


SAJJAD DADASHI SILAB

Graduate Research Assistant

 Department of Chemistry
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EDUCATION

2016-Present PhD in Chemistry

Department of Chemistry, **Carnegie Mellon University**

Research Area: *External Control in Atom Transfer Radical Polymerization*

Supervisor: Prof. Krzysztof Matyjaszewski

2013-2015 MSc in Chemistry

Department of Chemistry, **Istanbul Technical University**

Thesis Title: *Semiconductor Nanoparticles as Heterogeneous Photoinitiators for Conventional and Controlled Radical Polymerizations*

Supervisor: Prof. Yusuf Yagci

2007-2012 BSc in Polymer Engineering

Department of Polymer Engineering, **Amirkabir University of Technology**

Graduation Project: *Dispersion Polymerization for Synthesis of Large Polymeric Particles*

Supervisor: Prof. Hormoz Eslami

RESEARCH INTERESTS

Polymers and polymer chemistry, controlled radical polymerizations, photopolymerization and photochemistry, macromolecular engineering, complex macromolecular architectures

PUBLICATIONS

32. **S. Dadashi-Silab**, F. Lorandi, M. J. DiTucci, M. Sun, G. Szczepaniak, T. Liu, K. Matyjaszewski, Conjugated Cross-linked Phenothiazines as Green or Red Light Heterogeneous Photocatalysts for Copper-Catalyzed Atom Transfer Radical Polymerization, *J. Am. Chem. Soc.*, **2021**, 143, 9630–9638
31. M. R. Martinez, **S. Dadashi-Silab**, F. Lorandi, Y. Zhao, K. Matyjaszewski, Depolymerization of P(PDMS11MA) Bottlebrushes via Atom Transfer Radical Polymerization with Activator Regeneration, *Macromolecules*, **2021**, 54, 5526–5538
30. N. J. Shah, **S. Dadashi-Silab**, M. D. Galluzzo, S. Chakraborty, W. S. Loo, K. Matyjaszewski, N. P. Balsara, Effect of Added Salt on Disordered Poly(ethylene oxide)-Block-Poly(methyl methacrylate) Copolymer Electrolytes, *Macromolecules*, **2021**, 54, 1414–1424
29. F. Lorandi, S. Lathwal, M. R. Martinez, **S. Dadashi-Silab**, G. Szczepaniak, J. Cuthbert, Reflection on the Matyjaszewski Lab Webinar Series and the Rise of Webinars in Polymer Chemistry, *ACS Macro Lett.*, **2021**, 10, 54–59
28. G. Szczepaniak, M. Łagodzińska, **S. Dadashi-Silab**, A. Górczyński, K. Matyjaszewski, Fully Oxygen-Tolerant Atom Transfer Radical Polymerization Triggered by Sodium Pyruvate, *Chem. Sci.*, **2020**, 11, 8809–8816
27. **S. Dadashi-Silab**,* I.-H. Lee,* A. Anastasaki, F. Lorandi, B. Narupai, N. D. Dolinski, M. L. Allegranza, M. Fantin, D. Konkolewicz, C. J. Hawker, K. Matyjaszewski, Investigating Temporal Control in Photoinduced Atom Transfer Radical Polymerization, *Macromolecules*, **2020**, 53, 5280–5288

