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Performance of Flowing and Quiescent Free-Diffusion Junctions in Potentiometric Measurements at Low Ionic Strengths 2450

A stable, well-defined solution boundary, rather than cylindrical symmetry, is the major requirement for stable, free-diffusion junctions that can be used to precisely (±0.001 pH) measure the pH of 10^{-4} M solutions.

Terence R. Harbinson and William Davison*, The Freshwater Biological Association, The Ferry House, Ambleside, Cumbria LA22 OLP, United Kingdom *Anal. Chem., 59 (1987)*

Investigation of pH-Dependent Complex Equilibria at Low Ligand to Metal Ratio by Nonlinear Least-Squares Fit to Linear-Sweep or Cyclic Voltammetric Data 2456

The voltammetric determination of stability constants in the case of stepwise formation of stable complexes is illustrated for the copper(II)–oxalate system.

Harald Gampp, Institut de Chimie, Université de Neuchâtel, CH-2000 Neuchâtel, Switzerland *Anal. Chem., 59 (1987)*

Infrared Studies of the Liquid Crystal *N*-(*p*-Cyanobenzylidene)-*p*-octyloxyaniline Coated on Underivatized and Trimethylsilane-Derivatized Silica 2460

Variations in the IR band shape from the nitrile stretch region for varying amounts of CBOA coated on underivatized and trimethylsilane-derivatized silica are postulated to arise from differences in relative populations of hydrogen-bonded and nonhydrogen-bonded cyano groups.

C. J. Hann and R. K. Gilpin*, Department of Chemistry, Kent State University, Kent, Ohio 44242 *Anal. Chem., 59 (1987)*

Direct Correlation of Ion and Electron Microscopic Images by Digital Image Superpositioning 2463

Correlation of ion and electron micrographs is successfully achieved using a computer algorithm that digitally superimposes the images upon one another. The method allows for the verification and correction of artifacts that can degrade ion image quality.

Lisa K. Turner, Yong-Chien Ling, Mark T. Bernius, and George H. Morrison*, Baker Laboratory of Chemistry, Cornell University, Ithaca, N.Y. 14853-1301 *Anal. Chem., 59 (1987)*

Determination of Arsenic, Selenium, and Antimony Using Metastable Transfer Emission Spectrometry 2468

Analytes are directly determined from aqueous solution, unlike most other atomic spectrometric techniques that require a separation–preconcentration procedure to achieve good sensitivity. Detection limits for As, Se, and Sb are 22, 16, and 65 pg, respectively.

William H. Hood and Thomas M. Niemczyk*, Department of Chemistry, The University of New Mexico, Albuquerque, N.M. 87131 *Anal. Chem., 59 (1987)*

*Corresponding author

Resonance Ionization Spectrometric Determination of Gallium Using an Electrothermal Graphite Atomizer 2472

Ga is determined at concentrations below the μg/g level in water solutions and in solid germanium. Reproducibility is better than 15% when 50 pg of Ga is determined. Detection limits of 5×10^7 atoms for pure Ga samples and 3×10^{10} atoms/cm^3 in germanium samples are obtained.

George Bekov and Vladmir Radaev, Institute of Spectroscopy, USSR Academy of Sciences, SU-142092 Troitsk, Moscow Region, USSR, and **Jari Likonen, Riitta Zilliacus, Iiro Auterinen, and Eeva-Liisa Lakomaa***, Technical Research Centre of Finland, Reactor Laboratory, Otakaari 3 A, SF-02150 Espoo, Finland *Anal. Chem., 59 (1987)*

Radiotracer Investigation of the Interference of Hydrofluoric Acid in the Determination of Arsenic and Antimony by Hydride Generation Atomic Absorption Spectrometry 2476

Improved procedures are proposed to eliminate the interference of hydrofluoric acid in the hydrogenation and absorption measurement stages and also in the reduction of Sb(V) to Sb(III).

Kilian Petrick and Viliam Krivan*, Sektion Analytik und Höchstreinigung, Universität Ulm, Oberer Eselsberg, D-7900 Ulm/Donau, FRG *Anal. Chem., 59 (1987)*

Determination of Boron Isotope Ratios in Geological Materials by Inductively Coupled Plasma Mass Spectrometry 2479

Boron isotope ratios can be determined with a precision of 0.7% in materials containing as little as 0.5 ppm B.

D. Conrad Gregoire, Geological Survey of Canada, Ottawa, Ontario, Canada K1A 0E8 *Anal. Chem., 59 (1987)*

Characterization of Radiation-Induced Damage to Polyadenylic Acid Using High-Performance Liquid Chromatography/Tandem Mass Spectrometry 2484

Polyadenylic acid is irradiated to 1000 Gy in N_2O-saturated aqueous solution at neutral pH and then enzymatically hydrolyzed to the mononucleoside level. HPLC/MS-MS is used to characterize a number of molecular products that result from the radiation-induced modifications to the model nucleic acid.

Anthony J. Alexander and Paul Kebarle, Department of Chemistry, University of Alberta, Edmonton, Alberta, Canada T6G 2E3, and **Alfred F. Fuciarelli and James A. Raleigh***, Department of Radiobiology, Cross Cancer Institute, Edmonton, Alberta, Canada T6G 1Z2 *Anal. Chem., 59 (1987)*

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