

CURRICULUM VITAE

Constantinos Potamitis, PhD

Chemist

PERSONAL DATA

Date & Place of Birth : October 22, 1978, Athens
Home Address: Argyrokastrou 24Γ, Vrilissia, Attica, e-mail:
GREECE potamitis@eie.gr
Tel: +302108032665, +306948401385
Marital Status : Single
Nationality : Cypriot

CURRENT STATUS

Postdoctoral fellow at the Institute of Biology, Medicinal Chemistry and Biotechnology of the National Hellenic Research Foundation, Athens, Greece.

EDUCATION

2006 -2009

Ph.D. in Physical Chemistry, National and Kapodistrian University of Athens, School of Sciences – Faculty of CHEMISTRY & National Hellenic Research Foundation - Institute of Organic and Pharmaceutical Chemistry.

Title: *The use of Physicochemical methodologies to study the conformational analysis of peptide analogs against Multiple Sclerosis and their Interactions with lipid bilayers.*

This PhD thesis was in the framework of the research program PENED 2003 entitled: “Design, synthesis and biological evaluation of MBP analogs targeting the immunotherapy of Multiple Sclerosis”

2003 - 2006

Master degree (M.Sc.) in Physical Chemistry, National and Kapodistrian University of Athens, School of Sciences – Faculty of CHEMISTRY & National Hellenic Research Foundation - Institute of Organic and Pharmaceutical Chemistry.

Title: *Use of physicochemical methods to investigate the conformational properties of the antihypertensive drug Valsartan and its interactions with membrane bilayers.*

1997-2003

Diploma (B.Sc.) in Chemistry – Degree: 7.12/10, National and Kapodistrian University of Athens, School of Sciences – Faculty of CHEMISTRY

PARTICIPATION IN RESEARCH PROGRAMS

1/3/2010 – today

- **“NMR spectroscopy and in silico methodologies towards screening of potential drug molecules and structure determination.”** FP7-Regional Potential project “Advancement of Research Capability for the Development of New Functional Compounds” (ARCADE) implemented at the Institute of Biology, Medicinal Chemistry and Biotechnology of the National Hellenic Research Foundation, Athens, Greece.

1/7/2009 – 31/10-2009

- **“Development of a novel method for the extension of the life circle of deactivated car catalysts.”** The research took place at the Institute of Organic and Pharmaceutical Chemistry of the National Hellenic Research Foundation, Athens, Greece.

15/9/2006 – 15/3/2007

- **“Structure and Dynamics of metalloproteins through NMR spectroscopy”** The research took place in Magnetic Resonance Center (CERM) at Florence, Italy.

1/6/2006 – 31/5/2009

- **“Design, synthesis and biological evaluation of MBP analogs targeting the immunotherapy of Multiple Sclerosis.”** The research was in the framework of PENED 2003 and took place at the Institute of Organic and Pharmaceutical Chemistry of the National Hellenic Research Foundation, Athens, Greece.

1/5/2003 - 31/12/2003

- **“Detection of adulteration of Virgin Olive Oil by Hazelnut oil using ¹³C High Resolution NMR Spectroscopy.”** The research took place in National Hellenic Research Foundation at Athens, Greece. GROWTH-GIRD CT 2000 00440, EUROPEAN COMMISSION RESEARCH DIRECTORATES GENERAL SHARED COST.

GRANTS

1. STSM CM0801-4468 COST **“In silico screening and docking studies for the design of novel TryS inhibitors with potential antileishmanial activity.”** Faculty of Pharmacy - University of Siena, Italy, May 3 – June 3, 2010.
2. European School of Medicinal Chemistry, Urbino, Italy, September 13-18, 2009.

