# John A. Porco, Jr., Ph.D.



Professor Porco's research is focused in two major areas: the development of new synthetic methodologies for efficient chemical synthesis of complex molecules and synthesis of complex chemical libraries. Synthetic methodologies developed in his laboratory include: copper (I)-mediated formation enamides, of electrocyclization/dimerization of dienals enroute to complex epoxyguinoid frameworks; enantioselective oxidative dearomatization using chiral copper complexes and molecular oxygen; photocycloaddition using oxidopyryliums enroute to the rocaglamides and related natural products. and catalytic ester-amide exchange using group (IV) metal alkoxideactivator complexes. In the past fourteen years, his research group has synthesized numerous complex natural product targets, including torreyanic acid, the salicylate enamide macrolides lobatamide C and oximidines, the rocaglamides, silvestrol, ponapensin, secalonic acids A and D, and kinamycin C.

John joined the Department of Chemistry at Boston University in 1999 as Assistant Professor after a successful career in industry and was rapidly promoted to Professor of Chemistry in September 2004. In 2002, he successfully led an effort to establish the Center for Chemical Methodology and Library Development at Boston University (CMLD-BU, http://cmld.bu.edu). Funded by the National Institutes of Health (NIH) as a *Center of Excellence*, the focus of the CMLD-BU was the discovery of new methodologies to produce novel chemical libraries of unprecedented complexity for biological screening. In 2014, the CMLD-BU was transitioned to the Center for Molecular Discovery (BU-CMD), an integrated infrastructure for the discovery of small molecule chemical probes and medicinal chemistry that is based on CMLD-BU resources and infrastructure.

In addition to multiple grants from the NIH, in 2001 Professor Porco received the American Cancer Society Research Scholar Award for "Studies Towards the Synthesis of Torreyanic Acid and Related Epoxyquinoids;" the Bristol-Myers Squibb Unrestricted Grant in Synthetic Organic Chemistry in 2003, a 2009 Novartis Chemistry Lectureship Award, and the Arthur C. Cope Scholar Award (American Chemical Society) in 2009. At Boston University, he has mentored 41 Ph.D. graduate students, 3 Masters students, 32 undergraduate researchers, and 46 postdoctoral fellows. Since beginning his research program at Boston University in 1999, he and his colleagues have published approximately over 190 manuscripts in peer-reviewed journals and presented over 150 invited seminars at universities, pharmaceutical companies, and conferences.

#### Education

Ph. D. in Organic Chemistry

Harvard University, Cambridge, Massachusetts. April, 1992. Dissertation: "Synthetic Studies Towards the Enediyne Antibiotics"

M.S. in Organic Chemistry

Yale University, New Haven, Connecticut. August, 1988

B.A. (Honors) in Chemistry, Summa Cum Laude

College of the Holy Cross, Worcester, Massachusetts. May, 1985

#### **Experience**

Boston University Boston, MA

Director, Center for Molecular Discovery (BU-CMD), 2014-present

Director, Center for Chemical Methodology and Library Development at Boston

University (BU-CMLD) September, 2002-2014

June 2017

Professor of Chemistry, Department of Chemistry and Pharmacology, Boston University School of Medicine: Effective September 1, 2004

Assistant Professor of Chemistry, Department of Chemistry

September 1, 1999-2004

Assistant Professor of Pharmacology, Boston University School of Medicine

September 1, 1999-present

Founder/Director, Boston University Center for Streamlined Synthesis (CSS),

September, 1999-2002

Argonaut Director, Parallel Medicinal Chemistry

November 1997-June 1999

Technologies San Carlos, CA

Directed 5 Ph.D. and B.S. level scientists in parallel synthesis and purification applications, development of polymer supports, scavengers, and bound reagents

Group Leader, Automated Chemistry January 1995-November 1997

**Avalon Ventures** Venture Capital Associate La Jolla, CA June 1993-December 1994

Scripps Research Postdoctoral Fellow, Biological Chemistry

Institute 1992-1993

La Jolla, CA Advisor: Dr. Chi-Huey Wong

Harvard University **Graduate Research Assistant** 

1988-1992

Research Advisor: Professor Stuart L. Schreiber

Yale University Graduate Research Assistant

1986-1988

Advisor: Professor Stuart L. Schreiber

#### **Academic and Professional Awards and Honors**

Arthur C. Cope Scholar Award (American Chemical Society, 2009)

Novartis Chemistry Lectureship Award (2009)

Merck Research Laboratories Academic Development Program (ADP) Award (2005, 2006, 2007)

Novartis Chemistry Grantee (2003)

2003 Bristol-Myers Squibb MS Unrestricted Grant in Synthetic Organic Chemistry (2003-2005)

American Cancer Society Research Scholar Grantee, July, 2001- June 30, 2005

American Chemical Society PRF Type G Grantee, September 2000-September 2002

National Science Foundation Postdoctoral Fellowship, March 1992

American Chemical Society Organic Division Award, Pfizer Fellowship, July 1989

#### **Professional Affiliations**

American Chemical Society

American Association for the Advancement of Science

Section Editor, Biotechnology and Bioengineering, "Combinatorial Chemistry"

National Institutes of Health, Special Study Section, Ad Hoc participant, June 2000

Journal of Combinatorial Chemistry, Advisory Board Member (2002-present)

American Cancer Society Study Section Review Panel (2006-present)

