Mina Sarani

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https://scholar.google.com/citations?hl=fa&user=FykGswoAAAAJ&view_op=list_works&sortby=pubdate

EDUCATION AND PROFESSIONAL DEVELOPMENT

PhD degree in Nanomedical science, Shiraz University of Medical Science, Shiraz, Iran *January 2021-January 2026*
Thesis Topic: "Synthesis of bismuth oxide nanohybrids-folic acid, characterization and its application in melanoma cancer treatment as a sonosensitizer: 2D and 3D cell culture of melanoma cancer cells".

Master's degree in Chemistry-Inorganic Chemistry, Payam Noor University, Mashhad, Iran

September 2009 to May 2012

Thesis Topic: "Synthesis and characterization of cerium oxide nanoparticles by sol-gel method and preparation of zirconium (IV), lanthanum (III), thallium (I), lead (II) and yttrium III complexes with 2- (2 - (2-hydroxyethylamino) ethyl imino) methyl) phenol ligand".

Bachelor's degree in Pure Chemistry, University of Zabol, Zabol, Iran

January 2004 to July 2007

MEMBERSHIP: American Chemical Society (ACS)

"**The world's Top 2% Scientists**" in Elsevier Data Repository 2024

"**The world's Top 2% Scientists**" in Elsevier Data Repository 2025

JOURNAL REFEREE

- Ceramics International (Elsevier)
- Micron (Elsevier)
- Journal of Molecular Structure (Elsevier)
- Inorganic Chemistry Communications (Elsevier)
- Results in Chemistry (Elsevier)
- Journal of Organometallic Chemistry (Elsevier)
- ACS Materials Letters (ACS publications)
- Scientific Reports (Nature Research)
- Journal of Nanostructure Chemistry (Springer)
- Bioprocess and Biosystems Engineering (Springer)
- Journal of Inorganic and Organometallic Polymers and Materials (Springer)
- Microscopy Research and Technique (Wiley)
- Journal of Cellular Physiology (Wiley)
- Journal of the Science of Food and Agriculture (Wiley)
- Artificial Cells Nanomedicine and Biotechnology (Taylor & Frances)
- Inorganic and Nano-Metal Chemistry (Taylor & Frances)
- Advances in Natural Sciences Nanoscience and Nanotechnology (IOPScience)

EDITOR

- Topic research "Green Synthesis of Nanomaterials: Cytotoxicity and Drug Delivery" in "Frontiers in Bioengineering and Biotechnology" (6 Apr 2021 till 6 Jan 2023)

https://www.frontiersin.org/research-topics/21076/green-synthesis-of-nanomaterials-cytotoxicity-and-drug-delivery

AWARDS

- Recognized as an Outstanding Reviewer for Advances in Natural Sciences: Nanoscience and Nanotechnology from Vietnam Academy of Science and Technology in IOP Publishing 2020
- Ranked 1st in the thesis project for master's degree among graduate students at Payam Noor University June 2012
- Ranked 1st in researcher of employees in Zabol University of Medical Science 2022-2023
- Ranked 1st in researcher of employees in Zabol University of Medical Science 2023-2024

PUBLICATIONS

2026

- K. Hamidian, **M. Sarani**, AR Oveisi, "Biosynthesis of CeO_2@ UiO-66-NH_2 Nano-carrier for Enhanced Doxorubicin Delivery and Cytotoxicity Assessment in HepG2 Liver Cancer Cells". Materials Today Communications (IF: 4.5)
- **M. Sarani**, H. Haghighi, P. Tamaddon, M. Darroudi, A. Safari, S.A. Dastgheib, N. Sattarahmady, "Bi_2O_3@ folic acid nanoparticles: An effective sonosensitizer for melanoma sonodynamic therapy". Environmental Technology & Innovation (IF: 7.1)

2025

- K. Hamidian, H. Shahdadi, **M. Sarani**, M. Samre Delarami, M. Hamidian, "Photodegradation of cephalexin and amoxicillin through green-synthesized MgO@ folic acid nanoparticles". Results in Chemistry (IF: 4.2)
- **M. Sarani**, N. Zahraie, H. Haghighi, H. Heli, M. Darroudi, et al., "In Vitro Investigation of Targeted Sonodynamic Therapy of Melanoma Cancer Cells Utilizing a Green-Synthesized Folic Acid@ CeO_2-Bi_2O_3 Nanohybrid". Ultrasound in Medicine & Biology (IF: 2.6)
- **M. Sarani**, P. Tamaddon, H. Haghighi, H. Heli, M. Darroudi, et al., "Sonotherapy Using Folic Acid-Ag-Bi_2O_3 Nanocomposites in 2D and 3D Cultural C540 Melanoma Cells", Journal of Biomedical Physics and Engineering.
- K. Hamidian, **M. Sarani**, "Biosynthesis and In Vitro Cytotoxic Performance of Bimetallic ZnO/CeO_2 Nanoparticles", Brazilian Journal of Physicss (Q2 and IF: 1.50)

