

Robbat Research Group  
Publications

Quantitative Identification Of Pesticides As Target Compounds And Unknowns By Spectral Deconvolution Of Gas Chromatography/Mass Spectrometry Data, in press.

Total Alkylated Polycyclic Aromatic Hydrocarbon Characterization and Quantitative Comparison of Selected Ion Monitoring versus Full Scan Gas Chromatography/Mass Spectrometry Based on Spectral Deconvolution, *Journal of Chromatography A* 1205 109-116, 2008.

Use of a Heated Transfer Line-Membrane Interface Probe to Characterize Polycyclic Aromatic Hydrocarbons at a Manufactured Gas Plant Site, Electric Power Research Institute, Technical Update 1016862, April 2008.

On-site Profiling and Speciation of Polycyclic Aromatic Hydrocarbons at Manufactured Gas Plant Sites by a High Temperature Transfer Line, Membrane Inlet Probe coupled to a Photoionization Detector and Gas Chromatograph/Mass Spectrometer, *Environmental Science & Technology*, *Environ. Sci. Technol*, 42, 1213-1220, 2008.

Analysis Of Gin Essential Oil Mixtures By Multidimensional and One-Dimensional Gas Chromatography/Mass Spectrometry With Spectral Deconvolution, *Journal of Chromatography A* 1164 (1-2), 281-290 (2007).

Sediment Quality of Lakes, Rivers, and Estuaries in the Mystic River Basin, Eastern Massachusetts, 2001-2003, Scientific Investigations Report, U.S. Department of the Interior, U.S. Geological Survey, Report 2005-5191.

Production of Zinc Sulfide Pigment from Zinc-containing Wastes, *Ind. Eng. Chem. Res.*, 41 (11), 2646-2651, 2005.

Environmental Applications of Thermal Extraction Cone Penetrometry and Ultrafast Gas Chromatography/Mass Spectrometry, *Field Analytical Chemistry and Technology*, 5(1-2), 60-68, 2002.

Productivity Enhancing Mass Spectral Data Analysis Software for High Throughput Laboratories: Simultaneous Detection of Volatile and Semivolatile Organics by GC/MS, *Environmental Testing and Analysis*, 9, 15-19, 2001.

Performance-Enhanced Tunable Capillary Microwave Induced Plasma Mass Spectrometer for Gas Chromatography Detection, *Analytical Chemistry*, 72, 3102-3108, 2000.

Rapid In Situ Collection and Analysis of Semivolatile Organics by Thermal Extraction Cone Penetrometry Gas Chromatography/Mass Spectrometry, *Field Analytical Chemistry and Technology* 4, 85-92, 2000.

Control of the Ore Enrichment and Zinc Oxide Dissolution Process by Potentiometric Monitoring, *Industrial and Engineering Chemical Research* 39, 2006-2009, 2000.

Accelerated GC/MS Analyses of Samples from Former Manufactured Gas Plant Sites, D. Mauro Electric Petroleum Research Institute, TR-114786, March 2000.

Dynamic Workplans and Field Analytics: Metals Assessment by Inductively Coupled Plasma Optical Emission Spectroscopy, *Remediation* 9(4), 65-78, 1999.

Performance Evaluation of a Gas Chromatograph Coupled to a Capillary Microwave Induced Plasma Mass Spectrometer, *JAAS*, 14, 1187, 1999.

Speciation of Subsurface Contaminants by Cone Penetration Gas Chromatography/Mass Spectrometry, *Environ. Sci. Technol.*, 1999, 33, 2474-2480.

Closed Vessel Microwave-Assisted Acid Extraction Method Performance Using 50% HNO<sub>3</sub>:HCl (3:2) with Positive Pressure Teflon Membrane Filtration, *Fresenius*, 364, 305-312, 1999.

Fast Gas Chromatography/Mass Spectrometry in Support of Risk-based Decisions, *Field Analytical Chemistry and Technology*, 3(1) 55-66, 1999.

