

#### **Acetylcholinesterase reactivators based on oxime-functionalized biodegradable ionic liquids**

**Karpichev, Yevgen; Kapitanov, Illia; Gathergood, Nicholas** Military medical science letters 2018 / p. 87

[https://www.mmsl.cz/artkey/mms-201888-0087\\_acetylcholinesterase-reactivators-based-on-oxime-functionalized-biodegradable-ionic-liquids.php](https://www.mmsl.cz/artkey/mms-201888-0087_acetylcholinesterase-reactivators-based-on-oxime-functionalized-biodegradable-ionic-liquids.php)

#### **Advancement in valorization technologies to improve utilization of bio-based waste in bioeconomy context**

**Usmani, Zeba; Sharma, Minaxi; Karpichev, Yevgen** Renewable and sustainable energy reviews 2020 / art. 109965, 16 p. : ill

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#### **Aggregation properties of a series of novel L-phenylalanine derived surfactants**

**Naude, M.; Kapitanov, Illia; Gathergood, Nicholas; Karpichev, Yevgen** Kyiv-Toulouse : IXth International Chemistry Conference

"Kyiv-Toulouse" dedicated to the 100th anniversary of Fedir Babichev = IXth Conference Internationale de Chimie "Kyiv-Toulouse"

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#### **Amino acid-functionalized calix[4]resorcinarene solubilization by mono- and dicationic surfactants**

**Zakharova, Lucia Ya.; Serdyuk, Anna A.; Mirgorodskaya, Alla B.; Karpichev, Yevgen** Journal of surfactants and detergents 2016 / p.

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#### **Antibacterial activity of of L-Phenylalanine derived ionic liquids [Online resource]**

**Kusumahastuti, Dewi Kurnianingsih Arum; Sihtmäe, Mariliis; Kapitanov, Illia; Karpichev, Yevgen; Gathergood, Nicholas;**

**Kahru, Anne** Tartu Ülikooli ASTRA projekt PER ASPERA : Funktsionaalsed materjalid ja tehnoloogiad : [7-8 märtsil 2018, Tallinn :

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#### **Antibacterial Properties of Heteronium Lignin Containing Materials Against ESKAPE Pathogens**

**Mohan, Mahendra Kothottil; Bragina, Olga; Mosjakina, Sofija; Raimundo, Jean-Manuel; Karpichev, Yevgen** ChemRxiv 2025

<https://doi.org/10.26434/chemrxiv-2025-zmlgw-v2>

#### **Biobased natural deep eutectic system as versatile solvents : structure, interaction and advanced applications**

**Usmani, Zeba; Sharma, Minaxi; Tripathi, Manikant; Lukk, Tiit; Karpichev, Yevgen;** Gathergood, Nicholas; Singh, Brahma N.;

Thakur, Vijay Kumar; Tabatabaei, Meisam; Gupta, Vijai Kumar Science of the total environment 2023 / art. 163002

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#### **Biodegradability of deep eutectic solvents in treatment of pomace fruits**

**Usmani, Zeba; Husanu, Elena; Gathergood, Nicholas; Guazzelli, Lorenzo; Pomelli, Christian; Karpichev, Yevgen** 14th Baltic

Conference on Food Science and Technology "Sustainable Food for Conscious Consumer" : FoodBalt 2021 : book of abstracts

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#### **Biodegradation studies of a series of dipeptide based ionic liquids and their transformation products [Online resource]**

**Raba, Grete; Kapitanov, Illia; Karpichev, Yevgen;** Kümmerer, Klaus; Vilu, Raivo; Gathergood, Nicholas Tartu Ülikooli ASTRA

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#### **Biodegradation studies of a series of dipeptide based ionic liquids and their transformation products**

**Raba, Grete; Kapitanov, Illia; Karpichev, Yevgen;** Kümmerer, Klaus; Vilu, Raivo; Gathergood, Nicholas IUPAC Postgraduate

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#### **Biofuels and Bioproducts from Lignocellulosic Materials : Biomaterials**

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#### **Chloromethylation of lignin as a route to functional material with catalytic properties in cross-coupling and click reactions**

**Mohan, Mahendra Kothottil; Silenko, Oleg; Krasnou, Illia; Volobujeva, Olga; Kulp, Maria; Ošeka, Maksim; Lukk, Tiit;**

**Karpichev, Yevgen** ChemSusChem 2024 / art. e202301588 <https://doi.org/10.1002/cssc.202301588> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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#### **Chloromethylation of lignin as a route to functional material with catalytic properties in cross-coupling and click reactions : preprint**

