Stephen D. Starnes - Curriculum Vitae

Chemistry Department
Texas A&M University-Commerce
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Education

The Scripps Research Institute, La Jolla, CA
Postdoctoral Research Assistant (September 1998-August 2000)
Research area: Molecular recognition, self-assembly, porphyrin and phthalocyanine chemistry
Research Advisor: Julius Rebek, Jr.

Texas Tech University, Lubbock, TX
Ph.D., Organic Chemistry (June 1998)
Dissertation title: "Unnatural Amino Acids: Synthesis and Structure-Property Relationship Studies,"
Research Advisor: Professor Allan D. Headley

Texas Tech University, Lubbock, TX
B.S., Chemistry, *Magna Cum Laude*, GPA: 3.83/4.0 (May 1993)

Academic Positions & Teaching Experience

Texas A&M University at Commerce, Commerce, TX
Associate Professor, Chemistry Department, September 2013-present
Interim Department Head, Chemistry Department, January 2010 – June 2010.
Assistant Professor, Chemistry Department, July 2005-present

- Instructor for general and organic chemistry and graduate level organic chemistry
- Science Education
- Implementing POGIL and PLTL in the classrooms
- Working to transform chemistry education for the preparation of teachers
- Research interests in molecular recognition, sensor development, environmental remediation.
- Undergraduate academic advisor (Fall 2008-Summer 2012, Fall 2014-present)
- Graduate academic advisor (Fall 2012-Summer 2014)

New Mexico State University, Las Cruces, NM
Assistant Professor, Department of Chemistry and Biochemistry, Aug. 2000-July 2005

- Instructor for nine semesters of undergraduate organic chemistry
- Instructor for three semesters of graduate level physical organic chemistry
- One publication over porphyrin-based anion sensors
- One NIH-BRIN research grant, $150,000.00 direct
- Directed two Masters theses.

Texas Tech University, Lubbock, TX
Instructor (Summer 1998)

- Instructed second semester undergraduate organic chemistry lecture course.

Lab and Lecture Teaching Assistant (1993-1998)

- Instructed recitation sessions for six semesters of organic chemistry and one semester of general chemistry laboratory courses. Four semesters experience instructing help sessions five times a week to supplement a lecture course.
- Assisted in the development, implementation, and publication of a combinatorial chemistry laboratory experiment for the second semester organic chemistry laboratory course.

Professional and Academic Association Membership (current):

American Chemical Society, Member 1994-present
Golden Key National Honor Society, Member
Kappa Mu Epsilon (Mathematics Honor Society), Member

Research Interests & Experience

Texas A&M University at Commerce, Commerce, TX

I have two main research interests.
1. The molecular recognition of anions of synthetic, biological, biomedical and environmental interest. I aim to develop synthetic anion receptors that will find use in environmental remediation efforts or in sensor design. I also aim to design anion receptors that serve as organocatalysts and therapeutic agents.
2. Chiral Recognition. My group is actively working to develop synthetic receptors for chiral molecules in order to better understand the requirements for enantioselective recognition.

The Scripps Research Institute, La Jolla, CA

Postdoctoral Research Assistant (September 1998-August 2000)
Research Advisor: Julius Rebek, Jr.

- Synthesized and characterized phthalocyanine compounds designed to self-assemble as discrete dimers. Investigated their molecular recognition properties.
- Synthesized novel porphyrin-resorcinarene hybrids for molecular recognition, catalysis and energy transfer applications.

Texas Tech University, Lubbock, TX

Graduate Research Assistant (May 1993-1998)
Research Advisor: Allan D. Headley

- Initiated a project for the asymmetric synthesis of conformationally constrained cysteine analogs.
- Analyzed the conformational potential energy surface of unnatural amino acids as a function of their substituents using *ab initio* techniques.
- Synthesized unnatural amino acids and examined their tautomerism, conformation, and aggregation in solution using spectroscopic techniques.

Awards, Honors, & Scholarship

- Texas A&M University-Commerce, Student Recognition Award for Teaching Excellence, Spring 2012
- Paul W. Barrus Distinguished Faculty Award for Teaching, Texas A&M University-Commerce, 2012
- Donald C. Roush Excellence in Teaching Award, New Mexico State University, 2004
- Patricia Christmore Faculty Teaching Award, New Mexico State University, 2003-2004

- Song Prize, award for best dissertation, Texas Tech University, 1998
- Outstanding Doctoral Teaching Assistant Award, Texas Tech, 1996-1997
- Top Graduate in Chemistry, 1993, Texas Tech University

Committee Service

TAMU-C (2005 – present)

Chemistry Department Head Search Committee (Fall 2005 – Spring 2006)
Analytical Chemistry Faculty Search Committee (Fall 2006 -Spring 2007)
Chair, Chemistry Faculty Search (Fall 2007 – Spring 2008)
Education Destination Committee (Fall 2007)
Coordinating committee Pathways 2008 symposium (Spring 2008-Fall 2008)
Strategic Enrollment Management Committee (Fall 2008 – Spring 2009)
Chair, Chemistry Faculty Search (Spring 2009)-search cancelled
Faculty Senate (Fall 2007 – present), Chair of Undergraduate Recruitment and Retention Committee, member of the Executive Committee Fall 2011-present. President of the Faculty Senate (Fall 2014 – Summer 2014)
Pre-professional Committee (Fall 2008 – present)
Greater Texas Foundation Proposal Committee, Spring 2008 (proposal aimed at acquiring a Master's of Science Education program for middle school teachers), $3 million dollar proposal. Meetings to discuss proposal ideas / direction.
Chemistry department scholarship committee (Fall 2010 – present)
Recycling Committee, (Fall 2010 – present)
Athletic Council, (Fall 2010 – Spring 2011)
Chair, Lab coordinator/ Instructor search committee (Spring 2012)
Inorganic faculty search, committee member (Spring 2012)
Academic Life subcommittee of the Faculty Senate (Fall 2012 – Summer 2014) (major accomplishment – recommendation to raise salaries for T&P which was institutionalized).
University Studies Committee (Fall 2012 – present)
Inorganic Chemistry faculty search, committee member (Spring 2012)
Chemistry Department Head faculty search, committee member, Fall 2013-Summer 2014
Chemistry Administrative Assistant Search Committee – Spring 2013
COSEA Dean search committee – Spring 2014-Summer 2014
Strategic Planning Task Force Committee – Spring 2014 – present
Budget Review and Development Council, Fall 2014-spring 2015
University Executive Council, Fall 2014-spring 2015

Service

TAMU-C (2005 – present)

Support of research initiatives for students outside of TAMU-C

1. Participated in the ACS SEED program as a research mentor summer 2006 and 2007.
2. Mentor for students in the REU program at TAMU-C, summer 2006, 2007, 2008, 2009, 2010, 2011, 2014.
3. Co-PI on NSF CCLI grant which involved chemistry professional development activities for area community college students in chemistry. Fall 2009 – 2012.

