Curriculum Vitae
Barbara Imperiali

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Massachusetts Institute of Technology
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Education:

1979 *University College London, London, England*
B.Sc. Medicinal Chemistry. First Class (Honours)
1983 *Massachusetts Institute of Technology, Cambridge, MA*
Ph.D. in Synthetic Organic Chemistry

Date of Birth: January 1, 1957

Professional Experience:

1983 *Massachusetts Institute of Technology*
Postdoctoral Associate with Dr. S. Masamune
1984 *Brandeis University*
Postdoctoral Associate with Dr. R. H. Abeles
1986 *Carnegie Mellon University*
Assistant Professor of Chemistry
1989 *California Institute of Technology*
Assistant Professor of Chemistry
1995 *California Institute of Technology*
Associate Professor of Chemistry
1997 *California Institute of Technology*
Professor of Chemistry
1999 *Massachusetts Institute of Technology*
Ellen Swallow Richards Professor of Chemistry
2002 *Massachusetts Institute of Technology*
Ellen Swallow Richards Professor of Chemistry and Professor of Biology
2004 *Massachusetts Institute of Technology*
Class of 1922 Professor of Chemistry and Professor of Biology
2011 *Broad Institute*
Associate Member

Honors:

1979 Kennedy Memorial Trust Graduate Fellowship
1985 American Cancer Society Postdoctoral Fellowship
1992 Associated Students of the California Institute of Technology (ASCIT) Award for Excellence in Teaching
1992 Lilly Grantee Award
1993 Alfred P. Sloan Research Fellow
1993 Camille and Henry Dreyfus Teacher-Scholar Award
1993 Richard M. Badger Teaching Award
1993 Zeneca Chemistry Award for Excellence in Chemistry
1994 Graduate Student Council Award for Exceptional Teaching and Mentorship
1995 ASCIT Award for Excellence in Teaching

1996 American Chemical Society - Arthur C. Cope Scholar Award
1998 5th Annual Richard P. Feynman Award for Excellence in Teaching (Caltech)
2001 Elected to the American Academy of Arts and Sciences
2002 MIT School of Science Award for Excellence in Undergraduate Education
2003 Margaret McVicar Faculty Fellow (in recognition of contributions to education at MIT)
2004 Admitted as a Fellow of the Royal Society of Chemistry (FRSC)
2006 American Chemical Society - Ronald Breslow Award for Achievement in Biomimetic Chemistry
2006 American Peptide Society - Vincent du Vigneaud Award for Peptide Chemistry
2006 Protein Society - Emil T. Kaiser Award
2010 Elected to the National Academy of Sciences

National and International Professional Activities:

1992 Co-Chair and organizer of the first Gordon Research Conference on Bioorganic Chemistry.

1993-1994 Member, Nominating Committee, Division of Biological Chemistry, American Chemical Society.

1994 Program Committee Member for Fourteenth American Peptide Symposium, Columbus, OH.

1995 - Member, Editorial Board *Archives of Biochemistry and Biophysics.*

1995 Member, Organizing Committee 15th Enzyme Mechanisms Conference, Naples, FL.

1996 Co-Chair of Chemistry and Biology of Peptides Gordon Research Conference, Ventura, CA 1998.

1996-2000 Member, National Institutes of Health - Bioorganic and Natural Products Study Section.

1996-2000 At-large member of the Council of the Gordon Research Conferences.

1996-2008 Member, Board of Consulting Editors *Bioorganic and Medicinal Chemistry Letters* and *Bioorganic and Medicinal Chemistry.*

1996 - Member, Editorial Board *Current Opinions in Chemical Biology.*

1997 - Member, Editorial Board *Chemistry and Biology.*

1997-2002 Council Member, American Peptide Society.

1997-2000 Council Member, Division of Biological Chemistry, American Chemical Society.

1998-2000 Protein Design Labs, Inc. Member Scientific Advisory Board.

1999-2002 Member, Advisory Board for Novartis, Basel, Switzerland.

1999-2007 Member, Editorial Advisory Board *Organic Letters.*

2000-2002 Co-organizer, NSF Workshop in Physical Organic Chemistry.

