

Seyyedamirhossein (Amir) Hosseini

Department of Chemistry and Biochemistry, University of South Carolina

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EDUCATION

Doctor of Philosophy in Chemistry (Ph. D., Analytical Chemistry)	Dec.20, 2020
Indiana University, Bloomington, IN	
Master of Science in Chemistry (M. Sc., Chemistry)	Jun 15, 2016
Ball State University, Muncie, IN	
Master of Science in Chemistry (M. Sc., Physical Chemistry)	May 27, 2012
University of Birjand, Birjand, Iran	
Bachelor of Science in Chemistry (B.Sc. Applied Chemistry)	May 10, 2010
University of Birjand, Birjand, Iran	

Professional Appointments

Assistant Professor of Chemistry and Biochemistry	Aug. 2023-Present
Postdoctoral Research Associate	Dec. 2020–May 2023
Joint appointment with the NSF-Center for Synthetic Organic Electrochemistry (CSOE) and the Chemistry Department, University of Utah, Salt Lake City, UT	

FELLOWSHIPS

College of Arts & Science Dissertation Research Fellowship	May 2020–Dec. 2020
Graduate Merit Fellowship	May 2015–May 2016

PUBLICATIONS

Accepted Manuscripts

(§denotes co-first author, *denotes co-corresponding author)

17 published manuscripts and two under review.

Before University of South Carolina

17) McKenzie, E. C. R.; **Hosseini, S.**; Tanwar, M.; Neurock, M.; Minter, S. D.; Jacobson, J. C.; Peters, D. G. Homogeneous Electron Transfer to Bromophenols through Catalytic EC' Mechanism, *J. Phys. Chem. C* **2023**, *127*, 17335-17344.

16) Moghiminia, S.; Farsi, H.; Zubkov, T.; **Hosseini, S.**; Behforouz, M.; Mahdizadeh, F. F.; Barekati, N. S.; Moghadam, N. G.; Irandoost, E.; Estes, J.; Li, Z. Revealing Electronic Structure of Nanostructured Cobalt Titanate via a Combination of Optical and Electrochemical Approaches Toward Water Splitting and CO₂ Reduction. *J. Chem. Technol. Biotechnol.* **2023**, *98*, 2257-2265.

15) **Hosseini, S.**; Beeler, J. A.; Sanford, M. S.; White, H. S. "Electroorganic Synthesis in Aqueous Solution via Generation of Strongly Oxidizing and Reducing Intermediates. *Faraday Discuss.* **2023**, *247*, 192-205.

14) **Hosseini, S.**; Janusz, J. N.; Tanwar, M.; Pendergast, A. D.; Neurock, M.; White, H. S. Oxidation by Reduction: Efficient and Selective Oxidation of Alcohols by the Electrocatalytic Reduction of Peroxydisulfate. *J. Am. Chem. Soc.* **2022**, *144*, 21103–21115.

13) Rudman, K. K.; Thapa, B.; Tapash, A.; Mubarak, M. S.; Raghavachari, K.; **Hosseini, S.**,* Minter, S. D.* Mechanistic Studies of the Electrocatalytic Carbon–Bromine Cleavage and Hydrogen Atom Incorporation from 1,1,1,3,3,3-Hexafluoroisopropanol. *J. Electrochem. Soc.* **2022**, *169*, 115502.

12) Rudman, K. K.;[§] **Hosseini, S.**;[§] Chatterjee, K.; Johnson, B.; Skrabalak, S. E. Sonoelectrosynthesis of Monodisperse Metal Nanoparticles. *Nanoscale* **2022**, *14*, 6471-6479.

11) McKenzie, E. C. R.;[§] **Hosseini, S.**;[§] Petro, A. G. C.; Rudman, K. K.; Gerroll, B. H. R.; Mubarak, M. S.; Baker, L. A.; Little, R. D. Versatile Tools for Understanding Electrosynthetic Mechanisms. *Chem. Rev.* **2022**, *122*, 3292-3335.

