

BIOGRAPHICAL SUMMARY

Douglas A. Klumpp

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EDUCATION

Bill Cho's United Tae Kwon Do, Black Belt, **2010**, Tae Kwon Do - Korean Martial Arts

University of Southern California, Postdoctoral Fellow, **1993-1996**

Iowa State University, Doctor of Philosophy, **1993**, Organic Chemistry

University of Oklahoma, Bachelor of Science, **1987**, Chemistry

Buffalo Grove High School, High School Diploma, **1982**, General Studies

EXPERIENCE

Northern Illinois University, DeKalb, Illinois,
Department of Chemistry

2009-present, *Full Professor*
2003-2009, *Associate Professor*

California State Polytechnic University, Pomona,
Department of Chemistry

2002-2003, *Associate Professor*
1996-2002, *Assistant Professor*

University of Southern California,
Loker Hydrocarbon Research Institute
and Department of Chemistry

1996-2003, *Visiting Scholar*

University of Southern California,
Research Director: George A. Olah

1993-1996, *Postdoctoral Fellow*

Iowa State University,
Research Director: Walter S. Trahanovsky

1987-1993, *Graduate Assistant*

University of Oklahoma,
Research Director: Sherril D. Christian

1986-1987, *Research Assistant*

BIBLIOGRAPHY:

MANUSCRIPTS:

- (68) "Cyclodehydrations leading to indene products having *N*-heterocyclic substituents." Boblak, K. N.; Klumpp, D. A. *J. Org. Chem.* **2014**, *79*, 5852-5857.
- (67) "Dicationic ring opening reactions of *trans*-2-phenylcyclopropylamine•HCl: electrophilic cleavage of the distal (C₂-C₃) bond of cyclopropanes." Nilsson Lill, S. O.; Naredla, R. R.; Zielinski, M. E.; Knoecer, L.; Klumpp, D. A. *J. Org. Chem.*, **2013**, *78*, 8922–8926.
- (66) "Preparation of Pyrazine Carboxamides: A Reaction Involving *N*-Heterocyclic Carbene (NHC) Intermediates." Naredla, R. Reddy; Dash, B. P.; Klumpp, D. A. *Org. Lett.*, **2013**, *15*, 4806–4809.
- (65) "Preparation of Sulfonamides from *N*-Silylamines." Naredla, R. Reddy; Klumpp, D. A. *Tetrahedron Lett.* **2013**, *54*, 5945-5947
- (64) "Preparation of Aryl-Substituted 2-Oxyindoles by Superelectrophilic Chemistry." Naredla, R. R.; Raja, E. K.; Klumpp, D. A. *Tetrahedron Lett.* **2013**, *54*, 3245-3247.
- (63) "Contemporary Carbocation Chemistry: Applications in Organic Synthesis." Naredla, R. R.; Klumpp, D. A. *Chem. Rev.* **2013**, *113*, 6905-6948.
- (62) "Superacid-promoted Cyclodehydration Leading to the Imidazo[1,2-*a*]pyridine Ring System." Kethe, A.; Naredla, R. R.; Klumpp, D. A. *Helv. Chim. Acta* **2013**, *96*, 1457-1461.
- (61) "Cyclizations of Phenylethyl-Substituted Pyridinecarboxaldehydes." Naredla, R. R.; Klumpp, D. A. *Tetrahedron* **2013**, *69*, 2137-2141.
- (60) "Superacid-Promoted Hydroxyalkylation of 1,2-Indandiones." Tracy, A. F.; Abbott, M. P.; Klumpp, D. A. *Synthetic Commun.* **2013**, *43*, 2171-2177.
- (59) "On the Electrophilic Reactivities of α -Carbonyl Heterocycles and Arenes." Wells, J. L.; Klumpp, D. A. *Der Pharma Chemica* **2014**, *6*, 373-379.
- (58) "Friedel-Crafts-type Reactions with Ureas and Thioureas." Raja, E. K.; DeSchepper, D. J.; Klumpp, D. A. *Chem. Commun.* **2012**, *48*, 8141-8143.
- (57) "Benzamide Synthesis by Direct Electrophilic Aromatic Substitution with Cyanoguanidine." Naredla, R. R.; Klumpp, D. A. *Tetrahedron Lett.* **2012**, *53*, 4779-4781.
- (56) "Friedel-Crafts Acylation with Amides." Raja, E. K.; DeSchepper, D. J.; Nilsson Lill, S. O.; Klumpp, D. A. *J. Org. Chem.* **2012**, *77*, 5788-5793.
- (55) "Conjugate Additions to Vinyl-Substituted Aromatic *N*-Heterocycles." Klumpp, D. A. *SynLett* **2012**, *23*, 1590-1604.
- (54) "Ring Closing and Opening Reactions Leading to Aza-Polycyclic Aromatic Compounds." Kethe, A.; Li, A.; Klumpp, D. A. *Tetrahedron* **2012**, *68*, 3357-3360.

MANUSCRIPTS, continued:

- (53) "Utilization of the Hydroxyalkylation Reaction to Prepare Bis(Benzocrown Ethers)" Zielinski, M. E.; Tracy, A. F.; Klumpp, D. A. *Tetrahedron Lett.* **2012**, *53*, 1701-1704.
- (52) "Charge Delocalization and Enhanced Acidity in Tricationic Superelectrophiles." Naredla, R. R.; Zheng, C.; Nilsson Lill, S. O.; Klumpp, D. A. *J. Am. Chem. Soc.* **2011**, *133*, 13169-13175.

