

Sadanandan E. Velu

ORCID: <https://orcid.org/0000-0002-0342-2378>

Contact information:

Professor
Department of Chemistry
College of Arts and Sciences
University of Alabama at Birmingham
901, 14th Street South
Birmingham, AL 35294 1240

Office: (205) 975 2478
Lab: (205) 996 4104
Lab site: <http://velulab.com>
Fax: (205) 934 2543
E-mail: svelu@uab.edu
<http://scholars.uab.edu/display/svelu>

Education:

Ph. D.	1993	Organic Chemistry	University of Madras, Chennai, India
M. Sc.	1985	Chemistry	University of Calicut, Kerala, India
B. Sc.	1983	Chemistry	University of Calicut, Kerala, India

Professional Experience:

2020 – Present	Professor of Chemistry, University of Alabama at Birmingham
2010 – 2020	Associate Professor of Chemistry, University of Alabama at Birmingham
2004 – 2010	Assistant Professor of Chemistry, University of Alabama at Birmingham
2002 – 2004	Research Assistant Professor, University of Alabama at Birmingham
2020 – Present	Co-Director, Cancer Biology Undergraduate Program at UAB
2011 – Present	Faculty, Graduate Biomedical Sciences (GBS) at UAB
2004 – Present	Graduate Faculty, University of Alabama at Birmingham
2008 – Present	Associate Scientist, O’Neal Comprehensive Cancer Center, UAB
2008 – Present	Member, Experimental Therapeutics, O’Neal CCC, UAB
2009 – Present	Associate Scientist, Center for Clinical and Translational Sciences, UAB
2008 – Present	Associate Scientist, Center for Biophysical Sci. & Engineering, UAB
2011 – Present	Scientist, Gregory Fleming James Cystic Fibrosis Research Center, UAB
2011 – Present	Scientist, Center for Free Radical Biology, UAB
2016 – Present	Scientist, Nutrition Obesity Research Center, UAB
1997 – 2002	Senior Staff Chemist, Center for Biophysical Sci. & Engineering, UAB
1994 – 1997	Research Associate, Clemson University, Clemson, SC
1993 – 1994	Postdoctoral Fellow, University of Alabama, Tuscaloosa, AL

Teaching Experience:

2004 – Present	Faculty Member, University of Alabama at Birmingham Graduate Courses: Natural Product Chemistry (CH-772), Organic Reactions and Synthesis (CH-732), Foundations of Organic and Inorganic Chemistry (CH-701), Modern Drug Design and Development (IBS-708), and Medicinal Chemistry & Drug Discovery (CH-771) Undergraduate Courses: Natural Product Chemistry (CH-472), Organic Chemistry I (CH-235), Organic Chemistry II (CH-237), Independent Research (CH-297), Senior Research (CH-497) and Honors Research (CH-499), Biology Senior Research (BY-398) and Biology Honors Research (BY-498)
----------------	--

- 1997 – 2004 Laboratory mentor for graduate and undergraduate students, Laboratory of Medicinal and Combinatorial Chemistry, Center for Biophysical Sciences and Engineering, University of Alabama at Birmingham
- 1994 – 1997 Instructor, Clemson University, Clemson, SC
Undergraduate Courses: Survey of Organic Chemistry (CH-210), and Undergraduate Organic Chemistry (CH-323)
- 1986 – 1992 Laboratory mentor for undergraduate students, Department of Organic Chemistry, University of Madras, India
- 1985 – 1986 Instructor, Medical and Engineering Entrance Examination coaching, Department of Chemistry, Star College, Kerala, India

Honors:

- 2006 **National Award for Excellence in Teaching:** Organic Chemistry-I (CH-235) course was identified as an example of Best Practices in a National Study of Chemistry courses conducted by the Center for Educational Policy Research (CEPR) on behalf of the College Board. A total of 166 courses from across the nation were reviewed in this study.
- 1988 Awarded Senior Research Fellowship by University Grants Commission, Government of India
- 1986 Awarded Junior Research Fellowship by University Grants Commission, Government of India
- 1985 Qualified National Entrance Test conducted by University Grants Commission, Government of India
- 1978-1983 National Merit Scholarship, Government of India

University Service:

- 2020 – Present Co-Director, Cancer Biology Undergraduate Program at UAB
- 2019 – Present Member of UAB College of Arts and Sciences Faculty Affairs Committee
- 2018 – Present Research Consortium with Inserm UMR1069 – Equipe Nutrition, Croissance et Cancer (N₂C), University of Tours, Tours, France
- 2018 – 2020 Executive Committee Member, UAB Department of Chemistry
- 2018 – 2020 Chair, Safety Committee, UAB Department of Chemistry
- 2020 Delivered Seminar at Jackson State University, Jackson, MS
- 2018 Delivered Recruitment Seminar at Oakwood University, Huntsville, AL
- 2018 Delivered Recruitment Seminar at Birmingham Southern College, AL
- 2016 Delivered Lectures in ChemBridge Summer Camp for High Schoolers
- 2013 – Present Delivered Lectures in CH201 Research Class for SciTech Students
- 2012 Delivered Lectures in Phi Sigma Biological Honor Society
- 2012– 2013 Mentored Research Students from Università degli studi G. d'Annunzio, Italy as part of an International Exchange Program
- 2011 Delivered Lectures in the Drug Discovery Seminar Series by ADDA
- 2011 – 2013 Served in the UG Education Committee, UAB Department of Chemistry
- 2011 – Present Served in the Science-Bridge Program, UAB Department of Biology
- 2011 – Present Served in the Chem Scholar Program, UAB Department of Chemistry
- 2010 – Present Served as Member of Drug Discovery Team for ADDA/CCTS
- 2010 – Present Reviewed Pilot Research Grant applications submitted to ADDA/CCTS
- 2009 – Present Served as Judge for UAB Postdoctoral Research Days

2009 – Present	Served as Judge for UAB Graduate Student Research Days
2009 – Present	Served as Judge for UAB Undergraduate Summer Research Exposition
2009 – Present	Served as a member of Undergraduate Student Award Committee
2008	Mentored interns in UAB-ALSAMP Summer internship Program
2005 – 2008	Mentored Undergraduate students in the REU Program
2005	Served in Organic Faculty Search Committee, Department of Chemistry
2004 – Present	Served in the Infrastructure Committee, Department of Chemistry
2004 – Present	Served in the Research Focus Committee, Department of Chemistry
2004 – Present	Served in the Graduate Education Committee, Department of Chemistry
2004 – Present	Served as Chair/Co-Chair of Graduate Research Committees
2004 – Present	Served as a member of Graduate Research Committees
2004 – Present	Served as Chair of Undergraduate Honors Research Committees
2004 – Present	Served as a member of Undergraduate Honors Research Committees

Other Professional Activities:

External Tenure and Promotion Reviews: Reviewed professorship promotion dossier for Department of Pharmaceutical Sciences, The Daniel K. Inouye College of Pharmacy, University of Hawai'i at Hilo (UHH), US.

Guest Editor: Marine Drugs (Impact Factor: 4.37), published by Molecular Diversity Preservation International (MDPI), Switzerland.

- Marine-derived compounds applied in skin diseases, October 2019.
- Biofilm inhibitors of marine origin, June 2019.
- Enzyme inhibitors of marine of origin, February 2017.
- Marine alkaloid analogs, April 2014.

Editorial Board:

- Marine Drugs (Impact Factor: 4.37), published by Molecular Diversity Preservation International (MDPI), Switzerland.
- Organic Chemistry: Current Research, OMICS Publishing Group, 5716 Corsa Ave, Suite 110, Westlake, Los Angeles, CA 91362-7354, USA.

Reviewer for Grants:

- **2020** NIH/NIDCR, DSR Special Grants Review Meeting to review Fellowship (F31/F32), Career Development (K18/K23/K99), and New Investigator R03 applications.
- **2020** American Heart Association (AHA) Spring 2020 Transformational Project Award Basic Sciences Peer Review Committee.
- **2019** NIH/NIDCR Oral, Dental and Craniofacial Sciences (2019/10-ODCS) Study Section to review R01 and R21 applications.
- **2019** American Heart Association (AHA) Spring 2019 Transformational Project Award Basic Sciences Peer Review Committee.
- **2018** UK-Medical Research Council (MRC), Newton Fund China-UK AMR Partnership Hubs 2018 Call.
- **2017** NIH/NIDCR-2017/01-DSR1 panel to review Fellowship (F31/F32), Career Development (K18/K23/K99), and New Investigator R03 applications.

- **2017** NIH/NIAID Panel to review R01 applications received in response to the initiative RFA AI-16-034, Partnerships for Countermeasures against Select Pathogens [ZAI1-LR-M-M2].
- **2016** NIH/NIDCR-2016-10-DSR 1 panel to review Fellowship (F31/F32), Career Development (K18/K23/K99), and New Investigator R03 applications.
- **2015** NIH/NIAID Panel to review R21/R33 applications received in response to the initiative RFA-AI-14-066, Non-Traditional Therapeutics that Limit Antibacterial Resistance [ZAI1-LG-M (S1) 1].
- **2014** NIH/NIAID Emphasis Panel to review R21/R33 applications received in response to RFA AI-14-026, Development of Novel Therapeutics for Select Pathogens [ZAI1-LR-M-M1].
- **2013** NIH/NIAID Centers of Excellence for Translational Research (CETR) U19 Stage 1 review panel [2014/01 ZAI1 -LR-M (J1) 1].
- **2012** American Heart Association - 2012 Spring Peer Review Committee: Immunology BSc3 FACE-TO-FACE.
- **2020** Alabama Drug Discovery alliance, a drug discovery program involving University of Alabama at Birmingham and Southern Research Institute.
- **2019** The Mohammed Bin Rashid University of Medicine and Health Sciences (MBRU), Dubai, UAE, MBRU – Al Mahmeed Collaborative Research Award.
- **2019** The Research Committee of the Faculty of Medicine at the American University of Beirut, Beirut, Lebanon.
- **2016** American Chemical Society – Petroleum Research Fund.
- **2016** Indonesian Science Fund (ISF) / Dana Ilmu Pengetahuan Indonesia (DIPI) - 2016 Research Call.
- Biomedical Research Council (BMRC) – Singapore, The Biomedical Research Council (BMRC) is one arm of Singapore’s Agency for Science, Technology and Research (A*STAR).
- Innovation and Technology Fund – Hong Kong, National funding agency, Government of Hong Kong.
- Indo-US Science & Technology Forum, India Science & Technology Partnership (INSTP), Smithsonian Institution, PO Box 37012, MRC 705, Washington, DC 20013-7012.

Reviewer for Journals:

- Journal of Enzyme Inhibition and Medicinal Chemistry
- Journal of Chemical Information and Modeling.
- International Journal of Antimicrobial Agents.
- Bioorganic and Medicinal Chemistry Letters.
- Organic Process Research and development.
- European Journal of Medicinal Chemistry.
- Anticancer agents in Medicinal Chemistry.
- International Journal of Nanomedicine
- Bioorganic and Medicinal Chemistry.
- Biotechnology and Bioengineering.

- Journal of Medicinal Chemistry.
- Journal of Organic Chemistry.
- Synthetic communications.
- Tetrahedron Letters.
- Organometallics.
- Marine Drugs.
- Tetrahedron.
- Molecules.
- Synthesis.
- PlosOne.
- Arkivoc.
- Cancers.
- Synlett.

Reviewer of Books:

- Joel Karty, *Organic Chemistry: Principles and Mechanisms, 2nd edition*, W. W. Norton & Company, New York.
- Jones/Fleming, *Organic Chemistry, Fourth Edition*, W. W. Norton & Company, New York.
- Shubert, *Organic Chemistry, First Edition*, Brooks / Cole, Cengage Learning, 20 Channel Center Street, Boston

Reviewer of Theses:

PhD theses from University of West Indies (UWI), Mona, Kingston, Jamaica.
PhD theses from National Institute of Pharmaceutical Education and Research (NIPER) – Punjab, India
PhD theses from Madurai Kamaraj University – India
PhD theses from Bharathidasan University – India
PhD theses from University of Madras – India

Judge for Senior Research Symposia: Alabama School of Fine Arts Math and Science Department, 2016.

Professional Societies and Honors:

2019 – Present Scientist, Experimental Therapeutics Program, OCCC, UAB.
2016 – Present Scientist, Nutrition Obesity Res Center (NORC), UAB.
2011 – Present Scientist, Gregory Fleming James Cystic Fibrosis Research Center, UAB.
2011 – Present Scientist, Center for Free Radical Biology, UAB.
2009 – Present Associate Scientist, Center for Clinical and Translational Sciences, UAB.
2008 – Present Associate Scientist, O’Neal Comprehensive Cancer Center (OCCC) UAB.
2008 – Present Associate Scientist, Center for Biophysical Sciences and Engg, UAB.
2004 – Present Member, American Association of Cancer Research.
2009 – Present Member, Society of Clinical and Translational Sciences.
1992 – Present Member, American Chemical Society.
1992 – Present Member, American Chemical Society, Organic Chemistry division.

- 1992 – Present Member, American Chemical Society, Medicinal Chemistry division.
- 2008 – Present Member, American Heart Association.
- 2008 – Present Member, AHA, Council on Basic Cardiovascular Sciences.
- 2008 – Present Member, AHA, Functional Genomics and Translational Biology.
- 2008 – Present Member, AHA, Stroke Council.

