Academic CV

Employment

Name :**Hosseinali Zarei**
Department of: Physical Chemistry
Faculty of Chemistry
Bu-Ali Sina University
Hamedan, Iran
Email: Zareih@basu.ac.ir

Education

1987-1991 University of Shahid Beheshti, Tehran, Iran B.S. Pure Chemistry
1992-1995 University of Teheran, Tehran, Iran M.S. Physical Chemistry
Thesis: Statistical Thermodynamic of some Spherical and non Spherical Liquids
1998-2003 University of Bu-Ali Sina, Hamedan Ph.D Physical Chemistry 2003,
Thesis: Thermodynamic Study of Excess Enthalpies and Volumes for Binary Liquid of Non-Electrolyte Systems, Comparison with Theories

Professional experience

1995-1997 Instructor, Department of Chemistry University of Bu-Ali- Sina, Hamedan, Iran
2003 Visiting Student, Department of Chemical Engineering Delft University, The Netherlands
2003-2007 Assistant Professor, Faculty of Chemistry University of Bu-Ali- Sina, Hamedan, Iran
2007-2012 Associate Professor, Faculty of Chemistry University of Bu-Ali- Sina, Hamedan, Iran
2012 - Professor, Department of Physical Chemistry, Faculty of Chemistry University of Bu-Ali-Sina, Hamedan, Iran

Current research interests

Applied thermodynamics

Thermodynamic measurements of pure component and mixture properties (*PVT* data at elevated pressure (1-700 bar) and broad range of temperature (273.15-473.15 K), density, excess volume, heat of mixing, speed of sound, viscosity and Refractive index)

Petroleum Thermodynamics

Equation of State (SAFT)

Thermodynamic Modelling

Statistical Thermodynamics

Computational Quantum Chemistry

Supervised and dissertation thesis:

Graduate M.Sc: 25

Graduate Ph.D: 3

Teaching:

a) Under Graduate

General Chemistry I

General Chemistry II

Physical Chemistry I

Physical Chemistry II

Quantum Chemistry

Molecular Spectroscopy

b) Graduate M.Sc and Ph.D

Advanced Physical Chemistry

Statistical thermodynamic I

Statistical thermodynamic II

Membership

Iranian Chemical Society

PUBLICATIONS and PRESENTATIONS

a) ISI Papers

1. Zarei, H.; Omidi, A., Experimental study on the calorimetric data of 2-butoxyethanol with aliphatic alcohols (C1–C4) and correlation with the Wilson, NRTL and UNIQUAC models at T = 298 K. *J Chem Thermodyn* **2016,** *103*, 30-35.
2. Zarei, H.; Mohamadkhani, R., Calculation of excess molar enthalpy of binary liquid mixtures at high pressures from experimental data at low pressures. *Fluid Phase Equilib.* **2016,** *409*, 19-29.
3. Zarei, H.; Keley, V., PρT measurement and PC-SAFT modeling of N,N-dimethyl formamide, N -methyl formamide, N,N-dimethyl acetamide, and ethylenediamine from T = (293.15–423.15) K and pressures up to 35 MPa. *Fluid Phase Equilib.* **2016,** *427*, 583-593.
4. Neyband, R. S.; Zarei, H., A combined experimental and computational investigation of excess molar enthalpies of (nitrobenzene + alkanol) mixtures. *J Chem Thermodyn* **2015,** *80,* 119-123.
5. Neyband, R. S.; Yousefi, A.; Zarei, H., Experimental and Computational Thermodynamic Properties of (Benzyl Alcohol + Alkanols) Mixtures. *J Chem Eng Data* **2015,** *60* (8), 2291-2300.
6. Dolati, S.; Zarei, H.; Kharrat, R., Asphaltene Instability Trends to Predict Asphaltene Precipitation Onset Pressure: Constrained for Light and Heavy Crude Oils. *J. Dispersion Sci. Technol.* **2015,** *36* (1), 103-110.
7. Dolati, S.; Zarei, H.; Kharrat, R., Asphaltene Instability Trends of Light and Heavy Crude Oils. *J. Dispersion Sci. Technol.* **2014,** *35* (7), 970-983.
8. Zarei, H.; Golroudbari, S. A.; Behroozi, M., Experimental studies on volumetric and viscometric properties of binary and ternary mixtures of N,N-dimethylacetamide, N-methylformamide and propane-1,2-diol at different temperatures. *J Mol Liq* **2013,** *187*, 260-265.
9. Zarei, H.; Salami, Z., Densities, excess molar volumes, viscosity, and refractive indices of binary mixtures of ethanoic acid and trichloroethylene with dimethylbenzenes at different temperatures. *J Chem Eng Data* **2012,** *57* (2), 620-625.
10. Zarei, H.; Parvini, E.; Behroozi, M., Experimental study on the calorimetric data of cyclohexanol with alkanols (C 1-C 4) and correlation with the Wilson, NRTL and UNIQUAC models at T = 300 K. *J Chem Thermodyn* **2012,** *51,* 139-143.
11. Iloukhani, H.; Sadeghi, A.; Zarei, H., Excess molar volumes and viscosities for binary and ternary mixtures of vinyl acetate + trichloroethylene + tetrachloroethylene at 298.15 K. *Monatsh.*

Chem. **2012,** *143* (12), 1609-1615.

