TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Todd W. Hudnall Title: Assistant Professor of Chemistry

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
Ph.D.	2008	Texas A&M University	Chemistry	Neutral and Cationic Main Group Lewis Acids - Synthesis, Characterization and Anion Complexation
B.S.	2004	Texas State University – San Marcos	Chemistry	N/A

C. University Experience

Position	*University*	*Dates*
Assistant Professor	Texas State University – San Marcos	2010 – current

D. Relevant Professional Experience

Position	*Entity*	*Dates*
Postdoctoral Fellow	The University of Texas at Austin	2008–2010
Graduate Research/Teaching Assistant	Texas A&M University	2004–2008
Undergraduate Research Assistant	Texas State University – San Marcos	2002–2004

II. TEACHING

A. Teaching Honors and Awards:

1. Alpha Chi, Favorite Professor, 2011.

B. Courses Taught:

CHEM 2341 – Organic Chemistry I for science majors
CHEM 2342 – Organic Chemistry II for science majors
CHEM 2142 – Organic Lab II for science majors

CHEM 5321 – Advanced Organic Chemistry
CHEM 4333/5333 – Spectroscopy
CHEM 5312 Organometallics
CHEM 4241 – Advanced Lab II

C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate):

1. Samuel Hanson (Ph.D. student, Department of Chemistry, University of New Brunswick, Canada) December 2015.
2. Donghyi Koh (Ph.D. student, Department of Electrical and Computer Engineering, University of Texas at Austin), expected graduation, 2016.
3. Cassie Deardorff, as Advisor, (early entry M.S.), expected graduation, 2016.
4. Solomon Phungwayo, December 2015 (expected)
5. Jacob Armitage, December 2015 (expected)
6. Sedriel Montalvo, August 2015
7. Aaron Rodgers, August 2014
8. Roberta Rodrigues, as Advisor, (M.A., December 2014)
9. Martin Mantz, December 2013
10. Jeffrey Simpson, as Co-Advisor, May 2013
11. Matthew Hartline, December 2012

I. Other:

1. Undergraduate Research Students Mentored in the Research Laboratory:
   a. Christopher Barragan (Spring 2016 – present)
   b. Zachary Naymik (Fall 2015 – present)
   c. Philip Cesani (Fall 2015 – present)
   d. Melissa Cadena (Summer 2015, NSF-REU Student)
   e. Isaac Blythe (Summer 2015)
   f. R. Eric Sikma (Summer 2014, NSF-REU Student)
   g. Brenton Gildner (Summer 2014 – present)
   h. Beau Sterling (Summer 2014 – present)
   i. Kortney Melancon (Spring 2014 – present)
   j. Nicole Lambdin (Spring 2014)
   k. Joshua Abraham (Spring 2014)
   l. Cassie Deardorff (Fall 2013 – Fall 2014)
   m. Anthony Ledet – H-LSAMP Scholar (Fall 2013 – present)
   n. Brian Nieto (Summer 2013, NSF-REU student)
   o. Chelsee Arceneaux (Summer 2013, NSF-REU student)
   p. Rachel Bower (Summer 2013 – Spring 2014)
   q. Michael Villarreal (Spring 2013 – present)
   r. Antonio Torres (Spring 2013 – present)
   s. Gerardo Ochoa (Fall 2011 – Summer 2013)
   t. Brian Squires (Spring 2011 – Fall 2012)
   u. Ashley Martes (Spring 2011 – Fall 2011)
   v. Katherine Sincerbox (Fall 2010 – Fall 2011)
   w. Kyna Schreiber (Fall 2010 – Fall 2011)

x. Ryan Mushinski (Fall 2010 – Spring 2013)

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press)

2. Articles

a. Refereed Journal Articles:

41) Ledet, A. D.[‡] and Hudnall, T. W.[*] Reduction of a Diamidocarbene-Supported Borenium Cation: Isolation of a Neutral Boryl-Substituted Radical and a Carbene-Stabilized Aminoborylene" *Dalton Trans.* **2016**, *Accepted Manuscript Online* (doi: 10.1039/c6dt00300a). (invited submission for the *New Talent: Americas* special issue)

40) Hudnall, T. W.;[*] Dorsey, C. L.; Jones, J. S.; Gabbaï, F. P.[*] "Stepwise reduction of an α-phosphonio-carbocation to a crystalline phosphine radical cation and an acridinyl-phosphorus ylide" *Chem. – Eur. J.* **2016**, *Accepted Manuscript Online* (doi:10.1002/chem.201504744) Highlighted with Frontispiece.

39) Deardorff, C. L.[‡,†]; Sikma, R. E. [‡]; Rhodes, C. P.; Hudnall, T. W.[*] Carbene-derived α-acyl formamidinium cations: organic molecules with readily tunable multistage redox processes *Chem. Commun.* **2016**, *accepted* **DOI:** 10.1039/C5CC06322A. (invited submission for the *Emerging Investigators* special issue)

38) Montalvo, S. J. [†]; Hudnall, T. W.; Feakes, D. A.[*] Exploring the redox reactivity of the [B20H28]2- ion with carbon-based nucleophiles and electrophiles. *J. Organomet. Chem.* **2015**, *798*, 141-145.

37) Dorsey, C. L.; Mushinski, R. M.[‡]; Hudnall, T. W.[*] Metal-Free Stabilization of Monomeric Antimony(I): A Carbene-Supported Stibinidene. *Chem. – Eur. J.* **2014**, *20*, 8914-8917.

36) Torres, A. J.[‡]; Dorsey, C. L.; Hudnall, T. W.[*] Preparation and Use of Carbonyl-Decorated Carbenes in the Activation of White Phosphorus. *J. Vis. Exp.* **2014**, *92* e52149/1-e52149/9.

35) Koh, D.; Kwon, H. M.; Kim, T.-W.; Kim, D.-H.; Hudnall, T. W.; Bielawski, C. W.; Maszara, W.; Veksler, D.; Gilmer, D.; Kirsch, P. D.; Banerjee, S. K. Lg = 100 nm $In_{0.7}Ga_{0.3}As$ quantum well metal-oxide semiconductor field-effect transistors with atomic layer deposited beryllium oxide as interfacial layer. *App. Phys. Lett.* **2014**, *104*, 163502-1 – 163502-4.

34) Koh, D.; Yum, J. H.; Banerjee, S. K.; Hudnall, T. W.; Bielawski, C. W.; Langford, W. A.; French, B. L.; French, M.; Henry, P.; Li, H.; Kuhn, M.; King, S. W.[*] Investigation of Atomic Layer Deposited Beryllium Oxide Material Properties for High-K Dielectric Applications. *J. Vac. Sci. Technol. B* **2014**, *32*, 03D117.

