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## ***Academics***

### **Postdoctoral in Cancer Research**

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

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

### **PhD in Organic Chemistry (Reactive Intermediates)**

"Generation and characterization of conjugated monocyclic C<sub>9</sub>H<sub>8</sub> carbenes"

University of Montana, Missoula, MT, USA

### **MS in Organic Photochemistry**

"Photochemistry of  $\beta$ -methyl- $\beta$ -nitrostyrene and its derivatives"

Western Kentucky University, Bowling Green, KY, USA

### **BS in Biology and Premedical Sciences**

University of Oregon, Eugene, OR, USA

## **Scientific Publications**

1. Eidi, E.; Kasseee, M.Z.; Nasresfahani, Z., Mesoporous silica nanoparticles in an efficient solvent-free reamination of carboxamides with amines: an exhibition a green recyclable Nano catalyst *RESEARCH PAPER* **2018**, 20 (4), 1-9.
2. Behboudi, F.; Tahmasebi, Z.; Kassaee, M.Z.; Modares, A. M.; Sorooshzadeh, A.; Ahmadi, B., Evaluation of Chitosan Nanoparticles Effects on Yield and Yield Components of Barley (*Hordeum vulgare* L.) under Late Season Drought Stress *J. Water Environ. Nanotechnology* **2018**, 3 (1), 22-39.
3. Foroutan, T.; Nazemi, N.; Tavana, M.; Kassaee, M. Z.; Motamedi, E.; Soieshargh, Sh.; Zare Zardini, H., Suspended graphene oxide nanoparticle for accelerated multilayer osteoblast attachment . *J. Biomed. Mater. Res. A* **2018**, 106(1), 293-303.
4. Sadroddini, M.; Razzaghi-Kashani, M.; Miranzadeh, M.; Kassaee, M.Z., Controlling dielectric permittivity and dielectric loss by starch-coated silver nanoparticles in ethylene–propylene rubber. *Polymer Composites* **2018**, 31 (3), e3776.
5. Ahmadi, A.; Kassaee, M. Z.; Fattahi, A., Does gold cluster promote or scavenge radicals? A controversy at DFT. *Journal of Physical Organic Chemistry* **2018**, 1-11.
6. Nasresfahani, Z.; Kassaee, M. Z., Cu (II) immobilized on mesoporous organosilica as an efficient and reusable Nano catalyst for one-pot Biginelli reaction under solvent-free conditions. *APPLIED ORGANOMETALLIC CHEMISTRY* **2018**, 32 (2), e4106.
7. Mikhak, A.; Sohrabi, A.; Kassaee, M.Z.; Feizian, M., Effect of Nanoclinoptilolite/Nano hydroxyapatite mixtures on phosphorus solubility in soil. *Journal of Plant Nutrition* **2017**, 1-13.
8. Nasresfahani, Z.; Kassaee, M. Z., Cu–Immobilized Mesoporous Silica Nano particles [Cu<sup>2+</sup>@MSNs-(CO<sub>2</sub>)<sub>2</sub>] as an Efficient Nano catalyst for One-Pot Synthesis of Pyrazolopyranopyrimidines in Water. *Chemistry Select* **2017**, 2(30), 9642 –9646.
9. Mirabedini, M.; Kassaee, M.; Poorsadeghi, S., Novel Magnetic Chitosan Hydrogel Film, Cross-Linked with Glyoxal as an Efficient Adsorbent for Removal of Toxic Cr (VI) from Water. *Arabian Journal for Science and Engineering* **2017**, 42 (1), 115-124.
10. Mikhak, A.; Sohrabi, A.; Kassaee, M. Z.; Feizian, M., Synthetic Nano zeolite/Nano hydroxyapatite as a phosphorus fertilizer for German chamomile (*Matricariachamomilla* L.). *Industrial Crops and Products* **2017**, 95, 444-452.
11. Najafi Disfani, M.; Mikhak, A.; Kassaee, M. Z.; Maghari, A., Effects of nano Fe/SiO<sub>2</sub> fertilizers on germination and growth of barley and maize. *Archives of Agronomy and Soil Science* **2017**, 63 (6), 817-826.
12. Mikhak, A.; Sohrabi, A.; Kassaee, M. Z.; Feizian, M.; Disfani, M. N., Removal of Nitrate and Phosphate from Water by Clinoptilolite-Supported Iron Hydroxide Nanoparticle. *Arabian Journal for Science and Engineering* **2017**, 42 (6), 2433-2439.

13. Mikhak, A.; Kassaee, M. Z.; Sohrabi, A.; Feizian, M., Nano Fe (OH)<sub>3</sub>/zeolite as a novel, green and recyclable adsorbent for efficient removal of toxic phosphate from water. *NISCAIR-CSIR, India* **2017**, 24 (3), 284-293.
14. Nasresfahani, Z.; Kassaee, M.Z.; Eidi, E., Ionic liquid-functionalized mesoporous silica nanoparticles ([pmim] FeCl<sub>4</sub>/MSNs): Efficient nanocatalyst for solvent-free synthesis of N, N'-diaryl-substituted formamidines. *Applied Organometallic Chemistry* **2017**, 31 (11).
15. Mohebi, N.; Kassaee, M. Z., N-Heterocyclic Plumblyenes (NHPbs) at Theoretical Levels. *Physical Chemistry Research* **2017**, 5(4), 819-830.
16. Poorsadeghi, S.; Kassaee, M. Z.; Fakhri, H.; Mirabedini, M., Removal of Arsenic from Water Using Aluminum Nanoparticles Synthesized through Arc Discharge Method. *Iran. J. Chem. Chem. Eng. Research Article Vol* **2017**, 36(4).
17. Nasresfahani, Z.; Kassaee, M. Z., Cu (II) immobilized on mesoporous organosilica as an efficient and reusable Nano catalyst for one-pot Biginelli reaction under solvent-free conditions. *Chemistry Select* **2017**, 2 (30), 9642-9646.
18. Sodagar, A.; Khalil, S.; Kassaee, M. Z.; Shahroudi, A. S.; Pourakbari, B.; Bahador, A., Antimicrobial properties of poly (methyl methacrylate) acrylic resins incorporated with silicon dioxide and titanium dioxide nanoparticles on cariogenic bacteria. *Journal of orthodontic science* **2016**, 5 (1), 7.
19. Sadroddini, M.; Razzaghi-Kashani, M.; Miranzadeh, M.; Kassaee, M., Controlling dielectric permittivity and dielectric loss by starch-coated silver nanoparticles in ethylene-propylene rubber. *Polymer Composites* **2016**,
20. Rezaee, N.; Ahmadi, A.; Kassaee, M. Z., Nucleophilicity of normal and abnormal N-heterocyclic carbenes at DFT: steric effects on tetrazole-5-ylidenes. *RSC Advances* **2016**, 6 (16), 13224-13233.
21. Nasresfahani, Z.; Kassaee, M. Z.; Nejati-Shendi, M.; Eidi, E.; Taheri, Q., Mesoporous silica nanoparticles (MSNs) as an efficient and reusable Nano catalyst for synthesis of β-amino ketones through one-pot three-component Mannich reactions. *RSC Advances* **2016**, 6 (38), 32183-32188.
22. Nasresfahani, Z.; Kassaee, M. Z.; Eidi, E., Homopiperazine sulfamic acid functionalized mesoporous silica nanoparticles (MSNs-HPZ-SO<sub>3</sub> H) as an efficient catalyst for one-pot synthesis of 1-amidoalkyl-2-naphthols. *New Journal of Chemistry* **2016**, 40 (5), 4720-4726.
23. Najafi Disfani, M.; Mikhak, A.; Kassaee, M. Z.; Maghari, A., Effects of Nano Fe/SiO<sub>2</sub> fertilizers on germination and growth of barley and maize. *Archives of Agronomy and Soil Science* **2016**, 1-10.

