

# Marine Ashot Parsadanyan

## Research Institute of Biology

Laboratory of Biophysics of Subcellular Structures

Leading researcher

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## Education

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Faculty of Biology
<b>Date</b>	1989 - 1994
<b>Degree name</b>	Qualified specialist

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## Scientific Rank/degree

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2022
<b>Degree name</b>	Doctor
<b>Specialty</b>	Biological sciences
<b>Research Topic</b>	Interaction of different ligands with synthetic polynucleotide poly(rA)-poly(rU)

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2012
<b>Degree name</b>	Associate professor
<b>Specialty</b>	Biological sciences

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<b>Institution</b>	Yerevan State University
<b>Date</b>	2002
<b>Degree name</b>	Candidate
<b>Specialty</b>	Biological sciences
<b>Scientific Supervisor</b>	Poghos Vardevanyan
<b>Research Topic</b>	Structural changes in genome of some cereal germs at germination

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## Language skills

Русский English

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## Publications

*Article*

**Study of neurotransmitter dopamine interaction with DNA by electrochemical and spectroscopic methods**

Poghos O. Vardevanyan, Gaspar H. Kocharyan, Marine A. Parsadanyan, Anna V. Vardanyan,  
Mariam A. Shahinyan, Ara P. Antonyan  
Biophysical Chemistry 2026 107552

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*Article*

**Fluorescence Characteristics of Hoechst 33258 Complexes with Single-Stranded and Double-Stranded Polyribonucleotides in Solution at Various Solution Ionic Strengths**

A.P. Antonyan, P.O.Vardevanyan, M.S.Mikaelyan, G.H.Poghosyan, G.H. Kocharyan, M.A.Parsadanyan

Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2025 1280-1285

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*Article*

**Role of the FhIA transcriptional activator in metabolic changes in Escherichia coli during fermentation of mixed carbon sources at acidic pH**

Heghine Gevorgyan, Marine Parsadanyan, Anait Vassilian, Anna Poladyan, Karen Trchounian

Biochimie 2025 1-9

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*Article*

**Study of Fluorescent Properties of Methylene Blue Complexes with Ribo- and Deoxyribo-Polynucleotides**

A.P.Antonyan, M.A.Parsadanyan, A.H.Karapetyan, P.O.Vardevanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2025 108-114

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*Article*

**Molecular simulation study of RNA/dopamine complex dynamics at varying concentrations**

Armen H. Poghosyan, Yevgeni S. Mamasakhlisov, Marine A. Parsadanyan, Mariam A. Shahinyan,

Zvart H. Movsisyan, Poghos O. Vardevanyan

Scientific Reports 2025 21379

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*Article*

**INTERACTION OF DOPAMINE WITH DNA, DEPENDING ON THE IONIC STRENGTH OF THE SOLUTION: POTENTIAL APPLICATION IN SENSOR TECHNOLOGY**

Marine A. Parsadanyan, Hrant M. Avanesyan, Arsen B. Lokyan, Sahak V. Hovhannisyan,

Mariam A. Shahinyan, Marieta S. Mikaelyan, Gaspar H. Kocharyan, Ara P. Antonyan,

Poghos O. Vardevanyan

Медицинские новости Грузии (Georgian medical news) 2025 69-75

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*Article*

**Affinity Assessment of DNA-Specific of Ethidium Bromide and Methylene Blue Intercalator Ligands with Poly(rA), Poly(rU), and Poly(rA)-Poly(rU) ( ОЦЕНКА СТЕПЕНИ СРОДСТВА ДНК-СПЕЦИФИЧЕСКИХ ЛИГАНДОВ ИНТЕРКАЛЯТОРОВ БРОМИСТОГО ЭТИДИЯ И МЕТИЛЕНОВОГО СИНЕГО С РО**

Vardevanyan P.O., Antonyan A.P., Matevosyan A.G., Parsadanyan M.A., Movsisyan Z.O.

Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2024 65-73

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*Article*

**Absorption and Fluorescence Characteristics of the Binding of Ethidium Bromide with Synthetic Single- and Double-Stranded Polyribonucleotides**

A.P. Antonyan, P.O. Vardevanyan, M.S. Mikaelyan, G.H. Kocharyan, G.H. Poghosyan, M.A. Parsadanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2024 103-110

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Article

**Influence of millimeter range electromagnetic waves on bovine serum albumin interaction with acridine orange**

M.A. Parsadanyan, M.A. Shahinyan, M.S. Mikaelyan, S.V. Grigoryan, G.H. Poghosyan, P.O. Vardevanyan

Electromagnetic Biology and Medicine 2024 1-11

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Article

**Binding Parameters of Mitoxantrone and Ethidium Bromide with A-Form Nucleic Acids Based on Adsorption Isotherms [Параметры связывания митоксантрона и бромистого этидия с А-формой нуклеиновых кислот по изотермам адсорбции]**

V. P. Kalantaryan, R. S. Ghazaryan, Y. S. Babayan, M. A. Parsadanyan

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2024 404-407

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Article

**ВЗАИМОДЕЙСТВИЕ СЫВОРОТОЧНОГО АЛЬБУМИНА ЧЕЛОВЕКА С МЕТИЛОВЫМ ФИОЛЕТОВЫМ ПОД ВОЗДЕЙСТВИЕМ ЭЛЕКТРОМАГНИТНЫХ ВОЛН МИЛЛИМЕТРОВОГО ДИАПАЗОНА**

П.О. ВАРДЕВАНЯН, М.А. ШАГИНЯН, М.А. ПАРСАДАНЯН, С.В. ГРИГОРЯН, В.П. КАЛАНТАРЯН

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 268-276

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Article

**Human Serum Albumin Interaction with Methyl Violet under the Influence of Millimeter-Range Electromagnetic Waves**

P.O. Vardevanyan, M.A. Shahinyan, M.A. Parsadanyan, S.V. Grigoryan, V.P. Kalantaryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 198-203

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Article

**ERYTHROCYTES AS A MODEL FOR STUDYING THE EFFECT OF TEMPERATURE ON THE RESISTENCE OF CELLULAR MEMBRANES**

M.S.Mikaelyan, M.A. Shahinyan, M.A. Parsadanyan

Proceedings of the YSU B: Chemical and Biological Sciences 2023 118-125

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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

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Article

**ВЗАИМОДЕЙСТВИЕ СЫВОРОТОЧНОГО АЛЬБУМИНА С ЭРИТРОЗИНОМ В ПОД ВОЗДЕЙСТВИЕМ ЭЛЕКТРОМАГНИТНЫХ ВОЛН МИЛЛИМЕТРОВОГО ДИАПАЗОНА**

М.А. Парсаданян, М.А. Шагинян, С.В. Григорян, М.С. Микаелян, Г.А. Погосян, В.П. Калантарян,

П.О. Вардеванян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 643-651

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Article

**Interaction of Serum Albumin with Erythrosine B under the Influence of Millimeter-Range**

## **Electromagnetic Waves**

M.A. Parsadanyan, M.A. Shahinyan, S.V. Grigoryan, M.S. Mikaelyan, G.H. Poghosyan, V.P. Kalantaryan,

P.O. Vardevanyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 428-434

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### *Article*

#### **Study of complexes of Hoechst 33258 with poly(rA)-poly(rU) depending on various ionic strengths in the water-saline solution**

Vardevanyan P.O., Parsadanyan M.A., Antonyan A.P., Shahinyan M.A.

Journal of Biomolecular Structure and Dynamics 2022 1182-1188

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### *Article*

#### **Study of interaction of methylene blue with DNA and albumin**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan,

Nara H. Petrosyan

Journal of Biomolecular Structure and Dynamics 2022 7779-7785

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### *Article*

#### **Флуоресцентные характеристики комплексов Hoechst 33258 с сывороточным альбумином и ДНК**

Антонян А.П., Парсаданян М.А., Петросян Н.Г., Вардеванян П.О.

Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2022 519-524

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### *Article*

#### **Comparison of methyl violet interaction with bovine serum albumin and human serum albumin by UV-denaturation method**

Shahinyan M.A., Mikaelyan M.S., Parsadanyan M.A., Antonyan A.P.

Proceedings of the YSU B: Chemical and Biological Sciences 2022 136-140

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### *Article*

#### **Effect of resonant electromagnetic irradiation and aspirin on surface tension of human blood plasma in vitro**

M.S. Mikaelyan, M.A. Shahinyan, S.V. Grigoryan, M.A. Parsadanyan

Proceedings of the YSU B: Chemical and Biological Sciences 2022 218-224

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### *Article*

#### **Взаимодействие метиленового синего с одноцепочечными полинуклеотидами poly(rA) и poly(rU) и с двухцепочечным полинуклеотидом poly(rA)-poly(rU)**

Антонян А.П., Мовсесян З.О., Парсаданян М.А., Вардеванян П.О.

