

Marzieh Dadkhah Aseman

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Education

- **Assistant Professor of Chemistry**, Tarbiat Modares University, Tehran, Iran, January **2021**.
- **Assistant Professor of Chemistry**, Kharazmi University, Tehran, Iran, February **2017**- January **2021**.
- **Postdoctoral Fellow**, Chemistry Department, Shiraz University, Iran, (January **2016**- February **2017**).
Project Title: The New Cycloplatinated Complexes as Fluorescence Bioimaging Probes.
- **Visiting Graduate Student** (Sabbatical leave), Chemistry Department, University of North Carolina at Chapel Hill, United States of America, February- October, **2014**. (Advisor: Prof. Michel R. Gagné)
Project Title: New catalyst development and investigations of fundamental organometallic chemistry.
- **Ph.D., Inorganic Chemistry** (Organometallic Field), Chemistry Department, Shiraz University, Iran, April **2015**. (Advisors: Prof. Mehdi Rashidi).
Project Title: Synthesis and Investigation of New Organoplatinum Complexes and Kinetic Isotope Effect in Organoplatinum(II) Oxidative Addition Reactions.
- **M.Sc., Inorganic Chemistry** (Organometallic Field), Chemistry Department, Shiraz University, Iran, September **2011**, (Advisor: Prof. Mehdi Rashidi).
Project Title: Oxidative Addition of MeI to a Binuclear Cyclometalated Organoplatinum(II) Complex.
- **B.Sc., Chemistry**, Chemistry Department, Shiraz University, Iran, (September **2005** - June **2009**)

Professional Experiences

- Catalytic enantioselective fluorination and cyclization of polyenes.
- New catalyst development for C-heteroatom bond formation.
- Synthesis, characterization and spectroscopic studies of inorganic and organometallic compounds.
- Kinetic isotope effect for study of the reaction mechanism.
- The oxidative addition and reductive elimination reactions of organometallic complexes.
- Synthesis of new platinum complexes with biological and DNA bonding properties.

Skills

- **Techniques:** Gas chromatography-mass spectroscopy (GC/MS), Fluorescence, UV-Vis and IR spectroscopy, Nuclear Magnetic Resonance (NMR), Density Functional Theory (DFT) and anaerobic techniques for synthesis (Schlenk line and Glove box).
- **Computer program:** Kaelidagraph, Gaussview, etc.

Honors and Awards

- First Class Honors, M.Sc. Degree, Shiraz University, Iran.
- First Place, Ph.D. Entrance Exam, Shiraz University, Iran.
- Winner of Iran Science Elites Federation (ISEF) Distinguished Researcher Awards, 2021.

Teaching Experiences

- Teaching of Advance Inorganic Chemistry, Physical Inorganic Chemistry, Organometallic Chemistry, Chemical Kinetics and Reaction Mechanisms, Inorganic Chemistry and General Chemistry.
- Lecturer of General Chemistry Laboratory, Organic Chemistry Laboratory and Inorganic Chemistry Laboratory.
- Instructor of B.Sc. student in Practice and Research course.

