



# Zahra Mohamadnia

**Associate Professor**

**IASBS, Department of Chemistry**

## Publications

### Journals

---

- M Razaghi, M Khorasani, Z Mohamadnia, F Kazemi , "Coupling of hydrophobic graphene quantum dots with photochromic molecule for fabrication of transparent photo-responsive polymeric films manifesting FRET functioning", Journal of Photochemistry and Photobiology A: Chemistry , Vol. 437, pp. 114420-2023
- H Sadighian, E Ahmadi, Z Mohamadnia, "Application of imidazolium based ionic liquids grafted on microcrystalline cellulose as demulsifiers for water in crude oil (W/O) emulsions", Carbohydrate Polymers,, Vol. 302, pp. 120406-2023
- L Ahmadi, E Ahmadi, Z Mohamadnia, "Demulsification of water in crude oil emulsions through magnetic nanocomposites decorated with poly (ionic liquid)s", Journal of Molecular Liquids, Vol. 357, pp. 119162-2022
- F Arjmand, Z Mohamadnia, "Fabrication of light-responsive polymer nanocomposite containing spiropyran as sensor for reversible recognition of metal ions", Polymer Chemistry, Vol. 13, NO. 7, pp. 937-945, 2022
- M Mohamadhoseini, Z Mohamadnia, "Alginate-based Self-Healing Hydrogels Assembled by Dual Cross-linking Strategy: Fabrication and Evaluation of Mechanical Properties,"



International Journal of Biological Macromolecules, Vol. 191, pp. 139-151, 2021

- M Mohamadhoseini, Z Mohamadnia , "Fabrication of Antibacterial Hydrogel Nanocomposite with Self-Healing Property using ZnO/ $\beta$ -Cyclodextrin Dimer/Modified Alginate, ", Polymer Chemistry, Vol. 12, NO. 39, pp. 5679-5688, 2021
- S Gharajedaghi, Z Mohamadnia, E Ahmadi, M Marefat, G Pareras, et al., "Experimental and DFT study on titanium-based half-sandwich metallocene catalysts and their application for production of 1-hexene from ethylene", Molecular Catalysis, Vol. 509, pp. 111636-2021
- Z Mohamadnia, P Tari, S Amani, "Preparation of Smart Brush-Type Cation-Exchange Adsorbents Grafted Nanosurface via SI-ATRP for Dye Removal", Colloids and Surfaces A: Physicochemical and Engineering Aspects, pp. 126829-2021
- M Bayanati, E Ahmadinejad, F Kazemi, H Rahnama, Z Mohamadnia, et al., "Nanosilver/hydrogel: Synthesis and application in delaying senescence of cut flower", South African Journal of Botany , Vol. 138, pp. 415-423, 2021
- A Mashoofnia, Z Mohamadnia, M Kompany-Zareh, "Application of Multivariate and Spectroscopic Techniques for Investigation of the Interactions between Polyelectrolyte Layers in Layer-by-Layer Assembled pH-Sensitive Nanocapsules", Macromolecular Chemistry and Physics, pp. 2100107-2021
- L Ahmadi, E Ahmadi, Z Mohamadnia, " Imidazolium-based poly (ionic liquid) s for demulsification of water in crude oil emulsions", Polymers for Advanced Technologies, Vol. 32, NO. 9, pp. 3421-3435, 2021
- Mohamadhoseini, M., Mohamadnia, Z., "Supramolecular self-healing materials via host-guest strategy between cyclodextrin and specific types of guest molecules", Coordination Chemistry Reviews, Vol. 432, pp. 213711-2021