June 2017

#### **Publications**

- (1) "Spin Relaxation and Solution Dynamics of Bisphenol-A Polycarbonate by Deuterium NMR," Porco, J.A., Jr.; Inglefield, P.T.; Campbell, J.; Jones, A.A. *Polymer Preprints*, **1985**, *26*, 172.
- (2) "Further Studies of Multiple Nuclear Spin Relaxation and Local Motions in Dissolved 1,1-Dichloro-2,2-Bis(4-hydroxyphenyl) ethylene Polyformal," Hung, C.C.; Shibata, J.H.; Tarpey, M.F.; Jones, A.A.; Porco, J.A., Jr.; Inglefield, P.T. *Analytica Chimica Acta*, **1986**, *189*, 167-181.
- (3) "Structural and Synthetic Studies of the Spore Germination Autoinhibitor Gloeosporone," Schreiber, S.L.; Kelly, S.E.; Porco, J.A., Jr.; Sammakia, T.; Suh, E.M. *J. Am. Chem. Soc.*, **1988**, *110*, 6210-6218.
- (4) "The Development of a PAF Receptor Binding Model: A Progress Report," Schreiber, S.L.; Porco, J.A., Jr.; Hawley, R.C.; Desmaele, D. *New Methods in Drug Research*, **1989**, 3, A. Makriyannis, Ed. 13-26.
- (5) "On the Use of Unsymmetrically Substituted Furans in the Furan-Carbonyl Photocycloaddition Reaction: Synthesis of A Kadsurenone-Ginkgolide Hybrid," Schreiber, S.L.; Desmaele, D.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1988**, 29, 6689-6692.
- (6) "Studies of the Furan-Carbonyl Photocycloaddition Reaction: Vinylic Substitution Reactions," Schreiber, S.L.; Porco, J.A., Jr. *J. Org. Chem.*, **1989**, *54*, 4721-4723.
- (7) "Synthesis and Crystallographic Analysis of a Bicyclic Core Related to the Esperamicin/Calichemicin Aglycones," Schoenen, F.J.; Porco, J.A., Jr.; Schreiber, S.L.; Van Duyne, G.D.; Clardy, J. *Tetrahedron Lett.*, **1989**, *30*, 3765-3768.
- (8) "Transannular Diels -Alder Route to Systems Related to Dynemicin A," Porco, J.A., Jr.; Schoenen, F.J.; Stout, T.J.; Clardy, J.; Schreiber, S.L. *J. Am. Chem. Soc.*, **1990**, *112*, 7410-7411.
- (9) "Applications of the Paterno-Buchi Reaction to Stereoselective Organic Synthesis," Porco, J.A., Jr.; Schreiber, S.L. *Comprehensive Organic Synthesis*, **1991**, *5*, 151-192.
- (10) "Synthesis of the Anthraquinone Subunit of Dynemicin A," Chikashita, H.; Porco, J.A., Jr.; Schreiber, S.L.; Stout, T.J.; Clardy, J. *J. Org. Chem.*, **1991**, *56*, 1692-1694.
- (11) "Enzyme-Catalyzed Aldol Condensation for Asymmetric Synthesis of Azasugars: Synthesis, Evaluation, and Modeling of Glycosidase Inhibitors," Kajimoto, T.; Liu, K.K.-C.; Pederson, R.L.; Zhong, Z.; Ichikawa, Y.; Porco, J.A., Jr.; Wong, C-H. *J. Am. Chem. Soc.*, **1991**, *113*, 6187-6196.
- (12) "Application of the Allylic Diazene Rearrangement: Synthesis of the Enediyne-Bridged Tricyclic Core of Dynemicin A," Wood, J.L.; Porco, J.A., Jr.; Taunton, J.; Lee, A.Y.; Clardy, J.; Schreiber, S.L. *J. Am. Chem. Soc.*, **1992**, *114*, 5898-5900.
- (13) "Stereochemical and Conformational Effects on the Cycloaromatization of Dynemicin A-Related Molecules," Elbaum, D.; Porco, J.A., Jr.; Stout, T.J.; Clardy, J.; Schreiber, S.L. *J. Am. Chem. Soc.*, **1995**, 117, 211-225.
- (14) "Synthesis and Evaluation of Homoaza Sugars as Glycosidase Inhibitors," Wong, C-H.; Provencher, L.; Porco, J.A., Jr.; Jung, S-H.; Wang, Y.-F.; Chen, L.; Wang, R.; Steensma, D.H. *J. Org. Chem.*, **1995**, *60*, 1492-1501.
- (15) "Boosting the Productivity of Medicinal Chemistry through Automation Tools: Novel Technological Developments Enable a Wide Range of Automated Synthesis Procedures," Gooding, O.; Hoeprich, P.D., Jr.; Labadie, J.W.; Porco, J.A., Jr.; van Eikeren, P.; Wright, P. *Mol. Diversity Comb. Chem.: Libr. Drug Discovery Conf.*, **1996**, 199-206. Editors: Chaiken, I.M.; Janda, K.D.
- (16) "Automated Chemical Synthesis: From Resins to Instruments," Porco, J.A., Jr.; Deegan, T.L.; Gooding, O.W.; Labadie, J.W.; Newcomb, W.S.; van Eikeren, P.; Wright, P.W. *Mol. Divers.*, **1997**, 2, 197-206.
- (17) "Solid Phase Synthesis of *N*-Alkylsulfonamides," Dankwardt, S.M.; Smith, D.B.; Nguyen, C.; Porco, J.A., Jr. *Synlett*, **1997**, 7, 854-856.

- (18) "Non-acidic Cleavage of Wang-derived Ethers from Solid Supports: Utilization of a Mixed-Bed Scavenger for DDQ," Deegan, T.L.; Gooding, O.W.; Baudart, S.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1997**, *38*, 4973-4976.
- (19) "Tandem UPS: Sequential mono- and dialkylation of resin-bound glycine *via* automated synthesis," Griffith, D.L.; O'Donnell, M.J.; Pottorf, R.; Scott, W.L.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1997**, 38, 8821-8824.
- (20) "Automated Chemical Synthesis: Chemistry Development on the Nautilus 2400," Porco, J.A., Jr.; Deegan, T.L.; Devonport, W.; Gooding, O.W.; Labadie, J.W.; MacDonald, A.A.; Newcomb, W.S.; van Eikeren, P. *Drugs Future*, **1998**, *23*, 71.
- (21) "Analysis of 9-Fluorenylmethoxycarbonyl (FMOC) loading by Gas Chromatography: Utilization of Automated Chemical Synthesis," Newcomb, W.S.; Deegan, T.L.; Miller, W.; Porco, J.A., Jr. *Biotechnol. Bioeng.*, **1998**, *61*, 55-60.
- (22) "On the Development of ArgoGel Resin Supports for Solid-Phase Organic Synthesis," Gooding, O.W.; Deegan, T.L.; Heisler, K.H.; Newcomb, W.S.; Labadie, J.W.; Porco, J.A., Jr.; van Eikeren, P. *J. Comb. Chem.*, **1998**, *1*, 113.
- (23) "Alcoholysis and Carbonyl Hydrosilylation Reactions using a Polymer-Supported Trialkylsilane," Hu, Y.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1998**, 39, 2711-2714.
- (24) "Novel Polymer-Supported Trialkylsilanes and Their Use in Solid-Phase Organic Synthesis," Hu, Y.; Porco, J.A., Jr.; Labadie, J.W.; Gooding, O.W.; Trost, B.M. *J. Org. Chem.*, **1998**, *63*, 4518-4521.
- (25) "Automated SNAr reactions for compound libraries," Porco, J.A., Jr.; Griffith, D.L.; Nicolson, D. *Spec. Chem.*, **1998**, *18*, 216.
- (26) "Parallel Synthesis of 1,2,3-Thiadiazoles Employing a 'Catch and Release' Strategy," Hu, Y.; Baudart, S.; Porco, J.A., Jr. *J. Org. Chem.*, **1999**, *64*, 1049-1051.
- (27) "Parallel Synthesis of 1,2,4-Oxadiazoles using CDI activation," Deegan, T.L.; Nitz, T.J.; Cebzanov, D.; Pufko, D.E.; Porco, J.A., Jr. *Bioorg. Med. Chem. Lett.*, **1999**, 9, 209-212.
- (28) "Glycosidation of solid-supported glycosyl donors tethered by a trialkylsilane linker," Doi, T.; Sugiki, M.; Yamada, H.; Takahashi, T.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1999**, *40*, 2141-2144.
- (29) "Ester Enolate Claisen Rearrangement Using a Polymer-Supported Silyl Triflate," Hu, Y.; Porco, J.A., Jr. *Tetrahedron Lett.*, **1999**, *40*, 3289.
- (30) "A Novel Oxidatively Removable Linker and Its Application to a-Selective Solid-phase Oligosaccharide Synthesis on a Macroporous Polystyrene Support," Fukase, K.; Nakai, Y.; Egusa, K.; Porco, J.A., Jr.; Kusumoto, S. *Synlett*, **1999**, 7, 1074-1078.
- (31) "Streamlined Synthesis of Substituted 2-Aminothiazoles Using Tandem Precipitative and Polymer-Assisted Reactions," Yun, Y. K.; Leung, S.S.W.; Porco, J.A., Jr. *Biotechnol. Bioeng.*, **2000**, *71*, 9-18.

