

Karine Rafael Grigoryan

Faculty of Chemistry

Chair of Physical and Colloid Chemistry

Professor

☎ 38-60
(060) 71-08-60

✉ kara@ysu.am



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
Specialty	Chemical sciences

Institution	Yerevan State University
Date	2011
Degree name	Doctor
Specialty	Chemical sciences
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
Specialty	Chemical sciences

Institution	Yerevan State University
Date	1991
Degree name	Candidate
Specialty	Chemical sciences
Scientific Supervisor	Shiraz Markarian
Research Topic	Physicochemical Properties of Dialkylsulfoxides and Interactions with Aminoacides and Amides

Language skills

Work experience

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

Scientific interests

- physical chemistry, biophysical chemistry, biomedical Physical chemistry, molecular spectroscopy, food chemistry, DNA and protein modification and complexation
-

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 конференция «Проблемы соль-вагтации и
комплекс-соединения в растворах»,
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 P-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

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 Mkhitarian

Process Biochemistry 2024 30-38

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

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

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

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'-benzylpropyl)- 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

Manual

Սևնդարտադրական տեխնոլոգիաներ

Կարինե Գրիգորյան

2020 204

Article

Ab initio исследования комплексообразования 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, Taniel 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

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>

Manual

Մոլեկուլային ֆլուորեսցենցիայի հիմունքները

Շ. Ա. Մարգարյան, Կ. Ռ. Գրիգորյան

2017 132

Manual

**ՄԱՆԴԻ ԱՆՎՏԱՆԳՈՒԹՅԱՆ, ՄԱՆԴԻ ՔԻՄԻԱՅԻ ԵՎ ՄԱՆԴԱՐՏԱԴՐԱԿԱՆ ՏԵԽՆՈԼՈԳԻԱՆԵՐԻ
ԱՆԳԼԵՐԵՆ-ՀԱՅԵՐԵՆ-ՌՈՒՄԵՐԵՆ ՏԵՐՄԻՆԱԲԱՆԱԿԱՆ ՀԱՄԱՌՈՏ ԲԱՌԱՐԱՆ**
Գրիգորյան Կ.Ռ., Մարտիրոսյան 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.y-su.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>

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

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

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

Դիմեթիլսուլֆօքսիդի ազդեցությունը կարբամիդ-ցուլի շինուկային 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.

Биоорганическая Химия (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.

Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2009 607-610

Article

Preferential solvation 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
Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2008 593-596

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 (Журнал общей химии) 2006 1801-1803

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

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

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

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

Conference

Experimetnal and theoretical studies on competetive interactions in gallic acid - water system

L.S. Sargsyan, K.R. Grigoryan, A.L. Zatikyan

Conference

СПЕКТРАЛЬНЫЕ ИССЛЕДОВАНИЯ ВЗАИМОДЕЙСТВИЯ ГАЛЛОВОЙ И ДУБИЛЬНОЙ КИСЛОТ С МИОГЛОБИНОМ

Григорян К.Р, Шиладжян А.А.

Conference

Теоретические исследования межмолекулярных взаимодействий водных растворов галловой кислоты

А.Л. Затикян, К.Р. Григорян

Conference

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

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

Conference

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

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

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.

Conference

Structural Peculiarities of L-Tyrosine Associates in Dimethylsulfoxide Aqueous Solutions

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

Conference

THEORETICAL STUDY ON THE MOLECULAR STRUCTURE OF 4-HYDROXY-2-METHYL-6-AMINOQUINOLINE

Zatikyan Ashkhen, Grigoryan Karine

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

Conference

DFT STUDY ON THE EFFECT OF HYDROXYL GROUPS ON THE STRUCTURE AND REACTIVITY OF 2-METHYLQUINOLIN-4-OL DERIVATIVES

Zatikyan A., Grigoryan K.

Conference

ОСОБЕННОСТИ СВЯЗЫВАНИЯ МЕТИЛЕНОВОГО СИНЕГО С ОДНОЦЕПОЧНЫМИ 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

Conference

STUDY ON SOLVENT- MEDIATED RADICAL SCAVENGING ACTIVITY OF MORIN TOWARDS 2, 2-DIPHENYL-1- PICRYLHYDRAZYL

Grigoryan K. R., Shilajyan H., Mkhitarian L., Harutyunyan R., Khachatryan Zh.
