## Content information on both local and international scholarly works created by staff affiliated with the organization over the past 20 years

		Personal	data		Scientific achievements / pro	oductivity, pul	olished scientific papers (title	e of the paper, date of pub	lication, publishing house)	Summary (up to 300 words)	The web address of the scientific paper and the PDF (electronic) file on a digital storage media (CD / DVD)
# ID number #	Surname	Name	Date of birth (day / month / year)	Scientific or academic degree (Doctor of Science or Academic Doctor of Science)	Monograph	Handbook	Research articles in high impact factor and local Scientific Journals	Publication in Scientific Conference Proceedings Indexed in Web of Science and Scopus	Publication Preparation Format (State Target Program / Grant Project / Contract)		
1 01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. Research Journal of Chemistry and Environment. 2021. Publishing: International Congress of Chemistry and Environment.		Grant Project	Antibiotics residues are considered to be anthropogenic environmental pollutants and represent a serious danger to living organisms. Antibiotics residues in the environment, even in very small trace level amounts, cause resistance in bacterial populations, which inevitably reduce their therapeutic effectiveness against infectious diseases. Nowadays, antibiotics are found in soil, food, plants on the surface, in wastewaters and potable water. The presence of these substances is clearly associated with a hazardous risk to human health and requires research to prevent their appearance and spread in the environment. The aim of the work was to study the adsorption properties of natural and modified clinoptilolite in relation to $\beta$ -lactam broad-spectrum antibiotic namely ceftriaxone from the group of cephalosporins from aqueous solutions as a model of wastewaters as well as to develop an analytical method for estimation of ceftriaxone content in the above-mentioned solutions using high performance liquid chromatography (HPIC). Based on the results obtained, the possibility of using natural zeolites for adsorptive treatment of wastewater is considered. This will be allowed to solve the problem of the occurrence of antibiotic pharmaceuticals into the aquatic environment with lower costs. $C$ 2021 World Research Association. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2- s2.0-85105487587&norjin-resultsist&sort-plf- f&src-s&srt-l-Melikishvili-Institute-of-Physical+an d-Organic-tchemistry&sid=491018437873eaaae22
2 01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. Research Journal of Chemistry and Environment. 2021. Publishing: International Congress of Chemistry and Environment.		Grant Project	Antibiotics residues are considered to be anthropogenic environmental pollutants and represent a serious danger to living organisms. Antibiotics residues in the environment, even in very small trace level amounts, cause resistance in bacterial populations, which inevitably reduce their therapeutic effectiveness against infectious diseases. Nowadays, antibiotics are found in soll, food, plants on the surface, in wastewaters and potable water. The presence of these substances is clearly associated with a hazardous risk to human health and requires research to prevent their appearance and spread in the environment. The aim of the work was to study the adsorption properties of natural and modified clinoptibilitie in relation to β-lactan broad-spectrum antibiotic namely certriaxone from the group of cephalosporins from aqueous solutions as a model of wastewaters as well as to develop an analytical method for estimation of certriaxone content in the above-mentioned solutions using high performance liquid chromatography (HPLC). Based on the results obtained, the possibility of using natural zoolites for adoptive treatment of wastewater is considered. This will be allowed to solve the problem of the occurrence of antibiotic pharmaceuticals into the aquatic environment with lower costs. © 2021 [World Research Association. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2- s2.0-85.105487587&migin-resultsist&sort-plf- f&scrs=s&st1=Melikishvili-Institute-of-Physical+an d-Organic-themistry&sid=1910.B437/8778eaae22
3 01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. Research Journal of Chemistry and Environment. 2021. Publishing: International Congress of Chemistry and Environment.		Grant Project	Antibiotics residues are considered to be anthropogenic environmental pollutants and represent a serious danger to living organisms. Antibiotics residues in the environment, even in very small trace level amounts, cause resistance in bacterial populations, which inevitably reduce their therapeutic effectiveness against infectious diseases. Nowadays, antibiotics are found in soil, food, plants on the surface, in wastewaters and potable water. The presence of these substances is clearly associated with a hazardous risk to human health and requires research to prevent their appearance and spread in the environment. The aim of the work was to study the adsorption properties of natural and modified (inaptibilitie in relation to β-lactam broad-spectrum antibiotic namely ceftriaxone from the group of cephalosporins from aqueous solutions as a model of wastewaters as well as to develop an analytical method for estimation of ceftriaxone content in the above-mentioned solutions using high performance liquid chromatography (HPLC). Based on the results obtained, the possibility of using natural zeolites for adsorptive treatment of wastewater is considered. This will be allowed to solve the problem of the occurrence of antibiotic pharmaceuticals into the aquatic environment with lower costs. © 2021 [World Research Association. All 11/ght reserved.	https://www.scopus.com/record/display.uri?eid=2- \$2.0.85105487587&origin-resultsliet&sort-plf- @ser=s&rt1-Melikishvili-Institute-of-Physical-an d-Organics-Chemistry&did=40018437077&easae22
4 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science			Effect of clinoptilolite acid activation on certriaxons sorption from wastewaters. Research Journal of Chemistry and Environment. 2021. Publishing: International Congress of Chemistry and Environment.		Grant Project	Antibiotics residues are considered to be anthropogenic environmental pollutants and represent a serious danger to living organisms. Antibiotics residues in the environment, even in very small trace level amounts, cause resistance in bacterial populations, which inevitably reduce their therapeutic effectiveness against infectious diseases. Nowadays, antibiotics are found in soil, food, plants on the surface, in wastewaters and potable water. The presence of these substances is clearly associated with a hazardous risk to human health and requires research to prevent their appearance and spread in the environment. The aim of the work was to study the adoption properties of natural and modified clinoptibilite in relation to β-lactam broad-spectrum antibiotic namely certriaxone from the group of exphalosporins from aqueous solutions as a model of wastewaters as well as to develop an analytical method for estimation of certriaxone content in the above-mentioned solutions using high performance liquid chromatography (HPIC). Based on the results obtained, the possibility of using natural zeolites for adsorptive treatment of wastewater is considered. This will be allowed to solve the problem of the occurrence of antibiotic pharmaceuticals into the aquatic environment with lower costs. © 2021 World Research Association. All rights reserved.	
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7	01024048913	Tsintskaladze	Giorgi	31.1.1950		Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. Research Journal of Chemistry and Environment. 2021. Publishing: International Congress of Chemistry and Environment.
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15	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Effects of graphene on morphology, fracture toughness, and electrical conductivity of titanium dioxide. Diamond and Related Materials. 2021. Elsevier B.V.	Grant Project
16	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Formation of Highly Dispersed Faujusites in Natural Aluminosilicate Gels. Protection of Metals and Physical Chemistry of Surfaces. 2021. Pleiades Publishing, Ltd.	Grant Project
17	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. Protection of Metals and Physical Chemistry of Surfaces. 2021. Pleiades Publishing, Ltd.	Grant Project
18	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Formation of Highly Dispersed Faujusities in Natural Aluminosilicate Gels. Protection of Metals and Physical Chemistry of Surfaces. 2021. Pleiades Publishing, Ltd.	Grant Project
19	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. Protection of Metals and Physical Chemistry of Surfaces. 2021. Pleiades Publishing, Ltd.	Grant Project
20	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Formation of Highly Dispersed Faujusites in Natural Aluminosilicate Gels. Protection of Metals and Physical Chemistry of Surfaces. 2021. Pleiades Publishing, Ltd. On modeling of synthesis	Grant Project
21	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	process of bron carbide based nancomposites. Condensed Matter. 2021. Multidisciplinary Digital Publishing Institute (MDPI).	Grant Project

This study reports the role of graphene in improving the mechanical and electrical properties of TiO2/graphene nanoplatelets (GNPs) composite. Graphene oxide (GO), as a precursor was used with varying concentrations of 0, 0.5, 1, and 2 wt%. The GO was being reduced simultaneously with the TiO2 matrix, providing uniform distribution of rGO nanoplatelets among the matrix particles. Spark plasma sintering technique (SPS) was used for sintering initial powder of the TiO2/rGO composite. Alongside the sintering of the powder, SPS induces rGO transformation to graphene nanoplatelets at high temperatures and provides the densification of TiO2/GNPs as a final composition. Morphology and microstructure of prepared samples were characterized by XRD and SEM. Density and microstructural studies were used to determine the sintering quality and compared to the theoretical density of TiO2 and TiO2/GNPs composites. Vickers microhardness method was used to calculate hardness and fracture toughness depending on the crack propagation alongside the indentations. The two-probe method was applied to study the electrical conductivity by resistance measurement. The results indicated that there was a significant change in the structural and physical properties of TiO2/GNPs composites. The rGO takes an important role as a grain growth  $inhibitor, acting as the barrier for crack propagation and leading to increased fracture toughness. Thus, GNPs can be \\ \underline{0c184952702\$sot=b\&sd$ considered as a good reinforcement for titanium dioxide ceramic in order to improve the material's brittleness and electrical conductivity without adversely affecting its microhardness.

