Karine Rafael Grigoryan

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Faculty of Chemistry
Chair of Physical and Colloid Chemistry
Professor

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Chair of Physical and Colloid Chemistry
Professor

Faculty of Chemistry
Research Center of Chemistry
Ֆիզիկական քիմիայի լաբորատորիա
head of laboratory

Education

Institution	Yerevan State University
Faculty	Chemistry
Date	1978 - 1984
Degree name	Qualified specialist

Scientific Rank/degree

Institution	Yerevan State University
Date	2015
Degree name	Professor

Institution	Yerevan State University
Date	2011
Degree name	Doctor
Research Topic	Physico-chemical study of interactions of biomacromolecules (proteins, DNA, liposomes) with dialkylsulfoxides and their platinum complexes

Institution	Yerevan State University
Date	2004
Degree name	Associate professor

Institution	Yerevan State University
Date	1991
Degree name	Candidate
Scientific Supervisor	Shiraz Markarian

Research Topic	Physicochemical Properties of Dialkylsulfoxides and Interactions with Aminoacides and Amides

Language skills

Հայերեն English Русский

Work experience

Institution	Yerevan State University
Period of time	2016 till now
Rank/degree	professor

Participation in international conferences and seminars

19/09/2022 - 23/09/2022	Актуальные вопросы биологической физи¬ки и химии. БФФХ-2022, Երևանի պետական համալսարան Russian Federation (the)
04/02/2022 - 07/07/2022	POLYCHAR 20 World Forum on Advanced Materials Երևանի պետական համալսարան Armenia
20/09/2021 - 24/09/2021	XIV Международная научная конференция «Проблемы сольватации и комплексообразования в растворах» Кластер конференций Երևանի պետական համալսարան Russian Federation (the)
13/09/2020 - 19/09/2020	XVII Международная конференция «Спектроскопия координационных соединений , Երևանի պետական համալսարան Russian Federation (the)
01/07/2018 - 06/07/2018	XIII Международная научная конференция «Проблемы сольватации и комплексообразования в растворах», Երևանի պետական համալսարան Russian Federation (the)
02/10/2017 - 06/10/2017	XVII Международная Чугаевская конференция по координационной химии Երևանի պետական համալսարան Russian Federation (the)
29/05/2017 - 02/06/2017	VII Международная научная конференция «Химическая термодинамика и кинетика

Երևանի պետական համալսարան
Russian Federation (the)

05/10/2015 - 09/10/2015	IV International Conference «Current Problems of Chemical Physics”, Երևանի պետական համալսարան Armenia
18/08/2014 - 22/08/2014	Chemistry today 2014 4-th Intern. Confer. of Young Scientists, Yerevan State University Armenia
09/10/2012 - 12/10/2012	Международная конференция «Современные проблемы химической физики» Yerevan State University Russian Federation (the)
10/10/2011 - 14/10/2011	XI Международная кон-ференция «Проб¬лемы соль-ва¬та¬ции и комп¬лек¬со¬об¬ра¬-зова¬ния в раст¬во¬рах», Yerevan State University Russian Federation (the)
21/10/2008 - 24/10/2008	Международная конференция «Современные проблемы химической физики» Yerevan State University Armenia
21/08/2005 - 25/08/2005	29th Intern. Conf. on Solution Chemistry, Yerevan State University Slovenia
20/05/2005 - 21/05/2005	3rd International Conference on Ecological Chemistry Yerevan State University Moldova (the Republic of)

Membership

Institution	member of specialized Council Բ-00-02
Period of time	2019 till now
Institution	Institute of Chemical Physics named after A. Nalbandian
Period of time	2018 till now
Institution	Yerevan State University
Period of time	2018 till now

Publications

Article

Spectroscopic and DFT studies of 3-(m-nitrophenyl)-4-allyl-5-mercapto-1,2,4-triazole and 3-furyl-4-allyl-5-mercapto-1,2,4-triazole