33) Min, K. S.; Kang, S. H.; Kim, J. K.; Yum, J. H.; Jhon, Y. I.; Hudnall, T. W.; Bielawski, C. W.; Banerjee, S. K.; Bersuker, G.; Jhon, M. S.; Yeom, G. Y.[*] Atomic layer etching of BeO using BCl3/Ar for the interface passivation layer of III-V MOS devices. *Microelectron. Eng.* **2014**, *114*, 121-125.

32) Johnson, D. W.[*]; Yum, J. H.; Hudnall, T. W.; Mushinski, R. M.[‡]; Bielawski, C. W.; Roberts, J. C.; Wang, W. E.; Banerjee, S. K.; Harris, R.[*] Characterization of ALD Beryllium Oxide as a Potential High-k Dielectric for Low-Leakage AlGaN/GaN MOSHEMTs *J. Electron. Mater.* **2014**, *43*, 151-154.

31) Rodrigues, R. R.[†]; Dorsey, C. L.; Arceneaux, C. A.[‡]; Hudnall T. W.[*] Phosphaalkene vs. Phosphinidene: The Nature of the P–C Bond in Carbonyl-Decorated Carbene→PPh Adducts. *Chem. Commun.* **2014**, *50*, 162-164. *Featured on back cover.*

30) Shin, H. S.; Yum, J. H.; Johnson, D. W.; Harris, H. R.; Hudnall, T. W.; Oh, J.; Kirsch, P.; Wang, W.-E.; Bielawski, C. W.; Banerjee, S. K.; Lee, J. C.; Lee, H. D.[*] Low interface defect density of atomic layer deposited BeO with self-cleaning reaction for InGaAs metal oxide semiconductor field effect transistors. *App. Phys. Lett.* **2013**, *103*, 223504/1-223504/3.

29) Douglas, N.[‡]; Neef, C. J.; Rogers, R. A.[†]; Stanley, J. A.[‡]; Armitage, J.[‡]; Martin, B.; Hudnall, T. W.; Brittain, W. J.[*] Reactivity of tetrahydrochromeno[2,3-b] indoles: chromic indicators of cyanide. *J. Phys. Org. Chem.* **2103**, *26*, 688–695.

28) Dorsey, C. L.; Squires, B. M.[‡]; Hudnall, T. W.[*] Isolation of a Neutral P_8 Cluster via [2+2] Cycloaddition of a Diphosphene Facilitated by Carbene Activation of White Phosphorus. *Angew. Chem. Int. Ed.* **2013**, *52*, 4462–4465. *With VIP distinction and inside front cover.*

27) Yum. J. H.[*]; Shin, H. S.; Hill, R.; Oh, J.; Lee, H. D.; Mushinski, R. M.[‡]; Hudnall, T. W.; Bielawski, C. W.; Banerjee, S. K.; Loh, W. Y.; Wang, W. E.; Kirsch, P. A study of capping layers for sulfur monolayer doping on III-V junctions. *App. Phys. Lett.* **2012**, *101*, 253514-1–253514-3.

26) Yum, J. H.[*]; Oh, J.; Hudnall, T. W.; Bielawski, C. W.; Bersuker, G.; Banerjee, S. K. Comparative study of SiO_2, Al_2O_3, and BeO ultrathin interfacial barrier layers in Si metal-oxide-semiconductor devices. *Active and Passive Electronic Components* **2012**, 359580, 7 pages.

25) Mushinski, R. M.[‡]; Squires, B. M.[‡]; Sincerbox, K. A.[‡]; Hudnall, T. W.[*] Amino-Acrylamido Carbenes: Modulating Carbene Reactivity via Decoration with an α,β-unsaturated Carbonyl Moiety. *Organometallics* **2012**, *31*, 4862-7870.

24) Lei, M.; Yum, J. H.[*]; Price, J.; Hudnall, T. W.; Bielawski, C. W.; Banerjee, S. K.; Lysaght, P. S.; Bersuker, G.; Downer, M. C. Spectroscopic evaluation of band alignment of atomic layer deposited BeO on Si(100). *App. Phys. Lett.* **2012**, *100*, 122906-1–122906-4.

23) Yum, J. H.[*]; Akyol, T.; Lei, M.; Ferrer, D. A.; Hudnall, T. W.; Bielawski, C. W.; Bersuker, G.; Lee, J. C.; Banerjee, S. K. Electrical and Physical Characteristics for

Crystalline Atomic Layer Deposited Beryllium Oxide Thin Film on Si and GaAs Substrates. *Thin Solid Films* **2012**, *520*, 3091–3095.

22) Yum, J. H.*; Bersuker, G.; Akyol, T.; Ferrer, D. A.; Lei, M.; Park, K. W.; Hudnall, T. W.; Downer, M. C.; Bielawski, C. W.; Yu, E. T.; Price, J.; Lee, J. C.; Banerjee, S. K. Epitaxial ALD BeO: Efficient Oxygen Diffusion Barrier for EOT Scaling and Reliability Improvement. *IEEE Trans. Electron Devices* **2011**, *58*, 4384–4392.

21) Yum, J. H.*; Akyol, T.; Lei, M.; Ferrer, D. A.; Hudnall, T. W.; Downer, M.; Bielawski, C. W.; Bersuker, G.; Lee, J. C.; Banerjee, S. K. A study of highly crystalline novel beryllium oxide film using atomic layer deposition. *J. Cryst. Growth* **2011**, *334*, 126-133.

20) Yum, J. H.*; Akyol, T.; Ferrer, D. A.; Banerjee, S. K.; Lei, M.; Downer, M.; Hudnall, T. W.; Bielawski, C. W.; Bersuker, G. Comparison of Self Cleaning Effect and Electrical Characteristics between Atomic Layer Deposited BeO and Al2O3 as an Interface Passivation Layer on GaAs MOS Devices. *J. Vac. Sci. Technol. A.* **2011**, *29*, 061501-1–061501-6.

19) Yum, J. H.*; Akyol, T.; Lei, M.; Ferrer, D. A.; Hudnall, T. W.; Downer, M.; Bielawski, C. W.; Bersuker, G.; Lee, J. C.; Banerjee, S. K. Inversion type InP metal oxide semiconductor field effect transistor using novel atomic layer deposited BeO gate dielectric. *Appl. Phys. Lett.* **2011**, *99*, 033502-1–033502-3.

18) Li, Z.*; Lin, T.-P.; Lui, S.; Huang, C.-W.; Hudnall, T. W.; Gabbaï, F. P.*; Conti, P. S. Rapid aqueous [^{18}F]-labeling of a bodipy dye for positron emission tomography/fluorescence dual modality imaging. *Chem. Commun.* **2011**, *47*, 9324–9326.

