



Name: Javad Saïen

Phone: +98-81-38282807

Website: <https://profs.basu.ac.ir/saïen/>

E-mails: saïen@basu.ac.ir , jsaïen@yahoo.com

ORCID: 0000-0001-5731-0227

h-index: 30, Citations: 3597 (google scholar)

Academic Staff

Professor of Chemical Engineering

Department of Applied Chemistry, Bu-Ali Sina University, Hamedan, Iran

Editor

Journal of the Iranian Chemical Society (Springer, ISI, Impact factor: 2.4)

Editorial Borad

- Materials Science: Materials Review
- Iranian Journal Research in Chemistry
- Journal of Catalyst and Reaction Engineering

Education

Degree	Year	University	Country	Field
B.S.	1984 (1363)	Amir Kabir	Iran	Chemical Eng.
M.Sc.	1991 (1370)	Tehran	Iran	Chemical Eng.
Ph.D.	1996 (1375)	Bradford	U.K.	Chemical Eng.

Teaching at Bu-Ali Sina University

Name of the course	Postgrad.	Undergrad.	No. of Teaching
1- Industrial chemistry I (Inc. Fluid Flow, Heat Transfer and Mass transfer)	✓	40	
2- Industrial chemistry II (Inc. Unit Operations)		✓	37
3- Chemical Industries principles		✓	14
4- Petroleum Refinery Fundamentals	✓	✓	25
5- Physical Chemistry Lab.		✓	16
6- General Chemistry		✓	6
7- Petrochemistry and its Technology	✓	31	
8- Control Instrumentation	✓		8
9- Chemical Reaction Engineering	✓		34
10- Chemistry Development from Lab.	✓	18	
11- Recent Discussions in Applied Chemistry	✓		8
12- Advanced Chemical Reaction Eng.	✓		18
13- Transport phenomena	✓		12

Number of Ph.D Thesis supervised : 12

Number of M.Sc Thesis supervised: 51

Ph.D. students under supervision: 5

Research Areas of Interest

- Photochemical degradation and pollutants removal from aqueous media
- Liquid-Liquid extraction, process
- Liquid-Liquid ternary equilibria
- Interfacial tension of liquid-liquid phases, EOR

Awards

Distinguished Researcher in Applied Chemistry by the Iranian Chem. Soc. 2016.

University distinguished researcher and education in Applied Chemistry: Several times.

Iran distinguished academic staff, by the Ministry of Sci., Res. Technol. 2023.

Publications

Books

J. Saïen, Industrial Chemistry II (lecture book in Farsi), 2004.

J. Saïen, F. Jafari, Photochemical Treatment of Wastewaters (lecture book in Farsi), 2023.

Book Chapters

J. Saïen, F. Jafari, Methods of Persulfate Activation for the Degradation of Pollutants: Fundamentals and Influencing Parameters, First Chapter in: Persulfate-Based Oxidation Processes in Environmental Remediation, Eds. M. Zhu, C. Zhao and Z. Bian, RSC, 2022, Cambridge, UK.

J. Saïen, M. Kharazi, Properties and Applications of Surface Active Ionic Liquids, in: Properties and Applications of Ionic Liquids, Nova, USA. 2023.

J. Saïen, M. Kharazi, Surface Active Ionic Liquids in Petroleum Industry, in: Properties and Applications of Ionic Liquids, Nova, USA. 2023.

Patents

1. **J. Saïen**, Treatment of the refinery wastewater by nano particles of TiO₂, US Patent App. 2010, 12766858.

2. **J. Saïen**, O. Pourehie, A solar photo-reactor for homogenous treatment of wastewaters, 2019, Approved by the Iranian Research Organization of Science and Technology DOI: 1022104/IROST.1398.108

Journal Papers

1. **J. Saïen** and M. J. Slater, *Modelling of Liquid-Liquid Extraction in a Rotating Disc Contactor Accounting for Drop Breakage and Mass Transfer with Contamination*, Scientia Iranica, 1998, 5, 3.

2. **J. Saïen** and M. J. Slater, *A possible approach to improving rotating disc contactor design accounting for drop breakage and mass transfer with contamination*, Chem. Eng., J., 1999, 75, 131.

3. **J. Saïen**, *Prediction of the hydrodynamics of rotating disc contactors based on a new Monte-Carlo simulation method for drop breakage*, J. Chem. Eng. Japan, 2002, 35, 604.

