

Anna F Mkrtchyan

Institute of Pharmacy
Director

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Education

Institution	SPC "Armbiotechnology" NAS RA
Faculty	SPC "Armbiotechnology" NAS RA
Date	2008 - 2012
Degree name	PhD student

Institution	Yerevan State University
Faculty	Faculty of Chemistry
Date	2003 - 2008
Degree name	Qualified specialist

Language skills

Հայերեն Русский English

Scientific interests

- asymmetric stoichiometric synthesis and catalysis
-

State awards and honorary titles

2015 State Award

2019 Gold medal of the YSU

2023 commemorative medal of the prime minister

Publications

Article

Sequential Michael addition, cross-coupling and [3 + 2] cycloaddition reactions within the coordination sphere of chiral Ni(ii) Schiff base complexes derived from dehydroamino acids: pathways to the asymmetric synthesis of structurally diverse O-substituted

Emma A. Khachatryan, Lusine Yu. Sahakyan, Anna S. Tovmasyan, Gagik S. Melikyan,

Henrik A. Panosyan, Anna F. Mkrtchyan, Norio Shibata, Andrei V. Malkov, Ashot S. Saghyany

RSC Advances 2025 10558-10564

Article

Glaser Heterocoupling Reaction for the Synthesis of Enantiomerically Enriched Unnatural α -Amino Acids Incorporating Asymmetric Diyne Moieties: Mechanistic Insights and Optimization

Liana Hayriyan, Anna Tovmasyan, Anna Grigoryan, Karapet Ghazaryan, Barbara Biondi,

Olgert L. Dallakyan, Mikayel S. Chobanyan, Hayk Zaqaryan, Ashot Saghyan, Anna Mkrtchyan

ACS Omega 2025 A-G

Article

Synthesis and Biological Activity of Ultrashort Antimicrobial Peptides Bearing a Non-Coded Amino Acid

Cristina Peggion, Andrea Schivo, Martina Rotondo, Simona Oancea, Lucia-Florina Popovici,

Teodora Călin, Anna Mkrtchyan, Ashot Saghyan, Liana Hayriyan, Emma Khachatryan,

Fernando Formaggio, Barbara Biondi

Journal of Peptide Science 2025 8

Article

Strategy for synthesizing O-protected (S)- α -substituted serine analogs via sequential Ni(ii)-complex-mediated cross-coupling and cycloaddition reactions

Anna S. Tovmasyan, Anna F. Mkrtchyan, Avetis H. Tsaturyan, Peter Langer, Andrei V. Malkov,

Ashot S. Saghyan

New Journal of Chemistry 2025 11640-11645

Article

A3-Mannich coupling reaction via chiral propargylglycine Ni(ii) complex: an approach for synthesizing enantiomerically enriched unnatural α -amino acids

Liana Hayriyan, Anna Grigoryan, Hasmik Gevorgyan, Avetis Tsaturyan, Armen Sargsyan, Peter Langer,

Ashot Saghyan, Anna Mkrtchyan

RSC Advances 2025 35379-35387

Article

Unnatural Phosphorus-Containing α -Amino Acids and Their N-FMOC Derivatives: Synthesis and In Vitro Investigation of Anticholinesterase Activity

Ani S. Dadayan, Anna F. Mkrtchyan, Atravazd S. Poghosyan, Slavik A. Dadayan, Lala A. Stepanyan,

Monika H. Israyelyan, Anna S. Tovmasyan, Avetis H. Tsaturyan, Nona A. Hovhannisyan,

Vigen O. Topuzyan, Tatevik H. Sargsyan, Ashot S. Saghyan

ChemistrySelect 2024 1-10

Article

BSA Binding and Aggregate Formation of a Synthetic Amino Acid with Potential for Promoting Fibroblast Proliferation: An In Silico, CD Spectroscopic, DLS, and Cellular Study

Hayarpi Simonyan, Rosanna Palumbo, Satenik Petrosyan, Anna Mkrtchyan, Armen Galstyan,

Ashot Saghyan, Pasqualina Liana Scognamiglio, Caterina Vicidomini, Marta Fik-Jaskólka,

Giovanni N. Roviello

Biomolecules 2024 579

Article

Synthesis and evaluation of new mono- and binuclear salen complexes for the α -alkylation reaction of amino acid substrates as chiral phase transfer catalysts

Anahit M. Hovhannisyan, Anna S. Tovmasyan, Anna F. Mkrtchyan, Karapet R. Ghazaryan,

