

# Scott K. Silverman

University of Illinois at Urbana-Champaign  
Department of Chemistry, Box 57-5  
600 South Mathews Avenue  
Urbana, IL 61801

tel (217) 244-4489  
Email [sks@illinois.edu](mailto:sks@illinois.edu)  
Twitter [@sksilverman](https://twitter.com/sksilverman)  
URL [scs.illinois.edu/silverman](http://scs.illinois.edu/silverman)

Born October 1972 in Los Angeles, CA

August 2021

## Education

- Ph.D.** 08/97 Chemistry, California Institute of Technology, Pasadena, CA  
*Thesis:* I. Conformational and Charge Effects on High-Spin Organic Polyradicals  
II. Studies on the Atomic-Scale Basis of Ion Selectivity in Potassium Channels  
*Advisor:* Dennis A. Dougherty
- B.S.** 06/91 Chemistry (*summa cum laude*), University of California, Los Angeles

## Academic Positions

- 08/10-present Professor of Chemistry  
08/12-present Associate Head of Budget and Operations, Department of Chemistry  
08/06-08/10 Associate Professor of Chemistry  
08/06-present Faculty Member, Center for Biophysics and Quantitative Biology  
07/00-present Affiliate, Department of Biochemistry  
07/00-08/06 Assistant Professor of Chemistry, University of Illinois at Urbana-Champaign  
09/97-06/00 Postdoctoral Researcher, University of Colorado at Boulder (with T. R. Cech)  
09/91-08/97 Graduate Research Assistant, California Institute of Technology  
06/91-09/91 Research Assistant (summer), California Inst. of Technology (with A. G. Myers)  
09/89-06/91 Undergraduate Research Assistant, UCLA (with C. S. Foote)

## Honors, Awards, & Fellowships

- 2012 Fellow, Royal Society of Chemistry (UK)  
2011 UIUC Campus Award for Excellence in Guiding Undergraduate Research  
2011 Faculty of 1000 "Faculty Member of the Year" Award (Structural Biology)  
2010-2011 University of Illinois LAS Professorial Scholar Award  
2009 Eli Lilly Award, Division of Biological Chemistry, American Chemical Society  
2007 Fellow, American Association for the Advancement of Science (AAAS)  
2004 & 2001 Roger Adams Award for Excellence in Teaching, UIUC School of Chem. Sciences  
2004-2005 Fellow, University of Illinois Center for Advanced Study  
2003-2008 Fellow, The David and Lucile Packard Foundation  
2003-2005 March of Dimes Basil O'Connor Starter Scholar Research Award  
2001-2004 Burroughs Wellcome Fund New Investigator Award  
1998-2000 Postdoctoral Fellow, The Helen Hay Whitney Foundation  
1998 Postdoctoral Fellow, American Cancer Society  
1997 McKoy Award for Contributions to the Science of Chemistry, Caltech  
1994-1995 American Chemical Society Division of Organic Chemistry Graduate Fellowship  
1991-1994 National Science Foundation Predoctoral Fellow  
1991-1992 Hertz Foundation Finalist and Research Fellowship Grant

## Scott K. Silverman, page 2

1991	UCLA Department of Chemistry & Biochemistry highest honors upon graduation
1991	UCLA Dolores Cannon Southam Award for outstanding undergraduate research
1991	Best organic paper, So. California ACS Undergraduate Research Conference
1990	UCLA Geissman prize for outstanding undergraduate in organic chemistry
1990	UCLA Undergraduate Research Award

### External Service Activities

Journal reviewer: *Acc. Chem. Res.* • *ACS Catalysis* • *ACS Cent. Sci.* • *ACS Chem. Biol.* • *ACS Comb. Sci.* • *ACS Nano* • *ACS Sensors* • *ACS Synth. Biol.* • *Adv. Mater.* • *Adv. Synth. Cat.* • *Anal. Chem.* • *Anal. Chim. Acta* • *Angew. Chem.* • *Biochem. Biophys. Res. Commun.* • *Biochemistry* • *Biochimie* • *Bioconjug. Chem.* • *Biomacromolecules* • *Bioorg. Med. Chem.* • *Bioorg. Med. Chem. Lett.* • *Biophys. J.* • *Biopolymers* • *BioTechniques* • *Cell Chem. Biol.* • *Chem. Asian J.* • *ChemBioChem* • *Chem. Commun.* • *Chem. Eur. J.* • *ChemPlusChem* • *Chem. Sci.* • *Chem. Soc. Rev.* • *Chemistry & Biology* • *Dalton Trans.* • *EMBO J.* • *FEBS J.* • *IEE Proc. Nanobiotechnol.* • *JACS* • *J. Mol. Biol.* • *J. Org. Chem.* • *J. Phys. Chem.* • *J. Vis. Exp.* • *Langmuir* • *Mol. BioSyst.* • *Nature* • *Nat. Chem.* • *Nat. Chem. Biol.* • *Nat. Commun.* • *Nat. Protocols* • *Nat. Reviews (various)* • *New J. Chem.* • *Nucleic Acids Res.* • *Org. Biomol. Chem.* • *Org. Lett.* • *PLoS ONE* • *PNAS* • *Protein Sci.* • *Q. Rev. Biophys.* • *RNA* • *Small* • *Structure* • *Synthesis* • *Trends Pharmacol. Sci.*

Agency reviewer: ACS-PRF • Air Force (AFOSR) • Austrian Science Fund (FWF) • Cancer Research UK • CIHR (Canada) • DTRA-DoD • European Research Council • French National Research Agency • Israel Science Foundation • Japan Society for the Promotion of Science • National Science Center (Poland) • NIH • NSF • NASA • Netherlands Organisation for Scientific Research • NSERC (Canada) • Research Corporation • Royal Society of New Zealand • Swiss National Science Foundation • Wellcome Trust (UK)

