Marco A. Ciufolini

Vice President for Chemistry, NanoVation Therapeutics, Inc.

and

Professor Emeritus of Chemistry, University of British Columbia, Vancouver

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Secondary Address: Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, BC V6T 1Z1, Canada. E-mail: ciufi@chem.ubc.ca

Education:
Spring Hill College (Mobile, AL): B.S. (chemistry), 1978, Magna cum Laude
The University of Michigan (Ann Arbor, MI): Ph. D., 1981 (Prof. M. Koreeda)
Yale University (New Haven, Connecticut): Postdoc, 1982-1984 (Prof. S. Danishefsky).

Experience:
Vice-President for Chemistry, NanoVation Therapeutics, Inc., Vancouver, BC, Canada, 2023-present
Director of Chemistry, NanoVation Therapeutics, Inc., Vancouver, BC, Canada, 2021-2022
Professor Emeritus, University of British Columbia, 2021-present
Professor of Chemistry, University of British Columbia, 2004-2021
Canada Research Chair in Synthetic Organic Chemistry, 2004-2018
Co-head, Div. of Med. Chem., UBC Center for Drug Research and Development (CDRD), 2006-2009
Professor of Organic Chemistry, Université Claude Bernard Lyon 1 and Ecole Supérieure de Chimie, Physique, Electronique de Lyon, 1997-2004
Director, CNRS UMR 5078, 1999-2002
Adjunct Professor of Chemistry, Rice University, Mar. 2000-present
Professor (1997-1998); Associate Professor (1990-1997); Assistant Professor (1984-1990) of Chemistry, Rice University, Houston, TX.

Industrial relations:
Consultant for several pharmaceutical laboratories worldwide.

Co-founder of 7 companies: AB Science, SA (Paris, France, founded 2001, Euronext symbol: AB); Chrysalon, SA (Lyon, France, founded 2001, sold 2006); Global Pharmaceutical Consulting, Inc. (Houston, TX, founded 2002, dissolved 2005); Integrated Nanotherapeutics, Inc. (Vancouver, BC, founded 2014); Siope Pharmaceuticals, Inc. (Vancouver, BC, founded 2020, dissolved 2021) NanoVation Therapeutics, Inc. (Vancouver, BC, founded 2020); ARBio Therapeutics, Inc. (Vancouver, BC, founded 2022).

Government Service: United States: Member of NIH Study Sections ZRG3, 1996-1997, and of several Special Study Sections

France: CNRS evaluation committees for various research units / institutes
National committee for the review of technical schools
National committee for the evaluation of young researchers

Canada: Ad-hoc evaluation of the Ph.D. program at smaller universities

Scientific Service: Advisory & Editorial Board of *Targets in Heterocyclic Systems*, 2015-present
Advisory Board of *Heterocycles*, 2008-2012
Reviewer for a number of major technical journals
Evaluation of several Assistant/Associate Professors for promotion/tenure

Memberships: American Chemical Society (ACS), Member, 1978-2020
Organic Chemistry Division of the ACS, Member, 1980-2020
Societé Chimique de France, 1998 - 2004
International Society of Heterocyclic Chemistry (ISHC)
member; member of the Advisory Board (2002-2004; 2012-2014); acting President 2002-2003; President, 2003-2005; Past President, 2005-2006
Canadian Society for Chemistry 2010-2020

Honors: R. U. Lemieux Award, Canadian Society for Chemistry, 2013
Canada Research Chair in Synthetic Organic Chemistry, 2004-2018
Merck & Co. Academic Development Award, 2000 and 2001
Alfred P. Sloan Fellow, 1994 – 1998

Invited Professor, University of Rome La Sapienza, 2022 and 2023
Chair in Integrated Oncology, Institut Paoli Calmettes and IMERA (France), 2019-2020
Visiting Professor, University of Palermo: 2012, 2015 and 2018
Visiting Professor, University of Cagliari: 2012 and 2015

George R. Brown Award for Superior Teaching, May 1997
Amoco Teaching Award, May 1996, May 1995
Rice Pre-Medical Society Outstanding Faculty Award, April 1995
Phi Beta Kappa Teaching Prize, May 1990

Student Research-Teaching Prize, ACS – Huron Valley Section, May 1982

Research Interests: Organic, bioorganic, and organometallic chemistry potentially applicable to synthetic endeavors; total synthesis of natural products; ionizable lipids, medicinal chemistry.

Scientific Production: More than 170 technical papers and book chapters, more than 50 patent applications, 1 monograph. Directed more than 30 Ph.D. theses, 40 Master theses, 15 postdocs and about 80 undergraduate students. More than 250

invited research talks at conferences, universities and industrial laboratories worldwide.

Statistics: Citations: more than 11,900 as of November 2024
H-index = 56 (Google Scholar)

Personal:

List of Publications

Updated November 2024

a. Publications in Chemistry

129. Diversity Oriented Routes to Thiopeptide Antibiotics: a Solution to the "Thiazole Problem." Ferguson, M. L.; Ciufolini, M. A. *J. Org. Chem.* **2024**, *In Press*.

128. "New Antibiotics from Thiopeptides: the Micrococcin P2 Story." Park, J.; Kim, D.; Son, Y.-J.; Ciufolini, M. A.; Clovis, S.; Han, M.; Kim, L.H.; Shin, S. J.; Hwang, H. J. *World J. Microbiol. Biotechnol.* **2024**, *40*, 307. DOI 10.1007/s11274-024-04109-5

127. "The Claisen Self-Condensation of Lactones in the Synthesis of Ionizable Lipids." Nabi, A.; Atmuri, N. D. P.; Arnold, D. R.; Saadati, F.; Tran, H.; Adak, T.; Dake, G. R.; Ciufolini, M. A. *J. Org. Chem.* **2024**, *89*, 12775-12778. DOI 10.1021/acs.joc.4c01193.

126. "Quantitative Visualization of Lipid Nanoparticle Fusion as a Function of Formulation and Process Parameters. " Kamanzi, A.; Zhang, Y.; Gu, Y.; Liu, F.; Berti, R.; Wang, B.; Saadati, F.; Ciufolini, M. A.; Kulkarni, J.; Cullis, P.; Leslie, S. *ACS Nano* **2024**, *18*, 18191-18201.

125. "Halonium Metathesis Reactions." Racicot, L.; Ciufolini, M. A. *Arkivoc* **2024**, 202312127; doi: 10.24820/ark.5550190.p012.127 (Invited).

124. "Therapies from Thiopeptides." Hwang, H.-J.; Ciufolini, M. A. *Molecules* **2023**, *28*, 7579. https://doi.org/10.3390/molecules28227579 (Invited).

123. "Identification of Micrococcin P2-Derivatives as Antibiotic Candidates Against Two Gram-Positive Pathogens." Kim, D.; Lee, J.; Shyaka, C.; Kwak, J.-H.; Pai, H.; Rho, M.; Ciufolini, M. A.; Han, M.; Park, J.-H.; Kim, Y.-R.; Jung, S.; Jang, A.-R.; Kim, E.; Lee, J.-Y.; Lee, H.; Son, Y.-J.; Hwang, H.-J. *J. Med. Chem.* **2023**, *66*, 14263. DOI: 10.1021/acs.jmedchem.3c01309

122. “A Route to Lipid ALC-0315: a Key Component of a COVID-19 mRNA Vaccine.” Saadati, F.; Cammarone, S., Ciufolini, M. A. *Chem. Eur. J.* **2022**, *28*, DOI: 10.1002/*chem*.202200906

121. “Diversity-Oriented Routes to Thiopeptide Antibiotics: Total Synthesis and Biological Evaluation of Micrococcin P2.” Hwang, H.-J.; Son, Y.-J.; Kim, D.; Lee, J.; Shin, Y.-J.; Kwon, Y.; Ciufolini, M. A. *Org. Biomol. Chem.* **2022**, *20*, 1893.