26. W. Yan, **S. Dadashi-Silab**, K. Matyjaszewski, N. D. Spencer, E. M. Benetti, Surface-Initiated Photoinduced ATRP: Mechanism, Oxygen Tolerance, and Temporal Control during the Synthesis of Polymer Brushes, *Macromolecules*, **2020**, *53*, 2801–2810
25. **S. Dadashi-Silab**, K. Matyjaszewski, Iron Catalysts in Atom Transfer Radical Polymerization, *Molecules*, **2020**, *25*, 1648 (*invited review*)
24. M. R. Martinez, J. Sobieski, F. Lorandi, M. Fantin, **S. Dadashi-Silab**, G. Xie, M. Olszewski, X. Pan, T. G. Ribelli, K. Matyjaszewski, Understanding the Relationship between Catalytic Activity and Termination in photoATRP: Synthesis of Linear and Bottlebrush Polyacrylates, *Macromolecules*, **2020**, *53*, 59–67
23. **S. Dadashi-Silab**, G. Szczepaniak, S. Lathwal, K. Matyjaszewski, Iodine-Mediated PhotoATRP in Aqueous Media with Oxygen Tolerance, *Polym. Chem.*, **2020**, *11*, 843–848
22. **S. Dadashi-Silab**, K. Matyjaszewski, Iron-Catalyzed Atom Transfer Radical Polymerization of Semifluorinated Methacrylates, *ACS Macro Lett.*, **2019**, *8*, 1110–1114
21. Y. Wang, **S. Dadashi-Silab**, F. Lorandi, K. Matyjaszewski, Photoinduced Atom Transfer Radical Polymerization in ab initio Emulsion, *Polymer*, **2019**, *165*, 163–167
20. **S. Dadashi-Silab**, F. Lorandi, M. Fantin, K. Matyjaszewski, Redox-Switchable Atom Transfer Radical Polymerization, *Chem. Commun.*, **2019**, *55*, 612–615
19. Y. Wang, **S. Dadashi-Silab**, K. Matyjaszewski, Photoinduced Miniemulsion Atom Transfer Radical Polymerization, *ACS Macro Lett.*, **2018**, *7*, 720–725
18. **S. Dadashi-Silab**, K. Matyjaszewski, Temporal Control in Atom Transfer Radical Polymerization Using Zerovalent Metals, *Macromolecules*, **2018**, *51*, 4250–4258
17. **S. Dadashi-Silab**, X. Pan, K. Matyjaszewski, Photoinduced Iron-Catalyzed Atom Transfer Radical Polymerization with ppm Levels of Iron Catalyst under Blue Light Irradiation, *Macromolecules*, **2017**, *50*, 7967–7977
16. Z. Wang, X. Pan, J. Yan, **S. Dadashi-Silab**, G. Xie, J. Zhang, Z. Wang, H. Xia, K. Matyjaszewski, Temporal Control in Mechanically Controlled Atom Transfer Radical Polymerization Using Low ppm of Cu Catalyst, *ACS Macro Lett.*, **2017**, *6*, 546–549
15. **S. Dadashi-Silab**, X. Pan, K. Matyjaszewski, Phenyl Benzo[b]phenothiazine as a Visible Light Photoredox Catalyst for Metal-Free Atom Transfer Radical Polymerization, *Chem. Eur. J.*, **2017**, *23*, 5972–5977
14. X. Pan, N. Malhotra, **S. Dadashi-Silab**, K. Matyjaszewski, A Simplified Fe-Based PhotoATRP Using Only Monomers and Solvent, *Macromol. Rapid Commun.*, **2017**, *38*, 1600651
13. **S. Dadashi-Silab**, S. Doran, Y. Yagci, Photoinduced Electron Transfer Reactions for Macromolecular Syntheses, *Chem. Rev.*, **2016**, *116*, 10212–10275
12. **S. Dadashi-Silab**, Y. Yagci, Copper(II) Thioxanthone Carboxylate as a Photoswitchable Photocatalyst for Photoinduced Click Chemistry, *Tetrahedron Lett.*, **2015**, *56*, 6440–6443
11. M. Kara, **S. Dadashi-Silab**, Y. Yagci, Phenacyl Ethyl Carbazolium as a Long Wavelength Photoinitiator for Free Radical Polymerization, *Macromol. Rapid Commun.*, **2015**, *36*, 2070–2075 (*featured on MaterialsViews*)
10. **S. Dadashi-Silab**, C. Aydogan, Y. Yagci, Shining a Light on an Adaptable Photoinitiator: Advances in Photopolymerizations Initiated by Thioxanthenes, *Polym. Chem.*, **2015**, *6*, 6595–6615
9. O. S. Taskin, **S. Dadashi-Silab**, J. Weber, B. Kiskan, Y. Yagci, Highly Efficient and Reusable Microporous Schiff Base Network Polymer as Heterogeneous Catalyst for CuAAC Click Reaction, *Macromol. Chem. Phys.*, **2015**, *216*, 1746–1753
8. O. Yetiskin,* **S. Dadashi-Silab**,* S. B. Khan, A. M. Asiri, Y. Yagci, Visible-Light-Induced Copper(I)-Catalyzed Azide-Alkyne Cycloaddition Initiated by Zinc Oxide Semiconductor Nanoparticles, *Asian J. Org. Chem.*, **2015**, *4*, 442–444
7. **S. Dadashi-Silab**, Y. Yar, H. Y. Acar, Y. Yagci, Magnetic Iron Oxide Nanoparticles as Long Wavelength Photoinitiators for Free Radical Polymerization, *Polym. Chem.*, **2015**, *6*, 1918–1922
6. **S. Dadashi-Silab**, B. Kiskan, M. Antonietti, Y. Yagci, Mesoporous Graphitic Carbon Nitride as a Heterogeneous Catalyst for Photoinduced Copper(I)-Catalyzed Azide-Alkyne Cycloaddition, *RSC Adv.*, **2014**, *4*, 52170–52173

