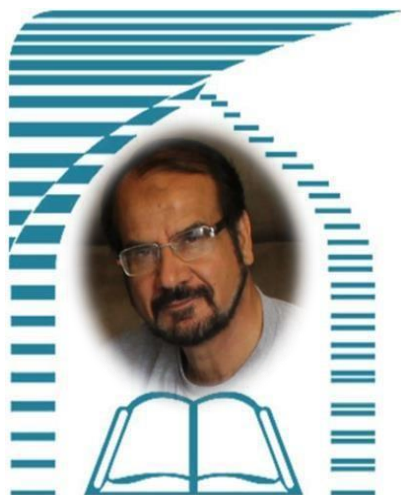




محمدزمان کسائی استاد شیمی آلی و نانوشیمی

دانشگاه تربیت مدرس،

تهران، جلال آل احمد

شماره تلفن: ۰۲۱-۸۲۸۸۳۴۴۱

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مقدمه

وجه تمایز گروه تحقیقاتی اینجانب در مقایسه با سایر گروه‌های فعال در حوزه شیمی، رویکرد چندبعدی و بین‌رشته‌ای به حل مسائل شیمیایی است که بر دو پایه‌ی روش‌های تجربی و محاسباتی استوار است و در عین حال، بر ذهنیت رشد (Growth Mindset) به عنوان یک اصل اساسی تکیه دارد. این رویکرد ریشه در پیشینه‌ی تحصیلی متنوع و میان‌رشته‌ای اینجانب دارد که شامل: کارشناسی در زیست‌شناسی و علوم پزشکی مقدماتی (Premed)، کارشناسی ارشد در فتوشیمی، دکتری در شیمی حدواسط‌های آلی فعال و دوره‌ی پسادکتری در شیمی سرطان می‌باشد. این گستره‌ی علمی موجب شده است که در عرصه آموزش، توفیق تدریس بیش از ۲۰ عنوان درس متنوع در مقاطع کارشناسی، کارشناسی ارشد و دکتری را داشته باشم. در حوزه پژوهش، تا تابستان ۱۴۰۴، تعداد ۲۴۵ مقاله علمی در ۷۰ نشریه معتبر ISI به چاپ رسانده‌ام، بیش از ۳۰۰ سخنرانی علمی در مجامع بین‌المللی ارائه کرده‌ام، حدود ۱۰ ثبت اختراع به ثبت رسانده‌ام، ۳ مقاله ترجمه و یک کتاب تألیف کرده‌ام. همچنین، افتخار هدایت و راهنمایی ۳۳ رساله دکتری، ۵۱ پایان‌نامه کارشناسی ارشد و یک پژوهشگر پسادکتری را داشته‌ام. علاوه بر فعالیت‌های دانشگاهی، همکاری‌های صنعتی گسترده‌ای در زمینه‌های نانو شیمی، فتوشیمی، شیمی نفت و پتروشیمی، شیمی سرطان، پلیمر و اسپکتروسکوپی انجام داده‌ام که منجر به ایجاد ارتباط مؤثر میان پژوهش‌های بنیادی و نیازهای صنعتی کشور شده است.

فعالیت های اجرایی

- معاون آموزشی دانشکده نفت آبادان ۶۷/۱۰/۱۹ - ۱۳۶۹/۰۷/۰۱
- معاون آموزشی دانشگاه صنعت نفت ۶۹/۰۷/۰۱ - ۱۳۷۰/۰۷/۰۱
- عضو فعال کمیته های ارتقا جذب و استخدام برنامه ریزی ارتباط با صنعت پروژه و تحقیق آموزشی تحقیقات و تالیفات طرح تمام وقتی اساتید بورس ها کارآموزی ورزشی، آزمایشگاه ها و کارگاه ها، کتاب دانشکده نفت و نیز عضو شورای کارشناسی ارشد دانشگاه صنعت نفت ۶۷/۱۰/۱۹ - ۶۹/۰۷/۰۱
- مدیر گروه شیمی دانشکده نفت آبادان ۱۳۶۹/۰۲/۰۸
- ارتقا سطح علمی دانشکده نفت آبادان و تبدیل آن به دانشگاه صنعت نفت (با ۹ دانشکده) پس از ۵۰ سال ۶۸/۰۵/۲۳ - ۶۸/۰۷/۰۱
- استاد نمونه ۶۷/۰۴/۱۲ - ۶۹/۰۷/۰۱
- استاد و پژوهشگر نمونه دانشگاه تربیت مدرس ۹۴/۱۲/۱۲
- مدیر گروه شیمی آلی دانشگاه تربیت مدرس ۹۴/۰۸/۰۲ - ۹۶/۰۷/۰۴
- فرصت مطالعاتی ۹۶/۰۷/۰۵ - ۹۷/۰۶/۲۳

تحصیلات دانشگاهی

پسا دکتري در زمینه سنتز نمونه رادیواکتیو عامل احتمالی سرطان روده بزرگ

"Synthesis of radioactive labeled unusual mutagenic polyenes, found in colon cancer patients, and their binding to DNA"

دانشگاه و پلی تکنیک ویرجینیا، بلکس برگ، ویرجینیا، آمریکا

Virginia Polytechnic Institute and State University, Blacksburg, VA, USA

<https://www.virginia.gov/agencies/virginia-polytechnic-institute-and-state-university/>

دکتري در زمینه حدواسط های فعال شیمی آلی شامل سنتز و محاسبات کوانتومی کاربن های C_9H_8

PhD in Organic Chemistry (Reactive Intermediates)

"Generation and characterization of conjugated monocyclic C₉H₈ carbenes"

دانشگاه مانتانا، میسولا، مانتانا، آمریکا

University of Montana, Missoula, MT, USA <https://10times.com/venues/university-of-montana>

کارشناسی ارشد در زمینه فتوشیمی استایرن و مشتقات آن

MS in Organic Photochemistry

"Photochemistry of β -methyl- β -nitrostyrene and its derivatives"