Publications

1. Oxidative Addition of Hypervalent Iodine Compound to Cycloplatinated(II) Complexes for the C-O Bond Construction: Effect of Cyclometalated ligands. **M. D. Aseman**, M. Nikraves, A. Abbasi, H. R. Shahsavari. *Inorg. Chem*, **2021**, *60*, 18822-18831.
2. Selectivity in Competitive Csp^2-Csp^3 versus Csp^3-Csp^3 Reductive Eliminations at Pt(IV) Complexes: Experimental and Computational Approaches, F. N. Hosseini, S. M. Nabavizadeh, R. Shoara, **M. D. Aseman**, M. M. Abu-Omar, *Organometallics*, **2021**, *40*, 2051–2063.
3. Collaboration of Cyclometalated Platinum Complexes and Metallic Nanoclusters for Rapid Discrimination and Detection of Biogenic Amines through a Fluorometric Paper-based Sensor , Z. Shojaeifard, M. M. Bordbar, **M. D. Aseman**, S. M. Nabavizadeh, B. Hemmateenejad. *Sens. Actuator B-Chem.*, **2021**, *334*, 129582.
4. Origami Paper Analytical Assay Based on Metal Complex Sensor for Rapid Determination of Blood Cyanide Concentration in Fire Survivors. A. Sheini, **M. D. Aseman**, M. M. Bordbar, *Sci. rep.*, **2021**, *11*, 1-11
5. Cytotoxicity, Anticancer, and Antioxidant Properties of Mono and bis-naphthalimido β -lactam Conjugates, N. Borazjani, M. Behzadi, M. D. Aseman, A. Jarrahpour, J. Ameri Rad, S. Kianpour, A. Iraj, S. M. Nabavizadeh, M. M. Ghanbari, G. Batta, E. Turos, *Med. Chem. Res.*, **2020**, *29*, 1355-1375.
6. Investigations of Antiproliferative and Antioxidant Activity of β -lactam Morpholino-1,3,5-triazine Hybrids. S. Ranjbari, M. Behzadi, S. Sepehri, **M. D. Aseman**, A. Jarrahpour, M. Mohkame, Y. Ghasemi, A. Akbarizadeh, S. Kianpour, Z. Atioğlu, N. Özdemir, M. Akkurt, S. M. Nabavizadeh, E. Turosk. *Bioorg. Med. Chem.*, **2020**, *28*, 115408.
7. Synthesis and Characterization of Organoplatinum (II) Complexes Containing Isocyanide Ligands: Molecular Docking Studies, H. R. Shahsavari, R. Babadi Aghakhanpour, **M. D. Aseman**, M. Babaghasabha. *Applied Chemistry*, **2019**, *14*, 41-54.
8. Three Pt-Pt Complexes with Donor-acceptor Feature: Anticancer Activity, DNA Binding Studies and Molecular Docking Simulation. P. Ashoo, R. Yousefi, S. M. Nabavizadeh, **M. D. Aseman**, S. Paziresh, A. Ghasemi, A. A. Saboury. *Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry - Anti-Cancer Agents)*, **2019**, *19*, 1762-1774.
9. Cycloplatinated(II) Derivatives of Mercaptopurine Capable of Binding Interactions with HSA/DNA. **M. D. Aseman**, S. Aryamanesh, Z. Shojaeifard, B. Hemmateenejad, S. M. Nabavizadeh. *Inorg. Chem*, **2019**, *58*, 16154–16170.
10. Design, Synthesis, DNA Binding, Cytotoxicity, and Molecular Docking Studies of Amonafide-Linked β -Lactam, J. Ameri Rad, A. Jarrahpour, **M. D. Aseman**, S. M. Nabavizadeh, R. Pournejati, H. R. Karbalaeei-Heidari, E. Turos. *ChemistrySelect*, **2019**, *4*, 2741 –2746.
11. Carbon–Oxygen Bond Forming Reductive Elimination from Cycloplatinated(IV) Complexes. **M. D. Aseman**, S. M. Nabavizadeh, F. Niroomand Hosseini, G. Wu and M. M. Abu-Omar. *Organometallics*, **2018**, *37*, 87–98.
12. Comparative study on the interaction of two binuclear Pt (II) complexes with human serum albumin: Spectroscopic and docking simulation assessments, M. Shahsavani, , S. Ahmadi, **M. D. Aseman**, S. M. Nabavizadeh, M. M. Alavianmehr, R. Yousefi, *Journal of Photochemistry & Photobiology, B: Biology*, **2016**, *164*, 323-334.

