

CURRICULUM VITAE

JEREMY R. LOHMAN

ASSISTANT PROFESSOR OF BIOCHEMISTRY

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EDUCATION:

- 2003-2007 Ph.D. in Chemistry
 University of Oregon
 Advisor: Dr. James Remington
 Thesis: Two State Conformational Changes in Protein Active Centers
- 2001-2003 B.S. in Biochemistry with Biophysics option
 Washington State University
 Advisor: Dr. Lisa M. Gloss

Academic Appointments

- 2014-present Assistant Professor, Department of Biochemistry, Purdue University, West Lafayette, Indiana
- 2011-2014 Postdoctoral Research Associate, Dr. Ben Shen, Department of Chemistry, The Scripps Research Institute
- 2009-2011 Postdoctoral Research Associate, Dr. Ben Shen, School of Pharmacy, University of Wisconsin-Madison
- 2008-2009 Postdoctoral Research Associate, Dr. J. Andy Berglund, Institute of Molecular Biology, University of Oregon
- 2004-2007 Graduate Research Assistant, Dr. James Remington, Department of Chemistry and Institute of Molecular Biology, University of Oregon

Awards and Honors:

- April, 2018 Session Chair, Southeast Enzyme Conference, Atlanta, GA
- July, 2013 ACS Division of Biological Chemistry Travel Award
- October, 2012 Scripps Educational Outreach Travel Award
- 2006-2007 American Heart Association Predoctoral Fellowship

Title: "Development of a Green Fluorescent Based Redox Sensor for Use in Oxidizing Cellular Environments"
June, 2003 The Protein Society Finn Wold Travel Award

Membership in academic, professional, and scholarly societies:

American Society for Biochemistry and Molecular Biology, 2017 - present
American Chemical Society, 2016 - present
American Society of Pharmacognosy, 2015 - 2017
Society of Industrial Microbiology, 2011 - 2017
Scripps Society of Research Fellows Social Chair, 2011
The Protein Society, 2003

Publications:

All of Dr. Lohman's publications can be conveniently accessed through the following websites:

NCBI My Bibliography: www.ncbi.nlm.nih.gov/myncbi/collections/bibliography/47810014/ or
Google Scholar <https://scholar.google.com/citations?user=STtkuhIAAAAJ&hl=en>
h-index: 16
total number of citations: 619

Articles:

1. Stunkard LM^g, Dixon AD^u, Huth TJ^u, Lohman JR*. Sulfonate/nitro bearing methylmalonyl-thioester isosteres applied to methylmalonyl-CoA decarboxylase structure-function studies. *J Am Chem Soc.* 2019;141(13):5121-4. doi: 10.1021/jacs.9b00650. *IF = 14.4; # citations = 0. Top tier journal.*
2. Kwong T, Ma M, Pan G, Hindra, Yang D, Yang C, Lohman JR, Rudolf JD, Cleveland JL, Shen B*. P450-Catalyzed Tailoring Steps in Leinamycin Biosynthesis Featuring Regio- and Stereoselective Hydroxylations and Substrate Promiscuities. *Biochemistry.* 2018; 57 (33), 5005-5013. doi: 10.1021/acs.biochem.8b00623. *IF = 3.0; # citations = 0. Top tier journal.*
3. Chang CY, Lohman JR, Huang T, Michalska K, Bigelow L, Rudolf JD, Jedrzejczak R, Yan X, Ma M, Babnigg G, Joachimiak A, Phillips GN, Shen B*. Structural Insights into the Free-standing Condensation Enzyme SgcC5 Catalyzing Ester Bond Formation in the Biosynthesis of the Eneidyne Antitumor Antibiotic C-1027. *Biochemistry.* 2018; 57 (23), 3278-3288. doi: 10.1021/acs.biochem.8b00174. *IF = 3.0; # citations = 1. Top tier journal.*
4. Guo X, Crnovcic I, Chang CY, Luo J, Lohman JR, Papinski M, Bechthold A, Horsman GP, Shen B*. PokMT1 from the polyketomycin biosynthetic machinery of *Streptomyces diastatochromogenes* Tü6028 belongs to the emerging family of C-methyltransferases that act on CoA-activated aromatic substrates. *Biochemistry.* 2018; 57 (6), 1003-1011. doi: 10.1021/acs.biochem.7b01219. *IF = 3.0; # citations = 1. Top tier journal.*
5. AnnaVal T, Rudolf JD, Chang CY, Lohman JR, Kim Y, Bigelow L, Jedrzejczak R, Babnigg G, Joachimiak A, Phillips GN Jr, and Shen B*. Crystal Structure of Thioesterase SgcE10 Supporting Common Polyene Intermediates in 9- and 10-Membered Eneidyne Core Biosynthesis. *ACS Omega.* 2017; 2(8):5159-5169. *IF = NA; # citations = 2. Top tier journal.*