#### Publications as an Independent Faculty Member (Boston University)

- (32) "Organic Synthesis Using Chemical Tags: The 'Third Leg' of Parallel Synthesis," Porco, J.A., Jr. Combinatorial Chemistry and High Throughput Screening, **2000**, 3, 93-102.
- (33) "Synthesis of Enamides Related to the Salicylate Antitumor Macrolides Using Copper-Mediated Vinylic Substitution," Shen, R.; Porco, J.A., Jr. *Org. Lett.*, **2000**, *2*, 1333-1336.
- (34) "Multistep Synthesis of 1,2,3-Thiadiazoles using 'Catch and Release," Hu, Y.; Baudart, S.; Porco, J.A., Jr. *High Throughput Synthesis: Theory and Practice*, Chapter 6, Section 5, (Sucholeiki, I., editor), Marcel Dekker, NY, **2000**.
- (35) "Parallel Synthesis and Purification using Anthracene-Tagged Substrates," Wang, X.; Parlow, J.J.; Porco, J.A., Jr. *Org. Lett.*, **2000**, *2*, 3509-3512.
- (36) "Total Synthesis of (±) Torreyanic Acid," Li, C.; Lobkovsky, E.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2000**, *122*, 10484-10485.

- (37) "Exploring Chemical Diversity of Epoxyquinoid Natural Products: Synthesis and Biological Activity of (-)-Jesterone and Related Molecules," Hu, Y., Li, C.; Kulkarni, B.; Strobel, G.; Lobkovsky, E.; Porco, J.A., Jr. *Org. Lett.*, **2001**, 3, 1649-1652.
- (38) "Modification of C-Terminal Peptides for Form Peptide Enamides: Synthesis of Chondriamides A and C," Wang, X.; Porco, J.A., Jr. *J. Org. Chem.*, **2001**, *66*, 8215-8221.
- (39) "Combinatorial Synthesis of Natural Product-like Molecules Using a First Generation Spiroketal Scaffold," Kulkarni, B.A.; Roth, G.P.; Lobkovsky, E.; Porco, J.A., Jr. *J. Combinatorial Chem.*, **2002**, *4*, 56-72.
- (40) "Total Synthesis of the NF-κB Inhibitor (-)-Cycloepoxydon: Utilization of Tartrate-Mediated Nucleophilic Epoxidation," Li, C.; Pace, E.A.; Liang, M.-C.; Lobkovsky, E.; Gilmore, T.D.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2001**, *123*, 11308-11309.
- (41) "Studies Toward the Synthesis of (-)-Zampanolide: Preparation of *N*-Acyl Hemiaminal Model Systems," Troast, D.M.; Porco, J.A., Jr. *Org. Lett.*, **2002**, *4*, 991-994.
- (42) "Total Synthesis and Stereochemical Assignment of the Salicylate Antitumor Macrolide Lobatamide C(1)," Shen, R.; Lin, C.T.; Porco, J.A., Jr. J. Am. Chem. Soc., **2002**, 124, 5650-5651.
- (43) "Polymer-assisted Parallel Solution-phase Synthesis of Substituted Benzimidazoles," Yun, Y.K.; Porco, J.A., Jr.; Labadie, J. *Synlett*, **2002**, 739-742.
- (44) "Synthesis and V-ATPase Inhibition of Simplified Lobatamide Analogues," Shen, R.; Lin, C.T.; Bowman, E.J.; Bowman, B.J.; Porco, J.A., Jr. *Org. Lett.*, **2002**, *4*, 3103-3106.
- (45) "Angiogenesis Inhibitor Epoxyquinol A: Total Synthesis and Inhibition of Transcription Factor NF-κB," Li, C.; Bardhan, S.; Pace, E.A.; Liang, M.-C.; Lobkovsky, E.; Gilmore, T.D.; Porco, J.A., Jr. *Org. Lett.*, **2002**, *4*, 3267-3270.
- (46) "Total Synthesis of the Quinone Epoxide Dimer (+)-Torreyanic Acid: Application of a Biomimetic Oxidation-Electrocyclization-Diels-Alder Dimerization Cascade," Li, C.; Johnson, R.P.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2003**, *125*, 5095-5106.
- (47) "Total Synthesis of the Salicylate Enamide Macrolide Oximidine II," Wang, X.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2003**, 125, 6040-6041.
- (48) "Lobatamide C: Total Synthesis, Stereochemical Assignment, Preparation of Simplified Analogues, and V-ATPase Inhibition Studies," Shen, R.; Lin, C.T.; Bowman, E.J.; Bowman, B.J.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2003**, *125*, 7889-7901.
- (49) "Jesterone Dimer, a Synthetic Derivative of the Fungal Metabolite Jesterone, Blocks Activation of Transcription Factor NF-kB by Inhibiting the Inhibitor of kB Kinase," Liang, M.-C.; Bardhan, S.; Li, C.; Pace, E.A.; Porco, J.A., Jr.; Gilmore, T.D. *Mol. Pharm.*, **2003**, *64*, 123-131.
- (50) "Synthesis and Cell Cycle Inhibition of the Peptide Enamide Natural Products Terpeptin and the Aspergillamides," Su, S.; Kakeya, H.; Osada, H.; Porco, J.A., Jr. *Tetrahedron*, **2003**, *59*, 8931-8946.
- (51) "Stereochemical Diversity Through Cyclodimerization: Synthesis of Polyketide-like Macrodiolides," Su, Q.; Beeler, A.; Lobkovsky, E.; Porco, J. A., Jr.; Panek, J. S. *Org. Lett.*, **2003**, *5*, 2149-2152.
- (52) "Total Synthesis of the Ubiquitin-Activating Enzyme Inhibitor (+)-Panepophenanthrin," Lei, X.; Johnson, R.P.; Porco, J.A., Jr. *Angew. Chem. Int. Ed. Engl.*, **2003**, *42*, 3913-3917.
- (53) "The Development of a Chromatography-Free Mitsunobu Recation: Synthesis and Applications of an Anthracene-Tagged Phosphine Reagent," Lan. P.; Porco, J.A., Jr.; South, M.S.; Parlow. J.J. *J. Comb. Chem.*, **2003**, *5*, 660-669.
- (54) "Polymer-Assisted Solution-Phase (PASP) Suzuki Couplings Employing an Anthracene-Tagged