The article considers the hydrothermal formation of micrometric crystals of zeolite type FAU in aluminosilicate gels obtained from water suspension of natural phillipsite, treated with hydrochloric acid, mixed with sodium hydroxide, and followed by aging during several days at room temperature. At a high concentration of sodium in the reaction mixture, zeolite X with a high aluminum content (Si/Al = 1.4) is formed, having a high specific surface area (590 m2/g) and micropore volume (0.3 cm3/g), as well as a system of cylindrical pore channels (0.28 cm3/g) with an average diameter of 55 nm. Crystallization of a diluted gel with an average sodium content leads to the formation of <a href="mailto:s2.0-85105926472&origin=resultslist&sort=plf-splitch:spli zeolite X with a higher silicon content (Si/Al = 2.5), having a lower specific surface area (440 m2/g) and micropore [8src=8st1=Melikishvili+Institute+of+Physical+an volume (0.23 cm3/g), and irregular system of mesopores (0.15 cm3/g) with a diameter of 20-30 nm. The secondary porous network ensures the delivery of reagents to active sites on the surface and determines the possibilities of using the obtained materials as catalysts, especially since they have a fairly high ion exchange capacity and can be easily modified by the introduction of transition metals.

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Nanocomposites based on boron carbide B4C are hard materials with wide field of applications in modern technologies. A system of first-order ordinary differential equations that simulates the process of chemical synthesis of nanopowders of B4C-TiB2 compositions containing titanium diboride (TiB2) as an additional phase is suggested <a href="https://d-chemistry&sid=f491018437f073eaaae22">d+Organic+Chemistry&sid=f491018437f073eaaae22</a> and resolved numerically for a typical ratio of reaction constants. Reagents and products concentrations are found as 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M time-functions. In this way, the optimal route of production technology of boron carbide-based nanomaterials can be elikishvili+Institute+of+Physical+and+Organic+Che identified

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							Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice	
					Four Valuable Bioactive		concentrates and jams production present rich and promising sources of such valuable bioactive compounds as	
					Compounds Obtained from		essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food	
					Citrus Waste Using		industries. In the present research, two-step ultrasound-assisted extraction method for simultaneous obtaining of	
					Sequential Two-Step		four natural products (essential oil containing D-limonene, pectin, hesperidin and beta-carotene) from citrus waste	
					Ultrasound-Assisted		was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-	nttps
					Extraction Method.		limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to	2.0-
					Bulletin of the Georgian		50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials	&src
					National Academy of		varies from 25.6μg/g to 29.9μg/g for tangerine waste and 39.5μg/g to 42.3μg/g for orange waste. Hence, the sequence defined the description of the sequence described by the	
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							Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice	
					Four Valuable Bioactive		concentrates and jams production present rich and promising sources of such valuable bioactive compounds as	
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					Citrus Waste Using		industries. In the present research, two-step ultrasound-assisted extraction method for simultaneous obtaining of	
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					Citrus Waste Using Sequential Two-Step		industries. In the present research, two-step ultrasound-assisted extraction method for simultaneous obtaining of four natural products (essential oil containing D-limonene, pectin, hesperidin and beta-carotene) from citrus waste	
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							The present paper reports on the synthesis and structure of bis (2-(diethylamino)-N-(2,6-dimethylphenyl) acetamide)	
							or bis(lidocaine) tetrachloridocuprate(II). The complex with the formula (C14H23ON2)2CuCl4 (or (LidH)2[CuCl4])	
							crystallizes in the monoclinic space group P21/c with a = 15.7831(2), b = 24.2992(2), c = 17.8748(2) Å, $\beta$ =	
					Structure of bis(Lidocaine)		104.874(1)°,V = 6625.58(13) Å3, Z = 8, and Dc = 1.355 Mg/m3. The coordination of the Cu2+ ions with chlorine	ittps
					tetrachloridocuprate(II).  Bulletin of the Georgian		atoms generates two differently distorted tetrahedral anions [CuCl4]2-, while four protonated cations LidH+ remain in an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-H···Cl type to form	
					National Academy of			
					Sciences. 2021. Georgian		the 2((LidH)2[CuCl4]) molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of delay hydrogen bonds of the type N-H···O and N-H···Cl. each dimer is connected with four neighboring dimers, resulting	
					National Academy of		in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the a crystallographic	
27 01009001196	Amirkhanashvili	V-h-	5 08 1954	Doctor of Science	Sciences	Grant Project	axis in the ab planes located at a distance of 10.67 Å from each other.	IIKIS
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							The present paper reports on the synthesis and structure of bis(2-(diethylamino)-N-(2,6-dimethylphenyl)acetamide)	
							or bis(lidocaine) tetrachloridocuprate(II). The complex with the formula (C14H23ON2)2CuCl4 (or (LidH)2[CuCl4])	
					Structure of bis(Lidocaine)		crystallizes in the monoclinic space group P21/c with $a = 15.7831(2)$ , $b = 24.2992(2)$ , $c = 17.8748(2)$ Å, $\beta = 104.874(1)^*$ , $V = 6625.58(13)$ Å3, $Z = 8$ , and $Dc = 1.355$ Mg/m3. The coordination of the Cu2+ ions with chlorine	
					Structure of bis(Lidocaine) tetrachloridocuprate(II).		atoms generates two differently distorted tetrahedral anions [CuCl4]2-, while four protonated cations LidH+ remain	ps
					tetrachloridocuprate(II).  Bulletin of the Georgian		in an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-HCl type to form	
					National Academy of		the 2((LidH)2[CuCl4]) molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of	
					Sciences, 2021. Georgian		hydrogen bonds of the type N–H···O and N–H···Cl, each dimer is connected with four neighboring dimers, resulting	
					National Academy of		in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the a crystallographic	
28 01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Sciences.	Grant Project		mistr
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32 01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. Bulletin of the Georgian National Academy of Sciences. 2021. Georgian National Academy of Sciences.	Grant Project
33 01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Properties of Georgian natural heulandite-clinoptiolite and its silver, copper and zinc-containing forms. Bulletin of the Georgian National Academy of Sciences. 2021. Georgian National Academy of Sciences.	Grant Project

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The present paper reports on the synthesis and structure of bis(2-(diethylamino)-N-(2,6-dimethylphenyl)acetamide) or bis(lidocaine) tetrachloridocuprate(II). The complex with the formula (C14H23ON2)2CuCl4 (or (LidH)2[CuCl4]) crystallizes in the monoclinic space group P21/c with a = 15.7831(2), b = 24.2992(2), c = 17.8748(2)  $\mathring{A}$ ,  $\beta$  = 104.874(1)°, V = 6625.58(13) Å3, Z = 8, and Dc = 1.355 Mg/m3. The coordination of the Cu2+ ions with chlorine atoms generates two differently distorted tetrahedral anions [CuCl4]2-, while four protonated cations LidH+ remain \$2.0-85117845208&origin=resultslist&sort=plfin an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-H···Cl type to form  $\frac{f\&stc=s\&st1=Melikishvili+Institute+of+Physical+an}{f\&stc=s\&st1=Melikishvili+Institute+of+Physical+an}$ the 2((LidH)2[CuCl4]) molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of d+Organic+Chemistry&sid=f491018437f073eaaae22 hydrogen bonds of the type N-H···O and N-H···Cl, each dimer is connected with four neighboring dimers, resulting 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the a crystallographic elikishvili+Institute+of+Physical+and+Organic+Che axis in the ab planes located at a distance of 10.67 Å from each other.