**Mohan, Mahendra Kothottil; Silenko, Oleg; Krasnou, Illia; Volobujeva, Olga; Kulp, Maria; Ošeka, Maksim; Lukk, Tiit;**

**Karpichev, Yevgen** ChemRxiv 2023 / 20 p <https://doi.org/10.26434/chemrxiv-2023-w98xc>

#### **A compared study of esterified lignin for thermoplastic applications**

**Ho, Tran; Mohan, Mahendra Kothottil; Köster, Carmen; Järvik, Oliver; Kulp, Maria; Karpichev, Yevgen** Baltic Polymer

Symposium 2025 : 23d International Scientific Conference BPS 2025 "Baltic Polymer Symposium 2025" : Book of abstracts 2025 / p.

83 <http://woodval.taltech.ee/wp-content/uploads/2025/07/BPS2025-Book-of-abstracts.pdf>

#### **Crystal structure and magnetic properties of Peacock- Weakley type polyoxometalates Na<sub>9</sub>[Ln(W<sub>5</sub>O<sub>18</sub>)<sub>2</sub>] (Ln = Tm, Yb):**

### Rare example of Tm(III) SMM

Mariichak, Oleksandra; **Kaabel, Sandra; Karpichev, Yevgen**; Rozantsev, Georgiy M.; Radio, Serhii V.; Pichon, Celine  
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### Degradation of organophosphate pesticides using pyridinium based functional surfactants

Sharma, Rahul; Gupta, Bhanushree; **Karpichev, Yevgen; Gathergood, Nicholas** ACS sustainable chemistry & engineering 2016 / p. 6962-6973 : ill <https://doi.org/10.1021/acssuschemeng.6b01878> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### Design of acetylcholinesterase reactivators and poly(ADP-ribose) polymerase inhibitors based on hydroxamic acids and oximes = Hüdroksaamhapetel ja oksiimidel pöhinevate atsetüülkoliinesteraasi reaktivaatorite ja polü(ADP-riboos)polümeraasi inhibiitorite disain

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[https://www.ester.ee/record=b5645561\\*est](https://www.ester.ee/record=b5645561*est)

### Design of AChE reactivators using versatile molecular platforms and nanodiamonds

**Karpichev, Yevgen; Kapitanov, Illia; Bondar, Denys**; Mochalin, Vadym 15th International Meeting on Cholinesterases, 9th International Conference on Paraoxonases : Programme and Book of Abstracts 2024 / p. 92 [https://www.chapon2024.com/wp-content/uploads/2024/09/CHEPON2024\\_Book\\_of\\_Abstracts.pdf](https://www.chapon2024.com/wp-content/uploads/2024/09/CHEPON2024_Book_of_Abstracts.pdf)

### Design of new phosphorylated amphiphilic calix[4]arenes

**Silenko, Oleg; Nagappa, Nandish M.**; Cherenok, Sergey; Kalchenko, Vitaly I.; **Karpichev, Yevgen** GSFMT Scientific Conference 2021 : Tartu, June 14-15, 2021 : abstracts 2021 / P 10 [https://fmdtk.ut.ee/wp-content/uploads/2021/06/GSFMT\\_abstractbook\\_2021.pdf](https://fmdtk.ut.ee/wp-content/uploads/2021/06/GSFMT_abstractbook_2021.pdf)

### Design of sustainable ionic liquids based on L-phenylalanine and L-alanine dipeptides : synthesis, toxicity and biodegradation studies

**Kapitanov, Illia; Raba, Grete**; Špulak, Marcel; **Vilu, Raivo; Karpichev, Yevgen; Gathergood, Nicholas** Journal of Molecular Liquids 2023 / art. 121285 <https://doi.org/10.1016/j.molliq.2023.121285> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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Suk, Morten; Haiß, Annette; Westphal, Janin; Jordan, Andrew; Kellett, Andrew; **Kapitanov, Illia; Karpichev, Yevgen; Gathergood, Nicholas**; Kümmerer, Klaus Green chemistry 2020 / p. 4498-4508 <https://doi.org/10.1039/D0GC00918K> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### Designing mineralisable building blocks for greener solvents