120. “Catalyst-Free Synthesis of Polysubstituted 5-Acylamino-1,3-thiazoles via Hantzch Cyclization of α-Chloroglycinates.” Tomassetti, M.; Lupidi, G.; Piermattei, P.; Rossi, F. V.; Lillini, S.; Bianchini, G.; Aramini, A.; Ciufolini, M. A.; Marcantoni, E. *Molecules* **2019**, *24*, 3846.

119. “Oxidative Cyclization of Naphtholic Sulfonamides Mediated by a Chiral Hypervalent Iodine Reagent: Asymmetric Synthesis vs. Resolution.” Jain, N.; Hein, J.; Ciufolini, M. A. *Synlett* **2019**, *30*, 1222.

118. “Oxidative Kinetic Resolution of Some Naphtholic Alcohols Mediated by a Chiral Hypervalent Iodine Reagent.” Jain, N.; Ciufolini, M. A. *Synthesis* **2018**, *50*, 3322 (Invited).

117. "Iodonium Metathesis Reactions of Unreactive Aryl Iodides." Racicot, L.; Ciufolini, M. A. *Tetrahedron* **2017**, *73*, 7067.

116. "Asymmetric Oxidative Cycloetherification of Naphtholic Alcohols." Jain, N.; Xu, S.; Ciufolini, M. A. *Chem. Eur. J.* **2017**, *23*, 4542.

115. "Total Synthesis of (+)-3-Demethoxyerythratidinone and (+)-Erysotramidine through the Oxidative Amidation of a Phenol." Paladino, M.; Zaifman, J.; Ciufolini, M. A. *Org. Lett.* **2015**, *17*, 3422.

114. "Formal Synthesis of (±)-Tetrodotoxin via the Oxidative Amidation of a Phenol: on the Structure of the Sato Lactone." Xu, S.; Ciufolini, M. A. *Org. Lett.* **2015**, *17*, 2424.

113. "A Route to the Hetereocyclic Cluster of the E-Series of Thiopeptide Antibiotics." Hwang, H.-J., Ciufolini, M. A. *J. Org. Chem.* **2015**, *80*, 4184.

112. "Oxidative Amidation in the Naphthalene Series." Jain, N.; Ciufolini, M. A. *Synlett* **2015**, *26*, 631.

111. "Arylation of Diorganochalcogen Compounds with Diaryliodonium Triflates: Metal Catalysts are Unnecessary." Racicot, L.; Kasahara, T.; Ciufolini, M. A. *Org. Lett.* **2014**, *16*, 6382.

110. "Iodonium Metathesis Reactions." Kasahara, T.; Jang, Y. J.; Racicot, L.; Panagopoulos, D.; Liang, S. H.; Ciufolini, M. A. *Angew. Chem. Int. Ed.* **2014**, *53*, 9637.

109. "Synthetic Studies on Heterocyclic Natural Products." Ciufolini, M. A. *Can. J. Chem.* **2014**, *92*, 186 (Invited – R. U. Lemieux Award Lecture).

108. "Assembly of a Key Dienic Intermediate for Tetrodotoxin via a Machetti-DeSarlo Reaction." Chau, J.; Xu, S. Ciufolini, M. A. *J. Org. Chem.* **2013**, *78*, 11901.

107. "Selective Reactivity of Electron-Rich Aryl Iodides in the Heck Arylation of Disubstituted Alkenes Catalyzed by Palladium-Arylurea Complexes." Smith, M. R.; Jang, Y. J.; Kim, J. Y.; Ciufolini, M. A. *Tetrahedron* **2013**, *69*, 10139.

106. "Bimolecular Oxidative Amidation of Phenols: 1-(Acetylamino)4-oxo-2,5-cyclohexadiene-1-acetic acid, Methyl Ester." Chau, J.; Ciufolini, M. A. *Org. Syn.* **2013**, *90*, 190. (http://www.orgsyn.org/orgsyn/pdfs/v90p0190.pdf).

105. "Pd-Phenylurea Complexes for the Heck Arylation of Crotonic and Cinnamic Substrates." Smith, M. R.; Kim, J. Y.; Ciufolini, M. A. *Tetrahedron. Lett.* **2013**, *54*, 2042.

104. "Further Studies Toward Himandrin via Sequential Oxidative Amidation – Intramolecular Diels-Alder Reactions." Kasahara, T.; Ciufolini, M. A. *Can. J. Chem.* **2013**, *91*, 82 (Invited for a special issue in honor of D. Clive).

103. "Extreme Ugi Reactions with some Complex α-Aminoacids." Turner, C. D.; Ciufolini, M. A. *Org. Lett.* **2012**, *14*, 4970.

102. "Useful Building Blocks for the Stereocontrolled Assembly of 2,3,5-Trisubstituted Pyrrolidines." Turner, C. D.; Ciufolini, M. A. *Heterocycles* **2012**, *85*, 85.

101. "Directed Aromatic Functionalization in Natural Product Synthesis: Fredericamycin A, Nothapodytine B, and Topopyrones B and D." Turner, C. D.; Ciufolini, M. A. *Beilst. J. Org. Chem.* **2011**, *7*, 1475 (Invited for a special issue on directed aromatic functionalization).

100. "Chiral Hypervalent Iodine Reagents in Asymmetric Reactions." Liang, H.; Ciufolini, M. A. *Angew. Chem. Int. Ed.* **2011**, *50*, 11849.

99. "The Chemical Synthesis of Tetrodotoxin: An Ongoing Quest." Chau, J.; Ciufolini, M. A. *Mar. Drugs* **2011**, *9*, 2046 (Invited review).

98. "Oxidation of Oximes with Hypervalent Iodine Reagents: Opportunities, Development, and Applications." Turner, C. D.; Ciufolini, M. A. *Arkivoc* **2011**, (I), 410.

97. "Complete Facial Selectivity in the Diels-Alder Reaction of a 5-Amino-5-carboxycyclopentadiene Derivative." Kim, S.; Ciufolini, M. A. *Org. Lett.* **2011**, *13*, 3274.

96. "Total Synthesis and Complete Structural Assignment of Thiocillin I." Aulakh, V. S.; Ciufolini, M. A. *J. Am. Chem. Soc.* **2011**, *133*, 5900.

95. "Development and Applications of an Oxazole-Forming Reaction." Zhang, J.; Coqueron, P. Y.; Ciufolini, M. A. *Heterocycles* **2011**, *82*, 949 (Invited).

94. "The Oxidation of α-Oxo-oximes to Nitrile Oxides with Hypervalent Iodine Reagents." Jen, T.; Mendelsohn, B.; Ciufolini, M. A. *J. Org. Chem.* **2011**, *76*, 728.

93. "An Approach to the bis-Oxazole Macrocycle of Diazonamides." Zhang, J.; Ciufolini, M. A. *Org. Lett.* **2011**, *13*, 390.

92. "Synthesis of 5-Aminooxazole-4-carboxylates from α-Chloroglycinates." Zhang, J.; Coqueron, P. Y.; Vors, J. P.; Ciufolini, M. A. *Org. Lett.* **2010**, *12*, 3942.

91. "Oxidative Spirocyclization of Phenolic Sulfonamides: Scope and Applications". Liang, H.; Ciufolini, M. A. *Chem. Eur. J.* **2010**, *16*, 13262.

90. "A Direct Route to 2-Alkyl-4-carbethoxy-5-vinyloxazoles." Zhang, J.; Ciufolini, M. A. *Tetrahedron Lett.* **2010**, *51*, 4699.

89. "Synthetic Aspects of the Oxidative Amidation of Phenols." Liang, H.; Ciufolini, M. A. *Tetrahedron* **2010**, *66*, 5884 (Invited).

88. "Tandem Phenolic Oxidative Amidation-Intramolecular Diels-Alder Reaction: an Approach to the Himandrine Core." Liang, H.; Ciufolini, M. A. *Org. Lett.* **2010**, *12*, 1760.