دانشگاه وسترن کنتاکی، بولینگ گرین، کنتاکی، آمریکا

Western Kentucky University, Bowling Green, KY, USA <https://www.wku.edu/>

کارشناسی در رشته های زیست و پزشکی مقدماتی

BS in Biology and Premedical Sciences

دانشگاه اورگان، یوجین، اورگان، آمریکا

University of Oregon, Eugene, OR, USA <https://www.uoregon.edu/>

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Patents

1. M.Z. Kassaei*, M. Ghavami, S.E. Motamedi., "Synthesis of nano-copper and nano-copper oxide via arc discharge in the open air", *Iranian Patent* 007689, **2006**, Tehran, Iran.
2. M. Z. Kassaei*, M. Ghavami, A. Cheshmekhane., "Synthesis of neuro-nano- nets (NNN) via arc discharge in the open air", *Iranian Patent* 005865, **2006**, Tehran, Iran

3. M. Z. Kassae*, M. Ghavami, M. Majdi., "Synthesis of nano grape clusters of dihydroxy acetone dimmer", *Iranian Patent* 005252, **2006**, Tehran, Iran.
4. M. Z. Kassae*, A. Mikhak, M. Faizian., "Synthesis of compound nano-zeolite fertilizer with nano-hydroxyapatite", *Iranian Patent* 100278, **2016**, Tehran, Iran.
5. M. Z. Kassae*, A. Mikhak., "Recyclable nano $\text{Fe}(\text{OH})_3$ /Zeolite in efficient phosphate removal from water", *Iranian Patent* 100279, **2015**, Tehran, Iran.
6. Kassae, M. Z.; Ashenagar, S.; Shabani, I.; Mohamadi, M. **2018**, International Classification of Patent: A61K 67/8; A61K 00/8.

Chemistry Courses Taught

PhD level

- Advanced NMR
- Photochemistry
- Synthetic Methods in Organic Chemistry
- New Topics in Organic Chemistry (Nanotechnology; Computational Chemistry; Mas Advanced NMR Spectroscopy;
- Industrial Chemistry;
- Organic Reactive Intermediates

MS level

- Advanced Organic Chemistry
- Molecular Spectroscopy I
- Organic Synthesis
- Petrochemicals and their Technology
- Petroleum Chemistry
- Physical Organic Chemistry

BS level

- General Chemistry I & II
- Organic Chemistry I, II & III
- Polymer Chemistry

Graduate students supervised

Ph.D. Theses Supervised

1. "Computational study of Cu, Ag and Au as antioxidants and a glance at the mechanism of Diels-Alder reaction involving carbenes", B. Alipour, July **2024**, Tarbiat Modares University.
2. "Capture of CO₂ by novel vinylidenes at theoretical levels", S. Soroudi, February **2023**, Tarbiat Modares University.
3. "Catalytic Synthesis of Desired Organic Compounds via Selected Functionalized Magnetic Nanoparticles", F. Nasser, January **2024**, Tarbiat Modares University.
4. "Catalytic Synthesis of Desired Organic Compound via Selected Functionalized Magnetic Nanoparticles", N. Abedini, **2023**, Tarbiat Modares University.
5. "Computational scrutiny on a few novel triplet silylenes", N. Soleimani Purlak, August **2022**, Tarbiat Modares University.
6. "Study on new plumbylenes and novel phenolic antioxidants at theoretical levels", N. Mohebi, January **2021**, Tarbiat Modares University.
7. "Experimental scrutiny and theoretical investigations on controversial "Vitamin B17 " plus a computational study on a new brand of cyclic conjugated germylene", S. Safaei, June **2021**, Tarbiat Modares University.

8. "Theoretical study of new silylenes", M. Ayoubi Chianeh, July **2020**, Tarbiat Modares University.
9. "A theoretical reach for unreachable germylenes and synthesis of a nano-composite *via* [vitamin C / titanium dioxide / zinc oxide]", S. Ashenagar, June **2020**, Tarbiat Modares University.
10. "Novel diaminocarbenes, vinylidenes, phosphinidenes and reaction of selected carbenes with CO₂ by DFT", N. Khorshidvand, October **2019**, Tarbiat Modares University.
11. "Computational and experimental study of some cholesterol drugs and review of divalent group 14 element compounds", A.A. Ahmadi, April **2019**, Tarbiat Modares University.
12. "The effect of nano silicon dioxide and chitosan nanoparticles on some agronomic characteristics of wheat (*Triticum aestivum* L.) and barley (*Hordeum vulgare* L.) under late season drought stress", F. Behboudi, April **2018**, Tarbiat Modares University.
13. "Synthesis and catalytic applications of mesoporous silica nanoparticles in selected organic reactions", Z. Nasresfahani, September **2017**, Tarbiat Modares University.
14. "Synthesis of selected organo nanocomposites of silver and their applications in detergents, electric cables, and construction materials", M. Miranzadeh, July **2016**, Tarbiat Modares University.
15. "A theoretical quest for stable carbenes and experimental employment of nano ZnO synthesis, plus using a nano Ag complex in water treatment" B.N. Haerizade, December **2014**, Tarbiat Modares University.
16. "Synthesis and characterization of organic based nano catalyst and mass spectral distinction between chiral alcohols under achiral conditions", E. Eidy, August **2014**, Tarbiat Modares University.
17. "Synthesis of nano Fe₃O₄ and TiO₂ and their catalytic applications in selected thermal and photochemical reactions", M. Ghavami, April **2014**, Tarbiat Modares University.
18. "Synthesis of metal oxide nanoparticles anchored by natural products as reusable catalysts in organic reactions", R. Mohammadi, September **2014**, Tarbiat Modares University.
19. "Synthesis of nano-metalic oxides and their application in the synthesis of selenides and polymer nanocomposites", E. Motamedi, September **2012**, Tarbiat Modares University.
20. "Theoretical studies on silylenes, cyclacenes and nanotubes of silicon", H. Zandi, March **2012**, Tarbiat Modares University.
21. "Investigation of metal oxide nano catalysts in synthesis of heterocyclic compounds", H. Masrouri, June **2011**, Tarbiat Modares University.