1. **Comparative study of the AT₁ receptor prodrug antagonist candesartan cilexetil with other sartans on the interactions with membrane bilayers.** Fotakis C., Megariotis G., Christodouleas D., Kritsi E., Zoumpoulakis P., Ntountaniotis D., Zervou M., Potamitis C., Hodzic A., Pabst G., Rappolt M., Mali G., Baldus J., Glaubitz C., Papadopoulos M. G., Afantitis A., Melagraki G., Mavromoustakos T. *BBA-Biomembranes* 1818 (12), 3107-3120 (2012).
2. **C-Glucosylated malonitrile as a key intermediate towards carbohydrate-based glycogen phosphorylase inhibitors.** Feuillastre S., Chajistamatiou A. S., Potamitis C., Zervou M., Zoumpoulakis P., Chrysina E. D., Praly J.-P., Vidal S. *Bioorganic & Medicinal Chemistry* 20 (18), 5592-5599 (2012).
3. **Synthesis of novel sulfonamide-1,2,4-triazoles, 1,3,4-thiadiazoles and 1,3,4-oxadiazoles, as potential antibacterial and antifungal agents.** Zoumpoulakis P., Camoutsis Ch., Pairas G., Sokovic M., Glamoclija J., Potamitis C., Pitsas A. Biological evaluation and conformational analysis studies. *Bioorganic & Medicinal Chemistry* 20 (4), 1569-1583 (2012).
4. **Conformational analysis of the MBP₈₃₋₉₉ (Phe⁹¹) and MBP₈₃₋₉₉ (Tyr⁹¹) peptide analogues and study of their interactions with the HLA-DR2 and human TCR receptors by using Molecular Dynamics.** Potamitis C., Matsoukas M. T., Tselios T., Mavromoustakos T., Grdadolnik S.G. *Journal of Computer-Aided Molecular Design* 25 (9), 837-853 (2011).
5. **Interactions of the AT₁ antagonist valsartan with dipalmitoyl-phosphatidylcholine bilayers.** Potamitis C., Chatzigeorgiou P., Siapi E., Viras K., Mavromoustakos T., Hodzic A., Pabst G., Cacho-Nerin F., Laggner P., Rappolt M. *BBA-Biomembranes* 1808 (6), 1753-1763 (2011).
6. **Thermal, dynamic and structural properties of drug AT₁ antagonist olmesartan in lipid bilayers.** Ntountaniotis D., Mali G., Grdadolnik S.G., Maria H., Skaltsounis A.L., Potamitis C., Siapi E., Chatzigeorgiou P., Rappolt M., Mavromoustakos T. *BBA-Biomembranes* 1808 (12), 2995-3006 (2011).
7. **Xanthenes in Heterocyclic Synthesis. An Efficient and General Route for the Synthesis of Regioselectively Substituted Phthalazines.** Gardikis Y., Tsoungas P. G., Potamitis C., Zervou M., Cordopatis P. *Heterocycles* 83, 6, (2011) doi: 10.3987/COM-11-12168.
8. **Xanthenes in Heterocyclic Synthesis. An Efficient Route for the Synthesis of C-3 o-Hydroxyaryl Substituted 1,2-Benzisoxazoles and Their N-Oxides, Potential Scaffolds for Angiotensin(II) Antagonist Hybrid Peptides.** Gardikis Y., Tsoungas P. G., Potamitis C., Zervou M., Cordopatis P. *Heterocycles* 83, 5, (2011) doi: 10.3987/COM-11-12162.
9. **Interactions at the bilayer interface and receptor site induced by the novel synthetic pyrrolidinone analog MMK3.** Fotakis C., Gega S., Siapi E., Potamitis C., Viras K., Moutevelis-Minakakis P., Kokotos C.G., Durdagi S., Golic Grdadolnik S., Sartori B., Rappolt M., Mavromoustakos T. *BBA-Biomembranes* 1798 (3), 422 - 432 (2010).

10. **Antihypertensive Drug Valsartan in Solution and at the AT(1) Receptor: Conformational Analysis, Dynamic NMR Spectroscopy, in Silico Docking, and Molecular Dynamics Simulations.** Potamitis C., Zervou M., Katsiaras V., Zoumpoulakis P., Durdagi S., Papadopoulos M.G., Hayes J.M., Grdadolnik S.G., Kyrikou I., Argyropoulos D., Vatougia G. Mavromoustakos T. *Journal of Chemical Information and Modeling* 49 (3), 726-739 (2009).
11. **Polymerization of Higher alpha-Olefins Using a C-s-Symmetry Hafnium Metallocene Catalyst. Kinetics of the Polymerization and Microstructural Analysis.** Kotzabasakis V., Kostakis K., Pitsikalis M., Hadjichristidis N., Lohse D.J., Mavromoustakos T., Potamitis C. *Journal Of Polymer Science Part A- Polymer Chemistry* 47 (17) 4314-4325 (2009).
12. **Probing for missing links in the binary and ternary V(V)-citrate-(H₂O₂) systems: synthetic efforts and in vitro insulin mimetic activity studies.** Gabriel C., Venetis J., Kaliva M., Raptopoulou C.P., Terzis A., Drouza C., Meier B., Voyiatzis G., Potamitis C., Salifoglou A. *Journal of inorganic biochemistry* 103 (4), 503-516 (2009).