Research Interests:

- Anticancer drug discovery: Development of new therapeutic agents for breast cancer. A new class of marine alkaloid analogs that are effective against both ER positive and ER negative breast cancers has been developed. Development of Mitochondria Targeted Electrophiles (MTE) as new therapeutic agents for cancer. Development of Voltage Gated Na Channel blockers as potential treatments to prevent breast cancer metastasis.
- Antibacterial drug discovery: Structure Based Design and Development of inhibitors of the bacterial enzyme SrtA as a novel approach for the treatment and prevention of infectious diseases. Development of inhibitors of the bacterial enzyme NAD synthetase as a novel approach for the treatment for bacterial infections, particularly against “anthrax”.
- Chagas disease drug discovery: Structure Based Design and Development of inhibitors of *Trypanosoma Cruzi* dihydrofolate reductase as potential treatments for Chagas’ disease.
- Discovery of anti-biofilm agents: Design and development of inhibitors of *Streptococcus mutans* glucosyl transferases and dihydrofolate reductase as potential anti-biofilm agents for the treatment and prevention of dental caries.
- Orally active drugs for influenza: Structure Based Design and Development of inhibitors of the enzyme, neuraminidase as orally bioavailable therapeutic agents for influenza.
- Synthetic methodology studies: Chemistry and synthetic applications of organometallic reagents like alpha amino alkyl cuprates, Natural product synthesis.

Publications:

Peer-Reviewed Publications

76. Zviadi Aburjania, Jason Whitt, Samuel Jang, Dwayaja Nadkarni, Sadanandan Velu, Herbert Chen, J. Bart Rose, Renata Jaskula-Sztul, Synthetic makaluvamine analogs decrease KIT and have cytotoxic effect on neuroendocrine tumors, *Marine Drugs*, 2020 (Under revision).
75. Jaden Cowan, Mohammad Shadab, Dwayaja H. Nadkarni, Kailash KC, Sadanandan E. Velu (*Co-corresponding author*) and Nabiha Yusuf, A Novel Marine Natural Product Derived Pyrroloiminoquinone with Potent Activity against Skin Cancer Cells, *Marine Drugs*, 17, 1-12 (2019), PubMed PMID: 31357586, PubMed PMCID: PMC6722685, DOI: 10.3390/md17080443.
74. Wei Wang, Jianwen Cheng, Jiang-Jiang Qin, Bo Hu, Xin Li, Bhavitavya Nijampatnam, Sadanandan E Velu, Jia Fan, Xin-Rong Yang, Ruiwen Zhang, MDM2-NFAT1 Dual Inhibitor, MA242: Effective against Hepatocellular Carcinoma, Independent of p53, *Cancer Letters* (2019), 459: 156-167, PubMed PMID: 31181320, PubMed PMCID: PMC6650270, DOI: 10.1016/j.canlet.2019.114429.
73. Wei Wang, Jiang-Jiang Qin, Sukesh Voruganti, Bhavitavya Nijampatnam, Sadanandan E. Velu, Ke-He Ruan, Ming Hu, Jianwei Zhou and Ruiwen Zhang, Discovery and Characterization of Dual Inhibitors of MDM2 and NFAT1 for Pancreatic Cancer Therapy, *Cancer Research* (2018), 78(19): 5656-5667, PubMed PMID: 30217928, PubMed PMCID: PMC6435280, DOI: 10.1158/0008-5472.CAN-17-3939.

72. Sandeep Balu Shelar, Eun-Hee Shim, Garrett J. Brinkley, Anirban Kundu, Francesca Carobbio, Tyler Poston, Jubilee Tan, Vishwas Parekh, Daniel Benson, David K. Crossman, Phillip J. Buckhaults, Dinesh Rakheja, Richard Kirkman, Yusuke Sato, Seishi Ogawa, Shilpa Dutta, Sadanandan E. Velu, Ethan Emberley, Alison Pan, Jason Chen, Tony Huang, Devin Absher, Anja Becker, Conrad Kunick, Sunil Sudarshan, Biochemical and Epigenetic Insights into L-2-Hydroxyglutarate, a Potential Therapeutic Target in Renal Cancer, *Clinical Cancer Research* (2018), 24(24): 6433-6446., PubMed PMID: 30108105, PMCID: PMC6295227, DOI: 10.1158/1078-0432.CCR-18-1727.
71. Bhavitavya Nijampatnam, Hua Zhang, Xia Cai, Suzanne M. Michalek Hui Wu and Sadanandan E. Velu, Inhibition of *Streptococcus mutans* Biofilms by the Natural Stilbene Piceatannol Through the Inhibition of Glucosyltransferases, *ACS Omega* 3 (7), pp 8378–8385 (2018). PubMed PMID: 30087944, PubMed PMCID: PMC6072251, DOI: 10.1021/acsomega.8b00367.
70. Sandeep Balu Shelar, Eun-hee Shim, Garrett Brinkley, Anirban Kundu, Hyeyoung Nam, Francesca Carobbio, Tyler Poston, Jubilee Tan, Daniel Benson, Dinesh Rakheja, Richard Kirkman, Yusuke Sato Seishi Ogawa, Shilpa Dutta, Sadanandan E. Velu, David Crossman, Anja Becker, Conrad Kunick and Sunil Sudarshan, Abstract 5482: L-2HG/ L2HGDH Axis as therapeutic target for kidney cancer, *Cancer Research* (2018) 78(13 Supplement): 5482-5482, DOI: 10.1158/1538-7445.AM2018-5482.
69. Shilpa Dutta, Samuel Tanner, Frédéric Gradek, Virginie Driffort, Sébastien Roger, Katri Selander and Sadanandan E. Velu (*Co-corresponding author*), Wayne Brouillette, Discovery and Evaluation of nNav1.5 Sodium Channel Blockers with Potent Cell Invasion Inhibitory Activity in Breast Cancer Cells, *Bioorganic and Medicinal Chemistry*, 26, 2428-2436 (2018). PubMed PMID: 29673714, PubMed PMCID: PMC5935567, DOI: doi.org/10.1016/j.bmc.2018.04.003.
68. Jeffrey W. McDonald, John E. Miller, Minjee Kim and Sadanandan E. Velu, An expedient synthesis of murrayaquinone A via a novel oxidative free radical reaction, *Tetrahedron Letters*, 59, 550-553 (2018). PubMed PMID: 29736091, PubMed PMCID: PMC5935454, DOI: 10.1016/j.tetlet.2018.01.007.
67. Qiong Zhang, Bhavitavya Nijampatnam, Zhang Hua, Thao Nguyen, Jing Zou, Xia Cai, Suzanne M. Michalek, Sadanandan E. Velu (*Co-corresponding author*) and Hui Wu, Structure-Based Discovery of Small Molecule Inhibitors of Cariogenic Virulence, *Scientific Reports*, 7, 1-10 (2017). PubMed PMID: 28729722, PubMed PMCID: PMC5519559, DOI: 10.1038/s41598-017-06168-1.
66. Bing Xue, Wei Wang, Jiang-Jiang Qin, Bhavitavya Nijampatnam, Srinivasan Murugesan, Veronika Kozlovskaya, Ruiwen Zhang, Sadanandan E. Velu (*Co-corresponding author*) and EugeniaKharlampieva, Highly efficient delivery of potent anticancer iminoquinone derivative by multilayer hydrogel cubes, *Acta Biomaterialia*, 58, 386-398 (2017). PubMed PMID: 28583901, PubMed PMCID: PMC5736006, DOI: 10.1016/j.actbio.2017.06.004.
65. Jouko Sandholm, Jaakko Lehtimäki, Tamiko Ishizu, Sadanandan E. Velu, Jeremy Clark, Pirkko Härkönen, Arja Jukkola-Vuorinen, Aleks Schrey, Kevin W. Harris, Johanna M. Tuomela and Katri S. Selander, Toll-like receptor 9 expression is associated with breast cancer sensitivity to the growth inhibitory effects of bisphosphonates *in vitro* and *in vivo*, *Oncotarget*, 7, 87373-87389 (2016). PubMed PMID: 27888633, PubMed PMCID: PMC5349995, DOI: 10.18632/oncotarget.13570.

64. Bhavitavya Nijampatnam, Luke Casals, Ruowen Zheng, Hui Wu and Sadanandan E. Velu, Hydroxychalcone inhibitors of Streptococcus mutans glucosyl transferases and biofilms as potential anticaries agents, *Bioorganic & Medicinal Chemistry Letters*, 26, 3508-13 (2016). PubMed PMID: 27371109, PubMed PMCID: PMC5207028, DOI: 10.1016/j.bmcl.2016.06.033.
63. M. Ryan Smith, Praveen K. Vayalil, Fen Zhou, Gloria A. Benavides, Reena R. Beggs, Hafez Golzarian, Bhavitavya Nijampatnam, Patsy G. Oliver, Robin A.J. Smith, Michael P. Murphy, Sadanandan E. Velu and Aimee Landar, Mitochondrial thiol modification by a targeted electrophile inhibits metabolism in breast adenocarcinoma cells by inhibiting enzyme activity and protein levels, *Redox Biology*, 8, 136-48 (2016). PubMed PMID: 26774751, PubMed PMCID: PMC4732023, DOI: 10.1016/j.redox.2016.01.002.
62. Su Xu, Bhavitavya Nijampatnam, Shilpa Dutta and Sadanandan Velu, Cyanobacterial Metabolite Calothrixins: Recent Advances in the Synthesis and Biological Evaluation, *Marine Drugs*, 14, 1-21 (2016). PubMed PMID: 26771620, PubMed PMCID: PMC4728514, DOI: 10.3390/md14010017.
61. Wei Wang, Bhavitavya Nijampatnam, Sadanandan E. Velu and Ruiwen Zhang, Discovery and Development of Synthetic Tricyclic Pyrroloquinone Alkaloid Analogs for Human Cancer Therapy, *Frontiers of Chemical Science and Engineering*, 10, 1-15 (2016). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1007/s11705-016-1562-6.
60. Annette Ehrhardt, W. Joon Chung, Louise C. Pyle, Wei Wang, Krzysztof Nowotarski, Cory M. Mulvihill, Mohabir Ramjeesingh, Jeong Hong, Sadanandan E. Velu, Hal A. Lewis, Shane Atwell, Steve Aller, Christine E. Bear, Gergely L. Lukacs, Kevin L. Kirk, and Eric J. Sorscher, Channel Gating Regulation by the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) First Cytosolic Loop, *Journal of Biological Chemistry*, 291, 1854-65 (2016). PubMed PMID: 26627831, PubMed PMCID: PMC4722463, DOI: 10.1074/jbc.M115.704809.
59. Matthew Ryan Smith, Praveen K Vayalil, Fen Zhou, Gloria A Benavides, Reena Beggs, Hafez Golzarian, Bhavitavya Nijampatnam, Patsy G Oliver, Robin A J Smith, Michael P Murphy, Sadanandan E Velu and Aimee Landar, 342 - Mitochondrial Protein Thiols Control Metabolism by Modulating Activity and Levels of Key Metabolic Enzymes, *Free Radical Biology and Medicine*, 87, S152 (2015). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
58. Tripti Singh, Nirzari A. Gupta, Su Xu, Ram Prasad, Sadanandan E. Velu and Santosh K. Katiyar, Honokiol inhibits the growth of head and neck squamous cell carcinoma by targeting and firm binding with epidermal growth factor receptor, *Oncotarget*, 6, 21268-21282 (2015). PubMed PMID: 26020804, PubMed PMCID: PMC4673264, DOI: 10.18632/oncotarget.4178.
57. Tripti Singh, Su Xu, Sadanandan E. Velu and Santosh K. Katiyar, Abstract 5386: Calothrixin a, a metabolite from calothrix cyanobacteria, inhibits class i histone deacetylases leading to suppression of cell growth and induction of apoptosis in human melanoma cells, *Cancer Research*, 75, 5386 (2015). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
56. Bhavitavya Nijampatnam, Shilpa Dutta and Sadanandan E. Velu, Recent developments in the isolation, synthesis, and bioactivities of bispyrroloquinone alkaloids of marine origin, *Chinese Journal of Natural Medicines*, 13, 561-577 (2015). PubMed PMID: NA, PubMed PMCID: PMC4710477, DOI: 10.1016/S1875-5364(15)30052-2.