PUBLICATIONS **(cont'd)**

10) Barnes, J. T.; Adams, R.; Wagoner, E. R.; **Hosseini, S.**; Peters, D. G. Nickel(I) Salen-Catalyzed Reduction of 1,1,2-trichloro-1,2,2-Trifluoroethane (CFC-113): CO₂-Mediated Carbon–Fluorine Bond Cleavage. *J. Electroanal. Chem.* **2020**, *862*, 114002.

9) **Hosseini, S.**; Bishnu, T.; Medeiros, M. J.; Pasciak, E. M.; Pence, M.A.; Twum, E. B.; Karty, J. A.; Gazo, X.; Mubarak, M. S.; Raghavachari, K.; Peters, D. G. Electrosynthesis of a Biazurone by Controlled Dimerization of Flavone: Mechanistic Insight and Large-Scale Application. *J. Org. Chem.* **2020**, *85*, 10685-10669.

8) Farsi, H.; Moghiminia, S.; Raygan, M.; Dana, E.; **Hosseini, S.**; Behforooz, M.; Zubkov, T.; Lightcap, I. V.; Li, Z. Nanostructured Tungsten-Derived Copper for Hydrogen Evolution Reaction and Electroreduction of CO₂ in Sodium Hydroxide Solutions. *J. Phys. Chem. C* **2019**, *123*, 25941-25948.

7) **Hosseini, S.**; Bawel, S. A.; Mubarak, M. S.; Peters, D. G. Rapid and High-Yield Electrosynthesis of Benzisoxazole and Some Derivatives. *ChemElectroChem.* **2019**, *6*, 4318-4324. (*Invited paper for special issue of Organic Electrosynthesis*).

6) **Hosseini, S.**; Alsiraey, N.; Zubkov, T.; Trent, C.; Tye, J.; Bodappa, N.; Li, Z. Variable Growth and Characterizations of Monolayer Protected Gold Nanoclusters Based on Molar Ratio of Gold and Capping Ligands. *Langmuir* **2018**, *34*, 15517-15525.

5) **Hosseini, S.**; Farsi, H.; Li, Z. Peters, D. G. Nickel Tungstate (NiWO₄) Nanoparticles/Graphene Composites: Preparation and Photoelectrochemical Applications. *Semicond. Sci. Technol.* **2018**, *33*, 55008–55016.

4) **Hosseini, S.**; Madden, C.; Hihath, J.; Guo, S.; Zang, L.; Li, Z. Single-Molecule Charge Transport and Electrochemical Gating in Redox-Active Perylene Diimide Junctions. *J. Phys. Chem. C* **2016**, *120*, 22646-22654.

3) Zelati, A.; Amirabadizadeh, A.; **Hosseini, S.** A Facile Approach to Synthesize Dysprosium Oxide Nanoparticles. *Int. J. Ind. Chem.* **2014**, *5*, 69.

2) Farsi, H.; Moghiminia, S.; Roohi, A.; **Hosseini, S.** Preparation, Characterization and Electrochemical Behaviors of Bi₂O₃ Nanoparticles Dispersed in Silica Matrix. *Electrochim. Acta* **2014**, *148*, 93-103.

1) Farsi, H.; **Hosseini, S.** The Electrochemical Behaviors of Methylene Blue on the Surface of Nanostructured NiWO₄ Prepared by Coprecipitation Method. *J. Solid State Electrochem.* **2013**,

17, 2079-2086.

PRESENTATIONS/ PROFESSIONAL MEETINGS

Hosseini, S.; Beeler, J. A.; Sanford, M. S.; White, H. S. "Electroorganic Synthesis in Aqueous Solution via Generation of Strongly Oxidizing and Reducing Intermediates" *Electrosynthesis Faraday Discussion*, The Royal Society of Chemistry (RSC), Edinburgh, United Kingdom (July 2023).

Hosseini, S.; White, H. S. "Electrochemical Toluene Functionalization by Homogenous $S_2O_8^{2-}$ Reduction" *American Chemical Society (ACS)*, Indianapolis, IN. USA (March 2023).

Hosseini, S.; Janusz, J. N.; Tanwar, M.; Pendergast, A. D.; Neurock, M.; White, H. S. "Reductive Oxidation: Alcohol Oxidation at Reductive Potential. Poster Presentation" *Gordon Research Conference (GRC) in Electrochemistry*, Ventura, CA. USA (September 2022).