Research Students Trained

High School (3) : Chelsea Childers, Samuel Franklin, Carlos Kee

Undergraduate (59): Zak Nixon, Shiloh Free, Amulya Yadlapalli, Kellen Carroll, Alexandra von Ausdall, Sandy Lomeli, Johnathan Bailey, Patrick Roberts, Kyle Fort, Carlos Kee, Colleen Favaro, Anna Vladimirova, Marc Vaz, Chaz Cardenas, Hikma Jemal, Aisha Hassan, Mae Frankson, Sharin Vora, Jeffrey Sun, Solomon Bortey, Eli Hunt, Ramesh Bhattarai, Megan Hubbard, Colt Smithson, Rakesh Doshetty, Carlos Tovias, Christina Castle, Khoa Nguyen, Andy Nguyen, Ava Karimi, Khanh Truong, Ryan Moffitt, Spencer Guess, Tyler Henderson, Will Liam, Olga Martinez, Ryan Hinson, Aaron D. Key, Brandi L. Kennard, Caramy Spencer, Charles J. Nam, Devin S. McCune, Dorian T. McCradic, Jacob A. Cranfield, James M. Rogers, Janet M. Varela, Jared Shugart, John M. Pollock, Katrina M. Schoenfeld, Mehul J. Rathod, Syeda M. Rizvi, Vanessa M. Jackson, Mary Golleher, William Gaines, Luis Para, Richard Carranza, Shaquala Quigley, Maritza Ramos, Seung Kim
Graduate (16): Joey Ramos, Lakshmi Koya, Prathima Kavuri, Himajarani Surapaneni, Anusha Bommidi, Anvesh Dasari, Karthik Akinapelli, Lin Chen, MingHsun Yang, Vijay Nandipati, Xiaowen Wu, Elvis Boateng, Anupama Singh, Sirisha Makineni, Maha Alqurafi, Krishna Gangu
High School Teachers (4): Helen Wilson, Barry Dorociak, Michael Tran, Kristen Hershler

Funding

TAMU-C (2005 – present)

Proposals Funded

External (PI)

1. American Chemical Society Project SEED, which funds stipends for under-privileged high school students for summer research experience, $7,963.00 for 7 students (only 5 students were accepted into the program), summer 2006.
2. Project SEED, American Chemical Society, Spring 2007, funded $7500.00, accepted $4500.00. I provided one research project for this grant. Drs. Jang and Whaley also provided a project.
3. I was the project director on a grant titled Operation Spark (three years, January 1, 2006 – December 31, 2008), $192,941.00 direct costs.
4. ACS Project SEED, submitted February 4, 2008. Funded, $3,750.00 (3 students) but not accepted because matching funds were not obtained and faculty were not in position to receive students.

Internal (PI)

5. 2006-2007 TAMU-C Faculty Research Enhancement Grant, $6,666.00, September 1, 2006 – August 31, 2007.
6. 2008-2009 TAMU-C Faculty Research Enhancement Grant, funded, $7,320.00, September 1, 2008 – August 31, 2009.
7. Travel support request, Dean's Teaching Initiative, POGIL 3-day workshop at Linfield College, Oregon, June 20-22, 2008. $500.00 submitted March 14, 2008.
8. Faculty Development Grant, $700.00, to attend Chirality 2012 conference and 244th National ACS meeting in Philadelphia, PA. Funded Spring 2012.
9. Faculty Research Enhancement Proposal, submitted 2-23-14, $4,000.00, "Chiral Porphyrins: Hosts and Molecular Switches."

External (Co-PI)

10. I contributed a project to the National Science Foundation REU proposal (Research Experience for Undergraduate Students), which received funding (Summer 2006-Summer 2008).
11. Co-PI, NSF-MRI: Acquisition of a IM-Q-TOF Mass Spectrometer. Proposal number 0821247, submitted Jan. 24, 2008, awarded 8/15/08, $342, 014.
12. NSF-CCLI, Proposal Number: 0837526, Proposal Title: Achieving Student Mastery of Chromatographic and Spectroscopic Methods in Organic Chemistry through a

University/Community-College Partnership, Principal Investigator: Ben Jang, Co-PI (s): Stephen Starnes, William Whaley. This award is effective June 1, 2009 and expires May 31, 2012. $193,011.

This project involves bringing community college students onto the TAMU-C campus to do four research-based experiments with these students throughout an academic year with a goal of stimulating these students interest in pursuing a career in chemistry.

13. NSF-REU: Research Experience for 2-year College Undergraduates in Chemistry at Texas A&M University-Commerce, $266,037, 3/15/09-2/28/12, PI: Ben Jang, Co-PI: Stephen Starnes.
14. NSF DUE-1136295, "Building the Capacity of STEM Teacher Preparation at Texas A&M University-Commerce," PI: Ben Jang, Co-PI Stephen Starnes, Co-PI Thomas Faulkenberry, $174,020, September 1, 2011 - August 31, 2013.

This project involves the development of new courses to better prepare students for a career as a high school chemistry teacher. Part of the program includes a summer camp at TAMU-C for community college and high school chemistry students to foster their interest in teaching.

Proposals Not Funded

External (PI)

1. The Welch Foundation, Proposal title: “Chiral Porphyrins”, $100,000.00, submitted January 2011.
2. The Welch Foundation, Proposal title: “Porphyrins with Introverted Functionality”, $150,000.00, submitted January 2012.
3. NSF-RUI, PI. “RUI: Click Chiral Porphyrins: Receptors for Chiral Anions and Amines,” submitted November 2011, $244,638.
4. The Robert Welch Foundation Proposal, Title: Chiral Porphyrins and Chiral Bis-Porphyrins Agency, Amt: $180,000.00 Award Period: 6/1/13-5/31/16 , submitted 1-25-2013.
5. TAMU-C Faculty Research Enhancement Proposal “Chiral Porphyrins and Bis-Porphyrins,” $6,675.00, submitted 2-20-13.
6. ACS-PRF, “New Approaches to the Development of Chiral Porphyrins and a Study of their Molecular Recognition Properties,” $65,000, Submitted 3-14-13.
7. The Welch Foundation, $180,000.00, submitted 1-27-2014.

Internal (PI)

8. College of Arts and Sciences – summer research support for Anna Vladimirova, an undergraduate research student in my lab. “Synthesis and study of a porphyrin-based receptor for chiral anions”, $1,000.00, Summer 2008.
9. College of Arts and Sciences – summer research support for Kyle Fort, an undergraduate research student in my lab. “Synthesis and study of a receptor for environmentally important anions,” $1,000.00, Summer 2008.
10. Faculty Research Enhancement Proposal, Title: Chiral Porphyrins: The Recognition of Chiral Guests, $13,015.00, submitted February 21, 2011.

External (Co-PI)

11. NSF-CCLI, Proposal Number: 0633739, Proposal Title: Achieving Student Mastery of Chromatographic and Spectroscopic Methods in Organic and Biological Chemistry through a University/Community-College Partnership, Received by NSF: 05/10/06, $199,991 Principal Investigator: William Whaley, Co-PI: Stephen Starnes.
12. NSF-CCLI, Proposal Number: 0737416, Proposal Title: Achieving Student Mastery of Chromatographic and Spectroscopic Methods in Organic and Biological Chemistry through a

University/Community-College Partnership, Received by NSF: 05/09/07, $199,965 Principal Investigator: William Whaley, Co-PI: Stephen Starnes.