55. Qiong Zhang, Thao Nguyen, Megan McMichael, Sadanandan Velu, Jing Zou, Xuedong Zhou and Hui Wu, New Small Molecule Inhibitors of Dihydrofolate Reductase inhibit *Streptococcus mutans*, *International Journal of Antimicrobial Agents*, *46*, 174-182 (2015). PubMed PMID: 26022931, PubMed PMCID: PMC4509821, DOI: 10.1016/j.ijantimicag.2015.03.015.
54. Praveen K. Vayalil, Joo-Yeun Oh, Fen Zhou, Anne R. Diers, M. Ryan Smith, Hafez Golzarian, Patsy G. Oliver, Robin A. J. Smith, Michael P. Murphy, Sadanandan E. Velu and Aimee Landar, A Novel Class of Mitochondria-Targeted Soft Electrophiles Modifies Mitochondrial Proteins and Inhibits Mitochondrial Metabolism in Breast Cancer Cells through Redox Mechanisms, *PLOS ONE*, *10* (3):e0120460 (2015). PubMed PMID: 25785718, PubMed PMCID: PMC4364723, DOI: 10.1371/journal.pone.0120460.
53. Jun-Xian Yu, Sukesh Voruganti, Dan-Dan Li, Jiang-Jiang Qin, Subhasree Nag, Su Xu, Sadanandan E. Velu, Wei Wang and Ruiwen Zhang, Development and validation of an HPLC-MS/MS analytical method for quantitative analysis of TCBA-TPQ, a novel anticancer makaluvamine analog, and application in a pharmacokinetic study in rats, *Chinese Journal of Natural Medicines*, *13*, 554-560 (2015). PubMed PMID: 26233847, PubMed PMCID: PMC4716806, DOI: 10.1016/S1875-5364(15)30051-0.
52. M Ryan Smith, Fen Zhou, Praveen Vayalil Kumar, Reena Beggs, Sadanandan Velu, Aimee Landar and Michael Murphy, 315 - Metabolic Reprogramming by a Mitochondria-Targeted Electrophile in Breast Cancer Cells, *Free Radical Biology and Medicine*, *76*, S132 (2014). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
51. Eun-Hee Shim, Carolina B. Livi, Dinesh Rakheja, Jubilee Tan, Daniel Benson, Vishwas Parekh, Eun-Young Kho, Arindam P Ghosh, Richard Kirkman, Sadanandan E. Velu, Shilpa Dutta, Balachandra Chenna, Shane L. Rea, Robert J. Mishur, Qiuhua Li, Teresa L Johnson-Pais, Lining Guo, Sejong Bae, Shi Wei, Karen Block and Sunil Sudarshan, L-2-Hydroxyglutarate: An Epigenetic Modifier and Putative Oncometabolite in Renal Cancer, *Cancer Discovery*, *11*, 1290-1298 (2014). PubMed PMID: 25182153, PubMed PMCID: PMC4286872, DOI: 10.1158/2159-8290.CD-13-0696.
50. Bhavitavya Nijampatnam, Dwayaja H. Nadkarni, Hui Wu and Sadanandan E. Velu, Antibacterial and Antibiofilm Activities of Makaluvamine Analogs, *Microorganisms*, *2*, 128-139 (2014). PubMed PMID: 25767719, PubMed PMCID: PMC4354892, DOI: 10.3390/microorganisms2030128.
49. Su Xu, Thao Nguyen, Irene Pomilio, Maria C. Vitale and Sadanandan E. Velu, Total Synthesis of Calothrixins A and B via Oxidative Radical Reaction of Cyclohexenone with Aminophenanthridinedione, *Tetrahedron*, *70*, 5928-5933 (2014). PubMed PMID: 25663720, PubMed PMCID: PMC4313744, DOI: 10.1016/j.tet.2014.06.021.
48. Eun-Hee Shim, Carolina B. Livi, John Knight, Ross P. Holmes, Dinesh Rakheja, Sadanandan Velu, Eun-Young Kho, Balachandra Chenna, Shane L. Rea, Daniel Benson, Richard Kirkman, Arindam Ghosh, Qiuhua Li, Sejong Bae, Shi Wei, Karen L. Block and Sunil Sudarshan, abstract LB-131: Elevated (L) -2-hydroxyglutarate promotes loss of 5-hydroxymethylcytosine in clear cell renal cancer, *Cancer Research*, *74* (19 Supplement): p. LB-131(2014). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
47. Thao Nguyen, Dwayaja Nadkarni, Shilpa Dutta, Su Xu, Sanghun Kim, Srinivasan Murugesan and Sadanandan Velu, Synthesis of Pyrroloquinones via a CAN Mediated Oxidative FreeRadical Reaction of 1,3-Dicarbonyl Compounds with Aminoquinones,

- Journal of Chemistry*, 1-12 (2013). PubMed PMID: 25705550, PubMed PMCID: PMC4332705, DOI: 10.1155/2013/262580.
46. Dwayaja H. Nadkarni, Srinivasan Murugesan and Sadanandan E. Velu, Total synthesis of zyzyanones A-D, *Tetrahedron*, 69, 4105-4113 (2013). PubMed PMID: 23956468, PubMed PMCID: PMC3743451, DOI: 10.1016/j.tet.2013.03.052.
45. Kim M. Keeling, Dan Wang, Yanying Dai, Srinivasan Murugesan, Balachandra Chenna, Jeremy Clark, Valery Belakhov, Jeyakumar Kandasamy, Sadanandan E. Velu, Timor Baasov and David M. Bedwell, Attenuation of Nonsense-Mediated mRNA Decay Enhances In Vivo Nonsense Suppression, *PLOS ONE*, 8, e60478 (2013). PubMed PMID: 23593225, PubMed PMCID: PMC3622682, DOI: 10.1371/journal.pone.0060478.
44. John S. Jarboe, Shilpa Dutta, Sadanandan E. Velu and Christopher D. Willey, Mini-Review: Bmx Kinase Inhibitors for Cancer Therapy; *Recent Patents on Anti-Cancer Drug Discovery*, 8, 228-238 (2013). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
43. Deng Chen, Wei Wang, Ming-Hai Wang, Hui Wang, Srinivasan Murugesan, Dwayaja H. Nadkarni, Sadanandan E. Velu and Ruiwen Zhang; Identification of the ZAK-MKK4-JNK-TGF β Signaling Pathway Is a Molecular Target for Novel Synthetic Iminoquinone Analog BA-TPQ in Breast Cancer Cells; *Current Cancer Drug Targets*, 13, 651-660 (2013). PubMed PMID: 23607596. PubMed PMCID: NA, DOI: 10.2174/15680096113139990040.
42. Subhasree Nag, Dwayaja H. Nadkarni, Jiang-Jiang Qin, Sukesh Voruganti, Thao Nguyen, Su Xu, Wei Wang, Hui Wang, Sadanandan E. Velu and Ruiwen Zhang, Anticancer Activity and Molecular Mechanisms of Action of Makaluvamines and Analogues, *Molecular and Cellular Pharmacology*, 4, 69-81 (2012). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.4255/mcpharmacol.12.07.
41. Xiangrong Zhang, Hongxia Xu, Xu Zhang, Sukesh Voruganti, Srinivasan Murugesan, Dwayaja H. Nadkarni, Sadanandan E. Velu, Ming-Hai Wang, Wei Wang and Ruiwen Zhang, Preclinical Evaluation of Anticancer Efficacy and Pharmacological Properties of FBA-TPQ, a Novel Synthetic Makaluvamine Analog, *Marine Drugs*, 10, 1138-1155 (2012). PubMed PMID: 22822362, PubMed PMCID: PMC3397457, DOI: 10.3390/md10051138.
40. Megan McMichael, Thao Nguyen, Tory Saunders, Paul Lee, Norbert Schormann, Debasish Chattopadhyay and Sadanandan E. Velu, Structure Based Design of Inhibitors of *Trypanosoma cruzi* DHFR as Potential Therapeutic Agents for Chagas' Disease, *Inquiro*, 5, 54-59 (2011). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
39. Tao Chen, Yi Xu, He Guo, Yanling Liu, Pingting Hu, Xinying Yang, Xiaoguang Li, Shichao Ge1, Sadanandan E. Velu, Dwayaja H. Nadkarni, Wei Wang, Ruiwen Zhang and Hui Wang, Experimental Therapy of Ovarian Cancer with Synthetic Makaluvamine Analog: In Vitro and In Vivo Anticancer Activity and Molecular Mechanisms of Action, *PLOS ONE* 6 (6): e20729 (2011). PubMed PMID: 21673964, PubMed PMCID: PMC3108973, DOI: 10.1371/journal.pone.0020729.
38. John T. Anderson, Meiqin Zeng, Qian Li, Ryan Stapley, Doyle Ray Moore II, Balachandra Chenna, Naomi Fineberg, Jaroslaw Zmijewski, Isam-Eldin Eltoun, Gene P Siegal, Amit Gaggar, Stephen Barnes, Sadanandan E. Velu, Victor J. Thannickal, Edward Abraham, Rakesh P. Patel, Jack R. Lancaster, David D. Chaplin, Mark T. Dransfield and Jessy S. Deshane; Elevated levels of NO are localized to distal airways in asthma, *Free Radical Biology and Medicine*, 50, 1679 – 1688 (2011). PubMed PMID: 21419218, PubMed PMCID: PMC3124865, DOI: 10.1016/j.freeradbiomed.2011.03.015.

37. Haibo Li, Scharri J. Ezell, Wei Wang, Hongxia Xu, Elizabeth R. Rayburn, Xu Zhang, Evrim Gurpinar, Xinyi Yang, Charnell I. Sommers, Sadanandan E. Velu and Ruiwen Zhang, Development and validation of an HPLC method for quantitation of BA-TPQ, a novel iminoquinone anticancer agent, and an initial pharmacokinetic study in mice, *Biomedical Chromatography*, 25, 628 – 634 (2011). PubMed PMID: 20845374, PubMed PMCID: PMC3769168, DOI: 10.1002/bmc.1498.
36. Bala Chandra Chenna, Jason R. King, Bidhan A. Shinkre, Amanda Glover, Aaron L. Lucius and Sadanandan E. Velu, Synthesis and structure activity relationship studies of novel *Staphylococcus aureus* Sortase A inhibitors, *European Journal of Medicinal Chemistry*, 45, 3572 – 3761 (2010). PubMed PMID: 20541848, PubMed PMCID: PMC4346195, DOI: 10.1016/j.ejmech.2010.05.024.
35. Wei Wang, Elizabeth R. Rayburn, Sadanandan E. Velu, Deng Chen, Dwayaja H. Nadkarni, Srinivasan Murugesan, Dongquan Chen, and Ruiwen Zhang, A novel synthetic iminoquinone, BA-TPQ, as an anti-breast cancer agent: *in vitro* and *in vivo* activity and mechanisms of action, *Breast Cancer Research and Treatment*, 123, 321 – 331(2010). PubMed PMID: 19936915, PubMed PMCID: PMC3769174, DOI: 10.1007/s10549-009-0638-0.
34. Scharri J. Ezell, Haibo Li, Hongxia Xu, Xiangrong Zhang, Evrim Gurpinar, Xu Zhang, Elizabeth R. Rayburn, Charnell I. Sommers, Xinyi Yang, Sadanandan E. Velu, Wei Wang and Ruiwen Zhang, Preclinical Pharmacology of BA-TPQ, a Novel Synthetic Iminoquinone Anticancer Agent, *Marine Drugs*, 8, 2129 – 2141 (2010). PubMed PMID: 20714427, PubMed PMCID: PMC2920546, DOI: 10.3390/md8072129.
33. Norbert Schormann, Sadanandan E. Velu, Srinivasan Murugesan, Olga Senkovich, Kiera Walker, Bala C. Chenna, Bidhan Shinkre, Amar Desai, and Debasish Chattopadhyay, Synthesis and characterization of potent inhibitors of *Trypanosoma cruzi* dihydrofolate reductase, *Bioorganic and Medicinal Chemistry*, 18, 4056 – 4066 (2010). PubMed PMID: 20452776, PubMed PMCID: NA, DOI: 10.1016/j.bmc.2010.04.020.
32. Feng Wang, Scharri J. Ezell, Yong Zhang, Wei Wang, Elizabeth R. Rayburn, Dwayaja H. Nadkarni, Srinivasan Murugesan, Sadanandan E. Velu, and Ruiwen Zhang, FBA-TPQ, a novel marine-derived compound as experimental therapy for prostate cancer, *Investigational New Drugs*, 28, 234 – 241 (2010). PubMed PMID: 19274441, PubMed PMCID: NA, DOI: 10.1007/s10637-009-9232-x.
31. Srinivasan Murugesan, Dwayaja H. Nadkarni and Sadanandan E. Velu, A facile synthesis of bispyrroloquinone and bispyrroloiminoquinone ring system of marine alkaloids, *Tetrahedron Letters*, 50, 3074 – 3076 (2009). PubMed PMID: 25698845, PubMed PMCID: PMC4331033, DOI: 10.1016/j.tetlet.2009.04.021.
30. Dwayaja H. Nadkarni, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Srinivasan Murugesan, Sadanandan E. Velu (*Co-corresponding author*), and Ruiwen Zhang, Synthesis and *in vitro* anti-cancer activity of novel 1, 3, 4, 8-tetrahydropyrrolo [4, 3, 2-de]quinolin-8(1H)-one alkaloid analogues, *Medicinal Chemistry*, 5, 227 – 236 (2009). PubMed PMID: 19442212. PubMed PMCID: NA, DOI: 10.2174/157340609788185873.
29. Wei Wang, Sadanandan E. Velu, Dwayaja H. Nadkarni, Srinivasan Murugesan, Elizabeth R. Rayburn, and Ruiwen Zhang, *In vitro* and *in vivo* anti-cancer activity of novel synthetic makaluvamine analogues, *Clinical Cancer Research* 15, 3511 – 3518 (2009). PubMed PMID: 19451594, PubMed PMCID: PMC3769181, DOI: 10.1158/1078-0432.CCR-08-2689.

