

Curriculum Vitae

Zucai Suo

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CITIZENSHIP

U.S.A

EDUCATION

- 1998-2000 The Jane Coffin Childs Memorial Fund Postdoctoral Fellow at
Harvard University Medical School, Boston, MA
(Advisor: Christopher T. Walsh)
- 1997 Ph.D., Chemistry, the Pennsylvania State University, University Park, PA.
(Advisor: Kenneth A. Johnson, currently at U. of Texas at Austin)
- 1989 M.S., Physical Chemistry, Fudan University, Shanghai, P. R. China.
- 1986 B.S., Chemistry, Fudan University, Shanghai, P. R. China.

HONORS AND AWARDS

- 2007 Dean's Award for Excellence in Undergraduate Research Mentoring
- 2006 Dean's Award for Classroom Teaching for Faculty
- 2005-2010 National Science Foundation Career Award
- 1998-2000 The Jane Coffin Childs Memorial Fund Postdoctoral Fellowship
- 1997 The 3rd Place of the 12th Annual Graduate Research Exhibition at The
Pennsylvania State University
- 1996 The Bristol-Meyers Squibb Travel Award
- 1994 An Award for Exceptional Efforts in Furthering International Understanding
at The Pennsylvania State University

PROFESSIONAL EXPERIENCE

- 2007-present Associate Professor in Biochemistry, The Ohio State University, Columbus,
OH
- 2001- 2007 Assistant Professor in Biochemistry, The Ohio State University, Columbus,
OH
- 2000-2001 Senior Biochemist, Eli Lilly and Company, Indianapolis, IN
- 1998-2000 Postdoctoral Fellow, Department of Biological Chemistry & Molecular
Pharmacology, Harvard Medical School, Boston, MA
- 1997-1998 Postdoctoral Fellow, Department of Biochemistry & Molecular Biology,
The Pennsylvania State University, University Park, PA

1989-1991 Semiconductor Scientist, Shanghai Institute of Technology and Physics,
Chinese Academy of Sciences, Shanghai, P.R. China

SOCIETY MEMBERSHIP

American Chemical Society

American Society for Microbiology

American Association for the Advancement of Science

American Society for Biochemistry and Molecular Biology

PATENT APPLICATIONS

2000-2001 Nine Pending Patents on Antiviral Drug Discovery at Eli Lilly & Company

1998 A Potential Combination Chemotherapy against AIDS, Cancer, and Viral
Infections

DRUG DISCOVERED

2000-2001 a) Discovered an anti-hepatitis C nucleoside analog which was evaluated in
Phase I clinical trial by Eli Lilly & Company.
b) Being a member of the team at Eli Lilly which successfully developed an
HCV protease inhibitor Telaprevir in collaboration with Vertex
Pharmaceuticals, Inc. Telaprevir is currently in Phase III clinical trial by
Vertex Pharmaceuticals, Inc.

RESEARCH FUNDING

I. Current

I. NSF Career Award #MCB-0447899, sole PI, 4/15/2005 to 3/31/2010, total \$700,000

Title: "Kinetic, dynamic, and structure-function relationship studies of a Y-family
polymerase".

Supplement award to support undergraduate student internships: \$40,000, 05/08/2006 -
03/31/2010.

Supplement award to support one minority graduate student for a year: \$30,000, 07/17/06-
03/31/2010.

Supplement award to support equipment purchasing: \$32,900, 11/1/07-10/31/08.

II. NIH/NCI #2R01CA040463, Co-PI, 9/21/06 to 7/31/2011, total direct \$250,000 to the
Suo laboratory

Title: "DNA Photolesion Structure-Activity Relationships".

III. NIH/NIGMS #1R01GM079403, sole PI, 9/14/2007 to 8/31/2012, \$1,425,000 (total
direct \$950,000; Priority score: 121; percentile: 2.1%).

Title: "Mechanistic and Structure-Function Studies of Human DNA Polymerase Lambda"

IV. An industry grant from Gilead Sciences, Inc. in California, sole PI, total direct
\$300,000, starting 6/1/2009 and no time limit.