13. NSF-DGE: Science Master's Program in Chemical Business (SMP-Chemical Business), submitted 11-20-09, $693,642. PI: Ben Jang, CoPI: Stephen Starnes
14. NSF-MRI, Co-PI. PI: Anil Chourasia and Ben Jang. Proposal to obtain an XRD (x-ray crystallography), submitted January 2010. Proposal title: Acquisition of an X-ray Diffrractometer. $310,000.00.
15. NSF-MRI, PI: Anil Chourasia and Ben Jang. Co-PI Stephen Starnes. Proposal title: "MRI: Acquisition of an X-ray Diffractometer," submitted January 2011, $310,000.00.
16. NSF-REU, CoPI, "Research Experience for 2-Year Undergraduates in Chemistry at Texas A&M University- Commerce," $302,250, Submitted August 2011.
17. NSF-TUES, CoPI, "University/Community College Partnerships: Engaging Community College Organic Chemistry Students in Instrumentation and Research-based Laboratories to Impact Their Career Choices," $497,108, submitted January 2012.
18. NSF-DUI Noyce Proposal, Co-PI , "Noyce Scholarship Program at Texas A&M University-Commerce," $1,199,885, Proposed Award Period: 10/01/2013 – 09/31/2018
19. NSF- Collaborative Learning and Research in STEM Student and Teacher Preparation (STEM Prep), $1,936,910.00

Presentations

TAMU-C (2005 – present)

1. "Shape Selective Anion Recognition by Metalloporphyrin Hosts," 63rd Southwestern Regional Meeting of the American Chemical Society, November 4-7, 2007, Lubbock, TX.
2. **"**Anion Recognition by Meso- and β-Functionalized Metalloporphyrin Hosts," 3rd Joint International Symposium of Macrocyclic and Supramolecular Chemistry, Las Vegas, Nevada, July 13-18, 2008.
3. "Texas A&M University-Commerce/Community College Partnerships: Engaging Community College Organic Chemistry Students in Instrumentation and Research based Laboratories to Impact Their Career Choices," Stephen D. Starnes, Bukuo Ni, Ben Jang, Larry Brough, Fred Jury, 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
4. "Click Chiral Porphyrins," Stephen D. Starnes, 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
5. Stephen D. Starnes "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests," Texas A&M-Commerce Annual Research Symposium, April 5, 2012.
6. Stephen D. Starnes "Click Chiral Porphyrins: Hosts with Introverted Functionality," The 24th International Conference on Chirality (Chirality 2012), Fort Worth, Texas, June 10-13, 2012.
7. Stephen D. Starnes "Porphyrins with Introverted Functionality: Hosts for Chiral and Non-chiral guests," 244th National Meeting of the American Chemical Society, Philadelphia, PA, August 19-23, 2012.
8. Stephen D. Starnes "A university/community college collaboration in professional development experiences and sequential research-based laboratories to engage community college organic chemistry students," 244th National Meeting of the American Chemical Society, Philadelphia, PA, August 19-23, 2012.
9. Stephen D. Starnes, "Chiral porphyrins and bis-porphyrins: Hosts with chiral walls, caps and corners," 247th ACS National Meeting, Dallas, TX, March 16-20, 2014.

Invited Lectures

TAMU-C (2005 – present)

1. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry, Texas Christian University, January 24, 2012.
2. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry, Southern Methodist University, January 27, 2012.
3. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry, Texas Wesleyan University, February 10, 2012.
4. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry, University of Texas at Dallas, March 2, 2012.
5. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry and Biochemistry, Texas Tech University, April 4, 2012.
6. "Porphyrin Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry and Physics, LeTourneau University, November 15, 2012.
7. "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests", presented to Department of Chemistry, Midwestern State University, January 24, 2014.

Meetings, Conferences and Workshops Attended

TAMU-C (2005 – present)

1. NSF Workshop "NSF Day at UTD", UT-Dallas, September 15, 2005.
2. 57th Southeast / 61st Southwest Joint Regional Meeting of the American Chemical Society, Memphis, TN, November 1–4, 2005
3. 62nd Southwest Regional Meeting of the American Chemical Society, Houston, TX, October 19-22, 2006.
4. 5th Annual Pathways to the Doctorate Student Research Symposium, November 2-3, 2007, Tarleton State University, Stephenville, TX.
5. 63rd Southwestern Regional Meeting of the American Chemical Society, November 4-7, 2007, Lubbock, TX.
6. 3rd Joint International Symposium of Macrocyclic and Supramolecular Chemistry, Las Vegas, Nevada, July 13-18, 2008
7. 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas, oral presentation.
8. TAMU Junior Faculty Workshop, Texas A&M University Commerce, November 6-7, 2008.
9. Freshman Success Seminar, Texas A&M-Commerce, May 2, 2008.
10. POGIL Instructional Methods 3-Day Workshop. Linfield College (McMinnville, OR) June 20-22, 2008.
11. 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
12. College & Career Readiness Faculty Collaborative Science Symposium, February 28, 2009, Omni Corpus Christi Hotel Marina Tower, Corpus Christi, Texas
13. The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.
14. TAMU-C Junior Faculty Workshop, November 10, 2010.
15. 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
16. Master's And Specialist Advisors' Roundtable, April 14, 2011-- noon through 1:30
    Masters' and Specialist Thesis Roundtable, April 14, 2011--1:45-3:00 p.m.

17. Master's And Specialist Advisors' Roundtable, October 19, 2011-- noon through 1:30 Masters' and Specialist Thesis Roundtable, October 19, 2011--1:45-3:00 p.m.
18. 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
19. The Texas A&M University System 9th Annual Pathways Student Research Symposium, Texas A&M University, College Station, Texas, November 11, 2011.
20. Stephen D. Starnes "Click Porphyrins: Hosts for Chiral and Non-Chiral Guests," Texas A&M-Commerce Annual Research Symposium, April 5, 2012.
21. Stephen D. Starnes "Click Chiral Porphyrins: Hosts with Introverted Functionality," The 24th International Conference on Chirality (Chirality 2012), Fort Worth, Texas, June 10-13, 2012.
22. Stephen D. Starnes "Porphyrins with Introverted Functionality: Hosts for Chiral and Non-chiral guests," 244th National Meeting of the American Chemical Society, Philadelphia, PA, August 19-23, 2012.
23. Stephen D. Starnes "A university/community college collaboration in professional development experiences and sequential research-based laboratories to engage community college organic chemistry students," 244th National Meeting of the American Chemical Society, Philadelphia, PA, August 19-23, 2012.

Grant Panel Review Work

1. NSF-CCLI grant review committee, Washington D.C., July 12-14 2009.
2. NSF-SSTEM Scholarships committee, Washington D.C., November 4-6 2009.
3. Exact Sciences and Engineering, FCT-Portugal – External Reviewer, September 2012.
4. Panelist for the NSF-GRFP (November 2013-February 2014)
5. Louisiana Board of Regents, Office of Sponsored Programs (December 2013). Reviewed one research proposal.

Editorial Work

Editor, Chem Gems and Joules column for *The Southwest Retort*: Wrote a monthly column for *The Southwest Retort*, a publication serving part of the Texas chemical community. Fall 2005-Spring 2006.

Publications

TAMU-C (2005 – present)

1. Whaley, W. L.; Rummel, J. D.; Zemenu, E.; Li, W.; Yang, P.; Rodgers, B. C.; Bailey, J.; Moody, C. L.; Huhman, D. V.; Maier, C. G.-A.; Sumner, L. W.; Starnes, S. D.. Isolation and characterization of osajin and pomiferin: Discovery laboratory exercises for organic chemistry. *Chemical Educator*, **2007**, 12(3), 179-184.
2. MariJo Wienkers, Josmalen Ramos, Hikma Jemal, Chaz Cardenas, Paul Wiget, Alfreda Nelson, Shiloh Free, Jun Wu, Rebecca Roach, Marius Vulcan, Kristopher Waynant, Kyle Fort, Anna Vladimirova, Jeffery Sun, Samuel Eli Hunt, Dmitry M. Rudkevich, Stephen D. Starnes "Enhanced Shape-Selective Recognition of Anion Guests through Complexation- Induced Organization of Porphyrin Hosts," *Org. Letters,* **2012**, 14, 6, 1370-1373.
3. Wu, Xiaowen; Starnes, Stephen D. "L-Nipecotic Acid-Porphyrin Derivative: A Chiral Host with Introverted Functionality for Chiral Recognition," *Org. Letters,* **2012**, 14, 14, 3652-3655.
4. Nandipati, V.; Akinapelli, K.; Koya, L.; Starnes, S.D. "Recognition of Mandelate Stereoisomers by Chiral Porphyrin Hosts: Prediction of Stereopreference in Guest Binding a Priori Using a Simple Binding Model?," *Tetrahedron Letters,* **2014**, 55, 985-991.