22. "Synthesis of zinc oxide nanoparticles and its applications in multicomponent reactions", F. Movahedi, March **2011**, Tarbiat Modares University.
23. "A computational study on the structure and characteristics of carbenes and their catalytic action in organic reactions", M. Ghambarian, February **2011**, Tarbiat Modares University.
24. "Radiation synthesis of silver nanoparticles in organic stabilizers and their antibacterial activities", A. Akhavan, January **2010**, Tarbiat Modares University.
25. "Reaching for the characteristics of specific nano rings, nanoribbons and nanotubes *via* computations", H. ArefRad, February **2010**, Tarbiat Modares University.
26. "Arc discharge synthesis, characterization and application of metal nanoparticle and theoretical studies on nano rings and group 14 compounds", F. Buazar, October **2009**, Tarbiat Modares University.
27. "Study of selected organic reactive intermediate in groups 14&15 and synthesis of nano tungsten particles", S. Soleimani Amiri, February **2009**, Tarbiat Modares University.
28. "Computational studies on the selected carbenes and their heavier group 14 analogues", S.M. Musavi, September **2006**, Tarbiat Modares University.
29. "Study of reaction and photo-reaction of olefins, nitro olefins and the related theoretical computations", E. Vessally, September **2005**, Tarbiat Modares University.
30. "Investigation of the steric and electronic effects on the structural and energetic properties of selected organic compounds", S. Arshadi, January **2005**, Tarbiat Modares University.
31. "Syntheses and theoretical studies on the specific biological and pharmacological compounds", A. Bekhradnia, December **2005**, Tarbiat Modares University.
32. "Structural analysis and estimation of HTPB using PM3 calculations and comparing with experimental", M.H. Hosseinzadeh-Amir Khizi, June **1995**, Tarbiat Modares University.
33. "*ipso*-Nitration of selected aromatic compounds", M. Hashemi Talkhonche, **1995**, Tarbiat Modares University.

M.S. Theses Supervised

1. "Preparation and characterization of an oxamide functionalized magnetic nanocatalyst and its application in suzuki cross-coupling reactions" A. Daniali, **July 2022**, Tarbiat Modares University.
2. "Application of enantiomerically blind electron impact mass spectroscopy in distinction between enantiomers and chemical education", A. Mojtahedi, March **2019**, Tarbiat Modares University.
3. "Comparison between steric effects on dithia carbenes, silylenes, germylenes, stanylenes and plumbenes at DFT", K. Rahmi, October **2019**, Tarbiat Modares University.
4. "Design and synthesis of new organocatalysts and their employment in selected organic reactions", A. Mousavi, **2018**, Tarbiat Modares University.
5. "Synthesis and applications of novel Cu(II) coated magnetic gum Arabic nanoparticles in coupling, oxidation, and multicomponent reactions", A. Farrokhi, September **2017**, Tarbiat Modares University.
6. "Synthesis and production of recyclable nano-adsorbants for purification of water", M.S. Doryab, March **2017**, Tarbiat Modares University.
7. "Preparation and Synthetic Applications of Selected Nanocatalysts over Organic-Inorganic Supports", M. Nejati Shendi, February **2017**, Tarbiat Modares University.
8. "Nanotechnology and conservation of stone monuments of the cultural heritage; (case study: pasargad and perspolis world heritage sites)", M. Haydari, **2017**, Tarbiat Modares University.
9. "Reaching for new N-heterocyclic carbenes and their intractions with carbon nanotubes", N. Rezaee, December **2015**, Tarbiat Modares University.
10. "Synthesis and characterization of magnetic chitosan nano-composites for removal of heavy metals and distinction between geometrical isomers *via* mass spectroscopy", M. Mirabedini, December **2014**, Tarbiat Modares University.
11. "Synthesis and characterization of organic based nano-catalyst and mass spectral distinction between chiral alcohols under achiral conditions", E. Eidi, September **2014**, Tarbiat Modares University.

12. "New perspectives at the interface of nano-organic chemistry and endodontics: Reaching for biocompatible and permeable irrigants", Sh. Hosseini, December **2014**, Tarbiat Modares University.
13. " Comparative Investigation of Dielectric Properties of Ethylene Propylene Rubber (EPR) Composites Containing Metallic, Ceramic Nanoparticles or their Combinations ", M. Sadroddini, January **2014**, Tarbiat Modares University
14. "The effects of iron oxide nano particles on differentiation of mice mesenchymal stem cell to osteoblast", L. Dini, December **2013**, Azad University.
15. "Synthesis of graphenic nanocomposites and their comparison with Fe and Al nanoparticles in removing toxic arsenic from water", S. Poursadeghi, September **2013**, Tarbiat Modares University.
16. "Applications of aluminum nanoparticles and salts of gallium and aluminum in organic synthesis", M. Ghader, December **2012**, Tarbiat Modares University.
17. "The synthesis of modified nano silica catalysts by coordinated ligands with metals and their applications in organic synthesis ", M. Mohadesi, March **2012**, Tarbiat Modares University.
18. "Effects of alfa substituents on stability and reactivity of acyclic, cyclic and cyclic unsaturated silylene", Z. Sadate Najafi, January **2011**, Tarbiat Modares University.
19. "Nitrate decontamination using quartz supported Fe nanoparticles", A. Mikhak, March **2010**, Tarbiat Modares University.
20. "Syntheses and characterizations of silica based heterogeneous nano catalysts and their applications in specific multicomponent reactions", S. Amirnejat, March **2010**, Tarbiat Modares University.
21. "Syntheesis of silver nanoparticles by chemical reduction method and the investigation of different effective parameters on the size and shape of nanoparticles", M. Mohammadkhani, June **2010**, Tarbiat Modares University.
22. "Investigation of catalytic effect of TiO₂ nanoparticles in condensation reactions", R. Mohammadi, March **2010**, Tarbiat Modares University.
23. "Synthesis of nano iron oxide and theoretical studies on the selected organic compounds " A. Cheshmehkani, Winter **2008**, Tarbiat Modares University.
24. "Synthesis of nickel nanoparticles and study on selected organic species ", M. Majdi, January **2008**, Tarbiat Modares University.