4. **J. Saïen**, R. Ardjmand and H. Iloukhani, *Photocatalytic decomposition of sodium dodecyl benzene sulfonate under aqueous media in the presence of TiO₂*, Phys. Chem. Liquids. 2003, 41, 5, 519–531.
5. **J. Saïen** and A. Salimi, *Interfacial Tension of Saturated Butan-1-ol+ Sodium Dodecyl Sulfate+ Saturated Water from 20 to 50 °C and at a pH between 4 and 9*, J. Chem. Eng. Data, 2004, 49, 933–936.
6. **J. Saïen** and M. Barani, *A Combined Mass Transfer Coefficient Model for Liquid-Liquid Systems under Simultaneous Effect of Contamination and Agitation*, Can. J. Chem. Eng., 2005, 83, 224–231.
7. **J. Saïen** and N. Aghababaei, *Interfacial tension between cumene and aqueous sodium dodecyl sulfate solutions from (20 to 50) °C and pH between 4 and 9*, J. Chem. Eng. Data, 2005, 50, 1099–1102.
8. **J. Saïen** and A. Darayi, *Simultaneous effect of contamination and agitation on mass transfer of high interfacial tension liquid–liquid extraction systems*, J. Chem. Eng. Japan, 2005, 38, 692–700.
9. **J. Saïen**, M. Riazikhah and S. N. Ashrafizadeh, *A study of the influence of different contaminants and solute transfer in liquid-liquid extraction*, J. Farayand, 2005, 8, VIII–XVIII.
10. **J. Saïen**, A. Amisama, *Photochemical decomposition of solutions containing sulfanilic acid using direct UV irradiation*, Res. J. Univ. Isfahan, 2005, 22, 71–84.
11. **J. Saïen**, M. Riazikhah and S.N. Ashrafizadeh, *Comparative investigations on the effects of contamination and mass transfer direction in liquid–liquid extraction*, Ind. Eng. Chem. Res., 2006, 45, 1434–1440.
12. **J. Saïen**, S.A.E. Zonouzian, A.M. Dehkordi, *Investigation of a two impinging-jets contacting device for liquid–liquid extraction processes*, Chem. Eng. Sci., 2006, 61, 3942–3950.
13. **J. Saïen**, H.R. Mansouri, *Degradation of catechol as an environmental pollutant by TiO₂ photocatalysis in a circulating reactor under mild conditions*, J. Basic Sci. Bu-Ali Sina Univ., 2006, 2, 31–39.
14. **J. Saïen** and S. Akbari, *Interfacial tension of toluene+ water+ sodium dodecyl sulfate from (20 to 50) °C and pH between 4 and 9*, J. Chem. Eng. Data, 2006, 51, 1832–1835.
15. A. Khazaei, M. A. Zolfigol, Z. Tanbakouchian, M. Shiri, K. Niknam, **J. Saïen**, *1, 3-Dibromo-5, 5-diethylbarbituric acid as an efficient catalyst for the protection of various alcohols with HMDS under solvent-free conditions*, Catalys. Commun. 2006, 8, 917–920.
16. **J. Saïen**, A. R. Soleymani, *Degradation and mineralization of Direct Blue 71 in a circulating upflow reactor by UV/TiO₂ process and employing a new method in kinetic study*, J. Hazard. Mater. 2007, 144, 506–512.
17. **J. Saïen** and H. Nejati, *Enhanced photocatalytic degradation of pollutants in petroleum refinery wastewater under mild conditions*, J. Hazard. Mater., 2007, 148, 491–495.
18. **J. Saïen** and F. Shahrezaei, *Decolorization and mineralization of direct blue 86 by UV/TiO₂ process: Investigations on the effect of operational parameters*, J. Sci. Iran. Azad. Univ. 2007, 17, 8–18.
19. **J. Saïen** and S. Daliri, *Mass transfer coefficient in liquid– liquid extraction and the influence of aqueous phase pH*, Ind. Eng. Chem. Res. 2008, 47, 171–175.
20. **J. Saïen** and S. Khezrianjoo, *Degradation of the fungicide carbendazim in aqueous solutions with UV/TiO₂ process: Optimization, kinetics and toxicity studies*, J. Hazrd. Mater., 2008, 157, 269–276.
21. **J. Saïen** and S. Akbari, *Variations of Interfacial Tension of the n-Butyl Acetate+ Water System with Sodium Dodecyl Sulfate from (15 to 22)° C and pH between 6 and 9*, J. Chem. Eng. Data, 2008, 53, 525–530.
22. S. N. Ashrafizadeh, **J. Saïen**, B. Reza and M. Nasiri, *Development of an Empirical Model To Predict the Effect of Contaminants in Liquid–Liquid Extraction*, Ind. Eng. Chem. Res. 2008, 47, 7242–7249.
23. **J. Saïen**, M. Asgari, A.R. Soleymani, N. Taghavinia, *Photocatalytic decomposition of direct red 16 and kinetics analysis in a conic body packed bed reactor with nanostructure titania coated Raschig ring*, Chem. Eng. J. 2009, 151, 295–301.
24. **J. Saïen** and S. Daliri, *Modelling mass transfer coefficient for liquid–liquid extraction with the interface adsorption of hydroxyl ions*, Korean J. Chem. Eng. 2009, 26, 963–968.