2024

- S. Ariaeenejad, M. Barani, **M. Sarani**, A. Lohrasbi-Nejad, G. Mohammadi-Nejad, G. Hosseini Salekdeh, "Green synthesis of NiO NPs for metagenome-derived laccase stabilization: Detoxifying pollutants and wastes", International Journal of Biological Macromolecules (Q1 and IF: 8.20)
- K. Hamidian, A. Zarin, **M. Sarani**, M. Barani, M. Adeli-Sardou., "Study of cytotoxic performance of green-synthesized Co doped NiO nanoparticles over human breast cancer cells", Inorganic Chemistry Communications (Q1 and IF: 3.80)
- **Sarani, M**., Darroudi, M., Naderifar, M., Akbarizadeh, M. R., Nobre, M. A., Kruppke, B., Khonakdar, H. A., Mehdi Erfani Jazi M., "Biosynthesis of ZnO, Bi_2O_3 and ZnO−Bi_2O_3 bimetallic nanoparticles and their cytotoxic and antibacterial effects", ChemistryOpen (Q3 and IF: 2.30)
- **Sarani, M**., Roostaee, M., Adeli-Sardou, M., Kalantar-Neyestanaki, D., Mousavi, S. A. A., Amanizadeh, A., ... & Amirbeigi, A. "Green Synthesis of Ag and Cu-Doped Bismuth Oxide Nanoparticles: Revealing Synergistic Antimicrobial and Selective Cytotoxic Potentials for Biomedical Advancements", Journal of Trace Elements in Medicine and Biology (Q3 and IF: 3.50)
- **M. Sarani**, M. Darroudi, M. Barani, F. Khakbaz, Z. Sabouri, M. Sadrmohammadi, M. Erfani Jazi, "Facile synthesis of Tl, Pb, and Bi doped CeO2 nanoparticles and the evaluation of their in-vitro cytotoxicity and photocatalytic performance", Journal of the Indian Chemical Society (Q2 and IF: 3.20)
- **M. Sarani**, M. Barani, M. Adeli-Sardou, F. Aghabozorgi, "In vitro cytotoxic study of synthesized Ag and Ce dual-doped α-Fe2O3 nanoparticles on NIH/3T3 and U87 cell lines", Inorganic Chemistry Communications (Q1 and IF: 3.80)

2023

- Shohreh Ariaeenejad, Mahmood Barani, **Mina Sarani**, Azadeh Lohrasbi-Nejad, Ghasem Mohammadi-Nejad, Ghasem Hosseini Salekdeh, "Biocatalytic decolorization of azo dye-containing wastewater by immobilizing metagenome-derived laccase on green synthesized Co-doped NiO NPs", Process Safety and Environmental Protection (Q1 and IF: 7.80)
- Khadijeh Hamidian, **Mina Sarani**, Soheil Behjati, Mahdi Mahjoub, Niloofar Zafarnia, "Cytotoxic Performance of Synthesized Mn-Doped ZnO Nanorods in MCF-7 Cells". ChemistryOpen (Q2 and IF: 2.630)
- M. Sarani, K. Hamidian, M. Barani, M. Adeli-Sardou, H.A. Khonakdar, "α-Fe_2O_3@ Ag and Fe_3O_4@Ag Core-Shell Nanoparticles: Green Synthesis, Magnetic Properties and Cytotoxic Performance" ChemistryOpen (Q2 and IF: 2.630)
- K. Hamidian, **M. Sarani**, S. Mohebbi, A. Najafidoust, A. Miri," Study of photodegradation performance of Zn doped CeO2 nanoparticles for wastewater contaminants remediation under visible light", Applied Organometallic Chemistry (Q1 and IF: 4.072)
- K. Hamidian, M. Barani, M. Adeli-Sardou, **M. Sarani**, S. Daliran, A.R. Oveisi, "Evaluation of cytotoxicity, loading, and release activity of paclitaxel loaded-porphyrin based metal-organic framework (PCN-600)", Heliyon, (Q2 and IF: 3.776)
- K. Hamidian, **M. Sarani**, A. Najafidoust, A. Sardashti-Birjandi, "Co-doped ZnO Nanowires: synthesis, photocatalytic performance, and cytotoxic activity against human brain glioblastoma cells", Results in Chemistry, (Scopus)