25. "Computational study of the steric effects on thiepin/benzene sulfide tautomerization and benzene-fused compounds", M.R. Momeni Taheri, September **2008**, Tarbiat Modares University.
26. "Computational study of the rearrangements of silacyclohexadienylidenes to silabenzene and pyridine-carbene tautomerization", F. AlipourShakib, September **2008**, Tarbiat Modares University.
27. "Synthesis of metallic nanoparticles and energy calculation of some organic compounds", M. Ghavami, February **2007**, Tarbiat Modares University.
28. "Synthesis of copper and copper oxide nanoparticles and theoretical studies on the selected organic compounds", E. Motamedi, November **2007**, Tarbiat Modares University.
29. "Theoretical or experimental study on special organic species", N. Jalalimanesh, September **2006**, Tarbiat Modares University.
30. "Racemizations of cyclic conjugated non-planar allenes, C_9H_7X , through their corresponding cyclic planar carbenes", M. Koohi, February **2005**, Tarbiat Modares University.
31. "Quantum chemical studies on interstellar carbene homologues and solvent effect on HTPB dynamics", F. Buazar, September **2005**, Tarbiat Modares University.
32. "Theoretical studies on X-Ge-CN and Ge-CP germynes ($X = H, F, Cl$ and Br)", M. Ghambarian, December **2005**, Tarbiat Modares University.
33. "Investigation of the steric and electronic effects on some selected organic compounds", B.N. Haerizadeh, February **2004**, Tarbiat Modares University.
34. "Solvent effects on dynamics of HTPB and a new method for synthesis of oxidants", M. Hattami, May **2004**, Tarbiat Modares University.
35. "Synthesis of new oxidant for selective oxidation of alcohols to the corresponding aldehydes and ketones", H. Sajjadi-Ghotbabadi, February **2003**, Tarbiat Modares University.
36. "Synthesis of new oxidants for selective oxidation of organic compounds", S.Z. Sayyed Alangi, December **2003**, Tarbiat Modares University.
37. "Investigation of the steric effects on the structural and energetic properties of selected organic compounds", M. Beigi, October **2002**, Tarbiat Modares University.

38. "Synthesis of derivatives of furazan", I. Kahsari, February **2001**, Tarbiat Modares University.
39. "Chemistry of FP-12 a potential (cause of colon cancer)", M. Sadeghi, August **1999**, Shahroud Azad University.
40. "Recovery and purification of glycerol from wastewater", A. Hadi, Winter**1998**, Tarbiat Modares University.
41. "The chemistry of FP-12 (A potential inducer of colon cancer)", M.J. Rezaov, Summer **1998**, Tarbiat Modares University.
42. "The study of HTPB degradation *via* NMR relaxation times T_1 (^{13}C)", A. Fazli Nia, Winter **1998**, Tarbiat Modares University.
43. "The molecular structural relationship of FP-12 and related compounds to their ionic solvolysis *via* quantum chemical calculations", R. Nowrozy, Summer **1997**, Islamic Azad University, Shahrood branch.
44. "Quantum Chemical analysis of the free radical solvolysis of a possible inducer of colon cancer and related compounds", M. Amanbaee, Summer **1997**, Islamic Azad University, Shahrood branch.
45. "Analysis of industrial gases using GC/MS methods", M. Basam, Spring **1995**, Tarbiat Modares University.
46. "An NMR Relaxation study of PBD dynamics", H. Heydari, Fall **1995**, Tarbiat Modares University.
47. "Study of HTPB *via* NMR and computer", F. Goranlou, January **1995**, Tarbiat Modares University.
48. "*ipso*-Nitration of selected aromatics", M. Hashemi Talkhonche, January **1995**, Tarbiat Modares University.
49. "Separation and identification of components of jet fuel GC/MS and NMR", F. Gholamian, August **1994**, Tarbiat Modares University.
50. "The effect of FeCl_2 on the rate of Photo rearrangement of *p*-nitrostyrene", M.A. Naseri, October **1994**, Tarbiat Modares University.
51. "The analyses of aromatic components of petroleum (Maroon-3) by chromatography and NMR", F.A. Salhe-Rad, March **1988**, Tehran University.

Seminars (Selected 245 papers)

