

CURRICULUM VITAE



FULL NAME: Ravan Rahimov
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PLACE OF WORK:

1. Department of Chemical Engineering, Baku Engineering University, Baku, Azerbaijan
2. Institute of Petrochemical Processes of the Ministry of Science and Education of the Republic of Azerbaijan.
3. Department of Chemistry and Chemical Engineering, Khazar University, Baku, Azerbaijan

POSITION:

Associate professor, Chief Scientific officer

ACADEMIC DEGREES:

YEAR	ACADEMIC DEGREE	INSTITUTION	CLASSIFICATION
2017	Habilitation	Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences	Doctor of Chemical Sciences Diploma, Issued 11.05.2017
2009	Ph.D.	Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences	PhD Diploma, issued 12.05.2009
2003	Master's degree (chemistry)	Department of Chemistry, Baku State University	Excellent (Red Diploma) (18-20 in a scale of 20)
2001	Bachelor's degree (chemistry)	Department of Chemistry, Baku State University	Good (16-18 in a scale of 20)

PROFESSIONAL ACTIVITIES:

PERIOD	POSITION OR CATEGORY	INSTITUTION
2021-2022	Project manager Grant No 15 LR-AMEA "Obtaining and research of new surfactant-polyelectrolyte complexes to increase oil production from wells"	SOCAR Science Foundation
2014 (1 month)	Project manager EİF-Mob-4-2014-1(16)-11/05/4 "Spectroscopic investigation of the ecological-harmless surfactants"	Science Development Foundation under the President of the Republic of Azerbaijan
2012-2013	Project manager EİF/GAM-1-2011-2(4)-26/18/4-M-12 "Synthesis and investigation of environmentally harmless surface-active reagents for removing oil thin slicks from the water surface"	Science Development Foundation under the President of the Republic of Azerbaijan

2008-2016	Scientific collaborator within the project “Synthesis and study of novel surfactants based on natural triglycerides, (alkanol)amines and C ₃ -epoxides”	Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Baku, Azerbaijan
2003-2008	Scientific collaborator within the project “Reagents based on polyatomic alcohols and propylene oxide for the retardation of gasoline vaporization”	Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Baku, Azerbaijan
2001-2003	Young researcher within the project “Phosphochlorination of polyolefins”	Department of Chemistry, Baku State University, Baku, Azerbaijan

TEACHING ACTIVITIES

PERIOD	DEPARTMENT OR DIVISION	ORGANIZATION
2012-present	Department of Chemistry and Chemical Engineering, lecturer	Khazar University, Baku, Azerbaijan
2011-2013	Department of Macromolecular Compounds, lecturer	Chemical faculty, Baku State University, Baku, Azerbaijan
2018-present	Department of Chemical Engineering, lecturer	Engineering faculty, Baku Engineering University, Baku, Azerbaijan

AREA OF SCIENTIFIC ACTIVITY

Petroleum Chemistry,
Organic Chemistry,
Colloidal Chemistry,
Macromolecular Chemistry.

COLLABORATION

Prof. Armando J.L. Pombeiro (Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Portugal),
Prof. Fedor I. Zubkov (Organic Chemistry Department, RUDN University, Russian Federation), Prof. Eldar K. Gasimov (Department of Histology, Embryology and Cytology, Azerbaijan Medical University, str. S. Vurgun 163, AZ 1078, Baku, Azerbaijan),
Prof. Musa R. Bayramov, (Petroleum Chemistry and Technology Department, Baku State University, Baku, Azerbaijan),
Dr. Atash V. Gurbanov, (Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Portugal).

RESEARCH INTERESTS:

- Petroleum chemistry
- Organic synthesis
- Colloidal chemistry
- Ecological chemistry (synthesis of novel surfactants and their application for removal of the petroleum films)

LANGUAGES:

LANGUAGE	READING	WRITING	CONVERSATION
English		good	
Russian		good	
Turkish		good	
Azerbaijani		native language	

CITATION REPORT IN TOMSON REUTERS ISI WEB OF KNOWLEDGE

Publications 50 Total From 1975 to 2023	Citing Articles 246 Analyze Total 208 Analyze Without self-citations	Times Cited 391 Total 287 Without self-citations	7.82 Average per item	12 H-Index
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* In ISI Knowledge the last name appears as **Rahimov RA**.