01/2018-present	Associate Editor, <i>Organic &amp; Biomolecular Chemistry</i>
09/2009-present	Editorial Board, <i>Cell Chemical Biology</i> (formerly <i>Chemistry &amp; Biology</i> )
05/2006-present	Editorial Board, <i>Current Opinion in Chemical Biology</i>
01/2006-present	Editorial Board, <i>Nucleic Acids Research</i>
01/2011-12/2020	Editorial Advisory Board, <i>ChemBioChem</i>
2013-2015	elected Nominating Cmte., Div. of Biological Chem., American Chemical Society
2009-2011	elected Treasurer, Division of Biological Chemistry, American Chemical Society
02/2018	Academic Program Review committee, Georgia Tech School of Chem & Biochem
01/2020	guest editor, <i>Chem. Soc. Rev.</i> themed collection Nucleic Acids
01/2017	guest editor, <i>Org. Biomol. Chem.</i> themed collection Nucleic Acid Modifications
08/2016	guest editor, <i>Org. Biomol. Chem.</i> themed collection Biocatalysis
11/2015	member, ACS Publications journal Editor-in-Chief search committee
03/2014	member, NIH fellowships review panel (ZRG1 F04-A special emphasis panel)
03/2013	member, NIH fellowships review panel (ZRG1 F04-W special emphasis panel)
04/2012	member, NSF-CHE review panel (Chemistry of Life Processes)
11/2011	member, NIH program project grant (P01) review panel, BCMB IRG
11/2009	organizing committee, NAS Kavli US Frontiers of Science Symposium, Irvine, CA
11/2008	organizing committee, NAS Kavli US Frontiers of Science Symposium, Irvine, CA
06/2007	member, NASA Exobiology & Evolutionary Biology review panel
10/2005	ad hoc member, Synthetic & Biological Chemistry A (SBCA) NIH study section
09/2004	ad hoc mail reviewer, Biophysical Chemistry B (BPCB) NIH study section
06/2004	session moderator, Bioorganic Chemistry Gordon Research Conference
02/2003	ad hoc member, Bioorganic and Natural Products (BNP) NIH study section
07/2001-present	charter member, Faculty Opinions literature review (facultyopinions.com)

## Internal Service Activities

2012-present	Associate Head of Budget and Operations, Department of Chemistry
2006-present	Budget & Operations Committee, Department of Chemistry
2001-present	Graduate Fellowships Committee, Department of Chemistry
2000-present	Graduate Admissions Committee, Department of Chemistry
2018-2020	Advisory Committee (elected 2-year term), Department of Chemistry
2016-2018	Advisory Committee (elected 2-year term), Department of Chemistry
2014-2016	Advisory Committee (elected 2-year term), Department of Chemistry
2011-2013	Advisory Committee (elected 2-year term), Department of Chemistry
2011-2014	Executive Committee (elected 3-year term), School of Chemical Sciences
2010-present	Faculty advisor, Academic Advising office, School of Chemical Sciences
2013-present	Radiation and Laser Safety Committee (chair), University of Illinois
2006-2012	Radiation and Laser Safety Committee, University of Illinois
2021-2023	Honors Council, College of Liberal Arts and Sciences, University of Illinois
2011-2013	Awards Committee, College of Liberal Arts and Sciences, University of Illinois
2011-2012	Search Committee, Vice Chancellor for Research, University of Illinois
2010-2011	Conflict Review Committee (co-chair), Office of the Vice Chancellor for Research
2008-2010	Conflict Review Committee, Office of the Vice Chancellor for Research, U of I
2004-2009	Distinction Committee, School of Molecular & Cellular Biology

## Memberships

2012	Royal Society of Chemistry
1999	RNA Society
1991	American Chemical Society
1991	American Association for the Advancement of Science
1991	Phi Beta Kappa
1991	Sigma Xi
1990	Golden Key National Honor Society

## University of Illinois – Mentored Students and Lab Members

(with next or current position, if known)

### *Graduate Students (B.S. or B.A. degree holders)*

Robert D. Boyd	11/19-present
Prakriti K. Das	11/19-present
John (Jack) J. Przybyla	12/19-present
Shukun Yang	12/17-present
Spurti U. Akki	08/10-06/18 (Ph.D.; joint with C. Werth, Civil & Env. Eng.)
Benjamin M. Brandsen	11/10-01/16 (Ph.D. Chemistry); Asst. Prof. of Chemistry, Creighton U., Omaha, NE; prev. postdoc, U. Washington, Seattle
Jagadeeswaran Chandrasekar	11/10-05/16 (Ph.D. Chemistry); Senior Scientist, Stratos Genomics, Seattle, WA
Chih-Chi (Jimmy) Chu	11/11-04/17 (Ph.D. Chemistry); Scientist II, Bluebird Bio, Cambridge, MA
Rebecca L. [Coppins] Bunn	11/00-08/05 (Ph.D. Chemistry); previously postdoc, Washington U. in St. Louis
Victor Dokukin	11/09-07/14 (Ph.D. Chemistry); Senior Scientist, Guardant Health, San Diego, CA
David C. McKinney	11/00-12/03 (M.S. Chemistry); Senior Research Scientist I, Broad Institute, Cambridge, MA

## Scott K. Silverman, page 4

Chandrasekhar V. Miduturu	11/00-02/06 (Ph.D. Chemistry); Senior Director, EQRx, Cambridge, MA; previously postdoc, Harvard Medical School & Dana-Farber Cancer Institute
Seth M. Parmley	11/06-04/08 (M.S. Chemistry); instructor, Western Kentucky U.
Elizabeth D. Pratico	12/03-07/08 (Ph.D. Biochemistry); Director, Process Dev., CRISPR Therapeutics, Boston, MA; prev. postdoc, Duke U.
Amit Sachdeva	11/06-08/11 (Ph.D. Chemistry); faculty Lecturer in Bio-Organic Chemistry, University of East Anglia, Norwich, UK
Mary Smalley Scanlan	11/01-12/06 (Ph.D. Chemistry); Associate Director, Gene & Cell Therapy, PPD, Middleton, WI
Shannon M. Walsh	12/11-02/17 (Ph.D. Biochemistry); postdoc, U. Colorado School of Medicine
Puzhou Wang	11/12-07/18 (Ph.D. Chemistry 04/18); Sr. Protocol Development Scientist, Chemistry, Synthego Corporation, Redwood City, CA
Yangming Wang	12/01-01/06 (Ph.D. Biochemistry); Professor, Peking U., China; previously postdoc, UCSF
Adrienne (On Yi) Wong	11/06-11/11 (Ph.D. Chemistry); Manager, Strategic Academic Partnerships, Sanofi, Cambridge, MA; prev. postdoc at DFCI
Ying Xiao	11/08-12/13 (Ph.D. Chemistry); Scientist II, GENEWIZ, So. Plainfield, NJ
Tianjiong (Yves) Yao	12/15-04/21 (Ph.D. Biochemistry)
Chih-Cheng (Peter) Yeh	11/13-10/19 (Ph.D.; Consultant, Boston Consulting Group)
Elena Zelin	12/04-08/08 (Ph.D. Biochemistry); Lead Scientist, Cell Engineering, Synthego Corporation, Redwood City, CA
Cong Zhou	11/12-11/18 (Ph.D. Chemistry 05/18); Scientist II, Wave Life Sciences, Cambridge, MA

### *Visiting Graduate Students (B.S. or B.A. degree holders)*

Elena Pazos Chantero	06/10-10/10, from University of Santiago de Compostela, Spain
----------------------	---------------------------------------------------------------

