

Curriculum Vitae

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Marital Status: Married / 1 child

Education

1986, Pharmacy Degree, Aristotle University of Thessaloniki
1989, Professional Pharmacist License, Hellenic Ministry of Social Services
1993, Doctorate in Pharmaceutical Analysis, Aristotle University of Thessaloniki

Scholarships

1982-1983, Scholarship of Excellence during studies in the School of Pharmacy of Thessaloniki, Aristotle University of Thessaloniki
1987-1992, Scholarship of Postgraduate Student of Aristotle University of Thessaloniki

Working Experience

1986-1992

Graduate Teaching Assistant, Aristotle University of Thessaloniki, Pharmaceutical Analysis Lab.
1988-1991

Researcher, Northern Greek Association of Municipalities and Communities with Curative Springs and Spas
1993-2000

Head Analyst for the quality control and assurance of pharmaceutical preparations and raw materials VIANEX Pharmaceutical Company (Athens), Department of Quality and Assurance Control
2000-2001

Head of the Department, VIANEX Pharmaceutical Company (Athens), Department of Research and Development of Novel Products
2001-2008

Lecturer, Aristotle University of Thessaloniki, School of Pharmacy, Department of Pharmaceutical Technology, Laboratory of Pharmaceutical Analysis
1/9/2007-1/3/2008

Researcher in two projects (Columns characterization and quantification of biogenic amines in biological fluids with HPLC/MS), University of Strathclyde, Department of Pharmaceutics Sciences, Laboratory of Pharmaceutical Analysis, Scotland. Professor David G. Watson.
2008 – present

Assistant Professor, Aristotle University of Thessaloniki, School of Pharmacy, Department of Pharmaceutical Technology, Laboratory of Pharmaceutical Analysis

Additional Knowledge

Application of the following programs

- Simca-P 2000-Chemo metrics, Design Expert, Dragon, Pallas, Hyperchem.
- HPLC-3D Chemstation, and GLASS-VP in HPLC in connection with the detectors "Fluorescence" and "Evaporative light scattering SEDERE"
- Atomic Absorption (SpectrAA, Varian).
- HPLC, 'Aliance' series 2690 (HPLC, LC/UV) with UV detector (Waters)
- 1090 (HPLC, LC/UV, diode array detector (Hewlett Packard)
- LC-solution (HPLC, LC/UV), with UV detector (SPD-M20A diode array, Shimadzu)
- UVPC (Ultra violet Spectrophotometry)
- GC/MS-17A, with mass detector (Shimadzu)

Research Interests

- Spectrophotometry UV (Pharmaceutical Analysis Laboratory, AUTH)
- Spectrophotometry UV-Products and Chemometric technics applications (Pharmaceutical Analysis Laboratory, AUTH)
- HPLC with UV-diode array detector (Pharmaceutical Analysis Laboratory, AUTH)
- HPLC with fluorimetric detector (Pharmaceutical Analysis Laboratory, AUTH)
- HPLC with Evaporative Light scattering detector (Pharmaceutical Analysis Laboratory, AUTH)
- GC-MS for determination of drugs and toxic compounds (1.Department of Forensic Medicine and Toxicology, University of Athens, 2.Analytical Laboratory, 424 Military Hospital Thessaloniki)
- FT-Raman Development and quantitative determination of active substances in pharmaceutical formulations (solutions) (School of pharmacy, University of Patras, Institute of Chemical Engineering and high temperature Chemical processes of Patras)
- Design and development of multivariate systems of partition for the study of the retention mechanism of analytes with RP-HPLC. Application in molecules with pharmacological activity

Participation in Research Programs

1. Three-year innovative program of mandatory five-hour daily monitoring
“Development of Geothermal Energy”

Study of the elements that provide therapeutic effect. Toxicity test control in hot and mineral water
The program was held and prepared by the Association of Municipalities and Communities of Northern Greece Spas.

