Min Zhang

Senior Instructor and Analytical Chemistry Lab Coordinator
University of South Carolina
Department of Chemistry and Biochemistry
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EDUCATION

Ph.D., Analytical Chemistry, August 2008
University of Houton, Houston, TX
Advisor: Karl M. Kadish, Distinguish Professor of Chemistry
Dissertation: Electrochemical and Spectroelectrochemical Studies: from Building Block of Porphyrin to Extended Porphyrin-like Molecules Linkage Conjugates

M.S., Analytical Chemistry, July 2004
Nanjing University, Nanjing, Jiangsu, China
Advisor: Shuping Bi, Professor of Chemistry
Thesis: Study on the Coordination between Al(III) and Folic Acid and the Electrochemical Behaviors of Sol-gel CAT Enzyme Modified Electrode with and without Al(III)

B.S., Chemistry, May 2001
Soochow University, Soochow, Jiangsu, China
Advisors: Yifeng Tu, Professor of Chemistry
Thesis: Nanoscale Sol-Gel Film Modified Electrode and Its Electrochemical Catalytic Performance

TEACHING EXPERIENCE

2011-present, University of South Carolina

2024-present, Senior Instructor of General Chemistry I (CHEM 111), General Chemistry II (CHEM 112), Analytical Chemistry Lab Coordinator (CHEM 321L and CHEM 322L)

2017-2024, Instructor of General Chemistry I (CHEM 111), General Chemistry II (CHEM 112), Quantitative Analysis (CHEM 321), Analytical Chemistry Lab Coordinator (CHEM 321L and CHEM 322L)

2017-2019, Instructor of General Chemistry I (CHEM 111), General Chemistry II (CHEM 112), Quantitative Analysis (CHEM 321), Instrumental Analysis Lab Coordinator (CHEM 621L)

2011-2017, Instructor of General Chemistry I (CHEM 111), General Chemistry II (CHEM 112), Quantitative Analysis/Analytical Chemistry (CHEM 321 and CHEM 322)

2004-2005, University of Houston

Graduate Teaching Assistant, Fundamentals of Chemistry Laboratory

2002-2003, Nanjing University

Graduate Teaching Assistant, Electroanalytical Chemistry Laboratory

SERVICES

2024-present, Chemistry Department Faculty Senator, University of South Carolina
2023-present, Safety Committee, Lab Improvement Committee, University of South Carolina

TECHNICAL SKILLS

Cyclic Voltammetry, Deferential Pulse Voltammetry, Controlled Potential Electrolysis, UV-visible Spectroscopy, Fluorescence Spectroscopy, Raman Spectroscopy, Laser-Induced Breakdown Spectroscopy, Fourier Transform Infrared Spectroscopy, Electron Spin Resonance Spectroscopy, Total Organic Carbon Measurements, and Gas Chromatography-Mass Spectrometry

HONORS AND AWARDS

2021 and 2024, Thank a Teacher Recognition
2005-2007, Robert A. Welch Foundation Predoctoral Fellowship
1997-2001, Soochow University People Fellowship

PUBLICATIONS

1. Sun, M.Q.; Wang, A.K.; **Zhang, M.**; Zou, S. L.; Wang, H., Interband and Intraband Hot Carrier-Driven Photocatalysis on Plasmonic Bimetallic Nanoparticles: A Case Study of Au–Cu Alloy Nanoparticles. *ACS Nanosci. Au* **2024**, *4* (5), 360–373.

2. Fang, Y. Y. ; Senge, M. O. ; Van Caemelbecke, E. ; Smith, K. M. ; Medforth, C. J. ; **Zhang, M.**; Kadish, K.M., Impact of Substituents and Nonplanarity on Nickel and Copper Porphyrin Electrochemistry: First Observation of a Cu-II/Cu-III Reaction in Nonaqueous Media. *Inorg. Chem.* **2014,** *53* (19), 10772- 10778.