25. **J. Saïen** and A.R. Soleymani, *Comparative investigations on nano and micro titania photocatalysts in degradation and mineralization: Use of turbidity in kinetic studies*, J. Iran. Chem. Soc. 2009, 6, 602–611.
26. **J. Saïen** and F. Ashrafi, *Mass transfer enhancement in liquid–liquid extraction with very dilute aqueous salt solutions*, Ind. Eng. Chem. Res. 2009, 48, 10008–10014.
27. **J. Saïen**, H. Delavari and A.R. Soleymani, *Sono-assisted photocatalytic degradation of styrene-acrylic acid copolymer in aqueous media with nano titania particles and kinetic studies*, J. Hazard. Mater. 2010, 177, 1031–1038.
28. **J. Saïen**, S. Akbari, *Interfacial tension of hydrocarbon+ different pH aqueous phase systems in the presence of Triton X-100*, Ind. Eng. Chem. Res. 2010, 49, 3228–3235.
29. **J. Saïen**, S. Asadabadi, *Salting-out effect of NaCl on the rate of mass transfer of liquid–liquid extraction in a two impinging-jets contacting device*, J. Taiwan Inst. Chem. Eng. 2010, 41, 295–301.
30. **J. Saïen**, S. A. Ojaghi, *Effect of aqueous phase pH on liquid–liquid extraction with impinging-jets contacting technique*, J. Ind. Eng. Chem. Res. 2010, 16, 1001–1005.
31. **J. Saïen**, S. A. Ojaghi, A. M. Dehkordi, *Retarding Effect of Contaminants on the Performance of a Two-Impinging-Jets Liquid–Liquid Extraction Contactor*, J. Chem. Eng. Technol. 2010, 33, 1003–1010.
32. **J. Saïen**, S. Asadabadi, *Adsorption and interfacial properties of individual and mixtures of cationic/nonionic surfactants in toluene+ water chemical systems*, J. Chem. Eng. Data, 2010, 55, 3817–3824.
33. **J. Saïen**, Z. Ojaghloo, A.R. Soleymani, M.H. Rasoulifard, *Homogeneous and heterogeneous AOPs for rapid degradation of Triton X-100 in aqueous media via UV light, nano titania hydrogen peroxide and potassium persulfate*, Chem. Eng. J. 2011, 167, 172–182.
34. A. Haghdoost, A. M. Dehkordi, M. Darbandi, M. Shahlami and **J. Saïen**, *Combined Model of Mass-Transfer Coefficients for Clean and Contaminated Liquid–Liquid Systems*, Ind. Eng. Chem. Res. 2011, 50, 4608–4617.
35. A.R. Soleymani, **J. Saïen**, H. Bayat, *Artificial neural networks developed for prediction of dye decolorization efficiency with UV/K₂S₂O₈ process*, Chem. Eng. J. 2011, 170, 29–35.
36. **J. Saïen**, S. Rezabeigy, *Alternative influence of binary surfactant mixtures on the rate of mass transfer in a liquid–liquid extraction process*, Ind. Eng. Chem. Res. 2011, 50, 6925–6932.
37. **J. Saïen**, M. Norouzi, *Salting-out effect of NaCl and KCl on the liquid–liquid equilibrium of Water+ 2-Methylpropanoic Acid+(1-Methylethyl)-benzene system at several temperatures*, J. Chem. Eng. Data, 2011, 56, 2892–2898.
38. **J. Saïen**, S. Asadabadi, *Synergistic adsorption of Triton X-100 and CTAB surfactants at the toluene+ water interface*, Fluid Phase Equilibria, 2011, 307, 16–23.
39. **J. Saïen**, A.R. Soleymani, J.H. Sun, *Parametric optimization of individual and hybridized AOPs of Fe²⁺/H₂O₂ and UV/S₂O₈²⁻ for rapid dye destruction in aqueous media*, Desalination, 2011, 279, 298–305.
40. **J. Saïen**, F. Shahrezaei, *Organic pollutants removal from petroleum refinery wastewater with nanotitania photocatalyst and UV light emission*, Int. J. Photoenergy, 2012, ID 703074.
41. **J. Saïen**, V. Moradi, A.R. Soleymani, *Investigation of a jet mixing photo-reactor device for rapid dye discoloration and aromatic degradation via UV/H₂O₂ process*, Chem. Eng. J. 2012, 183, 135–140.
42. **J. Saïen**, A. R. Soleymani, H. Bayat, *Modelling Fenton advanced oxidation process decolorization of Direct Red 16 using artificial neural network technique*, Desal. Water Treat. 2012, 40, 174–182.
43. **J. Saïen**, H. Bamdadi, *Mass transfer from nanofluid single drops in liquid–liquid extraction process*, Ind. Eng. Chem. Res. 2012, 51, 5157–5166.
44. **J. Saïen**, M. Mishi, *Equilibrium interfacial tension and the influence of extreme dilutions of uni-univalent salts: An expression of the “Jones–Ray effect”*, J. Chem. Thermodyn. 2012, 54, 254–260.
45. **J. Saïen**, A.R. Soleymani, *Feasibility of using a slurry falling film photo-reactor for individual and hybridized AOPs*, J. Ind. Eng. Chem. 2012, 18, 1683–1688.
46. **J. Saïen**, V. Moradi, *Low interfacial tension liquid–liquid extraction with impinging-jets contacting method: Influencing parameters and relationship*, J. Ind. Eng. Chem. 2012, 18, 1293–1300.