28. Sebyung Kang, Liyuan Mou, Sadanandan E. Velu, Wayne J. Brouillette, and Peter E. Prevelige Jr., Synthesis of biotin tagged chemical cross-linkers and their applications for mass spectrometry, *Rapid Communications in Mass Spectrometry*, 23, 1719 – 1726 (2009). PubMed PMID: 19412923, PubMed PMCID: PMC2748246, DOI: 10.1002/rcm.4066.
27. Yun J. Lee, Jason R. King, Bala Chandra Chenna, Samuel B. Owens Jr., Jason L. Freeman, Gary M. Gray and Sadanandan E. Velu, Synthesis and the crystal structure of (*E*)-2-(7-(3-(thiophen-2-yl)acrylamido)-2,3-dihydro-5-oxobenzo[e][1,4]oxazepin-1(5H)-yl)ethyl acetate, *Journal of Chemical Crystallography*, 39, 902 – 907 (2009). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
26. Swayamprabha P. Patel, Dwayaja H. Nadkarni, Srinivasan Murugesan, Jason R. King and Sadanandan E. Velu, Azide mediated detosylation of *N*-tosylpyrroloiminoquinones and *N*-tosylindole-4,7-quinones, *Synlett*, 2864 – 2868 (2008). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1055/s-0028-1083570.
25. Hui Liu, Liming Fan, Bidhan Shinkre, Sadanandan E. Velu, Donald Buchsbaum, and Kevin Raisch, Treatment of breast cancer cell line, MCF-7, with a novel topoisomerase II inhibitor, *Cancer Research*, 68, 779 (2008). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
24. Norbert Schormann, Olga Senkovich, K. Walker, D.L. Wright, A.C. Anderson, A. Rosowsky, Subramanian Ananthan, Bidhan Shinkre, Sadanandan E. Velu, Debasish Chattopadhyay, Structure-based approach to pharmacophore identification, *in silico* screening and 3D-QSAR studies for inhibitors of *Trypanosoma cruzi* DHFR function, *Proteins: Structure, Function, and Bioinformatics*, 73, 889 – 901 (2008). PubMed PMID: 18536013, PubMed PMCID: NA, DOI: 10.1002/prot.22115.
23. Bidhan A. Shinkre, Kevin P. Raisch, Liming Fan, Sadanandan E. Velu, Synthesis and Antiproliferative Activity of Benzyl and Phenethyl Analogs of Makaluvamines, *Bioorganic and Medicinal Chemistry*, 16, 2541 – 2549 (2008), PubMed PMID: 18093835, PubMed PMCID: NA, DOI: 10.1016/j.bmc.2007.11.051.
22. Bidhan A. Shinkre, Dwayaja H. Nadkarni, Samuel B. Owens Jr., Gary M. Gray and Sadanandan E. Velu, Synthesis of *E* isomer and crystal structures of *E* & *Z* isomers of 3-(2,5-dimethoxyphenyl)-2-(4-methoxyphenyl)acrylonitrile, *Journal of Chemical Crystallography*, 38, 205 – 209 (2008). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
21. Bala Chandra Chenna, Bidhan A. Shinkre, Shwetha Patel, Samuel B. Owens Jr., Gary M. Gray and Sadanandan E. Velu, Synthesis, separation and crystal structures of *E* and *Z* isomers of 3-(2,5-dimethoxyphenyl)-2-(4-methoxyphenyl)acrylic acid, *Journal of Chemical Crystallography*, 38, 189 – 194 (2008). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
20. Bala Chandra Chenna, Bidhan A. Shinkre, Jason R. King, Aaron L. Lucius, Sthanam V. L. Narayana and Sadanandan E. Velu, Identification of Novel Inhibitors of Bacterial Surface Enzyme *Staphylococcus aureus* Sortase A, *Bioorganic and Medicinal Chemistry Letters*, 18, 380 – 385 (2008). PubMed PMID: 18023345, PubMed PMCID: NA, DOI: 10.1016/j.bmcl.2007.10.051.
19. Sadanandan E. Velu, Liyuan Mou, Chi-Hao Luan, Zhengrong W. Yang, Lawrence J. DeLucas, Christie G. Brouillette, and Wayne J. Brouillette, Antibacterial NAD Synthetase Inhibitors: Amide- and Ether-Linked Tethered Dimers with α -Amino Acid End Groups, *Journal of Medicinal Chemistry*, 50, 2612 – 2621 (2007). PubMed PMID: 17489580, PubMed PMCID: NA, DOI: 10.1021/jm061349l.

18. Bidhan A. Shinkre and Sadanandan E. Velu, Total Synthesis of Secobatzelline B, *Synthetic Communications*, 37, 2399-2409 (2007). PubMed PMID: NA, PubMed PMCID: NA, DOI: org/10.1080/00397910701410954.
17. Bidhan A. Shinkre, Kevin P. Raisch, Liming Fan and Sadanandan E. Velu, Analogs of the marine alkaloid makaluvamines: Synthesis, topoisomerase II inhibition and anticancer activity, *Bioorganic and Medicinal Chemistry Letters*, 17, 2890 – 2893 (2007). PubMed PMID: 17368022, PubMed PMCID: PMC2706148, DOI: 10.1016/j.bmcl.2007.02.065.
16. Sadanandan E. Velu, Chi-Hao Luan, Lawrence J. DeLucas, Christie Brouillette and Wayne J. Brouillette, Tethered Dimer Inhibitors of NAD Synthetase: Parallel Synthesis of an Aryl-Substituted SAR Library, *Journal of Combinatorial Chemistry*, 7, 898 – 904, (2005). PubMed PMID: 16283799, PubMed PMCID: NA, DOI: 10.1021/cc050063j.
15. Wayne J. Brouillette, Saroj N. Bajpai, Shoukath Ali, Sadanandan E. Velu, Venkatram R. Atigadda, Barbara S. Lommer, James B. Finley, Ming Luo and Gillian M. Air, Pyrrolidinobenzoic Acid Inhibitors of Influenza Virus Neuraminidase: Modifications of Essential Pyrrolidinone Ring Substituents, *Bioorganic and Medicinal Chemistry*, 11, 2739 (2003). PubMed PMID: 12788348, PubMed PMCID: NA, DOI: org/10.1016/S0968-0896(03)00271-2.
14. Sadanandan E. Velu, Wayne J. Brouillette, Water Cristofoli, Gabriel Garcia, Christie Brouillette, Milton Pierson, Chi-Hao Luan, Lawrence J. DeLucas, Tethered Dimers as NAD Synthetase Inhibitors with Antibacterial Activity, *Journal of Medicinal Chemistry*, 46, 3371 (2003). PubMed PMID: 12852767, PubMed PMCID: NA, DOI: 10.1021/jm030003x.
13. Karl R. Dieter, Kai Lu and Sadanandan E. Velu, Conjugate addition reactions of α -Aminoalkylcuprates with α,β -Alkenyl-, α,β -Alkynyl-, $\alpha,\beta-\gamma,\delta$ -dienyl Carboxylic Acid Derivatives, Nitriles and Sulfoxides, *Journal of Organic Chemistry*, 65, 8715 (2000). PubMed PMID: 11112594, PubMed PMCID: NA, DOI: 10.1021/jo0056038.
12. Karl R. Dieter, Sadanandan E. Velu and Lois E. Nice, Regioselective control in the reactions of alpha-aminoalkylcuprates with allylic substrates, *Synlett*, 1114 (1997). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1055/s-1997-1544.
11. Karl R. Dieter and Sadanandan E. Velu, (α -Aminoalkyl)cuprates prepared from soluble copper (I) salts: Conjugate additions to alpha, beta-unsaturated carboxylic acid derivatives, *Journal of Organic Chemistry*, 62, 3798 (1997). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1021/jo970443u.
10. Karl R. Dieter, Sadanandan E. Velu and Lois E. Nice, Oxidation of alpha, beta-enones and alkenes with oxone and sodium halides: A convenient laboratory preparation of chlorine and bromine, *Tetrahedron Letters*, 37, 2377 (1996). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1016/0040-4039(96)00295-X.
9. Yvette A. Jackson, Adil. D. Billimoria, Sadanandan E. Velu and Michael P. Cava, Regioselective Amination of indole-4,7-quinones, *Journal of Organic Chemistry*, 60, 3543 – 3545 (1995). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1021/jo00116a049
8. Sadanandan E. Velu, Sasi K. Pillai, Lakshmikantham, M. V., Adil. D. Billimoria, Shane J. Culpepper and Michael P. Cava, Efficient Synthesis of the Marine Alkaloids Makaluvamine D and Discorhabdin C: 4,6,7-trimethoxy indole approach, *Journal of Organic Chemistry*, 60, 1800 – 1805, (1995). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1021/jo00111a043.
7. Sivaraman J. Subramanian, K., Velmurugan D., Subramanian E., and Sadanandan E. Velu, 2-[2-(4-methoxyphenyl)-1-(phenylsulfonyl)vinyl]-3-phenylthioindole, *Acta*

- Crystallographica*, C50, 789 – 791 (1994). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
6. Sivaraman J. Subramanian K., Velmurugan D., Subramanian E., and Sadanandan E. Velu, 2-(3,4-methylenedioxyphenyl) -1- (phenylsulfonyl)vinyl] -3- phenylthioindole, *Acta Crystallographica*, C50, 787 – 789 (1994). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
 5. James P. Parakka, Sadanandan E. Velu and Michael P. Cava, A Novel o-Quinodimethane Tandem Diels-Alder Reaction, *Journal of Organic Chemistry*, 59, 4308 (1994). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1021/jo00094a051.
 4. Sivaraman, J. Subramanian, K., Velmurugan, D., Subramanian, E., and Sadanandan E. Velu, 2-[1-Phenylsulfonyl -2- (3,4,5-trimethoxyphenyl) vinyl] -3- phenylthioindole, *Acta Crystallographica*, C50, 784 – 787 (1994). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
 3. Sadanandan E. Velu, Vedachalam, M. V. and Srinivasan, P. C., 2-Alkyl indoles via Wittig Olefination of Indole-2-aldehyde, *Indian Journal of Chemistry*, 32B, 481 (1993). PubMed PMID: NA, PubMed PMCID: NA, DOI: NA.
 2. Sadanandan E. Velu and Michael P. Cava, Total Synthesis of Damirone A and Damirone B, *Tetrahedron Letters*, 34, 2405 (1993). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1016/S0040-4039(00)60427-6.
 1. Sadanandan E. Velu and Srinivasan, P. C., Synthesis of 2-Alkyl indoles via Sulfones, *Synthesis*, 648 – 650 (1992). PubMed PMID: NA, PubMed PMCID: NA, DOI: 10.1055/s-1992-26188.

Professional Presentations

Talks

53. Sadanandan E. Velu (Presenter), Bacterial Biofilm Inhibitors for the Prevention and Treatment of Tooth Decay, Department of Chemistry, Jackson State University, Jackson, Mississippi, February 14, 2020.
52. Sadanandan E. Velu (Presenter), Targeting voltage-gated sodium channels in neuroendocrine tumors using small molecules, Le Studium Research Consortium Meeting at The Villa Rabelais, University of Tours, France, November 4-8, 2019.
51. Sadanandan E. Velu (Presenter), VGSC blockers with cell invasion inhibitory activity in breast cancer cells, The 70th Southeastern Regional Meeting of the American Chemical Society, Savannah Riverfront Marriot, Savannah, GA, October 20-23, 2019.
50. Sadanandan E. Velu, Osbaldo Lopez-Charcas, Biophysical characterization of new-small molecule blockers of $n\text{NaV}1.5$ channels expressed in breast cancer cells. Research Consortium Meeting at the Inserm UMR1069 – Equipe Nutrition, Croissance et Cancer (N2C), University of Tours, Tours, France, February 18-22, 2019.
49. Sadanandan E. Velu (Presenter), Inhibition of *Streptococcus mutans* Biofilm by the Stilbene Natural Product Piceatannol, The 70th Southeastern Regional Meeting of the American Chemical Society, Augusta Convention Center, Augusta, GA, October 31-November 3, 2018.
48. Sadanandan E. Velu (Presenter), Ongoing Research Projects in Velu Lab, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, October 13, 2018.

