Exponent®
Engineering & Scientific Consulting


# Parker Morris, Ph.D.

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## Professional Profile

Dr. Parker Morris is a polymer scientist and trained chemist with expertise in the design, synthesis, and characterization of next-generation polymeric materials. His research and cross-disciplinary background include polymer synthesis, formulation and emulsion design, adhesive optimization, and sustainable materials. Dr. Morris consults on a variety of materials challenges using established and novel laboratory techniques and his deep understanding of structure-property relationships.

Dr. Morris has a robust background in polymer synthesis and characterization facilitating failure analysis across many soft material applications. His technical toolkit includes spectroscopy techniques such as nuclear magnetic resonance (NMR) and Fourier transform infrared (FTIR) spectroscopy. His thermomechanical background includes analysis by differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), dynamic mechanical analysis (DMA), polymer rheology, and mechanical characterization techniques such as peel, lap shear, and stress–strain analysis. These skills drive a data-driven approach to client solutions applicable across diverse materials systems.

Prior to joining Exponent, Dr. Morris earned his Ph.D. from the University of California, Santa Barbara where he studied degradable materials for plastic circularity as well as structure-property relationships and monomer design. His research earned Dr. Morris recognition as a National Science Foundation Graduate Research Fellow and a BioPACIFIC MIP Fellow.

## Academic Credentials & Professional Honors

Ph.D., Chemistry, University of California, Santa Barbara, 2026

B.S., Chemistry, University of Oregon, 2021

NSF-GRFP Fellow, 2022–2026

BioPACIFIC MIP Fellow 2022–2026

## Publications

**Selected Publications**


**Morris PT**, Olsen SC, Santiago M, Wang HM, Denton EH, Read de Alaniz JR, Bates CM, Albanese KR, Hawker CJ. From lipoic acid to 1,2-dithianes: expanding radical ring-opening to less-activated monomers such as vinyl acetate. J. Am. Chem. Soc. 2026; 148(9):9680–9687.


 

**Morris PT**, Albanese KR, Chapple N, Beech HK, Read de Alaniz JR, Bates CM. Cross-link location influences performance in acrylic pressure-sensitive adhesives. Macromolecules 2026; 59(5):2906–2913.

Lee K, Han S, **Morris PT**, Bates CM, Hawker CJ, Boyer C. Controlled synthesis of lipoate homopolymers via reversible addition–fragmentation chain transfer polymerization. J. Am. Chem. Soc. 2025; 147(42).

Czuczola M, Hossain MS, Shannon DP, **Morris PT**, Getty PT, Bates CM, Read de Alaniz JR, Hawker CJ. Telechelic dithiol copolymers as tunable building blocks for synthesizing multiblock materials. J. Polym. Sci. 2025; 63(3):759–765.

Okayama Y, **Morris PT**, Albanese K, Olsen S, Mori A, Read de Alaniz JR, Bates CM, Hawker CJ. Enhanced degradation of vinyl copolymers based on lipoic acid. J. Polym. Sci. 2025; 63(6):1345–1351.

**Morris PT**, Watanabe K, Albanese KR, Kent GT, Gupta R, Gerst M, Read de Alaniz JR, Hawker CJ, Bates CM. Scalable synthesis of degradable copolymers containing α-lipoic acid via miniemulsion polymerization. J. Am. Chem. Soc. 2024; 146(44):30662–30667.

Albanese KR, **Morris PT**, Roehrich B, Read de Alaniz JR, Hawker CJ, Bates CM. Selective electrochemical degradation of bottlebrush elastomers. J. Polym. Sci. 2024; 62(18):4326–4331.

Albanese KR, **Morris PT**, Read de Alaniz JR, Bates CM, Hawker CJ. Controlled-radical polymerization of α-lipoic acid: a general route to degradable vinyl copolymers. J. Am. Chem. Soc. 2023; 145(41):22728–22734.

Albanese KR, Okayama Y, **Morris PT**, Gerst M, Gupta R, Speros JC, Hawker CJ, Choi C, Read de Alaniz JR, Bates CM. Building tunable degradation into high-performance poly(acrylate) pressure-sensitive adhesives. ACS Macro Lett. 2023; 12(6):787–793.

Choi C, Okayama Y, **Morris PT**, Robinson LL, Gerst M, Speros JC, Hawker CJ, Read de Alaniz JR, Bates CM. Digital light processing of dynamic bottlebrush materials. Adv. Funct. Mater. 2022; 2200883.

## Presentations

**Morris PT**, Watanabe K, Albanese KR, Kent GT, Gupta R, Gerst M, Read de Alaniz JR, Hawker CJ, Bates CM. Scalable synthesis of degradable copolymers containing α-lipoic acid via miniemulsion polymerization. Materials Research Outreach Program (MROP) Annual Symposium, Santa Barbara, CA, USA, 2024.

**Morris PT**, Albanese KR, Chapple N, Beech HK, Read de Alaniz JR, Bates CM. Novel networks for next generation pressure sensitive adhesives. American Chemical Society (ACS) Spring 2024, New Orleans, LA, USA, 2024, Recognized for: PMSE General Papers Award.