




# Ashley B. Biernesser, Ph.D.

## Technology Specialist, Patent Agent

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## Overview

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### About Ashley

Ashley Biernesser, Ph.D., is a technology specialist and patent agent in the Boston office of Fish & Richardson P.C. She focuses her practice on patent prosecution in the chemical sciences. Dr. Biernesser earned her doctorate in chemistry from Boston College, where she developed iron-based catalysts for the redox-controlled synthesis of biodegradable polymers. Prior to her patent practice, Dr. Biernesser worked in the field as a chemist, where she developed resin products with applications in coatings, paints, and adhesives. Her areas of technical expertise include organic, inorganic, organometallic, and polymer chemistry, materials science, and catalysis.

### Focus Areas

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### Services

- Patent
- Patent Prosecution

### Industries

- Chemicals
- Life Sciences

## Education

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J.D. expected, University of Pittsburgh School of Law (2022)

Ph.D., Chemistry, Boston College (2017)

B.S., Chemistry, with minor in Mathematics, Duquesne University (2011)

## Insights

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### Publications

M.A. Ortuño, B. Dereli, K.R. Delle Chiaie, A.B. Biernesser, M. Qi, J.A. Byers, C.J. Cramer. "The Role of Alkoxide Initiator, Spin State, and Oxidation State in Ring Opening Polymerization of  $\epsilon$ -Caprolactone Catalyzed by Iron Bis(imino)pyridine Complexes." *Inorg. Chem.* 2018, 57, 2064-2071.

J.A. Byers, A.B. Biernesser, K.R. Delle Chiaie, A. Kaur, J.A. Kehl. "Catalytic Systems for the Production of Poly(lactic acid)." *Synthesis, Structure, and Properties of Poly(lactic acid)*, M.L. Di Lorenzo, R. Androsch, Eds.; Adv. Polym. Sci. 279; Springer International Publishing, 2018, 67-118. (book chapter)

K.R. Delle Chiaie, A.B. Biernesser, M.A. Ortuño, B. Dereli, D.A. Iovan, M.J.T. Wilding, B. Li, C.J. Cramer, J.A. Byers. "The Role of Ligand Redox Non-innocence in Ring-Opening Polymerization Reactions Catalysed by Bis(imino)pyridine Iron Alkoxide Complexes." *Dalton Trans.* 2017, 46, 12971-12980.

K.R. Delle Chiaie, L.M. Yablon, A.B. Biernesser, G.R. Michalowski, A.W. Sudyn, J.A. Byers. "Redox-Triggered Crosslinking of a Degradable Polymer." *Polym. Chem.* 2016, 7, 4675-4681.

A.B. Biernesser, K.R. Delle Chiaie, J.B. Curley, J.A. Byers. "Block Copolymerization of Lactide and an Epoxide Facilitated by a Redox Switchable Iron-Based Catalyst." *Angew. Chem. Int. Ed.* 2016, 55, 5251-5254.

A.B. Biernesser, B. Li, J.A. Byers. "Redox-Controlled Polymerization of Lactide Catalyzed by Bis(imino)pyridine Iron Bis(alkoxide) Complexes." *J. Am. Chem. Soc.* 2013, 135 (44), 16553-16560.

W.T. Eckenhoff, A.B. Biernesser, T. Pintauer. "Kinetic and Mechanistic Aspects of Atom Transfer Radical Addition (ATRA) Catalyzed by Copper Complexes with Tris(2-pyridylmethyl)amine." *Inorg. Chem.* 2012, 51, 11917-11929.