Title: "Toxicity and Efficacy of Anti-cancer and Antiviral Nucleoside Analogs"

V. NIH Proposal R01 # ES009127, one of two equal PIs (the other PI: Prof. Ashis Basu at University of Connecticut), direct \$123,924/year to the Suo laboratory, starting July 1, 2009.

Title: "Biological Effects of DNA Adducts Formed by Nitroaromatic Compounds".

Focus: *In vitro* and *in vivo* studies will be carried out to define the genomic toxicities of environmental pollutants nitropyrenes.

2. Pending

I. NIH Proposal R01, PI (Co-PI: Paul Blum at University of Nebraska), will be resubmitted in June, 2009.

Scores of the 1st submission: priority score of 193 and 31.4%.

Title: "Comprehensive investigation of DNA lesion bypass enzymes".

Focus: The enzymatic and biological activities of four human and one *Sulfolobus solfataricus* Y-family DNA polymerases will be investigated.

INVITED SPEAKER (After Moving to OSU)

1. Biosynthesis of the plague iron chelator yersiniabactin by a mixed nonribosomal peptide synthetase-polyketide synthase system. The Ohio State University Biochemistry Program, Ohio State University, Nov. 20, 2001.
2. Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase IV. The Department of Physics, Ohio State University, Sept. 24, 2003.
3. Kinetic and Structure-function relationship studies of a Y-family polymerase. The Ohio State University Chemistry and Biology Interface Program, Nov. 16, 2004.
4. Mechanism of DNA Lesion Bypass by A Y-Family DNA Polymerase. The Department of Chemistry, University of Delaware, Feb. 14, 2005.
5. Pre-Steady-State Kinetic Studies of Two Low-Fidelity DNA Polymerases. Department of Chemistry, Case Western Reserve University, May 20, 2005.
6. Kinetic Mechanism of Polymerase Dpo4. Department of Biochemistry, Tsinghua University, Beijing, China, June 16, 2005
7. Biochemical and Kinetic Studies of Two Low-Fidelity DNA Polymerases. Peking University, Beijing, China, June 21, 2005
8. Evasion of Immunoresponse by Hepatitis C and Antiviral Drug Development. Institute of Biophysics, the Chinese Academy of Sciences, Beijing, China, June 22, 2005
9. Mechanism of DNA Lesion Bypass Catalyzed by a Y-Family DNA Polymerase. Invited talk at the Chemical Toxicology Division, the 230th ACS National Meeting in Washington, DC, Aug 28-Sept 1, 2005
10. Mechanism of DNA Translesion Synthesis, Vanderbilt Institute of Chemical Biology, Vanderbilt University, September 7, 2005
11. Mechanism of Abasic Site Bypass Catalyzed by a Y-Family DNA Polymerase. The Department of Chemistry, University of New Mexico, September 30, 2005
12. Mechanistic Studies of a DNA Lesion Bypass Polymerase. the Department of Biochemistry, the Ohio State University, Oct. 13, 2005
13. Mechanisms, Fidelity, and Drug Inhibition of Human X-Family DNA Polymerases. Graduate Center for Toxicology, University of Kentucky, Nov. 7, 2005

