

Sarah Jean Stevens, Ph.D.

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Research Experience

Colorado Center for Drug Discovery (C2D2) at Colorado State University, Fort Collins, CO

April 2011 – present

Postdoctoral Researcher – Department of Chemistry, Supervisors: Professor Robert M. Williams, Director for C2D2 and Dr. Greg Miknis, Associate Director for C2D2.

A pioneering organization providing drug discovery resources/services to Colorado-based researchers.

- Supported 5 drug discovery collaborations spanning the treatment of cancer, traumatic brain injury, cardio-metabolic disease and flavivirus infection via the synthesis of a variety of heterocyclic small molecules. Advanced projects by incorporating structural and biological information into the creation of new compounds with improved potency, drug like properties, and intellectual property position.
- Authenticated screening hits. For example, employed a range of analytical techniques such as NMR and LC/MS to quickly identify a discrepancy in the analytical data of a lead compound. Correctly reassigned the structure, which led to the discovery of a new series of inhibitors.
- Regularly presented scientific information to team members in group meetings, reports, as well as presentations to collaborators. Presented a scientific poster that showcased accomplishments and provided exposure for the organization.
- Worked closely with supervisor to quickly establish a new chemistry laboratory. Facilitated operations by procuring equipment and supplies. Provided accurate cost analysis and time estimates for custom syntheses. Improved the organization's electronic notebook system. Provided useful feedback to system administrator that improved function. Acted as point of reference for new group members.

Colorado State University, Fort Collins, CO – January 2011 – April 2011

Postdoctoral Researcher – Department of Chemistry, Postdoctoral Advisor: Professor Robert M. Williams

- In a short period of time prepared several fragments that were designed to probe the structure activity relationship of analogs of the HDAC inhibitor largazole. One bicyclic fragment was incorporated into several analogs, providing key binding information.

Colorado State University, Fort Collins, CO – May 2006 – December 2010

Graduate Student – Department of Chemistry, Ph.D. Advisor: Professor John L. Wood

- Designed and executed reactions toward the synthesis of the complex natural product providencin. Optimized reactions and utilized varied methodologies to achieve the synthesis of key intermediates.
- Achieved a novel, multistep synthesis of the pivotal furyl-cyclobutane fragment in a convergent and diastereoselective manner resulting in a publication.
- Mastered purification techniques including; chromatography, distillation and crystallization and analytical techniques including; NMR (including multi-nuclear techniques), GC/MS, and IR.
- Ensured the smooth transition of the Wood group to Colorado State University by assisting in the establishment of new laboratories, set-up of accounts, ordering of equipment and supplies, as well as advising group members on departmental procedures.

Array Biopharma, Longmont, CO – May 2005 – August 2005

Summer Internship, Supervisor: Dr. Paul J. Nichols

A small pharmaceutical company specializing in the development of novel anti-tumor and anti-inflammatory drugs through collaboration and internal drug discovery.

- Worked closely with experienced staff to carry out the synthesis and purification of small molecule analogs. Used HPLC and NMR for purity determination and characterization.

Education

Postdoctoral Research

Department of Chemistry and Colorado Center for Drug Discovery, Colorado State University, Fort Collins, CO – January 2011 – present

Advisors: Professor Robert M. Williams-Director for C2D2, Greg Miknis-Associate Director for C2D2

Doctor of Philosophy, Organic Chemistry

Colorado State University, Fort Collins, CO – Graduation date: May 2011

Thesis Title: *Progress Toward the Synthesis of Providencin*

Advisor: Professor John L. Wood

Bachelor of Science, Chemistry

Colorado School of Mines, Golden, CO – Graduation date: May 2005

Research Title: *Isolation of the Capsid Protein of MS2 Coliphage*

Advisor: Professor Kent J. Voorhees

Presentations

CSU Ventures 2013 Innovation Symposium – April 12, 2013

“A Drug Discovery Collaboration with C2D2”

242nd American Chemical Society National Meeting – August 31, 2011

“Synthesis of Analogs of the HDAC Inhibitor Largazole”

Abstract #554

41st National Organic Chemistry Symposium, Boulder, CO – June 10, 2009

“Studies Toward the Synthesis of Providencin”

Abstract #D87

The Albert I. & Joan Meyers Symposium, Fort Collins, CO – October 24, 2008

“Studies Toward the Synthesis of Providencin”

Publications

Sarah J. Stevens, Amélie Bérubé, John L. Wood. Synthetic Studies Toward Providencin: Efficient Construction of a Furanyl-Cyclobutanone Fragment. *Tetrahedron*, **2011**, 67 (35), 6479-6481.

Honors and Awards

The American Institute of Chemists Award (B.Sc.) – May 2005

Affiliations

The American Chemical Society – 2005 – present