**Raba, Grete; Kapitanov, Illia; Karpichev, Yevgen; Vilu, Raivo; Gathergood, Nicholas** 8th IUPAC International Conference of Green Chemistry : Shangri-La Hotel, Bangkok, Thailand, 9-14 Sept 2018 : poster presentation abstracts 2018 / p. 87  
[http://www.greeniupac2018.com/download/8th%20IUPAC%20ICGC%202018\\_Program%20&%20Abstract%20Book\\_Poster%20Abstract.pdf](http://www.greeniupac2018.com/download/8th%20IUPAC%20ICGC%202018_Program%20&%20Abstract%20Book_Poster%20Abstract.pdf)

### Designing N-substituted arylhydroxamic acids as catalytic acetylcholinesterase reactivators

**Bondar, Denys; Velihina, Yevheniia; Karpichev, Yevgen** GSFMT Scientific Conference 2020 : Tallinn, February 4-5, 2020 : abstracts 2020 / p. 16 <http://fmdtk.ut.ee/wp-content/uploads/2020/01/GSFMT2020.pdf>

### Development of Functional Composite Cu(II)-Polyoxometalate/PLA with Antimicrobial Properties

**Duvanova, Ella; Krasnou, Illia; Krumme, Andres; Mikli, Valdek; Rozantsev, Georgiy M.; Radio, Serhii V.; Karpichev, Yevgen** Molecules 2022 / art. 2510 <https://doi.org/10.3390/molecules27082510> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### Developments in enzyme and microalgae based biotechniques to remediate micropollutants from aqueous systems - a review

**Usmani, Zeba**; Sharma, Minaxi; **Lukk, Tiit; Karpichev, Yevgen** Critical reviews in environmental science and technology 2022 / p. 1684-1729 <https://doi.org/10.1080/10643389.2020.1862551> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### Direct conversion of lignin into antibacterial carbon nanomaterials without organofunctionalization

**Mikhrallieva, Albina; Bragina, Olga; Zaitsev, Volodymyr; Karpichev, Yevgen** Baltic Polymer Symposium 2025 : 23d International Scientific Conference BPS 2025 "Baltic Polymer Symposium 2025" : Book of abstracts 2025 / p. 52 <http://woodval.taltech.ee/wp-content/uploads/2025/07/BPS2025-Book-of-abstracts.pdf>

### (Eco)toxicological and Antibacterial Effects of 24 L-Phenylalanine Derived Ionic Liquids against Marine and Clinically Relevant Bacteria

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[https://www.unive.it/pag/fileadmin/user\\_upload/extra/SSGC/documenti/Book\\_of\\_abstracts\\_per\\_website\\_23\\_July.pdf](https://www.unive.it/pag/fileadmin/user_upload/extra/SSGC/documenti/Book_of_abstracts_per_website_23_July.pdf)

## **Effect of structure of polycyclic aromatic substrates on solubilization capacity and size of cationic monomeric and gemini 14-s-14 surfactant aggregates**

Serdyuk, Anna A.; Mirgorodskaya, Alla B.; **Kapitanov, Illia; Gathergood, Nicholas; Karpichev, Yevgen** Colloids and surfaces A : physicochemical and engineering aspects 2016 / p. 613-622 : ill <https://doi.org/10.1016/j.colsurfa.2016.09.068> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Enhanced Detection of Biological Warfare Agents Using MALDI-ToF Mass Spectrometry Integrated with Artificial Intelligence**

Bentahir, Mostafa; Dolias, Georges; **Karpichev, Yevgen**; Ioannidis, Konstantinos; **Udal, Andres**; Fernandez Velasco, Leticia Medical Biodefense Conference 2025

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Pandya, Subhashree Jayesh; **Kapitanov, Illia; Usmani, Zeba**; Sahu, Reshma; Sinha, Deepak; **Gathergood, Nicholas**; Ghosh, Kallol K.; **Karpichev, Yevgen** Journal of molecular liquids 2020 / art. 112857 <https://doi.org/10.1016/j.molliq.2020.112857> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **A greener approach to hydrolyse ionic liquids**

**Sudheer, Surya; Raba, Grete; Kapitanov, Illia; Karpichev, Yevgen; Vilu, Raivo; Gupta, Vijai Kumar; Gathergood, Nicholas** Basic & Clinical Pharmacology & Toxicology 2018 International Conference on Biotechnology and Bioengineering (ICBB2018) : 24-26 October 2018, Budapest, Hungary 2018 / p. 21 <https://doi.org/10.1111/bcpt.13165>