Full publication list

1. Headley, A. D.; McMurry, M. E.; Starnes, S. D. "Effects of Substituents on the Acidity of Acetic Acids," *J. Org. Chem.* **1994**, 59, 7, 1863-1866.
2. Headley, A. D.; Starnes, S. D.; Wilson, L. Y.; Famini, G. R. "Analysis of Solute/Solvent Interactions for the Acidity of Acetic Acids by Theoretical Descriptors," *J. Org. Chem.,* **1994**, 59, 26, 8040-8046.
3. Headley, A. D.; Starnes, S. D.; Cheung, E. T.; Malone, P. L. "Solvation Effects on the Relative Basicity of Propylamines," *J. Phys. Org. Chem.,* **1995**, 8, 1, 26-30.
4. Headley, A. D.; Starnes, S. D. "The Effects of Branching on the Tautomeric Equilibrium of Amino Acids," *J. Am. Chem. Soc.,* **1995**, 117, 36, 9309-9313.
5. Headley, A. D.; Starnes, S. D. "Conformational Analysis of N-Methylglycine and N,N-Dimethylglycine by *ab Initio* Calculations," *J. Mol. Struct.* (THEOCHEM) **1996**, 370, 2-3, 147-155.
6. Headley, A. D.; Starnes, S. D. "Conformational Analysis of Amino Acid Tautomers," *Trends Org. Chem.*, **1998**, 7, 75-84.
7. Headley, A. D.; Starnes, S. D. "Theoretical Studies of the Gas Phase Tautomerization of N,N-Dimethylglycine," *J. Mol. Struct.* (THEOCHEM) **1998**, 453, 247-253.
8. Headley, A. D.; Starnes, S. D. "Theoretical Studies of the Gas Phase Tautomerization of Sarcosine," *J. Mol. Struct.* (THEOCHEM) **1999**, 467, 2, 95-101.
9. Headley, A. D.; Starnes, S. D. "Association of *p*-Toluyldimethylglycine in Water," *J. Phys. Org. Chem.* **1999**, 12, 290-292.
10. Birney, D. M.; Starnes, S. D. "Parallel Combinatorial Esterification: A Simple Experiment for Use in the Second Semester Organic Chemistry Laboratory," *J. Chem. Ed.*, **1999**, 76, 11, 1560-1561.
11. Starnes, S. D.; Rudkevich, D. M.; Rebek, J., Jr. "A Cavitand-Porphyrin Hybrid," *Org. Lett.* **2000**, 2, 14, 1995-1998.
12. Lützen, A.; Starnes, S. D.; Rudkevich, D.; Rebek, J., Jr. "A Self-Assembled Phthalocyanine Dimer," *Tetrahedron Lett*., **2000**, 41, 20, 3777-3780.
13. Headley, A. D.; Starnes, S. D. "Ab Initio Study of Anomeric Effect in 2,2-Difluoroglycine," *J. Mol. Struct.* (THEOCHEM) **2000**, 507, 281-287.
14. Headley, A. D.; Starnes, S. D. "Theoretical Analysis of Fluoroglycine Conformers," *J. Comput. Chem.*, **2000**, 21, 6, 426-431.
15. Starnes, S. D.; Rudkevich, D. M.; Rebek, J. Jr. "Cavitand-Porphyrins," *J. Am. Chem. Soc.* **2001**, 123, 4659-4669.
16. Headley, A. D.; Starnes, S. D., "Conformational Analysis of α-Trifluoroalanine: A Theoretical Study," *J. Mol. Struct.* (THEOCHEM) **2001**, 572, 1-3, 89-95.
17. Starnes, S. D.; Arungundram, S.; Saunders, C. H. "Anion Sensors Based on β,β'-Disubstituted Porphyrin Derivatives," *Tetrahedron Lett.* **2002**, 43, 7785-7788.
18. Starnes, S. D.; Birney, D. M. " Parallel Combinatorial Esterification: An Experiment for the Second Semester Organic Chemistry Laboratory", accepted, Chemical Education Resources: Modular Laboratory Program in Chemistry.
19. Whaley, W. L.; Rummel, J. D.; Zemenu, E.; Li, W.; Yang, P.; Rodgers, B. C.; Bailey, J.; Moody, C. L.; Huhman, D. V.; Maier, C. G.-A.; Sumner, L. W.; Starnes, S. D.. Isolation and characterization of osajin and pomiferin: Discovery laboratory exercises for organic chemistry. *Chemical Educator*, **2007**, 12(3), 179-184.
20. MariJo Wienkers, Josmalen Ramos, Hikma Jemal, Chaz Cardenas, Paul Wiget, Alfreda Nelson, Shiloh Free, Jun Wu, Rebecca Roach, Marius Vulcan, Kristopher Waynant, Kyle Fort, Anna Vladimirova, Jeffery Sun, Samuel Eli Hunt, Dmitry M. Rudkevich, Stephen D. Starnes "Enhanced

Shape-Selective Recognition of Anion Guests through Complexation- Induced Organization of Porphyrin Hosts," *Org. Letters,* **2012**, 14, 6, 1370-1373.

21. Wu, Xiaowen; Starnes, Stephen D. "L-Nipecotic Acid-Porphyrin Derivative: A Chiral Host with Introverted Functionality for Chiral Recognition," *Org. Letters,* **2012**, 14, 14, 3652-3655.
22. Nandipati, V.; Akinapelli, K.; Koya, L.; Starnes, S.D. "Recognition of Mandelate Stereoisomers by Chiral Porphyrin Hosts: Prediction of Stereopreference in Guest Binding a Priori Using a Simple Binding Model?," *Tetrahedron Letters,* **2014**, 55, 985-991.

Advisory Work

Undergraduate Honors Thesis

Chair:

1. Jeffery Sun, defended Honors Thesis April 27, 2012. Highest Honors. Thesis title: "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: (1S,2S)-1,2-Diaminocyclohexane Sulfonamide Derivative."
2. Richard Carranza, anticipated graduation and thesis defense May 2015.
3. Dorian McCradic, anticipated graduation and thesis defense May 2016.

Non-chair:

1. Jeremiah Secrest, Honors Thesis Committee, Thesis defense April 27, 2011.
2. Mary Mason, Honors Thesis Committee, Thesis defense
3. Tiffany Culver, Honors Thesis Committee, proposal defense 2-7-13, Thesis defense 4-15-13

Masters Theses Directed

TAMU-C (2005 – present)

1. Josmalen Ramos, "Synthesis and Characterization of Face-To-Face Porphyrin in Anion Recognition, " summer 2009.
2. Lakshmi Koya, "Porphyrin-Proline Hybrids: Hosts for Chiral Guest Recognition," November 3, 2011.
3. Himajarani Surapaneni, "4-Hydroxy proline-porphyrin hybrids: chiral porphyrins for anion recognition", November 4, 2011.
4. Prathima Kavuri, "1,2-Diamine and 1,2-Amine Alcohol-Porphyrin Hybrids: Chiral Recognition for Anion Recognition," March 30, 2012.
5. Lin Chen, "Chiral Nitrogen Heterocyclic Porphyrin Compounds for Chiral Recognition," August 2012.
6. Karthik Akinapelli, "Synthesis of Chiral Porphyrins and Structural Studies of their Host:Guest Complexes," September 14, 2012.
7. Vijay Nandipati, "3-Aminopyrrolidine-Porphyrin Receptors: Chiral Porphyrins for Anion Recognition," Masters candidate, defended October 19, 2012.
8. Anusha Bomiddi, "Synthesis and Study of Enhanced Shape Selective Anion Hosts," Masters candidate, defended October 24, 2012.
9. MingHsun Yang, "Proline Sulfonamide-Porphyrin Derivatives: ^{19}F-NMR and UV Detection of Chiral Recognition for Anions and Amines," Masters candidate, defended November 1, 2012.
10. Anvesh Dasari, "Chiral Porphyrin:Piperidine Hybrids for Chiral Guest Recognition," Masters candidate, defended May 6, 2013.
11. Xiaowen Wu, "Porphyrin Piperidine Hybrids: Hosts for Chiral Guest Recognition," Masters candidate, defended October 22, 2013.
12. Sirisha Makineni, "Structural Studies of Porphyrin Hosts for Anion Guests and Second Generation Receptors," June 17, 2014.