- Palladium Catalyst," Lan, P.; Berta, D.; Porco, J.A., Jr.; South, M.S.; Parlow, J.J.; *J. Org. Chem.*, **2003**, *68*, 9678-9686.
- (55) "Copper-Mediated Synthesis of *N*-Acyl Vinylogous Carbamic Acids and Derivatives: Synthesis of the Antibiotic CJ-15,801," Han, C.; Shen, R.; Su, S.; Porco, J. A., Jr. *Org. Lett.*, **2004**, *6*, 27-30.
- (56) "Synthesis of the Epoxyquinol Dimer RKB-3564 D: Utilization of an Alkoxysilanol to Promote [4+4] Dimerization," Li, C.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2004**, *126*, 1310-1311.
- (57) "Synthesis of a Polymer-Supported Anthracene and Its Application as a Dienophile Scavenger," Lei, X.; Porco, J.A., Jr. *Org. Lett.*, **2004**, *6*, 795-798.
- (58) "Synthesis of Azaphilones and Related Molecules by Employing Cycloisomerization of o-Alkynylbenzaldehydes," Zhu, J.; Germain, A.R.; Porco, J.A., Jr. *Angew. Chem. Int. Ed. Engl.*, **2004**, *43*, 1239-1243.
- (59) "Total Synthesis of the Salicylate Enamide Macrolide Oximidine III: Application of Relay Ring-Closing Metathesis," Wang, X.; Bowman, E.J.; Bowman, B.J.; Porco, J.A., Jr. *Angew. Chem. Int. Ed. Engl.*, **2004**, *43*, 3601-3605.
- (60) "Synthesis of Complex Alkoxyamines Using a Polymer-Supported *N*-Hydroxypthalimide," Su, S.; Giguere, J.R.; Schaus, S.E.; Porco, J.A., Jr. *Tetrahedron*, **2004**, 60, 8645-8657.
- (61) "A Biomimetic Approach to the Rocaglamides Employing Photogeneration of Oxidopyryliums Derived from 3-Hydroxyflavones," Gerard, B.; Jones, G., II; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2004**, *126*, 13620-13621.
- (62) "Synthesis of Photoactivatable Acyclic Analogues of the Lobatamides," Shen, R.; Inoue, T.; Forgac, M.; Porco, J.A., Jr. *J. Org. Chem.*, **2005**, *70*, 3686-3692.
- (63) "Synthesis of the Tetracyclic Core of the Tetrapetalones through Transannular Oxidative [4+3] Cyclization," Wang, X.; Porco, J.A., Jr. *Angew. Chem. Int. Ed. Engl.*, **2005**, *44*, 3067-3071.
- (64) "Chemical library synthesis using convergent approaches," Beeler, A.B.; Schaus, S.E.; Porco, J.A., Jr. *Curr. Opin. Chem. Biol.*, **2005**, *9*, 277-284.
- (65) "Convergent Synthesis of a Complex Oxime Library Using Chemical Domain Shuffling," Su, S.; Acquilano, D.E.; Arumugasamy, J.; Beeler, A.B.; Eastwood, E.L.; Giguere, J.R.; Lan, P.; Lei, X.; Min, G.K.; Yeager, A.R.; Zhou, Y.; Panek, J.S.; Snyder, J.K.; Schaus, S.E.; Porco, J.A., Jr. *Org. Lett.*, **2005**, 7, 2751-2754.
- (66) "Synthesis of the Azaphilones Using Copper-Mediated Enantioselective Oxidative Dearomatization," Zhu, J.; Grigoriadis, N.P.; Lee, J.P.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2005**, *127*, 9342-9343.
- (67) "Catalytic Ester-Amide Exchange Using Group(IV) Metal Alkoxide-Activator Complexes," Han, C.; Lee, J.P.; Lobkovsky, E.; Porco, J.A., Jr. *J. Am. Chem. Soc.*, **2005**, *127*, 10039-10044.
- (68) "Synthesis of Epoxyquinol A and Related Molecules: Probing Chemical Reactivity of Epoxyquinol Dimers and 2H-Pyran Precursors," Li, C.; Porco, J.A., Jr. *J. Org. Chem.*, **2005**, *70*, 6053-6065.
- (69) "Stereocontrolled Synthesis of a Complex Library *via* Elaboration of Angular Epoxyquinol Scaffolds," Lei, X.; Zaarur, N.; Sherman, M.Y.; Porco, J.A., Jr. *J. Org. Chem.*, **2005**, *70*, 6474-6483.
- (70) "Synthesis of a Library of Complex Macrodiolides Employing Cyclodimerization of Hydroxy Esters," Beeler, A.B.; Acquilano, D.E.; Su, Q.; Yan, F.; Roth, B.L.; Panek, J.S.; Porco, J.A., Jr. *J. Comb. Chem.*, **2005**, *7*, 673-681.
- (71) "Enantioselective Synthesis of Linear Polypropionate Arrays Using Anthracene-Tagged Organosilanes," Kesavan, S.; Su, Q.; Shao, J.; Porco, J.A., Jr.; Panek, J.S. *Org. Lett.*, **2005**, *7*, 4435-4438.

- (72) "The Synthetic Epoxyquinoids Jesterone Dimer and Epoxyquinone A Monomer Induce Apoptosis and Inhibit REL (Human c-Rel) DNA Binding in an I[kappa]B[alpha]-deficient Diffuse Large B-cell lymphoma Cell Line," Liang, M.-C.; Bardhan, S.; Porco, J.A., Jr.; Gilmore, T.D. Cancer Lett., **2006**, *241*, 69-78.
- (73) "Inhibition of Transcription Factor NF- $\kappa$ B Signaling Proteins IKK $\beta$  and p65 through Specific Cysteine Residues by Epoxyquinone A Monomer: Correlation with Its Anti-cancer Cell Growth Activity," Liang, M.-C.; Bardhan, S.; Pace, E.A.; Rosman, D.; Beutler, J.A.; Porco, J.A., Jr.; Gilmore, T.D. *Biochem. Pharmacol.*, **2006**, *71*, 634-645.
- (74) "A  $\mu$ - $\eta^2$ : $\eta^2$  -Disulfide Dicopper (II) Complex from Reaction of S<sub>8</sub> with a Copper (I) Precursor: Reactivity of the Bound Disulfur Moiety," Helton, M.E.; Maiti, D; Zakharov, L.N.; Rheingold, A.L.; Porco, J.A., Jr.; Karlin, K.D. *Angew. Chem. Int. Ed. Engl.*, **2006**, *45*, 1138-1141.
- (75) "Total Synthesis and Stereochemical Assignment of the Spiroisoxazoline Natural Product (+)-Calafianin," Bardhan, S.; Schmitt, D.C.; Porco, J.A., Jr. *Org. Lett.*, **2006**, *8*, 927-930.
- (76) "Targeting Heat Shock Response to Sensitize Cancer Cells to Proteasome and Hsp90 Inhibitors," Zaarur, N.; Gabai, V.L.; Porco, J.A., Jr.; Calderwood, S.; Sherman, M.Y. *Cancer Res.*, **2006**, *66*, 1783-1791.
- (77) "Synthesis of 1,4,5-trisubstituted-1,2,3-triazoles by Copper-catalyzed Cycloaddition-coupling of Azides and Terminal Alkynes," Gerard, B.; Ryan, J.; Beeler, A.B.; Porco, J.A., Jr. *Tetrahedron*, **2006**, *62*, 6405-6411.
- (78) "Enantioselective Photocycloaddition Mediated by Chiral Bronsted Acids: Asymmetric Synthesis of the Rocaglamides," Gerard, B.; Sangji, S.; O'Leary, D.J.; Porco, J.A., Jr. *J. Am. Chem. Soc*, **2006**, *128*, 7754-7755.
- (79) "Total Synthesis of the Interleukin-1-beta Converting Enzyme Inhibitor EI-1941-2 Using Tandem Oxa-electrocyclization/Oxidation 1," Kleinke, A.S.; Li, C.; Rabasso, N.; Porco J.A., Jr. *Org. Lett.*, **2006**, *8*, 2847-2850.
- (80) "Genipin Inhibits UCP2-mediated Proton Leak and Acutely Reverses Obesity and High Glucose-induced  $\beta$  Cell Dysfunction in Isolated Pancreatic Islets," Zhang, C-Y.; Parton, L.E.; Ye, C.P.; Krauss, S.; Shen, R.; Lin, C.-T.; Porco, J.A., Jr.; Lowell, B.B. *Cell Metab.*, **2006**, 3, 417-427.
- (81) "Total Synthesis and Structure Assignment of (+)-Hexacyclinol," Porco, J.A., Jr.; Su, S.; Lei, X.; Bardhan, S.; Rychnovsky, S.D. *Angew. Chem. Int. Ed. Engl.*, **2006**, *45*, 5790-5792.
- (82) "Asymmetric Syntheses of (-)-Mitorubrin and Related Azaphilone Natural Products," Zhu, J.; Porco, J. A., Jr. *Org. Lett.*, **2006**, *8*, 5169-5171.
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- (178) "Atropselective Syntheses of (-) and (+) Rugulotrosin A Utilizing Point-to-Axial Chirality Transfer," Qin, T.; Skraba-Joiner, S.L.; Khalil, Z.G.; Johnson, R.P.; Capon, R.J.; Porco, J.A., Jr.; *Nat. Chem.*, **2015**, 7, 234-240.
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- (181) "A Novel Class of Small Molecule Compounds that Inhibit Hepatitis C Virus Infection by Targeting the Prohibitin-CRaf Pathway," Liu, S.; Wang, W.; Brown, L.E; Qiu, C.; Lajkiewicz, N.; Zhao, T.; Zhou, J.; Porco, J.A. Jr.; Wang, T.T. *EBioMedicine*, **2015**, *2*, 1600-1606.
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- (184) "Intermolecular Alkylative Dearomatizations of Phenolic Derivatives in Organic Synthesis," Porco, J.A., Jr.; Boyce, J. *Science of Synthesis (SOS), Applications of Domino Transformations in Organic Synthesis 2, Thieme*, **2015**, Vol.1, pp. 229-291.
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- (189) "CRISPR-Mediated Drug-Target Validation Reveals Selective Pharmacological Inhibition of the RNA Helicase, eIF4A," Chu, J; Galicia-Vazquez, G; Cencic, R; Mills, J.R.; Katigbak, A.; Porco, J.A. Jr.; Pelletier, J. *Cell Reports*, **2016**, *15*, 2340-2347.