2. Pythagoras project

Subproject title: “Characterization of solid pharmaceutical compounds. Troubleshooting in Development and Efficacy of drugs through modern analytical methods and crystal mechanics”

REVIEWER

Journals: Journal of AOAC International, Methods and findings in Experimental and clinical Pharmacology, Talanta, Journal of Pharmaceutical and Biomedical Analysis, Journal of Chromatography B, Fluorescence-Mass Spectrometry

CONFERENCES

Twenty six Presentations in Greek and International Conferences (Poster and Oral)

PUBLICATIONS

- 1) Nikolaos G. Margaritelis, Catherine K. Markopoulou*, John E. Koundourellis. Modeling by Experimental Design methodology the Reverse-phase High Performance Liquid Chromatography separation of anthelmintics (submitted)
- 2) Catherine K. Markopoulou*, Maria Kouskoura, John E. Koundourellis. 2011. Modelling by Partial Least Squares the relationship between the HPLC mobile phases and analytes on phenyl column. Journal of Separation Science. 34 (12) 1489-1502
- 3) Costantinos G. Antoniou, Catherine K. Markopoulou*, Maria G. Kouskoura, John E. Koundourellis. 2011. Study and development of reverse phase HPLC systems for the simultaneous determination of 2-imidazolines combined with preservatives in pharmaceutical preparations, Journal of AOAC International, vol.94, No 3, 1-10
- 4) Yannis Dotsikas, Catherine K. Markopoulou, John E. Koundourellis, Yannis L. Loukas. 2011. Validation of a novel LC-MS/MS method for the quantitation of colistin A and B in human plasma. Journal of Separation Science 34(1), 37-45
- 5) Catherine Markopoulou, Tracey Tweedlie, David Watson, Graham Skellern, Houssam Reda, Patrik Petersson, Hannah Bradstock and Melvin Euerby*. 2009. A Study of the Relative Importance of Lipophilic, π - π and Dipole-Dipole Interactions on Cyanopropyl, Phenyl and Alkyl LC Phases Bonded onto the Same Base Silica. Chromatographia, 70(5-6), 705-715
- 6) C.K. Markopoulou*, J.E. Koundourellis, M.G. Orkoula and C. G. Kontoyannis. 2008. Quantitative Non-Destructive Methods for the determination of Ticlopidine in tablets using

reflectance Near-Infrared and Fourier-Transform Raman Spectroscopy, *Applied Spectroscopy*, 62(2) 251-257

7) Orkoula, M.G., C.G. Kontoyannis, C.K. Markopoulou, J.E. Kountourellis. 2007. Validation of Direct, non- Destructive Quantitative Analysis of Amiodarone Hydrochloride in Angoron Formulation using FT- Raman Spectroscopy. *Talanta* 73, 258-261

8) Maria A. Rontogianni, Catherine K. Markopoulou, John E. Kountourellis. 2006. HPLC and chemometric-assisted spectrophotometric estimation of two binary mixtures for combined hypertension therapy. *Journal of Liquid Chromatography & Related Technology*, 29, 683-698

9) Orkoula, M.G., C.G. Kontoyannis, C.K. Markopoulou, J.E. Kountourellis, 2006. Quantitative analysis of liquid formulations using FT-Raman spectroscopy and HPLC. The case of diphenhydramine hydrochloride in Benadryl[®]. *Journal of Pharmaceutical and Biomedical Analysis*. 41, 1406-1411

10) Markopoulou, C.K., J.E. Kountourellis. 2006. Development of a validated liquid chromatography method for the simultaneous determination of ethinyl estradiol, cyproterone acetate and norgestrel in breast milk after solid-phase extraction. *Journal of Liquid Chromatography & Related Technology*, 29, 683-698

11) Markopoulou, C.K., E.T. Malliou, J.E. Kountourellis. 2005. Content uniformity and dissolution tests of triplicates mixtures by a double divisor-ratio spectra derivative method. *Il Farmaco* 60, 755-762

12) Markopoulou, C.K., E.T. Malliou, J.E. Kountourellis. 2005. Application of two chemometric methods for the determination of imipramine, amitriptyline and perphenazine in content uniformity and drug dissolution studies. *Journal of Pharmaceutical and Biomedical Analysis*, Volume 37, 249-258