2022

- M.R. Akbarizadeh, **M. Sarani**, S. Darijan, "Study of antibacterial performance of biosynthesized pure and Ag-doped ZnO nanoparticles", Rendiconti Lincei. Scienze Fisiche e Naturali, (Q3 and IF: 1.810)

- **M. Sarani**, F. Tosan, S. Abaei Hasani, M. Barani, M. Adeli-Sardou, M. Khosravani, S. Niknam, M.A. Jadidi Kouhbanani, N. Beheshtkhoo, "Study of in vitro cytotoxic performance of biosynthesized α-Bi2O3 NPs, Mn-doped and Zn-doped Bi2O3 NPs against MCF-7 and HUVEC cell lines". Journal of Materials Research and Technology. (Q1 and IF: 6.267)
- K. Hamidian, **M. Sarani**, M. Barani, F. Khakbaz, "Cytotoxic performance of green synthesized Ag and Mg dual doped ZnO NPs using Salvadora persica extract against MDA-MB-231 and MCF-10 cells", Arabian Journal of Chemistry, (Q1 and IF: 6.212)
- B. Abdollahi, S. Farshnama, E. Abbasi Asl, A. Najafidoust, **M. Sarani**, "Cu (BDC) metal–organic framework (MOF)-based Ag2CrO4 heterostructure with enhanced solar-light degradation of organic dyes", Inorganic Chemistry Communications, (Q2 and IF: 3.428)
- K. Hamidian, **M. Sarani**, E. Sheikhi, M. Khatami, "Cytotoxicity evaluation of green synthesized ZnO and Ag-doped ZnO nanoparticles on brain glioblastoma cells", Journal of Molecular Structure, (Q2 and IF: 3.841)
- A. Najafidoust, B. Abdollahi, **M. Sarani**, M. Darroudi, A. Movahhed Vala, "MIL-(53) Fe metal-organic framework (MOF)-based Ag2CrO4 hetrostructure with enhanced solar-light degradation of organic dyes", Optical Materials, (Q2 and IF: 3.754)
- A. Miri, **M. Sarani**, A. Najafidoust, M. Mehrabani, F. Abolhasani Zadeh, R.S. Varma, "Photocatalytic performance and cytotoxic activity of green-synthesized cobalt ferrite nanoparticles", Materials Research Bulletin, (Q1 and IF: 5.6)
- M.R. Akbarizadeh, M. Naderifar, F. Mousazadeh, N. Zafarnia, **M. Sarani**, "Cytotoxic activity and Magnetic Behavior of green synthesized iron oxide nanoparticles on brain glioblastoma cells", Nanomedicine Research Journal (Scopus)