Liana Gabrielyan, Karine Grigoryan, Hasmik Shilajyan, Melanya Samvelyan, Gevorg Grigoryan,

Tariel Ghochikyan

Next Materials 2026 101424

Article

Synthesis, theoretical and photophysical study of functionalized quinoline - Based schiff bases

Ashkhen L. Zatikyan, Karine R. Grigoryan, Hasmik A. Shilajyan, Lilit P. Hambardzumyan,

Iskuhi L. Aleksanyan

Journal of Molecular Structure 2026 144706

Conference

Physicochemical parameters of bovine serum albumin nanoparticles loaded with photosensitizers for use in photodynamic therapy of tumors

A. Andreasyan, V. Tuchin, G. Gyulkhandanyan, K. Grigoryan

FEBS Open Bio 2026

https://febscongress.org/

Article

Effect of heat treatment and characterization of kaolinite–dimethylsulfoxide intercalates

Karine Grigoryan, Artur Gabrielyan

Journal of Thermal Analysis and Calorimetry 2025 1-7

Article

ANTIOXIDANT PROPERTIES AND BINDING INTERACTIONS OF 1-MORPHOLIN-4-YL-3-{[2-(3-NITROPHENYL)-2-OXOETHYL]THIO}-5,6,7,8-TETRAHYDROISOQUINOLINE-4-CARBONITRILE WITH BOVINE SERUM ALBUMIN

K. R. GRIGORYAN, A. V. IGITYAN, H. H. VARDANYAN, Zh. G. KHACHATRYAN, A. S. HARUTYUNYAN,

A. L. ZATIKYAN, H. A. SHILAJYAN

Proceedings of the YSU B Chemical and Biological Sciences 2025 57-66

Conference

Effect of Polystyrene Nanoparticles on Gangleron Binding to Bovine Serum Albumin

Grigoryan K.R., Zatikyan A.L., Grigoryan Z.L., Gabrielyan A.A., Shilajyan H.A.

2025 177 - 177

https://newtrendschem.org/

Conference

Physicochemical Characteristics and Behavior of Kaolinite and Kaolinite-Dimethylsulfoxide Complexes Upon Heat Treatment

Grigoryan K.R., Gabrielyan A

2025 169 - 169

https://newtrendschem.org

Article

Effect of bovine serum albumin on gallic acid and tannic acid radical scavenging properties and binding kinetics with 2,2-diphenyl-1-picrylhydrazyl

Ashkhen Zatikyan, Karine Grigoryan, Hasmik Shilajyan, Ioannis Savvaidis, Liana Mkhitaryan

Process Biochemistry 2024 30-38

Article

THE IMPACT OF AGING ON THE ANTIOXIDANT PROPERTIES OF ARMENIAN GRAPE BRANDIES
K. R. Grigoryan, H. A. Shilajyan

Proceedings of the YSU B Chemical and Biological Sciences 2024 107-113

Article

MOLECULAR INTERACTIONS OF L-TYROSINE IN DIMETHYL SULFOXIDE AQUEOUS SOLUTIONS. PART 1: ELECTRONIC ABSORPTION AND FLUORESCENCE SPECTROSCOPY STUDIES
K.R. Grigoryan, H.A. Shilajyan, R.G. Harutyunyan

Proceedings of the YSU B Chemical and Biological Sciences 2023 1-7

Article

Study of complexation of single-stranded poly(rA) and poly(rU) with methylene blue
Poghos O. Vardevanyan, Ara P. Antonyan, Zvart H. Movsisyan, Marine A. Parsadanyan,

Mariam A. Shahinyan, Karine R. Grigoryan, Hasmik A. Shilajyan

Journal of Biomolecular Structure and Dynamics 2023 15320-15327

Conference

STUDY ON SOLVENT- MEDIATED RADICAL SCAVENGING ACTIVITY OF MORIN TOWARDS 2, 2-DIPHENYL-1- PICRYLHYDRAZYL
Grigoryan K. R., Shilajyan H., Mkhitaryan L., Harutyunyan R., Khachatryan Zh.