- (51) "Fluoro-Substituted Ketones from Nitriles Using Acidic and Basic Reaction Conditions." Raja, E.; Klumpp, D. A. *Tetrahedron Lett.* **2011**, *52*, 5170-5172.
- (50) "Protolytic defluorination of trifluoromethyl-substituted arenes." Kethe, A.; Tracy, A. F.; Klumpp, D. A. *Org. Biomol. Chem.* **2011**, *9*, 4545-4549.
- (49) "Superacid-promoted additions involving vinyl-substituted pyrimidines, quinoxalines, and quinazolines: mechanisms correlated to charges." Zhang, Y.; Sheets, M. R.; Raja, E.; Boblak, K.; Klumpp, D. A. *J. Am. Chem. Soc.* **2011**, *133*, 8467-8469.
- (48) "Superelectrophilic Chemistry of Amino-nitriles and Related Substrates." Raja, E.; Klumpp, D. A. *Tetrahedron* **2011**, *67*, 4494-4497.
- (47) "Molecular Rearrangements of Superelectrophiles." Klumpp, D. A. *Beilstein J. Org. Chem.* **2011**, *7*, 346-363.
- (46) "Aza-Nazarov Cyclization Cascades." Sai, K. K. S.; O'Connor, M. J.; Klumpp, D. A. *Tetrahedron Lett.* **2011**, *52*, 2195-2198.
- (45) "Superelectrophiles and the Effects of Trifluoromethyl Substituents." O'Connor, M. J.; Boblak, K. N.; Topinka, M. J.; Kindelin, P. J.; Briski, J. M.; Zheng, C.; Klumpp, D. A. *J. Am. Chem. Soc.* **2010**, *132*, 3266-3267.
- (44) "Condensations of aryl trifluoromethyl ketones with arenes in acidic media" O'Connor, M. J.; Boblak, K. N.; Spitzer, A. D.; Gucciardo, P. A.; Baumann, A. M.; Peter, J. W.; Chen, C. Y.; Ronald Peter, R.; Mitton, A. A.; Klumpp, D. A. *Tetrahedron Lett.* **2010**, *51*, 4984-4987.
- (43) "Superacid-Induced Ring Opening Reactions of Nefopam" Knoecer, L.; DeSchepper, D.; Klumpp, D. A. *Org. Chem. Int.* **2010**, *2010*, article ID 496818.
- (42) "Superelectrophilic Chemistry of Imidazoles." Sheets, M. A., Li, A.; Bower, E. A.; Weigel, A. R.; Abbott, M. P.; Gallo, R. M.; Mitton, A. A.; Klumpp, D. A. *J. Org. Chem.* **2009**, *73*, 2502-2507.
- (41) "Superelectrophiles in Heterocyclic Ring-Forming Reactions." Klumpp, D. A. *ARKIVOC* **2009**, (*i*), 63-80.
- (40) "Superacid-Promoted Synthesis of Polycyclic Aromatic Compounds." Li, A.; DeSchepper, D.; Klumpp, D. A. *Tetrahedron Lett.* **2009**, *50*, 1924-1927.
- (39) Klumpp, D. A. "Activation of Electrophilic Sites by Adjacent Cationic Groups." In *Recent Developments in Carbocation and Onium Ion Chemistry*, Laali, K., Ed.; ACS Symposium Series 395; American Chemical Society, Washington, DC; **2007**; pp 144-159.

MANUSCRIPTS, continued:

- (38) "*N*-Heterocyclic superelectrophiles and evidence for single electron transfer (SET) chemistry." Sai, K. K. S.; Torkarz, M. J.; Malunchuk, A. P.; Zheng, C.; Gilbert, T. M.; Klumpp, D. A. *J. Am. Chem. Soc.* **2008**, *130*, 14388-14389.
- (37) "Superacid-Promoted Reactions of α -Keto amides and Related Systems." Sai, K. K. S.; Esteves, P. M.; Tanoue da Penha, E. T.; Klumpp, D. A. *J. Org. Chem.* **2008**, *73*, 6506-6512.
- (36) Olah, G. A.; Klumpp, D. A. *Superelectrophiles and Their Chemistry*; Wiley & Sons: New York, **2008**; pp 1-301.
- (35) "Preparation of Aza-Polycyclic Aromatic Compounds via Superelectrophilic Cyclizations." Li, A.; Gilbert, T. M.; Klumpp, D. A. *J. Org. Chem.* **2008**, *73*, 3654-3657.

- (34) "Superelectrophiles: Charge-Charge Repulsive Effects." Klumpp, D. A. *Chem. Eur. J.* **2008**, *14*, 2004-2015.
- (33) "Reactions of Acenaphthenequinone and Aceanthrenequinone with Arenes in Superacid." Klumpp, D. A.; Zhang, Y.; Do, D.; Kartika, R. *Appl. Cat. A: Gen.* **2008**, *336*, 128-132.
- (32) "Knorr Cyclizations and Distonic Superelectrophiles." Sai, K. K. S.; Gilbert, T. M.; Klumpp, D. A. *J. Org. Chem.* **2007**, *72*, 9761-9764.
- (31) "Superacid Promoted Reactions of *N*-Acyliminium Salts and Evidence for the Involvement of Superelectrophiles" Zhang, Y.; DeSchepper, D. J.; Gilbert, T. M.; Sai, K. K. S.; Klumpp, D. A. *Chem. Comm.* **2007**, 4032-4034.
- (30) "Aza-Nazarov Reaction and the Role of Superelectrophiles." Klumpp, D. A.; Zhang, Y.; O'Connor, M. J.; Esteves, P. M.; de Almeida, L. S. *Organic Lett.* **2007**, *9*, 3085.
- (29) "Superacid-Catalyzed Reactions of Pyridinecarboxaldehydes." Klumpp, D. A.; Zhang, Y.; Kindelin, P. J.; Lau, S. *Tetrahedron* **2006**, *62*, 5915-5921.
- (28) "Superacid-Promoted Reactions of *N*-Acyliminium Ions: An Effective Route to Substituted 3-Oxo-1,2,3,4-tetrahydroisoquinolines and Related Products." Zhang, Y.; Kindelin, P. J.; DeSchepper, D. J.; Zheng, C.; Klumpp, D. A., *Synthesis* **2006**, 1775-1779.
- (27) "Charge Migration in Dicationic Electrophiles and Its Application to the Synthesis of Aza-polycyclic Aromatic Compounds." Li, A.; Kindelin, P. J.; Klumpp, D. A. *Organic Lett.* **2006**, *8*, 1233-1236.
- (26) "Superacid-Catalyzed Reactions of Olefinic Pyrazines: an Example of Anti-Markovnikov Addition Involving Superelectrophiles." Zhang, Y.; Briski, J.; Zhang, Y.; Rendy, R.; Klumpp, D. A. *Organic Lett.* **2005**, *7*, 2505-2508.
- (25) "Superacid-Promoted Reactions of Pyrazolecarboxaldehydes and the Role of Dicationic Electrophiles." Klumpp, D. A.; Kindelin, P. J.; Li, A. *Tetrahedron Lett.* **2005**, *46*, 2931-2935.

