

## Caitlin Sarah Sample

### PROFESSIONAL EXPERIENCE

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Assistant Professor of Chemistry <i>Arizona State University</i>	2023 – present
Postdoctoral Associate <i>University of Minnesota (Prof. Marc Hillmyer)</i>	2020 – 2023

### EDUCATION

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Ph.D., Materials <i>University of California, Santa Barbara (Prof. Craig Hawker &amp; Prof. Christopher Bates)</i>	2014 – 2020
S.B., Materials Science and Engineering & Applied Mathematics <i>Massachusetts Institute of Technology</i>	2010 – 2014

### PEER-REVIEWED PUBLICATIONS

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- (12) Zervoudakis, A. J.; **Sample, C. S.**; Peng, X.; Lake, D.; Hillmyer, M. A.; Ellison, C. J. Dihydroxy Polyethylene Additives for Compatibilization and Mechanical Recycling of Polyethylene Terephthalate/Polyethylene Mixed Plastic Waste. *ACS Macro Lett.*, **2022**, 11, 1396–1402. [10.1021/acsmacrolett.2c00601](https://doi.org/10.1021/acsmacrolett.2c00601)
- (11) **Sample, C. S.**; Kellstedt, E. A.; Hillmyer, M. A. Tandem ROMP/Hydrogenation Approach to Hydroxy-Telechelic Linear Polyethylene. *ACS Macro Lett.*, **2022**, 11, 608–614. [10.1021/acsmacrolett.2c00144](https://doi.org/10.1021/acsmacrolett.2c00144)
- (10) Seo, E.S.; Kwon, Y.; Dolinski, N. D.; **Sample, C. S.**; Self, J. S.; Bates, C. M.; Valentine, M. T.; Hawker, C. J. Three-Dimensional Photochemical Printing of Thermally Activated Polymer Foams. *ACS Appl. Polym. Mater.*, **2021**, 3, 4984–4991. [10.1021/acsapm.1c00726](https://doi.org/10.1021/acsapm.1c00726)
- (9) Robinson, L. R.; Self, J. L.; Fusi, A. D.; Bates, M. W.; Read de Alaniz, J.; Hawker, C. J.; Bates, C. M.\*; **Sample, C. S.\*** Chemical and Mechanical Tunability of 3D-Printed Dynamic Covalent Networks Based on Boronate Esters. *ACS Macro Lett.*, **2021**, 10, 857–863. [10.1021/acsmacrolett.1c00257](https://doi.org/10.1021/acsmacrolett.1c00257)  
\*Corresponding author
- (8) Dolinski, N. D.; Callaway, E. B.; **Sample, C. S.**; Gockowski, L. F.; Chavez, R.; Page, Z. A.; Eisenreich, F.; Hecht, S.; Valentine, M. T.; Zok, F. W. Hawker, C. J. Tough Multimaterial Interfaces Through Wavelength-Selective 3D Printing. *ACS Appl. Mater. Interfaces*, **2021**, 13, 22065–22072. [10.1021/acсами.1c06062](https://doi.org/10.1021/acсами.1c06062)
- (7) Self, J. L.; **Sample, C. S.**; Levi, A. E.; Li, K.; Xie, R.; Read de Alaniz, J.; Bates, C. M. Dynamic Bottlebrush Polymer Networks: Self-Healing in Super-Soft Materials. *J. Amer. Chem. Soc.*, **2020**, 142, 7567–7573 [10.1021/jacs.0c01467](https://doi.org/10.1021/jacs.0c01467)
- (6) **Sample, C. S.**; Lee, S.-H.; Li, S.; Bates, M. W.; Lensch, V.; Versaw, B. A.; Bates, C. M.; Hawker, C. J. Metal-Free Room-Temperature Vulcanization of Silicones via Borane Hydrosilylation. *Macromolecules*, **2019**, 52, 7244–7250. [10.1021/acs.macromol.9b01585](https://doi.org/10.1021/acs.macromol.9b01585)
- (5) **Sample, C. S.**; Lee, S.-H.; Bates, M. W.; Ren, J. M.; Lawrence, J.; Lensch, V.; Gerbec, J. A.; Bates, C. M.; Li, S.; Hawker, C. J. Metal-Free Synthesis of Poly(silyl ether)s under Ambient Conditions. *Macromolecules*, **2019**, 52, 1993–1999. [10.1021/acs.macromol.8b02741](https://doi.org/10.1021/acs.macromol.8b02741)

(4) **Sample, C. S.**; Goto, E.; Handa, N. V.; Page, Z. A.; Luo, Y.; Hawker, C. J. Modular Synthesis of Asymmetric Rylene Derivatives. *J. Mater. Chem. C*, **2017**, 5, 1052–1056. [10.1039/C6TC05139A](https://doi.org/10.1039/C6TC05139A)

(3) **Sample, C. S.**; Xu, A. K.; Swartz, S. M.; Gibson, L. J. Nanomechanical Properties of Wing Membrane Layers in the House Cricket (*Acheta domesticus* Linnaeus). *J. Insect Physiol.*, **2015**, 74, 10–15. [10.1016/j.jinsphys.2015.01.013](https://doi.org/10.1016/j.jinsphys.2015.01.013)

(2) Lee, H.; **Sample, C.**; Cohen, R. E.; Rubner, M. F. pH-Programmable Sequential Dissolution of Multilayer Stacks of Hydrogen-Bonded Polymers. *ACS Macro Lett.*, **2013**, 2, 924–927. [10.1021/mz400398s](https://doi.org/10.1021/mz400398s)