13. Elvis Boateng, "The Synthesis and Recognition Properties of Chiral Porphyrins and Chiral Bis Porphyrins," June 25, 2014.

Non-Thesis, Chair:

1. Chem 595 advisor for Mr. Cody Wommack, Fall 2006.
2. Chem 595 (Research Literature and Techniques) advisor for Mr. Angus Evans, *Ionic Liquids,* Spring 2006.
3. Chem 595 (Research Literature and Techniques) advisor for Mrs. Helen Wilson, "*Porphyrins: Structure, Properties, and Applications in Medicine, Research, Catalysis, Sensing, and Chiral Recognition,"* Summer 2012.

Masters Theses Committee Work (Non-Chair)

TAMU-C (2005 – present)

1. Jeremy Rummel, Department of Chemistry, Texas A&M-Commerce, defended August 2005.
2. Pei Yang, Department of Chemistry, Texas A&M-Commerce, defended August 2005.
3. Chalita Ratanatawanate, Chemistry, Masters candidate, defended summer 2005.
4. Satish Garre, Masters candidate, defended Fall 2007.
5. Joseph Harvey, Masters candidate, defended Spring 2008.
6. Seraj Albanoon, Masters candidate, defended Spring 2008.
7. Margie Garcia-Steiner Dissertation Proposal Defense, October 24, 2008, Graduate School Representative
8. Adelene Martell Cheatham, Masters candidate, defended Spring 2008.
9. Brandon Utley, Masters candidate, defended summer 2009.
10. Hsin-Yi Tsai, Masters candidate, defended summer 2009.
11. Zilong Zheng – Masters candidate, defended Spring 2010.
12. Subrata Ghosh – Masters candidate, defended June 16, 2010.
13. Dhruba Sarkar – Masters candidate, defended June 16, 2010.
14. Qianying Zhang - Masters candidate, defended June 23, 2010.
15. Stephen Dahlem, Masters candidate, defended Spring 2010.
16. Tianran Shi, Masters candidate, defended October 29, 2010.
17. Nicole Rech, Masters candidate, defended November 17, 2010.
18. Sriram Kundoor, Masters candidate, defended October 27, 2011.
19. Archana Gujjari, Masters candidate, defended March 22, 2012.
20. Porntip Leeprapaiwong, Masters candidate, defended March 26, 2012.
21. Srilakshmi Injeti, Masters candidate, defended October 25, 2012.
22. Kiran Nalla Masters candidate, defended October 26, 2012.
23. Sesham Ramakrishna, Masters candidate, defended October 29, 2013.
24. Sri Pragna Burugupalli, Masters candidate, defended October 24, 2013.
25. Uday Kumar Boga Raja, Masters candidate, defended October 24, 2013.
26. Hind Alshehri, Masters candidate, defended June 13, 2014
27. Aisha Alshahrani, Masters candidate, defended June 6, 2014
28. Maha Aljowni, Masters candidate, defended June 18, 2014

Student Abstracts – Poster and Oral Presentations (presenter in bold)

Presentations at local, regional, and national scientific conferences by students of Dr. Starnes' research group.

TAMU-C (2005 – present)

1. Free, S., **Ramos, J**., Carroll, K., Wienkers, M., Farrow, M., Roach, R., Nelson, A., Vulcan, M., Rudkevich, D., Starnes, S. D. "The Synthesis and Anion Recognition Properties of Meso-Functionalized Metalloporphyrins," 62nd Southwest Regional Meeting of the American Chemical Society, Houston, TX, October 19-22, 2006.
2. Bailey, Johnathan; **Fort, Kyle**; Starnes, Stephen "The Synthesis and Chiral Anion Recognition Properties of a Metalloporphyrin Host," 5th Annual Pathways to the Doctorate Student Research Symposium, November 2-3, 2007, Tarleton State University, Stephenville, TX.
3. **Kee, Carlos**; Foley, Meredith; Smith, Bradley; Starnes, Stephen "Fluorescence Sensing of Anion Binding to a β, β-substituted Porphyrin Host," 5th Annual Pathways to the Doctorate Student Research Symposium, November 2-3, 2007, Tarleton State University, Stephenville, TX.
4. Roberts, Patrick; **von Ausdall, Alexandra**; Starnes, Stephen "Anion Recognition Properties of a Quartenary Ammonium Appended Metalloporphyrin Host," 5th Annual Pathways to the Doctorate Student Research Symposium, November 2-3, 2007, Tarleton State University, Stephenville, TX.
5. **Ramos, Joey**; Free, Shiloh; Wienkers, MariJo; Wu, Jun; Wiget, Paul; Nelson Alfreda; Roach, Rebecca; Vulcan, Marius; Waynant, Kristopher; Carroll, Kellen; Rudkevich, Dmitry M; Starnes, Stephen "Shape Selective Anion Recognition by Metalloporphyrin Hosts," 5th Annual Pathways to the Doctorate Student Research Symposium, November 2-3, 2007, Tarleton State University, Stephenville, TX.
6. Bailey, Johnathan; **Fort, Kyle**; Starnes, Stephen "The Synthesis and Chiral Anion Recognition Properties of a Metalloporphyrin Host," 63rd Southwestern Regional Meeting of the American Chemical Society, November 4-7, 2007, Lubbock, TX.
7. **Kee, Carlos**; Foley, Meredith; Smith, Bradley; Starnes, Stephen "Fluorescence Sensing of Anion Binding to a β, β-substituted Porphyrin Host," 63rd Southwestern Regional Meeting of the American Chemical Society, November 4-7, 2007, Lubbock, TX.
8. Roberts, Patrick; **von Ausdall, Alexandra**; Starnes, Stephen "Anion Recognition Properties of a Quartenary Ammonium Appended Metalloporphyrin Host," 63rd Southwestern Regional Meeting of the American Chemical Society, November 4-7, 2007, Lubbock, TX.
9. **Josmalen Ramos**, Shiloh Free, MariJo Wienkers, Jun Wu, Paul Wiget, Alfreda Nelson, Rebecca Roach, Marius Vulcan, Kristopher Waynant, Kellen Carroll, Dmitry M. Rudkevich, and Stephen D. Starnes "Shape Selective Anion Recognition by Metalloporphyrin Hosts," Dallas - Fort Worth Section of the American Chemical Society 41st Annual "Meeting-in-Miniature", April 19, 2008, Southern Methodist University, Dallas Texas.
10. **Josmalen Ramos**; Kyle Fort; Anna Vladimirova; Alexandra von Ausdall; Shiloh Free; Johnathan Bailey; Kellen Carroll; MariJo Wienkers; Jun Wu; Paul Wiget; Alfreda Nelson; Rebecca Roach; Marius Vulcan; Kristopher Waynant; Maribel Farrow; Dmitry M. Rudkevich; Stephen D. Starnes "Anion Recognition by Meso- and β-Functionalized Metalloporphyrin Hosts," Annual Research Symposium 2008, TAMU-C, April 24, 2008.
11. **Ramos, Joey**; Starnes, Stephen "Anion Recognition Properties of a Bis-Metalloporphyrin Host," 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas, oral presentation.
12. **Bailey, Johnathan**; Vladimirova, Anna; Starnes, Stephen "The Synthesis and Chiral Anion Recognition Properties of a Chiral Bis-Urea Metalloporphyrin Host," 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas.
13. **Cardenas, Chaz**; Starnes, Stephen "Anion Recognition Properties of a Quartenary Ammonium Appended Metalloporphyrin Host," 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas.

