Curriculum Vitae

Igor V. Alabugin

GENERAL INFORMATION

University Address:	Department of Chemistry and Biochemistry Florida State University Tallahassee, Florida 32306-4390 Phone: (850)-644-5795; Fax: (850)-644-8281
E-Mail Address:	alabugin@chem.fsu.edu
Web Site:	http://www.chem.fsu.edu/~alabugin/
Researcher ID:	http://www.researcherid.com/rid/C-3659-2015
ORCID ID:	0000-0001-9289-3819
Google Scholar:	https://scholar.google.com/citations?user=p4Mu17oAAAAJ&hl=en h-index: 57; i10-index: 132
Amazon:	http://www.amazon.com/Igor-V.-Alabugin/e/B01IU2UCAC/

Professional Preparation

1991-1995 Ph.D. Moscow State University, Moscow. Major: Organic Chemistry,
Dissertation: Reactions of phosphorylated allenes with new electrophilic reagents.
Dissertation supervisors: N. S. Zefirov, N. V. Zyk, V. K. Brel.

1986-1991 B.Sc/M.Sc., Moscow State University, Moscow. Major: Chemistry.
Thesis: Electrophilic sulfamatoselenenation of alkenes.
Thesis supervisor: N. V. Zyk.

Post- Degree Education and Training

1996-2000 Postdoctoral Research Associate: University of Wisconsin-Madison, WI (with Howard E. Zimmerman).

Professional Experience

2010- present Professor, Florida State University.

2006-2010 Associate Professor, Department of Chemistry and Biochemistry, Florida State University.

2000-2006 Assistant Professor, Department of Chemistry and Biochemistry, Florida State University.

Honors and Awards

Gilead Lectureship (University of Ottawa)	2022
Markovnikov Medal	2021
Honorary Professorship (St. Petersburg State University)	2021
ACS A. C. Cope Scholar Award	2021
A Top Reviewer for RSC Chemical Science	2019, 2020
A Top Reviewer for Angewandte Chemie	2019, 2020
The 2019 Favorsky Lecturer (St. Petersburg State University)	2019
A Top Reviewer for Angewandte Chemie	2018
A Top Reviewer for RSC Chemical Science	2018
A Top Reviewer for RSC Organic Chemistry Frontiers	2018
Fulbright Scholar Award – Distinguished Chair (UK)	2018
Fellow of the American Association for the Advancement of Science	2017
Sentinels of Science Award (top 10 peer-reviewers in Chemical Sciences)	2016-20
FSU Cottrell Professorship	2015
FSU Inaugural Undergraduate Research Mentor Award	2013
Phi Beta Kappa Excellence in Teaching Award (given once a year to one FSU professor by the US oldest academic honors society)	2013
"Visitas de Profesores Distinguidos" Mexican Academy of Sciences Award	2012
FSU Research Foundation GAP Award	2011
FSU Undergraduate Advising Award	2010
FSU Innovator Award	2007- 2017
FSU Developing Scholar Award	2008
FSU Undergraduate Teaching Award	2007
Inter-American Photochemical Society Young Investigator Award	2005
3M Untenured Faculty Award	2003, 2004
Florida State University First Year Assistant Professor Award	2001
NATO Science Fellowship	1996
Morozov Fellowship (top 0.5% of MSU students)	1988-1991

Awards and Honors Received by Students (including former students):

L. Kuhn won NSF Graduate Fellowship (2021)

P. Mehaffy received FSU 2021 IDEA grant

A. Palazzo received 2021 FSU Zeina and Joe Schlenoff Award

K. Gilmore received 2021 ACS Green Chemistry Award

A. Palazzo received 2020 ACS Scholar Award

G. Gomes received Banting Postdoctoral Fellowship (2020).

G. Gomes was featured on Florida State University's College of Arts & Sciences Spectrum Magazine with the article "Scientific Sensation"

G. Gomes was selected for IUPAC's Periodic Table of Younger Chemists as "Yttrium" (2018))

G. Gomes won CAS SciFinder Future Leaders Award (2018)

G. Gomes won Chemical Computing Group Excellence Award of the ACS Computational Chemistry Division (2018)

G. Gomes won 2018 FSU Graduate Research and Creative Activity Award

M. Skala received 2018 Howard W. Smoyer Scholarship in Chemistry

C. Healy received 2018 Delos De Tar Undergraduate Fellowship

M. Maxwell received 2018 Graduate Teaching Excellence Award

G. Gomes received 2016 IBM PhD Scholarship

B. Gold won 2016 Arnold O. Beckman Postdoctoral Award

E. Gonzalez-Rodriguez was awarded CONACYT Fellowship.

C.J. Kelsheimer received SMART Scholarship from Department of Defense

R. Mohamed received the inaugural (2016) Outstanding Organic Chemistry Graduate Student Award.

J. Guerrera received 2016 Russell H. and Dorothy P. Johnsen scholarship

C.J. Kelsheimer received GRFP-National Science Foundation Honorable Mention

M. Ly received 2016 Dr. Jack Saltiel Undergraduate Research Award (IDEA Grant)

G. Gomes received 2016 Dr. Martin Luther King Jr. Book Stipend Scholarship

T. de Faria became 2015 WID-CFL Scholarship Winner

B. Gold won 2015 Dorothy and Russell Johnsen Best Dissertation Award

I. Piskun received 2015 ACS Organic Research Award

J. Nogues received 2015 Howard W. Smoyer Scholarship in Chemistry

W. Speranza received 2015 Delos De Tar Undergraduate Fellowship

J. Guerrera received 2015 Delos De Tar Undergraduate Fellowship

C.J. Kelsheimer received 2015 Katherine B. Hoffman Undergraduate Fellowship

D. Allenger received 2015 Katherine B. Hoffman Undergraduate Fellowship

R. Mohamed was awarded participation in the 2015 Lindau Nobel Laureate Meeting

D. Allenger received 2015 Mentored Research and Creative Endeavor Award (MRCE)

J. Nogues received 2015 Stephen Madden Undergraduate Research Award

R. Mohamed became finalist for 2015 P.E.O Fellowship

D. Allenger received 2014 Russell H. and Dorothy P. Johnsen scholarship

J. Nogues received 2014 Delos De Tar Undergraduate Fellowship

B. Gold won 2014 FSU Graduate Research and Creative Activity Award

I. Piskun received 2014 ACC Collaborative Summer Research Award

A. Morgan became 2014 Fulbright Finalist (https://campus.fsu.edu/profiles/morgan/)

B. Gold received a Dissertation Research Grant from COGS, FSU (2013)

J. Rojas received the 2013 FSU Department of Chemistry Academic Excellence Award

A. Morgan won the 2013 Katherine B. Hoffman Undergraduate Fellowship

J. Rashid won the 2013 FSU Department of Chemistry Undergraduate Research Award

A. Morgan won 2013 FSU Undergraduate Research and Creative Activity Award (URCAA)

Z. Rengert won NSF Graduate Fellowship (2013).

B. Gold was awarded participation in the 2013 Lindau Nobel Laureate Meeting

B. Gold won CCG Excellence Award from the ACS Division of Computational Chemistry (2012)

J. Rojas received Katherine B. Hoffman Undergraduate Fellowship (2012)

Z. Rengert won the 2012 FSU Department of Chemistry Undergraduate Research Award

K. Gilmore won FSU Department of Chemistry Outstanding Organic Chemistry TA Award (2012)

R. Allen received the 2011 Marion Jewell Hay Award

A. Baroudi named as a finalist for 2010-2011 Reaxys PhD Publication Prize (*one of 14 in the U.S.*)

Z. Rengert won 1st place poster award at the Florida ACS meeting (2011)

N. Bonus received Delos De Tar Undergraduate Fellowship (2011)

M. Gatcombe received Delos De Tar Undergraduate Fellowship (2011)

W.-Y. Yang received a Dissertation Research Grant from COGS, FSU (2011)

C. St. Laurent won 3rd place presentation award in Chemistry at the FGLSAMP Expo Meeting (2011)

K. Gilmore received Fulbright Fellowship (2010-11) (https://campus.fsu.edu/profiles/gilmore/)

C. St. Laurent won 2nd place poster award at the Florida ACS meeting (2010)

A. Rodriguez received Katherine B. Hoffman Undergraduate Fellowship (2010)

J. Alicea received Katherine B. Hoffman Undergraduate Fellowship (2010)

J. Delaune received the 2010 Department of Chemistry and Biochemistry Academic Excellence Award

A. Rice received FSU Mentored Research and Creative Endeavors Award (2009) (https://campus.fsu.edu/profiles/rice/)

R. Abrams received FSU Undergraduate Research and Creative Activity Award (2008)

K. Gilmore and A. Baroudi shared Best Organic Seminar Award (2008).

J. Abrams received Best Organic Seminar Award (2007).

J. Lopez received Fisher Fellowship (2007) from the American Cancer Society

B. Breiner received 2007 Best Dissertation Award from the Department of Chemistry and Biochemistry, FSU

T. Zeidan received a Dissertation Research Grant from COGS, FSU (2005)

C. French received Hughes Fellowship (2004)

M. Naiman received Fisher Fellowship (2001) and Avery Brundage Fellowship (2004)

Membership in Professional Organizations

American Chemical Society

Inter-American Photochemical Society (Secretary)

American Association for the Advancement of Science

SCHOLARLY OR CREATIVE ACTIVITIES

Books

Alabugin, I. V. *Stereoelectronic Effects: the Bridge between Structure and Reactivity.* John Wiley & Sons Ltd, Chichester, UK, 2016.

Refereed Journal Articles

Submitted:

180. Visible Light-driven Metal-free C–H Functionalization: Access to New Bioactive Tetrahydroisoquinoline-Butenolide Hybrids via Domino Amine Oxidation/Vinylogous Mannich Reaction. L. Kersting; L. Kuhn; M. Anokhin; F.Schuster; C. Häberli; S. Sambyal; H. M. S. Kumar; J. Keiser; I. V. Alabugin; S. B. Tsogoeva. https://chemrxiv.org/engage/chemrxiv/article-details/61bfbed97284d0efb4f1cff4.

Published:

179. Alabugin, I. V.; Hu, C. New Heterocycles via an Intriguing Visible-Light-Promoted 5-endo-dig Cyclization. *Chem. Catalysis*, **2021**, *1*, 976-975. https://doi.org/10.1016/j.checat.2021.10.004.

178. Cascade Transformations of 1-R-Ethynyl-9,10-anthraquinones with Amidines: Expanding Access to Isoaporphinoid Alkaloids. S. F. Vasilevsky, O.L. Krivenko, I. V. Sorokina, D. Baev, T. G. Tolstikova, I. V. Alabugin. *Molecules*, **2021**, *26*, 6883-6896, https://doi.org/10.3390/molecules26226883.

177. Expanding Stereoelectronic Limits of endo-tet Cyclizations: Synthesis of Benz[b]azepines from Donor–Acceptor Cyclopropanes. A. E. Vartanova, A. Yu. Plodukhin, N. K. Ratmanova, I. A. Andreev, M. N. Anisimov, N. B. Gudimchuk, V. B. Rybakov, I. I. Levina, O. A. Ivanova, I. V. Trushkov, I. V. Alabugin. *J. Am. Chem. Soc.* **2021**, *143*, 13952–13961, https://pubs.acs.org/doi/10.1021/jacs.1c07088.

176. Anomeric Effect, Electrostatics, and Hyperconjugation: Lessons from a Classic Stereoelectronic Phenomenon" I. V. Alabugin, L. Kuhn, N. V. Krivoshchapov, P. Mehaffy, M.G. Medvedev. *Chem. Soc. Rev.* **2021**, *50*, 10212-10252, https://pubs.rsc.org/en/Content/ArticleLanding/2021/CS/D1CS00564B.

175. Stereoelectronic Power of Oxygen in Control of Chemical Reactivity: the Anomeric Effect is not Alone. by I. V. Alabugin, L. Kuhn, M. G. Medvedev, N. V. Krivoshchapov, V. A. Vil', I. A. Yaremenko, P. Mehaffy, M. Yarie, A. O. Terent'ev, M.A. Zolfigol. *Chem. Soc. Rev.* **2021**, *50*, 10253-10345, https://pubs.rsc.org/en/content/articlelanding/2021/cs/d1cs00386k.

174. Marriage of Peroxides and Nitrogen Heterocycles: Selective Three-Component Assembly, Peroxide-Preserving Rearrangement, and Stereoelectronic Source of Unusual Stability of Bridged Azaozonides. I. A. Yaremenko, Y. Y. Belyakova, P. S. Radulov, R. A. Novikov, M. G. Medvedev, N. V. Krivoshchapov, A. A. Korlyukov, I. V. Alabugin, A. O. Terent'ev. *J. Am. Chem. Soc.* **2021,** *143*, 6634-6648. https://doi.org/10.1021/jacs.1c02249.

173. Mapping C−H···M interactions in confined spaces: (α-ICyD^{Me})Au, Ag, Cu complexes reveal "contra-electrostatic H-bonds" masquerading as anagostic interactions. dos Passos Gomes, G.; Xu, G.; Zhu, X.; Chamoreau, L.-M. Zhang, Y.; Bistri-Aslanoff, O.; Roland, S.; Alabugin, I. V.; Sollogoub, M. *Chem. Eur. J.* **2021**, *27*, 8127-8142. https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/chem.202100263.

172. Stalling chromophore synthesis of the fluorescent protein Venus reveals the molecular basis of the final oxidation step. Venus. H. S. Auhima, B. L. Grigorenko, T. Harris, I. V. Polyakov, G.d.P. Gomes, I. V. Alabugin, P. J. Rizkallahg, A. V. Nemukhin, D. D. Jones. *Chem. Science*, **2021**, *12*, 7735-7745. https://pubs.rsc.org/en/content/articlelanding/2021/sc/d0sc06693a.

171. How to Review a Paper. I. V. Alabugin (invited article). *ACS Chemical Health & Safety*. **2021**, *28*, 1, 14–18. http://pubs.acs.org/doi/full/10.1021/acs.chas.0c00107.

170. Organocatalytic sulfoxidation. S. C. Davidson, G. d. P. Gomes, L. R. Kuhn, I. V. Alabugin, A. R. Kennedy, N. C. O. Tomkinson. *Tetrahedron*, **2021**, https://doi.org/10.1016/j.tet.2020.131784.

169. Karas, L. J.; Campbell, A. T.; Alabugin, I. V.; Wu, J. I. Antiaromaticity Gain Activates Tropone and Nonbenzenoid Aromatics as Normal-Electron-Demand Diels–Alder Dienes. *Org. Lett.* **2020,** *22*, 7083–7087. https://doi.org/10.1021/acs.orglett.0c02343.

168. Kos, M.; Žádný, J.; Storch, J.; Církva, V.; Cuřínová, P.; Sýkora, J.; Císařová, I.; Kuriakose, F.; Alabugin, I. V. Oxidative Photocyclization of Aromatic Schiff Bases in Synthesis of Phenanthridines and Other Aza-PAHs. *Int. J. Mol. Sci.* **2020**, *21*, 5868; https://doi.org/10.3390/ijms21165868.

167. Lithium Salt Dissociation in Diblock Copolymer Electrolyte Using Fourier Transform Infrared Spectroscopy. K. Kim, L. Kuhn, I. V. Alabugin, D. T. Hallinan Jr., *Frontiers in Energy Research*, **2020**, http://journal.frontiersin.org/article/10.3389/fenrg.2020.569442/full.

166. How to Build Rigid Oxygen-Rich Tricyclic Heterocycles from Triketones and Hydrogen Peroxide: Control of Dynamic Covalent Chemistry with Inverse α-Effect. I. A. Yaremenko, P. S. Radulov, M. G. Medvedev, N. V. Krivoshchapov, Yu. Yu. Belyakova, A. A. Korlyukov, A. I. Ilovaisky, A. O. Terent'ev, I. V. Alabugin, *J. Am. Chem. Soc.* **2020**, *142*, 14588–14607, https://pubs.acs.org/doi/pdf/10.1021/jacs.0c06294.

165. Determination of the pK_a values of *trans*-Resveratrol by Singular Value Decomposition. Comparison with Theory. Zimányi, L.; Thekkan, S.; Eckert, B.; Condren, A. R.; Dmitrenko, O.; Kuhn, L. R.; Alabugin, I. V.; Saltiel, J. *J. Phys. Chem*. A, **2020**, *124*, 6294-6302. https://pubs.acs.org/doi/10.1021/acs.jpca.0c04792.

164. [1,5]-Sigmatropic Shifts Regulated by Built-in Frustration. Vidhani, D.; Gillett, J.; Cusido, J.; Alabugin, I.V. *J. Phys. Chem*. A, **2020**, *124*, 6016–6028. https://pubs.acs.org/doi/abs/10.1021/acs.jpca.0c03933.

163. Phenalenannulations: three-point double annulation reactions that convert benzenes into pyrenes. R. K. Kawade, C. Hu, N. R. Dos Santos, N. Watson, X. Lin, K. Hanson, I. V. Alabugin. *Angew. Chem. Int. Ed.*, **2020**, *59*, 14352-14357, https://doi.org/10.1002/anie.202006087.

162. On the Impact of Excited State Antiaromaticity Relief in a Fundamental Benzene Photoreaction Leading to Substituted Bicyclo[3.1.0]hexenes. T. Slanina, R. Ayub, J. Toldo, J. Sundell, W. Rabten, M. Nicaso, I. V. Alabugin, I. Fernández Galván, A. Kumar Gupta, R. Lindh, A. Orthaber, R. Lewis, Richard; G. Grönberg, J. Bergman, H. Ottosson. *J. Am. Chem. Soc.* **2020**, *142*, 10942–10954, https://pubs.acs.org/doi/full/10.1021/jacs.9b13769.

161. Synthesis of unstrained Criegee intermediates: inverse α-effect and other protective stereoelectronic forces can stop Baeyer-Villiger rearrangement of γ-hydroperoxy-γ-peroxylactones. V. A. Vil', Y. A. Barsegyan, L. Kuhn, M. V. Ekimova, E. A. Semenov, A. A. Korlyukov, A. O. Terent'ev, I. V. Alabugin.

Chem. Science, **2020**, *11*, 5313 – 5322. https://doi.org/10.1039/D0SC01025A. Discussion: https://twitter.com/IAlabugin/status/1258897332478844928.

160. Twofold π-Extension of Polyarenes via Double and Triple Radical Alkyne peri-Annulations: Radical Cascades Converging on the Same Aromatic Core. E. Gonzalez-Rodriguez, M. A. Abdo, G. dos Passos Gomes, S. Ayad, F. D. White, N. P. Tsvetkov, K. Hanson, I. V. Alabugin, *J. Am. Chem. Soc.* **2020**, *142*, 8352–8366, https://pubs.acs.org/doi/abs/10.1021/jacs.0c01856.

159. Testing the Limits of Radical-Anionic CH-Amination: a 10-Million-Fold Decrease in Basicity Opens a New Path to Hydroxyisoindolines via a Mixed C-N/C-O-Forming Cascade. Q. Elliott, G. Gomes, C. J. Evoniuk, I. V. Alabugin, *Chem. Science*, **2020**, *11*, 6539 – 6555. https://doi.org/10.1039/C9SC06511C.

158. Negative charge as a lens for concentrating antiaromaticity in twisted polyaromatics: taking advantage of a pentagonal "defect" and helicene strain for reductive annulation. Z. Zhou, R. K. Kawade, Z. Wei, F. Kuriakose, R. Gershoni-Poranne, M. A. Petrukhina, I. V. Alabugin, *Angew. Chem. Int. Ed.*, **2020**, *59*, 1256-1262. https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201911319.

157. Controlled Evolution of the Cope Rearrangement: Transition from Concerted to Interrupted and Aborted Pericyclic Reactions Regulated by a Switch Built from an Intramolecular Frustrated Lewis Pair. D. V. Vidhani, I. V. Alabugin, *J. Org. Chem.*, **2019**, *84*, 14844-14853, https://pubs.acs.org/doi/10.1021/acs.joc.9b02633.

156. Strain and stereoelectronics in cycloalkyne click chemistry. T. Harris, I. V. Alabugin, *Mendeleev Communications*, **2019**, *29*, 237-248, https://doi.org/10.1016/j.mencom.2019.05.001.

155. Peroxycarbenium ions as the "gatekeepers" in reaction design: assistance from inverse alpha-effect in three-component β-alkoxy-β-peroxylactones synthesis. V. A. Vil', Y. A. Barsegyan, D. V. Barsukov, A. A. Korlyukov, I. V. Alabugin, A. O. Terent'ev. *Chemistry A European Journal*, **2019**, *63*, 14460-14468. https://onlinelibrary.wiley.com/doi/full/10.1002/chem.201903752.

154. Making Endo-Cyclizations Favorable Again: Conceptually New Synthetic Approach to Benzotriazoles via Azide Group Directed Lithiation/Cyclization of 2-Azidoaryl Bromides. A. A. Ageshina, G. A. Chesnokov, M. A. Topchiy, I. V. Alabugin, M. S. Nechaev, A. F. Asachenko, *Org. Biomol. Chem.*, **2019**, *17*, 4523-4534. https://pubs.rsc.org/en/content/articlelanding/2019/ob/c9ob00615j.