1. Ahmadi, A.A.; **Kassaee, M.Z.**; Fatahi, A.R., "Planar stacking interactions in the binding of type II statins to HMG-CoA reductase", **2018**, *20th Iranian Chemistry Congress*.
2. Khorshidvand, N.; Eidi, E.; **Kassaee, M.Z.**, "Synthesis and characterization of DCC supported on magnetic nanoparticles a highly active and recyclable catalyst for the synthesis of polyhydroquinolines", **2018**, *20th Iranian Chemistry Congress*.
3. Eidi, E.; **Kassaee, M.Z.**; Mousavi Mashhadi, S.A., "Magnetic niacin sulfonated a highly efficient and green catalyst for synthesis of alpha-aminonitrils under solvent-free conditions", **2018**, *1st Iranian Catalyst Conference (ICC)*.
4. Safaie, S.; **Kassaee, M.Z.**, "Factors affecting on the acidic site of prunasin in gas phase, water and DMSO", **2018**, *20th Iranian Chemistry Congress*.
5. Ayoubi, M.; **Kassaee, M.Z.**, "Computational study of polycyclic unsaturated silylenes and their allenic analogs", **2018**, *20th Iranian Chemistry Congress*.
6. Mohebbi, N.; **Kassaee, M.Z.**, "Substituent effects on thermodynamic parameters of new plumblylenes at DFT", **M.Z., 2018**, *20th Iranian Chemistry Congress*.
7. Khorshidvand, N.; **Kassaee, M.Z.**, "Electronic effects on normal and abnormal acyclic cyclic-saturated and cyclic-unsaturated diaminocarbenes at DFT", **2018**, *20th Iranian Chemistry Congress*.
8. Nasreesfehiani, Z.; **Kassaee, M.Z.**; Eidi, E., "Ionic liquid functionalized mesoporous silica nanoparticles (pmimFeCl₄/MSNs) efficient nanocatalyst for solventfree synthesis of NN-diarylsbstituted formamidines", **2018**, *20th Iranian Chemistry Congress*.
9. Eidi, E.; **Kassaee, M.Z.**, "Synthesis of quinazolines over recyclable Fe₃O₄SiO₂-APTES-Fe₃ nanoparticles a green efficient and solvent-free protocol", **2018**, *20th Iranian Chemistry Congress*.
10. **Kassaee, M.Z.**; Rahmati, S., "N-heterocyclic germylenes in focus", **2018**, *20th Iranian Chemistry Congress*.
11. Behboody, F.; Sarvestany, Z.; **Kassaee, M.Z.**; Modares, A.M.; Soroushzadeh, A., "Usage of chitosan nanoparticles for improvement of barley Yield under drought stress", **2017**, *6th International Conference on Ultra-fine Grained and Nano-Structured Materials*.

12. Behboudy, F.; Tahmasbisarvestani, Z.; **Kassaee, M.Z.**; Modaressanavi, S.A.M.; Soroushzade, A., "Phytotoxicity of chitosan and SiO₂ nanoparticles to seed germination of wheat (*Triticum Aestivum* L.) and barley (*Hordeum Vulgare* L.) plants", **2017**, *Notulae Scientia Biologicae*.
13. Mirabedini, M.S.; **Kassaee, M.Z.**; Poorsadeghi, S., "Novel magnetic chitosan hydrogel film cross-linked with glyoxal as an efficient adsorbent for removal of toxic Cr (VI) from water", **2017**, *ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING*.
14. **Kassaee, M.Z.**; Khorshidvand, N., "Steric effects on acyclic diaminocarbenes vs. their abnormal cyclic saturated and unsaturated analogues at DFT", **2017**, *National Congress on Chemistry and Nano-Chemistry from Research to Naional Development*.
15. Nasr-e Esfehany, Z., **Kassaee, M.Z.**, "Cu- immobilized mesoporous silica nanoparticles Cu₂MSNs-(CO₂)₂ as an efficient nanocatalyst for one-pot synthesis of pyrazolopyranopyrimidines in water", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
16. **Kassaee, M.Z.**; Khorshidvand, N., "Electronic effects on normal vs abnormal Tetrazol-5-ylidenes at DFT", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
17. Behboudy, F.; Tahmasebisarvestany, Z.; **Kassaee, M.Z.**; Modaressanavi, S.A.M.; Soroushzade, A., "Effect on germination parameters and early growth in barley (*Hordeum vulgare* L.) seeds exposed to chitosan and silicon dioxide (SiO₂) nanoparticles", **2017**, *Program Setting of The 1st International and 5th National Conference on Organic vs. Conventional Agriculture*.
18. Mousavi-e Mashhadi, S.A.; **Kassaee, M.Z.**, Eidi, E., "Magnetic Cu nanoparticles supported on chitosan as an efficient catalyst for A₃-coupling synthesis of propargylamines", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
19. Behboudy, F.; Sarvestany, Z.; **Kassaee, M.Z.**, Sanavi, A.M.; Soroushzadeh, A., "Assay-dependent phytotoxicity of chitosan and silicon dioxide nanoparticles to germination of wheat (*Triticum Aestivum* L.)", **2017**, *INN International Conference/Workshop on Nanotechnology and Nanomedicine*.
20. Behboudy, F.; Sarvestany, Z.; **Kassaee, M.Z.**; Modares, A.M.; Soroushzadeh, A.; Ahmadi, S.B., "Effect of chitosan and SiO₂ nanoparticles on germination of wheat (*Triticum Aestivum* L.)", **2017**, *1st National Conference on Future of Engineering and Technology*.
21. Froukhi-e Davoodabady, A.; Eidi, E.; Nasr-e Esfehany, Z.; **Kassaee, M.Z.**, "Nano-crystalline TiO₂ via green combustion synthesis as an efficient and reusable catalyst for preparation of 1, 8-dioxooctahydroxanthenes and 1, 8-dioxodecahydroacridines", **2017**, *19th Iranian Chemisry Cogress*.

