MINGDING WANG

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OBJECTIVE

Seeking a scientist position that provides me with opportunities to find innovative solutions to challenging problems in pharmaceutical industry.

HIGHLIGHTS

- Five years of experience in the use, maintenance, method development, and assay validation of HPLC, UHPLC, LC/MS, and CombiFlash chromatography system
- Extensive experience in NMR, MS, UV-Vis, and IR spectroscopy
- Strong background in synthetic organic chemistry, analytical organic chemistry, and solid phase peptide synthesis (SPPS)
- Strong leadership, teamwork, interpersonal, and English communication skills, proven with two distinguished teaching awards
- Overseen CombiFlash use for four years in graduate research group: responsible for new user training/authorization, maintenance and troubleshooting, method development, etc.
- Five years of experience as radiochemistry representative in graduate research lab: responsible for radioactivity user training/authorization, radioactive isotope inventory keeping, radioactivity lab maintenance, coordination with REM and NRC, etc.
- Unique multidisciplinary background, with deep knowledge/practical experiences in both chemistry and biology
- Strong problem-solving skills and excellent time management/organization skills

EDUCATION & RESEARCH EXPERIENCE

Ph.D., Chemical Biology (Expected graduation: Dec. 2018) **2013 Aug-present**

Research Advisor: Dr. Philip S. Low

***Purdue University**, West Lafayette, IN*

- Developed a bone-homing conjugate featuring releasable Dasatinib as the therapeutic warhead with impressive capabilities of facilitating bone fracture repair
- Synthesized, purified and tested six small-molecule bone-anabolic agents with *in vivo* and *in vitro* models, including GSK3β inhibitors, 15-PGDH inhibitors, and Src kinase inhibitors
- Shortened a published 14-step synthetic route for a bombesin receptor subtype-3 agonist to 7 steps; synthesized 4 fluorescein/rhodamine conjugates with this agonist for *in vitro* assays
- Developed a facile and convergent synthetic pathway that was easily transferrable to synthesize conjugates of different releasable small molecular bone-anabolic agents
- Tested five bone-homing conjugates with small-molecule bone-anabolic payloads with an *in vivo* fracture model on Swiss Webster mice
- Established and validated a new approach of quantifying near-infrared dye deposition in bone

B.S., Chemical Biology **2009 Aug-2013 Jul**

Research Advisor: Dr. Yen Wei

***Tsinghua University**, Beijing, China*

- Immobilized lipase in mesoporous silica network with sol-gel process; achieved enhanced stress

tolerance without noticeable loss in enzyme activity
- Established a simple and reliable assay for the activity of free and immobilized lipase, using an emulsified substrate system made with commercial-grade olive oil and polyvinyl alcohol
- Assayed the activity of the immobilized lipase in various optimal and non-optimal environments
- Characterized the encapsulation efficiency of the immobilized lipase in mesoporous silica using thermogravimetric analysis
- Characterized the specific surface area and porosity the immobilized lipase in mesoporous silica using Micromeritics Accelerated Surface Area and Porosimetry System

SKILLS & EXPERTISE

Chemistry
- Extensive experience in the synthesis, purification and characterization of small-molecule drugs; proficient in the analysis and interpretation of HPLC chromatograms and NMR spectra
- Expertise with Fmoc solid phase peptide synthesis (SPPS) with 2-chlorotrityl chloride resin and Wang resin
- Five years of experience in the use, maintenance, troubleshooting, and method development of Agilent 1200 series HPLC, Agilent 1220/6130 LC/MS, Thermo UltiMate 3000 UHPLC, Teledyne CombiFlash Rf+ Lumen, and Bruker AV500 NMR (only use)

Biology
- Five years of experience in mammalian cell culture and the maintenance of cell culture facility; expertise with the following cell lines: MC3T3-E1, MDA-MB-231, A549, HEK-293, CHO-K1, KB, Hela
- Experienced in total protein extraction, total RNA extraction, PCR, real-time PCR, flow cytometry, confocal microscopy, micro-CT scanning, and *in vivo* live animal imaging with near-infrared dye
- Extensive experience in rodent handling, anesthesia, surgery, euthanasia and dissection

Operating Systems & Software
- macOS 10.8 or later: installation and configuration
- Windows 7/10: installation and configuration
- Utility tools: ChemDraw, MestReNova, SciFinder, Thermo Chromeleon, GraphPad Prism, Amiview, FlowJo, Bio-Rad CFX Maetro, ImageJ (and BoneJ plugin)

HONORS & AWARDS

Purdue University Research Assistant Scholarship **2014 May – present**

Purdue University Teaching Academy Graduate Teaching Award

2015 Apr

A highly competitive award honored to outstanding graduate teaching assistants from the entire university

William F. Epple Chemistry Teaching Award, Purdue University **2015 Apr**

A highly competitive award honored to outstanding graduate teaching assistants in chemistry

Ross Fellowship, Purdue University **2013 Aug**

A highly competitive scholarship honored to outstanding first year chemistry graduate student

PUBLICATIONS & MANUSCRIPTS IN PREPARATION

- **M. Wang,** S. Park, Y. Nam, J. Nielsen, M. Srinivasarao, S. A. Low, P. S. Low. "Bone fracture-targeted dasatinib conjugate potently enhances fracture repair *in vivo*". *J.Bone Miner. Res. Submitted.*

PATENTS

- **Wang, M.**, Low, SA., Nielsen, J., Low, PS. "Targeting Anabolics for Accelerated Fracture Repair", *U.S. Application No. 62/678,016*. 2018.

TEACHING EXPERIENCE

Chemistry Department, Purdue University, West Lafayette, IN **2013-2015**

Responsible for teaching general chemistry and organic chemistry (CHM 11600, 25701 and 26300) to undergraduate students through instructions in laboratory and recitation sections.

- CHM 25701 Lab Teaching Assistant (Fall 2013)
- CHM 11600 Lab/Recitation Teaching Assistant (Spring 2014)
- CHM 26300 Lab Teaching Assistant (Fall 2015)