LIST OF PUBLICATIONS

Articles in SCI journals with international circulation

1. R.A. Rahimov, G.A. Ahmadova, A.M. Isayeva, I.V. Rustamova, D.B. Agamaliyeva, F.I. Zubkov, Anionic cocogem surfactants containing propyl-2-ol groups: Synthesis, surface properties and antibacterial activity against SRB bacteria, *Egyptian Journal of Petroleum*, **2023**, Vol. 32, p. 15-21, <https://doi.org/10.1016/j.ejpe.2022.12.001>.
2. Sh.M. Nasibova, R.A. Rahimov, S.A. Muradova, Y. Abdullayev, 2-Hydroxyethyl substituted cationic surfactants with dodecyl hydrophobic chain: Properties and application, *Materials Chemistry and Physics*, Volume 296, **2023**, 127268
<https://doi.org/10.1016/j.matchemphys.2022.127268>.
3. Rahimov R.A., Ahmadova G.A., Huseynova Kh.A, Mammadov R.X., Asadova N.Z., Abdullayev Yu., Ibrahimova M.J., Gurbanov A., Zubkov F. Synthesis, aggregation, and biocidal properties of N-2-hydroxypropyl piperidine based cationic surfactants. *Journal of Molecular Liquids* 344 . **2021** 117783
<https://doi.org/10.1016/j.molliq.2021.117783>
4. Rahimov R.A., Ahmadova G.A., Huseynova Kh.A, Muradova S., Mammadov R.X., Amirova I.V., Qasimova F.I., Zubkov F.I. Micellization and Antimicrobial Properties of N-alkyl-(2-hydroxypropyl)morpholinium Bromides. *Journal of Molecular Liquids* **2021**, v.335, 116538
<https://doi.org/10.1016/j.molliq.2021.116538>
5. Rahimov R.A., Ahmadova G.A., Hashimzade S.Z.F., Imanov E., Khasiyev H.G., Karimova N.K., Zubkov F.I. Surface and Biocidal Properties of Gemini Cationic Surfactants Based on Propoxylated 1,6-Diaminohexane and Alkyl Bromides. *J Surfact Deterg.* **2021**, 24, p.433-444
<https://doi.org/10.1002/jsde.12506>
6. G.A.Ahmadova, R.A.Rahimov, A.Z.Abilova, Kh.A.Huseynova, E.Imanov, F.I.Zubkov Effect of head-group of cationic surfactants and structure of ionic groups of anionic polyelectrolyte in oppositely charged polymer-surfactant complexes. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2021**, vol. 613, 126075
<https://doi.org/10.1016/j.colsurfa.2020.126075>
7. Elgun E. Hasanov, Ravan A. Rahimov, Yusif Abdullayev, Ziyafaddin H. Asadov, Gulnara A. Ahmadova, Aygun M. Isayeva, Ulviyya Yolcuyeva, Fedor I. Zubkov, Jochen Autschbach, Counterion-coupled gemini surfactants based on propoxylated hexamethylenediamine and fatty acids: Theory and application, *Journal of Molecular Liquids*, Volume 318, **2020**, 114050.
<https://doi.org/10.1016/j.molliq.2020.114050>.
8. E.E.Hasanov, Rahimov R.A., Y.Abdullayev, Asadov Z.H., Ahmadova G.A., A.M.Isayeva,

Ahmadbayova S.F., Zubkov F.I., Jochen Autschbach. New class of cocogem surfactants based on hexamethylenediamine, propylene oxide, and long chain carboxylic acids: Theory and application. *Journal of Industrial and Engineering Chemistry*. Volume 86, 25 June 2020, Pages 123-135.

<https://doi.org/10.1016/j.jiec.2020.02.019>

9. Ziyafaddin H. Asadov, Gulnara A. Ahmadova, Ravan A. Rahimov, Seyid-Zeynab F. Hashimzade, Yusif Abdullayev, Etibar H. Ismailov, Samira A. Suleymanova, Nahida Z. Asadova, Fedor I. Zubkov, Jochen Autschbach, Aggregation and antimicrobial properties of gemini surfactants with mono- and di-(2-hydroxypropyl)ammonium head-groups: Effect of the spacer length and computational studies, *Journal of Molecular Liquids*, Volume 302, 2020, 112579.