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- (191) "Asymmetric Dearomatization/Cyclization Enables Access to Novel Chemotypes," Hayashi, M.; Brown, L. E.; Porco, J. A. Jr. *Eur. J. Org. Chem.*, **2016**, *28*, 4800-4804.
- (192) "Development of a Potent and Selective HDAC8 Inhibitor." Ingham, O. J.; Paranal, R. M.; Smith, W. B.; Escobar, R. A.; Yueh, H.; Snyder, T.; Porco, J. A., Jr.; Bradner, J. E.; Beeler, A. B. *ACS Med. Chem. Lett.* **2016**, *7*, 929-932.
- (193) "Syntheses of (+)-30-epi-, (-)-6-epi-, (+/-)-6,30-epi-13,14-Didehydroxyisogarcinol, and (+/-)-6,30-epi-Garcimultiflorone A Utilizing Highly Diastereoselective, Lewis-Acid Controlled Cyclizations." Boyce, J. H.; Eschenbrenner-Lux, V.; Porco, J. A., Jr. *J. Am. Chem. Soc.* **2016**, *138*, 14789-14797.
- (194) "Inhibiting the oncogenic translation program is an effective therapeutic strategy in multiple myeloma," Manier, S.; Huynh, D.; Shen, Y. J.; Zhou, J.; Yusufzai, T.; Salem, K. Z.; Ebright, R. Y.; Shi, J.; Park, J.; Glavey, S. V.; Devine, W. G.; Liu, C.-J.; Leleu, X.; Quesnel, B.; Roche-Lestienne, C.; Snyder, J. K.; Brown, L. E.; Gray, N.; Bradner, J.; Whitesell, L.; Porco, J. A. Jr.; Ghobrial, I. M. *Science Translational Medicine*, *2017*, *9*, *ASAP*. DOI: 10.1126/scitranslmed.aal2668

### **Invited Seminars and Meetings**

- 1) "Studies Towards the Synthesis of Salicylate Enamide Natural Products," New England Regional Meeting (NERM) 2000, Storrs, CT, June 14, 2000.
- 2) "Synthesis of Torreyanic Acid and Related Epoxyquinoids," Boehringer-Ingelheim Pharmaceuticals, Canada (Biomega), Montreal, Canada, August 29, 2000.
- 3) "Synthesis of Torreyanic Acid and Related Epoxyquinoids," Boehringer-Ingelheim Pharmaceuticals, Ridgefield, CT, September 29, 2000.
- 4) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," Bristol Myers Squibb, Wallingford, CT, April 6 2001.
- 5) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," Pfizer Central Research, Groton, CT, April 6 2001.
- 6) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," Suntory Pharmaceutical Research Laboratories, Cambridge, MA, May 4, 2001.
- 7) "Studies Towards the Synthesis of Enamide Natural Products," New England Regional Meeting (NERM) 2001, Advances in Synthetic Organic Chemistry, Storrs, CT, June 27, 2001.
- 8) "Studies Towards the Synthesis of Enamide Natural Products," (Paper #465499), American Chemical Society National Meeting, Chicago, IL, August, 2001.
- 9) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," University of New Hampshire, Durham, NH, October 30, 2001.
- 10) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," Texas A & M University, College Station, TX, November 8, 2001.
- 11) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," California Institute of Technology, Pasadena, CA, November 28, 2001.
- 12) "Exploring the Chemical Diversity of Epoxyquinoid Natural Products," Scripps Research Institute, La

- Jolla, CA, November 30, 2001.
- 13) "Synthesis of Bioactive Complex Molecules using C-N and C-O Bond Formation," Adolor Corporation, April 12, 2002.
- 14) "Synthesis of Bioactive Complex Molecules using C-N and C-O Bond Formation," Biogen Corporation, May 17, 2002. 15) "Synthesis of Bioactive Natural Products using C-N and C-O Bond Formation," Gordon Research Conference, Heterocyclic Compounds, Newport, RI, July 11, 2002.
- 16) "Synthesis of Bioactive Natural Products using C-N and C-O Bond Formation," Wyeth Cambridge, MA, July 24, 2002.
- 17) "Synthesis of Bioactive Natural Products using C-N and C-O Bond Formation," Eli Lilly and Company, Indianapolis, IN, August 13, 2002.
- 18) "Exploring Chemical Diversity through the Synthesis of Natural Product-Based Molecules," ACS ProSpectives Conference, Leesburg, VA, September 23, 2002.
- 19) "Exploring Chemical Diversity of Bioactive Natural Products," Yale University, New Haven, CT, November 6, 2002.
- 20) "Exploring Chemical Diversity through the Synthesis of Natural Product-Based Molecules," National Cancer Institute, Frederick, MD, December 5, 2002.
- 21) "Exploring Chemical Diversity of Bioactive Natural Products," University of North Carolina, Chapel Hill, NC, January 24, 2003.
- 22) "Exploring Chemical Diversity of Bioactive Natural Products," University of Pittsburgh, Pittsburgh, PA, January 30, 2003.
- 23) "Exploring Chemical Diversity of Bioactive Natural Products," University of California, Berkeley, Berkeley, CA, February 11, 2003.
- 24) "Exploring Chemical Diversity of Bioactive Natural Products," Stanford University, Stanford, CA, February 12, 2003.
- 25) "Exploring Chemical Diversity of Bioactive Natural Products," Celera, South San Francisco, CA, February 13, 2003.
- 26) "Exploring Chemical Diversity of Bioactive Natural Products," Brandeis University, Waltham, MA, March 3, 2003.
- 27) "Microwave-Mediated Synthesis of Complex Molecules," 1<sup>st</sup> Int'l Microwaves in Chemistry Conference, Gainesville, FL, March 8, 2003.
- 28) "Exploring Chemical Diversity of Complex Molecules," Boehringer-Ingelheim Pharmaceuticals, Ridgefield, CT, April 10, 2003.
- 29) "Exploring Chemical Diversity of Complex Molecules," Merck, West Point, PA, April 22, 2003.
- 30) "Exploring Chemical Diversity through the Synthesis of Natural Product-Based Molecules," National Cancer Institute, Frederick, MD, May 6, 2003.
- 31) "Exploring Chemical Diversity of Complex Molecules," Serono Reproductive Biology Institute, Inc., Rockland, MA, May 9, 2003.
- 32) "Exploring Chemical Diversity through the Synthesis of Natural Product-Based Molecules," 31st ACS Northeast Regional Meeting NERM 2003, Saratoga Springs, NY, June 17, 2002.