Hosseini, S.; Peters, D. G. "Electrosynthesis of 2,1-Benzisoxazole from *o*-Nitrobenzaldehyde" Oral Presentation, *233rd Electrochemical Society (ECS) Meeting*, Seattle, WA (June 2018).

Hosseini, S.; Li, Z.; Farsi, H. "Effect of Doping in Energy-Band Modification of Nickel Tungstate. Oral Presentation" *Central Regional Meeting of ACS (CERM)*, Covington, KY (April 2016).

Hosseini, S.; Li, Z. "Application of Tungstate as Novel Compounds for Solar Energy Harvesting" Oral Presentation, *228th Electrochemical Society (ECS) Meeting*, Phoenix, AZ (May 2015).

Hosseini, S.; Peters, D. G. "Photoelectrosynthesis of FDCA and Study of Band-Gap Effect on the Reaction Yield" Oral Presentation, *235th Electrochemical Society (ECS) Meeting*, Dallas, TX (May 2019).

INVITED TALKS

Hosseini, S.; White, H. S. "Reductive Oxidation of Alcohol and Mechanistic Studies via Scanning Electrochemical Microscopy (SECM)" Oral Presentation. *Invited by the Student Chapter of the Electrochemical Society (ECS) at University of Illinois Urbana-Champaign (UIUC), Virtual Event* (April 2022).

TEACHING EXPERIENCE

Advanced Analytical Chemistry (CHEM 729) University of South Carolina, SC	Aug.2023-Dec. 2023
Electrochemistry and Equilibria Teaching Assistant Indiana University, Bloomington, IN	Jan.2019–Dece.2019
Bioanalytical Chemistry Laboratory Instructor Indiana University, Bloomington, IN	Jan. 2019–May 2019
Electroanalytical Chemistry Teaching Assistant Indiana University, Bloomington, IN	Sept. 2018–Dec. 2018
Bioanalytical Chemistry Laboratory Teaching Assistant Indiana University, Bloomington, IN	Jan. 2018–May 2018
Chemical Measurements Laboratory Teaching Assistant Principal of Chemistry and Biochemistry Laboratory Indiana University, Bloomington, IN	Sept. 2017–Jan. 2018 Teaching Assistant Sept. 2016–May 2017

GUEST LECTURES

Hosseini, S. "Fundamentals of Electroorganic Reactions" Guest Lecture for Prof. Henry S. White's Advanced Electroanalytical Measurements course, University of Utah, Salt Lake City, UT. (March 2021).

AWARDS AND HONORS

College of Sciences (COS) Outstanding Postdoctoral Research Award	May 2022
Herman T. Briscoe Teaching Fellowship	Jan. 2019–May 2019
Travel Award for Velocity Conference	Jan. 2019
Associate Instructor Award	Jan. 2018–May 2018
Electrochemical Society Travel Award	May 2018
Aspire Travel Award	Apr. 2011–May 2015

LEADERSHIP and Service

Diversity, Equality, Inclusion Committee Representative, Department of Chemistry, University of Utah	Sept. 2022–Mar. 2023
Department of Chemistry, University of Utah, Curie Club	Sept. 2022–Mar. 2023
President of ECS Student Chapter at Indiana University	Sept. 2017–May 2018
Preparing Future Faculty Conference (PFFC)	Jan. 2016–Dec. 2019
Diversity, Equality, Inclusion Committee Representative, Department of Chemistry, Indiana University Bloomington	Jan. 2012–May 2015
Manuscript Peer Reviewer	May 2020–Present
The Electrochemical Society (ECS) Committee of Membership	Jan. 2019–Dec. 2021

PROFESSIONAL AFFILIATIONS

American Chemical Society (ACS) Member of the ACS Analytical Division	Jan. 2017–present
Electrochemical Society (ECS) Member of the Organic and Biological Electrochemistry Division	Feb. 2016–present
Society for Electroanalytical Chemistry (SEAC) Member	Feb. 2021–present

Research

Electroorganic Chemistry | Electrocatalysis | Electroanalytical Chemistry | Scanning Probe Electrochemical Microscopy (SECM and SECCM) | Energy | Sustainability | Environmental Chemistry