

Աննա Արշակի Փոլադյան

Կենսաբանության ֆակուլտետ

Կենսաքիմիայի, մանրէաբանության և կենսատեխնոլոգիայի ամբիոն
Ամբիոնի վարիչ, դոցենտ

☎ 45-26

✉ apoladyan@ysu.am

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🌐 Լեզուների իմացություն

Հայերեն Русский English

🏆 Գիտական հետաքրքրություններ

- Կենսաէներգետիկա, Կենսաքիմիա, Մանրէաբանություն, Կենսատեխնոլոգիա

📅 Դեռական մրցանակներ և պատվավոր կոչումներ

2016 Ամերիկյան Մանրէաբանական ընկերության (ASM) Մորրիսոն Ռոգոզայի (Morrison Rogosa)

2019 ԵՊՀ 100-ամյակի կապակցությամբ արծաթե մեդալ

📖 Publications

Հոդված

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

Հոդված

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

Biomass Conversion and Biorefinery 2024 909-919

Հոդված

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

Հոդված

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

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

Հոդված

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, Avetis Tsaturyan, Ani Paloyan, Garabed Antranikian, Lev Khoyetsyan
Applied Microbiology and Biotechnology 2023 4683-4696

Հոդված

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
International Journal of Hydrogen Energy 2022 40264-40274

Հոդված

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

Proceedings of the YSU B: Chemical and Biological Sciences 2022 239-244

Հոդված

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

Proceedings of the YSU B: Chemical and Biological Sciences 2021 224-231

Հոդված

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

Anna Poladyan, Lena Margaryan, Karen Trchounian, Armen Trchounian

International Journal of Hydrogen Energy 2020 286-293

Հոդված

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

FEMS Microbiology Letters 2020 1-7

Հոդված

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

A. A. Poladyan

Proceedings of the YSU B: Chemical and Biological Sciences 2020 138-146

Հոդված

Growth of the facultative chemolithoautotroph Ralstonia eutropha on organic waste materials: Growth characteristics, redox regulation and hydrogenase activity

Anna Poladyan, Syuzanna Blbulyan, Mayramik Sahakyan, Oliver Lenz, Armen Trchounian
Microbial Cell Factories 2019 1-13

Հոդված

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

Anna Poladyan, Armen Trchounian

Bioenergy Research 2019 1033-1041

Հոդված

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

Renewable Energy 2018 931-936

<http://www.journals.elsevier.com/renewable-energy>

Հոդված

Escherichia coli wild type and hydrogenase mutant cells growth and hydrogen production upon xylose and glycerol co-fermentation in media with different buffer capacities

Anna Poladyan, Lusine Baghdasaryan, Armen Trchounian

International Journal of Hydrogen Energy 2018 15870-15879

Հոդված

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

Karen Trchounian, Anna Poladyan, Armen Trchounian

International Journal of Hydrogen Energy 2017 6590-6597

<http://www.journals.elsevier.com/international-journal-of-hydrogen-energy/>

Հոդված

Hydrogen production by Escherichia coli growing in different nutrient media with glycerol: Effects of formate, pH, production kinetics and hydrogenases involved

Karen Trchounian, Satenik Mirzoyan, Anna Poladyan, Armen Trchounian

International Journal of Hydrogen Energy 2017 24026-24034

<http://www.journals.elsevier.com/international-journal-of-hydrogen-energy/>

Հոդված

NEW APPROACHES TO ENHANCE HYDROGEN PRODUCTION FROM GLYCEROL BY ESCHERICHIA COLI

A. Poladyan

Հայաստանի Կենսաբանական հանդես 2017 153-159

Հոդված

Optimizing strategy for Escherichia coli growth and hydrogen production during glycerol fermentation in batch culture: Effects of some heavy metal ions and their mixtures

Karen Trchounian, Anna Poladyan, Armen Trchounian

Applied Energy 2016 335-340

<http://www.elsevier.com/locate/apenergy>

Հոդված

Alkanna orientalis (L.) Boiss. plant isolated cultures and antimicrobial activity of their extracts: phenomenon, dependence on different factors and effects on some membrane-associated properties of bacteria.

