John L. Wood

Education and Employment

2013- Robert A. Welch Distinguished Professor of Chemistry and Cancer Prevention and Research Institute of Texas Scholar, Baylor University

2006-2013 A. I. Meyers Professor of Chemistry, Colorado State University

1998-2006 Professor of Chemistry with Tenure, Yale University

1997-1998 Associate Professor of Chemistry (non tenured), Yale University

1993-1997 Assistant Professor of Chemistry, Yale University

1991-1993 American Cancer Society Postdoctoral Fellow, Harvard University

1985-1991 Ph.D., Organic Chemistry, University of Pennsylvania, Philadelphia, PA.

1980-1985 B.A., Chemistry, University of Colorado, Boulder, CO.

Honors and Awards

Invited Overseas Lecturer, Universities of Switzerland Summer School 2013

Katritzky Award in Heterocyclic Chemistry (ISHC) 2009

3éme Cycle Lectureship, University of Basel 2009

Distinguished Behringer Simon Lecturer, ETH Zurich 2009

Amgen Faculty Award 2005, 2006, 2007, 2008, 2009

Japanese Society for the Promotion of Science Fellow 2008

American Chemical Society Arthur C. Cope Scholar Award, 2004

Yamanouchi USA Faculty Award 1998, 1999, 2000, 2001, 2002, 2003

Merck Faculty Award 2000, 2001, 2002

Kitasato Microbial Chemistry Medal 2001

Bristol-Myers Squibb Foundation Research Award 1998-2001

Pfizer Research Award 1997-2001

Zeneca Excellence in Chemistry Award 1998

Dreyfus Teacher Scholar Award 1998

Novartis Chemistry Lectureship 1997-1998

Alfred P. Sloan Foundation Fellow 1997

Parke-Davis Distinguished Michigan Lecturer 1997

Bristol-Myers Squibb Research Award 1997

Glaxo-Wellcome Young Chemistry Scholar Award 1996-1998

Eli Lilly Young Faculty Award 1996-1997

Invited Visiting Professor, University of Auckland New Zealand 1997

Invited Guest Editor, Tetrahedron Symposium in Print on Synthetic Methods V 1997

NSF CAREER award 1996-2000

Yale University, Junior Faculty Fellowship, 1996-1997

American Cancer Society, Junior Faculty Award 1994

Camille and Henry Dreyfus New Faculty Award 1993

American Cancer Society Postdoctoral Fellowship 1991-1993

National Institutes of Health Postdoctoral Fellowship 1991-1993 (declined)

University of Pennsylvania Dean's Dissertation Fellowship 1989-1990

Distinguished Organic Chemistry Teaching Award 1986

B. A. in chemistry, *Summa Cum Laude* in Chemistry, 1985

Professional Service:

Chair, International Conference on the Chemistry of Antibiotics 2015

Chair, 16th Tetrahedron Symposium, Berlin 2015

Chair, 16th Tetrahedron Symposium Asia Edition, Shanghai 2015

Elected Vice Chair/Chair 2012/2013 Gordon Conference on Heterocyclic Chemistry

Elected to the Board of Editors, Organic Syntheses Inc. 2011-2019

Elected Member at Large, ACS Division of Organic Chemistry Executive Committee 2008-2011

Co-Organizer NSF Workshop on Organic Synthesis and Natural Products Chemistry 2007-2009

NIH Study Section (SBCB), Member 2006-2010

NIH Study Section, ad hoc, Med. Chem. 2005

NIH Special Study Section 2002, 2003 2004

Consultant: Rib-X Pharmaceuticals. 2002-2004

Associate Editor for the Americas: *Tetrahedron Letters* 2001-present

Consultant: Amgen 2006-2008

Consultant: Wyeth-Ayerst 2000-2004

Consultant: Eli Lilly: 2000-2001

American Cancer Society, External Grants Review Panel, ad hoc, 1997

NSF CAREER award referee 1997-2002, 2007

NIH Study Section, ad hoc, Med. Chem. A, 1999

American Cancer Society, External Grants Review Panel, member, 1999-2004

Beckman Foundation, Beckman Scholars Review Panel 1999.

Publications From Independent Career

96. "Total Synthesis of (±)-Aspergilline A" Nakhla, M. C.; Wood, J. L. *J. Am. Chem. Soc.* **2017**, ASAP.

