

CURRICULUM VITAE

Full-name **Kyriakos C. Prousis**
Birth Date **10/06/1977**
Place of Birth **Nicosia, Cyprus**
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EDUCATION

- 2008** PhD Chemistry, School of Chemical Engineering, National Technical University of Athens (NTUA), Athens, Greece.
Supervisor: Prof. Olga Igglessi-Markopoulou
2002 B. Sc. Chemistry, Department of Chemistry, National and Kapodistrian University of Athens, Athens, Greece.

SCHOLARSHIPS

- 09/2003 - 09/2006** Doctoral Scholarship by the A. G. Leventis Foundation, Paris, France.
10/2006 - 11/2008 Doctoral Scholarship by the Research Committee, NTUA.
02 / 2010 - 1/2011 Post Doctoral Scholarship by the Greek State Scholarships Foundation.

POSTDOCTORAL EXPERIENCE- PARTICIPATION IN RESEARCH PROGRAMS

- 1/2009-**
1/2010 Postdoctoral Researcher (Laboratory of Organic Chemistry, School of Chemical Engineering, NTUA)
NTUA Basic Research Committee Program 'ΠΕΒΕ 2008'
Title: New bioactive compounds as inhibitors of 5-lipoxygenase (5-LOX): design, synthesis, characterization and structure-activity relationship studies.
- 2/2010-**
1/2011 Postdoctoral Fellow (Greek State Scholarships Foundation) at the Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation.
- 3/2011-**
7/2011 Postdoctoral Fellow at the Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation in the context of research project 'MEDEXIS'
- 9/2011-**
5/2013 Postdoctoral Fellow at the Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation in the context of European research project 'ARCADE'
- 6/2013-** Postdoctoral Fellow (Department of Pharmacognosy and Natural Product Chemistry of the Faculty of Pharmacy).
- 7/2013-** Postdoctoral Fellow at the Institute of Biology, Medicinal Chemistry & Biotechnology, National Hellenic Research Foundation in the context of research project 'MEDEXIS'.

TEACHING EXPERIENCE

- 10 / 2013** Invited lecturer at the Mediterranean Agronomic Institute of Chania for the course of Organic Chemistry.
- 2003-2008** Teaching of the Laboratory Course "Nuclear Magnetic Resonance (NMR)" (NTUA, School of Chemical Engineering, Laboratory of Organic Chemistry).
- 2003-2008** Teaching and training of undergraduate students in the Laboratory Course "Organic Chemistry I". (NTUA, School of Chemical Engineering, Laboratory of Organic Chemistry).
- 2003-2004** Teaching and Training of undergraduate students in the Laboratory Course "Organic Chemistry II". (NTUA, School of Chemical Engineering, Laboratory of Organic Chemistry).
- 2006** Laboratory Training of Postgraduate Students of the MSc Programme "Materials, Science and Technology", Course: Nuclear Magnetic Resonance (NMR). (NTUA, School of Chemical Engineering).

AREAS OF EXPERTISE

- Development of synthetic methodology, organic synthesis (solution and solid phase).
- Synthesis of small heterocyclic compounds.
- Synthesis of natural product analogues.
- Microwave-assisted synthesis.
- Synthesis of bioactive molecules.
- Spectroscopic methods of analysis (NMR, FT-IR, GC-MS, LC-MS), chromatographic techniques (HPLC, flash chromatography).

Ph.D Thesis

Prousis, K.C. (November 2008) «Design and Synthesis of Bioactive Heterocyclic Compounds in Solid and Solution Phase: Application in Natural Products Synthesis»
Ph.D. Thesis, NTUA.

PUBLICATIONS IN PEER REVIEWED JOURNALS

- 1.** G. Athanasellis, A. Detsi, **K. Prousis**, O. Igglessi-Markopoulou, J. Markopoulos. "A Novel Access to 2-Amino Furanones via Cyclization of Functionalized γ -Hydroxy- α,β -butenoates Derived from *N*-Hydroxybenzotriazole Esters of α -Hydroxy Acids."
Synthesis **2003**, *1*, 2015-2022.
- 2.** A. Detsi, P. Emirtzoglou, **K. Prousis**, V. Skouridou, O. Igglessi-Markopoulou. "Solid phase synthesis of substituted 2-aminopyrrolin-4-ones via the spontaneous postcleavage cyclization."
Synlett **2004**, *2*, 353-355.
- 3.** **K. C. Prousis**, A. Detsi, O. Igglessi-Markopoulou. "A Novel Traceless Solid Phase Approach to Functionalized Tetramic Acids and 2-Amino-4-pyrrolinones."
Synlett **2005**, *18*, 2763.

