

Aaron M. Mohs

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EDUCATION

Ph.D., Pharmaceutics and Pharmaceutical Chemistry, University of Utah, 2006
"Biodegradable Macromolecular Contrast Agents for Magnetic Resonance Imaging"
Advisor – Dr. Zheng-Rong Lu, Ph.D.

B.A., Chemistry (biology concentration), Saint John's University (MN), 2006

EMPLOYMENT HISTORY

Postdoctoral Fellow	2006-Current
Emory University/Georgia Tech, Biomedical Engineering Center of Cancer Nanotechnology Excellence Distinguished Fellowship	
Graduate Research Assistant	2002-2006
University of Utah, Pharmaceutics and Pharmaceutical Chemistry	
Undergraduate Research Assistant	2000-2002
Saint John's University, Chemistry	

AWARDS

Wolf Prize (2006)
Jeffery A. Fox Award (2006)
PhRMA Foundation Predoctoral Fellowship (2005)
Enzon Fellowship awarded by Enzon Inc., Piscataway, NJ (2002)
President's Scholarship (1998-2002)
Recognition Scholarship for Students in Science (1998-2002)
Siehl Scholarship (1999-2000)

RESEARCH EXPERIENCE

Postdoctoral Fellowship Project
Evaluating the toxicity of novel nanoparticles for biomedical applications
Developing nanoparticles as model carriers for oral drug delivery

Doctoral Dissertation Research
Synthesized and characterized biodegradable Gd(III)-based polydisulfide MRI contrast agents
Characterized in vivo imaging properties of blood pool agents for MR angiography
Performed pharmacokinetic, biodistribution, and in vivo metabolism studies of novel blood pool MR angiographic contrast agents

Undergraduate Research
Saint John's University
Synthesized and characterized nitrogenous bidentate ligands for molybdenum complexation

University of Kansas, Summer Undergraduate Research Program, Lawrence, KS (2000)
Evaluated protein stability in injectable formulations and the possible interaction of silicon by using DSC, fluorescence spectroscopy, and CD

RESEARCH SKILLS

Polymer synthesis and small molecule synthesis, including dry-box techniques and Schlenk lines

Skilled in chemical characterization techniques, including SEC/GPC, MRI, NMR and IR spectroscopy, ICP, ESI and MALDI-TOF MS, DSC, DLS, and fluorescence spectroscopy, and CD

Skilled in tissue culture techniques, including viability assays, cell staining, DNA microarray, confocal microscopy, flow cytometry, PAGE

Small animal surgical procedures, including jugular vein cannulation and biodistribution studies.

Small animal imaging (MRI)

Experience with Microsoft Word, Excel, and PowerPoint, Prism, SigmaPlot, Origin, Matlab, IDL, and numerous Adobe software applications

TEACHING/MENTORING EXPERIENCE

Teaching Assistant

Molecular Imaging; assisted in teach basic physics and clinical imaging modalities, emphasis on imaging probes and contrast agents

Drug Stability; assisted in teaching kinetics and mechanisms of organic reactions, structure reactivity relationships of pharmaceutical systems, degradation and stabilization of drugs, proteins, and DNA/RNA

Organic Chemistry; taught basic laboratory methods in organic chemistry, maintained 300 MHz NMR, tutored students

Biochemistry; taught basic laboratory methods in biochemistry, gravity and electrophoresis separations, fluorescence spectrophotometry, tutored students

Research Training Programs

Mentor; University of Utah ACCESS program for women in science and mathematics

Mentor; University of Utah Summer Undergraduate Research Program (Pharmaceutics)

PUBLICATIONS

Mohs AM, Nguyen T, Jeong EK, Feng Y, Emerson LL, Zong Y, Parker DL, Lu ZR. (2007) Pegylation of Gd-DTPA cystine copolymers optimizes pharmacokinetics and tissue retention for magnetic resonance angiography. *Magn. Reson. Med.* 58(1):110-118.

Mohs AM, Lu ZR. (2007) Gadolinium(III)-based blood pool contrast agents for magnetic resonance imaging: current status and clinical potential. *Expert Opin. Drug. Deliv.* 4(2):149-164.