153. CO_2 or SO_2: Should It Stay, or Should It Go? Gomes, G.; Wimmer, A.; Smith, J.; König, B.; Alabugin, I.V. *J. Org. Chem.*, **2019**, *84*, 6232-6243. https://pubs.acs.org/doi/10.1021/acs.joc.9b00503.
Preprint: https://chemrxiv.org/articles/CO2_or_SO2_Should_It_Stay_or_Should_It_Go/7464587.

152. Alkynes as synthetic equivalents of ketones and aldehydes: a hidden entry into carbonyl chemistry. I. V. Alabugin, E. Gonzalez-Rodriguez, R. K. Kawade, A. Stepanov, S. F. Vasilevsky, *Molecules*, **2019**, *24*, 1036-1073. doi: 10.3390/molecules24061036. https://www.mdpi.com/1420-3049/24/6/1036.

151. Stereoelectronic Influence of a "Spectator" Propargylic Substituent Can Override Aromaticity Effects in Radical Peri-cyclizations on Route to Expanded Polyaromatics. A. Hughes; G. Gomes; I. V. Alabugin, *J. Org. Chem.*, **2019**, *84*, 1853-1862. https://pubs.acs.org/doi/10.1021/acs.joc.8b02779.

150. Upconversion of Reductants. M. A. Syroeshkin, F. Kuriakose, E. A. Saverina, V. A. Timofeeva, M. P. Egorov, I. V. Alabugin. *Angew. Chem. Int. Ed.*, **2019**, *57*, 5532-5550. https://doi.org/10.1002/anie.201807247.

149. Optimizing amine-mediated alkyne-allene isomerization to improve benzannulation cascades: synergy between theory and experiments. G. Gomes, A. E. Morrison, G. B. Dudley, I. V. Alabugin, *Eur. J. Org. Chem.*, **2019**, 512-518. https://onlinelibrary.wiley.com/doi/full/10.1002/ejoc.201801052.

148. Five roads that converge at the cyclic peroxy-Criegee intermediates: BF_3-catalyzed synthesis of β-hydroperoxy- β-peroxylactones. Vil', V. A.; Gomes, G. P.; Ekimova, M. V.; Lyssenko, K. A.; Syroeshkin, M. A.; Nikishin, G. I.; Alabugin, I. V.; Terent'ev, A. O. *J. Org. Chem.*, **2018**, *83*, 13427–13445. https://pubs.acs.org/doi/10.1021/acs.joc.8b02218.

147. Isonitriles as Stereoelectronic Chameleons: The Donor-Acceptor Dichotomy in Radical Additions. G. Gomes, Y. Loginova, S. Z. Vatsadze, I V. Alabugin. *J. Am. Chem. Soc.* **2018**, *140*, 14272-14288. https://pubs.acs.org/doi/abs/10.1021/jacs.8b08513

146. Hyperconjugation. I. V. Alabugin, G. Gomes, M. A. Abdo, *WIREs: Comput. Mol. Sci.* **2019**, *9, e1389*, https://doi.org/10.1002/wcms.1389.

145. Alkyne Origami: Folding Oligoalkynes into Polyaromatics. I. V. Alabugin, E. Gonzalez-Rodriguez. *Acc. Chem. Res.*, **2018**, *51*, 1206-1219. https://pubs.acs.org/doi/10.1021/acs.accounts.8b00026.

144. Ozone-Free Synthesis of Ozonides: Assembling Bicyclic Structures from 1,5-Diketones and Hydrogen Peroxide. Yaremenko, I.; Gomes, G.; Radulov, P.; Belyakova, Y.; Vilikotskiy, A.; Vil', V.; Korlyukov, A.; Nikishin, G.; Alabugin, I. V.; Terent'ev, A. O. *J. Org. Chem.*, **2018**, *83*, 4402–4426, https://pubs.acs.org/doi/abs/10.1021/acs.joc.8b00130.

143. Radical Alkyne Peri-annulations for Synthesis of Functionalized Phenalenes, Benzanthrenes, and Olympicene. N. P. Tsvetkov, E. Gonzalez-Rodriguez, A. Hughes, G. dos Passos Gomes, F. D. White, F. Kuriakose, I. V. Alabugin. *Angew. Chem. Int. Ed.*, **2018**, *57*, 3651-3655. onlinelibrary.wiley.com/doi/10.1002/anie.201712783/abstract. Highlighted at https://www.sciencedaily.com/releases/2018/02/180220143511.htm.

142. Interrupted Baeyer-Villiger Rearrangement: Building a Stereoelectronic Trap for the Criegee Intermediate. V. A. Vil', G. dos Passos Gomes, O. V. Bityukov, K. A. Lyssenko, G. I. Nikishin, I. V. Alabugin, A. O. Terent'ev, *Angew. Chem. Int. Ed.*, **2018**, *57*, 3372-3376,

http://onlinelibrary.wiley.com/doi/10.1002/ange.201712651/abstract. Highlighted at https://cen.acs.org/articles/96/i7/Elusive-Criegee-reaction-intermediate-captured.html.

141. Photochemical activation of enediyne warheads: A potential tool for targeted antitumor therapy. P. Bhattacharya, A. Basak, A. T. Campbell, I. V. Alabugin. *Molecular Pharmaceutics*, **2018**, *15*, 768–797, https://pubs.acs.org/doi/abs/10.1021/acs.molpharmaceut.7b00911.

140. Coupling N-H deprotonation, C-H activation and oxidation: metal-free C(sp3)-H aminations with unprotected anilines. C. J. Evoniuk, G. d. P. Gomes, S. P. Hill, F. Satoshi, K. Hanson, I. V. Alabugin, *J. Amer. Chem. Soc.*, **2017**, *139*, 16210–16221. http://pubs.acs.org/doi/abs/10.1021/jacs.7b07519.

139. Substituent effects on stereoselectivity of dihalocarbene reactions with cyclohexadiene and on the reactivity of bis-dihalocyclopropanes in electrophilic nitrations on route to pyrimidine N-oxides. K. N. Sedenkova, E. B. Averina, Y. K. Grishin, J. V. Kolodyazhnaya, V. B. Rybakov, T. S. Kuznetsova, A. Hughes, G. d. P. Gomes, I. V. Alabugin, N. S. Zefirov, *Org. Biomol. Chem.*, **2017**, *15*, 9433-9441, http://pubs.rsc.org/en/content/articlelanding/2017/ob/c7ob02463k#!divAbstract.

138. Electrochemical behavior of N-oxyphthalimides: Cascades initiating self-sustaining catalytic reductive N-O bond cleavage. M. A. Syroeshkin, I. B. Krylov, A. M. Hughes, I. V. Alabugin, D. V. Nasybullina, M. Yu. Sharipov, V. P. Gultyai, A. O. Terent´ev, *J. Phys. Org. Chem.*, **2017**, e3744. https://doi.org/10.1002/poc.3744.

137. Twisted chiral cycloalkynes and remote activation of click reactivity. T. Harris, G. P. Gomes, S. Ayad, R. J. Clark, V. V. Lobodin, M. A. Tuscan, K. Hanson, I. V. Alabugin, *Chem*, **2017**, *4*, 629–640.

136. Stereoelectronic Interactions as a Probe for the Existence of the α-Effect. E. Juaristi, G. P. Gomes, A. O. Terent'ev, R. Notario, I. V. Alabugin *J. Amer. Chem. Soc.*, **2017**, *139*, 10799–10813, http://pubs.acs.org/doi/abs/10.1021/jacs.7b05367.

135. Organocatalyzed Synthesis of Fluorinated Poly(aryl thioethers). N. H. Park, G. P. Gomes, M. Fevre, G. O. Jones, I. V. Alabugin, J. L. Hedrick, *Nature Commun.*, **2017,** 8, Article number: 166, https://www.nature.com/articles/s41467-017-00186-3.

134. Cyclooctyne. Harris, T.; Alabugin, I. V. *e-EROS Encyclopedia of Reagents for Organic Synthesis*, **2017**, 1–3, DOI: 10.1002/047084289X.rn02079.

133. Formaldehyde-Extruding Homolytic Aromatic Substitution via C→O Transposition: Selective 'Traceless-Linker' access to Congested Biaryl Bonds. P. Poonpatana, G. P. Gomes, T. Hurrle, K. Chardon, D. Marshall, S. J. Blanksby, S. Bräse, K.-S. Masters, I. V. Alabugin. *Chem. Eur. J.*, **2017**, *23*, 9091–9097, http://onlinelibrary.wiley.com/doi/10.1002/chem.201700085/abstract.

132. Photoredox-Initiated Radical Cascades Enabling Collective Synthesis of 33 Natural Products. I. V. Alabugin, T. Harris, *Chem*, **2017**, 2, 753–755, http://www.sciencedirect.com/science/article/pii/S2451929417302334.

131. Stereoelectronic Control in the Ozone-Free Synthesis of Ozonides. Gomes, G.P.; Yaremenko, I. A.; Radulov, P. S.; Novikov, R. A.; Chernyshev, V. V.; Korlyukov, A. A.; Nikishin, G. I.; Alabugin, I. V.; Terent'ev, A. O. *Angew. Chem. Int. Ed.*, **2017**, *56*, 4955–4959, http://onlinelibrary.wiley.com/doi/10.1002/anie.201610699/full.

130. Changing the path of least resistance, or access to endo-dig products via a sequence of three exo-trig transition states: electronic effects in homoallyic ring expansion cascades of alkenyl isonitriles. Gomes, G. P.; Evoniuk, C.; Ly, M.; Alabugin, I. V. *Org. Biomol. Chem.*, **2017**, *15*, 4135-4143. http://pubs.rsc.org/en/content/articlelanding/2014/OB/C7OB00527J#!divAbstract.

129. Coupling radical homoallylic expansions with C-C fragmentations for the synthesis of heteroaromatics: Quinolines from reactions of o-alkenylarylisonitriles with aryl, alkyl and perfluoroalkyl radicals. Evoniuk, C.; Gomes, G. P.; Ly, M.; White, F.; Alabugin, I. V. *J. Org. Chem.*, **2017**, *82*, 4265-4278. http://pubs.acs.org/doi/pdf/10.1021/acs.joc.7b00262.

128. Drawing Catalytic Power from Charge Separation: Stereoelectronic and Zwitterionic Assistance in the Au(I)-Catalyzed Bergman Cyclization. G. P. Gomes, I. V. Alabugin, *J. Am. Chem. Soc*., **2017**, *139*, 3406–3416, http://pubs.acs.org/doi/abs/10.1021/jacs.6b11054.

127. Full Cleavage of C≡C Bond in Electron-Deficient Acetylenes Via Reaction with Ethylenediamine. S. F. Vasilevsky, M. P. Davydova, V. I. Mamatyuk, N. Tsvetkov, A. Hughes, D. S. Baranov, I. V. Alabugin. *Aust. J. Chem.*, **2017**, *70*, 421-429. https://doi.org/10.1071/CH17026.

126. Stereoelectronic Chameleons: The Donor-Acceptor Dichotomy of Functional Groups. Vatsadze, S. Z.; Loginova, Y. D.; Gomes, G.; Alabugin, I. V. *Chem. Eur. J.*, **2017**, *23*, 3225-3245. http://dx.doi.org/10.1002/chem.201603491.

125. Regioselective One-pot Synthesis of Triptycenes via Triple-Cycloadditions of Arynes to Ynolates. S. Umedu, G. P. Gomes, M. Sakae, T. Yoshinaga, K. Matsumoto, T. Iwata, I. V. Alabugin, M. Shindo, *Angew. Chem. Int. Ed.*, **2017**, *56*, 1298–1302. doi: 10.1002/anie.201609111. (Selected by Synfacts as "Synfact of the month")

124. Orbital Crossings Activated Through Electron Injection: Opening Communication between Orthogonal Orbitals in Anionic C1-C5 Cyclizations of Enediynes. Peterson, P.; Shevchenko, N.; Breiner, B.; Manoharan, M.; Lufti, F.; Delaune, J.; Kingsley, M.; Kovnir, K.; Alabugin, I. V. *J. Am. Chem. Soc*., **2016**, *138*, 15617–15628. http://pubs.acs.org/doi/abs/10.1021/jacs.6b08540.

123. Alkynes as Linchpins for the Additive Annulation of Biphenyls: Convergent Construction of Functionalized Fused Helicenes. Mohamed, R. K.; Mondal, S.; Guerrera, J. V.; Eaton, T.M.; Albrecht-Schmitt, T. E.; Shatruk, M.; Alabugin, I. V. *Angew. Chem. Int. Ed.*, **2016**, *55*, 12054-12058. **Error! Hyperlink reference not valid.** http://onlinelibrary.wiley.com/doi/10.1002/anie.201606330/full.

122. Combining Traceless Directing Groups with Hybridization Control of Radical Reactivity: from Skipped Enynes to Defect-Free Hexagonal Frameworks. Pati, K.; Gomes, G.; Alabugin, I. V. *Angew. Chem. Int. Ed.*, **2016**, *55*, 11633-11636, http://onlinelibrary.wiley.com/doi/10.1002/anie.201605799/full.

121. Optimizing Protonation States for Selective Double Strand DNA Photocleavage in Hypoxic Tumors: pH-Gated Transitions of Lysine Dipeptides. Kaya, K.; Roy, S.; Nogues, J. C.; Rojas, J. C.; Sokolikj, Z.; Zorio, D. A. R.; Alabugin, I. V. *J. Med. Chem.*, **2016**, *59*, 8634–8647. http://pubs.acs.org/doi/abs/10.1021/acs.jmedchem.6b01164.

120. The Baldwin Rules: Revised and Extended. Gilmore, K; Mohamed, R. K.; Alabugin, I. V. *WIREs: Comput. Mol. Sci.* **2016**, *6*, 487–514. DOI: 10.1002/wcms.1261. http://wires.wiley.com/WileyCDA/WiresArticle/wisId-WCMS1261.html.

119. Domino Fragmentations in Traceless Directing Groups of Radical Cascades: Evidence for the Formation of Alkoxy Radicals via C-O Scission. Harris, T.; Gomes, G.; Clark, R. J.; Alabugin, I. V. *J. Org. Chem.*, **2016**, *81*, 6007–6017. http://pubs.acs.org/doi/abs/10.1021/acs.joc.6b01052.

118. Double C-H Amination by Consecutive SET Oxidations. Evoniuk, C. J.; Hill, S. P; Hanson, K.; Alabugin, I. V. *Chem. Commun.* **2016**, *52*, 7138 - 7141. http://pubs.rsc.org/en/content/articlelanding/2016/cc/c6cc03106d#!divAbstract.

117. Fused Catechol Ethers from Gold (I)-Catalyzed Intramolecular Reaction of Propargyl Ethers with Acetals. Pati, K.; Gomes, G.; Harris, T.; Alabugin, I. V. *Org. Lett.*, **2016**, 18, 928–931. http://pubs.acs.org/doi/abs/10.1021/acs.orglett.5b03522.

116. Gold(I)-catalyzed allenyl Cope rearrangement: evolution from asynchronicity to trappable intermediates assisted by stereoelectronic switching. Vidhani, D.; Krafft, M.; Alabugin, I. V. *J. Am. Chem. Soc.*, **2016**, *138*, 2769–2779, http://pubs.acs.org/doi/abs/10.1021/jacs.5b12920.

115. Oxidized derivatives of n-hexane from a water/argon continuous flow electrical discharge plasma reactor. Bresch, B.; Wandell, R.; Wang, H.; Alabugin, I. V.; Locke, B. *Plasma Chemistry and Plasma Processing*, **2016**, *36*, 553-584, http://link.springer.com/article/10.1007%2Fs11090-015-9686-x.

114. The Missing C1−C5 Cycloaromatization Reaction: Triplet State Antiaromaticity Relief and Self-Terminating Photorelease of Formaldehyde for Synthesis of Fulvenes from Enynes. Mohamed, R. K.; Mondal, S.; Jorner, K.; Faria Delgado, T.; Ottosson, H.; Alabugin, I. V. *J. Am. Chem. Soc.*, **2015**, *137*, 15441–

15450. http://pubs.acs.org/doi/abs/10.1021/jacs.5b07448?journalCode=jacsat. Discussion: http://www.chem.fsu.edu/~alabugin/lastcycloaromdiscovered.html.

113. Stereoelectronic source of the anomalous stability of bis-peroxides. Gomes, G. P.; Vil', V.; Terent'ev, A.; Alabugin, I. V. *Chem. Science*, **2015**, **6**, 6783 – 6791. http://pubs.rsc.org/en/content/articlelanding/2015/sc/c5sc02402a#!divAbstract.

See http://www.rsc.org/chemistryworld/2015/10/peroxides-stabilise-drug-molecules and http://nbo6.chem.wisc.edu/feature.htm.

112. Peculiarities of reaction of α-alkynylketones with β-aminoalcohols: Cleavage of triple bond via formal internal redox reaction. S. F. Vasilevsky, M. P. Davydova, V. I. Mamatuyk, N. V. Pleshkova, D. S. Fadeev, I.V. Alabugin. *Mendeleev Communications*, **2015**, *25*, 377-379. http://www.sciencedirect.com/science/article/pii/S0959943615001790.

111. Synthesis of Functionalized Phenanthrenes via Selective Oxidative Radical Cyclization. Pati, K.; Michas, C.; Allenger, D.; Piskun, I.; Coutros, P. S.; Gomes, G. P.; Alabugin I. V. *J. Org. Chem.*, **2015**, *80*, 11706-11717. (Special Issue: 50 Years and Counting: The Woodward-Hoffmann Rules in the 21st Century). http://pubs.acs.org/doi/abs/10.1021/acs.joc.5b01014.

110. Coupling cyclizations with fragmentations for the preparation of heteroaromatics: a new route to quinolines from o-alkenyl arylisocyanides. Evoniuk, C. J.; Ly, M.; Alabugin, I. V. *Chem. Commun*. **2015**, *51*, 12831 - 12834.

http://pubs.rsc.org/en/Content/ArticleLanding/2015/CC/C5CC04391C#!divAbstract.

109. Alkenes as Alkyne Equivalents in Radical Cascades Terminated by Fragmentations: Overcoming Stereoelectronic Restrictions on Ring Expansions for the Preparation of Expanded Polyaromatics. Mohamed, R.; Mondal, S.; Gold, B.; Evoniuk, C. J.; Banerjee, T.; Hanson, K.; Alabugin, I. V. *J. Am. Chem. Soc.*, **2015**, *137*, 6335-6349. http://pubs.acs.org/doi/abs/10.1021/jacs.5b02373.

108. UV and Sunlight Driven Photoligation of Quantum Dots: Understanding the Photochemical Transformation of the Ligands. Aldeek, F.; Hawkins, D.; Palomo, V.; Safi, M.; Palui, G.; Dawson, P. E.; Alabugin, I. V.; Mattoussi, H. *J. Am. Chem. Soc.* **2015**, *137*, 2704–2714. http://pubs.acs.org/doi/full/10.1021/ja512802x.

107. Conformational Flexibility of Fused Tetracenedione Propellers Obtained from One-Pot Reductive Dimerization of Acetylenic Quinones. Vasilevsky, S. F.; Baranov, D. S.; Mamatyuk, V. I.; Fadeev, D. S.; Gatilov, Y. V.; Stepanov, A. A.; Vasilieva, N. V.; Alabugin, I. V. *J. Org. Chem*. **2015**, *80*, 1618-1631. http://pubs.acs.org/doi/abs/10.1021/jo502543b. Highlighted in SYNFACTS: https://www.thieme-connect.com/products/ejournals/pdf/10.1055/s-0034-1380292.pdf.

106. Traceless Directing Groups in Radical Cascades: From Oligoalkynes to Fused Helicenes without Tethered Initiators. Pati, K.; Gomes, G. P.; Harris, T.; Hughes, A.; Phan, H.; Banerjee, T.; Hanson, K.; Alabugin, I. V. *J. Am. Chem. Soc.* **2015**, *137*, 1165-1180. http://dx.doi.org/10.1021/ja510563d.

105. Opening Enediyne Scissors Wider: pH-Dependent DNA Photocleavage by meta-Diyne Lysine Conjugates. Kaya, K.; Johnson, M.; Alabugin, I. V. *Photochemistry and Photobiology* (the Michael Kasha issue), **2015**, *91*, 748-758. http://onlinelibrary.wiley.com/doi/10.1111/php.12412/pdf.

104. Orbital Hybridization: a Key Electronic Factor in Control of Structure and Reactivity. Alabugin, I. V.; Bresch S.; Gomes, G. P. *J. Phys. Org. Chem.*, **2015**, *28*, 147-162 (invited review for the ISRIUM-2014 issue). http://onlinelibrary.wiley.com/doi/10.1002/poc.3382/abstract.

103. Click chemistry on diterpenes: anti-inflammatory activity of the acetylenic derivatives of levopimaric acid and products of their transformations. Vasilevsky, S. F.; Baranov, D. S.; Govdi, A. I.; Sorokina, I. V.; Tolstikova, T. G.; Tolstikov, G. A.; Alabugin, I. V. *ARKIVOC*, **2014**, *2014*, 145-157. DOI: http://dx.doi.org/10.3998/ark.5550190.p008.471.