4. S. Kikionis, **K. C. Prousis**, A. Detsi, O. Igglessi-Markopoulou. "A novel synthetic approach to the thiotetronic ring system, the key intermediate for thiolactomycin analogues."
ARKIVOC **2006** (xii) 1-10.
5. A. Detsi, D. Bouloumbasi, **K. C. Prousis**, G. Athanasellis, G. Melagraki, A. Afantitis, O. Igglessi-Markopoulou, C. Kontogiorgis, D. Hadjipavlou-Litina. "Design and Synthesis of Novel Quinolinone-3-aminocarboxamides and their α -Lipoic Acid Adducts as Antioxidant and Antiinflammatory Agents."
J. Med. Chem. **2007**, *50*, 2450-2458.
6. D. Matiadis, **K. C. Prousis**, O. Igglessi-Markopoulou. "Solid-Phase Synthesis of Optically Active Substituted 2-Aminofuranones Using an Activated Carbonate Linker."
Molecules **2009**, *14*(10), 3914-3921.
7. **K. C. Prousis**, J. Markopoulos, V. Mckee, O. Igglessi-Markopoulou "Efficient Efficient construction of functionalized 5-Carboxymethyl Tetramic Acids using N-Ac-L-aspartic Anhydride as Chiral Building Block."
Tetrahedron, **2010**, *66*, 3944-3950.
8. I. Papanastasiou, **K. C. Prousis**, K. Georgikopoulou, T. Pavlidis, E. Scoulica, N. Kolocouris, T. Calogeropoulou "Design and synthesis of new adamantyl-substituted antileishmanial ether phospholipids."
Bioorg. Med. Chem. Letters, **2010**, *20*(18), 5484 – 5487.
9. **Prousis, K. C.**, Athanasellis G., Stefanou V., Matiadis, D., Kokalari, E., Igglessi-Markopoulou, O., Mc Kee, V., Markopoulos, J. "Synthesis and crystal structure characterization of zinc (II) tetronic acid complexes"
Bioinorganic Chemistry and Applications, accepted, (in Press), Volume **2010**, Article ID 651652, 7 pages doi:10.1155/2010/651652
10. D. Matiadis, **K. C. Prousis**, O. Igglessi-Markopoulou. "Three Step Solid-Phase Synthesis of Functionalized Tetronic Acids Using an Activated Carbonate Linker"
Synthetic Communications **2013**, *43*(3), 392-397.
11. Taissa V. M. Vila, Kelly Ishida, Wanderley de Souza, **Kyriakos Prousis**, Theodora Calogeropoulou and Sonia Rozental. "Effect of alkylphospholipids on *Candida albicans* biofilm formation and maturation"
J Antimicrobial Chemotherapy **2013**, *68*(1) 113-125.
12. **Kyriakos C. Prousis**, Andromachi Tzani, Nicolaos Avlonitis, Theodora Calogeropoulou, Anastasia Detsi. "Reactivity of 2-methyl-4*H*-3,1-benzoxazin-4-ones and 2-methyl-4*H*-pyrido[2,3-*d*][1,3]oxazin-4-one under Microwave Irradiation Conditions"
J Het. Chem **2013**, *50*, 6, 1313-1321.
13. Konstantinos Dimas, Natalia Papadopoulou, Constantinos Baskakis, **Kyriakos C Prousis**, Michail Tsakos, Saad Alkahtani, Sabina Honisch, Florian Lang, Theodora Calogeropoulou, Konstantinos Alevizopoulos, Christos Stournaras "Steroidal Cardiac Na⁺/K⁺ ATPase Inhibitors Exhibit Strong Anti-Cancer Potential in Vitro and in Prostate and Lung Cancer Xenografts in Vivo". *Anticancer Agents Med Chem.* 2013 Sep 23 in print

14. **Kyriakos C Prousis**, Nicolaos Avlonitis, Georgios A Heropoulos, Theodora Calogeropoulou. "FeCl₃-catalysed ultrasonic-assisted, solvent-free synthesis of 4-substituted coumarins. A useful complement to the Pechmann reaction". *Ultrasonics Sonochemistry* 2013 in print

ORAL PRESENTATIONS IN CONFERENCES AND SYMPOSIA

1. **Kyriakos Prousis**, Olga Igglessi-Markopoulou*. "A Short Synthetic Approach on Substituted Tetramic Acids via N-Substituted aspartic acid anhydrides" 12th Hellenic Symposium on Pharmaceutical Chemistry, 27 – 28 January 2006, Patras, Greece.
2. **Kyriakos Prousis**, Ioannis Charalampopoulos, Achilleas Gravanis, Theodora Calogeropoulou. 'New 17-Spiro-substituted Neurosteroid Derivatives with Antiapoptotic and Neurotrophic effects'. Final Meeting of the 'Arcade' European project Athens, 21st of May 2013.