Ela V. Minasyan, Olgert L. Dallakyan, Mikayel S. Chobanyan, Hayk Zakaryan, Giovanni N. Roviello,

Article

Synthesis of enantiomerically enriched β -substituted analogs of (S)- α -alanine containing 1-phenyl-1H-1,2,3-triazole groups

Artavazd S. Poghosyan, Ashot S Saghyan, Peter Langer, Ela V. Minasyan, Karapet R. Ghazaryan, Anahit M. Hovhannisyan, Anna F Mkrtchyan, Volodya Mirzoyan, Emma A. Khachatryan
Amino Acids 2024 67

Article

Synthesis, Characterization, and Study of Catalytic Activity of Chiral Cu(II) and Ni(II) Salen Complexes in the α -Amino Acid C- α Alkylation Reaction

Anna S. Tovmasyan, Anna F. Mkrtchyan, Hamlet N. Khachatryan, Mary V. Hayrapetyan, Robert M. Hakobyan, Artavazd S. Poghosyan, Avetis H. Tsureyan, Ela V. Minasyan, Viktor I. Maleev, Vladimir A. Larionov, Armen G. Ayzazyan, Norio Shibata, Giovanni N. Roviello, Ashot S. Saghyan
Molecules 2023 1180

Article

Asymmetric Synthesis of Derivatives of Alanine via Michael Addition Reaction and their Biological Study

Mkrtchyan Anna, Tovmasyan Anna, Paloyan Ani, Sargsyan Armen, Simonyan Hayarpi, Sahakyan Lusine, Petrosyan Satenik, Hayriyan Liana, Sargsyan Tatevik
Synlett 2022 2013-2018

Article

Synthesis of enantiomerically enriched non-protein α -amino acids and their study as aldose reductase inhibitors

Anna F. Mkrtchyan, Liana A. Hayriyan, Armen S. Sargsyan, Ani M. Paloyan, Anna S. Tovmasyan, Ani J. Karapetyan, Artur A. Hambardzumyan, Nelli A. Hovhannisyan, Henrik A. Panosyan, Hamlet N. Khachatryan, Ani S. Dadayan, Ashot S. Saghyan
Synthetic Communications 2021 1433-1450

Article

Synthesis of Biomimetic Polymers Based on Nonproteinogenic α -Amino Acids

Nino Zavrashvili, Giuli Otinashvili, David Tugushi, Tengiz Kantaria, Temur Kantaria, Nino Kupatadze, Ekaterina Chkhaidze, Nino Neparidze, Ashot Saghyan, Anna Mkrtchyan, Artavazd Poghosyan
Bulletin of the Georgian National Academy of Sciences 2021 41-47

Article

New Cationic Polymers Composed of Non-Proteinogenic α -Amino Acids

NINO ZAVRADASHVILI, GIULI OTINASHVILI, TEMUR KANTARIA, NINO KUPATADZE, DAVID TUGUSHI, ASHOT SAGHYAN, ANNA MKRTCHYAN, SERGEY POGHOSYAN, RAMAZ KATSARAVA
Advanced Materials, Polymers, and Composites: New Research on Properties, Techniques, and Applications
2021 277-287

Article

Spectroscopic and SEM evidences for G4-DNA binding by a synthetic alkyne-containing amino

acid with anticancer activity

Marta A. Fik-Jaskółka, Anna F. Mkrtchyan, Ashot S. Saghyan, Rosanna Palumbo, Agnieszka Belter, Liana A. Hayriyan, Hayarpi Simonyan, Valentina Roviello, Giovanni N. Roviello

SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY 2020 117884

*Article***Asymmetric synthesis, biological activity and molecular docking studies of some unsaturated α -amino acids, derivatives of glycine, allylglycine and propargylglycine**

A. F. Mkrtchyan, A. S. Saghyan, L. A. Hayriyan, A. S. Sargsyan, A. J. Karapetyan, A. S. Tovmasyan, A. H. Tsaturyan, E. V. Minasyan, A. S. Poghosyan, A. M. Paloyan, H. A. Panosyan, Lu. Yu. Sahakyan
Journal of Molecular Structure 2020 127850

*Article***Biological macromolecule binding and anticancer activity of synthetic alkyne-containing L-phenylalanine derivatives**