2021

- **M. Sarani**, A. Bazookar Joshaghani, A. Najafidoust, E. Abbasi Asl, H. Kazemi Hakki, H. Bananifard, M. Sillanpaa, "Sun-light driven photo degradation of organic dyes from wastewater on precipitation Ag_2CrO4 over SiO_2-aerogel and nano silica", Inorganic Chemistry Communications, (Q2 and IF: 3.428)
- A. Miri, A.S. Sedighi, A. Najafidoust, M. Khatami, **M. Sarani**, "Study of photodegradation performance and ability of lead removal of green synthesised maghemite nanoparticles", International Journal of Environmental Analytical Chemistry, (Q2 and IF: 2.73)
- A. Najafidoust, E. Abbasi Asl, H. Kazemi Hakki, **M. Sarani**, H. Bananifard, M. Sillanpaa, M. Etemadi, "Sequential impregnation and sol-gel synthesis of Fe-ZnO over hydrophobic silica aerogel as a floating photocatalyst with highly enhanced photodecomposition of BTX compounds from water", Solar Energy, (Q1 and IF: 7.188)
- A. Miri, **M. Sarani**, A. Najafidoust, R.S. Varma, "Evaluation of photocatalytic performance and cytotoxic activity of green synthesized nickel ferrite nanoparticles", Environmental Progress & Sustainable Energy, (Q2 and IF: 2.824)
- E. Nazaripour, F. Mousazadeh, M. Doosti Moghadam, K. Najafi, F. Borhani, **M. Sarani**, M. Ghasemi, A. Rahdar, S. Iravani, M. Khatami, "Biosynthesis of lead oxide and cerium oxide nanoparticles and their cytotoxic activities against colon cancer cell line", Inorganic Chemistry Communications, (Q2 and IF: 3.428)
- M.A. Jadidi Kouhbanani, Y. Sadeghipour, **M. Sarani**, E. Sefidgar, S. Ilkhani, A.M. Amani, N. Beheshtkhoo, "The inhibitory role of synthesized Nickel oxide nanoparticles against Hep-G2, MCF-7, and HT-29 cell lines: the inhibitory role of NiO NPs against Hep-G2, MCF-7, and HT-29 cell lines", Green Chemistry Letters and Reviews, (Q1 and IF: 6.016)
- A. Miri, H. Najafzadeh, M. Darroudi, M.J. Miri, M.A. Jadidi Kouhbanani, **M. Sarani**, "Iron Oxide Nanoparticles: Biosynthesis, Magnetic Behavior, Cytotoxic Effect", ChemistryOpen, (Q2 and IF: 2.63)
- K. Hamidian, M.R. Saberian, A. Miri, F. Sharifi, **M. Sarani**, "Doped and Un-doped Cerium Oxide Nanoparticles: Biosynthesis, Characterization, and Cytotoxic Study", Ceramics International, (Q1 and IF: 5.532)
- K. Hamidian, A. Najafidoust, A. Miri, **M. Sarani**, "Photocatalytic performance on degradation of Acid Orange 7 dye using biosynthesized un-doped and Co doped CeO_2 nanoparticles", Materials Research Bulletin, (Q1 and IF: 5.6)

2020

- A. Miri, F. Mahabbati, A. Najafidoust, M.J. Miri, **M. Sarani**, "Nickel oxide nanoparticles: biosynthesized, characterization and photocatalytic application in degradation of methylene blue dye", Inorganic and Nano-Metal Chemistry, (Q3 and IF: 1.514)
- A. Miri, S. Akbarpour Birjandi, **M. Sarani**, "Survey of cytotoxic and UV protection effects of biosynthesized cerium oxide nanoparticles", Journal of Biochemical and Molecular Toxicology, (Q2 and IF: 3.568)
- M. Khatami, S. Khatami, F. Mosazade, M. Raisi, M. Haghighat, M. Sabaghan, S. Yaghoubi, **M. Sarani**, M. Bamorovat, L. Malekian, A. Naroi, R. Varma, "Greener Synthesis of Rod Shaped Zinc Oxide NPs Using Lilium ledebourii Tuber and Evaluation of Their Leishmanicidal Activity", Journal of Iranian Journal of Biotechnology, (Q3 and IF: 1.671)
- A. Miri, M. Khatami, **M. Sarani**, "Nickel Doped Cerium Oxide Nanoparticles: Biosynthesis, Cytotoxic and UV Protective studies", RSC Advances, (Q1 and IF: 4.036)
- A Miri, M Darroudi, **M Sarani**, "Biosynthesis of cerium oxide nanoparticles and its cytotoxicity survey against colon cancer cell line", Journal of Applied Organometallic Chemistry, (Q1 and IF: 4.072)
- A. Miri, M. Khatami, O. Ebrahimy, **M. Sarani** "Cytotoxic and Antifungal studies of Biosynthesized Zinc Oxide nanoparticles using extract of Prosopis farcta fruit", Green Chemistry Letters and Reviews, (Q1 and IF: 6.016)

2019

- M. Khatami, **M. Sarani**, F. Mosazadeh, M.R. Rajabalipour, A.R. Izadi, M. Abdollahpour-Alitappeh, M. Augusto Lima Nobre, F. Borhani, "Nickel-Doped Cerium Oxide Nanoparticles: Green Synthesis Using Stevia and Protective Effect against Harmful Ultraviolet Rays", Molecules, (Q1 and IF:4.927)
- A. Miri, N. Mahdinejad, O. Ebrahimy, M. Khatami, **M. Sarani**, "Zinc oxide nanoparticles: Biosynthesis, characterization, antifungal and cytotoxic activity", Materials Science and Engineering: C, (Q1 and IF: 7.328)
- A. Miri, **M. Sarani**, "Biosynthesis and Cytotoxic Study of Synthesized Zinc Oxide Nanoparticles Using Salvadora persica", BioNanoScience, (IF: -)