14. Kinetic Mechanisms of Error-Prone DNA Polymerases. The Department of Chemistry, Pennsylvania State University, Nov. 21, 2005
15. Mechanisms of DNA Lesion Bypass and Blunt End Addition Catalyzed by an Error-Prone DNA Polymerase. Wesleyan University, March 10, 2006
16. What have we learned from the mechanistic studies of DNA polymerases? Miami University, Ohio, Aug. 31, 2006.
17. New Insights into an 'Old' Class of Enzymes. Dept. of Biochemistry, the Ohio State University, Oct. 20, 2006.
18. New Insights into Three Classic Enzymes. The Comprehensive Cancer Center at the Ohio State University, Nov. 27, 2006.
19. Mechanistic Studies of Novel X- and Y-family DNA Polymerases. Dept. of Chemistry, Washington University, St. Louis, MO. Dec. 14, 2006.
20. Mechanism of Abasic Lesion Bypass Catalyzed by a Y-Family DNA Polymerase. Invited talk at the 9th Annual Midwest DNA Repair Symposium, Northpointe Conference Center, Columbus, Ohio, May 19-20, 2007.
(Note: I chaired a session for this symposium)
21. Mechanism of DNA lesion bypass catalyzed by a Y-family DNA polymerase. Invited talk at the Gordon Research Conference on NUCLEIC ACIDS on June 3-8, 2007 at Salve Regina University, Newport, Rhode Island, USA.
22. Single-Base DNA Lesion Bypass Catalyzed by a Y-Family DNA polymerase. Institute of Microbiology, Beijing, Chinese Academy of Sciences, China. July 23, 2007.
23. Mechanism of DNA lesion bypass catalyzed by *Sulfolobus solfataricus* DNA Polymerase IV. Invited talk at "Frontiers in Biological Sciences" in Wuhan, China, July 26, 2007.
24. Mechanistic Studies of Two Novel DNA Polymerases. Dept. of Chemistry, Fudan University, Shanghai, China, July 31, 2007.
25. Enzymology in Basic Science and Drug Discovery. Seminar at Medicinal Chemistry Division of the Ohio State University on 11/28/07.
26. Enzymatic studies on the Efficacy and toxicity of antiviral and anticancer nucleoside analogs. Gilead Sciences, Inc., California, Nov. 18, 2008

COURSES TAUGHT AT OSU

1. Biochemistry 850 (3 credits) in 2002, 2003
2. Biophysics 702 (3 credits, taught with a team) in 2002, 2003, 2004
3. Biochemistry 760 (3 credits, taught with a team) in 2002
4. Biochemistry 708 (5 credits) in 2003, 2004, 2005
5. Biochemistry H200 (3 credits) with a team in 2004, 2005
6. Biochemistry H201 (3 credits) with a team in 2004, 2005
7. Biochemistry 521 (5 credits) in 2004, 2005, 2006, 2007
8. Biochemistry 706 (5 credits) in 2005, 2006, 2007, 2008
9. Biochemistry 900 (Advanced enzymology, 3 credits) in 2008

COMMITTEE MEMBER & SERVICES AT OSU

1. Development/modification of the Biochemistry 721 (Physical Biochemistry) curriculum, 2002
2. The Ohio State University Biochemistry Program Admission Committee in 2003

3. The Laboratory Manager Recruiting Committee of Dept. of Biochemistry in 2004
4. Faculty advisor, the Undergraduate Student Biochemistry Club at OSU since 2004
5. Development/modification of the Biochemistry Laboratory Classes 521, 708, and 710, 2005
6. Faculty judge for the undergraduate research fair in the College of Biological Sciences of OSU in 2002, 2003, 2004, 2005, 2006.
7. Faculty judge for the 2007 Denman Undergraduate Research Forum at OSU
8. Faculty judge for the 2005 Edward F. Hayes Research Forum for Graduate Students at OSU
9. Faculty speaker at the Bio. Sci. Day at OSU in 2005 and 2006
10. Chair, Development of the curriculum for Biochemistry 706, 2005
11. Departmental Award Committee since 2005
12. Departmental faculty recruiting committee, 2005
13. Departmental undergraduate advisory committee since 2005
14. Faculty advisor for the 2007 Undergraduate Class majoring in Biochemistry
15. Departmental chairman advisory committee since 2005
16. The Student Advisory Committee of College of Biological Sciences since 2004
17. Chair, the Admission Committee, the Ohio State University Biochemistry Program (OSBP) since 2007
18. The Graduate Studies Committee of OSBP since 2007
19. Departmental Graduate Studies Committee since 2008
20. Undergraduate Honors Recruiting Committee since 2008
21. Departmental Space Committee since 2007
22. College Curriculum Committee since 2008