### *Postdoctoral Researchers (Ph.D. holders)*

Joshua L. Avins	08/11-06/13; Co-Founder & CTO of Voga Coffee, San Francisco
Dana A. Baum	08/05-08/08; Assoc. Prof., Chemistry, Saint Louis U., MO
Madhavaiah Chandra	12/06-11/11; Technical Director, Vignasai Laboratories, Hyderabad, India
Amber F. Charlebois	06/01-08/02; Asst. Prof., Chemistry, Nazareth College, NY
Rachel A. Hellmann	06/09-08/10; Asst. Prof., Biochemistry, Coastal Carolina U., SC
Claudia Höbartner	01/05-07/07; Professor, Institute for Organic Chemistry, University of Würzburg, Germany
Shengxi Jin	05/04-02/05; Head of R&D Technology - Polyurethanes, Evonik, Singapore
P. I. Pradeepkumar	07/04-08/07; Assoc. Prof., Chemistry, IIT-Bombay
Yun Xie	10/10-07/11; Director of Communications, Office of the President, Yale University

### *Laboratory Staff (B.S. or B.A. degree holders)*

Kevin M. Duffin	02/17-11/17; Bioengineering Prof. Master's program at UIUC
Sarah C. Kwon	01/10-05/10 (as undergraduate); 06/10-12/10 (as staff)
Tracey K. Prior	04/02-09/04
Elizabeth J. [Duvall] Schmidt	06/03-05/05; Env. Health and Safety Professional, Austin, TX

### *Undergraduate Students from University of Illinois*

Morgan M. Kennebeck	01/20-present
John M. Aguilar	08/09-05/12; M.D. at U. Florida, 05/16; emerg. med. physician
Yoonhee Ahn	08/10-12/10

## Scott K. Silverman, page 5

Marissa J. Alcantara 06/04-11/05  
James E. Brady 01/18-12/18; junior at UIUC  
Caleb C. Brandmeyer 01/17-05/19; Sr. Chemist, Eli Lilly & Company, Indianapolis, IN  
Emily C. [Allen] Brock 01/10-05/11; grad student (MCB) at UC Berkeley  
Samantha L. Buhr 09/11-05/12; engineering co-op at Kimberly-Clark  
Sarah C. Carter 12/03-12/04; deceased Oct. 2013  
Alison J. [Camden] Reid 06/14-05/16; middle school science teacher in St. Louis  
Hillary D. Campbell 10/07-05/09  
Marissa A. Castner 06/12-05/14; Chemistry Technician at Exelon, Clinton, IL  
Mara M. Dubnow 09/11-11/12; M.D. at U. Chicago, 2019  
Kristin L. Garlanger 01/05-11/05; Doctor of Optometry at Mayo Clinic  
Joseph P. Gerdt 06/05-07/08; Ph.D. (chemistry) at U. Wisconsin, 07/14; postdoc at Harvard Medical School; Asst. Prof., Chemistry, Indiana U.  
Anthony R. Hesser 06/12-05/15; Ph.D. (chemical biology) at Harvard U., 08/20  
Kelly A. [Hoadley] Manthei 01/02-05/04; Ph.D. (biochemistry) at U. Wisconsin, 05/13; research investigator at U. Michigan  
Andrew J. Hoover 05/06-05/07; Ph.D. (chemistry) at Harvard U., 07/15; at Merck  
Austin S. Huang 01/19-03/20  
Nora A. Ibrahim 01/10-05/13; M.D. at Saint Louis U., 2017  
Darshil T. Jhaveri 11/05-09/07; Ph.D. (pharmacology) at Johns Hopkins U. School of Medicine, 2014; Director, Gilead Sciences  
Caroline K. Kaminsky 11/18-08/21; grad student (biochemistry) at U. Chicago  
Paul C. Klauser 01/14-05/17; grad student (chemical biology) at UCSF  
Stephanie N. Konecki 06/14-06/16; grad student (immunology) at U. Chicago  
Diana M. [Kost] Cohen 08/05-05/08; M.D. at Northwestern U., 05/13; Mohs surgeon & dermatologist, Hudson, WI  
Rebecca S. [Lahti] Matz 08/05-05/07; Ph.D. (chemistry) at U. Michigan, 07/12; Research Scientist, U. Michigan  
Nickolaus C. Lammer 06/15-05/17; grad student (biochem) at U. Colorado  
Tam Le 05/16-12/16  
Christine S. Lee 08/07-07/10; med. student at Lake Erie Coll. of Osteopathic Med.  
Yujeong Lee 09/13-05/16; grad student (chemistry) at Stanford U.  
Xinyi (Alice) Li 08/14-05/17; grad student (biochem) at U. Illinois  
Jonathan J. Liu 01/08-10/09  
Timothy P. Mui 06/05-07/08; Ph.D. (chemistry) at Caltech, 09/13; Group Manager, Clorox, Cambridge, MA  
Amanda E. Mulcrone 08/10-06/12; M.D. at U. Illinois, 05/16; pediatrics physician  
Darren J. Parker 09/11-05/13; Ph.D. (biology) at MIT, 2020  
Meha P. Patel 06/05-05/07; Ph.D. (pharmacology) at Baylor Coll. Med., 2017; clinical genomic scientist, Children's Hospital of Philadelphia  
Kimberly J. [Peterson] Kaufman 02/02-05/04; Ph.D. (chemistry) at U. Wisconsin, 01/10; Vice President of Operations, Invenra, Madison, WI  
Sherry I. Prichodko 08/13-05/14  
Whitney E. Purtha 01/03-05/05; Ph.D. (immunology) at Washington U. in St. Louis, 2011; postdoc at UCSF; Senior Associate Scientist, Amgen  
Shilpa S. Ramesh 05/08-12/09; Director of Government & Foundation Relations, The Ali Forney Center, New York, NY  
Imran Rashid 06/01-05/04; grad student (computer science) at U. Washington; software developer, Cloudera, Chicago, IL  
Natalia Recko 07/13-05/15; process engineer, Chevron, Richmond, CA  
Ramiz I. Riadi 08/16-10/17; formulation chemist, RNA Corp., Blue Island, IL  
Benjamin L. Ricca 09/03-05/04; Ph.D. (biochem. & mol. biol.) U. Chicago, 08/10; postdoc UC Berkeley; Sr. Scientific Spec. at Parexel, Chicago, IL  
Alexandra L. Rudolph 09/11-08/12  
Alexander J. Ruzicka 05/17-02/18; QC manager, Illinois Biodiesel Initiative

