

JAMES W. JORGENSON

Present Position

William Rand Kenan, Jr. Distinguished Professor
Department of Chemistry
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Personal Information

Born: September 9, 1952, Kenosha, Wisconsin
Married: Carolyn J. Morse
Children: None
Citizenship: U.S.

Education

B.S., Chemistry, Northern Illinois University, 1970-1974.
Ph.D., Chemistry, Indiana University, 1974-1979.

Professional Positions

Assistant Professor, Chemistry, University of North Carolina, 1979-1984.
Associate Professor, Chemistry, University of North Carolina, 1985-1987
Professor, Chemistry, University of North Carolina, 1987-1994
F. P. Venable Professor, Chemistry, University of North Carolina, 1994-1999
William Rand Kenan, Jr. Distinguished Professor, Chemistry, UNC, 1999-present
Chemistry Department Chair, University of North Carolina, 2000 to 2005

Membership in Professional Organizations

American Chemical Society
American Association for the Advancement of Science
American Academy of Arts and Sciences

Honors Received

Lubrizol Graduate Fellowship, Indiana University, 1977
DuPont Young Faculty Development Award, 1982
U.N.C. Junior Faculty Development Award, 1982
Alfred P. Sloan Foundation Research Fellowship, 1984
Bowman and Gordon Gray Professorship in Undergraduate Teaching, 1987
Tanner Award for Excellence in Undergraduate Teaching, 1989
UNC Arts and Sciences Foundation Professorship, UNC-CH, 1991
American Chemical Society Analytical Division Award in Chemical Instrumentation, 1992
Martin Medal of the Chromatographic Society, 1992
Fellow, American Association for the Advancement of Science, 1992
American Chemical Society Award in Chromatography, 1993
Van Slyke Award, NY Metropolitan Section of the American Association for Clinical Chemistry, 1993.
Isco Award for Significant Contributions to Instrumentation for Chemical Separations, 1994
Golay Medal of the International Organization for the Promotion of Microcolumn Separations, 1994

(Honors, continued)

National Chromatography Award of the Northeast Regional Chromatography Discussion Group, 1994
Electrophoresis Award of the Frederick Conference on Capillary Electrophoresis, 1994
Distinguished Speaker Award, North Carolina Section of the American Chemical Society, 1994
Eastern Analytical Symposium Award in Separation Science, 1995
Torben Bergman Medal of the Swedish Chemical Society, Analytical Section, 1996
Anachem Award, Association of Analytical Chemists of Detroit, 1996.
Distinguished Alumnus Award of the Indiana University Graduate School, 1996
Dal Nogare Award, Chromatography Forum of the Delaware Valley, 1998
James B. Himes Merit Award, Chicago Chromatography Discussion Group, 1998
California Separation Science Society Award for Major Advances in Separations, 1999
Special issue of the journal "*Electrophoresis*" dedicated to J. W. Jorgenson (October 2001)
Esselen Award for Chemistry in the Public Interest, Northeast Section of American Chemical Society, 2004
Pittsburgh Analytical Chemistry Award, 2005
Life Time Achievement Award, International Symposium on Hyphenated Techniques in Chromatography (2006)
American Chemical Society Award in Analytical Chemistry, 2007
Elected Member of the American Academy of Arts and Sciences, 2007
Golden Anniversary Alumni Award, Northern Illinois University, 2009
Ralph N. Adams Award in Bioanalytical Chemistry (2011)

Honorary Lectures

Boomer Lectures, University of Alberta, 1990
Frontiers in Chemistry Lectures, Texas A&M University, 1994
Willard Lecture, University of Michigan, 1994
Rogers Lecture, University of Georgia, 1996
Fassel Lectures, Iowa State University, 1997
Clark Lectures, West Virginia University, 1998
Henry Werner Lecture, University of Kansas, 1999
Conover Lecture, Vanderbilt University, 1999
Centennial Lecture, University of Texas at Austin, 1999
Fred M. Weissman Lecture, University of South Carolina, 1999
Desty Memorial Lecture, The Chromatographic Society, Royal Institution, London, 1999
Krug Lecture, University of Illinois, 2000
Frontiers in Chemistry Lecture Series, University of Iowa, 2001
Nakamoto Lecture, Marquette University, 2004