- Mardani, A., Kazemi, F., Mohamadnia, Z., "Polyelectrolyte-controlled visible light catalytic reduction of nitrobenzene", *Polymers for Advanced Technologies*, Vol. 32, NO. 2, pp. 484-496, 2021
- Masoumeh Mohamadhoseini, Zahra Mohamadnia, "Self-Healing Polymers Based on Host Guest Interactions", *Polymerization*, Vol. 10, NO. 1, pp. 47-58, 2020
- A Mardani, Z Mohamadnia, F Kazemi, "Coagulation performance of cationic polyelectrolyte/TiO<sub>2</sub> nanocomposites prepared under LED irradiation", *Journal of Applied Polymer Science*, pp. 49113-2020
- Marefat, M., Ahmadi, E. and Mohamadnia, Z., " Influence of ionic liquid counterions on activity and selectivity of ethylene trimerization using chromium-based catalysts in biphasic media", *Applied Organometallic Chemistry*, , pp. 5874-2020
- S Amani, Z Mohamadnia, E Ahmadi, A Mahdavi, M Kermanian, "Self-assembled polyelectrolyte complex nanoparticles as a potential carrier in protein delivery systems", *Journal of Drug Delivery Science and Technology*, Vol. 54, pp. 101250-2019
- Soheil Amani, Zahra Mohamadnia, Atiyeh Mahdavi, "pH-Responsive Magnetic Polyelectrolyte Complex Based on Alginate/BSA as Efficient Nanocarrier for Curcumin Encapsulation and Delivery", *International Journal of Biological Macromolecules*, Vol. 141, pp. 1258-1270, 2019
- Soheil Amani, Zahra Mohamadnia, "Modulation of Interfacial Electrical Charges in Assembled Nano-Polyelectrolyte Complex of Alginate-based Macromolecules", *International journal of biological macromolecules*, Vol. 135, pp. 163-170, 2019
- Maryam Fallahi, Ebrahim Ahmadi and Zahra Mohamadnia, "Effect of inorganic oxide supports on the activity of chromium-based catalysts in ethylene trimerization", *Applied*



Organometallic Chemistry, Vol. 33, NO. 6, pp. 4975-2019

- Z Mohamadnia, L Azimnavahsi, "New strategy for preparation of LLDPE nanocomposites through tandem catalytic system", *Journal of Applied Polymer Science*, Vol. 136, NO. 19, pp. 47497-2019
- L Azimnavahsi, Z Mohamadnia, "Optimization of ethylene trimerization using catalysts based on  $TiCl_3$ /half-sandwich ligands", *Applied Organometallic Chemistry*, Vol. 33, NO. 2, pp. 4666-2019
- Farnoosh Karimi, Zahra Mohamadnia, Ebrahim Ahmadi, "Atom Transfer Radical Polymerization of Methyl Methacrylate Using Bis(2-dodecylsulfanyl-ethyl)-Amine/Copper Bromide: Kinetic Study", *Iranian Journal of Polymer Science and Technology (IJPST)*, Vol. 3, NO. 2, pp. 143-154, 2018
- Soheil Amani, Zahra Mohamadnia, Atiyeh Mahdavi, "Polyelectrolyte Complexes: Introduction and Application-Part I", *Polymerization*, Vol. 8, NO. 2, pp. 40-51, 2018
- M Soheili, Z Mohamadnia, B Karimi, "Switching from Ethylene Trimerization to Ethylene Polymerization by Chromium Catalysts Bearing SNS Tridentate Ligands: Process Optimization Using Response Surface Methodology", *Catalysis Letters*, Vol. 148, NO. 12, pp. 3685-3700, 2018
- Z Mohamadnia, L Azimnavahsi, M Soheili, "Synthesis and Characterization of Chromium-Based Catalysts for Ethylene-1-hexene Copolymers Preparation via In-Situ Polymerization of Ethylene", *Polymer Science Series B*, Vol. 60, NO. 2, pp. 172-181, 2018
- H Tabebordbar, Z Mohamadnia, E Ahmadi, "Atom transfer radical polymerization of methyl methacrylate using copper-based homogeneous and heterogeneous catalysts", *Chemical Papers*, Vol. 71, NO. 11, pp. 2117-2127, 2017