102. Rerouting Radical Cascades: Intercepting the Homoallyl Ring Expansion in Enyne Cyclizations via C-S Scission. Mondal, S.; Gold, B.; Mohamed, R.; Phan, H.; Alabugin, I. V. *J. Org. Chem.*, **2014**, *79*, 7491-7501. http://pubs.acs.org/doi/pdf/10.1021/jo5012043.

101. Alkynyl Crown Ethers as a Scaffold for Hyperconjugative Assistance in Non-catalyzed Azide-Alkyne Click Reactions: Ion Sensing through Enhanced Transition State Stabilization. Gold, B.; Batsomboon, P.; Dudley, G. B.; Alabugin, I. V. *J. Org. Chem.*, **2014**, *79*, 6221–6232. http://pubs.acs.org/doi/full/10.1021/jo500958n.

100. Hybridization Trends for Main Group Elements and Expanding the Bent's Rule Beyond Carbon: More than Electronegativity. Alabugin, I. V.; Bresch S.; Manoharan, M. *J. Phys. Chem. A* **2014**, *118*, 3663–3677. http://pubs.acs.org/doi/abs/10.1021/jp502472u.

99. Synthesis of Substituted Biaryls Through Gold-Catalyzed Petasis-Ferrier Rearrangement of Propargyl Ethers. Pati, K.; Alabugin, I. V. *Eur. J. Org. Chem.* **2014**, *19*, 3986–3990. http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201402469/abstract.

98. A CO_2 Cloak for the Cyanide Dagger. Alabugin, I. V.; Mohamed, R. *Science*, **2014**, *344*, 45-46. http://www.sciencemag.org/content/344/6179/45.full.

97. Design of Leaving Groups in Radical C-C Fragmentations: Through-Bond 2c-3e Interactions in Self-Terminating Radical Cascades. Mondal, S.; Gold, B.; Mohamed, R. K.; Alabugin, I. V. *Chem. Eur. J.*, **2014**, *20*, 8664-8669. http://onlinelibrary.wiley.com/doi/10.1002/chem.201402843/abstract.

96. Formation of Alcohols and Carbonyl Compounds from Hexane and Water in a Liquid Film Plasma Reactor. Wandell, R. J.; Bresch S.; Hsieh K.; Alabugin, I. V.; Locke B. R. *IEEE Transactions on Plasma Science*, **2014**, *42*, 1195-1205.

95. Mechanistic Insights into the Rh(I)-Catalyzed Propargyl Claisen/Prototropic Rearrangement Cascade: Stereoelectronic Role of Trans-Effect on the Pericyclic Process and a Shift from Homogeneous to Heterogeneous Catalysis During a One-Pot Reaction. Vidhani, D. V.; Krafft, M. E.; Alabugin, I. V. *J. Org. Chem.*, **2014**, *79*, 352-364. http://pubs.acs.org/doi/full/10.1021/jo402505f.

94. Exo-Dig Radical Cascades of Skipped Enediynes: Building a Naphthalene Moiety within a Polycyclic Framework. Pati, K.; Hughes, A. M.; Phan, H.; Alabugin, I. V. *Chem. Eur. J.* **2014**, *20*, 390–393. http://onlinelibrary.wiley.com/doi/10.1002/chem.201304092/abstract.

93. Drawing from a pool of radicals for the design of selective enyne cyclizations. Mondal, S.; Mohamed, R. K.; Manoharan, M.; Phan, H.; Alabugin, I. V. *Org. Lett.*, **2013**, *15*, 5650–5653. http://pubs.acs.org/doi/abs/10.1021/ol4028072.

92. Finding the right path: Baldwin "Rules for Ring Closure" and stereoelectronic control of cyclizations. (Invited "Viewpoint"). Alabugin, I. V.; Gilmore, K. *Chem. Commun.*, **2013,** *49*, 11246 – 11250. http://pubs.rsc.org/en/content/articlehtml/2013/cc/c3cc43872d.

91. Mohamed, R. K.; Peterson, P. W.; Alabugin, I. V. Concerted Reactions that Produce Diradicals and Zwitterions: Electronic, Steric, Conformational and Kinetic Control of Cycloaromatization Processes. *Chem. Rev.*, **2013**, *113*, 7089–7129. (invited article, special issue on Reactive Intermediates) http://dx.doi.org/10.1021/cr4000682.

90. Stereocontrolled synthesis of (E, Z)-dienals via tandem Rh(I)-catalyzed rearrangement of propargyl vinyl ethers. Vidhani, D. V.; Krafft, M. E.; Alabugin, I. V. *Org. Lett.*, **2013**, *15*, 4462-4465. http://dx.doi.org/10.1021/ol4019985.

89. "Two functional groups in one package": designing cascade transformations of alkynes. (Invited "Synopsis") Alabugin, I. V.; Gold, B. *J. Org. Chem.*, **2013**, *78*, 7777-7784. http://pubs.acs.org/doi/abs/10.1021/jo401091w.

88. Peterson, P. W.; Shevchenko, N.; Alabugin, I. V. "Stereoelectronic Umpolung": Converting a p-Donor into a σ-Acceptor via Electron Injection and a Conformational Change. *Org. Lett.* **2013**, 15, 2238. http://pubs.acs.org/articlesonrequest/AOR-3EcXR7Src3nze8eT72kg.

87. Zhan, N.; Palui, G.; Grise, H.; Tang, H.; Alabugin, I.; Mattoussi, H. Combining ligand design with photo-ligation to provide compact, colloidally stable and easy to conjugate quantum dots. *ACS Applied Materials & Interfaces* (invited). **2013**, 5, 2861-2869. http://pubs.acs.org/doi/abs/10.1021/am302788q.

86. Peterson, P. W.; Mohamed, R. K.; Alabugin, I. V. How to Lose a Bond in Two Ways: The Diradical/Zwitterion Dichotomy in Cycloaromatization Reactions. Invited "Microreview" *Eur. J. Org. Chem.*, **2013**, 2505-2527. http://onlinelibrary.wiley.com/doi/10.1002/ejoc.201201656/abstract.

85. Shatruk, M., Alabugin, I. V. Reinvestigation of "Single-Crystal X-ray Structure of 1,3-dimethylcyclobutadiene." *Chemistry – Eur. Journal*, **2013**, *19*, 4942–4945. http://onlinelibrary.wiley.com/doi/10.1002/chem.201103017/abstract.

84. Gilmore, K.; Gold, B.; Clark, R.; Alabugin, I. V. Convenient, Ambient Temperature Generation of Sulfonyl Radicals for Addition to Alkynes. *Aust. J. Chem.*, **2013**, *66*, 336–340. Invited article for a special issue. http://www.publish.csiro.au/?act=view_file&file_id=CH12499.pdf.

83. Gold, B.; Dudley, G. B.; Alabugin, I. V. Moderating strain without sacrificing reactivity: Design of fast and tunable non-catalyzed alkyne-azide cycloadditions via stereoelectronically controlled transition state stabilization. *J. Amer. Chem. Soc.*, **2013**, *135*, 1558-1569. http://pubs.acs.org/doi/abs/10.1021/ja3114196.

82. Vidhani, D. V.; Cran, J. W.; Krafft M. E.; Alabugin, I. V. Gold (I)-Catalyzed Propargyl Claisen Rearrangement: Catalytic Pathways from Higher Energy Au(I)-Substrate Complexes and Reactant Deactivation via Unproductive Complexation. *Org. Biomol. Chem.*, **2013**, *11*, 1624 - 1630. http://pubs.rsc.org/en/content/articlelanding/2012/OB/C2OB27231H. (Journal Cover).

81. Vidhani, D. V.; Cran, J. W.; Krafft M. E.; Manoharan, M.; Alabugin, I. V. Gold(I)-Catalyzed Claisen Rearrangement of Allenyl Vinyl Ethers: Missing Transition States Revealed through Evolution of Aromaticity, Au(I) as an Oxophilic Lewis Acid, and Lower Energy Barriers from a High Energy Complex. *J. Org. Chem.* **2013**, *78*, 2059–2073 (Special issue dedicated to H. E. Zimmerman). http://pubs.acs.org/doi/abs/10.1021/jo302152j.

80. Baranov, D.; Gold, B.; Vasilevsky, S.; Alabugin, I. V. Divergent Cyclizations of 1-R-Ethynyl-9,10-anthraquinones: Use of Thiourea as a "S^{2-}" Equivalent in an "Anchor-Relay" Addition Mediated by Formal C-H Activation. *J. Org. Chem.* **2013**, *78*, 2074-2082 (Special issue dedicated to H. E. Zimmerman). http://pubs.acs.org/doi/pdf/10.1021/jo302146r.

79. Byers, P. M.; Rashid, J. I.; Mohamed, R. K.; Alabugin, I. V. Polyaromatic Ribbon- Benzofuran Fusion via Consecutive Endo Cyclizations of Enediynes. *Org. Lett.*, **2012**, *14*, 6032–6035. http://dx.doi.org/10.1021/ol302922t.

78. Photo-Induced Phase Transfer of Luminescent Quantum Dots to Aqueous Media. Palui, G.; Avellini, T.; Zhan, N.; Pan, F.; Gray, D.; Alabugin, I. V.; Mattoussi, H. *J. Amer. Chem. Soc.* **2012**, *134*, 16370–16378. http://pubs.acs.org/doi/pdf/10.1021/ja306621n.

77. Strain Control in Nucleophilic Cyclizations: Reversal of exo-Selectivity in Cyclizations of Hydrazides of Acetylenyl Carboxylic Acids by Annealing to a Pyrazole Scaffold. Vasilevsky, S. F.; Gold, B.; Mikhailovskaya, T. F.; Alabugin, I. V. *J. Phys. Org. Chem.* (invited article for a special issue), **2012**, *25*, 998–1005. http://onlinelibrary.wiley.com/doi/10.1002/poc.2990/pdf.

76. Gilmore, K.; Manoharan, M.; Wu, J.; Schleyer, P. v. R.; Alabugin, I. V. Aromatic Transition States in Non-Pericyclic Reactions: Anionic 5-Endo Cyclizations are Aborted Sigmatropic Shifts. *J. Amer. Chem. Soc.* **2012**, *134*, 10584−10594. http://pubs.acs.org/doi/pdf/10.1021/ja303341b.

75. Batsomboon, P.; Gold, B.; Alabugin, I. V.; Dudley, G. B. Tandem Nucleophilic Addition/Fragmentation of Vinylogous Acyl Nonaflates for the Synthesis of Functionalized Alkynes, with a Key Mechanistic Insight. *Synthesis* **2012**, *44*, 1818-1824 (invited paper to a Special Topic Issue on Tandem Reactions). https://www.thieme-connect.com/ejournals/html/10.1055/s-0031-1290945.

74. Byers, P.; Alabugin, I. V. Polyaromatic Ribbons from Oligo-Alkynes via Selective Radical Cascade: Stitching Aromatic Rings with Polyacetylene Bridges, *J. Am. Chem. Soc.* **2012**, *134*, 9609–9614. http://pubs.acs.org/doi/abs/10.1021/ja3023626. (Highlighted in SYNFACTS)

73. Breiner, B.; Kaya, K.; Roy, S.; Yang, W.-Y.; Alabugin, I. V. Hybrids of Amino Acids and Acetylenic DNA-Photocleavers: Optimizing Efficiency and Selectivity for Cancer Phototherapy. Invited "Perspective". *Org. Biomol. Chem*. **2012**, *10*, 3974-3987. http://pubs.rsc.org/en/Content/ArticleLanding/2012/OB/C2OB00052K.

72. Tummatorn, J.; Batsomboon, P.; Clark, R. J.; Alabugin, I. V.; Dudley, G. B. Strain-Promoted Azide–Alkyne Cycloadditions of Benzocyclononynes. *J. Org. Chem.* **2012**, *77*, 2093–2097, http://pubs.acs.org/doi/abs/10.1021/jo300188y.

71. Gold, B.; Shevchenko, N.; Bonus, N.; Dudley, G. B.; Alabugin, I. V. Selective Transition State Stabilization via Hyperconjugative and Conjugative Assistance: Stereoelectronic Concept for Copper-Free Click Chemistry. *J. Org. Chem.* **2012**, *77*, 75−89. http://pubs.acs.org/doi/abs/10.1021/jo201434w.

70. Yang, W.-Y.; Roy, S.; A. R.; Phrathep, B.; Rengert, Z.; Zorio, D. A. R.; Alabugin, I. V. Engineering Multiple pH-Gated Transitions for Selective and Efficient Double Strand DNA Photocleavage in Hypoxic Tumors. *J. Med. Chem.*, **2011**, *54*, 8501−8516. http://pubs.acs.org/doi/abs/10.1021/jm2010282.

69. Baranov, D. S.; Vasilevsky, S. F.; Gold, B.; Alabugin, I. V. Urea as a Solvent and Reagent for the Addition/Cyclization/Fragmentation Cascades Leading to 2-R-7H-dibenzo[de,h]quinolin-7- one Analogues of *Aporphinoid* Alkaloids. *RSC Adv.*, **2011**, *1*, 1745-1750. http://pubs.rsc.org/en/content/articlelanding/2011/ra/c1ra00622c.

68. Stepanov, A.A.; Gornostaev, L. M.; Vasilevsky, S. F.; Arnold, E. V.; Mamatyuk, V.I.; Fadeev, D.S.; Gold, B.; Alabugin, I. V. Chameleonic reactivity of vicinal diazonium salt of acetylenyl-9,10-

antraquinones: Synthetic application towards two heterocyclic targets. *J. Org. Chem.* **2011**, *76*, 8737–8748, http://pubs.acs.org/doi/abs/10.1021/jo2014214.

67. Roy, S.; Davydova, M. P.; Pal, R.; Gilmore, K.; Tolstikov, G. A.; Vasilevsky, S. F.; Alabugin, I. V. Dissecting Alkynes: Full Cleavage of Polarized C≡C Moiety via Sequential Bis-Michael Addition/Retro-Aldol Cascade. *J. Org. Chem.*, **2011**, *76*, 7482–7490. http://pubs.acs.org/doi/abs/10.1021/jo201259j.

66. Gilmore, K.; Alabugin, I. V. Cyclizations of Alkynes: Revisiting Baldwin's Rules for Ring Closure. *Chem. Rev.* **2011**, *111*, 6513–6556. http://pubs.acs.org/doi/pdf/10.1021/cr200164y.

65. Alabugin, I. Gilmore, K.; Manoharan, M. Rules for Anionic and Radical Ring Closure of Alkynes. *J. Am. Chem. Soc.* **2011,** *133*, 12608-12623, http://pubs.acs.org/doi/abs/10.1021/ja203191f.

64. Yang, W.-Y.; Marrone, S. A.; Minors, N.; Zorio, D. A. R.; Alabugin, I. V. Fine-tuning alkyne cycloadditions: Insights into photochemistry responsible for the double-strand DNA-cleavage via structural perturbations in diaryl alkyne conjugates. *Beilst. J. Org. Chem.*, **2011**, *7*, 813–823. http://www.beilstein-journals.org/bjoc/content/pdf/1860-5397-7-93.pdf. (Invited article in special issue on "Photocycloadditions and Photorearrangements"), doi:10.3762/bjoc.7.93.

63. Baroudi, A.; Alicea, J.; Flack, P.; Kirincich, J.; Alabugin, I. V. Radical O→C Transposition: a Metal-Free Process for Conversion of Phenols into Benzoates and Benzamides, *J. Org. Chem*. **2011**, *76*, 1521-37. http://pubs.acs.org/doi/abs/10.1021/jo102467j. (Highlighted in http://www.organic-chemistry.org/Highlights/2011/17October.shtm).

62. Alabugin, I. V.; Gilmore, K.; Peterson, P. Hyperconjugation. *WIREs Comput Mol Sci* **2011,** *1*, 109–141. http://onlinelibrary.wiley.com/doi/10.1002/wcms.6/abstract.

61. Vasilevsky, S.F.; Govdi, A. I.; Sorokina, I. V.; Tolstikova, T. G.; Baev, D. S.; Tolstikov, G. A.; Mamatuyk, V. I.; Alabugin, I. V. Rapid Access to New Bioconjugates of Betulonic Acid via Click Chemistry. *Bioorg. Med. Chem. Lett.*, **2011,** *21*, 62-65. http://www.sciencedirect.com/science/article/pii/S0960894X10016975.

60. Alabugin, I. V.; Gold, B.; Shatruk, M.; Kovnir, K. "On the "Single-Crystal X-ray Structure of 1,3-dimethylcyclobutadiene…"" *Science*, **2010**, *330*, 1047 DOI: 10.1126/science.1196188.

59. Pal, R.; Clark, R.J.; Manoharan, M.; Alabugin I. V. Fast Oxy-Cope Rearrangements of Bis-Alkynes: Competition with Central C-C bond Fragmentation and Incorporation in Tunable Cascades Diverging from a Common bis-Allenic Intermediate. *J. Org. Chem*. **2010**, *75*, 8689 – 8692 http://pubs.acs.org/doi/abs/10.1021/jo101838a.

58. Yang, W.-Y.; Cao, Q.; Callahan, C.; Galvis, C.; Sang, A. Q.-X.; Alabugin, I. V. Intracellular DNA Damage by Lysine-Acetylene Conjugates. *Journal of Nucleic Acids* **2010**, doi:10.4061/2010/931394. http://www.hindawi.com/journals/jna/2010/931394/

57. Baroudi, A.; Flack, P.; Alabugin, I. V. Metal-Free Transformation of Phenols into Substituted Benzamides: A Highly Selective Radical 1,2-O → C transposition in O-Aryl-N-phenyl-thiocarbamates. *Chemistry Eur. Journal*, **2010**, *16*, 12316–12320. DOI: 10.1002/chem.201002303. http://onlinelibrary.wiley.com/doi/10.1002/chem.201002303/pdf

56. Baroudi, A.; Alicea, J.; Alabugin, I. V. Radical 1,2 O→C Transposition for Conversion of Phenols into Benzoates via O-Neophyl Rearrangement/Fragmentation Cascade. *Chemistry Eur. Journal*, **2010**, *16*, 7683–7687. DOI: 10.1002/chem.201001056.

55. Baroudi, A.; Mauldin, J.; Alabugin, I. V. Conformationally Gated Fragmentations and Rearrangements Promoted by Interception of the Bergman Cyclization through Intramolecular H-Abstraction: A Possible Mechanism of Auto-Resistance to Natural Enediyne Antibiotics? *J. Am. Chem. Soc.*, **2010,** *132*, 967-979. http://pubs.acs.org/doi/abs/10.1021/ja905100u.

54. Velizhanin, K. A.; Zeidan, T. A.; Alabugin, I. V.; Smirnov, S. Single Molecule Conductance of Bipyridyl Ethynes: The Role of Surface Binding Modes. *J. Phys. Chem. A* **2010**, *114*, 14189–14193 http://pubs.acs.org/doi/abs/10.1021/jp9083579.

53. Vasilevsky, S. F.; Mikhailovskaya, T. F.; Mamatyuk, V. I.; Bogdanchikov, G. A.; Manoharan, M.; Alabugin, I. V. Tuning Selectivity of Anionic Cyclizations: Competition between 5-Exo- and 6-Endo-dig Closures of Hydrazides of *o*-Acetylenyl Benzoic Acids and Based-catalyzed Fragmentation/Recyclization of the Initial 5-Exo-Dig Products. *J. Org. Chem.* **2009**, *74*, 8106–8117. http://pubs.acs.org/doi/abs/10.1021/jo901551g.

52. Vasilevsky, S. F.; Baranov, D. S.; Mamatyuk, V. I.; Gatilov, Y. V.; Alabugin, I. V. An Unexpected Rearrangement which Disassembles Alkyne Moiety Through Formal Nitrogen Atom Insertion between Two Acetylenic Carbons and Related Cascade Transformations: New Approach to Sampagine Derivatives and Polycyclic Aromatic Amides, *J. Org. Chem.*, **2009**, *74*, 6143–6150. http://pubs.acs.org/doi/abs/10.1021/jo9008904.

51. Yang, W.-Y.; Breiner, B.; Kovalenko, S. V.; Ben, C.; Singh, M.; LeGrand, S. N.; Sang, A. Q.-X.; Strouse, G. F., Copland, J. A.; Alabugin I. V. C-Lysine Conjugates: pH-Controlled Light-Activated Reagents for Efficient Double Stranded DNA Cleavage with Implications for Cancer Therapy, *J. Am. Chem. Soc.*, **2009,** *131*, 11458–11470. http://pubs.acs.org/doi/abs/10.1021/ja902140m.

50. Vasilevsky, S.F.; Govdi, A. I.; Shults, E. E.; Shakirov, M. M.; Tolstikov, G. A.; Alabugin, I. V. Efficient Synthesis of the Betulonic Acid -Acetylene Hybrids and Their Hepatoprotective and Anti-Inflammatory Activity. *Bioorganic & Medicinal Chemistry*, **2009,** *17*, 5164-5169. http://dx.doi.org/10.1016/j.bmc.2009.05.059.