CHAPTERS IN BOOKS

1. **Peptide mimetics drugs and their interdigitation with lipid bilayers.** Mavromoustakos T., Moutevelis-Minakakis P., Kokotos G., Papavassilopoulou E., Potamitis C., Photakis Ch., Chatzigeorgiou P., Viras K., Koukoulitsa C., Kalatzis E., Durdagi S. *Essays on Contemporary Peptide Science*, Chapter 6 pp. 95-112, Research Signpost, India, ISBN: 978-81-308-0428-6 (2011).
2. **Putative bioactive conformers of small molecules: A concerted approach using NMR spectroscopy and computational chemistry.** Mavromoustakos, T., Golic Grdadolnik, S., Zervou, M., Zoumpoulakis, P., Potamitis, C., Politi, A., Mantzourani, E., Platts, J. A., Koukoulitsa, C., Minakakis, P., Kokotos, G., Tselios, T., Matsoukas J., Durdagi, S., Papadopoulos, M. G., Papahatjis, D. P., Spyralanti, Z. S., Dalkas, G. A. Spyroulias, G.A. *Medicinal Chemistry Research Progress*, Chapter 7 pp.175-205, Nova Science Publishers, Inc. ISBN 978-1-60456-580-5 (2008).

ORAL ANNOUNCEMENT IN CONFERENCES

1. **In silico approaches towards novel Trypanothione Synthetase (TryS) Inhibitors.** Zoumpoulakis P, Potamitis C., Calogeropoulou T. *4th COST CM0801 Annual Meeting on "New Drugs for Neglected Diseases" Kolymvari-Crete, Greece, September 19-21, 2012.*
2. **NMR screening for putative repellents targeting Odorant Binding Proteins (OBPs) of the mosquito Anopheles gambiae, the primary vector for malaria.** *3rd ARCADE Workshop "Advanced Mass Spectrometric and NMR Methods", Athens, Greece, May 28-30, 2012.*
3. **In silico approaches towards the discovery of novel antileishmanial agents.** *29th Trends in Drug Research, Cyprus – Noordwijkerhou – Camerino Symposium, Limassol, Cyprus, October 2-7, 2011.*

4. ***In silico* screening towards novel Trypanothione synthetase inhibitors.** Potamitis C., Zoumpoulakis P., Maccari G., Calogeropoulou T., Botta M. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011.*
5. **Comparative conformational analysis and docking studies between Telmisartan and valsartan. Insights on the molecular basis of action of their pharmacophores associated with AT₁ antagonism.** Zoumpoulakis P., Durdagi S., Potamitis C., Kritsi E., Golic Grdadolnik S., Mavromoustakos T. *14th Hellenic Symposium on Medicinal Chemistry, Thessaloniki, Greece, April 23-25, 2010.*
6. **Use of physicochemical methods for the conformational analysis of peptide analogues against Multiple Sclerosis and their interactions with membrane bilayers.** *European School of Medicinal Chemistry, Urbino, Italy, September 13-18, 2009 (Selected from the poster session).*
7. **Antihypertensive drug Valsartan: conformational analysis, dynamic NMR spectroscopy, in silico docking and membrane associated AT₁ receptor molecular dynamics simulations.** *Workshop on Molecular Modelling: Approaches to Computational Biophysics, Athens, Greece, December 5 – 6, 2008.*
8. **Putative bioactive conformers of small molecules: A concerted approach using NMR spectroscopy and computational chemistry.** Mavromoustakos T., Zervou M., Zoumpoulakis P., Potamitis C., Katsiaras V., Politi A., Mantzourani E., Durdagi S., Koukoulitsa C. *6th International Medicinal Chemistry Symposium, Istanbul, Turkey, July 08-11, 2007. Drug of the Future Vol. 32, Suppl. A, p. 33, July 2007.*
9. **Antihypertensive Drug Valsartan: Conformational Analysis and Determination of the amide rotational barrier using Dynamic NMR Spectroscopy. Comparative superimposition and docking studies with the prototype AT₁ antagonist Losartan.** Potamitis C., Zervou M., Golic Grdadolnik S., Kyrikou I., Katsiaras V., Zoumpoulakis P., Argyropoulos D., Vatougia G., Nikolaropoulos S., Mavromoustakos T. *8th Conference Medicinal Chemistry, Patras, Greece, March 15-17, 2007.*