24. Miranzadeh, M.; Kassaee, M. Z.; Sadeghi, L.; Sadroddini, M.; Razzaghi Kashani, M.; Khoramabadi, N., Antibacterial ethylene propylene rubber impregnated with silver Nano powder: AgNP@EPR. *Nanochemistry Research* **2016**, *1* (1), 1-8.
25. Mirabedini, M.; Kassaee, M., Removal of toxic Cr (VI) from water by a novel magnetic chitosan/glyoxal/PVA hydrogel film. *Desalination and Water Treatment* **2016**, *57* (30), 14266-14279.
26. Kassaee, M.; Hosseini, S.; Elahi, S. H., A New Nano-Chitosan Irrigant with Superior Smear Layer Removal and Penetration. *Nano chemistry Research* **2016**, *1* (2), 150-156.
27. Eidi, E.; Kassaee, M. Z., Green synthesis of primary, secondary, and tertiary amides through oxidative amidation of methyl groups with amine hydrochlorides over recyclable CoFe<sub>2</sub>O<sub>4</sub> NPs. *RSC Advances* **2016**, *6* (108), 106873-106879.
28. Eidi, E.; Kassaee, M.; Nasresfahani, Z., Synthesis of 2, 4, 5-trisubstituted imidazoles over reusable CoFe<sub>2</sub>O<sub>4</sub> nanoparticles: an efficient and green sonochemical process. *Applied Organometallic Chemistry* **2016**, *30* (7), 561-565.
29. Nasresfahani, Z.; Kassaee, M., Mesoporous silica nanoparticles in an efficient, solvent free, green synthesis of acridinediones. *Catalysis Communications* **2015**, *60*, 100-104.
30. Mirhashemi, A.; Bahador, A.; Kassaee, M.; Daryakenari, G.; Ahmad-Akhoundi, M.; Sodagar, A., Antimicrobial effect of Nano-zinc oxide and Nano-chitosan particles in dental composite used in orthodontics. *Journal of Medical Bacteriology* **2015**, *2* (3-4), 1-10.
31. Mirabedini, M.; Motamedi, E.; Kassaee, M. Z., Magnetic CuO nanoparticles supported on graphene oxide as an efficient catalyst for A 3-coupling synthesis of propargylamines. *Chinese Chemical Letters* **2015**, *26* (9), 1085-1090.
32. Koohi, M.; Kassaee, M. Z.; Haerizade, B. N.; Ghavami, M.; Ashenagar, S., Substituent effects on cyclonona-3, 5, 7 -trienylidenes: a quest for stable carbenes at density functional theory level. *Journal of Physical Organic Chemistry* **2015**, *28* (8), 514-526.
33. Koohi, M.; Kassaee, M.; Ghavami, M.; Haerizade, B.; Ahmadi, A., C<sub>20-n</sub> Gen heterofullerenes (n= 5–10) on focus: a density functional perspective. *Monatshefte für Chemie Chemical Monthly* **2015**, *146* (9), 1409-1417.
34. Ghader, M.; Kassaee, M., Synthesis of amidoalkyl naphthols via AlCl<sub>3</sub> functionalized silica coated Fe<sub>2</sub>O<sub>3</sub> magnetic nanoparticles as a new, efficient, and eco-friendly catalyst. *Journal of the Iranian Chemical Society* **2015**, *12* (6), 979-985.
35. Eidi, E.; Kassaee, M. Z.; Nasresfahani, Z., Nanocrystalline TiO<sub>2</sub>, via green combustion synthesis, as an efficient and reusable catalyst for the preparation of 1, 8-dioxooctahydroxanthenes and 1, 8-dioxodecahydroacridines. *Applied Organometallic Chemistry* **2015**, *29* (12), 793-797.

36. Akbari, A.; Golzadeh, B.; Arshadi, S.; Kassaee, M. Z., A quest for stable 2, 5-bis (halobora) cyclopentenylidene and its Si, Ge, Sn and Pb analogs at theoretical levels. *RSC Advances* **2015**, 5 (54), 43319-43327.
37. Ghavami, M.; Kassaee, M. Z.; Mohammadi, R.; Koochi, M.; Haerizadeh, B.N., Polyaniline nanotubes coated with TiO<sub>2</sub> &  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>@ graphene oxide as a novel and effective visible light photo catalyst for removal of rhodamine B from water. *Solid State Sciences* **2014**, 38, 143-149.
38. Narjes Haerizade, B.; Zaman Kassaee, M.; Koochi, M.; Ghavami, M.; Zandi, H., Stabilization of Carbenes via  $\alpha$ -Ylide Substitutions: A Computational Quest for New Divalents at DFT. *Combinatorial chemistry & high throughput screening* **2014**, 17 (8), 674-680.
39. Movahedi, F.; Masrouri, H.; Kassaee, M., Immobilized silver on surface-modified ZnO nanoparticles: As an efficient catalyst for synthesis of propargylamines in water. *Journal of Molecular Catalysis A: Chemical* **2014**, 395, 52-57.
40. Miranzadeh, M.; Kassaee, M. Z., Solvent effects on arc discharge fabrication of durable silver Nano powder and its application as a recyclable catalyst for elimination of toxic p-nitro phenol. *Chemical Engineering Journal* **2014**, 257, 105-111.
41. Motamedi, E.; Atouei, M. T.; Kassaee, M., Comparison of nitrate removal from water via graphene oxide coated Fe, Ni and Co nanoparticles. *Materials Research Bulletin* **2014**, 54, 34-40.
42. Mohammadi, R.; Eidi, E.; Ghavami, M.; Kassaee, M. Z., Chitosan synergistically enhanced by successive Fe<sub>3</sub>O<sub>4</sub> and silver nanoparticles as a novel green catalyst in one-pot, three component synthesis of tetrahydrobenzo [ $\alpha$ ] xanthene-11-ones. *Journal of Molecular Catalysis A: Chemical* **2014**, 393, 309-316.
43. Koochi, M.; Ghavami, M.; Haerizade, B. N.; Zandi, H.; Kassaee, M. Z., Cyclacenes and short zigzag nanotubes with alternanting Ge—C bonds: theoretical impacts of Ge on the ground state, strain, and band gap. *Journal of Physical Organic Chemistry* **2014**, 27 (9), 735-746.
44. Haerizade, B. N.; Kassaee, M. Z.; Zandi, H.; Koochi, M.; Ahmadi, A. A., Ylide stabilized carbines: a computational study. *Journal of Physical Organic Chemistry* **2014**, 27 (11), 902-908.
45. Haerizade, B. N.; Kassaee, M. Z., Nano ZnO promoted synthesis of 1, 3-oxazoline-2-thione derivatives. *Journal of Chemical Research* **2014**, 38 (5), 295-296.
46. Ghavami, M.; Mohammadi, R.; Koochi, M.; Kassaee, M., Visible light photocatalytic activity of reduced graphene oxide synergistically enhanced by successive inclusion of  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, and Ag nanoparticles. *Materials Science in Semiconductor Processing* **2014**, 26, 69-78.