Marta A. Fik-Jaskółka, Anna F. Mkrtchyan, Ashot S. Saghyan, Rosanna Palumbo, Agnieszka Belter, Liana A. Hayriyan, Hayarpi Simonyan, Valentina Roviello, Giovanni N. Roviello
Amino Acids 2020 755–769

*Article***Asymmetric Synthesis of Tailor-Made Amino Acids Using Chiral Ni(II) Complexes of Schiff Bases. An Update of the Recent Literature**

Yupiao Zou, Jianlin Han, Ashot S. Saghyan, Anna F. Mkrtchyan, Hiroyuki Konno, Hiroki Moriwaki, Kunisuke Izawa, Vadim A. Soloshonok
Molecules 2020 2739

*Article***Using the Ni-[(Benzylpropyl)amino]benzophenone complex in the Glaser reaction for the synthesis of bis α -amino acids**

Anna F. Mkrtchyan, Liana A. Hayriyan, Ani J. Karapetyan, Anna S. Tovmasyan, Avetis H. Tsaturyan, Victor N. Khrustalev, Viktor I. Maleev, Ashot S. Saghyan
New Journal of Chemistry 2020 8

*Article***Исследование асимметрического нуклеофильного бис-присоединения дегидроаланиновых комплексов Ni(II)**

Петросян С. Г., Симонян А. М., Мкртчян А. Ф., Саакян Л. Ю., Цатурян А. О., Сагян А. С.
Հայաստանի քիմիական հանդես 2020 213-222

*Article***Synthesis of Enantiomerically Enriched Non-Proteinogenic α -Amino Acids Using the Suzuki Reaction**

Saghyan Ashot, Mkrtchyan Anna, Mardiyan Zorayr, Hayriyan Liana, Yuri N. Belokon, Peter Langer
ChemistrySelect 2019 4686-4688

*Article***Synthesis of enantiomerically enriched alkynylaryl-substituted α -amino acids through Sonogashira reactions**

Ashot S. Saghyan, Anna F. Mkrtchyan, Zorayr Z. Mardiyan, Liana A. Hayriyan, Ani J. Karapetyan,

Yuri N. Belokon, Peter Ehlers, Peter Langer
ChemistrySelect 2019 13806-13809

Article

Synthesis of Optically Pure (S,E)-2-Amino-5-arylpent-4-enoic Acids by Heck Reactions of Nickel Complexes

Mkrtchyan Anna F, Saghyan Ashot S, Mardiyan Zorayr Z, Parpart Silvio, Ehlers Peter, Petrosyan Andranik,

Langer Peter
Synlett 2018 A-F

Article

СИНТЕЗ ЭНАНТИОМЕРНО ОБОГАЩЕННОЙ (S)-2-АМИНО-5-(4-ФТОРФЕНИЛ)ПЕНТ-4-ЕНОВОЙ КИСЛОТЫ И ЕЕ α -АЛЛИЛЗАМЕЩЕННОГО АНАЛОГА

А. С. САГЯН, З. З. МАРДИЯН, А. Ф. МКРТЧЯН, А. О. ЦАТУРЯН

Химический Журнал Армении 2018 107-116

Article

Nickel-coordinated chiral enols and Michael addition intermediate stabilized by the Ni-C bond

Liana A. Hayriyan, Anna F. Mkrtchyan, Margarita Moskalenko, Viktor Maleev, Zalina Gugkaeva,

Mikhail Il'in, Kirill Babiyevski, Pavel Dorovatorskiy, Viktor Khrustalev, Aleksandr Peregudov, Yu. Belokon

Mendeleev Communications 2018 464-466

Manual

Ամինաթթուների ֆիզիկաքիմիական, օպտիկական հատկությունները և ստացման եղանակները
Հ.Մ. Սիմոնյան, Ա.Ֆ. Մկրտչյան

2018 40

Manual

ՊԵՊՏԻԴՆԵՐ, ՖԵՐՄԵՆՏՆԵՐ

Ա. Ֆ. Մկրտչյան, Հ.Մ. Սիմոնյան

2018 36

Article

Five-year achievements in the field of the asymmetric synthesis of unsaturated amino acids

Saghyan A.S., Belokon, Yu.N., Mkrtchyan, A.F., Langer P, Mardiyan Z.Z.