Zong Y, Guo J, Ke T, Mohs AM, Parker DL, Lu ZR. (2006) Effect of size and charge on pharmacokinetics and in vivo MRI contrast enhancement of biodegradable polydisulfide Gd(III) complexes. *J. Control. Release* 112:350-356.

Lu ZR, Mohs AM, Zong Y, Feng Y. (2005) Polydisulfide Gd(III) chelates as biodegradable macromolecular magnetic resonance imaging contrast agents. *Intl. J. Nanomed.* 1:31-40.

Mohs AM, Zong Y, Guo J, Parker DL, Lu ZR. (2005) PEG-*g*-poly(GdDTPA-*co*-L-cystine): effect of PEG chain length on in vivo contrast enhancement in MRI. *Biomacromolecules* 6:2305-2311.

Zong Y, Wang X, Goodrich KC, Mohs AM, Parker DL, Lu ZR. (2005) Contrast-enhanced MRI with new biodegradable macromolecular Gd(III) complexes in tumor-bearing mice. *Magn. Reson. Med.* 53:835-842.

Mohs AM, Wang X, Zong Y, Goodrich KC, Parker DL, Lu ZR. (2004) PEG-*g*-poly(GdDTPA-*co*-L-cystine): A biodegradable macromolecular blood pool contrast agent for MR imaging. *Bioconj. Chem.* 15:1424 - 1430.

PRESENTATIONS

Mohs AM, Zong Y, Goodrich KC, Parker DL, Lu ZR. PEG-*g*-(GdDTPA-*co*-L-cystine): effect of PEG chain length on in vivo contrast enhancement in MRI, Utah Center for Advanced Imaging Research 17th Annual Symposium; Salt Lake City, UT, October 2005.

Mohs AM, Zong Y, Feng Y, Guo J, Parker DL, Lu ZR. PEG-*g*-(GdDTPA-*co*-L-cystine): novel biodegradable macromolecular contrast agents for MRI, Controlled Release Society Annual Meeting, 32nd Annual Meeting & Exposition of the Controlled Release Society; Miami, FL, June 2005.

Mohs AM, Wang X, Zong Y, Goodrich KC, Parker DL, Lu ZR. PEG-*g*-(GdDTPA-*co*-L-cystine): a biodegradable macromolecular contrast agent for blood pool MR imaging, Utah Center for Advanced Imaging Research 16th Annual Symposium; Park City, UT, November 2004.

Mohs AM, Zong Y, Parker DL, Lu ZR. PEG-*g*-poly(GdDTPA-*co*-L-cystine): effect of PEG chain length on in vivo contrast enhancement in MRI. MR Angio Club - The 17th Annual International Conference on Magnetic Resonance Angiography; Beijing, China, September 2005.

Zong Y, Guo J, Feng H, Sun Y, Mohs AM, Parker DL, Lu ZR. (Gd-DTPA)-cystine diethylester copolymers (GDCEP) as a biodegradable contrast agent for MR imaging. Controlled Release Society Symposium; Salt Lake City, UT, February 2005.

Mohs AM, Wang X, Zong Y, Goodrich KC, Parker DL, Lu ZR. Gd(III)DTPA-L-cystine-PEG copolymers: a biodegradable macromolecular agent for blood pool MR imaging, International Society of Magnetic Resonance in Medicine - 12th Scientific Meeting and Exposition; Kyoto, Japan, May 2004.

Zong Y, Wang X, Mohs AM, Goodrich KC, Lu ZR. MR imaging of a biodegradable polymeric contrast agent, cystine-DTPA-Gd complex. Controlled Release Society; Honolulu, HI, June 2004.

Zong Y, Mohs AM, Goodrich KC, Wang X, Parker DL, Lu ZR, Synthesis of Gd(III)DTPA-cystine a Gd(III) DTPA-cystine ethyl ester copolymers for MRI, Imaging in 2020; Jackson Hole, WY, September 2003.

Tekavek TN, Brueske CJ, Mohs AM, Westman AL, Schaller CP. Synthesis of molybdenum complexes of DACO' and pzy'. 223rd ACS National Meeting; Orlando, FL, April 2002.

REFERENCES

References will be made available upon request