17) Yum, J. H.*; Akyol, T.; Lei, M.; Hudnall, T.; Bersuker, G.; Downer, M.; Bielawski, C. W.; Lee, J. C.; Banerjee, S. K. Atomic layer deposited beryllium oxide: Effective passivation layer for III-V metal/oxide/semiconductor devices. *J. Appl. Phys.* **2011**, *109*, 064101-1–064101-4.

16) Hudnall, T. W.; Tennyson, A. G.; Bielawski, C. W.* A Seven-Membered *N,N'*-Diamidocarbene. *Organometallics* **2010**, *29*, 4569–4578.

15) Park, J. S.; Karnas, E.; Ohkubo, K.; Chen, P.; Kadish, K. M.; Fukuzumi, S.; Bielawski, C. W.*; Hudnall, T. W.; Lynch, V. M.; Sessler, J. L.* Ion-Mediated Electron Transfer in a Supramolecular Donor-Acceptor Ensemble. *Science* **2010**, *329*, 1324–1326.

14) Hudnall, T. W.; Lin, T.-P.; Gabbaï, F. P.* Substitution of Hydroxide by Fluoride at the Boron Center of a BODIPY Dye. *J. Fluo. Chem.* **2010**, *131*, 1182–1186.

13) Hudnall, T. W.; Moerdyk, J. P.; Bielawski, C. W.* Ammonia N–H Activation by a *N*,*N*'–Diamidocarbene. *Chem. Commun.* **2010**, *46*, 4288-4290.

12) Hudnall, T. W.; Moorhead, E. J.; Gusev, D. G.; Bielawski, C. W.* *N*,*N*'-Diamidoketenimines *via* Coupling of Isocyanides to an *N*-Heterocyclic Carbene. *J. Org. Chem.* **2010**, *75(8)*, 2763-2766.

11) Tennyson, A. G.; Ono, R. J.; Hudnall, T. W.; Khramov, D. M.; Er, J. A. V.; Kamplain, J. W.; Lynch, V. M.; Sessler, J. L.*; Bielawski, C. W.* Quinobis(imidazolylidene): Synthesis and study of an electron-configurable bis(*N*-heterocyclic carbene) and its bimetallic complexes. *Chem. – Eur. J.* **2010**, *16 (1),* 304-315.

10) Hudnall, T. W.; Bielawski, C. W.* An *N*,*N*'-Diamidocarbene: Studies in C–H insertion, Reversible Carbonylation and Transition-Metal Coordination Chemistry. *J. Am. Chem. Soc.* **2009**, *131(44)*, 16039-16041.

9) Kim, Y.; Hudnall, T. W.; Bouhadir, G. B.; Bourissou, D.; Gabbaï, F. P.* Azide ion recognition in water/$CHCl_3$ using a chelating phosphonium borane as a receptor. *Chem. Commun*. **2009**, 3729-3731.

8) Hudnall, T. W.; Chiu, C.-W.; Gabbaï, F. P.* Fluoride ion recognition by chelating and cationic boranes. *Acc. Chem. Res*. **2009**, *42(2)*, 388-397.

7) Hudnall, T. W.; Kim, Y.; Bebbington, M. W. P.; Bourissou, D.; Gabbaï, F. P.* Fluoride ion chelation by a bidentate phosphonium/borane Lewis acid. *J. Am. Chem. Soc.* **2008**; *130(33)*, 10890-10891.

6) Hudnall, T. W.; Gabbaï, F. P.* A BODIPY boronium cation for the sensing of fluoride ions. *Chem. Commun.* **2008**, 4596-4597.

5) Dorsey, C. L.; Jewula, P.; Hudnall, T. W.; Hoefelmeyer, J. D.; Taylor, T. J.; Honesty, N.; Chiu, C.-W.; Schulte, M.; Gabbaï, F. P.* Fluoride Ion Complexation by a B_2/Hg heteronuclear Tridentate Lewis Acid – A Structural and Electrochemical Invesitgation. *Dalton Trans.* **2008**, *33*, 4442-4450.

4) Hudnall, T. W.; Gabbaï, F. P.* Ammonium boranes for the selective complexation of cyanide or fluoride ions in water. *J. Am. Chem. Soc.* **2007**, *129(39)*, 11978-11986.

3) Hudnall, T. W.; Bondi, J. F.; Gabbaï, F. P.* *ortho*-Borylated trifluoroacetanilides – Synthesis and fluoride ion binding properties. *Main Group Chemistry* **2006**, *5(4),* 319-327.

2) Hudnall, T. W.; Melaïmi, M.; Gabbaï, F. P.* A hybrid Lewis acid/hydrogen bond donor receptor for fluoride. *Org. Lett.* **2006**, *8(13)*, 2747-2749.

1) Hoppens, N. C.; Hudnall, T. W.; Foster, A.; Booth, C. J.* Aliphatic-Aromatic Copolyesters Derived from 2,2,4,4-Tetramethyl-1,3- cyclobutanediol. *J. Polym. Sci., Part A: Polym. Chem.* **2004**, *42(14),* 3473-3478.

3. Conference Proceedings

b. Non-refereed:

1) Koh, D.; Yum, J. H.; Akyol, T. Ferrer, D. A.; Lei, M.; Hudnall, T. W.; Downer, M. C.; Bielawski, C. W.; Hill, R.; Bersuker, G.; Banerjee, S. K. Novel atomic layer deposited

thin film beryllium oxide for InGaAs MOS devices. *International Conference on Indium Phosphide and Related Materials* **2012**, 163-166.

2) Wiggins, K. M.; Tennyson, A. G.; Hudnall, T. W.; Bielawski, C. W.* Polymer assisted mechanical reconfiguration of stereoisomers and activation of catalyst. *ACS Polym. Pre.* **2011**, *52(1)*.

3) Yum, J. H.*; Bersuker, G.; Akyol, T.; Lei, M.; Ferrer, D. A.; Park, K. W.; Hudnall, T. W.; Downer, M.; Bielawski, C. W.; Yu, E. T.; Price, J.; Lee, J. C.; Banerjee, S. K. ALD BeO: Novel Barrier Layer for High Performance Gate Stacks on Si and High Mobility Substrates. *IEDM Tech. Dig.* **2011**, 638–641.

4) Hoppens, N. C.; Hudnall, T. W.; Foster, A.; Booth, C. J.* A New Series of CBDO Based Co-Polyesters. *ACS Polym. Pre.* **2004**, *45(1)*, 1016.

