Curriculum Vitae (CV)

Prof. Alireza Salabat

Date of Birth:	31, 12, 1966
Marriage Status:	Married
Place of Birth:	Khansar
Nationality:	IRAN
Occupation:	Faculty Member of Chemistry Department, Arak University
Major:	Physical Chemistry
Address:	Department of Chemistry-Arak University-P.O.Box:
	3815688138 - Arak- Iran
E-mail:	<u>a-salabat@araku.ac.ir;</u> a_salabat@yahoo.com
Telephone:	+98 86-332627530
Fax:	+98 86-34173406

Qualifications

Name of institution	Year	Degree	Major
Isfahan University of Technology1991		B.Sc.	Applied Chemistry
Tabriz University	1994	M.Sc.	Physical Chemistry
Tabriz University	1998	Ph.D.	Physical Chemistry
University of Bristol	2005-2006	Sabbatical	Colloid and Nanochemist

Research honors awarded

Distinguished Researcher in Arak University, 2002 Distinguished Researcher in Marhazi Province, 2003 Distinguished Researcher in Markazi Province, 2005 Distinguished Researcher in Markazi Province, 2007 Distinguished Researcher in Markazi Province, 2009

Executive position

1-Head of Chemistry Department 2001-20032-Vice-chairman in Research & Education, Faculty of Science 2003-2005

 Dean of Graduate School, Arak University, 2007-2009

4- Dean of the faculty of science, Arak University,2009- 2014

Membership in the scientific societies:

- 1. Iranian Nanotechnology society
- 2. European Molecular Liquids Group (EMLG)
- 3. Iranian Chemical Society
- 4. Research Council, University of Arak

Teaching Specialization:

- 1. Physical Chemistry
- 2. Classical and Statistical Thermodynamics
- 3. Colloid and Surface Chemistry

Area of Research Interest:

- 1. Applied Chemical Thermodynamics
- 2. Polymers (properties and applications)
- 3. Colloid and Surface Chemistry
- 4. Nanochemistry

A Brief Account of Recent Works:

Different applications of microemulsion systems are considered in our research works. We use the microemulsion method for fabrication of special shape of metals and nonmetals (such as polymer) nanoparticles and their colloidal systems. We also introduce new microemulsion methods to prepare polymer based nanocomposite, ecofriendly nanocomposites, drug-encapsulated polymer nanoparticles, nanocatalyst and nanophotocatalyst. Moreover the applications of these products such as photodegradation ability, antibacterial effect, catalytic activity and drug release behavior are our interest researches.

As well as application of microemulsion systems we investigate their physicochemical properties especially phase diagram, viscosity and surface tension. Current projects include formulation and characterization of drug-loaded microemulsion systems.

Publications (Journal Papers):

- 1. M. T. Zafarani and Alireza Salabat, Volumetric Properties of PEG + Salt + Water, J. Chem. Eng. Data, 40, 559 (1995).
- 2. M. T. Zafarani and Alireza Salabat, Phase Diagrams of Aliphatic Alcohols + Magnesium Sulfate + Water, J. Chem. Eng. Data, 42, 1241 (1997).
- 3. Alireza Salabat, M. T. Zafarani and M. KabiriBadr, Application of Aqueous Polymer Systems in Biotechnology, *Iranian Journal of Polymer*, 7(4), 247 (1995).
- M. T. Zafarani and Alireza Salabat, Measurement and Correlation of Viscosities, Densities and Water Activities for the PPG + MgSO₄ + H₂O at 25 C, *Journal of Solution Chemistry*, 27(7), 663 (1998).
- M. T. Zafarani and Alireza Salabat, Thermodynamics of Magnesium Sulfate Polypropylen Glycol Aqueous Two-Phase System. Experiment and Correlation, *Fluid Phase Equilibria*, 152, 57 (1998).
- Alireza Salabat, Influence of Salt on Phase Composition in Aqueous Two-Phase Systems: Experiment and Prediction, *Fluid Phase Equilibria*, 187-188, 489-498 (2001).
- Karamat Nasirzadeh, Alireza Salabat, Isopiestic determination of osmotic coefficients and evaluation of vapor pressures for solutions of sodium bromide and sodium thiocyanate in methanol at 25 °C, *Journal of Molecular Liquids*, 106, 1-14 (2003).
- Alireza Salabat, K. Nasirzadeh, Measurement and Prediction of Water Activity in PEG + (NH₄)₂SO₄ + H₂O Systems Using Polymer Scaling Laws, *Journal of Molecular Liquids*, 103-104, 349-358 (2003).
- Alireza Salabat, H. Dashti, Phase Compoditions, Viscosities and Densities of Systems PPG425 + (NH₄)₂SO₄ + H₂O and PPG425 + Na₂SO₄ + H₂O at 298.15 k., *Fluid Phase Equilibria*. 216, 153-157 (2004).