Subsurface Detection of Environmental Pollutants, *Instrumentation Science and Technology*, 27(2) 111-12, 1999.

Time Compressed Gas Chromatography/Mass Spectrometry, *AT-Process*, 4(1) 56-62, 1999.

Time-Condensed Analyses by Mass Spectrometry, *Analytical Chemistry*, 70, 1655-1663, 1998.

Laser-Induced Fluorescence and Fast Gas Chromatography/Mass Spectrometry with Subsurface Thermal Extraction of Organics: Field Analytical Technologies for Expediting Site Characterization and Cleanup, *Remediation*, 95-111, 1998.

Fast GC/MS Analysis of Volatile and Semivolatile Organics in the Field, John Wiley & Sons, *Current Protocols in Field Analytical Chemistry*, New York, 1998.

Dynamic Work Plans and Field Analytics: The Keys to Cost-Effective Hazardous Waste Site Investigations, *Field Analytical Chemistry and Technology*, 2(5) 253-265, 1998.

Polychlorinated Biphenyl Congeners Identification, *The Encyclopedia of Environmental Analysis and Remediation*, John Wiley & Sons, Inc. New York, NY, July 1998.

Field Determination of VOCs in Soil and Water by Purge-and-Trap and Thermal Desorption GC/MS, Current Protocols in Field Analytical Chemistry, John Wiley & Sons, Inc., New York, 1998, 1B.1.1-1B.1.12.

Field Determination of SVOCs in Soil by Thermal Desorption GC/MS, Current Protocols in Field Analytical Chemistry, John Wiley & Sons, New York, section 2B, pages 3.1-10, 1998.

Field Analytics, Dynamic Workplans, The Encyclopedia of Environmental Analysis and Remediation, John Wiley & Sons, Inc. New York, NY, July 1998.

On-site Analysis of Metal Contaminants by ICP-OES, Current Protocols in Field Analytical Chemistry, John Wiley & Sons, NY, 1998.

Dynamic Workplans and Field Analytics, Current Protocols in Field Analytical Chemistry, John Wiley & Sons, New York, 1998.

Electrochemistry of the Copper-Nickel Series of Heteropolymetallic Complexes ( $\mu_4$ -O)(N,N-diethylnicotinamide)<sub>4</sub>Cu<sub>4-x</sub>(Ni(H<sub>2</sub>O))<sub>x</sub>Cl<sub>6</sub> with  $x = 0$  to 4, M.L. Aksu, G. Davies, J. Chem. Soc. Dalton Trans., 10 1739-45, 1997.

Adaptive Sampling and Analysis Programs for Contaminated Soil, Remediation, 2, 81-96, 1997.

Performance-Based Field Methods for Analyses of Substituted Phenols by Thermal Desorption Gas Chromatography/Mass Spectrometry, Journal of Association of Official Analytical Chemistry, 79, 131-142, 1996.

Identification of PCB Congeners by Gas Chromatography Electron Capture Detection Employing a Quantitative Structure-Retention Model, Analytical Chemistry, 67, 2548-2555, 1995.

Electrodeposition of Metal Alloy and Mixed Oxide Films Using a Single-Precursor Tetranuclear Copper-Nickel Complex, M.L. Aksu, G. Davies, J. Electrochemical Society, 142, 3357-65, 1995.

Developments in Field Mass Spectrometric Characterization of Volatile Organic Compounds, Environmental Science and Technology, 28, 336A- 343A, 1994.

Hazardous Waste Site Investigation and Cleanup: Innovative Technologies; An Alternative Approach, Hazardous Waste and Hazardous Materials, 11, 249-251, 1994.

Data Comparison Study Between Field and Laboratory Detection of PCBs and PAHs at Superfund Sites, Hazardous Waste and Hazardous Materials, 19, 461-473, 1993.

Field Detection of Organochlorine Pesticides by Thermal Desorption Gas Chromatography Mass Spectrometry, *J. of Chromatography*, 625, 277-288, 1992.