14. **Jemal, Hikma;** Starnes, Stephen, "Anion Recognition Properties of a Meso-Sulfonamide/urea Pair Functionalized Porphyrin Receptor," 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas.
15. Ramos, Joey; **Fort, Kyle; Vladimirova, Anna**; Cardenas, Chaz; Jemal, Hikma; Free, Shiloh; Wienkers, MariJo; Wu, Jun; Wiget, Paul; Nelson Alfreda; Roach, Rebecca; Vulcan, Marius; Waynant, Kristopher; Carroll, Kellen; Rudkevich, Dmitry M; Starnes, Stephen "Shape Selective Anion Recognition by Metalloporphyrin Hosts," 64th Southwestern Regional Meeting of the American Chemical Society, October 1-4, 2008, Little Rock, Arkansas.
16. **Ramos, Joey**; Starnes, Stephen "Anion Recognition Properties of a Bis-Metalloporphyrin Host," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
17. **Bailey, Johnathan**; Vladimirova, Anna; Starnes, Stephen "The Synthesis and Chiral Anion Recognition Properties of a Chiral Bis-Urea Metalloporphyrin Host," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
18. **Cardenas, Chaz**; Starnes, Stephen "Anion Recognition Properties of a Quartenary Ammonium Appended Metalloporphyrin Host," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
19. **Jemal, Hikma;** Starnes, Stephen, "Anion Recognition Properties of a Meso-Sulfonamide/urea Pair Functionalized Porphyrin Receptor," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
20. Ramos, Joey; **Fort, Kyle**; **Vladimirova, Anna**; Cardenas, Chaz; Jemal, Hikma; Free, Shiloh; Wienkers, MariJo; Wu, Jun; Wiget, Paul; Nelson Alfreda; Roach, Rebecca; Vulcan, Marius; Waynant, Kristopher; Carroll, Kellen; Rudkevich, Dmitry M; Starnes, Stephen "Shape Selective Anion Recognition by Metalloporphyrin Hosts," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
21. **Vaz, Marc**; Waynant, Kris; Starnes, Stephen "Anion Recognition Properties of TREN Urea and Sulfonamide Derivatives and TREN's CH Analog," 6th Annual Pathways to the Doctorate Student Research Symposium, November 7-8, 2008, Texas A&M-Commerce, Commerce, Texas.
22. **Ramos, Joey**; Starnes, Stephen "Synthesis and Characterization of Novel Face-to-Face Porphyrin," 65th Southwestern Regional Meeting of the American Chemical Society, November 4-6, 2009, El Paso, Texas, oral presentation.
23. **Bailey, Johnathan**; Vladimirova, Anna; Starnes, Stephen "The Synthesis and Chiral Anion Recognition Properties of a Chiral Metalloporphyrin Host" 65th Southwestern Regional Meeting of the American Chemical Society, November 4-6, 2009, El Paso, Texas, oral presentation.
24. **Cardenas, Chaz**; Starnes, Stephen "Anion Recognition Properties of Metalloporphyrin Hosts Appended with Urea and Quartenary Ammonium Side-Arms" 65th Southwestern Regional Meeting of the American Chemical Society, November 4-6, 2009, El Paso, Texas, oral presentation.
25. Jemal, Hikma; **Hunt, Samual Eli**; Starnes, Stephen, "Anion Recognition Properties of a Chiral Amino Acid Appended Porphyrin" 65th Southwestern Regional Meeting of the American Chemical Society, November 4-6, 2009, El Paso, Texas, oral presentation.
26. **Jemal, Hikma**; Hunt, Samual Eli; Starnes, Stephen, "Anion Recognition Properties of a Chiral Amino Acid Appended Porphyrin" 7th Annual Pathways to the Doctorate Student Research Symposium, November 13-14, 2009, Texas A&M-International, Laredo, Texas.
27. **Surapaneni, Himajarani**; Frankson, Mae; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-TPP-L-Isoleucine Derivative." The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.

28. **Koya, Lakshmi**; Nguyen, Khoa; Starnes, Stephen "Chiral Recognition Properties of a Zn-TPP-L-Prolinamide Derivative" The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.
29. **Hunt, Eli**; Jemal, Hikma; Starnes, Stephen, "Anion Recognition Properties of a L-Phenylalanine Appended Zn-Porphyrin" The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.
30. **Sun, Jeffery**; Tovias, Carlos; Starnes, Stephen "Synthesis and Recognition Properties of Chiral Sulfonamide Zn-TPP Receptor." The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.
31. **Castle, Christina**; Starnes, Stephen "The Synthesis and Recognition Properties of two Proline-Porphyrin Hybrids with Chiral Guests" The Texas A&M University System 8th Annual Pathways Student Research Symposium, West Texas A&M, Canyon, Texas, October 22-23, 2010.
32. **Surapaneni, Himajarani**; Frankson, Mae; Starnes, Stephen "The Synthesis and Recognition Properties of a Zn-Tetraphenylporphyrin-L-Isoleucine Derivative." 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
33. **Koya, Lakshmi**; Nguyen, Khoa; Starnes, Stephen "The Synthesis and Chiral Recognition Properties of a Zn-Tetraphenylporphyrin-L-Prolinamide Derivative." 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
34. **Hunt, Eli**; Jemal, Hikma; Starnes, Stephen, "Anion Recognition Properties of a L-Phenylalanine Appended Zn-Porphyrin" 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
35. **Sun, Jeffery**; Tovias, Carlos; Starnes, Stephen "The Synthesis and Recognition Properties of a Zn-Tetraphenylporphyrin:(1R,2R)-1,2-Diaminocyclohexane Sulfonamide Derivative." 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
36. **Castle, Christina**; Starnes, Stephen "The Synthesis and Recognition Properties of two Proline-Porphyrin Hybrids with Chiral Guests" 62nd Southeastern / 66th Southwest Regional Meeting of the American Chemical Society in New Orleans, LA November 30-December 4, 2010.
37. Guess, Spencer; Starnes, Stephen "SAMP and RAMP Porphyrin Derivatives: Chiral Anion Recognition," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
38. **Truong, Khanh**; Kavuri, Prathima; Starnes, Stephen, "Zn-Porphyrin N-Tosyl-1,2-diphenylethylene Diamine Hybrids: Chiral Anion Recognition," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
39. **Kavuri, Prathima**; Sun, Jeffery; Tovias, Carlos; Truong, Khanh; Starnes, Stephen "The Synthesis and Recognition Properties of a Zn-Tetraphenylporphyrin: Chiral 1,2-Diamines and 2-Aminoalcohol Derivatives," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
40. **Karimi, Ava**; Koya, Lakshmi; Wilson, Helen; Truong, Khanh; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: Proline derivatives," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
41. **Surapaneni, Himaja**; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: 4-Hydroxy-proline Derivatives," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.

