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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**
2020 – Present	**Co-Director, Cancer Biology Undergraduate Program at UAB**
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
2011 – Present	Faculty, Graduate Biomedical Sciences (GBS) at UAB
2004 – Present	Graduate Faculty, University of Alabama at Birmingham
2021 – Present	Senior Scientist, Global Center for Craniofacial Oral and Dental Disorders (GC-CODED), UAB, Birmingham, AL
2020 – Present	Senior Scientist, UWIRC Microbiome Center, UAB, Birmingham, AL
2008 – Present	Associate Scientist, O'Neal Comprehensive Cancer Center, UAB
2008 – Present	Scientist, 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:** Medicinal Chemistry & Drug Discovery (CH–771), Natural Product Chemistry (CH–772), Organic Reactions and Synthesis (CH–732), Foundations of Organic and Inorganic Chemistry (CH–701), and Modern Drug Design and Development (IBS–708). **Undergraduate Courses:** Medicinal Chemistry & Drug Discovery (CH–471), 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 postdocs, 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:

2024	**Fellow, National Academy of Inventors (NAI):** The NAI was founded to recognize and encourage inventors with U.S. patents, enhance the visibility of academic technology and innovation, encourage the disclosure of intellectual property, educate and mentor innovative students, and to create wider public understanding of how its members' inventions benefit society. Currently, there are over 4,600 individual members, including Fellows, Senior Members, and Chapter Members, affiliated with more than 260 institutions worldwide.
2006	**National Award for Excellence in Teaching:** Organic Chemistry–I (CH235) 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
2023 – Present	Chair, Faculty Affairs Committee, Department of Chemistry
2023 – 2025	UAB College of Arts and Sciences Promotion & Tenure Committee
2019 – 2021	UAB College of Arts and Sciences Faculty Affairs Committee
2024	Member, Department of Chemistry Chair Search Committee
2023	Chair of the NTE Organic Faculty Search Committee
2023	Chair of the Radiochemistry Faculty Search Committee
2022	Chair of the Radiochemistry Faculty Search Committee
2020	Chair of the Radiochemistry Faculty Search Committee
2019	Chair of the Radiochemistry Faculty Search Committee

2018 – 2020	Chair, Safety Committee, UAB Department of Chemistry
2018 – Present	Research Consortium with Inserm UMR1069 – Equipe Nutrition, Croissance et Cancer (N_2C), University of Tours, Tours, France
2018 – 2020	Executive Committee Member, UAB Department of Chemistry
2022	Judge, The 27th Hinman Dental Student Research Symposium
2023	Judge, UAB 2023 School of Dentistry Scholars Day Symposium
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 Universita 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	Served in the Science-Bridge Program, UAB Department of Biology
2011 – Present	Served in the Chem Scholar Program, UAB Department of Chemistry
2010	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:

Councilor (alternate): Alabama ACS local section, Term ends 12/31/2027.

Presided Symposium: Co-chaired a symposium on Medicinal Chemistry and Natural Products in Drug Discovery, 10/24/24, 1:30 – 5:10pm Bldg-2 Hall 204C, Southeastern Regional Meeting of American Chemical Society, Atlanta, GA.

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, 200 W Kawili St, Hilo, HI 96720.

- Reviewed professorship promotion dossier for Department of Chemistry, College of Science and Mathematics, Augusta University, 1120 15th St, Augusta, GA 30912.

Guest Editor: Marine Drugs (Impact Factor: 5.40), published by Molecular Diversity Preservation International (MDPI), Switzerland.

- Marine-derived compounds applied to 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: 5.40), published by Molecular Diversity Preservation International (MDPI), Switzerland.
- Organic Chemistry: Current Research, OMICS Publishing Group,5716 Corsa Ave, Suite110, Westlake, Los Angeles, CA 91362-7354, USA.

Grant Reviewer:

- **2026 January** 2026/01 ZRG1 DCAI-Z (14) B Small Business: Anti-infective therapeutics, diagnostic immunology, and decontamination research grants.
- **2025 July** Peer review panel for UK Research and Innovation (UKRI) New Investigator Research Grants (NIRG) on 08/06/2025.
- **2025** NSF SBIR/STTR Phase I: Drug Discovery panel on 09/30/2025
- **2025** Florida Department of Health Ed and Ethel Moore Alzheimer's Disease Research Program 25-26 on 12/04/2025.
- **2024 October** Peer review panel for CDMRP 2024 Parkinsons Research Program (24PRP) of the Congressionally Directed Medical Research Program.
- **2024 July** NIH/NIDCR fellowship applications in the ZDE1 JC (18) Special Emphasis Panel (SEP).
- **2024 July** Peer review panel for CDMRP 2024 Breast Cancer Research Program (24BCRP) of the Congressionally Directed Medical Research Program.
- **2023 February** NIH/NIAID, Special Emphasis Panel/Scientific Review Group 2023/05 ZAI1 PG-M (M1): RFA-AI-22-028: Partnerships for the Development of Novel Therapeutics to Combat Select Antibiotic Resistant Bacteria and Fungi (R01).
- **2022 October** NIH/NCI, SEP-5: Clinical and Translational Cancer Research panel reviewing R21/R03 grants focused on the development of novel therapeutics for Breast cancer.
- **2022 February** NIH/NCI, NCI Special Emphasis Panel review of SEP-5: NCI Clinical and Translational Cancer Research (PAR20-292 for R21s and PAR20-052 for R03s) focusing on topics in Breast Cancer.
- **2021 October** NIH/NCI, NCI Special Emphasis Panel review, SEP5: NCI Clinical and Translational Cancer Research (PAR20-292 for R21s and PAR20-052 for R03s) focusing on topics in Breast cancer.
- **2021 June** NIH/NCI, Special Emphasis Panel review (ZCA1 SRB-F O2 S): NCI Clinical and Translational R21/R03 Review meeting (PAR20-292 for R21s and PAR20-052 for R03s) focusing on topics in Breast and Ovarian cancer.

- **2021 Feb** NIH/NCI, Special Emphasis Panel review of SEP-5: NCI Clinical and Translational R21 and Omnibus R03 Review (PAR20-292 for R21s and PAR20-052 for R03s) focusing on topics in Breast and Ovarian cancer.
- **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.
- **2022** Florida Department of Health Biomedical Research Program 22-23
- **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.