5. **S. Dadashi-Silab**, M. A. Tasdelen, Y. Yagci, Photoinitiated Atom Transfer Radical Polymerization: Current Status and Future Perspectives, *J. Polym. Sci., Part A: Polym. Chem.*, **2014**, 52, 2878–2888
 4. **S. Dadashi-Silab**,* H. Bildirir,* R. Dawson, A. Thomas, Y. Yagci, Microporous Thioxanthone Polymers as Heterogeneous Photoinitiators for Visible Light Induced Free Radical and Cationic Polymerizations, *Macromolecules*, **2014**, 47, 4607–4614
 3. **S. Dadashi-Silab**, A. M. Asiri, S. B. Khan, K. A. Alamry, Y. Yagci, Semiconductor Nanoparticles for Photoinitiation of Free Radical Polymerization in Aqueous and Organic Media, *J. Polym. Sci., Part A: Polym. Chem.*, **2014**, 52, 1500–1507
 2. **S. Dadashi-Silab**, M. A. Tasdelen, B. Kiskan, X. C. Wang, M. Antonietti, Y. Yagci, Photochemically Mediated Atom Transfer Radical Polymerization Using Polymeric Semiconductor Mesoporous Graphitic Carbon Nitride, *Macromol. Chem. Phys.*, **2014**, 215, 675–681
 1. **S. Dadashi-Silab**, M. A. Tasdelen, A. M. Asiri, S. B. Khan, Y. Yagci, Photoinduced Atom Transfer Radical Polymerization using Semiconductor Nanoparticles, *Macromol. Rapid Commun.*, **2014**, 35, 454–459
- * Co-first authors | [h-index: 17](#) | [1500+ citations](#)

BOOK CHAPTERS

Y. Yagci, M. A. Tasdelen, B. Kiskan, M. Ciftci, **S. Dadashi-Silab**, O. S. Taskin, G. Yilmaz, Visible Light Induced Atom Transfer Radical Polymerization for Macromolecular Syntheses, in *Controlled Radical Polymerization: Mechanisms*, Eds. K. Matyjaszewski, B. S. Sumerlin, N. K. Tsarevsky, J. Chiefari, American Chemical Society: Washington, DC, **2015**; Vol. 1187, pp 145-158 (*peer-reviewed*)

CONFERENCE PRESENTATIONS

6. **S. Dadashi-Silab**, K. Matyjaszewski, Investigating Temporal Control in Atom Transfer Radical Polymerization, *Gordon Research Conference (GRC Polymers)*, Mount Holyoke College, South Hadley, MA, 2019
5. **S. Dadashi-Silab**, K. Matyjaszewski, External Control in Atom Transfer Radical Polymerization, *257th ACS National Meeting*, Orlando, FL, 2019 (*Excellence in Graduate Polymer Research Symposium*)
4. **S. Dadashi-Silab**, X. Pan, K. Matyjaszewski, Visible Light-Induced Atom Transfer Radical Polymerization, *254th ACS National Meeting*, Washington, DC, 2017 (*poster presentation*)
3. **S. Dadashi-Silab**, Y. Yagci, Copper(II)-thioxanthone: a photoswitchable catalyst for the copper(I)-catalyzed azide-alkyne cycloaddition, *International Symposium on Polymers from Renewable Resources*, 2015, Istanbul (*poster presentation*)
2. **S. Dadashi-Silab**, H. Bildirir, R. Dawson, A. Thomas, Y. Yagci, Microporous Thioxanthone Polymers as Heterogeneous Photoinitiators for Visible Light Induced Free Radical and Cationic Polymerizations, *5th EuCheMS Congress*, 2014, Istanbul (*poster presentation*)
1. **S. Dadashi-Silab**, H. Eslami, Synthesis of Large Poly(Methyl Methacrylate) and Various Nonspherical Shaped Particles via Dispersion and Seeded Dispersion Polymerization, *10th International Seminar on Polymer Science and Technology*, 2012, Tehran (*oral presentation by Dr. H. Eslami*)

RESEARCH EXPERIENCE

2016-Present Graduate Research Assistant, Matyjaszewski Polymer Group, Carnegie Mellon University

- *Controlled radical polymerizations*
 - *Photochemical and external control in ATRP*
- Supervisor: Prof. Krzysztof Matyjaszewski

2013-2015 Research Assistant, Yagci Polymer Research Group, Istanbul Technical University

- *Photoinduced conventional and controlled radical polymerization*
 - *Semiconducting nanoparticles as photocatalyst in polymerizations and photoinduced click chemistry*
- Supervisor: Prof. Yusuf Yagci

2011-2012 Undergraduate Research Assistant, Amirkabir University of Technology

- *Dispersion and seeded dispersion polymerization*

Supervisor: Dr. Hormoz Eslami

Skills

Analytical and lab skills:

Lab and research safety (certified by EH&S at CMU, MatyLab safety manager), NMR, UV- Vis, FTIP spectroscopy, GPC, DSC and PhotoDSC, optical and electron microscopy

Computer skills:

Predici, Microsoft Office, OriginLab, ChemDraw, graphic design and HTML coding (basics)

Language skills:

Turkish (native)
English (advanced)
Farsi (advanced)

AWARDS & PROFESSIONAL ACTIVITIES

Awards and fellowships:

- Excellence in Graduate Polymer Research Award (ACS 2019)
- Mellon College of Science Travel Award (2019)
- John and Nancy Harrison Legacy Graduate Fellowship in Chemistry and Biochemistry (2020)

Memberships:

- American Chemical Society (ACS), ACS Poly and PMSE Divisions
- Royal Society of Chemistry (RSC)
- American Association for the Advancement of Science (AAAS)

Service and outreach:

- Reviewer for scientific journals
- Co-organizer of the Matyjaszewski Lab Webinar Series 2020