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🌐 Знание языков

Հայերեն Русский English

🔬 Научные интересы

- Биоэнергетика, Биохимия, Микробиология, Биотехнология

🏆 Государственные награды и почетные звания

2016 Премия Моррисона Рогозы Американского общества микробиологии (ASM)

2019 Серебряная медаль по случаю 100-летия ЕГУ

📖 Публикации

Статья

Gold nanoparticles activate hydrogenase synthesis and improve heterotrophic growth of *Ralstonia eutropha* H16

Tatevik Manutsyan, Syuzanna Blbulyan, Anait Vassilian, Tatiana Semashko, Gayane Kirakosyan, Lilit Gabrielyan, Karen Trchounian, Anna Poladyan

FEMS Microbiology Letters 2024 1-8

Статья

Growth and hydrogen production by *Escherichia coli* during utilization of sole and mixture of sugar beet, alcohol, and beer production waste

Kairat Bekbayev, Satenik Mirzoyan, Akerke Toleugazykyzy, Dinara Tlevlessova, Anait Vassilian, Anna Poladyan, Karen Trchounian

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Role of the *Escherichia coli* FocA and FocB formate channels in controlling proton/potassium fluxes and hydrogen production during osmotic stress in energy-limited, stationary phase fermenting cells

Anush Babayan, Anait Vassilian, Anna Poladyan, Karen Trchounian

Biochimie 2024 91-98

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Proton conductance and regulation of proton/potassium fluxes in *Escherichia coli* FhIA-lacking cells during fermentation of mixed carbon sources

Heghine Gevorgyan, Anna Poladyan, Karen Trchounian, Anait Vassilian
Archives of Biochemistry and Biophysics 2024 109999

Статья

Development of an H₂ fuel cell electrochemical system powered by Escherichia coli cells

Torgom Seferyan, Lusine Baghdasaryan, Meri Iskandaryan, Karen Trchounian, Anna Poladyan

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Seda Marutyan, Hasmik Karapetyan, Lusine Khachatryan, Anna Muradyan, Syuzan Marutyan,

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L-amino acids affect the hydrogenase activity and growth of Ralstonia eutropha H16

Meri Iskandaryan, Syuzanna Blbulyan, Mayramik Sahakyan, Anait Vassilian, Karen Trchounian,

Anna Poladyan

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Valorization of whey-based side streams for microbial biomass, molecular hydrogen, and hydrogenase production

Anna Poladyan, Karen Trchounian, Ela Minasyan, Meri Iskandaryan, Hayarpi Aghekyan, Sargis Aghayan,

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The influence of hydrogen production on the formation of metabolic pathways and regulation of ΔpH in Escherichia coli

Heghine Gevorgyan, Anait Vassilian, Anna Poladyan, Karen Trchounian

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THE EFFECT OF ANTIOXIDANT ACTIVITY OF PLANTS TRIFOLIUM PRATENSE L. AND CRATAEGUS LAEVIGATA ON LIPID PEROXIDATION IN RAT'S TISSUES EXPOSED TO HYPOBARIC HYPOXIA

I. A. BADALYAN, A. A. POLADYAN

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BIOMASS AND BIOHYDROGEN PRODUCTION BY ESCHERICHIA COLI UPON CONSUMPTION OF MEAT INDUSTRY AND LIGNOCELLULOSIC CORN WASTES MIXTURE

Syuzanna Blbulyan, Satenik Mirzoyan, Karen Trchounian, Anna Poladyan

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Biomass and biohydrogen production during dark fermentation of Escherichia coli using office paper waste and cardboard

Anna Poladyan, Lena Margaryan, Karen Trchounian, Armen Trchounian
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Application of organic waste glycerol to produce crude extracts of bacterial cells and microbial hydrogenase—the anode enzymes of bio-electrochemical systems

Anna Poladyan, Syuzanna Blbulyan, Tatiana Semashko, Volha Dziameshka, Liudmila Zhukouskaya,

Armen Trchounian

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ETHANOL SUPPLEMENTATION AS A NEW APPROACH TO REGULATE GROWTH AND HYDROGEN PRODUCTION OF ESCHERICHIA COLI UPON GLYCEROL FERMENTATION