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:

2024	Judge, UAB 2024 O'Neal Comprehensive Cancer Center Retreat
2024	Judge, UAB 2023 School of Dentistry Scholars Day Symposium
2023	Judge, UAB 2023 School of Dentistry Scholars Day Symposium
2022	Judge, The 27th Hinman Dental Student Research Symposium, College of Dentistry Bioscience Research Department, University of Tennessee Health Science Center, Memphis, TN.
2016	Judge, Senior Research Symposium, Alabama School of Fine Arts Mathematics and Science Department.

Professional Societies and Honors:

2021 – 2023.	Senior Scientist, UWIRC Microbiome Center, UAB.
2021 – Present	Senior Scientist, Global Center for Craniofacial Oral and Dental Disorders (GC-CODED), UAB.
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.
2023 – Present	Member, American Association of Dental Oral and Craniofacial Research.
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 different types of 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 neuroendocrine tumor metastasis.
- 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.
- Antibacterial drug discovery: Development of inhibitors of *Staphylococcus aureus* Sortase-A as a novel approach for the treatment of infectious diseases. Development of inhibitors of 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.

- 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

95. Edwin M. Rojas, Abhishek Govindan, Parvathy Babu, Soniya Joseph, Hua Zhang, Tyrese Boddie, HuiTing Lee, Hui Wu, and Sadanandan E. Velu, Coumarins target *Streptococcus mutans* diadenylate cyclase to disrupt c-di-AMP-mediated biofilm formation, *ACS Infectious Diseases* (2025), Revision submitted.
94. Manikandan Palani, Soniya Joseph, Abhishek Govindan and Sadanandan E. Velu, Thiazination of indole-1,4-quinone and its application in the total synthesis of 1,4-thiazinopyrroloquinone alkaloid macrophilone E, *ACS Journal of Organic Chemistry* (2025), Under revision.
93. B. Owen Garrett, Parvathy Babu, Bhavitavya Nijampatnam, Abhishek Govindan, Sangeetha Purushotham, Norbert Schormann, Gregory Harber, Suzanne M. Michalek, Hui Wu, Champion Deivanayagam, and Sadanandan E. Velu. Targeting *S. mutans* AgI/II to inhibit interkingdom biofilm with *C. albicans*, AADOCR *Journal of Dental Research* (2025), Submitted.
92. Yuhao Cai, Yu Wen, Xiaoyan Ma, *Eman Nada*, Sadanandan E. Velu, Ursula Wesselmann, Chao Zhao, Nerve Blocking Agent without Systemic Toxicity, *Nature* (2025), Submitted.
91. Piyasuda Pukkanasut, Shilpa Dutta, Jason Whitt, Parvathy Babu, Osbaldo Lopez-Charcas, Tonantzin Guadalupe Anguheven-Ledezma, Juan Carlos Gomora, Renata Jaskula-Sztul and Sadanandan E. Velu, Design, synthesis and evaluation of voltage-gated sodium channel blockers with anti-invasive activities in medullary thyroid cancer, *ACS Medicinal Chemistry Letters* (2025), 16: 766-775, PubMed PMID: 40365421, PubMed PMCID: PMC12067137, DOI: 10.1021/acsmedchemlett.4c00576.
90. Parmanand Ahirwar, Veronika Kozlovskaya, Piyasuda Pukkanasut, Pavel Nikishau, Sarah Nealy, Gregory Harber, Suzanne M. Michalek, Linto Antony, Hui Wu, Eugenia Kharlampieva and Sadanandan E. Velu, Polymer vesicles for the delivery of inhibitors of cariogenic biofilm, *Dental Materials*, (2024), 40:1937-1953, PubMed PMID: 39317560, PubMed PMCID: PMC11580801, DOI: 10.1016/j.dental.2024.09.006.
89. Piyasuda Pukkanasut, Renata Jaskula-Sztul, Juan Carlos Gomora, and Sadanandan E. Velu, Therapeutic Targeting of Voltage-gated Sodium Channel NaV1.7 for Cancer Metastasis, *Frontiers in Pharmacology* (2024), 15: 1416705, PubMed PMID: 39045054, PubMed PMCID: PMC11263763, DOI: 10.3389/fphar.2024.1416705.
88. Osbaldo Lopez-Charcas, Oumnia Benouna, Roxane Lemoine, Zazil Herrera-Carrillo, Margarita Jacaranda Rosendo-Pineda, Miguel Ramírez-Aragon, Tonantzin Guadalupe Anguheven-Ledezma, Ana Alfaro, Stephanie Chadet, Fabio Ferro, Pierre Besson, Lin-Hua Jiang, Sadanandan E. Velu, Sebastien Roger and Juan Carlos Gomora, Gossypol's Blocking Mechanism on Ca_V3 Calcium Channels and Induction of G_0/G_1 Cell Cycle Arrest in Colon Cancer Cells, *British Journal of Pharmacology* (2024), 181: 4546-4570. PubMed PMID: 39081110, PubMed PMCID: PMC11613961, DOI: 10.1111/bph.16497.
87. Edwin M. Rojas, Hua Zhang, Sadanandan E. Velu, and Hui Wu, Tetracyclic homoisoflavanoid (+)-brazilin: A new inhibitor of c-di-AMP production by *Streptococcus*

mutans, Microbiology Spectrum (2024), 12 (5): e0241823, PubMed PMID: 38591917**,** PubMed PMCID: PMC11064632, DOI: 10.1128/spectrum.02418-23.

