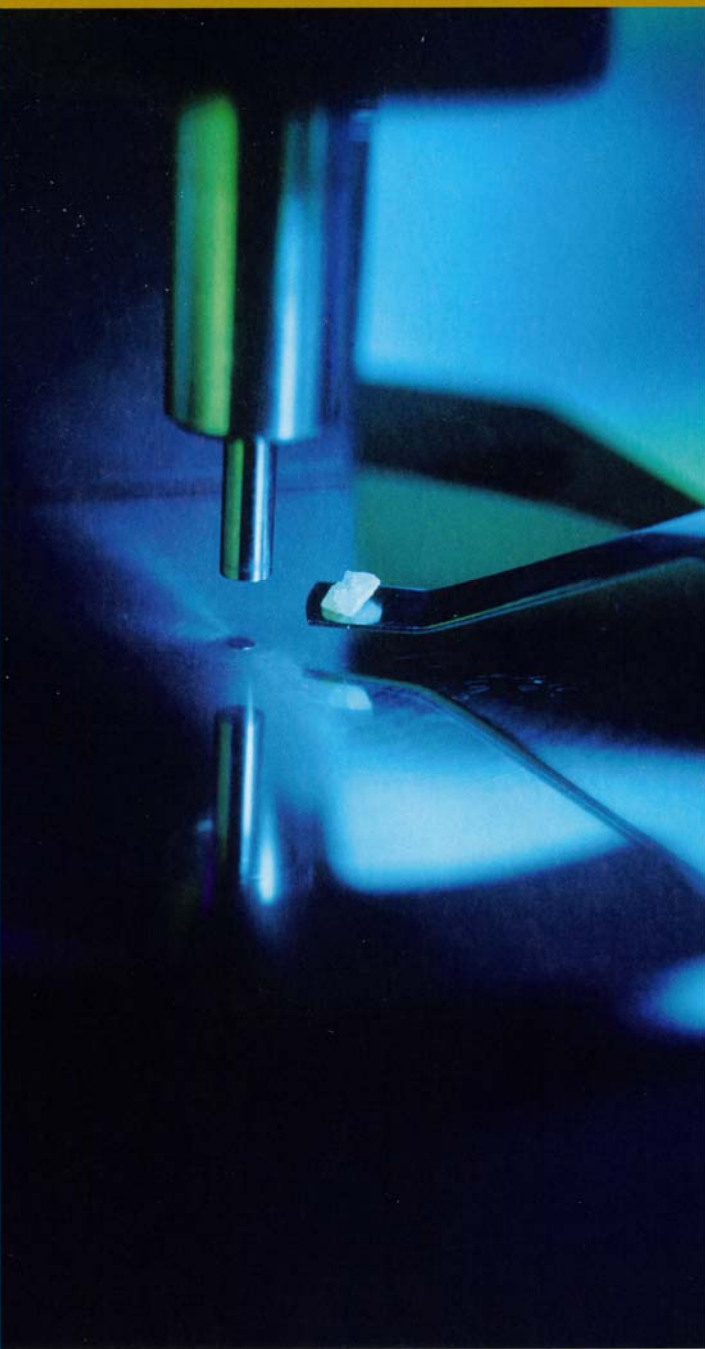


FINAL PROGRAM

March 8-13, 2009
McCormick Place South
Chicago, Illinois USA
www.pittcon.org



PITTCOON
CONFERENCE & EXPO 2009

Pittcon 2009 Technical Program

(1340-6 P) **Characterization of the Dielectrophoresis Crossover Frequency and Binding Affinity of Phalloidin-Conjugate Microspheres and Actin** CHRISTIAN WHITE, West Virginia University, Lisa Ann Holland, Parviz Farnouri

(1340-7 P) **Achieving Small Uncertainties in Ion Chromatography Using a High-Performance Methodology** MICHAEL R WINCHESTER, NIST, Therese A Butler, Michael S Rearick

(1340-8 P) **Structural Radial Heterogeneity at the Exit Cross Section of a Silica-Based Semi-Preparative Monolithic Column** JUDE A ABIA, University of Tennessee, Khaled Mriziq, Georges Gulochon

(1340-9 P) **Classic Immunoprecipitation Kit Revamped For Broad Range Application** STEPHANIE KAY ANDERSEN, Trinity International University

(1340-10 P) **Enhanced in vitro Microdialysis Sampling Recovery of Heparin-Binding Cytokines** WILLIAM HENRY NEWHART, Missouri Western State University, Tory Herbaugh, Jia Duo, Julie Stenken

(1340-11 P) **Fabrication of a Hybrid Nano-Pore that Mimics the Nuclear Pore Complex** SEAN BIRD, Indiana University

