



Michael A. Koupparis

Professor of Analytical Chemistry



Education

Athens University, B. Pharmacy, 1973

Athens University, Ph.D in Analytical Chemistry, 1978

University of Illinois at Urbana-Champaign USA, Post - Doctoral Research Associate, 1978-79, 1981



Research Field of Interest

1. Potentiometry with ion-selective electrodes
2. Kinetic analysis
3. Automated methods of analysis
4. Flow-injection technique
5. Pharmaceutical analysis, Quality control of drugs
6. Binding studies of micromolecules with macromolecules (proteins, cyclodextrins)
7. Analytical applications of micellar systems
8. Immunochemical analysis
9. High performance liquid chromatography
10. Ion chromatography



Teaching

Undergraduate:

Wet-Chemical Analysis, Instrumental Analysis

Graduate:

Advanced Analytical Chemistry, Chemometrics

Quality Control of Drugs, Bioanalytical Techniques

Pharmaceutical Analysis

Clinical Methodologies

Quality Assurance

Research Methodology



Book Authorship

1. "Instrumental Analysis" (Athens, 1990, in Greek, 2 co-authors)
2. "Special Topics in Analytical Chemistry" (Athens, 1989, in Greek, 4 co-authors)
3. "Quantitative Calculations in Pharmaceutical Practice and Research" (VCH, 1993, in English, 4 co-authors)



Recent Papers

1. J. ATTA-POLITOU, I. SKOPELITIS, I. APATSIDIS, M. KOUPPARIS: "In Vitro Study on Fluoxetine Adsorption onto Charcoal Using Potentiometry", *European Journal of Pharmaceutical Sciences*, **12**, 311-319 (2001).
2. P. SOLICH, C. K. POLYDOROU, M. A. KOUPPARIS, C. E. EFSTATHIOU: "Automated Flow Injection Fluorimetric Determination and Dissolution Studies of Bumetanide in Pharmaceuticals", *Analytica chimica Acta*, **438**, 131-136 (2001).