4. Abstracts:

1) Hudnall, T. W.*; Deardorff, C. L.‡,†; Sikma, R. E.‡ Carbene-stabilized organic radicals with tunable electrochemical properties. The International Chemical Congress of Pacific Basin Societies, PACIFICHEM 2015, December 15-20, 2015, Honolulu, Hawaii.

2) Hudnall, T. W.*; Ledet, A.‡; Melancon, K. M.‡; Torres, A. J.‡ Stabilization of reactive main group species by coordination to carbonyl-decorated carbenes. The International Chemical Congress of Pacific Basin Societies, PACIFICHEM 2015, December 15-20, 2015, Honolulu, Hawaii.

3) Hudnall, T. W.*; Ledet, A.‡; Melancon, K. M.‡; Torres, A. J.‡ Stabilization of reactive main group species by coordination to carbonyl-decorated carbenes. 250th ACS National Meeting, INOR Division, August 16-20, 2015, Boston, Massachusetts. (oral)

4) Hudnall, T. W.*; Deardorff, C. L.‡,†; Sikma, R. E.‡; Melancon, K. M.‡; Gildner, M. B.‡ Carbene-stabilized organic radicals with tunable electrochemical properties. 250th ACS National Meeting, ORGN Division, August 16-20, 2015, Boston, Massachusetts. (oral)

5) Deardorrf, C. L.‡,†; Hudnall, T. W.* Synthesis and electrochemical characterization of stable organic radicals derived from singlet carbenes. 250th ACS National Meeting, ORGN Division, August 16-20, 2015, Boston, Massachusetts. (poster)

6) Ledet, A. D.‡; Hudnall, T. W.* Synthetic efforts toward diamidocarbene-supported terminal borylenes. 250th ACS National Meeting, INOR Division, August 16-20, 2015, Boston, Massachusetts. (poster)

7) Melancon, K. M.‡; Torres, A. J.‡; Hudnall, T. W.* Synthesis and characterization of carbene-stabilized arsenic(I) cations. 250th ACS National Meeting, INOR Division, August 16-20, 2015, Boston, Massachusetts. (poster)

8) Hudnall, T. W.*; Deardorff, C. L.‡,†; Sikma, R. E.‡; Melancon, K. M.‡; Gildner, M. B.‡ Stabilization of reactive main group species by coordination to carbonyl-decorated

carbenes. 249th ACS National Meeting, INOR Division, March 22-26, 2015, Denver, Colorado. (oral)

9) Ledet, A. D.[‡]; Hudnall, T. W.[*] Synthetic efforts toward diamidocarbene-supported terminal borylenes. 70th Southwest Regional Meeting of the American Chemical Society, Novermber 19-22, 2014, Fort Worth, Texas. (oral)

10) Deardorff, C. L. [‡,†]; Sikma, R. E. [‡]; Hudnall, T. W.[*] Tuning the reduction potential of acylium ions by coordination to stable carbenes. 70th Southwest Regional Meeting of the American Chemical Society, Novermber 19-22, 2014, Fort Worth, Texas. (oral)

11) Sikma, R. E.[‡]; Hudnall, T. W.[*] Synthesis and Characterization on Diamidocarbene-Stabilized Mono and Diradicals. Gulf Coast Undergraduate Research Symposium, Rice University, Houston, Texas, October 25, 2014.

12) Sikma, R. E.[‡]; Deardorff, C. L.[‡]; Hudnall, T. W.[*] Synthesis and Characterization on Diamidocarbene-Stabilized Mono and Diradicals. NSF CheMIE REU Program, Department of Chemistry and Biochemistry, Texas State University, August 7, 2014.

13) Hudnall, T. W.[*]; Torres, A. J. [‡]; Rodrigues, R. R. [†]; Dorsey, C. L. Reactivity Studies of Carbonyl-Decorated Carbenes with Group 15 Element-Containing Compounds. 247th ACS National Meeting, INOR Division, March 16–20, 2014, Dallas, Texas. (oral)

14) Arceneaux, C. A. [‡]; Hudnall, T. W.[*] Synthetic Main Group Chemistry in the Hudnall Group. NSF CheMIE REU Program, Department of Chemistry and Biochemistry, Texas State University, August 8, 2013.

15) Nieto, B. [‡]; Hudnall, T. W.[*] Synthetic Main Group Chemistry in the Hudnall Group. NSF CheMIE REU Program, Department of Chemistry and Biochemistry, Texas State University, August 8, 2013.

16) Rodrigues, R. R. [†], Dorsey, C. L.; Arceneaux, C. A. [‡]; Hudnall, T. W.[*] Phosphaalkene vs. phosphinidene: the nature of the P-C bond in carbonyl-decorated carbene PPh adducts. 69th Southwest Regional Meeting of the American Chemical Society, November 16–19, 2013, Waco, Texas. (oral)

17) Hudnall, T. W.[*]; Rodrigues, R. R.[†]; Dorsey, C. L. Reactivity studies of carbonyl-decorated carbenes with phosphorus- and antimony-containing compounds. 245th ACS National Meeting, INOR Division, April 7–11, 2013, New Orleans, Louisiana. (oral)

18) Yum, J. H.[*]; Shin, H. S.; Mushinski, R. M.[‡]; Hudnall, T. W.; Oh, J.; Loh, W. Y.; Bielawski, C. W.; Bersuker, G.; Banerjee, S. K.; Wang, W. E.; Kirsch, P. D.; Jammy, R. A Comparative Study of Gate First and Last Si MOSFETs Fabrication Processes Using ALD Beryllium Oxide as an Interface Passivation Layer. 2013 International Symposium on VLSI Technology, Systems and Applications.

19) Hamon, C.[‡]; Barnes, E.[‡]; Domingues, J.[‡]; Oakland, D.[‡]; Dorsey, C.; Hudnall, T.[*]; Betancourt, T.[*] Near Infrared Fluorescent Nanoparticle for Imaging of Cancer Cells.

2012 UTSA College of Science Research Conference, October 5, 2012. The University of Texas – San Antonio, San Antonio, Texas.

20) Rodrigues, R. R.[†]; Dorsey, C. L.; Hudnall, T. W.[*] Synthesis and Reactivity Studies of Novel Carbon-Based Ligands. 2012 WISE Conference, April 12-13, 2012, Texas State University – San Marcos, San Marcos, Texas.

