart, T.; Fisher, E.; Ghazanfar, S.; Rood, J.; Gaffney, L.; Eraslan, G.; Biancalani, T.; Vaishnav, E. D.; Conroy, R.; Procaccini, D.; Roy, A.; Pillai, A.; Brown, M.; Galis, Z.; Srinivas, P.; Pawlyk, A.; Sechi, S.; Wilder, E.; Anderson, J.; Hu, B. C.; Writing, G.; Caltech, U. T.; Stanford-Wash, U. T.; Ucsd, T. M. C.; University of Florida, T. M. C.; Vanderbilt University, T. M. C.; California Institute of Technology, T. T. D.; Harvard, T. T. D.; Purdue, T. T. D.; Stanford, T. T. D.; HuBmap Integration, V.; Engagement Collaboratory: Carnegie Mellon, T. C.; Harvard Medical School, T. C.; Indiana University Bloomington, M. C.; Pittsburgh Supercomputing, C.; University of Pittsburgh, I.; Engagement, C.; University of South Dakota, C. C.; New York Genome Center, M. C.; Group, N. I. H. H. W., The human body at cellular resolution: the NIH Human Biomolecular Atlas Program. "The human body at cellular resolution: the NIH Human Biomolecular Atlas Program", Nature, *574*, 187-192 (2019)
237. R. Yin, K. E. Burnum-Johnson, X. Sun, S. K. Dey, J. Laskin "High Spatial Resolution Imaging of Biological Tissues Using Nanospray Desorption Electrospray Ionization Mass Spectrometry", Nat. Protocols *14*, 3445–3470 (2019). DOI:10.1038/s41596-019-0237-4
238. M. Song, A. M. Maclean, Y. Huang, N. R. Smith, S. L. Blair, J. Laskin, A. Laskin, W.-S. Wong DeRieux, Y. Li, M. Shiraiwa, S. A. Nizkorodov, A. K. Bertram "Liquid-liquid phase separation and viscosity within secondary organic aerosol generated from diesel fuel vapors", Atmos. Chem. Phys., 19, 12515–12529, 2019. DOI: 10.5194/acp-19-12515-2019
239. D. Unsihuay, J. Qiu, S. Swaroop, K. O. Nagornov, A. N. Kozhinov, Y. O. Tsybin, S. Kuang, J. Laskin "Imaging of Triglycerides in Tissues Using Nanospray Desorption Electrospray Ionization (Nano-DESI) Mass Spectrometry", Int. J. Mass Spectrom., Scott McLuckey Honor Issue, 448 (2020) 116269. DOI: 10.1016/j.ijms.2019.116269
240. A. L. Klodt, D. E. Romonosky, P. Lin, J. Laskin, A. Laskin, S. A. Nizkorodov, "Aqueous Photochemistry of Secondary Organic Aerosol of α-Pinene and α-Humulene in the Presence of Hydrogen Peroxide or Inorganic Salts", ACS Earth and Space Chemistry, 3, 2736-2746 (2019). DOI: 10.1021/acsearthspacechem.9b00222.

2020

241. L. T. Fleming, P. Lin, J. M. Roberts, V. Selimovic, R. Yokelson, J. Laskin, A. Laskin, S. A. Nizkorodov "Molecular composition and photochemical lifetimes of brown carbon chromophores in biomass burning organic aerosol", Atmos. Chem. Phys., 20, 1105-1129 (2020). DOI: 10.5194/acp-20-1105-2020
242. P. Su, H. Hu, D. Unsihuay, D. Zhang, T. Dainese, R. E. Diaz, D. K. Gunaratne, H. Wang, F. Maran, J. Laskin "Preparative Mass Spectrometry Using a Rotating Wall Mass Analyzer", Angew. Chem., 59, 7711-7716 (2020). DOI: 10.1002/ange.202000065
243. M. Rohdenburg, Z. Yang, P. Su, E. Bernhardt, Q. Yuan, E. Apra, S. Grabowsky, J. Laskin, C. Jenne, X.-B. Wang, J. Warneke "Properties on gaseous *closo*-$[B_6X_6]^{2-}$ dianions (X=Cl, Br, I)", Phys. Chem. Chem. Phys., 22, 17713-17724 (2020). DOI: 10.1039/D0CP02581J
244. P. Su, M. F. Espenship, J. Laskin "Principles of Operation of a Rotating Wall Mass Analyzer for Preparative Mass Spectrometry", J. Am. Soc. Mass Spectrom., 31, 1875-1884 (2020). DOI: 10.1021/jasms.0c00140
245. J. Warneke, M. Mayer; M. Rohdenburg; X. Ma; J. K.Y. Liu; M. Grellmann; S. Debnath; V. A. Azov; E. Apra; R. P. Young; C. Jenne; G. E. Johnson; H. I. Kenttämaa; K. R. Asmis; J. Laskin "Direct functionalization of C-H bonds by electrophilic anions", PNAS, 22, 23374-23379 (2020). DOI: 10.1073/pnas.2004432117
246. D. Mesa Sanchez, S. Creger, V. Singla, R. T. Kurulugama, J. Fjeldsted, J. Laskin "Ion Mobility-Mass Spectrometry Imaging Workflow", J. Am. Soc. Mass Spectrom., 31, 2437-2442 (2020). DOI: 10.1021/jasms.0c00142
247. X. Li, R. Yin, H. Hu, Y. Li, X. Sun, S. K. Dey, J. Laskin "An Integrated Microfluidic Probe for Mass Spectrometry Imaging of Biological Samples", Angew. Chem., 59, 22388-22391 (2020). DOI: 10.1002/anie.202006531
248. H. Gholipour-Ranjbar, H. Fang, J. Guan, D`A. Peters, A. Seifert, P. Jena, J. Laskin "Designing New Metal Chalcogenide Nanoclusters Through Atom-by-Atom Substitution", Small, 2002927 (2020). DOI: 10.1002/smll.202002927