- Karamat Nasirzadeh, Alireza Salabat, The Modified Three-Characteristic-Parameter Correlation Model For Nonaqueous Electrolyte Solutions, *Journal of Molecular Liquids*, 113, 9-11 (2004).
- 11. Alireza Salabat, H. Dashti, K. Nasirzadeh, Measurement and Correlation of Water Activities and Refractive Indices for The Systems PPG425 + (NH₄)₂SO₄ + H₂O and PPG425 + Na₂SO₄ + H₂O at 298.15 K, *J. Chem. Eng. Data*, 49, 980-982 (2004).
- Alireza Salabat, L. Shamshiri, Forozan Sahrakar, Thermodynamic and Transport Properties of Aqueous tri-Sodium Citrate System at 298.15 K, *Journal of Molecular Liquids*, 118, 67-70 (2005).
- Alireza Salabat, L. Shamshiri, J. Jahanbin Sardrodi, Liquid-Liquid Equilibrium Data, Viscosities and Densities of Aqueous Mixtures of Poly (propylene glycol) with *tri*-Sodium Citrate at 298.15 K, *J. Chem. Eng. Data*, 50, 154-156 (2005).
- Alireza Salabat, M. Hashemi, M.T. Zafarani, Liquid-Liquid Phase Diagrams of H₂O + 2-Butanol + Potassium Phosphate and H₂O + 2-Butanol + Na₂CO₃ Systems at 298.15 K, *Physics and Chemistry of Liquids*, 43, 459-465 (2005).
- 15. Alireza Salabat, Prediction of Liquid-Liquid Phase Diagrams of Aqueous Salt + PEG Systems Using a Thermodynamic Model, *Computer Coupling of Phase Diagrams and Thermochemistry*, 30, 296-300 (2006).
- 16. Alireza Salabat, M. A. Moghadasi, P. Zalaghi, R. Sadeghi, Liquid-Liquid Equilibria for Ternary Mixtures of Poly Vinyl Pyrolidone + MgSO₄ + Water at Different Temperatures, *Journal of Chemical Thermodynamics*, 38, 1479-1483 (2006).
- 17. Alireza Salabat, M. Hashemi, Temperature Effect on the Liquid-Liquid Equilibria for the Some Aliphatic Alcohols + Water Systems, *J. Chem. Eng. Data*, 51, 1194-1197 (2006).
- R. Sadeghi, M.T. Zafarani, Alireza Salabat, Density Modeling of Polymer Solutions with Extended Segment-Based Local Composition Nonrandom Two-Liquid (NRTL), Wilson, and Nonrandom Factor (NRF) Models, *Industrial & Engineering Chemistry Research*, 45 (6), (2006) 2156-2162.
- Alireza Salabat, M. Hashemi, Liquid-Liquid Equilibria for Aliphatic Alcohols + Water + Potassium Carbonate Systems; Experiment and Correlation, *Physics and Chemistry of Liquids*, 45 (2007) 231-239.

- 20. Alireza Salabat, R. Sadeghi, Water activities of ternary mixtures of PPG425 + K₂CO₃ + H₂O and PPG425 + Na₂CO₃ + H₂O at 298.15 K: experiments and correlation, *Fluid Phase Equilibria*, 252 (2007) 47-52.
- 21. Alireza Salabat, Liquid-Liquid Equilibria for the MTBE + Water + Salts Systems at 298.15 K, *Fluid Phase Equilibria*, 257 (2007) 1-5.
- 22. Alireza Salabat, Mohammad H. Abnosi, Azadeh R. Bahar, Partitioning of some Amino Acids in Aqueous Two-Phase System of Poly (Propylene Glycol) and Magnesium Sulfate, *J. Chromatography B*, 858 (2007) 234-238.
- 23. Alireza Salabat, Julian Eastoe, Kevin J. Mutch, Rico F. Tabor, Tuning aggregation of microemulsion droplets and silica nanoparticles using solvent mixtures, *J. Colloid Interface Sci.*, 318 (2008) 244-251.
- 24. Alireza Salabat, Julian Eastoe, Ana Vesparinas, Rico F. Tabor, Kevin J. Mutch, Photoflocculation and Separation of Silica Nanoparticles, *Langmuir*, 24 (2008) 1829-1832.
- 25. Alireza Salabat, M. H. Abnosi, A. Motahari, Investigation of the amino acids partitioning in aqueous two-phase systems containing PEG and inorganic salts, *J. Chem. Eng. Data*, 53 (2008) 2018-2021.
- 26. Alireza Salabat, M. Alinoori, Salt effect on aqueous two-phase system composed of nonylphenyl ethoxylate non-ionic surfactant, *Computer Coupling of Phase Diagrams and Thermochemistry*, 32 (2008) 611-614.
- 27. Alireza Salabat, M. Alinoori, Viscosity, Density and Refractive index of Poly(vinylpyrrolidone) + 1-oripanol and + 2-propanol at 298 K. J. Chem. Eng. Data, 54 (2009) 1073-1075.
- Alireza Salabat, M. H. Abnosi, A. Motahari, Application of aqueous mixtures of polypropylene glycol or polyethylene glycol with salts in proteomic analysis, *Journal of Iranian Chemical Society*, 7 (2010) 142-149.
- 29. Alireza Salabat, Liquid-Liquid Equilibrium in the Ternary Systems Triethylene Glycol + Salts + Water at Different Temperatures; Experimental Determination and Correlation, *Fluid Phase Equilibria*, 288 (2010) 63-66.
- 30. Alireza Salabat, S.Tiani Moghadam, M. Rahmati Far, Liquid-Liquid Equilibria of Aqueous Two-Phase Systems Composed of TritonX-100 and Sodium Citrate or Magnesium Sulfate Salts, *Computer Coupling of Phase Diagrams and Thermochemistry (CALPHAD)*, 34 (2010) 81-83.

- Alireza Salabat, Prediction of silver nanoparticles size synthesized in microemulsion system, *Russian Journal of Physical Chemistry A*, 8 (2010) 1255-1256.
- 32. Alireza Salabat, Abbas Mehrdad, Viscometric and volumetric study of dilute aqueous solutions of binary and ternary poly (ethylene glycol)/poly(vinyl alcohol) systems at different temperatures, *Journal of Molecular Liquids*, 157 (2010) 57-60.
- 33. Alireza Salabat, M. Rahmati Far, S.Tiani Moghadam, Investigation of amino acids partitioning in surfactant-based aqueous two-phase systems containing nonionic surfactant (TX-100) and salts (inorganic and organic), *Journal of Solution Chemistry*, 40 (2011) 61-66.
- 34. Alireza Salabat, G. Nabiyouni, M. Rahmati Far, Effect of platinum precursor on the nanoparticle size synthesized in microemulsion system, *Journal of Experimental Nanoscience*, 6 (2011) 305-310.
- 35. Alireza Salabat, R. Sadeghi, S.Tiani Moghadam, B. Jamehbozorg, Partitioning of L-methionine in aqueous two-phase systems containing poly(propylene glycol) and sodium phosphate salts, *Journal of Chemical Thermodynamics*, 43 (2011) 1525-1529.
- 36. Alireza Salabat, A. Fazlali, S. Neshat, Activity Coefficients of Glycine, D-Alanine and L-Valine in Aqueous Solutions Containing MgSO₄ at 298.15 K; Experimental Determination and Correlation, *Fluid Phase Equilib.*, 314 (2012) 198-202.
- 37. Alireza Salabat, A. Barati, N. Banijamali, Synthesis and characterization of the Pt/SiO₂ nanocomposite by the sol-gel method, *Journal of Nanostructure*, 1 (2012) 1-6.
- 38. Alireza Salabat, M. Rahmati Far, Solvent effect on the size of platinum nanoparticle synthesized in microemulsion systems, *Russian Journal of Physical Chemistry A*, 86 (2012) 881-883.
- 39. Alireza Salabat, H. Saydi, A new approach for estimation of ultimate size of bimetallic nanocomposites synthesized in microemulsion systems. , *Russian Journal of Physical Chemistry A* 86 (2012) 2014-2017.