47. Ghavami, M.; Koochi, M.; Ahmadi, A.; Zandi, H.; Z Kassae, M., Diastereoselective Synthesis of N-(p-Tosylsulfonyl)-2-Phenylaziridine Over a Novel Magnetically Recyclable Cu (II) Catalyst Accompanied with the N Inversion Assessment at DFT. *Combinatorial chemistry & high throughput screening* **2014**, *17* (9), 756-762.
48. Balalaie, S.; Kassae, M. Z.; Bijanzadeh, H. R.; Darvish, F.; Bararjanian, M.; Jalaiyan, F., An efficient stereo selective synthesis of functionalized vinyl ethers. *Journal of the Iranian Chemical Society* **2014**, *11* (5), 1483-1492.
49. Bahador, A.; Khalil, S.; Pourakbari, B.; Ghorbanzadeh, R.; Kassae, M. Z.; Moghadam, S. O.; Khaledi, A.; Sodagar, A., Photocatalytic Effects of Acrylic Resins Incorporated with Nano titanium Dioxide on Planktonic and Biofilm Growth of Four Cariogenic Bacteria. *Annual Research & Review in Biology* **2014**, *4* (17), 2695.
50. Ghavami, M.; Koochi, M.; Kassae, M. Z., A selective Nano catalyst for an efficient Ugi reaction: Magnetically recoverable Cu (acac) <sub>2</sub>/NH<sub>2</sub>-T/SiO<sub>2</sub>@ Fe<sub>3</sub>O<sub>4</sub> nanoparticles. *Journal of Chemical Sciences* **2013**, *125* (6), 1347-1357.
51. Sodagar, A.; Bahador, A.; Khalil, S.; Shahrودي, A. S.; Kassae, M. Z., The effect of TiO<sub>2</sub> and SiO<sub>2</sub> nanoparticles on flexural strength of poly (methyl methacrylate) acrylic resins. *Journal of prosthodontic research* **2013**, *57* (1), 15-19.
52. Kassae, M. Z.; Motamedi, E.; Movassagh, B.; Poursadeghi, S., FeNPs-Catalyzed C–Se and C–Te Bond Formation Reactions **2013**, *Synfacts* *9* (11), 1249-1249.
53. Rostamizadeh, S.; Kassae, M.; Shadjou, N.; Zandi, H., Efficient synthesis of pyrano [3, 2c] pyridines via a green and catalyst-free method at ambient temperature, and related DFT calculations. *Monatshefte für Chemie-Chemical Monthly* **2013**, *144* (5), 703-706.
54. Mohammadi, R.; Kassae, M. Z., Sulfochitosan encapsulated nano-Fe<sub>3</sub>O<sub>4</sub> as an efficient and reusable magnetic catalyst for green synthesis of 2-amino-4H-chromen-4-yl phosphonates. *Journal of Molecular Catalysis A: Chemical* **2013**, *380*, 152-158.
55. Kassae, M. Z.; Motamedi, E.; Movassagh, B.; Poursadeghi, S., Iron-Catalyzed Formation of C–Se and C–Te Bonds through Cross Coupling of Aryl Halides with Se (0) and Te (0)/NanoFe<sub>3</sub>O<sub>4</sub>@ GO. *Synthesis* **2013**, *45* (16), 2337-2342.
56. Kassae, M. Z.; Koochi, M.; Mohammadi, R.; Ghavami, M., 2, 2, 9, 9-Tetramethylcyclonona<sub>3</sub>, 5, 7-trienylidene vs. its heterocyclic analogues: A quest for stable carbenes at DFT. *Journal of Physical Organic Chemistry* **2013**, *26* (11), 908-916.
57. Kassae, M.; Zandi, H.; Rad, H. A.; Ghambarian, M., Reaching for cyclacenes and short nanotubes through Si substitutions as studied by DFT calculations. *Monatshefte für Chemie-Chemical Monthly* **2013**, *144* (12), 1783-1786.
58. Kassae, M.; Motamedi, E.; Movassagh, B.; Poursadeghi, S., FeNPs-Catalyzed C–Se and C–Te Bond Formation Reactions. *Synfacts* **2013**, *9* (11), 1249-1249.

59. Kassaee, M.; Koohi, M., Breathing viability into cyclonona-3, 5, 7-trienylidenes via  $\alpha$ -dimethyl and  $\alpha$ -moieties at DFT. *Journal of Physical Organic Chemistry* **2013**, 26 (7), 540-550.
60. Amirnejat, S.; Movahedi, F.; Masrouri, H.; Mohadesi, M.; Kassaee, M., Silica nanoparticles immobilized benzoylthiourea ferrous complex as an efficient and reusable catalyst for one-pot synthesis of benzopyranopyrimidines. *Journal of Molecular Catalysis A: Chemical* **2013**, 378, 135-141.
61. Sodagar, A.; Kassaee, M. Z.; Akhavan, A.; Javadi, N.; Arab, S.; Kharazifard, M. J., Effect of silver Nano particles on flexural strength of acrylic resins. *Journal of prosthodontic research* **2012**, 56 (2), 120-124.
62. Kassaee, M. Z.; Majdi, M.; Rad, H. A.; Motamedi, E., A theoretical quest for graphene nanoribbons: effects of nitrogen substitution on the ground state alteration. *Monatshefte für Chemie-Chemical Monthly* **2012**, 143 (4), 551-556.
63. Kassaee, M.; Zandi, H.; Haerizade, B.; Ghambarian, M., Effects of  $\alpha$ -mono heteroatoms (N vs. P), and  $\beta$ -conjugation on cyclic silylenes. *Computational and Theoretical Chemistry* **2012**, 1001, 39-43.
64. Kassaee, M.; Zandi, H.; Akbari, J.; Motamedi, E., An efficient and mild carboxylation of multiwall carbon nanotubes using  $H_2O_2$  in the presence of heteropolyacid. *Chinese Chemical Letters* **2012**, 23 (4), 470-473.
65. Kassaee, M.; Zandi, H., P-Heterocyclic silylenes: a survey of stability with density functional theory. *Journal of Physical Organic Chemistry* **2012**, 25 (1), 50-57.
66. Kassaee, M.; Majdi, M.; Rad, H. A.; Motamedi, E., A theoretical quest for graphene nanoribbons: effects of nitrogen substitution on the ground state alteration. *Monatshefte für Chemie-Chemical Monthly* **2012**, 143 (4), 551-556.
67. Buazar, F.; Cheshmehkani, A.; Kassaee, M., Nanosteel synthesis via arc discharge: media and current effects. *Journal of the Iranian Chemical Society* **2012**, 9 (2), 151-156.
68. Kassaee, M.; Motamedi, E.; Majdi, M., Magnetic  $Fe_3O_4$ -graphene oxide/polystyrene: fabrication and characterization of a promising nanocomposite. *Chemical Engineering Journal* **2011**, 172 (1), 540-549.
69. Kassaee, M. Z.; Motamedi, E., In *Magnetite-graphene oxide hybrid nanoparticles loaded on polystyrene*, 2nd International Conference on Chemistry and Chemical Engineering, IPCBEE, **2011**,
70. Kassaee, M.; Najafi, Z.; Shakib, F.; Momeni, M., Stable silylenes with acyclic, cyclic, and unsaturated cyclic structures: Effects of heteroatoms and cyclopropyl  $\alpha$ -substituents at DFT. *Journal of Organometallic Chemistry* **2011**, 696 (10), 2059-2064.