Актуальные вопросы биологической физики и химии 2022 251-255

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### *Article*

#### **WHEAT PROTEIN INCREASING THROUGH RADIATION TECHNOLOGIES**

L.A. MINASBEKYAN, M. A. PARSADANYAN

Proceedings of the Yerevan State University B: Chemical and Biological Science 2022 225-230

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### *Article*

#### **Duplex-triplex transition in complexes of nucleic acids with Hoechst 33258**

M.A. Parsadanyan

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2021 39-45

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Article

**BINDING PECULIARITIES OF POLY(rA)-POLY(rU) WITH MINOR GROOVE LIGAND HOECHST 33258**

M.A. Parsadanyan, M.A. Shahinyan, Z.H. Movsisyan, A.P. Antonyan

Proceedings of the YSU B: Chemical and Biological Sciences 2021 144-150

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Article

**STUDY OF PERMEABILITY OF FISH SKIN**

Marine A. Parsadanyan, Marieta S. Mikaelyan

Proceedings of the YSU B: Chemical and Biological Sciences 2021 212-216

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Article

**ИЗМЕНЕНИЕ ВЫХОДНОГО СИГНАЛА ДНК-БИОСЕНСОРА, ИНДУЦИРОВАННОГО АДСОРБЦИЕЙ ЛИГАНДОВ НА ДУПЛЕКСЫ ДНК В ФЛУКТУИРУЮЩЕЙ СРЕДЕ**

В.Б. Аракелян, А.П. Антонян, М.А. Парсаданян, М.А. Шагинян, П.О. Вардеванян

Биофизика (Biophysics) 2020 670-675

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Article

**Термодинамика взаимодействия синтетического полинуклеотида poly(rA)-poly(rU) с лигандами -интеркаляторами**

П.О.Вардеванян, А.П.Антонян, М.А.Парсаданян

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 126-135

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Article

**Thermodynamic analysis of Hoechst 33258 interaction with poly(rA)-poly(rU)**

P.O.Vardevanyan, M.A.Parsadanyan

Biological Journal of Armenia 2020 17-23

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Article

**Spectroscopic study of interaction of various GCcontent DNA with Hoechst 33258 depending on Na<sup>+</sup> concentration**

Poghos O. Vardevanyan, Marine A. Parsadanyan, Ara P. Antonyan, Mariam A. Shahinyan,

Armen T. Karapetyan

Journal of Biomolecular Structure and Dynamics 2020 1-6

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Article

**STUDY OF METHYLENE BLUE INTERACTION WITH SYNTHETIC POLYNUCLEOTIDE POLY(rA)-POLY(rU)**

M. A. Parsadanyan, M. A. Shahinyan, A. P. Antonyan

Proceedings of the YSU B: Chemical and Biological Sciences 2020 112-117

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Article

**Hybridization kinetics of DNA fragments in the presence of ligands intercalating into DNA-duplexes**

Valeri B. Arakelyan, Aleksandr Y. Mamasakhlisov, Eduard M. Kazaryan, Marine A. Parsadanyan,

Poghos O. Vardevanyan

Journal of Biomolecular Structure and Dynamics 2020 1-6

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Article

**Study of binding peculiarities of ethidium bromide and methylene blue with double-stranded**

## RNA

M.A.Parsadanyan

Proceedings of the YSU B: Chemical and Biological Sciences 2020 38-45

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### Article

#### **Study of Methylene Blue Interaction with Human Serum Albumin**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan,

Marieta S. Mikaelyan

Biophysical Reviews and Letters 2019 17-25

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### Article

#### **Study of the influence of the ionic strength on complex-formation of ethidium bromide with poly(rA)-poly(rU)**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan

Journal of Biomolecular Structure and Dynamics 2019 1-7

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### Article

#### **HOECHST 33258 COMPOUND INTERACTION WITH DIFFERENT GC-CONTENT DNA**

A.P. ANTONYAN, M.A. PARSADANYAN, M.A. TOROSYAN, A.T. KARAPETYAN

Proceedings of the YSU B: Chemical and Biological Sciences 2019 107-112

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### Article

#### **COMPARATIVE STUDY OF ETHIDIUM BROMIDE INTERACTION WITH SYNTHETIC POLYNUCLEOTIDES ds-POLY(rA)-POLY(rU) AND ds-POLY(dA)-POLY(dT)**

Parsadanyan M.A.

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2019 175-179

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### Article

#### **Спектроскопическое исследование связывания нетропсина и Hoechst 33258 с нуклеиновыми кислотами.**

Вардеванян П.О., Парсаданян М.А., Антонян А.П., Саакян В.Г.

Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2018 321-326

<http://imaph.bas-net.by/JAS/rus/ruslib/8502/cont8502.html>

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### Article

#### **Interaction of Methylene blue with synthetic polynucleotide poly(dA)-poly(dT).**

Parsadanyan Marine A., Antonyan Ara P., Vardevanyan Poghos O., Sngryan H.E.

Biophysical Reviews and Letters 2018 29-36

<https://www.worldscientific.com/doi/abs/10.1142/S1793048018500030>

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### Article

#### **STUDY OF COMPARATIVE INTERACTION OF ETHIDIUM BROMIDE AND MITOXANTRONE WITH NUCLEIC ACIDS**

A. P. ANTONYAN, M. A. TOROSYAN, M. A. PARSADANYAN

Proceedings of the YSU B: Chemical and Biological Sciences 2018 52-57

<http://ysu.am/files/8.%20COMPETITIVE%20INTERACTION%20OF%20ETHIDIUM%20BROMIDE%20...>

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### Article

#### **Исследование совместного связывания акридинового оранжевого и бромистого этидия с ДНК**

Ս.Օ.Վարդևանյան, Ա.Ս.Անտոնյան, Մ.Ա.Սարսադանյան, Վ.Գ.Տահակյան

ՀՀ ԳԱԱ գեղություններ 2017 74-81

<http://www.flib.sci.am/eng/Reports/Frame.html>

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*Article*

**Melting parameters of DNA complexes with several intercalators**

A.P.Antonyan, M.A.Parsadanyan, V.G.Sahakyan, P.O.Vardevanyan

Proceedings of the YSU B: Chemical and Biological Sciences 2017 27-30

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

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*Article*

**Анализ термодинамических параметров связывания бромистого этидия и митоксантрона с ДНК по изотермам адсорбции**

Ս.Օ.Վարդևանյան, Մ.Ա.Սարսադանյան, Ա.Ս.Անտոնյան, Տ.Ն.Այսոպյան

Журнал физической химии (Russian Journal of Physical Chemistry A) 2017 1071-1073

<http://www.maik.ru/ru/journal/fizkhim/>

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*Article*

**Exploring the interaction of ethidium bromide and Hoechst 33258 with DNA by means of electrochemical approach.**

Tavadyan Levon A., Minasyan Seyran H., Kocharyan Gaspar H., Antonyan Ara P., Sahakyan Viktoria G.,

Parsadanyan Marine A., Vardevanyan Poghos O.

Biophysical Reviews and Letters 2017 151-161

<https://www.worldscientific.com/toc/brl/12/03>

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*Article*

**Peculiarities of interaction of synthetic polyribonucleotide poly(rA)-poly(rU) with some intercalators**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan,

Victoria G. Sahakyan

Journal of Biomolecular Structure and Dynamics 2017 1-7

<https://www.tandfonline.com/doi/abs/10.1080/07391102.2017.1402708>

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*Article*

**Influence of Electromagnetic Waves with Extremely High Frequencies on Some Criteria of Blood Plasma**

P.O. Vardevanyan, A.P. Antonyan, A.V. Nerkararyan, M.A. Parsadanyan, M.A. Shahinyan, M.R. Darbinyan,

M.S. Mikaelyan

Armenian Journal of Physics 2016 106-109

<http://ajp.asj-oa.am/>

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*Article*

**Joint interaction of ethidium bromide and methylene blue with DNA. The effect of ionic strength on binding thermodynamic parameters**

Poghos O. Vardevanyan, Ara P.Antonyan, Marine A. Parsadanyan, Margarita A.Torosyan,

Armen T.Karapetian

Journal of Biomolecular Structure and Dynamics 2016 1377-1382

<http://www.tandfonline.com/action/journalInformation?journalCode=tbsd20#.V25anP...>

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*Article*

**Behavior of ethidium bromide-Hoechst 33258-DNA and ethidium bromide-methylene blue-DNA triple systems by means of UV melting.**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan,

Gayane A. Melkonyan

International Journal of Spectroscopy 2015 1-5

<http://www.hindawi.com/journals/ij/s/>

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*Article*

**Спектры поглощения и флуоресценции комплексов полинуклеотидов с бромистым этидием.**

П.О. Вардеванян, А.П. Антонян, М.А. Парсаданян, М.В. Минасянц

Известия НАН РА. Физика (Journal of Contemporary Physics (Armenian Academy of Sciences) 2015 511-519

<http://www.flib.sci.am/eng/Fizika/Frame.html>

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*Article*

**Determination of the isosbestic point in the absorption spectra of DNA-ethidium bromide complexes**

P.O. Vardevanyan, V.L. Elbakyan, M.A. Shahinyan, Minasyants M.V., Parsadanyan M.A., Sahahakyan N.S.