MANUSCRIPTS, continued:

- (24) "Reactive Dications: the Superacid-Catalyzed Reactions of Alkynes Bearing Adjacent *N*-Heterocycles or Amine groups." Klumpp, D. A.; Rendy, R.; Zhang, Y.; Gomez, A.; McElrea, A.; Dang, H. *J. Org. Chem.* **2004**, *69*, 8108-8110.
- (23) "Superacid Catalyzed Ring-opening Reactions Involving 2-Oxazolines and the Role of Superelectrophilic Intermediates." Klumpp, D. A.; Rendy, R.; McElrea, A. *Tetrahedron Lett.* **2004**, *45*, 7959.
- (22) "Dicationic Intermediates Involving Protonated Amides: Dual Modes of Reactivity Including the Acylation of Arenes." Klumpp, D. A.; Rendy, R.; Zhang, Y.; Gomez, A.; McElrea, A. *Organic Lett.* **2004**, *6*, 1789-1792.
- (21) "Superacid-Catalyzed Reactions of Cinnamic Acids and the Role of Superelectrophiles." Rendy, R.; Zhang, Y.; McElrea, A.; Gomez, A.; Klumpp, D. A. *J. Org. Chem.* **2004**, *69*, 2340-2347.
- (20) "Superelectrophilic Activation." Olah, G. A.; Klumpp, D. A. *Acct. Chem. Res.* **2004**, *37*, 211-220.

- (19) "Dicationic Electrophiles from Olefinic Amines in Superacid." Zhang, Y.; McElrea, A.; Sanchez Jr., G. V.; Klumpp, D. A.; Do, D.; Gomez, A.; Aguirre, S. L.; Rendy, R. *J. Org. Chem.* **2003**, *68*, 5119-5124.
- (18) "Reactive, Dicationic Electrophiles: Electrophilic Activation Involving the Phosphonium Group." Zhang, Y.; Aguirre, S. A.; Klumpp, D. A. *Tetrahedron Lett.* **2002**, *43*, 6837-6841.
- (17) "Dicationic Electrophilic Systems: the Activation of Carbocations and Carboxonium Ions by Pyridinium Groups and Related Heterocycles." Zhang, Y.; Klumpp, D. A. *Tetrahedron Lett.* **2002**, *43*, 6841-6844.
- (16) "Chemistry of Dicationic Electrophiles: Superacid-Catalyzed Reactions of Amino-Acetals." Klumpp, D. A.; Sanchez Jr., G. V.; Zhang, Y.; Aguirre, S. L.; de Leon, S. *J. Org. Chem.* **2002**, *67*, 5028-5031.
- (15) "Studies Involving the Chemistry of Superelectrophiles and Reactive Dications." Klumpp, D. A. *Recent Research Developments in Organic Chemistry*, **2001**, (5), Part I; pp 193-205.
- (14) "Reactions of Amino Alcohols in Superacid: The Direct Observation of Dicationic Intermediates and Their Application in Synthesis." Klumpp, D. A.; Aguirre, S. L.; Sanchez, Jr., G. V.; de Leon, S. *J. Organic Lett.* **2001**, *3*, 2781-2784.
- (13) "Superacid-Catalyzed Preparation of Aryl-Substituted Piperidines via Dicationic Electrophiles." Klumpp, D. A.; Beauchamp, P. S.; Sanchez, Jr., G. S.; Aguirre, S.; de Leon, S. *Tetrahedron Lett.* **2001**, *42*, 5821-5823.
- (12) "Electrophilic Activation of Acetyl-Substituted Heteroaromatic Compounds." Klumpp, D. A.; Garza, G.; Sanchez, G. V.; Lau, S.; DeLeon, S. *J. Org. Chem.* **2000**, *65*, 8997-9000.