Chemical Journal of Armenia 2017 54-71

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

Article

Асимметрический синтез новых гетероциклически замещенных аналогов α -аминоасляной кислоты, содержащих замещенные триазольные группы в боковом радикале

А.С.Сагиян, Л.Ю.Саакян, А.М.Симонян, С.Г.Петросян, А.Ф.Мкртчян, М.А.Самвелян, Т.В.Кочикян,

П.Лангер

Химический Журнал Армении 2017 71-81

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

Article

New generations of optically active non-proteinogenic α -amino acids, synthesis and study

Hovhannisyan A. M., Saghyan A. S., Mkrtchyan A. F., Simonyan H. M

Հայաստանի քիմիական հանդես 2016 81-101

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

Article

Synthesis of enantiomerically enriched amino acids containing acetylenic bond in the side-chain radical

Hayarpi M. Simonyan, Ashot. S. Saghyan, Anna F. Mkrtchyan, Ani J. Karapetyan, Zorayr Z. Mardiyan,

Liana A. Hayriyan

International Journal of Chemical Engineering and Applications 2016 413-416

<http://www.ijcea.org/>

Article

Synthesis of optically pure (S)-2-amino-5-arylpent-4-ynoic acids by Sonogashira reactions and their potential use as highly selective potent inhibitors of aldose reductase

Silvio Parpart, Andranik Petrosyan, Syed Jawad Ali Shah, Raji Akeem Adewale, Peter Ehlers,

Tatevik Grigoryan, Anna F. Mkrtchyan, Zorayr Z. Mardiyan, Ani J. Karapetyan, Avetis H. Tsaturyan,

Ashot S. Saghyan, Jamshed Iqbal, Peter Langer

RSC Advances 2015 107400-107412

<http://pubs.rsc.org/en/journals/journalissues/ra?e=1#!subjects>

Article

Синтез положительно заряженных комплексов CoIII и их исследование в качестве хиральных катализаторов в реакциях асимметрического генерирования С-С связи.

Мкртчян А. Ф., Геолчанян А. В., Симонян А. М., Петросян С. Г., Сагиян А. С., Малеев В. И.,

Белоконь Ю. Н., Хрусталеv В. Н

Химический Журнал Армении 2015 108-121

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

Conference

Asymmetric synthesis of new enantiomerically enriched α -amino acids

A.S. Saghyan, A.F. Mkrtchyan, S.G. Petrosyan, J.A. Yedoyan, A.M. Simonyan, A.V. Geolchanyan,

P. Langer, A.M. Petrosyan

Conference

Metallocomplex precursors for the synthesis of 18f-fluorinated aromatic amino acids labelled in alpha fluoromethyl moiety

A. V. Geolchanyan, A. S. Saghyan, A. F. Mkrtchyan, S. G. Petrosyan, H. M. Simonyan, V. I. Maleev,

Yu. N. Belokon, R. Schibli, R. N. Krasikova

Conference

Asymmetric synthesis of new enantiomerically enriched α -amino acids

A.S. Saghyan, S.Gh. Petrosyan, A.V. Geolchanyan, A.F. Mkrtchyan, Z.Z. Mardiyan

Conference

Efficient method for the synthesis of novel enantiomerically enriched derivatives of propargylglycine

Anna F. Mkrtchyan, Ashot S Saghyan, Liana A Hayriyan, Ani J Karapetyan, Zorayr Z Mardiyan,

Hayarpi M Simonyan, Adonc Hovhannes

Conference

Asymmetric synthesis of potential biologically active new heterocyclic analogs of (S)-alanine containing 3,4-substituted 5-thioxo-1,2,4- triazoles in the side-chain radical

H.M. Simonyan, L.Yu. Sahakyan, S.Gh. Petrosyan, A.F. Mkrtchyan, N.N. Baghyan,, J.N. Saribekyan, A.S. Saghyan

Conference

Asymmetric synthesis of new heterocyclic analogs of alpha-aminopropionic acid and alpha-aminobutyric acid via Michael nucleophilic addition reactions

Hayarpi Simonyan, Lusine Sahakyan, Anna Mkrtchyan, Satenik Petrosyan, Ashot Saghyan

Conference

Efficient method for the synthesis of novel enantiomerically enriched derivatives of unsaturated amino acids

Ashot Saghyan, Anna Mkrtchyan, Liana Hayriyan, Zorayr Mardiyan, Hayarpi Simonyan

Conference

Asymmetric synthesis of enantiomerically enriched analog of α -aminobutyric acid containing heterocycle in the side chain radical .