22. Eidi, E.; **Kassaee, M.Z., 2017**, "Green synthesis of primary secondary and tertiary amides through oxidative amidation of methyl groups with amine hydrochlorides over recyclable $\text{CoFe}_2\text{O}_4\text{NPs}$ ", *19th Iranian Chemistry Congress*.
23. Mousavi-e Mashhadi, S.A.; Mohamadi, R.; Eidi, E.; **Kassaee, M.Z., 2017**, "Chitosan synergistically enhanced by successive Fe_3O_4 and silver nanoparticles as a novel green catalyst in one-pot three-component synthesis of tetrahydrobenzo xanthene-11-ones", *19th Iranian Chemistry Congress*.
24. Ayoubi, M.; **Kassaee, M.Z., 2017**, "Cyclic conjugated silylenes and their allenic analogues at DFT", *The 25th Iranian Seminar of Organic Chemistry*.
25. **Kassaee, M.Z.**; Safaie, S., "Enhancement of laetrile acidity via long range hydrogen bondings in gas phase water and DMSO", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
26. Mohebi, N.; **Kassaee, M.Z.**, "N-heterocyclic plumblylenes (NHPbs) at theoretical levels", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
27. Eidi, E.; **Kassaee, M.Z.**, "Gallic acid functionalized magnetic nanoparticles convenient and green approach for the synthesis of alpha-aminonitriles under solvent free conditions", **2017**, *The 25th Iranian Seminar of Organic Chemistry*.
28. Eidi, E.; **Kassaee, M.Z.**; Nasr-e Esfehiani, Z., "Mesoporous nanoparticles in an efficient solvent-free transamidation of carboxamides with amines an exhibition of a green recyclable nanocatalyst", **2017**, *CN₂₀₁₇ 6th International Conference on Nanotechnology*.
29. Mousavi-e Mashhadi, S.A.; **Kassaee, M.Z.**; Eidi, E.; Nasr-e Esfehiani, Z., "Impregnated copper on magnetically recyclable nano-organocatalyst and its application for the O-arylation of phenols with aryl halides", **2017**, *CN₂₀₁₇ 6th International Conference on Nanotechnology*.
30. Nejati-e shandi, M.; **Kassaee, M.Z.**, "Mesoporous silica-coated Fe_3O_4 magnetic nanoparticles as an efficient and recyclable nanocatalyst for synthesis of diversified indolyl 4H-chromenes", **2016**, *24th Iranian Seminar of Organic Chemistry*.
31. Doryab, M.S.; **Kassaee, M.Z.**, "Computational insights into the structure and electronic characteristics of guanabenz: An antihypertensive drug", **2016**, *24th Iranian Seminar of Organic Chemistry*.
32. Nejati-e Shandi, M.; **Kassaee, M.Z.**; Khalilian-e Brojeni, M.H., "Computational insights into the structure and electronic characteristics of guanfacine an antihypertensive drug", **2016**, *1st Iranian Medical Chemistry Seminar (ICMS)*.

33. Miranzade, M.; **Kassaee, M.Z.**; Khataie, B., "Efficient adsorption of crystal violet from water by magnetic nanocomposite of Ag nps doped on tio₂/fe₃o₄ go", **2016**, *4th International Congress Nanoscience and Nanotechnology*.
34. Eidi, E.; **Kassaee, M.Z.**; Nasr-e Esfehiani, Z., "Synthesis of 2,4,5-trisubstituted imidazoles over reusable CoFe₂O₄ nanoparticles an efficient and green sonochemical process", **2016**, *24th Iranian Seminar of Organic Chemistry*.
35. Nasr-e Esfehiani, Z.; **Kassaee, M.Z.**; Eidi, E., "Homopiperazine sulfamic acid functionalized mesoporous silica nanoparticles (MSNs-HPZ-SO₃H) as an efficient catalyst for one-pot synthesis of 1-amidoalkyl-2-naphthols", **2016**, *24th Iranian Seminar of Organic Chemistry*.
36. Rezaee, N.; **Kassaee, M.Z.**; Ahmadi, A.A., "Characterization of N-heterocyclic carbenes at DFT", **2015**, *Iranian Seminar of Organic Chemistry*.
37. Rezaee, N.; **Kassaee, M.Z.**; Ahmadi, A.A., "Synthesis, characterization and catalytic of functionalized magnetically recoverable organic-inorganic hybrid nanoparticles in one-pot synthesis of primary amides and propargylamines", **2015**, *Iranian Seminar of Organic Chemistry*.
38. Nasresfahani, Z.; **Kassaee, M.Z.**, "Mesoporous silica nanoparticles as a catalyst for one-pot multicomponent synthesis of polyhydroquinolines and hantzsch 1,4-dihydropyridines", **2015**, *Iranian Seminar of Organic Chemistry*.
39. Rezaee, N.; Kassaee, M.Z., Ahmadi, A.A., "Steric effects on nucleophilicity of abnormal tetrazol-5-yldenes at DFT", **2015**, *Iranian Seminar of Organic Chemistry*.
40. Ashenagar, S.; **Kassaee, M.Z.**, "A computational search for novel triplet germynes", **2015**, *23rd Iranian Seminar of Organic Chemistry*.
41. Ahmadi, A.A.; **Kassaee, M.Z.**, "Effects of au and oxygen on deactivation of organic free radicals a DFT study on the possible effects of gold and physical exercises on cancer", **2015**, *23rd Iranian Seminar of Organic Chemistry*.
42. Nasr-e Esfehiani, Z.; **Kassaee, M.Z.**, "Mesoporous silica nanoparticles in an efficient solvent free green synthesis of acridinediones", **2015**, *23rd Iranian Seminar of Organic Chemistry*.
43. Eidi, E.; **Kassaee, M.Z.**, "Fabrication of CoFe₂O₄/chitosan and its application as a magnetically recyclable nano-organocatalyst in green synthesis of 5,5-disubstituted hydantoins under solvent-free conditions", **2015**, *23rd Iranian Seminar of Organic Chemistry*.
44. Mirabedini, M.S.; **Kassaee, M.Z.**, "Recyclable epichlorohydrin free magnetic chitosan hydrogel film in removal of Cr VI from water", **2015**, *250th ACS National Meeting*.