- 40. Alireza Salabat, F. Dehghani Sanij, Separation of two amino acids by microemulsion bulk liquid membrane, *Bull. Korean Chem. Soc.*, 33 (2012) 3387-3390.
- 41. P. Badkoobeh, K. Parivar, S.M. Kalantar, Alireza Salabat, S.D. Hosseini, Protective effect of nano-zinc oxide on reproductive system and fertility of adult male Wistar rats following doxorubicin treatment, *Arak Medical University Journal*, 16 (2013) 1-9.
- 42. P. Badkoobe, K. Parivar, S.M. Kalantar, S.D. Hosseini, Alireza Salabat, Effect of nano-zinc oxide on doxorubicin- induced oxidative stress and sperm disorders in adult male Wistar rats, *Iran J. Reprod. Med.*, 11 (2013) 355-364.
- 43. Alireza Salabat, H. Saydi, Microemulsion Route to Fabrication of Silver and Platinum-Polymer Nanocomposites, *Polymer Composites*, 35 (2014) 2023-2028.
- 44. Alireza Salabat, Shima Soleimani, Ultrasonic irradiation and solvent effects on the destabilization of colloidal suspensions of platinum nanoparticles, *Particuology*, 17 (2014) 145-148.
- 45. Shima Soleimani, **Alireza Salabat**, Rico F. Tabor, Effect of surfactant type on platinum nanoparticles size of the synthesized Pt/α-Al₂O₃ catalyst by microemulsion method, *J. Colloid Interface Sci.*, 426 (2014) 287-292.
- 46. Alireza Salabat, F. Mirhosseini, Z. Masoumi, M. Mahdie, Preparation and characterization of polystyrene-silver nanocomposite using microemulsion method and its antibacterial activity, *Journal of Nanostructure*, 4 (2014) 377-382.
- 47. F. Mirhosseini, Alireza Salabat, Ionic liquid based microemulsion method for fabrication of poly(methyl methacrylate)–TiO2 nanocomposite as highly efficient visible light photocatalyst, RSC Advance, 5 (2015) 12536-12545.
- 48. Shima Soleimani, Alireza Salabat, Effect of various factors on the Pt nanoparticle size produced in a microemulsion system, *Colloid Journal* 77 (2015) 207-212.
- 49. Alireza Salabat, F. Mirhoseini, M. Mahdieh, H. Saydi, A novel nanotube-shaped polypyrrole-Pd composite prepared using reverse microemulsion polymerization and its evaluation as an antibacterial agent, *New J. Chem.* 39 (2015) 4109-4114.
- 50. Alireza Salabat, F. Mirhoseini, Applications of a new type of poly(methyl methacrylate)/TiO₂ nanocomposite as an antibacterial agent and reducing photocatalyst, *Photochem. Photobiol. Sci.* 14 (2015) 1637-1643.

- 51. A. Kajbafvala, Alireza Salabat, A novel one-step microemulsion method for preparation of quercetin encapsulated poly(methyl methacrylate) nanoparticles, *Iranian Polymer Journal*, 26 (2017) 651-662.(doi:10.1007/s13726-017-0550-0).
- 52. Alireza Salabat, F. Mirhoseini, M. Arjomandzadegan, E. Jiryaei, A novel methodology for fabrication of Ag-polypyrrole core-shell nanosphere using microemulsion system and evaluation of its antibacterial application, *New J. Chem.* 41 (2017) 12892 12900. DOI: 10.1039/c7nj00678k.
- 53. F. Mirhoseini and Alireza Salabat, Removal of methyl tert-butyl ether as a water pollutant by photodegradation over a new type of poly(methyl methacrylate)/TiO₂ nanocomposite, *Polymer composites*. 39 (2018) 1248-1254, DOI: 10.1002/pc.24059.
- 54. S. Tiani Moghadam, Alireza Salabat, A microemulsion method for preparation of thiol-functionalized gold nanoparticles, *Particuology*, 37 (2018) 33-36. Doi: 10.1016/j.partic.2017.05.007.
- 55. K. Motahari, Alireza Salabat, H. Ahmadi, Co (II) phthalocyanine-amine functionalized graphene oxide as a solid base catalyst for the oxidation of thiols, *Fullerenes, Nanotubes and Carbon Nanostructures*, 26 (2018) 342-350.
- 56. Alireza Salabat, F. Mirhoseini, K. Abdoli, A microemulsion route to fabrication of mono and bimetallic Cu/Zn/γ-Al₂O₃ nanocatalysts for hydrogenation reaction, *Scientia Iranica* C, 25 (2018) 1361-1370.
- 57. Alireza Salabat, F. Mirhoseini, A novel and simple microemulsion method for synthesis of biocompatible functionalized gold nanoparticles, *J. Molecular Liquids.* 268 (2018) 849-853.
- 58. Alireza Salabat, F. Mirhoseini, Photo-Induced Hydrophilicity study of poly(methyl methacrylate)/TiO₂ nanocomposite prepared in Ionic Liquid based microemulsion system, Current Appl. Poly. Sci. 2 (2018) 112-120. 10.2174/2452271602666180803141554