12. Behroozi, M.; Zarei, H., Volumetric properties of binary mixtures of tributylamine with benzene derivatives and comparison with ERAS model results at temperatures from (293.15 to 333.15) K. *J Chem Thermodyn* **2012,** *47*, 276-287.

13. Behroozi, M.; Zarei, H., Volumetric properties of highly nonideal binary mixtures containing ethanoic acid and propanoic acid with butan-2-ol, methyl-2-propanol, and 2-methyl-2-butanol at different temperatures. *J Chem Eng Data* **2012,** *57* (4), 1089-1094.

14. Behroozi, M.; Zarei, H., Application of the ERAS model to volumetric properties of binary mixtures of banana oil with primary and secondary alcohols (C1-C4) at different temperatures. *J Chem Thermodyn* **2011,** *43* (5), 696-704.

15. Behroozi, M.; Zarei, H., Correlation of calorimetric data of isoamyl acetate plus primary and secondary alcohols (C1-C4) by Redlich-Kister, NRTL and UNIQUAC models at 298.15K. *Fluid Phase Equilib.* **2011,** *309* (2), 155-160.

16. Zarei, H. A., Excess molar enthalpies of benzyl alcohol + Alkanols (C1-C 6) and their correlations at 298.15 K and ambient pressure. *J Chem Eng Data* **2010,** *55* (9), 4021-4024.

17. Zarei, H. A.; Mirhidari, N.; Zangeneh, Z., Densities, excess molar volumes, viscosity, and refractive indices of binary and ternary liquid mixtures of methanol (1) + Ethanol (2) + 1,2-Propanediol (3) at P = 81.5 kPa. *J Chem Eng Data* **2009,** *54* (3), 847-854.

18. Zarei, H. A.; Shahvarpour, S., Volumetric properties of binary and ternary liquid mixtures of 1-propanol (1) + 2-propanol (2) + water (3) at different temperatures and ambient pressure (81.5 kPa). *J Chem Eng Data* **2008,** *53* (7), 1660-1668.

19. Zarei, H. A.; Lavasani, M. Z.; Iloukhani, H., Densities and volumetric properties of binary and ternary liquid mixtures of water (1) + acetonitrile (2) + dimethyl sulfoxide (3) at temperatures from (293.15 to 333.15) K and at ambient pressure (81.5 kPa). *J Chem Eng Data* **2008,** *53* (2), 578-585.

20. Zarei, H. A.; Asadi, S.; Iloukhani, H., Temperature dependence of the volumetric properties of binary mixtures of (1-propanol, 2-propanol and 1,2-propanediol) at ambient pressure (81.5 kPa). *J Mol Liq* **2008,** *141* (1-2), 25-30.

21. Iloukhani, H.; Zarei, H. A., Volumetric properties of dimethyl sulfoxide with some alcohols at 298.15K. *Phys. Chem. Liq.* **2008,** *46* (2), 154-161.

22. Zarei, H. A.; Jalili, F.; Assadi, S., Temperature dependence of the volumetric properties of binary and ternary mixtures of water (1) + methanol (2) + ethanol (3) at ambient pressure (81.5 kPa). *J Chem Eng Data* **2007,** *52* (6), 2517-2526.

23. Zarei, H. A.; Jalili, F., Densities and derived thermodynamic properties of (2-

methoxyethanol + 1-propanol, or 2-propanol, or 1,2-propandiol) at temperatures from T = (293.15 to 343.15) K. *J Chem Thermodyn* **2007,** *39* (1), 55-66.

24. Zarei, H. A., Densities, excess molar volumes and partial molar volumes of the binary mixtures of acetic acid + alkanol (C1-C4) at 298.15 K. *J Mol Liq* **2007,** *130* (1-3), 74-78.

25. Iloukhani, H.; Zarei, H. A.; Behroozi, M., Thermodynamic studies of ternary mixtures of diethylcarbonate (1) + dimethylcarbonate (2) + N,N-dimethylacetamide (3) at 298.15 K. *J Mol Liq* **2007,** *135* (1-3), 141-145.