87. "Heck Reaction of Aminoacid-Derived Vinyl Substrates in the Synthesis of Homotyrosinol Derivatives." Liang, H.; Zhou, Y.; Ciufolini, M. A. *Synthesis* **2010**, 2515.

86. "Progress Toward the Synthesis of Sordarin and Its Analogs." Liang, H.; Ciufolini, M. A. *Org. Prep. Proc. Int.* **2010**, *42*, 111 (Invited).

85. "Micrococcin P1: Structure, Biology and Synthesis." Ciufolini, M. A.; Lefranc, D. *Nat. Prod. Rep.* **2010**, *27*, 330 (Invited).

84. "Development of an Oxazole Conjunctive Reagent and Application to the Total Synthesis of Siphonazoles." Zhang, J.; Polishchuk, E. A.; Chen, J.; Ciufolini, M. A. *J. Org. Chem.* **2009**, *74*, 9140.

83. "Approach to Tetrodotoxin via the Oxidative Amidation of a Phenol." Mendelsohn, B. A.; Ciufolini, M. A. *Org. Lett.* **2009**, *11*, 4736.

82. "A Peterson Avenue to 5-Alkenyloxazoles." Chau, J.; Zhang, J.; Ciufolini, M. A. *Tetrahedron Lett.* **2009**, *50*, 6163.

81. "An Improved Synthesis of Pyridine-Thiazole Cores of Thiopeptide Antibiotics." Aulakh, V. S.; Ciufolini, M. A. *J. Org. Chem.* **2009**, *74*, 5750.

80. "Total Synthesis of Siphonazoles by the Use of a Conjunctive Oxazole Building Block." Zhang, J.; Ciufolini, M. A. *Org. Lett.* **2009**, *11*, 2389.

79. "Total Synthesis and Stereochemical Assignment of Micrococcin P1." Lefranc, D.; Ciufolini, M. A. *Angew. Chem. Int. Ed.* **2009**, *48*, 4198.

78. Oxidation of Aldoximes to Nitrile Oxides with Hypervalent Iodine Reagents." Mendelsohn, B.; Lee, S.; Kim, S.; Teyssier, F.; Aulakh, V. S.; Ciufolini, M. A. *Org. Lett.* **2009**, *11*, 1539.

77. "Synthetic Studies Toward Sordarin: Building Blocks for the Terpenoid Core and for Analogs Thereof." Schulé, A.; Liang, H.; Vors, J.-P.; Ciufolini, M. A. *J. Org. Chem.* **2009**, *74*, 1587.

76. "Improved Procedure for the Bimolecular Oxidative Amidation of Phenols." Liang, H.; Ciufolini, M. A. *J. Org. Chem.* **2008**, *73*, 4299.

75. "Methodology for the Synthesis of Pyridines and Pyridones: Development and Applications." Chan, B. K.; Ciufolini, M. A. *Heterocycles* **2007**, 101.

74. "Oxidative Amidation of Phenols through the Use of Hypervalent Iodine Reagents: Development and Applications." Ciufolini, M. A.; Braun, N. A.; Canesi, S.; Ousmer, M; Chang, J; Chai, D. *Synthesis* **2007**, 3759.

73. "Total Synthesis of Streptonigrone." Chan, B.; Ciufolini, M. A. *J. Org. Chem.* **2007**, *72*, 8489.

72. "An Anvenue to the Sordarin Core Adaptable to Congener Synthesis." Liang, H.; Schülé, A.; Vors, J.-P., Ciufolini, M. A. *Org. Lett.* **2007**, *9*, 4119.

71. "Total Synthesis of Topopyrones B and D." Tan, J.; Ciufolini, M. A. *Org. Lett.* **2006**, *8*, 4471.

70. "Studies toward Soraphen A: an Aldol-Metathesis Avenue to the Macrocyclic Framework." Vincent, G.; Mansfield, D.; Vors, J.-P., Ciufolini, M. A. *Org. Lett.* **2006**, *8*, 2791.

69. "Synthetic Studies on Spiroleucettadine." Chang, J.; Chan, B.; Ciufolini, M. A. *Tetrahedron Lett.* **2006**, *47*, 3599.

68. "Synthetic Ventures Inspired by Biosynthetic Hypotheses: the Evolution of a Method for the Oxidative Amidation of Phenols." Ciufolini, M. A.; Canesi, S.; Ousmer, M.; Braun, N. A. *Tetrahedron* **2006**, *62*, 5318 (Invited).

67. "Synthetic Studies on Heterocyclic Natural Products." Ciufolini, M. A. *Il Farmaco* **2005**, *60*, 627 (Invited).

66. "Nitrogenous Educts through Oxidative Amidation of Phenols: the Bimolecular Reaction." Canesi, S; Bouchu, D.; Ciufolini, M. A. *Org. Lett.* **2005**, *7*, 175.

65. "Titanium Catalysis in the Ugi Reaction of α-Aminoacids with Aromatic Aldehydes." Godet, T.; Bonvin, Y.; Vincent, G., Ciufolini, M. A. *Org. Lett*. **2004**, *6*, 3281.

64. "Fully Stereocontrolled Total Syntheses of (-)-Cylindricine C and (-)-2-Epicylindricine C: A New Departure in Sulfonamide Chemistry." Canesi, S.; Bouchu, D.; Ciufolini, M. A. *Angew. Chem., Int. Ed. Engl.* **2004**, *43*, 4336; *Angew. Chem.* **2004**, *116*, 4436.

63. "Alkoxyamine-Mediated Radical Synthesis of Indolinones and Indolines." Leroi, C.; Bertin, D.; Dufils, P.-E.; Gigmes, D.; Marque, S.; Tordo, P.; Couturier, J.-L.; Guerret, O.; Ciufolini, M. A. *Org. Lett.* **2003**, *5*, 4943.

62. "Alkoxyamine-Mediated Radical Cyclizations." Leroi, C.; Fenet, B.; Coutourier, J. L., Guerret, O.; Ciufolini, M. A. *Org. Lett*. **2003**, *5*, 1079.

61. "Iterative Oxazole Synthesis via α-Chloroglycinates: Total Synthesis of (-)-Muscoride A." Coqueron, P. Y.; Didier, C.; Ciufolini, M. A. *Angew. Chem.,Int. Ed. Engl.* **2003**, *42*, 1411; "Iterativer Aufbau von Oxazolringen über α-Chloroglycinate: Totalsynthese von (-)-Muscorid A." *Angew. Chem.* **2003**, *115*, 1454.

60. "Total Synthesis of FR66979." Ducray, R.; Fenet, B.; Ciufolini, M. A. *Angew. Chem., Int. Ed. Engl*. **2002**, *41*, 4688; "Totalsynthese von FR66979." *Angew. Chem.* **2002**, *114*, 4688.

59. "Efficient Oxidative Spirocyclization of Phenolic Sulfonamides." Canesi, S.; Belmont, P.; Bouchu, D.; Rousset, L.; Ciufolini, M. A. *Tetrahedron Lett.* **2002**, *43*, 5193.

58. "The Constitution of Micrococcin P1: The Bycroft-Gowland Hypothesis Confirmed." Fenet, B.; Pierre, F.; Cundliffe, E.; Ciufolini, M. A. *Tetrahedron Lett.* **2002**, *43*, 2367.

57. "2-Pyridones from Cyanoacetamides and Enecarbonyl Compounds: Application to the Synthesis of Nothapodytine B." Carles, L.; Narkunan, K.; Penlou, S.; Rousset, L. Bouchu, D.; Ciufolini, M. A. *J. Org. Chem.* **2002**, *66*, 4304.

56. "Homo Brook Route to Benzazocenols and Congeners via Allylsilane Derived Aziridines." Ducray, R.; Cramer, N.; Ciufolini, M. A. *Tetrahedron Lett.* **2001**, *42*, 9175.