2021

249. L. Mavroudakis, S. L. Stevens, K. D. Duncan, M. P. Stenzel-Poore, J. Laskin, I. Lanekoff "CpG Preconditioning Reduces Accumulation of Lysophosphatidylcholine in Ischemic Brain Tissue after Middle Cerebral Artery Occlusion", Anal. Bioanal. Chem., 413:2735–2745 (2021). DOI: 10.1007/s00216-020-02987-w
250. S. Bhattacharya, U. Basu, M. Haouas, P. Su, M. F. Espenship, F. Wang, A. Solé-Daura, D. H. Taffa, M. Wark, J. M. Poblet, J. Laskin, E. Cadot, U. Kortz "Discovery and Supramolecular Interactions of Neutral Palladium-Oxo Clusters Pd_{16} and Pd_{24}", Angew. Chem., 60, 3632 – 3639 (2021). DOI: 10.1002/anie.202010690
251. D. Unsihuay, D. Mesa Sanchez, J. Laskin "Quantitative Mass Spectrometry Imaging of Biological Systems", Annu. Rev. Phys. Chem., (**Invited Review**), 72, 307-329 (2021). DOI: 10.1146/annurev-physchem-061020-053416
252. D. Unsihuay, P. Su, H. Hu, J. Qiu, S. Kuang, Y. Li, X. Sun, S. K. Dey, J. Laskin "Imaging and analysis of isomeric unsaturated lipids through online photochemical derivatization of C=C bonds", Angew. Chem., (**Cover Article**, **Chem World highlight**) 60, 7559-7563 (2021). DOI: 10.1002/anie.202016734
253. D. Helminiak, H. Hu, J. Laskin, D. Ye. "Deep Learning Approach for Dynamic Sparse Sampling for High-Throughput Mass Spectrometry Imaging." In: Proceedings of the 2021 IS&T International Symposium on Electronic Imaging (EI 2021), January 18–22, 2021
254. H. Hu, R. Yin, H. M. Brown, J. Laskin "Spatial Segmentation of Mass Spectrometry Imaging Data by Combining Multivariate Clustering and Univariate Thresholding", Anal. Chem., 93, 3477-3485 (2021). DOI:10.1021/acs.analchem.0c04798

