

CURRICULUM VITAE

Demetris Papahatjis

Senior Researcher

Tel: + 30 210 7273885

Fax: +30 210 7273831

E-mail: dpapah@eie.gr



Education

- 1975-1979 : Bachelor of Sciences (**B.Sc.**) Chemistry (Honors).
Philadelphia College of Textiles and Science. Philadelphia, PA. U.S.A
- 1979-1984 : Doctor of Philosophy (**Ph.D**) Organic Chemistry
University of Pennsylvania. Philadelphia, PA. U.S.A
"Ionophore antibiotic X14547A- Enantioselective synthesis of the tetrahydropyran unit; Studies directed towards the total synthesis of Amphotericin B; Syntheses of O-Glycosides and Glycosyl Fluorides."
Supervisor of Dissertation Professor K. C. Nicolaou.

Awards

- : "Academic Achievement in Science Award" (1977-1978)
- " Who is who in American Colleges and Universities Award (1978-1979).
- " Outstanding Foreign Student Award" (1979).
- " American Institute of Chemists Award", Pennsylvania Section (1979).

Employment

- 1978-1979 : Teaching Assistant – Organic Chemistry, Department of Chemistry, Philadelphia College of Textiles and Science
- 1979-1983 : Teaching Assistant – Organic Chemistry, Department of Chemistry, University of Pennsylvania
- 1983-1984 : Research Assistant – Organic Chemistry, Department of Chemistry, University of Pennsylvania.
- 1985-1991 : Researcher- Department of Research and Development, Vioryl S.A.
- 1991-2002 : Researcher, National Hellenic Research Foundation.
- 2002-present : Senior Researcher, National Hellenic Research Foundation.

Fields of Specialization.

- Stereocontrolled total synthesis of architecturally complex natural products having significant bioregulatory properties.
- Carbohydrate chemistry
- Drug design and synthesis.

- New synthetic technology.

Research Interests.

- Chirospecific synthesis of novel cannabinoid, anandamide analogs.
- Development of tissue-specific antiestrogens.
- Fluorine chemistry.
- New synthetic technology enabling the synthesis of conformationally constrained bioactive molecules

Publications

"Total Synthesis of Ionophore Antibiotic X-14547A. 1. Enantion-selective Synthesis of the Tetrahydropyran and Tetrahydroindan Building Blocks", K.C. Nicolaou, **D.P. Papahatjis**, D.A. Claremon And R.E. Dolle, III, J. Am. Chem. Soc., **103**, 6967-6969 (1981).

"Total Synthesis of Ionophore Antibiotix X-14547A. 2. Coupling of the Tetrahydropyran and Tetrahydroindan Systems and Construction of the Butadienyl and Ketopyrrole Moieties", K.C. Nicolaou, D.A. Claremon, **D.P. Papahatjis** and R.L. Magolda, J. Am. Chem. Soc., **103**, 6969-6971 (1981).

"A Mild Method for the Synthesis of 2-Ketopyrroles from Carboxylic Acids", K.C. Nicolaou, D.A. Claremon and **D.P. Papahatjis**, Tetrahedron Letters, **22** (46) 4647-4650 (1981).

"A New, Mild and general Method for the Synthesis of O-Glycosides", K.C. Nicolaou, S.P. Seitz and **D.P. Papahatjis**, J. Am. Chem. Soc., **105**, 2430 (1983).

"Practical Synthesis of Oligasaccharides, Partial Synthesis of Avermectin B1a", K.C. Nicolaou, R.E. Dolle, **D.P. Papahatjis** and J.L. Randall, J. Am. Chem. Soc., **106**, 4189 (1984).

"Total Synthesis of Ionophore Antibiotix X-14547A", K.C. Nicolaou, **D.P. Papahatjis**, D.A. Claremon, R.L. Magolda and R.E. Dolle, J. Org. Chem., **50**, 1440 (1985).