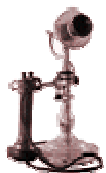
3. P. S. PETROU, S. E. KAKABAKOS, M. A. KOUPPARIS, I. CHRISTOFIDIS: "Improved Antibody Coating Protocol Using Second Antibody Antiserum: Application in Total Thyroxin Immunoassay", *Journal of Immunoassay*, 22, (3)235-251 (2001).
4. E. K. PALEOLOGOS, M. A. KOUPPARIS, M. I. KARAYANNIS, P. G. VELTSISTAS: "Nonaqueous Catalytic Fluorometric Trace Determination of Vanadium Based on the Pyronine B - Hydrogen Peroxide Reaction and Flow Injection after Cloud Point Extraction", *Analytical Chemistry*, 73, 4428-4433 (2001).
5. A. D. ZACHAROPOULOU, I. CHRISTOFIDIS, S. E. KAKABAKOS, M. A. KOUPPARIS: "Free Thyroxine Solid-Analog Immunoassays. Investigation of the Albumin Effect on the Antibody Binding to Immobilized Thyroxine - Protein Conjugates", *Immunoassay and Immunochemistry*, 23(1), 95-105 (2002).
6. G. PARASKEVAS, J. ATTA-POLITOU, M. KOUPPARIS: "Spectrophotometric Determination of Lisinopril in Tablets Using 1-Fluoro-2,4-dinitrobenzene Reagent", *Journal of Pharmaceutical and Biomedical Analysis*, 29, 865-872 (2002).
7. Z. D. TZOUGANAKI, J. ATTA-POLITOU, M. A. KOUPPARIS: "Development and Validation of Liquid Chromatographic Method for the Determination of Lycopene in Plasma", *Analytica Chimica Acta*, 467, 115-123 (2002).
8. C. MASTICHIADIS, S. E. KAKABAKOS, I. CHRISTOFIDIS, M. A. KOUPPARIS, C. WILLETTS, K. MISIAKOS: "Simultaneous Determination of Pesticides Using a Four-Band Disposable Optical Capillary Immunosensor", *Analytical Chemistry*, 74(23), 6064-6072 (2002).
9. CH. GRIZIS, J. ATTA-POLITOU, M. A. KOUPPARIS: "Simultaneous Determination of Oleuropein and Tyrosol in Plasma Using High Performance Liquid Chromatography with UV Detection", *Journal of Liquid Chromatography & Related Technologies*, 26 (4), 599-616 (2003).
10. V. EVAGELOU, A. TSANTILI-KAKOULIDOU, M. A. KOUPPARIS: "Determination of the Dissociation Constants of Cephalosporins Cefepime and Cefpirome Using UV Spectrometry and pH Potentiometry", *Journal of Pharmaceutical and Biomedical Analysis*, 31(6), 1119-1128 (2003).
11. C. M. PISTOS, A. TSANTILI-KAKOULIDOU, M. A. KOUPPARIS: "The Effect of Ion Pairing Reagents in the Retention Profile of Zwitterioning Cephalosporins", *J. Chromatoghy & Related Technologies*, 26(6), 937-952 (2003).
12. C. MASTICHIADIS, I. CHRISTOFIDIS, M. A. KOUPPARIS, C. WILLETS, S. E. KAKABAKOS: "Solid-Phase Fluorimmunoassay for the Determination of Mesotrione - a Novel Triketone Herbicide- in Water with Direct Measurement onto the Solid Support", *Analyst*, 128, 404-410 (2003).
13. N. C. MEGOULAS, M. A. KOUPPARIS: "Ion-Chromatographic Determination of Carbocysteine in Pharmaceuticals Based on non-Suppressed Conductimetric Detection", *Journal of Chromatography A*, 1026(1-2), 167-174 (2004).
14. N. C. MEGOULAS, M. A. KOUPPARIS: "Ion Chromatographic Behaviour and Determination of Perbromates", *Anal. ChiM. Acta*, 511, 159-164 (2004).
15. J. DVORAK, R.HAJKOVA, L. MATYSOVA, L. NOVAKOVA, M. A. KOUPPARIS, P. SOLICH: "Simultaneous HPLC Determination of Ketoprofen and its Degradation Products in the Presence of Preservatives in Pharmaceuticals", *Journal Pharmaceutical and Biomedical Analysis*, 36(3), 625-629 (2004).
16. N. C. MEGOULAS, M. A. KOUPPARIS: "Development and Validation of a Novel LC/ELSD Method for the Quantitation of Gentamicin Sulfate Components in Pharmaceuticals", *Journal of Pharmaceutical and Biomedical Analysis*, 36, 73-79 (2004).
17. M. A. CONSTANTINO, E. PAPAKONSTANTINO, D. BENAKI, M. SPRAUL, K. SHULPIS, M. A. KOUPPARIS, E. MIKROS: "Application of Nuclear Magnetic Resonance Spectroscopy Combined with Principal Component Analysis in Detecting Inborn Errors of Metabolism Using Blood Spots. A Metabonomic Approach", *Anal. ChiM. Acta*, 511, 303-312 (2004).
18. A. G. FRAGKAKI, M. A. KOUPPARIS, C. G. GEORGAKOPOULOS: "Quantitative Structure-Retention Relationship Study of α -, β_1 - and β_2 -Agonists Using Multiple Linear Regression and Partial Least-Squares Procedures", *Analytica Chimica Acta*, 512, 165-171 (2004).