Past Journal Affiliations

Associate Editor: Analytical Chemistry
Editorial Board: Analytical Chemistry
Editorial Board: Analytica Chimica Acta
Editorial Board: Journal of Capillary Electrophoresis
Editorial Board: Journal of Chromatography
Editorial Board: Journal of Microcolumn Separations
Editorial Board: Journal of Pharmaceutical and Biomedical Analysis
Editorial Board: Journal of Separation Science

Publications

Fluorescence Enhancement: New Selective Detection Principle For Liquid Chromatography, P.A. Asmus, J.W. Jorgenson, and M. Novotny, *Journal of Chromatography*, **126**, 317-325 (1976).

Light-Scattering Detection in Liquid Chromatography, J.W. Jorgenson, S.L. Smith, M. Novotny, *Journal of Chromatography*, **142**, 233-240 (1977).

Chemical Scent Constituents in the Urine of the Red Fox (*Vulpes vulpes* L.) During the Winter Season, J.W. Jorgenson, M. Novotny, M. Carmack, G.B. Copeland, S.R. Wilson, W.K. Whitten, and S. Katona, *Science*, **199**, 796-808 (1978).

Δ 3-Isopentenyl Methyl Sulfide: A New Terpenoid in the Scent Mark of the Red Fox (*Vulpes vulpes* L.), S.R. Wilson, M. Carmack, M. Novotny, J.W. Jorgenson, and W.K. Whitten, *Journal of Organic Chemistry*, **43**, 4675-4676 (1978).

Surface Deactivation in Glass Capillary Columns and its Investigation by Auger Electron Spectroscopy, M.L. Lee, D.L. Vassilaros, L.V. Phillips, D.M. Hercules, H. Azumaya, J.W. Jorgenson, M.P. Maskarinec, and M. Novotny, *Analytical Letters*, **12(A2)**, 191-203 (1979).

Analysis of Neutral Lipids by High performance Liquid Chromatography and Nephelometric Detection, S.L. Smith, J.W. Jorgenson, and M. Novotny, National Bureau of Standards Special Publication 519, Trace Organic Analysis: A New Frontier in Analytical Chemistry. Proceedings of the 9th Materials Research Symposium, April 10-13, 1978 (issued in 1979), pp. 429-436.

Characterization of Polynuclear Aromatic and Aliphatic Hydrocarbon Fractions of Solvent-Refined Coal by Glass Capillary Gas Chromatography / Mass Spectrometry, R.V. Schultz, J.W. Jorgenson, M.P. Maskarinec, M. Novotny, and L.J. Todd, *Fuel*, **58**, 783-789 (1979).

Induction of Marking Behavior in Wild Red Foxes (*Vulpes vulpes* L.) by Synthetic Urinary Constituents, W.K. Whitten, M.C. Wilson, S.R. Wilson, J.W. Jorgenson, M. Novotny, and M. Carmack, *Journal of Chemical Ecology*, **6**, 49-55 (1980).

Applications of Reversed Phase Chromatography and Nephelometric Detection to Analysis of Non-Polar Mixtures at the Microgram Level, S.L. Smith, J.W. Jorgenson, and M. Novotny, *Journal of Chromatography*, **187**, 111-118 (1980).

Chemical Studies of the Primer Mouse Pheromones, M. Novotny, J.W. Jorgenson, M. Carmack, S.R. Wilson, E.A. Boyse, K. Yamazaki, M. Wilson, W. Beamer, and W.K. Whitten, in "Chemical Signals - Vertebrates and Aquatic Invertebrates", D. Muller-Schwarze and R.M. Silverstein (Editors), Plenum Press, New York, 1980, pp. 377-380.