255. M. R. Ligare, K. A. Morrison, M. A. Hewitt, J. U. Reveles, N. Govind, H. Hernandez, E. S. Baker, B. H. Clowers, J. Laskin, G. E. Johnson "Ion Mobility Spectrometry Characterization of the Intermediate Hydrogen Containing Gold Cluster $Au_7(PPh_3)_7H_5^{2+}$", J. Phys. Chem. Lett., 12, 2502-2508 (2021). DOI: 10.1021/acs.jpclett.0c03664
256. P. Su, X. Chen, M. Espenship, H. Samayoa Oviedo, S. Wilson, H. Ranjbar, C. Larriba-Andaluz, J. Laskin "Multiplexing of Electrospray Ionization Sources Using Orthogonal Injection into an Electrodynamic Ion Funnel", Anal. Chem., 93, 11576-11584 (2021). DOI: 10.1021/acs.analchem.1c02092
257. N. Nastasiienko, T. Kulik, B. Palianytsia, J. Laskin, T. Cherniavska, M. Kartel, M. Larsson "Catalytic Pyrolysis of Lignin Model Compounds (Pyrocatechol, Guaiacol, Vanillic and Ferulic Acids) over Nanoceria Catalyst for Biomass Conversion", Appl. Sci., 11, 7205 (2021). DOI: 10.3390/app11167205
258. D. Unsihuay, R. Yin, D. Mesa Sanchez, M. Yang, Y. Li, X. Sun, S. K. Dey, J. Laskin "High-Resolution Imaging and Identification of Biomolecules using Nano-DESI Coupled to Ion Mobility Spectrometry", Anal. Chim. Acta, 1186, 339085 (2021). DOI: 10.1016/j.aca.2021.339085
259. H. Y. Samayoa-Oviedo, K.-A. Behrend, S. Kawa, H. Knorke, P. Su, M. E. Belov, G. Anderson, J. Warneke, J. Laskin "Design and performance of a soft-landing instrument for fragment ion deposition", Anal. Chem., 93, 14489–14496 (2021). DOI: 10.1021/acs.analchem.1c03009.
260. S. Bhattacharya, X. Ma, A. S. Mougharbel, M. Haouas, P. Su, M. F. Espenship, D. H. Taffa, H. Jaensch, A.-J. Bons, T. Stuerzer, M. Wark, J. Laskin, E. Cadot, U. Kortz "Discovery of a Neutral 40-Palladium(II)-Oxo Molecular Disk, $[Pd_{40}O_{24}(OH)_{16}\{(CH_3)_2AsO_2\}_{16}]$: Synthesis, Structural Characterization, and Catalytic Studies", Inorg. Chem., 60, 17339−17347 (2021). DOI: 10.1021/acs.inorgchem.1c02749

2022

261. H. Hu, J. Padmakumar, J. Laskin "Self-supervised Clustering of Mass Spectrometry Imaging Data Using Contrastive Learning", Chem. Sci., 13, 90-98 (2022). DOI: 10.1039/D1SC04077D
262. A. S. Pereyra, C.-T. Lin, D. Mesa Sanchez, J. Laskin, P. D. Neufer, K. Fisher-Wellman, J. M. Ellis "Skeletal muscle undergoes fiber type metabolic switch without myosin heavy chain switch in response to defective fatty acid oxidation", Mol. Metabolism., 59, 101456 (2022). 10.1016/j.molmet.2022.101456
263. Deepika, H. Gholipour-Ranjbar, H. Fang, L. Sertse, J. Laskin, P. Jena, "Atomically precise Core-tailored Metal Chalcogenide Nanoclusters: Tuning Electronic Structure and Magnetic Properties", J. Phys. Chem. C, 126, 6512–6522 (2022). DOI: 10.1021/acs.jpcc.2c01560
264. M. Yang, H. Hu, P. Su, P. M. Thomas, J. M. Camarillo, J. B. Greer, B. P. Early, R. T. Fellers, N. L. Kelleher, J. Laskin "Proteoform-selective imaging of tissues using mass spectrometry", Angew. Chem., (**Cover Article**) e202200721 (2022). DOI: 10.1002/anie.202200721
265. M. Weigand, M. Yang, H. Hu, C. Zensho, J. Laskin "Enhancement of Lipid Signals with Ammonium Fluoride in Negative Mode Nano-DESI Mass Spectrometry Imaging", Int. J. Mass Spectrom., (**Cover Article**) 478, 116859 (2022). DOI: 10.1016/j.ijms.2022.116859
266. H. Y. Samayoa-Oviedo, E. Halpern, S. A. Mehnert, J. Laskin "Potentiometric determination of zinc in supplement tablets using a Ca-ion selective electrode", J. Chem. Ed., 99, 2661–2666 (2022). DOI: 10.1021/acs.jchemed.2c00154
267. X. Li, H. Hu, R. Yin, Y. Li, X. Sun, S. K. Dey, J. Laskin "High-Throughput Nano-DESI Mass Spectrometry Imaging of Biological Tissues Using an Integrated Microfluidic Probe", Anal. Chem. 94, 9690–9696 (2022). DOI: 10.1021/acs.analchem.2c01093