- 59. A. Kajbafvala, Alireza Salabat, Anayatollah Salimi, Formulation, characterization evaluation of quercetin-loaded and in-vitro/ex-vivo microemulsion for topical application, Development Pharmaceutical Å Technology, 23 (2018) 741-750.
- 60. Alireza Salabat, S. Najafabadifarahani, Physico-chemical evaluation of a biocompatible microemulsion system containing IPM/Tween80/Isobutanol, *Iran. Chem. Commun.*, 7 (2019) 134-141.
- 61. S.M. Hosseini, N. Rafiei, Alireza Salabat, A. Ahmadi, Fabrication of new type of barium ferrite/copper oxide composite nanoparticles blended polyvinylchloride based heterogeneous ion exchange membrane, *Arabian Journal of Chemistry*, 2018, https://doi.org/10.1016/j.arabjc.2018.06.001.
- 62. A. Keshavarz, Alireza Salabat, Effect of HCl on the structure and catalytic activity of Pt/Al₂O₃ nanocatalyst prepared in microemulsion system, *Scientia Iranica*, in press (2019).
- Alireza Salabat, A. Keshavarz, S. Torkzaban, R. Pureimani, Gamma radiationassisted synthesis of Pt/Al₂O₃ nanocatalyst in microemulsion system, *Journal of Iranian Chemical Society*. In press (2019).
- 64. A. Keshavarz, Alireza Salabat, An efficient strategy in microemulsion systems to prepare mono- and bimetallic platinum-rhenium reforming nanocatalyst with remarkable catalytic performance, *Chemistryselect* (2019) in press.
- 65. F. Mirhoseini, **Alireza Salabat**, Investigation of operational parameters on the photocatalytic activity of a new type of poly(methyl methacrylate)/ionic liquid-TiO₂ nanocomposite, *Iran. J. Chem. Chem. Eng.*, (2019) in press.
- 66. Alireza Salabat, F. Mirhoseini, R. Valirasti, Engineering poly(methyl methacrylate)/Fe₂O₃ hollow nanospheres composite prepared in microemulsion system as a recyclable adsorbent for removal of benzothiophene, Industrial & Engineering Chemistry Research (2019) Submitted.
- 67. Alireza Salabat, F. Alimohamadi, Effect of surfactant type on the quality of fabricated polystyrene/Ag nanocomposite in microemulsion system, *Polymer Science, Series A.* (2019) submitted.

Conferences

(Papers Presented in National and International Conferences):

- 1. M. T. Zafarani and Alireza Salabat, M. Kabiri-Badr, Volumetric Properties of Some PEG/Salt/Water Systems, International Seminar of Polymer Science and Technology (ISPST), Shiraz, Iran, 2-4 May, 1994.
- 2. M. T. Zafarani and Alireza Salabat, M. Kabiri-Badr, Measurement and Prediction of Aqueous electrolytes mixtures., 9th Iranian Chemistry and Chemical Engineering Congress, Assr Engelab Research Complex, Tehran, Iran, 6-8 September, 1994.
- 3. M. T. Zafarani and Alireza Salabat, Measurement and Prediction of Densities of some Aqueous Polyvinyl Alcohol + Polyethylen Glycol Systems., 35th IUPAC Congress, Istanbul, Turkey, 1995.
- 4. M. T. Zafarani and Alireza Salabat, The prediction of Phase Behavior of nonideal Mixtures at High Temperatures and Pressures., Second Iranian Seminar of Physical Chemistry, Esfahan University, Iran, 29-31 August, 1995.
- 5. M. T. Zafarani and Alireza Salabat, Thermodynamics of Aqueous Two-Phase Systems Composed of Aliphatic Alcohols and Magnesium Sulfate., 3rd Iranian Seminar of Physical Chemistry, Ferdosi University of Mashhad, Iran, 12-14 Nov. 1996.
- M. T. Zafarani and Alireza Salabat, Measurement of Viscosities, Densities and Water Activity for the System Poly(propylene glycol) + MgSO₄ + H₂O., International Seminar of Polymer Science and Technology (ISPST), Tehran, Iran, 3-5 Nov., 1997.
- 7. M. T. Zafarani and **Alireza Salabat**, The UNIFAC/UNIQUAC + EOS Model for Prediction of the Phase Diagram of Some Systems., First Congress of Ph.D. Students in Basic Science, University of Tehran, Iran, 12-13 May, 1996.
- 8. M. T. Zafarani and Alireza Salabat, Phase Digrams of Ethanol + Na₂SO₄ + H₂O and 2-Butanol + Na₂SO₄ + H₂O Systems., 27th CALPHAD Conference, Beijing, China, 17-22 May 1998.
- 9. Alireza Salabat and M. T. Zafarani, Application of Regular Solution Theory for Liquid-Liquid Phase Diagram Calculation of PPG + MgSO₄ +H₂O System., 13th Iranian Chemistry and Chemical Engineering Congress, Tehran, Iran, 16-18 February, 1999.
- Alireza Salabat, M. T. Zafarani, Isopiestic studies of aqueous magnesium sulfate -Poly(propylene glycol) system at 25°C., The First Physical-Chemistry Conference Held By the Iranian Universities' Faculty, Shiraz, Iran, 11-13 May 1999.
- 11. Alireza Salabat, Prediction of Water Activity in Aqueous Salt-Plymer Systems Using Polymer Scaling Laws, 27th International Conference on Solution Chemistry (27ICSC), Vaals, Netherlands, 26-31 August, 2001.
- 12. A. Zendehnam and Alireza Salabat, Coating of Titanum rod with Platinum, Proceeding of the Annual Physics Conference of Iran, University of Sabzevar, Iran, 27-30 August, 2001.
- 13. Alireza Salabat, A. Zendehnam, Electrochemical Results (Electroplating) Investigation of Production Possibility of Ti Electrods with Pt Coating., 4th Biennial Seminar of Electrochemistry of Iran, University of Tehran, Iran, 13-14 June, 2001.