<https://doi.org/10.1016/j.molliq.2020.112579>

10. Asadov Z.H., Huseynova S.M., Ahmadova G.A., Rahimov R.A., S.U. Sharbatov, Zubkov F.I., Rana A. Jafarova. Synthesis, colloidal-chemical and petroleum collecting properties of new counterion coupled gemini surfactants based on hexadecylbis(2-hydroxypropyl) amine and dicarboxylic acids, *Journal of Dispersion Science and Technology*, 2020, Volume 41, N 13, 2063-2071.

<https://doi.org/10.1080/01932691.2019.1650755>

11. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Hashimzade S-Z.F., Sh.M.Nasibova, Ismailov E.H., Suleymanova S.A., Muradova S.A., Asadova N.Z., Zubkov F.I. Surface Properties and Premicellar Aggregation Behavior of Cationic Gemini Surfactants with Mono- and Di-(2-hydroxypropyl)ammonium Head Groups, *Journal of Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2019, 575, p. 212–221

<https://www.sciencedirect.com/science/article/pii/S0927775719304315>

12. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Huseynova S.M., Guliyev A.D., Aliyev B.M., Mamedbeyli E.H., Zubkov F.I., Ahmadbayova S.F. Counterion-coupled gemini (Cocogem) surfactants based on dodecylisopropylol amine and dicarboxylic acids: synthesis, characterization and evaluation as biocide against SRB, *Chemical Engineering Communications*, 2019, 206, 7, p.861-870

<https://doi.org/10.1080/00986445.2018.1533465>

13. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Hashimzade S-Z.F., Ismailov E.H., Asadova N.Z., Suleymanova S.A., Zubkov F.I., Mammadov A.M., Agamaliyeva D.B. Micellization and Adsorption Properties of New Cationic Gemini Surfactants Having Hydroxyisopropyl Group, *J. Chem. Eng. Data*, 2019, 64 (3), pp 952–962

<https://pubs.acs.org/doi/abs/10.1021/acs.jced.8b00815>

14. Z.H.Asadov, Sh.M.Nasibova, R.A.Rahimov, E.K.Gasimov, S.A.Muradova, F.H.Rzayev, N.Z.Asadova, F.I.Zubkov. Effects of head group on the properties of cationic surfactants containing hydroxyethyl- and hydroxyisopropyl fragments. *Journal of Molecular Liquids*, 2019, v. 274, p.125-132.

<https://www.sciencedirect.com/science/article/pii/S0167732218335888>

15. G.A.Ahmadova, A.Z.Abilova, R.A.Rahimov, Z.H.Asadov, S.F.Ahmadbayova. Influence of head-group composition and (chloro)propoxy units disposition consequence on properties of surfactants based on lauric acid, propylene oxide, epichlorohydrin and ethanolamines. *Materials Chemistry and Physics*, 2018, v. 205, p. 416-422

<https://www.sciencedirect.com/science/article/pii/S0254058417309148>

16. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Huseynova S.M., Suleymanova S.A., Ismailov E.H., Zubkov F.I., Mammadov A.M., Agamaliyeva D.B. Effect of Spacer Nature on Surface Properties of New Counterion Coupled Gemini (Cocogem) Surfactants Based on Dodecylisopropylol Amine and Dicarboxylic Acids. *Journal of Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2018, v.550, p.115-122

<https://www.sciencedirect.com/science/article/pii/S0927775718302905>

17. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Abilova A.Z., Zargarova S.H., Zubkov F.I. Synthesis and properties of quaternary ammonium surfactants based on alkylamine, propylene oxide and 2-chloroethanol, *J. Surfact. Deterg.* 2018 21: 247–254

<https://aocs.onlinelibrary.wiley.com/doi/pdf/10.1002/jsde.12008>

18. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Zubkov I.F. Properties of propoxy-derivatives based on the acidic fraction of coconut oil, *Journal of Dispersion Science and Technology*, **2018**, Vol. 39, No. 2, 214–219

<http://www.tandfonline.com/doi/abs/10.1080/01932691.2017.1307761>

19. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Abilova A.Z., Nazarov I.G., Zubkov F.I. Surface activity, adsorption, and micellization parameters of ammonium surfactants containing a hydroxyethyl and hydroxypropyl head group, *Journal of Chemical and Engineering Data* **2017**, v. 62(10), p.3297-3305