POSTERS IN CONFERENCES - PROCEEDINGS

1. **NMR screening for putative repellents targeting Odorant Binding Protein 1 (OBP1) of the primary vector for malaria, mosquito *Anopheles gambiae*.** Potamitis C., Zervou M., Zoumpoulakis P., Zographos S.E., Tsitsanou K.E., Drakou C., Iatrou K., Zelenko U., Golic Grdadolnik S. *International Conference on Chemistry for Health, Athens, Greece, September 9-14 2012.*
2. **Synthesis and Conformational analysis of linear, dimeric and cyclic analogues of the C-terminal hexapeptide of Neurotensin.** Potamitis C., Zoumpoulakis P., Exarchakou R., Mertziani V., Spyridaki A., Liapakis G., Cordopatis P., Magafa V. *32nd European Peptide Symposium, Athens, Greece, September 2-7 2012.*
3. **Conformational Similarities and Differences of Angiotensin II (AII): AII Acetate vs AII TFA Salt in Solution.** Potamitis C., Resvani A., Androutsou M-E., Zervou M., Plotas P., Aggelis G., Zoumpoulakis P., Matsoukas J. *32nd European Peptide Symposium, Athens, Greece, September 2-7 2012.*

4. **Pharmacophore model of Cysteine-based $\alpha 4\beta 1$ Integrin Ligands based on Conformational Solution Studies.** Zervou M., Potamitis C., Zoumpoulakis P., Fotakis C., Papadimitriou E., Cordopatis P., Magafa V. *32nd European Peptide Symposium, Athens, Greece, September 2-7 2012.*
5. **Novel cysteine-based $\alpha 4\beta 1$ integrin ligands: Correlation of *in silico* pharmaceutically relevant properties with their *in vivo* profile.** Zervou M., Zoumpoulakis P., Potamitis C., Fotakis Ch., Papadimitriou E., Cordopatis P., Magafa V. *15th Hellenic Symposium on Medicinal Chemistry, Athens, Greece, May 25-27 2012.*
6. **Design of novel Trypanothione Synthetase inhibitors with potential antileishmanial activity.** Potamitis C., Zoumpoulakis P., Calogeropoulou T., Maccari G., Botta M. *8th European Workshop in Drug Research, Siena, Italy, May 22-28, 2011.*
7. **Design and synthesis of 2-substituted-3-aryl-thieno pyrimidin-4-one derivatives as potential trypanothione synthetase inhibitors.** Calogeropoulou T., Kalopetridou L. Prousis K., Zoumpoulakis P., Potamitis C., Jaegerb T. *17th European Symposium on Organic Chemistry, Crete, Greece, July 10 -15, 2011.*
8. **Thermal and dynamic properties of drug AT1 antagonist Olmesartan in lipid bilayers.** Ntountaniotis D., Chatzigeorgiou P., Mali G., Golic Grdadolnik S., Halabalaki M., Skaltsounis A-L., Potamitis C., Siapi E., Rappolt M., Mavromoustakos T. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011. 1st Prize poster*
9. ***In silico* methodologies towards the discovery novel Trypanothione Synthetase inhibitors with potential antileishmanial activity.** Potamitis C., Zoumpoulakis P., Maccari G., Calogeropoulou T., Botta M. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011. 2st Prize poster*
10. **Synthesis, competition binding and conformational studies of new analogues of C-terminal hexapeptide of Neurotensin.** Petropoulos Ch., Exarchakou R., Zoumpoulakis P., Potamitis C., Assimomytis N.L., Venihaki M., Liapakis G., Cordopatis P., Magafa V. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011.*
11. **Comparative studies between Telmisartan and other AT1 antagonists at membrane and receptor active site.** Zoumpoulakis P., Durdagi S., Potamitis C., Kritsi E., Golic Grdadolnik S., Mavromoustakos T. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011.*
12. **Conformation of Angiotensin II TFA salt in amphoteric environment: NMR spectroscopy and molecular dynamics simulations.** Potamitis C., Zoumpoulakis P., Zervou M., Resvani A., Androutsou M.E., Matsoukas J. *12th Conference Medicinal Chemistry, Patras, Greece, April 12-15, 2011.*
13. ***In silico* screening methodologies for the design of novel TryS inhibitors with potential antileishmanial activity.** Zoumpoulakis P., Potamitis C., Maccari G., Calogeropoulou T., Botta M. *18th European Symposium on Quantitative Structure – Activity Relationships, Rhodes, Greece, September 19-24, 2010.*
14. ***In silico* binding studies of novel quinolinone 3-carboxamides: an effort to elucidate their anti-inflammatory profile.** Zervou M., Zoumpoulakis P., Potamitis C., Prousis K.C., Detsi A. *18th European Symposium on Quantitative Structure – Activity Relationships, Rhodes, Greece, September 19-24, 2010.*
15. **An exploratory investigation of the chemical and isotopic composition of biominerals from the human body.** Athanasiadou D., Godelitsas A., Sokaras D., Karydas A., Dotsika E., Potamitis C., Zervou M., Xanthos S., Chatzitheodoris E.,