47. **J. Saïen**, S. Daliri, *Mass Transfer from single drops and the influence of temperature*, Ind. Eng. Chem. Res. 2012, 51, 7364–7372.
48. **J. Saïen**, S. Daliri, M. Norouzi, *Liquid–liquid equilibria for the system water+ 4-methylpentan-2-one+ acetic acid at several temperatures*, J. Chem. Eng. Data 2012, 57, 2553–2559.
49. **J. Saïen**, M. Mozafarvandi, S. Daliri, M. Norouzi, *(Liquid + liquid) equilibria for the ternary (water + acetic acid + toluene) system at different temperatures: Experimental data and correlation*, J. Chem. Thermodyn. 2012, 57, 76–81.
50. **J. Saïen**, A. Raeisi, A.R. Soleymani, M. Norouzi, *Performance assessment of {tris (2-methyl-1-aziridinyl) phosphine oxide} photocatalytic mineralization in a falling film reactor, using response surface methodology*, Advanc. Environ. Res. 2012, 1, 289–304.
51. **J. Saïen**, M. Kharazi, S. Asadabadi, *Adsorption behavior of short alkyl chain imidazolium ionic liquids at n-butyl acetate+ water interface: Experiments and modeling*, Iran. J. Chem. Eng. 2012, 12 (2), 59–74.
52. **J. Saïen**, M. Norouzi, S. Daliri, *Effect of uni-univalent salts on the mass transfer of isobutyric acid between cumene and water*, J. Ind. Eng. Chem. 2013, 19, 220–226.
53. **J. Saïen**, M. Norouzi, H. Dehghani, *The choice of solvent and liquid–liquid equilibrium for ternary water+ 2-methylaziridine+ chloroform system: Experimental data and modeling*, Fluid Phase Equilib. 2013, 338, 224–231.
54. **J. Saïen**, F. Moghaddamnia, H. Bamdadi, *Interfacial Tension of Methylbenzene–Water in the Presence of Hydrophilic and Hydrophobic Alumina Nanoparticles at Different Temperatures*, J. Chem. Eng. Data. 2013, 58, 436–440.
55. S. Asadabadi, **J. Saïen**, V. Khakizade, *Interface adsorption and micelle formation of ionic liquid 1-hexyl-3-methylimidazolium chloride in the toluene + water system*, J. Chem. Thermodyn. 2013, 62, 92–97.
56. **J. Saïen**, F. Moghaddamnia, M. Mishi, *Simultaneous influence of uni-univalent salt aqueous solutions and sodium dodecyl sulfate surfactant on interfacial tension of toluene-water*, Korean J. Chem. Eng. 2013, 30, 1125–1130.
57. **J. Saïen**, S. Asadabadi, *Temperature effect on adsorption of imidazolium-based ionic liquids at liquid–liquid interface*, Colloid. Surf. A: Phys. Eng. Asp. 2013, 431, 34–41.
58. A. Khazaei, S. Saednia, **J. Saïen**, M.K. Rostami, M. Sadeghpour, M.K. Borazjani, F. Abbasi, *Grafting amino drugs to poly (styrene-alt-maleic anhydride) as a potential method for drug release*, J. Braz. Chem. Soc. 2013 24, 1109–1115.
59. **J. Saïen**, S. Daliri, *Performance improving with temperature in liquid–liquid extraction using cumene–isobutyric acid–water chemical system*, J. Ind. Eng. Chem. 2014, 20, 238–244.
60. A. Khazaei, S. Saednia, **J. Saïen**, M.K. Borazjani, S. Rahmati, A. Hahempour-Zavieh, F. Abbasi, *Synthesis and Characterization of Novel Polymer-Drug Conjugates Based on the Poly (Styrene–alt–Maleic Anhydride) as a Potential Method for Drug Release*, Acta. Chem. Slov. 2013, 60, 724–731.
61. A. Khazaei, S. Saednia, M.K. Borazjani, **J. Saïen**, S. Rahmati, M. Kiani, A. Afkhami, *A novel covalent functionalisation of poly (styrene-alt-maleic anhydride) with 4-amino benzo-9-crown-3 ether*, Supramolecular Chem. 2014, 26, 88–93.
62. **J. Saïen**, S. Asadabadi, *Salting out effects on adsorption and micellization of three imidazolium-based ionic liquids at liquid-liquid interface*, Colloid. Surf. A: Phys. Eng. Asp. 2014, 444, 138–143.
63. **J. Saïen**, S. Daliri, *Improving performance of liquid–liquid extraction with temperature for mass transfer resistance in both phases*, J. Taiwan Inst. Chem. Eng. 2014, 45, 808–814.
64. **J. Saïen**, A. Azizi, A.R. Soleymani, *Parameter evaluation, kinetics, and energy consumption for Cr (VI) photocatalytic reduction under mild conditions*, J. Iran Chem. Soc. 2014, 11, 1439–1448.
65. **J. Saïen**, M. Fattahi, M. Mozafarvandi, *The impact of uni-univalent electrolytes on (water+ acetic acid+ toluene) equilibria: Representation with electrolyte-NRTL model*, J. Chem. Thermodyn. 2014, 74, 238–246.
66. **J. Saïen**, A. Rezvanipour, S. Asadabadi, *Interfacial tension of the n-hexane–water system under the influence of magnetite nanoparticles and sodium dodecyl sulfate assembly at different temperatures*, J. Chem. Eng. Data, 2014, 59, 1835–1842.
67. **J. Saïen**, A. Azizi, A.R. Soleymani, *Optimized photocatalytic conversion of Ni (II) ions with very low titania nanoparticles at different temperatures; kinetics and energy consumption*, Sep. Purif. Technol. 2014, 134, 187–195.