On-Site Detection of Polycyclic Aromatic Hydrocarbons in Contaminated Soils by Thermal Desorption Gas Chromatography/Mass Spectrometry, *Analytical Chemistry*, 64, 1477-1483, 1992.

Nitrated Polycyclic Aromatic Hydrocarbons (Nitro-PAH), Atlas of Chromatograms, *Journal of Chromatographic Science*, 30, 155, 1992.

Electrocatalytic Decomposition of Hydrogen Sulfide, *Catalysis Letters*, 13, 289-296, 1992.

Evaluation of a Thermal Desorption Gas Chromatography-Mass Spectrometer: On-site Detection of Polychlorinated Biphenyls at a Hazardous Waste Site, *Analytical Chemistry*, 64, 358-364, 1992.

High-Performance Liquid Chromatography Retention Index and Detection of Nitrated Polycyclic Aromatic Hydrocarbons, *Journal of Chromatography*, 539, 1-14, 1991.

Prediction of Gas Chromatographic Retention Indexes for Polychlorinated Dibenzofurans, *Analytical Chemistry*, 62, 2684-2688 1990.

Effect of Temperature and Organic Modifier on the Isocratic Retention Characteristics of Nitrated Polycyclic Aromatic Hydrocarbons on A Reversed-Phase Octadecylsilane Column, *Journal of Chromatography*, 513, 117-135, 1990.

A Fast Field Method for the Quantitation of Polychlorinated Biphenyls (PCBs) Using a Fieldable GC-MS, In Proceedings of the Fifth Annual Waste Testing and Quality Assurance Symposium, 2, 471, 1989.

Prediction of Gas Chromatographic Retention Characteristic of Polychlorinated Biphenyls, *Analytical Chemistry*, 60,173-174, 1988.

Evaluation of a Nitrosyl-Specific Gas-Phase Chemiluminescent Detector with High-Performance Liquid Chromatography, *Analytical Chemistry*, 60, 173-1748, 1988.

Catalytic and Electrocatalytic Oxidation of Methane: Polarization of Silver Electrodes, *American Institute of Chemical Engineers Symposium Series*, 83 (245), 40, 1987.

Multivariate Relationships between Gas Chromatographic Retention Index and Molecular Connectivity of Mononitrated Polycyclic Aromatic Hydrocarbons, *Analytical Chemistry*, 58, 2072-2077, 1986.

Gas Chromatographic Chemiluminescent Detection and Evaluation of Predictive Models for Identifying Nitrated Polycyclic Aromatic Hydrocarbons in a Diesel Fuel Particulate Extract, *Analytical Chemistry*, 58, 2078-2084, 1986.

Electroreactivity of  $[\text{Mo}_2\text{Fe}_6\text{S}_8(\text{SR}_9)_9]^{3-}$  Double Cubane Cluster Complexes, *J. Electroanal. Chem. and Interfacial Electrochem.*, 200, 193-203, 1986.

Pretreatment and Validation Procedure for Glassy Carbon Voltammetric Indicator Electrode, *Analytical Chemistry*, 57, 150-155, 1985.

Relationship Between Gas Chromatographic Retention Indices and Molecular Connectivities of Nitrated Polycyclic Aromatic Hydrocarbons, *Analytical Chemistry*, 56, 1697-2701, 1984.

Organic Titanium In Coal Liquefaction and the Deposition on Direct Liquefaction Catalysts: An Alternate View, *Fuel*, 63, 1709-1715, 1984.

Evaluation of a Thermionic Ionization Detector for Nitrated Polycyclic Aromatic Hydrocarbons, *Analytical Chemistry*, 56, 232-236, 1984.

Gas Chromatographic Retention Characteristics of a Nitrated Polycyclic Aromatic Hydrocarbons, *Chromatographia*, 17, 605-612, 1983.

Resource Developments in the Analytical Chemistry of Sulfur Compounds for the New Coal Conversion Technologies, *Advances in Chemistry Series*, American Chemical Society, Chapter 25, 1981.