47. Sadanandan E. Velu (Presenter), Structure Based Drug Design, Research Consortium Meeting at the Inserm UMR1069 – Equipe Nutrition, Croissance et Cancer (N2C), University of Tours, Tours, France, July 2-6, 2018.
46. Sadanandan E. Velu (Presenter), Drug Discovery Research in Velu Group, Research Consortium Meeting at the Inserm UMR1069 – Equipe Nutrition, Croissance et Cancer (N2C), University of Tours, Tours, France, February 19-24, 2018.
45. Sadanandan E. Velu (Presenter), Structure Based Discovery of Biofilm Inhibitors for Dental Caries Therapy, Department of Chemistry, Oakwood University, Huntsville, AL, November 16, 2017.
44. Sadanandan E. Velu (Presenter), Discovery of Biofilm Inhibitors for Dental Caries Therapy, Department of Chemistry, Sewanee: The University of the South, Sewanee, TN, October 27, 2017.
43. Sadanandan E. Velu (Presenter), Natural product inhibitors of *Streptococcus mutans* cariogenic virulence, The Southeastern Regional Meeting of the American Chemical Society, Charlotte, NC, November 7-11, 2017.
42. Sadanandan E. Velu (Presenter), Development of *S. mutans* Gtf inhibitors for the prevention of dental caries, Bangalore Medical College and Research Institute, Bangalore, India, June 8, 2017.
41. Sadanandan E. Velu (Presenter), Structure Based Discovery of Biofilm Inhibitors for Dental Caries Therapy, Sewanee: The University of the South, Sewanee, TN, October 27, 2017.
40. Sadanandan E. Velu (Presenter), Development of *S. mutans* Gtf inhibitors for the prevention of dental caries, Birmingham Southern College, Birmingham, AL, May 9, 2017.
39. Sadanandan Velu (Presenter), Gtf Inhibitors for the Prevention of Dental Biofilms, Chemistry Annual Retreat, Rivers Rest B&B, Lake Logan Martin, Talladega, Birmingham, AL, October 14, 2017.
38. Sadanandan E. Velu (Presenter), Discovery and development of synthetic tricyclic pyrroloquinone alkaloid analogs for human cancer therapy, International Conference on Industrial Chemistry, New Orleans, LA, June 27-28, 2016.
37. Jeffrey W. McDonald (Presenter) and Sadanandan E. Velu, Agonist Design for Caseinolytic Protease P, UAB Graduate Student Research Days, Hill Student Center, Birmingham, AL, March 10, 2016.
36. Sadanandan Velu (Presenter), *Streptococcus mutans* glucosyl transferase inhibitors for the prevention of dental caries, Joint Southeastern and Southwest Regional meeting of American Chemical Society, Memphis, TN, November 4-7, 2015.
35. Bhavitavya Nijampatnam(Presenter), Hui Wu and Sadanandan E. Velu, Hydroxychalcones as Inhibitors of *Streptococcus mutans* Biofilms, Joint Southeastern and Southwest Regional meeting of American Chemical Society, Memphis, TN, November 4-7, 2015.
34. Shilpa Dutta (Presenter), Sebastien Roger, Katri Selander, Sadanandan E. Velu and Wayne J. Brouillette, nNav1.5 Blockers for Breast Cancer Metastasis Therapy, Joint Southeastern and Southwest Regional meeting of American Chemical Society, Memphis, TN, November 4-7, 2015.
33. Sadanandan Velu (Presenter), *S. mutans* Glucosyltransferase Inhibitors for the Prevention of Dental Biofilms, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
32. Sadanandan Velu (Presenter), Synthesis and Anticancer Activity of Pyrroloiminoquinone Alkaloids and Their Analogs, Birmingham Southern College, Birmingham, AL, April 16, 2015.

31. Bhavitavya Nijampatnam (Presenter), Sadanandan E. Velu and Hui Wu, Inhibitors of *S. mutans* glucosyltransferases for the prevention of dental caries, UAB Graduate Student Research Days, Hill University Center, March 11-12, 2015.
30. Nirzari Gupta (Presenter), Sadanandan E. Velu, Aaron Lucius, Development of Compounds to Dysregulate Proteolysis: A Novel Strategy for Treating *S. aureus* Infections, UAB Graduate Student Research Days, Hill University Center, March 11-12, 2015.
29. Su Xu (Presenter), Sadanandan E. Velu, Srinivasan Murugesan, Thao Nguyen and Dwayaja Nadkarni, Oxidative free radical reaction and its application in natural product synthesis, UAB Graduate Student Research Days, Hill University Center, March 11-12, 2015.
28. Bhavitavya Nijampatnam (Presenter), Thao Nguyen, Qiong Zhang, Hui Wu and Sadanandan E. Velu, Inhibitors of *S. mutans* glucosyltransferases for the prevention of dental caries, 66th Southeastern Regional Meeting of American Chemical Society; Nashville, TN, October 16-19, 2014.
27. Su Xu (Presenter), Srinivasan Murugesan, Judy Hakim, Dwayaja H. Nadkarni and Sadanandan E. Velu, Synthesis of Ellipticine and Isoellipticine via Oxidative Radical Reaction of Cyclohexenone with Aminoisoquinolinediones, 66th Southeastern Regional Meeting of American Chemical Society; Nashville, TN, October 16-19, 2014.
26. Bhavitavya Nijampatnam (Presenter), Thao Nguyen, Qiong Zhang, Hui Wu and Sadanandan E. Velu, New small molecule inhibitors of glycosyltransferases inhibit *Streptococcus mutans* biofilms, UAB Graduate Student Research Days, Hill University Center, March 5, 2014.
25. Su Xu (Presenter), and Sadanandan E. Velu, Total synthesis of ellipticine using Mn(OAc)₃ mediated oxidative free radical cyclization, UAB Graduate Student Research Days, Hill University Center, March 5, 2014.
24. Su Xu (Presenter), Thao Nguyen, Maria C. Vitale, Irene Pomilio and Sadanandan E. Velu, Total synthesis of Calothrixins A and B, UAB Graduate Student Research Days, Hill University Center, February 27, 2013.
23. Shilpa Dutta (Presenter), Sebastien Roger, Sadanandan E. Velu and Wayne J. Brouillette, Voltage Gated Sodium Channels: A Novel Target for Breast Cancer Metastasis Therapy, UAB Graduate Student Research Days, Hill University Center, February 27, 2013.
22. Sadanandan E. Velu (Presenter), Application of SBDD in Small Molecule Drug Discovery, Phi Sigma Biological Honor Society Meeting, Spencer Honors House, November 13, 2012.
21. Debasish Chattopadhyay (Presenter), Sadanandan E. Velu, Subramanian Ananthan and Anderson, A. Rosowsky, Dihydrofolate Reductase thymidylate synthase of *Trypanosoma cruzi* - A potential drug target, Neutron Diffraction Workshop: Third Course on Neutron Scattering Applications in Structural Biology Oak Ridge, TN. June 4-8, 2012.
20. Thao Nguyen (Presenter), Megan McMichael, Norbert Schormann, Debasish Chattopadhyay and Sadanandan Velu, Design, synthesis and evaluation of selective inhibitors TcDHFR as potential therapeutic agents for Chagas' disease, 2nd Annual Lester S. Andrews Graduate Research Symposium, Mississippi State University, MS, May 14-15, 2012.
19. Thao Nguyen (Presenter), Megan McMichael, Norbert Schormann, Debasish Chattopadhyay and Sadanandan Velu, Design, synthesis and evaluation of selective inhibitors TcDHFR as potential therapeutic agents for Chagas' disease, UAB Graduate Student Research Days, Hill University Center, February 22-24, 2012.
18. Sadanandan E. Velu (Presenter), Dwayaja H. Nadkarni, Srinivasan Murugesan, Feng Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Wei Wang, and Ruiwen Zhang, Development of

- Novel Marine Alkaloid Analogs for Breast Cancer Therapy, The 24th Mona Symposium on Natural Products and Medicinal Chemistry, Mona, JAMAICA on January 3-6, 2012.
17. Sadanandan Velu, Sam Ananthan, Andrew Rosowsky and Debasish Chattopadhyay (Presenter), Targeting Folate Metabolic Enzymes for Treatment of Chagas' Disease, Presented at the conference on New Drugs for Neglected Diseases: Medicinal Chemistry in Parasitology held at University of Modena and Reggio Emilia, Italy, on October 5-7, 2011.
 16. Sadanandan E. Velu (Presenter), Computer Aided Rational Drug Discovery, Lecture in the Science Bridge program organized by Department of Biology, Heritage Hall, UAB on August 11, 2011.
 15. Sadanandan E. Velu (Presenter), Structure Based Drug Discovery, Alabama Drug Discovery Alliance Lecture series organized by Center for Clinical and Translational Sciences, Finely Conference Center, UAB on June 23, 2011.
 14. Sadanandan E. Velu (Presenter), Development of Novel Marine Alkaloid Analogs for Breast Cancer Therapy, Department of Organic Chemistry, University of Madras, Guindy Campus, Chennai, India on May 31, 2011.
 13. Megan McMichael (Presenter), Thao Nguyen, Norbert Schorman, Debasish Chattopadhyay and Sadanandan E. Velu, Structure based design of inhibitors of *Trypanosoma cruzi* DHFR, 31st Annual Undergraduate Research Conference, Department of Chemistry, The University of Memphis on February 26, 2011.
 12. Sadanandan E. Velu (Presenter), Dwayaja H. Nadkarni, Srinivasan Murugesan, Feng Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Wei Wang, and Ruiwen Zhang, Title of the Talk: Synthesis and Anticancer Activity of Pyrroloiminoquinone Alkaloids and their Analogs, Southern Research Institute, Birmingham, AL, December 14, 2010.
 11. Thao Nguyen (Presenter), Kiera Walker, Norbert Schorman, Debasish Chattopadhyay, Sadanandan E. Velu, Fragment-based design of inhibitors of *Trypanosoma cruzi* DHFR, UAB Graduate School, Graduate Student Research Days, UAB Hill University Center, February 26, 2010.
 10. Dwayaja Nadkarni (Presenter) and Sadanandan E. Velu, Total Synthesis of Zyzzyanone A, UAB Graduate School, Graduate Student Research Days, UAB Hill University Center, February 26, 2010.
 9. Dwayaja H. Nadkarni, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Srinivasan Murugesan, Ruiwen Zhang and Sadanandan E. Velu (Presenter), Synthesis and Anti-Breast Cancer Activity of Novel Makaluvamine Analogs, Madurai Kamaraj University, Green Chemistry Workshop; Madurai, Tamil Nadu, India., December 16-17, 2009.
 8. Dwayaja H. Nadkarni, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Srinivasan Murugesan, Ruiwen Zhang and Sadanandan E. Velu (Presenter), Synthesis and Anti-Breast Cancer Activity of Novel 1, 3, 4, 8-Tetrahydropyrrolo [4, 3, 2-de]quinolin-8(1H)-one Alkaloid Analogs, Cochin University of Science and Technology (CUSAT). Location: Cochin, Kerala, India, December 18, 2009.
 7. Sadanandan E. Velu (Presenter), Synthesis and Anti-Breast Cancer Activity of Novel 1, 3, 4, 8-Tetrahydropyrrolo [4, 3, 2-de]quinolin-8(1H)-one Alkaloid Analogs, Southeastern Regional Meeting of American Chemical Society, San Juan, Puerto Rico., October 21-24, 2009.
 6. Sadanandan E. Velu (Presenter), Preclinical Development of a Benzylamino Analog of Marine Alkaloid Makaluvamines as a Potential Cancer Therapeutic Agent, Center for Clinical and Translational Sciences, UAB, September 24, 2009.

5. Dwayaja H. Nadkarni (Presenter), Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Srinivasan Murugesan, Ruiwen Zhang and Sadanandan E. Velu, Synthesis and anti-cancer activity of novel 1, 3, 4, 8-tetrahydropyrrolo [4, 3, 2-de]quinolin-8(1H)-one alkaloid analogs, UAB Graduate School; February 26-27, 2009.
4. Balachandra Chenna (Presenter), Aaron L. Lucius, Sthanam V. L. Narayana, Bidhan A. Shinkre and Jason R. King, Sadanandan E. Velu, *Staphylococcus aureus* SrtA - A novel antibacterial target, UAB Graduate School; February 26-27, 2009.
3. Sadanandan E. Velu (Presenter), SrtA - A New therapeutic target for *Staphylococcus aureus*, Southeastern Regional Meeting of American Chemical Society; Nashville, TN., November 12-15, 2008.
2. Sadanandan E. Velu (Presenter), Synthesis and cytotoxic properties of pyrroloiminoquinone alkaloids, Department of Chemistry, Austin Peay State University, Clarksville, TN, April 21, 2006.
1. Amanda Plain (Presenter), Bidhan Shinkre and Sadanandan E. Velu, Synthesis and biological evaluation of simpler analogs of makaluvamine, 26th Annual Undergraduate Research Conference; Department of Chemistry, University of Memphis, TN, February 15, 2006.

Poster Presentations

80. Parmanand Ahirwar, Anna Law, Sonia Nijampatnam, Edwin Rojas, Hui Wu and Sadanandan E. Velu, *Streptococcus mutans* biofilm inhibition by auronones, 2020 Southeastern Undergraduate Research Conference (SURC), Department of Chemistry & Biochemistry, The University of Alabama, Tuscaloosa, AL, January 24 – 25, 2020.
79. Wei Wang, Jianwen Cheng, Jiang-Jiang Qin, Bo Hu, Bhavitavya Nijampatnam, Sadanandan E. Velu, Xin-Rong Yang, Jia Fan, Ruiwen Zhang, Inflammation and oncogene in hepatocellular carcinoma: Clinical relevance and experimental targeted therapy, American Association of Cancer Research National Meeting; Atlanta, GA, March 29 – April 3, 2019.
78. Zeelu Patel (Presenter), Rachael Guenter, Danilea M. Carmona Matos, Yazen Shihab, Jaden Cowan, Jason Whitt, J. Bart Rose, Herbert Chen, Sadanandan Velu and Renata Jaskula-Sztul, Targeting voltage-gated sodium channels in neuroendocrine tumors using small molecule compounds, O'Neal Comprehensive Cancer Center 21st Annual Research Retreat, The Club, Birmingham, AL, October 11, 2019.
77. Paras Ahuja, Rachael Guenter (Presenter), Jaden Cowan, Yazen Shihab, Jason Whitt, Herbert Chen, Sadanandan Velu, Renata Jaskula-Sztul, Inhibiting voltage-gated sodium channel activity in medullary thyroid cancer using small molecule compounds, American Association of Cancer Research National Meeting; Atlanta, GA, March 29 – April 3, 2019.
76. Parmanand Ahirwar, Anna Law, Sonia Nijampatnam, Edwin Rojas, Hui Wu and Sadanandan E. Velu, Biofilm inhibitory activity of Auronones, UAB Fall 19 undergraduate EXPO, Hill Student Center, The University of Alabama at Birmingham, Birmingham, AL, December 3, 2019.
75. Parmanand Ahirwar, Bradley Thigpen, Sonia Nijampatnam, Hui Wu and Sadanandan E. Velu, Small-molecule anti-virulence agents for the prevention of dental biofilms, UAB Fall 19 undergraduate EXPO, Hill Student Center, The University of Alabama at Birmingham, Birmingham, AL, December 3, 2019.

