

Reihaneh Malakooti, PhD

Associate Professor of Inorganic Chemistry

Director of Nanochemistry Research Laboratory

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Education

PhD in Inorganic Chemistry (Nanomaterials), Alzahra University, Tehran, Iran, 2006

Thesis title:

Part A: Shape-controlled Bi₂S₃ nanocrystals and their plasma polymerization into flexible films

Part B: Immobilization of some manganese and cobalt complexes (Vitamin B₁₂) within nanoreactors of MCM-41 and study of catalytic effect on the epoxidation of olefins with tert-butylhydroperoxide

Supervisors:

Professor G. A. Ozin (University of Toronto, Toronto, Canada)

Professor F. Farzaneh (Alzahra University, Tehran, Iran)

MSc in Inorganic Chemistry, University of Birjand, Birjand, Iran, 1996

Thesis title:

Synthesis and characterization of novel tris-chelate complexes of Cr (III) and Mn (III)

Supervisor:

Professor M. Yazdan-bakhsh (Ferdowsi University of Mashhad, Mashhad, Iran)

BSc in Chemistry, University of Birjand, Birjand, Iran, 1985

Research Interests

- Synthesis of colloidal nanocrystals
- Shape controlled of nanoparticles
- Mesoporous materials in catalysis
- Shape dependent catalysis and photocatalysis
- Nanoparticles such as Pd, Cu, ... in catalysis

Research Accomplishments

- Developed a room temperature, low power, scalable process for transforming colloidal nanocrystals into all-inorganic and flexible solid-state materials of arbitrary shape and architecture with no loss of the size-dependent properties of the building blocks
- Developed the first synthesis route to colloidal quantum dots in a heterogeneous reaction environment
- Developed the first nanowire system with polymer-like properties

Professional Experiences

Associate Professor (May 2014 - present)

Department of Chemistry, University of Birjand, Birjand, Iran

Visiting Professor (Fall 2015)

Department of Chemistry, Ball State University, Muncie, Indiana, USA

Visiting Professor (Summer 2007)

Nanochemistry Department, National Nanotechnology Lab, Lecce, Italy

Assistant Professor (November 2006 - May 2014)

Department of Chemistry, University of Birjand, Birjand, Iran

Graduate Research Assistant (August 2005 - July 2006)

Department of Chemistry, University of Toronto, Toronto, Canada

Senior Lecturer (September 1997 - November 2006)

Department of Chemistry, University of Birjand, Birjand, Iran

Lecturer (November 1988 - September 1997)

Department of Chemistry, University of Birjand, Birjand, Iran

Taught Courses

Graduate

Advanced Nanochemistry
Inorganic polymers
Inorganic spectroscopy
Synthetics and mechanisms in inorganic reactions
Advanced inorganic chemistry
Solid state chemistry
Homogenous and Heterogeneous Catalysts
Nanochemistry

Undergraduate

Group theory
Inorganic chemistry I/II/III
Organometallic chemistry
General chemistry I/II
Nanochemistry

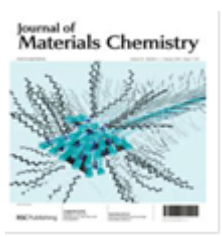
Publications

Selected Publications

L. Cademartiri, R. Malakooti, P. G. O' Brien, A. Migliori, S. Petrov, N. P. Kherani, G. A. Ozin, *Large scale synthesis of ultrathin Bi₂S₃ necklace nanowires*, **Angewandte Chemie International Edition**, 2008, 20, 3814-3817



R. Malakooti, L. Cademartiri, A. Migliori, G. A. Ozin, *Ultrathin Sb_2S_3 nanowires and nanoplatelets*, **Journal of Materials Chemistry**, 2008, 18, 66-69



R. Malakooti, L. Cademartiri, Y. Akcikir, S. Petrov, A. Migliori, G. A. Ozin, *Shape-controlled Bi_2S_3 nanocrystals and their plasma polymerization into flexible films*, **Advanced Materials**, 2006, 18, 2189-2194

