

Short CV of Professor Dr. G. Varvounis

- **Professor**, Department of Chemistry, University of Ioannina, Greece
- **Bachelor of Science** (B.Sc.) Honours in Chemistry and Biochemistry, Polytechnic of Central London, U.K., 1977.
- **Master of Science** (M.Sc.) in Applied Heterocyclic Chemistry, University of Salford, U.K., 1979.
- **Doctor of Philosophy** (Ph.D.) in Chemistry, University of Salford, U.K., 1982.
- **Postdoctoral fellow** at Queen Elizabeth College, University of London, working with G. W. H. Cheeseman, for a total period of 15 months during 1983-1987.
- **On Sabbatical leave** with Hans Suschitzky (University of Salford), J. A. S. Smith (King's College London) and B. J. Wakefield (University of Salford) for a total period of 15 months during 1987-1994.
- **Main scientific field of research**: Synthesis and reactions of novel heterocycles with potential biological activity.
- **Broad scientific field of research**: Chemistry of pyrroles, indoles, diazines. *Tele* nucleophilic aromatic substitution of 3-(trichloromethyl)-pyridines, -quinolines, -nitrobenzenes and -benzonitriles. Oxidative cyclisation of acylhydrazones and acylhydroxylamines of *o*-hydroxyarylketones. Heterocyclic ring synthesis (e.g. pyrrolobenzodiazepines, pyrrolobenzodiazocines, thienopyrimidines, naphthopyranoisoxazoles, naphthalen-2(1*H*)-ones, 1,2-benzoisoxazolo *N*-imides and *N*-oxides), synthesis via *o*-quinone methides, 3-substituted 2,3-dihydro-1-benzofurans.
- **Scientific Publications in Refereed International Scientific Journals and Book Series**: 53 distributed as follows, *Arkivoc* (1), *Bioorg. Med. Chem. Lett.* (1), *Cryst. Growth Des.* (1), *Eur. J. Org. Chem.* (2), *Inorg. Chim. Acta* (1), *J. Chem. Soc. Perkin Trans. 1* (4), *J. Heterocycl. Chem.* (10), *J. Med. Chem.* (1), *Org. Lett.* (2), *Spectroscopy of Biological Molecules: Modern Trends* (1), *Synlett* (2), *Synthesis* (4), *Tetrahedron* (10), *Tetrahedron Lett.* (3), *Transition Met. Chem.* (1), *Adv. Heterocycl. Chem.* (5), *Comprehensive Heterocyclic Chemistry II* (1), *Comprehensive Heterocyclic Chemistry III* (2), and *Comprehensive Functional Group Transformations II* (1).
- **Patents**: Varvounis, Georgios. A preparation of [[(chlorophenyl)(phenyl)methyl]piperazinyl]-ethoxyacetic acid (cetirizine) and its dihydrochloride. Industrial Property Organization, Greek Pat. Appl. 99100135 (2000), 12 pp.
- **Awards**: Award by International Scientific Foundation for contribution to World Science and International Scientific Collaboration (2006).
- **Research Programmes**: Recipient of 17 research programmes co-funded 25% by the Hellenic Ministry of Education and 75% by the European Union.
- **Member of Editorial Boards of International Scientific Journals**: *Arkivoc*, *Asian Journal of Chemistry*, *Jordanian Journal of Chemistry*.
- **Referee to International Scientific Journals**: *Arkivoc*, *Asian Journal of Chemistry*, *Bioorganic & Medicinal Chemistry*, *Bioorganic and Medicinal Chemistry Letters*, *Catalysis Communications*, *Egyptian Journal of Chemistry*, *Jordanian Journal of Chemistry*, *Journal of Heterocyclic Chemistry*, *Mendeleev Communications*, *Molecules*, *Phosphorus, QSAR & Combinatorial Science*, *Sulfur and Silicon*, *Synlett*, *Synthetic Communications*, *Tetrahedron Letters*, *Tetrahedron*.
- **Member of Societies**: Greek Association of Chemists and International Society of Heterocyclic Chemistry.