6. Yan X, Ge H, Huang T, Hindra, Yang D, Teng Q, Crnovčić I, Li X, Rudolf JD, Lohman JR, Gansemans Y, Zhu X, Huang Y, Zhao L, Jiang Y, Van Nieuwerburgh F, Rader C, Duan Y, and Shen B*. Strain Prioritization and Genome Mining for Eneidyne Natural Products. *mBio*. 2016; 7(6):e02104-16. doi 10.1128/mBio.02104-16. *IF* = 6.7; # citations = 19. *Top tier journal*.
7. Chang CY[–], Lohman JR[–], Cao H, Tan K, Rudolf JD, Ma M, Xu W, Bingman CA, Yennamalli RM, Bigelow L, Babnigg G, Yan X, Joachimiak A, Phillips GN Jr, Ben Shen*. Crystal Structures of the Two-Component Monooxygenase SgcE6 and SgcC from *Streptomyces globisporus* that Catalyzes Hydroxylation of a Carrier Protein-Tethered Substrate in C-1027 Eneidyne Antibiotic Biosynthesis. *Biochemistry* 2016; 55(36):5142-154. doi 10.1021/acs.biochem.6b00713. *IF* = 3.0; # citations = 6. *Top tier journal*.
8. Huang T, Chang CY, Lohman JR, Rudolf JD, Kim Y, Chang C, Yang D, Ma M, Yan X, Crnovcic I, Bigelow L, Clancy S, Bingman CA, Yennamalli RM, Babnigg G, Joachimiak A, Phillips GN, Shen B*. Crystal structure of SgcJ, an NTF2-like superfamily protein involved in biosynthesis of the nine-membered enediyne antitumor antibiotic C-1027. *J Antibiot (Tokyo)*. 2016. doi: 10.1038/ja.2016.88. *IF* = 2.0; # citations = 1. *Second tier journal*.
9. Rudolf JD, Bigelow L, Chang C, Cuff ME, Lohman JR, Chang CY, Ma M, Yang D, Clancy S, Babnigg G, Joachimiak A, Phillips GN Jr, Shen B*. Crystal Structure of the Zorbamycin-Binding Protein ZbmA, the Primary Self-Resistance Element in *Streptomyces flavoviridis* ATCC21892. *Biochemistry*. 2015;54(45):6842-51. doi: 10.1021/acs.biochem.5b01008. *IF* = 3.0; # citations = 2. *Top tier journal*.
10. Lohman JR, Ma M, Osipiuk J, Nocek B, Kim Y, Chang C, Cuff M, Mack J, Bigelow L, Li H, Endres M, Babnigg G, Joachimiak A, Phillips GN Jr, Shen B*. Structural and evolutionary relationships of "AT-less" type I polyketide synthase ketosynthases. *Proc Natl Acad Sci U S A*. 2015;112(41):12693-8. doi: 10.1073/pnas.1515460112. *IF* = 9.5; # citations = 23. *Top tier journal*.
11. Ma M[–], Lohman JR[–], Liu T, Shen B*. C-S bond cleavage by a polyketide synthase domain. *Proc Natl Acad Sci U S A*. 2015;112(33):10359-64. doi: 10.1073/pnas.1508437112. *IF* = 9.5; # citations = 20. *Top tier journal*.
12. Huang SX, Yun BS, Ma M, Basu HS, Church DR, Ingenhorst G, Huang Y, Yang D, Lohman JR, Tang GL, Ju J, Liu T, Wilding G, Shen B*. Leinamycin E1 acting as an anticancer prodrug activated by reactive oxygen species. *Proc Natl Acad Sci U S A*. 2015;112(27):8278-83. doi: 10.1073/pnas.1506761112. *IF* = 9.5; # citations = 18. *Top tier journal*.