42. **Chen, Lin**; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: 2,2,3-Trimethyl-5-benzyl-4-imidazolidinone Derivatives," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
43. von Ausdall1, Alexandra S.; Baxter, Kim; Crittenden; Andrew; Pena, Luis; Bradley, Terrence; **Kolawole**, **Elizabeth**; Kennard, Brandi; **Bell**, **Yonwi**; Brandt, Erica, Jang, Ben, Starnes, Stephen ""Who Is Chemistry?" a Celebration of Diversity," 67th Southwest Regional Meeting of the American Chemical Society, Austin TX, November 9-12, 2011.
44. **Truong, Khanh**; Kavuri, Prathima; Starnes, Stephen, "Zn-Porphyrin N-Tosyl-1,2-diphenylethylene Diamine Hybrids: Chiral Anion Recognition," 9th Annual Pathways Student Research Symposium, College Station, TX, November 11, 2011.
45. **Kavuri, Prathima**; Sun, Jeffery; Tovias, Carlos; Truong, Khanh; Starnes, Stephen "The Synthesis and Recognition Properties of a Zn-Tetraphenylporphyrin: Chiral 1,2-Diamines and 2-Aminoalcohol Derivatives," 9th Annual Pathways Student Research Symposium, College Station, TX, November 11, 2011.
46. **Karimi, Ava**; Koya, Lakshmi; Wilson, Helen; Truong, Khanh; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: Proline derivatives," 9th Annual Pathways Student Research Symposium, College Station, TX, November 11, 2011.
47. **Surapaneni, Himaja**; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: 4-Hydroxy-proline Derivatives," 9th Annual Pathways Student Research Symposium, College Station, TX, November 11, 2011.
48. **Chen, Lin**; Starnes, Stephen "The Synthesis and Recognition Properties of Zn-Tetraphenylporphyrin: 2,2,3-Trimethyl-5-benzyl-4-imidazolidinone Derivatives," 9th Annual Pathways Student Research Symposium, College Station, TX, November 11, 2011.
49. **Xiaowen Wu**, Stephen D. Starnes "Nipecotic Acid-Porphyrin Derivatives: Chiral Anion Recognition," Texas A&M-Commerce Annual Research Symposium, April 5, 2012.
50. **Anusha Bommidi**, Stephen D. Starnes "Porphyrin Hosts for the Shape-Selective Recognition of Anion Guests," Texas A&M-Commerce Annual Research Symposium, April 5, 2012.
51. **Karthik Akinapelli**, Stephen D. Starnes "Synthesis of Chiral Porphyrins and Structural Studies of their Host:Guest Complexes," Texas A&M-Commerce Annual Research Symposium, April 5, 2012.
52. **Xiaowen Wu**, Stephen D. Starnes "Nipecotic Acid-Porphyrin Derivatives: Chiral Anion Recognition," The 24th International Conference on Chirality (Chirality 2012), Fort Worth, Texas, June 10-13, 2012.
53. **Khanh Truong**, Stephen D. Starnes "Synthesis of Chiral Porphyrins and Structural Studies of their Host:Guest Complexes," 244th National Meeting of the American Chemical Society, Philadelphia, PA, August 19-23, 2012.
54. **Karthik Akinapelli**, Stephen D. Starnes "Synthesis of Chiral Porphyrins: Stereoselective Recognition of Mandelate Isomers," North Texas Life Science Research Symposium, UNT Health Science Center, Fort Worth, TX, Nov. 3, 2012.
55. **Anusha Bommidi**, Stephen D. Starnes "Enhanced Shape-Selective Recognition of Anion Guests by Porphyrin Hosts," North Texas Life Science Research Symposium, UNT Health Science Center, Fort Worth, TX, Nov. 3, 2012.
56. **Vijay Nandipati**, Stephen D. Starnes "Chiral Pyrollidine-Porphyrin Hybrids: Prediction of Enantiopreference in Guest Binding a Priori Based on Host Design," North Texas Life Science Research Symposium, UNT Health Science Center, Fort Worth, TX, Nov. 3, 2012.

57. **Karthik Akinapelli**, Stephen D. Starnes "Synthesis of Chiral Porphyrins: Stereoselective Recognition of Mandelate Isomers," 10th Annual Pathways Student Research Symposium, Galveston, TX, November 9-10, 2012.
58. **Anusha Bommidi**, Stephen D. Starnes "Enhanced Shape-Selective Recognition of Anion Guests by Porphyrin Hosts," 10th Annual Pathways Student Research Symposium, Galveston, TX, November 9-10, 2012.
59. **Vijay Nandipati**, Stephen D. Starnes "Chiral Pyrollidine-Porphyrin Hybrids: Prediction of Enantiopreference in Guest Binding a Priori Based on Host Design," 10th Annual Pathways Student Research Symposium, Galveston, TX, November 9-10, 2012.
60. **Elvis Boateng**, MingHsun Yang, Caramy Spencer, Stephen D. Starnes, "Chiral Bis-Porphyrin Hosts: Chiral Corners," Texas A&M-Commerce Annual Research Symposium, Commerce, TX, April 4, 2013.
61. **Maha Alqurafi**, Stephen D. Starnes, "Chiral Capped-Porphyrins: Chiral Anion Recognition," Texas A&M-Commerce Annual Research Symposium, Commerce, TX, April 4, 2013.
62. **Paul Battles**, Stephen D. Starnes, "1D and 2D-NMR Spectroscopy at A&M-Commerce and Chiral Capped-Zn-Tetraphenylporphyrin: Proline Derivatives," Texas A&M-Commerce Annual Research Symposium, Commerce, TX, April 4, 2013.
63. **Anvesh Dasari**, Vijay Nandipati, Stephen D. Starnes, "Synthesis of Chiral Porphyrin:Piperidine Derivatives and their Chiral Recognition Properties," Texas A&M-Commerce Annual Research Symposium, Commerce, TX, April 4, 2013.
64. **Anvesh Dasari,** Vijay Nandipati, Stephen D. Starnes, "Synthesis of Chiral Porphyrin:Piperidine Derivatives and their Chiral Recognition Properties," 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
65. **Xiaowen Wu**, Stephen D. Starnes, "Nipecotic Acid-Porphyrin Derivatives: Chiral Anion Recognition," 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
66. **Maha Alqurafi**, Stephen D. Starnes, "Chiral Capped-Porphyrins: Chiral Anion Recognition," 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
67. **Sirisha Makineni**, Anusha Bommidi, Vanessa Jackson, Mary Golleher, Stephen D. Starnes, "Porphyrin Hosts for the Shape-Selective Recognition of Anion Guests," 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
68. **Paul Battles**, Stephen D. Starnes, "The Synthesis of Chiral Capped-Zn-Tetraphenylporphyrin: Proline Derivatives and a Study of their Chiral Recognition Properties", 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
69. **Elvis Boateng**, MingHsun Yang, Caramy Spencer, Stephen D. Starnes, "Chiral Bis-Porphyrin Hosts: Chiral Corners, "46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
70. **Katrina Schoenfeld**, Joey Ramos, Stephen D. Starnes, "The Recognition Properties of a Zinc-Metallated Face-to-Face Porphyrin Host," 46th ACS DFW Meeting-in-Miniature, Commerce, TX, April 27, 2013.
71. **Maha Atyah Alqurafi**, Vijay Nandipati, Xiaowen Wu, Anvesh Dasari, Lakshmi Koya, MingHsun Yang, Lin Chen, Stephen D. Starnes, "Chiral Porphyrins: Hosts with Chiral Walls and Caps," 8th International Symposium of Macrocyclic and Supramolecular Chemistry, Arlington, VA, JULY 7-11, 2013.
72. **Elvis Boateng**, MingHsun Yang, Janet Varela, Caramy Spencer, Stephen D. Starnes "Chiral Bis-Porphyrin Hosts: Chiral Corners," The Texas A&M System 11th Annual Pathways Student Research Symposium, November 8, 2013, Kingsville, Texas.
73. **Maha Alqurafi**, Paul Battles, Stephen D. Starnes "Chiral Capped-Porphyrins: Chiral Anion

Recognition," The Texas A&M System 11th Annual Pathways Student Research Symposium, November 8, 2013, Kingsville, Texas.