2000-2002 Member, Editorial Advisory Board *Journal of Organic Chemistry.*

2000-2016 Member, Editorial Advisory Board *Biochemistry.*

2000-2002 Member, Editorial Advisory Board *Accounts of Chemical Research.*

2000 - Member, Editorial Advisory Board *Chemistry – A European Journal.*

2000-2006 Associate Editor, Chemical Biology (USA) – *Chemical Communications.*

2000- Member and Chair, Scientific Advisory Board Novartis Institute for Tropical Diseases, Singapore.

2001-2006 Member, Scientific Advisory Board Syntonix, Waltham, MA.

2003-2008 Member Advisory Board Complex Carbohydrate Resource Center, University of Georgia, Athens, GA.

2005-2007 Member, Novartis Foundation Scientific Advisory Panel.

2006-2009 Member, Whitehead Institute Advisory Board.

2007-2008 Associate Editor (The Americas) - *Bioorganic and Medicinal Chemistry.*

2008-2011 Director – MIT Chemistry Biology Interface NIH Training Program.

2010 -2016 Editorial Advisory Board – *Journal of the American Chemical Society*

2011 - Co-chair, Editorial Advisory Board – *ChemBioChem.*

2012-2013 Member, Nominating Committee, ASBMB.

2014 - Member, Steering Committee, NIH Workshop on Mentoring New Investigators in Organic and Biological Chemistry.

2015 Co-Founder AssayQuant Technologies.

2017 Member, National Institutes of Health - MSFA Study Section

Barbara Imperiali - Publications

1. "Stereoselective Aldol Condensation: Use of Chiral Boron Enolates," Masamune, S.; Choy, W.; Kerdesky, F. A. J.; Imperiali, B. *J. Am. Chem. Soc.* **1981**, *103*, 1566-1568.

2. "Synthesis of Ansamycins: The Ansa Chain of Rifamycin S," Masamune, S.; Imperiali, B.; Garvey, D. S. *J. Am. Chem. Soc.* **1982**, *104*, 5528-5531.

3. "Synthesis of Tylonolide, the Aglycone of Tylosin," Jackson, W. P.; Lu, L. D-L.; Imperiali, B.; Choy, W.; Tobita, H.; Masamune, S. In *Strategies and Tactics in Organic Synthesis*; Lindberg, T., Ed.; Academic Press: Orlando, 1984; p 123-153.

4. "A Versatile Synthesis of Peptidyl Fluoromethyl Ketones," Imperiali, B.; Abeles, R. H. *Tetrahedron Lett*. **1986**, *27*, 135-138.

5. "Inhibition of Serine Proteases by Peptidyl Fluoromethyl Ketones," Imperiali, B.; Abeles, R. H. *Biochemistry*, **1986**, *25*, 3760-3767.

6. "Biosynthetic Thiolase from *Zoogloea ramigera*. 1. Preliminary Characterization and Analysis of the Proton Transfer Reaction," Davis, J. T.; Moore, R. N.; Imperiali, B.; Pratt, A. J; Kobayashi, K.; Masamune, S.; Sinskey, A. J.; Walsh, C. T.; Fukui, T.; Tomita, K. *J. Biol. Chem.* **1987**, *262*, 82-89.

7. "Extended Binding Inhibitors of Chymotrypsin which Interact with Leaving Group Subsites S_1'-S_3'," Imperiali, B.; Abeles, R. H. *Biochemistry*, **1987**, *26*, 4474-4477.

8. "Synthetic Fluoropeptides as Pharmacologically Useful Compounds," Imperiali, B. In *Advances in Biotechnological Processes (Synthetic Peptides in Biotechnology)*; Mizrahi, A., Ed.; Alan R. Liss: New York, 1988; p 97-129.

9. "Synthesis of Dolichols via Asymmetric Hydrogenation of Plant Polyprenols," Imperiali, B.; Zimmerman, J. W. *Tetrahedron Lett.* **1988**, *29*, 5343-5344.