- **Supervised M.Sc. theses**: Soupsana P. (2001), Liaskopoulos T. (2005), Belekos D. (2006), Tsakonas G. (2006), Koriatopoulou K. (2007), Dolka C. (2007), Dimaki V. (2011), Tzinavou A. (2012), Fermeletzi E. M. submission in January 2014.
- **Supervised Ph.D. theses**: Korakas N. D. (1996), Giannopoulos T. (1999), Kimbaris A. (2000), Karousis M. N. (2003), Rotas G. (2005), Dolka C. (2009), Shaikh, A. K. (2013).
- **Statistics**: citations (excluding self-citations) 560, h-factor 14.

Scientific Publications in Refereed International Scientific Journals and Book Series

1. Clark, J.; Varvounis, G. Heterocyclic Studies. Part 42. Pyrimido[5,4-*d*][1,2,3]triazines and some Related Tricyclic Compounds. *J. Chem. Soc. Perkin Trans. 1*, **1984**, 1475-1481.
2. Cheeseman, G. W. H.; Hawi, A. A.; Varvounis, G. Synthesis of 5,6-Dihydropyrrolo[1,2-*a*]-[3,1,6]-benzothiadiazocines. *J. Heterocycl. Chem.* **1985**, 22, 423-427.
3. Clark, J.; Varvounis, G.; Bakavoli, M. Heterocyclic Studies. Part 44. Novel Tricyclic Compounds containing the Pyrimido[5,4-*d*][1,2,3]triazine System. *J. Chem. Soc. Perkin Trans. 1* **1986**, 711-719.
4. Cheeseman, G. W. H.; Varvounis, G. Synthesis and Reactions of Pyrrolo[1,2-*a*][3,1,6]-benzothiadiazocines. *J. Heterocycl. Chem.* **1987**, 24, 1157-1161.
5. Yakovidis, G.; Varvounis, G.; Hadjiliadis, N. Copper(II) Complexes of Thieno[2,3-*d*]pyrimidine Derivatives. *Inorg. Chim. Acta* **1988**, 151, 165-167.
6. Cheeseman, G. W. H.; Varvounis, G. Synthesis of some Pyrrolobenzothiadiazocines. *J. Heterocycl. Chem.* **1988**, 25, 431-435.
7. Dainter, R. S.; Jackson, T.; Omar, A. H. H.; Suschitzky, H.; Wakefield, B. J.; Hughes, N.; Nelson, A. J.; Varvounis, G. Transformations of Trichloromethyl Groups During Reactions of 3-Trichloromethylpyridines with Methoxide. *J. Chem. Soc. Perkin Trans. 1* **1989**, 283-287.
8. Cobb, J.; Cheeseman, G. W. H.; Varvounis, G. The use of NMR Measurements in the Orientation of Pyrrolic Substitution in 5,6-Dihydro-7-methyl-6-oxopyrrolo[1,2-*a*][3,1,6]benzothiadiazocine. *J. Heterocycl. Chem.* **1989**, 26, 81-83.
9. Cobb, J.; Demetropoulos, I. N.; Skoulika, S.; Varvounis, G.; Aubry, A. Structure Determination of some 5,6-Dihydropyrrolo[1,2-*a*][3,1,6]benzothiadiazocines. *J. Heterocycl. Chem.* **1992**, 29, 295-303.
10. Clark, J.; Korakas, D.; Shahhet, M. S.; Varvounis, G. Synthesis of Thieno[2,3-*d*]pyrimidines from 4,6-Dichloropyrimidine-5-carbaldehydes. *J. Heterocycl. Chem.* **1993**, 30, 1065-1072.
11. Korakas, D.; Varvounis, G. A Convenient Synthesis of 2-Aminomethyl-1-arylpyrroles. *Synthesis* **1994**, 164-166.
12. Korakas, D.; Varvounis, G. Synthesis of 5,6-Dihydro-4*H*-pyrrolo[1,2-*a*][1,4]benzodiazepine and 10,11-Dihydro-5*H*,12*H*-pyrrolo[2,1-*c*][1,4]benzodiazocine Derivatives *via* Cyclisation of 2-Amino-methylpyrroles. *J. Heterocycl. Chem.* **1994**, 31, 1317-1320.