Marking Behavior in Wild Red Foxes in Response to Synthetic Volatile Urinary Compounds, M.C. Wilson, W.K. Whitten, S.R. Wilson, J.W. Jorgenson, M. Novotny, and M. Carmack, in "Chemical Signals - Vertebrates and Aquatic Invertebrates", D. Muller-Schwarze and R.M. Silverstein (Editors), Plenum Press, New York, 1980, pp. 29-38.

Zone Electrophoresis in Open-Tubular Glass Capillaries: Preliminary Data on Performance, J.W. Jorgenson, K.D. Lukacs, *Journal of High Resolution Chromatography*, **4**, 230-231 (1981).

Zone Electrophoresis in Open-Tubular Glass Capillaries, J.W. Jorgenson, and K.D. Lukacs, *Analytical Chemistry*, **53**, 1298-1302 (1981).

High Resolution Separations Based on Electrophoresis and Electroosmosis, J.W. Jorgenson, and K.D. Lukacs, *Journal of Chromatography*, **218**, 209-216 (1981).

Free Zone Electrophoresis in Glass Capillaries, J.W. Jorgenson, and K.D. Lukacs, *Clinical Chemistry*, **27**, 1551-1553 (1981).

Liquid Chromatography in Open-Tubular Columns: Theory of Column Optimization With Limited Pressure and Analysis Time, and Fabrication of Chemically Bonded Reversed-Phase Columns on Etched Borosilicate Glass Capillaries, J.W. Jorgenson, and E.J. Guthrie, *Journal of Chromatography*, **255**, 335-348 (1983).

Transmission Near-Infrared Technique for Evaluation and Relative Quantitation of Surface Groups on Silica, S.G. Bush, J.W. Jorgenson, M.L. Miller, and R.W. Linton, *Journal of Chromatography*, **260**, 1-12 (1983).

Technique for Accurate Measurement of Capillary Lengths and Diameters, E.J. Guthrie, J.W. Jorgenson, L.A. Knecht, and S.G. Bush, *Journal of High Resolution Chromatography*, **6**, 566-567 (1983).

Capillary Zone Electrophoresis, J.W. Jorgenson, and K.D. Lukacs, *Science*, **222**, 266-272 (1983).

Zone Electrophoresis in Open-Tubular Capillaries, J.W. Jorgenson, *Trends in Analytical Chemistry*, **3**, 51-54 (1984).

On-Column Electrochemical Detector With a Single Graphite Fiber Electrode for Open-Tubular Liquid Chromatography, L.A. Knecht, E.J. Guthrie, and J.W. Jorgenson, *Analytical Chemistry*, **56**, 479-482 (1984).

On-Column Fluorescence Detector for Open-Tubular Capillary Liquid Chromatography, E.J. Guthrie, and J.W. Jorgenson, *Analytical Chemistry*, **56**, 483-486 (1984).

Trends in Analytical Scale Separations, J.W. Jorgenson, *Science*, **226**, 254-261 (1984).

High Speed Zone Electrophoresis in Open-Tubular Fused Silica Capillaries, J.S. Green, J.W. Jorgenson, *Journal of High Resolution Chromatography*, **7**, 529-531 (1984).

On-Column UV Absorption Detector for Open-Tubular Capillary Zone Electrophoresis, Y. Walbroehl, J.W. Jorgenson, *Journal of Chromatography*, **315**, 135-143 (1984).

Possible Chemical Basis For Histocompatibility-Related Mating Preference in Mice, F.J. Schwende, J.W. Jorgenson, M. Novotny, *Journal of Chemical Ecology*, **10**, 1603-1615 (1984).

Identification of a Testosterone-Dependent Unique Volatile Constituent of Male Mouse Urine: 7-exo-ethyl-5-methyl-6,8-dioxabicyclo(3.2.1)-3-octene, M. Novotny, F.J. Schwende, D. Wiesler, J.W. Jorgenson, and M. Carmack, *Experientia*, **40**, 217-219 (1984).

On-Column Helium-Cadmium Laser Fluorescence Detector for Open-Tubular Capillary Liquid Chromatography, E.J. Guthrie, J.W. Jorgenson, and P.R. Dluznieski, *Journal of Chromatographic Science*, **22**, 171-176 (1984).