Journal Papers

A. Fatahi, R. Malakooti, M. Shahlaei, *Preparation and characterization magnetic polypyrrole composite microspheres decorated with copper (II) as a sensing platform for electrochemical detection of Carbamazepine*, **Iranian Journal of Pharmaceutical Research**, 2020, 19-34

A. Feghhi, R. Malakooti, S. Malakooti, *Scaled-up, selective and green synthesis of sulfoxides under mild conditions using $(\text{Ce}^{\text{III}}\text{-Mo}^{\text{VI}})\text{O}_x$ /aniline hybrid rods as an efficient catalyst*, **Applied Organometallic Chemistry** 2019, (DOI:10.1002/aoc.5237)

A. Feghhi, R. Malakooti, S. Malakooti, N. Hooshmand, *Easy Scale-Up Synthesis of $\text{Mo}_8\text{O}_{26}(\text{C}_5\text{H}_6\text{N})_4\cdot\text{H}_2\text{O}$ Hybrid with a Rectangular Prism Morphology and Its Application as an Efficient and Highly Recyclable Bi-functional Catalyst for Knoevenagel Condensations*, **ChemistrySelect**, 2019, (DOI: 10.1002/slct.201803124)

R. Malakooti, A. Feghhi, *MoO_x -pyridine organic-inorganic hybrid wires as a reusable and highly selective catalyst for the oxidation of alcohols: a comparison study between reaction-controlled phase-transfer catalysis and heterogeneous catalysis*, **New Journal of Chemistry**, 2017, 41, 3405-34013

A. Fatahi, R. Malakooti, M. Shahlaei, *Electrocatalytic oxidation and determination of dexamethasone at a $\text{Fe}_3\text{O}_4/\text{PANI-Cu(II)}$ microsphere modified carbon ionic liquid electrode*, **RSC Advances**, 2017, 7, 11322-11330

H. Atashin, R. Malakooti, *Magnetic iron oxide nanoparticles embedded in SBA-15 silica wall as a green and recoverable catalyst for the oxidation of alcohols and sulfides*, **Journal of Saudi Chemical Society**, 2017, 21, S17-S24