74. Parmanand Ahirwar (Presenter), Hua Zhang, Hui Wu and Sadanandan E. Velu, Aurones as *S. mutans* Gtf Inhibitors for Prevention of Dental Caries, UAB Chemistry Department Annual Research Retreat, Spencer Honors House, UAB, AL, October 4, 2019.
73. Jaden Cowan (Presenter), Mohammad Asif Sherwani, Zohaib Ijaz, Nabiha Yusuf and Sadanandan E. Velu, Marine alkaloid analogs as potential treatments for melanoma, UAB Chemistry Department Annual Research Retreat, Spencer Honors House, UAB, AL, October 4, 2019.
72. Geethika Prasannakumar (Presenter), Ganesh Vannakambadi, Sadanandan E. Velu, *S. mutans* Cnm: A novel antibacterial drug target, UAB Chemistry Department Annual Research Retreat, Spencer Honors House, UAB, AL, October 4, 2019.
71. Edwin Rojas (Presenter), Hui Wu and Sadanandan E. Velu, A novel inhibitor of *Streptococcus mutans* diadenylate cyclase for preventing dental caries, UAB Chemistry Department Annual Research Retreat, Spencer Honors House, UAB, AL, October 4, 2019.
70. Chase Thigpen (Presenter), Jaden Cowan and Sadanandan E. Velu, An alternative synthesis of a nNav1.5 Blocker for biotin tagging, 51st Annual Southeastern Undergraduate Research Conference, University of Tennessee, Martin February 8-9, 2019.
69. Jaden Cowan (Presenter), Shadab Mohammad , Kailash KC, Nabiha Yusuf and Sadanandan E. Velu, Marine Alkaloid Analogs as Potential Treatment Options for Melanoma, The 70th Southeastern Regional Meeting of the American Chemical Society, Augusta Convention Center, Augusta, GA, October 31-November 3, 2018.
68. Geethika Prasannakumar (Presenter), Ganesh Vannakambadi and Sadanandan E. Velu, *S. mutans* Cnm: A novel antibacterial drug target, The 70th Southeastern Regional Meeting of the American Chemical Society, Augusta Convention Center, Augusta, GA, October 31-November 3, 2018.
67. Jaden Cowan (Presenter), Shadab Mohammad , Kailash KC, Nabiha Yusuf and Sadanandan E. Velu, Marine Alkaloid Analogs as Potential Treatment Options for Melanoma, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, October 13, 2018.
66. Geethika Prasannakumar (Presenter), Ganesh Vannakambadi and Sadanandan E. Velu, *S. mutans* Cnm: A novel antibacterial drug target, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, October 13, 2018.
65. Minjee Kim (Presenter) Jeffrey W. McDonald, John E. Miller, Sadanandan E. Velu, A Short Synthesis of Murrayquinone A Using Oxidative Radical Reaction, 50th Annual Southeastern Undergraduate Research Conference, Department of Chemistry and Biochemistry, University of Mississippi, Oxford, Mississippi, February 2-3, 2018.
64. Parvaneh Ahmadvand (Presenter), Bhavitavya Nijampatnam, Hui Wu and Sadanandan E. Velu, *S. mutans* GTF inhibitors for the prevention of dental caries, Chemistry Annual Retreat, Rivers Rest B&B, Lake Logan Martin, Talladega, Birmingham, AL, October 14, 2017.
63. Ashok Subedi (Presenter), Jaskula-Sztul, Renata, Margaret Liu' Sadanandan E. Velu' SSTR2 antibody-drug conjugates for panNET therapy, Chemistry Annual Retreat, Rivers Rest B&B, Lake Logan Martin, Talladega, Birmingham, AL, October 14, 2017.
62. Alyssa Patel (Presenter), Bhavitavya Nijampatnam, Hui Wu and Sadanandan Velu, Anti-Biofilm Properties of Flavonols, Spring Expo, Hill Student Center, UAB, April 13-14, 2017.

61. Alyssa Patel (Presenter), Bhavitavya Nijampatnam, Hui Wu and Sadanandan Velu, Anti-Biofilm Properties of Flavonols, 49th annual Southeastern Undergraduate Research Conference, Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC, January 27-28, 2017.
60. Luke Casals (Presenter), Bhavitavya Nijampatnam, Hui Wu and Sadanandan E. Velu, Biofilm inhibition by polyphenolic inhibitors of *Streptococcus mutans* glucosyl transferases, UAB Spring EXPO, Hill Student Center, Birmingham, AL, April 15, 2016.
59. Ruowen Zheng (Presenter), Bhavitavya Nijampatnam, Hui Wu and Sadanandan E. Velu, Hydroxychalcone inhibitors of *Streptococcus mutans* glucosyl transferases and biofilm, UAB Spring EXPO, Hill Student Center, Birmingham, AL, April 15, 2016.
58. Jeffrey W. McDonald, Aaron Lucius and Sadanandan E. Velu, Novel Exogenous Agonist Design for Caseinolytic Protease P, Joint Southeastern and Southwest Regional meeting of American Chemical Society, Memphis, TN, November 4-7, 2015.
57. Su Xu, Tripti Singh, Santosh K. Katiyar and Sadanandan E. Velu Synthesis and Anti-Melanoma Activity of the Marine Alkaloid Calothrixins, Joint Southeastern and Southwest Regional meeting of American Chemical Society, Memphis, TN, November 4-7, 2015.
56. Bhavitavya Nijampatnam, Thao Nguyen, Qiong Zhang, Hui Wu and Sadanandan E. Velu, *S. mutans* GTF inhibitors for the prevention of dental biofilms, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
55. Su Xu, Tripti Singh, Nirzari Gupta, Santosh K. Katiyar and Sadanandan E. Velu, Synthesis and Biological Evaluation of Calothrixins and its Analogs, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
54. Jeffrey W. McDonald, Aaron Lucius and Sadanandan E. Velu, Novel Exogenous Agonist Design for Caseinolytic Protease P, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
53. Shilpa Dutta, Sebastien Roger, Sadanandan E. Velu, and Wayne J. Brouillette, Voltage Gated Sodium Channels: A Novel Target for Breast Cancer Metastasis Therapy, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
52. Su Xu, Tripti Singh, Nirzari Gupta, Santosh K. Katiyar and Sadanandan E. Velu, Synthesis and Biological Evaluation of Calothrixins and its Analogs, 44th National Organic Chemistry Symposium, University of Maryland, College Park, MD, June 28 to July 2, 2015.
51. Bhavitavya Nijampatnam, Thao Nguyen, Qiong Zhang, Hui Wu and Sadanandan E. Velu, *S. mutans* GTF inhibitors for the prevention of dental biofilm, 250th American Chemical Society National Meeting & Exposition, Boston, MA, August 16 - 20, 2015.
50. Tripti Singh, Su Xu, Sadanandan E. Velu, Santosh K. Katiyar, Calothrixin A, a metabolite from *Calothrix* cyanobacteria, inhibits class I histone deacetylases leading to suppression of cell growth and induction of apoptosis in human melanoma cells, AACR National Annual Meeting 2015, Philadelphia, PA, April 18-22, 2015.
49. M Ryan Smith, Fen Zhou, Praveen Vayalil Kumar, Reena Beggs, Sadanandan Velu, Aimee Landar, Michael Murphy, Metabolic Reprogramming by a Mitochondria-Targeted Electrophile in Breast Cancer Cells, Society for free radical biology and medicine; Seattle, WA, November 19-23, 2014.
48. Hafez Golzarian, Bala Chandra Chenna, Praveen K. Vayalil, Aimee Landar, and Sadanandan E. Velu, Development of Novel Mitochondrially Targeted Electrophiles as Potential Anti-Metastatic Drugs in Breast Cancer Cells, 46th Southeast Undergraduate Research Conference, University of Tennessee, Knoxville, TN, January 30-31, 2014.

47. Aaron Alford, Bala Chandra Chenna, Michael K Longmire, David E. Graves and Sadanandan E. Velu, A New Synthetic Approach to Distamycin A, 46th Southeast Undergraduate Research Conference, University of Tennessee, Knoxville, TN, January 30-31, 2014.
46. Su Xu, Thao Nguyen, Maria Chiara Vitale, Irene Pomilio, Samantha Hastings and Sadanandan E. Velu, Total Synthesis of Calothrixins A and B, 65th Southeastern Regional Meeting of American Chemical Society; Atlanta, GA, November 12-16, 2013.
45. Hafez Golzarian, Balachandra Chenna, Praveen Vayalil, Aimee Landar and Sadanandan E. Velu, Development of Novel Mitochondrially-Targeted Electrophilic Compounds as Potential Anti-Metastatic Drugs in Breast Cancer Cells, 65th Southeastern Regional Meeting of American Chemical Society; Atlanta, GA, November 12-16, 2013.
44. Praveen K. Vayalil, Anne R. Diers, Claudia R. Oliva, Corinne E. Griguer, Douglas R. Hurst, Danny R. Welch, Sadanandan Velu and Aimee Landar, A novel class of drugs to target aberrant breast cancer metabolism and hypoxic responses, Presented at UAB Comprehensive Cancer Center 16th Annual Research Retreat, Sheraton Hotel, downtown Birmingham on November 5th, 2013.
43. Hafez Golzarian, Balachandra Chenna, Praveen Vayalil, Aimee Landar and Sadanandan E. Velu, Development of Novel Mitochondrially-Targeted Electrophilic Compounds as Potential Anti-Metastatic Drugs in Breast Cancer Cells, UAB Summer Research Expo at the Edge of Chaos on July 25, 2013.
42. Thao Nguyen, Megan McMichael, Paul Lee, Tory Saunders, Debasish Chattopadhyay, and Sadanandan Velu, *Trypanosoma cruzi* Dihydrofolate Reductase Inhibitors: A Potential Chagas Disease Treatment, 245th ACS National Meeting, New Orleans, Louisiana, April 7-11, 2013.
41. Shilpa Dutta, Sebastien Roger, Sadanandan E. Velu, Wayne J. Brouillette, Voltage Gated Sodium Channels: A Novel Target for Breast Cancer Metastasis Therapy, 245th ACS National Meeting, New Orleans, Louisiana, April April 7-11, 2013.
40. Michael K. Longmire, Balachandra Chenna, Sadanandan E. Velu, and David E. Graves, Novel Total Synthesis of the Anticancer Antibiotic, Distamycin A, Southeastern Regional Meeting of American Chemical Society, Raleigh, NC., November 14-17, 2012.
39. Tory Saunders, Paul Lee, Thao Nguyen, Megan McMichael, Sadanandan E. Velu, Debasish Chattopadhyay, Structural and Functional Analysis of *Trypanosoma cruzi* Dihydrofolate Reductase and Thymidylate Synthase, The fifth annual UAB Expo, UAB campus recreation center, April 20, 2012.
38. Erin A. Hornsby, Balachandra Chenna, Emily D. Salman, Charles N. Falany and Sadanandan E. Velu, SULTs: A Novel Target for the Discovery of Chemotherapeutic Agents for Glioblastoma, The fifth annual UAB Expo, UAB campus recreation center, April 20, 2012.
37. Thao Nguyen, Torry Saunders, Paul Lee, Sadanandan Velu and Debasish Chattopadhyay, Inhibitors of Dihydrofolate Reductase Thymidylate Synthase Enzyme of *Trypanosoma cruzi*, Global Health through Research: 22nd Annual Molecular Parasitology / Vector Biology Symposium, University of Georgia, Athens, GA on May 1st, 2012.
36. Erin A. Hornsby, Balachandra Chenna, Emily D. Salman, Charles N. Falany and Sadanandan E. Velu, Development of selective sulfation activated chemotherapeutic agents for Glioblastoma, 44th Annual Southeastern Undergraduate Research Conference (SURC), Mississippi State University, MS, April 12, 2012,
35. David M. Bedwell, Dan Wang, Srinivasan Murugesan, Sadanandan E. Velu, Ellen Welch, Marla Weetal, Stuart Peltz, and Kim M. Keeling, Coordinate NMD inhibition and PTC

