**GUOHUA LIANG**

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Acton, MA 01720 (609) 751-1775

**Visa Status:** Permanent Resident (Green Card holder)

**Objective**

A position of **Chemist/Scientist** that utilizes my expertise in **Synthetic Organic Chemistry**

**Career Skills/Experience Highlights**

* Design, synthesize, purify, and characterize drug candidates (SAR)
* Multi-step synthesis of novel heterocyclic small molecule
* Develop and optimize synthetic route for up to kg scale drug candidate production
* Invent, develop, optimize, and execute synthetic methods
* Total synthesis of complex natural product
* Troubleshoot synthesis challenges and overcome chemistry obstacles
* Characterize and identify molecules with HPLC, MS, GC, NMR, LC/MS, X-ray, IR…
* Communicate effectively with internal/external scientists, supervisors, CROs, and clients
* Lead interdisciplinary project teams
* Creative and strong problem solver, and a flexible team player in dynamic settings
* Strong presentation, interpersonal and communication – verbal and written – skills

**Organic Synthesis Experience**

**Research Investigator - API** atAptuit 2012-present

* Redesign and optimize multi-step synthesis of heterocyclic small molecules
* Prepare novel small molecules using multi-step organic synthesis methods
* Design efficient routes to synthesize the target heterocyclic small molecules
* Multi-step synthesis and purification of the targets and complete characterization
* Solid phase peptide synthesis process development and scale up
* Develop novel and creative solutions to overcome synthetic and manufacturing obstacles
* Initiate and lead synthetic programs toward preparation and purification of target molecules

**Senior Scientist** in Synthetic Chemical Serviceat Ricerca Biosciences 2007-2012

* Recognized in 2010 for outstanding scientific contribution in chemical synthesis
* Shortened a 4-step process to 2 steps with purity exceeding expectation on 2kg scale
* Saved a “failed” $1,600,000 synthesis project
* Resolved three lasting department level synthesis issues and excluded a highly toxic agent
* Developed and optimized scale up chemical synthesis, independently and within a team
* Synthesized and delivered > 40 heterocyclic small molecules for medicinal chemistry R&D

**Senior Synthetic Organic Chemist** at Tyger Scientific Inc. 2006-2007

* Custom chemical synthesis of pharmaceutical intermediates and drug candidates
* Multi-step, multi-gram scale chemical process development and optimization
* Develop new chemistry, improve existing chemistry and deliver compounds timely
* Execute explosive and hazardous chemical syntheses in multi-gram-scale (up to kg)
* Heterocyclic chemicals, carbohydrates and organo-fluorine materials syntheses
* Manage multi-projects, work under tight deadline and deliver products on time
* Characterize and identify molecules with HPLC, MS, GC, NMR, LC/MS, X-ray, IR…
* Supervise a group of chemists and staffs

**Postdoctoral Associate** in **Organic Synthesis**, Syracuse University, NY 2004-2006

* Studies toward the total synthesis of spirastrellolide A – an anticancer natural product
* Invented and developed an ene reaction for the synthesis of pyranyl systems – This invention has brought in a new NSF funding for continued research and development
* Discovered and developed an aldol reaction between exo-enol ethers and aldehydes
* Experienced in the design and preparation of a variety of organic substrates and products
* Supervised graduate students and REU students in organic synthesis research

**Graduate Assistant** in **Organic Synthesis**, Syracuse University, NY 1999-2004

* Designed and carried out the total synthesis of (+)-discodermolide – an anticancer agent
* Synthesized nonlinear organic electrooptic materials for the U.S. Air Force
* Skilled in using chemistry databases and applications and literature searching

**Education**

**Ph.D.**, **Organic Chemistry**, Syracuse University, 2004, Adviser: Prof. James Kallmerten

 Thesis: “Synthetic studies toward the total synthesis of (+)-discodermolide.”

**M.S.**, **Physical Chemistry**, Chengdu Inst. of Org. Chem., Chinese Academy of Sciences, 1996, Adviser: Prof. Yutang Wu. Thesis: “Novel catalyst system for the industrial synthesis of methanol and methyl formate from syngas.”

**B.S.**, **Chemistry**, Guangxi Normal University, Guilin, China, 1993, Adviser: Prof. Jiebing Li

**Publications**

“New reactions of 2-methylenetetrahydropyrans. A three component coupling protocol for the synthesis of tetrahydropyranyl ketides.” G. Liang, L. Bateman and N. Totah [Chem. Commun.](http://pubs.rsc.org/en/Journals/Journal/CC), 2009, 6457.

“Exocyclic Enol Ethers: Efficient Coupling Partners in the Carbonyl Ene Reaction.” G. Liang and N. Totah; manuscript in preparation.

Chen, W.; Liu, X.; Luo, S.; Liang, G.; Wu, Y.; Yu, Z.; Jia, Z. Methanol and methyl formate synthesis from synthesis gas over cuprous chloride catalyst in liquid phase. Journal of Natural Gas Chemistry (2000), 9(2), 139-146.

Liu, X.; Chen, W.; Liang, G.; Wu, Y.; Yu, Z. Preparation of methanol and methyl formate from syngas over copper-based catalysts at low temperature. I. CuCl catalyst system. Yingyong Huaxue (1999), 16(4), 86-88.

Chen, W.; Wu, Y.; Liang, G.; Yu, Z. Advances in synthetic methanol catalysts. Shiyou Huagong (1997), 26(2), 133-136, 140.