- R. Mirzajani, N. Pourreza, A. Zayadi, R. Malakooti, H. Mahmoodi, *Nanoporous calcined MCM-41 silica for adsorption and removal of victoria blue dye from different natural water samples*, **Desalination and Water Treatment**, 2016, 57, 15, 5903-5913
- H. Mahmoudi, R. Malakooti, *Mn-grafted imine-functionalized mesoporous SBA-15 as an efficient catalyst for knoevenagel condensation under mild conditions*, **Reaction Kinetics Mechanisms and Catalysis**, 2014, 113:241–255
- H. Mahmoudi, R. Malakooti, *Solvent free highly dispersed zinc oxide within confined space of Al-containing SBA-15 as an efficient catalyst for knoevenagel condensation*, **Letters in Organic Chemistry**, 2014, 11, 6, 457- 464
- R. Mirzajani, S. Ahmadi, R. Malakooti, H. Mahmoodi, *Fast and efficient adsorption of azure (II) on nanoporous MCM-41 for its removal, preconcentration and determination in biological matrices*, **Journal of Porous Materials**, 2014, 21: 413-421
- R. Malakooti, S. Shafie, R. Hosseinabadi, M.M. Heravi, M. Zakeri, N. Mohammadi, *MoO₃ nanoparticles synthesis via hydro-solvothermal technique and its application as catalyst for efficient ring opening of epoxides with amines under solvent-free conditions*, **Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry**, 2014, 44: 1401- 1406
- H. Atashin, R. Malakooti, *Supported palladium oxide nanoparticles in SBA-15 as a heterogeneous catalyst for the aerobic oxidation of alcohols*, **Journal of the Chinese Chemical Society**, 2014, 61, 1039-1044
- R. Malakooti, M. Rostami-Nasab, H. Mahmoudi, H.A. Oskooie, M.M. Heravi, N. Karimi, A. Amouchi, G. Kohansal, *Synthesis of 2-substituted benzimidazoles and 2-aryl-1H-benzimidazoles using [Zn(bpdo)₂·2H₂O]²⁺/MCM-41 catalyst under solvent-free conditions*, **Reaction Kinetics Mechanisms and Catalysis** 2014, 111, 663–677
- R. Malakooti, Gh. Rezanejade Bardajee, S. Hadizadeh, H. Atashin, H. Khanjari, *An iron Schiff base complex loaded mesoporous silica nanoreactor as a catalyst for the synthesis of pyrazine-based heterocycles*, **Transition Metal Chemistry** 2014, 39, 47–54
- R. Malakooti, H. Mahmoudi, R. Hosseinabadi, S. Petrov, A. Migliori, *Facile synthesis of pure non-monoclinic zirconia nanoparticles and their catalytic activity investigations for knoevenagel condensation*, **RSC Advances** 2013, 3, 22353-22359
- Gh. Rezanejade Bardajee, R. Malakooti, I. Abtin, H. Atashin, *Palladium schiff-base complex loaded SBA-15 as a novel nanocatalyst for the synthesis of 2,3-disubstituted quinoxalines and pyridopyrazine derivatives*, **Microporous and Mesoporous Materials** 2013, 169, 67–74
- R. Malakooti, Z. Parsaee, R. Hosseinabadi, H.A. Oskooie, M.M. Heravi, M. Saeedi, M. Amrollah, A. Fallah, *[Cu(bpdo)₂·2H₂O]²⁺-supported SBA-15 nanocatalyst for efficient one-pot synthesis of benzoxanthenone and benzochromene derivatives*, **Comptes Rendus Chimie**, 2013, 16, 799-806
- R. Malakooti, Gh. Rezanejade Bardajee, H. Mahmoudi, N. Kakavand, *Zirconium schiff-Base Complex modified mesoporous silica as an efficient catalyst for the synthesis of nitrogen containing pyrazine based heterocycles*, **Catalysis Letters**, 2013, 143, 853-861
- G. Rezanejade Bardajee, R. Malakooti, F. Jami, Z. Parsaei, H. Atashin, *Covalent anchoring of copper-schiff base complex into SBA-15 as a heterogeneous catalyst for the synthesis of pyridopyrazine and quinoxaline derivatives*, **Catalysis Communications**, 2012, 27, 49–53