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## **Hydroxamic acids as PARP-1 inhibitors : molecular design and anticancer activity of novel phenanthridinones**

**Bondar, Denys; Bragina, Olga**; Lee, Ji Young; Semenyuta, Ivan; **Järving, Ivan**; Brovarets, Volodymyr; Wipf, Peter; Bahar, Ivet; **Karpichev, Yevgen** Helvetica chimica acta 2023 / art. e202300133, 26 p. : ill <https://doi.org/10.1002/hlca.202300133> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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**Bondar, Denys; Karpichev, Yevgen** Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 10 l [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

## **Ionic liquid based pretreatment of lignocellulosic biomass for enhanced bioconversion**

**Usmani, Zeba**; Sharma, Minaxi; Gupta, Pratishtha; **Karpichev, Yevgen; Gathergood, Nicholas**; Bhat, Rajeev; **Gupta, Vijai Kumar** Bioresource technology 2020 / art. 123003, 13 p <https://doi.org/10.1016/j.biortech.2020.123003> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Ligniin – puidutööstuse prügist tulevikumaterjaliks**

**Vaaks, Eveliis** Trialoog 2025 <https://trialoog.taltech.ee/ligniin-puidutoostuse-prugist-tulevikumaterjaliks/>

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**Mohan, Mahendra Kothottil; Karpichev, Yevgen** Baltic Polymer Symposium 2025 : 23d International Scientific Conference BPS 2025“Baltic Polymer Symposium 2025” : Book of abstracts 2025 / p. 38 <http://woodval.taltech.ee/wp-content/uploads/2025/07/BPS2025-Book-of-abstracts.pdf>

## **Mixed oxime-functionalized IL/16-s-16 Gemini surfactants system: physicochemical study and structural transitions in the presence of promethazine as a potential chiral pollutant**

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## **Molecular interactions between novel synthesized biodegradable ionic liquids with antidepressant drug**

Banjare, Manoj Kumar; Behera, Kamalakanta; Banjare, Ramesh Kumar; Pandey, Siddharth; Ghosh, Kallol K.; **Karpichev, Yevgen** Chemical Thermodynamics and Thermal Analysis 2021 / art. 100012, 12 p <https://doi.org/10.1016/j.ctta.2021.100012>

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## **New antimicrobial CU(II)-polyotungstate/polylactic acid films**

**Duvanova, Ella; Krasnou, Illia; Knyzhnyk, Ivan; Radio, Serhii V.; Karpichev, Yevgen** Graduate School of Functional Materials and Technology (GSFMT) Scientific Conference : abstracts 2022 / 15 l. [Graduate School of Functional Materials and Technology \(GSFMT\) Scientific Conference 2022](#)

## **A new generation of N-heterocyclic carbene (NHC) gold-selenolato complexes as potent anticancer agents: distinct**

### **synthetic routes and evaluation in 2D and 3D cancer models**

Arnaut, Pierre; Bracho Pozsoni, Nestor; **Bondar, Denys**; Lippmann, Petra; Boschuk, Susanne; Semenyuta, Ivan; Bhandary, Subhrajyoti; Van Hecke, Kristof; **Karpichev, Yevgen**; Cavarzerani, Enrico Chemical Science 2025 / p. 17221-17231  
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**Bondar, Denys**; **Kapitanov, Illia**; Pulkrabkova, Lenka; Soukup, Ondrej; Jun, Daniel; Botelho, Fernanda D.; Franca, Tanos C.C.; Kuca, Kamil; **Karpichev, Yevgen** Chemico-Biological Interactions 2022 / art. 110078, 13 p. : ill  
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### **Optimizing post-treatment strategies for enhanced oxygen reduction/evolution activity in Co–N–C electrocatalyst**

Yusibova, Gulnara; Ping, Kefeng; Käärik, Maike; Leis, Jaan; Aruväli, Jaan; Šmits, Krišjānis; Käämbre, Tanel; Kisand, Vambola; **Karpichev, Yevgen**; Tammeveski, Kaiko; Kongi, Nadezda International Journal of Hydrogen Energy 2024 / p. 398-406  
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### **Oxime functionalized surfactants in pH-responsive mixed micellar assemblies : physicochemical properties and esterolytic reactivity**