3. Fu, Z.; **Zhang, M**.; Zhu, W. H.; Karnas, E.; Mase, K.; Ohkubo, K.; Sessler, J. L.; Fukuzumi, S.; Kadish, K. M., Electroreduction and Acid-Base Properties of Dipyrrolylquinoxalines. *J. Phys. Chem. A* **2012,** *116* (41), 10063- 10073.

4. Goswami, L. N.; Ethirajan, M.; Dobhal, M. P.; **Zhang, M.**; Missert, J. R.; Shibata, M.; Kadish, K. M.; Pandey, R. K., Remarkable Features of the McMurry Reaction Conditions in Dimerization of Formyl- and 2- Formylvinylpurpurinimides. Electrochemistry of Monomeric Ni(II) Purpurinimide and the Corresponding Dyads. *J. Org. Chem.* **2009,** *74* (2), 568-579.

5. **Zhang, M**.; Wenbo, E.; Ohkubo, K.; Sanchez-Garcia, D.; Yoon, D. W.; Sessler, J. L.; Fukuzumi, S.; Kadish, K. M., Electron-transfer and acid-base properties of a two-electron oxidized form of quaterpyrrole that acts as both an electron donor and an acceptor. *J. Phys. Chem. A* **2008,** *112* (7), 1633-1642.

6. Sessler, J. L.; Karnas, E.; Kim, S. K.; Ou, Z. P.; **Zhang, M**.; Kadish, K. M.; Ohkubo, K.; Fukuzumi, S., "Umpolung" Photoinduced Charge Separation in an Anion-bound Supramolecular Complex. *J. Am. Chem. Soc.* **2008,** *130* (46), 15256-+.

7. Liu, C.; Dobhal, M. P.; Ethirajan, M.; Missert, J. R.; Pandey, R. K.; Balasubramanian, S.; Sukumaran, D. K.; **Zhang, M**.; Kadish, K. M.; Ohkubo, K.; Fukuzumi, S., Highly Selective Synthesis of the Ring-B Reduced Chlorins by Ferric Chloride-Mediated Oxidation of Bacteriochlorins: Effects of the Fused Imide vs Isocyclic Ring on Photophysical and Electrochemical Properties. *J. Am. Chem. Soc.* **2008,** *130* (43), 14311-14323.

8. Hao, E.; **Zhang, M**.; E, W. B.; Kadish, K. M.; Fronczek, F. R.; Courtney, B. H.; Vicente, M. G. H., Synthesis and Spectroelectrochemistry of N-Cobaltacarborane Porphyrin Conjugates. *Bioconjugate Chem.* **2008,** *19* (11), 2171-2181.

9. Cuesta, L.; Karnas, E.; Lynch, V. M.; Sessler, J. L.; Kajonkijya, W.; Zhu, W. H.; **Zhang, M**.; Ou, Z. P.; Kadish, K. M.; Ohkubo, K.; Fukuzumi, S., (Pentamethylcyclopentadienyl)ruthenium pi-Complexes of Metalloporphyrins: Platforms with Novel Photo- and Electrochemical Properties. *Chem.-Eur. J.* **2008,** *14* (33), 10206-10210.

10. Zhang, F. P.; **Zhang, M**.; Cheng, J. J.; Yang, L.; Ji, M.; Bi, S. P., Direct voltammetric speciflc recognition of dopamine using Al-III-DA complexes at the hanging mercury drop electrode. *Anal. Sci.* **2007,** *23* (11), 1325- 1329.

11. E, W. B.; Ohkubo, K.; Sanchez-Garcia, D.; **Zhang, M**.; Sessler, J. L.; Fukuzumi, S.; Kadish, K. M., Electron-transfer oxidation properties of substituted Bi-, Ter-, and quaterpyrroles. *J. Phys. Chem. B* **2007,** *111* (17), 4320-4326.