86. Parmanand Ahirwar, Veronika Kozlovskaya, Bhavitavya Nijampatnam, Edwin M. Rojas, Piyasuda Pukkanasut, Daniel Inman, Maksim Dolmat, Anna C. Law, Norbert Schormann, Champion Deivanayagam, Gregory J. Harber, Suzanne M. Michalek, Hui Wu, Eugenia Kharlampieva and Sadanandan E. Velu, Hydrogel encapsulated biofilm inhibitors abrogate the cariogenic activity of *Streptococcus mutans*, *Journal of Medicinal Chemistry* (2023), *66*, 7909-7925, PubMed PMID: 37285134, PubMed PMCID: PMC11188996, DOI: 10.1021/acs.jmedchem.3c00272.
85. Piyasuda Pukkanasut, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Margarita Jacaranda Rosendo-Pineda, Juan Carlos Gomora, Herbert Chen, Diana Lin, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, Voltage-gated Sodium Channel $Na_V1.7$ Inhibitors with Potent Anticancer Activities in Medullary Thyroid Cancer Cells, *Cancers* (2023), 15(10), 2806, PubMed PMCID: PMC10216335, PubMed PMID: 37345144, DOI: 10.3390/cancers15102806.
84. Osbaldo Lopez-Charcas, Lucile Poisson, Oumnia Benouna, Roxane Lemoine, Stéphanie Chadet, Adrien Pétereau, Widad Lahlou, Serge Guyétant, Mehdi Ouaissi, Piyasuda Pukkanasut, Shilpa Dutta, Sadanandan E Velu, Pierre Besson, Driffa Moussata, and Sébastien Roger, Voltage-Gated Sodium Channel $Na_V1.5$ Controls NHE-1-Dependent Invasive Properties in Colon Cancer Cells, *Cancers* (2022), 15: 46, PubMed PMID: 36612049, PubMed PMCID: PMC9817685, DOI: 10.3390/cancers15010046.
83. James Ross Terrell, Sijia Tang, Oluwafoyinsola Omobodunde Faniyi, In Ho Jeong, Jun Yin, Bhavitavya Nijampatnam, Sadanandan E. Velu, Wei Wang, Ruiwen Zhang and Ming Luo, Structural studies of antitumor compounds that target the RING domain of MDM2, *Protein Science* (2022), 31: e4367, PubMed PMID: PMID: 35900024 , PubMed PMCID: PMC9301682, DOI: 10.1002/pro.4367.
82. Cuijuan Han, Alireza Khodadadi-Jamayran, Adam H. Lorch, Qi Jin, Valentina Serafin, Ping Zhu, Yuliya Politanska, Limin Sun, Blanca T. Gutierrez-Diaz, Marina V. Pryzhkova, Hiam Abdala-Valencia, Elizabeth Thomas Bartom, Barbara Buldini, Giuseppe Basso, Sadanandan E. Velu, Kavitha Sarma, Basil B. Mattamana, Byoung-Kyu Cho, Rebecca C. Obeng, Young Ah Goo, Philip W. Jordan, Aristotelis Tsirigos, Yalu Zhou, Panagiotis Ntziachristos, SF3B1 homeostasis is critical for survival and therapeutic response in T cell leukemia, *Science Advances* (2022), 8: eabj8357, PubMed PMID: 35061527, PubMed PMCID: PMC8782448, DOI: 10.1126/sciadv.abj8357.
81. Zekiye Ceren Arituluk, Jesse Horne, Bishnu Adhikari, Jeffrey Steltzner, Shomit Mansur, Parmanand Ahirwar, Sadanandan E. Velu, Nora E. Gray, Lukasz M. Ciesla and Yuping Bao, Identification of TrkB Binders from Complex Matrices Using a Magnetic Drug Screening Nanoplatform, *ACS Appl. Bio Mater*. (2021), 4: 6244–6255, DOI: 10.1021/acsabm.1c00552.
80. Chandni Desai, Jon Thomason, Jordan Kohlmeyer, Anna Reisetter, Parmanand Ahirwar, Khadijeh Jahanseir, Mariah Leidinger, Georgina Ofori-Amanfo, Karen Fritchie, Sadanandan E. Velu, Patrick Breheny, Dawn Quelle, and Munir Tanas, Prognostic and therapeutic value of the Hippo pathway, RABL6A, and p53-MDM2 axes in sarcomas, Submitted to *Oncotarget*, 12: 740-755 (2021), PubMed PMID: 33889298, PubMed PMCID: PMC8057271, DOI: 10.18632/oncotarget.27928.

79. Michiel van Gent, Adrian Reich, Sadanandan E. Velu, and Michaela U. Gack, Nonsense-mediated decay controls the reactivation of the oncogenic herpesviruses EBV and KSHV, *Plos Biology*, 19(2): e3001097 (2021), PubMed PMID: 33596193, PubMed PMCID: PMC7888593, DOI: 10.1371/journal.pbio.3001097.
78. Osbaldo Lopez-Charcas, Piyasuda Pukkanasut, Sadanandan E. Velu, William J. Brackenbury, Tim G. Hales, Pierre Besson, Juan Carlos Gomora, Sébastien Roger, Pharmacological and nutritional targeting of voltage-gated sodium channels in the treatment of cancers, *iScience*, 24: 102270 (2021), PubMed PMID: 33817575, PubMed PMCID: PMC8010468, DOI: 10.1016/j.isci.2021.102270.
77. Bhavitavya Nijampatnam, Parmanand Ahirwar, Piyasuda Pukkanasut, Holly Womack, Luke Casals, Hua Zhang, Xia Cai, Suzanne M. Michalek, Hui Wu, and Sadanandan E. Velu, Discovery of Potent Inhibitors of *Streptococcus mutans* Biofilm with Antivirulence Activity, *ACS Medicinal Chemistry Letters*, 12 (1): 48–55 (2021), PubMed PMID: 33488963, PubMed PMCID: PMC7812604, DOI: 10.1021/acsmedchemlett.0c00373.
76. Zviadi Aburjania, Jason D Whitt, Samuel Jang, Dwayaja H Nadkarni, Herbert Chen, J Bart Rose, Sadanandan E Velu (*Co-corresponding author*) and Renata Jaskula-Sztul, Synthetic Makaluvamine Analogs Decrease c-Kit Expression and Are Cytotoxic to Neuroendocrine Tumor Cells, *Molecules*, 25 (21): 4940 (2020), PubMed PMID: 33114525; PubMed PMCID: PMC7663375. DOI: 10.3390/molecules25214940.
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.
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Professional Presentations
Talks

36. Sadanandan E. Velu (Talk), *Delivery of inhibitors of Streptococcus mutans cariogenic biofilms using polymer vesicles*, Southeastern Regional Meeting of American Chemical Society, Orlando, FL. October 26, 2025.
35. Sadanandan E. Velu (Talk), *Hydrogel-encapsulated biofilm inhibitors to reduce Streptococcus mutans cariogenic virulence and prevent dental plaque*, Southeastern Regional Meeting of American Chemical Society, Atlanta, GA. October 24, 2024.
34. Sadanandan E. Velu (Talk), *Small molecule targeting of Streptococcus mutans AgI/II to inhibit dual-species biofilm with Candida albicans*, Southeastern Regional Meeting of American Chemical Society, Durham, NC. October 27, 2023.
33. Sadanandan E. Velu (Talk), *Structure-based approaches to inhibit Streptococcus mutans cariogenic virulence*, Southeastern Regional Meeting of American Chemical Society, San Juan, Puerto Rico. October 19, 2022.
32. Sadanandan E. Velu (Talk), *Analysis of the impact of novel biofilm inhibitors on the oral microbiome in an experimental rat model*, 2022 UAB Microbiome Symposium, Birmingham, AL. January 10, 2022.
31. 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.
30. Sadanandan E. Velu (Presenter), *Ongoing Research Projects in Velu Lab, UAB Chemistry Department*, Annual Research Retreat, Zoom Virtual Meeting, UAB, AL, October 30, 2020.
29. 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.
28. 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.