95. "Total Synthesis of (±)-Phomoidride D" Leung, J. C.; Bedermann, A. B.; Njardarson, J. T.; Spiegel, D. A.; Murphy, G. K.; Hama, N.; Twenter, B. M.; Dong, P.; Shirahata, T.; McDonald. I M.; Inoue, M.; Taniguchi, N.; McMahon, T. C.; Schneider, C. M.; Tao, N.; Stoltz, B. M.; Wood, J. L. *Angewandte Chemie International Edition* **2017**, *In Press.*

94. "Total Syntheses of (+)-and (-)-Tetrapetalones A and C" Dhanjee H. H.; Kobayashi, Y.; Buergler, J. F.; McMahon, T. C.; Haley, M. W.; Howell, J. M.; Fujiwara, K.; Wood, J. L. *J. Am. Chem. Soc.* **2017,** 139, 14901.

93. "Collaborative Total Synthesis: An Approach to (±)-Hippolachnin A Enabled by Quadricyclane Cycloaddition and Late-Stage C-H Oxidation" McCallum, M. E.; Rasik, C. M.; Wood, J. L.; Brown, M. K. *J. Am. Chem. Soc.* **2016,** *138*, 2437-2442.

92. "A Palladium Pi-Allyl Cascade Toward Fused Tricyclic Systems en Route to Tetrapetalone A" Dhanjee, H. H.; Haley, M. W.; McMahon, T. C.; Kobayashi, Y.; Fujiwara, K.; Wood, J. L. *Tetrahedron* **2016**, *72*, 3673-3677.

91. "Amos B. Smith, III: chemist-collaborator and mentor" Wood, J. L. *Journal of Antibiotics* **2016**, 69, 189. (Editorial)

90. "Synthetic Studies Toward Citrinadin A: Construction of the Pentacyclic Core" McCallum, M. E.; Smith, G. M.; Matsumaru, T.; Kong, K.; Enquist Jr., J. A. Wood, J. L. *Journal of Antibiotics* **2016**, *69*, 331-336.

89. "Synthetic Applications and Methodological Developments of Donor-Acceptor Cyclopropanes and Related Compounds" O'Connor, N. R.; Wood, J. L.; Stoltz, B. M. *Israel Journal of Chemistry* **2016**,56, 431.

88. "Harry Hirschal Wasserman" Wood, J. L. *Tetrahedron Letters* **2015**, *56*, 2977. (Editorial)

87. "Chemoselective Intramolecular Carbonyl Ylide Formation through Electronically Differentiated Molonate Diesters" Nakhla, M. C.; Lee, C.-W.; Wood, J. L. *Organic Letters* **2015**, *17*, 5760-5763.

86. "Metformin Suppresses Gluconeogenesis by Inhibiting Mitochondrial Glycerophosphate Dehydrogenase" Madiraju, A. K.; Erion, D. M.; Rahimi, Y.; Zhang, X.-M.; Braddock, D. T.; Albright, R. A.; Prigaro, B. J.; Wood, J. L.; Bhanot, S.; MacDonald, M. J.; Jurczak, M. J.; Camporez, J.-P.; Lee, H.-Y.; Cline, G. W.; Samuel, V. T.; Kibbey R. G.; Shulman, G. I. *Nature* **2014**, *510*, 542.

85. "Synthetic Studies Toward the Citrinadins: Enantioselective Preparation of an Advanced Spirooxindole Intermediate" Matsumaru, T.; McCallum, M. E.; Enquist Jr., J. A.; Smith, G. M., Kong, K., Wood, J. L. *Tetrahedron* **2014**, *70*, 4089-4093.

84. "Collaborative Synthesis" Wood, J. L. *Nature* **2014**, *509*, 203 (News and Views)

83. "An Enantioselective Total Synthesis and Stereochemical Revision of (+)-Citrinadin B" Kong, K.; Enquist, Jr., J.A.; McCallum, M.; Smith, G. M.; Matsumaru, T.; Menhaji-Klotz, E.; Wood, J. L. *J. Am. Chem. Soc.* **2013**, 135, 10890-10893.

82. "Toward the Synthesis of Phomoidride D" Murphy, G. K.; Shirahata, T.; Hama, N.; Bedermann, A.; Dong, P.; McMahon, T. C.; Twenter, B. M.; Spiegel D. A.; McDonald, I. M.; Taniguchi, N.; Inoue, M.; Wood, J. L. *J. Org. Chem.* **2013**, *78*, 447-489.

81. "Wharton-Fragmentation-Based Approach to the Carbocyclic Core of the Phomoidrides" Murphy, G. K.; Hama, N.; Bedermann, A.; Dong, P.; Schneider, C. M.; McMahon, T. C.; Tao, R. N.; Twenter, B. M. Spiegel, D. A.; Wood, J. L. *Organic Letters* **2012**, *14*, 4544.

