

Karl J. Okolotowicz

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Purpose

I am a PhD in synthetic organic chemistry with experience in small molecule synthesis centered on medicinal chemistry projects. I have an extensive knowledge of modern and classic organic synthesis, modern chromatography purification techniques and knowledge of various instruments, including HPLC, NMR, GC, GC/MS and IR. I have four years of postdoctoral experience, two of those years in an industrial setting. My experience extends into heterocyclic and aromatic synthesis and a working knowledge of SAR techniques. Currently I am working at the discovery scale chemistry and I am searching for a small, but growing company that will help me to expand my background in medicinal chemistry, specifically in discovery and lead development.

Education

- University of California, Santa Barbara (UCSB)—Post Doctoral Fellow (June 2004)
 - Under Professor R. D. Little
 - Synthetic Organic Chemistry
- Arizona State University (ASU)—Ph.D. (Dec 2001)
 - Under Professor Seth D. Rose
 - Synthetic Organic Chemistry
- University of Nebraska at Omaha (UNO)—B.S. (May 1996)
 - Chemistry

Work Experience

- September 2004 – Present, **Senior Research Chemist**, Obiter Research, LLC, Champaign, Illinois
 - Custom and contract synthesis
 - Multi-step and small molecule synthesis
 - Design synthetic routes on the medicinal chemistry and process scale
 - Scale up synthesis for clients
 - Work within tight deadlines
 - Development of novel and unique chemicals
 - Some experience with steroids, heterocycles, heteroaromatics, aromatics
 - Clients
 - Johnson & Johnson
 - BMS
 - Hospira
 - Various Universities across County
- September 2002 – June 2004, **Post Doctoral Fellow**, UCSB, Santa Barbara, California
 - Expanded knowledge in multi-step and small molecule synthesis
 - Expanded knowledge of analytical techniques: NMR, IR, GC / MS, Preparative HPLC
 - Presented research and current literature in group meetings
 - Drafted and finalized Standard Operating Procedures SOPs
 - Ordered and maintained laboratory equipment
 - Developed and improved methods and protocols
 - Mentored graduate and undergraduate researchers

- July 2001 – August 2002, **Post Doctoral Researcher**, Zila, Inc, Phoenix, Arizona
 - Primary Scientist in the research and development department
 - Trained on modern analytical instrumentation; HPLC, GC, UV / Vis
 - Experience in TLC, HPLC, RP-TLC
 - Drafted and reviewed reports and status updates
 - Worked closely with patent attorneys on patent applications and submissions
 - Designed and Developed six new derivatives for current drug product
- August 1996 – August 1998, August 1999 – June 2001, **Teaching Assistant**, ASU, Tempe, Arizona
 - Trained incoming teaching assistants
 - Coordinated teaching assistants
 - Assisted the stockroom staff with stocking and preparing the laboratories
- January 1997 – June 2001, **Research Assistant**, ASU, Tempe, Arizona
 - Experience in multi-step and small molecule synthesis
 - Designed and developed 13 intermediates and final products for the Ras protein and FTase enzyme based on active site modeling
 - Performed NMR and IR characterization of molecules
 - Purified intermediates and final compounds by preparative TLC, column chromatography, and vacuum distillation
 - Trained and helped new research assistants in laboratory techniques and procedures
 - Managed the chemical inventory and supplies in the laboratory
 - Presented discussions on current research topics in laboratory meetings
 - Drafted and reviewed papers for journal articles, patent applications, grant proposals, and posters
- August 1998 – August 1999, **Undergraduate NMR Facilities Supervisor**, ASU, Tempe Arizona
- November 1994 – July 1996, **Student Lab Technician**, Army Corps of Engineers, Omaha, Nebraska
 - Performed water and soil extractions of explosives, pesticides, polynuclear aromatic compounds, oils and fuels, and volatile organic compounds.