- M Fallahi, E Ahmadi, A Ramazani, Z Mohamadnia, "Trimerization of ethylene catalyzed by Cr-based catalyst immobilized on the supported ionic liquid phase", *Journal of Organometallic Chemistry*, Vol. 848, pp. 149-158, 2017
- F Kazemi, Z Mohamadnia, B Kaboudin, E Allahyari, "Synthesis and characterization of maleylated cellulose-g-polyacrylamide hydrogel using TiO<sub>2</sub> nanoparticles under sunlight", *Iranian Polymer Journal*, Vol. 26, NO. 9, pp. 663-672, 2017
- Ebrahim Ahmadi, Leila Azimnavahsi, Zahra Mohamadnia, "Linear Low Density Polyethylene Production by Tandem Polymerization of Ethylene: Properties and Applications", *Polymerization*, Vol. 7, NO. 3, pp. 16-25, 2017
- Foad Kazemi, Zahra Mohamadnia, Babak Kaboudin, Hossein Gharibi, Esmail Ahmadinejad, Zahra Taran, "Synthesis, characterization and swelling behavior investigation of hydrogel based on AAm and AA using CdS nanorods as photocatalyst initiator under different irradiations", *Journal of Photochemistry and Photobiology A: Chemistry*, Vol. 330, pp. 102-109, 2016
- Ebrahim Ahmadi, Javad Gatabi, Zahra Mohamadnia, "Preparation and characterization of Zn (II) ion-imprinted polymer based on salicylic acrylate for recovery of Zn (II) ions", *Polimeros*, Vol. 26, NO. 3, pp. 242-248, 2016
- Mohamadnia, Z., Ahmadi, E., Rahimi, S., Armanmehr, M. H., Razmjoo, M., Heydari, M. H., "Phillips catalysts synthesized over various silica supports: Characterization and their catalytic evaluation in ethylene polymerization", *Polyolefins Journal*, Vol. 3, NO. 1, pp. 23-36, 2016
- Ahmadi, E., Ramazani, A., Hamdi, Z., Mashhadi - Malekzadeh, A., Mohamadnia, Z., "5,10,15,20-tetrakis(4-carboxyphenyl)porphyrin Covalently Bound to Nano-silica Surface: Preparation, Characterization and Chemosensor Application to Detect TNT", *Silicon*, Vol. 7, pp. 323-332, 2015



- Mohamadnia, Z., Ahmadi, E., Nekoomanesh Haghighi, M., Farandpour, A., Rezazadeh, Z., Fallahi, M., "Preparation of LLDPE through tandem ethylene polymerization using chromium and zirconium catalysts", *Iranian Polymer Journal*, Vol. 24, NO. 8, pp. 621-628, 2015
- Mohamadnia, Z., Ahmadi, E., Ghasemnejad, M., Hashemikia, S., Doustgani, A., "Surface Modification of Mesoporous Nanosilica with [3-(2-Aminoethylamino) propyl] Trimethoxysilane and Its Application in Drug Delivery", *International Journal of Nanoscience and Nanotechnology* , Vol. 11, NO. 3, pp. 167-177, 2015
- Ghasemnejad, M., Ahmadi, E., Mohamadnia, Z., Doustgani, A., Hashemiki, S., "Functionalized silica nanoparticles as a carrier for Betamethasone Sodium Phosphate: Drug release study and statistical optimization of drug loading by response surface method", *Materials Science and Engineering: C*, Vol. 56, pp. 223-232, 2015
- Mohamadnia, Z., Ahmadi, E., Farandpour, A. S., "Optimization of effective parameters on 1-hexene production from ethylene using chromium/tris 2-ethylhexanoate catalyst", *Nashrieh Shimi Va Mohandesi Shimi Iran (Persian)*, Vol. 37, NO. 2, pp. 79-93, 2015
- Ahmadi, E., Ramazani , A., Mashhadi - Malekzadeh, A., Hamdi, Z., Mohamadnia, Z., "Preparation and characterization of monosubstituted porphyrins immobilized on nanosilica", *Bull. Mater. Sci*, Vol. 37, NO. 5, pp. 1-12, 2014
- Saghatchi, F., Ahmadi, E., Mohamadnia, Z., Hajifatheali, H., Tabebordbar, H., Karimi, F., "Cu-based atom transfer radical polymerization of methyl methacrylate using a novel tridentate ligand with mixed donor atoms", *Chemical Papers*, pp. 1-5, 2014
- Ahmadi, E., Mohamadnia, Z., Mashhadi-Malekzadeh, A., Hamdi,