80. "The First Synthesis of an Epidiselenodiketopiperazine" McMahon, T. C.; Stanley, S.; Kazyanskaya, E.; Hung, D.; Wood, J. L. *Organic Letters* **2012**, *14*, 4534.

79. "Total Syntheses of (±)-Securinine and (±)-Allosecurinine" Chen, J.-H.; Levine, S. R.; Buergler, J. F.; McMahon, T. C.; Medeiros, M. R.; Wood, J. L. *Organic Letters* **2012**, *14*, 4531.

78. "Welwitindolinone is Well Worth It" Wood, J. L. *Nature Chemistry* **2012**, *4*, 341. (News and Views)

77. "A Scalable Formal Total Synthesis of Dehydrogliotoxin" McMahon, T. C.; Stanley, S.; Kazyanskaya, E.; Hung, D.; Wood, J. L." *Tetrahedron Letters* **2011**, *52*, 2262.

76. "AAK1 Identified as and Inhibitor of Neuregulin-1/ErB4-Dependent Neurotrophic Factor Signaling Using Integrative Chemical Genomics and Proteomics" Kuai, L.; Ong, S.-E.; Madison, J. M.; Wang, X.; Duvall, J. R.; Lewis, T. A.; Luce, C. J.; Conner, S. D.; Pearlman, D. A.; Wood, J. L.; Schreiber, S. L.; Carr, S. A.; Scolnick, E. M.; Haggarty, S. J. *Chemistry and Biology* **2011**, *18*, 891.

75. "Synthetic Studies Toward Providencin: Efficient Construction of a Furanyl-Cyclobutanone Fragment" Stevens, S. J.; Bérubé, A.; Wood, J. L. *Tetrahedron* **2011**, 67, 6479.

74. "Welwitindolinone C Synthetic Studies. Construction of the Welwitindolinone Carbon Skeleton via a Transannular Nitrone Cycloaddition" Freeman, D. B.; Holubec, A. A.; Weiss, M. W.; Dixon, J. A.; Kakefuda, A.; Ohtsuka, M.; Inoue, M.; Vaswani, R. G.; Ohki, H.; Doan, B. D.; Reisman, S. E.; Stoltz, B. M.; Day, J. J.; Tao, R. N. ; Dieterich, N. A.; Wood, J. L. *Tetrahedron* **2010**, *66*, 6647.

73. "An Enantioselective Approach to the Securinega Alkaloids: The Total Synthesis of (+)-Norsecurinine and (+)-Allonorsecurinine" Medeiros, M. R.; Wood, J. L. *Tetrahedron* **2010**, *66*, 4701.

72. "A One-Pot, Base-Free Annelation Approach to α-Alkylidene-γ-butyrolactones" Kitson, R. R. A.; Taylor, R. J. K.;

71. "Progress Towards the Total Synthesis of (±)-Actinophilic Acid" Vaswani, R.; Day, J.; Wood, J. L. *Organic Letters* **2009**, *11*, 4532.

70. "Spirolactone Syntheses Through A Rhodium-Catalyzed Intramolecular C-H Insertion Reaction: Model Studies Towards the Synthesis of Syringolides" Navarro-Villalobos, M.; Wood, J. L. *Tetrahedron Letters* **2009**, *50*, 6450.

69. "Total Syntheses of (+)- and (-)-syringolides 3 and of (+)- and (-)-syributins 1,2 and 3" Navarro-Villalobos, M.; Wood, J. L.; Jeong, S.; Benson, C. L.; Zeman, S. M.; McCarty, C.; Weiss, M. M.; Salcedo, A.; Jenkins, J. *Tetrahedron* **2009**, 65, 8091.

68. "Identifying the Proteins to Which Small-Molecule Probes and Drugs Bind in Cells" Ong, S.-E.; Schenone, M.; Margolin, A.; Li, X.; Do, K.; Doud, M.; Mani, D.; Kuai, L.; Wang, X.; Wood, J.; Tolliday, N.; Koehler, A.; Marcaurelle, L.; Golub, T.; Gould, R.; Schreiber, S.; Carr, S. *Proc. Nat. Acad. Sci.* **2009**, *106*, 4617.

67. "Evolution of a Synthetic Strategy: Total Synthesis of (±)-Welwitindolinone A Isonitrile" Reisman, S.E.; Ready, J. M.; Weiss, M. M.; Hasuoka, A.; Hirata, M.; Tamaki, K.; Ovaska, T. V.; Smith, C. J.; Wood, J. L. *J. Am. Chem. Soc.* **2008**, *129*, 2087.