JOURNAL REVIEWERS

1. *Biotech Prog.*
2. *Biochemistry*
3. *Chemical Reviews*
4. *Journal of Chemical Toxicology*
5. *BMC Structural Biology*
6. *Journal of the American Chemical Society*
7. *Proc. Natl. Acad. Sci. U.S.A.*
8. *Mutation Research*

FUNDING AGENCY REVIEWERS AND PANEL MEMBERS

1. *Ad hoc* reviewer, the American Chemical Society, 2004, 2005
2. *Ad hoc* reviewer, different panels of the Biomolecular Systems Cluster, the National Science Foundation, 2005, 2006, 2007, 2008
3. Reviewer, the Commonwealth Universal Research Enhancement (CURE) Program, the Department of Health, Pennsylvania, 2007
4. *Ad hoc* Panel member, Study Section MSFE, the National Institutes of Health, 2007
5. Panel member of the Chemistry Research Instrumentation and Facilities: Departmental Multi-User Instrumentation (CRIF-MU) program, the National Science Foundation, 2007

AWARDS WON BY MY UNDERGRADUATE STUDENTS

1. Nikunj Bhatt won 2004 Mayers Summer Research Internship
2. Nikunj Bhatt won 2004 Winter Dean's Undergraduate Research Fund award.
3. Nikunj Bhatt won College of Arts and Science Research Scholarship in 2004.
4. Cameron Hypes won the 2005 College of Biological Sciences Undergraduate Research Colloquium.
5. Cameron Hypes won the Outstanding Graduate Award in 2005.
6. Nikunj Bhatt won the Dean's Undergraduate Research Fund Award in 2005.
7. Nikunj Bhatt won the Canaga Memorial Scholarship in 2005.
8. Nikunj Bhatt won the Outstanding Graduate Award in 2005.
9. Jessica Sparling was selected to join Mortar Board (a national senior class honorary) in 2005.
10. Sean Newmister won College of Arts and Science Research Scholarship in 2006.
11. Sean Newmister won 2006 Winter Dean's Undergraduate Research Fund award.
12. John Pryor won 2006 Winter Dean's Undergraduate Research Fund award.
13. John Pryor was selected to participate in the 2006 Summer Undergraduate Research Program (SURP).
14. Sean Newmister won 2006 Mayers and SURP Summer Research Internships
15. Nikunj Bhatt was inducted in the Phi Beta Kappa Society in 2006.
16. Sean Newmister won College of Arts and Science Research Scholarship in 2007.
17. John Pryor won the Dean's Undergraduate Research Fund award in 2007.
18. Sean Newmister won the Dean's Undergraduate Research Fund award in 2007.
19. John Pryor won the Canaga Memorial Scholarship in 2007.
20. Sean Newmister won the Irene Rosenfeld Award in 2007.
21. Sean Newmister was inducted into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2007.
22. John M. Pryor won 2007 College of Biological Sciences Undergraduate Research Colloquium Poster Award.
23. John M. Pryor won the Second Prize in the Biological Sciences Division at OSU Denman Undergraduate Research Forum in 2007.
24. Mike Corcoran won the 2007 Mayers Summer Research Internship
25. Chen Fu won the 2007 Summer Undergraduate Research Program award.
26. Lindsey Pack won the 2007 Summer Undergraduate Research Program award.
27. Lindsey Pack won Colleges of Arts and Science Research Scholarship in 2007-2008.
28. Sean Newmister was offered induction into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2008.
29. Lindsey Pack was offered induction into Ohio State's chapter (Epsilon of Ohio) of Phi Beta Kappa in 2008.
30. Lindsey Pack won 2008 Mayers and SURP Summer Research Internships
31. Lindsey Pack was selected as one of 13 NSF REU trainees at OSU in the summer of 2008 by Prof. Mandy Simcox and Prof. Venkat Gopalan who are the co-PIs of an NSF REU grant.
32. Lindsey Pack won the Irene Rosenfeld Scientific Achievement Award in 2009.