Margarit Petrosyan, Yekaterina Shcherbakova, Naira Sahakyan, Zaruhi Vardanyan, Anna Poladyan, Yuri Popov, Armen Trchounian

PLANT CELL TISSUE AND ORGAN CULTURE 2015 727-738

<http://link.springer.com/journal/11240>

Հոդված

Escherichia coli growth and hydrogen production in batch culture upon formate alone and with glycerol co-fermentation at different pHs

Karen Trchounian, Varduhi Abrahamyan, Anna Poladyan, Armen Trchounian

International Journal of Hydrogen Energy 2015 9935-9941

<http://www.journals.elsevier.com/international-journal-of-hydrogen-energy/>

Հոդված

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)

Varduhi Abrahamyan, Anna Poladyan, Anait Vassilian, Armen Trchounian

International Journal of Hydrogen Energy 2015 7459-7464

<http://www.journals.elsevier.com/international-journal-of-hydrogen-energy/>

Հոդված

Redox stress in geobacilli from geothermal springs: Phenomenon and membrane-associated response mechanisms

Astghik Ghazaryan, Syuzanna Blbulyan, Anna Poladyan, Armen Trchounian

Bioelectrochemistry 2015 1-6

<http://www.journals.elsevier.com/bioelectrochemistry>

Հոդված

Համակարգչային տեխնոլոգիաների կիրառման առավելությունները և փորձը բուհական կենսաբանության դասավանդման ընթացքում

Լ.Ս. Գաբրիելյան, Ա.Ա. Փոլադյան, Ա.Հ. Թռչունյան

Բնագետ 2014 139-141

Հոդված

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

Anna Poladyan, Karen Trchounian, Armen Trchounian, R. Gary Sawers

FEMS Microbiology Letters 2013 143-148

[http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1574-6968](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1574-6968)

Հոդված

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

Current Microbiology 2013 49-55

<http://www.springer.com/life+sciences/microbiology/journal/284>

Հոդված

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

Anna Poladyan, Karen Trchounian, Armen Trchounian, Mikayel Minasyants

NATO Science for Peace and Security Series C: Environmental Security, Black Sea Energy Resource Development and Hydrogen Energy Problems
2013 153-163

<http://www.springer.com/us/book/9789400761513>

Հոդված

Multiple and reversible hydrogenases for hydrogen production by Escherichia coli: dependence on fermentation substrate, pH and the F₀F₁-ATPase

Karen Trchounian, Anna Poladyan, Anait Vassilian, Armen Trchounian

Critical Reviews in Biochemistry and Molecular Biology 2012 236-249

<http://www.tandfonline.com/toc/ibmg20/current>

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

A. Poladyan, K. Trchounian, A. Trchounian

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

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

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

Optimization Strategy for Hydrogen Production by Escherichia coli Using Brewery Waste

A. Poladyan, K. Trchounian, A. Trchounian

Գիտաժողովի նյութ

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

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

Գիտաժողովի կյուբ

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

A. Poladyan, K. Trchounian, A. Trchounian

Գիտաժողովի կյուբ

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

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

Գիտաժողովի կյուբ

ՄԱՆՐԵՆԵՐԻ ԿԵՆՍԱՏԵՆՆՈՒՆՈՒԹՅԱՆԵՐԻ ՄԱԳԻՍՏՐՈՍԱԿԱՆ ՆՈՐ ԾՐԱԳՐԵՐԻ ԴԱՍԱՎԱՆԴՄԱՆ ՄԵԹՈԴԱԲԱՆԱԿԱՆ ՍՈՏԵՑՈՒՄՆԵՐԸ ԵՐԵՎԱՆԻ ՊԵՏԱԿԱՆ ՀԱՄԱԼՍԱՐԱՆՈՒՄ

Թռչունյան Կ.Ա., Գաբրիելյան Լ.Ս., Փոլադյան Ա.Ա., Թռչունյան Ա.Հ.