21) Yum, J. H.[*]; Bersuker, G.; Hudnall, T. W.; Bielawski, C. W.; Kirsh, P.; Banerjee, S. K. A Study of Novel ALD Beryllium Oxide as an Interface Passivation Layer for Si MOS Devices. 2012 International Symposium on VLSI Technology, Systems and Applications. April, 23-25, 2012, Hsinchu, Tawain. (oral)

22) Mushinski, R. M.[‡]; Hudnall, T. W.[*] Synthesis and reactivity studies of a novel persistent amino-amido carbene. 243rd ACS National Meeting, INOR Division, March 25–29, 2012, San Diego, California. (poster)

23) Schreiber, K. N.[‡]; Hudnall, T. W.[*] Synthesis and reactivity studies of Janus-type biscarbenes featuring phosphorus-stabilized carbodicarbenes and N-Heterocyclic carbenes. 243rd ACS National Meeting, INOR Division, March 25–29, 2012, San Diego, California. (poster)

24) Hudnall, T. W.[*] Synthesis and reactivity studies of novel Janus-type biscarbenes comprised of N-heterocyclic and carbodicarbenes. 243rd ACS National Meeting, INOR Division, March 25–29, 2012, San Diego, California. (oral)

25) Yum, J. H.[*]; Akyol, T.; Lei, M.; Ferrer, D. A.; Hudnall, T. W.; Downer, M.; Bielawski, C. W.; Bersuker, G.; Lee, J. C.; Banerjee, S. K. ALD Beryllium Oxide as a High-k Gate Dielectric for III-V MOS Devices. International ALD Conference 2011. (oral)

26) Wiggins, K. M.; Tennyson, A. G.; Hudnall, T. W.; Bielawski, C. W.[*] Polymer assisted mechanical reconfiguration of stereoisomers and activation catalysts. 241th ACS National Meeting, POLY Division, March 27–31, 2011, Anaheim, California. (oral)

27) Fox, B. R.; Wiggins, K.; Hudnall, T.; Bielawski, C. W.[*]; Tyler, D. R.[*] Investigation Into the Mechanism of Enhanced Reactivity in a Film-shear Reactor. 239th ACS National Meeting, INOR Division, March 21–25, 2010, San Francisco, California. (oral)

28) Hudnall, T. W.; Gabbaï, F. P.[*] Cationic Dipyrromethene Boron Derivatives. 235th ACS National Meeting, INOR Division, April 6–10, 2008, New Orleans, Louisiana. (oral)

29) Chiu, C.-W.; Hudnall, T. W.; Lee, M. H.; Gabbaï, F. P.[*] Neutral and Cationic Boranes as Anion Receptors. 234th ACS National Meeting, INOR Division, August, 19–23, 2007, Boston, Massachusetts. (oral)

30) Hudnall, T. W.; Gabbaï, F. P.[*] Cyanide Ion Complexation by a Cationic Borane in Aqueous Media. 234th ACS National Meeting, INOR Division, August, 19–23, 2007, Boston, Massachusetts. (oral)

31) Hudnall, T. W.; Gabbaï, F. P.* A Hybrid Lewis Acid/Hydrogen Bond Donor Receptor for Fluoride. 232nd ACS National Meeting, INOR Division, September, 10–14, 2006, San Francisco, California. (oral)

32) Hudnall, T. W.; Gabbaï, F. P.* Cooperative Lewis Acidic-Brønsted Acidic Binding of Fluoride. 231st ACS National Meeting, ORGN Division, March 26–30, 2006, Atlanta, Georgia. (oral)

33) Booth, C. J.*; Hoppens, N. C.; Hudnall, T. W.; Foster, A. A New Series of CBDO Based Co-polyesters. 227th ACS National Meeting, POLY Division, March 28–April 1, 2004, Anaheim, California. (oral)

5. Reports: N/A

6. Book Reviews: N/A

1) Hudnall, T. W.*; Arias, R. N.; Perera, T. A. "Main Group Complexes with N-Heterocyclic Carbenes: Bonding, Stabilization, and Applications in Catalysis" in *RSC Catal. Series, N-Heterocyclic Carbenes: From Laboratory Curiosities to Efficient Synthetic Tools* **2016**, *Invited Book Chapter Accepted.*

7. Other Works in Print:

a. U.S. Patents:
   1. Zibo Li, Francois P. Gabbaï, Peter S. Conti, Todd W. Hudnall, Tzu-Pin Lin, Shuanglong Liu, and Chiun-Wei Huang Boron-Based Dual Imaging Probes, Compositions and Methods for Rapid Aqueous F-18 Labeling, and Imaging Methods Using Same. International Patent # WO 2013/012754 A1. Issued 01/24/2013.

   2. Christopher W. Bielawski, Todd W. Hudnall, and Michael Ronalter Substantially Pure Disubstituted Beryllium Compounds and Uses Thereof. International Patent # WO 2013/019849 A2. Issued 02/07/2013.

B. Works not in Print

1. Papers Presented at Professional Meetings:

- "N,N-Diamidocarbenes: Synthesis and Reactivity Studies of a New Class of N-Heterocyclic Carbenes." 2010 Gordon Research Conference on Organometallic Chemistry, July 11-16, Salve Regina University, Newport, Rhode Island. (Poster)

- "Cationic dipyrromethene boron derivatives." Dalton Discussion 11: The Renaissance of Main Group Chemistry, June 23-25, 2008, University of California, Berkeley. (Poster)

- "Ammonium Boranes for the Selective Complexation of Cyanide or Fluoride Ions in Water." Industry-University Cooperative Chemistry Program (IUCCP), October 15-17, 2007, College Station, Texas. (Oral)

- "Synthesis and Structures of Polyfunctional Hybrid Lewis Acid/Hydrogen Bond Donor Derivatives." Industry-University Cooperative Chemistry Program (IUCCP), October 16-18, 2006, College Station, Texas. (Oral)

2. Invited Talks, Lectures, and Presentations:

- "Stabilizing Low-valent and Low-oxidation State Boron Species Using Carbonyl-Decorated Carbenes", Inorganic Chemistry Gordon Research Conference to be held at the University of New England, Biddeford, ME, June 2016.

- "Stabilizing Low-valent and Low-oxidation State Boron Species Using Carbonyl-Decorated Carbenes", F. Albert Cotton Award in Synthetic Inorganic Chemistry Symposium in honor of François P. Gabbaï to be held at the Nation ACS Meeting in San Diego, CA, March 2016.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Department Seminar, Department of Chemistry, St. Edward's University, November 6, 2015.

- "Stabilizing Low-valent and Low-oxidation State Boron Species Using Carbonyl-Decorated Carbenes", 4th Annual Stone Symposium in Honor of F. Gordon A. Stone, Baylor University, May 20–21, 2015.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Department Seminar, Department of Chemistry, Brandeis University, April 20, 2015.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Department Seminar, Department of Chemistry, Mississippi State University, November 25, 2014.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Department Seminar, Department of Chemistry, Southern Methodist University, November 13, 2014.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Department Seminar, Department of Chemistry, Texas Lutheran University, September 26, 2014.