10. "Synthesis of Dolichylpyrophosphate-Linked Oligosaccharides," Imperiali, B.; Zimmerman, J. W. *Tetrahedron Lett.* **1990**, *31*, 6485-6488.

11. "Differences between Asn-Xaa-Thr-Containing Peptides: A Comparison of Solution Conformation and Substrate Behavior with Oligosaccharyltransferase," Imperiali, B.; Shannon, K. L. *Biochemistry*, **1991**, *30*, 4374-4380.

12. "(S)-α-Amino-(2,2'-bipyridine)-6-Propanoic Acid: A Versatile Amino Acid for *de novo* Metalloprotein Design," Imperiali, B.; Fisher, S. L. *J. Am. Chem. Soc.* **1991**, *113*, 8527-8528.

13. "Stereoselective Synthesis and Peptide Incorporation of (S)-α-Amino-(2,2'-bipyridine)-6-Propanoic Acid," Imperiali, B.; Fisher, S. L. *J. Org. Chem.* **1992**, *57*, 757-759.

14. "A Conformational Study of Peptides with the General Structure Ac-L-Xaa-Pro-D-Xaa-L-Xaa-NH_2: Spectroscopic Evidence for a Peptide with Significant β–Turn Character in Water and Dimethyl Sulfoxide," Imperiali, B.; Fisher, S. L.; Moats, R. A.; Prins, T. J. *J. Am. Chem. Soc.* **1992**, *114*, 3182-3188.

15. "Role of Peptide Conformation in Asparagine-Linked Glycosylation," Imperiali, B.; Shannon, K. L.; Rickert, K. W. *J. Am. Chem. Soc.* **1992**, *114*, 7942-7944.

16. "A Mechanistic Proposal for Asparagine-Linked Glycosylation," Imperiali, B.; Shannon, K. L.; Unno, M.; Rickert, K. W. *J. Am. Chem. Soc.* **1992**, *114*, 7944-7945.

17. "Chemoenzymatic Synthesis of 2-Amino-3-(2,2'-bipyridinyl)-Propanoic Acids," Imperiali, B.; Prins, T. J.; Fisher, S. L. *J. Org. Chem.* **1993**, *58*, 1613-1616.

18. "The Reverse Turn as a Template for Metal Coordination," Imperiali, B.; Kapoor, T. M. *Tetrahedron* **1993**, *49*, 3501-3510.

19. "Semisynthesis of Bipyridyl-Alanine Cytochrome *c* Mutants: Novel Proteins with Enhanced Electron-Transfer Properties," Wuttke, D. S.; Gray, H. B.; Fisher, S. L.; Imperiali, B. *J. Am. Chem. Soc.* **1993**, *115*, 8455-8456.

20. "Investigation of the Origins of Specificity and Reactivity in *N*-Linked Protein Glycosylation," Imperiali, B.; Rickert, K. W. ACS Symposium Series Publication 551; Hedin, P. A.; Menn, J. J.; Hollingworth, R. M. American Chemical Society: Washington, DC, 1994; pp 425-435.

21. "Structural and Functional Characterization of a Constrained Asx-Turn Motif," Imperiali, B.; Spencer, J. R.; Struthers, M. D. *J. Am. Chem. Soc*. **1994**, *116*, 8424-8425.

22. "Coenzyme-Amino Acid Chimeras: New Residues for the Assembly of Functional Proteins," Imperiali, B.; Sinha Roy, R. *J. Am. Chem. Soc.* **1994**, *116*, 12083-12084.

23. "Conformational Implications of Asparagine-Linked Glycosylation," Imperiali, B.; Rickert, K. W. *Proc. Natl. Acad. Sci. USA*, **1995**, *92,* 97-101. PMCID: PMC42824

24. "Stereoselective Synthesis and Peptide Incorporation of a Pyridoxal Coenzyme-Amino Acid Chimera" Imperiali, B.; Sinha Roy, R. *J. Org. Chem.* **1995**, *60*, 1891-1894.

25. "Sulfhydryl Modification of the Yeast Wbp1p Subunit Inhibits Oligosaccharyl Transferase Activity," Pathak, R.; Hendrickson, T.L.; Imperiali, B. *Biochemistry*, **1995**, *34*, 4179-4185.