AWARDS WON BY MY GRADUATE STUDENTS

1. Kevin A. Fiala won a two-year fellowship (2002-2004) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University
2. Kevin A. Fiala won the American Heart Association Pre-Doctoral Fellowship for the years of 2004-2005 and 2005-2006.
3. Kevin A. Fiala won the 1st prize at the Ohio State Biochemistry Program Autumn Symposium in 2004.
4. Michelle P. Roettger won a two-year fellowship (2002-2004) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
5. Kevin A. Fiala won the Herta Camerer Gross Graduate Research Fellowship in 2005.
6. Kevin A. Fiala won the OSBP and CBIP Travel Grants and the Burrell Fund to attend the Gordon Conference in 2005.
7. Jessica A. Brown won a two-year fellowship (2006-2007) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
8. Kevin A. Fiala won the Burrell Fund again to attend the Key Stone Conference in 2006.
9. Jason Fowler won the 2006 Dean's Award for Excellence as a Graduate Teaching Assistant.
10. Kevin A. Fiala won the 1st place award at the 20th Annual Edward F. Hayes Graduate Research Forum (2006).
11. Kevin A. Fiala won the American Heart Association Pre-Doctoral Fellowship for the year of 2006-2007.
12. Jason Fowler won the American Heart Association Pre-Doctoral Fellowship for the years of 2006-2007 and 2007-2008.
13. Kevin A. Fiala won a prestigious Presidential Fellowship from The Ohio State University in 2006.
14. Nikunj Bhatt won a full scholarship to attend Wright State University School of Medicine, starting in 2006.
15. Kevin A. Fiala won a travel fellowship from the American Society for Biochemistry and Molecular Biology (ASBMB) to attend the Experimental Biology 2007 Meeting in Washington, DC.
16. Shanen Sherrer won 2007 Dean's Award for Excellence as a Graduate Teaching Assistant.
17. Jason Fowler won the 1st place award of the poster session at the 1st Annual Integrated Graduate Program Symposium in 2007.
18. Jason Fowler won Burrell Memorial Fund to attend the Gordon Research Conference on NUCLEIC ACIDS on June 3-8, 2007 at Salve Regina University, Newport, Rhode Island, USA.
19. Shanen Sherrer won 2008 Robert H. Edgerley Environmental Toxicology Summer Fellowship.
20. Jess Brown won 2008 International Chapter P.E.O. Sisterhood award (\$15,000).
21. Jess Brown won 2008 Burrell Memorial Award and a travel award from National Institutes of Health Chemistry-Biology Interface Program at OSU to attend the Gordon Research Conference on NUCLEIC ACIDS on June 1-6, 2008 at Salve Regina University, Newport, Rhode Island, USA. Ms. Brown gave an oral presentation on "Mechanism of Double-Base Lesion Bypass Catalyzed by a Y-family DNA Polymerase"

22. Jess Brown won an Outstanding Oral Student Presentation Award for OSU Molecular Life Sciences Interdisciplinary Graduate Programs Symposium
23. Jess Brown was inducted into Phi Kappa Phi Honor Society
24. My former graduate student Dr. Kevin A. Fiala obtained a postdoctoral fellowship from the American Cancer Society in Aug. 2008 and is receiving his postdoctoral training at the Chemistry Department of Harvard University.
25. Jess Brown won the American Heart Association Pre-Doctoral Fellowship for the years of 2008-2009 and 2009-2010.
26. Shanen Sherrer won a one-year fellowship (2008-2009) from the National Institutes of Health Chemistry and Biology Interface Program at the Ohio State University.
27. Shanen Sherrer won a Carl Storm Underrepresented Minority Fellowship to support her participation in the 2009 Nucleic Acids Gordon Research Conference.

AWARDS WON BY MY POSTDOCTORAL RESEARCHERS:

1. Dr. Leonardo Porchia won a two-year (Jan. 1, 2008 – Dec. 31, 2009) Post-doctoral Fellowship from the Division of Pulmonary T32 Training Grant from NIH.