- Gamaletsou M., Gooi H.C., Becker U. *European Mineralogical Union –School 2010, Oviedo, Spain, June 27-30, 2010.*
16. **Comparative conformational analysis study of candesartan CV with eprosartan and losartan.** Kritsi E., Chatziaggeloglou S., Zoumpoulakis P., Potamitis C., Papakonstantopoulos N., Mavromoustakos T. *11th Conference Medicinal Chemistry, Patras, Greece, April 25-28, 2010.*
 17. **Privileged heterocyclic scaffolds with antioxidant and lipoxygenase inhibitory activity. Synthesis, in vitro biological evaluation and in silico docking studies of 4-hydroxy-2-quinolinone-3-carboxamides.** Detsi A., Prousis K.C., Kontogiorgis C.A., Pontiki E.A., Zervou M., Zoumpouliakis P., Potamitis C., Litina D. *14th Hellenic Symposium on Medicinal Chemistry, Thessaloniki, Greece, April 23-25, 2010.*
 18. **Conformational Analysis of Myelin Basic Protein Peptide Analogues with the Use of NMR Spectroscopy and Molecular Dynamic Simulations.** Potamitis C., Matsoukas M., Tselios T., Grdadolnic S.G., Mavromoustakos T. *3rd Hellenic Symposium on Organic synthesis, Athens, Greece, October 15-17, 2009.*
 19. **Nanoscale processes during the interaction of aluminosilicate and carbonate mineral surfaces with acid mine drainage (AMD).** Kollias K., Godelitsas A., Astilleros J.M., Ladas S., Kennou S., Potamitis C., Zervou M., Lagoyiannis A., Harissopoulos S., Mavromoustakos T. *19th Annual V.M. Goldschmidt Conference, Davos, Switzerland, June 21 – 26, 2009. Geochimica et Cosmochimica Acta 73 (13) p. A677 Suppl. S (2009).*
 20. **Study of Myelin Basic Protein peptide analogues interactions with lipid bilayers using DSC, Raman and solid state ¹³C and ³¹P NMR spectroscopy.** Potamitis C., Zervou M., Tselios T., Matsoukas J., Viras K., Mavromoustakos T. *10th Conference Medicinal Chemistry, Patras, Greece, March 18-20, 2009.*
 21. **Isolation of psoralens from the *Ficus sycomorus* sap. A novel approach against psoriasis.** Mavromoustakos S., Petrou C., Kokkalou E., Roussis V., Christofi V., Efthimiou G., Potamitis C., Durdagi S., Mavromoustakos T. *7th Joint Meeting of AFERP, ASP, GA, PSE & SIF, Natural products with pharmaceutical nutraceutical cosmetic and agrochemical interest. Athens, August 3-8, 2008. Planta Medica Issue 09 Vol. 74, 2008.*
 22. **Interactions of a pair of synthetic peptide analogues of Myelin Basic Protein with lipid bilayers using DSC and high resolution solid state ¹³C NMR.** Potamitis C., Zervou M., Tselios T., Matsoukas J., Mavromoustakos T. *9th Conference Medicinal Chemistry, Patras, Greece, March 26-28, 2008.*
 23. **Antihypertensive Drug Valsartan: conformational analysis, thermodynamic properties and docking studies using NMR spectroscopy and in silico methods.** Potamitis C., Zervou M., Hayes J. M., Zoumpoulakis P., Argyropoulos D., Golic Grdadolnik S., Mavromoustakos T. *13th Hellenic Symposium of Medicinal Chemistry, Athens, Greece, March 14-15, 2008.*
 24. **Docking studies of the antihypertensive drug valsartan at the active site of the AT1 receptor.** Katsiaras V., Potamitis C., Zoumpoulakis P., Nikolaropoulos S., Mavromoustakos T. *8th Conference Medicinal Chemistry, Patras, Greece, March 15-17, 2007.*
 25. **Intermolecular Cu-transfer studied by NMR** Bertini I., Felli I., Pierattelli R., Potamitis C., Wedd A. G., Xiao Z. *Advances and management of NMR in life sciences, Florence, Italy, January 18-20, 2007.*
 26. **Conformational Analysis of AT₁ antagonist Valsartan using 2D NMR spectroscopy and Computational Analysis. Determination of thermodynamic**