- R. Malakooti, S. Sobhani, N. Razavi, S. Shafiei and R. Mokhtari, *Formylation of amines and alcohols using aminopropylated mesoporous SBA-15 silica (Apms) as an efficient and recyclable catalyst*, **Collection Of Czechoslovak Chemical Communications**, 2011, 76, 12, 1979–1990
- S. Malakooti, R. Malakooti, M. H. Valavi, *Steady state thermoelasticity of hollow nanospheres*, **Journal of Computational and Theoretical Nanoscience**, 2011, 8, 1–5
- R. Malakooti, Y. Takhti, R. Mirzajani, *An investigation into the magnetic properties of nickel nano-grains synthesized via thermal decomposition techniques*, **Chinese Journal of Chemistry**, 2011, 29, 1119-1123
- M. M. Heravi, K. Bakhtiari, H. Alinejad, M. Saeedi, R. Malakooti, *MCM-41 catalyzed efficient regioselective synthesis of β -aminoalcohol under solvent-free Conditions*, **Chinese Journal of Chemistry**, 2010, 28, 269-272
- M. M. Heravi, M. Daraie, F. K. Behbahani, R. Malakooti, *Green and novel protocol for one-pot synthesis of b-acetamido carbonyl compounds using $Mn(bpdo)_2Cl_2/MCM-41$ catalyst*, **Synthetic Communications**, 2010, 40, 1180-1186
- M. M. Heravi, N. Poormohammad, Y. Sh. Beheshtiha, B. Baghernejad, R. Malakooti, *The synthesis of 2-iminochromenes using mesoporous molecular sieve MCM-41 as a heterogeneous and recyclable catalyst*, **Bulletin of the Chemical Society of Ethiopia**, 2010, 24, 2, 273-276
- R. Hekmat Shoar, M. Heidary, M. Farzaneh, R. Malakooti, *Synthesis of benzoxazoles catalyzed by MCM-41, a green and reusable catalyst*, **Synthetic Communications**, 2009, 39, 1742-1751
- M. M. Heravi, N. Poormohammad, Y. Sh. Beheshtiha, B. Baghernejad, R. Malakooti, *A new strategy for the synthesis of 3-acyl-coumarin using mesoporous molecular sieve MCM-41 as a novel and efficient catalyst*, **Chinese Journal of Chemistry**, 2009, 27, 968-970
- M. M. Heravi, H. A. Oskooie, R. Malakooti, B. Alimadadi, H. Alinejad, F. K. Behbahani, *Oxidative aromatization of hantzsch 1,4-dihydropyridines in the presence of a catalytic amount of $Mn(pbdo)_2Cl_2/MCM-41$ or $Mn(pbdo)_2Cl_2/Al-MCM-41$ as reusable and green catalysts*, **Catalysis Communications**, 2009, 10, 6, 819-822
- M. M. Heravi, B. Baghernejad, H. A. Oskooie, R. Malakooti, *Rapid knoevenagel condensation using mesoporous molecular sieve MCM-41 as a novel and efficient catalyst*, **Journal of the Korean Chemical Society**, 2008, 52, 5
- M. M. Heravi, B. Baghernejad, H. A. Oskooie, R. Malakooti, *Mesoporous molecular sieve MCM-41 as a novel and efficient catalyst to synthesis of 2-substituted benzimidazoles*, **Journal of the Chinese Chemical Society**, 2008, 55, 1129-1132
- R. Malakooti, F. Farzaneh, M. Ghandi, *Synthesis, characterization and studies on catalytic behavior of $Mn(II)$ complex with 2, 2' bipyridine, 1, 1' dioxide ligand within nanoreactors of MCM-41*, **Journal of Science I. R. Iran**, 2006, 17, 1, 43-52
- F. Farzaneh, J. Taghavi, R. Malakooti, M. Ghandi, *Immobilized vitamin B_{12} within nanoreactors of MCM-41 as selective catalyst for oxidation of organic substrates*, **Journal of Molecular Catalysis A: Chemical**, 2006, 244, 252–257

Conference Papers

A. Fegghi, R. Malakooti, *Mo₄O₁₈(C₅H₆N)₂.H₂O Organic-Inorganic Hybrid as Bi-Functional Catalyst for Knoevenagel Condensation*, **8th International Conference on Nanostructures (ICNS8)**, 2020, Sharif University of Technology, Tehran, IRAN

A. Fegghi, R. Malakooti, *The Effect of Various ligands on Catalytic Performance of MoO_x/nitrogenous Nanowires*, **8th International Conference on Nanostructures (ICNS8)**, 2020, Sharif University of Technology, Tehran, IRAN

R. Malakooti, M. Yaghoubi, H. Atashin, S. Shafiei, *Synthesis and characterization of MoO₃/SBA-15 and MoO₃/KIT-6 nanocatalysts*, **16th Iranian Inorganic Chemistry Conference**, 2014, 27-29 August, Bu-Ali Sina University, Hamedan, IRAN

R. Malakooti, M. Yaghoubi, H. Atashin, *MoO₃/KIT-6 nanostructure as green catalyst for oxidation of alcohols*, **16th Iranian Inorganic Chemistry Conference**, 2014, 27-29 August, Bu-Ali Sina University, Hamedan, IRAN