26. Zarei, H. A., Densities and volumetric properties of methyl isobutyl ketone + alkanols (C1-C4) at different temperatures. *J Mol Liq* **2006,** *124* (1-3), 23-31.

27. Zarei, H. A., Excess molar enthalpies of 1,2-propanediol + alkan-1-ols (C 1-C6) and their correlations at 298.15 K and ambient pressure (81.5 kPa). *J Chem Eng Data* **2006,** *51* (5), 1597-1601.

28. Zarei, H. A.; Iloukhani, H., Excess molar enthalpies of methyl isobutyl ketone (MIBK) with alkan-1-ols (C1-C6) and their correlations at 298.15 K. *Thermochim Acta* **2005,** *427* (1-2), 201-205.

29. Iloukhani, H.; Rezaei-Sameti, M.; Zarei, H. A., Volumetric and viscometric studies of molecular interaction of the ternary system toluene (1) + cyclohexane (2) + n-hexane (3) at 298.15 K. *Thermochim Acta* **2005,** *438* (1-2), 9-15.

30. Iloukhani, H.; Zarei, H. A., Excess molar enthalpies of amides + some alkan-2-ols at 298.15 K. *Phys. Chem. Liq.* **2004,** *42* (1), 75-79.

31. Zarei, H. A.; Iloukhani, H., Excess molar enthalpies of formamide + some alkan-1-ols (C 1-C6) and their correlations at 298.15 K. *Thermochim Acta* **2003,** *405* (1), 123-128.

32. Iloukhani, H.; Zarei, H. A., Excess thermodynamic properties of binary liquid mixtures containing N,N-dimethylacetamide with some alkan-1-ols (C1-C6) at 298.15 K. *Phys. Chem. Liq.* **2002,** *40* (4), 449-455.

33. Iloukhani, H.; Ali Zarei, H., Excess molar enthalpies of N,N-dimethylformamide + alkan-1-ols (C1-C6) at 298.15 K. *J Chem Eng Data* **2002,** *47* (2), 195-197.

b) Conference Papers

1. H. Zarei, A. P., Prediction of excess enthalpy of 2-butanol+1-chlorobutane using CK-SAFT equation of state. In *18th Iranian Physical Chemistry Conference*, Kish Island, 2016.

2. H. Zarei, V. K., Density and speed of sound of binary mixtures of ionic liquid with DMF and NMF at different temperature: measurements and PC-SAFT modeling. In *18th Iranian Physical Chemistry Conference*, Kish Island, 2016.

3. H. Zarei, R. M., Calculation of Excess Molar Volumes of Liquid Mixtures at High Pressures and Temperatures from Measurements at Ambient Conditions. In *18th Iranian Physical Chemistry Conference*, Kish Island, 2016.

4. A. Pakravesha, H. Z., Prediction of the Joule–Thomson inversion curves for natural gas mixtures by SAFT and PC-SAFT equations of state. In *18th Iranian Physical Chemistry Conference*
Kish Island, 2016.

5. M. Behroozi, H. Z., Pridiction of excess molar enthalpies by equation of state. In *Modern Tecnology in Chemistry and Petrochemistry*, Tehran, 2015.

6. Hosseinali Zarei, R. S. N., ab initio sttdy of the infinite dilution excess molar enthalpies in rthe solution phase: theory complement expriment. In *Thermodynamic,* France, 2015.

7. Hosseinali Zarei, A. P., Prediction of Joule–Thomson inversion curves for natural gas and its components by SAFT and PC-SAFT. In *4th Technical Conference of Thermodynamics*, Semnan, 2015.

8. ArezooOmidi, H. Z., Experimental study on the calorimetric data of 2-butoxyethanol with alcohols (C1–C4) and correlation with the Wilson model at T = 298.15 K. In *4th Technical Conference of Thermodynamics*, Semnan, 2015.

9. H. Zarei, R. M., Calculation of Excess Molar Enthalpy from Excess Molar Volume with Using NRTL Model. In *17 Iranian Physical Chemistry Conference*, Tehran, 2014.

10. Lotfi, T.; zarei, H., Volumetric properties of binary systems of tributylamine with methanol, ethanol, 1-propanol, 2-propanol, 1-butanol and 2-butanol at different temperatures. In *16 th Iranian Physical Chemistry Conference*, University of Mazandaran, Babolsar, Iran, 2013.

11. Orang, M.; Zarei, H., Investigation of volumetric properties of binary mixtures of benzylamine with 2-propanol, 1-butanol and 2-butanol at different temperatures. In *15 th Irainian Physical Chemistry*, 2012.