L.Yu.Sahakyan, A.S. Saghyan, H.M. Simonyan, S.Gh.Petrosyan, A.F.Mkrtchyan

Conference

Asymmetric synthesis and biological activity of novel heterocycle substituted analogues of α -aminobutyric acid

Sahakyan L.Yu., Simonyan H. M, Petrosyan S. Gh., Mkrtchyan A. F., Simonyan M. A., Saghyan A. S., Sekoyan E. S.

Conference

Asymmetric synthesis of potential biologically active new analogs of (S)-alanine containing nitrogenous bases in the side-chain radical

H.M.Simonyan, L.Yu. Sahakjan, A.F.Mkrtchyan, S.Gh.Petrosyan, N.N.Baghyan, A.O.Voskanyan, J.N.Saribekyan, A.S.Saghyan

Conference

Асимметрический синтез новых производных (S)- α -аланина, содержащих 3-замещенные 4-изобутил-5-тиоксо-1,2,4-триазолы в боковом радикале

А.М.Симонян, Н.Н.Багян, А.О.Восканян, Ж.Н.Сарибекян, Л.Ю.Саакян, А.Ф.Мкртчян, С.Г.Петросян, А.С.Сагиян

Conference

Asymmetric synthesis of enantiomerically enriched analogs of NiII complexes of (S)-allylglycine

L.A.Hayriyan, A.F.Mrtchyan, Z.Z.Mardiyan, A.J.Karapetyan, H.V. Adonc, H.M. Simonyan, S.Gh. Petrosyan, L.Yu.Sahakyan, A.S. Saghyan

Conference

Synthesis of optically pure (S)-2-amino-5-(3-fluorophenyl)-2-(prop-2-yn-1-yl)pent-4-yonic acid b y using Sonogashira reaction

Z.Z. Mardiyan, L.A. Hayriyan, A.F.Mkrtchyan, A.X.Tsaturyan, A.J. Karapetyan, H.V. Adonc, H.M. Simonyan,

S.Gh.Petrosyan, L.Yu.Sahakyan, A.S. Saghyan

Conference

FIVE-YEAR ACHIEVEMENTS IN THE FIELD OF THE ASYMMETRIC SYNTHESIS OF UNSATURATED AMINO ACIDS

A. S. Saghyan, L.A. Hayriyan, Z.Z. Mardiyan, A.F. Mkrtchyan

Conference

THE SYNTHESIS OF POTENTIALLY ACTIVE NEW ENANTIOMERICALLY ENRICHED DERIVATIVES OF GLYCINE THROUGH CLICK REACTION

H.V. Adonts, A.S. Saghyan, L.A.Hayriyan, A.F. Mkrtchyan

Conference

Asymmetric synthesis of enantiomerically enriched new analogs of Ni II complexes of (S)-propargylglycine

L. Hayriyan, A. Saghyan, H. Simonyan, A. Karapetyan, Z. Mardiyan, A. Mkrtchyan

Conference

Asymmetric synthesis of new enantiomerically enriched α -amino acids

A.S. Saghyan, A.F. Mkrtchyan, Z.Z. Mardiyan, L.A. Hayriyan, H.V. Adonts

Conference

Synthesis and reactivity of chiral enols coordinated with Ni²⁺ ions and a case of a Michael adduct intermediate stabilized by the Ni-C bond

L. A. Hayriyan, A. F. Mkrtchyan, Y. N. Belokon, A. S. Saghyan

Conference

Asymmetric synthesis of enantiomerically enriched new analogs of Ni II complexes which contain unsaturated alkene groups

L. Hayriyan, A. Mkrtchyan, A. Saghyan

Conference

Asymmetric synthesis of optically active derivatives of α -aminobutyric acid containing triazole groups in the side chain radical

L.Sahakyan, H.Simonyan, S. Petrosyan, A. Mkrtchyan, A. Saghyan, E. Sekoyan

Conference

SYNTHESIS OF A NOVEL HETEROCYCLIC AMINO ACID AND ITS USE FOR THE SYNTHESIS OF SUGAR-AMINO ACID CONJUGATES

Hayarpi Simonyan, Giovanni Roviello, Anna Mkrtchyan, Lusine Sahakyan, Satenik Petrosyan,

Ashot Saghyan

Conference

Asymmetric synthesis of new enantiomerically enriched unsaturated α -amino acids by promotion of cross-coupling reactions

Liana Hayriyan, Anna Mkrtchyan, Ashot Saghyan

Conference

Asymmetric synthesis and biological activity of some unsaturated α -amino acids