74. **Paul Battles**, "The Synthesis of Chiral Capped-Zn-Tetraphenylporphyrin: Proline Derivatives and a Study of their Chiral Recognition Properties," The Texas A&M System 11th Annual Pathways Student Research Symposium, November 8, 2013, Kingsville, Texas.
75. **Sirisha Makineni**, Anusha Bommidi, Kiran Nalla, Vanessa Jackson, Laurence Angel, Stephen D. Starnes "Enhanced Selectivity in Anion Recongition Through Hosts That Complement the Shape of the Target Guest: A UV/Vis, NMR and Computational Study," The Texas A&M System 11th Annual Pathways Student Research Symposium, November 8, 2013, Kingsville, Texas.
76. **Vanessa Jackson**, Paul Battles, Sirisha Makineni, Anusha Bommidi, Stephen D. Starnes "Modification of Known Porphyrin Hosts to Improve the Receptor Design for the Recognition of Trigonal Planar Anions," The Texas A&M System 11th Annual Pathways Student Research Symposium, November 8, 2013, Kingsville, Texas.
77. **Elvis Boateng**, MingHsun Yang, Janet Varela, Caramy Spencer, Stephen D. Starnes "Chiral Bis Porphyrin Hosts: Chiral Corners," 69th Southwest Regional Meeting of the American Chemical Society, November 16-19, 2013, Waco Texas.
78. **Maha Alqurafi**, Paul Battles, Stephen D. Starnes "Chiral Capped-Porphyrins: Chiral Anion Recognition," 69th Southwest Regional Meeting of the American Chemical Society, November 16-19, 2013, Waco Texas.
79. **Paul Battles**, "The Synthesis of Chiral Capped-Zn-Tetraphenylporphyrin: Proline Derivatives and a Study of their Chiral Recognition Properties," 69th Southwest Regional Meeting of the American Chemical Society, November 16-19, 2013, Waco Texas.
80. **Sirisha Makineni**, Anusha Bommidi, Kiran Nalla, Vanessa Jackson, Laurence Angel, Stephen D. Starnes "Enhanced Selectivity in Anion Recongition Through Hosts That Complement the Shape of the Target Guest: A UV/Vis, NMR and Computational Study," 69th Southwest Regional Meeting of the American Chemical Society, November 16-19, 2013, Waco Texas.
81. **Vanessa Jackson**, Paul Battles, Sirisha Makineni, Anusha Bommidi, Stephen D. Starnes "Modification of Known Porphyrin Hosts to Improve the Receptor Design for the Recognition of Trigonal Planar Anions," 69th Southwest Regional Meeting of the American Chemical Society, November 16-19, 2013, Waco Texas.
82. **Elvis Boateng**, MingHsun Yang, Janet Varela, Stephen D. Starnes "Chiral Bis-Porphyrin Hosts: Chiral Corners," 247th ACS National Meeting, Dallas, TX, March 16-20, 2014.
83. **Maha Alqurafi**, Paul Battles, Shaquala Quigley, Seung Kim, Stephen D Starnes, "Chiral Capped Porphyrins: Chiral Anion Recognition," 247th ACS National Meeting, Dallas, TX, March 16-20, 2014.
84. **Sirisha Makineni**, Vanessa Jackson, Paul Battles, Anusha Bommidi, Maritza Ramos, Stephen D. Starnes, "Porphyrin-Based Hosts That Complement the Shape of the Target Guest Show Enhanced Selectivity in Anion Recognition: A UV/Vis, NMR and Computational Study," 247th ACS National Meeting, Dallas, TX, March 16-20, 2014.
85. **Khanh Truong**, Camille K. Aben, Enrique A. Alvarez-Ventura, Haley N. Brenchley, Bethany L. Davidson, Kyle L. Elliott, Mehrnoosh Kohansal, Katharina Wijono, Stephen D. Starnes, "The Synthesis of Chiral Porphyrins with Chiral Caps: A Collaborative Effort between One Graduate Student and Seven First-Year Chemistry Students," Annual Research Symposium, Texas A&M-Commerce, Commerce, TX, April 3, 2014.

Awards Received by my Research Students

1. Joey Ramos, Discipline winner, graduate 2nd place in the physical sciences at the 2007 Pathways symposium (abstract 5 above).
2. Joey Ramos, 2008 Summer RA Support for a graduate student, submitted March 3, 2008 to TAMU-C graduate school. "Synthesis and study of a porphyrin-based receptor for nitrate and carbonate," $4,000.00
3. Joey Ramos, graduate 1st place overall winner in the Masters student division at the 2008 Pathways symposium (abstract 16 above).
4. Jeffery Sun, Discipline winner, undergraduate, 2nd place in the physical sciences at the 2010 Pathways symposium (abstract 30 above).
5. Jeffery Sun selected to present a poster over his research in Austin, February 14, 2011 at the Undergraduate Research Day at the Capitol: Transforming Texas Through Undergraduate Research.
6. Jeffery Sun was awarded a $500.00 research grant in the TAMU-C fall 2010 mini undergraduate research grant competition.
7. Eli Hunt was awarded a $500.00 research grant in the TAMU-C spring 2011 mini undergraduate research grant competition.
8. MingHsun Yang, summer 2011 RA support from graduate school, "The Synthesis of Chiral Organocatalysts for Asymmetric Reactions," $4000.00
9. Xiaowen Wu, Best graduate presentation in the College of Science, Agriculture and Engineering, 2012 Annual Research Symposium, Texas A&M-University Commerce (abstract 49 above).
10. Anupama Singh Balaji, a graduate students of mine, obtained summer RA support, Submitted March 19, 2012, for $4000.00, "Structural Studies of Chiral Host-Guest Complexes and Second Generation Receptors."
11. James Rogers, was awarded an undergraduate research grant of $500.00 research grant in the TAMU-C fall 2012 mini undergraduate research grant competition.
12. Khanh Truong was awarded a $500.00 research grant in the TAMU-C spring 2012 mini undergraduate research grant competition.
13. Khanh Truong was awarded a $500.00 travel grant in the TAMU-C spring 2012 undergraduate travel grant competition.
14. Karthik Akinapelli, 3rd place in graduate presentation in the North Texas Life Science Research Symposium, UNT Health Science Center, Fort Worth, TX, Nov. 3, 2012. (abstract 54 above).
15. Paul Battles, 2nd Place, Undergraduate Presentation in the College of Science, Agriculture and Engineering, 2013 Annual Research Symposium, Texas A&M-University Commerce (abstract 62 above).
16. Paul Battles, 2nd place undergraduate division poster presentation, Fall 2013 Regional ACS conference, $75.00 cash prize (abstract 14 above).
17. Paul Battles, undergraduate grant proposal spring 2013 – $500.00.
18. Sirisha Makineni, summer RA support, submitted March 19, 2012, awarded $4000.00.
19. Dorian McCradic, undergraduate grant proposal for fall 2013 – $500.00
20. Undergraduate travel grant proposal for Paul Battles, 10-04-13 – $436.00, awarded fall 2013.
21. Travel grant proposals for Elvis Boateng, Sirisha Makineni and Maha Alquarifi, awarded fall 2013.
22. Undergraduate Research grant, $500.00, spring 2014 (John Naizer)
23. Undergraduate Research grant, $500.00, spring 2014 (Lance Mwangi)