13. Tsiveriotis, P.; Varvounis, G.; Papadimitriou, C.; Hadjiliadis, N. Nickel(II) and Cobalt(II) Complexes of 2,4-Diaminothiemo[2,3-*d*]pyrimidines. *Transition Met. Chem.* **1994**, 19, 335-339.
14. Cartwright, D.; Ferguson, J. R.; Giannopoulos, T.; Varvounis, G.; Wakefield, B. J. Synthesis of some β -Trichloromethyl-azines and -diazines. *J. Chem. Soc., Perkin Trans. 1*, **1995**, 2595-2597.

15. Cartwright, D.; Ferguson, J. R.; Giannopoulos, T.; Varvounis, G.; Wakefield, B. J. Abnormal Nucleophilic Substitution in 3-Trichloromethylpyridine, its *N*-oxide and 3,5-Bis-(trichloromethyl)pyridine. *Tetrahedron* **1995**, *51*, 12791-12796.
16. Cobb, J.; Demetropoulos, I. N.; Korakas, D.; Skoulika, S.; Varvounis, G. Synthesis and Reactions of 1-Aryl-2-nitropyrroles. Structural and Conformational Study of Ethyl *N*-[2'-[1'-(2-nitropyrrolyl)]-phenyl]-*N*-toluene-4-sulfonamide glycinate. *Tetrahedron* **1996**, *52*, 4485-4494.
17. Gerothanassis, I. P.; Cobb, J.; Kimbaris, A.; Smith, J. A. S.; Varvounis, G. ¹⁷O and ¹⁴N NMR Studies of Quinoxaline-2,3-diones and *N,N'*-Substituted Oxamides: the First Experimental Evidence of Torsion Angle Deformation Resulting from an Unprecedented through Six-Bond Substituent Effect of the Diamide Group of Quinoxaline-2(1*H*),3(4*H*)-diones. *Tetrahedron Lett.* **1996**, *37*, 3191-3194.
18. Korakas, D.; Varvounis, G. The Nitration of some 1-Aryl(or benzyl)pyrroles. *J. Heterocycl. Chem.* **1996**, *33*, 611-614.
19. Gerothanassis, I. P.; Varvounis, G. ¹⁷O NMR Studies of Electronic and Steric Interactions of Substituted Quinoxaline-2(1*H*),3(4*H*)-diones. *J. Heterocycl. Chem.* **1996**, *33*, 643-646.
20. Varvounis, G.; Giannopoulos, T. Synthesis, Chemical and Biological Properties of Thieno[2,3-*d*]pyrimidines. "Advances in Heterocyclic Chemistry", Katritzky, A. R. (ed.); Academic Press Inc. 1996; vol. 66, pp 193-283.
21. Varvounis, G. Boroles. "Comprehensive Heterocyclic Chemistry P". Katritzky, A. R.; Rees, C. W.; Scriven, E. F. V. (eds.); Pergamon, Oxford, 1996; vol. 2, pp 919-932.
22. Korakas, D.; Kimbaris, A.; Varvounis, G. Synthesis of the Novel Pyrrolo[2,1-*d*][1,2,5]-benzotriazepine, Pyrrolo[2,1-*e*][1,3,6]benzotriazocine and Pyrrolo[1,2-*a*]tetrazolo[1,5-*d*]-[1,4]benzodiazepine Ring Systems. A New Route to Pyrrolo[1,2-*a*]quinoxaline via Transamination of *in Situ* Generated 1-(2-Aminophenyl)-2-iminomethylpyrroles. *Tetrahedron* **1996**, *52*, 10751-10760.
23. Giannopoulos, T.; Ferguson, J. R.; Wakefield, B. J.; Varvounis, G. *Tele* Nucleophilic Aromatic Substitutions in 1-Nitro-3- and 1,3-Dinitro-5-trichloromethyl-benzene, and 3-Trichloromethyl-benzonitrile. A New Synthesis of the 1,4-benzothiazine-3(4*H*)-one Ring System from 3-Nitrobenzoic acid. *Tetrahedron* **2000**, *56*, 447-453.