PUBLICATIONS AFTER JOINING OSU (*Corresponding Author; underlined names are those of undergraduate researchers)

1. Zhang G. & Suo, Z* (2004) A Mild and Convenient Synthetic Method for Arylhydrazones of Methyl Benzoate. *Synthetic Communications* **34** (4), 673-678.
2. Fiala, K. A & Suo, Z* (2004) Pre-Steady State Kinetic Studies of the Fidelity of *Sulfolobus solfataricus* P2 DNA Polymerase IV. *Biochemistry* **43**, 2106-2115
3. Fiala, K. A & Suo, Z* (2004) Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase IV. *Biochemistry* **43**, 2116-2125
4. Fiala, K. A, Abdel-Gawad, W. & Suo, Z* (2004) Pre-Steady-State Kinetic Studies of the Fidelity and Mechanism of Polymerization Catalyzed by Truncated Human DNA Polymerase Lambda. *Biochemistry* **43**, 6751-6762.
5. Roettger, M. P., Fiala, K. A., Sompalli, S., Dong, Y. and Suo, Z* (2004) Pre-Steady state Kinetic Studies of the Fidelity of Human DNA Polymerase Mu. *Biochemistry* **43**, 13827-13838.
6. Johnson, A. A., Fiala, K. A. and Suo, Z.* (2005) "Chapter 6: DNA Polymerases and Their Interactions with DNA and Nucleotides", pp133-168. In M. M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, Marcel Dekker, New York, NY.
7. Abdel-Gawad, W., Tan, S. L. and Suo, Z.* (2005) "Chapter 7: RNA polymerases", pp169-206. In M. M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, Marcel Dekker, New York, NY.
8. Wang, L. and Suo, Z.* (2005) "Chapter 8: Reverse Transcriptase", pp207-246. In M. M. Vaghefi (ed.), *Nucleoside Triphosphates and their Analogs: Chemistry, Biotechnology, and Biological Applications*, Marcel Dekker, New York, NY.
9. Suo, Z* (2005) Thioesterase Portability and Peptidyl Carrier Protein Swapping in Yersiniabactin Synthetase from *Yersinia pestis*. *Biochemistry* **44**, 4926-4938.
10. Fowler, J. & Suo, Z* (2006) Enzymatic, Structural, and Physiological Properties of Terminal Deoxynucleotidyl Transferase. *Chemical Reviews* **106**, 2092-2110.

