

Christopher D. McNitt

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Technical Skills

- Multi-disciplinary and collaborative organic chemist with experience in synthesis and purification, photochemistry, surface functionalization, polymer chemistry, and drug delivery.
- Expert with following types of instrumentation NMR, UV-Vis, GC-MS, GC, HPLC, LCMS, FTIR, Fluorescence Spec., MS, DLS, SEM, and TEM.
- Proficient with Microsoft Office, OriginLab, and MestReNova.

Professional Experience

The University of Georgia

1/2/2017 – Present

Research Professional II

- Synthesize and analyze small molecules for CO release therapeutics.
- Investigating two-photon irradiation of compounds for CO release therapeutics and photo-click reactions.
- Lead 3 graduate students on their projects for development of new click reactions and their applications in protein-protein conjugated biocatalysts and labeling of biomolecules.
- Worked with pesticides and herbicides like diuron and atrazine to develop home detection kits in several types of water sources.
- Projects have resulted in 5 peer-reviewed publications so far.

The University of Georgia

8/1/2009 – 12/23/2016

Research Associate

- Designed and synthesized the fastest reacting cyclooctyne used in copper free click chemistry which led to commercialization.
- Investigated multiple cyclooctynes chemical properties and optimized their application parameters.
- Multidisciplinary research of photo-caged cyclooctynes and cyclooctynes with application in surface functionalization, RNA labeling, drug delivery, and radiolabeling with ^{18}F .
- Projects resulted in 9 peer-reviewed publications.

Education

University of Georgia, Athens, GA

12/2016

- Ph.D. Organic Chemistry: *Development and Application of Photo-Click Reagents for Spatial and Temporal Control of Strain-Promoted Alkyne-Azide Cycloadditions (SPAAC)*.

Florida State University, Tallahassee FL

5/2009

- B.S. Chemistry and Minor in Mathematics

Publications (Peer-Reviewed)

- 1) Wang, M.; **McNitt, C. D.**; Wang, H.; Ma, X.; Sarah, S. M.; Wu, Z.; Popik, V. V.; Li, Z. The Efficiency of ^{18}F Labeling of Prostate Specific Membrane Antigen Ligand via Strain-Promoted Alkyne-Azide Reaction: Reaction Speed vs. Hydrophilicity. *Chem. Commun.* **2018**. *Just Accepted*.
- 2) Boudjemline, 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) Bjerknes, 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) 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.
- 12) 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.
- 13) 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.
- 14) **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.

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.