**Kapitanov, Illia**; Mirgorodskaya, Alla B.; Zakharova, Lucia Y.; **Gathergood, Nicholas**; **Karpichev, Yevgen** Kyiv-Toulouse : IXth International Chemistry Conference "Kyiv-Toulouse" dedicated to the 100th anniversary of Fedir Babichev = IXth Conference Internationale de Chimie "Kyiv-Toulouse" dedie au 100eme anniversaire de Fedir Babichev : (Kyiv, 4-9 June 2017) : materials of reports and performances 2017 / p. 131

### **Oxime-functionalized nanodiamonds as a platform for treatment of organophosphate poisoning**

**Karpichev, Yevgen**; **Bondar, Denys**; **Starkov, Pavel**; Heinmaa, Ivo Artificial Intelligence for Material Design, Processing and Characterizations November 21 - November 30, 2020 : SYMPOSIUM S.CT01 : abstract book 2020 / S.NM01.10.06, p. 658 [Meeting abstracts](#)

### **Physicochemical properties and esterolytic reactivity of oxime functionalized surfactants in pH-responsive mixed micellar system**

**Kapitanov, Illia**; Mirgorodskaya, Alla B.; Valeeva, Farida G.; **Gathergood, Nicholas**; **Karpichev, Yevgen** Colloids and surfaces A : physicochemical and engineering aspects 2017 / p. 143-159 : ill <https://doi.org/10.1016/j.colsurfa.2017.04.039> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Poly(ADP-Ribose) polymerase (PARP) inhibitors for cancer therapy: Advances, challenges, and future directions**

**Bondar, Denys**; **Karpichev, Yevgen** Biomolecules 2024 / art. 1269 <https://doi.org/10.3390/biom14101269> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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**Usmani, Zeba**; Sharma, Minaxi; **Karpichev, Yevgen**; **Gathergood, Nicholas**; Bhat, Rajeev; Gupta, Vijai Kumar Recent developments in bioenergy research 2020 / p. 393-413 <https://doi.org/10.1016/B978-0-12-819597-0.00021-0>

### **Regioselective functionalization of the para-positions at the Calix[4]arene upper rim**

Yesypenko, Oleksandr A.; **Trybrat, Oleksandr**; **Karpichev, Yevgen**; Kalchenko, Vitaly I. Current organic chemistry 2023 / p. 510-525 <https://doi.org/10.2174/1385272827666230524120812> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Roheline keemia pakkus lahenduse tugevate närvimürkide tõrjumiseks = Эстонские ученые разрабатывают "зеленый" антидот против "Новичка" и VX**

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### **Structure modification and applications of sustainable ionic liquids-based molecular platforms = Jätkusuutlike ioonvedelikepõhiste molekulaarsete platvormide struktuuri muutmine ja rakendused**

**Kapitanov, Illia** 2024 [https://www.ester.ee/record=b5712448\\*est](https://www.ester.ee/record=b5712448*est) <https://doi.org/10.23658/taltech.66/2024>  
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### **Supramolecular systems based on novel amphiphiles and a polymer : aggregation and selective solubilization**

Gabdrakhmanov, Dinar; Samarkina, Darya; Krylova, Evgeniya; **Kapitanov, Illia**; **Karpichev, Yevgen** Journal of surfactants and detergents 2019 / p. 865-874 : ill <https://doi.org/10.1002/jsde.12257> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Surface active ionic liquids (SAILs) : to squeeze between biodegradability and toxicity constrains**

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### **Sustainable formulations from biomass : making lignin processing greener**



**Sustainable ionic liquids-based molecular platforms for designing acetylcholinesterase reactivators**

**Kapitanov, Illia; Karpichev, Yevgen;** Gathergood, Nicholas; Spulak, Marcel; Pour, Milan; Soukup, Ondrej; Marek, Jan; Jun, Daniel; Novak, Martin; Diz de Almeida, Joyce S. F.; Costa Franca, Tanos C.; Kuca, Kamil *Chemico-Biological Interactions* 2023 / art. 110735 <https://doi.org/10.1016/j.cbi.2023.110735> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Sustainable molecular platforms based on L-phenylalanine derivatives : from ionic liquids to systems for biomedical applications**

**Kapitanov, Illia; Karpichev, Yevgen** Current chemical problems (CCP-2024) : book of abstracts 2024 / p. 79

**Sustainable phenylalanine-derived sails for solubilization of polycyclic aromatic hydrocarbons**

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**Synergistic antibacterial effect of copper and silver nanoparticles and their mechanism of action**

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