66. "Expanding the Scope of Trialkylborane/Water Mediated Radical Reactions" Medeiros, M. R.; Schacherer, L. N.; Spiegel, D. A.; Wood, J. L. *Organic Letters* **2007**, *9*, 4427.

65. "Pyrrolysin Analogues as Substrates for Pyrrolysyl-tRNA synthetase" Polycarpo, C. R.; Herring, S.; Bérubé, A.; Wood, J. L.; Söll, D.; Ambrogelly, A. *FEBS Letters* **2006**, *580*, 6695.

64. "Progress Toward the Total Synthesis of Bacchopetiolone: Application of a Tandem Aromatic Oxidation/Diels-Alder Rection" Bérubé, A.; Drutu, I.; Wood, J. L. *Org. Lett.* **2006**, 8, 5421.

63. "Total Synthesis of (±)-Welwitindolinone A Isonitrile" Reisman, S. E.; Ready, J. M.; Hasuoka, A.; Smith, C. J.; Wood, J. L. *J. Am. Chem. Soc.* **2006**, *128*, 1448.

62. "Deoxygenation of Alcohols Employing Water as the Hydrogen Atom Source" Spiegel, D. A.; Wiberg, K. B.; Schacherer, L. N.; Medeiros, M. R.; Wood, J. L. *J. Am. Chem. Soc.* **2005**, *127*, 12513.

61. "Increasing the Kinase Specificity of K252a by Protein Surface Recognition" Schneider, T. L.; Mathew, R. S.; Rice, K. P.; Tamaki, K.; Wood, J. L.; Schepartz, A. *Organic Letters* **2005**, *7*, 1695.

60. "Rhodium Perfluorobutyramide ($Rh_2(pfm)_4$): A Synthetically Useful Catalyst for Olefin Aziridinations" Keany, G. F.; Wood, J. L. *Tetrahedron Letters* **2005**, *46*, 4031.

59. "An Aminooacyl-tRNA Synthetase that Specifically Activates Pyrrolysin" Polycarpo, C.; Ambrogelly, A.; Bérubé, A.; Winbush, S. M.; McCloskey, J. A.; Crain, P. F.; Wood, J. L.; Söll, D. *Proc. Nat. Acad. Sci.* **2004**, *101* (34), 12450.

58. "Total Synthesis of Ingenol" Nickel, A. Maruyama, T.; Tang, H.; Murphy, P.; Greene, B.; Yusuff, N.; Wood, J. L. *J. Am. Chem. Soc*. **2004**, *126*, 16300.

57. "A Mild and Efficient Synthesis of Oxindoles: Progress Towards the Syntheses of Welwitindolinone A Isonitrile" Ready, J. M.; Reisman, S. E.; Hirata, M.; Weiss, M. M.; Tamaki, K.; Ovaska, T. V.; Wood, J. L. *Angew. Chem. Int. Ed. Engl* **2004**, *43*, 1270.

56. "The Art of Innovation in Organic Chemistry: Synthetic Efforts Toward the Phomoidrides" Spiegel, D. A.; Njardarson, J. T.; McDonald, I. M.; Wood, J. L. *Chemical Reviews* **2003**, *103*, 2691.

55. "Rhodium-Catalyzed Synthesis of C(3) Disubstituted Oxindole: An Approach to Diazonamide A" Sawada, T.; Fuerst, D. E.; Wood, J. L. *Tetrahedron Lett.* **2003**, *44*, 4919.

54. "Application of Phenolic Oxidation Chemistry in Synthesis: Preparation of the BCE Ring System of Ryanodine" Wood, J. L.; Graeber, J. K.; Njardarson, J. T. *Tetrahedron* **2003**, *59*, 8855.

53. "Inhibitors of NF-kB Signaling: Design and Synthesis of a Biotinylated Isopanepoxydone Affinity Reagent" Shotwell, J. B.; Koh, B.; Choi, H. W.; Wood, J. L.; Crews, C. M. *Bioorg. Med. Chem. Lett.* **2002**, *12*, 3463.

52. "The K252a Derivatives, Inhibitors for the PAK/MLK Kinase Family, Selectively Block the Growth of RAS Transformants" Nheu, T. V.; He, H.; Hirokawa, Y.; Tamaki, K.; Florin, L.; Schmitz, M. L.; Suzuki-Takahashi, I.; Jorissen, R. N.; Burgess, A. W.; Nishimura, S.; Wood, J.; Maruta, H. *The Cancer Journal* **2002**, 8, 328.

51. "Synthesis of (-)-7S)-and (+)-(7R)-K252a Dimers" Kazuhiko Tamaki, Elliott W. D. Huntsman, Dejah T. Petsch and John L. Wood *Tetrahedron Letters* **2002**, *43*, 379.