- 33) "Expanded Diversity Using Stereocontrolled Synthesis," Gordon Research Conference in Combinatorial Chemistry, Tilton, NH, July 7, 2003.
- 34) Invited Speaker at the *NSF Workshop on New Synthetic Methodology and Natural Product Synthesis*, Asilomar, CA, July 10-14, 2003.
- 35) "Recent Studies Towards the Synthesis of Epoxyquinoid Natural Products," Northeastern University, Boston, MA, November 12, 2003.
- 36) "Recent Studies Towards the Synthesis of Epoxyquinoid Natural Products," University of Southampton, UK, December 8, 2003.
- 37) "Expanded Diversity Using Stereocontrolled Synthesis," Chemistry Meets Technology III, London, UK, December 9, 2003.
- 38) "Exploring Chemical Diversity of Complex Molecules," Massachusetts Institute of Technology, Cambridge, MA, February 5, 2004.
- 39) "Exploring Chemical Diversity of Complex Molecules," AstraZeneca, Waltham, MA, February 16, 2004.
- 40) "Recent Studies Towards the Synthesis of Epoxyquinoid Natural Products," SUNY Fredonia, Fredonia, NY, February 19, 2004.
- 41) "Exploring Chemical Diversity of Complex Molecules," University at Buffalo, State University of New York, Buffalo, NY, February 20, 2004.
- 42) "Exploring Chemical Diversity of Complex Molecules," Bristol-Myers Squibb, New Brunswick, NJ, February 20, 2004.
- 44) "Strategies for the Facilitated Synthesis of Complex Molecules," Gordon Research Conference, Facilitated Chemical Synthesis, Ventura, CA, March 11, 2004.
- 45) "Exploring Chemical Diversity of Complex Molecules," University of Illinois at Urbana-Champaign, Urbana, IL, April 12, 2004.
- 46) "Exploring Chemical Diversity of Complex Molecules," Abbott Laboratories, Chicago, IL, April 13, 2004.
- 47) "Expanded Diversity Using Stereocontrolled Synthesis," ALA LabFusion 2004, Boston, MA, June 15, 2004.
- 48) "Exploring Chemical Diversity of Complex Molecules," Drug Discovery Technology 2004, Boston, MA, August 10, 2004.
- 49) "Expanding Chemical Diversity Using Stereocontrolled Synthesis," "Diversity and Chemogenomics," ACS National Meeting, Philadelphia, PA, August 23, 2004.
- 50) "Biomimetic Synthesis of Complex Molecules," University of Connecticut, Storrs, CT, October 20, 2004.
- 51) "Biomimetic Synthesis of Complex Molecules," University of Wisconsin, Madison, WI, November 4, 2004.
- 52) "Biomimetic Synthesis of Complex Molecules," UCI/Pfizer Organic Synthesis Symposium, University of California, Irvine, CA, December 9, 2004.
- 53) "Biomimetic Synthesis of Complex Molecules," Memorial Sloan Kettering Cancer Center, NY, February 8, 2005.

- 54) "Microwave-Mediated Synthesis of Complex Molecules," 3rd International Microwaves in Chemistry Conference, Orlando, FL, March 5, 2005.
- 55) "Biomimetic Synthesis of Complex Molecules," Merck-Rahway, Rahway, NJ, April 7, 2005.
- 56) "Biomimetic Synthesis of Complex Molecules," Merck-Boston, Boston, MA, April 28, 2005.
- 57) "Recent Progress of the CMLD at Boston University," CMLD-BU, CMLD Program Meeting, Boston, MA, August 9, 2005.
- 58) "Expanded Diversity Using Stereocontrolled Synthesis: Recent Progress of the CMLD-BU," Combinatorial Chemistry Proctor Academy, Andover, NH, August 23, 2005.
- 59) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes, "Diversity-Oriented Synthesis 2005, Waltham, MA, September 23, 2005.
- 60) "New Synthetic Methods Inspired by Complex Natural Product Synthesis," Bristol-Myers Squibb Chemistry Award Symposium, Wallingford, CT, May 7, 2005.
- 61) "Biomimetic Synthesis of Complex Molecules," Bristol-Myers Squibb Symposium, University of Michigan, Ann Arbor, MI, September 10, 2005.
- 62) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes, "Pfizer Research Technology Center, Cambridge, MA, December 2, 2005.
- 63) "New Approaches to the Chemical Synthesis of Bioactive Molecules," 6<sup>th</sup> Annual UCSD/Merck Symposium, University of California, San Diego, CA, December 12, 2005.
- 64) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Astra Zeneca, Wilmington, DE, January 24, 2006.
- 65) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Harvard University, Bristol-Myers Squibb Lecturer, Cambridge, MA, January 30, 2006.
- 66) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Colorado State University, Fort Collins, CO, February 27, 2006.
- 67) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Incyte Corporation, Wilmington, DE, March 24, 2006.
- 68) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Johns Hopkins University, Baltimore, MD, April 4, 2006.
- 69) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Wyeth Research, Pearl River, NY, April 26, 2006.
- 70) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Gordon Research Conference, Organic Reactions and Processes, Bryant University, Smithfield, RI, July 17, 2006.
- 71) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," American Society for Pharmacognosy, 47<sup>th</sup> Annual Meeting, Arlington, VA, August 7, 2006.
- 72) "Recent Progress at the CMLD-BU," CMLD Centers Annual Program Meeting, Pittsburgh, PA, August 14, 2006.
- 73) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," University of Manchester, Manchester UK, September 4, 2006.
- 74) "New Approaches to the Chemical Synthesis of Bioactive Molecules," British Pharmaceutical

Conference, Manchester UK, September 5, 2006.