MANUSCRIPTS, continued:

- (11) "Superacid Induced Condensation of Quinolinecarboxaldehydes and Related Compounds with Arenes." Klumpp, D. A.; Jones, A.; Lau, S.; DeLeon, S.; Garza, M. *Synthesis* **2000**, 1117-1120.
- (10) "3-Pyridinecarboxaldehyde: A Model System for Superelectrophilic Activation and the Observation of a Diprotonated Electrophile." Klumpp, D. A.; Lau, S. *J. Org. Chem.* **1999**, *64*, 7309-7311.
- (9) "Acid-catalyzed Condensations of Ninhydrin with Aromatic Compounds." Klumpp, D. A.; Fredrick, S.; Lau, S.; Prakash, G. K. S.; Jin, K. K.; Bau, R.; Olah, G. A. *J. Org. Chem.* **1999**, *64*, 5152-5155.
- (8) "Synthesis of Aryl-Substituted Piperidines by Superacid Activation of Piperidones." Klumpp, D. A.; Garza, M.; Jones, A.; Mendoza, S. *J. Org. Chem.* **1999**, *64*, 6702-6705.
- (7) "Electrophilic Chemistry of Biologically Important α -Keto Acids." Klumpp, D. A.; Garza, M.; Lau, S.; Shick, B.; Kantardjieff, K. *J. Org. Chem.* **1999**, *64*, 7635-7637.
- (6) "9,10-Diphenylphenanthrene" Olah, G. A.; Klumpp, D. A.; Neyer, G.; Wang, Q. *Organic Syn.* **1998**, *76*, 294-297.
- (5) "Superacid Activated Condensation of Parabanic Acid and Derivatives with Arenes. A New Synthesis of Phenytoin and 5,5-Diarylhydantoin." Klumpp, D. A.; Yeung, K. Y.; Prakash, G. K. S.; Olah, G. A. *SynLett* **1998**, 918-920.

- (4) "Preparation of 3,3-Diaryloxindoles by Superacid-Induced Condensations of Isatins and Aromatics with a Combinatorial Approach." Klumpp, D. A.; Yeung, K. Y.; Prakash, G. K. S.; Olah, G. A. *J. Org. Chem.* **1998**, *63*, 4481-4484.
- (3) "The Preparation of Condensed Aromatics by the Superacidic Dehydration Cyclization of Aryl Pinacols and Epoxides." Klumpp, D. A.; Baek, D. N.; Prakash, G. K. S.; Olah, G. A. *J. Org. Chem.* **1997**, *62*, 6666-6671.
- (2) "Improved Preparation of N-Trimethylsilylpyridinium Triflate and N-Triphenylsilylpyridinium Triflate and Their Use in Silylating Alcohols to Silyl Ethers." Olah, G. A.; Klumpp, D. A. *Synthesis* **1997**, 744-745.
- (1) "The Preparation of Substituted Phenanthrenes by the Dehydration of Pinacols in Triflic Acid." Olah, G. A.; Klumpp, D. A.; Neyer, G.; Wang, Q. *Synthesis* **1996**, 316-319.

ABSTRACTS (presenting author in bold):

“Naredla, R. R.; Dash, B. P.; **Klumpp, D. A.** From Abstracts of Papers, 247th ACS National Meeting & Exposition, Dallas, TX, United States, March 16-20, 2014, ORGN-228.”

“Superacid-catalyzed electrocyclizations of unsaturated *N*-acyliminium ions.” **Kethe, A.**; Tracy, A. F.; Klumpp, D. A. *Abstracts of Papers*, 243th ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, ORGN-838.

“Superelectrophilic Diels-Alder Reactions.” Dash, B. P.; **Klumpp, D. A.** *Abstracts of Papers*, 243th ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, ORGN-839.

“Utilization of the Hydroxyalkylation Reaction to Prepare Bis(benzocrown ethers)” Zielinski, M.; **Tracy, A. F.**; Klumpp, D. A. *Abstracts of Papers*, 243th ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, ORGN-855.

“On the Electrophilic Reactivities of α -Carbonyl Heterocycles.” **Wells, J. L.**; Klumpp, D. A. *Abstracts of Papers*, 243th ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, ORGN-840.

“Friedel-Crafts Acylation with Amides” **Raja, E. K.**; DeSchepper, D. J.; Klumpp, D. A. *Abstracts of Papers*, 243th ACS National Meeting, San Diego, CA, United States, March 25-29, 2012, ORGN-463.

“Triflic acid promoted synthesis of various azapolycyclic aromatic compounds.” **Kethe, Anila**; Li, Ang; Naredla, Rajasekhara Reddy; Klumpp, Douglas A. From Abstracts, Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society, St. Louis, MO, United States, October 19-22 (2011), MWGL-70.

“Charge delocalization and enhanced acidity in tricationic superelectrophiles.” **Naredla, Rajasekhar R.**; Nilsson Lill, Sten O.; Zheng, Chong; Klumpp, Douglas A. From Abstracts, Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society, St. Louis, MO, United States, October 19-22 (2011), MWGL-173.

ABSTRACTS, continued:

“Superelectrophilic chemistry of various nitriles.” **Raja, Erum K.**; Klumpp, Douglas From Abstracts, Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society, St. Louis, MO, United States, October 19-22 (2011), MWGL-174.

“Utilizing the hydroxyalkylation reaction to prepare bis(benzocrown ethers)” **Zielinski, Matt E.**; Tracy, Adam F.; Klumpp, Douglas A. From Abstracts, Joint 46th Midwest and 39th Great Lakes Regional Meeting of the American Chemical Society, St. Louis, MO, United States, October 19-22 (2011), MWGL-559.

“Use of hydroxyalkylation condensation chemistry to prepare functionalized benzocrown ethers and related polymers.” **Adam F. Tracy**, Matthew Zielinski, Argonne National Laboratory, 21st Symposium for Undergraduate Research, October 14, 2011; abstract number 107.

“Evaluating the Electrophilic Reactivities of *N*-Heterocyclic Aldehydes and Ketones.” **Jeffery Wells** and Douglas Klumpp, Argonne National Laboratory, 21st Symposium for Undergraduate Research, October 14, 2011; abstract number 106.