50. "Total Synthesis of Luminacin D" J. Brad Shotwell, Evan S. Krygowski, John Hines, Brian Koh, Elliott W. D. Huntsman, Hui Won Choi, John S. Schneekloth Jr., John L. Wood and Craig M. Crews *Organic Letters* **2002**, *4*, 3087.

54. "CP-263,114 Synthetic Studies. Construction of an Isotwistane Ring System via Rhodium Carbenoid C-H Insertion" David A. Spiegel, Jón T. Njardarson, John L. Wood *Tetrahedron* **2002**, *58*, 6545.

48. "Reactive Dienes: Intramolecular Aromatic Oxidation of 3-(2-Hydroxyphenyl)-propionic Acids" Ioana Drutu, Jón T. Njardarson, John L. Wood *Organic Letters*, **2002**, *4*, 493.

47. "An Expeditious Approach Toward the Total Synthesis of CP-263,114" Jon Njardarson, Ivar MacDonald, David Spiegel, Munenori Inoue, John L. Wood *Organic Letters*, **2001**, *3*, 2435.

46. "Evolution of a Synthetic Approach to CP-263,114" Jon Njardarson and John L. Wood *Organic Letters* **2001**, *3*, 2431.

45. "Effiecient Syntheses of Novel C2'-Alkylated (±)-K252a Analogs" Kazuhiko Tamaki, J. Brad Shotwell, Ryan D. White, Ioana Drutu, Dejah T. Petsch, Thao V. Nheu, Hong He,Yumiko Hirokawa, Hiroshi Maruta, and John L. Wood *Organic Letters* **2001**, *3*, 1689.

44. "Progress Towards the Total Synthesis of Ingenol: Construction of the Complete Carbocyclic Skeleton" Heifeng Tang, Naeem Yussuf, John L. Wood *Organic Letters* **2001**, *3*, 1563.

43. "Progress Toward the Total Synthesis of Kalihinane Diterpenoids" Ryan D. White and John L. Wood. *Organic Letters* **2001**, *3*, 1825.

42. "Catalyst-based Control of [2,3] and [3,3] Rearrangement in a-Diazoketone-derived Propargyloxy Enols" George A. Moniz and John L. Wood *J. Am. Chem. Soc*. **2001**, *123*, 5095.

41. "Reactive Enols in Synthesis 2: An Efficient Total Synthesis of (+)-Latifolic Acid and (+)-Latifoline"Ioana Drutu, Evan Grabowski, John L. Wood *J. Org. Chem.* **2001**, *66*, 7025.

40. "Total Synthesis of Epoxysorbicillinol" Brian D. Thompson, Naeem Yusuff, and Derek A. Pflum *J. Am. Chem. Soc*, **2001**, *123*, 2097.

39. "A Chemical Switch for Inhibitor-Sensitive Alleles of Any Protein Kinase" Anthony C. Bishop, Jeffrey A. Ubersax, Dejah T. Petsch, Dina P. Matheos, Nathanael S. Gray, Justin Blethrow, Eijl Shimizu, Joe Z. Tsien, Peter G. Schultz, Mark D. Rose, John L. Wood, David O. Morgan, and Kevan M. Shokat *Nature*, **2000**, *407*, 395.

38. "Efficient Stereoselective Syntheses of Isopanepoxydone and Panepoxydone: A Re-Assignment of Relative Stereochemistry" J. Brad Shotwell, Shaojing Hu, Eva Medina, Megumi Abe, Roger Cole, Craig M. Crews, and John L. Wood *Tetrahedron Lett.* **2000**, *41*, 9639.

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36. "Total Synthesis and Protein Kinase Activity of C(7) Methyl Derivatives of K252a" John L. Wood, Dejah T. Petsch, Brian M. Stoltz, Elizabeth M. Hawkins Daniel Elbaum, David R. Stover *Synthesis* **1999**, 1529.

35. "Rhodium Carbenoid-Initiated Claisen Rearrangement: Scope and Mechanistic Observations" John L. Wood and George A. Moniz *Organic Letters* **1999**, *1*, 371.

34. "Application of Reactive Enols in Synthesis: A Versatile, Efficient and Stereoselective Construction of the Welwitindolinone Carbon Skeleton" John L. Wood, Alexandra A. Holubec, Brian M. Stoltz, Matthew M. Weiss, Julie A. Dixon, Brian D. Doan, Mohammed F. Shamji, Jennifer M. Chen, and Timothy P. Heffron *J. Am. Chem. Soc*. **1999**,

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Sync your system to PACER to automate legal marketing.