71. Kassaee, M.; Motamedi, E.; Mikhak, A.; Rahnemaie, R., Nitrate removal from water using iron nanoparticles produced by arc discharge vs. reduction. *Chemical Engineering Journal* **2011**, *166* (2), 490-495.
72. Kassaee, M.; Momeni, M.; Shakib, F.; Najafi, Z.; Zandi, H., Effects of  $\alpha$ -cyclopropyl on heterocyclic carbenes stability at DFT. *Journal of Physical Organic Chemistry* **2011**, *24* (11), 1022-1029.
73. Kassaee, M.; Momeni, M., Stable  $\alpha$ -heteroatom-free dialkylcarbenes: a DFT study. *Structural Chemistry* **2011**, *22* (1), 141-147.
74. Kassaee, M.; Mohammadkhani, M.; Akhavan, A.; Mohammadi, R., In situ formation of silver nanoparticles in PMMA via reduction of silver ions by butylated hydroxytoluene. *Structural Chemistry* **2011**, *22* (1), 11-15.
75. Kassaee, M.; Mohammadi, R.; Masrouri, H.; Movahedi, F., Nano TiO<sub>2</sub> as a heterogeneous catalyst in an efficient one-pot three-component Mannich synthesis of  $\beta$ -amino carbonyls. *Chinese Chemical Letters* **2011**, *22* (10), 1203-1206.
76. Kassaee, M.; Ghambarian, M.; Shakib, F.; Momeni, M., from acyclic dialkylcarbene to the unsaturated cyclic heteroatom substituted ones: a survey of stability. *Journal of Physical Organic Chemistry* **2011**, *24* (5), 351-359.
77. Kassaee, M. Z.; Masrouri, H.; Movahedi, F., Sulfamic acid-functionalized magnetic Fe<sub>3</sub>O<sub>4</sub> nanoparticles as an efficient and reusable catalyst for one-pot synthesis of  $\alpha$ -amino nitriles in water. *Applied Catalysis A: General* **2011**, *395* (1), 28-33.
78. Kassaee, M.Z.; Motamedi, E.; Majdi, M., Magnetic Fe<sub>3</sub>O<sub>4</sub>-graphene oxide/polystyrene: fabrication and characterization of a promising nanocomposite. *Chemical Engineering Journal* **2011**, *172* (1), 540-549.
79. Kassaee, M. Z.; Masrouri, H.; Movahedi, F., ZnO-nanoparticle-promoted synthesis of polyhydroquinoline derivatives via multicomponent Hantzsch reaction. *Monatshefte für Chemie-Chemical Monthly* **2010**, *141* (3), 317-322
80. Kassaee, M. Z.; Masrouri, H.; Movahedi, F.; Mohammadi, R., TiO<sub>2</sub> as a Reusable Catalyst for the One-Pot Synthesis of 3, 4-Dihydropyrimidin-2 (1H) -ones under Solvent-Free Conditions. *Helvetica Chimica Acta* **2010**, *93* (2), 261-264.
81. Kassaee, M.; Soleimani-Amiri, S.; Majdi, M.; Musavi, S., Novel quintet and triplet (nitrenoethynyl) halomethylenes at theoretical levels. *Structural Chemistry* **2010**, *21* (1), 229-235.
82. Kassaee, M.; Soleimani-Amiri, S.; Buazar, F., Diverse tungsten nanoparticles via arc discharge. *Journal of Manufacturing Processes* **2010**, *12* (2), 85-91.



83. Kassaee, M.; Shakib, F.; Momeni, M.; Ghambarian, M.; Musavi, S., Carbenes with reduced heteroatom stabilization: a computational approach. *The Journal of organic chemistry* **2010**, *75* (8), 2539-2545.
84. Kassaee, M.; Rostamizadeh, S.; Shadjou, N.; Motamedi, E.; Esmaeelzadeh, M., An efficient one-pot solvent-free synthesis of 2, 3-dihydroquinazoline-4 (1H) -ones via Al/Al<sub>2</sub>O<sub>3</sub> nanoparticles. *Journal of Heterocyclic Chemistry* **2010**, *47* (6), 1421-1424.
85. Kassaee, M.; Rad, H. A.; Amiri, S. S., Carbon–nitrogen Nano rings and nanoribbons: a theoretical approach for altering the ground states of cyclacenes and polyacenes. *Monatshefte für Chemie-Chemical Monthly* **2010**, *141* (12), 1313-1319.
86. Kassaee, M.; Rad, H. A., Silicon–carbon vs. carbon nanotubes at DFT: Aromaticity, polarizability, and structural network (s) at various lengths and widths. *Computational Materials Science* **2010**, *48* (1), 144-149.
87. Kassaee, M.; Musavi, S.; Motamedi, E., Borepin, Boranorbornadiene and Boranorcaradiene: Substituent Effects on Interconversions at Theoretical Levels. *Journal of Theoretical and Computational Chemistry* **2010**, *9* (01), 379-392.
88. Kassaee, M.; Momeni, M.; Shakib, F.; Ghambarian, M.; Musavi, S., Novel  $\alpha$ -spirocyclic (alkyl) (amino) carbines at the theoretical crossroad of flexibility and rigidity. *Structural Chemistry* **2010**, *21* (3), 593-598.
89. Kassaee, M.; Momeni, M.; Shakib, F.; Ghambarian, M., Pyridine derived N-heterocyclicgermylenes: A density functional perspective. *Journal of Organometallic Chemistry* **2010**, *695* (5), 760-765.
90. Kassaee, M.; Buazar, F.; Motamedi, E., Effects of current on arc fabrication of Cu nanoparticles. *Journal of Nanomaterials* **2010**, *2010*, 7.
91. Kassaee, M.; Buazar, F.; Koohi, M., Heteroatom impacts on structure, stability and aromaticity of X<sub>n</sub>C<sub>20-n</sub> fullerenes: A theoretical prediction. *Journal of Molecular Structure: THEOCHEM* **2010**, *940* (1), 19-28.
92. Akhavan, A.; Kalhor, H.; Kassaee, M.; Sheikh, N.; Hassanlou, M., Radiation synthesis and characterization of protein stabilized gold nanoparticles. *Chemical Engineering Journal* **2010**, *159* (1), 230-235.
93. Kassaee, M.Z.; Musavi, S.M.; Majdi, M., on the selenepin/benzene selenide valence tautomerizations: electronic and steric effects at theoretical levels. *Structural Chemistry* **2009**, *20* (3), 369.
94. Kassaee, M.Z.; Ghavami, M.; Cheshmehkani, A.; Majdi, M.; Motamedi, E., Nano iron oxide with the neural-network morphology. *Journal of the Iranian Chemical Society* **2009**, *6* (4), 812-815.