- M. Khatami, HQ. Alijani, M. Haghighat, M. Bamrovat, S. Azhdari, M. Ahmadian, M. Nobre, M. Heidari, **M. Sarani**, S. Khatami, "Green Synthesis of Amorphous Iron Oxide Nanoparticles and their Antimicrobial Activity against Klebsiella pneumonia, Pseudomonas aeruginosa and Escherichia coli", Iranian Journal of Biotechnology, (Q3 and IF: 1.671)
- A. Miri, M. Khatami, **M. Sarani**, "Biosynthesis, magnetic and cytotoxic studies of hematite nanoparticles". Journal of Inorganic and Organometallic Polymers and Materials, (Q2 and IF: 3.518)

2018

- A. Miri, **M. Sarani**, "Biological studies of synthesized silver nanoparticles using Prosopis farcta", Journal of Molecular Biology Reports, (Q3 and IF: 2.742)
- M. Khatami, RS. Varma, N. Zafarnia, H. Yaghoobi, **M. Sarani**, VG Kumar, "Applications of green synthesized Ag, ZnO and Ag/ZnO nanoparticles for making clinical antimicrobial wound-healing bandages", Sustainable Chemistry and Pharmacy, (Q1 and IF: 5.646)
- A. Miri, **M. Sarani**, A. Hashemzadeh, Z. Mardani, M Darroudi, "Biosynthesis and cytotoxic activity of lead oxide nanoparticles", Green Chemistry Letters and Reviews, (Q1 and IF: 6.016)
- A. Miri, **M. Sarani**, "Biosynthesis, characterization and cytotoxic activity of CeO_2 nanoparticles", Ceramics International, (Q1 and IF: 5.532)
- A. Miri, M. Darroudi, R. Entezari, **M. Sarani**, "Biosynthesis of gold nanoparticles using Prosopis farcta extract and its in vitro toxicity on colon cancer cells", Journal of Research on Chemical Intermediates, (Q2 and IF: 3.134)
- A. Miri, SR. Mousavi, **M. Sarani**, "Using Biebersteinia multifida Aqueous Extract, the Photocatalytic Activity of Synthesized Silver Nanoparticles", ORIENTAL JOURNAL OF CHEMISTRY, (IF: -)
- A Miri, H.O. Shahraki Vahed, **M Sarani**, "Biosynthesis of silver nanoparticles and their role in photocatalytic degradation of methylene blue dye", Research on Chemical Intermediates, (Q2 and IF: 3.134)
- Miri, M. Sarani, "Silver nanoparticles: cytotoxic and apoptotic activity on HT-29 and A549 cell lines", Journal of New Developments in Chemistry.

2016

- A Miri, N Dorani, M Darroudi, **M Sarani**, "Green synthesis of silver nanoparticles using Salvadora persica L. and its antibacterial activity", Cellular and Molecular Biology, (Q4 and IF: 1.77)

2015

- A. Miri, **M. Sarani**, M. Rezazade Bazaz, M. Darroudi, "Plant-mediated biosynthesis of silver nanoparticles using Prosopis farcta extract and its antibacterial properties", Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy. (Q1 and IF: 4.831)

2014

- M. Darroudia, **M. Sarani**, R. Kazemi Oskuee, A. Khorsand Zak, M.S. Amiri, "Nanoceria: Gum mediated synthesis and in vitro viability assay", Ceramics International, (Q1 and IF: 5.532)
- M. Darroudi, **M. Sarani**, R. Kazemi Oskuee, A. Khorsand Zak, H.A. Hosseini, L. Gholami, "Green synthesis and evaluation of metabolic activity of starch mediated nanoceria", Ceramics International, (Q1 and IF: 5.532)

2013

- M. Darroudi, M. Hakimi, **M. Sarani**, R. Kazemi Oskueea, A.Khorsand Zake, L. Gholami, "Facile synthesis, characterization, and evaluation of neurotoxicity effect of cerium oxide nanoparticles", Ceramics International, (Q1 and IF: 5.532)

SKILLS & STRENGTH

Management: Project Management

Technical: working with devices such as UV-Vis, FT-IR, Pl, and HPLC

Software: Python, ChemDraw, Prism, EndNote, Microsoft Office, and ICDL

Key Strengths: Chemical and green synthesis of type nanoparticles, nanocomposites, and nano porous materials **|** Structure elucidation of nanomaterials with PXRD, FESEM, TEM, UV-Vis, FT-IR, Raman, etc. **|** Photodegradation performance and biological test like cytotoxic, hemolysis, apoptosis and wound healing, Antibacterial, and drug delivery

LANGUAGE & TEST SCORES

English: Fluent **|** Persian: Native