

Misty D. Rowe-Konopacki

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Objective:

A challenging research and development position in the medicinal polymer science industry that takes advantage of both extensive organic synthesis experience and business skills.

Education:

- Ph.D. candidate, Applied Chemistry, Colorado School of Mines (Golden, CO).
Research Title: *Surface Modification with Biocompatible and Stimuli Responsive Copolymers Synthesized via Controlled Living Free Radical Polymerizations.*
Advisor: Dr. Stephen G. Boyes
Expected graduation date: December 2007
- Ph.D. candidate, Polymer Science and Engineering, University of Southern Mississippi (Hattiesburg, MS). Advisor: Dr. Stephen G. Boyes
Transfer date: September 2005. GPA: 3.73/4.0
- B.S., Chemistry, University of Southern Indiana (Evansville, IN), 2003,
Research Title: *Synthesis of Quinoline Alkaloids for Promising Breast Cancer Drugs.* Advisor: Dr. Shelly Blunt. GPA: 3.22/4.0

Skills and Accomplishments:

- Synthesis of random and block copolymers *via* controlled living free radical techniques (CLRP), specifically reversible addition fragmentation chain-transfer (RAFT) polymerization, for use as a targeting mechanism, imaging agent, and cancer cell treatment
- Synthesis of stimuli responsive, surface initiated diblock copolymer brushes *via* CLRP techniques such as RAFT and atom transfer radical polymerization (ATRP)
- Surface modification of nanoparticles, such as gadolinium nanospheres and gold nanorods, with biocompatible and stimuli responsive polymers

- Small molecule and polymer brush characterization utilizing ellipsometry, goniometry, ATR-FTIR, NMR, XPS, GPC, UV-VIS, and TEM
- Literature and marketing research in conjunction with exploration and evaluation of intellectual property.
- Experience with teaching, supervising, and developing skill sets for undergraduate students and research assistants

Experience:

2002-2003, Intern chemist, Red Spot Paint and Varnish, Evansville, IN

- Formulated UV curable coatings for a variety of applications
- Novel formulations of waterborne automotive coatings utilizing UVAs and HALs

Achievements and Affiliations

- GSA Vice President of Communications (2006-2007)
- Undergraduate Student Affairs and Calendar Committee (2006-2007)
- GSA Chemistry and Geochemistry Representative (2005-2006)
- American Chemical Society (2002-Current)
- WISE and WISEM Member (2003-Current)
- SWE Member (2006-Current)
- NSF MRSEC and IGERT Fellow (2004-2005)
- USI Academic Excellence Award (1999-2003)
- Eli Lilly Endowment Fund Participant (1999)
- Eli Lilly and Purdue University Outstanding Science Scholarships (1999)
- Sigma Zeta Honor Society (1999-2003)

Publications and Presentations:

Rowe-Konopacki, M.D.; Boyes, S.G. **Synthesis of Diblock Copolymer Brushes from Flat Silicon Substrates Utilizing the RAFT Polymerization Technique.** Accepted to *Macromolecules*.

Rowe-Konopacki, M.D.; Boyes, S.G. **Analysis of Polymer Brushes on Si Wafers By GATR-FTIR.** *Application Note*, **2007**. Harrick Scientific Products, Pleasantville, NY.

Konopacki, M.D.; Boyes, S.G. **Synthesis of Surface Initiated Diblock Copolymer Brushes Utilizing RAFT Polymerization.** International Conference on Polymer Synthesis: Warwick 2006, Warwick, UK, August, 2006.

Hotchkiss, J.W.; Rowe, M.D.; Stempka, J.E.; Pitts, B.W.; Treat, N.D.; Boyes, S.G. **Applications for Block Copolymer Brushes Prepared via Controlled/“Living” Free Radical Polymerization Techniques** *Am. Chem. Soc. Div. Polym. Chem.* **2005**, *46(2)*, accepted.

Pitts, B.W.; Rowe, M.D.; Boyes, S.G. **Surface Immobilization of RAFT Chain Transfer Agents** *Am. Chem. Soc. Div. Polym. Chem.* **2005**, *46(2)*, accepted.

Rowe, M.D.; Pitts, B.W.; Lowe, A.B.; Boyes, S.G. **Synthesis of Diblock Copolymer Brushes via Surface Immobilized RAFT Chain Transfer Agents** *Am. Chem. Soc. Div. Polym. Chem.* **2005**, *46(2)*, accepted.

Synthesis of Diblock Copolymer Brushes via Surface Immobilized RAFT Chain Transfer Agents. 230th National ACS Meeting, *PolyDivision Poster Session*, August 2005, Washington, D.C.

pH-Responsive Copolymer Brushes via Surface Initiated Controlled Living Free Radical Polymerizations. (1) *American-Sino Poster Session*, May 2005, Tongji University, Shanghai, China. (2) *Sino-American Poster Session*, May 2005, Tsinghua University, Beijing, China.

References:

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