**Scott K. Silverman, page 6**

Daniel L. Semlow	01/03-05/05; Ph.D. (MGCB) at U. Chicago, 2015; postdoc at Harvard Medical School; Asst. Prof. of Biochemistry, Caltech
Jaydeep Singh	08/11-05/14; Technical Consultant & Quality Assurance Coordinator at Planned Parenthood of Illinois
Brian C. Smith	06/01-05/03; Ph.D. (chemistry) at U. Wisconsin, 08/08; postdoc at Scripps; Assoc. Prof. of Biochem., Med. College of Wisconsin
Sarah H. Suk	05/15-05/16; Doctor of Pharmacy program, U. Illinois at Chicago
Tiyaporn (Tent) Tangpradabkul	06/16-05/18; grad student (mol. & cell biol.) at UC Berkeley
Tania E. Velez	06/11-06/13; grad student (life sciences) at Northwestern U.
Rebecca J. Wehrmann	06/10-05/12; Doctor of Pharmacy prog., U. Wisconsin-Madison
Amanda C. [Wolf] Santoro	06/01-05/03; Senior Manager, Global Regulatory Affairs, Pfizer
Adam C. Wylder	06/14-05/17; grad student (biological sciences) at U. Chicago
Brian T. Young	06/01-05/02; Senior Manager at Progressive Insurance, Cleveland

*Visiting Undergraduate Students*

Sheila J. Franklin	05/17-08/17 from Carthage College, Kenosha, WI
Margareta Ianos-Irimie	05/17-08/17 from U. Massachusetts Amherst
Hannah J. Nilsson	05/18-08/18 from St. Olaf College, Northfield, MN
Austin M. Woodard	05/19-08/19 from Southern Illinois University Edwardsville

*High School Students from University Laboratory High School, Urbana, IL*

Miriam A. Ross	12/13-12/16; undergraduate student at Yale U.
Natalie K. Dullerud	06/14-05/16; undergraduate student at U. Southern California

## Scott K. Silverman — Publications, p. 1

PubMed: <http://www.ncbi.nlm.nih.gov/pubmed?term=Silverman%20SK%5BAuthor%5D>

MyNCBI: <http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/41166455/?sort=date&direction=descending>

Google Scholar: <http://scholar.google.com/citations?user=VmV0zfsAAAAJ>

ORCID: <http://orcid.org/0000-0001-8166-3460>

### *Independent career at University of Illinois*

Manuscripts are peer-reviewed research publications unless denoted with \*, which indicates a review, commentary, book chapter, or methods paper.

108. T. Yao, J. J. Przybyla, P. Yeh, A. M. Woodard, H. J. Nilsson, B. M. Brandsen, S. K. Silverman, “DNAzymes for Amine and Peptide Lysine Acylation”, *Org. Biomol. Chem.* **2021**, *19*, 171-181. DOI: 10.1039/D0OB02015J
107. Y. Lee, P. C. Klauser, B. M. Brandsen, C. Zhou, X. Li, S. K. Silverman, “DNA-Catalyzed DNA Cleavage by a Radical Pathway with Well-Defined Products”, *J. Am. Chem. Soc.* **2017**, *139*, 255-261. DOI: 10.1021/jacs.6b10274
106. A. R. Hesser, B. M. Brandsen, S. M. Walsh, P. Wang, S. K. Silverman, “DNA-Catalyzed Glycosylation Using Aryl Glycoside Donors”, *Chem. Commun.* **2016**, *52*, 9259-9262. DOI: 10.1039/c6cc04329a; correction DOI: 10.1039/c6cc90354a
105. P. Wang, S. K. Silverman, “DNA-Catalyzed Introduction of Azide at Tyrosine for Peptide Modification”, *Angew. Chem. Int. Ed.* **2016**, *55*, 10052-10056. DOI: 10.1002/anie.201604364
104. C. Chu, S. K. Silverman, “Assessing Histidine Tags for Recruiting Deoxyribozymes to Catalyze Peptide and Protein Modification Reactions”, *Org. Biomol. Chem.* **2016**, *14*, 4697-4703. DOI: 10.1039/c6ob00716c
- \* 103. S. K. Silverman, “Catalytic DNA: Scope, Applications, and Biochemistry of Deoxyribozymes”, *Trends Biochem. Sci.* **2016**, *41*, 595-609 (invited review). DOI: 10.1016/j.tibs.2016.04.010
102. A. J. Camden, S. M. Walsh, S. H. Suk, S. K. Silverman, “DNA Oligonucleotide 3'-Phosphorylation by a DNA Enzyme”, *Biochemistry* **2016**, *55*, 2671-2676. DOI: 10.1021/acs.biochem.6b00151
101. C. Zhou, J. L. Avins, P. C. Klauser, B. M. Brandsen, Y. Lee, S. K. Silverman, “DNA-Catalyzed Amide Hydrolysis”, *J. Am. Chem. Soc.* **2016**, *138*, 2106-2109. DOI: 10.1021/jacs.5b12647
100. S. M. Walsh, S. N. Konecki, S. K. Silverman, “Identification of Sequence-Selective Tyrosine Kinase Deoxyribozymes”, *J. Mol. Evol.* **2015**, *81*, 218-224. DOI: 10.1007/s00239-015-9699-3

Scott K. Silverman — Publications, p. 2

99. J. Chandrasekar, A. C. Wylder, S. K. Silverman, “Phosphoserine Lyase Deoxyribozymes: DNA-Catalyzed Formation of Dehydroalanine Residues in Peptides”, *J. Am. Chem. Soc.* **2015**, *137*, 9575-9578. DOI: 10.1021/jacs.5b06308
98. S. U. Akki, C. J. Werth, S. K. Silverman, “Selective Aptamers for Detection of Estradiol and Ethynylestradiol in Natural Waters”, *Environ. Sci. Technol.* **2015**, *49*, 9905-9913. DOI: 10.1021/acs.est.5b02401
- \* 97. S. K. Silverman, “Pursuing DNA Catalysts for Protein Modification”, *Acc. Chem. Res.* **2015**, *48*, 1369-1379 (invited review). DOI: 10.1021/acs.accounts.5b00090
96. V. Dokukin, S. K. Silverman, “A Modular Tyrosine Kinase Deoxyribozyme with Discrete Aptamer and Catalyst Domains”, *Chem. Commun.* **2014**, *50*, 9317-9320. DOI: 10.1039/c4cc04253k
95. B. M. Brandsen, T. E. Velez, A. Sachdeva, N. A. Ibrahim, S. K. Silverman, “DNA-Catalyzed Lysine Side Chain Modification”, *Angew. Chem. Int. Ed.* **2014**, *53*, 9045-9050. DOI: 10.1002/anie.201404622
94. C. Chu, O. Wong, S. K. Silverman, “A Generalizable DNA-Catalyzed Approach to Peptide-Nucleic Acid Conjugation”, *ChemBioChem* **2014**, *15*, 1905-1910. DOI: 10.1002/cbic.201402255
93. B. M. Brandsen, A. R. Hesser, M. A. Castner, M. Chandra, S. K. Silverman, “DNA-Catalyzed Hydrolysis of Esters and Aromatic Amides”, *J. Am. Chem. Soc.* **2013**, *135*, 16014-16017. DOI: 10.1021/ja4077233
92. S. M. Walsh, A. Sachdeva, S. K. Silverman, “DNA Catalysts with Tyrosine Kinase Activity”, *J. Am. Chem. Soc.* **2013**, *135*, 14928-14931. DOI: 10.1021/ja407586u
91. D. J. Parker, Y. Xiao, J. M. Aguilar, S. K. Silverman, “DNA Catalysis of a Normally Disfavored RNA Hydrolysis Reaction”, *J. Am. Chem. Soc.* **2013**, *135*, 8472-8475. DOI: 10.1021/ja4032488
90. J. Chandrasekar, S. K. Silverman, “Catalytic DNA with Phosphatase Activity”, *Proc. Natl. Acad. Sci. USA* **2013**, *110*, 5315-5320. DOI: 10.1073/pnas.1221946110
89. T. E. Velez, J. Singh, Y. Xiao, E. C. Allen, O. Wong, M. Chandra, S. C. Kwon, S. K. Silverman, “Systematic Evaluation of the Dependence of Deoxyribozyme Catalysis on Random Region Length”, *ACS Comb. Sci.* **2012**, *14*, 680-687. DOI: 10.1021/co300111f
- \* 88. S. K. Silverman, “Shields for Small Molecules”, *Nat. Chem.* **2012**, *4*, 774-775 (invited commentary). DOI: 10.1038/nchem.1468