"Modern Synthetic Technology and Total Synthesis of Bioactive Molecules", K.C. Nicolaou, N.A. Petasis, R.E. Dolle, S.W. Li, **D.P. Papahatjis**, J. Uenishi, R.E. Zipkin, in "New Methods in Drug Research", A. Makriyannis, editor, J.R. Prouse, S.A. Baelona, Spain (1985).

"Ionophore Antibiotix X-14547A. Enantioselective Synthesis of the Tetrahydropyran Unit. Studies towards the Synthesis of Amphotericin B. Synthesis of O-Glycosides and Glycosyl fluorides", **D.P. Papahatjis**, Ph.D. Thesis, University of Pennsylvania (Supervisor: Prof. K.C. Nicolaou), 1984, **336** pp.

"Stereocontrol Construction of Key Building Blocks for the Total Synthesis of Amphoteronolide B and Amphotericin B", K.C. Nikolaou, R.A. Daines, J. Uenishi, W.S. Li, **D.P. Papahatjis** and T.K. Chakraborty, J. Am. Chem. Soc., **109**, 2205 (1987).

"Total Synthesis of Amphoteronolide B and Amphotericin B". 1. Strategy and Stereocontrolled Construction of Key Building Blocks, K.C. Nicolaou, R.A.

Daines, J. Uenishi, W.S. Li, **D.P. Papahatjis**, and T.K. Chakraborty, J. Am. Chem. Soc., **110**, 4672 (1988).

"Enhanced Optical Purity of 3-Hydroxy-esters Obtained by Baker's Yeast Reduction of 3-Ketoesters", V. Spiliotis, **D.P. Papahatjis** and N. Ragoussis, Tetrahedron Letters, **31**, (11) 1615-1616 (1990).

"A brief review of the recent achievements in the field of Cannabinoids with main emphasis on the synthesis of lead compounds and their interactions on lipid bilayers", T. Mavromoustakos, **D.P. Papahatjis**, T. Kourouli, E. Theodoropoulou, A. Makriyannis, Rev. Clinical Pharmacology, **13**, 105 (1995).

"Study of Thermotropic properties of Cannabinoids in phosphatidylcholine bilayers using Differential scanning Calorimetry and Small Angle X-ray Diffraction", T. Mavromoustakos, **D.P. Papahatjis**, E. Theodoropoulou, T. Kourouli, De-Ping Yang, M. Trumbore, A. Makriyannis, Biochim. Biophys. Acta, **1281**, (2) 235-244 (1996).

"Pharmacophoric Requirements for Cannabinoid Side chains. Naphthoyl and Naphthylmethyl substituted Δ^8 -THC Analogs.", **D.P. Papahatjis**, T. Kourouli and A. Makriyannis, J. Heter. Chem. **33**, 559-562 (1996).

"Pharmacophoric Requirements for Cannabinoid Side Chains. Multiple bond and C1' -Substituted Δ^8 -Tetrahydrocannabinols", **D.P. Papahatjis**, T. Kourouli, V. Abadji, A. Goutopoulos and A. Makriyannis, J. Med. Chem. **41**, 1195 (1998).

"Structure Elucidation and Conformational Properties of Synthetic Cannabinoids 2-[6a,7,10,10a-tetrahydro-6,6,9-trimethyl-6H dibenzo [b,d]pyran-1-ol]-2-[hexyl]-1,3-dithiolane and its methylated analog" T. Mavromoustakos, E. Theodoropoulou, M. Zervou, T. Kourouli and **D.P. Papahatjis**. J. Pharm. Biomed. Analysis, **18**, 947 (1999).

"Novel Analogues of Arachidonylethanolamide (Anandamide): Affinities for the CB1 and CB2 Cannabinoid Receptors and Metabolic Stability." S. Lin, A. T. Khanolkar, P. Fan, A. Goutopoulos, Ce Qin, **D.P. Papahatjis**, and A. Makriyannis, J. Med. Chem. **41**, 5353 (1998).