A. A. Poladyan

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Anna Poladyan, Syuzanna Blbulyan, Mayramik Sahakyan, Oliver Lenz, Armen Trchounian

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Characterization of hydrogen production by *Escherichia coli* wild-type and mutants of hydrogenases utilizing xylose as fermentation substrate

Anna Poladyan, Armen Trchounian

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Hydrogen production by *Escherichia coli* using brewery waste: optimal pretreatment of waste and role of different hydrogenases

Anna Poladyan, Karen Trchounian, Anait Vassilian, Armen Trchounian

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Anna Poladyan, Lusine Baghdasaryan, Armen Trchounian

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Enhancement of *Escherichia coli* bacterial biomass and hydrogen production by some heavy metal ions and their mixtures during glycerol vs glucose fermentation at a relatively wide range of pH

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A. Poladyan

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Hydrogen production by Escherichia coli during glucose fermentation: Effects of oxidative and reductive routes used by the strain lacking hydrogen oxidizing hydrogenases 1 (hya) and 2 (hyb)

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Համակարգչային տեխնոլոգիաների կիրառման առավելությունները և փորձը բուհական

կենսաբանության դասավանդման ընթացքում

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Hydrogen-oxidizing hydrogenases 1 and 2 of Escherichia coli regulate the onset of hydrogen evolution and ATPase activity, respectively, during glucose fermentation at alkaline

evolution and ATPase activity, respectively, during glucose fermentation at alkaline

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Oxidative and Reductive Routes of Glycerol and Glucose Fermentation by Escherichia coli Batch Cultures and Their Regulation by Oxidizing and Reducing Reagents at Different pHs

Anna Poladyan, Anait Vassilian, Armen Trchounian, Arev Avagyan

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Glycerol fermentation and molecular hydrogen production by Escherichia coli batch cultures affected by some reducing reagents and heavy metal ions

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Конференция

Effect of Different Substrates on Growth and Redox Potential Kinetics of Escherichia coli Wild Type and Hydrogenases Lacking Mutant

Anna Poladyan, Satenik Mirzoyan, Armen Trchounian

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Glycerol Fermentation and Hydrogen Metabolism by Escherichia coli: New Approaches to Enhance Hydrogen Production

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Hydrogen production by Escherichia coli wild type and hydrogenase mutants upon formate and glycerol fermentation under different growth conditions

A. Poladyan, S. Mirzoyan, K. Trchounian, A. Trchounian

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Developing hydrogen production biotechnology: cheap substrates, effective strains and optimized fermentative conditions

K.Trchounian, A. Poladyan, L. Gabrielyan, A. Trchounian

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Escherichia coli growth and hydrogen production upon glycerol fermentation at slightly acidic pH: effects of formate and some heavy metal ions

Karen Trchounian, Astghik Vardanyan, Anna Poladyan, Armen Trchounian

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Optimization Strategy for Hydrogen Production by Escherichia coli Using Brewery Waste

A. Poladyan, K. Trchounian, A. Trchounian

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H₂ PRODUCTION BY ESCHERICHIA COLI BATCH CULTURES DURING FERMENTATION OF GLYCEROL, LACTOSE AT DIFFERENT pHs

S. Mirzoyan, A. Poladyan, K. Trchounian, A. Trchounian

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ESCHERICHIA COLI GROWTH AND HYDROGEN PRODUCTION USING BREWERY WASTE: OPTIMAL PRETREATMENT AND ROLE OF HYDROGENASES

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Glucose concentrations influence on activities of FoF₁ ATPase and hydrogenase 4 in Escherichia coli

A. Poladyan, M. Sahakyan, S. Blbulyan, K. Trchounian, A. Trchounian

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ՄԱՆՐԵՆԵՐԻ ԿԵՆՍԱՏԵԽՆՈԼՈԳԻԱՆԵՐԻ ՄԱԳԻՍՏՐՈՍԱԿԱՆ ՆՈՐ ԾՐԱԳՐԵՐԻ ԴԱՍԱԿԱՆԴՄԱՆ ՄԵԹՈԴԱԲԱՆԱԿԱՆ ՍՈՏԵՑՈՒՄՆԵՐԸ ԵՐԵՎԱՆԻ ՊԵՏԱԿԱՆ ՀԱՄԱԼՍԱՐԱՆՈՒՄ
Թռչունյան Կ.Ա., Գաբրիելյան Լ.Ս., Փոլադյան Ա.Ա., Թռչունյան Ա.Հ.