(1340-12 P) **Newly Developed High Strength and Chemically Stable Silica Gel Based Preparative Reversed Phase Packing Materials** MASAKATSU OMOTE, YMC Co., Ltd., Yosuke Matsushita, Tomohiro Kinoshita, Kazumichi Takahashi, Noriko Shoji, Naohiro Kuriyama

(1340-13 P) **Next Generation Hybrid Silica Gel for the Wide pH Range HPLC Separations** MASAKATSU OMOTE, YMC Co., Ltd., Takatomo Takai, Yayoi Hiyoshi, Akiko Kashida, Yuko Kato, Noriko Shoji, Naohiro Kuriyama

(1340-14 P) **New High Performance Separation Tools** LYNDA TREMBLAY, SiliCycle Inc., François Béland, Olivier Marion

(1340-15 P) **Evaporative Light-Scattering Detection - A Universal, Powerful and Cost-Effective Solution for Multi-Element Analyses in Liquid Chromatography** ERIC VERETTE, SEDERE, Michel Dreux

(1340-16 P) **Mixed Surfactant Systems as Pseudostationary Phases in Micellar Electrokinetic Chromatography** CEVDET AKBAY, Fayetteville State University, David Ahlstrom, Hakan Arslan, Yatzka Hoyos

(1340-17 P) **New Method for Rapid Determination of Partition Coefficients Between n-octanol and Water using Gemini Surfactants in Micellar Electrokinetic Chromatography** HAKAN ARSLAN, Mersin University, Yatzka Hoyos, David Ahlstrom, Cevdet Akbay

(1340-18 P) **Chiral Discrimination of Ru(II) Polypyridyl Complexes using Derivatized Cyclodextrins by 1H NMR Spectroscopy and HPLC** PING SUN, University of Texas at Arlington, T Sampath S Perera, Frederick MacDonnell, Daniel W Armstrong

(1340-19 P) **Novel Porous SPME Fibers based on Monolithic Silica Technology** FRANCOIS BRETON, University of Waterloo, Maria Rowena Monton, Wayne M Mullett, Janusz Pawliszyn

POSTER SESSION

Session 1350

All posters are to be mounted by 10:00 AM and remain on display until 4:30 PM. You cannot get onto the exposition floor until after 9:00 AM. Authors must be present from 10:00 AM to 12:00 PM. Location of the posters is on the center of the Exposition Floor - Aisles 2400-3700.

Teaching Analytical Chemistry

Tuesday Morning

(1350-1 P) **Development and Application of a Portable X-Ray Fluorescence Instrument** SCOTT CARR, Anderson University, Chad Wallace, Chris Green, Nicolas Villelli

(1350-2 P) **Discovery-Based Learning Centered on Student-Built Instrumentation** PAT GRAU, Butler University, Michael J Samide

(1350-3 P) **A Tool for Teaching Nanotechnology Applications** ROLF SCHLAKE, Applied Separations, Al Kazianus

(1350-4 P) **Voltammetric Analysis of DA and DOPAC: For the Everyday Analytical Student** KATHERINE LYNNETTE LOGAN, Wayne State University, Francis K Maina, Tiffany A Mathews

(1350-5 P) **An Investigation of Phosphate Levels in Human Hair Due to Consumption of and Exposure to Fast Food** MARK T STAUFFER, University of Pittsburgh at Greensburg, Christina M Miller

(1350-6 P) **Further Explorations of Differences in Metal Concentrations between Caffeinated and Decaffeinated Types of Coffee: Assessment of the Harmful Metals in Coffee** MARK T STAUFFER, University of Pittsburgh at Greensburg, Chaza Alhaj

(1350-7 P) **Comparisons of Laboratory and Field Results for Determination of Selected Metals and Anions in Water from Selected Streams in Southwestern Pennsylvania** MARK T STAUFFER, University of Pittsburgh at Greensburg, Victoria A Rifenburg, Brandon S Humberger

(1350-8 P) **Characterization of the Quality of Susquehanna River Water at Selected Locations, Based on Determinations of Aluminum, Iron, Manganese, pH, and Other Interesting Analytes** MARK T STAUFFER, University of Pittsburgh at Greensburg, Tara J Parente

(1350-9 P) **Micro-Total Analysis System in Undergraduate Biochemistry and Analytical Chemistry** JOHN J HARWOOD, Tennessee Technological University, Matt Mancuso, Thurston Banks, Jeffrey O Boles