“Superelectrophilic Chemistry of Amino-Nitriles and Related Substrates.” **Erum Raja** and Douglas A. Klumpp *Abstracts of Papers*, 3rd Chicago Organic Symposium, Chicago, IL, February 11, 2011.

ABSTRACTS, continued:

“Charge Migration Across Aryl-Groups Superelectrophiles.” **Rajasekhar R. Naredla**, Kenneth N. Boblak, Matthew J. O’ Connor, Chong Zheng, Douglas A. Klumpp *Abstracts of Papers*, 3rd Chicago Organic Symposium, Chicago, IL, February 11, 2011.

“Superelectrophiles in Heterocyclic Chemistry” **Douglas Klumpp**, *Abstracts of Papers*, 3rd Chicago Organic Symposium, Chicago, IL, February 11, 2011.

“Protolytic Defluorination of Trifluoromethyl-Substituted Arenes” **Anila Kethe**, Adam Tracy and Douglas A. Klumpp *Abstracts of Papers*, 3rd Chicago Organic Symposium, Chicago, IL, February 11, 2011.

“Anti-Markovnikov additions to vinylpyrimidines, quinoxalines, quinazolines, and other heterocycles” **Klumpp, Douglas A.**; Sheets, Matthew A.; Zhang, Yiliang *Abstracts of Papers*, 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-797.

“Protio-defluorination chemistry” **Klumpp, Douglas A.**; Kethe, Anila *Abstracts of Papers*, 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-195.

“Charge migration across aryl groups in superelectrophiles” Klumpp, Douglas A.; Naredia, Rajasekhar R.; **Boblak, Kenneth J.**; O’Connor, Matthew J. *Abstracts of Papers*, 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-193.

“Superelectrophilic chemistry of nitriles” **Klumpp, Douglas A.**; Raja, Erum K. *Abstracts of Papers*, 240th ACS National Meeting, Boston, MA, United States, August 22-26, 2010, ORGN-190.

“Superacid-promoted synthesis of thiohydantoin and the role of superelectrophiles.” **Solingapuram Sai, K. K.**; Itoh, Y.; Klumpp, D. A.. *Abstracts of Papers*, 236th ACS National Meeting, Philadelphia, PA, United States, 2008; Abstract ORGN171

“Single electron transfer (SET) chemistry involving dicationic superelectrophiles.” **Solingapuram Sai, K. K.**; Torkarz, M. J.; Malunchuk, A. P.; Zheng, C.; Klumpp, D. A. *Abstracts of Papers*, 236th ACS National Meeting, Philadelphia, PA, United States 2008; Abstract ORGN 620.

“Superacid-promoted reactions of α -ketoamides and related systems.” **Solingapuram Sai, K. K.**; Esteves, P. M.; da Penha, E. T.; Klumpp, D. A.. *Abstracts of Papers*, 236th ACS National Meeting, Philadelphia, PA, United States, 2008; ORGN 625.

“Studies of a Superelectrophilic Heterocycle.” **Tokarz, M. J.**; Malanchuk, A. P.; Klumpp, D. A. *Abstracts of Papers*, Joint Meeting of the Eighteenth Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics & The Central States Universities, Incorporated Research Conference; Argonne National Lab, Argonne, IL; 2007; Abstract 10.

ABSTRACTS, continued:

“Superacid-catalyzed Aza-Nazarov Reactions.” **O’Connor, M. J.**; Klumpp, D. A.; Zhang, Y.; de Almeida, L. S. Esteves, P. M.; *Abstracts of Papers*, Joint Meeting of the Eighteenth Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics & The Central States Universities, Incorporated Research Conference; Argonne National Lab, Argonne, IL; 2007; Abstract 12.

“Synthetic and Mechanistic Studies Related to Dearylative Annellations.” Klumpp, D. A.; **Li, A.** *Abstract of Papers*, 234th National Meeting of the American Chemical Society, Boston, MA, August, 2007; American Chemical Society: Washington, DC, 2007; Abstract ORGN 798

"Superacid-catalyzed Aza-Nazarov Reactions." Klumpp, D. A.; Zhang, Y.; Kindelin, P. J.; **O'Connor, P. J.**; Esteves, P. M.; de Almeida, L. S. *Abstract of Papers*, 233rd National Meeting of the American Chemical Society, Chicago, IL, March, 2007; American Chemical Society: Washington, DC, 2007; Abstract ORGN 172.

"Superacid-Promoted Knorr Cyclizations: Synthetic and Mechanistic Studies." Klumpp, D. A.; **Solingapuram sai, K. K.** *Abstract of Papers*, 233rd National Meeting of the American Chemical Society, Chicago, IL, March, 2007; American Chemical Society: Washington, DC, 2007; Abstract ORGN 185.

"Convenient Synthesis of Aza-Polycyclic Aromatic Compounds by Superacid-Induced Cyclizations." Klumpp, D. A.; **Li, A.**; DeSchepper, D. J. *Abstract of Papers*, 232nd National Meeting of the American Chemical Society, San Francisco, CA, September 2006; American Chemical Society: Washington, DC, 2006; Abstract ORGN 561.

"Superacid Catalyzed Chemistry of Olefinic Pyrazines: a New Example of Anti-Markovnikov Addition." Klumpp, D. A.; **Zhang, Y.**; Kindelin, P. J. *Abstract of Papers*, 230th National Meeting of the American Chemical Society, Washington, DC, August 2005; American Chemical Society: Washington, DC, 2005; Abstract ORGN 648.

Superacid Catalyzed Reactions of N-Acyliminium Ions: a Convenient Route to Tetrahydroisoquinolines and the Role of Superelectrophiles." Klumpp, D. A.; **Zhang, Y.**; Kindelin, P. J. *Abstract of Papers*, 230th National Meeting of the American Chemical Society, Washington, DC, August 2005; American Chemical Society: Washington, DC, 2005; Abstract ORGN 648.