26. "The Essential Yeast *NLT1* Gene Encodes the 64 kDa Glycoprotein Subunit of the Oligosaccharyl Transferase," Pathak, R.; Parker, C. S.; Imperiali, B. *FEBS Lett.* **1995**, *362*, 229-234.

27. "Metal-Ion Dependence of Oligosaccharyl Transferase: Implications for Catalysis," Imperiali, B.; Hendrickson, T. L. *Biochemistry*, **1995**, *34*, 9444-9450.

28. "Analysis of the Conserved Glycosylation Site in the Nicotinic Acetylcholine Receptor: Potential Roles in Complex Assembly," Rickert, K. W.; Imperiali, B. *Chemistry and Biology*, **1995**, *2*, 751-759.

29. "Asparagine-Linked Glycosylation: Specificity and Function of *Oligosaccharyl Transferase*," Imperiali, B.; Hendrickson, T. L. *Bioorg. Med. Chem.* **1995**, *3*, 1565-1578.

30. "Design of a Monomeric 23-Residue Polypeptide with Defined Tertiary Structure," Struthers, M. D.; Cheng, R. P.; Imperiali, B. *Science*, **1996**, *271*, 342-345.

31. "Peptidyl Models for Coenzyme Catalysis," Imperiali, B.; Sinha Roy, R.; Wang, L. *Peptides: Chemistry, Structure and Biology, Proceedings of the 14th American Peptide Symposium*, Kaumaya, P. T. P.; Hodges, R. S. (Eds), **1996**, 546-548.

32. "Unnatural Amino Acids for the Design of Functional Proteins: Biomimetic Catalysis Using Coenzyme Amino Acids," Imperiali, B.; Sinha Roy, R.; Walkup, G. K.; Wang, L. in "*Molecular Design and Bioorganic Catalysis*"; Wilcox, C. and Hamilton, A. D., eds.; Kluwer Academic Publishers: Dordrecht, **1996**, pp 35-52.

33. "Synthesis of the Glucoallosamidin Pseudo-disaccharide: Use of an Efficient Hg(II) Mediated Cyclization," Shrader, W. D.; Imperiali, B. *Tetrahedron Lett.* **1996**, *37*, 599-602.

34. "Design and Evaluation of a Peptidyl Fluorescent Chemosensor for Divalent Zinc," Walkup, G. K.; Imperiali, B. *J. Am. Chem. Soc.* **1996**, *118*, 3053-3054.

35. "Economy in Protein Design: Evolution of a Metal-Independent $\beta\beta\alpha$ Motif Based on the Zinc Finger Domains," Struthers, M. D.; Cheng, R. P.; Imperiali, B. *J. Am. Chem. Soc.* **1996**, *118*, 3073-3081.

36. "Stereoselective Synthesis of a Pyridoxamine Coenzyme-Amino Acid Chimera: Assembly of a Polypeptide Incorporating the Pyridoxamine Moiety," Sinha Roy, R.; Imperiali, B. *Tetrahedron Lett.* **1996**, *37*, 2129-2132.

37. "Design and Evaluation of Potent Inhibitors of Asparagine-linked Glycosylation," Hendrickson, T. L.; Spencer, J. R.; Kato, M.; Imperiali, B. *J. Am. Chem. Soc.* **1996**, *118*, 7636-7637.

38. "Metallopeptide Design: Tuning Metal Cation Affinities with Unnatural Amino Acids and Peptide Secondary Structure," Cheng, R. P.; Fisher, S. L.; Imperiali, B. *J. Am. Chem. Soc.* **1996**, *118*, 11349-11356.

39. "Modulation of Protein Structure and Function by Asparagine-Linked Glycosylation," O'Connor, S. E.; Imperiali, B. *Chemistry and Biology*, **1996**, *3*, 803-812.

40. "New Synthetic Amino Acids for the Design and Synthesis of Peptide-Based Metal Ion Sensors," Torrado, A.; Imperiali, B. *J. Org. Chem.* **1996**, *61*, 8940-8948.