PRESENTATIONS IN GREEK CONFERENCES AND SYMPOSIA

- 1) **Kyriakos Prousis**, Olga Igglessi-Markopoulou*. "Synthesis of Optically Active Tetramic Acids on Solid Phase using Urethane Type Resin". 8th Greek – Cyprus Conference in Chemistry. December, 2004, Thessaloniki, Greece.

PRESENTATIONS IN INTERNATIONAL CONFERENCE AND SYMPOSIA.

1. **Kyriakos Prousis**, Olga Igglessi-Markopoulou*. "A Novel Solid Phase Synthesis of Tetramic Acids via Carbamate Type Resin". 1^o Hellenic Symposium on Organic Chemistry. Nov. 2004, Athens, Greece.
2. **K. Prousis**, A. Detsi, O. Igglessi-Markopoulou*. "A Novel Traceless Solid Phase Approach to Functionalized Tetramic Acids and 2-Amino-4-pyrrolinones". 6th Tetrahedron Symposium 'Challenges in organic chemistry' 29 June – 1 July 2005, Bordeaux, France.
3. **Prousis K. C.**, Matiadis D., Detsi A., Markopoulos J., Igglessi-Markopoulou O.* "A Traceless Solid Phase Synthetic Route to Functionalized 4-Hydroxy-Coumarins". 1st European Chemistry Congress 27 – 31 Aug 2006, Budapest, Hungary.
4. S. Kikionis, **K. C. Prousis**, A. Detsi, O. Igglessi-Markopoulou, "Novel synthetic approach to thiolactomycin analogues with potential antiparasitic activity", 3rd COST B22 Annual Congress, Athens, Greece, October **2006**, Abstracts p. 110.
5. "Matiadis Dimitris, **Prousis Kyriakos**, Detsi, Anastasia, Markopoulos John, Igglessi-Markopoulou, Olga*. 'Solid phase synthesis of substituted tetramic acids and 2-aminofuranones'. 1st European Chemistry Congress 27 – 31 Aug 2006, Budapest, Hungary.
6. **Kyriakos Prousis**, Anastasia Detsi, John Markopoulos, Olga Igglessi-Markopoulou*. "Development of a solid phase approach for

the synthesis of functionalized 4-hydroxy-quinolinone derivatives: novel agents possessing antiparasitic activity". COST Action B22 Congress, Drug Development for Parasitic Diseases, 1-4 October 2006, National Hellenic Research Foundation, Athens.

7. **K. Prousis**, A. Detsi, O. Igglessi-Markopoulou* "*Synthesis of substituted N-methyl-tetramic acids through an enantioselective synthetic procedure*". 2nd Hellenic Symposium: Organic Synthesis from Chemistry to Biology, Medicine and Material Sciences, 19-21 April 2007 Athens.
8. **K. Prousis**, A. Detsi, O. Igglessi-Markopoulou*. "*N-Substituted aspartic acid anhydrides as precursors for the synthesis of functionalized tetramic acids*". 2nd Hellenic Symposium: Organic Synthesis from Chemistry to Biology, Medicine and Material Sciences, 19-21 April 2007 Athens.
9. **Kyriakos C. Prousis**, Olga Igglessi-Markopoulou*. "*Development of a New Concise Enantioselective Synthesis of Highly Functionalized N-Methyl-Tetramic Acids Analogues*". 15th European Symposium on Organic Chemistry (ESOC 2007), 13 - 18 July 2007, Dublin, Ireland.
10. A. Detsi, **K. C. Prousis**, S. Hamilakis, M. Roussaki, "*Synthetic approaches towards privileged heterocyclic scaffolds with potential antiparasitic activity*", 1st Joint Expert Meeting between Working Groups 1 and 3 of the COST Action CM0801, 29-31 May **2009**, Bulgaria, Abstracts p.15.
11. A. Detsi, **Kyriakos Prousis**, Panagiotis Kefalas, "*NMR, FT-IR and LC-MS Spectroscopic studies of novel chalcones and aurones: the effect of substituents*", 6th International Conference "Instrumental Methods of Analysis - Modern Trends and Applications" (IMA2009), 4-8 October **2009**, Athens, Greece, Abstracts p.200.
12. A. Detsi, F. Tsopeles, **K. C. Prousis**, C. Kontogiorgis, D. Hadjipavlou-Litina, Th. Lymperopoulou, K. Mpalta, M. Ochsenkühn-Petropoulou, "*Antioxidant properties of novel quinolinone-3-carboxamides investigated by spectrophotometric and electrochemical techniques*", 6th International Conference "Instrumental Methods of Analysis - Modern Trends and Applications" (IMA2009), 4-8 October **2009**, Athens, Greece, Abstracts p.198.
13. **K. C. Prousis**, N. Avlonitis, A. Detsi, "*Reactivity of 4H-3,1-benzoxazin-4-ones under Microwave Irradiation Conditions*", 3rd Hellenic Symposium on Organic Synthesis, From Chemistry to Biology, Medicine and Materials Science, 15-17 October **2009**, Athens, Greece, Abstracts p.77.
14. N. Avlonitis, A. Blanrue, A. Pantzou, K. Prousis, P. Milnes, B. Steele, M. Micha-Screttas, G. Heropoulos, T. Calogeropoulou, 'Development of new methodology for the generation of libraries of bioactive phosphorous containing compounds on solid support', 3rd Hellenic Symposium on Organic Synthesis, From Chemistry to Biology, Medicine and Materials Science, 15-17 October **2009**, Athens, Greece, Abstracts p.90.