parameters through dynamic NMR spectroscopy and semi-empirical calculations. Potamitis C., Reis H., Zervou M., Papadopoulos M., Mavromoustakos T. *5th Hellenic Forum of Bioactive Peptides, Patras, Greece, May 14-16, 2006.*

27. **Conformational Analysis of AT₁ antagonist Valsartan using 2D NMR spectroscopy and Computational Analysis. Determination of thermodynamic parameters through dynamic NMR spectroscopy and semi-empirical calculations.** Potamitis C., Reis H., Zervou M., Papadopoulos M., Mavromoustakos T. *7th Conference Medicinal Chemistry, Patras, Greece, March 8-11, 2006.*
28. **Conformational Analysis Using 2D NMR Spectroscopy Coupled with Computational Analysis of Valsartan and its Membrane Interactions.** Potamitis C., Zervou M., Kyrikou I., Siapi E., Zoumpoulakis P., Fotakis C., Christodouleas D., Viras K., Kolocouris A., Grdadolnik S.G., Mavromoustakos T. *4th Hellenic Forum on Bioactive Peptides, Patras, Greece, April 22-24, 2004.*
J. Peptide Sci. 2004 (10 Sup) H55, p 313-316.

ORGANIZING COMMITTEE IN CONFERENCES

1. 4th COST CM0801 Annual Meeting on “**New Drugs for Neglected Diseases**”
Kolymvari-Crete, Greece, September 19-21, 2012.
2. 3rd ARCADE Workshop “**Advanced Mass Spectrometric and NMR Methods**”
Athens, Greece, May 28-30, 2012.

SCIENTIFIC SKILLS - QUALIFICATIONS

- *In silico* methodologies studying ligand - protein target molecular interactions and virtual screening.
- Computational chemistry and molecular modeling software (Schrödinger, LigandScout, Discovery Studio, Autodock, Pymol).
- Structural elucidation and conformational studies of compounds with pharmaceutical interest.
- Sequence-specific assignment of proteins by multidimensional solution NMR spectroscopy.
- Experience in Varian 600 MHz, 300 MHz NMR and in 400 MHz solid state NMR spectrometers.
- 2D & 3D NMR processing software (VNMRJ, MNova, Sparky).
- Experience in Perkin-Elmer DSC and FT-NIR Raman spectrometer.

FOREIGN LANGUAGES

1. **English**, Certificate of Proficiency in English, University of Cambridge
2. **German**, Zertifikat Deutsch als Fremdsprache, Goethe Institut
3. **Italian**, Basic knowledge

September 2012