24. Supsana, P.; Tsoungas, P. G.; Varvounis, G. A Novel One-pot Synthesis of Isomeric Naphtho[1,2-*d*]isoxazole-2-oxide and Naphtho[1,8-*de*][1,2]oxazine Ring Systems. A Case of Simultaneous *O*- and *Peri*- Cyclisation in Naphthalene. *Tetrahedron Lett.* **2000**, *41*, 1845-1847.
25. Kimbaris, A.; Varvounis, G. Reduction of 2- and 3-Acylpyrroles. A New Synthesis of the Pyrrolo[1,2-*b*]cinnolin-10-one Ring System from 1-(4-Methylphenyl)sulfonyl-1*H*-pyrrole. *Tetrahedron* **2000**, *56*, 9675-9683.

26. Supsana, P.; Tsoungas, P. G.; Aubry, A.; Skoulika, S.; Varvounis, G. Oxidation of 1- Acyl-2-Naphthol Oximes: *Peri*- and/or *O*-Cyclisation and/or Spiro Cyclodimerisation of *O*-Nitrosoquinone methide Intermediates. *Tetrahedron* **2001**, *57*, 3445-3453.
27. Varvounis, G.; Fiamegos, Y.; Pilidis, G. Pyrazol-3-ones. Part 1: Synthesis and Applications. *Adv. Heterocycl. Chem.* Katritzky, A. R. (ed.); Academic Press Inc. **2001**, *80*, 73-156.
28. Fiamegos, Y. C.; Pilidis, G. A.; Varvounis, G. Synthesis of 1-methyl-, 4-nitro-, 4-amino- and 4-iodo-1,2-dihydro-3*H*-pyrazol-3-ones. *J. Heterocycl. Chem.* **2001**, *28*, 1065-1069.
29. Małosza, M.; Varvounis, G.; Surowiec, M.; Giannopoulos, T. *Tele*-vs. Oxidative Substitution of Hydrogen in *meta* Monochloromethyl, Dichloromethyl, and Trichloromethyl Nitrobenzenes in the Reaction with Grignard Reagents. *Eur. J. Org. Chem.* **2003**, 3791-3797.
30. Kimbaris, A.; Cobb, J.; Tsakonas, G., Varvounis, G. Novel pyrrolo[1,2-*a*][3.1.6]-benzothiadiazocine ring synthesis. Unusual Truce-Smiles type rearrangement of 1-{{1-(2-nitrophenyl)-1*H*-pyrrol-2-yl}sulfonyl(or sulfinyl)}acetone. *Tetrahedron* **2004**, *60*, 8807-8815.
31. Varvounis, G.; Fiamegos, Y.; Pilidis, G. Pyrazol-3-ones. Part II: Reactions of the Ring Atoms. *Adv. Heterocycl. Chem.* Katritzky, A. R. (ed.); Academic Press Inc. **2004**, *87*, 141-272.
32. Rotas, G.; Kimbaris, A.; Varvounis, G. Synthesis of 5-alkyl(or aryl)pyrrolo[1,2-*a*]quinoxalin-4-(5*H*)-ones by denitrocyclisation of *N*-alkyl(or aryl)-1-(2-nitrophenyl)-1*H*-pyrrole-2-carboxamides. Evidence of a Smiles rearrangement. *Tetrahedron* **2004**, *60*, 10825-10832.
33. Supsana, P.; Liaskopoulos, T.; Skoulika, S.; Kolocouris, A.; Tsoungas, P. G.; Varvounis, G. A spiro[naphthalene(naphthopyranofuroxan)] to spiro[naphthalene(phenalenofurazan)] thermal rearrangement. A probable furoxan-triggered tandem isomerisation process. *Tetrahedron* **2005**, *61*, 6131-6137.