- 14. Alireza Salabat, Behzad Farshadpor, Phase Diagram Of Polyethylene Glycol(6000) Sodium Sulfate-Water System. Experiment and Prediction Using Scaling Laws, 4th Physical Chemistry Seminar, Kish, Iran, 10-12 March 2001.
- 15. Alireza Salabat, H. Dashti, Investigation of Liquid-liquid Equilibriumof Aqueous Mixtures of Poly(Propylene Glycol) with (NH₄)₂SO₄ at 25 C., 14th International Conference on Chemical Thermodynamics in Russia, Saint Petersburg, Russia, 1-5 July, 2002.
- Alireza Salabat, H. Dashti, Measurement and Correlation of Water Activities for the System PPG425 + (NH₄)₂SO₄ + H₂O at 25 C., 17th IUPAC Conference on Chemical Thermodynamics, University of Rostock, Germany, July 28-August 02, 2002.
- Alireza Salabat, L. Shamshiri, Application of Scaling Laws for Prediction of Water Activity in Aqueous Sodium Citrate – PEG Systems., 17th IUPAC Conference on Chemical Thermodynamics, University of Rostock, Germany, July 28-August 02, 2002.
- 18. A. Zendehnam, G. Nabioni, **Alireza Salabat**, Study of Structural Properties of Deposited Pt Thin Layer on Ti Substrate., Proceeding Annual Physic Conference of Iran, Zanjan University, Zanjan, Iran, 24-27 August 2002.
- 19. Alireza Salabat, Lila Shamshiri, Forozan Sahrakar, Thermodynamic and Transport Properties of Aqueous tri-Sodium Citrate System at 298.15 K, 28th International Conference on Solution Chemistry, University of Debrecen, Hungary, August 23-28, 2003.
- 20. Alireza Salabat, Davod Nori-shargh, Farzaneh Seidsaleh, Salt Effect in Vapour-Liquid Equilibria of 2-Propanol + Water System Under Isobaric Condition, 14th Iranian Chemistry and Chemical Engineering Congress, Tarbiat Moallem University, Tehran, Iran, 17-19 Feb. 2004.
- 21. **Alireza Salabat**, Vahid Mahdavi, Mahmod Hashemi Liquid-Liquid Equilibria of the Ternary System *tert* Butanol + Water + K₂CO₃ Experiment and Theory, 14th Iranian Chemistry and Chemical Engineering Congress, Tarbiat Moallem University, Tehran, Iran, 17-19 Feb. 2004.
- 22. Alireza Salabat, Investigation of Liquid-Liquid Extraction Systems composed of water soluble polymers, 11th International Conference on Polymers and Organic Chemistry 2004, Check Republic, Technical University of Prague 18 July, 2004.
- 23. Alireza Salabat, H. Dashti Salt Effect on Phase Diagrams for Poly(Propylene Glycol)-Salt Systems at 298.15 K, 7th Iranian Physical Chemistry Seminar, Isfahan University of Technology, Isfahan, Iran, 8-10 March, 2005.
- 24. Alireza Salabat, H. Tahmasebi, Liquid-Liquid equilibrium in Ternary System Water+Triethylene Glycol+Potasium Carbonate at 298.15 K, 29th International Conference on Solution Chemistry (29ICSC), Portoroz, Slovenia, 21-25 August, 2005.
- 25. S. K. Moayedi, Alireza Salabat, Statistical Mechanics of a Generalized Anharmonic Oscillator: Canonical Ensemble Approach, Annual Physics Conference of Iran, Shahrood University, Shahrod, Iran, 28-31 august 2006.
- 26. Mohammad H. Abnosi, **Alireza Salabat**, Application of Aqueous Two-Phase Systems in Proteomic Techniques, 7th Iranian Biophysical Chemistry Conference, Research Institute for Fundamental Sciences, Tabriz University, 18-19 July 2006.
- 27. Alireza Salabat, M. H. Abnosi, A. R. Bahar, The Effect of pH on Partitioning of Some Amino Acids in Aqueous Two-Phase Systems Composed of PPG. 7th Iranian Biophysical Chemistry Conference, Research Institute for Fundamental Sciences, Tabriz University, 18-19 July 2006.

- 28. Alireza Salabat, M. H. Abnosi, A. Motahari, Investigation of Partition Coefficient and Recovery Percent of Zein in New ATPS Systems, 8th Iran Biophysical Chemistry Conference, University of Sistan & Bluchestan, 11-12 March 2008.
- 29. Alireza Salabat, Measurement and Correlation of Liquid-Liquid Equilibrium in Ternary Systems TEG + Salt + Water at Different Temperatures, 12th Iranian Physical Chemistry Seminar, University of Kurdestan, Sanandaj, Iran, 20-23 July, 2009
- Alireza Salabat, M. Nemati, Phase Equilibria involved in extractive distillation of vinyl acetate + ethyl acetate using 2-methyl-2, 4-pentanediol as entrainer, 12th Iranian Physical Chemistry Seminar, University of Kurdestan, Sanandaj, Iran, 20-23 July, 2009.
- 31. Alireza Salabat, A. Mehrdad, Measurement and Correlation of Viscosity and Density of dilute solution of aqueous PEG/PVA system at different temperatures, 9th International Seminar on Polymer Science and Technology, Iran Polymer and Petrochemical Institute, Tehran, Iran, 17-21 October 2009.
- 32. Alireza Salabat, N. Banijamali, A. Barati, G. Nabiyouni, Synthesis and characterization of the Pt/SiO₂ nanocatalyst by the sol-gel method, *International Conference of Nanotechnology (ICONT 2009)*, Langkawi, Malaysia, 14-17th December 2009.
- 33. Alireza Salabat, S.Tiani Moghadam, M. Rahmati Far, Application of surfactant based aqueous two-phase systems in amino acids extraction, *13th Iranian Physical Chemistry Seminar*, Shiraz University of Technology, Shiraz, Iran, 12-15 April, 2010.
- 34. Alireza Salabat, M. Heydari, A. Barati, Effect of PEG, PVP and Triton X-100 on CMC of the aqueous solution of sodium dodecyl sulfate. 13th Iranian Physical Chemistry Seminar, Shiraz University of Technology, Shiraz, Iran, 12-15 April, 2010.
- 35. Alireza Salabat, H. Saydi, Theoretical approach for estimation of nano platinum particles size synthesized in the AOT reverse micelle system. 13th Iranian Physical Chemistry Seminar, Shiraz University of Technology, Shiraz, Iran, 12-15 April, 2010.
- 36. Alireza Salabat, F. Sobbuhi, Investigation of Protein Albumin Partitioning in Aqueous Two-Phase Systems Containing Polyethylene Glycol and Inorganic Salts, 15th Iranian Physical Chemistry Conference, University of Tehran, Tehran, Iran, 3-6 September, 2012.
- 37. M. Safari, Alireza Salabat, A new microemulsion formulation for solubility enhancement of celecoxib drug. *The 16th Iranian Chemistry Congress*, Yazd University, September 2013.
- 38. Z. Farahani, Alireza Salabat, Measurement and correlation of phase equilibria for PVP+Sodium citrate aqueous two-phase system at 298.15 K. *The 16th Iranian Chemistry Congress*, Yazd University, September 2013.
- 39. Z. Masoumi, Alireza Salabat, Preparation and characterization of polystyrenesilver nanocomposites in microemulsion system. *The 16th Iranian Chemistry Congress*, Yazd University, September 2013.
- 40. S. Najafabadifarahani, **Alireza Salabat**, Solubility Enhancement of valsartan drug by using O/W microemulsion system. *The 16th Iranian Chemistry Congress*, Yazd University, September 2013.
- 41. **Alireza Salabat**, F. Mirhoseini, Photocatalytic application of poly (methyl methacrylate)/TiO2 as visible light responsive photocatalyst in decomposition of