11. Fiala, K. A., Duym, W. W., Zhang, J. and Suo, Z* (2006) Upregulation of the Fidelity of Human DNA Polymerase lambda by Its Non-Enzymatic Proline-Rich Domain. *J. Biol. Chem.* **281**, 19038-19044.
(Note: this article was featured in Medical News Today on July 28, 2006 with the web link of <http://www.medicalnewstoday.com/medicalnews.php?newsid=48082>)
12. Duym, W. W., Fiala, K. A., Bhatt N., and Suo, Z* (2006) Kinetic Effect of a Downstream Strand and Its 5'-Terminal Moieties on Single-Nucleotide Gap-Filling Synthesis Catalyzed by Human DNA Polymerase Lambda. *J. Biol. Chem.* **281**, 35649–35655.
13. Fiala, K. A., Brown, J. A., Ling, H., Kshetry, A. K., Zhang, J., Taylor, J.-S., Yang, W. and Suo, Z* (2007) Mechanism of Template-Independent Nucleotide Incorporation Catalyzed by a Template-Dependent DNA Polymerase. *J. Mol. Biol.* **365**, 590-602.
14. Abdullah, M. A. F. and Suo, Z* (2007) Unique composite active site of the Hepatitis C virus NS2-3 protease: a new opportunity for antiviral drug design. *ChemMedChem* **2**, 283-284.
15. Fiala, K. A., Hypes, C., and Suo, Z* (2007) Mechanism of Abasic Lesion Bypass Catalyzed by a Y-Family DNA Polymerase, *J. Biol. Chem.* **282**, 8188-8198.
16. Fiala, K. A. and Suo, Z* (2007) Sloppy Bypass of an Abasic Lesion Catalyzed by a Y-Family DNA Polymerase. *J. Biol. Chem.* **282**, 8199-8206.
(Note: press release titled “protein averts cell suicide but might contribute to cancer” about articles #15 and #16 was published in [Frontiers Magazine](#) and cited on the websites of 23 news organizations including www.sciencedaily.com, www.physorg.com, www.eurochem.cz, www.emaxhealth.com, researchnews.osu.edu, www.internalmedicine.osu.edu, www.medicalnewstoday.com, www.health-news-blog.com, medicalcenter.osu.edu, www.scinewsblog.com, www.curingdeath.com, heartlung.osu.edu, www.huliq.com, www.biospace.com, medecine.osu.edu, www.firstscience.com, www.machineslikeus.com, amp.osu.edu, anesthesiology.osu.edu, www.news-medical.net, www.iconocast.com, www.newsrx.com, and www.upi.com)
17. Brown, J. A., Duym, W. W., Fowler, J. D., and Suo, Z* (2007) Single-Turnover Kinetic Analysis of the Mutagenic Potential of 7,8-Dihydro-8-oxoguanine During Gap-Filling Synthesis Catalyzed by Human DNA Polymerases λ and β , *J. Mol. Biol.* **367**, 1258-1269.
18. Fiala, K. A., Sherrer, S. M., Brown, J. A., and Suo, Z.* (2008) Mechanistic consequences of temperature on DNA polymerization catalyzed by a Y-family DNA polymerase, *Nucleic Acids Res.* **36**, 1990-2001.
19. Wong, J. H. Y., Fiala, K. A., Suo, Z. & Ling, H.* (2008) Snapshots of a Y-family DNA polymerase in replication: substrate-induced conformational transitions and implications for fidelity of Dpo4, *J. Mol. Biol.* **379**, 317-330.
20. Fowler, J. D., Brown, J.A., Johnson, K.A. and Suo, Z* (2008) Kinetic Investigation of the Inhibitory Effect of Gemcitabine on DNA Polymerization Catalyzed by Human Mitochondrial DNA Polymerase. *J. Biol. Chem.* **283**, 15339-15348.
21. Brown, J. A., Newmister, S. A., Fiala, K. A. and Suo, Z.* (2008) Mechanism of Double-Base Lesion Bypass Catalyzed by a Y-Family DNA Polymerase, *Nucleic Acids Res.* **36**, 3867-3878.

22. DeCarlo, L., Prakasha Gowda, A. S., Suo, Z. and Spratt, T. E.* (2008) Formation of purine-purine mispairs by *Sulfolobus solfataricus* DNA polymerase IV, *Biochemistry* **47**, 8157–8164.
23. Sherrer, S. M., Brown, J.A., Pack, L. R., Fowler, J. D., Basu, A. K. and Suo, Z* (2009) Mechanistic studies of the bypass of a bulky single-base lesion catalyzed by a Y-family DNA polymerase. *J. Biol. Chem.* **284**, 6379-6388.
24. Fowler, J. D., Brown, J.A., Kvaratskhelia, M. and Suo, Z* (2009) Probing Protein Conformational Changes of A Human DNA Polymerase Using Mass Spectrometry. *J. Mol. Biol.* provisionally accepted.
25. Zhang, L., Brown, J. A., Newmister, S. A., and Suo, Z* (2009) Polymerization Fidelity of a Replicative DNA Polymerase from the Hyperthermophilic Archaeon *Sulfolobus solfataricus* P2. *Biochemistry*, submitted.
26. Brown, J. and Suo, Z* (2009) Elucidating the Kinetic Mechanism of DNA Polymerization Catalyzed by *Sulfolobus solfataricus* P2 DNA Polymerase B1. *Biochemistry*, submitted.
27. Zhang, L., Kshetry, A. K., Taylor, J.-S., and Suo, Z* (2009) Pre-steady State Kinetics Analysis of the Role of Base Stacking in Nucleotide Selection and Abasic Lesion Bypass by Yeast DNA Polymerase eta, *J. Biol. Chem.* submitted.
28. Fiala, K. A., Pryor, J., Sherrer, S. M., Newmister, S. A., Fowler, J. D. and Suo, Z.* (2009) Quantitative Analysis of the Efficiency and Mutagenic Spectra of Abasic Lesion Bypass Catalyzed by Four Human Y-Family DNA Polymerases, *Cell*, submitted.
29. Fowler, J. D., Brown, J.A., and Suo, Z.* (2009) A novel sugar selectivity mechanism utilized by an X-family DNA polymerase. *Mol. Cell*, submitted.
30. Xu, C., Maxwell, B., Zhang, L., Brown, J. A. and Suo, Z.* (2009) Global Conformational Dynamics of A Y-family DNA Polymerase during Catalysis. *Science*, submitted.