"The Chemistry of Superelectrophiles and Other Activated Electrophiles." **Klumpp, D. A.** *Abstract of Papers*, Pacificchem2005, Honolulu, HI, December 2005; American Chemical Society: Washington, DC, 2005; Abstract 2031.

"Activation of Electrophilic Sites with Perfluorinated Groups and the Application to Synthesis." **Klumpp, D. A.**; Kindelin, P. J. *Abstract of Papers* Pacificchem2005, Honolulu, HI, December 2005; American Chemical Society: Washington, DC, 2005; Abstract 1361.

"Benzylic Reactions of Dicationic Electrophiles: a New Route to Aza-Polycyclic Aromatic Compounds and Related Products." **Klumpp, D. A.**; Li, A.; Kindelin, P. J. *Abstract of Papers*, Pacificchem2005, Honolulu, HI, December 2005; American Chemical Society: Washington, DC, 2005; Abstract 1346.

ABSTRACTS, continued:

"Reactions of Pharmaceutical Agents in Strongly Acidic Conditions and the Role of Dicationic Electrophiles." **Klumpp, D. A.**; Li, A.; Kindelin, P. J. *Abstract of Papers*, Pacificchem2005, Honolulu, HI, December 2000; American Chemical Society: Washington, DC, 2005; Abstract 1345.

"Electrophilic activation involving protonated amides." Rendy, R.; Zhang, Y.; McElrea, A.; Gomez, A.; **Klumpp, D. A.** *Abstract of Papers*, 227th National Meeting of the American Chemical Society, Anaheim, CA, March 2004; American Chemical Society: Washington, DC, 2004; Abstract ORGN 288.

"Dicationic Electrophiles: Superacid-Catalyzed Chemistry of Alkynes." **Rendy, R.**; Zhang, Y.; McElrea, A.; Gomez, A.; Dang, H.; Klumpp, D. A. *Abstract of Papers*, 225th National Meeting of the American Chemical Society, New Orleans, LA, March 2003; American Chemical Society: Washington, DC, 2003; Abstract ORGN 514.

"Superacid-Catalyzed Reactions of Cinnamic Acids and the Role of Superelectrophiles" **Rendy, R.**; Zhang, Y.; McElrea, A.; Gomez, A.; Dang, H.; Klumpp, D. A. *Abstract of Papers*, 225th National Meeting of

the American Chemical Society, New Orleans, LA, March 2003; American Chemical Society: Washington, DC, 2003; Abstract ORGN 503.

"Activation of Electrophiles with N-Pyridinium, Phosphonium, and Other Cationic Groups." Klumpp, D. A.; **Zhang, Y.** *Abstract of Papers*, 223rd National Meeting of the American Chemical Society, Orlando, FL, April 2002; American Chemical Society: Washington, DC, 2002; Abstract ORGN 338.

"Convenient Method for the Preparation of Chelating Polymers from Polystyrenes and the Extraction of Silver from Aqueous Solution." **Klumpp, D. A.**; Pradana, D. *Abstract of Papers*, 223rd National Meeting of the American Chemical Society, Orlando, FL, April 2002; American Chemical Society: Washington, DC, 2002; Abstract ORGN 344.

"Dicationic Electrophiles from Olefinic Amines in Superacid." **Klumpp, D. A.**; Aguirre, S. L.; Sanchez, Jr., G. V. *Abstract of Papers*, 223rd National Meeting of the American Chemical Society, Orlando, FL, April 2002; American Chemical Society: Washington, DC, 2002; Abstract ORGN 345.

"Superacid-Catalyzed Reactions Involving Amino Alcohols." **Klumpp, D. A.**; Aguirre, S. L.; Sanchez, Jr., G. V.; de Leon, S. J. *Abstract of Papers*, 222nd National Meeting of the American Chemical Society, Chicago, IL, August 2001; American Chemical Society: Washington, DC, 2001; Abstract ORGN 110.

"Electrophilic Chemistry of Amino-alcohols, Amino-acetals, and Amino-ketones." **Sanchez, G. V.**; Klumpp, D. A.; DeLeon, S.; Garza, M. *Abstract of Papers*, Pacificchem2000, Honolulu, HI, December 2000; American Chemical Society: Washington, DC, 2000; Abstract 90005894.

"Electrophilic Chemistry of Croconic Acid and Squaric Acid." Klumpp, D. A.; **DeLeon, S.**; Garza, M.; Prakash, G. K. S.; Olah, G. A. *Abstract of Papers*, Pacificchem2000, Honolulu, HI, December 2000; American Chemical Society: Washington, DC, 2000; Abstract 90005900.

"The Electrophilic Chemistry of Tetrahydropyridines and Related Systems." **Klumpp, D. A.**; DeLeon, S.; Lau, S. *Abstract of Papers*, Pacificchem2000, Honolulu, HI, December 2000; American Chemical Society: Washington, DC, 2000; Abstract 90005855.

ABSTRACTS, continued:

"Superacid Induced Condensation of Quinolinecarboxaldehydes and Related Compounds with Arenes." Klumpp, D. A.; Jones, A.; Lau, S.; **DeLeon, S.**; Garza, M. *Abstract of Papers*, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000; American Chemical Society: Washington, DC, 2000; Abstract ORGN 319.

"Electrophilic Activation of Acetyl-Substituted Heteroaromatic Compounds." Klumpp, D. A.; Jones, A.; de Leon, S.; Lau, S. *Abstract of Papers*, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000; American Chemical Society: Washington, DC, 2000; Abstract ORGN 320.