Highlighted in "Less than the sum of its parts, a leinamycin precursor has superior properties". *Proc Natl Acad Sci U S A* 2015;112(27):8164-8165. doi: 10.1073/pnas.1510122112. <http://www.pnas.org/content/112/27/8164>
13. Park H, González ÀL, Yildirim I, Tran T, Lohman JR, Fang P, Guo M, Disney MD*. Crystallographic and Computational Analyses of AUUCU Repeating RNA That Causes Spinocerebellar Ataxia Type 10 (SCA10). *Biochemistry*. 2015 Jun 23;54(24):3851-9. doi: 10.1021/acs.biochem.5b00551. *IF* = 3.0; # citations = 12. *Top tier journal*.
14. Shen B*, Hindra, Yan X, Huang T, Ge H, Yang D, Teng Q, Rudolf JD, Lohman JR. Eneidyne: Exploration of microbial genomics to discover new anticancer drug leads. *Bioorg Med Chem Lett*. 2015;25(1):9-15. doi: 10.1016/j.bmcl.2014.11. *IF* = 2.4; # citations = 25. *Top tier journal*.

15. Seo JW, Ma M, Kwong T, Ju J, Lim SK, Jiang H, Lohman JR, Yang C, Cleveland J, Zazopoulos E, Farnet CM, Shen B*. Comparative characterization of the lactimidomycin and iso-migrastatin biosynthetic machineries revealing unusual features for acyltransferase-less type I polyketide synthases and providing an opportunity to engineer new analogues. *Biochemistry*. 2014;53(49):7854-65. doi: 10.1021/bi501396v. *IF* = 3.0; # citations = 9. *Top tier journal*.
16. Hindra, Huang T, Yang D, Rudolf JD, Xie P, Xie G, Teng Q, Lohman JR, Zhu X, Huang Y, Zhao LX, Jiang Y, Duan Y, Shen B*. Strain prioritization for natural product discovery by a high-throughput real-time PCR method. *J Nat Prod*. 2014;77(10):2296-303. doi: 10.1021/np5006168. *IF* = 3.9; # citations = 33. *Top tier journal*.

Highlighted in "Direct Route to Natural Products". 2014. *Chemical and Engineering News* 92 (40):11. <http://cen.acs.org/articles/92/i40/Direct-Route-Natural-Products.html>
17. Ge HM, Huang T, Rudolf JD, Lohman JR, Huang SX, Guo X, Shen B*. Eneidyne polyketide synthases stereoselectively reduce the β -ketoacyl intermediates to β -D-hydroxyacyl intermediates in enediynes core biosynthesis. *Org Lett*. 2014;16(15):3958-61. doi: 10.1021/ol501767v. *IF* = 6.5; # citations = 7. *Top tier journal*.
18. Lohman JR, Ma M, Cuff ME, Bigelow L, Bearden J, Babnigg G, Joachimiak A, Phillips GN Jr, Shen B*. The crystal structure of BlmI as a model for nonribosomal peptide synthetase peptidyl carrier proteins. *Proteins: Structure, Function, and Bioinformatics*. 2014;82(7):1210-8. doi: 10.1002/prot.24485. *IF* = 2.3; # citations = 21. *Second tier journal*.
19. Yin M, Yan Y, Lohman JR, Huang SX, Ma M, Zhao GR, Xu LH, Xiang W, Shen B*. Cycloheximide and actiphenol production in *Streptomyces* sp. YIM56141 governed by single biosynthetic machinery featuring an acyltransferase-less type I polyketide synthase. *Org Lett*. 2014;16(11):3072-5. doi: 10.1021/ol501179w. *IF* = 6.5; # citations = 21. *Top tier journal*.
20. Xie P, Ma M, Rateb ME, Shaaban KA, Yu Z, Huang SX, Zhao LX, Zhu X, Yan Y, Peterson RM, Lohman JR, Yang D, Yin M, Rudolf JD, Jiang Y, Duan Y, Shen B*. Biosynthetic potential-based strain prioritization for natural product discovery: a showcase for diterpenoid-producing actinomycetes. *J Nat Prod*. 2014;77(2):377-87. doi: 10.1021/np401063s. *IF* = 3.9; # citations = 34. *Top tier journal*.
21. Childs-Disney JL, Yildirim I, Park H, Lohman JR, Guan L, Tran T, Sarkar P, Schatz GC, Disney MD*. Structure of the myotonic dystrophy type 2 RNA and designed small molecules that reduce toxicity. *ACS Chem Biol*. 2014;9(2):538-50. doi: 10.1021/cb4007387. *IF* = 4.6; # citations = 34. *Top tier journal*.
22. Huang SX⁺, Lohman JR⁺, Huang T, Shen B*. A new member of the 4-methylideneimidazole-5-one-containing aminomutase family from the enediynes kedarcidin biosynthetic pathway. *Proc Natl Acad Sci U S A*. 2013;110(20):8069-74. doi: 10.1073/pnas.1304733110. *IF* = 9.5; # citations = 9. *Top tier journal*.
23. Lohman JR, Huang SX, Horsman GP, Dilfer PE, Huang T, Chen Y, Wendt-Pienkowski E, Shen B*. Cloning and sequencing of the kedarcidin biosynthetic gene cluster from *Streptoalloteichus* sp. ATCC 53650 revealing new insights into biosynthesis of the enediynes family of antitumor antibiotics. *Mol Biosyst*. 2013;9(3):478-91. doi: 10.1039/c3mb25523a. *IF* = 2.8; # citations = 24. *Top tier journal*.