2023 164 - 164

https://newtrendschem.org/

Conference

DFT STUDY ON THE EFFECT OF HYDROXYL GROUPS ON THE STRUCTURE AND REACTIVITY OF 2-METHYLQUINOLIN-4-OL DERIVATIVES
Zatikyan A., Grigoryan K.

2023 341 - 341

https://newtrendschem.org/

Article

Spectroscopic analysis of 2-(5-mercapto-1,3,4-oxadiazol-2-yl)-6-methylquinolin-4-ol binding to blood plasma albumin.
Karine R. Grigoryan, Hasmik A. Shilajyan, Ashkhen Zatikyan, Iskuhi Aleksanyan, Lilit Hambardzumyan

MONATSHEFTE FUR CHEMIE 2022 507-515

Article

FLUORESCENCE STUDIES ON THE BLOOD PLASMA ALBUMIN INTERACTION WITH 4-HYDROXY-2-METHYLQUINOLINE
K. R. GRIGORYAN, H. A. SHILAJYAN, I. L. ALEKSANYAN, L. P. HAMBARDZUMYAN, H. H. HOVHANNISYAN

Proceedings of the YSU B Chemical and Biological Sciences 2022 100-107

Conference

THEORETICAL STUDY ON THE MOLECULAR STRUCTURE OF 4-HYDROXY-2-METHYL-6-AMINOQUINOLINE
Zatikyan Ashkhen, Grigoryan Karine

2022 69-70

https://polychar-28.ysu.am/announcment/

Conference

FLUORESCENCE PROPERTIES OF 2-METHYLQUINOLIN-4-OL AND ITS MERCAPTO-OXADIAZOLYL DERIVATIVE IN DIMETHYLSULFOXIDE AQUEOUS SOLUTIONS

Hasmik Shilajyan, Karine Grigoryan, Iskuhy Aleksanyan, Zara Grigoryan, Lilit Hambardzumyan

2022 81-82

https://polychar-28.ysu.am/%D5%A3%D5%AC%D5%AD%D5%A1%D5%BE%D5%B8%D6%80/

Conference

ОСОБЕННОСТИ СВЯЗЫВАНИЯ МЕТИЛЕНОВОГО СИНЕГО С ОДНОЦЕПОЧЕЧНЫМИ СИНТЕТИЧЕСКИМИ ПОЛИНУКЛЕОТИДАМИ POLY(rA) И POLY(rU)

Антонян А.П., Парсаданян М.А., Мовсесян З.О., Шиладжян А.А., Григорян К.Р., Вардеванян П.О

2022 103-104

https://www.chph.ras.ru/index.php/novosti-o-konferentsiyakh-i-seminarakh/1009-x...

Article

THE EFFECT OF DIMETHYLSULFOXIDE ON THE FLUORESCENCE PROPERTIES OF SOME 4-HYDROXYQUINOLINES

Karine R. Grigoryan, Hasmik A. Shilajyan, Iskuhi L. Aleksanyan, Zara L. Grigoryan,

Lilit P. Hambardzumyan

Proceedings of the YSU B Chemical and Biological Sciences 2021 112-117

Conference

Fluorescence Study of 2-(5-Mercapto-1,3,4-oxadiazol-2-yl)-6-methylquinoline-4-ol binding to Bovine Serum Albumin

Grigoryan K.R., Shilajyan H.A., Aleqsanyan I.L., Hambardzumyan L.P., Hovhannisyan H.H.

2021 112-113

http://cluster.isc-ras.ru/

Conference

Structural Peculiarities of L-Tyrosine Associates in Dimethylsulfoxide Aqueous Solutions

Zatikyan A.L., Shilajyan H.A., Grigoryan K.R.

