

Christopher D. McNitt, Ph.D

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Education

Ph.D. Organic Chemistry University of Georgia **2016**

Development and Application of Photo-Click Reagents for Spatial and Temporal Control of Strain-Promoted Alkyne-Azide Cycloadditions (SPAAC).

B.S. Chemistry Florida State University **2009**

Experience

Research Professional II- University of Georgia **2017-Present**

Design, synthesize, and analyze small molecules for CO release therapeutics.

Lab manager responsible for upkeep of chemical inventory, chemical storage, and hazardous waste.

Overseeing two graduate students with their projects.

Research Assistant- University of Georgia **2009-2016**

Completed the design, synthesis, and analysis of several functionalized photo-caged cyclooctynes.

Multidisciplinary research and collaborations with papers in the fields of organic chemistry, nano-medicine, surface functionalization, chemical biology, and bio-organic chemistry.

Proficient with the analytical techniques NMR, UV-Vis, FT-IR, HPLC, GC-MS, Fluorescence Spectroscopy, DLS, and TEM.

Responsible for upkeep and maintenance of UV-Vis, FT-IR, HPLC, and vacuum pumps.

Research Assistant- Florida State University **2007-2009**

Synthesis and analysis of small molecular tweezers which are able to form higher order charge-transfer complexes.

Patents and Publications

1. **McNitt, C. D.**; Brooks, K.; Locklin, J.; Popik, V. V.; Dual Functionalization of Poly(PFPA) Brushes by Kinetic Resolution of SPAAC. *In Preparation*.
2. Boudjemeline, M.; **McNitt, C. D.**; Singleton, T. A.; Popik, V. V.; Kostikov, A. P. [18 F] ODIBO: A Prosthetic Group for Bioorthogonal Radiolabeling of Macromolecules via Strain-Promoted Alkyne-Azide Cycloaddition. *Org. Biomol. Chem.*, **2018**, 16, 363-366.
3. **McNitt, C. D.**; Cheng, H.; Ullrich, S.; Popik, V. V.; Bjerkness, M. Multiphoton Activation of Photo-Strain-Promoted Azide Alkyne Cycloaddition "Click" Reagents Enables in Situ Labeling with Submicrometer Resolution. *J. Am. Chem. Soc.*, **2017**, 139 (40), 14029-14032
4. Nainar, S.; Kubota, M.; **McNitt, C. D.**; Tran, C.; Popik, V. V.; Spitale, R. C. Temporal Labeling of Nascent RNA Using Photo-click Chemistry in Live Cells. *J. Am. Chem. Soc.*, **2017**, 139 (24), 8090-8093.

5. Bjercknes, M.; Cheng, H.; **McNitt, C. D.**; Popik, V. V. Facile Quenching and Spatial Patterning of Cyclooctynes via Strain-Promoted Alkyne–Azide Cycloaddition of Inorganic Azides. *Bioconjugate Chem.*, **2017**, 28 (5), 1560-1565.
6. Whitehead, S.A.; **McNitt, C. D.**; Alam, S.; Popik V. V.; Best, M. D. Artificial Membrane Fusion Triggered by Strain-Promoted Alkyne-Azide Cycloaddition. *Bioconjugate Chem.*, **2017**, 28 (4), 923-932.
7. Luo, W.; Gobbo, P.; **McNitt, C. D.**; Sutton, D.A.; Popik, V. V.; Workentin, M. S.; “Shine & Click” Photoinduced Interfacial Unmasking of Strained-Alkynes on Small Water-Soluble Gold Nanoparticles. *Chem. Eur. J.*, **2017**, 23 (5), 1052-1059.
8. Laradji, A.; **McNitt, C. D.**; Yadavalli N. S.; Popik, V. V.; Minko S. Robust, Solvent-Free, Catalyst-Free Click Chemistry for the Generation of Highly Stable Densely Grafted Poly (ethylene glycol) Polymer Brushes by the Grafting To Method and their Properties. *Macromolecules*, **2016**, 49 (20), 7625-7631.
9. Brooks, K.; Yatvin, J.; **McNitt, C. D.**; Reese, R. A.; Jung C.; Popik, V. V.; Locklin, J. Multifunctional Surface Manipulation Using Orthogonal Click Chemistry. *Langmuir*, **2016**, 32 (26), 6600-6605.
10. Alam, S.; Alves, D. S.; Whitehead, S. A.; Bayer, A. M.; **McNitt, C. D.**; Popik, V. V.; Barrera F.N.; Best, M.D. A Clickable and Photocleavable Lipid Analogue for Cell Membrane Delivery and Release. *Bioconjugate Chem.*, **2015**, 26 (6), 1021-1031.
11. Dhar, S.; Pathak, R. K.; Popik, V. V.; **McNitt, C. D.** Preparation, Antitumor, and Fluorescence of Platinum(IV) Complexes. **2015**, WO 2015134599 A2.
12. Pathak, R. K.; **McNitt, C. D.**; Popik, V. V.; Dhar, S. Copper-Free Click-Chemistry Platform to Functionalize Cisplatin Prodrugs. *Chem. Eur. J.* **2014**, 20 (23), 6861-6865.
13. Arnold, R. M.; **McNitt, C. D.**; Popik, V. V.; Locklin, J. Direct Grafting of Poly(pentafluorophenyl acrylate) Onto Oxides: Versatile Substrates for Reactive Microcapillary Printing and Self-Sorting Modification. *Chem. Commun.* **2014**, 50 (40), 5307-5309.
14. Arumugam, S.; Orski, S. V.; Mbua, N. E.; **McNitt, C. D.**; Boons, G-J.; Locklin, J. Photo-Click Chemistry Strategies for Spatiotemporal Control of Metal-Free Ligation, Labeling, and Surface Derivatization. *Pure Appl. Chem.*, **2013**, 85 (7), 1499-1513.
15. **McNitt, C. D.**; Popik, V. V. Photochemical Generation of Oxa-Dibenzocyclooctyne (ODIBO) for Metal-Free Click Ligations. *Org. Biomol. Chem.*, **2012**, 10 (41), 8200-8202.

Professional Memberships and Awards

1. American Chemical Society (ACS)
2. American Association for the Advancement of Sciences (AAAS)
3. Kenneth W. Whitten Award for Outstanding Teaching (**2011**)

Presentations

1. **McNitt, C. D.**; Popik, V. V. “Bis-Naphthylcyclopropanones a Metal Free Source of Carbon Monoxide” 67th *SERMACS 2015*. Poster Presentation
2. **McNitt, C. D.**; Popik V. V. “Oxa-Dibenzocyclooctyne (ODIBO: The Most reactive Cyclooctyne for Uncatalyzed Alkyne Azide Reactions” 65th *SERMACS 2013*. Poster Presentation
3. **McNitt, C. D.**; Popik, V. V. “Photochemical Generation of Oxa-Dibenzocyclooctyne (ODIBO): A Highly Reactive Cyclooctyne for Metal-Free Click Ligations” 245th *ACS National Meeting 2013*. Poster Presentation