24. Ma M, Kwong T, Lim SK, Ju J, Lohman JR, Shen B*. Post-polyketide synthase steps in isomigrastatin biosynthesis, featuring tailoring enzymes with broad substrate specificity. *J Am Chem Soc.* 2013;135(7):2489-92. doi: 10.1021/ja4002635. *IF* = 14.4; # citations = 11. *Top tier journal.*
25. Lohman JR, Bingman CA, Phillips GN Jr, Shen B*. Structure of the bifunctional acyltransferase/decarboxylase LnmK from the leinamycin biosynthetic pathway revealing novel activity for a double-hot-dog fold. *Biochemistry.* 2013;52(5):902-11. doi: 10.1021/bi301652y. *IF* = 3.0; # citations = 17. *Top tier journal.*
26. Coonrod LA, Lohman JR, Berglund JA*. Utilizing the GAAA tetraloop/receptor to facilitate crystal packing and determination of the structure of a CUG RNA helix. *Biochemistry.* 2012;51(42):8330-7. doi: 10.1021/bi300829w. *IF* = 3.0; # citations = 30. *Top tier journal.*
27. Yin M, Lu T, Zhao LX, Chen Y, Huang SX, Lohman JR, Xu LH, Jiang CL, Shen B*. The missing C-17 O-methyltransferase in geldanamycin biosynthesis. *Org Lett.* 2011;13(14):3726-9. doi: 10.1021/ol201383w. *IF* = 3.9; # citations = 17. *Top tier journal.*
28. Lohman JR, Olson AC, Remington SJ*. Atomic resolution structures of Escherichia coli and Bacillus anthracis malate synthase A: comparison with isoform G and implications for structure-based drug discovery. *Protein Sci.* 2008;17(11):1935-45. doi: 10.1110/ps.036269.108. *IF* = 2.4; # citations = 13. *Top tier journal.*
29. Lohman JR, Remington SJ*. Development of a family of redox-sensitive green fluorescent protein indicators for use in relatively oxidizing subcellular environments. *Biochemistry.* 2008;47(33):8678-88. doi: 10.1021/bi800498g. *IF* = 3.0; # citations = 110. *Top tier journal.*
30. Gloss LM*, Topping TB, Binder AK, Lohman JR. Kinetic folding of Haloferax volcanii and Escherichia coli dihydrofolate reductases: haloadaptation by unfolded state destabilization at high ionic strength. *J Mol Biol.* 2008;376(5):1451-62. doi: 10.1016/j.jmb.2007.12.056. *IF* = 4.9; # citations = 13. *Top tier journal.*
31. Wright DB, Banks DD, Lohman JR, Hilsenbeck JL, Gloss LM*. The effect of salts on the activity and stability of Escherichia coli and Haloferax volcanii dihydrofolate reductases. *J Mol Biol.* 2002;323(2):327-44. doi: 10.1016/S0022-2836(02)00916-6. *IF* = 4.9; # citations = 74. *Top tier journal.*
32. Campbell JA*, Hess WP, Lohman JR, Goheen SC. Analysis of Hanford-related organics using matrix-assisted laser desorption ionization time-of-flight mass spectrometry. *J Radioanal Nuclear Chem.* 2001; 250(2):247-253. doi: 10.1023/A:1017954420787. *IF* = 1.2; # citations = 3. *Second tier journal.*

Book Chapters:

1. Lohman JR, Shen B*. 4-methylideneimidazole-5-one-containing aminomutases in enediyne biosynthesis. *Methods Enzymol.* 2012;516:299-319. doi: 10.1016/B978-0-12-394291-3.00007-1. *IF* = 2.0; # citations = 9. *Top tier journal.*