trypan blue and bacteriological study, *International Conference on Environmental Science, Engineering and Technologies*, University of Tehran, May 2015.

- 42. F. Mirhoseini, **Alireza Salabat**, Novel superhydrophilic poly(methyl methacrylate)/TiO2 film nanocomposite prepared by ionic liquid based microemulsion method, *15th Iranian Physical Chemistry Conference*, University of Mazandaran, Babolsar, Iran, Oct. 2013.
- 43. Farid Mirhoseini, Alireza Salabat, Investigation of hidrophilicity in visible lightresponsive poly(methyl methacrylate)/TiO₂ nanocomposite prepared in ionic liquid based microemulsion., 17th Iranian Physical Chemistry Seminar, Iran -Babolsar, 29 october to 1 November, Khaje nasir university 2014.
- 44. Farid Mirhoseini, Alireza Salabat, Visible light responsive poly(methyl methacrylate)/TiO₂ nanocomposite prepared in ionic liquid based microemulsion and its evaluation as an antibacterial agent., 5th International congress on Nanoscience and Nanotechnology, Iran –Tarbiat Modares University, 22-24 October 2014.
- 45. Farid Mirhoseini, Alireza Salabat, Bacteriological study of poly(methyl methacrylate)/TiO₂ nanocomposite prepared in ionic liquid based microemulsion. 15th Iranian and International Congress of Microbiology and 1st Symposium of Nanomicrobiology, Iran –Tehran University, September 2014.
- 46. Farid Mirhoseini, **Alireza Salabat**, Antibacterial activity based Poly(methyl methacrylate) supported TiO₂ photocatalyst film nanocomposite., Second International Conference on Advances in Engineering and Basic Science, Conferences Science Archive, January 2015. London.
- 47. Fahimeh Alimohamadi, **Alireza Salabat**, Experimental investigation of surfactant effect on synthesis of polystyrene-Ag nanocomposite in microemulsion systems, 5th International Congress on Nanoscience and Nanotechnology, October 22-24, 2014, University of Tehran, Iran.
- 48. Farid Mirhoseini, **Alireza Salabat**, Novel nanotube-shaped polypyrrole-Pd composite prepared using reverse microemulsion polymerization and its evaluation as an antibacterial agent, 2nd National Conference of New Technology In Chemical and Petrochemical , Shahid Beheshti University, Tehran- Iran, 15 May 2015-article number:44.
- 49. F. Hossein Nouri, **Alireza Salabat**, Photocatalytic activity of a new type of poly (metyl methacrylate)/ TiO₂-Ag nanocomposite as visible light responsive photocatalyst, 6th International Congress on Nanoscience and Nanotechnology, October 26-28, 2016, Kharazmi University, Karaj- Iran.
- 50. Azar Kajbafvala, **Alireza Salabat**, Design of new Quercetin- loaded microemulsion formulation: phase diagram, solubility and stability investigations, 1st Congress of Chemical Biotechnology, March 6-8, 2016, Tehran- Iran.
- 51. Azar Kajbafvala, Alireza Salabat, *In-Vitro* Release Behavior and *Ex-Vivo* Evaluation of Quercetin-Microemulsions for Topical Delivery. The Third

National Conference on New Technologies in the Chemical, Petrochemical and Iran Nanotechnology, 12-13 June 2016 Tehran- Iran.

- 52. R. Valirasti, Alireza Salabat, Preparation of polymeric nanocomposites with hollow spherical structure composed of magnetic nanoparticles by microemulsion method; Application in deep desulfurization, 20th Iranian Physical Chemistry Conference, Arak University, Arak, Iran, 20-22 August, 2017.
- 53. E. Parsi, Alireza Salabat, Improvement of celecoxib solubility using microemulsion systems, 20th Iranian Physical Chemistry Conference, Arak University, Arak, Iran, 20-22 August, 2017.
- 54. A. Keshavarz, Alireza Salabat, Investigation of 4-chlorophenol degradation over a new designed Pt/γ-Al₂O₃ nanocatalyst synthesized by microemulsion method, 20th Iranian Physical Chemistry Conference, Arak University, Arak, Iran, 20-22 August, 2017.

Books

- Alireza Salabat, Guide for M. S. Degree of Physical Chemistry Examination, First Edition, Ahrar Press, 1997, (Persian Language).
- 2. Alireza Salabat, Surface Chemistry; Theories and Applications, First Edition, Arak University Press, 2002, (Persian Language).
- Alireza Salabat, Physical Chemistry for Engineers, First Edition, Arak University Press 2006 (Persian Language).
- 4. **Alireza Salabat**, et al., Physical Chemistry, P.W.Atkins, 8th edition, (Translation to Persian).
- 5. Alireza Salabat, et al., Fundamentals of Practical Biochemistry, First Edition, Arak University Press 2009 (Persian Language).