95. Sheikh, N.; Akhavan, A.; Kassaee, M., Synthesis of antibacterial silver nanoparticles by irradiation. *Physica E: Low-dimensional Systems and Nanostructures* **2009**, *42* (2), 132-135.
96. Ramazani, A.; Dolatyari, L.; Morsali, A.; Kassaee, M. Z., Thermal, spectroscopic, X-ray powder diffraction, fluorescence, and structural studies of  $[\text{Pb}(\mu\text{-4-pyc})(\mu\text{-Br})]_n$ , new mixed anion lead (II) 3-D coordination polymers. *Journal of Coordination Chemistry* **2009**, *62* (11), 1784-1790.
97. Kassaee, M. Z.; Shakib, F. A.; Momeni, M. R.; Ghambarian, M.; Musavi, S. M., Silabenzene through divalent precursors at theoretical levels. *Monatshefte für Chemie-Chemical Monthly* **2009**, *140* (1), 33-38.
98. Kassaee, M. Z.; Movahedi, F.; Masrouri, H., ZnO nanoparticles as an efficient catalyst for the one-pot synthesis of  $\alpha$ -amino phosphonates. *Synlett* **2009**, *2009* (08), 1326-1330.
99. Kassaee, M.; Zandi, H.; Momeni, M.; Shakib, F.; Ghambarian, M., toward stable N heterocyclic silylenes at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2009**, *913* (1), 16-21.
100. Kassaee, M.; Soleimani-Amiri, S.; Buazar, F.; Rad, H. A., Novel disilyleno- and digermolenocarbenes and Si Si containing cyclopropenylidenes at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2009**, *893* (1), 48-55.
101. Kassaee, M.; Soleimani-Amiri, S., Racemizations of diazacycloheptatetraenes through singlet diazacycloheptatrienylidenes at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2009**, *913* (1), 185-194.
102. Kassaee, M.; Shakib, F.; Momeni, M.; Ghambarian, M.; Musavi, S., A DFT study on pyridine-derived N-heterocyclic carbenes. *Tetrahedron* **2009**, *65* (48), 10093-10098.
103. Kassaee, M.; Musavi, S.; Akhavan, A.; Esrafil, M., Structures and bonding patterns of nanoannular carbon clusters (C<sub>4</sub>–C<sub>20</sub>) through AIM analyses. *Structural Chemistry* **2009**, *20* (5), 839-846.
104. Kassaee, M.; Movahedi, F.; Masrouri, H., One-Pot Synthesis of  $\alpha$ -Amino Phosphonates with ZnO Nanoparticles. *Synfacts* **2009**, 934.
105. Kassaee, M.; Movahedi, F.; Masrouri, H., One-Pot Synthesis of  $\alpha$ -Amino Phosphonates with ZnO Nanoparticles. *Synfacts* **2009**, *2009* (08), 0934-0934.
106. Kassaee, M.; Momeni, M.; Shakib, F.; Ghambarian, M.; Musavi, S., Effects of fused benzene rings on tautomerizations and inversions of benzo, azabeno, and oxabenzocycloheptatrienes at theoretical levels. *Structural Chemistry* **2009**, *20* (3), 517-524.

107. Kassae, M.; Ghavami, M.; Vessally, E.; Chehmehkani, A., Structural Studies on the Smallest Unit of Nanocarbons, C<sub>2</sub>: DFT and ab initio Calculations. *Asian Journal of Chemistry* **2009**, *21* (2), 1365.
108. Kassae, M.; Ghambarian, M.; Musavi, S.; Shakib, F.; Momeni, M., A theoretical investigation into dimethylcarbene and its diamino and diphosphino analogs: effects of cyclization and unsaturation on the stability and multiplicity. *Journal of Physical Organic Chemistry* **2009**, *22* (10), 919-924.
109. Kassae, M.; Buazar, F.; Soleimani-Amiri, S.; Momeni, M., A novel triplet germylene F<sub>3</sub>C Ge GeH at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2009**, *899* (1), 46-53.
110. Kassae, M.; Buazar, F., Al nanoparticles: impact of media and current on the arc fabrication. *Journal of manufacturing processes* **2009**, *11* (1), 31-37.
111. Kassae, M. Z.; Masrouri, H.; Movahedi, F.; Partovi, T., One-Pot Four-Component Synthesis of Tetrasubstituted Pyrroles. *Helvetica Chimica Acta* **2008**, *91* (2), 227-231.
112. Kassae, M. Z.; Ghavami, M.; Majdi, M.; Kani, A. C., Generation of Nano C. *Letters in Organic Chemistry* **2008**, *5* (8), 684-686.
113. Kassae, M.; Soleimani-Amiri, S.; Ghambarian, M.; Boazar, F.; Motamedi, E., Divalency switch from carbenes to germylens at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2008**, *849* (1), 37-45.
114. Kassae, M.; Musavi, S.; Momeni, M.; Shakib, F.; Ghambarian, M., How steric effects favor thiepins over their benzene sulfide tautomers at theoretical levels? *Journal of Molecular Structure: THEOCHEM* **2008**, *861* (1), 117-121.
115. Kassae, M.; Musavi, S.; Majdi, M.; Cheshmehkani, A.; Motamedi, E.; Aghaee, A., Beyond benzene sulfides and thiepins: Tautomerizations and thiepins inversions at theoretical levels. *Journal of Molecular Structure: THEOCHEM* **2008**, *848* (1), 67-73.
116. Kassae, M.; Musavi, S.; Jalalimanesh, N., A NEW GENERATION OF INTERMEDIATES AT AB INITIO AND DFT LEVELS: ALLYLIC CARBENONITRENES, C=(X) C–NX= H, CH<sub>3</sub>, COOH, F, OH, OCH<sub>3</sub>, CF<sub>3</sub>, CN, AND NH<sub>2</sub>. *Journal of Theoretical and Computational Chemistry* **2008**, *7* (03), 367-379.
117. Kassae, M.; Motamedi, E.; Majdi, M.; Cheshmehkani, A.; Soleimani-Amiri, S.; Buazar, F., Media effects on nanobrass arc fabrications. *Journal of Alloys and Compounds* **2008**, *453* (1), 229-232.
118. Kassae, M.; Ghavami, M.; Motamedi, E., Open air exploding arc synthesis of nano Cu and Cu<sub>2</sub>O. *Asian Journal of Chemistry* **2008**, *20* (1), 677.
119. Kassae, M.; Ghambarian, M.; Musavi, S., Halogen switching of azacarbenes C<sub>2</sub>NH ground states at ab initio and DFT levels. *Heteroatom Chemistry* **2008**, *19* (4), 377-388.