2021 100

http://cluster.isc-ras.ru/

Article

UV/Vis and fluorescence study on the interaction of Ni(II) complex of Schiff base of glycine and chiral auxiliary (S)-2-[N-(N′-benzylprolyl)- amino]benzophenone with bovine serum albumin

Hasmik A. Shilajyan, Karine R. Grigoryan

MONATSHEFTE FUR CHEMIE 2020 135-139

Article

Effect of monovalent ions on the thermal stability of bovine serum albumin in dimethylsulfoxide aqueous solutions. Spectroscopic approach

Karine Grigoryan, Ashkhen Zatikyan, Hasmik Shilajyan

Journal of Biomolecular Structure and Dynamics 2020 1-15

Article

BOVINE SERUM ALBUMIN FLUORESCENCE QUENCHING BY TANNIC ACID IN DIMETHYLSULFOXIDE CONTAINING SOLUTIONS

K. R. GRIGORYAN, H. A. SHILAJYAN, V. A. HOVHANNISYAN

Proceedings of the YSU B Chemical and Biological Sciences 2020 99-104

Conference

Флуоресценция комплексов альбумин-танин в смешанных растворителях вода-диметилсульфоксид.

К.Р. Григорян, А.А. Шиладжян, В. А. Оганисян

2020 123-124

https://www.kubsu.ru/en/node/26755

Study manual

Սննդարտադրական տեխնոլոգիաներ

Կարինե Գրիգորյան

2020 204

Article

Ab initio исследования комплкексообразования галловой кислоты в водных растворах

К.Р. Григорян, А.Л. Затикян

Журнал структурной химии (Journal of Structural Chemistry) 2018 1544-1551

Article

FLUORESCENCE STUDY ON TRYPTOPHAN–POTASSIUM IODIDE INTERACTION

H. A. Shilajyan, K.R. Grigoryan

Proceedings of the YSU B Chemical and Biological Sciences 2018 75-79

Article

Synthesis of Carvone-Derived 1,2,3-Triazoles Study of Their Antioxidant Properties and Interaction with Bovine Serum Albumin

Armen S. Galstyan, Armen I. Martiryan, Karine R. Grigoryan, Armine G. Ghazaryan,

Melanya A. Samvelyan, Tariel V. Ghochikyan, Valentine G. Nenajdenko

Molecules 2018 2991(1-12)

Article

SYNTHESIS, STRUCTURE AND BINDING AFFINITY OF A NOVEL 1,2,3-TRIAZOLYL-CARVONE WITH BOVINE SERUM ALBUMIN

K. R. GRIGORYAN, A. S. GALSTYAN, M. A. SAMVELYAN, T. V. GHOCHIKYAN

Proceedings of the YSU B Chemical and Biological Sciences 2018 155–160

Conference

ТЕРМИЧЕСКАЯ ДЕНАТУРАЦИЯ БЫЧЬЕГО СЫВОРОТОЧНОГО АЛЬБУМИНА В РАСТВОРАХ ВОДА – ДИМЕТИЛСУЛЬФОКСИД В ПРИСУТСТВИИ LiCl И LiClO4

Григорян К.Р.,, Шиладжян А.А., Затикян А.Л.

2018 230

http://cluster.isc-ras.ru/

Article

FLUORESCENCE 2D AND 3D SPECTRA ANALYSIS OF TRYPTOPHAN, TYROSINE AND

PHENYLALANINE
K.R.GRIGOTRAN, H. A. SHILAJYAN

Proceedings of the YSU B Chemical and Biological Sciences 2017 3-7

http://www.ysu.am/science/hy/journals

Article

Analysis of the Interaction of Gallic Acid and Myoglobin by UV-vis Absorption Spectroscopy
Grigoryan K. R., Shilajyan H. A.