268. H. Hu, D. Helminiak, M. Yang, D. Unsihuay, R. T. Hilger, D. H. Ye, J. Laskin "High-Throughput Mass Spectrometry Imaging with Dynamic Sparse Sampling", ACS Measurement Science Au, 2, 466-474 (2022). DOI: 10.1021/acsmeasuresciau.2c00031
269. V. Prabhakaran, J. Romo; A. Bhattarai; K. George; Z. M. Norberg; D. Kalb; E. Aprà; P. A. Kottke; A. G. Fedorov; P. Z. El-Khoury; G. E. Johnson, J. Laskin "Integrated photoelectrochemical energy storage cells prepared by benchtop ion soft landing", Chem. Comm. (**Cover Article**), 58, 9060-9063 (2022). DOI: 10.1039/D2CC02595G
270. P. Su, J. P. McGee, K. R. Durbin, M. A. R. Hollas, M. Yang, E. K. Neumann, J. L. Allen, B. S. Drown, F. Ayaloglu Butun, J. B. Greer, B. P. Early, R. T. Fellers, J. M. Spraggins, J. Laskin, J. M. Camarillo, J. O. Kafader, and N. L. Kelleher "Highly multiplexed, label-free proteoform imaging of tissues by individual ion mass spectrometry", Sci. Adv., 8, eabp9929 (2022). DOI: 10.1126/sciadv.abp9929
271. X. Ma, M. Rohdenburg, H. Knorke, S. Kawa, J. K.-Y. Liu, E. Aprà, K. R. Asmis, V. A. Azov, J. Laskin, C. Jenne, H. I. Kenttämaa, J. Warneke "Binding of Saturated and Unsaturated C_6-Hydrocarbons to the Electrophilic Anion $[B_{12}Br_{11}]^-$: A Systematic Mechanistic Study", Phys. Chem. Chem. Phys., 24, 21759-21772 (2022). DOI: 10.1039/D2CP01042A
272. D. Mesa Sanchez, H. M. Brown, R. Yin, B. Chen, M. Vavrek, M. Cancilla, W. Zhong, B. Shyong, R. Zhang, F. Li, J. Laskin "Mass spectrometry imaging of diclofenac and its metabolites in tissues using nanospray desorption electrospray ionization", Anal. Chim. Acta, 1233, 340490 (2022). DOI: 10.1016/j.aca.2022.340490
273. H. Hu and J. Laskin "Emerging Computational Methods in Mass Spectrometry Imaging", (**Invited Review**) Advanced Science, 9, 2203339 (2022). DOI: 10.1002/advs.202203339
274. H. Gholipour-Ranjbar, Deepika, P. Jena, J. Laskin "Gas-phase fragmentation of single atom incorporated $Co_5MS_8(PEt_3)_6^+$ (M=Mn, Fe, Co, Ni) nanoclusters", Communications Chemistry, 5, 130 (2022). DOI: 10.1038/s42004-022-00750-z
275. H. Y. Samayoa-Oviedo, J. Laskin "Undergraduate laboratory project comparing two analytical techniques for ascorbic acid determination", J. Chem. Ed., 99, 4043–4050 (2022). DOI: 10.1021/acs.jchemed.2c00224

2023

276. Z. Ke, M. Ahmed, A. Abtahi, S.-H. Hsu, W. Wu, M. Espenship, K. Baustert, K. Graham, J. Laskin, L. Pang, J. Mei "Thermally Activated Aromatic Ionic Dopants (TA-AIDs) Enabling Stable Doping, Orthogonal Processing and Direct Patterning", Advanced Functional Materials, 2211522 (2023). DOI: 10.1002/adfm.202211522
277. H. Y. Samayoa-Oviedo, S. A. Mehnert, M. F. Espenship, M. R. Weigand, J. Laskin "Measurement of the speciation diagram of thymol blue using spectrophotometry", J. Chem. Ed., 100, 815−821 (2023). DOI: 10.1021/acs.jchemed.2c00746
278. P. Su, Z. Warneke, D. Volke, M. F. Espenship, H. Hu, S. Kawa, K. Kirakci, R. Hoffmann, J. Laskin, C. Wiebeler, J. Warneke "Gas Phase Reactivity of $[Mo_6X_{14}]^{2-}$ Dianions (X=Cl-I)." J. Am. Soc. Mass Spectrom. 34, 161-170 (2023). DOI: 10.1021/jasms.2c00243
279. C. P. West, D. Mesa Sanchez, A. C. Morales, Y.-J. Hsu, J. Ryan, A. Darmody, L. V. Slipchenko, J. Laskin, A. Laskin "Molecular and Structural Characterization of Isomeric Compounds in Atmospheric Organic Aerosol Using Ion Mobility-Mass Spectrometry", J. Phys. Chem. A, 127, 1656–1674 (2023). DOI: 10.1021/acs.jpca.2c06459
280. H. Gholipour-Ranjbar, H. Hu, P. Su, H. Y. Samayoa Oviedo, C. Gilpin, H. Wang, Y. Zhang, J. Laskin "Soft landing of polyatomic anions onto three-dimensional semiconductive and conductive substrates", Nanoscale Advances, 5, 1672-1680 (2023). DOI: 10.1039/D2NA00632D