120. Kassae, M.; Cheshmehkani, A.; Musavi, S.; Majdi, M.; Motamedi, E., 1H-Phosphinebenzene phosphine valence tautomerizations: Impacts of substituents at ab initio and DFT levels. *Journal of Molecular Structure: THEOCHEM* **2008**, *865* (1), 73-78.
121. Kassae, M.; Buazar, F.; Soleimani-Amiri, S., Triplet germynes with separable minima at ab initio and DFT levels. *Journal of Molecular Structure: THEOCHEM* **2008**, *866* (1), 52-57.
122. Kassae, M.; Buazar, F., Theoretical impacts of terminal atoms (C, B, N, and P) on fragments of single-walled hetero carbon nanotubes. *Physica E: Low-dimensional Systems and Nanostructures* **2008**, *40* (10), 3187-3192.
123. Kassae, M.; Bekhradnia, A.; Arshadi, S., Reaction of aspirin with Fecapentaene-12: a possibility for aspirin to make Fecapentaene-12 lose its mutagenicity. *Asian Journal of Chemistry* **2008**, *20* (1), 43.
124. Kassae, M.; Arefrad, H.; Ghambarian, M., Novel silicon nanorings: Persilacyclacenes at DFT. *International Journal of Quantum Chemistry* **2008**, *108* (4), 696-707.
125. Kassae, M.; Akhavan, A.; Sheikh, N.; Beteshobabrud, R.,  $\gamma$ -Ray synthesis of starch-stabilized silver nanoparticles with antibacterial activities. *Radiation Physics and Chemistry* **2008**, *77* (9), 1074-1078.
126. Kassae, M. Z.; Vessally, E.; Pirelahi, H.; Arshadi, S., Ylide character and stability of heterocyclic benzenes. *Heteroatom Chemistry* **2008**, *19* (4), 412-417.
127. Shafiee, A.; Kassae, M. Z.; Bekhradnia, A. R., Synthesis of novel 3, 4-diaryl-1H-pyrroles. *Journal of Heterocyclic Chemistry* **2007**, *44* (2), 471-474.
128. Kassae, M. Z.; Buazar, F.; Musavi, S. M.; Motamedi, E., Detours for reaching at new germynes, silylenes, carbenes, and carbenogermynes through substituted cyclopropenylidenes at Ab initio and DFT levels. *Monatshefte für Chemie-Chemical Monthly* **2007**, *138* (9), 833-848.
129. Kassae, M.; Koochi, M., Ring flips of allenes ( $C_9H_7X$ ) over triplet carbenes at ab initio and DFT levels ( $X= H, F, Cl, Br$ ). *Journal of Molecular Structure: THEOCHEM* **2007**, *815* (1), 21-29.
130. Kassae, M.; Musavi, S.; Ghambarian, M., A theoretical study on  $C_2HXSi$  silylenes ( $X= H, CN, NH_2, \text{ and } OMe$ ). *Heteroatom Chemistry* **2007**, *18* (3), 283-293.
131. Kassae, M.; Koochi, M., Umbrella inversions of cyclononatetraenylidenes at ab initio and DFT. *Journal of Molecular Structure: THEOCHEM* **2007**, *810* (1), 53-64.
132. Kassae, M.; Jalalimanesh, N.; Musavi, S., Effects of group 14–16 heteroatoms on the aromaticity of benzene at DFT level. *Journal of Molecular Structure: THEOCHEM* **2007**, *816* (1), 153-160.

133. Kassae, M.; Arshadi, S.; Bekhradnia, A.; Asadi, M., Ab initio Infrared Spectra and Inversion Barriers of Di benzo [a, c] cycloocta-5, 8-diones. *Asian Journal of Chemistry* **2007**, *19* (3), 1667.
134. Jorge, F. E.; Kan, J. L.; Kanakaraju, R.; Karthika, M.; Kassae, M. Z.; Kaur, D.; ... Jiao, H., 135. *Journal of Molecular Structure: THEOCHEM* **2007**, 810, 155.
135. Kassae, M. Z.; Musavi, S. M.; Buazar, F.; Ghambarian, M., Novel Triplet Ground State Silylenes: H–N=C=Si, CN–N=C=Si, and Me O–N=C=Si at DFT Levels. *Monatshefte für Chemie/Chemical Monthly* **2006**, *137* (11), 1385-1400.
136. Kassae, M.; Vessally, E.; Arshadi, S.; Bekhradnia, A.; Esfandiari, M., Theoretical Study on S-Methyl-thiabenzene and Their Analogous via DFT Method. *Asian Journal of Chemistry* **2006**, *18* (3), 1791.
137. Kassae, M.; Vessally, E.; Arshadi, S., Energetics of photoconversion of norbornadiene to quadricyclane: Effects of directly attached substituents via ab initio and DFT. *Journal of Molecular Structure: THEOCHEM* **2006**, *763* (1), 13-19.
138. Kassae, M.; Pirelahi, H.; Vessally, E., Theoretical studies on thiabenzene and its fused derivatives: DFT and ab initio computations. *Heteroatom Chemistry* **2006**, *17* (5), 376-381.
139. Kassae, M.; Musavi, S.; Soleimani-Amiri, S.; Ghambarian, M., Steric effects on the dialkyl substituted X<sub>2</sub>C<sub>2</sub>Si silylenes: A theoretical study. *Heteroatom Chemistry* **2006**, *17* (7), 619-633.
140. Kassae, M.; Musavi, S.; Ghambarian, M.; Zanjani, M. K., Switching of global minima of novel germylenic reactive intermediates via halogens (X): C 2 GeH 2 vs. C 2 GeHX at ab initio and DFT levels. *Journal of organometallic chemistry* **2006**, *691* (13), 2933-2944.
141. Kassae, M.; Musavi, S.; Ghambarian, M., A quest for triplet silylenes XHSi 3 at ab initio and DFT levels (X= H, F, Cl and Br). *Journal of organometallic chemistry* **2006**, *691* (9), 1845-1856.
142. Kassae, M.; Musavi, S.; JalaliManesh, N.; Ghambarian, M., A theoretical study on phosphasilylenes CPSi-X (X=H, CN, NH<sub>2</sub> and O Me). *Journal of Molecular Structure: THEOCHEM* **2006**, *761* (1), 7-16.
143. Kassae, M.; Musavi, S.; Ghambarian, M., From halo-azasilylenes to halophosphasilylenes (X-CN Si vs. X-CP Si) at ab initio and DFT levels. *Journal of organometallic chemistry* **2006**, *691* (12), 2666-2678.
144. Kassae, M.; Vessally, E., Solar energy storage in norbornadiene–quadricyclane system: electronic effects via ab initio computations. *Journal of Molecular Structure: THEOCHEM* **2005**, *716* (1), 159-163.