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Growth and Bioenergetics Properties of Facultative Chemolithoautotrophic Bacterium Ralstonia Eutropha Upon Organic Waste Materials Utilization

S. Blbulyan, M. Sahakyan, A. Poladyan, A. Trchounian

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A. Poladyan, R. Hayrapetyan, A. Trchounian

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Anna Poladyan, Lusine Baghdasaryan, Karen Trchounian, Armen Trchounian

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The relationship of Escherichia coli Hyd enzymes with the F0F1-ATPase during fermentation of mixture of carbon sources

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From organic waste to biohydrogen: Approaches to enhance H₂ production by Escherichia coli

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From organic wastes to biohydrogen: responsible hydrogenases upon different carbon mixtures utilization by Escherichia coli.

Anna Poladyan, Karen Trchounina, Armen Trchounian

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Hydrogenase Activity of the Facultative Chemolithoautotroph Ralstonia eutropha Consuming Brewery Waste

A. Poladyan, O. Lenz, A. Trchounian

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Ralstonia eutropha Hydrogenase Application in Bioelectrocatalysis as Anode Enzyme

A. Poladyan, T. Semashko, L. Zhukouskaya, V. Dziameshka, A. Trchounian

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Analysis of the Escherichia coli hydrogenases as anodic enzymes in bioelectrochemical system

Anna Poladyan, Tatyana Semashko, Lyudmila Zhukouskaya, Volha Diameshka, Armen Trchounian

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Upcycling of office waste paper and cardboard to biohydrogen

Anna Poladyan, Lena Margaryan, Karen Trchounian, Tatyana Semashko, Armen Trchounian

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Redox regulation of the growth, hydrogenase activity and bioenergetic properties of Ralstonia eutropha upon different carbon source utilization

S. Blbulyan, M. Sahakyan, A. Poladyan, A. Trchounian

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Lignocellulosic waste as feedstock for bacterial biomass production: enhanced hydrogen evolution and hydrogenase activity

Anna Poladyan, Syuzanna Blbulyan, Mayramik Sahakyan, Armen Trchounian

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H₂ - Oxidizing Activity of Escherichia coli Upon Utilization of Different Waste Components

A. Poladyan, L. Baghdasaryan, S. Blbulyan, A. Trchounian

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Ethanol Affected Bacterial Growth and molecular Hydrogen Production by Escherichia coli Upon Fermentation of Glycerol

S.Blbulyan, A. Poladyan, A. Trchounian

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Prospective Trends in Biotechnology for Biohydrogen

Karen Trchounian, Anna Poladyan, Lilit Gabrielyan, Armen Trchounian

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The role of formate neutralization and molecular hydrogen generation in the metabolic flux in Escherichia coli during fermentation of mixed carbon sources

Gevorgyan H., Poladyan A., Trchounian K.

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Biohydrogen Production from Roasted Coffee Waste: Understanding the Role of E. coli Hydrogenases During Fermentation

S. Mirzoyan, L. Vanyan, H. Aghekyan, A. Poladyan, K. Trchounian

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Optimization of Fruits Waste Pretreatment for E. coli Growth and H₂ Production

S. Mirzoyan, A. Vassilian, A. Poladyan, K. Trchounian

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Biomass and biohydrogen production by Escherichia coli upon consumption of meat and lignocellulosic waste mixture

Syuzanna Blbulyan, Anna Poladyan, Satenik Mirzoyan, Liana Mnatsakanyan, Karen Trchounian

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WINE GRAPE WASTE APPLICATION FOR ESCHERICHIA COLI BIOMASS AND H₂ PRODUCTION

Syuzanna Blbulyan, Lusine Baghdasaryan, Satenik Mirzoyan, Anahit Vassilian, Tatiana Semashko,

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The valorization of whey-based side-streams for microbial biomass, hydrogen and hydrogenase enzyme production

Anna Poladyan, Hayarpi Aghekyan, Ella Minasyan, Karen Trchounian, Ani Paloyan, Sargis Aghayan,