"Acid-Catalyzed Condensations of Quinones with Arenes." Klumpp, D. A.; Do, D.; Garza, M.; **Klumpp, M. C.**; Kantardjieff, K.; Prakash, G. K. S.; Olah, G. A. *Abstract of Papers*, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000; American Chemical Society: Washington, DC, 2000; Abstract ORGN 321.

"Acid-catalyzed Condensations of Ninhydrin with Aromatic Compounds." Klumpp, D. A.; **Fredrick, S.**; Lau, S.; Prakash, G.K.S. ; Jin, K. K.; Bau, R.; Olah, G. A. *Abstract of Papers*, 217th National Meeting of the American Chemical Society, Anaheim, CA, March 1999; American Chemical Society: Washington, DC, 1999; Abstract ORGN 429.

"Synthesis of Aryl-Substituted Piperidines by Superacid Activation of Piperidones." Klumpp, D. A.; **Garza, M.**; Jones, A.; Mendoza, S. *Abstract of Papers*, 217th National Meeting of the American Chemical Society, Anaheim, CA, March 1999; American Chemical Society: Washington, DC, 1999; Abstract ORGN 431.

"Superacid Catalyzed Synthesis of Substituted Quinoline Compounds." Klumpp, D. A.; **Jones, A.** *Abstract of Papers*, 217th National Meeting of the American Chemical Society, Anaheim, CA, March 1999; American Chemical Society: Washington, DC, 1999; CHED 444.

"Electrophilic Chemistry of Biologically Important α -Keto Acids" Klumpp, D. A.; **Garza, M.**; Lau, S.; *Abstract of Papers*, 217th National Meeting of the American Chemical Society, Anaheim, CA, March 1999; American Chemical Society: Washington, DC, 1999; Abstract ORGN 428.

"3-Pyridinecarboxaldehyde: A Model System for Superelectrophilic Activation." Klumpp, D. A.; **Lau, S.** *Abstract of Papers*, 217th National Meeting of the American Chemical Society, Anaheim, CA, March 1999; American Chemical Society: Washington, DC, 1999; Abstract ORGN 430.

"Protonated Isatins as Electrophiles." **Klumpp, D. A.**; Yeung, K. Y.; Prakash, G. K. S.; Olah, G. A. *Abstract of Papers*, 215th National Meeting of the American Chemical Society, Dallas, TX, April 1998; American Chemical Society: Washington, DC, 1998; Abstract ORGN 290.

"Protonated Isatins as Electrophiles." **Klumpp, D. A.**; Yeung, K. Y.; Prakash, G. K. S.; Olah, G. A. *Abstract of Papers*, New Horizons in Chemistry, University of Southern California, Los Angeles, CA, November, 1997.

"Synthesis of Polycyclic Aromatic Compounds in Superacid." **Klumpp, D. A.**; Baek, D. N.; G. K. S. Prakash; Olah, G. A. *Abstract of Papers*, 213th National Meeting of the American Chemical Society, San Francisco, CA, April 1997; American Chemical Society: Washington, DC, 1997; Abstract ORGN 497.

ABSTRACTS, continued:

"The Preparation of Aromatic Ring Systems by the Reaction of Aryl Pinacols in Superacid." Olah, G. A.; **Klumpp, D. A.** *Abstract of Papers*, 211st National Meeting of the American Chemical Society, Chicago, IL, August 1995; American Chemical Society: Washington, DC, 1995; Abstract ORGN 17.

"Synthesis of Functionalized Macrocycles by the Cyclization of Bis-2,5-dimethylene-2,5-dihydrothiophenes Generated by Flash Vacuum Pyrolysis." **Klumpp, D. A.**; Trahanovsky, W. S. *Abstract of Papers*, 205th National Meeting of the American Chemical Society, Denver, CO, April, 1993; American Chemical Society: Washington, DC, 1993; Abstract ORGN 240.

"Intramolecular Cyclization of Bis-2,5-dimethylene- 2,5-dihydrofurans: An Approach to Macrocycles." **Klumpp, D. A.**; Trahanovsky, W. S. *Abstract of Papers*, 201th National Meeting of the American Chemical Society, Atlanta, GA, April, 1991; American Chemical Society: Washington, DC, 1991; Abstract ORGN 233.

PATENTS:

Process for preparation of (thio) aromatic ketones using amide reagents

Klumpp, Douglas A.; Raja, Erum K.

U.S. Pat. Appl. Publ. (2013), US 20130267712 A1 20131010.

INVITED RESEARCH LECTURES:

University of Southern California
University of California-Riverside
Western Illinois University
Winona State University
University of LaVerne
BP-Amoco
California State University-Northridge
Illinois Institute of Technology
Bradley University

Wheaton College
Knox College
Loyola University-Chicago
University of Minnesota-Duluth
California State University-Fullerton
University of Wisconsin, Madison
Olivet Nazarene College
University of Florida

ACS Symposium, "*Developments in Carbocation and Onium Ion Chemistry*," PacifiChem 2005.

Loker Hydrocarbon Research Institute Symposium, University of Southern California, "Chemical Challenges for the 21st Century," 2007.

Gordon Research Conference, *Physical Organic Chemistry*, 2007.

Gordon Research Conference, *Heterocyclic Chemistry*, 2009

Loker Hydrocarbon Research Institute Symposium, University of Southern California, "Current Chemical Challenges," 2012.

"Art of Science" Symposium, Layne Jackson Art Gallery, Chicago, IL, 2013.