145. Kassae, M.; Vessally, E., Different relative rates for photo-rearrangements of (E)- and (Z)  $\beta$ -nitrostyrene derivatives to oximinoketones. *Journal of Photochemistry and Photobiology A: Chemistry* **2005**, *172* (3), 331-336.
146. Kassae, M.; Musavi, S.; Hamadi, H.; Ghambarian, M.; Hosseini, S., Ab initio and DFT energetics of silylenic X-CNSi (X= H, F, Cl, and Br). *Journal of Molecular Structure: THEOCHEM* **2005**, *730* (1), 33-44.
147. Kassae, M.; Musavi, S.; Ghambarian, M.; Buazar, F., Multiplicity vs. stability in C<sub>2</sub>HP carbenes and their halogenated analogues: an ab initio and DFT study. *Journal of Molecular Structure: THEOCHEM* **2005**, *726* (1), 171-181.
148. Kassae, M.; Musavi, S.; Ghambarian, M., Divalent propargylenic C<sub>2</sub>H<sub>2</sub>M group 14 elements: structures and singlet-triplet energy splittings (M= C, Si, Ge, Sn and Pb). *Journal of Molecular Structure: THEOCHEM* **2005**, *731* (1), 225-231.
149. Kassae, M.; Musavi, S.; Buazar, F.; Ghambarian, M., Ab initio study of singlet-triplet energy separations in C<sub>2</sub>HXSi silylenes (X= H, F, Cl and Br). *Journal of Molecular Structure: THEOCHEM* **2005**, *722* (1), 151-160.
150. Kassae, M.; Musavi, S.; Buazar, F., An ab initio and DFT comparative study of electronic effects on spin multiplicities and structures of X-C<sub>2</sub>N carbenes. *Journal of Molecular Structure: THEOCHEM* **2005**, *728* (1), 15-24.
151. Kassae, M.; Koohi, M.; Arshadi, S., Transition state characteristics of planar singlet 2, 4, 6, 8-cyclononatetraenylidenes and its halo derivatives, via ab initio. *Journal of Molecular Structure: THEOCHEM* **2005**, *724* (1), 61-71.
152. Kassae, M.; Koohi, M., Mirror image conversions of cyclic conjugated non-planar allenes, C<sub>9</sub>H<sub>7</sub>X (X= H, F, Cl, Br). *Journal of Molecular Structure: THEOCHEM* **2005**, *755* (1), 91-98.
153. Kassae, M.; Haerizade, B.; Hossaini, Z., Ab initio NQR study of piperidine umbrella inversions. *Journal of Molecular Structure: THEOCHEM* **2005**, *713* (1), 245-254.
154. Kassae, M.; Ghambarian, M.; Musavi, S., In search of triplet ground state GeCNX germylenes (X= H, F, Cl, and Br): An ab initio and DFT study. *Journal of organometallic chemistry* **2005**, *690* (21), 4692-4703.
155. Kassae, M.; Bekhradnia, A.; Talebzadeh, S., Isotope Effects by Comparing 1H- and 2DNMR Spectra of 9, 9'-Bisbicyclo [4.3. 0] -cyclonona-2, 4, 7-triene. *Spectroscopy letters* **2005**, *38* (45), 487-496.
156. Kassae, M.; Arshadi, S.; Haerizade, B.; Vessally, E., Electronic effects on 1H-azepines valance tautomerization: an ab initio comparative study. *Journal of Molecular Structure: THEOCHEM* **2005**, *731* (1), 29-37.

157. Kassae, M.; Arshadi, S.; Ahmadi-Taheri, N., Substituent effects on tautomerization of oxepine to benzene oxide: a Hammett study via ab initio. *Journal of Molecular Structure: THEOCHEM* **2005**, *715* (1), 107-115.
158. Kassae, a. M.; Arshadi, S.; Acedy, M.; Vessally, E., Singlet–triplet energy separations in divalent five-membered cyclic conjugated  $C_5H_3X$ ,  $C_4H_3SiX$ ,  $C_4H_3GeX$ ,  $C_4H_3SnX$ , and  $C_4H_3PbX$  ( $X=H, F, Cl, \text{ and } Br$ ). *Journal of organometallic chemistry* **2005**, *690* (14), 3427-3439.
159. Kassae, M.; Sayyed-Alangi, S.; Sajjadi-Ghotbabadi, H., Synthesis and Reactions of NMethylbenzylammonium Fluorochromate (VI) on Silica Gel, a Selective and Efficient Heterogeneous Oxidant. *Molecules* **2004**, *9* (10), 825-829.
160. Kassae, M.; Sayyed-Alangi, S.; Hossaini, Z., Ab initio energy surface of interstellar  $H-C_3H$  vs.  $NC-C_3H$  and  $H_3CO-C_3H$ . *Journal of Molecular Structure: THEOCHEM* **2004**, *676* (1), 7-14.
161. Kassae, M.; Hossaini, Z.; Haerizade, B.; Sayyed-Alangi, S., Ab initio study of steric effects due to dialkyl substitutions on  $H_2C_3$  isomers. *Journal of Molecular Structure: THEOCHEM* **2004**, *681* (1), 129-135.
162. Kassae, M.; Bekhradnia, A., Pyridinium sulfonate chlorochromate (VI),  $C_5H_5NSO_3H [CrO_3Cl]$  (PSCC): A new reagent for oxidation of organic substrates. *Phosphorus, Sulfur, and Silicon* **2004**, *179* (10), 2025-2028.
163. Kassae, M.; Azarnia, J.; Arshadi, S., 1, 2, 4, 6-Cycloheptatetraenes racemizations: substituent effects via ab initio. *Journal of Molecular Structure: THEOCHEM* **2004**, *686* (1), 115-122.
164. Ghaemi, M.; Ghavami, R.; Khosravi-Fard, L.; Kassae, M., Electrolytic  $MnO_2$  via nonisothermal electrode heating: a promising approach for optimizing performances of electroactive materials. *Journal of power sources* **2004**, *125* (2), 256-266.
165. Mahjoub, A. R.; Ghamami, S.; Kassae, M. Z., Tetramethylammonium fluorochromate (VI): a new and efficient oxidant for organic substrates. *Tetrahedron letters* **2003**, *44* (24), 4555-4557.
166. Kassae, M. Z.; Bekhradnia, A. R., The kinetics of interactions between fepentaene-12 and DNA. *Journal of bioscience and bioengineering* **2003**, *95* (5), 526-529.
167. Kassae, M.; Sajjadi-Ghotbabadi, H.; Sayyed-Alangi, S., In *N-Benzylmethylammonium Fluorochromate: A New Reagent for the Oxidation of Organic Compounds*, the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Pittcon, **2003**, pp 9-14.
168. Kassae, M.; Haerizade, B.; Arshadi, S., Halogenated isomers of the interstellar  $C_3H_2$ : an ab initio comparative study. *Journal of Molecular Structure: THEOCHEM* **2003**, *639* (1), 187-193.