34. Rotas, G.; Natchkebia, K.; Natsvlishvili, N.; Kekelidze, M.; Varvounis, G.; Mikeladze, D. Action of a novel pyrrolo[1,2-*c*][1.3]benzodiazepine on the viability of Jurkat and neuronal/glial cells. *Bioorg. Med. Chem. Lett.* **2005**, *15*, 3220-3223.
35. Bissyris, E. E.; Belekos, D.; Magafa, V.; Tsoungas, P. G.; Varvounis, G.; Cordopatis, P. 2-Amino-4-pyrrolidinothieno[2,3-*d*]pyrimidine-6-carboxylic acid as an *N*-terminal surrogate in amino acid and peptide analogues. *Synthesis* **2005**, 3159-3166.
36. Varvounis, G.; Karousis, N. Functions Containing Two Halogens and Two Other Heteroatom Substituents, *Comprehensive Organic Functional Group Transformations II* (COFGT-II), A. R. Katritzky, R. J. K. Taylor, E. F. V. Scriven (eds.), Elsevier Oxford. Vol. 6. 2005, pp 271-294.
37. Karousis, K.; Liebscher, J.; Varvounis, G. Synthesis of (*E*)-3-1*H*-Pyrrol-3-yl]-2-propene derivatives using Organophosphorus Reagents. *Synthesis* **2006**, 1494-1498.

38. Vergadou, V.; Pistolis, G.; Michaelides, A.; Varvounis, G.; Siskos, M.; Boukos, N.; Skoulika, S. Self-organization of Four Symmetric Triphenylbenzene Derivatives. *Cryst. Growth Des.* **2006**, *6*, 2486-2492.
39. Supsana, P.; Liaskopoulos, T.; Tsoungas, P. G.; Varvounis, G. DMF-Catalysed Thermal Dehydration of Aldoximes: A Convenient Access to Functionalised Aliphatic and Aromatic Nitriles. *Synlett* **2007**, 2671-2674.
40. Varvounis, G.; Fiamegos, Y.; Pilidis, G. Pyrazol-3-ones. Part III: Reactions of the Ring Substituents. *Adv. Heterocycl. Chem.* Katritzky, A. R. (ed.); Academic Press Inc. **2008**, *95*, 27-141.
41. Liaskopoulos, T.; Skoulika, S.; Tsoungas, P. G.; Varvounis, G. Novel Synthesis of Naphthopyranoisoxazoles and Versatile Access to Naphthopyranoisoxazolines. *Synthesis* **2008**, 711-718.
42. Karousis, N.; Koriatopoulou, K.; Varvounis, G. Synthesis of 1-arylmethylpyrroles as useful intermediates for further chemical transformation. *Arkivoc* **2008**, (ii), 124-133.
43. Varvounis, G. Boroles. *Comprehensive Heterocyclic Chemistry III*, Katritzky, A. R.; Ramsden, C. A.; Scriven, E. F. V.; Taylor, R. J. K. (eds.), Elsevier Oxford. Vol. 3, 2008, pp 1225-1241.
44. Varvounis, G. Five-Membered Rings with Two Nonadjacent Heteroatoms with at least One Boron. *Comprehensive Heterocyclic Chemistry III*, Katritzky, A. R.; Ramsden, C. A.; Scriven, E. F. V.; Taylor, R. J. K. (eds.), Elsevier Oxford. Vol. 4, 2008, pp 1225-1241.
45. Koriatopoulou, K.; Karousis, N.; Varvounis, G. A novel synthesis of the pyrrolo[2,1-*c*]-[1,4]benzodiazocine ring system via a Dieckmann condensation. *Tetrahedron* **2008**, *64*, 10009-10013.
46. Varvounis, G. Pyrazol-3-ones. Part IV: Synthesis and Applications. *Adv. Heterocycl. Chem.* Katritzky, A. R. (ed.); Academic Press Inc. **2009**, *98*, 143-223.
47. Odrowaz-Sypniewski, M. R.; Tsoungas, P. G.; Varvounis, G.; Cordopatis, P. Xanthone in synthesis: a reactivity profile via directed lithiation of its dimethyl ketal. *Tetrahedron Lett.* **2009**, *50*, 5981-5983.