The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tedzami zeolite deposit is being developed in Georgia. The rock samples taken from the Rkoni plot of that deposit have a zeolite phase content of up to 90%. According to the study, the zeolite phase belongs to the heulandite-clinoptilolite (HEU) type, which has a relatively low silicate modulus (Si/Al=3.6) and can be used as an ion exchanger. Silver-, copper-, and zinc-containing microporous materials are synthesized using ion-exchange reactions between preliminary acid-treated (0.025 N HCl) zeolite microcrystals and a salt of a corresponding transition metal in the solid phase followed by washing with distilled water. The adsorbent-ionexchangers synthesized in such way are characterized by X-ray energy dispersion spectra, powder X-ray diffraction patterns, and Fourier transform infra-red spectra. Obtained materials remain the zeolite crystal structure and contain https://www.scopus.com/record/display.uri/eid=2over 130 mg/g of silver, 65 mg/g of copper, and 30 mg/g of zinc. Prepared silver and copper-containing materials show bacteriostatic activity towards Gram negative bacterium Escherichia coli. Gram positive bacteria Staphylococcus aureus and Bacillus subtilis, fungal pathogenic yeast Candida albicans, and a fungus Aspergilus niger; d+Organic+Chemistry&sid=f491018437f073eaaae22 zinc-containing zeolite is active against Bacillus subtilis, weak against fungi and inactive against E coli and staphylococcus. The most active is a silver-containing zeolite, but from a practical point of view, the most promising elikishvili+Institute+of+Physical+and+Organic+Che for applications is copper-containing heulandite-clinoptilolite.

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In this paper, graphene oxide (GO) was obtained by oxidation of powdered graphite foil wastes (pGFW) at 0-40°C. Oxidizing reagents can easily penetrate the layers of graphite foil and thus, the intercalation or functionalizationoxidation processes may occur resulting in graphite oxide formation. The methods of synthesis of GO and its separation from the reaction mixture were partially corrected. GO was reduced, also, to the reduced graphene oxide (rGO) by using hydroiodic acid, ascorbic acid, zinc powder, hydrazine, and Alnus extract. Thermal treatment of GO d+Organic+Chemistry&sid=f491018437f073eaaae22 powders and GO films, obtained from pGFW was implemented at 20-300° C in air and at 20-1000° C under argon flow and in a vacuum. At high-temperature treatment (1000°C) of GO graphene was obtained with a defective

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We study the influence of dysprosium (III) oxides on the superconductivity properties of Hg-1223 material. Dysprosium-free Hg-1223 and dysprosium-doped HgBa2Ca2Cu3DyxO8+8 (x = 0.00-0.075 wt%) superconductors are Organic Chemistry&sid=4991018437f073eaaae220c1 synthesized by sealed quartz tube technique. Our results demonstrate that a presence of dysprosium oxide not only makes the Ba2Ca2Cu3Oy multiphase precursor more reactive and enhances the kinetics of the reaction, but also leads to the promotion of the high-Tc phase and enhancement of the transport critical current densities Jc.

Fine-grained boron carbide and metal boride composites are known for their superhardness, which is used in many industrial technologies. The introduction of binder components in free metallic (alloy) state and/or additional ceramic components can further improve the material mechanical properties by making it more dispersive. A new chemical method is proposed for the synthesis of the fine-grained powder complex composites boron carbide-titanium diboride-tungsten boride-cobalt (B4C-TiB2-WC-Co).

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43 0101500722	19 Barbakadze	Natia	13.09.1979	Academic Doctor of Science		Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. Materials Today: Proceedings. 2020. Elsevier Ltd.	Grant Project	additional annealing of the obtained powders at 800-1500 °C. Hot pressing of the complex ceramic powders at 1000- 1700 °C was realized by using the SPS method. It was established that at 600 °C there were formed WG3-x, Co3O-4, GO-0, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZriEZ, Orange of the Complex of the	s2.0- f&sr d+O
						Method of obtaining multicomponent fine-grained powders for boron carbide		additional annealing of the obtained powders at 800-1500 °C. Hot pressing of the complex ceramic powders at 1000- 1700 °C was realized by using the SPS method. It was established that at 600 °C there were formed WO3-x, Co3O4,	http: s2.0- f&sr d+O
44 0101702469	95 Sarajishvili	Ketevani	12.09.1959	Academic Doctor of Science		matrix ceramics production.  Materials Today: Proceedings. 2020. Elsevier Ltd.	Grant Project		0c18 eliki mist
45 0101203078	16 Korkia	Tamara	18.09.1964	Magister		Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. Materials Today: Proceedings. 2020. Elsevier Ltd.	Grant Project	a viscous paste of the mixture of ammonium paratungstate-zirco nium(IV) oxide-cobalt acetate tetrahydrate-sucrose- jamorphous boron at 200 °C in air and then at 600 °C in argon atmosphere for 2 h with the further grinding and additional annealing of the obtained powders at 800-1500 °C. Hot pressing of the complex ceramic powders at 1000- 1700 °C was realized by using the SPS method. It was established that at 600 °C there were formed WG3-x, CoSO4, dCO, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZrBZ,	http s2.0 f&sr d+O 0c18 eliki
46 0100201761	8 Chedia	Roin	13.03.1952	Academic Doctor of Science		Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. Materials Today: Proceedings. 2020. Elsevier Ltd.	Grant Project	additional annealing of the obtained powders at 800-1500 °C. Hot pressing of the complex ceramic powders at 1000- 1700 °C was realized by using the SPS method. It was established that at 600 °C there were formed WG3-x, Co304, dCO-Q, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C, formation of WC-CQ, ZrB2, B4C, and W2B5. Tungsten carbide was completely converted into tungsten boride. Structural-morphological	s2.0
.0 01022070	o Circum	Nom	10.00.1332	Total Country of Section	Extraction and analysis of oleanolic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique	2000 Blocket Rd.	Olim Tojec	The aim of the present study was to develop a simple, effective, eco-friendly, reproducible and high-yield two-stage	
47 6000300666	i9 Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020 Editura Academie! Romane/Publishing House of the Romanian Academy Extraction and analysis of oleanolic acid and ursolic acid from apple processing waste materials using	<b>.</b>	State Target Program	ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid be chromatographic (HPLC) method for obtaining isomeric triterpene caids – oleanolic caid (OA) and usoilc icaid (OX) as in the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and specific HPLC method was developed and validated with respect to robustness, specificity, linearity-range, accuracy, grecision and sensitivity. The effect of the nature and the volume of the extraction solvent, the extraction time and the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were ground.	f&sr d+O 0c18
48 0100601563	i5 Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	ultrasound-assisted extraction technique combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020 Editura Academiei Romane/Publishing House of the Romanian Academy Extraction and analysis of oleanolic acid and ursolic acid from apple processing beginning acid from apple processing acid from apple processing.		State Target Program	The aim of the present study was to develop a simple, effective, eco-friendly, reproducible and high-yield two-stage ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid (chromatographic (HPIC.) method for obtaining isomeric triterpene acids – oleanolic acid (OA) and ursoilc acid (UA) a in the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and specific HPIC. method was developed and validated with respect to robustness, specificity, linearity-range, accuracy, a precision and sensitivity. The effect of the nature and the volume of the extraction solvent, the extraction time and the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were ground.	f&sr d+O 0c18
0.0000		M.:	00.05.107		waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020 Editura Academiei Romane/Publishing House	,	G. T. J.	The aim of the present study was to develop a simple, effective, eco-friendly, reproducible and high-yield two-stage ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid hermoatographic (HPLC) method for obtaining isomeric triterpene acids – oleanolic acid (OA) and ursolic acid (UA) in the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and specific HPLC method was developed and validated with respect to robustness, specificity, linearity-range, accuracy, a precision and sensitivity. The effect of the nature and the volume of the extraction solvent, the extraction time and the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were	s2.0 f&sr d+O 0c18
49 0100901678	4 Zautashvili	Marine	03.05.1967	Academic Doctor of Science	of the Romanian Academy		State Target Program	found.	nist