12. skandari, E.; Zarei, H., Volumetric properties of binary systems of benzylamin with methanol, ethanol and 1-propanol at different temperatures. In *15 th Irainian Physical Chemistry*, 2012.

13. Behroozi, M.; Zarei, H., Excess molar volumes of binary mixtures containing carboxylic acids with alcohols at T = (293.15 to 333.15) K. In *14 th Irainian Physical Chemistry*, 2011.

14. Parvini, E.; Zarei, H. A., Excess molar enthalpies of cyclohexanol + alkanols (C1–C4) and

their correlations at 300 K. In *14 th Irainian Physical Chemistry*, 2011.

15. Zarei, H.; Avestan, M. S.; Nahooshian, A., Theoretical study of the water-hydrogen sulphide intermolecular potential energy Surfaces. In *14 th Irainian Physical Chemistry*, 2011.

16. Zarei, H. A.; Moafi, A. R., Densities and volumetric properties of (2-butanol + 1-propanol , 2-propanol and 1,2-propanediol) at different temperature. In *14 th Irainian Physical Chemistry*, 2011.

17. Golroudbaria, S. A.; Zarei, H. A., Excess molar volumes of (N,N-dimethylacetamide +N-methyl formamide) , (N,N-dimethylacetamide+ 1,2-propanediol) and (N-methyl formamide+ 1,2-propanediol) at different
temperatures. In *13 th Iranian Physical Chemistry Seminar*, Shiraz University of Technology, 2010.

18. Sokhanvary, E.; Zarei, H. A., The study of physico-chemical properties of binary systems (benzyl alcohol, cyclohexanol and 1,2- propanediol) at different temperatures. In *13 th Iranian Physical Chemistry Seminar*, Shiraz University of Technology, 2010.

19. Parvini, E.; Zarei, H., Densities and volumetric properties of cyclohexanol+alkanols (C1–C4) at different temperatures. In *13 th Iranian National Chemical Engineering Congress & 1st International Regional Chemical and Petroleum Engineering*, Shiraz University of Technology, 2010.

20. Zarei, H. A., Salami Z. , Densities, Excess Molar Volumes, Viscosity and Refractive Indices of Binary Liquid Mixtures of Acetic acid (1) + m-Xylene (2), Acetic acid (1) + o-Xylene (2), Acetic acid + p-Xylene, Thrichloroethylene (1) + m-Xylene (2), Thricloroethylene (1) + o-Xlene (2) and Thrichloroethlene (1) + p-Xylene (2) at P = 81.5 kPa. In *IChEC2009, Kish* Kish, Iran 2009.

21. Yousefi, A.; Zarei, H. A., physico –chemical studies of solvent-solvent in binary mixture (benzyl alcohol- alkanol) at T=298.15
In *12 th Iranian Physical Chemistry Seminar,Sanandaj, Iran*
Sanandaj, Iran
2009.

22. Bohloor, F.; Zarei, H. A., Densities, excess molar volumes and partial molar volumes of the binary mixtures of ethylenediamine + alkanols (C1- C4) at 298.15K
In *12 th Iranian Physical Chemistry Seminar,Sanandaj, Iran*
Sanandaj, Iran
2009.

23. Zarei, H. A.; Mirhidari, N., Temperature Dependence of the Volumetric Properties of Binary and Ternary Mixtures of Methanol (1) + Ethanol (2) + 1,2- Propanediol (3) at Ambient Pressure

(81.5 kPa). *Thermodynamic 1386, Esfahan, Iran* 26-28 September, 2007.

24. Zarei, H. A.; Dolati, S., Excess molar volume and volumetric properties of binary and ternary liquid mixtures of (Carbon tetrachloride + 1-Propanol + 2-Propanol) at differnt temperatures and ambient pressure (81.5 kPa). *Thermodynamic 2007, Rueil-Malmaison France* 26-28 September, 2007.

25. Zarei, H. A.; deLoss, T., Vapor-Liquid Equilibrium of the system 2- Butanol (1) + Butene (2) Using the Statistical Association Fluid Theory (SAFT). *9th Iranian Physical Chemistry Seminar, Rasht-Zibakenar,Iran* 13-15 June, 2006.

26. Zarei, H. A.; Asadi, S., Temperature dependence of the volumetric properties of Ternary system of 1,2-propanediol (1) + 1-propanol (2) + 2-propanol (3). *9th Iranian Physical Chemistry Seminar, Rasht-Zibakenar,Iran* 13-15 June, 2006.

27. Hossein A. Zarei, H. I., Excess Molar Enthalpies of Formamide + some alkan-1-ols(C -C) and their correlation at 298.15. In *17th IUPAC Conference on Chemical Thermodynamics, Rostock, Germany*, Rostock, Germany, 2002.