- "Stabilizing Unusual P-Block Oxidation States, Allotropes, and Radicals Using Carbonyl-Decorated Carbenes", Graduate Research Seminar Series, Department of Chemistry, University of Texas at San Antonio, September 19, 2014.

- "Stabilizing Unusual Low-Oxidation and Low-Valent Main Group Compounds With Carbonyl-Decorated Carbenes" Department Seminar, Department of Chemistry & Biochemistry, Texas Tech University, October 1, 2013.

- "Stabilizing Unusual Low-Oxidation and Low-Valent Main Group Compounds With Carbonyl-Decorated Carbenes" Department Seminar, Department of Chemistry & Biochemistry, Angelo State University, September 30, 2013.

- "Reactivity Studies of Carbonyl-Decorated Carbenes with Phosphorus- and Antimony-Containing Compounds" Department Seminar, Department of Chemistry, Clemson University, March 14, 2013.

- "Group 13, Group 14, and Now Group 15: A Main Group Chemist's Journey Through the P-Block Elements" Department Seminar, Department of Chemistry, Texas Christian University, January 22, 2013.

- "A Future Architect Becomes a Chemist" Texas A&M REU Career Day Seminar Series, Department of Chemistry, Texas A&M University, June 16, 2012.

- "Synthesis and Reactivity Studies of Novel Janus-Type Biscarbenes Comprised of N-Heterocyclic and Carbodicarbenes", Department Seminar, Department of Chemistry, Texas Lutheran University, September 16, 2011.

- "A New Class of N-Heterocyclic Carbenes: N,N'-Diamidocarbenes: Synthesis and Reactivity." 93rd Canadian Chemistry Conference, May 30-June 2, 2010, Toronto, Canada. (Oral)

5. Other Works not in Print:

a. Works "submitted" or "under review"

b. Works " in progress"

1) Melancon, K. M. ‡; Hudnall, T. W. "Synthesis and Redox Reactivity of a 2-Coordinate Arsenic(I) Cation: Facile Access to Arsenic(0) and an Arsenic(II) Radical Dication" *Angew. Chem., Int. Ed.* **2016**, *manuscript in preparation*.

2) Ugarte, R. A.; Devarajan, D.; Mushinski, R. M. ‡; Hudnall, T. W. "Antimony(V) Cations for Sequential and Selective Catalytic Transformation of Aldehydes into Symmetric Ethers, α,β-Unsaturated Aldehydes, and 1,3,5-Trioxanes" *J. Am. Chem. Soc.* **2016**, *manuscript in preparation*

C. Grants and Contracts

1. Funded External Grants and Contracts:

Title: CAREER: Correlating Organic Radical Structure to Electrochemical and Photophysical Properties: Evolving Energy Storage and Light-Emitting Materials
Funding Agency: The National Science Foundation: Faculty Early Career Program
Duration: 02/15/2016 – 02/14/2021
Type of Grant: research grant
Role on Grant: PI
Names of PI or Co-PI(s):
Total Funds Awarded: $420,000
Direct Funds Received: $294,015

Title: Antimony(V) Cations as Lewis Acid Catalysts for C–F Activation
Funding Agency: American Chemical Society: Petroleum Research Fund
Duration of Grant: 07/01/2014 – 06/30/2017
Type of Grant: research grant
Role on Grant: PI
Names of PI or Co-PI(s):
Total Funds Awarded: $70,000
Direct Funds Received: $70,000

Title: Stabilizing Unusual Main Group Allotropes, Alloys, and Radicals Using Carbonyl-Decorated Carbenes
Funding Agency: The National Science Foundation: Chemical Synthesis Program
Duration of Grant: 05/01/2014 – 04/30/2017
Type of Grant: research grant
Role on Grant: PI
Names of PI or Co-PI(s):
Total Funds Awarded: $345,000
Direct Funds Received: $240,651

Title: Synthesis and Reactivity Studies of Novel Janus-Type Biscarbenes Comprised of Facially Opposed N-Heterocyclic and Carbodicarbenes
Funding Agency: Research Corporation for Science Advancement
Duration of Grant: 07/01/11 – 06/30/13
Type of Grant: research grant
Role on Grant: PI
Names of PI or Co-PI(s):
Total Funds Awarded: $45,000
Direct Funds Received: $45,000

2. Submitted, but not Funded, External Grants and Contracts:

Title: Photoreductive Elimination of Chlorine From Heavy Group 15 Elements Supported by π-Accepting Carbene Ligands
Funding Agency: The Robert A. Welch Foundation
Submission Date: January 27, 2016
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $195,000
Status: PENDING

Title: Singlet Carbenes as Versatile Nitrene and Oxygen Atom Transfer Reagents: A Greener Approach to Aziridination and Epoxidation Chemistry
Funding Agency: The Robert A. Welch Foundation
Submission Date: January 30, 2015
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $195,000
Status: not funded

Title: Carbene-Stabilized Radicals with Tunable Electrochemical Properties for Energy Storage Materials
Funding Agency: Department of Energy: Early Career Research Program
Submission Date: November 20, 2014
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $802,664
Status: not funded

Title: Carbene-Stabilized Acridinyl Dications: Synthesis and Redox Properties
Funding Agency: The Robert A. Welch Foundation
Submission Date: January 28, 2014
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $180,000
Status: not funded

Title: Antimony(V) Cations as Catalysts for Small Molecule Activation and Hydrodefluorination
Funding Agency: Norm Hackermann Advanced Research Program
Submission Date: October 23, 2013
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $100,000
Status: not funded

Title: Activating Disulfides With Stable Carbenes and Main Group Carbene Analogues: A Mechanistic Study
Funding Agency: American Chemical Society: Petroleum Research Fund
Submission Date: February 8, 2013
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $50,000
Status: not funded

Title: Synthesis and Redox Properties of α-Iminopyridine and Bis(imino)pyridine-Supported Phosphorus(III) Compounds
Funding Agency: The Robert A. Welch Foundation
Submission Date: January 29, 2013
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $180,000
Status: not funded

Title: Synthesis and Reactivity Studies of Novel Janus-Type Biscarbenes Comprised of Facially Opposed N-Heterocyclic and Carbodicarbenes
Funding Agency: The National Science Foundation: Chemical Synthesis Program
Submission Date: September 28, 2012
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $367,775
Status: not funded

Title: CAREER: Air/Water Stable Main Group Ambiphiles for Innovative Small Molecule Activation, Sensing and Metal-Free Synthesis: Integrating Sustainability with Research and Education
Funding Agency: The National Science Foundation: Faculty Early Career Program
Submission Date: July 20, 2012
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $761,173
Status: not funded