Publications & Meeting Presentations

- "Inactivation of Protein Farnesyltransferase by Active-Site-Targeted Dicarboxyl Compounds," Okolotowicz, K. J.; Lee, W.-J.; Hartman, R. F.; Kim, A. Y.; Ottersberg, S. R.; Robinson, D. E.; Lefler, S. R.; Rose, S. D. *Archiv der Pharmazie - Pharmaceutical and Medicinal Chemistry* **2001**, 334, 194.
- "Active-Site-Tailored Irreversible Inhibitors of Farnesyltransferase as Potential Anticancer Compounds," K. J. Okolotowicz, W.-J. Lee, J. O. Houtchens, M. L. Lowe, D. S. Smith, T. J. Cuthbertson, A. Y. Kim, S. R. Lefler, S. R. Ottersberg, D. E. Robinson, Jr., R. F. Hartman and S. D. Rose, Bridging Disciplines: The Key to Biomedical Research and Economic Development in the 21st Century, symposium sponsored by the Arizona Disease Control Research Commission and The Flynn Foundation, Tucson, AZ, Oct. 17-18. **2001**.
- "Anticancer Strategy Based on Prevention of Ras Farnesylation by Irreversible Inactivation of Farnesyltransferase," S. D. Rose, R. F. Hartman, S. R. Ottersberg, K. J. Okolotowicz, S. R. Lefler, A. Y. Kim, W.-J. Lee, and D. E. Robinson, *Signal Transduction 2000*, Luxembourg, January 26-29, **2000**.
- "Enzyme Active Site Tailored Anticancer Drugs," S. R. Ottersberg, D. E. Robinson, K. J. Okolotowicz, S. R. Lefler, A. Y. Kim, R. F. Hartman and S. D. Rose, Building Competitive Research Careers Symposium, sponsored by the Arizona Disease Control Research Commission and The Flynn Foundation, Tucson, AZ, Sept. 22, **1999**.

Patents

- "Anticancer Agents Based on Regulation of Protein Prenylation," U.S. Patent 6,576,436 S. D. Rose, S. R. Lefler, S. R. Ottersberg, A. Y. Kim, K. J. Okolotowicz, and R. F. Hartman.
- "Anticancer Agents Based on Prevention of Protein Prenylation," S. D. Rose, S. R. Ottersberg, K. J. Okolotowicz, D. E. Robinson, R. F. Hartman, and S. R. Lefler, Provisional Patent Application (USPTO) filed December 9, **1998**; Patent Application (USPTO and international), filed December 9, **1999**; International PCT application, published June 15, **2000**.
- "Conjugated nitro alkene anticancer agents based on isoprenoid metabolism," S. D. Rose, K. J. Okolotowicz, R. F. Hartman, J. Houtchens, Provisional Patent Application (USPTO) filed July 29, **2004**.
- "Preparation of Toluidine Blue O drug for in vivo staining and chemotherapeutic treatment of dysplastic tissues," K. Okolotowicz, Provisional Patent Application (PCT) filed December 12, **2003**.

Other Experience

- Instrumentation
 - FT - NMR, FT - IR, GC, HPLC
- Computer
 - PC, Windows, Macintosh, Unix, Linux Operating systems
 - Cambridge Soft Chemoffice, MDL ISIS Draw, ACDLabs
 - Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Publisher
 - Scifinder Scholar
 - Insight II, Cambridge Soft Chem3d, Hückel Molecular Modeling Programs
- Teaching and Committees
 - Guest Lecturer General Organic Chemistry II February 2001, July 2000, July 1999
 - Graduate Student Advisory Committee, 1999 – 2001

Honors

- Outstanding Teaching Assistant, 2001, Arizona State University
- Outstanding Physical Chemistry Student, 1995, University Of Nebraska at Omaha

Affiliations

- American Chemical Society (ACS) (1996 – Present)
- California Los Padres Local Section ACS (2002 – Present)
- Central Arizona Local Section ACS (1996 – 2002)

References

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Research summary available upon request