49. Vasilevsky, S. F.; Govdi, A. I.; Shult'ts, E. E., Shakirov, M. M.; Alabugin I. V., Tolstikov, G. A. Synthesis of the First Acetylene Derivatives of Betulonic Acid. *Proc. Russ. Acad. Sci. (Doklady Chemistry)*, **2009,** *424*, 631-635. http://www.springerlink.com/content/j78h637p866u3305/

48. Alabugin, I. V.; Gilmore, K.; Patil, S.; Manoharan, M.; Kovalenko, S. V.; Clark, R. J.; Ghiviriga, I. Radical Cascade Transformations of Tris-(o-aryleneethynylenes) into Substituted Benzo[a]indeno[2,1-c]fluorenes, *J. Am. Chem. Soc., 130*, **2008**, 11535-11545. http://pubs.acs.org/doi/abs/10.1021/ja8038213.

47. Alabugin, I. V.; Timokhin, V. I.; Abrams, J. N.; Manoharan, M.; Ghiviriga, I., Abrams, R. In Search of Efficient 5-Endo-dig Cyclization of a Carbon-Centered Radical: 40 Years from a Prediction to Another Success for the Baldwin Rules. *J. Am. Chem. Soc.*, **2008**, *130*, 10984-10995. http://pubs.acs.org/doi/pdf/10.1021/ja801478n.

46. Vasilevsky, S. F.; Krivenko, O. L.; Gorelik, V. R.; Alabugin, I. V. (2008). Synthetic And Mechanistic Aspects Of Cross-Coupling Of Nitroxyl Radicals Of 3-Imidazoline Series With Terminal Alkynes, *Tetrahedron*, *64*, 8807-8814. http://dx.doi.org/10.1016/j.tet.2008.06.088.

45. Vasilevsky, S. F.; Krivenko, O. L.; Alabugin I. V. (2007). Oxidative coupling of alkynes mediated by nitroxyl radicals under Sonogashira conditions and Pd-free catalytic approach to stable radicals of 3-imidazoline family with triple bonds. *Tetrahedron Lett.*, *48*, 8246-8249. http://dx.doi.org/10.1016/j.tetlet.2007.09.031.

44. Breiner, B.; Schlatterer, J. C.; Kovalenko, S. V.; Greenbaum, N. L.; Alabugin I. V. DNA Damage-Site Recognition by Lysine Conjugates. *Proc. Natl. Acad. Sci.*, **2007**, *104*, 13016-13021. http://www.pnas.org/content/104/32/13016.

43. Alabugin I. V.; Manoharan, M.; Buck, M.; Clark, R. J. Substituted Anilines: The Tug-Of-War between Pyramidalization and Resonance Inside and Outside of Crystal Cavities. *THEOCHEM*, **2007**, *813*, 21-27. http://dx.doi.org/10.1016/j.theochem.2007.02.016.

42. Vasilevsky S.F.; Gornostaev L.M.; Stepanov A.A.; Arnold E.V.; Alabugin I. V. Unmasking of aminoanthroquinone moiety through a ring-opening in the presence of copper salts and a subsequent cross-coupling/recyclization cascade. *Tetrahedron Lett.*, **2007**, *48*, 1867-1870. http://dx.doi.org/10.1016/j.tetlet.2006.12.129.

41. Alabugin I. V.; Manoharan, M. Rehybridization as a General Mechanism for Maximizing Chemical and Supramolecular Bonding and a Driving Force for Chemical Reactions. *J. Comp. Chem. (Invited paper for the special issue dedicated to the 90th anniversary of the Chemical Bond)*, **2007**, *28*, 373-390. http://www3.interscience.wiley.com/cgi-bin/fulltext/113493184/PDFSTART.

40. Breiner, B.; Schlatterer, J. C.; Kovalenko, S. V.; Greenbaum, N. L.; Alabugin I. V. Protected ^{32}P-Labels in Deoxyribonucleotides: Investigation of Sequence Selectivity of DNA Photocleavage by

Enediyne-, Fulvene-, and Acetylene-Lysine Conjugates. *Angew. Chem. Int. Ed.,* **2006**, *45*, 3666-3670. http://www3.interscience.wiley.com/cgi-bin/fulltext/112598740/PDFSTART.

39. Pickard IV, F. C.; Shepherd, R. L.; Gillis, A. E.; Dunn, M. E.; Feldgus, S.; Kirschner, K. N.; Shields, G C.; Manoharan, M.; Alabugin I. V. (2006). Ortho Effect in the Bergman Cyclization: Electronic and Steric Effects in Hydrogen Abstraction by 1-Substituted Naphthalene 5,8-Diradicals. *J. Phys. Chem. A 110*, 2517-2526. http://pubs.acs.org/doi/abs/10.1021/jp0562835.

38. Zeidan, T.; Kovalenko, S. V.; Manoharan, M.; Alabugin, I. V. Ortho Effect in the Bergman Cyclization: Comparison of Experimental Approaches and Dissection of Cycloaromatization Kinetics. *J. Org. Chem.,* **2006**, 962-975. http://pubs.acs.org/doi/abs/10.1021/jo0520801.

37. Zeidan, T.; Manoharan, M.; Alabugin, I. V. Ortho Effect in the Bergman Cyclization: Interception of p-Benzyne Intermediate by Intramolecular Hydrogen Abstraction. *J. Org. Chem.,* **2006**, *71*, 954-961. http://pubs.acs.org/doi/abs/10.1021/jo051857n.

36. Kauffman, J. F.; Turner, J. M.; Alabugin, I. V.; Breiner, B.; Kovalenko, S. V.; Badaeva, E. A.; Masunov, A.; Tretiak, S. Two Photon Excitation of Substituted Enediynes. *J. Phys. Chem. A* **2006**, *110*, 241-251. http://pubs.acs.org/doi/abs/10.1021/jp056127y.

35. Alabugin I.V.; Manoharan, M. "Thermodynamic and Strain Effects in the Competition Between 5-Exo-dig and 6-Endo-Dig Cyclizations of Vinyl and Aryl Radicals" *J. Am. Chem. Soc.* **2005**, *127*, 12583-12594.

34. Zeidan, T.; Clark, R. J.; Kovalenko, S. V.; Ghiviriga, I.; Alabugin I. V. "Triplet acetylenes as Synthetic Equivalents of 1,2-Dicarbenes. II. New Supramolecular Scaffolds from Photochemical Cycloaddition of Diarylacetylenes to 1,4-Cyclohexadienes", *Chemistry Eur. Journal,* **2005**, *11*, 4953-4962.

33. Alabugin I.V.; Manoharan, M. "5-Endo-dig Cyclizations – the "Poor Cousins" of the Radical Cyclization Family" *J. Am. Chem. Soc.* **2005**, *127*, 9534-9545.

32. Kovalenko, S. V.; Alabugin I. V. "Lysine-Enediyne Conjugates as Photochemically Triggered DNA Double-Strand Cleavage Agents". *Chem. Comm.* **2005**, 1444 – 1446.

31. Zeidan, T.; Kovalenko, S. V.; Manoharan, M.; Clark, R. J.; Ghiviriga, I.; Alabugin I. V. "Triplet acetylenes as Synthetic Equivalents of 1,2-Dicarbenes. Phantom n,π* State Controls Reactivity in Triplet Photocycloaddition", *J. Am. Chem. Soc.* **2005**, *127*, 4270-4285. http://pubs.acs.org/doi/full/10.1021/ja043803l.

30. Peabody, S.; Breiner, B.; Kovalenko, S. V.; Patil, S.; Alabugin I. V. "Synthesis of Selectively Deuterated Fulvenes and Indenes from Enediynes" *Org. Biomol. Chem.* **2005**, *3*, 218 - 221.

29. Alabugin I. V.; Manoharan, M. "Effect of Double Hyperconjugation on the Apparent Donor Ability of σ-Bonds: Insights from the Relative Stability of δ-Substituted Cyclohexyl Cations", *J. Org. Chem.* **2004**, *69*, 9011-9024.

28. Alabugin I. V.; Manoharan, M.; Weinhold F. "Blue-Shifted and Red-Shifted Hydrogen Bonds in Hypervalent Rare-Gas FRg-H…Y Sandwiches" *J. Phys. Chem. A.* **2004**, *108*, 4720.

27. Kovalenko, S. V.; Peabody, S.; Manoharan, M.; Clark, R. J., Alabugin I.V. "5-Exo-dig Radical Cyclization of Enediynes: The First Synthesis of Tin-Substituted Benzofulvenes" *Org. Lett.* **2004**, *6*, 2457-2460.

26. Alabugin I.V.; Manoharan, M.; Zeidan, T. A. "Homoanomeric Effects in Six-Membered Heterocycles" *J. Am. Chem. Soc.* **2003**, *125*, 14014-14031.

25. Alabugin I.V.; Manoharan, M.; Breiner, B.; Lewis, F. "Control of Kinetics and Thermodynamics of [1,5]-Shifts by Aromaticity: A View Through the Prism of Marcus Theory" *J. Am. Chem. Soc.* **2003**, *125*, 9329-9342.

24. Alabugin I.V.; Manoharan, M.; Peabody S.; Weinhold, F. "The Electronic Basis of Improper Hydrogen Bonding: A Subtle Balance of Hyperconjugation and Rehybridization." *J. Am. Chem. Soc.* **2003**, *125*, 5973-5987.

23. Alabugin I. V.; Manoharan, M. "Radical-Anionic C1-C5 and C1-C6 Cyclizations of Enediynes: Remarkable Substituent Effects in Cyclo*re*aromatization Reactions." *J. Am. Chem. Soc.* **2003**, *125*, 4495-4509.

22. Nenajdenko, V. G.; Shevchenko, N. E.; Balenkova, E. S.; Alabugin I.V. "1,2-Dications in Organic Main Group Systems", *Chem. Rev.* **2003,** *103*, 229-282.

21. Alabugin I. V.; Manoharan, M. "Reactant Destabilization in the Bergman cyclization and Rational Design of Light and pH-Activated Enediynes" *J. Phys. Chem. A* **2003**, *107*, 3363-3371.

20. Alabugin I. V.; Kovalenko, S.V. "C1-C5 Photochemical Cyclization of Enediynes" *J. Am. Chem. Soc.* **2002**, *124*, 9052-9053.

19. Alabugin I. V.; Manoharan, M.; Kovalenko, S.V. "Tuning Rate of the Bergman Cyclization of Benzannelated Enediynes with Ortho Substituents", *Org. Letters* **2002**, *4*, 1119-1122.

18. Alabugin I. V.; Zeidan, T. A. "Stereoelectronic Effects and General Trends in Hyperconjugative Acceptor Ability of σ Bonds." *J. Am. Chem. Soc.* **2002**, *124*, 3175-3185.

17. Alabugin I. V. "Stereoelectronic interactions in cyclohexane, 1,3-dioxane, 1,3-oxathiane and 1,3-dithiane: W-effect, $\sigma_{C-X} \leftrightarrow \sigma^*_{C-H}$ interactions, anomeric effect - what is really important? "*J. Org. Chem.* **2000**, *65*, 3910-3919.

[#]16. Zimmerman H.E.; Alabugin I. V. "Energy Distribution and Redistribution and Chemical Reactivity. The Generalized Delta Overlap-Density Method for Ground State and Electron Transfer Reactions. A New Quantitative Counterpart of Electron Pushing" *J. Am. Chem. Soc.* **2001**, *123*, 2265-2270.

[#]15. Zimmerman H.E.; Alabugin I.V. "Energy Distribution and Redistribution and Chemical Reactivity. Mechanistic and Exploratory Organic Photochemistry." *J. Am. Chem. Soc.* **2000**, *122*, 952-953.

[#]14. Zimmerman H.E.; Alabugin I.V., Smolenskaya, V.N. "Exploratory and Theoretical Host-Guest Photochemistry. Control of Reactivity with Host Variation and Theoretical Treatment with Stress Shaped Reaction Cavity." *Tetrahedron* **2000**, *56*, 6821-6831.

[#]13. Zimmerman H.E.; Alabugin I.V., Chen W., Zhu, Z. "Dramatic Effects of Crystal Morphology on Solid State Reaction Course. Control by Crystal Disorder. Mechanistic and Exploratory Organic Photochemistry." *J. Am. Chem. Soc.* **1999**, *121*, 11930-11931.

[#]12. Alabugin I.V.; Brel V.K. "Phosphorus-Containing Allenes - Structure and Reactions with Electrophilic Reagents (Review)." *Russ. Chem. Rev.* **1997**, 66, 225-245.

[#]11. Nenajdenko V.G.; Vertelezkij P.V.; Koldobskij A.B.; Alabugin I.V.; Balenkova E.S. "Oxidative Properties of Triflic Anhydride - Oxidation of Alcohols and Sulfides." *J. Org. Chem.* **1997**, *62*, 2483-2486.

[#]10. Alabugin I.V.; Brel V.K. "Alkenylsulfenylchlorides. II. Interaction of γ,γ-Disubstituted Phosphorus-Containing Allenes with Sulfur dichloride." *Phosphorus, Sulfur and Silicon* **1996**, *119*, 61-75.

[#]9. Alabugin I.V.; Sereda G.A.; Abramkin E.V.; Brel V.K.; Zyk N.V.; Zefirov N.S. "Synthesis of Heterocyclic and Acyclic Derivatives of 1,2-Alkadienylphosphonic Acids Using Potassium Dichloroiodate(I)." *J. Org. Chem (Russ.*) **1996**, *32*, 1400-1403.

[#]8. Alabugin I.V.; Brel V.K.; Zyk N.V.; Zefirov N.S. "SO_3-Mediated Reaction of Phenylselenenylamide with 1,2-Alkadienylphosphonates ." *Russian Chemical Bulletin* **1996**, *45*, 739-740.

[#]7. Zyk N.V.; Beloglazkina E.K.; Alabugin I.V.; Kutateladze A.G., Zefirov N.S. "S-Tosylthiosufenylamides as Electrophilic Sulfosulfenylating Reagents." *Moscow State University Bulletin* (Ser.2, Chemistry) **1996,** *31*, 68-71.

[#]6. Alabugin I.V.; Brel, V.K. "Interaction of 3-Methyl-1,2-Butadienylphosphonic Acid Dichloride with SCl_2." *Journal of General Chemistry (Russia)* **1995**, *65*, 1670-1672.

[#]5. Alabugin I.V.; Sereda G.A.; Abramkin E.V.; Brel V.K.; Zyk N.V.; Zefirov N.S. "Interaction of Potassium Dichloroiodate(I) with 1,2-Alkadienylphosphonic Acids Derivatives." *Proceedings of Russian Academy of Science (Doklady Akademii Nauk)* **1995**, *345*, 487-489.

[#] Scholarly and creative activities that occurred before employment at FSU.

#4. Chekhlov A.N.; Alabugin I.V.; Brel V.K.; Zefirov N.S. "Molecular-Structure of Crystalline Product and Stereochemistry of Addition of 5,5-Dimethyl-2-Methoxy-2-Oxo-4-Chlorothio-1,2-Oxaphosphol-3-Ene to Cyclohexene." *Proceedings of Russian Academy of Science (Doklady Akademii Nauk)* **1994**, *335*, 753-756.

#3. Zyk N.V.; Alabugin I.V.; Kutateladze A.G.; Kice J.L.; Zefirov N.S. "Electrophilic Sulfamatoselenenation of Olefins." *Proceedings of Russian Academy of Science (Doklady Akademii Nauk)* **1994**, *337*, 208-210.

#2. Alabugin I.V.; Brel V.K.; Chekhlov A.N.; Zefirov N.S., Stang P.J. "Alkenylsulfenylchlorides - Synthesis and Ad_E Reactions of 2-Alkoxy-2-Oxo-3-R-4-Chlorothio-1,2-Oxaphosphol-3-Enes." *Tetrahedron Letters* **1994**, *35*, 8275-8278.

#1. Alabugin I.V.; Brel V.K.; Zefirov N.S. "Synthesis of 2-Alkoxy-5,5-Dimethyl-4-Chlorothio-1,2-Oxaphosphol-3-Enes." *Journal of General Chemistry (Russia*) **1993**, *63*, 2387-2389.

Invited Book Chapters

11. Harris, T.; Alabugin, I. V. Strain-Promoted Azide Alkyne Cycloaddition (SPAAC), In *Science of Synthesis: Click Chemistry*, Rutjes, F. P. J. T., Ed.; Thieme: Stuttgart, (2021); Chapter 4.1, pp 337-378

10. Campbell, A., Peterson, P. W., Alabugin, I. V. Cycloaromatization Reactions, *Aromaticity*, **2021,** Elsevier. 2020, Editor: Israel Fernandez.

9. Gomes, G. d. P., Alabugin, I. V. Stereoelectronic Effects: Analysis by Computational and Theoretical Methods, *Applied Theoretical Organic Chemistry*, World Scientific, **2018** Editor: Dean Tantillo.

8. Mohamed, R.; Byers, P.; Alabugin, I. V. Radical Reactions, *Encyclopedia of Physical Organic Chemistry*, 1st edition, **2017**. John Wiley & Sons Ltd, Chichester, UK, http://onlinelibrary.wiley.com/doi/10.1002/9781118468586.epoc2011/abstract.

7. Nenajdenko, V. G.; Shevchenko, N. E.; Balenkova, E. S.; Alabugin I.V. (2013). Organochalcogen Multication Species in F. A. Devillanova (Ed.), *Handbook of Chalcogen Chemistry*, 382-421, RSC Publishing, Great Britain. http://dx.doi.org/10.1039/9781849737456-00382.

6. Mohamed, R. K.; Kaya, K.; Alabugin, I. V. (2015) Photochemical Cycloaromatization Reactions, in "Arene Chemistry: Reaction Mechanisms and Methods for Aromatic Compounds", 869-888, John Wiley & Sons Ltd, Chichester, UK, http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118752015,subjectCd-CH60.html.

5. Alabugin, I. V.; Gold, B. Stereoelectronic Effects on Structure and Reactivity of Organic Molecules: Origins and Consequences. *Encyclopedia of Physical Organic Chemistry*, 1st edition, 2017. John Wiley & Sons Ltd, Chichester, UK, http://onlinelibrary.wiley.com/doi/10.1002/9781118468586.epoc1003/abstract.

4. Alabugin, I. V.; Gilmore, K. (2012) Unusual Radical Cyclizations. *Encyclopedia of Radicals in Chemistry, Biology and Materials*, C. Chatgilialoglu; A. Studer (Eds.). John Wiley & Sons Ltd, Chichester, UK, pp 693-728.

3. Alabugin, I. V.; Yang, W.-Y.; Pal. R. (2012) Enediyne photochemistry. *CRC Handbook of Organic Photochemistry and Photobiology, 1*, 549-592. Griesbeck, A.; Oelgemöller, M.; Ghetti, F. (Eds); Taylor & Francis, Boca Raton, FL.

2. Nenajdenko, V. G.; Shevchenko, N. E.; Balenkova, E. S.; Alabugin I.V. (2007). Organochalcogen Multication Species in F. A. Devillanova (Ed.), *Handbook of Chalcogen Chemistry*, 417-453, RSC Publishing, Great Britain.

1. Alabugin, I. V.; Breiner, B.; Manoharan, M. (2007). Electronic Effects in Cycloaromatization Reactions: The Melting Pot of Theory and Experiment in J. Richard (Ed.), *Advances in Physical Organic Chemistry*, *42*, 1-35. Elsevier, http://dx.doi.org/10.1016/S0065-3160(07)42001-9.

Invited Editorials/Reviews (not peer reviewed)

2. Alabugin, I. V. Editorial for the ISRIUM 2012 Issue. *J. Phys. Org. Chem.* **2013**, *26*, 698. http://onlinelibrary.wiley.com/doi/10.1002/poc.3173/abstract.

1. Alabugin, I. V. Book Review: "Hydrogen Bonding in Organic Synthesis". *J. Am. Chem. Soc.* **2010**, *132*, 6863–6866. (invited). http://pubs.acs.org/doi/abs/10.1021/ja103155b.

Presentations

Keynote and Plenary Presentations at Conferences and Symposia

1. Alabugin I. V. Choosing the Right Path for Alkyne Cyclizations and Redefining the Cyclization Rules. American Chemical Society National Meeting & Exposition, San Diego, March 20-24, 2022 (Cope Scholar Award Lecture).
2. Alabugin I. V. Alkyne Origami, St. Pete Beach, 2021 RASA Conference, November 21, 2021 (Plenary Lecture).
3. Alabugin I. V. Markovnikov, anti-Markovnikov, or non-Markovnikov? Choosing the Right Path and Redefining Cyclization Rules. Markovnikov Congress on Organic Chemistry, Sochi, October 9, 2021 (Plenary, Award Lecture).