87. A. Sachdeva, M. Chandra, J. Chandrasekar, S. K. Silverman, “Covalent Tagging of Phosphorylated Peptides By Phosphate-Specific Deoxyribozymes”, *ChemBioChem* **2012**, *13*, 654-657. DOI: 10.1002/cbic.201200048
86. V. Dokukin, S. K. Silverman, “Lanthanide Ions as Required Cofactors for DNA Catalysts”, *Chem. Sci.* **2012**, *3*, 1707-1714. DOI: 10.1039/c2sc01067d
85. Y. Xiao, R. J. Wehrmann, N. A. Ibrahim, S. K. Silverman, “Establishing Broad Generality of DNA Catalysts for Site-Specific Hydrolysis of Single-Stranded DNA”, *Nucleic Acids Res.* **2012**, *40*, 1778-1786. DOI: 10.1093/nar/gkr860
84. A. Sachdeva, S. K. Silverman, “DNA-Catalyzed Reactivity of a Phosphoramidate Functional Group and Formation of an Unusual Pyrophosphoramidate Linkage”, *Org. Biomol. Chem.* **2012**, *10*, 122-125. DOI: 10.1039/c1ob06088k
83. O. Wong, A. E. Mulcrone, S. K. Silverman, “DNA-Catalyzed Reductive Amination”, *Angew. Chem. Int. Ed.* **2011**, *50*, 11679-11684. DOI: 10.1002/anie.201104976
82. O. Wong, P. I. Pradeepkumar, S. K. Silverman, “DNA-Catalyzed Covalent Modification of Amino Acid Side Chains in Tethered and Free Peptide Substrates”, *Biochemistry* **2011**, *50*, 4741-4749. DOI: 10.1021/bi200585n
81. Y. Xiao, E. C. Allen, S. K. Silverman, “Merely Two Mutations Switch a DNA-Hydrolyzing Deoxyribozyme from Heterobimetallic ( $Zn^{2+}/Mn^{2+}$ ) to Monometallic ( $Zn^{2+}$ -only) Behavior”, *Chem. Commun.* **2011**, *47*, 1749-1751. DOI: 10.1039/c0cc04575f
80. C. S. Lee, T. P. Mui, S. K. Silverman, “Improved Deoxyribozymes for Synthesis of Covalently Branched DNA and RNA”, *Nucleic Acids Res.* **2011**, *39*, 269-279. DOI: 10.1093/nar/gkq753
79. Y. Xiao, M. Chandra, S. K. Silverman, “Functional Compromises Among pH Tolerance, Site Specificity, and Sequence Tolerance for a DNA-Hydrolyzing Deoxyribozyme”, *Biochemistry* **2010**, *49*, 9630-9637. DOI: 10.1021/bi1013672
78. A. Sachdeva, S. K. Silverman, “DNA-Catalyzed Serine Side Chain Reactivity and Selectivity”, *Chem. Commun.* **2010**, *46*, 2215-2217. DOI: 10.1039/b927317d
- \* 77. S. K. Silverman, “DNA as a Versatile Chemical Component for Catalysis, Encoding, and Stereocontrol”, *Angew. Chem. Int. Ed.* **2010**, *49*, 7180-7201 (invited review). DOI: 10.1002/anie.200906345
76. M. D. Brenner, M. S. Scanlan, M. K. Nahas, T. Ha, S. K. Silverman, “Multivector Fluorescence Analysis of the *xpt* Guanine Riboswitch Aptamer Domain and the Conformational Role of Guanine”, *Biochemistry* **2010**, *49*, 1596-1605. DOI: 10.1021/bi9019912; correction published DOI: 10.1021/bi1000219