27. 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.
26. Sadanandan E. Velu (Presenter), *Ongoing Research Projects in Velu Lab*, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, October 13, 2018.
25. 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.
24. 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.
23. Sadanandan E. Velu (Presenter), *Structure Based Discovery of Biofilm Inhibitors for Dental Caries Therapy*, Department of Chemistry, Oakwood University, Huntsville, AL, November 16, 2017.
22. 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.
21. 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.
20. 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.
19. 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.
18. Sadanandan E. Velu (Presenter), *Development of S. mutans Gtf inhibitors for the prevention of dental caries*, Birmingham Southern College, Birmingham, AL, May 9, 2017.
17. 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.
16. 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.
15. 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.
14. Sadanandan Velu (Presenter), *S. mutans Glucosyltransferase Inhibitors for the Prevention of Dental Biofilms*, Chemistry Annual Retreat, Riverchase Country Club, Birmingham, AL, August 21, 2015.
13. Sadanandan Velu (Presenter), *Synthesis and Anticancer Activity of Pyrroloiminoquinone Alkaloids and Their Analogs*, Birmingham Southern College, Birmingham, AL, April 16, 2015.
12. Sadanandan E. Velu (Presenter), *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.

11. Sadanandan E. Velu (Presenter), *Application of SBDD in Small Molecule Drug Discovery*, Phi Sigma Biological Honor Society Meeting, Spencer Honors House, November 13, 2012.
10. 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.
9. 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.
8. 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.
7. Sadanandan E. Velu (Presenter), *Synthesis and Anticancer Activity of Pyrroloiminoquinone Alkaloids and their Analogs*, Southern Research Institute, Birmingham, AL, December 14, 2010.
6. 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.
5. 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), Cochin, Kerala, India, December 18, 2009.
4. 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.
3. 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.
2. 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.
1. Sadanandan E. Velu (Presenter), *Synthesis and cytotoxic properties of pyrroloiminoquinone alkaloids*, Department of Chemistry, Austin Peay State University, Clarksville, TN, April 21, 2006.

Student Talks

40. B. Owen Garrett (Talk), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, A synthetic library targeting *Streptococcus mutans* AgI/II and *Candida albicans,* IADR/AADOCR/CADR 54th Annual Meeting, New York, NY, March 14, 2025
39. Edwin M. Rojas (Presenter, Finalist), Hua Zhang, Sadanandan E. Velu, and Hui Wu, "Evaluation of STL372167 against *Streptococcus mutans* diadenylate cyclase," Hatton Competition Session, 2024 IADR/AADOCR/CADR Annual Meeting, New Orleans, LA, United States, March 11-16, 2024.
38. B. Owen Garrett (Presenter), Champion Deivanayagam, and Sadanandan E. Velu, *Small-molecule targeting of AgI/II of Streptococcus mutans inhibits biofilm formation,* In-person poster presentation, *J. Dent. Res.* 103 (Special Issue A): 2294, New Orleans, Louisiana, March 16, 2024.

37. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, *A synthetic library targeting the interaction between Streptococcus mutans and Candida albicans,* In-person oral presentation, BMG Annual Retreat, Birmingham, Alabama, July 10, 2024.
36. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Smal molecule targeting of AgI/II of Streptococcus mutans inhibits biofilm formation*. *J. Dent. Res. 102* (Special Issue A): 1335, Portland, Oregon, March 18, 2023.
35. Piyasuda Pukkanasut (presenter), Shilpa Dutta, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Flash talk: Can We Stop Cancer from Being a Death Sentence?* 2023 Chemistry Graduate Recruitment Event, Birmingham, AL, Nov 17th, 2023.
34. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Brazilin from Caesalpinia sappan targets Streptococcus mutans diadenylate cyclase*, In-person oral presentation, Predoctoral Basic Sciences Category, 18th UAB School of Dentistry Scholars Symposium, Birmingham, AL on March 2, 2023.
33. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic Homoisoflavanoid EMR-B Targets Streptococcus mutans Diadenylate Cyclase, An Essential Enzyme Involved in Biofilm Formation*, In-person oral presentation, 27th Hinman Student Research Symposium, The University of Tennessee Health Science Center and College of Dentistry, Memphis, TN, October 28-30, 2022.
32. Piyasuda Pukkanasut (Presenter), Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Juan Carlos Gómora Martínez, Chen Herbert, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Targeting Voltage-Gated Sodium Channels in Medullary Thyroid Cancer Using Small Molecules*, 91st Annual Meeting of the American Thyroid Association (ATA), Montreal, Quebec, Canada, October 19-23, 2022, Highlighted poster (virtual 5 min oral presentation and 3 min abstract presentation).
31. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic homoisoflavanoids from Caesalpinia sappan selectively inhibit Streptococcus mutans biofilms*, Virtual Oral Presentation, Pharmacology/Therapeutics/Toxicology I Session, 2022 American Association of Dental, Oral and Craniofacial Research (AADOCR)/Canadian Association of Dental Research (CADR) Annual Meeting, Atlanta, GA, March 21-26, 2022.
30. Piyasuda Pukkanasut (Presenter) and Sadanandan E. Velu, 3MT Talk: *Constraining cancer: Could a voltage-gated sodium channel inhibitor prevent medullary thyroid cancer metastasis*? UAB Chemistry Department Annual Research Retreat, Birmingham, Alabama November 12, 2022.
29. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic homoisoflavanoids from Caesalpinia sappan selectively inhibit Streptococcus mutans biofilms*, Virtual oral presentation, Student Competition for Advancing Dental Research and its Application (SCADA) Competition by Dentsply Sirona Inc., AADOCR / CADR Annual Meeting, Atlanta, GA, March 17, 2022.
28. Parmanand Ahirwar (Presenter), Sadanandan E. Velu, *No chain, no pain: a non-violent war against dental caries*, Three-minute thesis presentation. In-person 3MT presentation, UAB Department of Chemistry Annual Retreat, Birmingham, Alabama. November 12, 2022.
27. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic homoisoflavanoids from Caesalpinia sappan inhibit Streptococcus mutans biofilms*, Virtual

Oral Presentation, Predoctoral Basic Sciences, 17th School of Dentistry Scholars Symposium, The University of Alabama at Birmingham, Birmingham, AL, April 7, 2022.

26. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic homoisoflavanoid (EMR-B) from Caesalpinia sappan inhibits Streptococcus mutans biofilms*, Virtual Oral Presentation, Microbiome Symposium, Heersink School of Medicine, The University of Alabama at Birmingham, Birmingham, AL, January 10, 2022.
25. Edwin Rojas (Presenter) and Sadanandan E. Velu, *A novel inhibitor of Streptococcus mutans diadenylate cyclase for preventing oral biofilms*, 16th UAB School of Dentistry Scholars Symposium (Virtual), March 5, 2021, 1st Place Oral Presentation, Predoctoral Basic Sciences, invited as a finalist to the Student Competition for Advancing Dental Research and its Application (SCADA) event at the AADOCR / CADR Annual Meeting & Exhibition, Atlanta, GA. March 21-26, 2022.
24. Edwin Rojas (Presenter) and Sadanandan E. Velu, Oral Presentation, *Antimicrobial Strategies, Properties & Therapies II: Promising therapeutic agents selectively inhibit Streptococcus mutans biofilms*, IADR / AADR / CADR General Session Conference (Virtual), July 21-24, 2021.
23. Osbaldo Lopez-Charcas (Presenter) and Sadanandan E. Velu, *Biophysical characterization of new-small molecule blockers of nNa$_V$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.
22. 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.
21. 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.
20. 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.
19. 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.
18. Nirzari Gupta (Presenter), Aaron Lucius, Sadanandan E. Velu, *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.
17. 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.
16. 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.
15. 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.

14. 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.
13. 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.
12. 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.
11. 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.
10. 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.
9. 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.
8. 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.
7. Debasish Chattopadhyay (Presenter), Sadanandan Velu, Sam Ananthan, and Andrew Rosowsky, *Targeting Folate Metabolic Enzymes for Treatment of Chagas' Disease*, 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.
6. 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, February 26, 2011.
5. 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.
4. 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.
3. 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.

2. 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.
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

132. Sadanandan E. Velu, Structure-based design of inhibitors of *Streptococcus mutans* cariogenic virulence, IADR/AADOCR/CADR 54th Annual Meeting, New York, NY, March 14, 2025.
131. Abhishek Govindan, B Owen Garrett, Norbert Schormann, Champion Deivanayagam, Hui Wu, and Sadanandan E. Velu, Peptide hybrids for the prevention of early childhood caries, IADR/AADOCR/CADR 54th Annual Meeting, New York, NY, March 14, 2025.
130. Abhishek Govindan, B Owen Garrett, Norbert Schormann, Champion Deivanayagam, Hui Wu, and Sadanandan E. Velu, Peptide hybrids for the prevention of early childhood caries (ECC), presented at iSB Inaugural Symposium, University of Alabama at Birmingham, Birmingham, AL, June 13, 2025.
129. B Owen Garrett, Norbert Schormann, Champion Deivanayagam, Hui Wu, and Sadanandan E. Velu, A synthetic library targeting *Streptococcus mutans* AgI/II and *Candida albicans,* iSB Inaugural Symposium, University of Alabama at Birmingham, Birmingham, AL, June 13, 2025.
128. Parvathy Babu, Oviya Uthamarayan, Norbert Schormann, Champion Deivanayagam, Hui Wu, and Sadanandan E. Velu. Dual-acting hybrid molecules to inhibit cariogenic biofilm and deliver fluoride. Poster Presentation, IADR/AADOCR/CADR 54th Annual Meeting, New York, NY, March 14, 2025.
127. Oviya Uthamarayan (Presenter), Parvathy Babu, Norbert Schormann, Champion Deivanayagam, Hui Wu, Zezhang Wen, and Sadanandan E. Velu, Small molecules to inhibit GtfB activity in dental caries-causing *Streptococcus mutans*, IADR/AADOCR/CADR 54th Annual Meeting, New York, NY, March 14, 2025.
126. Edwin M. Rojas (Winner), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Evaluation of STL372167 against Streptococcus mutans diadenylate cyclase*, 1st Place Poster Competition: Scientific/Clinical Research, Academy of General Dentistry (AGD) Annual Meeting, Minneapolis, MN, United States, July 17-20, 2024.
125. Edwin M. Rojas (Finalist), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Evaluation of STL372167 against Streptococcus mutans diadenylate cyclase*, Poster Presentation, SCADA Competition Session, 2024 IADR/AADOCR/CADR Annual Meeting, New Orleans, LA, United States, March 11-16, 2024.
124. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, "Evaluation of STL372167 against *Streptococcus mutans* diadenylate cyclase," Poster Presentation, Predoctoral Basic Sciences, 19th UAB School of Dentistry Scholars Symposium, February 29, 2024.
123. B. Owen Garrett (Presenter), Champion Deivanayagam, and Sadanandan E. Velu, *Small-molecule targeting of AgI/II of Streptococcus mutans inhibits biofilm formation,* In-person

poster presentation, *J. Dent. Res.* 103 (Special Issue A): 2294, New Orleans, Louisiana, March 16, 2024.

122. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, *Inhibitor design and synthesis aimed at disrupting the early childhood caries (ECC) potential of S. mutans and C. albicans symbiosis*, In-person poster presentation, Department of Chemistry Retreat, Birmingham, Alabama, August 24, 2024.
121. B. Owen Garrett (Presenter), Champion Deivanayagam, and Sadanandan E. Velu, *Inhibitor design and synthesis aimed at disrupting the early childhood caries potential of s. mutans - c. albicans symbiosis,* In-person poster presentation, Abstracts of Papers, ACS Spring 2024, New Orleans, LA, United States, March 20, 2024.
120. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, *A synthetic library targeting Streptococcus mutans AgI/II and Candida albicans*, In-person poster presentation, 19th Annual Scholars Symposium, Birmingham, Alabama, February 29, 2024.
119. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, *A synthetic library targeting the interaction between Streptococcus mutans and Candida albicans,* In-person oral presentation, BMG Annual Retreat, Birmingham, Alabama, July 10, 2024.
118. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu, *Inhibitor design and synthesis aimed at disrupting the early childhood caries (ECC) potential of S. mutans and C. albicans symbiosis*, In-person poster presentation, Department of Chemistry Retreat, Birmingham, Alabama, August 24, 2024.
117. Piyasuda Pukkanasut (presenter), Shilpa Dutta, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu. *Small Molecule Targeting Voltage-Gated Sodium Channels Reduces Metastasis in a Medullary Thyroid Cancer Mouse Model*, In-person poster presentation, Annual Meeting of the American Thyroid Association (ATA), Chicago, IL, October 30, 2024.
116. Piyasuda Pukkanasut (presenter), Shilpa Dutta, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Herbert Chen, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu. *From Pain Relief to Cancer Control*, 3 Min thesis, 2024 Chemistry Retreat, UAB Chemistry, Birmingham, AL, August 24, 2024.
115. Piyasuda Pukkanasut (presenter), Shilpa Dutta, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Herbert Chen, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu. *Inhibition of Voltage-Gated Sodium Channels by Small Molecules Prevent Metastasis in Medullary Thyroid Cancer Mouse Model*, In-person poster presentation, 2024 OCCC Annual Research Retreat, UAB O'Neal Comprehensive Cancer Center, Birmingham, AL, October 18, 2024.
113. Parmanand Ahirwar (Presenter), Edwin Rojas, Piyasuda Pukkanasut, Hui Wu, Sadanandan E. Velu, *Dental Caries Prevention by Small Molecule S. mutans Biofilm Inhibitors*. In-person oral presentation at the American Association of Dental, Oral and Craniofacial Research (AADOCR) Annual Meeting held at Portland, OR on March 18, 2023.
112. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Brazilin from Caesalpinia sappan targets Streptococcus mutans diadenylate cyclase*, In-person oral presentation, UAB Department of Chemistry Annual Retreat, Birmingham, AL on

November 16, 2023.

111. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, Brazilin from *Caesalpinia sappan* targets *Streptococcus mutans* diadenylate cyclase, In-person oral presentation, Pharmacology/Therapeutics/Toxicology I Session, 2023 AADOCR/CADR Annual Meeting and Exhibition, Portland, OR on March 14, 2023.
110. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Small molecule targeting of AgI/II of Streptococcus mutans inhibits biofilm formation*. J. Dent. Res. 102 (Special Issue A): 1335, In-person oral presentation at the Dental, Oral and Craniofacial Research (AADOCR) Annual Meeting held at Portland, OR on March 18, 2023.
109. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Small molecule targeting of AgI/II of Streptococcus mutans inhibits biofilm formation*. In-person oral presentation at the 18th Annual Scholars Symposium, Birmingham, AL on March 2, 2023.
108. Piyasuda Pukkanasut (presenter), Shilpa Dutta, Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Design, Synthesis and Evaluation of Voltage-gated Sodium Channel Inhibitors to Prevent Neuroendocrine Tumor Metastasis*. UAB O'Neal Comprehensive Cancer Center, 2023 OCCC Annual Research Retreat, Regions Field, Birmingham, Alabama**,** October 13, 2023.
107. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Disruption of Streptococcus mutans Antigen I/II and Candida albicans by small molecules*. *BMG Annual Retreat*, Birmingham, Alabama, October 2, 2023.
106. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, Small molecule targeting of AgI/II of *Streptococcus mutans* inhibits biofilm formation. *18th Annual Scholars Symposium*, Birmingham, Alabama, March 2, 2023.
105. B. Owen Garrett (Presenter), Manisha Patel, Norbert Schormann, Champion Deivanayagam, and Sadanandan E. Velu*, Inhibitor design and synthesis aimed at disrupting the early childhood caries (ECC) potential of S. mutans and C. albicans symbiosis,* In-person poster presentation, Department of Chemistry Retreat, Birmingham, Alabama, November 16, 2023.
104. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, Inhibitor design for the interkingdom interaction between *Streptococcus mutans* Antigen I/II and *Candida albicans* to prevent early childhood caries. *BMG Annual Retreat*, Birmingham, Alabama, December 14, 2022.
103. Parmanand Ahirwar (Presenter), Edwin M. Rojas, Piyasuda Pukkanasut, Hui Wu, Sadanandan E. Velu, *Biofilm inhibiting hydroxyaurones with in vivo anticariogenic activity against Streptococcus mutans*, In-person Poster presentation, American Chemical Society National Meeting Fall 2022, Chicago, IL. August 21-15, 2022.
102. Piyasuda Pukkanasut (Presenter), Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Targeting Voltage-Gated Sodium Channels in Neuroendocrine Tumors Using Small Molecules,* American Chemical Society National conference, San Diego, CA. March 20-24, 2022.
101. Edwin M. Rojas (Presenter) and Sadanandan E. Velu, *Total synthesis of tetracyclic homoisoflavanoids from the heartwood of Caesalpinia sappan*, Total Synthesis of Complex Molecules Session, Division of Organic Chemistry, 263rd ACS National Meeting & Exposition, San Diego, CA. March 20-24, 2022.