4. Alabugin I. V. From alkyne origami to electron upconversion: Radical approaches to new polyaromatics. XII International Conference on Chemistry for Young Scientists "MENDELEEV 2021, St. Petersburg, September 5, 2021 (Plenary, Award Lecture).
5. Alabugin I. V. Stereoelectronic control of alkyne cyclizations. XXII International Scientific Conference "Chemistry and Chemical Engineering in XXI century", Tomsk, Russia, May 17, 2021 (Plenary).
6. Alabugin I. V. From Alkyne Origami and Metal-Free C-H Aminations to Electron Upconversion: Bottom-up Approaches to Carbon-Rich Molecules. Markovnikov Congress on Organic Chemistry Kazan, June 27, 2019 (Keynote).
7. Alabugin I. V. From Alkyne Origami and Metal-Free C-H Aminations to Electron Upconversion: Bottom-up Approaches to Carbon-Rich Molecules and Materials, 9th World Congress on Chemistry, Prague, May 13, 2019 (Keynote).
8. Alabugin I. V. Adventures in Alkyne Chemistry: New Tricks from an Old Functional Group. Saint Petersburg, Favorsky Readings, 22 March, 2019 (Named Lecture - the 53rd Favorsky Lecturer).
9. Alabugin I. V. From Carbon-Rich Molecules to Carbon-Rich Materials. 4th International Conference on Bioinspired and Biobased Chemistry and Materials (NICE 2018), Nice, France, 14-17 October 2018.
10. Alabugin I. V. Alkyne photochemistry for double DNA-cleavage and for the uncaging of aldehydes, ACS National Meeting, New Orleans, March, 2018.
11. Alabugin I. V. Supramolecular and stereoelectronic control of cyclizations and fragmentations. Current Topics in Organic Chemistry, Sheregesh, Russia, March 12-16, 2018.
12. Alabugin I. V. International Organic Chemistry Conference "Baikal Readings", Irkutsk, August 2017.
13. Alabugin I. V. International Symposium on Reactive Intermediates and Unusual Molecules (ISRIUM) 2017, Sorrento, Italy, July 2017.
14. Alabugin I. V. Natural Bond Orbital Analysis – the Rosetta Stone of Computational Chemistry, Markovnikov Readings, Krasnovidovo, Russia, January 2017.
15. Alabugin I. V. Stereoelectronic control of cyclizations and fragmentations. Heron Island Conference on Reactive Intermediates and Unusual Molecules, Heron Island, Great Barrier Reef, Queensland, Australia, July 9-15, 2016.
16. Alabugin I. V. Synergy of Cyclizations and Fragmentations. 2016 Telluride Workshop "Radicals in the Rockies", Telluride CO, August 2016.

17. Alabugin I. V. Stereoelectronic control of cyclizations and fragmentations. Dombay Organic Conference Cluster (DOCC-2016), 29th May-04th June 2016, Dombay, Russia.
18. Alabugin I. V. The Synergy of Cyclizations and Fragmentations in the Design of Radical Cascades. 12th International Symposium on Organic Reactions (ISOR-12), April 22-24, 2016, Kyoto, Japan.
19. Alabugin I.V. Stereoelectronic control of cyclizations and fragmentations. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Tampa, Fl, May 5-8, 2016.
20. Alabugin I. V. Combining Cyclizations and Fragmentations in Stereoelectronically Guided Radical Cascades: from Radical Pools to Traceless Directing Groups. The 70th Fujihara Seminar on Physical Organic Chemistry, April 17-21, 2016, Fukuoka, Japan.
21. Alabugin I. V. Missing C1-C5 cycloaromatization reaction: Self-terminating photorelease of formaldehyde for the synthesis of fulvenes from enynes. 251st American Chemical Society National Meeting & Exposition, San Diego, March 13-17, 2016.
22. Alabugin I. V. Shaping Molecules. “The Best of FSU in Mexico City” Symposium. Mexico City, February 18, 2016.
23. Alabugin I. V. Photochemical cyclizations of enynes and enediynes: optimizing electronic and stereoelectronic factors. PACIFICHEM2015 Congress, Honolulu, December 15-20, 2015.
24. Alabugin I.V. New approaches to heteroaromatics via radical and metal-catalyzed cyclizations and fragmentations. 2015 KOST Symposium, Moscow, October 18-23, 2015.
25. Alabugin I.V. Electronic and Stereoelectronic Control of Photocyclizations: The Great Escape from Antiaromaticity. 2015 Photochemistry Gordon Research Conference, Stonehill College, July 19-24, 2015.
26. Alabugin I.V. Stereoelectronic Control of Cyclizations and Fragmentations. Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH, July 2015.
27. Alabugin I.V. Stereoelectronic Control of Cyclizations and Fragmentations: Rules, Reactions and Molecules. International Conference on Reactive Intermediates and Unusual Molecules (ISRIUM), Hiroshima, Japan, April 1-6, 2014.
28. Alabugin I. V. Rules for Alkyne Cyclizations. 2013 Telluride Workshop “Radicals in the Rockies”, Telluride CO, July, 2013.
29. Alabugin I.V. Alkyne cyclizations and cycloadditions: From stereoelectronics to cascade transformations. 96th Canadian Chemistry Conference, May 26–30, 2013, Quebec City, Canada.
30. Alabugin I.V. Fine-Tuning Alkyne Cyclizations: From Stereoelectronics to Cascade Transformations. International Conference on Reactive Intermediates and Unusual Molecules (ISRIUM), Ascona, Switzerland, July 8-13, 2012.

31. Alabugin I.V. Cyclizations of Alkynes: From Stereoelectronics to New Cascade Transformations. 11th Latin American Conference on Physical Organic Chemistry (CLAFQO-11), Riviera Maya, Quintana Roo, Mexico, Nov. 20 - 24, 2011.
32. Alabugin I.V. Making New C-C and C-H bonds with Alkyne Photochemistry. Plenary Lecture at the Organic Photochemistry Symposium at the PACIFICHEM2010 Congress, Hawaii, Dec. 19-25, 2010.
33. Alabugin I. V. New Radical Reactions of Alkynes. 2010 Workshop "Radicals in the Rockies", Telluride CO, July, 2010.
34. Alabugin I. V. (Presented July 2009). Electronic Effects in Radical Cyclizations of Alkynes. Presentation at Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH.
35. Alabugin I. V. (Presented July 2009). The Many Faces of Alkyne Photochemistry. Presentation at Gordon Research Conference on Photochemistry, Bryant University, Smithfield, RI.
36. Alabugin I. V. (September, 2007). Light-Activated Alkynes: From MO Crossings to DNA Cleavage. Plenary Lecture in 4th International Symposium on Integrated Synthesis (ISIS-4), Kyoto, Japan.
37. Alabugin I.V. (December, 2005). Photochemistry of Enediynes and Acetylenes. Plenary Lecture in PACIFICHEM2005 Symposium, Hawaii.
38. Alabugin I.V. (2005). Chemistry of Heterocyclic Acetylenes. Plenary Lecture in International Conference on Heterocyclic Chemistry, Moscow, Russia.
39. Alabugin I.V. (January, 2005) Photochemistry of Acetylenes and Enediynes: From MO Crossings to DNA Cleavage. Plenary (I-APS Young Investigator Award) Lecture in Inter-American Photochemical Society Symposium, Clearwater, FL.
40. Alabugin I.V. (January, 2004) New Cycloaromatization Reactions: Mechanism and Applications. Plenary Lecture in 30th Reaction Mechanisms Conference, Evanston, IL.
41. Alabugin I.V. (June, 2005) Computational Chemistry in the Design of New Organic Reactions. Keynote Lecture in MERCURY Symposium, Hamilton College.

Invited Presentations at Conferences and Symposia

1. Alabugin I. V. The Power of Electron Upconversion. 25th IUPAC International Conference on Physical Organic Chemistry (ICPOC 25) Hiroshima, Japan, 5-10th July, 2020. *Postponed due to COVID-19*

2. Alabugin I. V. Radical Cascades Enabled by Electron Upconversion. 13th International Symposium on Organic Free Radicals (ISOFR-13), Muenster, Germany, June 1-5, 2020. *Postponed due to COVID-19*
3. Alabugin I. V. Computational Analysis of Electronic Effects on Structure and Reactivity: From Hybridization to Stereoelectronics to Electron Upconversion. International Conference on Current Trends in Computational Chemistry, Jackson, MS, November 8-9, 2019.
4. Alabugin I. V. From Alkyne Origami and Metal-Free C-H Aminations to Electron Upconversion: Bottom-up Approaches to Carbon-Rich Molecules. The 18th International Symposium on Novel Aromatic Compounds (ISNA-18), Hokkaido, Japan, 21-26 July, 2019.
5. Alabugin I. V. Alkyne Origami: Folding Oligoalkynes Into Polyaromatics. 2nd From Carbon-Rich Molecules to Carbon-Based Materials Conference, Nassau, Bahamas, 07-10 June, 2018.
6. Alabugin I. V. Discovery of The Missing Cycloaromatization: Using Photons for Fulvene Synthesis and Aldehyde Release. Frontiers in Photochemistry Conference, Cancun, Mexico 18 Feb - 21 Feb 2018.
7. Alabugin I. V. Reinventing Cycloaromatization Reactions: Diradical /Zwitter-Ion Dichotomy. 2017 WATOC conference, Munich, Germany, August 27-September 1, 2017.
8. Alabugin I. V. Unusual Tools in Design of Selective Cyclizations of Alkynes. 2017 Organic Letters/Journal of Organic Chemistry Award Symposium, ACS National Meeting, Washington, DC, August 20-24, 2017.
9. Alabugin I. V. Synergy of Cyclizations and Fragmentations in Radical Cascades. 12th International Symposium on Organic Free Radicals (ISOFR-12), Shanghai, China, October 09–14, 2016.
10. Alabugin I. V. Stereoelectronics of Alkyne Cyclizations and Fragmentations. Haley's Symposium at University of Osaka, April 25, 2016, Osaka, Japan.
11. Alabugin I. V. Stereoelectronics of Alkyne Reactions. Pre-Symposium of the 70th Fujihara Seminar, April 16, 2016, Hiroshima, Japan.
12. Alabugin I. V., Bresch, S. Expanding Bent's rule across the Periodic Table: orbital hybridization in main group elements. PACIFICHEM2015 Congress, Honolulu, December 15-20, 2015.
13. Alabugin I. V. Alkyne Photochemistry: from DNA cleavage to Stereoelectronics. Inter-American Photochemical Society Symposium, Sarasota, January 1-4, 2015
14. Alabugin I. V. Light-Activated Reagents for Double-Strand DNA Cleavage with Built-in Selectivity for Hypoxic Cancer Tissues. 12th Annual Congress of International Drug Discovery Science & Technology-2014 (IDDST-2014), November 18-20, 2014, Suzhou, China.

15. Alabugin I. V. Light-Activated Reagents for Double-Strand DNA Cleavage with Built-in Selectivity for Hypoxic Cancer Tissues. International Annual International Congress of Medichem-2014 (ICM-2014), November 18-20, 2014, Suzhou, China.
16. Alabugin I. V. Cyclizations of Alkynes: from stereoelectronics to cascade transformations. International Conference "Molecular Complexity in Modern Chemistry" (MCMC-2014), Moscow, Russia, September 13-19, 2014.
17. Alabugin I. V. Stereoelectronic control of radical cyclizations and fragmentations. 22nd IUPAC International Conference on Physical Organic Chemistry. Ottawa, Canada, August 10-15, 2014.
18. Alabugin I. V. Combining ligand design with photo-ligation to provide reactive and biocompatible quantum dots. Zing Conference on Nanomaterials, Playa del Carmen, Mexico, November 13-17, 2013.
19. Alabugin I. V. Light activated reagents for double Strand DNA cleavage with built-in selectivity for hypoxic cancer tissues. International Conference on Biochemical and Molecular Engineering, San Antonio, TX, October 7-9, 2013
20. Alabugin I. V. Light-activated Reagents for Double-strand DNA Cleavage. FSU DNA Symposium, Tallahassee, Fl, July 29, 2013.
21. Alabugin I. V. New Chemistry of Alkynes. 13th European Symposium of Organic Reactivity, Tartu, Estonia, September 11-15, 2011.
22. Alabugin I.V. Harnessing Alkyne Reactivity for New Cascade Transformations. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Tampa, Fl, May 2011.
23. Alabugin I. V. Light-Activated pH-Gated Alkyne and Enediyne Conjugates for Efficient Double-Stranded DNA Cleavage and Cancer Therapy. Presentation at Annual meeting of the COST Action CM0603 on "Free Radicals in Chemical Biology", Bologna, Italy, July 1-2, 2010.
24. Alabugin I.V., Gilmore, P., W.-Y. Yang, R. Pal, Alkynes as Two Functional Groups in One Package. 2009 ACS Southeastern Regional Meeting (SERMACS), San Juan, Puerto Rico, 2009.
25. Alabugin I. V. Enediynes in a New Light: From MO Crossings to DNA Cleavage. Presentation at Inter-American Photochemical Society Symposium, Salvador, Brazil, 2006
26. Alabugin I.V. Communication and Miscommunication of Orthogonal Orbitals in Acetylene Chemistry and Photochemistry. Presentation at NSF Workshop on the "Interplay of Theory and Experiment in Photochemistry", Salvador, Brazil, 2006.
27. Alabugin I.V. Triple Bonds: Two Functional Groups in One Package. Presentation at Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH, July 2005.

28. Alabugin I.V. MO Crossings in Cycloaromatization Reactions. Presentation at 228th ACS National Meeting, Philadelphia, August, 2004.
29. Alabugin I.V. (July 2004). New Cycloaromatization Reactions. Presentation at 2004 NSF Organic Chemistry Workshop, Green Lake, WI.
30. Alabugin I.V. (2003). Adding a Little Spin to Cycloaromatization reactions. Presentation at 8th International Symposium on Spin and Magnetic Field Effects in Chemistry and Related Phenomena, Chapel Hill, NC.
31. Alabugin I.V. (July 2003). New Photochemical Reactions of Enediynes: Mechanism and Applications. Presentation at Gordon Research Conference on Photochemistry, Mt. Holyoke, MA.
32. Alabugin I.V. (2002). Photochemistry of Enediynes. Florida Organic Faculty Meeting, Tampa, FL.
33. Alabugin I.V. (2002). Photochemistry of Enediynes: Beyond the Bergman Cyclization. Presentation at IUPAC Conference on Photochemistry. Budapest, Hungary.
34. Alabugin I. V. (2001). Natural bond orbital analysis of stereoelectronic effects. 221th ACS National Meeting, San Diego, CA, United States.

Contributed Talks

35. "Cat-on-a-curtain" control of radical reactivity: selective radical cascades from non-selective additions. Alabugin I. V. 23rd IUPAC Conference on Physical Organic Chemistry, Sydney, Australia, 3rd - 8th July 2016.
36. Alabugin I. V. Stereoelectronic control of radical and metal-catalyzed cyclizations and fragmentations. 251st American Chemical Society National Meeting & Exposition, San Diego, March 13-17, 2016.
37. Alabugin I. V., Gomes, G. d. P. Reinventing cycloaromatization reactions with Au-catalysis: switch from diradical to zwitterionic pathways. PACIFICHEM2015 Congress, Honolulu, December 15-20, 2015.
38. Alabugin, I. V.; Gilmore, K.; Byers, P. Refining Baldwin rules for alkyne cyclizations: From stereoelectronics to cascade reactions. Presentation at 244th ACS National Meeting, Philadelphia, August, 2012.
39. Alabugin, I. V.; Baroudi, A.; Flack, P.; Mauldin, J. Direct conversion of phenols into amides and esters of benzoic acids through a one-pot addition/O-neophyl rearrangement/fragmentation sequence. Presentation at the 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010.

40. Alabugin, I. V.; Timokhin, V.; Pal, R.; Gilmore, K.; Abrams, J.; Abrams, R.; Manoharan, M. First efficient 5-endo-dig cyclization of carbon-centered radicals: 30+ Years from a prediction to the discovery. Presentation at the 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010.
41. Alabugin, I. V.; Baroudi, A. Fragmentations and rearrangements in the carbohydrate moiety of esperamycins: A possible mechanism of auto-resistance to natural enediynes antibiotics through conformational control. Presentation at the 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010.

Invited/Contributed Talks given by <u>Students</u>

42. Roy, S.; Alabugin I.V. Jumping Through Protonation States: Engineering pH-Gated Transitions for Selective and Efficient Double Strand DNA Photocleavage. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Tampa, Fl, May 2011 *(Regional)*.
43. C. St. Laurent, K. Gilmore, I. V. Alabugin. Photo-Click Chemistry: Converting Alkynes to Homoquadricyclanes. First Annual Florida Statewide Student Research Symposium, Jacksonville, Fl 2011
44. A. Baroudi, I. V. Alabugin. Fragmentation and Rearrangements Promoted by the Bergman Cyclization/H-Abstraction Cascades: Insights in the Mechanism of Auto-Protection from Natural Enediyne Antibiotics. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 *(Regional)*.
45. P. Peterson, I. V. Alabugin, J. Delaune, N. Hill, M. Kingsley, J. Rubin. Orbital Crossings – A New Paradigm in Reaction Control. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 *(Regional)*.
46. R. Abrams, V. Timokhin, J. Abrams, M. Mariappan, I. V. Alabugin, C. Chatgilialoglu, Ferreri, C. Discovery and Studies of 5-Endo-dig Cyclization of Carbon-Centered Radicals. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 *(Regional)*.
47. K. Gilmore, I. V. Alabugin, S. Patil, M. Manoharan, S. V. Kovalenko, R. J. Clark, I. Ghiviriga. Radical Cascade Transformations of Tris(o-aryleneethynylenes) into Substituted Benzo[a]indeno[2,1-c]fluorenes. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 *(Regional)*.
48. <u>Zeidan</u>, T. A.; Kovalenko, S. V.; Clark, R.; Ghiviriga, I.; Gedris, T.; Alabugin, I. V. Photochemical Synthesis of 1,5-Diaryl Substituted Homoquadricyclanes: Mechanisms and Applications 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005 (*International*).

49. Zeidan, T. A.; Kovalenko, S. V.; Manoharan, M.; Alabugin, I. V. Dissecting the Bergman Cycloaromatization Kinetics for Ortho-substituted Benzannelated Enediynes 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005 (*International*).
50. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, I., Alabugin I.V. Thermal and Photochemical Reactions of Acetylenes: a) Ortho-Effect in the Bergman Cyclization b) Photochemical 1,2-Bicyclopropanation. From Mechanism to Applications. Special Seminar at the American University of Beirut, Beirut, Lebanon, August 14, 2004 *(Regional)*.
51. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, I., Alabugin I.V. Photocycloaddition Reactions of Diarylacetylenes with 1,4-Cyclohexadiene. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, FL, 2004 *(Regional)*.
52. Breiner, B., Kovalenko, S.V., Manoharan, M., Alabugin I.V. C1-C5 Photochemical Cyclization of Enediynes. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, FL, 2004 *(Regional)*.
53. Manoharan, M., Alabugin I.V. Radical cyclizations of vinyl and aryl radicals: 5-exo-dig/6-endo-dig competition and elusive 5-endo-dig pathway. 230th ACS National Meeting, Washington DC, 2006 (*International)*.

Conference Poster Presentations

1. C. J. Evoniuk, G. d. P. Gomes, S. P. Hill, I. V. Alabugin. Coupling N-H deprotonation, C-H activation and oxidation: metal-free C(sp3)-H aminations with unprotected anilines Florida Heterocyclic and Synthetic Conference, University of Florida, Gainesville, FL, March 4-7, 2018.
2. I. V. Alabugin, Supramolecular Control of Radical Reactivity. Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH, July 2017.
3. Gomes, G. d. P., Alabugin I. V. Stereoelectronic effects are in control: From the anomalous stability of bis-peroxides to radical cascade cyclizations. 251st American Chemical Society National Meeting & Exposition, San Diego, March 13-17, 2016.
4. R. K. Mohamed, S. Mondal, K. Jorner, T. Faria Delgado, H. Ottosson, I. V. Alabugin, Photochemical cyclization of Enynes. Gordon Research Conference on Photochemistry, July 2015.
5. T. Harris, N. Tsvetkov, C. J. Kelsheimer, W. Speranza, S. Emets, I. V. Alabugin, Stereoelectronically Activated Heterocycloalkynes for Bioorthogonal 'Click' Chemistry. Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH, July 2015.
6. C. E. Evoniuk, I. V. Alabugin, Alkenes as Synthetic Equivalents of Alkynes: Combining Cyclizations and Fragmentation to Design One-pot Synthesis of Quinolines From o-

alkenylarylisocyanides. Gordon Research Conference on Physical Organic Chemistry, Holderness School, NH, July 2015.

