



Exponent®
Engineering & Scientific Consulting

Jennifer Mazzone, Ph.D.

Managing Scientist | Polymer Science and Materials Chemistry
Natick
+1-508-903-4643 | jmazzone@exponent.com

Professional Profile

Dr. Mazzone specializes in formulation of high-performance paints, coatings, and sealants for architectural, industrial, and consumer applications and consults in all aspects of product development from concept through commercialization with an emphasis on failure analysis, compatibility testing, and accelerated aging studies. She has focused on silane-terminated polymers and siloxane chemistry for the development of high solids coatings with optimized rheological properties for building and construction product applications.

Dr. Mazzone's industrial experience also includes the development of aerosol and decorative effect paints. Trained as an organic chemist, Dr. Mazzone has expertise in design, synthesis, and characterization of small molecules for various uses such as, synthetic method development and medicinal applications. During her research, she has utilized a variety of characterization techniques, such as NMR spectroscopy, FTIR spectroscopy, and mass spectrometry. In addition, she is versed in purification techniques for complex mixtures, such as GC-MS, HPLC, and other chromatographic methods.

Prior to joining Exponent, Dr. Mazzone held positions in both academia and industry. As a lead scientist for GCP Applied Technologies, her research focused on moisture-curing elastomeric coatings to generate monolithic membranes for imparting air and vapor control within a building envelope for the building and construction industry. Prior to her time at GCP, she worked as a chemist for Rust-Oleum Corporation contributing to consumer products including aerosol-based coatings, decorative effect coatings, and light emitting coatings. Before her time in industry, Dr. Mazzone held a post-doctoral research fellowship at Johns Hopkins University studying monomeric and dimeric artemisinin-derivatives for antimalarial drug development.

Academic Credentials & Professional Honors

Ph.D., Chemistry, University of New Hampshire, 2011

B.A., Chemistry, Assumption College, 2006

LaMattina Family Graduate Fellowship in Chemical Synthesis 2011, 2010, & 2009

Licenses and Certifications

NACE - Certified Coating Inspector Level 1 Certification

Academic Appointments

Post-Doctoral Fellowship, Chemistry, Johns Hopkins University, 2011-2015

Prior Experience

Lead Scientist, GCP Applied Technologies, 2020-2021

R&D Chemist, GCP Applied Technologies, 2018-2020

R&D Chemist, Rust-Oleum, 2015-2018

Patents

U.S. Patent Application US20150031677 A1: Trioxane Thioacetal Monomers and Dimers and Methods of Use Thereof, January 2015 (Posner, G.H., Jacobine, A.M., Slack, R.D., Mazzone, J.R.)

Publications

Henderson, C.S., Mazzone, J.R., Moore, A.M., Zercher, C.K., Tandem homologation-acylation chemistry: Single and double homologation. *Tetrahedron*, 2021, 91, 132223.

Conyers, R.C., Mazzone, J.R., Siegler, M.A., Posner, G.H., Highly regiocontrolled and stereocontrolled syntheses of polysubstituted aminocyclohexanes: mild inverse-electron-demand Diels-Alder cycloadditions of electrophilic 2-pyridones. *Tet. Lett.*, 2016, 57, 3344-3348.

Conyers, R.C., Mazzone, J.R., Tripathi, A.K., Sullivan, D.J., Posner, G.H., Antimalarial chemotherapy: Orally curative artemisinin-derived trioxane dimer esters. *Bioorg. Med. Chem. Lett.* 2015, 25, 245-248.

Mazzone, J.R., Conyers, R.C., Tripathi, A.K., Sullivan, D.J., Posner, G.H. Antimalarial chemotherapy: Artemisinin-derived carbonates and thiocarbonates. *Bioorg. Med. Chem. Lett.*, 2014, 24, 2440-2443.

Conyers, R.C., Mazzone, J.R., Siegler, M.A., Tripathi, A.K., Sullivan, D.J., Mott, B.T., Posner, G.H., The survival times of malaria-infected mice are prolonged more by several new two-carbon-linked artemisinin-derived dimmer carbamates than by the trioxane drug artemether. *Bioorg. Med. Chem. Lett.* 2014, 24, 1285-1289.

Mazzone, J.R., Zercher, C.K., Syntheses of papyracillic acids: Application of the tandem chain extension-acylation reaction. *J. Org. Chem.* 2012, 77, 9171-9178.

Jacobine, A.M.; Mazzone, J.R.; Slack, R.D.; Tripathi, A.K.; Sullivan, D. J.; Posner, G. H., Malaria-infected mice live until at least day 30 after a new artemisinin-derived thioacetal thiocarbonate combined with mefloquine are administered together in a single, low, oral dose. *J. Med. Chem.* 2012, 55, 7892-7899.

Presentations

Mazzone, J.R., Zercher, C.K., Synthesis of spirofused cyclic ketals, Poster Presentation, 244th ACS National Meeting & Exposition, Philadelphia, PA, August 2012.

Mazzone, J.R., Zercher, C.K., Zinc-mediated chain extension reaction as an approach for the synthesis of papyracillic acid C. Oral Presentation, 240th ACS National Meeting & Exposition, Boston, MA, August 2010.

Mazzone, J.R., Zercher, C.K., Controlling the formation of beta-substituted gamma-keto esters via amino

derived precursors. Poster Presentation, 238th ACS National Meeting & Exposition, Washington DC, August 2009.

Additional Education & Training

Polymer Chemistry: Principles and Practice, ACS Short Course, Virginia Tech, 2019