Scott K. Silverman — Publications, p. 4

- \* 75. S. K. Silverman, “Deoxyribozymes: Selection Design and Serendipity in the Development of DNA Catalysts”, *Acc. Chem. Res.* **2009**, *42*, 1521-1531 (invited review). DOI: 10.1021/ar900052y
74. M. Chandra, A. Sachdeva, S. K. Silverman, “DNA-Catalyzed Sequence-Specific Hydrolysis of DNA”, *Nat. Chem. Biol.* **2009**, *5*, 718-720. DOI: 10.1038/nchembio.201
- \* 73. S. K. Silverman, D. A. Baum, “Use of Deoxyribozymes in RNA Research”, *Methods Enzymol.* **2009**, *469*, 95-117 (invited methodology review). DOI: 10.1016/S0076-6879(09)69005-4
72. D. A. Heller, H. Jin, B. M. Martinez, D. Patel, B. M. Miller, T.-K. Yeung, P. V. Jena, C. Höbartner, T. Ha, S. K. Silverman, M. S. Strano, “Multimodal Optical Sensing and Analyte Specificity Using Single-Wall Carbon Nanotubes”, *Nat. Nanotechnol.* **2009**, *4*, 114-120. DOI: 10.1038/nnano.2008.369
71. E. Zelin, S. K. Silverman, “Efficient Control of Group I Intron Ribozyme Catalysis By DNA Constraints”, *Chem. Commun.* **2009**, 767-769. DOI: 10.1039/b820676g
70. D. M. Kost, J. P. Gerdt, P. I. Pradeepkumar, S. K. Silverman, “Controlling the Direction Of Site-Selectivity and Regioselectivity in RNA Ligation By Zn<sup>2+</sup>-Dependent Deoxyribozymes That Use 2',3'-Cyclic Phosphate RNA Substrates”, *Org. Biomol. Chem.* **2008**, *6*, 4391-4398. DOI: 10.1039/b813566e
69. J. P. Gerdt, C. V. Miduturu, S. K. Silverman, “Selective Stabilization of Natively Folded RNA Structure by DNA Constraints”, *J. Am. Chem. Soc.* **2008**, *130*, 14920-14921. DOI: 10.1021/ja8057277
68. T. P. Mui, S. K. Silverman, “Convergent and General DNA-Catalyzed One-Step Synthesis of Multiply Branched DNA”, *Org. Lett.* **2008**, *10*, 4417-4420. DOI: 10.1021/ol801568q
- \* 67. S. K. Silverman, “Catalytic DNA (Deoxyribozymes) for Synthetic Applications—Current Abilities and Future Prospects”, *Chem. Commun.* **2008**, 3467-3485 (invited review). DOI: 10.1039/b807292m
- \* 66. S. K. Silverman, “A Forced March Across an RNA Folding Landscape”, *Chem. Biol.* **2008**, *15*, 211-213 (invited commentary). DOI: 10.1016/j.chem-biol.2008.02.014
- \* 65. D. A. Baum, S. K. Silverman, “Deoxyribozymes: Useful DNA Catalysts In Vitro and In Vivo”, *Cell. Mol. Life Sci.* **2008**, *65*, 2156-2174 (invited review). DOI: 10.1007/s00018-008-8029-y
64. M. Chandra, S. K. Silverman, “DNA and RNA Can Be Equally Efficient Catalysts for Carbon-Carbon Bond Formation”, *J. Am. Chem. Soc.* **2008**, *130*, 2936-2937. DOI: 10.1021/ja7111965

Scott K. Silverman — Publications, p. 5

63. P. I. Pradeepkumar, C. Höbartner, D. A. Baum, S. K. Silverman, “DNA-Catalyzed Formation of Nucleopeptide Linkages”, *Angew. Chem. Int. Ed.* **2008**, *47*, 1753-1757. DOI: 10.1002/anie.200703676
62. M. P. Patel, D. A. Baum, S. K. Silverman, “Improvement of DNA Adenylation Using T4 DNA Ligase with a Template and a Strategically Mismatched Acceptor Strand”, *Bioorg. Chem.* **2008**, *36*, 46-56. DOI: 10.1016/j.bioorg.2007.10.001
- \* 61. C. Höbartner, S. K. Silverman, “Recent Advances in DNA Catalysis”, *Biopolymers* **2007**, *87*, 279-292 (invited review). DOI: 10.1002/bip.20813
60. E. Zelin, S. K. Silverman, “Allosteric Regulation of Ribozyme Catalysis by Using DNA Constraints”, *ChemBioChem* **2007**, *8*, 1907-1911. DOI: 10.1002/cbic.200700437
59. C. Höbartner, S. K. Silverman, “Engineering a Selective Small-Molecule Substrate Binding Site into a Deoxyribozyme”, *Angew. Chem. Int. Ed.* **2007**, *46*, 7420-7424. DOI: 10.1002/anie.200702217
58. C. Höbartner, P. I. Pradeepkumar, S. K. Silverman, “Site-Selective Depurination by a Periodate-Dependent Deoxyribozyme”, *Chem. Commun.* **2007**, 2255-2257. DOI: 10.1039/b704507g
57. E. D. Pratico, S. K. Silverman, “Ty1 Reverse Transcriptase Does Not Read Through the Proposed 2',5'-Branched Retrotransposition Intermediate In Vitro”, *RNA* **2007**, *13*, 1528-1536. DOI: 10.1261/rna.629607
56. D. A. Baum, S. K. Silverman, “Deoxyribozyme-Catalyzed Labeling of RNA”, *Angew. Chem. Int. Ed.* **2007**, *46*, 3502-3504. DOI: 10.1002/anie.200700357
- \* 55. S. K. Silverman, “Artificial Functional Nucleic Acids: Aptamers, Ribozymes, and Deoxyribozymes Identified by In Vitro Selection”, in *Functional Nucleic Acids for Analytical Applications*, eds. Y. Li and Y. Lu; Springer Science + Business Media, LLC (New York, NY), **2009**.
54. J. M. Blose, S. K. Silverman, P. C. Bevilacqua, “A Simple Molecular Model for Thermophilic Adaptation of Functional Nucleic Acids”, *Biochemistry* **2007**, *46*, 4232-4240. DOI: 10.1021/bi0620003
- \* 53. S. K. Silverman, “Control of Macromolecular Structure and Function Using Covalently Attached Double-Stranded DNA Constraints”, *Mol. BioSyst.* **2007**, *3*, 24-29 (invited review). DOI: 10.1039/b614116a
- \* 52. S. K. Silverman, “Nucleic Acid Enzymes (Ribozymes and Deoxyribozymes): In Vitro Selection and Application”, in *Wiley Encyclopedia of Chemical Biology*, T. P. Begley, ed.; John Wiley and Sons (Hoboken, NJ), **2009** (invited review). DOI: 10.1002/9780470048672.wecb406