National and International Patents

- Alireza Salabat, A new method for preparation of potassium nitrate from nitric acid and potassium chloride using Liquid-liquid-solid phase method. (National Patent, Patent No. 31546 IRAN, 2005).
- 2. Farid Mirhoseini, Alireza Salabat, A new method for preparation of polymer nanocomposites and photocatalysticremoval of water pollutants and microorganisms from industrial wastewater.

(National Patent, Patent No. 88934; IRAN, 2016).

- **3.** Faeze Hossin Nouri, Farid Mirhoseini, **Alireza Salabat**, Preparation of hybrid PMMA-TiO₂-Ag nanocomposite sensitized by tween 80 for visible-light response. (National Patent, Patent No. 93845, IRAN, 2017).
- **4.** Farid Mirhoseini, **Alireza Salabat**, Somaie Tianimoghadam, Biocompatible gold nanocolloid prepared in a novel system (National Patent, Patent No. 89996, IRAN, 2016).
- Alireza Keshavarz, Alireza Salabat, Pt nanocatalyst with special morphology for degradation of hazardous organic nitro compound. (National Patent, Patent No. 95000, IRAN, 2018).
- Farid Mirhoseini, Alireza Salabat, Photocatalitic Filter, US-Patent, Pub. No. 2018/0104678 A1 (Apr. 19, 2018).

Completed and Current Projects

- Alireza Salabat, A. Zendehnam, G. Nabioni, Investigation of Production Possibility of Ti Electrodes with Pt Coating, (EDR Unit of Petro-Chemical Company of Arak), 2001-2002.
- 2. Alireza Salabat, A. Zendehnam, G. Nabioni, Preparation of earth electrode for EDR Unit of Petro-Chemical Company of Arak, 2003-2004.
- 3. Alireza Salabat, R. Ebadi, Extraction of MTBE from water, Petroleum Company, Tehran, Iran (2004).
- 4. Alireza Salabat, Internal Evaluation of the chemistry department of Arak University (2006).
- Alireza Salabat, Mohammad H. Abnosi, Application of PPG + Salts Aqueous Two-Phase Systems in Proteomic Analysis, Arak University, (2008).
- 6. Alireza Salabat, Effect of platinum precursor on the nanoparticle size synthesized in microemulsion system, Arak University, (2010).
- 7. Alireza Salabat, Experimental investigation of solvent effect on platinum nanoparticle size synthesized in microemulsion systems, Arak University, (2011).
- 8. Alireza Salabat, S. Soleimani, Application of a novel nanocatalyst in catalytic reforming units; experimental investigation, Oil Refinary Co. of Shazand (2014).

- Alireza Salabat, F. Mirhoseini, M. Mahdieh, H. Saydi, Novel nanotubeshaped polypyrrole-Pd composite prepared using reverse microemulsion polymerization and its evaluation as an antibacterial agent, Arak University (2014).
- Alireza Salabat, F. Mirhoseini, Investigation of some solution parameters in controlled fabrication and applicability of Au nanorods. Arak University (2019).
- Alireza Salabat, F. Mirhoseini, Preparation of water softener cartridge filter replacement of reverse osmosis (RO) based on hybrid- polymer nanocomposite, (supported by Iran National Science Foundation, Grant No. 95004617), 2019.
- Alireza Salabat, A. Keshavarz, Application of microemulsion system in preparation of reforming bimetallic containing Pt nanocatalysts, (supported by Iran National Science Foundation, Grant No. 95818034), 2019.

Reviewer for Journals

- 1. Journal of Colloid and Interface Sciences
- 2. Journal of Solution Chemistry
- 3. Journal of Fluid Phase Equilibria
- 4. Journal of Chemical & Engineering Data
- 5. ACS Sustainable Chemistry & Engineering
- 6. The Journal of Chemical Thermodynamics
- 7. Journal of Molecular Liquids

Editorial Board Member

- 1. Current Applied Polymer Science
- 2. Iranian Journal of Chemistry

Thesis Supervised

 Investigation of Liquid-liquid Equilibrium of Aqueous Mixtures of Poly(Propylene Glycol) with Salts at 298.15 K by: Hossein Dashti, 2002. M.Sc.

- 2. Thermodynamic and Transport Properties of Aqueous tri-Sodium Citrate System and Phase Diagram of PPG425 and PPG725 with this salt at 298K. by : Lila Shamshiri, 2003. M.Sc.
- 3. Investigation of Curing Kinetic of Epoxy-Urethane Resins via Differential Scanning Calorimetry Method By: Hamid Reza Saveh, 2004, (Co-Supervisor: Dr H.Yeganeh (IPPI). M.Sc.
- 4. Thermodynamics of Aqueous Two-Phase Systems Composed of Aliphatic Alcohols and K₂CO₃ at different Temperatures.
 by : M. Hashemi , 2005. M.Sc.
- Liquid-Liquid Equilibria for Ternary Mixtures of Poly Vinyl Pyrolidone + MgSO₄ + Water at Different Temperatures. by: P. Zalaghi, 2005 . M.Sc.
- 6. Vapour-Liquid Equilibria and thermodynamic properties of the Ethyl acetate + Vinyl acetate binary system at constant pressure.
 by : M. Nemati, 2006. M.Sc.
- 7. Partitioning of some amino acids in Poly propylene glycol + MgSO₄ aqueous two-phase system.

by: A. R. Bahar, 2006. M.Sc.

- 8. Investigation of MTBE + Salt + water and MTBE + Alcohols (long chain) + water at 298.15 K. by: R. Ebadi, 2006. M.Sc.
- A Thermodynamic Model for Organic + salt + Water Systems; designing of a software for the correlation of experimental data. by: R. Jafari, 2006. M.Sc.
- 10. Volumetric Properties of binary and ternary aqueous mixtures of PVA and PEG systems.

by: M. Poragha Motab, 2007. M.Sc.