CONFERENCE NETWORKING

Tuesday, March 10, 2009
9:00 - 11:00 AM

State of Supercritical Fluid Chromatography

Facilitated by: Larry T Taylor, Virginia Tech and J David Pinkston, Procter & Gamble Co., Room N426A

Analysis of Counterfeit and Substandard Drugs

Facilitated by: Perry G Wang, U.S. FDA, Room N426B

In-House Training for High School Graduates to Use HPLC

Facilitated by: Harold McNair, Virginia Tech and Lee Polite, Axion Lab, Room N426C

LIMS/LI: Management, Project, Implementation and Maintenance Issues

Facilitated by: Gloria Metrick, GeoMetrick Enterprises and LIMS Consultant, Room N427A

TUESDAY, MARCH 10, 2009 AFTERNOON

AWARD

Session 1360

Pittsburgh Spectroscopy and Maurice F Hasler Awards - arranged by Joanne H Smith, Edinboro University of Pennsylvania

Tuesday Afternoon, Room S401a

Joanne H Smith, Edinboro University of Pennsylvania, Presiding

1:30 **Introductory Remarks - Joanne H Smith**

1:35 **Presentation of the 2009 Pittsburgh Spectroscopy Award to Ira W Levin, National Institutes of Health, by David F Pensenstadler, 2009 Chairman, The Pittsburgh Spectroscopy Society**

1:40 (1360-1) **Interlacing Basic Biophysical Research with Translational Clinical Studies: From Bench to Bedside and Back** IRA W LEVIN, National Institute of Health, Tsoching Chen, Nicole J Crane, Zachary D Schultz

2:15 (1360-2) **Electrospun Collagen Fibers: Characterization of Bioscaffolds** BRUCE CHASE, DuPont, John F Rabolt

2:50 Recess

3:05 **Introductory Remarks - Joanne H Smith**

3:10 **Presentation of the 2009 Maurice F Hasler Award to Gary M Hieftje, Indiana University, by Edward P Ladner, 2009 President, The Pittsburgh Conference**

3:15 (1360-3) **Metallomics, Molecular Ions, and Multichannel Detection** GARY M HIEFTJE, Indiana University, Steven J Ray, Francisco A Andrade, George Chan, Carsten Engelhard, Gerardo Gamez, Duane A Rogers, Arnold Rubinshtein, Gregory D Schilling, Jacob T Shelley, Michael R Webb, M Bonner Denton, Roger Sperline, David W Koppelaar, Charles Barinaga

3:50 (1360-4) **Mass Cytometer: An ICP-MS Technology for Real-Time Multi-Parameter Analysis of Single Cells and Particles** SCOTT D TANNER, University of Toronto, Olga Ornaty, Vladimir I Baranov, Dmitry R Bandura

ABSTRACT[Back](#)**Basic Information****Abstract Number:** 1340-16**Author Name:** Cevdet Akbay**Affiliation:** Fayetteville State University**Session Title:** Separation Science**Event Type:** Poster**Event Title:** Mixed Surfactant Systems as Pseudostationary Phases in Micellar Electrokinetic Chromatography**Presenter(s):****Start Time:** (Slot # 16)**Date:** Tuesday, March 10th, 2009**Location:****Keywords:** Capillary Electrophoresis, Characterization, Materials Science, Separation Sciences**Co-Authors**

Name	Affiliation
Ahlstrom, David	Fayetteville State University
Arslan, Hakan	Mersin University
Hoyos, Yatzka	Fayetteville State University

Abstract Content

Sodium 10-undecenyl sulfate (SUS) and sodium 10-undecenyl leucinate (SUL) and their five different mixed micelles at varied ratios were prepared. The critical micelle concentration (cmc), C_{20} , γ_{cmc} , partial specific volume (PSV), methylene selectivity, and mobility values as well as the elution window of the monomeric and mixed surfactant systems were determined using a variety of analytical techniques. These surfactant systems were then evaluated as novel pseudostationary phases in micellar electrokinetic chromatography for separation of benzene derivatives with a wide range of chemical properties. As a common pseudostationary phase in MEKC, sodium dodecyl sulfate (SDS) was also evaluated. The mixed surfactants were found to have cmc values between those of SUS and SUL, C_{20} , methylene selectivity and electrophoretic mobility values were significantly different for each surfactant system. PSV values were slightly different and γ_{cmc} values were found to be similar. Although the elution order of non-hydrogen bonding benzene derivatives was similar in all surfactant systems, those of hydrogen bond-acceptor and hydrogen bond-donor derivatives were somehow different. In addition, linear solvation energy relationships (LSER) model was applied to characterize these surfactant systems. The LSER data suggests that the solute size and hydrogen bonding play an important role in MEKC retention in all pseudostationary phases.

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