68. **J. Saïen**, A. Azizi, A.R. Soleymani, *Photocatalytic reduction of Ni (II) ions using low amounts of titania nanoparticles: RSM modelling, kinetic*, Iran. J. Toxicol. 2014, 26, 1136–1144.
69. **J. Saïen**, S. Asadabadi, *Alkyl chain length, counter anion and temperature effects on the interfacial activity of imidazolium ionic liquids: Comparison with structurally related surfactants*, Fluid Phase Equilib. 2015, 386, 134–139.
70. **J. Saïen**, H. Bamdadi, S. Daliri, *Liquid–liquid extraction intensification with magnetite nanofluid single drops under oscillating magnetic field*, J. Ind. Eng. Chem. 2015, 21, 1152–1159.
71. A.R. Soleymani, **J. Saïen**, S. Chin, H.A. Le, E. Park, J. Jurng, *Modeling and optimization of a sono-assisted photocatalytic water treatment process via central composite design methodology*, Process Saf. Environ. Prot. 2015, 94, 307–314.
72. **J. Saïen**, A. Azizi, *Simultaneous photocatalytic treatment of Cr (VI), Ni (II) and SDBS in aqueous solutions: evaluation of removal efficiency and energy consumption*, Process Saf. Environ. Prot. 2015, 95, 114–125.
73. **J. Saïen**, M. Zardoshti, *Mass transfer intensification of nanofluid single drops with effect of temperature*, Korean J. Chem. Eng. 2015, 32, 2311–2318.
74. **J. Saïen**, H. Asgari, *Aqueous quinoline treatment with iron/copper activated UV/persulfate process in a falling film photo-reactor*, Iranian J. Chem. Eng. 2015, 11, 50–63.
75. **J. Saïen**, M. Osali, A.R. Soleymani, *UV/persulfate and UV/hydrogen peroxide processes for the treatment of salicylic acid: effect of operating parameters, kinetic, and energy consumption*, Desal. Water Treat. 2015, 56, 3087–3095.
76. **J. Saïen**, M. Kharazi, S. Asadabadi, *Adsorption behavior of short alkyl chain imidazolium ionic liquids at n-butyl acetate + water interface: experiments and modeling*, Iranian J. Chem. Eng. 2015, 12, 59–74.
77. **J. Saïen**, M. Mohammadi Sarab Badieh, M. Norozi, S. Salehzadeh, *Ionic liquid 1-hexyl-3-methylimidazolium hexafluorophosphate, an efficient solvent for extraction of acetone from aqueous solutions*, J. Chem. Thermodyn. 2015, 91, 404–413.
78. **J. Saïen**, M. Kharazi, S. Asadabadi, *Adsorption behavior of long alkyl chain imidazolium ionic liquids at the n-butyl acetate+ water interface*, J. Mol. Liquid. 2015, 212, 58–62.
79. S. Asadabadi, **J. Saïen**, *Effects of pH and salinity on adsorption of different imidazolium ionic liquids at the interface of oil–water*, Colloid. Surf. A: Phys. Eng. Asp. 2016, 489, 36–45.
80. **J. Saïen**, Z. Mesgari, *Highly efficient visible-light photocatalyst of nitrogen-doped TiO₂ nanoparticles sensitized by hematoporphyrin*, J. Mol. Cat. A : Chem. 2016, 414, 108–115.
81. **J. Saïen**, M. Kharazi, *A comparative study on the interface behavior of different counter anion long chain imidazolium ionic liquids*, J. Mol. Liquid. 2016, 220, 136–141.
82. **J. Saïen**, M. Mohammadi Sarab Badieh, M. Norozi, *Experimental and theoretical assessing the salts effect on the equilibrium of water+ acetone+ HMIMPF₆ ionic liquid system*, Sep. Purif. Technol., 2016, 168, 199–208.
83. **J. Saïen**, F. Ghamari, A. Azizi, *The role of counter-anions in photocatalytic reduction of Ni (II) with a trace amount of titania nanoparticles*, J. Iran. Chem. Soc. 2016, 13, 2247–2255.
84. **J. Saïen**, M. Bahrami, *Understanding the effect of different size silica nanoparticles and SDS surfactant mixtures on interfacial tension of n-hexane–water*, J. Mol. Liquid. 2016, 224, 158–164.
85. **J. Saïen**, R. Hasani, *Hydrodynamics and mass transfer characteristics of circulating single drops with effect of different size nanoparticle*, Sep. Purif. Technol. 2017, 175, 298–304.
86. **J. Saïen**, M. Moradi, A. R. Soleymani, *Homogenous Persulfate and Periodate Photochemical Treatment of Furfural in Aqueous Solutions*, Clean Soil Air Water, 2017, 45, 1–8.
87. **J. Saïen**, H. Shafiei, A. Amisama, *Photo-activated periodate in homogeneous degradation and mineralization of quinoline: Optimization, kinetic, and energy consumption*, Environ. Prog. Sus. Energy, 2017, 36, 1621–1627.
88. **J. Saïen**, Z. Mesgari, *Photocatalytic degradation of methyl orange using hematoporphyrin/N-doped TiO₂ nanohybrids under visible light: Kinetics and energy consumption*, Appl. Organometal. Chem. 2017, 31, 1–11.
89. Z. Mesgari, **J. Saïen**, *Pollutant degradation over dye sensitized nitrogen doped titania substances in different configurations of visible light helical flow photoreactor*, Sep. Purif. Technol. 2017, 185, 129–139.
90. **J. Saïen**, A. M. Gorji, *Simultaneous adsorption of CTAB surfactant and magnetite nanoparticles on the interfacial tension of n-hexane–water*, J. Mol. Liquid 2017, 242, 1027–1034.