New Techniques for Liquid Chromatography in Open-Tubular Columns, J.W. Jorgenson, E.J. Guthrie, R.L. StClaire III, P.R. Dluznieski, and L.A. Knecht, *Journal of Pharmaceutical and Biomedical Analysis*, **2**, 191-196 (1984).

Correlation of Retention Behavior with Quantitative Surface Analysis of Octadecyl Bonded Chromatographic Supports, M.L. Miller, R.W. Linton, S.G. Bush, and J.W. Jorgenson, *Analytical Chemistry*, **56**, 2204-2210 (1984).

Capillary Zone Electrophoresis, J.W. Jorgenson, K.D. Lukacs, in "Microcolumn Separations: Columns, Instrumentation and Ancillary Techniques", M. Novotny and D. Ishii (editors), *Journal of Chromatography Library*; Vol. 30, Elsevier, pp. 121-131 (1985).

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Capillary Zone Electrophoresis: Effect of Physical Parameters on Separation Efficiency and Quantitation, K.D. Lukacs, and J.W. Jorgenson, *Journal of High Resolution Chromatography*, **8**, 407-411 (1985).

Variable Wavelength On-Column Fluorescence Detector for Open-Tubular Zone Electrophoresis, J.S. Green, and J.W. Jorgenson, *Journal of Chromatography*, **352**, 337-343 (1986).

Capillary Zone Electrophoresis of Neutral Organic Molecules by Solvophobic Association with Tetraalkylammonium Ion, Y. Walbroehl, and J.W. Jorgenson, *Analytical Chemistry*, **58**, 479-481 (1986).

Scanning On-Column Voltammetric Detector for Open-Tubular Liquid Chromatography, J.G. White, R.L. StClaire III, and J.W. Jorgenson, *Analytical Chemistry*, **58**, 293-298 (1986).

Electrophoresis, J.W. Jorgenson, *Analytical Chemistry*, **58**, 743A-760A (1986).

Improvements in Scanning Voltammetric Detection for Open-Tubular Liquid Chromatography, J.G. White, and J.W. Jorgenson, *Analytical Chemistry*, **58**, 2992-2995 (1986).

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A Design for Direct Coupling of Open-Tubular Liquid Chromatography with Mass Spectrometry, J. de Wit, C.E. Parker, J.W. Jorgenson and K.B. Tomer, *Anal. Chem.*, **59**, 2400 (1987).

A Photoionization Detector for Open Tubular Liquid Chromatography, J.S.M. de Wit and J.W. Jorgenson, *J. Chromatogr.*, **411**, 201 (1987).

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Characterization and Automation of Sample Introduction Methods for Capillary Zone Electrophoresis, D.J. Rose and J.W. Jorgenson, *Anal. Chem.*, **60**, 642-648 (1988).

Nano-Scale Separations and Biotechnology, J.W. Jorgenson, D.J. Rose, R.T. Kennedy, *American Laboratory*, **20 (4)**, 32,34,36,38,40,41 (1988).

New Method for the Preparation of Small Diameter Columns with Polymeric Stationary Phases for Open Tubular Liquid Chromatography, P.R. Dluzneski and J.W. Jorgenson, *J. High Resol. Chromatogr. Chromatogr. Commun.*, **11**, 332-336 (1988).

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Chemical Analysis of Single Neurons by Open Tubular Liquid Chromatography, R.T. Kennedy, R.L. St Claire III, J.G. White, and J.W. Jorgenson, *Mikrochimica Acta*, 1987 (II), 37-45 (1988).

Design of a Coaxial Fast Atom Bombardment Probe, J.S.M. de Wit, L.J. Deterding, M.A. Moseley, K.B. Tomer, J.W. Jorgenson, *Rapid Communications in Mass Spectrometry*, **2**, 100-104 (1988).