281. D. Helminiak, H. Hu, J. Laskin, D. Ye. "Deep Learning Approach for Dynamic Sparse Sampling for Multi-Channel Mass Spectrometry Imaging", IEEE Transactions on Computational Imaging, 9, 250-259 (2023). DOI:10.1109/TCI.2023.3248947
282. M. Yang, D. Unsihuay, H. Hu, F. N. Meke, Z. Qu, Z.-Y. Zhang, J. Laskin "Nano-DESI Mass Spectrometry Imaging of Proteoforms in Biological Tissues with High Spatial Resolution", Anal. Chem., 95, 5214-5222 (2023). DOI: 10.1021/acs.analchem.2c04795
283. S. M. Wilson, B. E. Petel, E. Schreiber, M. L. Maiola, P. Su, E. M. Matson, J. Laskin "Electrochemical and Structural Characterization of Soft Landed Tungsten-Substituted Lindqvist Polyoxovanadate-Alkoxides", Chem. A Eur. J., 29, e202203440 (2023). DOI: 10.1002/chem.202203440
284. D. Unsihuay, H. Hu, J. Qiu, A. Latorre-Palimino, M. Yang, F. Yue, R. Yin, S. Kuang, J. Laskin "Multimodal high-resolution nano-DESI MSI and immunofluorescence imaging reveal molecular signatures of skeletal muscle fiber types", Chem. Sci., 14, 4070-4082 (2023). DOI: 10.1039/D2SC06020E
285. L.-X. Jiang, M. Yang, S. N. Wali, J. Laskin "High-Throughput Mass Spectrometry Imaging of Biological Systems: Current Approaches and Future Directions", TrAC Trend in Anal. Chem., 163, 117055 (2023). DOI: 10.1016/j.trac.2023.117055
286. V. J. Baboomian, Q. He, J. Montoya-Aguilera, N. N. Ali, L. T. Fleming, P. Lin, A. Laskin, J. Laskin, Y. Rudich, S. A. Nizkorodov "Light absorption and scattering properties of indole secondary organic aerosol prepared under various oxidant and relative humidity conditions", Aerosol Science & Technology, 57, 532-545 (2023). DOI:10.1080/02786826.2023.2193235
287. V. Prabhakaran, G. E. Johnson, and J. Laskin "Ion Soft Landing: A Unique Tool for Understanding Electrochemical Processes", *Curr. Opin. Electrochem*., 40, 101310 (2023). DOI: 10.1016/j.coelec.2023.101310
288. A. L. Klodt, P. K. Aiona, A. C. MacMillan, H. J. Lee, X. Zhang, T. Helgestad, G. A. Novak, P. Lin, J. Laskin, A. Laskin, T. H. Bertram, C. D. Cappa, S. A. Nizkorodov "Effect of Relative Humidity, NOx, and Ammonia on Physical Properties of Naphthalene Secondary Organic Aerosol", Env. Sci. Atmos., 3, 991–1007 (2023). DOI: 10.1039/D3EA00033H
289. C. D. Huffstutler, D. Mesa Sanchez, M. R. Weigand, H. Hu, X. Li, A. J. Chegwidden, K. O. Nagornov, A. N. Kozhinov, Y. O. Tsybin, and J. Laskin, "Selected ion monitoring for sensitive imaging of eicosanoids in tissues using nanospray desorption electrospray ionization (nano-DESI) mass spectrometry", Int. J. Mass Spectrom. (**Lidjia Gall and Vicki Wysocki Honor Issue**), 117101 (2023). DOI:10.1016/j.ijms.2023.117101
290. S. J. C. Gosline, M. Velickovic, J. Pino, L. Z. Day, I. K. Attah, A. C. Swensen, V. Danna, J. Chen, C. E. Matthews, M. Campbell-Thompson, J. Laskin, K. Burnum-Johnson, Y. Zhu, P. D. Piehowski "Proteome mapping of the human pancreatic islet microenvironment reveals endocrine-exocrine signaling sphere of influence", Molecular & Cellular Proteomics, 100592 (2023). DOI: 10.1016/j.mcpro.2023.100592
291. L.-X. Jiang, E. L. Hernly, H. Hu, R. T. Hilger, H. Neuweger, M Yang, J. Laskin "Nanospray desorption electrospray ionization (nano-DESI) mass spectrometry imaging with high ion mobility resolution", J. Am. Soc. Mass Spectrom., (**Special issue honoring Erin Baker**) 34, 1798–1804 (2023). DOI: 10.1021/jasms.3c00199
292. X. Li, H. Hu, J. Laskin "High-Resolution Integrated Microfluidic Probe for Mass Spectrometry Imaging of Biological Tissues", Anal. Chim. Acta, 1279, 341830 (2023). DOI: 10.1016/j.aca.2023.341830
293. H. Gholipour-Ranjbar, H. Y. Samayoa-Oviedo, J. Laskin "Controlled formation of fused metal chalcogenide nanoclusters using soft landing of gaseous fragment ions", ACS Nano, 17, 17427-17435 (2023). DOI: 10.1021/acsnano.3c05545