48. Dolka, C.; Hecke, K. V.; Meervelt, L. C.; Petros G. Tsoungas, P. G.; Eycken, E. V. D.; Varvounis, G. Novel Thermal and Microwave-Assisted Facile Route to Naphthalen-2(1*H*)-ones via an Oxidative Alkoxylation-Ring-Opening Protocol. *Org. Lett.* **2009**, *11*, 2964-2967.
49. Assimomytis, N.; Sariyannis, Y.; Stavropoulos, G.; Tsoungas, P. G.; Varvounis, G.; Cordopatis, P. Anionic *ortho*-Fries rearrangement, a facile route to arenol-based Mannich bases. *Synlett*, **2009**, 2777-2782.
50. Surowiec, M.; Belekos, D.; Mąkosza, M.; Varvounis, G. Tele Nucleophilic Substitutions of Hydrogen in *m*-(Trichloromethyl)nitrobenzenes with Cyano and Ester Carbanions. *Eur. J. Org. Chem.* **2010**, 3501-3506.

51. Rotas, G.; Kimbaris, A.; Varvounis, G. Synthesis of a novel pyrrolo[1,2-*c*]-[1.3]benzodiazepine analogue of VPA-985. *Tetrahedron*, **2011**, *67*, 7805-7810.
52. Shaikh, A. K.; Cobb, A. J. A.; Varvounis, G. Mild and Rapid Method for the Generation of *ortho*-(Naphtho)quinone Methide Intermediates. *Org. Lett.* **2012**, *14*, 584-587.
53. Koutsoumpli, G. E.; Dimaki, V. D.; Thireou, T. N.; Eliopoulos, E. E.; Labrou, N. E.; Varvounis, G. I.; Clonis, Y. D. Synthesis and Study of 2-(Pyrrolo-sulfonylmethyl)-*N*-arylimines: A New Class of Inhibitors for Human Glutathione Transferase A1-1. *J. Med. Chem.* **2012**, *55*, 6802-6813.

Scientific Publications in Abstract Books of International Conferences in Chemistry

1. Gerothanassis, I. P.; Varvounis, G. “¹⁷O NMR studies of electronic and steric interactions of 2,3(1*H*,4*H*)quinoxalinedione.” *Spectroscopy of Biological Molecules: Modern Trends*, [European Conference on Spectroscopy of Biological Molecules], 7th, Madrid, **1997**, 623-624.
2. Kimbaris, A.; Varvounis, G. “Synthesis of the novel benzo[*b*]pyrrolo[2,3-*e*]azepinone and benzo[*b*]pyrrolo[3,2-*e*]azepinone ring systems.” *Electronic Conference on Heterocyclic Chemistry (ECHET98)* (eds. Rzepa, H. S.; Kappe, O. C.; Leach, C.) **1998**, June 29-July 24.
3. Kimbaris, A.; Cobb, J. Varvounis, G. “A New Synthesis of the Pyrrolo[1,2-*a*][3,1,6]-benzothiadiazocine Ring System from 1-{{1-(2-nitrophenyl)-1*H*-pyrrol-2-yl}sulfinyl} derivatives.” *Fifth International Electronic Conference on Synthetic Organic Chemistry (ECSOC-5)* (ed. Seijas, J. A.) **2001**, <http://www.mdpi.org/ecsoc-5.htm>
4. Dolka, C.; Dimaki, V.; Tsoungas, P. G.; Varvounis, G. “Synthesis and/or reactivity of novel pyrrole, indole, 1,2-benzisoxazole, phthalazine, xanthone and naphthalen-2(1*H*)-one derivatives of potential pharmacological interest”. *Med. Chem. Res.* **2010**, *19*, Suppl. 1, 37-38.
5. Manessi-Zoupa, E. M. Z.; Exarchakou, R.; Magafa, V.; Assimomytis, N.; Liapakis, G.; Venihaki, M. Varvounis, G.; Cordopatis, P. “Synthesis And Biological Evaluation Of New Linear And Cyclic Analogues Of Neurotensin”. *J. Pept. Sci.* **2010**, *16*, Suppl. 1, 159.