- suppression enhances the therapeutic response to PTC suppression, Lysosomal Disease Network World Symposium, San Diego, CA, on February 8 - 10, 2012.
34. Thao Nguyen, Norbert Schormann, Debasish Chattopadhyay and Sadanandan Velu, Design, synthesis and evaluation of selective inhibitors *TcDHFR* as potential therapeutic agents for Chagas' disease, Southeastern Regional Meeting of American Chemical Society; Nashville, TN., November 12-15, 2011.
 33. Sadanandan E. Velu, Balachandra Chenna, Jason R. King, Aaron L. Lucius and Sthanam V. L. Narayana, *Staphylococcus aureus* Sortase A inhibitors: Potential antibacterial agents that target virulence, Drug Discovery Chemistry Conference, Cambridge Health Institute; San Diego, CA; April 27-29, 2010.
 32. Aida Moran, Bala Chandra Chenna, Norbert Schormann, Debasish Chattopadhyay and Sadanandan Velu, Synthesis of inhibitors of *Trypanosoma cruzi* dihydrofolate reductase, Exposition of Undergraduate Scholarship, University of Alabama at Birmingham; April 23, 2010.
 31. Balachandra Chenna, Aaron L. Lucius, Sthanam V. L. Narayana and Sadanandan E. Velu, A novel therapeutic target for *Staphylococcus aureus*, First Southeast Enzyme Conference held at Georgia State University, Atlanta, GA; April 10, 2010.
 30. Dwayaja H. Nadkarni, Srinivasan Murugesan, Bidhan A. Shinkre, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, William Waud, Ruiwen Zhang, and Sadanandan Velu, Synthesis and Anti- Breast Cancer Activity of Novel Marine Natural Product Analogs, Alabama Drug Discovery Alliance Annual Symposium; University of Alabama at Birmingham; May 21, 2010.
 29. Dwayaja H. Nadkarni, Srinivasan Murugesan, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, and Ruiwen Zhang and Sadanandan E. Velu, Synthesis and Anti- Breast Cancer Activity of Novel Makaluvamine Analogs, Center for Clinical and Translational Sciences Annual Scientific Symposium; UAB, October 01, 2009.
 28. Rashidra Walker and Sadanandan E. Velu, *Staphylococcus aureus* SrtA inhibitors: Synthesis and characterization of a hydrophobic isobutyloxy derivative, Undergraduate Summer Research Exposition; UAB, July 17, 2009.
 27. Dwayaja H. Nadkarni, Feng Wang, Wei Wang, Elizabeth R. Rayburn, Scharri J. Ezell, Srinivasan Murugesan, Sadanandan E. Velu, and Ruiwen Zhang, Synthesis and anti-cancer activity of novel 1, 3, 4, 8-tetrahydropyrrolo [4, 3, 2-de]quinolin-8(1H)-one alkaloid analogs, American Association of Cancer Research National Meeting; Denver, CO, April 18-22, 2009.
 26. Wei Wang, Elizabeth R. Rayburn, Sadanandan E. Velu, and Ruiwen Zhang, Anti-cancer activity of novel synthetic makaluvamine analogs in the in vitro and in vivo breast cancer models, American Association of Cancer Research National Meeting; Denver, CO., April 18-22, 2009.
 25. Balachandra Chenna, Yun Lee, and Sadanandan E. Velu, *Staphylococcus aureus* SrtA inhibitors: Synthesis and characterization of a bis(2-hydroxyethyl)amino derivative, Southeastern Regional Meeting of American Chemical Society; Nashville, TN., November 12-15, 2008.
 24. Sadanandan E. Velu, Dennis Cai, Kim Do, Norbert Schormann and Debasish Chattopadhyay, Fragment based design of inhibitors of *Trypanosoma cruzi* dihydrofolate reductase, Southeastern Regional Meeting of American Chemical Society, Nashville, TN, November 12-15, 2008.

23. Hui Liu, Liming Fan, Bidhan A. Shinkre, Sadanandan E. Velu, Donald J. Buchsbaum, Kevin P. Raisch, Treatment of breast cancer cell line, MCF-7, with a novel topoisomerase II inhibitor, American Association of Cancer Research National Meeting. San Diego, CA, April 11-16, 2008.
22. Bala Chandra Chenna, Jason R. King, Aaron L. Lucius, Sthanam V. L. Narayana and Sadanandan E. Velu, Discovery of *Staphylococcus aureus* Sortase A Inhibitors by *In-Silico* Virtual Screening, Southeastern Regional Meeting of American Chemical Society, Greenville, SC; October 24-27, 2007.
21. Sadanandan E. Velu, Aaron L. Lucius, Sthanam V. L. Narayana, Bala Chandra Chenna, Bidhan A. Shinkre and Jason R. King, Identification of *Staphylococcus aureus* Sortase A Inhibitors by *In-Silico* Virtual Screening, International Conference on the Chemistry of Antibiotics (ICCA-X); Vanderbilt University, Nashville, TN; August 12-15, 2007.
20. Swayamprabha Patel, Jason King and Sadanandan E. Velu, Azide mediated detosylation of N-Tosylindole-4,7-quinones and N-Tosylpyrroloiminoquinones, National Organic Symposium, Duke University, Durham, NC; June 3-7, 2007.
19. Sadanandan E. Velu, Bidhan A. Shinkre, Olga Senkovich, Amar Desai and Debasish Chattopadhyay, Inhibitors of *Trypanosoma cruzi* DHFR: Potential Chemotherapeutic Agents for Chagas Disease, American Chemical Society National Meeting; Chicago, IL; March 25-29, 2007.
18. Sadanandan E. Velu, Amanda L. Glover, Dwayaja H. Nadkarni, David E. Graves, Synthesis and biological evaluation of novel acridine based topoisomerase I poisons, Alabama Academy of Sciences, Tuskegee University, Tuskegee, AL; Feb 28 – March 2, 2007.
17. Dwayaja Nadkarni, Bidhan A. Shinkre, Amanda L. Glover, David E. Graves and Sadanandan E. Velu, Synthesis of Novel Acridine Based Topoisomerase I Poisons, Southeastern Regional Meeting of American Chemical Society (SERMACS); Augusta, GA; Nov 1-4, 2006.
16. Amanda L. Glover, David E. Graves and Sadanandan E. Velu, Synthesis of novel acridine based topoisomerase I poisons, REU Research Day, UAB, August 10, 2006.
15. Shweta Patel and Sadanandan E. Velu, Synthesis of Inhibitors of Sortase A, Regional Science Fair, UAB, March 11, 2006
14. Ashley Cockrell and Sadanandan E. Velu, Synthesis of Makaluvamine Analogs, Regional Science Fair, UAB; March 11, 2006.
13. Amanda Plain and Sadanandan E. Velu, Synthesis of Simpler analogs of Makaluvamines, REU Research Day; UAB, Birmingham, AL; August 5, 2005.
12. Jason Downey, Narayana Sthanam, and Sadanandan E. Velu, Synthesis of Inhibitors of Sortase A, REU Research Day, UAB, Birmingham, AL, August 5, 2005.
11. Amanda Plain, Bidhan Shinkre and Sadanandan E. Velu, Synthesis and Biological Evaluation of Simpler analogs of Makaluvamines, American Chemical Society Regional Meeting, University of Memphis, Memphis, TN, November 11, 2005.
10. Wayne J. Brouillette, Liyuan Mou, Sadanandan E. Velu, Christie G. Brouillette, Chi-Hao Luan, Lawrence J. DeLucas, Design, parallel synthesis and SAR for tethered dimer inhibitors of NAD synthetase, American Chemical Society Regional Meeting, San Diego, CA; March 13, 2005.
9. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Chi-Hao Luan and Lawrence J. DeLucas, Inhibitors of NAD Synthetase: Identification of the Optimum Linker Length for Tethered Dimers, National meeting of American Chemical Society, Anaheim, CA; March 27-31, 2004.

8. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Chi-Hao Luan and Lawrence J. DeLucas, Inhibitors of Bacterial NAD Synthetase: Tethered Dimers Containing Substituted Aryl Groups, National meeting of American Chemical Society, New York, NY; September 7-11, 2003.
7. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Chi-Hao Luan and Lawrence J. DeLucas, Inhibitors of NAD synthetase: Tethered dimers containing quaternary ammonium amino acids, National meeting of American Chemical Society, Boston, MA; Aug 18-22, 2002.
6. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Milton Pierson and Lawrence J. DeLucas, Design, synthesis and biological activity of a new class of tethered dimers as inhibitors of NAD synthetase, National meeting of American Chemical Society; Chicago, IL; Aug 20-26, 2001.
5. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Milton Pierson and Lawrence J. DeLucas, Parallel Synthesis of NAD Synthetase inhibitors as new antibacterial agents, National meeting of American Chemical Society, Washington DC; Aug 20-26, 2000.
4. Wayne J. Brouillette, Sadanandan E. Velu, Christie Brouillette, Milton Pierson and Lawrence J. DeLucas, Synthesis of NAD Synthetase inhibitors as potential antibacterial agents, National meeting of American Chemical Society, New Orleans, LA, Aug 22-26, 1999.
3. Sadanandan E. Velu and Karl R. Dieter, Reactions of alpha - aminoalkyl cuprates, Southeastern regional meeting of American Chemical Society, Greenville, SC, Nov. 15, 1996.
2. Lois E. Nice, Sadanandan E. Velu and Karl R. Dieter, Oxidation of organic compounds with oxone in the presence of NaCl or NaBr, Southeastern regional meeting of American Chemical Society; Greenville, SC; Nov. 15, 1996.
1. Lois E. Nice, Sadanandan E. Velu and Karl R. Dieter, Oxidation of alpha, beta-enones with oxone and NaCl, Southeastern regional meeting of American Chemical Society; Memphis, TN; May 1995.

Patents Issued:

6. **US Patent No: US9872868B2**: *Mitochondrially-Targeted Electrophilic Compounds and Methods of Use for the Treatment of Cancer*, Aimee Landar and Sadanandan E. Velu, Date of issue: January 23, 2018.
5. **US Patent No: US6861448**: *NAD synthetase inhibitors and uses thereof*, Wayne J. Brouillette, Lawrence J. DeLucas, Christie Brouillette, Sadanandan E. Velu, Yong-Chul Kim, Liyuan Mou and Stephen R. Porter, Date of issue: March 01, 2005.
4. **European Patent No: EP1578898**: *NAD synthetase inhibitors and uses thereof*, Wayne J. Brouillette; Lawrence J. DeLucas; Christie G. Brouillette; Sadanandan E. Velu, Yong-Chul Kim, Liyuan Mou and Stephen R. Porter - (Virtual Drug Development, Inc.; The UAB Research Foundation), Date of issue: September 01 2005.
3. **US Patent No: US6727237**: *Inhibitors of bacterial NAD synthetase*, Wayne J. Brouillette; Donald Muccio; Mark J. Jedrzejcas; Christie G. Brouillette; Yancho Devedjiev; Walter Cristofoli; Lawrence J. DeLucas; Gabriel Garcia; Laurent Schmitt; Sadanandan E. Velu, Date of issue: April 27, 2004.
2. **US Patent No: US6500852B1**: *Inhibitors of bacterial NAD synthetase*, Wayne J. Brouillette, Donald Muccio, Mark J. Jedrzejcas, Christie Brouillette, Yancho Devedjiev, Walter Cristofoli,

Lawrence J. DeLucas, Gabriel Garcia, Laurent Schmitt and Sadanandan E. Velu, Date of issue: Dec 31, 2002.

1. **European Patent No: EP1109805:** *Inhibitors of bacterial NAD synthetase*, Wayne J. Brouillette, Donald Muccio, Mark J. Jedrzejewski, Christie Brouillette, Yancho Devedjiev, Walter Cristofoli, Lawrence J. DeLucas, Gabriel Garcia, Laurent Schmitt and Sadanandan E. Velu, (The UAB Research Foundation), June 01 2001.