<http://pubs.acs.org/doi/abs/10.1021/acs.jced.7b00347>

20. Asadov Z.H., Huseynova Kh.A., Rahimov R.A., Ahmadova G.A., Zubkov F.I. Alkyl chain and head-group effect of mono- and diisopropylolalkylamine-polymethacrylic acid complexes in aqueous solution, *Journal of Molecular Liquids* **2017**, v. 244, p.533-539

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21. Asadov Z.H., Nasibova Sh.M., Ahmadova G.A., Zubkov F.I., Rahimov R.A. Head-Group Effect of Surfactants of Cationic Type in Interaction with Propoxylated Sodium Salt of Polyacrylic Acid in Aqueous Solution, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2017**, 95-100

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22. Asadov Z.H., Rahimov R.A., Ahmadova G.A., Huseynova S.M., Ahmadbayova S.F. Synthesis and surface-active properties of the fatty acid *N*-methylethylolamides and their phosphate derivatives // *Journal of Dispersion Science and Technology*, **2017**, v. 38, No2, pp.229-235.

<http://www.tandfonline.com/doi/abs/10.1080/01932691.2016.1155155>

23. Asadov Z.H., Nasibova Sh.M., Rahimov R.A., Ahmadova G.A., Huseynova S.M. Surface activity and micellization parameters of cationic surfactants containing hydroxyethyl group and C₉-chain. *Journal of Molecular Liquids* **2017** 225: 451–455

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24. Asadov Z.H., Rahimov R.A., Ahmadova G.A., Mammadova Kh.A., Gurbanov A.V. Synthesis and Characteristics of Dodecyl Isopropylolamine and Derived Surfactants. *J. Surfact. Deterg.* **2016**, Vol. 19, pp. 145-153

<http://link.springer.com/article/10.1007/s11743-015-1762-y>

25. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Asadova A.Z., Nazarov I.G. Synthesis and study of nonionic surfactants based on propylene oxide and lauric acid. *Russian Journal of Applied Chemistry*. **2016**. Vol. 89. No.4, pp.559-565

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26. Asadov Z.H., Asadova A.Z., Ragimov R.A., Poladova T.A., Akhmedbeyova S.F. Synthesis and properties of new oil-collecting and dispersing polymeric reagents based on acrylic acid, α -olefins, and amines. *Russian Journal of Applied Chemistry*, **2015**, v. 88, No. 1, pp.153-159

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27. R.A. Rahimov. Ammonium salts of rapeseed oil fatty acid. *Chemistry of plant raw material*, **2015**, № 2, c.97-105.

<http://journal.asu.ru/index.php/cw>

28. Z.H. Asadov, V.M. Abbasov, S.S. Suleymanova, R.A. Rahimov, E.Sh. Abdullayev. Synthesis of ethylolammonium salts of diethylolamido phosphate surfactant based on the flaxseed oil and their corrosion inhibitor properties. *Journal of Advances in Chemistry*, **2015**, Vol 12, No 1, p.3902-390

<http://cirworld.org/journals/index.php/jac/article/view/5321>

29. Asadov Z.H., Rahimov R.A., Mammadova Kh.A., Ahmadova G.A., Ahmadbayova S.F. Synthesis and colloidal-chemical properties of surfactants based on alkyl amines and propylene oxide. *Tenside Surfactants Detergents*, **2015**, v. 52, No 4, pp. 287-293.

<http://www.hanser-elibrary.com/doi/abs/10.3139/113.110377>

30. Asadov Z.H., Rahimov R.A., Mammadova Kh.A., Ahmadova G.A., Ahmadbayova S.F. Effect of organic counterions on the properties of *N*-lauryl diisopropanolamine surfactants. *Journal*

of *Dispersion Science and Technology*, **2015**, v. 36, No7, pp.1022-1028.

http://www.tandfonline.com/toc/lidis20/current#.VrIdtLIS_IU

31. Tantawy A.H., Asadov Z.H., Azizov A.H., Rahimov R.A., Zarbaliyeva I.A. Synthesis of New, Ecologically Safe and Efficient Oil Slick-Collecting and Dispersing Agents Based on Oleic Acid and Its Propoxylation Products. *Arabian Journal for Science and Engineering*, **2014**, v.39, pp.5437–5444