91. **J. Saïen**, M. Razi Asrami, *Liquid–Liquid Equilibrium of the Ternary System of Water+ Phenol+(Propan-2-yl) Benzene at Several Temperatures*, J. Chem. Eng. Data 2017, 62, 3663–3670.
92. M. Mohammadi Sarab Badieh, M. C. Quaresima, A. Pfennig, **J. Saïen**, *Performance study of ionic liquid in extraction based on single-drop experiments*, Solv. Extr. Ion Exch. 2017, 35, 563–572.
93. **J. Saïen**, M. Fallah Vahed Bazkiaei, *Homogenous UV/periodate process in treatment of p-nitrophenol aqueous solutions under mild operating conditions*, Environ. Technol. 2018, 39, 1823–1832
94. **J. Saïen**, S. Hashemi, *Long chain imidazolium ionic liquid and magnetite nanoparticle interactions at the oil/water interface*, J. Petrol. Sci. Eng. 2018, 160, 363–371.
95. **J. Saïen**, S. Daneshamoz, *Compensating effect of ultrasonic waves on retarding action of nanoparticles in drops liquid–liquid extraction*, Ultrason. Sonochem. 2018, 41, 514–520.
96. **J. Saïen**, M. Razi Asrami, S. Salehzadeh, *Phase equilibrium measurements and thermodynamic modelling of {water+ phenol+[Hmim][NTf₂]} ionic liquid system at several temperatures*, J. Chem. Thermodyn. 2018, 119, 76–83.
97. **J. Saïen**, S. Daneshamoz, *Experimental studies on the effect of ultrasonic waves on single drop liquid–liquid extraction*, Ultrason. Sonochem. 2018, 40, 11–16.
98. **J. Saïen**, V. Fadaei, *The study of interfacial tension of kerosene-water under influence of CTAB surfactant and different size silica nanoparticles*, J. Mol. Liq. 2018, 255, 439–446.
99. M. M. S. Badieh, **J. Saïen**, *Binary mixtures of HMIMPF₆ ionic liquid and n-butyl acetate cosolvent in the extraction of acetone from aqueous solutions*, Chem. Eng. Commun. 2018, 205, 1096–1104.
100. **J. Saïen**, A. Azizi, *"Synergistic elimination of Cr(VI) and Ni(II) ions with trace amounts of titania photocatalyst nanoparticles*, Environ. Eng. Manag. J., 2018, 17, 579–589.
101. M. Kasmaee, F. Varaminian, P. Khadiv-Parsi, **J. Saïen**, *Effects of different surfactants and physical properties on the coalescence of dimethyl disulfide drops with mother phase at the interface of sodium hydroxide aqueous solution*, J. Mol. Liq. 2018, 263, 31–39.
102. M. Razi Asrami, **J. Saïen**, *Salting-out effect on extraction of phenol from aqueous solutions by [Hmim][NTf₂] ionic liquid: Experimental investigations and modeling*, Sep. Purif. Technol. 2018, 204, 175–184.
103. A. Azizi, **J. Saïen**, *Optimization of Cr (VI) Photocatalytic Reduction by UV/TiO₂: Influence of Inorganic and Organic Species and Kinetic Study*, Arch Hyg. Sci. 2018, 7, 71–90.
104. O. Pourehie, **J. Saïen**, *Treatment of real petroleum refinery wastewater with alternative ferrous-assisted UV/persulfate homogeneous processes*, Desal. Water Treat. 2019, 142, 140–147.
105. A.R. Soleymani, V. Moradi, **J. Saïen**, *Artificial neural network modeling of a pilot plant jet-mixing UV/hydrogen peroxide wastewater treatment system*, Chem. Eng. Commun. 2019, 206, 1297–1309.
106. **J. Saïen**, F. Ghamari, A. Azizi, *Simultaneous photocatalytic reduction/degradation of divalent nickel/naphthalene pollutants in aqueous solutions*, Water Sci. Technol. 2019, 79, 240–250.
107. **J. Saïen**, M. Kharazi, M. Yarie, M. A. Zolfigol, *Systematic investigation of a surfactant type nano gemini ionic liquid and simultaneous abnormal salts effects on the crude oil/water interfacial tension*, Ind. Eng. Chem. Res. 2019, 58, 3583–3594.
108. S. Hashemi, **J. Saïen**, *Equilibrium and dynamic interfacial tensions of oil/water in the presence of an imidazolium ionic liquid strengthen with magnetite nanoparticles*, J. Mol. Liq. 2019, 281, 252–260.
109. M. Razi Asrami, **J. Saïen**, *Salt Effects on Liquid–Liquid Equilibria of Water+ Phenol+(Propan-2-yl) Benzene+ Salts Systems*, J. Chem. Eng. Data 2019, 64, 2414–2422.
110. M. Kasmaee, F. Varaminian, P. Khadiv-Parsi, **J. Saïen**, *Study of parameters affecting the coalescence of dimethyl disulfide drops in a Merox unit*, Braz. J. Chem. Eng. 2020, 36, 1453–1462.
111. **J. Saïen**, F. Jafari, *Mass transfer intensification strategies for liquid–liquid extraction with single drop investigations*, Int. J. Heat Mass Trans. 2019, 144, 118603.
112. **J. Saïen**, S. Seyyedani, *High performance homogenous photo-activated persulfate for nicotinic acid removal, intensified with copper ions and ultrasonic waves*, Proc. Saf. Environ. Prot. 2019, 131, 300–306.