- 75) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Schering Plough Research Institute, Kenilworth, NJ, December 5, 2006.
- 76) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," University of Kansas, Lawrence, KS, December 12, 2006.
- 77) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Wayne State University, Detroit, MI, December 13, 2006.
- 78) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Scripps Research Institute Florida, Jupiter, FL, December 20, 2006.
- 79) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," Schering-Plough Research Institute, Cambridge, MA, January 30, 2007.
- 80) "New Approaches to the Chemical Synthesis of Bioactive Molecules," Eisai Research Institute, Andover, MA, February 7, 2007.
- 81) "Total Synthesis and Stereochemical Assignment of Hexacyclinol," College of the Holy Cross, Worcester, MA, February 9, 2007.
- 82) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," Pfizer Research Technologies Center, Cambridge, MA, February 15, 2007.
- 83) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Penn State University, University Park, PA, March 8, 2007.
- 84) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Florida State University, Tallahassee, FL, March 20, 2007.
- 85) "New Chemical Reactions Inspired by Complex Natural Products," ACS National Meeting, Chicago, IL, March 28, 2007.
- 86) "New Chemical Reactions Inspired by Complex Natural Products," Osaka University, Osaka, Japan, April 23, 2007.
- 87) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," 24th Conference on Combinatorial Chemistry, Osaka, Japan, April 24, 2007.
- 88) "New Chemical Reactions Inspired by Complex Natural Products," Dainnipon-Sumitomo Pharma, Osaka, Japan. April 25, 2007.
- 89) "New Approaches to the Chemical Synthesis of Bioactive Molecules," University of Minnesota, Minneapolis, MN, May 3, 2007.
- 90) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Natural Products Discovery at the NCI Symposium, June 7, 2007.
- 91) New Approaches to the Chemical Synthesis of Bioactive Molecules," Roche Palo Alto, Palo Alto, CA, August 1, 2007.
- 92) "New Approaches to the Chemical Synthesis of Bioactive Natural Products," Amgen, Thousand Oaks, CA, June 6, 2007.
- 93) "New Approaches to the Chemical Synthesis of Bioactive Molecules," The Scripps Research Institute, La Jolla, CA, August 2, 2007.

- 94) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," Eurocombi 4, Firenze, Italy, July 15, 2007.
- 95) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," GVK BIO-Wyeth Symposium, Hyderabad, India, October 5, 2007.
- 96) "New Synthetic Methods Inspired by Complex Natural Products," Cornell University, Ithaca, NY, February 25, 2008.
- 97) "New Chemical Reactions Inspired by Complex Natural Products," Vanderbilt University, Nashville, TN, April 21, 2008.
- 98) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," Sanofi-Aventis, Visions in Chemistry Symposium, May 15, 2008.
- 99) "New Synthetic Methods Inspired by Complex Natural Products," Gordon Research Conference, Tilton, NH, July 23, 2008.
- 100) "New Chemical Reactions Inspired by Complex Natural Products," Glaxo, Research Triangle Park, NC, August 5, 2008.
- 101) "New Chemical Reactions Inspired by Complex Natural Products," Wyeth Inc., Collegeville, PA, August 13, 2008.
- 102) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," Wyeth Inc., Princeton, NJ, August 14, 2008.
- 103) "New Chemical Reactions Inspired by Complex Natural Products, Boston College, Chestnut Hill, MA, November 4, 2008.
- 104) "New Chemical Reactions Inspired by Complex Natural Products," Columbia University, New York, NY, December 4, 2008.
- 105) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," NESACS Symposium, New Technologies for Drug Discovery, Woburn, MA, December 10, 2008.
- 106) "New Chemical Reactions Inspired by Complex Natural Products," Amgen, Cambridge, MA, January 9, 2009.
- 107) "New Chemical Reactions Inspired by Complex Natural Products," Duke University, Durham, NC, January 13, 2009.
- 108) "New Chemical Reactions Inspired by Complex Natural Products," Brandeis University, Waltham, MA, January 26, 2009.
- 109) "New Approaches to the Discovery of Novel Chemical Reactions and Chemotypes," New York Academy of Sciences, New York, NY, February 26, 2009.
- 110) "New Synthetic Methods Inspired by Complex Natural Products," Novartis, Basel, Switzerland, March 11, 2009.
- 111) "New Synthetic Methods Inspired by Complex Natural Products," Sanofi-Aventis, Frankfurt, Germany, March 12, 2009.
- 112) "Reaction Discovery Approaches to Chemical Diversity," Gordon Research Conference, Combinatorial Chemistry, June 9, 2009.
- 113) "Dearomatization Strategies in Complex Molecule Synthesis," Arthur C. Cope and Arthur C. Cope Scholars Award Symposium, American Chemical Society, 238th National Meeting, August 18, 2009.

- 114) "Dearomatization Strategies in Complex Molecule Synthesis," Chemical Biology and Therapeutics St. Jude Children's Research Hospital, December 4, 2009.
- 115) "Dearomatization Strategies in Complex Molecule Synthesis," Tufts University, February 9, 2010.
- 116) "Dearomatization Strategies in Complex Molecule Synthesis," University of Colorado at Boulder, Boulder, CO, March 15, 2010.
- 117) "Dearomatization Strategies in Complex Molecule Synthesis," Northwestern University, Chicago, IL, April 8, 2010.
- 118) "Dearomatization Strategies in Complex Molecule Synthesis," Abbott Laboratories, Chicago, IL, April 9, 2010.
- 119) "Complex Natural Product Synthesis and Reaction Discovery," NERM 2010, Potsdam, NY, June 4, 2010.
- 120) "Reaction Discovery Approaches to Chemical Diversity," New Technologies to Expedite Research in Organic Chemistry, ACS National Meeting, August 24, 2010.
- 121) "Electron Transfer Initiated Diels-Alder Cycloadditions of 2'-Hydroxychalcones," Karlsruhe Institute of Technology, Karlsruhe, Germany, August 31, 2010.
- 122) "New Synthetic Methods Inspired by Complex Natural Products," 3<sup>rd</sup> EuCheMS Chemistry Congress, Nurnberg, Germany, September 1, 2010.
- 123) "Reaction Discovery Approaches to Chemical Diversity," *Diversity-Oriented Synthesis*, Pacifichem 2010, Honolulu, HI, December 19, 2010.
- 124) "Synthesis and Evaluation of Rocaglate Derivatives as Inhibitors of Eukaryotic Translation," 2011 Spring ACS National Meeting, Anaheim, CA, March 29, 2011.
- 125) "Chemical Synthesis of Bioactive Flavonoid and Xanthone-Derived Natural Products," Merck Research Laboratories, West Point, PA, April 11, 2011.
- 126) "Chemical Synthesis of Bioactive Flavonoid and Xanthone-Derived Natural Products," UT Southwestern Medical Center, Dallas, TX, April 26, 2011.
- 127) "New Approaches to the Chemical Synthesis of Bioactive Molecules," University of Houston, Houston, TX, November 8, 2011.
- 128) "Reaction Discovery Approaches To Chemical Diversity," Cubist Pharmaceuticals, Lexington, MA, March 5, 2012.
- 129) "Studies Toward the Synthesis of Antitumor Natural Products," Memorial Sloan Kettering Cancer Center, New York, NY, April 2, 2012.
- 130) "New Approaches to the Chemical Synthesis of Bioactive Molecules," University of North Carolina, Chapel Hill, NC, April 6, 2012.
- 131) "Reaction Discovery Leading to Pharmacological Tools at the CMLD-BU," CMLD Program Meeting-Frontiers in Accelerated Chemical Discovery, Boston, MA, June 12, 2012.
- 132) "Studies Toward the Synthesis of Antitumor Natural Products," Université de Montreal, Montreal, Canada, October 3, 2012.
- 133) "Reaction Discovery Approaches To Chemical Diversity," Applied Pharmaceutical Chemistry Conference, Boston, MA, October 22, 2012.