Open Tubular Liquid Chromatography and the Analysis of Single Neurons, J.W. Jorgenson, R.T. Kennedy, R.L. St. Claire III, J.G. White, P.R. Dluzneski, and J.S.M. de Wit, *J. Res. Nat. Bureau Standards*, **93 (3)**, 403-406 (1988).

Separation and Identification of Trifluralin Metabolites by Open Tubular Liquid Chromatography/Negative Chemical Ionization Mass Spectrometry, J.S.M. de Wit, C.E. Parker, K.B. Tomer and J.W. Jorgenson, *Biomed. Env. Mass Spec.*, **17**, 47-53 (1988).

Post-Capillary Fluorescence Detection in Capillary Zone Electrophoresis Using o-phthaldialdehyde, D.J. Rose and J.W. Jorgenson, *J. Chromatogr.*, **447**, 117-131 (1988).

High Speed Capillary Zone Electrophoresis with Laser Induced Fluorescence Detection, B. Nickerson and J.W. Jorgenson, *J. High Res. Chromatogr. Chromatogr. Commun.*, **11**, 533-534 (1988).

High Sensitivity Laser Induced Fluorescence Detection in Capillary Zone Electrophoresis, B. Nickerson and J.W. Jorgenson, *J. High Resolut. Chromatogr. Chromatogr. Commun.*, **11**, 878-881 (1988).

Determination of Low Nanogram Levels of Pesticides and Herbicides by Open Tubular Liquid Chromatography (EI/CI) Mass Spectrometry, M.A. Moseley, J.S.M. de Wit, C.E. Parker, K.B. Tomer and J.W. Jorgenson, in *Proceedings of the 11th Annual Environmental Protection Agency Conference on the Analysis of Pollutants in the Environment*, Norfolk, VA, May 1988.

Characterization of the Direct Probe Open-Tubular Liquid Chromatography/Mass Spectrometry Interface Parameters, J.S.M. de Wit, K.B. Tomer and J.W. Jorgenson, *J. Chromatogr.*, **462**, 365-375 (1989).

Capillary Zone Electrophoresis for the Determination of Electrophoretic Mobilities and Diffusion Coefficients of Proteins, Y. Walbroehl and J.W. Jorgenson, *J. Microcol. Sep.*, **1**, 41-45 (1989).

Quantitative Analysis of Individual Neurons by Open Tubular Liquid Chromatography with Voltammetric detection, R.T. Kennedy and J.W. Jorgenson, *Anal. Chem.*, **61**, 436-441 (1989).

Analysis of NDA-Labeled Amino Acids by Open Tubular Liquid Chromatography with Electrochemical Detection, M.D. Oates and J.W. Jorgenson, *Anal. Chem.*, **61**, 432-435 (1989).

Separation of Dansylated Methylamine and Dansylated Methyl-D₃-Amine by Micellar Electrokinetic Capillary Chromatography with Methanol Modified Mobile Phase, M.M. Bushey and J.W. Jorgenson, *Anal. Chem.*, **61**, 491-493 (1989).

Optimization of a Coaxial Continuous Flow Fast Atom Bombardment Interface Between Capillary Liquid Chromatography and Magnetic Sector Mass Spectrometry for the Analysis of Biomolecules, M.A. Moseley, L.J. Deterding, J.S.M. de Wit, K.B. Tomer, R.T. Kennedy and J.W. Jorgenson, *Anal. Chem.*, **61**, 1577-1584 (1989).

Capillary Zone Electrophoresis/Fast-Atom Bombardment Mass Spectrometry: Design of an On-Line Continuous Flow Interface, M.A. Moseley, L.J. Deterding, K.B. Tomer and J.W. Jorgenson, *Rapid Communications in Mass Spectrometry*, **3**, 87-93 (1989).

Effects of Methanol Modified Mobile Phase on the Separation of Isotopically Substituted Compounds by Micellar Electrokinetic Capillary Chromatography, M.M. Bushey and J.W. Jorgenson, *Journal of Microcolumn Separations*, **1**, 125-130 (1989).