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The paper presents a low-temperature method for the synthesis of tungsten boride containing ultra-fine powders of boron carbide matrix ceramics constituting an important class of superhard materials with diversity of industrial

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50	01009018959	Chkhaidze	Mariam	3.10.1968	Academic Doctor of Science	extraction and analysis of oleanolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020, Editura Academiei Romane/Publishing House of the Romanian Academy Extraction and analysis of oleanolic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020,		State Target Program
51	01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	Editura Academiei Romane/Publishing House of the Romanian Academy Extraction and analysis of oleanolic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. Revue Roumaine de Chimie. 2020, Editura Academiei		State Target Program
52	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Romane/Publishing House of the Romanian Academy	Modified clinoptilolite as a precursor for formation of silver nanoparticles-zeolite nanocomposition. International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM. 2020. International	State Target Program
53	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science		Multidisciplinary Scientific Geoconference	State Target Program
54	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsic. Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.		Grant Project
55	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.		Grant Project

Extraction and analysis of

The aim of the present study was to develop a simple effective, eco-friendly, reproducible and high-yield two-stage ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> chromatographic (HPLC) method for obtaining isomeric triterpene acids - oleanolic acid (OA) and ursolic acid (UA) \$2.0-85107878340&origin=resultslist&sort=plfin the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and 

[8src=8st1=Melikishvili+Institute+of+Physical+an] specific HPLC method was developed and validated with respect to robustness, specificity, linearity-range, accuracy,

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Oct84952702&sot=b&sdt=b&sl=63&s=AFFIL%28M the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were elikishvili+Institute+of+Physical+and+Organic+Che

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The aim of the present study was to develop a simple, effective, eco-friendly, reproducible and high-yield two-stage ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid https://www.scopus.com/record/display.uri/eid=2chromatographic (HPLC) method for obtaining isomeric triterpene acids – oleanolic acid (OA) and ursolic acid (UA) \$\frac{\$\sc{5.0-85107878340\&\text{origin=resultslist\&\scort=plf-}}{\scircle{\scircle{5.0-85107878340\&\text{origin=resultslist\&\scort=plf-}}} in the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and f8:src=s8:st1=Melikishvili+Institute+of+Physical+an specific HPLC method was developed and validated with respect to robustness, specificity, linearity-range, accuracy, d+Organic+Chemistry&sid=f491018437f073eaaae22 precision and sensitivity. The effect of the nature and the volume of the extraction solvent, the extraction time and 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were elikishvili+Institute+of+Physical+and+Organic+Che

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The aim of the present study was to develop a simple, effective, eco-friendly, reproducible and high-yield two-stage ultrasound-assisted extraction (UAE) procedure combined with quantitative determination high performance liquid https://www.scopus.com/record/display.uri?eid=2-in the crystalline dried powdered form from apple processing agro-industrial waste material. A rapid, sensitive and f8:src=s8:st1=Melikishvili+Institute+of+Physical+an specific HPLC method was developed and validated with respect to robustness, specificity, linearity-range, accuracy, d+Organic+Chemistry&sid=f491018437f073eaaae22 precision and sensitivity. The effect of the nature and the volume of the extraction solvent, the extraction time and 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M the sample size on the extraction efficiency were investigated. The optimal conditions for high-yield extraction were elikishvili+Institute+of+Physical+and+Organic+Che

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Purified natural clinoptilolite as well as clinoptilolite converted into hydrogen and sodium form have been contacted with 0.1 mol/L silver nitrate solution at a ratio solid to liquid equal to 1 to 20, in order to load silver ions (Ag+) on the zeolite support. It has been found that sodium modified clinoptilolite exchanged in highest degree Ag+ ions, followed by natural zeolite. Preliminary transformation of natural clinoptilolite into hydrogen form leads to decreasing of zeolite ability to bind Ag+ ions. The kinetics and thermodynamics of Ag+ ions uptake by zeolite have been studied. It has been found that the uptake process is best described by the pseudo-second order kinetic equation <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> for the three studied materials. Fitting the experimental data to the isotherms' equations has shown that the Langmuir isotherm best described the loading of Ag+ ions on the three investigated zeolites. Nanocomposites "silver f&src=s&st1=Melikishvili+Institute+of+Physical+an nanoparticles-zeolite"have been successfully formed by heating the Ag+-loaded zeolites at temperature 400 °C for 2 d+Organic+Chemistry&sid=f491018437f073eaaae22 hours in air. The obtained materials have been characterized by X-ray diffraction, BET, SEM and EDS analyses. The 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M current study has revealed that the chemical composition and morphology of synthesized nanocomposites are influenced by the modified form of clinoptilolite.

mistry%29&relpos=15&citeCnt=1&searchTerm= Zeolite adsorbents and ion exchangers containing bioactive metals and endowed with bactericidal properties are promising materials for water treatment and other environmental and medical applications. Phillipsite, analysing and synthetic zeolite A have a high ion exchange capacity and can be used to produce such materials. On their basis the silver-, copper-, and zinc-containing microporous materials have been prepared using ion-exchange reactions between zeolite microcrystals and a salt of the corresponding transition metal in the solid phase followed by washing with distilled water. Synthesized in such way adsorbent-ion-exchangers are characterized by chemical analysis, powder X-ray diffraction patterns, and Fourier transform infra-red spectra. Obtained materials preserve the zeolite crystal structure, modified phillipsites contain up to 230 mg/g of silver, 66 mg/g of copper, and 86 mg/g of zinc, modified analcimes contain up to 180 mg/g of silver, 50 mg/g of copper, and 62 mg/g of zinc, modified synthetic containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are

https://www.scopus.com/record/display.uri?eid=2s2.0-85098106524&origin=resultslist&sort=plfzeolites contain up to 290 mg/g of silver, 75 mg/g of copper, and 100 mg/g of zinc. Prepared silver-, copper-, and zinc- fester-sest1-Melikishvili+Institute+of+Physical+an containing materials show bacteriostatic action against Escherichia coli regardless of whether the number of released <a href="delta-Organic+Chemistry&sid=f491018437f073eaaae22">d+Organic+Chemistry&sid=f491018437f073eaaae22</a> ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silverelikishvili+Institute+of+Physical+and+Organic+Che Zeolite adsorbents and ion exchangers containing bioactive metals and endowed with bactericidal properties are

promising materials for water treatment and other environmental and medical applications. Phillipsite, analcime, and synthetic zeolite A have a high ion exchange capacity and can be used to produce such materials. On their basis the silver-, copper-, and zinc-containing microporous materials have been prepared using ion-exchange reactions between zeolite microcrystals and a salt of the corresponding transition metal in the solid phase followed by washing with distilled water. Synthesized in such way adsorbent-ion-exchangers are characterized by chemical analysis, powder X-ray diffraction patterns, and Fourier transform infra-red spectra. Obtained materials preserve the zeolite crystal structure, modified phillipsites contain up to 230 mg/g of silver, 66 mg/g of copper, and 86 mg/g of zinc, modified analcimes contain up to 180 mg/g of silver, 50 mg/g of copper, and 62 mg/g of zinc, modified synthetic zeolites contain up to 290 mg/g of silver, 75 mg/g of copper, and 100 mg/g of zinc. Prepared silver-, copper-, and zinc- fester-sest1=Melikishvili+Institute+of+Physical+an containing materials show bacteriostatic action against Escherichia coli regardless of whether the number of released <a href="d+d-rganic+Chemistry&sid=f491018437f073eaaae22">d+Organic+Chemistry&sid=f491018437f073eaaae22</a> ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silvercontaining synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites

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56	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.	Grant Project
57	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillippite. Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.	Grant Project
58	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipstic. Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.	Grant Project
59	01034003949	Japaridze	Leila	01.08.1944	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and their Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project
60	01004005857	Gabelia	Tsiala	18.06.1944	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and their Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project

Zeolite adsorbents and ion exchangers containing bioactive metals and endowed with bactericidal properties are promising materials for water treatment and other environmental and medical applications. Phillipsite, analcime, and synthetic zeolite A have a high ion exchange capacity and can be used to produce such materials. On their basis the silver-, copper-, and zinc-containing microporous materials have been prepared using ion-exchange reactions between zeolite microcrystals and a salt of the corresponding transition metal in the solid phase followed by washing with distilled water. Synthesized in such way adsorbent-ion-exchangers are characterized by chemical analysis, powder X-ray diffraction patterns, and Fourier transform infra-red spectra. Obtained materials preserve the zeolite crystal structure, modified phillipsites contain up to 230 mg/g of silver, 66 mg/g of copper, and 86 mg/g of zinc, modified analcimes contain up to 180 mg/g of silver, 50 mg/g of copper, and 62 mg/g of zinc, modified synthetic zeolites contain up to 290 mg/g of silver, 75 mg/g of copper, and 100 mg/g of zinc. Prepared silver-, copper-, and zinc- [ksrc=skst]=Melikishvilli+Institute+of+Physical+an containing materials show bacteriostatic action against Escherichia coli regardless of whether the number of released d+Organic+Chemistry&sid=f491018437f073eaaae22 ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silvercontaining synthetic zeolite, but from a practical point of view, the most promising materials for applications are

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Research goal was obtaining of ant stress, ecologically clean preparation with high bio-accessibility (bio-digestibility) and low toxicity intended for oral administration, and determination of prospects of its use in the area of live-stock farming (namely pig breeding). Manufacturing method of mentioned preparation is elaborated, which foresees the use of freshly-prepared iron carbonate paste synthesized via interaction of FeCl2-4H2O and NaHCO3 as a source of main active component - Iron (II); interaction of iron carbonate and cobalt chloride with complex formation with monosaccharide D-Fructose having hemo-stimulating properties; concentrating of complex solutions up to syrup consistency; its extraction from reaction area in the free state using alcohol-ether mixture, its treatment with acetone, ether, and drying in vacuum conditions; infraction of complex mixtures containing certain quantities of Fe(II) Fructose and Co(II) Fructose with aqueous Askan-clay (through ultrasonic material dispersion); preparation of water suspension, its drying, grinding, manufacturing of solid form of preparation for oral administration. The preparation manufactured by mentioned method contains (in mass %): Fe(II)- Fructoze 15.75-31.6. [Fe(II)- 3.75-7.50], Co(II)-Fructose 0.28, [Co(II)-0.07], natural Askan-clay 68.2-36.5. The offered method provides getting of highly digestible, functional targeted product with maximum content of Fe(II). Therapeutic and preventive efficiency of manufactured preparation was tested on animals under study, namely on store pigs (toxicity of preparation was preliminary tested on laboratory white rats). Experiment result was expressed in getting rid of complications (iron deficiency anemia, diarrhea-dyspepsia) caused by stress factors related to termination of breast feeding of store pigs and food change, as well as in their normal growth and development, normal blood chemistry values and live weight gain.

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https://www.scopus.com/record/display.uri?eid=2s2.0-85098106524&origin=resultslist&sort=plf- $\underline{0c184952702\&sot=b\&sdt=b\&sl=63\&s=AFFIL\%28M}$ elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=16&citeCnt=1&searchTerm=

https://www.scopus.com/record/display.uri?eid=2s2.0-85098106524&origin=resultslist&sort=plfelikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=16&citeCnt=1&searchTerm=

https://www.scopus.com/record/display.uri?eid=2s2.0-85095936549&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=17&citeCnt=0&searchTerm=

https://www.scopus.com/record/display.uri?eid=2s2 0-85095936549&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=17&citeCnt=0&searchTerm=

61	01024054940	Salukvadze	Eter	28.11.1945	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and their Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project
62	01024006731	Osipova	Nana	31.10.1944	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and their Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project
63	01010002570	Kvernadze	Tamar	16.03.1951	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and their Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project
64	01024001324	Lomtadze	Omar	26.02.1947	Academic Doctor of Science	Receipt of Medical and Preventive Preparations against Animal Anemia and theit Use in Pig Farm. International Journal of Veterinary Science. 2020. Unique Scientific Publishers	Grant Project

Descript of Medical and

Research goal was obtaining of ant stress, ecologically clean preparation with high bio-accessibility (bio-digestibility) and low toxicity intended for oral administration, and determination of prospects of its use in the area of live-stock farming (namely pig breeding). Manufacturing method of mentioned preparation is elaborated, which foresees the use of freshly-prepared iron carbonate paste synthesized via interaction of FeCl2-4H2O and NaHCO3 as a source of main active component - Iron (II): interaction of iron carbonate and cobalt chloride with complex formation with monosaccharide D-Fructose having hemo-stimulating properties; concentrating of complex solutions up to syrup consistency: its extraction from reaction area in the free state using alcohol-ether mixture, its treatment with acetone, ether, and drying in vacuum conditions; infraction of complex mixtures containing certain quantities of Fe(II) Fractose and Co(II) Fractose with aqueous Askan-clay (through ultrasonic material dispersion); preparation of water suspension, its drying, grinding, manufacturing of solid form of preparation for oral administration. The preparation manufactured by mentioned method contains (in mass %): Fe(II)- Fructoze 15.75-31.6. [Fe(II)- 3.75 7.50], Co(II)-Fructose 0.28, [Co(II)-0.07], natural Askan-clay 68.2-36.5. The offered method provides getting of highly digestible, functional targeted product with maximum content of Fe(II). Therapeutic and preventive efficiency of manufactured preparation was tested on animals under study, namely on store pigs (toxicity of preparation was preliminary tested on laboratory white rats). Experiment result was expressed in getting rid of complications (iron deficiency anemia, diarrhea-dyspepsia) caused by stress factors related to termination of breast feeding of store pigs and food change, as well as in their normal growth and development, normal blood chemistry

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Research goal was obtaining of ant stress, ecologically clean preparation with high bio-accessibility (bio-digestibility) and low toxicity intended for oral administration, and determination of prospects of its use in the area of live-stock farming (namely pig breeding). Manufacturing method of mentioned preparation is elaborated, which foresees the use of freshly-prepared iron carbonate paste synthesized via interaction of FeCl2-4H2O and NaHCO3 as a source of main active component - Iron (II); interaction of iron carbonate and cobalt chloride with complex formation with monosaccharide D-Fructose having hemo-stimulating properties; concentrating of complex solutions up to syrup consistency; its extraction from reaction area in the free state using alcohol-ether mixture, its treatment with acetone, ether, and drying in vacuum conditions; infraction of complex mixtures containing certain quantities of Fe(II) Fructose and Co(II) Fructose with aqueous Askan-clay (through ultrasonic material dispersion); preparation of water suspension, its drying, grinding, manufacturing of solid form of preparation for oral administration. The preparation manufactured by mentioned method contains (in mass %): Fe(II)- Fructoze 15.75-31.6, [Fe(II)- 3.75-7.50], Co(II)-Fructose 0.28, [Co(II)-0.07], natural Askan-clay 68.2-36.5. The offered method provides getting of highly digestible, functional targeted product with maximum content of Fe(II). Therapeutic and preventive efficiency of manufactured preparation was tested on animals under study, namely on store pigs (toxicity of preparation was preliminary tested on laboratory white rats). Experiment result was expressed in getting rid of complications (iron deficiency anemia, diarrhea-dyspepsia) caused by stress factors related to termination of breast feeding of store pigs and food change, as well as in their normal growth and development, normal blood chemistry values and live weight gain