113. F. Hasanpour, **J. Saïen**, *Incorporating Pb²⁺ templates into the crystalline structure of MnO₂ catalyst supported on monolith: Applications in H₂O₂ decomposition*, ACS Omega 2019, 4, 16638–16650.
114. O. Pourehie, **J. Saïen**, *Homogeneous solar Fenton and alternative processes in a pilot-scale rotatable reactor for the treatment of petroleum refinery wastewater*, Proc. Saf. Environ. Prot. 2020, 1135, 236–243.
115. **J. Saïen**, V. Marzban, R. Karamian, *Saponin-rich extract from Glycyrrhiza glabra plant, a safe matter for low interfacial tension oil/water extraction*, J. Iran. Chem. Soc. 2020, 1–9.
116. M. Kharazi, **J. Saïen**, M. Yarie, M. A. Zolfigol, *Different spacer homologs of gemini imidazolium ionic liquid surfactants at the interface of crude oil-water*, J. Mol. Liq. 2019, Article 111748.
117. S. Hashemi, **J. Saïen**, *Highly efficient [C₈mim][Cl] ionic liquid accompanied with magnetite nanoparticles and different salts for interfacial tension reduction*, Chinese J. Chem. Eng. 2020, 28, 46–53.
118. M. Razi Asrami, N. Nghiep Tran, **J. Saïen**, V. Hessel, *Mass transfer characterization of ionic liquid solvents for extracting phenol from aqueous phase in a microscale coiled flow inverter*, Ind. Eng. Chem. Res. 2020, 59, 16427–16436.
119. **J. Saïen**, F. Jafari, A. Salehi, M. Razi Asrami, *Temperature and salt effects on the liquid–liquid equilibrium of the water + cyclopentanone + (propan-2-yl) benzene system*, J. Chem. Eng. Data, 2020, 65, 5505–5515.
120. M. Kharazi, **J. Saïen**, M. Yarie, M. A. Zolfigol, *The superior effects of a long chain gemini ionic liquid on the interfacial tension, emulsification and oil displacement of crude oil-water*, J. Petrol. Sci. Eng. 2020, Article 107543.
121. M. Heidarian, A. Khazaei, **J. Saïen**, *Grafting drugs to functionalized single-wall carbon nanotubes as a potential method for drug delivery*, Phys. Chem. Res. 2021, 9, 67–68.
122. **J. Saïen**, M. Razi Asrami, *Comparative studies on the performance of ionic liquid and conventional solvent drops in extraction of phenol from water*, Chem. Eng. Res. Design. 2021, 166, 259–266.
123. F. Jafari, **J. Saïen**, *Utilizing low-voltage pulsed electric fields for mass transfer intensification of drops in liquid–liquid extraction*, Ind. Eng. Chem. Res. 2021, 60, 1532–1541.
124. O. Pourehie, **J. Saïen**, *Solar driven homogeneous sodium hypochlorite/iron process in treatment of petroleum refinery wastewater for reusing*, Sep. Purif. Technol. 2021, 274, 119041.
125. Farnaz Jafari, **J. Saïen**, *Liquid–liquid equilibrium study of the water + acetic acid + kerosene ternary system at 293.2, 298.2, and 308.2 K*, J. Chem. Eng. Data, 2021, 66, 3608–3617.
126. M. Kharazi, **J. Saïen**, M. Yarie, M. A. Zolfigol, *Promoting Activity of Gemini Ionic Liquids Surfactant at the Interface of Crude Oil-water*, Petrol. Res. (ISC) 2021, 31, 20–22.
127. J. Saïen, M. Nasri, O. Pourehie, *Enhanced activation of persulfate by magnetic CuFe-layered double hydroxide nanocomposites under visible light irradiation for degradation of quinolone*, J. Iran. Chem. Soc. 2022, 19, 1515–1526.
128. M. Kharazi, **J. Saïen**, S. Asadabadi, *Review on Amphiphilic Ionic Liquids as new surfactants : From fundamentals to applications*, Topics Current Chem., 2022, 380: 5
129. **J. Saïen**, M. Kharazi, V. Pino, I. Pacheco-Fernandez, *Trends offered by ionic liquid-based surfactants : Applications in stabilization, separation processes, and within the petroleum industry*, Sep. Purif. Reviews. 2022, 2052094, 1–30.
130. F. Jafari, **J. Saïen**, *Experimental and model study for liquid–liquid extraction of conductive nanofluid drops under low voltage pulsed electric field*, Chem. Eng. Sci. 2022, 258, 117762.
131. F. Jafari, **J. Saïen**, A. Rashidi, *Mass transfer intensification for carbon quantum dot nanofluid drops under pulsed electric fields*, Sci. Reports. 2022, 12:12210
132. F. Jafari, **J. Saïen**, *Experimental and modeling study for the salting-out extraction of acetic acid from aqueous solutions with kerosene*, J. Chem. Eng. Data, 2022, 67, 2545–2555.
133. M. Kharazy, **J. Saïen**, *Mechanism responsible altering in interfacial tension and emulsification of the crude oil-water system with nano Gemini ionic liquids, salts and pH*, J. Petrol. Sci. Eng. 2022, 219 (11090).
134. M. Kharazy, **J. Saïen**, *upgrading the properties of the crude oil–water system for EOR with simultaneous effects of a homologous series of nanoGemini surface-active ionic liquids, electrolytes, and pH*, ACS Omega, 2022, 7, 40042–40053.