Chemical Phenomena in Solid State Voltammetry in Polymer Solvents, L. Geng, R.A. Reed, M.-H. Kim, T.T. Wooster, B.N. Oliver, J. Egekeze, R.T. Kennedy, J.W. Jorgenson, J.F. Parcher and R.W. Murray, *J. Amer. Chem. Soc.*, **111**, 1614 (1989).

Microcolumn Separations and the Analysis of Single Cells, R.T. Kennedy, M.D. Oates, B.R. Cooper, B. Nickerson and J.W. Jorgenson, *Science*, **246**, 57 (1989).

Voltammetric Detection with Gradient Elution for Open Tubular Liquid Chromatography, M.D. Oates and J.W. Jorgenson, *Anal. Chem.*, **61**, 1977 (1989).

Preparation and Evaluation of Packed Capillary Liquid Chromatography Columns with Inner Diameters from 20 to 50 μm , R.T. Kennedy and J.W. Jorgenson, *Anal. Chem.*, **61**, 1128-1135 (1989).

Minimizing Adsorption of Proteins to Fused Silica in Capillary Zone Electrophoresis via the Addition of Alkali Metal Salts to the Buffers, J.S. Green and J.W. Jorgenson, *J. Chromatogr.*, **478**, 63-70 (1989).

Characterization of a Post Column Reaction-Laser Induced Fluorescence Detector for Capillary Zone Electrophoresis, B. Nickerson and J.W. Jorgenson, *J. Chromatogr.*, **480**, 157-168 (1989).

Capillary Electrophoresis of Proteins in Buffers Containing High Concentrations of Zwitterionic Salts, M.M. Bushey and J.W. Jorgenson, *J. Chromatogr.*, **480**, 301-310 (1989).

Coupling of Capillary Zone Electrophoresis and Capillary Liquid Chromatography with Coaxial Continuous Flow Fast Atom Bombardment Tandem Sector Mass Spectrometry, M.A. Moseley, L.J. Deterding, K.B. Tomer and J.W. Jorgenson, *J. Chromatogr.*, **480**, 197-209 (1989).

A Comparison of OTLC/MS and DLI-LC/MS for the Analysis of Metribuzin and its Metabolites in Plant Tissue and Water Samples, B.H. Escoffier, C.E. Parker, T.C. Mester, J.S.M. de Wit, F.T. Corbin, J.W. Jorgenson and K.B. Tomer, *J. Chromatogr.*, **474**, 301-316 (1989).

Coaxial Continuous Flow Fast Atom Bombardment in Conjunction With Tandem Mass Spectrometry For The Analysis of Biomolecules, L.J. Deterding, M.A. Moseley, K.B. Tomer and J.W. Jorgenson, *Anal. Chem.*, **61**, 2504-2511 (1989).

Design of a Variable Wavelength UV Absorption Detector for On-Column Detection in Capillary Electrophoresis, and Comparison of its Performance to a Fixed Wavelength UV Absorption Detector, J.S. Green and J.W. Jorgenson, *J. Liq. Chromatogr.*, **12**, 2527-2561 (1989).

Confirmation and Application of Transmission Near Infrared Absorption Technique for Absolute Quantitation of Functional Groups on Silica Gel, S.G. Bush and J.W. Jorgenson, *J. Chromatogr.*, **503**, 69-91 (1990).

Automated Instrument for Comprehensive Two-Dimensional High- Performance Liquid Chromatography of Proteins, M.M. Bushey and J.W. Jorgenson, *Anal. Chem.*, **62**, 161-167 (1990).

Quantitative Amino Acid Analysis of Individual Snail Neurons by Open Tubular Liquid Chromatography, M.D. Oates, B.R. Cooper, and J.W. Jorgenson, *Anal. Chem.*, **62**, 1573-1577 (1990).

Quantitative Amino Acid Analysis of Subnanogram Levels of Protein by Open Tubular Liquid Chromatography, M.D. Oates and J.W. Jorgenson, *Anal. Chem.*, **62**, 1577-1580 (1990).