R. Malakooti, T. Hosseiny, H. Mahmoudi, H. Atashin, *ZnO/SBA-15 catalyzed one-pot synthesis of polyhydroquinoline derivatives under solvent-free conditions*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, M. Rajaei, H. Atashin, R. Hosseinabadi, *Immobilization of Fe (III) complexes on the magnetic nanoparticles and investigation of their catalytic properties in oxidation reactions*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, M. Noori, H. Mahmoudi, R. Hosseinabadi, *Magnetite nanoparticles immobilized Salen Cu (II) as a green catalyst for oxidation of alcohols*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, M. Noori, H. Mahmoudi, *Synthesis and characterization of magnetically recoverable copper nanocatalyst*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, F. Ebrahimi, H. Atashin, *Copper(II) complex supported on Sulfonic acid-functionalized silica-coated magnetic nanoparticle catalysts as a recyclable for oxidation of alcohols with tert-butylhydroperoxide*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, F. Ebrahimi, H. Atashin, *Synthesis And Characterization of copper(II) complexes supported on Sulfonic acid-functionalized silica-coated magnetic nanoparticle catalysts*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

R. Malakooti, T. Hosseiny, H. Mahmoudi, H. Atashin, *Synthesis and characterization of ZnO/SBA-15 nanocatalyst*, **15th Iranian Inorganic Chemistry Conference**, 2013, 3-4 September, Hakim Sabzevari University, Sabzevar, IRAN

M.M. Heravi, A. Bakhtiari, R. Malakooti, H. Atashin, *Acylation of alcohols and phenols with acetic anhydride in solvent-free conditions catalyzed by Pd/SBA nanoparticles*, **1st National Conference on Multi-Component Reactions**, 2012, 30-31 May, Kerman, IRAN

- R. Malakooti, R. Hosseinabadi, S. Hadizadeh, H. Atashin, *Iron schiff-base complex loaded SBA-15 as an efficient nanocatalyst for the synthesis of dihydropyrimidinones under solvent free condition*, **1st National Conference on Multi-Component Reactions**, 2012, 30-31 May, Kerman, IRAN
- R. Malakooti, R. Hosseinabadi, H. Atashin, *Palladium nanoparticles supported on mesoporous materials as heterogeneous catalyst for aerobic oxidation of alcohols*, **14th Iranian Inorganic Chemistry Conference**, 2011, 28-29 August, Sharif University of Technology, Tehran, IRAN
- R. Malakooti, R. Hosseinabadi, S. Hadizadeh, *Iron schiff-base complex loaded SBA-15 as an efficient nanocatalyst for oxidation of alcohols with improved selectivity*, **14th Iranian Inorganic Chemistry Conference**, 2011, 28-29 August, Sharif University of Technology, Tehran, IRAN
- R. Malakooti, S. Hadizadeh, *Synthesis and characterization of clustered iron oxide nanoparticles in an oil-in-water dispersion*, **14th Iranian Inorganic Chemistry Conference**, 2011, 28-29 August, Sharif University of Technology, Tehran, IRAN
- H. Mahmoudi, R. Malakooti, R. Hosseinabadi, M. dusti, *Solvent free oxidation of alcohols catalyzed by [Fe(bpdo)₂Cl₂]Cl supported on Al-SBA-15*, **14th Iranian Inorganic Chemistry Conference**, 2011, 28-29 August, Sharif University of Technology, Tehran, IRAN
- R. Malakooti, H. Mahmoudi, H.A. Oskooie, M.M. Heravi, N. Karimi, G. Kohansal, A. Amouchi, *An efficient synthesis of highly substituted pyridines catalyzed using Mn(bpdo)₂Cl₂/SBA-15 nanoreactor under solvent-free conditions*, **14th Iranian Inorganic Chemistry Conference**, 2011, 28-29 August, Sharif University of Technology, Tehran, IRAN
- S. Malakooti, N. Mohammadi, R. Malakooti, M. Hadi Valavi, *Surface Energy Effects on Thermo-mechanical Properties of Hollow Nanospheres*, **19th Annual Conference on Mechanical Engineering- ISME** 2011, 10-12 May, University of Birjand, Birjand, IRAN
- R. Mirzajani, R. Malakooti, S. Ahmadi, *Adsorption studies of Azure (II) onto MCM-41 for its simultaneous preconcentration and determination*, **5th National Seminar of Chemistry & Environment** 21-23 December 2011 University of Shahid Chamran, Ahvaz, IRAN
- R. Malakooti, Z. Parsaei, H.A. Oskooie, M.M. Heravi, M. Saeedi, M. Amrollah, *[Cu(bpdo)₂.2H₂O]²⁺– supported SBA-15 as green nanocatalyst for synthesis of benzoxanthenone derivatives efficiently*, **5th National Seminar of Chemistry & Environment** 21-23 December 2011 University of Shahid Chamran, Ahvaz, IRAN
- R. Malakooti, M. Rostami-Nasab, H.A. Oskooie, M.M. Heravi, N. Karimi, A. Amouchi, G. Kohansal, *Synthesis of 2-substituted benzimidazoles and 2-aryl-1Hbenzimidazoles using [Zn(bpdo)₂.2H₂O]²⁺/MCM-41 green nanocatalyst under solvent-free conditions*, **5th National Seminar of Chemistry & Environment** 21-23 December 2011 University of Shahid Chamran, Ahvaz, IRAN
- L. Cademartiri, R. Malakooti, A. Migliori, S. Petrov, G. A. Ozin, *Polymer-like inorganic nanowires*, **ACS Fall Meeting**, 2007, Boston, MA, USA
- A. Ghadimi, L. Cademartiri, R. Malakooti, G. A. Ozin, *Quantum dot microrods*, **MRS Spring Meeting**, 2007, San Francisco, CA, USA
- L. Cademartiri, R. Malakooti, G. Guerin, P. O'Brien, A. Migliori, N. P. Kherani, M. A. Winnik, G. A. Ozin, *Quantum confined inorganic nanowires with polymer-like properties*, **MRS Fall Meeting**, 2007, Boston, MA, USA