Russian Journal of Bioorganic Chemistry 2017 257-260

https://link.springer.com/journal/11171

Conference

СПЕКТРАЛЬННЫЕ ИССЛЕДОВАНИЯ ВЗАИМОДЕЙСТВИЯ ГАЛЛОВОЙ И ДУБИЛЬНОЙ КИСЛОТ С МИОГЛОБИНОМ
Григорян К.Р, Шиладжян А.А.

2017 80-81

http://university.tversu.ru/conferences/

Conference

Теоретические исследования межмолекулярных взаимодействий водных растворов галловой кислоты
А.Л. Затикян, К.Р. Григорян

2017 196

http://chugaev2017.iomc.ras.ru/en/

Study manual

Մոլեկուլային ֆլուորեսցենցիայի հիմունքները
Շ. Ա. Մարգարյան, Կ. Ռ. Գրիգորյան

2017 132

Study manual

ՄՆՆԴԻ ԱՆՎՏԱՆԳՈՒԹՅԱՆ, ՄՆՆԴԻ ՔԻՄԻԱՅԻ ԵՎ ՄՆՆԴԱՐՏԱԴՐԱԿԱՆ ՏԵԽՆՈԼՈԳԻԱՆԵՐԻ ԱՆԳԼԵՐԵՆ-ՀԱՅԵՐԵՆ-ՌՈՒՍԵՐԵՆ ՏԵՐՄԻՆԱԲԱՆԱԿԱՆ ՀԱՄԱՌՈՏ ԲԱՌԱՐԱՆ
Գրիգորյան Կ.Ռ., Մարտիրյան Ա.Ի.

2017 70

Article

SPECTRAL STUDY OF THE INTERACTION OF MYOGLOBIN WITH TANNIN
K. R. Grigoryan, L. S. Sargsyan

Journal of Applied Spectroscopy 2016 481-485

http://www.springer.com/physics/atomic,+molecular,+optical+%26+plasma+physics/j...

Article

Heat Induced Denaturation Of Bovine Serum Albumin In Dimethylsulfoxide Containing Solutions In The Presence Of Potassium Iodide
K. R. Grigoryan, H.A.Shilajyan

Proceedings of the YSU B Chemical and Biological Sciences 2015 3-5

http://www.ysu.am/science/hy/journals

Article

Intermolecular Interactions in Aqueous Solutions of Gallic Acid at 296–306 K According to Spectrofluorimetry and Densimetry Data
K.R.Grigoryan, L.S.Sargsyan

Russian Journal of Physical Chemistry A 2015 2234-2237

http://link.springer.com/journal/11504

Article

EXPERIMENTAL AND THEORETICAL STUDIES ON THE SOLVATION OF POTASSIUM AND CHLORINE IONS IN AQUEOUS DIMETHYLSULFOXIDE SOLUTIONS
K. R. Grigoryan, A. A.Shilajyan, A. L. Zatikyan

Journal of Structural Chemistry 2015 662-666

http://www.springer.com/chemistry/inorganic+chemistry/journal/10947

Conference

Experimetnal and theoretical studies on competetive interactions in gallic acid – water system
L.S. Sargsyan, K.R. Grigoryan, A.L. Zatikyan

2015 204-205

http://chph.sci.am/conference/IChPh2015.html

Article

Quenching Mechanism of Human Serum Albumin Fluorescence by Gangleron
Grigoryan K.R., Ghazaryan A. G

Proceedings of the YSU B Chemical and Biological Sciences 2013 6-10

Article

STUDY OF THERMAL DENATURING OF HUMAN SERUM ALBUMIN IN THE PRESENCE OF POTASSIUM CHLORIDE BY THE EXCITATION/EMISSION MATRIX METHOD
K. R. Grigoryan, H. A. Shilajyan

Journal of Applied Spectroscopy 2013 786-789

Article

Intermolecular Interactions in Albumin–Sulfoxide–Water Systems at Low Temperatures, Investigated by Means of Fluorescence Quenching
Grigoryan K. R., Shilajyan H. A.