Գիտաժողովի կյուբ

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

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

Գիտաժողովի կյուբ

Batch Fermentation Characteristics and Hydrogen Production of Escherichia coli Wild Type and Hydrogenase Mutants Using Xylose As Feedstock

A. Poladyan, R. Hayrapetyan, A. Trchounian

Գիտաժողովի կյուբ

HYDROGEN PRODUCTION BY BACTERIA: STIMULATION EFFECTS AND RESPONSIBLE HYDROGENASES DURING XYLOSE VS. GLUCOSE DARK FERMENTATION

Anna Poladyan, Lusine Baghdasaryan, Karen Trchounian, Armen Trchounian

Գիտաժողովի կյուբ

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

H. Gevorgyan, A. Poladyan, A. Trchounian, K. Trchounian

Գիտաժողովի կյուբ

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

Anna Poladyan, Karen Trchounian, Armen Trchounian

Գիտաժողովի կյուբ

Анализ использования гидрогеназ Escherichia coli в качестве анодных ферментов

Анна Поладян, Армен Трчунян, Татьяна Семашко, Людмила Жуковская, Ольга Демешко

Գիտաժողովի կյուբ

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

Anna Poladyan, Karen Trchounina, Armen Trchounian

Գիտաժողովի կյուբ

Hydrogenase Activity of the Facultative Chemolithoautotroph *Ralstonia eutropha* Consuming Brewery Waste

A. Poladyan, O. Lenz, A. Trchounian

Գիտաժողովի նյութ

***Ralstonia eutropha* Hydrogenase Application in Bioelectrocatalysis as Anode Enzyme**

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

Գիտաժողովի նյութ

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

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

Գիտաժողովի նյութ

Upcycling of office waste paper and cardboard to biohydrogen

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

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

Anna Poladyan, Syuzanna Blbulyan, Mayramik Sahakyan, Armen Trchounian

Գիտաժողովի նյութ

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

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

Գիտաժողովի նյութ

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

S. Blbulyan, A. Poladyan, A. Trchounian

Գիտաժողովի նյութ

Prospective Trends in Biotechnology for Biohydrogen

Karen Trchounian, Anna Poladyan, Lilit Gabrielyan, Armen Trchounian

Գիտաժողովի նյութ

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.

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

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

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

WINE GRAPE WASTE APPLICATION FOR ESCHERICHIA COLI BIOMASS AND H2 PRODUCTION

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

Anna Poladyan

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

ՕՐԳԱՆԱԿԱՆ ԹԱՓՈՆՆԵՐԻՑ ԿԵՆՍԱԶԱՆԳՎԱԾԻ ԵՎ ԿԵՆՍԱԵՆԵՐԳԻԱՅԻ ՓՈԽԱԿԵՐՊՄԱՆ

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Փոլադյան Ա.Ա., Գևորգյան Հ.Խ., Վանյան Լ.Մ., Բաբայան Ա.Ռ., Բաղդասարյան Լ.Հ., Վասիլյան Ա.Վ.,

Պետրոսյան Հ.Հ.

Գիտաժողովի նյութ

THE OXIDATIVE STRESS AND POSSIBLE PREVENTIVE ACTION OF PLANT BORN POLYPHENOLS

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

Naira Sahakyan

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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,

Tatiana Semashko

Գիտաժողովի նյութ

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

Meri Iskandaryan, Liana Mnatsakanyan, Anna Poladyan

Գիտաժողովի նյութ

Fe ions effect on hydrogenase activity of Ralstonia eutropha H16 in various growth media

Sona Nikolyan, Armine Margaryan, Anna Poladyan

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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

Liana Vanyan, Anait Vassilian, Anna Poladyan, Karen Trchounian

Գիտաժողովի նյութ

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

Գիտաժողովի նյութ

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