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65	01009001196	Amirkhanashvili	Koba	5.08.1954	Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II). Bulletin of the Georgian National Academy of Sciences. 2020. Georgian National Academy of Sciences.	Grant Project
66	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II), Bulletin of the Georgian National Academy of Sciences 200, Georgian National Academy of Sciences.	Grant Project
67	01008019345	Zhorzholiani	Nani	07.05 1946	Academic Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II).  Bulletin of the Georgian  National Academy of  Sciences. 2020. Georgian  National Academy of  Sciences.	Grant Project
68	01009001196	Amirkhanashvili	Koba	5.08.1954	Doctor of Science	Re-refinement of crystal structure of bis(lidocaine) diaquatertathicoyanatonicke late(II). Chemistry Journal of Moldova. 2020. Institute of Chemistry, Academy of Sciences of Moldova.  Re-refinement of crystal	Grant Project
69	01008019345	Zhorzholiani	Nani	07.05 1946	Academic Doctor of Science	structure of bis(lidocaine) diaquatertathicoyanatonicke late(II). Chemistry Journal of Moldova. 2020. Institute of Chemistry, Academy of Sciences of Moldova.  Re-refinement of crystal	Grant Project
70	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	structure of bis(lidocaine) diaquatertarthiccynatonicke late(II). Chemistry Journal of Moldova. 2020. Institute of Chemistry, Academy of Sciences of Moldova. Simultaneous quantitative	Grant Project
71	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	smituaneous quantuative estimation of lisinopril and hydrochlorothiazide residues using HPLC for cleaning validation. Chemistry, Journal of Moldova. 2020. Institute of Chemistry, Academy of Sciences of Moldova.	State Target Program

The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)N-(2,6 $dimethyl phenyl) acetamide)\ tetrachlorozincate (II).\ The\ complex\ with\ the\ formula\ (C14H23ON2)2ZnCl4\ (or\ C14H23ON2)2ZnCl4\ (or\ C14H23ON2)ZnCl4\ (or\ C14H23ON2)ZnCl4\$  $(LidH)2ZnCl4), crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) ~ \mathring{A}, c = 19.3211(3)$  $\beta = 95.026(2)^{\circ}$ , V = 3297.10(10) Å3, Z = 4, and Dc = 1.366 Mg/m3. In molecular structure the coordination of the Zn2+ ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl42-, while two protonated cations LidH+ remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> two chlorine atoms with amido nitrogen atoms, the conformation of the flexible chain of lidocaine molecules provides for the formation of an intramolecular hydrogen bond between the protonated nitrogen atom of the aming fixerc=s&stl=Melikishvili+Institute+of+Physical+an group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular d+Organic+Chemistry&sid=f491018437f073eaaae22 hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in 0c1849527028sot=b8sdt=b8sl=638s=AFFIL%28M pairs 2[(LidH)2ZnCl4]. Each pair forms intermolecular N-H...Cl hydrogen bonds with four adjacent pairs, arranging elikishvili+Institute+of+Physical+and+Organic+Che them into endless sheets lying in the bc plane.

The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)N-(2,6dimethylphenyl)acetamide) tetrachlorozincate(II). The complex with the formula (C14H23ON2)2ZnCl4 (or (LidH)2ZnCl4), crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) Å,  $\beta$  = 95.026(2)°, V = 3297.10(10) Å3, Z = 4, and Dc = 1.366 Mg/m3. In molecular structure the coordination of the Zn2+ ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl42-, while two protonated cations LidH+ remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> two chlorine atoms with amido nitrogen atoms, the conformation of the flexible chain of lidocaine molecules provides for the formation of an intramolecular hydrogen bond between the protonated nitrogen atom of the amino fksrc=skstl=Melikishvili+Institute+of+Physical+an group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular d+Organic+Chemistry&sid=f491018437f073eaaae22 hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M  $pairs\ 2[(LidH)2ZnCl4].\ Each\ pair\ forms\ intermolecular\ N-H\cdotsCl\ hydrogen\ bonds\ with\ four\ adjacent\ pairs,\ arranging\\ \underline{elikishvili+Institute+of+Physical+and+Organic+Che}$ them into endless sheets lying in the bc plane.

The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)N-(2,6 $dimethyl phenyl) acetamide)\ tetrachlorozincate (II).\ The\ complex\ with\ the\ formula\ (C14H23ON2)2ZnCl4\ (or$ (LidH)2ZnCl4), crystallizes in the monoclinic space group P21/c with a = 8.8921(2), b = 19.2650(3), c = 19.3211(3) Å,  $\beta$  = 95.026(2)°, V = 3297.10(10) Å3, Z = 4, and Dc = 1.366 Mg/m3. In molecular structure the coordination of the Zn2+ ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl42-, while two protonated cations LidH+ remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by https://www.scopus.com/record/display.uri?eid=2two chlorine atoms with amido nitrogen atoms, the conformation of the flexible chain of lidocaine molecules provides for the formation of an intramolecular hydrogen bond between the protonated nitrogen atom of the amino f8:src=s&st1=Melikishvili+Institute+of+Physical+an group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular d+Organic+Chemistry&sid=f491018437f073eaaae22 hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M pairs 2[(LidH)2ZnCl4]. Each pair forms intermolecular N-H···Cl hydrogen bonds with four adjacent pairs, arranging elikishvili+Institute+of+Physical+and+Organic+Che them into endless sheets lying in the bc plane.

This paper reports on the synthesis and structure re-refinement of bis(lidocaine) diaquatetrathiocyanatonickelate(II). The compound with the formula (LidH)2[Ni(NCS)4(H2O)2], where Lid is (2-(diethylamino)-N-(2,6dimethylphenyl)acetamide, crystallizes in the monoclinic space group P21/c with a= 18.3509(5), b= 7.6532(2), c= 14 9585(4) A. B = 109 964 (2)°, V = 1974 57 (9) A3, and Z = 2. Coordination of the Ni2+ ion with thiocyanate ions and s2 0-85089230973&origin=results|ist&sort=nlfwater molecules generates the slightly distorted octahedral anion [Ni(NCS)4(H2O)2]2- with N-bonded thiocyanate [8src=s8st]=Melikishvili+Institute+of+Physical+an groups, while two protonated cations LidH+ remain in an outer coordination field. The anion and cations are associated through hydrogen bonds formed by sulphur atoms with amido nitrogen atoms; water molecules and an 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M amino nitrogen atom are involved in the formation of hydrogen bonds with sulphur atoms of neighbouring unit cells elikishvili+Institute+of+Physical+and+Organic+Che arranging alternating [Ni(NCS)4(H2O)2]2- anions and LidH+ cations into endless sheets lying in the ac plane.