7. Mohamed, R. K.; Mondal, S.; Gold, B.; Alabugin, I. V. Radicals Gone Wild at a Pool Party: Triple Bond Gets Attacked. 2014 Reaction Mechanisms Conference, Davis, CA, June 22-25, 2014.
8. Gold, B.; Batsomboon, P.; Schevchenko, N.; Bonus, N.; Dudley, G. B.; Alabugin, I. V. Chemical Yoga: making alkynes flexible and "clickable". 2014 Reaction Mechanisms Conference, Davis, CA, June 22-25, 2014.
9. Mohamed, R. K.; De Faria, T.; Mondal, S.; Alabugin, I. V. Photochemical Transformation of Enynes to Fulvenes via a Cyclization-Fragmentation Cascade. 2014 Reaction Mechanisms Conference, Davis, CA, June 22-25, 2014.
10. Alabugin, I. V.; Gold, B.; Gilmore, K.; Peterson, P. W.; Mohamed, R. K. Alkynes: Two Functional Groups in One Package. 2014 Reaction Mechanisms Conference, Davis, CA, June 22-25, 2014.
11. Batsomboon, P.; Tummatorn, J.; Gold, B.; Alabugin, I. V.; Dudley, G. B. Fragmentation reactions generating strained cycloalkynes. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013.
12. Vidhani, D. V.; Cran, J. W.; Krafft, M. E.; Alabugin, I. V.; Mariappan, M. Gold(I)-catalyzed [3, 3] sigmatropic rearrangement: A shift from a discernible-transition state to a disappearing-transition state. 245th ACS National Meeting & Exposition, New Orleans, LA, United States, April 7-11, 2013.
13. I. V. Alabugin, New radical cyclizations, rearrangements and fragmentations. 11th International Symposium on Organic Free Radicals (ISOFR-11), Bern, Switzerland, 2012, *(International).*
14. I. V. Alabugin. S. Roy, W.-Y. Yang, K. Kaya. Towards light-activated anticancer agents: efficient double-strand DNA-photocleavage by enediyne-lysine and acetylene-lysine hybrids. 5th Drug Design and Medicinal Chemistry Summit, San Francisco, CA, 2011 *(International).*
15. Z. Rengert, B. Phrathep, W.-Y. Yang, I. V. Alabugin. Photoadditions of Acetylenes: Dimerization, Homoquadracyclane Formation, and Double-Stranded DNA Cleavage. Florida Annual Meeting and Exposition (FAME). Tampa, Fl, 2011 (*Regional).*
16. C. St. Laurent, K. Gilmore, I. V. Alabugin. Photo-Click Chemistry: Converting Alkynes to Homoquadricyclanes, "Einsteins in the City" Conference, New York, NY 2011 (*International*)
17. B. Arline, K. Gilmore, I. V. Alabugin. Reductive Dimerizations of Diaryl Propynones. Florida Annual Meeting and Exposition (FAME). Tampa, Fl, 2010 (*Regional).*
18. P. W. Peterson, J. D. Delaune, M. Kingsley, J. P. Rubin, F. Lutfi, A. Rodriguez, I. V. Alabugin, Orbital Crossings in Enediynes. Florida Annunal Meeting and Exposition (FAME), Tampa, Fl, 2010 (*Regional).*

19. C. St. Laurent, K. Gilmore, I. V. Alabugin. Photoclick Chemistry. Florida Annual Meeting and Exposition (FAME). Tampa, Fl, 2010 (*Regional).*
20. P. Byers, V. Barnes, S. Yazdani, R. Pal, B. Gold, I. V. Alabugin. Efficient 6-Exo-Dig/5-Exo-Dig Radical Cascade Transformations of Enediynes: Finding the Right Trigger for the Formation of Graphene Sheets. Florida Annual Meeting and Exposition (FAME). Tampa, Fl, 2010 (*Regional).*
21. Alabugin, I. V.; Yang, W.-Y.; Breiner, B.; Kovalenko, S.; Callahan, C.; Sang, A.; Copland, J. A.; Le Grand, S. N. C-Lysine conjugates: pH-Controlled light-activated reagents for efficient double-stranded DNA cleavage with implications for cancer therapy. Presentation at the 239th ACS National Meeting, San Francisco, CA, United States, March 21-25, 2010.
22. A. Baroudi, I. V. Alabugin. New Radical Fragmentation and Rearrangements. Gordon Research Conference on Physical Organic Chemistry, 2009 (*International).*
23. K. Gilmore, I. V. Alabugin. Building Complex Polycyclic Structures from Alkynes through Radical Cascade Transformations. Gordon Research Conference on Physical Organic Chemistry, 2009 (*International).*
24. W.-Y. Yang, I. V. Alabugin, pH-Controlled Light-Activated Reagents for Efficient Double-Stranded DNA Cleavage. Gordon Research Conference on Photochemistry, 2009 (*International).*
25. C. Ben, W.-Y. Yang, I. V. Alabugin, Q.-X. A. Sang. Application Of Photoactivatable Compounds To Target Human Prostate Cancer And Induce Apoptosis. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 (*Regional).*
26. I. V. Alabugin, S. V. Kovalenko, M. Manoharan, V. Timokhin, B. Breiner, T. A. Zeidan, S. Peabody, S. Patil, J. Abrams, A. Baroudi, K. Gilmore, P. Peterson, W.-Y. Yang. Alkynes as two functional groups in one package. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2009 (*Regional).*
27. Alabugin I. V., Timokhin, V.; Abrams, J., Breiner, B., Kovalenko, S. V., Manoharan, M., Yang, W.-Y., Schlatterer, J., Lopez, J., Abrams, R. New Photochemical Transformations Involving Alkynes: From Single Stranded→Double Stranded DNA Cleavage Conversion to the Elusive 5-Endo-dig Cyclization of Carbon-Centered Radicals. 18th I-APS Winter Conference, St. Petersburg, Florida, USA, January 3 - 6, 2008 (*International).*
28. Yang, W.-Y., Breiner, B., Kovalenko, S. V., LeGrand, S. N., Callahan, C., Copland, J. A., Alabugin I. V. pH-Dependent DNA Binding and Photocleavage in Acetylene-Amino Acid Conjugates. 18th I-APS Winter Conference, St. Petersburg, Florida, USA, January 3 - 6, 2008 (*International).*

29. Kovalenko, S. V.; Alabugin, I. V. Synthesis of Water Soluble Lysine-Enediyne Conjugates as Photoactivated DNA Double-Strand Cleavage Agents. 229th American Chemical Society National Meeting, San Diego, CA, March 13-17, 2005 (*International)*.
30. Breiner, B., Kovalenko, S.V., Manoharan, M., Alabugin I.V. C1-C5 Photochemical Cyclization of Enediynes. 16th I-APS Winter Conference, Clearwater Beach, FL, January 6-9, 2005 (*International)*.
31. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, I., Alabugin I.V. Triplet acetylenes as synthetic equivalents of 1,2-bicarbene. 16th I-APS Winter Conference, Clearwater Beach, FL, January 6-9, 2005 (*International)*.
32. Zeidan, T. A.; Kovalenko, S. V.; Ghiviriga, I.; Clark, R.; Alabugin, I. A. Mechanistic Studies on the photocycloaddition of Acetylenes to 1,4-Cyclohexadiene. 15th Triennial Conference for the International Society for Magnetic Resonance, Ponte Vedra Beach, FL, October 24-28, 2004 (*International)*.
33. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, Alabugin I.V. Photocycloaddition Reactions of Diarylacetylenes with 1,4-Cyclohexadiene. 30th Reaction Mechanisms Conference, Evanston, IL, June 25-28, 2004 (*International)*.
34. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Alabugin I.V. Ortho-effect in the Bergman Cyclization. 30th Reaction Mechanisms Conference, Evanston, IL, June 25-28, 2004 (*International)*.
35. Alabugin I.V., Peabody, S.; Kovalenko, S.V., Clark, R., Patil, S. Radical-Promoted Cyclizations of Polyynes: Mechanism, Applications and Speculations. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2004 (*Regional)*.
36. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, I., Alabugin I.V. Photocycloaddition Reactions of Diarylacetylenes with 1,4-Cyclohexadiene. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2004 (*Regional)*.
37. Breiner, B., Kovalenko, S.V., Manoharan, M., Alabugin I.V. C1-C5 Photochemical Cyclization of Enediynes. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2004 (*Regional)*.
38. Breiner, B., Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Alabugin I.V. C1-C5 Radical-Anionic Cyclization Of Enediynes. 8th International Symposium on Spin and Magnetic Field Effects in Chemistry and Related Phenomena, Chapel Hill, NC, 2003 (*International)*.
39. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Breiner, B., Clark, R., Ghiviriga, I., Alabugin I.V. Photochemistry of Enediynes. Gordon Research Conference on Photochemistry, Mt. Holyoke, MA, 2003 (*International)*.

40. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Clark, R., Ghiviriga, I., Alabugin I.V. Unusual Photocycloaddition Reactions of Substituted Acetylenes. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2003 (*Regional)*.
41. Zeidan, T.; Kovalenko, S.V., Manoharan, M., Alabugin I.V. Ortho-effect in the Bergman Cyclization. American Chemical Society, Florida Annual Meeting and Exposition (FAME). Orlando, Fl, 2003 (*Regional)*.
42. Alabugin I.V. New Photochemical Reactions of Enediynes. Inter-American Photochemical Society (I-APS) Meeting, Clearwater, Fl, 2003 (*International)*.
43. Kovalenko, S.V., Alabugin I.V. 1,2-Bis(tetrafluoropyridinylethynyl)benzenes: Synthesis and DNA photocleavage. 225th ACS National Meeting, New Orleans, LA, 2003 (*International)*.
44. Manoharan, M., Alabugin I.V. Can aromaticity control the [1,5]-hydrogen shift? A response from a DFT computational study. 225th ACS National Meeting, New Orleans, LA, 2003 (*International)*.
45. Zeidan, T., Alabugin I.V. Bergman cyclization: Ortho effect in benzannelated enediynes 225th ACS National Meeting, New Orleans, LA, 2003 (*International)*.
46. Alabugin I.V. Radical-anionic Cyclizations of Enediynes. IUPAC Conference on Physical Organic Chemistry, San Diego, Fl, 2002 (*International)*.
47. Alabugin I. V., Kovalenko, S.V., Manoharan, M., Breiner, B., Zeidan, T. In Search of Efficient Photochemical Bergman Cyclization. Gordon Research Conference on Photochemistry, Connecticut College. 2001 (*International)*.

Invited Lectures at Universities and Companies:

134. University of Ottawa – Gilead Lecture (March 30, 2022)
133. Florida International University (January 21, 2022)
132. Georgia State University (November 12, 2021)
131. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences (May 27, 2021)
130. Stanford University (October 9, 2020) – delivered via Zoom.
129. University of Kansas (March, 2020) – canceled due to COVID
128. University of Washington (December 5, 2019)
127. University of Houston (Oct. 2019)
126. Loyola University Chicago (Oct. 10, 2019)
125. University of Toronto (Oct. 4, 2019)
124. Guelph University(Oct. 3, 2019)

123. Brock University (Oct. 2, 2019)
122. Tokyo Institute of Technology (July 30, 2019)
121. Moscow State University (June 20, 2019)
120. University of Oxford (June 12, 2019)
119. Queen's University, Belfast (May 31st, 2019)
118. University of Bath (May 23, 2019)
117. Cardiff University (May 2019)
116. University of Bristol (May 2019)
115. University of Brno (May 17, 2019)
113-114. University of Pavia (May 6-7, 2019)
112. Ludwig Maximilians University, Munich (April 26, 2019)
111. University of Erlangen (April 25, 2019)
110. University of Regensburg (April 24, 2019)
109. Max-Planck Institute (MPI) of Colloids and Interfaces (April 16)
108. University of Potsdam (April 15)
107. AstraZeneca UK (April 10, 2019)
106. University of Sheffield (April 5, 2019)
105. University of Maryland (March 28, 2019)
104. St. Petersburg State University (March 21, 2019)
103. University of Cambridge (March 14, 2019)
102. University of Oxford (February 14, 2019)
101. University of York (January 30, 2019)
100. Loughborough University (January 16, 2019)
99. University of Southampton (January 9, 2019)
98. ExxonMobil Research and Engineering (November 12, 2018)
97. University of Nevada-Reno (November 2, 2018)
96. Sorbonne (October 18, 2018)
95. Aix-Marseille University (October 17, 2018)
94. Colorado State University (October 1, 2018)
93. University of Vermont (April 16, 2018)
92. Wayne State University (April 5, 2018)
91. Bowling Green State University (April 4, 2018)
90. Institute of Organic Chemistry, Russian Academy of Sciences (March 16, 2018)

89. Georgia State University (February 13, 2018)
88. Emory University (February 12, 2018)
87. Auburn University (January 25, 2018)
86. University of Florida (Nov. 9, 2017)
85. Ohio State University (Oct. 31, 2017)
84. Boston College (Oct. 24, 2017)
83. University of Denver (Oct. 10, 2017)
82. University of Colorado-Boulder (Oct. 9, 2017)
81. University of Minnesota (Sept. 25, 2017)
80. University of Edinburgh (May 23, 2017)
79. University of Strathclyde (May 19, 2017)
78. University of Manchester (May 18, 2017)
77. Imperial College, London (May 17, 2017)
76. Texas A&M - 2016-2017 Student-Invited OCDC Speaker (Nov. 2016)
75. Boston University (Oct. 26, 2016)
74. Tsinghua University, Beijing (Oct. 17, 2016)
73. National Taiwan University (Oct. 7, 2016)
72. National Tsing Hua University (Oct. 6, 2016)
71. National Sun Yat-sen University (Oct. 5, 2016)
70. Iowa State University (September 30, 2016)
69. University of Rochester (September 9, 2016)
68. Osaka University (April 9, 2016)
67. Osaka Prefecture University (April 2016)
66. University of Alabama-Birmingham (October 2015)
65. UNC, School of Pharmacy (August 2015)
64. University of Illinois at Chicago (May 2015)
63. UNAM, Mexico City (March 2015, Mini-Course)
62. Karlsruhe Institute of Technology (December 2014)
61. VU University, Amsterdam, (December 2014)
60. Ludwig Maximilians University, Munich (December 2014)
59. University of Tubingen (December 2014)
58. University of Erlangen (December 2014)
57. ETH, Zurich (December 2014)

56. Shanghai Institute of Organic Chemistry (November 2014)
55. Northern Illinois University (October 2014)
54. Rutgers University (September 2014)
53. Uppsala University (July 2014)
52. Duke University (June 2014)
51. Moscow State University (June 2014, webinar)
50. Kyoto University (April 2014)
49. Kyushu University (April 2014)
48. University of New Brunswick (December 2013)
47. University of Texas, San Antonio (October 2013)
46. North Dakota State University (September 2013)
45. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences (July 2013)
44. University of Cincinnati (February 2013)
43. Louisiana State University (February 2013)
42. CINVESTAV, Mexico City, Mexico (November 2012)
41. UNAM, Mexico City, Mexico (November 2012)
40. Instituto de Investigaciones Químico Biológicas of the Universidad Michoacana de San Nicolás de Hidalgo en Morelia, Michoacán, Mexico (November 2012)
39. University of Pennsylvania (February 2012)
38. Lehigh University (November 2011)
37. University of Houston (August 2011)
36. University of North Carolina (June 2011)
35. Consiglio Nazionale delle Ricerche, Bologna, (June 2010)
34. Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences (Prague, May 2010)
33. University of Siegen (May, 2010)
31. University of Marburg (May, 2010)
31. University of Bochum (May, 2010)
30. University of Wurzburg (May, 2010)
29. Justus Liebig University Giessen (May, 2010)
28. Institute of Chemical Kinetics and Combustion, Russian Academy of Sciences, (Novosibirsk, July 2009)
27. Université Pierre et Marie Curie (July, 2008)
26. University of Georgia (February, 2008)

25. Georgia Institute of Technology (February, 2008)
24. Kyoto University (September, 2007)
23. Nara Institute of Technology (September, 2007)
22. Osaka University (September, 2007)
21. Osaka Prefecture University (September, 2007)
20. Case Western Reserve University (October, 2006)
19. Portland State University (May, 2006)
18. Princeton University (March, 2006)
17. University of Miami (February, 2006)
16. Northeastern University (December 2005)
15. Boston College (December 2005)
14. Purdue University (September, 2005)
13. Northwestern University (April, 2005)
12. Michigan State University (April, 2005)
11. Florida State University (April, 2005)
10. University of Notre Dame (April, 2005)
9. University of Chicago (April, 2005)
8. University of Missouri-Columbia (March, 2005).
7. Syracuse University (October, 2004)
6. University of Wisconsin-Madison (September, 2004).
5. 3M Company, Twin Cities (April, 2004)
4. University of Minnesota, Minneapolis (April 2004)
3. University of California, Riverside (January 2004)
2. University of California, San Diego (January 2004)
1. University of Florida, Gainesville, Fl (October, 2002)

Inventions

Patented Inventions

1. Alabugin I. V.; Breiner, B.; Schlatterer, J. C.; Kovalenko, S. V.; Greenbaum, N. L. Site-specific cleavage of nucleic acids by photoreactive conjugates. U.S. Patent 7695912 (April 13, 2010).
2. Alabugin I. V.; Yang, W.-Y.; Breiner, B.; Schlatterer, J. C.; Kovalenko, S. V. (Submitted 2009). pH-Regulated DNA-cleaving agents consisting of a DNA-damaging warhead attached to a pH-

responsive diamine for selective targeting of cancer cells. U.S. Patent 8242307 (awarded Aug. 21, 2012)

3. Alabugin I. V.; Baroudi, A. U.S. Patent Application No.: 13/053,756. Direct Conversion of Aromatic Alcohols into Amides and Esters of Aromatic Carboxylic Acids. US2011237798-A1; US8410303-B2.
4. Alabugin I. V.; Pal, R. New route to synthetic analogues of rocaglamide and aglafoline using cascade transformations initiated by oxy-Cope rearrangements of bis-alkynes. WO2012037062-A2; WO2012037062-A3; US2013165683-A1 (Issued Jan. 8, 2015)
5. Alabugin I. V.; Yang, W.-Y.; Roy, S.; Kaya, K., Sang, Q.-S. Dipeptide acetylene conjugates and a method for photocleavage of double strand DNA by dipeptide acetylene conjugates. U.S. Patent 8927728 (Issued Jan. 06, 2015).
6. Alabugin I. V.; Byers, P. Modular Synthesis of Graphene Nanoribbons And Graphene Substructures From Oligo-Alkynes. U.S. Patent US 20130109855 A1 20130502 (2013).
7. Mattoussi H.; Alabugin I. V.; Palui G.; Avellini, T. Photo Induced Phase Transfer of Luminescent Quantum Dots to Aqueous Media. U.S. Patent US 20130299745 A1 20131114 (2013).
8. Alabugin I. V.; Breiner, B.; Yang, W.-Y.; Gilmore, K. pH-dependent DNA-cleaving agents for cancer therapy (Divisional Patent Application submitted, March 2013).
9. Locke B.; Alabugin I. V.; R. Wandell, Hsieh, K., Bresch, S. Activating carbon-hydrogen bond using low temperature plasma, comprises injecting mixture comprising liquid water, gas, and organic compound into reactor, propagating plasma discharge from inlet capillary to outlet capillary tube. US2014262744-A1; WO2014153015-A1.
10. Alabugin I. V.; Byers, P. Preparing a multicyclic structure, preferably graphene substructures and ribbons that are used in electronic applications, comprises cyclizing compound comprising repeat units of substituted heterocyclic compounds. U.S. Patent US2015073145-A1 (2015)
11. Alabugin I. V.; Byers, P. Modular synthesis of graphene nanoribbons and graphene substructures from oligo-alkynes - a method for the synthesis of carbon-based structures, particularly graphene substructures and ribbons, from oligo- and poly-alkyne starting materials. US Patent 9,273,023, (3/1/2016).
12. Alabugin, I. V.; Pati, K. Traceless directing groups in radical cascades: from oligoalkynes to fused helicenes without tethered initiators. Issued on June 13, 2017 as patent number 9,676,679.
13. D. V. Vidhani, M. E. Krafft, I.V. Alabugin, Stereocontrolled Synthesis Of (E, Z)-Dienals Via Tandem Rh (I) Catalyzed Propargyl Claisen Rearrangement, Application number 14/724,016 (2015/5/28).

14. I. V. Alabugin, S. Mondal, R. K. Mohamed, Alkenes As Alkyne Equivalents In Radical Cascades Terminated By Fragmentations, Application number 15/143,669 (2016/5/2) (Allowed May 8, 2017).
15. Harris, T.; Alabugin, I.V. Chiral Cyclodecynes and Methods, US Patent 10,421,738, 2019.
16. Plasma discharge reactor with flowing liquid and gas. B. R. Locke, I. V. Alabugin, R. Wandell, K. Hsieh, S. Bresch, US10610850B2, 2020-04-07 application granted.

Contracts and Grants

Contracts and Grants Funded (*after last promotion*)

(xxii) On the Path to Tunable Fully Organic Molecular Magnets: Unlocking Hidden Diradical Character in Graphene Substructures. Planning Grant FSU CRC01/15/22-01/14/23

PI: I. Alabugin (100%)

$24,999

(xxi) NSF CHE-2102579 05/01/2021-4/30/2024

PI: I. Alabugin (100%)

Reinventing Benzannulations: Electro-, Photo-, and Radical Approaches for Fusing Benzene and Cyclopentadiene Rings into Polyaromatics

$ 550,000 + ($29,791 - Supplemental Funding)

(xx) NSF CHE-1800329 07/01/2018-6/30/2021

PI: I. Alabugin (100%)

Alkynes As High-Energy Carbon-Rich Functionality For Synthesis Of Polyaromatics

$ 500,000

(xix) ACS Petroleum Research Fund PRF#57377-ND4 1/1/17-8/31/19

PI: I. Alabugin (100%)

Reaction Cascades Initiated by Catalytic Oxidative C-H Activation via Hole Injection

$110,000.00

(xviii) Planning Grant: Catalytic C-H Aminations FSU CRC 05/16/16-05/15/17

PI: I. Alabugin (100%)

$13,000.00

(xvii) NSF CHE- 1465142 07/01/2015–08/30/2018

PI: I. Alabugin (100%)

Combining stereoelectronics, traceless directing groups and dynamic covalent chemistry for the design of alkyne cascades: towards carbon-rich molecules and materials

$ 480,000

(xvii) FSU EIEG Award

EIEG: Acquisition of a High Speed Camera with Microscope

Locke, Bruce R (Co-PI); Steinbock, Oliver (Co-PI); Zheng, Jianping (Co-PI); Alabugin, Igor V (Co-PI); Roper, Michael Gabriel (Co-PI); Oates, William (Co-PI); Liu, Tao (PI); Guan, Jingjiao (Co-PI); Lenhert, Steven (Co-PI); Hallinan, Daniel (Co-PI); Ma, Biwu (Co-PI).