55. "Total Synthesis of Tricyclic Azaspirane Derivatives of Tyrosine: FR901483 and TAN1251C." Ousmer, M.; Braun, N. A.; Bavoux, C.; Perrin, M.; Ciufolini, M. A. *J. Am. Chem. Soc.* **2001**, *123*, 7534.

54. "Total Synthesis of Luzopeptin C." Valognes, D.; Belmont, P.; Xi, N.; Ciufolini, M. A. *Tetrahedron Lett.* **2001**, *42*, 1907.

53. "Total Synthesis of FR901483." Ousmer, M.; Braun, N. A.; Ciufolini, M. A. *Org. Lett*. **2001**, *3*, 765.

52. "Conjugate Propargylation of α,β-Unsaturated Lactones: a Solution via 1,4-Addition of (Z)-2-Ethoxyvinyllithium." Bennabi, S.; Narkunan, K.; Rousset, L.; Bouchu, D.; Ciufolini, M. A. *Tetrahedron Lett.* **2000**, *41*, 8873.

51."Total Synthesis of Luzopeptin E2." Ciufolini, M. A.; Valognes, D., Xi, N. *Angew. Chem., Int. Ed. Engl.* **2000**, *39*, 2493; "Totalsynthese von Luzopeptin E2" *Angew. Chem*. **2000**, *112*, 2612.

50. "New Oxidative Transformations of Phenolic and Indolic Oxazolines: an Avenue to Useful Azaspirocyclic Building Blocks." Braun, N. A.; Bray, J.; Ousmer, M.; Peters, K.; Peters, E.-M., Bouchu, D.: Ciufolini, M. A. *J. Org Chem.* **2000**, *65*, 4397.

49. "Practical Synthesis of 3-Methoxy-4-Alkoxycarbonylamino-2-Pyrrolecarboxylic Esters." Narkunan, K., Ciufolini, M. A. *Synthesis* **2000**, 673.

48. "Synthesis of the Bycroft-Gowland Structure of Micrococcin P1." Ciufolini, M. A.; Shen, Y.-C. *Org. Lett.* **1999**, *1*, 1843.

47. "A Unified Approach to Peptin Antibiotics." Ciufolini, M. A.; Valognes, D.; Xi, N. *J. Het. Chem.* **1999**, 1409 (Conference Proceedings – Plenary Lecture).

46. "Hypervalent Iodine Oxidations of Indolic 2-Oxazolines." Braun, N. A.; Bray, J.; Ciufolini, M. A. *Tetrahedron Lett.* **1999**, *40*, 4985.

45. "Studies Toward Luzopeptins: a Key Tripeptide Subunit Selectively Deprotectable Under Neutral Conditions." Ciufolini, M. A.; Valognes, D.; Xi, N. *Tetrahedron Lett.* **1999**, *40*, 3693.

44. "Synthesis, Chemistry and Conformational Properties of Piperazic Acids." Ciufolini, M. A.; Xi, N. *Chem. Soc. Rev.* **1998**, 437 (Invited).

43. "Synthesis of Spirolactams from Tyrosine Amides and Related Substances." Braun, N. A.; Ciufolini, M. A.; Peters, K.; Peters, E-M. *Tetrahedron Lett.* **1998**, *39*, 4667.

42. "Practical Synthesis of (±)-Chlorovulone II." Ciufolini, M. A.; Zhu, S. *J. Org. Chem.* **1998**, *63*, 1668.

41. "Nitrogen Heterocycles form Furans: The Aza-Achmatowicz Reaction." Ciufolini, M. A.; Hermann, C. Y. W.; Dong, Q.; Shimizu, T.; Swaminathan, S.; Xi, N. *Synlett* **1998**, 105 (Invited).

40. "Elevated Conformational Rigidity in Dipeptides Incorporating Piperazic Acid Derivatives." Xi, N.; Alemany, L. B.; Ciufolini, M. A. *J. Am. Chem. Soc.* **1998**, *120*, 80.

39. "Application of Ene-Like Reactions of Aldehydes with Vinyl Ethers: Stereoconvergent Synthesis of (±)-Phyllanthocin." Ciufolini, M. A.; Zhu, S.; Deaton, M. V. *J. Org. Chem.* **1997**, *62*, 7806.

38. "Further Studies on the Chemistry of Piperazic Acids: New Building Blocks for β-Hydroxy-α-Aminoacids through the Aza-Achmatowicz Reaction." Ciufolini, M. A.; Shimizu, T.; Swaminathan, S.; Xi, N. *Tetrahedron Lett.* **1997**, *38*, 4947.

37. "Application of Ene-Like Reactions of Aldehydes with Vinyl Ethers: Facile Assembly of Benzazocenone Intermediates for Mitomycinoids" Ciufolini, M. A.; Chen, M.; Lovett, D. P.; Deaton, M. V. *Tetrahedron Lett.* **1997**, *38*, 4355.

36. "Studies toward Thiostrepton Antibiotics: Assembly of the Central Pyridine-Thiazole Cluster of Micrococcins." Ciufolini, M. A.; Shen, Y.- C. *J. Org. Chem.* **1997**, *62*, 3804.

35. "Studies Toward Luzopeptins: Assembly of the Elusive Serine-PCA Dipeptide." Ciufolini, M. A.; Xi, N. *J. Org. Chem.* **1997**, *62*, 2320.

34. "A Remarkable Ene-Like Reaction: Development and Application." Ciufolini, M. A.; Deaton, M. V.; Zhu, S.; Chen, M. *Tetrahedron* **1997**, *53*, 16299 (Invited).

33. "Practical Total Synthesis of (+)-Camptothecin: The Full Story." Ciufolini, M. A.; Roschangar, F. *Tetrahedron* **1997**, *53*, 11049 (Invited).

32. "Facile Palladium-Mediated Substitution of Chlorine in 2-Chloroquinolines." Ciufolini, M. A.; Mitchell, J. W.; Roschangar, F. *Tetrahedron Lett.* **1996**, *37*, 8281.

31. "A Unified Strategy for the Synthesis of Phenanthroizidine Alkaloids: Preparation of Sterically Congested Pyridines." Ciufolini, M. A.; Roschangar, F. *J. Am. Chem. Soc.* **1996**, *118*, 12082.

30. "Total Synthesis of (+)-Camptothecin." Ciufolini, M. A.; Roschangar, F. *Angew. Chem. Int. Ed. Engl*. **1996**, *35*, 1692; "Totalsynthese von (20S)-(+)-Camptothecin." *Angew. Chem.* **1996**, *108*, 1789.

29. "Annulation of Heterocyclic Rings on Aromatic Templates: The Quinone Monoketal Route." Ciufolini, M. A.; Dong, Q.; Yates, M. H.; Schunk, S. *Tetrahedron Lett.* **1996**, *37*, 2881.

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17. "Improved Amino Lipids and Methods for the Delivery of Nucleic Acids." Hope, M. J.; Semple, S. C.; Chen, J.; Madden, T. D.; Cullis, P. R.; Ciufolini, M. A.; Mui, B. From PCT Int. Appl. (2010), WO 2010042877. (UBC & Alcana, Inc.).

16. "Compounds for the Treatment of Lysosomal Storage Diseases." Mahuran, D.; Tropak, M.; Ciufolini, M. A. Patent Application Filed February 2010 by the University of Toronto, ON, Canada.

15. "Novel Compositions and Methods for the Treatment of Disease." Michinton, A.; Ciufolini, M. A. Patent Application Filed July 2009 by the University of British Columbia, Vancouver, BC, Canada.

14. "Preparation of Modified Drugs for Use in Liposomal Nanoparticles." Cullis, P. R.; Bally, M.; Maurer, N.; Ciufolini, M. A.: Full US Patent Application Filed May 2009 by the University of British Columbia, Vancouver, BC, Canada.