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s2.0-85090836904&origin=resultslist&sort=plfmistry%29&relpos=18&citeCnt=1&searchTerm=

s2.0-85090836904&origin=resultslist&sort=plfmistry%29&relpos=18&citeCnt=1&searchTerm=

https://www.scopus.com/record/display.uri?eid=2d+Organic+Chemistry&sid=f491018437f073eaaae22 mistry%29&relpos=19&citeCnt=2&searchTerm=

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https://www.scopus.com/record/display.uri?eid=2f&src=s&st1=Melikishvili+Institute+of+Physical+a 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M mistry%29&relpos=20&citeCnt=2&searchTerm=

72	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. Nanotechnology Perceptions. 2019. Collegium Basilea.		Grant Project
73	01017024695	Sarajishvili	Ketevani	12.09.1959	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. Nanotechnology Perceptions. 2019. Collegium Basilea.		Grant Project
74	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. Nanotechnology Perceptions. 2019.  Collegium Basilea.		Grant Project
						Production of titanium- containing metal-ceramic composites based on boron carbide in the nanocrystalline state. Advances in Applied		
75	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Ceramics. 2019. Taylor & Francis	Analysis of the conditions of deformation's formation in	Grant Project
76	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science		lead selentide nanolayers. IOP Conference Series: Materials Science and Engineering. 2019. Institute of Physics Publishing	State Target Progr
77	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis of nitrogen- containing biodegradable polymer fertilizers with the prolongation action. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences		Grant Project

Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard \$2.0-85116371650&origin=results\|ist\|sort=p\|f\_-\| materials most widely used in current high technologies. However, the range of possible applications of these materials is narrowed because of boron carbide's brittleness and low resistance to cracking. This problem can be resolved by creating nanocrystalline structures from sufficiently finely dispersed starting materials. Several novel technological routes of direct chemical synthesis of finely dispersed boron carbide/metal diboride composite powders elikishvili+Institute+of+Physical+and+Organic+Che from liquid precursors are elaborated

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Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard \$2.0-85116371650&origin=resultslist&sort=plfmaterials most widely used in current high technologies. However, the range of possible applications of these materials is narrowed because of boron carbide's brittleness and low resistance to cracking. This problem can be resolved by creating nanocrystalline structures from sufficiently finely dispersed starting materials. Several novel technological routes of direct chemical synthesis of finely dispersed boron carbide/metal diboride composite powders elikishvili+Institute+of+Physical+and+Organic+Che from liquid precursors are elaborated.

The results of the study of the production technology, phase composition, structure and physico-mechanical properties of metal-ceramic materials based on boron carbide and their components are presented. Boron carbide was obtained by direct synthesis from chemical elements using amorphous boron and carbon black. By mechanical dispersion, solid reagents were converted into an ultrafine state. Using a chemical method, nanoscale (70-80 nm) boron carbide was synthesised from suspension solutions of amorphous boron and liquid hydrocarbons. Boron carbide-based metal-ceramic composite powder B 4 C-(Co-Ni-Ti) was obtained by mechanical dispersion of the constituent components. Based on results of studying of the temperature-dependence of wetting angle of boron carbide with Co-Ni-Ti metallic alloy, the compacting modes of metal-ceramic composite powders by plasma-spark sintering and hot pressing have been developed. The influence of the component content of the binder metal (allov) on some physico-mechanical properties (linear expansion coefficient, hardness, and bending strength) of hardmetalceramic materials based on boron carbide was studied. It was found that the optimum content of the metal component in the composite is ~ 25 wt-%. In the temperature range 300-600°C, the materials obtained are characterised by stable dimensional factors, since in this temperature range the thermal conductivity coefficient does \$2.0-85065394198&origin=resultslist&sort=plf-chemical synthesis of nanocrystalline ceramic compositions of boron carbide and titanium diboride using suspension <a href="https://doi.org/december/491018437f073eaaae22">december/491018437f073eaaae22</a> solutions for the preparation of powders and their spark plasma sintering was also developed to obtain a compacted 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M material of composition B 4 C+30 wt-%TiB 2, which has a high hardness of 95 HRA (with maximum microhardness elikishvili+Institute+of+Physical+and+Organic+Che 45.6 GPa) and sufficient strength (with a bending strength of 834 MPa).

The results of reservation of strained state in PbSe layers grown on KCl, BaF2, NaCl, CaF2 substrates during several \$2.0-85064868071&origin=resultslist&sort=plfyears and revealing of the peculiarities of two-stage growth of layers, the creation of supercritical structures, the study of the broadening of elastic deformation at layers doping with impurities of varying valence show that it is reasonable to regulate in detail the strains (deformations) in nanolayers. For definite groups of layers with the thicknesses in the range of <100 nm and 100-200 nm, as well as at not high - 1 nm/s and high >10 nm/s rates of growth there appear the new means to control the deformations in PbSe nanolayers.

Intense growth of the population calls for the increase of production of grain crops. One of the ways to resolve the problem is application of nitrogen-containing fertilizers in increased doses. According to the current data, annually more than 200 million tons of nitrogenous fertilizer is introduced into soil, but because of its good water solubility its major part is lost due to its volatility and washing-off, which results in substantial economic losses. To elevate the yield of grain crops the ecologically pure and economically efficient bio-composites which contain linear structure polymetrized nitrogenous fertilizers acting by the prolongation mechanism and microorganisms able to destruct such fertilizers were developed. The process of creation of polymerized fertilizers was studied. It was shown that in the range of 110-1250C, up to deep conversion of fertilizers, reaction rate constants keep constant values, when they are computed according to the Arrhenius's second order equations. Results of I.R. spectroscopy studies showed that at the first stage of the reaction of carbamide-formaldehyde interaction, when methylol-derivatives are formed (specter wave 1030 cm-1) we observe also conversion of methylol groups into dimethylene ether groups (specter wave 1085 https://www.scopus.com/record/display.uri?eid=2and 1110 cm-1). Rectilinear dependence of the reaction rate constant logarithm alteration on inverse absolute temperature refers to the fact that reaction rate constants undergo change according to the Arrhenius equation. At the application of polymerized nitrogenous fertilizers the fixed hectare norm of nitrogenous fertilizers decreases minimum by 40%, productivity increases by 15-20% and the environment is protected from pollution by nitrogenous fertilizers. Technology of obtaining polymerized nitrogenous fertilizers and polymer biodegradable biocomposites have been developed.

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78	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science	Synthesis of nitrogen- containing biodegradable polymer fertilizens with the prolongation action. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Projec
79	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis of nitrogen- containing biodegradable polymer fertilizers with the prolongation action.  Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences volume of Sciences and Sciences Sciences Sciences Sciences Sciences Sciences Sciences	Grant Projec
80	01012028516	Chitrekashvili	la	20.04.1965	Academic Doctor of Science	Synthesis of nitrogen- containing biodegradable polymer fertilizens with the prolongation action. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project
81		Gugava	Eldar		Doctor of Science	Synthesis of nitrogen- containing biodegradable polymer fertilizers with the prolongation action. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project

Intense growth of the population calls for the increase of production of grain crops. One of the ways to resolve the problem is application of nitrogen-containing fertilizers in increased doses. According to the current data, annually more than 200 million tons of nitrogenous fertilizer is introduced into soil, but because of its good water solubility its major part is lost due to its volatility and washing-off, which results in substantial economic losses. To elevate the vield of grain crops the ecologically pure and economically efficient bio-composites which contain linear structure polymerized nitrogenous fertilizers acting by the prolongation mechanism and microorganisms able to destruct such fertilizers were developed. The process of creation of polymerized fertilizers was studied. It was shown that in the range of 110-1250C, up to deep conversion of fertilizers, reaction rate constants keep constant values, when they are computed according to the Arrhenius's second order equations. Results of LR, spectroscopy studies showed that at the first stage of the reaction of carbamide-formaldehyde interaction, when methylol-derivatives are formed (specter wave 1030 cm-1) we observe also conversion of methylol groups into dimethylene ether groups (specter wave 1085 https://www.scopus.com/record/display.uri?eid=2and 1110 cm-1). Rectilinear dependence of the reaction rate constant logarithm alteration on inverse absolute temperature refers to the fact that reaction rate constants undergo change according to the Arrhenius equation. At the application of polymerized nitrogenous fertilizers the fixed hectare norm of nitrogenous fertilizers decreases minimum by 40%, productivity increases by 15-20% and the environment is protected from pollution by nitrogenous fertilizers. Technology of obtaining polymerized nitrogenous fertilizers and polymer biodegradable

s2.0-85077377049&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=24&citeCnt=0&searchTerm=