45. **Kassaee, M.Z.**; Eidi, E., "Green synthesis of gold nanoparticles in the present of chitosan/polyvinylpyrrolidone/TiO₂ under UV irradiation", **2014**, *Iranian Seminar of Organic Chemistry*.
46. Miranzadeha, M.; Sadroddinib, M.; Razzaghi-Kashani, M.; **Kassaee, M.Z.**, "Novel antibacterial silver/ethylene propylene rubber nanocomposites", **2014**, *Iranian Seminar of Organic Chemistry*.
47. **Kassaee, M.Z.**; Eidi, E.; Rasouli, S., "Combustion synthesis of nano-crystalline TiO₂", **2014**, *Iranian Seminar of Organic Chemistry*.
48. Mirabedini, M.; **Kassaee, M.Z.**, "Amino acid-assisted super paramagnetic CoFe₂O₄ nanostructures as a green and reversible adsorbent for removal of CR (VI) from water", **2014**, *Iranian Seminar of Organic Chemistry*.
49. Mohammadi, R.; Eidi, E.; **Kassaee, M.Z.**, "Fe₃O₄@CS-SO₃H NPS As an efficient and reusable magnetic catalyst for green synthesis of aminochromenyl phosphonates", **2014**, *Iranian Seminar of Organic Chemistry*.
50. Hosseini, Sh.; **Kassaee, M.Z.**, "Synthesis and antimicrobial effects of a novel nano composite: NaOCl@ nano chitosan", **2014**, *Iranian Seminar of Organic Chemistry*.
51. Miranzadeh, M.; **Kassaee, M.Z.**, "Silver nanopowder *via* arc discharge as an effective catalyst for synthesis of propargylamines through CH activation", **2014**, *Iranian Seminar of Organic Chemistry*.
52. Nasr Esfahani, Z.; **Kassaee, M.Z.** "Mesoporous silica nanoparticles as a catalyst for one-pot multicomponent synthesis of polyhydroquinolines and hantzsch 1,4-dihidropyridines", , **2014**, *Iranian Seminar of Organic Chemistry*.
53. Hosseini, Sh.; **Kassaee, M.Z.**; Bolhari, B., "Research of the antibacterial effect of the novel nano structure: CHX coated by Ag with help of ascorbic acid", **2014**, *International congress of iranian association of endodontists* .
54. Koohi, M.; **Kassaee, M.Z.**, "Hammick germynes: A density functional perspective", **2013**, *Iranian Seminar of Organic Chemistry*.
55. **Kassaee, M.Z.**; Poorsadeghi, S., "Quantitative removal of as (v) from water by iron nanoparticles, produced by arc discharge", **2013**, *Iranian Seminar of Organic Chemistry*.
56. Amirnejat, S.; **Kassaee, M.Z.**, "Fe (II) supported on silica nanoparticles: an efficient and recyclable catalyst for one-pot synthesis of benzopyranopyrimidines", **2013**, *Iranian chemistry congress*.

57. **Kassaee, M.Z.**; Koohi, M., "Effects of B-, and N-on fullerenes reactivity with N-heterocyclic carbenes at DFT", **2013**, *Iranian chemistry congress*.
58. Ghavami, M.; **Kassaee, M.Z.**, "Visible-light photocatalytic removal of rhodamine B from water over TiO_2 @ graphene oxide nanocomposite", **2013**, *Seminar of chemistry and environment*.
59. **Kassaee, M.Z.**; Koohi, M., "Alternating carbon-germanium cyclacenes at DFT", **2013**, *Iranian chemistry congress*.
60. Miranzadeh, M.; **Kassaee, M.Z.**, "Silver nano powder via arc-discharge: A highly efficient catalyst for 4-nitrophenol reduction", **2013**, *Seminar of chemistry and environment*.
61. Ghavami, M.; **Kassaee, M.Z.**, "Activation barrier for nitrogen-inversion in 2-phenyl-1-tosylaziridine at DFT", **2013**, *Iranian seminar of organic chemistry*.
62. **Kassaee, M.Z.**; Motamedi, E., "Preparation and Properties of Magnetite-graphene oxide/polystyrene Nanocomposite", **2012**, *Proceedings of the 4th International Conference on Nanostructures (ICNS4)*.
63. **Kassaee, M.Z.**; Motamedi, E., "Magnetite-graphene oxide hybrid nanoparticles loaded on polystyrene", **2011**, *2nd International Conference on Chemistry and Chemical Engineering (ICCCE)*.
64. Ghavami, M., **Kassaee, M.Z.**, "Nano Fe_3O_4 as a new reusable catalyst for the selective acetylation of alcohols and phenols under solvent free conditions", **2011**, *2nd International Conference on Chemistry and Chemical Engineering (ICCCE)*.
65. **Kassaee, M.Z.**; Ghavami, M., "Anchoring copper II acetylacetonate over Fe_3O_4 nanoparticles as a reusable catalyst for synthesis of n-cyclohexyle-3 4-dihydro-3-phenylquinoxalin-2-amine", **2011**, *International Conference on Nanoscience and Technology (ICONSAT 2012)*.
66. **Kassaee, M.Z.**; Movasegh, B.; Motamedi, E., "Synthesis of diselenides over Fe_3O_4 nanoparticles in the open air", **2011**, *Nternational Conference on Nanoscience and Technology (ICONSAT 2012)*.
67. **Kassaee, M.Z.**; Arefzadeh, H., "Structure and aromaticity as functions of length and width for silicon carbon vs carbon nanotubes at DFT", **2010**, *3th Conference of Nanostructures*.
68. Boazar, F.; Homady, H.; **Kassaee, M.Z.**, "Triplet germlyenes vs triplet silylenes vs triplet carbenes Theoretical predictions", **2010**, *17th Organic Chemistry Conference*.
69. **Kassaee, M.Z.**; Zandi, H., "Six-membered p-heterocyclic silylenes a survey of stability", **2010**, *17th Organic Chemistry Conference*.