13. "Procédé de Synthèse d'une Hydrazine Utile dans le traitement du Virus du Papillome [Process for the Synthesis of a Hydrazine Useful for the Treatment of Papilloma Virus]" Blumenfeld, M.; Compère, D.; Ciufolini, M. A.: French Patent Application Filed February 2009 by Anaconda Pharma SA, Paris, France.

12. "Modified Drugs for Use in Liposomal Nanoparticles." Cullis, P. R.; Bally, M.; Maurer, N.; Ciufolini, M. A.: US Patent Application Filed June 2008 by the University of British Columbia, Vancouver, BC, Canada.

11. "Pyrimidine Compositions for Modulation of YB-1 Mediated Transcription." Ciufolini, M. A.; Dunn, S. E.: US Patent Application Filed May 2008 by the University of British Columbia, Vancouver, BC, Canada.

10. "Screening Method for Selected Amino Lipid-Containing Compositions." Madden, T. D.; Ciufolini, M. A.; Hope, M. J.; De Fougerolles, A.; Novobrantseva, T.; Akinc, A.; Borodovsky, A.; Mui, B.; Cullis, P. Rutter; Tracy, M. PCT Int. Appl. (2009), WO 2009088891 A1 20090716 (UBC & Tekmira, Inc.).

9. "Improved Compositions and Methods for the Delivery of Nucleic Acids." Hope, M. J.; Semple, S. C.; Chen, J.; Madden, T. D.; Mui, B.; Cullis, P. R.; Wong, K.; Ciufolini, M. A. PCT Int. Appl. (2009), WO 2009086558 A1 20090709 (UBC & Tekmira, Inc.).

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7. "Substituted Thiazole Derivatives as Tyrosine Kinase Inhibitors: Their Preparation, Pharmaceutical Compositions, and Use in Therapy." Ciufolini, M. A.; Lermet, A.; Pez, D.; Moussy, A.: PCT Int. Appl. (2007), WO 2007065939 A1 20070614 (AB Science, Paris, France).

6. "Aminoaryl substituted five-membered ring heterocyclic compounds for the treatment of disease." Ciufolini, M. A.; Benjahad, A.; Giethlen, B.; Moussy, A.; Wermuth, C. PCT Int. Appl. (2006), WO 2006064375 A2 20060622 AN 2006:608600 (AB Science SA, Paris, France).

5. " Preparation of UV-absorbing dimeric derivatives of 5,6-diphenyl-1,2,4-triazine and their uses." Picoul, W.; Ciufolini, M.; Tarroux, R.; Bordat, P.: Fr. Demande (2005), CODEN: FRXXBL FR 2869907 A1 20051111 CAN 143:460191 AN 2005:1204945.

4. "A Preparation of 2-(Arylamino)thiazole Derivatives, Useful as Tyrosine Kinase Inhibitors." Moussy, A.; Ciufolini, M.; Wermuth, C.; Gielthen, B. PCT Int. Appl. (2005), WO 2005073225 A1 20050811 CAN 143:194027 AN 2005:732648 (AB Science SA, Paris, France).

3. "Preparation of 2-(Arylamino)oxazole Derivatives as Inhibitors of c-kit, bcr-abl, FGFR3, and/or Flt-3." Moussy, A.; Wermuth, C.; Grierson, D.; Benjahad, A.; Croisy, M.; Ciufolini, M.; Giethlen, B.. PCT Int. Appl. (2005), WO 2005040139 A2 20050506 CAN 142:447205 AN 2005:395287 (AB Science SA, Paris, France).

2. "Preparation of 2-(3-Aminoaryl)amino-4-arylthiazoles as Tyrosine Phosphokinase c-kit Inhibitors." Ciufolini, M.; Wermuth, C.; Gielthen, B.; Moussy, A. PCT Int. Appl. (2004), WO 2004014903 A1 20040219 CAN 140:199317 AN 2004:143145 (AB Science SA, Paris, France).

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f. Technical Publications

18. "Type II Diabetes: Medication vs. Education and Prevention." Harosh, I.; Ciufolini, M. A. *J. Dia. Res. Ther.* **2017**, *3*, DOI: 10.16966/2380-5544.131.

17. "Widening of *in vitro* Spectrum of Activity for Pyrimethamine and its Most Active Derivative in Adult Tay-Sachs disease." Rigat, B.; Tropak, M.; Yonekawa, S.; Ciufolini, M.; Mahuran, D. *Molecular Genetics and Metabolism* **2010**, *99*, S32.

16. "Identification of Pyrimethamine Derivatives Showing Improved Enzyme Enhancement Efficacy Towards Mutant Hex A." Tropak, M.; Yonekawa, S.; Zhang, J.; Ho, K.; Aulakh, V.; Ciufolini, M.; Mahuran, D. *Molecular Genetics and Metabolism* **2010**, *99*, S36.

15. "10-Ethynyl-2,3,6,6a,9,10-hexahydro-1H-6,9-methanopyrrolo[2,1i][2,1]benzothiazol-10-ol 5,5-dioxide." Patrick, B. O.; Liang, H.; Canesi, S.; Ciufolini, M. A. *Acta Crystallographica, Section E: Structure Reports Online* **2009**, E65(11), o2621.

14. "Crystal structure of 2,3,6a,9-tetrahydro-1*H*-6,9-methanopyrrolo[2,1-*i*][2,1] benziso-thiazol-10(6*H*)-one 5,5-dioxide." Liang, H.; Canesi, S.; Patrick, B.,* Ciufolini, M. A. *Z. Kristallogr.-NCS* **2009**, *224*, 83.

13. "Crystal structure of methyl 2-(1-acetamido-4-oxocyclohexa-2,5-dienyl)acetate, $C_{11}H_{13}NO_4$." Patrick, B. O.; Mendelsohn, B. A.; Ciufolini, M. A. *Z. Kristallogr.-NCS* **2008**, *223*, 205.

12. "Crystal structure of N-((2aR*, 2a'S*, 3S*, 5aS*. 5aS*, 7R)-3,7-dihydroxy-2a,2a',3, 5a,6,7-hexahydroindeno[1,7-cd]isoxazol-5a-yl)acetamide, $C_{11}H_{14}N_2O_4$." Patrick, B. O.; Mendelsohn, B. A.; Ciufolini, M. A. *Z. Kristallogr.-NCS* **2008**, *223*, 203.

11. "Crystal structure of ([(1R)-1,2-((4S)-4-benzyl-2-oxo-oxazolidine-3-yl)-(1S)-1-methyl-2-oxo-ethoxy]-tert-butyl-amino-2,2-dimethylpropyl)phosphonic acid diethylester, C26H43N2O7P." Leroi, C.; Ciufolini, M. A.; Perrin, M.; Grosvallet, L. *Z. Kristallogr.-NCS* **2003**, *218*, 39.

10. "Crystal structure of (1S,3S,6S,7S,8S,9R)-7,9-dihydroxy-6-(4-methoxybenzyl)-3-[N-methyl-N-(4-methylphenyl)sulfonylamino]-5-azatricyclo[6.3.1.01.5]dodecan-4-one-water (1/1), C27H34N2O6S · H2O." Ousmer, M.; Braun, N. A.; Ciufolini, M. A.; Perrin, M. *Z. Kristallogr.-NCS* **2001**, *216*, 621.

9. "Crystal structure of (1S,3S,6S,7S,8S,9S)-7,9-diacetoxy-6-(4-methoxybenzyl)-3-[N-methyl-N-(4-methylphenyl)sulfonylamino]-5-azatricyclo[6.3.1.01,5]dodecan-4-one-methanol (1/0.25), C31H38N2O8S 1/4(CH3OH). Bavoux, C.; Perrin, M.; Ousmer, M.; Braun, N. A. Braun; Ciufolini, M. A. *Z. Kristallogr.-NCS* **2001**, *216* , 361.