Title: Synthesis and Ligand Properties of Novel Bisylides and Diylides Supported by Heavy Group 15 Elements and N-Heterocyclic Carbenes
Funding Agency: The Robert A. Welch Foundation
Submission Date: February 1, 2012
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $150,000
Status: not funded

Title: Designer Small Molecule Activation Catalysts Derived from Heavy Pnictogen Lewis Acids and Bases
Funding Agency: Army Research Office: Young Investigator Program
Submission Date: January 13, 2012
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $150,000
Status: not funded

Title: Designer Small Molecule Activation Catalysts Derived from Main Group N-Heterocyclic "Carbenes"
Funding Agency: Department of Energy: Early Career Research Program
Submission Date: November 29, 2011
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $810,268
Status: not funded

Title: Activating Disulfides S-S Bonds With Stable Carbenes and Main Group Carbene Analogues: Determining the Factors Which Govern the Activation Process
Funding Agency: American Chemical Society: Petroleum Research Fund
Submission Date: November 4, 2011
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $50,000
Status: not funded

Title: Designer Small Molecule Activation Catalysts Derived from Main Group Elements: Applications in Chemical Synthesis, Renewable Energy, and Remediation of Chemical Toxins
Funding Agency: Arnold and Mabel Beckman Foundation: Young Investigator Program
Submission Date: October 15, 2011
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $750,000
Status: not funded

Title: CAREER: Small Molecule Activation Using Heavy Pnictogen Lewis Acids and Bases for the Development of Designer Main Group Catalysts
Funding Agency: The National Science Foundation: Faculty Early Career Program
Submission Date: July 22, 2011
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $418,321
Status: not funded

Title: Small Molecule Activation Across Pn→Pn^+ Bonds in Ambiphilic Main Group Cryptands and Macrocycles
Funding Agency: The Robert A. Welch Foundation
Submission Date: February 1, 2011
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $100,000
Status: not funded

Title: Developing the Rational Design of Functional Main Group Element-Containing Main Chain Polymeric Materials: Emphasis on Dihydrogen Activation and Storage for Renewable Energy Applications
Funding Agency: Department of Energy: Early Career Research Program
Submission Date: November 9, 2010
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $845,304
Status: not funded

Title: Activating Disulfides S-S Bonds With Stable Carbenes and Main Group Carbene Analogues: Determining the Factors Which Govern the Activation Process
Funding Agency: American Chemical Society: Petroleum Research Fund
Submission Date: November 5, 2010
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $50,000
Status: not funded

3. Funded Internal Grants and Contracts:

Title: Mechanochemical Activation of Lewis Adducts: In Situ Generation of "Non-Frustrated" Lewis Pairs for Small Molecule Activaton
Funding Agency: Texas State University: Research Enhancement Program
Submission Date: October 20, 2010
Type of Grant: research grant
Role on Grant: PI
Amount of Grant: $8,000
Status: funded

4. Submitted, but not Funded, Internal Grants and Contracts: N/A

Title: Developing Environmentally Friendly and Green Catalytic Methods for the Synthesis of Epoxides and Aziridines
Funding Agency: Texas State University: Research Enhancement Program
Submission Date: October 15, 2015
Type of Grant: research grant
Role on Grant: PI

Amount of Grant: $8,000
Status: not funded

D. Fellowships, Awards, Honors:

- NSF CAREER Award – 2016
- Recipient of the Presidential Distinction Award for Excellence in Scholarly/Creative Activity (2012, 2013, and 2015).
- Two cover articles received a press release on TX State homepage, December, 2013.
- Nominee for the *2009 ACS Division of Inorganic Chemistry Young Investigator Award.*
- *Association of Former Students Distinguished Graduate Student Award for Excellence in Doctoral Research*, Texas A&M University, March 2009.
- *ACS Division of Inorganic Chemistry Travel Award*, June 2008.
- *Richard W. Schmude, Jr. Endowed Graduate Scholarship in Chemistry*, Texas A&M University, May 2008.
- *Martin Corera Travel Award,* Texas A&M University, August 2007.
- *A. E. Martell Travel Award*, Texas A&M University, March 2006, April 2008.
- *Robert A. Welch Foundation Graduate Fellowship Award*, Texas A&M University, August 2004 to May 2005.
- *Graduated Cum Laude*, Texas State University-San Marcos, May 2004.
- *ACS Travel Award*, Texas State University-San Marcos, March 2004.
- Articles Highlighted:
    - "Stepwise reduction of an α-phosphonio-carbocation to a crystalline phosphine radical cation and an acridinyl-phosphorus ylide" Hudnall, T. W.;[*] Dorsey, C. L.; Jones, J. S.; Gabbaï, F. P.[*] *Chem. – Eur. J.* **2016**, *Accepted Manuscript Online* (doi:10.1002/chem.201504744)
        - *Highlighted with Frontispiece*

    - "Phosphaalkene vs. Phosphinidene: The Nature of the P–C Bond in Carbonyl-Decorated Carbene→PPh Adducts." Rodrigues, R. R.[†]; Dorsey, C. L.; Arceneaux, C. A.[‡]; Hudnall T. W.[*] *Chem. Commun.* **2014**, *50*, 162–164.
        - *Featured on back cover of journal.*

    - "Isolation of a Neutral P_8 Cluster via [2+2] Cycloaddition of a Diphosphene Facilitated by Carbene Activation of White Phosphorus" Dorsey, C. L.; Squires, B. M.[‡]; Hudnall, T. W.[*] *Angew. Chem. Int. Ed.* **2013**, *52*, 4462–4465.
        - *Highlighted with inside front cover of journal*

    - "A Seven-Membered *N,N'*-Diamidocarbene" Hudnall, T. W.; Tennyson, A. G.; Bielawski, C. W. *Organometallics* **2010**, *29*, 4569–4578.
        - *Highlighted in C&E News:* 2010, October 18, 26.

    - "Ion-Mediated Electron Transfer in a Supramolecular Donor-Acceptor Ensemble" Park, J. S.; Karnas, E.; Ohkubo, K.; Chen, P.; Kadish, K. M.; Fukuzumi, S.; Bielawski, C. W.; Hudnall, T. W.; Lynch, V. M.; Sessler, J. L. *Science* **2010**, *329*, 1324–1326.
        - *Highlighted in C&E News:* 2010, September 13, 5.
        - *Highlighted in Texas Science:* September 15, 2010.
        - *Highlighted by the National Science Foundation*, September 15, 2010.