13) Orkoula, M.G., C.G. Kontoyannis, C.K. Markopoulou, J.E. Kountourellis. 2004. Development of methodologies based on HPLC and Raman for monitoring the stability of lovastatin in solid state in the presence of gallic acid. *Journal of Pharmaceutical and Biomedical Analysis*, 35, 1011-1016

14) E.T. Malliou, C.K. Markopoulou, J.E. Kountourellis. 2004. Simultaneous determination of clobutinol together with some non-antoinflammatory drugs in urine by High Performance Liquid Chromatography. *Journal of Liquid Chromatography* 27, 1565-1577

15) Markopoulou, C.K., E.T. Malliou, J.E. Kountourellis. 2004. Chemometric and derivative methods as flexible spectrophotometric approaches for dissolution and assaying tests in multicomponent tablets. *Il Farmaco* 59, 627-636

16) Markopoulou, C.K, J.E Kountourellis. 2003. Two derivative spectrophotometric methods for the simultaneous determination of lovastatin combined with three antioxidants. *Journal of Pharmaceutical and Biomedical Analysis* 33, 1163-1173.

17) Markopoulou, C.K, K.A. Kagkadis, J.E Kountourellis. 2002. An optimized method for the simultaneous determination of vitamins B1, B6, B12, in multivitamin tablets by High Performance Liquid Chromatography. *Journal of Pharmaceutical and Biomedical Analysis*. 30, 1403-1410

18) Kountourellis, J.E, C.K Markopoulou, K.O Ebete, J. Stratis. 1995. Separation and determination of some corticosteroids combined with bampine in pharmaceutical formulations with H.P.L.C. *Journal of Liquid Chromatography*. 18(17), 3507-3517

19) Kountourellis, J.E, C.K Markopoulou, J. Stratis. 1993. Quantitative High Performance Liquid Chromatography determination of bampine combined with tricyclic antidepressants and/or antipsychotics in pharmaceutical formulations. *Analytical Letters* 26 (10), 2171-2182.

20) Kountourellis, J.E, C.K Markopoulou, B. Nathaniel. 1992. Determination of Vitamin A and E in therapeutic and cosmetic creams using Solid Phase Extraction (SPE) and High Performance Liquid Chromatography (HPLC). *Journal of Chemical Environmental Research*. 1 (2), 83-87

21) Kountourellis, J.E, C.K Markopoulou. 1992. X-Ray powder diffraction data for Spironolactone. *Journal of Chemical Environmental Research*. 1 (1), 103-1045.

22) J.E Kountourellis, C.K Markopoulou, F.A. Underwood, B. Chapman. 1992. X-Ray characterisation of 12 diuretics. *Journal of Chemical and Engineering Data*. 37 (2), 187-191

23) Kountourellis, J.E, C.K Markopoulou. 1991. A simultaneous analysis by High Performance Liquid Chromatography of bampine combined with tricyclic antidepressants and/or antipsychotics in dosage forms. *Journal of Liquid Chromatography* 14 (15), 2969-2977

- 24) Kountourellis, J.E, C.K Markopoulou F.A. Underwood, B. Chapman. 1991. X-Ray Powder Diffraction data for nine Analgesics. *Talanta* 38 (2), 233-235
- 25) Kountourellis, J.E, C.K Markopoulou. 1990. An H.P.L.C. method for the separation and simultaneous determination of antihistamines, sympathomimetic amines and dextromethorphan in bulk drug material and dosage forms. *Analytical Letters*, 23 (5), 883-891
- 26) Kountourellis, J.E, C.K Markopoulou, P. Georgakopoulos. 1990. Separation and simultaneous determination of bamipine and salbutamol in dosage forms by High Performance Liquid Chromatography. *Journal of Chromat. A.* 502, 189-192
- 27) Kountourellis, J.E, C.K Markopoulou. 1989. A simultaneous assay by High Performance Liquid Chromatography of bamipine hydrochloride and terbutaline sulphate in dosage forms. *Journal of Liquid Chromatography*, 12 (16), 3279-3286
- 28) Kountourellis, J.E, C.K Markopoulou. 1989. Rapid isocratic High-Performance chromatographic determination of some hypnotics/sedatives in the presence of phenytoin in commercial formulations. *Indian Drugs* 27 (1), Oct. 66-70