8. "Crystal Structure of (1aS, 2S, 3R)-2-trimethylsilyl-1a,2,3,4-tetrahydro-1H-8b-aza-benzo[a]cyclopropa[c]cyclohepten-3-ol, C14H21NOSi. Ducray, R.; Grosvalet, L.; Ciufolini, M. A.; Perrin, M. *Z. Kristallogr.-NCS* **2001**, *216*, 349.

7. "Crystal Structure of (3aS, 4S, 5R)-4-trimethylsilyl-3a,4,5,6-tetrahydro-3H-1,2,10b-triaza-benzo[e]azulen-5-ol, C14H21N3OSi." Ducray, R.; Grosvalet, L.; Ciufolini, M. A., Perrin, M. *Z. Kristallogr.-NCS* **2001**, *216*, 347.

6. "Crystal structure of (1S,3S,6S,7S,8S,9R)-7-acetoxy-9-hydroxy-6-(4-methoxybenzyl)-3-[N-methyl-N-(4-methylphenyl)sulfonylamino]-5-azatricyclo[6.3.1.01.5]dodecan-4-one, C29H36N2O7S." Ousmer, M.; Braun, N. A.; Ciufolini, M. A.; Perrin, M. *Z. Kristallogr.-NCS* **2000**, *215*, 597.

5. "Crystal structure of (2S,5S,10S)-2-benzyl-1-aza-4-oxatricyclo[8.3.0.05,10]tridecan-7,13-dione, C11H14NO3(CH2C6H5)." Peters, K.; Peters, E-M.; Braun, N. A.; Ciufolini, M. A. *Z. Kristallogr.- NCS* **1999**, *214*, 555.

4. "Crystal structure of 6-acetoxy-2-benzyl-cis-2-azabicyclo[4.4.0]dec-7-en-9-one, C18H21NO3." Peters, K.; Peters, E-M.; Braun, N. A.; Ciufolini, M. A. *Z. Kristallogr.-NCS* **1999**, *214*, 273.

3. "Crystal structure of 2-(bromomethyl)-spiro[2,3-dihydro-5-methoxybenzofuran-3,1'(4',4'-ethylendioxy)cyclohexane], C17H21BrO4." Bavoux, C., Perrin, M., Yates, M. H., Ciufolini, M. A. *Z. Kristallogr.-NCS* **1999**, *214*, 55.

2. "Crystal Structure of 9.9a-Dihydro-8-methoxy-6-methyl-3-oxo-1H-pyrrol-(1,2a)indole, C13H15O2N." Bavoux, C.; Perrin, M.; Lovett, D. P.; Ciufolini, M. A. *Z. Kristallogr.-NCS* **1998**, *213*, 779.

1. Crystal Structure of 1-[(1'S)-1'-Benzyl-2'-(4-bromobenzoyloxy)ethyl]-1-azaspiro[4.5]deca-6,9-dien-2,8-dione hydrate, C25H22BrNO4 * H2O." Peters, K.; Peters, E-M.; Braun, N. A.; Ciufolini, M. A. *Z. Kristallogr.-NCS* **1998**, *213*, 745.

g. Contributions to General Science Magazines

3. "Buckminsterfullerenes, Nanotubes and the Nobel Prize." *Gendai Kagaku (Chemistry Today)* **1996** (12), *309*, 20.

2. "The Organic Chemistry of Buckminsterfullerene and Congeners: Science for the Nineties." Ciufolini, M. A. *Gendai Kagaku (Chemistry Today)* **1992**, *253* (4), 12.

1. "The C_{60} Story." Ciufolini, M. A. *Gendai Kagaku (Chemistry Today)* **1991**, *243* (6), 48.

Invited Lectures (250)

250 University of Naples Federico II, Naples, Italy, December 2023
University of Tuscia at Viterbo, Italy, December 2023
Mario Negri Institute for Therapeutic Research, Milan, Italy, December 2023
University of Rome La Sapienza (3 lectures as Invited Professor, November 2023)
RNA Health Conference, Berlin, Germany, November 2023
National Congress of the Division of Organic Chemistry of the Italian Chemical Society Rome, Italy, September 2023 (keynote address).

University of Rome La Sapienza, June 7 & 21, 2022 (2 lectures)
University of Siena, Italy, May 2022
University of British Columbia, Vancouver, BC, February 2022

Nanomedicine Initiative Network (NMIN), Vancouver, BC, July 2021 (on-line)

University of Aachen, Germany, Aug 2020 (on-line)
240 University of Aix-Marseille – St. Jerome, France, Jan 2020
Institut Mediterranéen de Recherches Avancées (IMERA), France, Jan 2020

University of Palermo, Italy (5 lectures as Invited Professor, Jun 2018)

Joint CSC-Australian Chemical Society Symposium, Toronto, May 2017

Symposium in honor of Prof. Stephen Hanessian, University of Montreal, Oct 2015
Simon Fraser University, Burnaby, BC (Aug 2015)
University of Palermo, Italy (7 lectures as Invited Professor, May-June 2015)
University of Cagliari, Italy (4 lectures as Invited Professor, Mar 2015)

University of British Columbia, Vancouver, BC (Nov 2014)
International Conference on Organic Synthesis, Budapest, Hungary (plenary, Jul 2014)
230 University of Rome La Sapienza, Rome, Italy (Mar 2014)
ZING Conference on Asymmetric Synthesis, Nerja, Spain, (plenary lecture, Feb 2014)
University of Saskatchewan (Jan 2014)

Gordon Research Conference on Natural Products, Andover, NH (Jul 2013)
Pfizer Pharmaceutical Co., Groton, CT (Jul 2013)
Corbella Workshop in Organic Synthesis, Italy (1 keynote & 1 plenary lecture, Jun 2013)
R. E. Lemieux Award Symposium, CSC Meeting, Quebec City, QC (May 2013)
University of British Columbia, Vancouver, BC (Mar 2013, LMC)
Ibn Sina Conference on Theoretical and Applied Heterocyclic Chemistry, Luxor, Egypt (opening lecture, Feb 2013)

Symposium of the Society for Iodine Science, Chiba, Japan (opening lecture, Sept 2012)
220 XXI Meeting of the Italian Society of Medicinal Chemistry, Palermo, Italy (opening lecture, Jul 2012)

University of Palermo, Italy (5 lectures as Invited Professor, Jul 2012)
University René Descartes Paris V, Paris, France, Jun 2012
University of Cagliari, Italy (4 lectures as Invited Professor, Mar 2012)
University Paris-Sud, Orsay, France (February 2012)
Galderma SA, Sophia-Antipolis, France (February 2012)
Rigel Inc., So. San Francisco, CA, Jan. 2012

Institute for the Chemistry of Natural Substances, Gif-sur-Yvette, France, Jun. 2011
University of Minnesota – Duluth, MN, Apr. 2011
Rice University, Houston, TX, Mar. 2011
ACS National Meeting, Anaheim, CA, Mar. 2011 (Invited – award symposium)
210 Firmenich SA, Geneva, Switzerland, Feb. 2011

XXXIII National Meeting of the Division of Organic Chemistry, Italian Chemical Society, San Benedetto del Tronto, Italy, Sep. 2010 (plenary lecture)
Third International Symposium on Hypervalent Iodine Chemistry, Bordeaux, France, July 2010 (plenary lecture)
National Congress of the Hungarian Chemical Society, Hadjusoboslo, Hungary, June 2010 (opening lecture)
CSC Meeting, Toronto, May 2010 (invited)
NSERC Workshop for younger academics, Niagara-on-the-Lake, May 2010
Humboldt University, Berlin, Germany Apr. 2010
University of Jena, Germany, Apr. 2010
Technical University of Dresden, Germany, Apr. 2010
University of Rouen, France, Mar. 2010

200 6th Meeting of the European Network of Doctoral Studies in Pharmaceutical Sciences, Palermo, Italy, Nov. 2009