100. Piyasuda Pukkanasut, Midhun Sadanand (Presenter), Jason Whitt, Sadanandan E. Velu, Renata Jaskula-Sztul, *Sodium channel sub-type Nav1.5: A potential drug target for pancreatic neuroendocrine tumors*, In-person Poster presentation, Southeastern Regional Meeting of American Chemical Society, San Juan, Puerto Rico. October 19-22, 2022.
99. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Disruption of Streptococcus mutans - Candida albicans synergy by small molecules*, 12th Annual Southeast Enzyme Conference, Atlanta, GA. April 23, 2022.
98. Piyasuda Pukkanasut (Presenter), Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Juan Carlos Gómora Martínez, Chen Herbert, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Inhibiting Voltage-gated Sodium Channels in Neuroendocrine Tumor with Small Molecules Reduced Cancer Migration and Invasion*, UAB O'Neal Comprehensive Cancer Center Annual Research Retreat, Regions Field, Birmingham, AL. October 27, 2022.
97. B. Owen Garrett (Presenter), Bhavitavya Nijampatnam, Edwin M. Rojas, Champion Deivanayagam, Sadanandan E. Velu, *Targeting Streptococcus mutans - Candida albicans symbiosis to inhibit cariogenic biofilm*, 17th Annual Scholars Symposium, Birmingham, AL. April 7, 2022.
96. B. Owen Garrett (Presenter), Champion Deivanayagam, Sadanandan E. Velu, *Small molecule targeting of AgI/II of Streptococcus mutans inhibits dual species biofilm with Candida albicans*, UAB Department of Chemistry Annual Retreat, Birmingham, AL. November 12, 2022.
95. Piyasuda Pukkanasut (Presenter), Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Juan Carlos Gómora Martínez, Chen Herbert, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Voltage gated sodium channel subtype Nav1.7: A novel drug target for metastatic medullary thyroid cancer*, UAB Department of Chemistry Annual Retreat, Birmingham, AL. November 12, 2022.
94. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic Homoisoflavanoid EMR-B Targets Streptococcus mutans Diadenylate Cyclase*, An Essential Enzyme Involved in Biofilm Formation. In-person Poster Presentation, UAB Department of Chemistry Annual Retreat, Birmingham, AL. November 12, 2022.
93. B. Owen Garrett (Presenter), Bhavitavya Nijampatnam, Edwin M. Rojas, Champion Deivanayagam, Sadanandan E. Velu, *Targeting Streptococcus mutans-Candida albicans symbiosis to inhibit cariogenic biofilm*, 2022 Microbiome Symposium, Birmingham, AL, January 10, 2022.
92. Edwin M. Rojas (Presenter), Hua Zhang, Sadanandan E. Velu, and Hui Wu, *Tetracyclic Homoisoflavanoid EMR-B Targets Streptococcus mutans Diadenylate Cyclase*, An Essential Enzyme Involved in Biofilm Formation, in-person poster presentation, 12th Annual Southeast Enzyme Conference, Georgia State University, Atlanta, GA, April 23, 2022.
91. Parmanand Ahirwar (Presenter), Edwin M. Rojas, Piyasuda Pukkanasut, Hui Wu, Sadanandan E. Velu, *Design, synthesis, and evaluation of novel small molecules as potential therapeutic agents for dental caries prevention*. UAB Department of Chemistry Annual Retreat, Birmingham, AL. November 12, 2022.
90. Parmanand Ahirwar (Presenter), Bhavitavya Nijampatnam, Edwin Rojas, Sadanandan E. Velu, *Aurones as S. mutans Gtf Inhibitors for Prevention of Dental Caries*. 2021

Southeastern Regional Meeting of American Chemical Society, Birmingham, AL. November 11, 2021.

89. Parmanand Ahirwar (Presenter), Edwin Rojas, Piyasuda Pukkanasut, Bhavitavya Nijampatnam, Eugenia Kharlampieva, and Sadanandan E. Velu, *Biofilm Inhibitory Activity of Hydroxy Aurones*, UAB Chemistry Department Annual Research Retreat, Birmingham, Alabama October 23, 2021.
88. Piyasuda Pukkanasut (Presenter), Jason Whitt, Rachael Guenter, Shannon E Lynch, Carlos Gallegos, Anna Sorace, Renata Jaskula-Sztul and Sadanandan E. Velu, *Targeting Voltage-gated sodium channel in medullary thyroid cancer using small molecules*, UAB Chemistry Department Annual Research Retreat, Birmingham, Alabama October 23rd, 2021.
87. Owen Garrett (Presenter), Bhavitavya Nijampatnam, Edwin Rojas, Champion Deivanayagam, Sadanandan E. Velu, *Targeting a Highly Conserved Groove in the AgI/II Family of Proteins to Prevent Dental Caries*, 16th Annual Scholars Symposium, Birmingham, Alabama March 4, 2021.
86. Owen Garrett (Presenter), Bhavitavya Nijampatnam, Edwin Rojas, Champion Deivanayagam, Sadanandan E. Velu, *Targeting Streptococcus mutans-Candida albicans symbiosis to inhibit cariogenic biofilm*, UAB Chemistry Department Annual Research Retreat, Birmingham, Alabama October 23, 2021.
85. Edwin Rojas (Presenter), Hua Zhang, Sadanandan E. Velu and Hui Wu, *Tetracyclic homoisoflavanoids from Caesalpinia sappan selectively inhibit Streptococcus mutans biofilms*, UAB Chemistry Department Annual Research Retreat, Birmingham, Alabama October 23, 2021.
84. Piyasuda Pukkanasut (Presenter), Jaden Cowan, Rachel Gunter, Renata Jaskula-Sztul and Sadanandan E. Velu1, *Targeting voltage-gated sodium channels in neuroendocrine tumors using small molecules*, UAB Chemistry Department Annual Research Retreat, Zoom Virtual Meeting, UAB, AL, October 30, 2020.
83. Owen Garrett (Presenter), Bhavitavya Nijampatnam, Champion Deivanayagam and Sadanandan E. Velu, *Targeting a Highly Conserved Trough-like Region in the AgI/II Family of Proteins to Inhibit Biofilm Formation of Streptococcus mutans*, UAB Chemistry Department Annual Research Retreat, Zoom Virtual Meeting, UAB, AL, October 30, 2020.
82. Jaden Cowan (Presenter), Mohammad Asif Sherwani, Zohaib Ijaz, Nabiha Yusuf and Sadanandan E. Velu, *Marine alkaloid analogs as potential treatments for BRAF-mutant melanoma*, UAB Chemistry Department Annual Research Retreat, Zoom Virtual Meeting, UAB, AL, October 30, 2020.
81. 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, Zoom Virtual Meeting, UAB, AL, October 30, 2020.
80. Parmanand Ahirwar (Presenter), Anna Law, Sonia Nijampatnam, Edwin Rojas, Hui Wu and Sadanandan E. Velu, *Streptococcus mutans biofilm inhibition by aurones*, 2020 Southeastern Undergraduate Research Conference (SURC), Department of Chemistry & Biochemistry, The University of Alabama, Tuscaloosa, AL, January 24 – 25, 2020.
79. Wei Wang (Presenter), 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 Aurones*, 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 Murrayaquinone 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 5, 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 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 1, 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, *SrtA: 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 SrtA 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 SrtA 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 – Mach 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, 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 Staphylococcus aureus SrtA*, 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 Staphylococcus aureus SrtA*, 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 11-15, 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 13-18, 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; August 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; August 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; August 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, August 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, November 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; November 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, November 28 - December 1, 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. Jedrzejas; 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. Jedrzejas, 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. Jedrzejas, 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/NINDS, R01NS144449, *Targeting MBD2 for Medulloblastoma Therapy,* Van Meir (PI), Sadanandan E. Velu (Co-I)*,* $3,610,630, 04/01/2025 – 03/31/2030.
- NIH/NIDCR, R01DE019452: *BrpA in Virulence Modulation of Streptococcus mutans*, Zezhang Wen (PI), Sadanandan E. Velu (PI of the sub-contract), $636,643, 07/01/2022 – 04/30/2027.
- NIH/NIDA, R21DA059844, Microbial Biofilms as Regulators of Amphetamine Use Disorders, Angela Carter (MPI), Sadanandan Velu (MPI), $408, 375, 3/15/2024 – 2/28/2027.
- NIH/NIDCR, R01DE033232, Structural and Functional Studies on the Glucosyltransferases of the Dental Caries Pathogen *Streptococcus mutans*, Champion Deivanayagam (PI), Hui Wu (PI), Sadanandan Velu (Co-investigator), $ 3,665,091, 04/01/2024 – 03/31/2029.
- NIH/NIAID, U01ES033263: *Novel Lead Compound Advancement for Mitigating Halogen-Induced Mortality and Morbidity*, Shama Ahmad (PI), Sadanandan E. Velu (Co-investigator), PI of the sub-contract), $3,712,495, 07/16/2022 – 07/15/2027.