294. S. Jain, L. Pei, J. M. Spraggins, M. Angelo, J. P. Carson, N. Gehlenborg, et al. “Advances and prospects for the Human BioMolecular Atlas Program (HuBMAP)”, Nat. Cell. Biol., 25, 1089-1100 (2023). DOI: 10.1038/s41556-023-01194-w
295. L.-X. Jiang, M. Pollack, X. Li, M. Yang, D. Belder, J. Laskin “A monolithic microfluidic probe for ambient mass spectrometry imaging of biological tissues”, Lab on a Chip, 23, 4664-4673 (2023). DOI: 10.1039/D3LC00637A
296. M. R. Weigand, A. Moore, H. Hu, P. M. Angel, R. R. Drake, J. Laskin “Imaging of N-Linked Glycans in Biological Tissue Sections using Nanospray Desorption Electrospray Ionization (nano-DESI) Mass Spectrometry”, J. Am. Soc. Mass Spectrom., 34, 2481–2490 (2023). DOI: 10.1021/jasms.3c00209
297. K. Perera, W, Wu, K. A. Jenkins, M. F. Espenship, M. Zeller, L. You, M. Ahmed, K. Lang, G. Liu, J. Chaudhary, A. Abtahi, D. Forbes, J. Laskin, B. M. Savoie, J. Mei “Degradation Pathways of Conjugated Radical Cations”, Chem. Mater., 35, 9135–9149 (2023). DOI: 10.1021/acs.chemmater.3c01854

2024

298. M. F. Espenship, G. Eakins, J. Laskin “A multichannel phase-locked waveform generator for a rotating electric field mass analyzer”, Int. J. Mass Spectrom., (**Lidjia Gall and Vicki Wysocki Honor Issue**) 498, 117205 (2024). DOI: 10.1016/j.ijms.2024.117205
299. M. R. Weigand, D. M. Unsihuay, M. Yang, H. Hu, E. Hernly, M, Muhoberac, S. Tichy, J. Laskin “Lipid Isobar and Isomer Imaging Using Nanospray Desorption Electrospray Ionization Combined with Triple Quadrupole Mass Spectrometry”, Anal. Chem., 96, 2975–2982 (2024). DOI: 10.1021/acs.analchem.3c04705
300. S. Sarkar, C. Dieter, J. Kyle, M. A. Guney, D. Sarbaugh, R. Yin, X. Li, Y. Cui, M. Ramos-Rodriguez, C. D. Nicora, F. Syed, J. Juan-Mateu, C. Muralidharan, L. Pasquali, C. Evans-Molina, D. L. Eizirik, B.-J. M. Webb-Robertson, K. Burnum-Johnson, G. Orr, J.Laskin, T. O. Metz, R. G. Mirmira, L. Sussel, C. Ansong, E. S. Nakayasu “Regulation of b-cell death by ADP-ribosylhydrolase ARH3 via lipid signaling in insulitis”, Cell Communication & Signaling, 22, 141 (2024). DOI: 10.1186/s12964-023-01437-1
301. J. Hwang, Q. Zhao, M. Ahmed, A. Yakisan, M. Espenship, J. Laskin, B. Savoie, J. Mei “Reductive Doping Inhibits the Formation of Isomerization-Derived Structural Defects in n-PBDF”, Angew. Chem., 63, e202401465 (2024). DOI: 10.1002/anie.202401465
302. H. Gholipour-Ranjbar, L. Sertse, D. Forbes, J. Laskin “Effect of ligand on the reactivity of the undercoordinated fragment ions of $Co_6S_8(PEt_{3-x}Ph_x)_6^+$ (x=0-3) clusters on surfaces”, J. Phys. Chem. C, 128, 8232–8238 (2024). DOI: 10.1021/acs.jpcc.4c00941
303. A. Das, H. Y. Samayoa-Oviedo, M. Mohapatra, S. Basu, J. Laskin “Enhancing energy storage capacity of 3D carbon electrodes using soft landing of molecular redox mediators”, Small, 2311585 (2024). DOI: 10.1002/smll.202311585
304. L.-X. Jiang, R. T. Hilger, J. Laskin “Hardware and software solutions for implementing nanospray desorption electrospray ionization (nano-DESI) sources on commercial mass spectrometers”, J. Mass Spectrom. (**Invited Tutorial**), 59, e5065 (2024). DOI: 10.1002/jms.5065
305. P. Su, X. Zhu, S. M. Wilson, Y. Feng, H. Y. Samayoa-Oviedo, C. Sonnendecker, A. J. Smith, W. Zimmermann, J. Laskin “The Effect of Host Size on Binding in Host-Guest Complexes of Cyclodextrins and Polyoxometalates”, Chem. Sci., 15, 11825-11836 (2024). DOI: 10.1039/D4SC01061B
306. H. Y. Samayoa-Oviedo, H. Knorke, J. Warneke, J. Laskin “Spontaneous ligand loss by soft-landed $[Ni(bpy)_3]^{2+}$ ions on perfluorinated self-assembled monolayer surfaces”, Chem. Sci., 15, 10770-10783 (2024). DOI: 10.1039/D4SC02527J