L. Cademartiri, R. Malakooti, G. von Freymann, Y. Akçakir, A. C. Arsenault, S. Petrov, A. Migliori, J. Bertolotti, D. S. Wiersma, V. Kitaev, G. A. Ozin, *Nanocrystal plasma polymerization*, **AIP Conference Proceedings**, 2007, 893, 1051-1052

L. Cademartiri, R. Malakooti, G. von Freymann, Y. Akçakir, A. C. Arsenault, S. Petrov, A. Migliori, J. Bertolotti, D. S. Wiersma, V. Kitaev, G. A. Ozin, *Nanocrystal plasma polymerization*, **ICPS-28** (International Conference on the Physics of Semiconductors), 2006, Vienna, AUSTRIA

R. Malakooti, L. Cademartiri, S. Petrov, A. Migliori, G. A. Ozin, *Ultranarrow Bi₂S₃ and Sb₂S₃ nanowires*, **MRS Fall Meeting**, 2006, Boston, MA, USA

R. Malakooti, L. Cademartiri, Y. Akçakir, S. Petrov, A. Migliori, G. A. Ozin, *Shape-controlled bismuth sulfide colloidal nanostructures and their nanocrystal plasma polymerization into flexible films*, **MRS Fall Meeting**, 2006, Boston, MA, USA

R. Malakooti, F. Farzaneh, *Synthesis, characterization and investigation of catalytic behavior of Mn complex with 2, 2' bipyridine 1, 1'dioxide in MCM-41 nanoreactor*, **28th Annual BZA Meeting**, 2005, University of Bath, Bath, UK

Mentoring

PhD Students

M. Dowlati (Towards PhD candidacy)

A. Fattahi (PhD 2018), *Preparation of electrochemical sensors based on carbon ion liquid electrode containing magnetic nanoparticles for highly sensitive and selective detection of some chemical and biological compounds*

A. Feghhi (PhD 2017), *Size and shape effects of transition metal oxide nanoparticles on the catalytic activity in some organic reactions*