41. "A Dual Affinity Tag on the 64kDa Nlt1p Subunit Allows the Rapid Characterization of Mutant Yeast Oligosaccharyl Transferase Complexes," Pathak, R.; Imperiali, B. *Arch. Biochem. Biophys.* **1997**, *338*, 1-6.

42. "Conformational Switching by Asparagine-linked Glycosylation," O'Connor, S. E.; Imperiali, B., *J. Am. Chem. Soc.* **1997**, *119*, 2295-2296.

43. "Pyridoxamine-Amino Acid Chimeras in Semisynthetic Amino-transferase Mimics," Sinha Roy, R.; Imperiali, B. *Protein Engineering*, **1997**, *10*, 691-698.

44. "Fluorescent Chemosensors for Divalent Zinc Based on Zinc Finger Domains. Enhanced Oxidative Stability, Metal Binding Affinity, and Structural and Functional Characterization," Walkup, G. K.; Imperiali, B. *J. Am. Chem. Soc.* **1997**, *119,* 3443-3450.

45. "Structural and Functional Analysis of Peptidyl Oligosaccharyl Transferase Inhibitors," Kellenberger, C.; Hendrickson, T. L.; Imperiali, B. *Biochemistry*, **1997**, *36*, 12554-12559.

46. "Protein Glycosylation: The Clash of the Titans," Imperiali, B. *Acc. Chem. Res.* **1997**, *30*, 452-459.

47. "Biopolymers - Conquering the Giants," (editorial), Dell, A.; Imperiali, B.; McLaughlin, L. *Curr. Opin. Chem. Biol.* **1997**, *1*, 523-525.

48. "The Conformational Basis of Asparagine-Linked Glycosylation," Imperiali, B.; O'Connor, S. E. *Pure and Applied Chem.* **1998**, *70*, 33-40.

49. "Design, Assembly and Characterization of Folded Polypeptides," Imperiali, B. *McGraw-Hill Yearbook of Science and Technology*, **1998**, pp. 290-293.

50. "Exploiting Polypeptide Motifs for the Design of Selective Cu(II) Ion Chemosensors," Torrado, A.; Walkup, G. K.; Imperiali, B. *J. Am. Chem. Soc.* **1998**, *120*, 609-610.

51. "Design and NMR Analyses of Compact Independently Folded BBA Motifs," Struthers, M. D.; Ottesen, J. J.; Imperiali, B. *Folding & Design*, **1998**, *3*, 95-103.

52. "Substrate Assistance in the Mechanism of Family 18 Chitinases: Theoretical Studies of Potential Intermediates and Inhibitors," Brameld, K.; Shrader, W. D.; Goddard, W. A.; Imperiali, B. *J. Mol. Biol.* **1998**, *280*, 913-923.

53. "Design Strategies for the Construction of Independently Folded Polypeptide Motifs," Imperiali, B.; Ottesen, J. J. *Biopolymers,* **1998**, *47,* 23-29.

54. "Stereoselective Synthesis of Fluorescent α-Amino acids Containing Oxine (8-Hydroxyquinoline) and their Peptide Incorporation in Chemosensors for Divalent Zinc," Walkup, G. K.; Imperiali, B. *J. Org. Chem.* **1998**, *63,* 6727-6731.

55. "Peptidyl Chemosensors Incorporating a FRET Mechanism for Detection of Ni(II)," Pearce, D. A.; Walkup, G. K.; Imperiali, B. *Bioorg. Med. Chem. Lett.* **1998**, *8,* 1963-1968.

56. "A Molecular Basis for Glycosylation-Induced Conformational Switching," O'Connor, S. E.; Imperiali, B. *Chem. & Biol.* **1998**, *5,* 427-437.

57. "Model Study for the Incorporation of the (*syn*,*anti*)-2-Amino-1,3-Diol Functionality in Carbocycles," Tai, V. W.-F.; Imperiali, B. *Tetrahedron Lett*. **1998**, *39*, 7215-7218.

58. "A Reversible Affinity Tag for the Purification of N-Glycolyl Capped Peptides," Shogren-Knaak, M. A.; Imperiali, B. *Tetrahedron Lett.* **1998**, *39*, 8241-8244.