PUBLICATIONS BEFORE JOINING OSU (*Corresponding Author)

1. Allison, A. J., Ray, A., Hanes, J., Suo, Z., Colacino, J. M., Andeson, K. S. and Johnson, K.A.* (2001) Toxicity of Antiviral Nucleoside Analogs and the Human Mitochondrial DNA Polymerase. *J. Biol. Chem.* **276**, 40847-40857.
2. Suo, Z., Tseng, C. and Walsh, C. T.* (2001) Purification, Priming, and Catalytic Acylation of Carrier Protein Domains in the Polyketide Synthase and Nonribosomal Peptidyl Synthetase Modules of the HMWP1 Subunit of Yersiniabactin Synthetase. *Proc. Natl. Acad. Sci. U.S.A.* **98**, 99-104.
3. Suo, Z., Chen, H. and Walsh, C. T.* (2000) Acyl CoA Hydrolysis by the HMWP1 Subunit of Yersiniabactin Synthetase: Mutational Evidence for A Cascade of Four Acyl-Enzyme Intermediates during Hydrolytic Editing. *Proc. Natl. Acad. Sci. U.S.A.* **97**, 14188-14193.
4. Keating, T. A., Suo, Z., Ehmann, D. D. and Walsh, C. T.* (2000) Selectivity of the Yersiniabactin Synthetase Adenylation Domain in the Two Step Process of Amino Acid Activation and Transfer to a Holo-Carrier Protein. *Biochemistry* **39**, 2297-2306.
5. Suo, Z., Walsh, C. T.* and Miller, D. A. (1999) Tandem Heterocyclization Activity of the Multidomain 230 kDa HMWP2 Subunit of *Yersinia pestis* Yersiniabactin

- Synthetase: Interaction of the 1-1382 and 1383-2035 Fragments. *Biochemistry* **38**, 14023-14035.
6. Suo, Z., Lippard, S. J., and Johnson, K. A.* (1999) Single *d*(GpG)/*cis*-Diammineplatinum(II) Adduct-Induced Inhibition of DNA Polymerization. *Biochemistry* **38**, 715-726.
 7. Suo, Z. and Johnson, K. A.* (1998) Selective Inhibition of HIV-1 Reverse Transcriptase by an Antiviral Inhibitor, (*R*)-9-(2-Phosphonylmethoxypropyl)adenine. *J. Biol. Chem.* **273**, 27250-27258.
 8. Suo, Z. and Johnson, K. A.* (1998) DNA Secondary Structure Effects on DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *J. Biol.Chem.* **273**, 27259-27267.
 9. Suo, Z. and Johnson, K. A.* (1997) RNA Secondary Structure Switching during DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 14778-14785.
 10. Suo, Z. and Johnson, K. A.* (1997) Effect of RNA Secondary Structure on the Kinetics of DNA Synthesis Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 12459-12467.
 11. Suo, Z. and Johnson, K. A.* (1997) Effect of RNA Secondary Structure on RNA Cleavage Catalyzed by HIV-1 Reverse Transcriptase. *Biochemistry* **36**, 12468-12476.
 12. Suo, Z., Zhu, C., and Li, Q.*, Zhou, L. & Xu, H. (1992) Structural Behavior of the ZSM-12 Zeolite at Various Molar Ratios of SiO₂/Al₂O₃. *J. Fudan U. (Natural Sci.)* **31**, 32-40.
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