15. A. Detsi, **K. C. Prousis**, C. A. Kontogiorgis, E. A. Pontiki, M. Zervou, P. Zoumpoulakis, C. Potamitis, D. Hadjipavlou-Litina, '*Privileged Heterocyclic Scaffolds with Antioxidant and Lipxygenase Inhibitory Activity. Synthesis, in vitro biological evaluation and in silico docking studies of 4-Hydroxy-2-quinolinone-3-carboxamides*', 14th Hellenic Symposium on Medicinal Chemistry, 23-25 April **2010**, Thessaloniki, Greece, Abstracts p. 78.
16. K.C. Prousis, N. Avlonitis, T. Calogeropoulou, 'Microwave-assisted synthesis of substituted coumarins via FeCl₃-catalyzed Pechmann condensation under solvent free conditions'. 14th Hellenic Symposium on Medicinal Chemistry, 23-25 April **2010**, Thessaloniki, Greece, Abstracts p. 166.
17. M. Roussaki, **K. Prousis**, S. Hamilakis, B. Hall, S. Wilkinson, **A. Detsi**, '*Novel Quinolinylnyl Chalcones with Antiparasitic Activity against Trypanosoma brucei*', 14th Hellenic Symposium on Medicinal Chemistry, 23-25 April **2010**, Thessaloniki, Greece, Abstracts p. 112.
18. V. Stefanou, **K. Prousis**, et al. 'Synthesis, Characterization and X-Ray Crystallographic Investigation of Zn(II) β -Diketo Tetrone Acid Complexes' 10th European Biological Inorganic Chemistry Conference, June **2010**, Thessaloniki, Greece.
19. **Kyriakos Prousis**,^a Ioannis Charalampopoulos, Achilleas Gravanis, Theodora Calogeropoulou. "Synthesis and biological evaluation of 17-spiro-substituted DHEA derivatives with neuroprotective activity" International Conference on Chemistry for Health, Athens, 9-14 September 2012.
20. **K. C. Prousis**, M. Roussaki, D. Benitez, M. Comini, T. Calogeropoulou, A. Detsi. "Design and synthesis of 1,4,5-trisubstituted-3-hydroxy-dihydropyrroles as potential leads in the search of Trypanothione synthetase inhibitors." COST CM0801 4th Annual Meeting, Kolymvari, 19-21 September 2012.
21. **Prousis K.C.**, Koini E.N., Martins-Duarte E. S., de Souza W., Vommaro R.C., Calogeropoulou, T. 'Design and Synthesis of 5,7,8-Trimethyl-1,4-Benzoxazine Derivatives Active Against *Toxoplasma gondii*' 15th Hellenic Symposium of Medicinal Chemistry, Athens, May 2012.
22. **Kyriakos C. Prousis**, John Markopoulos, Vickie Mckee, Olga Igglessi-Markopoulou. 'A Novel Synthetic Approach Towards Fully Functionalized Optically Active Tetrone Acids'. 14th Tetrahedron Symposium, Austria 25-28 June 2013