- \* 51. S. K. Silverman, P. J. Hergenrother, “Tools for Molecular Diversification and Their Applications in Chemical Biology”, *Curr. Opin. Chem. Biol.* **2006**, *10*, 185-187 (editorial overview of annual journal issue on combinatorial chemistry & molecular diversity). DOI: 10.1016/j.cbpa.2006.04.024
50. Y. Wang, S. K. Silverman, “Experimental Tests of Two Proofreading Mechanisms for 5'-Splice Site Selection”, *ACS Chem. Biol.* **2006**, *1*, 316-324. DOI: 10.1021/cb6001569
49. C. V. Miduturu, S. K. Silverman, “Synthesis and Application of a 5'-Aldehyde Phosphoramidite for Covalent Attachment of DNA to Biomolecules”, *J. Org. Chem.* **2006**, *71*, 5774-5777. DOI: 10.1021/jo060723m
48. Y. Wang, S. K. Silverman, “Efficient RNA 5'-Adenylation By T4 DNA Ligase To Facilitate Practical Applications”, *RNA* **2006**, *12*, 1142-1146. DOI: 10.1261/rna.33106
47. E. Zelin, Y. Wang, S. K. Silverman, “Adenosine is Inherently Favored as the Branch-Site RNA Nucleotide in a Structural Context That Resembles Natural RNA Splicing”, *Biochemistry* **2006**, *45*, 2767-2771. DOI: 10.1021/bi052499l
46. M. K. Smalley, S. K. Silverman, “Fluorescence of Covalently Attached Pyrene as a General RNA Folding Probe”, *Nucleic Acids Res.* **2006**, *34*, 152-166. DOI: 10.1093/nar/gkj420
45. C. V. Miduturu, S. K. Silverman, “Modulation of DNA Constraints That Control Macromolecular Folding”, *Angew. Chem. Int. Ed.* **2006**, *45*, 1918-1921. DOI: 10.1002/anie.200504124
44. Y. Wang, S. K. Silverman, “A General Two-Step Strategy to Synthesize Lariat RNAs”, *RNA* **2006**, *12*, 313-321. DOI: 10.1261/rna.2259406
- \* 43. S. K. Silverman, “In Vitro Selection, Characterization, and Application of Deoxyribozymes That Cleave RNA”, *Nucleic Acids Res.* **2005**, *33*, 6151-6163 (invited review). DOI: 10.1093/nar/gki930
42. C. Höbartner, S. K. Silverman, “Modulation of RNA Folding by Incorporation of Caged Nucleotides”, *Angew. Chem. Int. Ed.* **2005**, *44*, 7305-7309. DOI: 10.1002/anie.200502928
41. W. E. Purtha, R. L. Coppins, M. K. Smalley, S. K. Silverman, “General Deoxyribozyme-Catalyzed Synthesis of Native 3'-5' RNA Linkages”, *J. Am. Chem. Soc.* **2005**, *127*, 13124-13125. DOI: 10.1021/ja0533702
40. R. L. Coppins, S. K. Silverman, “Mimicking the First Step of RNA Splicing: An Artificial DNA Enzyme Can Synthesize Branched RNA Using an Oligonucleotide Leaving Group as a 5'-Exon Analogue”, *Biochemistry* **2005**, *44*, 13439-13446. DOI: 10.1021/bi0507229
39. C. V. Miduturu, S. K. Silverman, “DNA Constraints Allow Rational Control of Macromolecular Conformation”, *J. Am. Chem. Soc.* **2005**, *127*, 10144-10145. DOI: 10.1021/ja051950t

Scott K. Silverman — Publications, p. 7

38. Y. Wang, S. K. Silverman, “Efficient One-Step Synthesis of Biologically Related Lariat RNAs by a Deoxyribozyme”, *Angew. Chem. Int. Ed.* **2005**, *44*, 5863-5866. DOI: 10.1002/anie.200501643
37. E. D. Pratico, Y. Wang, S. K. Silverman, “A Deoxyribozyme That Synthesizes 2',5'-Branched RNA With Any Branch-Site Nucleotide”, *Nucleic Acids Res.* **2005**, *33*, 3503-3512. DOI: 10.1093/nar/gki656
36. K. A. Hoadley, W. E. Purtha, A. C. Wolf, A. Flynn-Charlebois, S. K. Silverman, “Zn<sup>2+</sup>-Dependent Deoxyribozymes That Form Natural and Unnatural RNA Linkages”, *Biochemistry* **2005**, *44*, 9217-9231. DOI: 10.1021/bi050146g
35. S. Jin, C. V. Miduturu, D. C. McKinney, S. K. Silverman, “Synthesis of Amine- and Thiol-Modified Nucleoside Phosphoramidites for Site-Specific Introduction of Biophysical Probes into RNA”, *J. Org. Chem.* **2005**, *70*, 4284-4299. DOI: 10.1021/jo0500611
34. R. L. Coppins, S. K. Silverman, “A Deoxyribozyme That Forms A Three-Helix-Junction Complex With Its RNA Substrates and Has General RNA Branch-Forming Activity”, *J. Am. Chem. Soc.* **2005**, *127*, 2900-2907. DOI: 10.1021/ja044881b
33. D. R. Semlow, S. K. Silverman, “Parallel *in Vitro* Selections Reveal a Preference for 2'–5' RNA Ligation By Deoxyribozyme-Mediated Opening of a 2',3'-Cyclic Phosphate”, *J. Mol. Evol.* **2005**, *61*, 207-215. DOI: 10.1007/s00239-004-0326-y
32. Y. Wang, S. K. Silverman, “Directing the Outcome of Deoxyribozyme Selections to Favor Native 3'–5' RNA Ligation”, *Biochemistry* **2005**, *44*, 3017-3023. DOI: 10.1021/bi0478291
31. R. L. Coppins, S. K. Silverman, “Rational Modification of a Selection Strategy Leads to Deoxyribozymes That Create Native 3'–5' RNA Linkages”, *J. Am. Chem. Soc.* **2004**, *126*, 16426-16432. DOI: 10.1021/ja045817x
- \* 30. S. K. Silverman, “Deoxyribozymes: DNA Catalysts for Bioorganic Chemistry”, *Org. Biomol. Chem.* **2004**, *2*, 2701-2706 (invited review). DOI: 10.1039/B411910J
- \* 29. M. K. Smalley, S. K. Silverman, “Site-Specific Fluorescent Labeling of Large RNAs with Pyrene”, in *Current Protocols in Nucleic Acid Chemistry* **2004**, Unit 11.11 (Wiley; invited methodology review). DOI: 10.1002/0471142700.nc1111s19.
28. S. K. Silverman, “Practical and General Synthesis of 5'-Adenylated RNA (5'-AppRNA)”, *RNA* **2004**, *10*, 731-746. DOI: 10.1261/rna.5247704
27. T. K. Prior, D. R. Semlow, A. Flynn-Charlebois, I. Rashid, S. K. Silverman, “Structure-Function Correlations Derived from Faster Variants of an RNA Ligase Deoxyribozyme”, *Nucleic Acids Res.* **2004**, *32*, 1075-1082. DOI: 10.1093/nar/gkh263