307. M. Iqfath, S. N. Wali, S. Amer, E. Hernly, J. Laskin “Nanospray Desorption Electrospray Ionization Mass Spectrometry Imaging (nano-DESI MSI): a Tutorial”, (**Invited Tutorial**) ACS Measurement Sci. Au, (2024). DOI:10.1021/acsmeasuresciau.4c00028
308. E. Hernly, H. Hu, J. Laskin “MSIGen: An Open-Source Python Package for Processing and Visualizing Mass Spectrometry Imaging Data”, J. Am. Soc. Mass Spectrom., in revision
309. M. F. Espenship, J. Laskin “Writing with mass-selected ions using a dynamic Wien filter”, J. Am. Soc. Mass Spectrom., in revision
310. M. Yang, M. Iqfath, F. N. Meke, Z. Qu, E. L. Hernly, P. Su, Z.-Y. Zhang, J. Laskin “Correlative Imaging for Comprehensive Molecular Mapping of Individual Cell Types in Biological Tissues”, Chem. Sci., submitted
311. M. Yang, J. Laskin “Imaging of Proteoforms in Biological Tissues with High Spatial Resolution Using Nano-DESI Mass Spectrometry”, Methods in Molecular Biology, Springer Nature, submitted
312. S. M. Wilson, B. E. Petel, M. L. Maiola, E. M. Matson, J. Laskin “Mass Spectrometry Provides Insights into the Structures of Polyoxovanadate Alkoxide Clusters Substituted with Fe and W Heterometals”, Int. J. Mass Spectrom., (**Richard O’Hair Honor Issue**), submitted
313. J. Warneke, H. Y. Samayoa Oviedo, M. Rohdenburg, X. Li, H. Knorke, J. Laskin “Molecular Synthesis with Gaseous Fragment Ions on Surfaces”, Nat. Chem. Rev., submitted
314. A. M. Moore, A. Bowman, S. N. Wali, M. R. Weigand, D. Wagner, J. Yang, J. Laskin “Quantitative analysis of drugs in a mimetic tissue model using nano-DESI on a triple quadrupole mass spectrometer”, J. Am. Soc. Mass Spectrom., submitted
315. S. Amer, D. Unsihuay, M. Yang, J. Laskin “A universal photosensitizer for isomer-selective lipid imaging with high molecular coverage”, Anal. Chem., submitted
316. X. Li, J. Laskin “A Low-Cost Thermoplastic Microfluidic Probe for Mass Spectrometry Imaging of Biological Tissue Samples”, submitted
317. H. Brown, S. Nguyen, G.Clair, S. Dautel, R. Sontag, T. Luders, C. Ansong, J. Carson, J. Laskin "Understanding Lipid Localization in the Developing Lung using Nano-DESI Mass Spectrometry Imaging", Anal. Chem., submitted

BOOK CHAPTERS

1. J. Laskin “Energy and Entropy Effects in The Gas Phase Dissociation of Peptides and Proteins”, in Principles of Mass Spectrometry Applied to Biomolecules, J. Laskin and C. Lifshitz (Eds.), Wiley, Hoboken, NJ, 2006, pp. 619-665
2. P. Wang and J. Laskin “Surface Modification Using Reactive Landing of Mass-Selected Ions on Surfaces”, book chapter, Ion beams in Nanoscience and Technology, H.J. Whitlow, Y. Zhang, R. Hellborg (Eds.), Springer, 2010
3. J. H. Futrell, J. Laskin “Surface Induced Dissociation and Soft Landing of Complex Molecules on Self Assembled Monolayer Surfaces”, in *Encyclopedia of Spectroscopy and Spectrometry*, 2nd Ed, Academic Press, 2010
4. I. Lanekoff, J. Laskin* “Imaging of Lipids and Metabolites Using Nanospray Desorption Electrospray Ionization Mass Spectrometry”, in Methods in Molecular Biology, Vol. 1203, Ed. Lin He, Humana Press, USA, 2015
5. B. S. Heath, M. J. Marshall, J. Laskin “The Characterization of Living Bacterial Colonies Using Nanospray Desorption Electrospray Ionization Mass Spectrometry”, Engineering and Analyzing Multicellular Systems: Methods and Protocols (Methods in Molecular Biology, Book 1151), L. Sun and W. Shou (Eds.), 199-208 (2014). doi: 10.1007/978-1-4939-0554-6_14.