GRADUATE STUDENTS:

Northern Illinois University

Mark Gasonoo (2012-current)
Ahmad Qarah (2012-current)
Sean P. Mc Ilrath (2011-current)
Kenneth Boblak (2010-current)
Rajasekhar Reddy Naredla **Ph.D.** degree awarded, 2013
Erum Raja **Ph.D.** degree awarded, 2012
Anile Kethe **Ph.D.** degree awarded, 2012
Jessica Kassa, **Ph.D.** degree awarded, 2010
Matthew O'Conner, **M.S.** degree awarded, 2010
Ang Li, **M.S.** degree awarded, 2007; **Ph. D.** degree awarded 2010
Michael Topinka, **M.S.** degree awarded, 2010
Kiran Kumar Solingapuram Sai, **Ph.D.** degree awarded, 2009
Matthew Sheets, **Ph.D.** degree awarded 2008
Daniel J. DeSchepper, **M.S.** degree awarded, 2007
Yiliang Zhang, **Ph.D.** degree awarded, 2006

California State Polytechnic University, Pomona

Dat Do, **M.S.** degree awarded, 2003
Yun Zhang, **M.S.** degree awarded, 2002

UNDERGRADUATE RESEARCH STUDENTS:

Northern Illinois University

Matthew Abbott	Kenneth Boblak	R. M. Gallo
Matt J. Torkarz	Adam Mitton	A. R. Weigel
Andrew P. Malunchuk	Eric Moran	Connie Chen
Matt O'Connor	Jeffery Wells	E. A. Bower
Mathew Abbott	Matthew Muteheart	Ashley Spitzer
Robert Gallo	Matthew Lulek	P. A. Gucciardo
Jason Briski	Mak Bicakcic	A. M. Baumann
Patrick J. Kindelin	Andrew Schiffer	J. W. Peter
Larecia Knoerzer	John Wilk	Ronald Peter
Daniel DeSchepper	William Drzewiecki	Adam Tracy
Kristin Ousen	Bret Young	

California State Polytechnic University, Pomona

Rendy Rendy (Kartika)	Sharron L. Aguirre	Siufu Lau
Alma Gomez	Dat Do	Sarah de Leon
Aaron McElrea	Ka Yun Yeung	Shyla Fredrick
Erik Hicken	Chau Le	Han Dang
G. V. Sanchez Jr.	Chi Le	

University of Southern California

Donny N. Baek

HONORS AND AWARDS:

- 2013-2015 National Science Foundation, award amount: \$240,000
Synthetic Methodologies Utilizing Superelectrophiles.
- 2011 ESE institute Working Group, summer research grant, Northern Illinois University, award amount: \$1,500.
Title: "The Catalytic Reforming of Biodiesel using Olefin Metathesis."
- 2011 Summer Research and Artistry Funding, Northern Illinois University, award amount: \$12,300.
Title: "Charge Assisted Diels-Alder Reactions."
- 2009-2012 NIGMS research grant, National Institutes of Health, award amount: \$217,000
Title: "Electrophiles in Synthetic Studies and Biologically Relevant Processes."
- 2010 National Science Foundation (Co-PI), award amount: \$379,150
Title: "Upgrade of NMR Console"
- 2008-2011 National Science Foundation, award amount: \$330,000
Title: "Superelectrophilic Considerations in Heterocyclic Chemistry"
- 2006-2008 PRF Type-AC Grant, American Chemical Society, award amount: \$80,000
Title: "Generation, Study, and Application of Dicationic Intermediates"
- 2006-2007 Venture Grant, Northern Illinois University Foundation: \$7500
- 2004-2007 NIGMS research grant, National Institutes of Health, award amount: \$217,000
Title: "Activation of Electrophilic Reagents and Intermediates."
- 2004 Summer Research and Artistry Funding, Northern Illinois University, award amount: \$6000.
Title: "The Development of New Synthetic Methodologies."
- 2002 Ralph Ames Research Award, College of Science, California State Polytechnic University, Pomona, California
- 2000-2004 NIGMS research grant, National Institutes of Health, award amount : \$409,653
Title: "Studies of Electrophilic Activation"
- 1998-2000 NIGMS research grant, National Institutes of Health, award amount : \$103,413
Title: "Studies of Reactive Electrophiles"
- 2000 RSCA grant, California State Polytechnic University, award amount : \$2000
Title: "Preparation and Study of Chelating Polymers"
- 1998 RSCA grant, California State Polytechnic University, award amount : \$3000
Title: "Preparation of Biologically Active Compounds"
- 1997 RSCA grant, California State Polytechnic University, award amount : \$4000
Title: "Synthesis of Polycyclic Aromatic Compounds"
- 1992 Teaching Excellence Award, Iowa State University, Ames, Iowa
- TOTAL \$1,959,031 in external funding (1997-2015)

OTHER

Served as a grant review panel member at the National Science Foundation, Washington, DC.

Reviewer for grant applications from the National Science Foundation and the ACS-Petroleum Research Fund.

Reviewer of manuscript submissions to: *Science*, *Journal of the American Chemical Society*, *Angewante Chemie, Int. Ed.*, *Journal of Organic Chemistry*, *Chemistry: a European Journal*, *Journal of Physical Chemistry*, *Journal of Combinatorial Chemistry*, *Tetrahedron*, *Tetrahedron Letters*, *Journal of Molecular Catalysis A: General, Organic Preparations and Procedures International*, *European Journal of Organic Chemistry*, *Organic Letters*, *Synthesis*, *Letters in Organic Chemistry*, *Australian Journal of Chemistry*.

LECTURE COURSES TAUGHT:

Undergraduate courses

- General Chemistry
- Organic Chemistry
 - One semester, non-science majors
 - Two semesters, science majors
 - Two semesters, chemistry majors

Graduate courses

- Synthetic Organic Chemistry
- Physical Organic Chemistry
- Polymer Chemistry
- Spectroscopic Identification of Organic Molecules