Research Support:

- NIH/NIDCR, 1F30DE030334-01: Streptococcus Mutans Diadenylate Cyclase: A Promising Target for Preventing Dental Caries, Sadanandan E. Velu (Sponsor and Mentor), Hui Wu (Co-mentor) and Edwin Rojas (Graduate Student), \$289,109, 09/01/2020 – 08/31/2024.
- NIH/NCI, R25CA244092: Youth Enjoy Science Research Education Program, Roadmap for America's Cancer Explorers for the 21st Century (RACE²¹), Michael Wyss (PI), Sadanandan E. Velu (Co-investigator), \$ 2,611,940, 07/01/2020 – 06/30/2025.
- NIH/NIDCR, 5T90DE022736-07: NIDCR Training Grant - Dental Academic Research Training Program (DART), Amjad Javed (PI), Project: Targeting bacterial surface protein V-folds for biofilm inhibitor design, Sadanandan E. Velu (Sponsor and Mentor), Champion Deivanayagam (Co-mentor), Owen Garrett (Graduate Student). \$33,000/year, 07/01/2020 – 06/30/2022.
- UAB OCCC Pre-R01 Research Investment Program, Inhibition of medullary thyroid cancer invasiveness by targeting voltage-gated sodium channels, Sadanandan E. Velu (MPI) Jaskula-Sztul (Contact-MPI), \$ 160,000, 09/01/2020 – 08/31/2022.
- NIH/NIDCR, 1R21DE028349 – 01: Hydrogel encapsulated biofilm inhibitors for dental caries prevention and treatment, Sadanandan E. Velu (PI), \$ 395,571, 05/01/2019 – 04/30/2021.
- NIH/NCI, 1R21CA226491-01A1: Somatostatin receptor 2 (SSTR2) antibody-drug conjugate for PanNET therapy, Sadanandan E. Velu (Multi-PI), \$389,605, 02/01/2020 – 01/31/2022.
- NIH/NIDCR, R01DE028329: Bacterial Secondary Messenger Mediated Virulence in Streptococcus mutans, Hui Wu (PI), Sadanandan E. Velu (Co-investigator), \$1856,250, 02/01/2019 – 01/31/2024.
- NIH/NIDCR, R01DE022350-05: Small Molecule Inhibitors of Cariogenic Biofilms, Hui Wu (PI), Sadanandan E. Velu (Co-investigator), \$1,782,211, 07/11/2018 – 03/30/2023.
- NIH/NIDCR, 5T90DE022736-07: NIDCR Training Grant - Dental Academic Research Training Program (DART), Hui Wu (PI), Project: Streptococcus Mutans Diadenylate Cyclase: A Promising Target for Preventing Dental Caries, Sadanandan E. Velu (Sponsor and Mentor), Edwin Rojas (Graduate Student). \$33,000/year, 07/01/2018 – 06/30/2022.
- NSF/DMR: Acquisition of an Atomic Force Microscope for Materials Research and Education, Eugenia Kharlampieva (PI), Sadanandan E. Velu (Co-investigator), \$314912. 10/01/2018 – 09/30/2020.
- 1-8/HEC/HRD/2018/8929 Higher Education Commission of Pakistan, IRSIP: International Research Support Initiative Program, Sadanandan E. Velu (Sponsor and Mentor), Graduate Student-Sadaf, \$13573, 02/25/2019 – 08/24/2019.

- NIH/NIDCR, 1F31DE025783-01A1: Polyphenolic inhibitors of *S. mutans* glucosyltransferases to fight dental caries, Sadanandan E. Velu (Mentor), Hui Wu (Co-mentor) and Sonia Nijampatnam (Graduate Student), \$76,790, 4/01/16 – 3/31/18.
- NIH/NIDCR, 5T90DE022736: NIDCR Training Grant - Dental Academic Research Training Program (DART), Hui Wu (PI), Project: Polyphenolic inhibitors of *S. mutans* glucosyltransferases to fight dental caries, Sadanandan E. Velu (Sponsor and Mentor), Sonia Nijampatnam (Graduate Student). \$33,000/year, 07/01/2014 – 06/30/2016.
- Le Studium Research Consortium (French Grant), Y17C3: Pharmacological and nutritional targeting of voltage-gated sodium channels in the treatment of epithelial cancers, Sadanandan E. Velu (Partner-3), (PI-Rogers), 24000 Euros, 01/02/2018 – 01/01/2020.
- UAB Surgery/BME Pilot Grant: SSTR-3 and GIP-1 antibody-drug conjugates (ADCs) for pancreatic neuroendocrine tumor therapy Sadanandan E. Velu (Co-PI), (PI-Jaskula-Sztul), \$ 20,000, 04/01/2017 – 03/31/2018.
- UAB CCC Faculty Development Grant Somatostatin receptor 2 antibody-drug conjugates for pancreatic neuroendocrine tumor therapy, Sadanandan E. Velu (Co-PI) (PI-Jaskula-Sztul), \$ 50,000, 08/01/2017 – 07/31/2018.
- NIH/NIDCR, 1R03DE025058-0: *S. mutans* GTF - a novel target for dental caries prevention, Sadanandan Velu (PI), \$220500, 4/1/2015 – 3/31/2017.
- Susan G. Komen for the Cure (KG110409), no cost extension: Gli1 in the development and persistence of micrometastases of breast cancer, Sadanandan Velu (Co-PI), (PI-Frost), \$160,000, 8/18/2014 – 8/17/2015.
- College of Arts and Sciences Interdisciplinary Grants: Development of Novel Mitochondrially-Targeted Electrophilic Compounds as Potential Anti-Metastatic Drugs in Breast Cancer Cells, Sadanandan Velu (PI), Aimee Landar (PI), \$30,000, 02/01/2013-01/31/2014.
- American Cancer Society-Institutional Research Grants: Structural basis for Fas-mediated apoptosis, Sadanandan Velu (Co-PI), (PI-Saad), \$40,000, 12/01/2012 – 11/30/2013.
- Arnold and Mabel Beckman Foundation, Beckman Scholars Program Award for Undergraduate Research, Sadanandan Velu (Co-PI), PI (PI-Sloane), \$155,800, 5/15/2012 – 05/15/2015.
- University of Pennsylvania: Improved Therapies for MPS-I: Investigating Suppression Therapy to Treat MPS I-H, Sadanandan Velu (Co-PI), (PI-Bedwell), \$200,000, 4/1/2011 – 3/31/2013.
- American Heart Association (0865323E), Inhibition of Sortase A in *Staphylococcus aureus* – A: Novel Antibacterial Target, Sadanandan Velu (PI), \$132,000, 07/01/2008 – 06/30/11.
- NIH (1S10RR026478-01); Microcal Auto-ITC200; Automated High Sensitivity Isothermal Titration Calorimetry, Sadanandan Velu (Co-Inv), (PI-Brouilltte), \$ 250,000, 11/20-2009 – 11/19/2010.
- American Heart Association (0855076E), Designing inhibitors of *Trypanosoma cruzi* DHFR for treatment of Chagas' disease, Sadanandan Velu (Co-PI), PI (Chattopadhyay), \$175,000, 07/01/2008 – 06/30/10.
- Center for Clinical and Translational Sciences, Intramural, Preclinical development of a benzylamino analog of marine alkaloid makaluvamines as a potential cancer therapeutic agent, Sadanandan Velu (PI), \$80,000, 11/01/2007 – 10/31/2009.

- Comprehensive Cancer Center, CPDG, Development of novel marine alkaloid analogs for breast cancer therapy, Sadanandan Velu (PI), \$75000, 12/01/2008 – 11/30/2009.
- Alabama Drug Discovery Alliance, Development of novel natural product analogues for cancer therapy, Sadanandan Velu (PI), \$100,000, 10/01/2008 to 9/30/2010.
- Faculty Development Grant, Development of novel acridine based topoisomerase I poisons as new chemotherapeutic agents for cancer, Sadanandan Velu (PI), \$10,000, 6/1/2005 – 10/31/2006.
- Breast Spore Pilot Grant, Synthesis and evaluation of pyrroloiminoquinone alkaloid analogs as potential therapeutic agents for breast cancer, Sadanandan Velu (PI), \$50,000, 11/06/2004 – 11/05/2005.
- NIH/NIAID, R21 A1053821, Identification of Subunit Interfaces in Protein Complexes, Sadanandan Velu (Co-PI), (PI-Prevelige) \$85,491, 9/30/02 – 8/31/04.
- DOD/VDDI The development of a Novel Pharmaceutical for Anthrax, Sadanandan Velu (Co-PI), (PI-DeLucas), \$179,239, 8/1/03 – 7/31/04.

Collaborators:

- Dr. Hui Wu, PhD, School of Dentistry, Oregon Health Science University
- Dr. Suzanne Michalek, PhD, Department of Microbiology, School of Medicine, UAB
- Dr. Renata Jaskula-Sztul, PhD, Department of Surgery, School of Medicine, UAB
- Dr. Rajeev Samant, PhD, Department of Pathology, School of Medicine, UAB
- Dr. Aaron Lucius, PhD, Department of Chemistry, School of Medicine, UAB
- Dr. Wayne J. Brouillette, PhD, Department of Chemistry, UAB
- Dr. David M Bedwell, Department of Microbiology, School of Medicine, UAB
- Dr. Champion Deivanayagam, PhD, Dept of Biochemistry and Molecular Genetics. UAB
- Dr. Nabih Yusuf, Department of Dermatology, School of Medicine, UAB

Students Mentored:

Graduate Students

Sonia Nijampatnam	PhD	2017
Shilpa Dutta	PhD	2016
Thao Nguyen	PhD	2014
Bala Chandra Chenna	PhD	2013
Dwayaja Nadkarni	PhD	2011
Geethika Prasannakumar	MS	2020
Parvaneh Ahmadvand	MS	2018
Jeffrey McDonald	MS	2017
Su Xu	MS	2015
Shilpa Dutta	MS	2012
Thao Nguyen	MS	2012
Bala Chandra Chenna	MS	2012
Travis Hicks	MS	2011
Sam Tanner	MS	2010
Dwayaja Nadkarni	MS	2009

Postdoctoral Students

- Dr. Bidhan Shinkre (2005-2007), moved to Dr. William C. Trenkle's medicinal chemistry laboratory at NIDDK/NIH and currently working as Scientific Manager in Syngene International.
- Dr. Srinivasan Murugesan (2007-2010), currently working as Research Scientist in Syngene International.
- Dr. Syam Gandavaram (2008-2009), currently working as R & D Manager, Syn-Finechem Laboratories.

Research Assistants

- Mr. Jeremy Clark (2011-2012).

Current Graduate Students (PhD)

Piyasuda Pukkanasut	PhD	2019 to present
Parmanand Ahirwar	PhD	2018 to present
Owen Garret	PhD	2018 to present
Edwin Rojas	PhD	2017 to present
Jaden Cowan	PhD	2017 to present

Undergraduate Research Students (Honor's Thesis)

Luke Casals	Honors Research Thesis (CH499)	2017
Alyssa Patel	Honors Research Thesis (BY498)	2017
Hafez Golzarian	Honors Research Thesis (CH499)	2014
Irene Pomilio	Honors Research Thesis (CH499)	2013
Maria Chiara Vitale	Honors Research Thesis (CH499)	2013
Erin Hornsby	Honors Research Thesis (CH499)	2013
Aida Moran	Honors Research Thesis (BY498)	2010
Jason King	Honors Research Thesis (CH499)	2007
Amanda Plain	Honors Research Thesis (CH499)	2006

Undergraduate Research Students

Bradley Thigpen	Senior Research (CH497)	2019
Anna Catherine Law	Senior Research (CH497)	2018
Tristan Boling	Senior Research (Volunteered)	2018
Ashley Hester	Senior Research (Volunteered)	2018
Chase Thigpen	Senior Research (CH497)	2018 – 2019
Steffanny A Sarmiento	Senior Research (CH497)	2017
Minjee Kim	Senior Research (CH497)	2016
Palmer Gilliland	Senior Research (BY398)	2016
Metta Smith	Senior Research (CH497)	2016
John Miller	Senior Research (CH497)	2016
Alyssa Patel	Senior Research (CH497)	2016
Archit Patel	Senior Research (CH497)	2016
Jamie Lin	Senior Research (CH497)	2015
Rouwen Zheng	Senior Research (CH497)	2015
Katie Falkner	Senior Research (CH497)	2015

John Bradford	Senior Research (CH497)	2015
Luke Casals	Senior Research (CH497)	2015
Jesse Aquino	Senior Research (CH497)	2014
Kevin Varghese	Independent Research (CH297)	2014
Jordan Boston	Senior Research (CH497)	2014
Doyinsola Aluko	Senior Research (CH497)	2014
Stephen Voss	Senior Research (CH497)	2014
Shane Thompson	Senior Research (CH497)	2013
Aaron Alford	Senior Research (CH497)	2013
Holly Womack	Senior Research (CH497)	2013
Hafez Golzarian	Senior Research (CH497)	2013
Erin Hornsby	Senior Research (CH497)	2011 – 2013
Judi Hakim	Senior Research (CH497)	2012 – 2013
Kyle Parden	Senior Research (CH497)	2012 – 2013
Irene Pomilio	Senior Research (CH497)	2012
Maria Chiara Vitale	Senior Research (CH497)	2012
Leslie Williams	Senior Research (CH497)	2012
Muhammed Shamim	Senior Research (CH497)	2011 – 2012
Megan McMichael	Senior Research (CH497)	2010 – 2011
Chang Zou	Senior Research (CH497)	2009
Carolyn Cochran	Senior Research (BY398)	2009
Jeong-Hwa Seo	Senior Research (BY398)	2009
Aida Moran	Senior Research (CH497)	2009
Mitchell Best	Independent Research (CH297)	2008
Dennis Cai	Senior Research (CH497)	2008
Kym Do	Independent Research (CH297)	2008
Yun Lee	Senior Research (CH497)	2008
Mohammed Rehman	Senior Research (CH497)	2008
Erica Johnson	Senior Research (CH497)	2007
Jason King	Senior Research (CH497)	2007
Cheryl Dejournette	Senior Research (CH497)	2007
Allison Abbot	Senior Research (CH497)	2007
Lois Hernandez	Senior Research (CH497)	2007
Lynsey Jenkins	Senior Research (CH497)	2006
Swayamprabha Patel	Senior Research (CH497)	2006 – 2007
Amanda Glover	Senior Research (CH497)	2006 – 2007
Jason Downey	REU Program	2005
Amanda Plain	Senior Research (CH497)	2005

High School Research Students

Ashley Cockrell	High School	Fall 05
Shwetha Patel	High School	Fall 05