In The Name of GOD

Maryam Niksefat

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Education

B.Sc.

University: Kharazmi University
Major: Applied chemistry

M.Sc.

University: Iran University of Science & Technology (IUST)
Major: Nano Science and Technology – Nanochemistry
Thesis: **Synthesis of functionalized core-shell Fe_3O_4@SiO_2 magnetic nanoparticles with 2,4,6-tris (diethylenetriamino)-1,3,5-triazine and studying its application in the harvesting of blue-green microalgae from water sources and surface waters refineries**
Supervisor: Prof. Ali Maleki and Assoc. Prof. Mohammad Ghorban Dekamin
Advisor: Prof. Rahmatollah Rahimi

Ph.D.

University: Institute for Nanoscience and Nanotechnology (INST), Sharif University of Technology
Major: Nano Science and Technology

Research Interests

- ✓ Wastewater treatment
- ✓ Bionanocomposites
- ✓ Materials Science
- ✓ Green Synthesis
- ✓ Nano-catalyst Synthesis and Multicomponent Reactions
- ✓ Design and synthesis nanomaterial

Publications

1. Maleki, M. Niksefat, J. Rahimi, S. Azadegan, Facile synthesis of tetrazolo[1,5-a] pyrimidine with the aid of an effective gallic acid nanomagnetic catalyst. Polyhedron, 167 (2019) 103-110.
2. A. Maleki, M. Niksefat, J. Rahimi, Z. Hajizadeh, Design and preparation of Fe_3O_4@PVA polymeric magnetic nanocomposite film and surface coating by sulfonic acid via in situ methods and evaluation of its catalytic …, BMC Chemistry, 13 (2019) 19.
3. A. Maleki, J. Rahimi, Z. Hajizadeh, M. Niksefat, Synthesis and characterization of an acidic nanostructure based on magnetic polyvinyl alcohol as an efficient heterogeneous nanocatalyst for the synthesis of α-aminonitriles. Journal of Organometallic Chemistry, 881 (2019) 58-65.
4. A. Maleki, M. Niksefat, J. Rahimi, R. Taheri-Ledari, Multicomponent synthesis of pyrano [2, 3-d] pyrimidine derivatives via a direct one-pot strategy executed by novel designed copperated Fe_3O_4@ polyvinyl alcohol magnetic nanoparticles. Materials Today Chemistry, 13 (2019) 110-120.
5. J. Rahimi, R. Taheri-Ledari, M. Niksefat, A. Maleki, Enhanced reduction of nitrobenzene derivatives: Effective strategy executed by Fe_3O_4/PVA-10% Ag as a versatile hybrid nanocatalyst. Catalysis Communications, (2019) 105850.

Honors & Awards

1. **Patent** for "**The process of removing algae types from water sources and wastewater treatment plant using polyvinyl alcohol magnetic composite nanocatalyst functionalized with copper**"

2. **Ranked 2nd in Hamnet competition** held by Iran's National Elites Foundation (INEF) for Inventing "Process of removing Algae from Water with Polyvinyl Alcohol Magnetic Nanocomposite"

3. **Top Researcher of the Year** in Iran University of Science and Technology, 2020-2021.
4. **Member of Iran's National Elites Foundation**, 2020-2021.
5. **Ranked 3rd** out of 18 students in M.Sc. (G.P.A.: 19.02/20)
6. **Ranked 3rd** out of 40 students in B.Sc. (G.P.A.: 17.04/20)

Research Experience

- ✓ **Team leader at the synthesis of new catalysts based on magnetic nanoparticles and their application in multicomponent reactions**

Led to 4 publications in Polyhedron, BMC Chemistry, and Journal of Organometallic Chemistry

- ✓ **Team member at the synthesis of new nanocatalysts for reduction of Nitro compounds**

Led to one publication in Catalysis Communications

- ✓ **Research assistance and team member at the synthesis of new catalysts in the oxidation of alcohols**

Paper of this project is on the review in Composite Communication

- ✓ **Main researcher and team leader at Synthesis of new catalysts in the harvesting of blue-green microalgae from water sources and surface waters refineries**

Draft of this project is being written

Skills

- ➢ **Technical skills**

- Working knowledge of Health and Safety procedures and regulations; acted as laboratory safety monitor in charge for Catalysts and Organic Synthesis Research Laboratory and responsible for conducting monthly safety inspections
- Experienced in organic synthesis, automated column chromatography, microwave reactors, NMR, IR and mass spectroscopy equipment, and light, temperature, and air-sensitive synthesis.

- ➢ **Computer skills**

- Technical: Mnova, HyperChem, ChemDraw, ChemSketch
- General: MS Office, Adobe Software Package, CorelDRAW X8, Adobe Photoshop

- ➢ **Language skills**

- **Persian:** Native
- **English:** Fluent

Teaching Experience

- ✓ Chemistry and Laboratory of chemistry, in National Organization for Development of Exceptional Talents (NODET) and Private schools, 2016-now.

100 students per year, the satisfaction of 4.8/5 compare to an average of 4.1

- ✓ Chemistry, in Child Labor Organization

Links

- https://www.researchgate.net/profile/Maryam_Niksefat

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