59. "Chemistry and Biology of Asparagine-Linked Glycosylation," Imperiali, B.; O'Connor, S. E.; Hendrickson, T.; Kellenberger, C. *Pure and Applied Chem.* **1999**, *71*, 777-787.

60. "Modulating Pyridoxamine-Mediated Transamination Through a ββα Motif Peptide Scaffold," Shogren-Knaak, M. A.; Imperiali, B., *Bioorg. Med. Chem.* **1999**, *7*, 1993-2002.

61. "Uniquely Folded Mini-Protein Motifs," Imperiali, B.; Ottesen, J. J. *J. Pept. Res.* **1999**, *54*, 177-184.

62. "Design and Construction of Novel Peptides and Proteins by Tailored Incorporation of Coenzyme Functionality," Imperiali, B.; McDonnell, K. A.; Shogren-Knaak, M. A.; *Topics in Current Chemistry: Implementation and Redesign of Catalytic Function in Biopolymers*, Vol. 202, Schmidtchen, F. P. Ed., Springer-Verlag, **1999**, pp. 1-38.

63. "A Potent Oligosaccharyl Transferase Inhibitor that Crosses the Intracellular Endoplasmic Reticulum Membrane," Eason, P. D.; Imperiali, B. *Biochemistry*, **1999**, *38*, 5430-5437.

64. "Study of the Stability and Unfolding Mechanism of BBA1 by Molecular Dynamics Simulations at Different Temperatures," Wang, L.; Duan, Y.; Shortle, R.; Imperiali, B.; Kollman, P. A. *Protein Science*, **1999**, *8*, 1292-1304. PMCID: PMC2144350.

65. "Peptide Platforms for Metal Ion Sensing," Imperiali, B.; Pearce, D. P.; Sohna Sohna, J-E.; Walkup, G. K.; Torrado, A. *SPIE Proceedings*, **1999**, *3858*, 135-143.

66. "Effect of *N*-Linked Glycosylation on Glycopeptide and Glycoprotein Structure," Imperiali, B.; O'Connor, S. E. *Curr. Opin. Chem. Biol.* **1999**, *3*, 643-649.

67. "Probing the Extended Binding Determinants of Oligosaccharyl Transferase with Synthetic Inhibitors of Asparagine-Linked Glycosylation," Ufret, M. de L.; Imperiali, B. *Bioorg. Med. Chem. Lett*. **2000**, *10*, 281-284.

68. "α-Chloroacetyl Capping of Peptides: An *N*-Terminal Capping Strategy Suitable for Edman Sequencing," Shogren-Knaak, M. A.; McDonnell, K. A.; Imperiali, B. *Tetrahedron Lett*. **2000**, 41, 827-829.

69. "Biopolymers: Chemical & Biological Approaches for Understanding Form & Function," (editorial) Dell, A.; Famulok, M.; Imperiali, B. *Curr. Opin. Chem. Biol*. **2000**, *4*, 599-601.

70. "Design of a Discretely Folded Mini-Protein Motif with Predominantly β–Structure," Ottesen, J. J.; Imperiali, B. *Nature Structural Biology*, **2001**, *8*, 535-539.

71. "Substrate Specificity of N-Acetylglucosaminyl(diphosphodolichol) *N*-Acetylglucosaminyl Transferase, a Key Enzyme in the Dolichol Pathway," Tai, V. W.-F.; O'Reilly, M. K.; Imperiali, B. *Bioorg. Med. Chem.* **2001**, *9*, 1133-1140.

72. "Discovery and Characterization of a Discretely Folded Homotrimeric ββα Peptide," Mezo, A. R.; Ottesen, J. J.; Imperiali, B. *J. Am. Chem. Soc.* **2001**, *123, 1002-1003.*

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74. "Asymmetric Synthesis of a New 8-Hydroxyquinoline Derived α-Amino Acid and its Incorporation in a Peptidyl Sensor for Divalent Zinc," Jotterand, N.; Pearce, D. A.; Imperiali, B. *J. Org. Chem.* **2001**, 66, 3224-3228.