- *Highlighted in the University of Texas at Austin News*, September 15, 2010.
- *Highlighted in PhysOrg News*, September 15, 2010.
- *Highlighted in OneIndia*, September 16, 2010.
- *Highlighted in Futurity*, September 16, 2010.
- *Highlighted in Gizmag*, September 16, 2010.
- *Highlighted in Chemie.DE*, September 17, 2010.
- *Highlighted in the Daily Texan*, September 20, 2010.
- *Highlighted in Engadget*, September 22, 2010.

o "Mechanical Reconfiguration of Stereoisomers" Wiggins, K. M.; Hudnall, T. W.; Chen, Q.; Kryger, M. J.; Moore, J. S.; Bielawski, C. W. *J. Am. Chem. Soc.* **2010**, *132(10)*, 3256-3257.

- *Highlighted in Nature Chem.*: 5 March 2010 (DOI: 10.1038/nchem.615)
- *Highlighted in Nature Chem.* **2010**, *2*, 436. (DOI: 10.1038/nchem.677)
- *Highlighted in Angew. Chem. Int. Ed.* **2010**, *49*, 2. (DOI: 10.1002/anie.201001360)
- *ACS Noteworthy Chemistry*, March 29, 2010.
- *ACS Noteworthy Chemistry*, April 12, 2010.

o "Fluoride ion chelation by a bidentate phosphonium/borane Lewis acid" Hudnall, T. W.; Kim, Y.; Bebbington, M. W. P.; Bourissou, D.; Gabbaï, F. P. *J. Am. Chem. Soc.* **2008**; *130(33)*, 10890-10891.

- *Highlighted in C&E News*: 2008, July 28, 59.

o "Fluoride Ion Complexation by a B_2/Hg heteronuclear Tridentate Lewis Acid – A Structural and Electrochemical Invesitgation" Dorsey, C. L.; Jewula, P.; Hudnall, T. W.; Hoefelmeyer, J. D.; Taylor, T. J.; Honesty, N.; Chiu, C.-W.; Schulte, M.; Gabbaï, F. P. *Dalton Trans.* **2008**, *33*, 4442-4450.

- *Highlighted in C&E News*: 2008, July 28, 59.

IV. SERVICE

A. Institutional

1. University:

   a. Faculty Sponsor for the Texas State Men's Ultimate Frisbee Team, Fall 2010 – current.
   b. Faculty Mentor for the Louis Stokes Alliance for Minority Participation (H-LSAMP) program, Fall 2010 – current.
   c. Attended Texas State University, Program for Excellence in Teaching and Learning, 2010 – 2011

2. College: N/A

3. Department/School:

a. Member of the Ad Hoc Committee for the Development of PhD Program Fall 2015 – current
b. Member of the Equipment Committee Fall 2015 – current
c. Member of the Graduate Chemistry Curriculum Committee Fall 2015 – current
d. Faculty Retreat Organizer 2015
e. Member of the Staff Effectiveness Committee Fall 2014 – current
f. Chair of admissions committee for CheMIE REU program; Fall 2013– current
g. Member of the Safety Committee; Fall 2012 – current
h. Organizer of the Departmental Seminar Series 2011 – 2012
i. Member of the Graduate Admissions Committee; Fall 2011 – current
j. Member of Website Committee; Summer 2013 – current
k. Member of the Graduate Student Recruiting Committee; Fall 2011 – current
    - Chair, Summer 2013 – current
    - Organizer of ACS Grad Student Recruiting booth, 247th American Chemical Society National Meeting, Dallas, Texas, March 16-20, 2014
l. Chair, NMR Users Committee, Spring 2011 – 2013
m. NMR Facilities Co-Director, Spring 2011 – current

B. Professional:

- Organizer for the F. Albert Cotton Award in Synthetic Inorganic Chemistry Symposium to be held at the Nation ACS Meeting in San Diego, CA, March 2016.
- Editorial Board member for *Cogent Chemistry*, Summer 2015 - current
- Proposal reviewer for the National Science Foundation
- ***Invited*** Symposium Organizer, Division of Inorganic Chemistry - Main Group Chemistry 2013–present
- Proposal reviewer and panelist for the Department of Energy's Office of Science Graduate Fellowship Program
- Symposium Organizer and Chair, "General Organic Chemistry", Southwest Regional meeting of the American Chemical Society, Fall 2011.
- Reviewer for Journal Publications:
    - *Journal of the American Chemical Society*
    - *Angewandte Chemie International Edition*
    - *Organometallics*
    - *Chemical Science*
    - *Dalton Transactions*
    - *Phosphorus, Sulfur, and Silicon and the Related Elements*
    - *Tetrahedron Letters*
    - *Journal of Applied Polymer Science*
    - *High Performance Polymers*
    - *Journal of Physical Organic Chemistry*

Professional Organizations:

- The American Chemical Society (ACS), 2004 – current.
    - *Division of Organic Chemistry*, 2004 – current.
    - *Division of Inorganic Chemistry*, 2008 – current.

- The Canadian Society for Chemistry (CSC), 2010 – current.

  - *Division of Inorganic Chemistry*, 2010 – current.
- Phi Lambda Upsilon National Chemistry Honor Society (PLU), 2005 – current.
  - *President*, 2007–2008 (Beta Beta Chapter)
  - *Award Committee Chair*, 2007–2008 (Beta Beta Chapter)
  - *Award Committee*, 2006–2008 (Beta Beta Chapter)
  - *Sharon Dabney Memorial Scholarship Selection Committee*, 2007 (Beta Beta Chapter)

C. Community:

- Collaboration with McKenna Children's Museum (New Braunfels, TX) "Laboratory Workstation Weekends: A Hand's-on Chemistry Experience for children ages 3-10.eptember 2013 – present.
- REU Panelist at the 2013 Texas State University REU Student Career Panel, June 2013
- REU Panelist at the 2012 Texas A&M REU Student Career Panel, June 2012
- Science fair judge for the Austin Harmony School of Science, December, 10 2011
- External judge for Dr. Ben Shoulders' graduate NMR class at the University of Texas at Austin, May 2011 - current.

D. Service Honors and Awards:

- Collaboration with McKenna Children's Museum (New Braunfels, TX) "Laboratory Workstation Weekends featured in *The Herald Zeitung*
- Founding member of Texas State Phi Kappa Phi Chapter (2013)
- Member Phi Kappa Phi National Honor Society, 2005 – current

E. Service Grants and Contracts:

1) Graduate Student Recruiting
Funding Agency: Texas State University: Graduate College
Submission Date: March 23, 2015
Role: PI
Amount of Grant: $2,000
Status: funded

1) Graduate Student Recruiting
Funding Agency: Texas State University: Graduate College
Submission Date: November 26, 2013
Role: PI
Amount of Grant: $2,000
Status: funded