H. Mahmoodi (PhD 2014), *Synthesis and characterization of mesoporous silica nanocatalysts modified with Mn, Zn and Zr compounds*

H. Atashin (PhD 2014), *Synthesis and characterization of mesoporous silica nanocatalysts modified with palladium and iron oxide compounds*

Master Students

Z. Hasani Abiz (2020)

H.R. Norollahi (2020), *Hydrothermal synthesis of MIL101 MOFs-K₈SiW₁₁O₃₉-CoFe₂O₄ magnetic nanocomposites and study of their application as new adsorbents for removing dye organic pollutants*

R. Shamshirgaran (2020), *Reduction and elimination of contamination in groundwater layers by injection of pollutants such as biochar enriched with zero-valent iron nanoparticles*

S. Moosavi (2020), *Immobilization of copper complex on mesoporous silica as heterogeneous catalyst for some organic reactions*

M. Dowlati (2016), *Shape-controlled synthesis of porous Co_3O_4 and their application as catalysts in some organic reactions*

A. Etehad Abari (2016), *Catalytic applications of mesostructured copper/ceria in some organic reactions*

V. Sarvari (2016), *Water soluble copper nanoparticles for catalysis in some organic reactions*

A. Feizbakhsh (2016), *Evaluation of engineering properties of self-compacting mortar containing nanoparticles*

M. Yaghoobi (2014), *Synthesis and characterization of $\text{MoO}_3/\text{SBA-15}$ and $\text{MoO}_3/\text{KIT-6}$ nanocatalysts, and investigation of their catalytic activity in organic reactions*

M. Noori (2013), *Immobilization of Schiff base copper (II) complex on the magnetic nanoparticles and investigation of its catalytic properties in organic reactions*

F. Ebrahimi Raviz (2013), *Synthesis of Cu (II) complex with bpdo ligand and immobilization of that on the nanomagnetic and silica supports and its applications as catalyst in oxidation reaction*

T. Hosseini (2013), *Immobilization of zinc oxide nanoparticles into the mesoporous silica support, SBA-15, and investigation of its catalytic in multicomponent reactions*

M. Rajaei (2013), *Immobilization of Fe (III) Complexes on the magnetic nanoparticles and investigation of their catalytic properties in oxidation reactions*

S. Hadizadeh (2012), *Synthesis and characterization of $\text{Fe}(\text{salen})/\text{SBA-15}$ nanocatalyst and colloidal Fe_3O_4 nanoparticles*

M. Rostami-nasab (2012), *Synthesis and characterization of $[\text{Zn}(\text{bpdo})_2 \cdot 2\text{H}_2\text{O}]^{2+}/\text{MCM-41}$, SBA-15 nanocatalysts and ZnO nanoparticles*

M. Dusti (2012), *Synthesis and characterization of Al-SBA-15 , $[\text{Fe}(\text{bpy})_2\text{Cl}_2]\text{Cl}/\text{Al-SBA-15}$, nano catalysts and their catalytic applications in organic reactions*

Z. Parsaei (2011), *Immobilization and characterization of $[\text{Cu}(\text{bpdo})_2(\text{H}_2\text{O})_2]^{2+}$ complex with in MCM-41 , SBA-15 and montmorillonite KSF nanoreactors*

S. Shafiei (2011), *Synthesis and characterization of MoO_3 nanoparticles*

R. Mokhtari (2010), *Synthesis and characterization of Chromium (III) Oxide nanoparticles*

H. Mahmoodi (2009), *Synthesis and characterization of Zirconia nanoparticles*

Y. Takhti (2009), *Shape and size controlled nickel nanocrystals*

Advisor:

R. Jahanshahi (2012), *Synthesis of supported n-propylsulfonate on $\gamma\text{-Fe}_2\text{O}_3$ and its applications in organic chemistry*

N. Razavi (2012), *New application of aminopropylated functionalized mesoporous silica (SBA-15) as a catalyst in phosphonate synthesis*

References

Dr. Geoffrey A. Ozin

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