Modification of Lysine Residues in Proteins to Improve Their Recovery When Using Derivatizing Reagents, M.D. Oates and J.W. Jorgenson, *Anal. Chem.*, **62**, 2056-2058 (1990).

Efficiency of Packed Microcolumns Compared to Large Bore Packed Columns in Size Exclusion Chromatography, R.T. Kennedy and J.W. Jorgenson, *J. Microcolumn Separations*, **2**, 120-126 (1990).

Automated Instrument for Comprehensive Two-Dimensional High Performance Liquid Chromatography-Capillary Zone Electrophoresis, M.M. Bushey and J.W. Jorgenson, *Anal. Chem.*, **62**, 978-984 (1990).

A Comparison of Tryptic Digests of Bovine and Equine Cytochrome C by Comprehensive Reversed Phase HPLC-CE, M.M. Bushey and J.W. Jorgenson, *J. Microcol. Sep.*, **2**, 293-299 (1990).

Continuous Flow FAB with Packed Micro-Columns: A Comparison of Precolumn vs. Coaxial Matrix Delivery, S. Pleasance, P. Thibault, M.A. Moseley, L.J. Deterding, K.B. Tomer and J.W. Jorgenson, *J. Amer. Soc. Mass Spectrom.*, **1**, 312 (1990).

Capillary Zone Electrophoresis/Mass Spectrometry Using a Coaxial Continuous Flow Fast Atom Bombardment Interface, M.A. Moseley, L.J. Deterding, K.B. Tomer, and J.W. Jorgenson, *J. Chromatogr.*, **516**, 167 (1990).

Protein and Peptide Sequence Analysis by Tandem Mass Spectrometry in Combination with Either Capillary Electrophoresis or Micro-capillary HPLC, D.F. Hunt, J. Shabanowitz, M.A. Moseley, A.L. McCormack, H. Michel, P.A. Martino, K.B. Tomer and J.W. Jorgenson, in *Proceedings of the 8th International Conference on Protein Sequence Analysis*, Elsevier, New York, New York, 1990.

On-Column Sample Gating for High-Speed Capillary Zone Electrophoresis, C.A. Monnig and J.W. Jorgenson, *Anal. Chem.*, **63**, 802-807 (1991).

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Determination of Bioactive Peptides by Capillary Zone Electrophoresis/Mass Spectrometry, M.A. Moseley, L.J. Deterding, K.B. Tomer, and J.W. Jorgenson, *Anal. Chem.*, **63**, 109-114 (1991).

Nanoscale Packed-Capillary Liquid Chromatography Coupled with Mass Spectrometry Using a Coaxial Continuous-Flow Fast Atom Bombardment Interface, M.A. Moseley, L.J. Deterding, K.B. Tomer and J.W. Jorgenson, *Anal. Chem.*, **63**, 1467-1473 (1991).

Preparation of Reversed Phase Open Tubular LC Columns from Borosilicate Glass, R.L. St Claire, D.M. Dohmeier and J.W. Jorgenson, *J. Microcolumn Sep.*, **3**, 303-309 (1991).

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Nanoscale Separations Combined with Tandem Mass Spectrometry, L.J. Deterding, M.A. Moseley, K.B. Tomer, and J.W. Jorgenson, *J. Chromatogr.*, **554**, 73 (1991).

Nanoscale Separations: Capillary Liquid Chromatography/Mass Spectrometry and Capillary Zone Electrophoresis/Mass Spectrometry for the Determination of Peptides and Proteins, L.J. Deterding, M.A. Moseley, K.B. Tomer, and J.W. Jorgenson, *J. Chromatogr.*, **554**, 329 (1991).

Mass Spectrometric Methods for Protein and Peptide Sequence Analysis, D.F. Hunt, J.E. Alexander, A.L. McCormack, P.A. Martino, H. Michel, J. Shabanowitz, N. Sherman, M.A. Moseley, J.W. Jorgenson, and K.B. Tomer, in *Techniques in Protein Chemistry II*, J.J. Villafranca ed., Academic Press, San Diego, CA, 1991.

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