"A New Ring-Forming Methodology for the Synthesis of Conformationally Constrained Bioactive Molecules"

Demetris P. Papahatjis, Spyros Nikas, Andrew Tsotinis, Margarita Vlachou and Alexandros Makriyannis. Chemistry Letters **3**, 192 (2001).

"Differential membrane fluidization by active and inactive cannabinoid analogs"

T. Mavromoustakos, **D.P. Papahatjis**, P. Laggner.

Biochimica et Biophysica Acta 1511 183 (2001).

"Novel 1',1'-Chain Substituted Δ^8 -Tetrahydrocannabinols"

Demetris P.

Papahatjis, Spyros P. Nikas, Thanos Andreou and Alexandros Makriyannis.

Biorganic and Medicinal Chemistry Letters. 3583, (2002).

"Pharmacophoric Requirements for Cannabinoid Side Chains. 3: Probing the Cannabinoid Receptor subsite at C1'"

Demetris P. Papahatjis, Spyros P. Nikas, Therapia Kourouli, Ravi Chari, Wei Xu, Roger G. Pertwee and Alexandros Makriyannis.

J. Med. Chem. 46, 3221, (2003).

"The Role of Halogen Substitution in Classical Cannabinoids. A CB1 Pharmacophore Model."

Spyros P. Nikas, Jolanta Grzybovska, **Demetris P. Papahatjis**, Avgui Charalambous, Ali R. Banijamali, Ravi Chari, Pusheng Fan, Therapia Kourouli, Sonyuan Lin, Albert J. Nitowski, Gilbert Marciniak, Yan Guo, Xiuyan Li, Chia-Lin J. Wang and Alexandros Makriyannis.

AAPS, Journal. 6(4): Article 30 (2004).

"Preclinical behavioral evaluation of a novel cannabinoid analogue"

Antoniou K, Galanopoulos A, Vlachou S, Nahmias V, Thermos, K, Panagis G, Daifoti Z, Marselos M, **Papahatjis D**, and Spyraiki C.

Rev. Clinical Pharmacology and Pharmacokinetics, 23, 26 (2005).

"Behavioral pharmacological properties of a novel cannabinoid 1',1'-dithiolane Δ^8 -THC analogue, AMG-3."

Antoniou K, Galanopoulos A, Vlachou S, Kourouli T, Nahmias V, Thermos, K, Panagis G, Daifoti Z, Marselos M, **Papahatjis D**, and Spyraiki C.

Submitted to Behavioral Pharmacology. (2005).

"A Convenient Preparation of Enantiomerically Pure Esters of trans-Epoxy succinic Acid"

D.P. Papahatjis, T. Kourouli, Victoria Nahmias.

Submitted to Chemistry Letters.

Presentations in International Conferences.

4th Conference in Advanced Medicinal Chemistry, Thessaloniki 19-20 May 1995.

Pharmacophoric Requirements for the Cannabinoid Receptor: Stereoelectronic features of the Side Chain.

D. Papahatjis, T. Kourouli, A. Makriyannis.

XIV th International Symposium on Medicinal Chemistry, Maastricht, 8-12-September, 1996.

High Affinity Covalent Probes for the Cannabinoid Receptors. C1' – Azido and Isothiocyanato Δ^8 -THC Analogs.

D.P.Papahatjis, T. Kourouli, W. A. G. Hill and A. Makriyannis.

XIV th International Symposium on Medicinal Chemistry, Maastricht, 8-12-September, 1996.

A Novel Class of Potent Δ^8 -THC Analogs : Multiple bond and C1'- Substituted Δ^8 - Tetrahydro-cannabinols.

D.P.Papahatjis, T. Kourouli, V. Abadji and A. Makriyannis.

5th Conference in Advanced Medicinal Chemistry, Thessaloniki 23-24 May 1997

Novel High Affinity Covalent Probes for the Cannabinoid Receptors.

D.P.Papahatjis, T. Kourouli, W. A. G. Hill and A. Makriyannis.