$52,335

(xvi) NSF CHE-1300722 09/01/2013–08/31/2016

PI: G. Dudley CoPI: I. Alabugin (20%)

Synthesis of high-value alkynes

$ 450,000

(xv) NSF CHE-1213578 09/01/2012–08/31/2015

Precisely shaped and functionalized graphene nanoribbons from cascade alkyne cyclizations

$ 200,000

(xiv) NSF CBET-1236225 08/01/12/-07/31/15

PI: B. Locke CoPI: I. Alabugin (40%)

Reaction Processes in Organic Droplet Spray Plasma Reactors

$350,000

(xiii) NSF CHE-1152491 08/01/12/-07/31/16

Hyperconjugative Assistance in Alkyne Cyclizations and Cycloadditions

$383,000

(xii) FSU Grants for Application Proof of Concept (GAP) Program 7/1/2011-6/31/2012

Bridging The Gap: From Light-Activated Agents For DNA-Cleavage To Anticancer Drugs

$25,000

(xi) James & Esther King Biomedical Research Program 4/01/2010-6/31/2011

Tunable light-activated agents for double stranded DNA-cleavage

$100,000

(x) NSF CHE-0848686 02/01/09-01/31/13

Noncovalent Interactions and Hyperconjugation In Control Of Radical Reactivity: Application To 5-Endo-Dig Cyclizations

$360,000

(x) FSU Council on Research and Creativity 12/01/2009-11/30/2010

PI: I. Alabugin CoPI's: None

"Design of light-activated DNA-cleaving agents"

$12,000

(ix) Petroleum Research Fund 47590-AC4 01/01/2008-08/31/2010

PI: I. Alabugin CoPI's: None

"Design of New Radical Reactions: From Elusive 5-Endo-Dig Cyclization to Cascade Transformations,"

$100,000

(viii) NIH 1R01EB006158-01A1 02/01/2007-12/31/2010

PI: Joseph Schlenoff Collaborator: I. Alabugin

"Thin Polyelectrolyte Films for Controlled Surface-Cell Interactions"

$ 53,500

TEACHING

Courses Taught

CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2021
CHM 5245	Physical Organic Chemistry	FSU	Graduate	Spring 2021
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2020
CHM 5245	Physical Organic Chemistry	FSU	Graduate	Spring 2020
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2019
CHM 5245	Physical Organic Chemistry	FSU	Graduate	Spring 2019
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2018
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Spring 2018
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2017
CHM 5245	Physical Organic Chemistry	FSU	Graduate	Spring 2017
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Spring 2016
CHM 5245	Physical Organic Chemistry	FSU	Graduate	Spring 2015
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Spring 2014
CHM4905	Directed Individual Study	FSU	Undergraduate	2003-present
CHM 5710	Chemical Structure and Bonding	FSU	Graduate	Fall 2013
CHM 5225	Physical Organic Chemistry	FSU	Graduate	Fall 2013
CHM 5710	Chemical Structure and Bonding	FSU	Graduate	Fall 2012

CHM 5225	Structure	FSU	Graduate	Spring 2012
CHM 2211	Organic Chemistry II	FSU	Undergraduate	Fall 2011
CHM 2210	Organic Chemistry I	FSU	Undergraduate	Spring 2011
CHM 5718	Topics In Material Chemistry II	FSU	Graduate	Spring 2011
CHM 5225	Structure	FSU	Graduate	Fall 2010
CHM 5718	Topics In Material Chemistry II	FSU	Graduate	Spring 2010
CHM 5225	Structure	FSU	Graduate	Fall 2009
CHM 5380-2	Survey of Hybrid Materials	FSU	Graduate	Spring 2009
CHM 2210	Organic Chemistry I	FSU	Undergraduate	Spring 2009
CHM 5225	Structure	FSU	Graduate	Fall 2008
CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2008
CHM 2210	Organic Chemistry I	FSU	Undergraduate	Fall 2007
CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2007
*CHM 2210	Organic Chemistry I	FSU	Undergraduate	Fall 2006
*CHM 5225	Structure	FSU	Graduate	Fall 2005
*CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2005
*CHM 5225	Structure	FSU	Graduate	Fall 2004
*CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2004
*CHM 5225	Structure	FSU	Graduate	Fall 2003
*CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2003
*CHM 5225	Structure	FSU	Graduate	Fall 2002
*CHM 5380	Stereoelectronic effects	FSU	Graduate	Spring 2002
*CHM 1030	Survey of General Chemistry	FSU	Undergraduate	Fall 2001
*CHM 1030	Survey of General Chemistry	FSU	Undergraduate	Spring 2001

New Course Development

CHM 5380-2	Survey of Hybrid Materials	FSU	Graduate	Spring 2009
CHM 5380	Special topics - Stereoelectronic effects	FSU	Graduate	Spring 2002

Curriculum Development
Developed online components for the following courses:

CHM 2211	Organic Chemistry	FSU	Undergraduate	Fall 2011
CHM 2210	Organic Chemistry	FSU	Undergraduate	Fall 2007

CHM 2200C	Survey of Organic Chemistry	FSU	Undergraduate	Spring 2007

Invited Mini-Courses:

1. Stereoelectronic Effects – Connections between Structure and Reactivity, Young Scientists Organic Chemistry Winter School, Krasnovidovo, Russia, (January 2015)
2. Stereoelectronic Effects. UNAM, Mexico City (March 2015)
3. Natural Bond Orbital Analysis. Texas A&M - 2016-2017 Student-Invited OCDC Speaker (Nov. 2016)
4. Natural Bond Orbital Analysis – the Rosetta Stone of Computational Chemistry, Markovnikov Readings, Krasnovidovo, Russia, January 2017.

Chair of Doctoral Dissertation Supervisory Committees

27. Favour Macurvet, a doctoral student (2025). Oxidative Termination without Oxidants: Incorporating "Weak Links" in Cyclization/Fragmentation Radical Cascades
26. Michael Commodore, a doctoral student (2025). Maximizing the Gain of Clar's Sextets in Design of Polyaromatic Diradicals: on Route to Organic Magnets
25. Beauty Chubuka, a doctoral student (2025). Stereoelectronic Factors in Oxygen-Containing Organic Functional Groups
24. Zach Deal, a doctoral student (2026). Radical-Anionic C-H Activation and Related Rearrangements
23. Leah Kuhn, a doctoral student (2025). Stereoelectronic Factors in Reaction Design: Computational Analysis through Artificial Intelligence
22. Chaowei Hu, a doctoral student (2024). Three-Point Double Annulations: from Benzenes to Pyrenes
21. Nikolas Dos Santos, a doctoral student (2024). Triple Photochemical Cascade for De Novo Pyrene Synthesis
20. Quintin Elliott, a doctoral student (2023). Radical Anionic C-H Aminations
19. Febin Kuriakose, a doctoral student (2022). Radical [3+3] Annulations
18. Adam Campbell, a doctoral student (2022). Photorelease of Aldehydes and Ketones
17. Edgar Gonzalez-Rodriguez, a doctoral student (2020). Polyarene π-Extension via Radical Alkyne peri-Annulations
16. Audrey Hughes, a graduate (2018). Synthesis, Structures and Properties of Functionalized Graphene Nanoribbons
15. Gabriel Dos Passos Gomes, a graduate (2018). Computational Studies of Reaction Mechanisms
14. Chris Evoniuk, a graduate (2018). Radical Cascades for Synthesis of Carbon-Rich Materials

13. Trevor Harris, a graduate (2017). Accelerating Non-Catalyzed Click Chemistry through Transition State Stabilization.
12. Rana Mohamed, a graduate (2016). Alkenes Masquerading As Alkynes: The Thermal and Photochemical Cyclizations of Enynes.
11. Stefan Bresch, a graduate (2015). Organic Transformations in An Argon-Water Continuous Flow Plasma Reactor.
10. Kemal Kaya, a graduate. (2015). Molecular Design of Light Activated Alkyne-Aminoacid Hybrids. (Protonation States for Selective Double Strand DNA Photocleavage in Hypoxic Tumors: pH-Gated Transitions of Lysine Dipeptides)
9. Brian Gold, a graduate (2014). Stereoelectronic Control of Cycloadditions and Fragmentations.
8. Phil Byers, a graduate. (2013). Cascade Reactions for the Synthesis of Polycyclic Aromatic Hydrocarbons and Carbon Nanoribbons.
7. Paul Peterson, a graduate. (2013). Orbital Crossings: Enabling Communication Between Orthogonal Orbitals in Cycloaromatization Reactions.
6. Kerry Gilmore, a graduate. (2012). Cyclizations of Alkynes.
5. Wang-Yong Yang, a graduate. (2011). Design of pH-Controlled Light-Activated Reagents for Efficient Cleavage of Double-Stranded DNA and Cancer Phototherapy
4. Abdulkader Baroudi, a graduate. (October, 2010). Radical Fragmentations: From Conformational Control of Enediyne Reactivity to 1,2-C,O Transposition and Metal-Free Synthesis of Benzoates and Benzamides From Phenols.
3. Jason Abrams, a graduate. (2009). 5-Endo-dig Cyclization of a Carbon-Centered Radical and Utility of Cyclopentene Bromosulfone Product.
2. Boris Breiner, a graduate. (2006). Mechanism and Applications of C1-C5 Cyclization of Enediynes
1. Tarek Zeidan, a graduate. (2005). Thermal and Photochemical Reactions of Acetylenes: I-Ortho-Effect in the Bergman Cyclization of Benzannelated Enediynes II-Photocycloaddition of Acetylenes to Cyclic Dienes Mechanisms and Applications.

Member of Doctoral Dissertation Supervisory Committees

Josue Liriano, a doctoral student. (2021)
Joseph Hurley, a doctoral student. (2021)
Stefan Brits, a doctoral student. (2020)
Suliman Ayad, a doctoral student. (2020)

Huihui Wang, a doctoral student. (2019)

Anna Salvati, a doctoral student. (2019)

Brandon Fultz, a doctoral student. (2019)

Kieber Robert, a doctoral student. (2019)

Alexander Blanchard, a doctoral student. (2019)

William Neary, a doctoral student. (2019)

Maribel Portillo, a doctoral student. (2019)

Dinesh Mitra, a doctoral student. (2018)

Aitchison, Erick, a doctoral student. (2017)

Theresa Eaton, a doctoral student. (2017)

Matthew Dickman, a doctoral student. (2017)

Rebecca Chandler, a doctoral student. (2016).

Ryan Barrett, a doctoral student. (2016)

Dinesh Mishra, a doctoral student. (2016)

Alec Morrison, a doctoral student. (2016).

Nick Kramer, a doctoral student. (2016).

Kirsten Daykin, a doctoral student. (2016).

Patrick Herbert, a doctoral student. (2016).

Rochester Gray, a doctoral student. (2016).

Ashley Longstreet, a doctoral student. (2015).

Chris Redwood, a doctoral student. (2015).

Paratchata Batsomboon, a doctoral student. (2015).

Ron Ramsubhag, a doctoral student. (2015).

Michael Rosana, a graduate. (2014).

Brian Ondrusek, a graduate. (2014).

Hoa Phan, a graduate. (2014).

Tyler Simmons, a graduate. (2013).

Garrett English, a doctoral student. (2014).

Marilda Lisboa, a graduate. (2013).

Susana Lopez, a graduate. (2011).

Sneha Duga, a graduate. (2012).

Ali Younes, a graduate. (2012).

Guocan Li, a graduate. (2013).

Rob Demont, a doctoral student. (2013).

Tania Houjeiry, a graduate. (2012).

Ali Lehaf, a graduate. (2012).

Wendy Brotherton, a graduate. (2013).

Kai-Yuan Shih, a doctoral candidate. (2012).

Jiang Shao, a doctoral candidate. (2012).

Brian Stapleton, a graduate. (2013).

Tiglet Besara, a graduate. (2011).

Hui-min Zhang a graduate. (2009).

Bo Liang, a graduate. (2009).

Jingyue Yang, a graduate. (2011).

Selma Mededovich , a graduate. (2006).

Ozge Gunaydin-sen, a graduate. (2007).

Saritha Nellutla, a graduate. (2007).

Houssam Jomaa, a graduate. (2005).

Matthew Bernett, a graduate. (2004).

Chair of Master's Supervisory Committees

Michael Maxwell, a graduate (2021). From C-H Aminations to Extended Polyaromatics

Thais De Faria Delgado, a graduate (2017). Cascade Photochemical Reactions

Satish Patil, a graduate. (2005). Tributyltin Mediated Cascade Radical Cyclizations of Aryleneethynylenes.

Scott Peabody, a graduate. (2004). Radical Cyclizations of Enediynes: Mechanistic Studies and Synthetic Applications.

Member of Master's Thesis Supervisory Committees

Kyle Manning, a graduate (2013)

Ian Walton, a graduate (2011)

Susana Lopez, a graduate. (2009).

Qiang Cao, a graduate. (2006).

Murat Kahveci, a graduate. (2003).

Darui Xu, a graduate. (2003).

Jenny Baxter, a graduate. (2003).

Postdocs Supervised:

1. Sergey Kovalenko (2000-2004), Present: Leading Scientist at Halocarb
2. Mariappan Manoharan (2001-2005), Present: Bethune-Cookman University, Asst. Professor
3. Vitaliy Timokhin (2007-2008), Present: Great Lakes Bioenergy Research Center, UW-Madison, Research Scientist
4. Runa Pal (2009-2011), Present: Syngene International Ltd.
5. Samuya Roy (2010-2011), Present: Biocon - Bristol Myers Squibb Research Centre (BBRC)
6. Nikolay Shevchenko (2011-2012), Present: Sibur
7. Sergey Emets (2012-2014), Present: Avekshan LLC
8. Sayantan Mondal (2012-5), Assistant Professor, Department of Chemistry at Bankura Zilla Saradamani Mahila Mahavidyapith
9. Kishore Pati (2013-15), Leading Scientist at Grace Therapeutics
10. Nikolai Tsvetkov (2014-17) – Assistant Professor, Thomas University
11. Dinesh Vidhani (2015-2016), Assistant Professor, Miami Dade College
12. Rahul Kawade, (2017-2020) - Syngene international Lmt.

Visiting scholars

13. Xin-Gang Jia (2015) - Xi'an Shiyou University
14. Pritam Kadam (2015) – Bochum University
15. Rabia Ayub (2016) – Uppsala University
16. Satoshi Fujita (2017) – Kyushu University
17. Tomoka Hosokawa (2018) – Osaka Prefecture University

Undergraduate Students Supervised

1.	Erika Hendrickson	Chemistry	FSU	DIS	Fall 2021-
2.	Amanda Miles	Chemistry	FSU	DIS	Fall 2021-
3.	Braden Woo	Chemistry	FSU	DIS	Fall 2021-
4.	Jonathan Gomez	Chemistry	FSU	DIS	Fall 2021-
5.	Jordan Artzy	Chemistry	FSU	DIS	Fall 2020-
6.	Nico Carbone	Chemistry	FSU	DIS	Fall 2020-

7. Alexandria Palazzo	Chemistry	FSU	DIS	Spring 2020-
8. Patricia Mehaffy	Chemistry	FSU	Volunteer	Spring 2020-
9. Josef Macelli	Chemistry	FSU	DIS	Spring 2020-
10. Jordan Suarez	Chemistry	FSU	DIS	Spring 2020-
11. Curtis DeShong	Chemistry	FSU	DIS	Spring 2020-
12. Angel Chu	Chemistry	FSU	DIS	Spring 2019-
13. Ashton Hagen	Chemistry	FSU	DIS	Fall 2018-
14. Tyler Weinhold	Chemistry	UTampa	REU	Summer 2018
15. Alfredo Vidal-Gutierrez	Chemistry	FSU	DIS	Spring 2018-
16. Scott Caputo	Chemistry	FSU	DIS	Spring 2018-
17. Cameron Healy	Chemistry	FSU	DIS	Fall 2017-
18. Brooke McFarland	Chemistry	FSU	DIS	Fall 2017-
19. Tashmay Jones	Chemistry	BCU	REU	Summer 2017
20. Troy Sloss	Chemistry	FSU	DIS	Spring 2017
21. Morgan Skala	Chemistry	FSU	DIS	Spring 2017-
22. Zach Blashinsky	Chemistry	FSU	UROP student	Fall 2016-
23. Shelby Davis	Chemistry	FSU	DIS	Fall 2016-
24. George Concepcion	Chemistry	FSU	DIS	Summer 2016-
25. Mariana Alves	Chemistry	FSU	DIS	Summer 2016-
26. Jonathan Grisiaffi	Chemistry	FSU	DIS	Summer 2016-
27. Cambre Williams	Chemistry	Bethune-Cookman University		Summer 2016-
28. Dominique Hale	Chemistry	Bethune-Cookman University		Summer 2016-
29. Brandon Crowther	Chemistry	FSU	Volunteer	Summer 2016-
30. Miguel Abdo	Chemistry	FSU	DIS	Fall 2015-Sping 2018
31. Andrew Castro	Chemistry	FSU	UROP student	Fall 2015
32. Arian Rastgou	Chemistry	FSU	UROP student	Fall 2015
33. David Dan	Chemistry	FSU	Summer Research	Summer 2015
34. Ana Phelan	Chemistry	FSU	Volunteer	Summer 2015
35. Qudsi Baker	Chemistry	FSU	Volunteer	Summer 2015
36. Obi Ugochuhuu	Chemistry	FSU	Volunteer	Summer 2015
37. Joseph Guerrera	Chemistry	FSU	Volunteer	Spring 2015-
38. Sarah Crawford	Chemistry	FSU	10151L	Spring 2015
39. Maycee Mularkee	Chemistry	FSU	10151L	Spring 2015

40. Tristan Vaughan	Chemistry	FSU	DIS student	Spring 2015-
41. Peter Coutros	Chemistry	FSU	Volunteer	Spring 2015-
42. Crysta Oliver	Chemistry	FSU	DIS student	Spring 2015-
43. Cindy Martinez	Chemistry	FSU	Volunteer	Fall 2014-
44. CJ Kelsheimer	Chemistry	FSU	DIS student	Fall 2014-
45. Alister Bent	Chemistry	Harvard	REU	Summer 2014
46. Iris Denmark	Chemistry	BCU	REU	Summer 2014
47. Guillermo del Valle	Chemistry	(Univ. Autón. de Madrid)	Volunteer	Summer 2014
48. Anusha Kavuru	High School		Volunteer	Summer 2014
49. Allison Pearce	Chemistry	FSU	Volunteer	Summer-Fall 2014
50. John Paul Kolcun	Chemistry	FSU	Volunteer	Summer 2014
51. Miriam Swartz	Chemistry	FSU	Volunteer	Summer 2014
52. Nicholas Bigerton	Chemistry	FSU	DIS student	Summer 2014-
53. Liam Speranza	Chemistry	FSU	DIS student	Summer 2014-
54. Jacob Andring	Chemistry	FSU	DIS student	Summer 2014-
55. Christopher Michas	Chemistry	FSU	Volunteer	Summer 2014-
56. Gabriel dos Passos Gomes	Chemistry	UFRJ	LASER Fellow	Spring 2014
57. Michelle Ly	Chemistry	FSU	10151L/DIS	Spring 2014-
58. Cristina Chiodi	Chemistry	FSU	10151L	Spring 2014
59. Chase Goldsborough	Chemistry	FSU	Volunteer	Spring 2014-
60. Thais De Faria	Chemistry	FSU	Volunteer	Spring 2014-
61. David Allenger	Chemistry	FSU	DIS student	Spring 2014-
62. Juan Nogues	Chemistry	FSU	Volunteer	Fall 2013
63. Diana Fritzner	Chemistry	FSU	DIS student	Summer 2013-
64. Alex Lopez	Chemistry	FSU	DIS student	Spring 2013-14
65. Daniel Farinas	Biom. Eng.	FSU	Volunteer	Spring 2013-
66. Olivia Bass	Chemistry	FSU	Volunteer	Spring 2013
67. Ilya Piskun	Chemistry	FSU	UROP student	Fall 2012-Spring 2015
68. Tim Guest	Chemistry	FSU	DIS student	Fall 2012
69. Corinne Brack	Chemistry	FSU	Volunteer	Summer 2012
70. Kelly Hensley	Chemistry	FSU	Volunteer	Summer 2012
71. Kasey Schaettle	Chemistry	FSU	Volunteer	Summer 2012
72. Sarah Rappach	Chemistry	FSU	Volunteer	Spring 2012