Журнал физической химии (Russian Journal of Physical Chemistry A) 2013 780-782

Article

Physicochemical Peculiarities of Iodine-Dimethylsulfoxide-H2O Solutions and Effect on Ion Binding to Bovine Serum Albumin
Grigoryan K. R., Shilajyan H.A.

Datasets International Dataset Papers in Chemistry 2013 1-5

Article

INFLUENCE OF DIMETHYLSULFOXIDE ON THE FLUORESCENCE BEHAVIOR OF HUMAN SERUM ALBUMIN STUDIED BY EXCITATIONEMISSION MATRIX FLUORESCENCE SPECTROSCOPY METHOD
Grigoryan K. R., Shilajyan H.A.

Proceedings of the YSU B Chemical and Biological Sciences 2013 50-53

Article

Դիմեթիլսուլֆօքսիդի ազդեցությունը կարբամիդ-ցուլի շիճուկային ալբումին փոխազդեցությունների վրա
Գրիգորյան Կ Ռ., Սարգսյան Լ. Ս.

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2012 8-14

Article

Influence of cis[PtCl2(Me2SO)2] on Thermal Denaturation of Albumin
Grigoryan K.R., Baghramyan N. A.

Biophysics 2011 24-27

Article

Fluorescent Analysis of the Structural Changes of Human Serum Albumin Induced by Low Temperatures in Water–Dimethyl Sulfoxide Solutions
Grigoryan K.R.

Журнал физической химии (Russian Journal of Physical Chemistry A) 2011 317–320

Article

The effect of solvated ions on the thermal denaturation of human serum albumin in water-dimethylsulfoxide solutions
Grigoryan K. R., Shiladzhyan A.A.

Russian Journal of Bioorganic Chemistry 2009 581–584

Article

INTERACTION OF DIMETHYLSULFOXIDE AND DIETHYLSULFOXIDE COMPLEXES OF PLATINUM(II) WITH BOVINE SERUM ALBUMIN
Grigoryan K. R., Kazaryan A.G.

Journal of Applied Spectroscopy 2009 607-610

Article

Preferential solvatation of human serum albumin in dimethylsulfoxide-H2O binary solution
K. R. Grigoryan

Russian Journal of Physical Chemistry A 2009 2368 - 2370

Article

SPECTROSCOPIC DETERMINATION OF BINDING BETWEEN HUMAN SERUM ALBUMIN AND A PLATINUM(II) DIMETHYLSULFOXIDE COMPLEX
K. R. Grigoryan, M. G. Aznauryan, N. A. Bagramyan, L. G. Gevorkyan,, Sh. A. Markaryan

Journal of Applied Spectroscopy 2008 593-596

Article

Effect of Diethylsulfoxide on the Thermal Denaturation of DNA
Karine R. Grigoryan, Arpine M. Asatryan, Shiraz A. Markarian, Hasmik R. Sargsyan

Biopolymers 2006 1-5

Article

Complexation and Reactions of Molecular Iodine with Dimethyl and Diethyl Sulfoxides
Grigoyan K. R., Sh. A. Markaryan, A. R. Sarkisyan,, A. M. Asatryan,, Ts. A. Adamyan

Russian Journal of General Chemistry 2006 1801-1803

Article

DSC study on the effect of dimethysulfoxide (DMSO) and diethylsulfoxide (DESO) on phospholipid liposomes

Grigorian K. R., Markarian S. A., S. Bonora, A. Trinchero

Thermochimica Acta 2005 19-26

Article

FT IR ATR Study of Molecular Interactions in the Urea/Dimethyl Sulfoxide and Urea/Diethyl Sulfoxide Binary Systems

Karine R. Grigoryan, Shiraz A. Markarian, Liana S. Gabrielyan

Journal of Solution Chemistry 2004 1005-1015