12. Chen, Y. H.; Ohkubo, K.; **Zhang, M**.; Wenbo, E.; Liu, W. G.; Pandey, S. K.; Ciesielski, M.; Baumann, H.; Erin, T.; Fukuzumi, S. C.; Kadish, K. M.; Fenstermaker, R.; Oseroff, A.; Pandey, R. K., Photophysical, electrochemical characteristics and cross-linking of STAT-3 protein by an efficient bifunctional agent for fluorescence image-guided photodynamic therapy. *Photochem. Photobiol. Sci.* **2007,** *6* (12), 1257-1267.

13. Di, J. W.; **Zhang, M**.; Yao, K. A.; Bi, S. P., Direct voltammetry of catalase immobilized on silica sol-gel and cysteine modified gold electrode and its application. *Biosens. Bioelectron.* **2006,** *22* (2), 247-252.

14. Yang, L.; Yang, Z. B.; **Zhang, M**.; Ni, H. Y.; Ji, M.; Tang, Y. Z.; Yang, X. D.; Long, X. F.; Bi, S. P., The electrochemical behavior of alpha-ketoglutarate at the hanging mercury drop electrode in acidic aqueous solution and its practical application in environmental and biological samples. *Electroanalysis* **2004,** *16* (12), 1051-1058.

15. Di, J. W.; Zhang, F.; **Zhang, M**.; Bi, S. P., Indirect voltammetric determination of aluminum in environmental and biological samples in the presence of the aluminum chelating drugs. *Electroanalysis* **2004,** *16* (8), 644-649.

16. Di, J. W.; Bi, S. P.; **Zhang, M**., Third-generation superoxide anion sensor based on superoxide dismutase directly immobilized by sol-gel thin film on gold electrode. *Biosens. Bioelectron.* **2004,** *19* (11), 1479-1486.

17. Di, J. W.; Bi, S. P.; Yang, T. Y.; **Zhang, M**., Voltammetric determination of aluminum(III) using a reagentless sensor fabricated by sol-gel process. *Sens. Actuator B-Chem.* **2004,** *99* (2-3), 468-473.

18. Chen, X. J.; **Zhang, M**.; Yang, Y.; Tu, Y. F., Nano-scale sol-gel film modified electrode and its electrochemical catalytic performance. *Chin. J. Anal. Chem.* **2002,** *30* (8), 972-974.

SELECTED PRESENTATIONS

Zhang, M.; E, W.; Ohkubo, K.; Sanchez-Garcia, D.; Yoon, D.; Sessler, J. L.; Fukuzumi, S.; Kadish, M. K. (2008). Porphyrins and Supramolecular Assemblies Symposium "An Electronic Model for Porphyrins: A Two-Electron Oxidized Form of Quaterpyrrole that Acts as Both an Electron Donor and an Acceptor" of *the 213th Meeting of the Electrochemical Society*, Phoenix, AZ.

Zhang, M.; E, W.; Senge, O. M.; Kadish, M. K. (2007). Porphyrins and Supramolecular Assemblies Symposium "Electrochemistry and Spectroelectrochemistry of Substituted Ni(II) Porphyrins" of the *211th Meeting of the Electrochemical Society*, Chicago, IL.

E, W.; Ohkubo, K.; Sanchez-Garcia, D.; **Zhang, M**.; Sessler, J. L.; Fukuzumi, S.; Kadish, K. M. (2007). Porphyrins and Supramolecular Assemblies Symposium "Electron-transfer Oxidation Properties of Substituted Bi-, Ter- and Quaterpyrroles" of the *211th Meeting of the Electrochemical Society*, Chicago, IL.

Zhang, M.; E, W.; Hao, E.; Vicente, M. G. H.; Kadish, M. K. (2006). "Electrochemistry and Spectroelectrochemistry of Free-base Porphyrin-linked Bis(dicarbollyl) cobalt(III) Conjugates" of *the 62nd Southwest Regional Meeting of the American Chemical Society*, Houston, TX.