70. **Kassaee, M.Z.;** Shakib, F., "Monoheteroatom substituted cyclopropylcarbenes a computational study", **2010**, *17th Organic Chemistry Conference*.
71. **Kassaee, M.Z.;** Ghambarian, M., "Computational predictions of enantioselectivity in asymmetric n-heterocyclic carbene-catalyzed intermolecular cross-benzoin condensation", **2010**, *17th Organic Chemistry Conference*.
72. **Kassaee, M.Z.;** Ghambarian, M., "Comparison of nucleophilicity of stable singlet carbenes in organic reactions", **2010**, *17th Organic Chemistry Conference*.
73. **Kassaee, M.Z.;** Masroury, H.; Movahedi, F., "One-pot green procedure for biginelli reaction catalyzed TiO₂ nanoparticles", **2010**, *17th Organic Chemistry Conference*.
74. **Kassaee, M.Z.;** Movahedi, F.; Masroury, H., "Synthesis of α -amino phosphonates catalyzed with ZnO nanoparticles under solvent-free condition", **2010**, *17th Organic Chemistry Conference*.
75. **Kassaee, M.Z.;** Momeni, M., "Stabilization of dicyclopropylene toward stable heteroatom-free singlet dialkyl carbenes", **2010**, *17th Organic Chemistry Conference*.
76. **Kassaee, M.Z.;** Motamedi, E.; Majdi, M., "A theoretical quest for boranorcaradienes with more stability than their corresponding borepins", **2010**, *17th Organic Chemistry Conference*.
77. **Kassaee, M.Z.;** Shaykh, N.; Akhavan, N., "Synthesis of Ag/PMMA nanocomposite by gamma", **2010**, *3th Conference of Nanostructures*.
78. **Kassaee, M.Z.;** Mohamadkhani, M.; Kalate, Kh.; Abdolmaleki, P., "Ag/PMMA nanocomposite through reduction of silver ions by butylated hydroxytoluene", **2010**, *3th Conference of Nanostructures*.
79. **Kassaee, M.Z.;** Motamedi, S.E.; Rahnamaie, R.; Mikhak, A., "Nitrate elimination from water by Fe nanoparticles fabricated by two methods Reduction vs arc fabrication", **2010**, *3th Conference of Nanostructures*.
80. **Kassaee, M.Z.;** Alipoorshakib, F.; Momenitahery, M.R.; Ghanbarian, M.; Mousavi, S.M., "Azacyclohexa2,5-dienylidene a potential core for a new brand of N-heterocyclic carbenes", **2009**, *Iranian Conference of Organic Chemistry*.
81. **Kassaee, M.Z.;** Momenitahery, M.R.; Alipoorshakib, F.; Ghanbarian, M.; Mousavi, S.M., "A theoretical investigation on dimethylsilylene and its di amino and di phosphino analogues effects of cyclization and unsaturation on the stability and multiplicity", **2009**, *Iranian Conference of Organic Chemistry*.

82. **Kassaee, M.Z.;** Zandi, H.; Akbari, J.; Ashjaie, "Novel catalytic oxidation of multiwall carbon nanotubes via H_2O_2 /hetero polyacid ($\text{H}_3\text{PW}_{12}\text{O}_{40}$)", **2009**, *Iranian Conference of organic chemistry*.
83. **Kassaee, M.Z.;** Buazar, F., "Impact of media and current on the Al nanoparticle fabrication", **2008**, *International Conference on Nano Science and Nano Technology*.
84. **Kassaee, M.Z.;** Masroury, H.; Movahedi, F., "One pot four component synthesis of tetrasubstituted pyrroles", **2008**, *15th Iranian Conference of Organic Chemistry*.
85. **Kassaee, M.Z.;** Boazar, F., "A coparative theoretical investigation on novel triplet germynes", **2008**, *15th Iranian Conference of Organic Chemistry*.
86. **Kassaee, M.Z.;** Tahert, M.R.; Alipoor F.; Ghambarian, M.; Mousavi, S.M., "Benzocycloheptatrienes Benzazepines and bensoxepines stabilities valence tautomerization and ring inversion at theoretical levels", **2008**, *15th Iranian Conference of Organic Chemistry*.
87. **Kassaee, M.Z.;** Akhavan, A.; Shaikh N., "Gamma radiation formation of stable silver nanoparticles", **2008**, *2th Conference on Nanostructures*.
88. **Kassaee, M.Z.;** Bouazar, F.; Momenitahery, M.R., "Doping carbon nanoring with N-BN-and P-atoms: A theoretical study", **2008**, *2th Conference on Nanostructures*.
89. **Kassaee, M.Z.;** Motamedi, S.E., "Cu nanoparticles via arc discharge current vs size stability", **2008**, *3th Student Seminar in Nanotechnology*.
90. **Kassaee, M.Z.;** Majdi, M., "Synthesis of Ni nanoparticles in different media", **2008**, *3th Student Seminar in Nanotechnology*.
91. **Kassaee, M.Z.;** Shaib, F.A.; Momeni, M.R.; Ghambarian, M.; Mousavi, S.M., "Silabenzene through divalent precursors at theoretical levels", **2008**, *15th Iranian Conference of Organic Chemistry*.
92. **Kassaee, M.Z.;** Solaimaniamiry, S., "Tungsten nano-particles", **2007**, *1st Seminar in Nanotechnology of Southren Region*.
93. **Kassaee, M.Z.;** Motamedi, S.E "Nano-Brass syntheses effects of current media", **2007**, *1st Seminar in Nanotechnology of Southren Region*.
94. **Kassaee, M.Z.;** Solaimaniamiry, S., "Mechanism of carbon nanotubes formation multiplicity of C_4 and C_6 nano rod at 9 leveles of theory", **2007**, *1st Seminar in Nanotechnology of Southren Region*.

95. **Kassaee, M.Z.;** Majdi, M., "Nickel nanoparticles synthesis *via* arc discharge method", **2007**, *1st Seminar in Nanotechnology of Southren Region*.
96. **Kassaee, M.Z.;** Majdi, M.; Ghavami, M.; Soleimani-Amiri, S., "Novel synthesis of nickel nanoparticles in different media", **2007**, *1st Seminar in Nanotechnology of Southren Region*.
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Translations

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Research interests

1. Computational chemistry of carbenes, silylenes and germynes.
2. Solar energy storage norbornadiene quadricyclane systems.
3. Photochemistry of nitro-nitrite rearrangements.
4. Petroleum chemistry.
5. Nano-chemistry.
6. Industrial and food chemistry.
7. Polymer chemistry: NMR dynamic models.
8. Colon cancer research: FP-12 interactions with DNA.

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