Scott K. Silverman — Publications, p. 8

26. R. L. Coppins, S. K. Silverman, “A DNA Enzyme That Mimics the First Step of RNA Splicing”, *Nat. Struct. Mol. Biol.* **2004**, *11*, 270-274. DOI: 10.1038/nsmb727
  - \* 25. S. K. Silverman, “Breaking Up is Easy to Do (If You’re a DNA Enzyme That Cleaves RNA)”, *Chem. Biol.* **2004**, *11*, 7-8 (invited commentary). DOI: 10.1016/j.chembiol.2004.01.004
  24. Y. Wang, S. K. Silverman, “Characterization of Deoxyribozymes That Synthesize Branched RNA”, *Biochemistry* **2003**, *42*, 15252-15263. DOI: 10.1021/bi0355847
  23. B. L. Ricca, A. C. Wolf, S. K. Silverman, “Optimization and Generality of a Small Deoxyribozyme That Ligates RNA”, *J. Mol. Biol.* **2003**, *330*, 1015-1025. DOI: 10.1016/S0022-2836(03)00654-5
  22. Y. Wang, S. K. Silverman, “Deoxyribozymes That Synthesize Branched and Lariat RNA”, *J. Am. Chem. Soc.* **2003**, *125*, 6880-6881. DOI: 10.1021/ja035150z
  21. A. Flynn-Charlebois, K. A. Hoadley, T. K. Prior, S. K. Silverman, “In Vitro Evolution of an RNA-Cleaving DNA Enzyme into an RNA Ligase Switches the Selectivity From 3’–5’ to 2’–5’”, *J. Am. Chem. Soc.* **2003**, *125*, 5346-5350. DOI: 10.1021/ja0340331
  - \* 20. S. K. Silverman, “Rube Goldberg Goes (Ribo)nuclear? Molecular Switches and Sensors Made from RNA”, *RNA* **2003**, *9*, 377-383 (invited review). DOI: 10.1261/rna.2200903
  19. A. Flynn-Charlebois, Y. Wang, T. K. Prior, I. Rashid, K. A. Hoadley, R. L. Coppins, A. C. Wolf, S. K. Silverman, “Deoxyribozymes with 2’–5’ RNA Ligase Activity”, *J. Am. Chem. Soc.* **2003**, *125*, 2444-2454. DOI: 10.1021/ja028774y
  18. B. T. Young, S. K. Silverman, “The GAAA Tetraloop-Receptor Interaction Contributes Differentially to Folding Thermodynamics and Kinetics for the P4-P6 RNA Domain”, *Biochemistry* **2002**, *41*, 12271-12276. DOI: 10.1021/bi0264869
- Edited book: *Nucleic Acid Switches and Sensors*, edited by Scott K. Silverman; Landes Bioscience/Eurekah.com (Georgetown, TX) and Springer Science + Business Media (New York, NY), **2006**. [Chapters from this book are available online at [www.eurekah.com](http://www.eurekah.com).

***While a postdoctoral researcher, graduate student, or undergraduate student***

17. S. K. Silverman, T. R. Cech, “An Early Transition State for Folding of the P4-P6 RNA Domain”, *RNA* **2001**, *7*, 161-166.
16. S. K. Silverman, M. L. Deras, S. A. Woodson, S. A. Scaringe, T. R. Cech, “Multiple Folding Pathways for the P4-P6 RNA Domain”, *Biochemistry* **2000**, *39*, 12465-12475.

Scott K. Silverman — Publications, p. 9

15. S. K. Silverman, M. Zheng, M. Wu, I. Tinoco, Jr., T. R. Cech, “Quantifying the Energetic Interplay of RNA Tertiary and Secondary Structure Interactions”, *RNA* **1999**, *5*, 1665-1674.
14. S. K. Silverman, T. R. Cech, “RNA Tertiary Folding Monitored by Fluorescence of Covalently Attached Pyrene”, *Biochemistry* **1999**, *38*, 14224-14237.
13. S. K. Silverman, T. R. Cech, “Energetics and Cooperativity of Tertiary Hydrogen Bonds in RNA Structure”, *Biochemistry* **1999**, *38*, 8691-8702.
12. S. K. Silverman, H. A. Lester, D. A. Dougherty, “Asymmetrical Contributions of Subunit Pore Regions to Ion Selectivity in an Inward Rectifier K<sup>+</sup> Channel”, *Biophys. J.* **1998**, *75*, 1330-1339.
11. J. C. Miller, S. K. Silverman, P. M. England, D. A. Dougherty, H. A. Lester, “Flash Decaging of Tyrosine Sidechains in an Ion Channel”, *Neuron* **1998**, *20*, 619-624.
10. M. W. Nowak, J. P. Gallivan, S. K. Silverman, C. G. Labarca, D. A. Dougherty, H. A. Lester, “In Vivo Incorporation of Unnatural Amino Acids Into Ion Channels in *Xenopus* Oocyte Expression System”, *Methods Enzymol.* **1998**, *293*, 504-529.
9. S. K. Silverman, P. Kofuji, D. A. Dougherty, N. Davidson, H. A. Lester, “A Regenerative Link in the Ionic Fluxes through the *weaver* Potassium Channel Underlies the Pathophysiology of the Mutation”, *Proc. Natl. Acad. Sci. USA* **1996**, *93*, 15429-15434.
8. S. K. Silverman, D. A. Dougherty, H. A. Lester, “Subunit Stoichiometry of a Heteromultimeric GIRK K<sup>+</sup> Channel”, *J. Biol. Chem.* **1996**, *371*, 30524-30528.
7. P. C. Kearney, M. W. Nowak, W. Zhong, S. K. Silverman, H. A. Lester, D. A. Dougherty, “Dose-Response Relations for Unnatural Amino Acids at the Agonist Binding Site of the Nicotinic Acetylcholine Receptor: Tests with Novel Side Chains and with Several Agonists”, *Mol. Pharmacol.* **1996**, *50*, 1401-1412.
6. A. P. West, Jr., S. K. Silverman, D. A. Dougherty, “Do High-Spin Topology Rules Apply To Charged Polyradicals? Theoretical And Experimental Evaluation Of Pyridiniums As Magnetic Coupling Units”, *J. Am. Chem. Soc.* **1996**, *118*, 1452-1463.
5. M. W. Nowak, P. C. Kearney, J. R. Sampson, M. E. Saks, C. G. Labarca, S. K. Silverman, W. Zhong, J. Thorson, J. N. Abelson, N. Davidson, P. G. Schultz, D. A. Dougherty, H. A. Lester, “Nicotinic Receptor Binding Site Probed with Unnatural Amino Acid Incorporation in Intact Cells”, *Science* **1995**, *268*, 439-442.
4. S. K. Silverman, D. A. Dougherty, “Conformational Effects on High-Spin Organic Molecules”, *J. Phys. Chem.* **1993**, *97*, 13273-13283.
3. D. A. Dougherty, S. J. Jacobs, S. K. Silverman, M. M. Murray, D. A. Shultz, A. P. West, Jr., J. A. Clites, “New Organic Polymers and Molecules with Very High Spin States”, *Mol. Cryst. Liq. Cryst.* **1993**, *232*, 289-304.

Scott K. Silverman — Publications, p. 10

2. Y. Elemen, S. K. Silverman, C. Sheu, M. Kao, C. S. Foote, M. M. Alvarez, R. L. Whetten, “Reaction of C<sub>60</sub> with Dimethyldioxirane—Formation of an Epoxide and a 1,3-Dioxolane Derivative”, *Angew. Chem., Int. Ed. Engl.* **1992**, *31*, 351-353.
1. S. K. Silverman, C. S. Foote, “Singlet Oxygen and Electron-Transfer Mechanisms in the Dicyanoanthracene-Sensitized Photooxidation of 2,3-Diphenyl-1,4-Dioxene”, *J. Am. Chem. Soc.* **1991**, *113*, 7672-7675.