(1) Salem, I. B.; Guillermic, R.-M.; **Sample, C.**; Leroy, V.; Saint-Jalmes, A.; Dollet, B. Propagation of Ultrasound in Aqueous Foams: Bubble Size Dependence and Resonance Effects. *Soft Matter*, **2013**, 9, 1194–1202. [10.1039/C2SM25545F](https://doi.org/10.1039/C2SM25545F)

## PATENTS AND REPORTS

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de Pablo, J.; Hillmyer, M.; Buenaflor, J.; Chan, D.; Mysona, J.; Rauscher, P.; **Sample, C.**; Schneider, L. Sustainable Polymers Square Table Final Report. *ChemRxiv*, **2021**. [10.26434/chemrxiv-2021-1xjbc](https://doi.org/10.26434/chemrxiv-2021-1xjbc)

Segalman, R. A.; Hawker, C. J.; Clement, R.; Read de Alaniz, J.; Michenfelder-Schauser, N.; Richardson, P.; Nikolaev, A.; **Sample, C.**; Wang, H. Design of Ligand Attachment Chemistry for High Conductivity Polymer Electrolytes. US 2021/0284805 A1, filed Mar. 3, **2021**.

## SELECTED PRESENTATIONS

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*IPRIME Annual Meeting*, Minneapolis, MN, **2023**. Invited  
*American Chemical Society Fall Meeting*, Chicago, IL, **2022**. Contributed.  
*IPRIME Annual Meeting*, Minneapolis, MN, **2022**. Invited  
*American Chemical Society Spring Meeting*, Virtual, **2021**. Contributed.  
*American Chemical Society Spring Meeting*, Orlando, FL, **2019**. Contributed.  
*Materials Research Outreach Program*. Santa Barbara, CA, **2019**. Invited.  
*National Graduate Research Polymer Conference*. Minneapolis, MN, **2018**. Contributed.  
*American Chemical Society Spring Meeting*. New Orleans, LA, **2018**. Contributed.  
*American Chemical Society Fall Meeting*. Boston, MA, **2015**. Contributed.  
*Society for Integrative and Comparative Biology Annual Meeting*, Austin, TX, **2014**. Contributed.

## AWARDS

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Graduate Research Fellowship, <i>National Science Foundation</i>	2014–2019
Chancellor's Fellowship, <i>University of California</i>	2014–2019
Honorable Mention Oral Presentation, <i>NGRPC</i>	2018

## TEACHING EXPERIENCE

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Assistant Instructor, <i>CHEM 4223W, Polymer Lab</i>	Spring 2022
<ul style="list-style-type: none"> <li>Helped redesign curriculum for laboratory sessions</li> <li>Prepared and gave lecture on thermodynamics</li> <li>Held office hours to give students one-on-one feedback on writing</li> </ul>	

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| Mentorship Program for Aspiring Chemistry Teachers, <i>CHEM 4223W, Polymer Lab</i>   | Spring 2021 |
| <ul style="list-style-type: none"> <li>• Prepared and gave two lectures on characterization topics</li> <li>• Assisted with running laboratory sessions</li> <li>• Regularly met with MPACT cohort to discuss contemporary pedagogy</li> </ul> |             |
| Teaching Assistant, <i>MATRL 10, Materials in Society</i>  | Spring 2015 |
| <ul style="list-style-type: none"> <li>• Reviewed lectures and led discussion in weekly recitation sessions</li> <li>• Administered and graded quizzes</li> <li>• Held office hours to discuss topics and assignments with students</li> </ul> |             |

## OUTREACH AND SERVICE

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| Department of Chemistry Diversity and Inclusion Committee<br><i>Faculty Hiring Subcommittee</i>   | 2020–2022              |
| Evaluated departmental hiring process, reviewed recommendations from prior studies, and helped prepare/assess Best Practices document for improved DEI outcomes in faculty searches.                                |                        |
| Graduate Students for Diversity in Science<br><i>Reception Chair</i>  | 2014–2020<br>2018–2019 |
| Organized seminar receptions for invited speakers and visiting undergraduate students from California State University system (PUIs) to facilitate discussions about DEI efforts and graduate school opportunities. |                        |
| Family Ultimate Science Exploration   | 2015–2017              |
| Ran hands-on chemistry demonstrations during science outreach events at local middle schools and discussed academic research experiences with students and their families.  |                        |

## MENTORSHIP

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| Elizabeth Kellstedt, <i>University of Minnesota Undergraduate Student</i><br>Current position: Graduate Student, UNC Chapel Hill                                  | 2020–2022 |
| Valerie Lensch, <i>University of California, Santa Barbara Undergraduate Student</i><br>Current position: Graduate Student, Massachusetts Institute of Technology | 2017–2019 |
| Alexander Fusi, <i>Nordic Five Tech Masters Student</i><br>Current position: Graduate Student, Eindhoven University of Technology                                 | 2019      |
| Laksamon Boonchaiphruet, <i>Chulalongkorn University Undergraduate Student</i><br>Current position: Management Consultant, Accenture                              | 2018      |
| Brooke Versaw, <i>Texas A&amp;M University Undergraduate Student</i><br>Current position: Graduate Student, California Institute of Technology                    | 2017      |