<http://link.springer.com/article/10.1007/s13369-014-1144-1>

32. Asadov Z.G., Akhmedova G.A., Mamedova Kh.A., Ragimov R.A., Vekilova F.M. New surfactants on the basis of alkylamines and epichlorohydrin for removing thin petroleum films from water surface. *Oil Processing and Petrochemistry*, **2014**, № 5, c.40-44

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33. Asadov Z.H., Zarbaliyeva I.A., Rahimov R.A., Salamova N.V., Eyyubova S.K., Ahmadova G.A., Asadova A.Z. Petroleum-collecting and dispersing chemicals for cleaning sea surface from thin petroleum slicks. *Bull. Chem. Soc. Ethiop.*, **2014**, v. 28(2), pp.205-214.

<http://www.ajol.info/index.php/bcse/article/view/103683>

34. Asadov Z.H., Rahimov R.A. Ammonium salts of palm oil fatty acids. *Journal of Oil Palm Research*, **2013**, v. 25, No 3, pp. 336-342

<http://jopr.mpob.gov.my/ammonium-salts-of-palm-oil-fatty-acids/>

35. Asadov Z.H., Tantawy A.H., Zarbaliyeva I.A., Rahimov R.A. Synthesis of new surface-active ammonium-type complexes based on palmitic acid for removing thin petroleum films from water surface. *Egyptian Journal of Petroleum*, **2013**, № 22, p.261–267

<http://www.sciencedirect.com/science/article/pii/S1110062113000536>

36. Asadov Z.H., Tantawy A.H., Azizov A.H., Zarbaliyeva I.A., Rahimov R.A. Synthesis Of New Complexes-Surfactants Based on Fatty Acids and Study of The Effect of Length of Fatty Acid Chain on The Petroleum-Collecting and Surface-Active Properties. *Caspian Journal of Applied Sciences Research (Malaziya)*, **2013**, v.2, No.3, p. 13-23.

<http://www.cjasr.com/volumesandissues/issued-articles/2013/100-cjasr/156-march-2013-2-3-03>

37. Rahimov R.A., Asadov Z.H. Coconut oil fatty acid ammonium-type salts. *Journal of Molecular Liquids*, **2013**, v. 182, p. 70–75

<http://www.sciencedirect.com/science/article/pii/S0167732213000937>

38. Asadov Z.H., Rahimov R.A., Poladova T.A., Nasibova Sh.M., Guliyev A.D., Asadova A.Z. Triethylenetetramine-based novel cationic surfactants and their complexes with anionic polyelectrolytes. *Journal of Molecular Liquids* **2012** 166:44–48

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<http://dx.doi.org/10.1016/j.molliq.2011.11.011>

39. Asadov Z.H., Rahimov R.A., Salamova N.V. Synthesis of animal fats ethylolamides, ethylolamide phosphates and their petroleum-collecting and dispersing properties. *J Am Oil Chem Soc.* **2012**, 89:505–511.

DOI: 10.1007/s11746-011-1931-8

<http://dx.doi.org/10.1007/s11746-011-1931-8>

40. Asadov Z.H., Nasibova S.M., Poladova T.A., Rahimov R.A., Asadova A.Z. Petroleum collecting and petroleum dispersing reagents based on alkyl amine and alkyl iodides. *Materials Research Innovations*. **2012**, 16: 175-178.

<http://dx.doi.org/10.1179/1433075X11Y.0000000055>

41. Asadov Z.H., Tantawy A.H., Zarbaliyeva I.A., Rahimov R.A., Ahmadova G.A. Surfactants based on palmitic acid and nitrogenous bases for removing thin oil slicks from water surface. *Chemistry Journal*. **2012**, Vol. 02, Issue 04, pp. 136-145.

http://www.scientific-journals.co.uk/web_documents/3020418_surfactants.pdf

42. Asadov Z.H., Rahimov R.A., Ahmadova G.A., Mammadova Kh.A. Synthesis, surface active and thermodynamic parameters of novel quaternary ammonium salts. *J. Surfact. Deterg.* **2012** 15: 721-727