13. Anticancer activity assessment of two novel binuclear platinum (II) complexes, M. Shahsavani, S. Ahmadi, **M. D. Aseman**, S. M. Nabavizadeh, M. Rashidi, Z. Asadi, N. Erfani, A. Ghasemi, A. A. Saboury, A. Niazi, A. Bahaoddini, R. Yousefi, *Journal of Photochemistry & Photobiology, B: Biology*, **2016**, 161, 345–354.
14. Promoting C–C Bond Coupling of Benzyne and Methyl Ligands in Electron-Deficient (triphos)Pt–CH₃⁺ Complexes, **M. D. Aseman**, C. A. Roselli and M. R. Gagné, *Organometallics*, **2015**, 34, 2707–270.
15. C-H Reductive Elimination During the Reaction of Cycloplatinated (II) Complexes with Pyridine-2-thione: Kinetic Follow up, **M. D. Aseman**, S. M. Nabavizadeh, H. R. Shahsavari and M. Rashidi, *RSC Advances*, **2015**, 5, 22692–22702.
16. Secondary Kinetic Deuterium Isotope Effect in Oxidative Addition Reaction of Cycloplatinated(II) Complexes with MeI, P. Hamidizadeh, M. Rashidi, S. M. Nabavizadeh, M. Samaniyan, **M. D. Aseman**, A. M. Owczarzak, M. Kubicki, *Journal of Organometallic Chemistry*, **2015**, 791, 258-265.
17. Study of the interaction between two newly synthesized cyclometallated platinum(II) complexes and human serum albumin: Spectroscopic characterization and docking simulation, R. Yousefi, R. Mohammadi, A. Taheri-Kafrani, M. Shahsavani, **M. D. Aseman**, S. M. Nabavizadeh, M. Rashidi, *Journal of Luminescence*, **2015**, 159, 139–146.
18. DNA Binding and Anticancer Activity of Novel Cyclometalated Platinum (II) Complexes, R. Mohammadi, R. Yousefi, **M. D. Aseman**, S. M. Nabavizadeh and M. Rashidi, *Anti-Cancer Agents in Medicinal Chemistry*, **2015**, 15, 107-114.
19. Anion Dependent Switch in Reductive Elimination Diastereoselectivity, M. J. Geier, **M. D. Aseman**, M. R. Gagné, *Organometallics*, **2014**, 33, 4353-4356.
20. Study of Kinetic Isotope Effects in Oxidative Addition of Benzyl Bromide to Dimethylplatinum(II) Complexes, **M. D. Aseman**, M. Rashidi, S. M. Nabavizadeh and R. J. Puddephatt, *Organometallics*, **2013**, 32, 2593–2598.
21. Kinetics and Mechanism of Oxidative Addition of MeI to Binuclear Cycloplatinated Complexes Containing Biphosphine Bridges: Effects of Ligand, S. M. Nabavizadeh, **M. D. Aseman**, B. Ghaffari, M. Rashidi, F. Niroomand Hosseini and G. Azimi, *Journal of Organometallic Chemistry*, **2012**, 715, 73-81.

Selected Presentations

1. HSA and DNA binding mode of cyclometalated organoplatinum(II) complexes containing mercaptopurine ligands. **M. Dadkhah. Aseman**, Z. Shojaeifard, Sh. Aryamanesh, S. M. Nabavizadeh, 3th conference of protein and peptide science, Shiraz University, Shiraz, Iran, April **2018**.
2. Human Serum Albumin and DNA Binding Properties of a New Diplatinum Complex, Sh. Aryamanesh, **M. Dadkhah. Aseman**, S. M. Nabavizadeh, 19th Iranian Chemistry Congress, Shiraz University, Shiraz, Iran, February **2017**.
3. Affinity of a Cycloplatinated(II) Complex to Bovine Serum Albumin: A Spectroscopic Approach. P. Negaresh, **M. Dadkhah. Aseman**, S. M. Nabavizadeh and M. Rashidi. 19th Iranian Chemistry Congress, Shiraz University, Shiraz, Iran, February **2017**.
4. Oxidative Addition of MeI to a Binuclear Cyclometalated Organoplatinum(II) Complex, **M. Dadkhah. Aseman**, S. M. Nabavizadeh and M. Rashidi, 10th Ferrocene Colloquium, Braunschweig, Germany, February **2012**.

5. Study of Kinetic Isotope Effects in Oxidative Addition of Benzyl Bromide to Dimethylplatinum(II) Complexes, **M. Dadkhah. Aseman**, M. Rashidi and S.M. Nabavizadeh, 14th Iranian Inorganic Chemistry Conference, Sharif University, Tehran, Iran, August **2012**.

6. Oxidative Addition of benzylbromide to Organoplatinum Complexes, **M. Dadkhah. Aseman**, M. Rashidi and S. M. Nabavizadeh, 13th Iranian Inorganic Chemistry Conference, Kermanshah, Iran, September **2011**.

Languages

Persian: Native, English, Fluent.