135. F. Hasanpour, **J. Saïen**, O. Norouzi, *Catalytic activation of hydrogen peroxide using highly porous hydrothermally modified manganese catalysts for removal of azithromycin antibiotic from aqueous solution*, *Catalysts*. 2023, 13, 1–19.
136. M. Zahedipour, **J. Saïen**, O. Pourehie, *Magnetite CuFe-layered double hydroxide composite in persulfate activation under visible light for degradation of Rhodamine 6G*, *J. Mater. Sci. Mater. Elect.* 2023, 34:598, 1–14.
137. **J. Saïen**, M. Kharazi, B. Shokri, M. Torabi, M. A. Zolfigol, *A comparative study on the design and application of new benzimidazolium Gemini ionic liquids for curing interfacial properties of crude oil–water system*, *RSC Adv.* 2023, 13, 15747–15761.
138. M. Kharazi, **J. Saïen**, M. Torabi, M. A. Zolfigol, *Green nano multicationic ionic liquid based surfactants for enhanced oil recovery: A comparative study on design and applications*, *J. Mol. Liq.* 2023, 383, 122090.
139. **J. Saïen**, M. Bahiraei, F. Jafari, *A green hydrophobic deep eutectic solvent for extraction of phenol from aqueous phase*, *Sci. Reports*, 2023, Accepted.
140. M. Kharazi, **J. Saïen**, M. Torabi, M. A. Zolfigol, *Molecular design and applications of a nanostructure green Tripodal surface active ionic liquid in enhanced oil recovery: Interfacial tension reduction, wettability alteration, and emulsification*, *Petrol. Sci.*, 2023, Accepted.

Conferences attended with a each with at least one oral lecture/Key lecturer

- International Solvent Extraction Conference (Three times, UK, China, Japan)
- International Congress of Chemical and Process Engineering (two times)
- International Chemical Engineering Congress and Exhibition (several times)
- National Congress of Applied Chemistry (Four times, once manager)
- National Congress of Chemistry and Environmental Protection
- National Congress of Physical Chemistry

Completed Research Projects

1. Design and manufacturing of solvent extraction columns (RDC, Kuhni, packed ...) and study the mass transfer coefficient for systems with different solvents
2. Design and manufacturing of a photo-catalytic spouted reactor to study the photodegradation of pollutants in water and to obtain the reaction optimum operating conditions
3. Optimisation of wastewater treatment utilities at the Khosh-Noosh beverage factory
4. Waste-water treatment of Hamadan industries under photocatalytic degradation
5. Design and manufacturing a jet impinging stream extractor for liquid-liquid extraction
6. Investigation on interfacial tension of liquid-liquid systems.
7. Investigation on photocatalytic degradation of Arak and Kermanshah Petroleum Refinery wastewater
8. Application of nano photocatalyst particles in degradation of contaminants in Kermanshah petroleum refinery
9. Investigating on the influence of surfactants and ionic strength on the liquid-liquid extraction with two impinging streams system
10. Interfacial tension and interaction influence of Triton X-100 and CTAB surfactants for toluene and water
11. Photocatalytic degradation of real sewage under different pH

12. Interfacial tension between toluene + water containing different ionic liquids
13. The effect of imidazolium based ionic liquids on the interfacial tension of toluene-water including temperature, pH, kind and concentration of different electrolytes
14. Liquid-liquid equilibrium with an ionic liquid solvent at different temperatures and determination of mass transfer coefficient in single drop experiments
15. Catalytic hydrogen peroxide decomposition
16. Treatment of petroleum refinery wastewater using homogeneous solar irradiated photochemical treatment
17. Investigation on crude oil/water interfacial tension with effect of surfactant type gemini ionic liquids
18. Application of external electric fields to enhance mass transfer in liquid-liquid extraction dropwise device

Current Research Project

19. Use of green surface active ionic liquids for dispersing asphaltenes in crude-oil

Professional Memberships

- Iranian Association of Chemical Engineering
- Iranian Chemical Society

University administrative positions

- Dean of the University central library and documents center
- Dean of the faculty
- Director of applied chemistry department
- Member of the University scientific distinguish committee
- Member of the University publication board
- Executive manager of the Third National Iranian Applied Chemistry Seminar