5th Conference in Advanced Medicinal Chemistry, Thessaloniki 23-24 May 1997

Aminoalkylindole/Classical Cannabinoid Hybrids: Pharmacophoric Requirements for Cannabinoid Side Chains.

Papahatjis D., Kourouli T., Picone R., Makriyannis A.

XVth International Symposium on Medicinal Chemistry, Edinburgh, 6-10 September 1998.

"Pharmacophoric Requirements for Cannabinoid Side Chains: Halogen Substituted Δ^8 -Tetrahydro-cannabinols"

Papahatjis D., Kourouli T., Nikas, S., Picone R., Makriyannis A.

8th Cyprus Conference on New Methods in Drug Research, Limassol, April 25-30, 1999.

«Synthesis and Cannabinoid Receptor Affinities of a Series of Halogen Substituted Δ^8 -Tetrahydrocannabinols»

Papahatjis D., Kourouli T., Nikas, S., Picone R., Makriyannis A.

6th Conference in Advanced Medicinal Chemistry, Thessaloniki, 28-29 May 1999.

An Alternative Ring-Forming Methodology for the Synthesis of Conformationally Constrained Bioactive Molecules.

Demetris P. Papahatjis, Andrew Tsotinis, Spyros Nikas, Margarita Vlachou.

8th Belgian Organic Synthesis Symposium, July 10-14, 2000.

"Cyclobisalkylated Conformationally Constrained Bioactive Molecules: A New Ring-Forming Methodology"

Demetris P. Papahatjis, Spyros Nikas, Andrew Tsotinis, Margarita Vlachou and Alexandros Makriyannis.

7th Conference in Advanced Medicinal Chemistry, Thessaloniki, 17-18 May 2001.

Studies Directed Towards the synthesis of Novel Selective Estrogen Receptor Modulators

Demetris P. Papahatjis, Nikos Assimomitis

7th Conference in Advanced Medicinal Chemistry, Thessaloniki, 17-18 May 2001.

Pharmacophoric Requirements for Cannabinoid Side Chains: Double Bond and C-1'-substituted Δ^8 -Tetrahydrocannabinols

Demetris P. Papahatjis, Spyros Nikas, Thanos Andreou, Alexandros Makriyannis

9th Cyprus Conference on New Methods in Drug Research, Limassol, May 17-22, 2001.

Differential Membrane Fluidization by Active and Inactive Cannabinoid Analogs

T. Mavromoustakos, D. Papahatjis, P. Laggner

The 12th European Symposium on Organic Chemistry, Groningen, July 13-18, 2001.

Introduction of Fluorine Probes into Δ^8 -Tetrahydrocannabinol and 4',6-Dimethoxy Raloxifene by a Novel Desulfurative Fluorination Method

Demetris P. Papahatjis, Therapia Kourouli, Nikos Assimomitis, Thanos Andreou

BOSS-9 - 9th Belgian Organic Synthesis Symposium, Namur, Belgium July 8-12, 2002.

A Suzuki-Miyaura coupling approach for the synthesis of conformationally constrained cannabinoids

D. Papahatjis, S. Nikas, T. Andreou, A. Makriyannis

XVIIth International Symposium on Medicinal Chemistry, Barcelona, Spain September 1-5, 2002.

Pharmacophoric requirements for cannabinoid side chains: C1' - cycloalkyl substituted Δ^8 -tetrahydrocannabinols

D. Papahatjis, S. Nikas, T. Andreou, V. Nahmias, A. Makriyannis

XVIIth International Symposium on Medicinal Chemistry, Barcelona, Spain September 1-5, 2002.

Synthesis of conformationally constrained classical cannabinoids via the Suzuki-Miyaura coupling reaction

D. Papahatjis, T. Andreou, V. Nahmias, A. Makriyannis

International Summer School for Postdoctoral Scientists and Advanced Students, Island of Spetses, Greece August 18-30, 2002.

"Novel 1',1'-Chain Substituted Δ^8 -Tetrahydrocannabinols"

D. Papahatjis, S. Nikas, T. Andreou, V. Nahmias, A. Makriyannis

NATO ASI Corfu, Greece April 29- May 11, 2003.