BC Cancer Agency Research Institute, Vancouver, BC, Sep. 2008
Symposium on Latest Trends in Organic Synthesis, St Catharine's, ON, Aug. 2008
Gordon Research Conference on Stereochemistry, Newport, RI, July 2008
University of Palermo, Italy, May 2008
University of Ottawa, Ottawa, ON, Apr. 2008

8th International Conference of Heteroatom Chemistry, Riverside, CA, Aug. 2007
Université du Quebec à Montréal, Montréal, QC, Mar. 2007
Boehringer-Ingelheim Co., Laval, QC, Mar. 2007
NCIC Workshop: Pathways to Patients; Vancouver, BC, Mar. 2007
190 University of California at Irvine, Irvine, CA, Feb. 2007
University of California at San Diego, LaJolla, CA, Feb. 2007

Fukuoka IUPAC Post-Symposium on New Horizons in Natural Product and Biological Chemistry, Fukuoka, Japan, July 2006 (invited lecture)
IUPAC Conference on Biodiversity and Natural Products Chemistry, Kyoto, Japan, July 2006 (invited lecture)

Nagoya IUPAC Pre-Symposium on Bioorganic Chemistry and Chemical Biology, Hamamatsu, Japan, July 2006 (invited lecture)
Merck-IRBM, Pomezia (Rome), Italy, June 2006
University of Ferrara, Italy, June 2006
Ecole Supérieure de Physique et Chimie Industrielle, Paris, France, June 2006
Universita' di Camerino, Camerino, Italy, Mar. 2006
Syngenta, Basel, Switzerland, Mar. 2006
Hoffman-LaRoche, Basel, Switzerland, Mar. 2006
Merck-Frosst Canada, Montreal, QC, Canada, Feb. 2006
McGill University, Montreal, QC, Canada, Feb. 2006
Oregon State University, Corvallis, OR, USA, Jan. 2006
University of Oregon, Eugene, OR, USA, Jan. 2006
Xenon Ltd., Burnaby, BC, Canada, Jan. 2006
Mona Symposium on Natural Products and Medicinal Chemistry, Plenary Lecture, Mona (Kingston), Jamaica, Jan. 2006

University of Alberta, Edmonton, AB, Canada, Nov. 2005
University of Calgary, Calgary, AB, Canada, Nov. 2005 (Merck Lecture)
CSC Meeting, Saskatoon, SK, Canada, May 2005, Invited Lecture
ACS MARM meeting, New Brunswick, NJ, USA, May 2005, Plenary Lecture
Icagen, Inc., Res. Triangle Park, NC, USA, May 2005
University of Delaware, Newark, DE, USA, May 2005
University of Colorado, Boulder, CO, USA, Apr. 2005
AstraZeneca Macclesfield, UK, Mar. 2005

2004 GECO, Boussens, France, Aug. 2004
XX SERF Meeting, Palermo, Italy, May 2004
GlaxoSmithKline Tonbridge, UK, Apr. 2004
SCI Conference, London, UK, Apr. 2004, Plenary Lecture
Université de Rheims, Feb. 2004

Université Blaise Pascal, Clermont-Ferrand, France, Dec. 2003
Ecole Polytechnique, Palaiseau, France, Dec. 2003
CNST-CNRS Ecole Thématique - Substances Naturelles, Do-Son, Vietnam, Oct. 2003
University of British Columbia, Vancouver, BC, Canada, Sep. 2003
Firmenich SA, Geneva, Switzerland, June 2003
Université Joseph Fourier, Grenoble, France, May 2003
The Grasmere Conference, Heterocyclic Division of the Royal Chemical Society, Plenary Lecture, Grasmere, UK, May 2003.
University College, London, UK, Mar. 2003.
Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, Feb. 2003.
Institut de Chimie des Substances Naturelles, Gif-sur-Yvette, France, Jan. 2003.

Faculté de Pharmacie, Université Paris-Sud, Chatenay-Malabry, France, Dec. 2002.
XV Entretiens Jacques Cartier, Lyon, France, Dec. 2002.
Ecole Polytechnique, Palaiseau, France, Oct. 2002

Boehringer-Ingelheim Co., Ridgefield, CT, USA, Oct. 2002.
University of Connecticut, Storrs, CT, USA, Oct. 2002
Pfizer Symposium, Paris, France, Oct. 2002, Plenary Lecture
COST Chemistry Symposium, Arcachon, France, Oct. 2002, Plenary Lecture.
GlaxoSmithKline, Research Triangle Park, NC, USA, Aug. 2002.
SFC-Eurochem Congress, Toulouse, France, July 2002, Invited Lecture.
Institute Henri Beaufour, Massy, France, June 2002.
Aventis Crop Science, Frankfurt, Germany, Apr. 2002.
Bayer Pharmaceutical Co., Wuppertal, Germany, Apr. 2002.
Université de Neuchâtel, Switzerland, Apr. 2002.
RECOB 9, Aussois, France, Mar. 2002.
Université Réné Descartes - Paris V, Paris, France, Jan. 2002.
Université de Caen, Caen, France, Jan. 2002.

Université Pierre et Marie Curie (Paris VI), Paris, France, Dec. 2001.
Eisai Research Institute, Andover, MA, Nov. 2001
University College, London, UK, Nov. 2001
9ème Journée de Chimie du Centre de Recherches Pierre Fabre, Castres, France, Oct. 2001.
Università di Pisa, Pisa, Italy, July 2001.
Università di Firenze, Florence, Italy, July 2001.
Keio University, Yokohama, Japan, May 2001.
5th Meeting, Franco-Japanese Society of Medicinal Chemistry, Nara, Japan, May 2001.
Fujisawa Pharmaceutical Co., Osaka, Japan, May 2001.
Université de Marseille, Marseille, France, Jan. 2001.
Ecole Normale Supérieure de Lyon, Lyon, France, Jan. 2001.

LIPHA SA, Lyon, France, Nov. 2000.
Aventis Crop Science, Ongar, UK, Nov. 2000.
AstraZeneca Charnwood, UK, Nov. 2000.
Plenary European lecture, Fifth International Loughborough Synthesis Symposium, Loughborough, UK, Nov. 2000.
University of Loughborough, UK, Nov. 2000.
Pennsylvania State University, State College, PA, USA, Oct. 2000.
University of Rochester, Rochester, NY, USA, Oct. 2000.
Rutgers University, NJ, USA, Oct. 2000.
BioNumerik, Inc., San Antonio, TX, USA, Oct. 2000.
International Congress on the Chemistry of Antibiotics, Mierki, Poland, Sep. 2000, invited lecture.
BioNumerik Pharmaceuticals, San Antonio, TX, USA, June 2000.
2000 Zeneca Lecture, Ohio State University, Columbus, OH, USA, June 2000.
2000 Zeneca Lecture, Zeneca Pharmaceuticals, Wilmington, DE, USA, June 2000.
DuPont Pharmaceuticals, Wilmington, DE, USA, June 2000.
National Taiwan University, Taichung, Taiwan, ROC, May 2000.
Fujen Catholic University, Taipei, Taiwan, ROC, May 2000.
National Tsing Hua University, Hsinchu, Taiwan, ROC, May 2000.
Chung Hsing University, Taichung, Taiwan, ROC, May 2000.

37th SECO, Houffalize, Belgium, May 2000.
Aventis Crop Sciences, Lyon, France, Apr. 2000.
CEA - Saclay, Saclay, France, Mar. 2000.
Université Paris Sud, Orsay, France, Jan. 2000.