- 11. The effect of potassium fluoride salt and temperature on Liquid-Liquid equilibrium of some ethylene glycol systems.
 by: H. Eftekhari, 2007. M.Sc.
- 12. Isobaric Vapour-Liquid Equilibria (VLE) for some aliphatic binary systems;
 Experiment and Correlation.
 by: M. Sina, (Co-Supervisor: Dr. Mirjalili,), 2007. M.Sc.
- 13. Calculation of Thermodynamic parameters for amino acids in water using

quantum mechanic calculation

by: B. Salamat, (Co-Supervisor: M. Solimanejad) 2007. M.Sc.

- 14. Partitioning of some amino acids and proteins in PPG or PEG + salt aqueous two-phase systems. by: A. Motahari, 2008. M.Sc.
- 15. Salt effect on aqueous two-phase system composed of nonylphenyl ethoxylate non-ionic surfactant; by: M. Alinori, 2008. M.Sc.
- 16. Investigation of liquid-liquid aqueous two phase systems composed of nonionic surfactant (Triton X- 100) and determination of amino acids partitioning in these systems.

by: S.Tiani Moghadam, 2009. M.Sc.

- 17. Usage of Ionic and Nonionic Surfactants in: a)Aqueous Two-Phase Systems
 b) Synthesis of Platinum Nanoparticles in Microemulsion Systems.
 by: M. Rahmati Far, 2009. M.Sc.
- 18. Synthesis and characterization of the Pt/SiO₂ nanocatalyst by the sol-gel method.

by: N. Banijamali, 2010 (Co-Supervisor: A. Barati). M.Sc.

19. Effect of PEG, PVP and Triton X-100 on CMC of the aqueous solution of sodium dodecyl sulfate.

by: M. Heidari, 2010 (Co-Supervisor: A. Barati). M.Sc.

20. Activity coefficients of Glycine, D-Alanine and L- Valine in Aqueous Solutions Containing MgSO4 at 298.15 K

By: S. Neshat, 2010 (Co-Supervisor: A. Fazlali). M.Sc.

- 21. Separation of two amino acids by reversed micelle liquid membrane By: F. Dehghani Sanij, 2010 . M.Sc.
- 22. Synthesis and characterization of Pt/SiO₂ nanocatalyst and its application in liquid phase oxidation of ethylbenzene
 By: M. Abadchi, 2011 (Co-Supervisor: V. Mahdavi). M.Sc.
- 23. Partitioning of some amino acids and protein in microemulsion aqueous two-phase systems.

By: Zahra Mirzaei 2012. M.Sc.

24. Experimental investigation of thermal conductivity and viscosity of a new nanofluid containing MWCNT and copper oxide nanoparticles.

By: Pedram Bourbour, 2012, M.Sc.

25. Preparation and Charachterization of MgO on Various supports as a solid base catalyst and its catalytics activity in the trans estrification reaction for biodiesel production.

By: Hamed Ali akbari 2013 (Co-Supervisor: Dr. Mahdavi). M.Sc.

- 26. Theoretical and experimental study of aqueous two-phase systems containing PVP and Sodium citrate. By: Zohre Farahani 2013. M.Sc.
- 27. Design of a new microemulsion based drug delivery system and investigation of its physicochemical properties.
 By: Maryam Safari 2013. M.Sc.
- 28. Preparation and characterization of polystyrene-silver nanocomposites in microemulsion system.

By: Z. Masoumi 2013. M.Sc.

29. Microemulsion Route to Fabrication of Silver and Platinum-Polymer Nanocomposites.

By: Hasan Saydi, 2014, Ph.D.

- 30. Preparation of cobalt nanocatalyst based on Al₂O₃ using w/o microemulsion systems and its application in catalytic reforming reaction.
 By: M. Mortazavi. 2014. M.Sc
- 31. Experimental investigation of surfactant effect on synthesis of polystyrene-Ag nanocomposite in microemulsion systems
 By: F. Alimohammadi. 2014. M.Sc
- 32. An experimental and theoretical investigation of w/o microemulsion systems in synthesis of nanocatalysts and their application in catalytic reforming reactions.

By: Shima Soleimani, 2014, Ph.D.

- *33.* Solubility enhancement of some drugs by using microemulsion systems. *By: S. Najafabadifarahani, 2014, M.Sc.*
- 34. Preparation and characterization of titanium dioxide/poly(methyl methacrylate) film by microemulsion system containing ionic liquid. By: F. Mirhoseini, 2015, Ph.D.
- 35. Preparation of zinc and copper nanocatalyst based on Al2O3 by microemulsion method and their applications on some chemical reactions.

By: K. Abdoli, 2014, M.Sc.

36. Preparation and characterization of metal-polymer core-shell materials by microemulsion method

By: E. Jiryaei, 2015, M.Sc.

37. Development of a suitable microemulsion-based formulation to improve solubility of curcumin drug.

By: M. Naeimi, 2015, *M.Sc.*

- 38. Preparation and characterization of Pt nanocatalyst by using γirradiation in microemulsion systems. By: S. Turkzaban, 2016, M. Sc.
- 39. Reducing Environmental Risks of Nanoparticles by Preparation of Polymer Based Bimetallic Nanocomposite for Photocatalytic Applications. By: F. Hossein Nouri, 2016, M.Sc.
- 40. Formulation, characterization and stability determination of novel microemulsions and their applications for some drug delivery systems. *By: Azar Kajbafvala, 2017, Ph.D.*
- 41. Preparation of polymeric nanocomposites with hollow spherical structure composed of magnetic nanoparticles by microemulsion method; Application in desulfurization of gasoline. By: Ramin Valirasti, 2017, M.Sc.
- 42. Preparation of functionalized gold nanocolloid systems for biological applications.

By: Somayeh Tiani moghadam, 2017, Ph.D.

43. Design and development of a new microemulsion delivery system for clopidogrel drug.

By: Elahe Jafarnejad, 2018, M. Sc.

44. Preparation and characterization of colloid functionalized gold nanorod by chemical method.

By: Parisa Rezaei, 2018, M. Sc.

45. Application of microemulsion systems in preparation of reforming bimetallic nanocatalysts.

By: Alireza Keshavarz, 2019, Ph.D.