- Z., Saghatchi, F., "Preparation, characterization, and polymerization of chromium complexes-grafted Al/SBA-15 and Ti/SBA-15 nanosupports", *Journal of Applied Polymer Science*, Vol. 128, pp. 4245-4252, 2013
- Kazemi, F., Mohamadnia, Z., Kaboudin, B., Karimi, Z., "Photodegradation of methylene blue with a titanium dioxide/polyacrylamide photocatalyst under sunlight", *Journal of Applied Polymer Science*, Vol. 133, pp. 43386-2012
  - Ahmadi, E., Mohamadnia, Z., Nekoomanesh Haghghi, M., "High Productive Ethylene Trimerization Catalyst Based on CrCl<sub>3</sub>/SNS Ligands", *Catalysis Letters*, Vol. 141, pp. 1191-1198, 2011
  - Mohamadnia, Z., Ahmadi, E., Nekoomanesh Haghghi, M., Salehi-Mobarakeh, H., "Synthesis and Optimization of Ethylene Trimerization Using [Bis-(2-dodecylsulfanyl-ethyl)-amine]CrCl<sub>3</sub> Catalyst", *Catalysis Letters*, Vol. 141, pp. 474-480, 2011
  - Ahmadi, E., Nekoomanesh Haghghi, M., Mohamadnia, Z., Ramazani, A., "Preparation of shish-kebab and nanofiber polyethylene with chromium/Santa Barbara amorphous silica-15 catalysts", *Journal of Applied Polymer Science*, Vol. 118, pp. 3658-3665, 2010
  - Mohamadnia, Z., Ahmadi, E., Nekoomanesh, M., Ramazani, A., Salehi Mobarakeh, H., "Effect of support structure on the activity of Cr/nanosilica catalysts and the morphology of prepared polyethylene", *Polymer International*, Vol. 59, pp. 945-953, 2010
  - Mohamadnia, Z., Ahmadi, E., Rafienia, M., Mirzadeh, H., Mobedi, H., "Investigation of drug release and 1H-NMR analysis of the in situ forming systems based on poly(lactide-co-glycolide)", *Polymers for Advanced Technologies*, Vol. 20, pp. 1-10, 2008
  - Mohamadnia, Z., Zohuriaan-Mehr, M. J., Kabiri, K., Jamshidi, A., Mobedi, H., Mobedi, H., "Ionically cross-linked carrageenan-alginate hydrogel beads", *Journal of Biomaterial Science*



Polymer Edition, Vol. 19, NO. 1, pp. 47-59, 2008

- Mohamadnia, Z., Zohuriaan-Mehr, M. J., Kabiri, K., Razavi-Nouri, M., "Tragacanth gum-graft-polyacrylonitrile: synthesis, characterization and hydrolysis", Journal of Polymer Research, Vol. 15, pp. 173-180, 2008
- Mohamadnia, Z., Zohuriaan-Mehr, M. J., Kabiri, K., Jamshidi, A., Mobedi, H., "pH-Sensitive IPN Hydrogel Beads of Carrageenan-Alginate for Controlled Drug Delivery", Journal of Bioactive and Compatible Polymer, Vol. 22, NO. 3, pp. 342-356, 2007
- Mohamadnia, Z., Jamshidi, A., Mobedi, H., Ahmadi, E., J. Zohuriaan-Mehr, M., "Full Natural Hydrogel Beads for Controlled Release of Acetate and Disodium Phosphate Derivatives of Betamethasone", Iranian Polymer Journal, Vol. 16, NO. 10, pp. 711-718, 2005