73. Kathryn Kaleel	Chemistry	FSU	Volunteer	Spring 2012
74. Juan Rojas	Chemistry	FSU	DIS student	Spring 2012-2013
75. Michael Bruno	Chemistry	FSU	DIS student	Spring 2012
76. Alexandra Morgan	Chemistry	FSU	DIS student	Spring-Fall 2012
77. Lessie Skiba	Chemistry	FSU	10151L	Spring 2012
78. Michael Scheer	Chemistry	FSU	10151L	Spring 2012
79. Julian Rashid	Chemistry	FSU	Volunteer/DIS	Fall 2011-Spring 2013
80. Daniel Gesua	Chemistry	FSU	Volunteer	Fall 2011
81. Brian Lynch	Chemistry	FSU	DIS student	Summer 2011-Fall12
82. Trevor Harris	Chemistry	FSU	Volunteer	Summer 2011-12
83. Kadar Gelinas	Chemistry	FSU	Volunteer	Fall 2011
84. Madeleine Johnson	Chemistry	FSU	DIS student	Summer 2011-Spr12
85. Travis CreveCoeur	Chemistry	FSU	DIS student	Summer 2011
86. Audrey Smith	Chemistry	FSU	DIS student	Summer 2011-Spr12
87. Jameka Dorsey	Chemistry	FSU	Volunteer	Spring 2011
88. Mary Wojcik	Chemistry	FSU	1051L	Spring 2011
89. Hannah Bartges	Chemistry	FSU	1051L	Spring 2011
90. Rebecca Allen(Thompson)	Biological Science	FSU	BSC4900	Fall 2009-Fall 2011
91. James Thompson	Biological Science	FSU	BSC4900	Fall 2009-Fall 2011
92. Wolfgang Wesson	Chemistry	FSU	DIS student	Fall 2010-Spring 2011
93. Angela Sayoc	Chemistry	FSU	DIS student	Summer 2010-Fall 10
94. Zlatko Sokolikj	Chemistry	FSU	DIS student	Fall 2010-Spring 2013
95. Forat Lufti	Chemistry	FSU	DIS student	Spring 2010-2011
96. Zach Rengert	Chemistry	FSU	DIS student	Summer 2010-
97. Jason Kirincich	Chemistry	FSU	DIS student	Fall 2010-Spring 2012
98. Matthew Gatcombe	Chemistry	FSU	DIS student	Fall 2010-Summer 11
99. Camila Cairo	Chemistry	FSU	DIS student	Summer 2010
100. Ayisha Buckley	Chemistry	FSU	DIS student	Summer 2010
101. Natalie Bonus	Chemistry	FSU	DIS student	Spring 2010-Fall 11
102. Anabel Rodriguez	Chemistry	FSU	DIS student	Spring 2010-Fall 10
103. Grant Vellanti	Chemistry	FSU	DIS student	Spring 2010-Fall 10
104. Dani Phrathep	Chemistry	FSU	DIS student	Spring 2010-Fall 11
105. Catalina Zapata	Chemistry	FSU	1051L	Spring 2010

106. Blake Davis	Chemistry	FSU	1051L	Spring 2010
107. Nalisha Minors	Chemistry	FSU	DIS student	Fall 2009-Fall 10
108. Sheeva Yazdani	Chemistry	FSU	DIS student	Fall 2009-Fall 10
109. Catalina Galvis	Chemistry	FSU	DIS student	Fall 2009-Spring 10
110. Vivian Sterling	Chemistry	FSU	DIS student	Fall 2009-Spring 10
111. Vekarious Barnes	Chemistry	FSU	DIS student	Summer 2009-Fall 10
112. Chris Davis	Chemistry	FSU	DIS student	Summer, Fall 2009
113. Jeremiah Alicea	Chemistry	FSU	DIS student	Summer 09-Spring 11
114. Catherine St. Laurent	Chemistry	FSU	DIS student	Summer 09-Spring 11
115. Daniel Van Jelgerhuis	Chemistry	FSU	1051L	Spring 2009
116. Morgan Malloy	Chemistry	FSU	1051L	Spring 2009
117. Phillip Flack	Chemistry	FSU	DIS student	Spring 2008- 2010
118. Lindsey Rosen	Chemistry	FSU	DIS student	Spring 2008-09
119. Maggie Kingsley	Chemistry	FSU	DIS student	Fall 2008-2010
120. Josyln Rubin	Chemistry	FSU	DIS student	Fall 2008-Spring 2010
121. Alexandra Elios	Chemistry	FSU	DIS student	Fall 2008, Fall 2009
122. Samantha Marrone	Chemistry	FSU	DIS student	Fall 2008-Summer 09
123. Heidi Moreno	Chemistry	FSU	DIS student	Summer 2008
124. Justin Mauldin	Chemistry	FSU	DIS student	Summer 08-09
125. Nigel Hill	Chemistry	FSU	DIS student	Summer 08-Spring 09
126. Rita Gordon	Chemistry	FSU	DIS student	Summer 08-Fall08
127. Jess Delaune	Chemistry	FSU	DIS student	Summer 2008-10
128. Andrew Rice	Chemistry	FSU	1051L/DIS	Spring 2008-Fall 09
129. Shannon Mills	Chemistry	FSU	1051L	Spring 2008
130. Brian Puckett	Chemistry	FSU	DIS student	Spring 2008- Fall 08
131. Nathan Roney	Chemistry	FSU	DIS student	Spring 2008-09
132. Matthew Clark	Chemistry	FSU	DIS student	Spring 2008-Fall 08
133. Adam Morris	Chemistry	FSU	DIS student	Spring 08- Spring 09
134. Lacy Stark	Chemistry	FSU	DIS student	Fall 2007-Spring 08
135. Benjamin Arline	Chemistry	FSU	DIS student	Spring 2008-Fall 09
136. Rachel Abrams	Chemistry	FSU	DIS student	Fall 2007-Spring 09
137. Catherine Callahan	Chemistry	FSU	DIS student	Spring 2007- Fall 09
138. Dani Contini	Chemistry	FSU	1051L	Spring 2007

139. Jonathan Lopez	Chemistry	FSU	DIS student	Fall 06-Fall 08
140. Karen Ritter	Chemistry	FSU	1051L	Spring 2006
141. Jon Yarbrough	Chemistry	FSU	DIS student	Fall 2006
142. Andrew Klein	Chemistry	FSU	DIS student	Fall 2006
143. Peter Kaus	Chemistry	FSU	DIS student	Fall 2006
144. Casey Fulmer	Chemistry	FSU	DIS student	Spring-Fall 2006
145. Matthew Buck	Chemistry	FSU	DIS student	Fall 05-Spring 06
146. Patrice Worthy	Chemistry	FSU	DIS student	Summer 2005
147. Aaron Pearson	Chemistry	FSU	DIS student	Fall 04 –Spring 05
148. Alexander Dorofeev	Chemistry	FSU	Summer Research	Summer 2004
149. Chris French	Chemistry	FSU	Hughes Fellow	Spring 2004
150. Christina Storozuk	Chemistry	FSU	CHM 1051L	Spring 2004
151. Jennifer Markiewicz	Chemistry	FSU	CHM 1051L	Spring 2004
152. Jeff Whalen	Chemistry	FSU	Summer Research	Summer 2003
153. Olga Barykina	Chemistry	FSU	Summer Research	Summer 2003
154. Megan Stultz	Chemistry	FSU	CHM 1051L	Spring 2003
155. Chris French	Chemistry	FSU	CHM 1051L	Spring 2003
156. Amy Hinsley	Chemistry	FSU	DIS student	Spring 2003
157. Alexander Schevtsov	Chemistry	FSU	Summer Research	Summer 2002
158. Anatoly Vereschagin	Chemistry	FSU	Summer Research	Summer 2002
159. Elissey Yagodkin	Chemistry	FSU	Summer Research	Summer 2002
160. Katrina Coumbos	Chemistry	FSU	CHM 1051L	Spring 2002
161. Deborah McGee	Chemistry	FSU	CHM 1051L	Spring 2002
162. Melissa Naiman	Chemistry	FSU	Fisher Fellow	Summer 2001
163. Alexander Chirokov	Chemistry	FSU	Summer Research	Summer 2001
164. Juliya Sumskaya	Chemistry	FSU	Summer Research	Summer 2001
165. Nikolai Tsvetkov	Chemistry	FSU	Syncure Fellowship	Summer 2001

Chair of Undergraduate Honors Thesis Committees:

Jeremiah Alicea (Spring 2011) Metal-Free Synthesis of Benzoates and Benzamides from Phenols and a New Radical Fragmentation Cyclization Reaction

Natalie Bonus (Fall 2011) Stereoelectronic Assistance to Click Chemistry

Diana Fritzner (Spring 2015) D-Lysine DNA Photocleavage

Morgan Skala (Spring 2020) Carbon-Rich Molecules from Alkynes

Member of Undergraduate Honors Thesis Committees:

Elise Cook (2007-08). FSU College of Medicine.

Cameron Hanna (Spring 2013), FSU Biology Department

Delanyo Seshie (Spring 2014), FSU-FAMU College of Engineering

David Reece (Spring 2015), FSU-FAMU College of Engineering

Kelsi Meliah (Spring 2015), FSU College of Medicine.

CJ Kelsheimer (Spring 2016), FSU Psychology Department

High School Students Supervised

Benjamin Au (2005). FSU Young Scholars Program.

SERVICE

Florida State University

University

Judge at the 2015 FSU Postdoctoral Symposium.

Liaison between FSU Library and Department of Chemistry and Biochemistry (2003-07).

Author of many recommendation letters for FSU graduate and undergraduate students (>200 letters, 2002-present).

Member of University Graduate Policy Committee (GPC) subcommittee to review the graduate program in Mechanical and Industrial Engineering (Fall 2011).

Faculty Senate, Florida State University (2012-14)

Member of College of Art and Sciences Promotion and Tenure Committee (2012)

Poster session judge at the 3d Annual FSU Postdoc Symposium (2015).

Faculty Senate, Florida State University (2019-21).

College of Arts and Sciences

Committee Member, Interdepartmental Faculty Search Committee (Biochem/CSIT), Spring 2003.

Department of Chemistry:

Committee Chair, Organic Chemist Search Committee, 2013

Committee Chair, Space Committee, 2013-14

Committee Chair, Graduate Recruiting and Admissions Committee, 2006-2010

Committee Chair, Public Relations Committee, 2005-06.

Committee Chair, Departmental Computers Committee, 2002-05

Committee Member:

Executive Committee, 2015-

Space Committee, 2014-

NMR Committee, 2014-15

Faculty Addition Committee, 2013-14

Promotion Committee, 2011-

Theory/Quantum Chemist Search Committee, 2008, 2012

Departmental Website Committee, 2007-2010

Canvassing Committee, 2007-08

Executive Committee, 2006 -2010

Molecular Recognition Building Committee, 2005

Faculty Search Committee (Organic Chemistry), 2003, 2004, 2013

Faculty Search Committee (Inorganic Chemistry), 2003, 2004

Faculty Search Committee (Physical Chemistry), 2003

By-Laws Committee, 2004-06

Facilities Committee, 2003

Infrastructure Committee, 2002

Faculty Merit Raise Committee, Spring 01

Public Relations Committee, Spring 05-06

Departmental Computers Committee, Fall 01-05

Graduate Recruiting and Admissions Committee, Fall 01-present

Safety Committee, Fall 00-06

Editor of the Departmental Alumni Newsletter (2004-05).

Coordinator of Organic Seminar Program (2003 - 08).

Recruitment and Outreach Talks at the Following Universities:

24. South Methodist University (January 29, 2021).

23. Southeastern University (February 3, 2021)
22. University of Duluth (September, 2019)
21. Taming of Molecules, Russian Chemical Society (May 20, 2019)
20. Samford University (May 4, 2018)
19. Florida Southern College (Fall, 2014)
18. FAMU-FSU Student Chapter of the Biomedical Engineering Society (February, 2013)
17. Colby College (March, 2012)
16. Valdosta State University (October, 2007)
15. Davidson College (September, 2006)
14. Rhode Island College (April, 2006)
13. Roger Williams University (April, 2006)
12. Oakwood College (January 2006)
11. East Tennessee University (September, 2005)
10. University of Central Florida (January, 2005)
9. Florida Institute of Technology (November, 2004)
8. Hamilton College (October, 2004)
7. Florida International University (Biscayne Bay Campus), FL (November, 2003)
6. Barry University, FL (November 2003)
5. Berry College, GA (October, 2003)
4. University of North Florida, FL (October, 2003)
3. Florida International University, FL (November, 2002)
2. Florida Memorial College, FL (November, 2002)
1. College of Charleston, Charleston, SC (September, 2002)

The Profession

Service to Professional Associations

Scientific Advisory Board of the ICESAA (International Conference on Excited State Aromaticity and Antiaromaticity), 2022-.

Member of Fulbright National Screening Committee - 2020 (59 applications), 2021 (48 applications)

Chair of 2020/2022 Reaction Mechanisms Conference

Chair of 2019 Gordon Research Conference on Photochemistry

Session Chair, Aromaticity 2018 Conference

Session Chair, 2017 Gordon Research Conference on Physical Organic Chemistry

Session Chair, 2017 ISRIUM.

IUPAC Subcommittee on Structural and Mechanistic Organic Chemistry, USA Representative (2014-): https://iupac.org/who-we-are/divisions/division-details/?body_code=305.

Advisory Board, Reaction Mechanisms Conference (2014-)

Session Chair, MCMC-2014, Moscow, Russia, 2014.

Co-Organizer –the 2013 Inter-American Photochemical Society (I-APS) Meeting.

Co-Organizer – A. Beckwith Symposium at the 2012 Fall ACS meeting.

Discussion Leader - Gordon Research Conference on Physical Organic Chemistry, NH, USA (2011).

Co-Organizer of the Cope Organic Symposium for the 2011 Florida Annual Meeting and Exposition (FAME) of the American Chemical Society, Tampa, Fl.

Member of International Scientific and Advisory Committee for the Molecular/Nano-Photochemistry, Photocatalysis and Solar Energy Conversion SOLAR'08. Cairo, Egypt (2008).

Scientific Advisory Board, Lifeboat Foundation (2007-present).

Member of the Organizing Committee for the NSF Workshop "The interplay of theory and experiment in photochemistry", Salvador, Brazil (2006).

Organizer of the Organic Symposium for the 2004 Florida Annual Meeting and Exposition (FAME) of the American Chemical Society (2005).

Advisory Board Member and Secretary for the Inter-American Photochemical Society (I-APS) (2005-present).

Reviewer for Refereed Journals (2000-present, >970 papers reviewed)

1. J. Am. Chem. Soc.
2. J. Org. Chem.
3. Science
4. Angewandte Chemie
5. Proceedings of National Academy of Science
6. Org. Letters
7. Chemical Reviews
8. J. Phys. Org. Chem.
9. Accounts of Chemical Research
10. Nature Materials
11. Nature Chemistry
12. Chem
13. J. Phys. Chem. A
14. J. Phys. Chem. B
15. J. Comput. Chem.
16. Chemical Physics
17. Chem. Phys. Letters
18. Eur. J. Org. Chem.
19. Chemistry – Eur. Journal
20. Langmuir
21. Chemical Society Reviews
22. J. Photochemistry & Photobiology
23. Photochem. & Photobiol. Sciences

24. Natural Product Research
25. Carbohydrate Research
26. Tetrahedron Letters
27. Theochem
28. Journal of Sulfur Chemistry
29. Beilstein J. Org. Chem.
30. Chemistry of Materials
31. Inorganic Chemistry
32. Crystal Growth and Design
33. Journal of Computational Chemistry
34. Journal of Medicinal Chemistry
35. Physical Chemistry Chemical Physics
36. Molecules
37. Journal of Molecular Structure
38. Chemical Sciences
39. CrystEngComm
40. RSC Advances
41. Journal of Structural Chemistry
42. International Journal of Quantum Chemistry
43. Advanced Synthesis & Catalysis
44. Polymer Chemistry
45. Organic and Biomolecular Chemistry
46. Pure and Applied Chemistry
47. Croatica Chemica Acta
48. Zeitschrift für Physikalische Chemie
49. Medicinal Chemistry Communications
50. Molecular Physics
51. Chinese Journal of Chemistry
52. Colloids and Surfaces B: Biointerfaces
53. Theoretical Chemistry Accounts
54. Journal of Molecular Catalysis A
55. New Journal of Chemistry
56. Canadian Journal of Chemistry
57. Australian Journal of Chemistry
58. Dalton Transactions
59. Structural Chemistry
60. Dyes and Pigments
61. ACS Combinatorial Science
62. Letters in Drug Design & Discovery
63. Molecular BioSystems
64. Organic Process Research & Development
65. Journal of Photochemistry and Photobiology B: Biology
66. Journal of Biophysics
67. Journal of Organometallic Chemistry
68. Mendeleev Communications
69. Asian J. Org. Chem.
70. Sensors & Actuators: B. Chemical
71. PLOS ONE
72. Water Research
73. Current Medicinal Chemistry
74. International Journal of Molecular Medicine
75. Organic Chemistry Frontiers
76. ACS Central Science
77. Journal of Materials Chemistry C
78. Biochemistry
79. Nanomaterials
80. Molecular Diversity
81. Royal Society Open Science
82. Nature Catalysis
83. Journal of Antibiotics
84. ChemBioChem
85. ACS Omega

86. Applied Microbiology and Biotechnology
87. Plasma Chemistry and Plasma Processing
88. ACS Sustainable Chemistry and Engineering
89. Russian Chemical Reviews („Uspekhi Khimii“)
90. Science China – Chemistry
91. J. Phys. Chem. B
92. J. Phys. Chem. Letters
93. Review Journal of Chemistry
94. Symmetry
95. Chemistry
96. Nature Communications
97. Catalysis Science & Technology
98. The European Physical Journal D
99. Computational and Theoretical Chemistry
100. Heliyon
101. Israel Journal of Chemistry
102. Research
103. Cell Reports Physical Sciences
104. ACS Sustainable Chemistry & Engineering

Reviewer for Grant Agencies

(2013) New Eurasia Foundation

(2012) Israel Science Foundation

(2010) Iraq Scientist Engagement Program

(2005-present) U.S. Civilian Research & Development Foundation

(2005-present) Czech Science Foundation

(2004-present) Research Corporation

(2003-present) National Science Foundation

(2003-present) Petroleum Research Fund (administered by the American Chemical Society)

(2014-present) Russian Science Foundation

(2016-present) U.S. Department of Energy

(2017-2020) National Defense Science and Engineering Graduate Fellowship

(2019) RSC Newton International Fellowships

(2019) Leverhulme Prize, Royal Chemical Society

(2019-21) Fulbright Commission

(2021) French National Research Agency (ANR)

Editorial:

2012 - Guest Editor for the ISRIUM issue of the Journal of Physical Organic Chemistry

2016 - Associate Editor, the Journal of Physical Organic Chemistry

2017 – Member of Editorial Board, Molecules

2018 – Member of International Advisory Board, Russian Chemical Bulletin

2019 - Member of International Advisory Board, Russian Journal of Organic Chemistry

2020 - Member of Editorial Board, Bulletin of Moscow State University

2020 - Member of Editorial Board, Review Journal of Chemistry

Service to Other Universities

Nomination for Alon Faculty Fellowship, Technion, Israel (2021)

Nomination for Azrieli Faculty Fellowship, Technion, Israel (2021)

External Reviewer for Promotion to Professor, Colorado State University (2020)

External Reviewer for Tenure and Promotion to Associate Professor, Iowa State University (2019).

External Reviewer for Promotion to Professor, Florida International University (2019)

External Reviewer for Promotion to Chaired Professor, University of Edinburgh (2018)

External PhD Thesis Examiner, Sorbonne (2018)

External PhD Thesis Examiner, The University of New England, Australia (2018)

External Reviewer for Promotion to Full Professor, Iowa State University (2018).

External Reviewer for Tenure and Promotion, Auburn University (2018).

Evaluator for the Institute of Organic Chemistry and Biochemistry of the Czech Academy of Science (2018)

External PhD Thesis Examiner, National Institute of Pharmaceutical Education and Research, India (2017)

External Reviewer for Promotion, South Dakota School of Mines (2017).

External Reviewer for Promotion, Tufts University (2017).

External PhD Thesis Examiner, Indian Institute of Technology Kharagpur, India (2016).

External Reviewer for Promotion, University of Cincinnati (2015).

External Reviewer for Nomination in The World Academy of Sciences (TWAS) (2015).

External Reviewer, Institute of Science and Technology, Austria (2014).

External Reviewer for Promotion, University of Nizwa, Oman (2014).

External PhD Thesis Examiner, Indian Institute of Technology Kharagpur, India (2014).

External Reviewer for Tenure and Promotion, Kansas State University (2012).

External PhD Thesis Examiner, University of Melbourne, Australia (2010, 2012).

External Reviewer for Tenure and Promotion, Florida Atlantic University (2008).

External Reviewer for Promotion, University of Florida (2007).