19. P. KIOUSI, Y. S. ANGELIS, M. KOUPPARIS, D. KOURETAS, N. DIAKAKIS, A. DESIRIS, C. G. GEORGAKOPOULOS: "Gas Chromatographic - Mass Spectrometric Cardiotonic Glycosides Detection in Equine Urine Doping Analysis", *Chromatographia Supplement*, 59, S105-108 (2004).
20. L. NOVAKOVA, L. MATYSOVA, D. SOLICHOVA, M. A. KOUPPARIS, P. SOLICH: "A Comparison of Performance of C18 Monolithic Rod Columns and Conventional C18 Particle-Packed Columns in HPLC Analysis of Pharmaceuticals", *Journal of Chromatography B*, 813(1-2), 191-197 (2004).
21. J. ATTA-POLITOU, P. FRASKOU, M. KOUPPARIS: "Determination of Fluoxetine and Norfluoxetine in Plasma by a Modified High Performance Reversed Phase Liquid Chromatographic Method with Fluorescence Detection", *Journal of Liquid Chromatography and Related Technologies*, 27 (18), 2957-2972 (2004).
22. N. C. MEGOULAS, M. A. KOUPPARIS: "Enhancement of Evaporative Light Scattering Detection in HPLC Determination of Neomycin Based on Highly Volatile Mobile Phase, High Molecular Mass Ion Pairing Reagents and Controlled Peak Shape", *Journal of Chromatography A*, 1057 (1-2), 125-131 (2004)
23. A. KAKOU, N. C. MEGOULAS, M. A. KOUPPARIS: "Determination of L-Carnitine in Food Supplement Formulations Using Ion Pair Chromatography With Indirect Conductimetric Detection", *Journal of Chromatography A*, 1069(2) 209-215 (2005).
24. N. C. MEGOULAS, M. A. KOUPPARIS: "Development and Validation of a Novel HPLC/ELSD Method for the Direct Determination of Tobramycin in Pharmaceuticals, Plasma and Urine", *Analytical and Bioanalytical Chemistry, Special Issue of Euroanalysis XIII*, 382 (2), 290-296 (2005).
25. N. C. MEGOULAS, M. A. KOUPPARIS: "Direct Determination of Kanamycin in Raw Materials, Veterinary Formulation and Culture Media Using a Novel Liquid Chromatography - Evaporative Light Scattering Method", *Analytica Chimica Acta, Special Issue of 4th AACD*, 547, 64-72 (2005).
26. A. A. KROKIDIS, N. C. MEGOULAS, M. A. KOUPPARIS: "Edta Determination in Pharmaceutical Formulations and Canned Foods Based on Ion Chromatography With Suppressed Conductimetric Detection", *Analytica Chimica Acta*, 535, 57-63 (2005).
27. A. KATSAGONIS, J. ATTA-POLITOU, M. A. KOUPPARIS: "HPLC Method with UV Detection for the Determination of trans-Resveratrol in Plasma", *Journal of Liquid Chromatography and Related Technologies*, 28, 1393-1405 (2005).
28. C. PISTOS, A. TSANTILI-KAKOULIDOU, M. KOUPPARIS: "Investigation of the Retention/pH Profile of Zwitterionic Fluoroquinolones in Reversed-Phase and Ion-Interaction High Performance Liquid Chromatography", *Journal of Pharmaceutical and Biomedical Analysis*, 39, 438-443 (2005).
29. M. CONSTANTINO, E. PAPAKONSTANTINO, M. SPRAUL, S. SEVASTIADOU, C. COSTALOS, M. KOUPPARIS, K. SHULPIS, A. TSANTILI-KAKOULIDOU, E. MIKROS: "1H MNR-based Metabonomics for the Diagnosis of Inborn Errors of Metabolism in Urine", *Analytica Chimica Acta*, 542, 169-177 (2005).
30. E. LYRIS, G. TSIKATOURAS, Y. ANGELIS, M. KOUPPARIS, M-H.SPYRIDAKI, G. GEORGAKOPOULOS: "Metabolism of Isometheptene in Human Urine and Analysis by Gas Chromatography-Mass Spectrometry in Doping Control", *Journal of Chromatography B*, 827, 199-204 (2005).
31. E. G. GALANAKIS, N. C. MEGOULAS, P. SOLICH, M. A. KOUPPARIS: "Development and Validation of a Novel LC Non-derivatization Method for the Determination of Amikacin in Pharmaceuticals Based on Evaporative Light Scattering Detection", *Journal of Pharmaceutical & Biomedical Analysis*, 40, 1114-1120 (2006).
32. M. F.DOUSIKOU, M. A. KOUPPARIS, C. E. EFSTATHIOU: "Determination of Catalase Like Activity in Vegetables Based on the Amperometric Monitoring of Hydrogen Peroxide Consumption Using Carbon Paste Electrode Modified with Ruthenium(IV) Oxide", *Phytochemical Analysis*, 17, 255-2612 (2006)
33. A. K. SARRIS, N. C. MEGOULAS, M. A. KOUPPARIS: "Development of a Novel Liquid Chromatography - Evaporative Light Scattering Detection Method for Bacitracins and Applications to Quality Control of Pharmaceuticals", *Analytica Chimica Acta (Special Issue for IMA 05 Conference)*, 573-574, 250-257 (2006).

34. A. K. SARRIS, N. C. MEGOULAS, M. A. KOUPPARIS: "Development of a Novel LC-ELSD Method for the Direct Determination of Streptomycin and Dihydrostreptomycin in Raw Materials, Pharmaceutical Formulations, Culture Media and Plasma", *Journal of Chromatography A*, 1122, 275-278.

35. N. MARAGOU, E. LAMPI, N. S. THOMAIDIS, M. A. KOUPPARIS: "Determination of Bisphenol A in Milk by Solid Phase Extraction and Liquid Chromatography - Mass Spectrometry", *Journal of Chromatography A*, 1129, 165-173 (2006).

36. A. DAVILAS, M. KOUPPARIS, P. MACHERAS, G. VALSAMI: "In vitro Study on the Competitive Binding of Diflunisal and Uremic Toxins to Serum Albumin and Plasma Using a Potentiometric Ion Probe Technique", *Journal of Pharmacy and Pharmacology*, accepted.



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