6. G. E. Johnson*, J. Laskin “In Plane Multi-Magnetron Approach to Gas Aggregation Synthesis of Nanoparticles”, in Gas-Phase Synthesis of Nanoparticles, Y. Huttel (Ed.), Wiley-VCH, Weinheim (2017), pp. 79-100
7. I. Lanekoff, J. Laskin. “Quantitative Mass Spectrometry Imaging of Molecules in Biological Systems”, Adv. Chromatogr., vol. 54, pp. 43-72, N. Grinberg, E. Grushka, Eds., CRC Press, Taylor Francis Group, 2017
8. J. Montoya-Aguilera, M. Hinks, P. Aiona, L. Wingen, J. Horne, S. Zhu, D. Dabdub, A. Laskin, J. Laskin, P. Lin, S. N. Nizkorodov "Reactive Uptake of Ammonia by Biogenic and Anthropogenic Organic Aerosols", ACS Symposium Series volume 1299, Chapter 7, pp 127-147 in "Multiphase Environmental Chemistry in the Atmosphere", Hunt S., Laskin A., Nizkorodov S.A. Eds., 2018; ISBN13: 9780841233638. DOI:10.1021/bk-2018-1299.ch007
9. A. Laskin, P. Lin, J. Laskin, S. N. Nizkorodov, L. Fleming “Molecular Characterization of Atmospheric Brown Carbon", ACS Symposium Series volume 1299, Chapter 13, pp 261-274 in "Multiphase Environmental Chemistry in the Atmosphere", Hunt S., Laskin A., Nizkorodov S.A. Eds., 2018; ISBN13: 9780841233638. DOI: 10.1021/bk-2018-1299.ch013R.
10. Yin, V. Prabhakaran, J. Laskin “Electroosmotic extraction coupled to mass spectrometry analysis of metabolites in live cells”, Methods in Enzymology, Vol. 628, ch. 15 (2019)

TRIBUTES

1. J. Laskin “Chava Lifshitz memorial issue - An appreciation”, Int. J. Mass Spectrom., 249, XII-XXII (2006)
2. T. Baer, J. Laskin “Biography of Chava Lifshitz” J. Phys. Chem. A, 110, 8235-8247 (2006)

PATENTS

1. J. Laskin, J.H. Futrell “Method and apparatus for enhanced sequencing of complex molecules using surface-induced dissociation in conjunction with mass spectrometric analysis”, U.S. Patent No. 7,365,312, issued April 2008.
2. J. Laskin, P. Wang “Method for selective immobilization of macromolecules on self assembled monolayer surfaces”, U.S. Patent 8,067,053 B2, issued November 29, 2011.
3. P. J. Roach, J. Laskin, A. Laskin “Focused Analyte Spray Emission System, Apparatus, and Process for Mass Spectrometric Analysis”, U.S. patent application E-16593, U.S. Patent No. 8,097,845, issued on January 17, 2012.
4. J. Laskin, S. Nguyen, A. Liyu “Techniques for controlling distance between a sample and sample probe while such probe liberates analyte from a sample region for analysis with a mass spectrometer”, U.S. Patent 10, 134 , 572 B2, November 20, 2018.
5. J. Laskin, X. Li, R. Yin “Integrated microfluidic probe (iMFP) and methods of use thereof”, US Patent App. 17/609,114, 2022
6. J. Laskin, P. Su, C. Larriba, X. Chen “Multiplexed Electrospray Ionization Sources Using Orthogonal Injection into an Electrodynamic Ion Finnel”, U.S. Patent App., 18/287,357, June 20, 2024
7. J. Laskin, H. Hu, P. Su “Apparatuses and methods for merging ion beams”, US Patent App. 17/596,723, 2022.
8. J. Laskin, H. Hu, D.-H. Ye, D. Helminiak “High-Throughput Mass Spectrometry Imaging with Dynamic Sparse Sampling”, provisional patent submitted, June 2022.
9. J. Laskin and X. Li “Integrated microfluidic probe (iMFP) and methods of use thereof”, US Patent App. 17/976,967, 7/27/2023.
10. J. Laskin, L.-X. Jiang, M. Pollack, D. Belder “Microfluidic Probe System and Method”, Provisional Patent, submitted 5/30/24

11. M. F. Espenship, J. Laskin “System and Method for Surface Fabrication”, Provisional Patent, submitted 5/30/24