Organic Conductors, Superconductors and Magnets: From Synthesis to Molecular Electronics.

G.A. Mousdis, G. Papavassiliou, G. Anyfantis, N. Psaroudakis, A. Terzis, K. Raptopoulou, N. Asimomitis, D. Papahatjis, K. Murata, J. P. Ulmet, D. Vignolles.

International Symposium on Advances in Synthetic, Combinatorial and Medicinal Chemistry, Moscow, Russia May 5-8, 2004.

Pharmacophoric Requirements for Cannabinoid Side Chains: C1'- cycloalkyl substituted 11 hydroxy- Δ^8 -Tetrahydrocannabinols.

Demetris P. Papahatjis, Victoria Nahmias and Alexandros Makriyannis

1ST Hellenic Symposium Organic Synthesis From Chemistry To Biology, Medicine and Materials Science. University Of Athens. November 4-5, 2004.

Novel Side Chain Functionalized Cannabinoids

Victoria Nahmias, Alexandros Makriyannis, Demetris P. Papahatjis.

9th Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, Sharm El-Sheikh, Egypt, December 11-14, 2004.

Synthesis and Cannabinoid Receptor Affinities of a Series of C1'- Cycloalkyl Substituted 11-Hydroxy- Δ^8 -Tetrahydrocannabinols

Demetris P. Papahatjis, Victoria Nahmias and Alexandros Makriyannis

4th Conference of the German-Greek Academy for Biomedical Research, University of Ioannina Conference Hall, Greece June 24-25, 2005.

Behavioral pharmacological properties of a novel cannabinoid

Antoniou K, Galanopoulos A. Vlachou S., Kourouli T, Nahmias V., Thermos, K., Panagis G., Daifoti Z., Marselos M, Papahatjis D., Spyraiki C.

EXTERNALLY FUNDED

RESEARCH PROGRAMS:

PAVE B 39 86 Title : Microbial Transformations of Organic Compounds. (6/3/87-6/3/89) Vioryl S. A.

PAVE 82 89 Title : Design and Synthesis of Unsaturated δ - Lactones. (2/10/90-31/8/91) Vioryl S. A.

EPET/SPA 14EIE1 Title : Establishment of the laboratories Organic & Pharmaceutical Chemistry Laboratories . (1990-1993) I.O.P.C.

N.D.O. Title: Design and Synthesis of Antineoplastic Alkyl Lysophospholipid Analogues. Studies on the molecular mechanisms of action. (1991-1994) I.O.P.C

P.S.A. No. 2328- Extension of Grant from University of Connecticut

01/04/1998-31/12/2000

Title: Design and Synthesis of Novel Cannabinoid Analogues

Budget: 12596 Euro

EPET II-EKVAN 98/66

11/11/1998 – 30/04/2001

Title: Development of new Methods for the Therapy and Prognosis of Hormone-dependent Neoplasias

Total Budget: 900000 Euro. IOPC Budget: 48423 Euro.

PENED 1999 (99ED 427)

01/02/2000- 30/07/2001

Title: Development of New Organic Materials with Specific Biological Applications for the Prevention-Treatment of Diabetes Mellitus.

Budget: 39619 Euro.

Excellence in the Research Institutes 1561/B1/3.3.1/414

01/04/2002- 31/3/2005

Title: Novel Strategies Against Neurodegeneration

Budget: 27500 Euro

Operational Programme for Competitiveness

YB/60 (15/9/2003—14/9/2006)

Title: Synthesis of novel cannabinoid analogues with potential analgesic, psychokinetic and psychotropic action devoid of withdrawal effects

Budget: 81640 Euro

EPAN - 02 PRAKSE 95

Title: << Cannabimimetic compounds with therapeutic applications
>>

Budget: 44000 Euro

EPAN - 02 PRAKSE 97

Title: Tissue-specific antiestrogens

Budget: 22000 Euro