Journal of Applied Spectroscopy 2015 1060-1063

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

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*Article*

**Воздействие низкоэнергетического миллиметрового электромагнитного излучения на стабильность молекул ДНК в растворе**

Ю.С. Бабаян, А.Ш. Маргарян, В.П. Калантарян, Р.С. Казарян, М.А. Парсаданян, П.О. Вардеванян

Биофизика (Biophysics) 2007 382-384

[http://elibrary.ru/title\\_about.asp?id=7680](http://elibrary.ru/title_about.asp?id=7680)

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*Conference*

**Effect of millimeter diapason electromagnetic irradiation on albumin denaturation**

P.O. Vardevanyan, A.P. Antonyan, M.A. Shahinyan, M.A. Parsadanyan, M.S. Mikaelyan

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*Conference*

**The effect of electromagnetic waves with extremely high frequencies and low intensity on human albumin solution**

Poghos Vardevanyan, Vitali Kalantaryan, Mariam Shahinyan, Marina Parsadanyan, Mareta Mikaelyan

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*Conference*

**Влияние электромагнитного излучения миллиметрового диапазона на конформационные свойства сывороточного альбумина человека**

Вардеванян П.О., Парсаданян М.А., Шагинян М.А., Микаелян М.С.

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*Conference*

**Effect of millimeter range electromagnetic waves on water-saline solutions of DNA and its complexes with different ligands**

Marine Parsadanyan, Ara Antonyan, Narek Shahnazaryan, Poghos Vardevanyan

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*Conference*

**Comparative study of binding of some intercalating compounds with DNA.**

Poghos O. Vardevanyan, Ara P. Antonyan, Marine A. Parsadanyan, Mariam A. Shahinyan,  
Victoria G. Sahakyan

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*Conference*

**Effect of concentration of ligands on DNA-biosensor average output signal and dispersion.**  
Valeri B. Arakelyan, Marine A. Parsadanyan, Poghos O. Vardevanyan

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*Conference*

**Study of three-component system, consisted of DNA complexes with ligands of different type.**  
Ara P. Antonyan, Marine A. Parsadanyan, Narek H. Shahnazaryan, Poghos O. Vardevanyan

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*Conference*

**ВЛИЯНИЕ АДСОРБЦИИ ЛИГАНДОВ НА СТАТИСТИЧЕСКИЕ ХАРАКТЕРИСТИКИ ВЫХОДНОГО СИГНАЛА ДНК-БИОСЕНСОРА**

Аракелян В.Б., Антонян А.П., Парсаданян М.А., Шагинян М.А., Вардеванян П.О.

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*Conference*

**ИЗУЧЕНИЕ КОМПЛЕКСОВ ДНК С ЛИГАНДАМИ РАЗЛИЧНОЙ ПРИРОДЫ**

Вардеванян П.О., Парсаданян М.А., Антонян А.П., Шагинян М.А.

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*Conference*

**Peculiarities of the interaction of different ligands with nucleic acids**

Antonyan A.P., Parsadanyan M.A., Vardevanyan P.O.

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*Conference*

**Study of the influence of the ionic strength on complex-formation of ethidium bromide with DNA and RNA**

A.Antonyan, M.Parsadanyan, M.Shahinyan, P.Vardevanyan

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*Conference*

**Interaction of Double Stranded Nucleic Acids with Different Ligands**

Vardevanyan P., Parsadanyan M., Antonyan A., Shaninyan M.

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*Conference*

**Thermodynamic Analysis of Hoechst 33258 Interaction with Poly(rA)-Poly(rU)**

Parsadanyan M., Antonyan A., Shahinyan M., Vardevanyan P.

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*Conference*

**Binding of poly(rA)-poly(rU) with methylene blue**

Z.H.Movsisyan, P.O.Vardevanyan, A.P.Antonyan, M.A.Parsadanyan

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*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

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*Conference*

**Влияние мультипликативного шума на выходной сигнал ДНК-биосенсора**

Алоян Л., Аракелян В.Б., Парсаданян М.А., Вардеванян П.О.

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*Conference*

**ИССЛЕДОВАНИЕ СПЕКТРАЛЬНЫХ ХАРАКТЕРИСТИК БЫЧЬЕГО СЫВОРОТОЧНОГО  
АЛЬБУМИНА ПОД ВЛИЯНИЕМ ЭЛЕКТРОМАГНИТНЫХ ВОЛН МИЛЛИМЕТРОВОГО ДИАПАЗОНА**  
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