169. Kassae, M.; Beigi, M.; Arshadi, S., Ab initio investigations of structural and energetic properties of hindered aryl alkyl ketones. *Journal of Molecular Structure: THEOCHEM* **2003**, *624* (1), 69-79.
170. Ghaemi, M.; Amrollahi, R.; Ataherian, F.; Kassae, M., New advances on bipolar rechargeable alkaline manganese dioxide–zinc batteries. *Journal of power sources* **2003**, *117* (1), 233-241.
171. Kassae, M.; Heydari, H.; Hattami, M.; Nia, A. F., <sup>13</sup>C Spin– Lattice Relaxation Times and NOE Related Studies of Hydroxyl-Terminated Polybutadiene (HTPB). *Macromolecules* **2003**, *36* (18), 6773-6779.
172. Kassae, M.; Arshadi, S.; Beigi, M., Ab initio study of conformational energy surface of spiro [cyclohexane-1, 2'-(1', 3'-dioxep-5'-ene)]. *Journal of Molecular Structure: THEOCHEM* **2002**, *589*, 153-159.
173. Kassae, M.; Nassari, M., The effects of substituents on the photochemistry of  $\beta$ -methyl $\beta$ -nitrostyrene. *Journal of photochemistry and photobiology A: Chemistry* **2000**, *136* (1-2), 41-48.
174. Kassae, M.; Nimlos, M.; Downie, K.; Waali, E., A mndo study of 3-, 5-, 7-and 9-membered carbocyclic, completely conjugated, planar carbenes and their nonplanar isomers. *Tetrahedron* **1985**, *41* (8), 1579-1586.
175. Kassae, M. Z., Photochemistry of beta-Methyl-beta-Nitrostyrene and Its Derivatives. *Masters Theses & Specialist Projects* **1976**, 1757.

## Patents

1. M.Z. Kassae\*, *et al.*, "Synthesis of Nano-Copper and Nano-Copper Oxide *via* Arc Discharge in the Open Air", *Iranian Patent* 007689, **2006**, Tehran, Iran.
2. M. Z. Kassae\*, *et al.*, "Synthesis of Neuro-Nano- Nets (NNN) *via* Arc Discharge in the Open Air", *Iranian Patent* 005865, **2006**, Tehran, Iran
3. M. Z. Kassae\*, *et al.*, "Synthesis of Nano Grape Clusters of Dihydroxy Acetone Dimmer", *Iranian Patent* 005252, **2006**, Tehran, Iran.



## ***Chemistry Courses Taught***

### **PhD level**

- Advanced NMR
- Photochemistry
- Synthetic Methods in Organic Chemistry
- New Topics in Organic Chemistry (Nanochemistry; Computational Chemistry; Mass Spectroscopy; Industrial Chemistry; Biochemistry; *etc.*)
- 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. "Gamma ray fabrications of nano gold and nano silver and their biological applications", F. Akhavan, January **2010**, Tarbiat Modares University.

2. "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.
3. "Study of selected organic reactive intermediate in Group 14&15 and synthesis of nano tungsten particles", S. Soleimani Amiri, February **2009**, Tarbiat Modares University.
4. "Computational studies on the selected carbenes and their heavier Group 14 analogues", S.M. Musavi, September **2006**, Tarbiat Modares University.
5. "Study of reaction and photo-reaction of olefins, nitro olefins and the related theoretical computations", E. Vessally, September **2005**, Tarbiat Modares University.
6. "Investigation of the steric and electronic effects on the structural and energetic properties of selected organic compounds", S. Arshadi, January **2005**, Tarbiat Modares University.
7. "Synthesis and theoretical studies on the specific biological and pharmacological compounds", A. Bekhradnia, December **2005**, Tarbiat Modarres University.

### **M.S. Theses Supervised**

1. "Synthesis of nano iron oxide and theoretical studies on the selected organic compounds", M. Mohammadi, Winter **2010**, Tarbiat Modares University.
2. "Synthesis of nano iron oxide and theoretical studies on the selected organic compounds ", A. Cheshmehkani, Winter **2008**, Tarbiat Modares University.
3. "Synthesis of nickel nanoparticles and study on selected organic species ", M. Majdi, January **2008**, Tarbiat Modares University.
4. "Computational study of the steric effects on thiepin/benzene sulfide tautomerization and benzene-fused compounds", M.R. Momeni Tahri, September **2008**, Tarbiat Modares University.
5. "Computational study of the rearranments of silacylohexadienylidenes to silabenzene and pridine-carbene tautomerization" F.A. Shakib, September **2008**, Tarbiat Modares University.
6. "Synthesis of copper and copper oxide nanoparticles and theoretical studies on the selected organic compounds", E. Motamedi, Novmber **2007**, Tarbiat Modares University.
7. "Rasmizations of cyclic conjugated non-planar allenes, C<sub>9</sub>H<sub>7</sub>X, through their corresponding cyclic planar carbenes", M. Koohi, February **2005**, Tarbiat Modares University.

8. "Quantum Chemical studies on interstellar carbene homologues and solvent effect on HTPB dynamics", F. Buazar, September **2005**, Tarbiat Modares University.
9. "Theoretical studies on GeCNX and GeCPX germynes (X=H, F, Cl and Br)", M. Ghambarian, December **2005**, Tarbiat Modares University.
10. "Investigation of the steric and electronic effects on some selected organic compounds", B.N. Haerizadeh, February **2004**, Tarbiat Modares University.
11. "Solvent effects on dynamics of HTPB and a new method for synthesis of oxidants", M. Hattami, May **2004**, Tarbiat Modares University.
12. "Synthesis of new oxidant reagents for selective oxidation of alcohols to the corresponding aldehyde and ketones", H. Sajjadi-Ghotbabadi, February **2003**, Tarbiat Modares University.
13. "Synthesis of new oxidants for selective oxidation of organic compounds", S.Z. Sayyed Alangi, December **2003**, Tarbiat Modares University.
14. "Investigation of the steric effects on the structural and energetic properties of selected organic compounds", M. Beigi, October **2002**, Tarbiat Modares University.
15. "Synthesis of Derivatives of Furazan", I. Kahsari, February **2001**, Tarbiat Modares University.
16. "The analyses of aromatic components of petroleum (Maroon-3) by chromatography and NMR", F.A. Salhe-Rad, March **1988**, Tehran University.
17. "Recovery and Purification of glycerol from wastewater", A. Hadi, Winter **1998**, Tarbiat Modares University.
18. "The chemistry of FP-12 (A potential inducer of colon cancer)", M.J. Rezaov, Summer **1998**, Tarbiat Modares University.
19. "The study of HTPB degradation via NMR relaxation times T1 (13C)", A. Fazli Nia, Winter **1998**, Tarbiat Modares University.
20. "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.
21. "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.
22. "Structural analysis and estimation of HTPB using PM3 calculations and comparing with experimental", M.H. Hosseinzadeh-Amir Khizi, June **1995**, Tarbiat Modares University.
23. "Analysis of industrial gases using GC/MS methods", M. Basam, Spring **1995**, Tarbiat Modares University.

24. "A NMR Relaxation study of PBD dynamics", H. Heydari, Fall **1995**, Tarbiat Modares University.
25. "Study of HTPB using NMR and Computer", F. Ghoranlo, December **1994**, Tarbiat Modares University.

## ***References***

- 1) [www.modares.ac.ir](http://www.modares.ac.ir)
- 2) [www.scopus.com](http://www.scopus.com)
- 3) [www.google scholar.com](http://www.google scholar.com)
- 4) [www.microsoft.academic.com](http://www.microsoft.academic.com)
- 5) [www.pubs.rsc.org](http://www.pubs.rsc.org)
- 6) [www.academic.research.microsoft.com](http://www.academic.research.microsoft.com)
- 7) [www.scholar.google.com](http://www.scholar.google.com)
- 8) [www.pubs.acs.org](http://www.pubs.acs.org)