- NIH/NIDCR, 5T90DE022736 – 07: NIDCR Training Grant - Dental Academic Research Training Program (DART), Amjad Javed (PI), Targeting bacterial surface protein V-folds for biofilm inhibitor design, Sadanandan E. Velu (Sponsor and Mentor), Owen Garrett (Graduate Student). $33,000/year, 07/01/2022 – 06/30/2027.
- NIH/NCI, R25CA244092: Youth Enjoy Science Research Education Program, Roadmap for America's Cancer Explorers for the 21st Century (RACE^{21}), Michael Wyss (PI), Sadanandan E. Velu (Co-investigator), $ 2,611,940, 07/01/2020 – 06/30/2025.
- CURE CHILDHOOD CANCER: Small Molecule Targeting of Epigenetic Reader MBD2 for Medulloblastoma Therapy, Erwin Van Meir (PI), Sadanandan E. Velu, $330,000, 08/01/2023 – 07/31/2025.
- Alabama Drug Discovery Alliance: Small Molecule Targeting MBD2 for Medulloblastoma Treatment, Erwin Van Meir (PI), Sadanandan E. Velu, $100,000, 08/01/2022 – 07/31/2024.
- NIH/NIDCR, 1F30DE030334: *Streptococcus mutans* Diadenylate Cyclase: A Promising Target for Preventing Dental Caries, Sadanandan E. Velu (Sponsor and Mentor) and Edwin Rojas (Graduate Student), $289,109, 09/01/2020 – 08/31/2024.
- 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 – 08/31/2023.
- UAB Microbiome Pilot Grant: Analysis of the impact of novel biofilm inhibitors on the oral microbiome in an experimental rat model, Sadanandan E. Velu (PI), $20,000, 08/01/2021 – 07/31/2022.
- 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, 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/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-I), (PI-Previlege) $85,491, 9/30/02 – 8/31/04.
- DOD/VDDI The development of a Novel Pharmaceutical for Anthrax, Sadanandan Velu (Co-I), (PI-DeLucas), $179,239, 8/1/03 – 7/31/04.

Collaborators:

- Dr. Hui Wu, PhD, School of Dentistry, Oregon Health Science University
- DR. Tom Wen, PhD, School of Dentistry, Louisiana State University.
- Dr. Suzanne Michalek, PhD, Department of Microbiology, School of Medicine, UAB
- Dr. Champion Deivanayagam, PhD, Dept of Biochemistry and Molecular Genetics. UAB
- Dr. Renata Jaskula-Sztul, PhD, Department of Surgery, School of Medicine, UAB
- Dr. Eugenia Kharlampieva, PhD, Department of Chemistry, School of Medicine, UAB
- Dr. Aaron Lucius, PhD, Department of Chemistry, School of Medicine, UAB
- Dr. Nabiha Yusuf, Department of Dermatology, School of Medicine, UAB

Students Mentored:

Graduate Students

Edwin Rojas	PhD/DMD	2025
Piyasuda Pukkanasut	PhD	2024
Parmanand Ahirwar	PhD	2023
Sonia Nijampatnam	PhD	2017
Shilpa Dutta	PhD	2016
Thao Nguyen	PhD	2014
Bala Chandra Chenna	PhD	2013
Dwayaja Nadkarni	PhD	2011
Frank Saunders	MS	2023
Jaden Cowan	MS	2021
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 Trainees

- Dr. Ravikrishna Dada (2025 – Present)
- Dr. Manikandan Palani (2023 – 2025), Currently is a Postdoctoral Fellow in UAB Radiology.
- Dr. Bidhan Shinkre (2005 – 2007), moved to Dr. William C. Trenkle's medicinal chemistry laboratory at NIDDK/NIH.
- 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)

Vignesh Venkatesan	PhD	2025 to present
Dinesh Chandran	PhD	2024 to present
Oviya Uthamarayan	PhD	2023 to present
Abhishek A Govindan	PhD	2023 to present
Parvathy Babu	PhD	2023 to present
Soniya Joseph	PhD	2023 to present
Owen Garret	PhD	2018 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

Whitney Sharer	Senior Research (CH497)	2023-2024
Mason Byles	Senior Research (CH497)	2023-2024
Nantarat Samartkij	Volunteering	2023
Noelle Patel	Senior Research (CH497)	2022
Neel Patel	Senior Research (CH497)	2022
Andrew Symasek	Senior Research (CH497)	2021
Frank Saunders	Senior Research (CH497)	2021
Emily Putnam	UAB-CORD-BBC intern	2021
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 2005
Shwetha Patel	High School	Fall 2005