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43. Asadov Z.H., Tantawy A.H., Zarbaliyeva I.A., Rahimov R.A. Petroleum-collecting and dispersing complexes based on oleic acid and nitrogenous compounds as surface-active agents for cleaning thin petroleum films from water surface. *Journal of Oleo Science*. **2012**, 61, (11), 621-630
<http://dx.doi.org/10.5650/jos.61.621>
44. Asadov Z.G., Akhmedova G.A., Aga-Zadeh A.D., Nasibova Sh.M., Zarbaliyeva I.A., Bagirova A.M., Ragimov R.A. Ionic Liquid Surfactants. *Russian Journal of General Chemistry*, **2012**, Vol. 82, No. 12, pp. 1916–1927.
<http://dx.doi.org/10.1134/S1070363212120043>
45. Asadov Z.G., Ragimov R.A., Akhmedova G.A. Synthesis, physicochemical characteristics and properties of oligomeric surfactants based on pentaerythritol and propylene oxide. *Russian Journal of Applied Chemistry*, **2011**, Vol. 84, No.7, p. 1188–1194.
<http://www.springerlink.com/content/213370q022v36703/>
46. Asadov Z.H., Ahmadova G.A., Rahimov R.A., Mammadova Kh.A. Colloidal-chemical parameters of petroleum-collecting and dispersing surfactants based on vegetable oil acid fractions and 2-(chloromethyl) oxirane. *Journal of the Korean Chemical Society* **2011**, Vol. 55, No. 6, p. 1012-1017
<http://dx.doi.org/10.5012/jkcs.2011.55.6.1012>
47. Mahmudov K.T., Rahimov R.A., Babanly M.B., Hasanov P.Q., Pashaev F.G., Gasanov A.G., Kopylovich M.N., Pombeiro A.J.L. Tautomerism and thermodynamics of some azoderivatives of benzoylacetone. *Journal of Molecular Liquids*, **2011**, 162(2), 84-88.
<http://dx.doi.org/10.1016/j.molliq.2011.06.005>
48. Asadov Z.H., Ahmadova G.A., Rahimov R.A. Colloidal-chemical parameters and petroleum-collecting properties of chloropropoxylate surfactants based on epichlorohydrin and carboxylic acids fractions of animal origin. *Materials Research Innovations* **2010** Vol 14 No 4 p.327-331
<http://dx.doi.org/10.1179/143307510X12777574295343>
49. Asadov Z.H., Rahimov R.A., Nasibova Sh.M., Ahmadova G.A. Surface activity, thermodynamics of micellization and adsorption properties of quaternary salts based on ethanolamines and decyl bromide. *J. Surfact. Deterg.* **2010**, 13:459–464
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Patents (total 3)

50. Azizov A.A., Rahimov R.A., Alosmanov R.M., Akparov O.H. Method for preparation of sorbents containing phosphoric acid fragments. Patent I 2005 0142 Azerbaijan, MPA7 G 01 N 21/78, Number of the document invention: 2002 0084 (priority date: 29.04.2002; award date: 17.10.2005)
51. Asadov Z.H., Rahimov R.A., Aga-zade A.D., Ahmadova G.A., Qasimzade E.E. Method of decreasing of the gasoline losses upon vaporization. Patent I 2009 0176 Azerbaijan, C 10 L 1/18, H 01 L 1/185. Number of the document invention: 2007 0124 (priority date: 25.05.2007; award date: 19.10.2009)
52. Asadov Z.H., Rustamov M.I., Azizov A.H., Salamova N.V., Rahimov R.A., Ahmadova G.A., Zarbaliyeva I.A. Reagents for localization petroleum film on the water surface. Patent № İ 2015 0080, 01.12.2015

Other publications

53. Rahimov R.A. Ph. D. Thesis "Reagents based on polyatomic alcohols and propylene oxide for retardation of gasoline vaporization" under the supervision of Prof. Dr. Z.H.Asadov (Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Baku, Azerbaijan), December 2008
54. Rahimov R.A. Doctor of Chemical Sciences (Habilitation) Thesis " Synthesis and study of novel surfactants based on natural triglycerides, (alkanol)amines and C₃-epoxides" (Institute of Petrochemical Processes of Azerbaijan National Academy of Sciences, Baku, Azerbaijan), October 2016

Articles in journals with local circulation (total 60)
Abstracts of conferences (total 130)