- 134) "Synthesis of Rocaglamide and Related Natural Products," Infinity Pharmaceuticals, Cambridge, MA, January 30, 2013.
- 135) "Studies Towards the Synthesis of Antitumor Natural Products," Millennium-Takeda, Cambridge, MA, July 16, 2013
- 136) "An Overview of the CMLD-BU," Boston University Department of Microbiology Retreat, September 20, 2013.
- 137) "Studies Towards the Synthesis of Antitumor Natural Products," University of Texas Southwestern Medical Center, 2013 Paul Srere Lecture, Dallas, TX, November 1, 2013
- 138) "Reaction Discovery Leading to Pharmacological Tools at the CMLD-BU," Vertex Pharmaceuticals, Cambridge MA, November 21, 2013.
- 139) "Chemical Synthesis and Biological Studies of Antitumor Natural Products", Sterling Drug Lecture, Boston University School of Medicine, Department of Pharmacology and Experimental Therapeutics, Boston, MA, February 26, 2014.
- 140) "Chemical Synthesis and Biological Studies of Antitumor Natural Products," National Cancer Institute at Frederick, Frederick, MD, April 10, 2014.
- 141) "Chemical Synthesis and Biological Studies of Antitumor Natural Products," 49th 'Bürgenstock Conference (EUCHEM Conference on Stereochemistry), Brunnen, Switzerland, May 4-9, 2014.
- 142) "Synthetic Studies Toward Tetrahydroxanthone Natural Products," H3 Biomedicine, Cambridge, MA, September 12, 2014.
- 143) "Synthetic Studies Toward Tetrahydroxanthone Natural Products," University of California, Los Angeles, Los Angeles, CA, October 16, 2014.
- 144) "Recent Studies Towards the Synthesis of Rocaglamide and Related Natural Products", ACS 249<sup>th</sup> National Meeting, Denver, CO, March 22-26, 2015.
- 145) "Recent Studies Towards the Synthesis of Tetrahydroxanthone Natural Products," Vanderbilt Institute of Chemical Biology, Nashville, TN, November 18, 2015.
- 146) "Recent Studies Towards the Synthesis of Tetrahydroxanthone Natural Products," Amgen, Cambridge, MA, December 10, 2015.
- 147) "Recent Studies Towards the Synthesis of Tetrahydroxanthone Natural Products," Dartmouth College, Hanover, NH, January 7, 2016.
- 148) "Recent Studies Towards the Synthesis of Tetrahydroxanthone Natural Products," Florida Heterocyclic Conference, University of Florida, Gainesville, FL, February 29, 2016.
- 149) "Recent Studies Towards the Synthesis of Tetrahydroxanthone Natural Products," Princeton University, Department of Chemistry, Princeton, NJ, March 10, 2016.
- 150) "Chemical Synthesis and Biological Studies of the Rocaglates and Derivatives," University of Notre Dame, Department of Chemistry and Biochemistry, South Bend, IN, March 24-25, 2016.

- 151) "Chemical Synthesis and Biological Studies of the Rocaglates and Derivatives," The 33<sup>rd</sup> Herbert C. Brown Lectures in Organic Chemistry, Purdue University, West Lafayette, IN, April 15, 2016.
- 152) "Recent Studies Towards the Synthesis of Bioactive Flavonoid and Xanthone-Derived Natural Products," University of California Irvine, Department of Chemistry, Irvine, CA, May 23, 2016.
- 153) "Recent Studies Towards the Synthesis of Bioactive Flavonoid and Xanthone-Derived Natural Products," Merck Research Laboratories, Rahway, NJ, June 23, 2016.
- 154) "Recent Studies Towards the Synthesis of Bioactive Flavonoid and Xanthone-Derived Natural Products." The University of Chicago, Chicago, IL, October 24, 2016.
- 155) "Chemical Synthesis and Biological Studies of the Rocaglates and Derivatives," Québec-Ontario Mini-Symposium for Synthetic and Bioorganic Chemistry, University of Waterloo, Waterloo, Ontario, Canada, November 11, 2016.
- 156) "Recent Studies Towards the Synthesis of Bioactive Natural Products," The Scripps Research Institute, January 8, 2017.
- 157) "Recent Studies Towards the Synthesis of Bioactive Natural Products," The University of Illinois, Champagne-Urbana, Chemistry-Biology Interface Training Program, Champagne-Urbana IL, March 6, 2017.

## **Courses Taught at Boston University**

CH642 "Organic Reaction Mechanisms" (Graduate Course) Fall 1999-2002, 2004, 2006, 2012

CH204/214 "Organic Chemistry II (Undergraduate Course) Spring 2001-2002, 2014, 2015, 2016, 2017

CH203 "Organic Chemistry I (Undergraduate Course) Fall 2003, 2005, 2007, 2008, 2009, 2010

CH 195 Freshman Seminar for Chemistry Majors "Excitement in the Chemical Sciences!" Fall 2016

#### **University Service**

2001-2002 Member, Boston University Trustee Scholars Selection Committee

1999-2009 Member of Chemistry Department Graduate Admissions Committee

2002-present Director, Center for Chemical Methodology and Library Development (CMLD-BU)

2008-2009 Associate Chairman and Chair of the Graduate Admissions Committee

2006 Chair Organic Chemistry Faculty Search Committee

2010 Chair Medicinal Chemistry Faculty Search Committee

2013-2015 Chair Organic Chemistry Faculty Search Committee

# Undergraduate, graduate and postdoctoral advisees

Name (relationship during collaboration)

**Current affiliation (title)** 

Mathieu Achard (postdoctoral fellow)

Assistant Professor (Rennes)

Mitchell Antalek (undergraduate) Chemist, Kaleido Biosciences

Zach Ariki (undergraduate) Graduate Student (Queens Univ.)

Jorge Becerril (postdoctoral fellow) Director, Business Development

(Portola Pharmaceuticals)

Swapna Bhagwanth (postdoctoral fellow) Postdoctoral Fellow

Brad Balthaser (postdoctoral fellow) Patent Agent/Chemical Technology

Consultant

Sujata Bardhan (graduate student)

Scientific Program Manager (NIH)

Aaron Beeler (postdoctoral fellow) BU (Assistant Professor)

Pieter Bos (postdoctoral fellow)

Assoc. Res. Scientist (Columbia Univ.)

Jon Boyce (graduate student) Postdoctoral Fellow (University of

California, San Francisco)

Matthew Brooks (undergraduate) BU undergraduate

Daniel Bruggebrew (formerly Bruggemeyer) (undergraduate) Associate, Gibson, Dunn & Crutcher

Kaddy Camara (postdoctoral fellow) Postdoctoral Fellow (BU)

Paola Castaldi (postdoctoral fellow)

Team Leader, Chemical Biology

(AstraZeneca)

Chun Chen (graduate student)

BU Graduate Student (G1)

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Paula Ortet (undergraduate)

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