University of Stuttgart, Germany, Dec. 1999.
University of Aachen, Germany, Dec. 1999.
1999-2000 Merck Lecture, Merck & Co., UK, Nov. 1999.
1999-2000 Merck Lecture, University of Manchester, UK, Nov. 1999.
1999-2000 Merck Lecture, University of Leeds, UK, Nov. 1999.
1999-2000 Merck Lecture, University of Edinburgh, UK, Nov. 1999.
1999-2000 Merck Lecture, University of Glasgow, UK, Nov. 1999.
University of Tokyo, Tokyo, Japan, Sep. 1999.
Rhône-Poulenc Agro Japan, Tokyo, Japan, Sep. 1999.
International Congress of Heterocyclic Chemistry, Vienna, Austria, Aug. 1999, Plenary Lecture.
Symposium on Heterocyles, Meeting of the Canadian Society for Chemistry, Toronto, Canada, May 1999, plenary lecture.
Tularik Co., South San Francisco, CA, USA, May 1999.
Gilead Co., South San Francisco, CA, USA, May 1999.
Northwestern University, Evanston, IL, USA, Apr. 1999.
Serono Research Institute, Geneva, Switzerland, Feb. 1999.
University of Geneva, Switzerland, Feb. 1999.
Merck & Co., Rahway, NJ, USA, Feb. 1999.
Schering-Plough Research Institute, Kenilworth, NJ, USA, Feb. 1999.
University of California at Los Angeles, Los Angeles, CA, USA, Feb. 1999.
University of Minnesota, Minneapolis, MN, USA, Feb. 1999.
Rhône-Poulenc Rorer, Vitry, France, Jan. 1999.

IRBM S.p.A., Pomezia, Italy, Dec. 1998.
Université de Fribourg, Fribourg, Switzerland, Dec. 1998.
Synthélabo Recherche, Chilly-Mazarin, France, Nov. 1998.
Université de Rennes, France, Nov. 1998.
International Symposium on Predictive Oncology and Cancer Therapy, Nice, France, Oct. 1998, Invited.
Sanofi Pharmaceutical Co., Montpellier, France, Sep. 1998.
European Congress of Solid Phase and Combinatorial Chemistry, Copenhagen, Denmark, Sep. 1998, Invited Lecture.
Jornées de Chimie Organique, Palaiseau, France, Sep. 1998.
Albany Molecular Co., Albany, NY, USA, July 1998.
Rhône-Poulenc Agrochimie USA, Research Triangle Park, NC, USA, July 1998.
BioNumerik Pharmaceuticals, Inc., San Antonio, TX, USA, July 1998.
Gordon Research Conference on Natural Products, Henniker, NH, USA, July 1998.
Gordon Research Conference on Heterocycles, Newport, RI, USA, June 1998.
Rhône-Poulenc CRIT Facility, Saint-Fons, France, June 1998.
Meeting of the French-American Chemical Society, Cannes, France, June 1998.

Université de Grenoble, Grenoble, France, May 1998.
Zeneca Pharma, Reims, France, Mar. 1998.

Université Claude Bernard Lyon 1, Lyon, France, June 1997.
Institut de Chimie des Substances Naturelles, Gif-sur-Yvette, France, May 1997.
Oregon State University, Corvallis, OR, USA, May 1997.
University of Oregon, Eugene, OR, USA, May 1997.
ESCPE Lyon, Villeurbanne, France, Feb. 1997.
Pharmacia & Upjohn Co., Kalamazoo, MI, USA, Feb. 1997.
Parke-Davis Co., Ann Arbor, MI, USA, Feb. 1997.
University of Michigan, Ann Arbor, MI, USA, Feb. 1997.
Indiana University, Bloomington, IN, USA, Feb. 1997.
Abbott Laboratories, Abbott Park, IL, USA, Jan. 1997.

University of California at Irvine, Irvine, CA, USA, Nov. 1996.
Southwest ACS Regional Meeting, Houston, TX, USA, Oct. 1996, Invited Lecture.
American Cyanamid, Princeton, NJ, USA, Sep. 1996.
BioNumerik Pharmaceuticals, Inc.; San Antonio, TX, USA, Feb. 1996.

Texas A&M University, College Station, TX, USA, Dec. 1995.
Glaxo-Wellcome Research Institute, Research Triangle Park, NC, USA, Aug. 1995.
Symposium on Recent Advances in the Synthesis of Natural Products, 50th. ACS Southwest Regional Meeting, Dallas, TX, USA, Nov. 1994, Invited Lecture.

Sterling-Winthrop Pharmaceutical Co., Rensselaer, NY, USA, Jan. 1993.

NSF Workshop on Organic Synthesis and Natural Products Chemistry, Flat Rock, NC, USA, July 1992, Invited Speaker.
Tokyo Institute of Technology, Tokyo, Japan, June 1992.
Okayama University, Okayama, Japan, June 1992.
Okayama University of Science, Okayama, Japan, June 1992.
Otsuka Symposium on the Frontiers of Organic Chemistry, Otsuka Pharmaceutical Company, Tokushima, Japan, June 1992, Invited Lecture.
Kyoto University, Kyoto, Japan, June 1992.
Nagoya University, Nagoya, Japan, June 1992.
Toyohashi University, Toyohashi, Japan, June 1992.
Seventh International Symposium of Organic Synthesis (Nozaki Conference), Yokohama, Japan, May 1992, Invited Lecture.
Keio University, Yokohama, Japan, May 1992.
Nissan Chemical Company, Funabashi, Japan, May 1992.
University of Tokyo, Tokyo, Japan, May 1992.
Tohoku University, Sendai, Japan, May 1992.
Eisai Pharmaceutical Company, Tsukuba, Japan, May 1992.
Upjohn Japan, Tsukuba, Japan, May 1992.

Gordon Research Conference on Natural Products, New Hampton, NH, USA, July 1991.

University of Texas Southwestern Medical Center, Dallas, TX, USA, Dec. 1990.
Pfizer Pharmaceutical Company, Groton, CT, USA, May 1990.
Upjohn Pharmaceutical Company, Kalamazoo, MI, USA, Apr. 1990.
University of Michigan, Ann Arbor, MI, USA, Feb. 1990.
Texas Lutheran College, Seguin, TX, USA, Feb. 1990.

Merck, & Co., Rahway, NJ, USA, Nov. 1989.
Merck, & Co., West Point, PA, USA, Nov. 1989.
University of Tokyo, Tokyo, Japan, June 1989.
Fujisawa Pharmaceutical Co., Osaka, Japan, June 1989.
Nagoya University, Nagoya, Japan, June 1989.
RIKEN, Wako, Saitama, Japan, June 1989.
Tokyo Institute of Technology, Tokyo, Japan, Jun. 1989.
Kyowa Hakko Kogyo Pharmaceutical Company, Shizuoka, Japan, Jun. 1989.
Sagami Research Center, Sagamihara, Kanagawa, Japan, Jun. 1989.
Texas A & M University, College Station, TX, USA, Apr. 1989.
Texas Tech University, Lubbock, TX, USA, Apr. 1989.
University of Houston, Houston, TX, USA, Feb. 1989.

Gordon Research Conference on Natural Products, New Hampton, NH, USA, Jul. 1988.

Rice University, Houston, TX, Dec. 1983
University of Rome "La Sapienza," Italy, Jan. 1983
EniRicerche S.p.A., Rome, Italy, Jan. 1983

"Heterocyclic Chemistry." Mini-course (invited)

Galderma SA, Sophia-Antipolis, France, Feb. 2012
Serono Research Institute, Geneva, Switzerland, Feb. 1999
BioNumerik Pharmaceuticals, Inc.; San Antonio, TX, USA, Nov. 1996.
Merck, Sharp & Dohme Research Laboratories, West Point, PA, USA, Apr. 1993.
Merck, Sharp & Dohme Research Laboratories, Rahway, NJ, USA, Apr. 1993.

Public Lectures

"Medicines from the Ivory Tower."

Italian Cultural Institute, Vancouver, BC, Canada, Mar 2013

"Chemistry and Medicine: Inseparable Partners."

Rice University School of Continuing Studies, Houston, TX, USA,
Nov. 1997.
Nov. 1996.
Nov. 1995.