75. "Oligomerization of Uniquely Folded Mini-Protein Motifs: Development of a Homotrimeric BBA Peptide," Mezo, A. R.; Cheng, R. P.; Imperiali, B. *J. Am. Chem. Soc.* **2001**, *123*, 3885-3891.

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77. "Probing the Effect of the Outer Saccharide Residues of *N*-Linked Glycans on Peptide Conformation," O'Connor, S. E.; Pohlmann, J.; Imperiali, B.; Saskiawan, I.; Yamamoto, K. *J. Am. Chem. Soc.* **2001**, *123*, 6187-6188.

78. "Substrate Specificity for the Glycosyl Donor of Oligosaccharyl Transferase," Tai, V. W.-F.; Imperiali, B. *J. Org. Chem.* **2001**, *66*, 6217-6228.

79. "Stereoselective Synthesis of β–Linked TBDMS-Protected Chitobiose-Asparagine: A Versatile Building Block for Amyloidogenic Glycopeptides," Bosques, C. J.; Tai, V. W.-F.; Imperiali, B. *Tetrahedron Lett.* **2001**, *42*, 7207-7210.

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82. "Enantioselective Synthesis and Application of the Highly Fluorescent and Environment-Sensitive Amino Acid 6-(2-dimethylaminonaphthoyl) Alanine (DANA)," Nitz, M.; Mezo, A. R.; Ali, M. H.; Imperiali, B. *Chem. Comm*. **2002**, 1912-1913.

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84. "Oligosaccharyl Transferase: Gatekeeper to the Secretory Pathway," Dempski, R. E. Jr.; Imperiali, B. *Curr. Op. Chem. Biol*. **2002**, *6*, 844-850.

85. "Peptides to Peptidomimetics: Towards the Design and Synthesis of Bioavailable Inhibitors of Oligosaccharyl Transferase," Weerapana, E.; Imperiali, B. *Org. Biomol. Chem*. **2003**, *1*, 93-99.

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88. "A Chemist's Approach to Biochemical Complexity," Aldridge, S.; Imperiali, B. *Chem. Comm.* **2003**, 445-447.

89. "The Interplay of Glycosylation and Disulfide Formation Influences Fibrillization in a Prion Protein Fragment," Bosques, C. J.; Imperiali, B. *Proc. Natl. Acad. Sci. USA* **2003**, *100,* 7593-7598. PMCID: PMC164631

90. "Chemistry and Biochemistry of Asparagine-Linked Protein Glycosylation," Imperiali, B.; Tai, V. W-F. in "*Carbohydrate-based Drug Discovery*"*;* Wong, C. H., ed. Wiley-VCH Verlag GmbH Publisher: Weinheim, **2003**, pp 281-303.

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92. "Fluorescent Caged Phosphoserine Peptides as Probes to Investigate Phosphate-Dependent Protein Associations," Vázquez, M. E.; Nitz, M.; Stehn, J.; Yaffe, M. B. Imperiali, B. *J. Am. Chem*. *Soc*. **2003**, *125*, 10150-10151.

93. "A Modular and Tunable Chemosensor Scaffold for Divalent Zinc," Shults, M. D.; Pearce, D. A.; Imperiali, B. *J. Am. Chem. Soc*. **2003**, *125*, 10591-10597.

94. "Caged Phospho-Amino Acid Building Blocks Amenable to Fmoc-based Solid Phase Peptide Synthesis," Rothman, D. M.; Vázquez, M. E.; Vogel, E. M.; Imperiali, B. *J. Org. Chem.* **2003**, *68*, 6795-6798.

95. "Protein Alignment by a Coexpressed Lanthanide-Binding Tag for the Measurement of Residual Dipolar Couplings," Wöhnert, J.; Franz, K. J.; Nitz, M.; Imperiali, B.; Schwalbe, H. S. *J. Am. Chem. Soc*. **2003**, *125*, 13338-13339.

96. "Versatile Fluorescence Probes of Protein Kinase Activity," Shults, M. D.; Imperiali, B. *J. Am. Chem. Soc*. **2003**, *125*, 14248-14249.

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