Garabed Antranikian, Meri Iskandaryan, Diana Ghevondyan

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ՕՐԳԱՆԱԿԱՆ ԹԱՓՈՆՆԵՐԻՑ ԿԵՆՍԱԶԱՆԳՎԱԾԻ ԵՎ ԿԵՆՍԱԵՆԵՐԳԻԱՅԻ ՓՈԽԱԿԵՐՊՄԱՆ ԿԵՆՍԱԹԻՄԻԱԿԱՆ ՈՐԴԻՆԵՐԻ ԲՆՈՒԹԱԳՐՈՒՄԸ ԵՎ ՕՔՍԻԴԱԿԵՐԱԿԱՆԳՈՂԱԿԱՆ ԿԱՐԳԱՎՈՐՈՒՄԸ

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THE OXIDATIVE STRESS AND POSSIBLE PREVENTIVE ACTION OF PLANT BORN POLYPHENOLS

Anahit Shirvanyan, Anush Babayan, Alvard Minasyan, Margarit Petrosyan, Anna Poladyan,

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THE OXIDATIVE STRESS AND T2DM-INDUCED DIABETIC NEPHROPATHY: POSSIBLE PREVENTIVE ACTION OF PANT-BORN OLIGOMERIC POLYPHENOLS

Gohar Sahakyan, Anne Vejux, Margarit Petrosyan, Anna Poladyan, Naira Sahakyan

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Characteristic effects of gold nanoparticles on growth and H₂ metabolism of *Ralstonia eutropha* H16 and *Escherichia coli*

Anna Poladyan, Tatev Manutsyan, Meri Iskandaryan, Syuzanna Blbulyan, Anait Vassilian,

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The role of glycine-betaine in the hydrogen metabolism of *Ralstonia eutropha* H16

Meri Iskandaryan, Liana Mnatsakanyan, Anna Poladyan

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A NOVEL COST-EFFECTIVE APPROACH FOR PRODUCTION OF HYDROGENASE ENZYMES AND MOLECULAR HYDROGEN FROM WHEY-BASED BY-PRODUCTS

Anna Poladyan, Meri Iskandaryan, Ofelya Karapetyan, Ela Minasyan, Anait Vassilian, Karen Trchounian,

Garabed Antranikian

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REDOX REGULATION OF HYDROGEN PRODUCTION IN *ESCHERICHIA COLI* DURING GROWTH ON BYPRODUCTS OF THE WINE INDUSTRY

Lusine Baghdasaryan, Karen Trchounian, Garabed Antranikian, Anna Poladyan, Ofelya Karapetyan

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BIOTECHNOLOGICAL POTENTIAL OF SPENT COFFEE GROUNDS FOR LARGE-SCALE HYDROGEN PRODUCTION

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Influence of acidic pH on the interaction between proton ATPase and enzymes responsible for molecular hydrogen generation

Karen Trchounian, Heghine Gevorgyan, Lilit Baghdasaryan, Anait Vassilian, Anna Poladyan

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Formate-hydrogen lyase has a significant role in proton motive force generation in *Escherichia coli* at acidic pH during mixed carbon fermentation

Heghine Gevorgyan, Anait Vassilian, Anna Poladyan, Karen Trchounian

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The impact of oxygen-tolerant hydrogenases on cell energetics of *Cupriavidus necator* H16

Meri Iskandaryan, Anna Poladyan

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Understanding the Role of Escherichia coli Hydrogenase-2 subunits in proton flux under different glucose concentrations

Liana Vanyan, Anait Vassilian, Anna Poladyan, Karen Trchounian

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Anna Poladyan, Karen Trchounian, Naira Sahakyan

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Cupriavidus necator H16 growth and H₂-oxidizing Activity Using Mixture of Glycerol and Roasted Coffee Waste

R. Avetisyan, L. Mnatsakanyan, K. Trchounian, A. Poladyan

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Evaluation of an H₂ fuel cell electrochemical system powered by microbial cells

M. Iskandaryan, A. Poladyan, L. Baghdasaryan, T. Seferyan

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Effect of glycine on the heterotrophic growth and [NiFe]-hydrogenase activity of Cupriavidus necator H16

M. Iskandaryan, J. Schoknecht, O. Lenz, A. Poladyan