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Intense growth of the population calls for the increase of production of grain crops. One of the ways to resolve the problem is application of nitrogen-containing fertilizers in increased doses. According to the current data, annually more than 200 million tons of nitrogenous fertilizer is introduced into soil, but because of its good water solubility its major part is lost due to its volatility and washing-off, which results in substantial economic losses. To elevate the yield of grain crops the ecologically pure and economically efficient bio-composites which contain linear structure polymerized nitrogenous fertilizers acting by the prolongation mechanism and microorganisms able to destruct such fertilizers were developed. The process of creation of polymerized fertilizers was studied. It was shown that in the range of 110-1250C, up to deep conversion of fertilizers, reaction rate constants keep constant values, when they are computed according to the Arrhenius's second order equations. Results of I.R. spectroscopy studies showed that at the first stage of the reaction of carbamide-formaldehyde interaction, when methylol-derivatives are formed (specter wave 1030 cm-1) we observe also conversion of methylol groups into dimethylene ether groups (specter wave 1085 https://www.scopus.com/record/display.uri?eid=2and 1110 cm-1). Rectilinear dependence of the reaction rate constant logarithm alteration on inverse absolute temperature refers to the fact that reaction rate constants undergo change according to the Arrhenius equation. At the application of polymerized nitrogenous fertilizers the fixed hectare norm of nitrogenous fertilizers decreases minimum by 40%, productivity increases by 15-20% and the environment is protected from pollution by nitrogenous fertilizers. Technology of obtaining polymerized nitrogenous fertilizers and polymer biodegradable hiocomposites have been developed

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82	01030012597	Tsitsishvili	Vladimer	17.03.1947	Linalool oxidation reaction with air under ultrasound and microwave irradiations. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project
83	01007011134	Ramishvili	Tsiuri	31.07.1943	Linalool oxidation reaction with air under ultrasound and microwave irradiations. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project
84	01007011134	Ramishvili	Tsiuri	31.07.1943	Catalytic conversions of linalool on micro- and micro- mesoporous BEA-type zeolites under microwaves irradiation. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences.	Grant Project
85	01030012597	Tsitsishvili	Vladimer	17.03.1947	Catalytic conversions of linalool on micro- and micro- mesoporous BEA-type zeolites under microwaves irradiation. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project
86	60003006669	Rubashvili	Imeda	14.05.1981	Adsorptive removal study of the frequently used fluoroquinolne antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. Mediterranean Journal of Chemistry. 2019. Mediterranean Journal of Chemistry.	Grant Project

The ultrasound and microwave assisted air-oxidation of tertiary terpene alcohol - racemic linalool was investigated at 40-80°C. The experiments were carried out in the solvent-free conditions by microwave and ultrasound irradiations (150-650 W) at frequencies of 2450 MHz and 25 kHz, respectively. The analyses of the oxidation reaction products were performed with GC/MS method (Agilent Technologies GC/MS, 7890B/5977A, USA). By airoxidation of linalool under microwave and ultrasound irradiations the following monoterpene diols (C10H18O2) are mainly formed: (3F)-2 6-dimethylocta-3 7-diene-2 6-diol: (27)-2 6-dimethylocta-2 7-diene-1 6-diol: (2F)-2 6dimethylocta-2.7-diene-1.6-diol: 2.6-dimethylocta-1,7-diene-3.6-diol; 1-methyl-4-prop-1-en-2-ylcy-clohexane-1,2-s2.0-85077368988&origin=resultslist&sort=plfdiol: in oxidation products are also (3S.5E)-3.7-dimethylocta-1.5.7-trien-3-ol. C10H16O and very insignificant quantities of cis-and trans-linalool oxides (furanoids, C10H18O2) and 2-(5-ethenyl-5-methyloxolan-2-yl)propan-2-yl d+Organic+Chemistry&sid=f491018437f073eaaae22 ethyl carbonate. C13H22O4. With growth of power and time of ultrasonic and microwave irradiations the conversion of linalool reaches 65.6 and 52.4%, respectively; qualitatively the composition of products in both cases is elikishvili+Institute+of+Physical+and+Organic+Che

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The microwave assisted conversion of tertiary terpene alcohols - racemic linalool (97-98%) and D-linalool (57.6%) contained in coriander seed oil was investigated on samples of microporous BEA-type zeolite (BEA-25 and BEA-150 with molar ratio SiO2/Al2O3 of 25 and 150, respectively) and on modified micro-mesoporous forms (RBEA-25 and RBEA-150 with SiO2/Al2O3 of 23.8 and 176.4). The experiments were carried out at 40-100 °C in the atmosphere of argon or air, in the solvent-free conditions either using alcoholic solvents methanol, ethanol, and n-propanol. It has been shown that racemic linalool, by microwave irradiation (100-650 W) in argon atmosphere in solvent-free condition or dissolved in methanol had a low degree of conversion, up to 2-3% at 40-100°C. Reactions of dehydration and cyclization of racemic linalool with the formation of monoterpenic compounds C10H16 proceed more intensively on the micro-mesoporous RBEA zeolites under the microwave irradiation (200-650 W). On the corresponding microporous samples (BEA-150, BEA-25), the racemic linalool isomerization reaction is significantly inhibited under MW irradiation. In solutions of alcohols, irradiation of racemic linalcol with microwaves in the presence of BEA-type zeolite catalysts initiates also methoxylation reactions forming the methyl ethers of linalool, nerol, geraniol and  $\alpha$ -terpineol; selectivity for the products of linalool isomerization to geraniol and  $\alpha$ -terpineol was  $\frac{f \& src = s \& st \ | = Melikishvili + Institute + of + Physical + and }{f \& src = s \& st \ | = Melikishvili + Institute + of + Physical + and }$ only about 5%. D-Linalool of coriander oil dissolved in methanol in argon atmosphere or in solvent-free state in air d+Organic+Chemistry&sid=f491018437f073eaaae22 is predominantly transformed regioselectively into geraniol on catalysts RBEA-25 and BEA-150 under MWirradiation (200 W. run time 1 h); at 40 and 70 °C conversion of D-linalool is 29.7 and 27.7%, trans-geraniol yield and selectivity is 27 5/92 5 and 24 7/87 7, respectively

The microwave assisted conversion of tertiary terpene alcohols - racemic linalool (97-98%) and D-linalool (57.6%) contained in coriander seed oil was investigated on samples of microporous BEA-type zeolite (BEA-25 and BEA-150 with molar ratio SiO2/Al2O3 of 25 and 150, respectively) and on modified micro-mesoporous forms (RBEA-25 and RBEA-150 with SiO2/Al2O3 of 23.8 and 176.4). The experiments were carried out at 40-100 °C in the atmosphere of argon or air, in the solvent-free conditions either using alcoholic solvents methanol, ethanol, and n-propanol. It has been shown that racemic linalool, by microwave irradiation (100-650 W) in argon atmosphere in solvent-free condition or dissolved in methanol had a low degree of conversion, up to 2-3% at 40-100°C. Reactions of dehydration and cyclization of racemic linalool with the formation of monoterpenic compounds C10H16 proceed more intensively on the micro-mesonorous RRFA realites under the micro-wave irradiation (200, 650 W). On the corresponding microporous samples (BEA-150, BEA-25), the racemic linalool isomerization reaction is significantly inhibited under MW irradiation. In solutions of alcohols, irradiation of racemic linalcol with microwaves in the presence of BEA-type zeolite catalysts initiates also methoxylation reactions forming the methyl ethers of linalool, nerol, geraniol and  $\alpha$ -terpineol; selectivity for the products of linabool isomerization to geraniol and  $\alpha$ -terpineol was only about 5%. D-Linalool of coriander oil dissolved in methanol in argon atmosphere or in solvent-free state in air d+Organic+Chemistry&sid=f491018437f073eaaae22 is predominantly transformed regionelectively into geraniol on catalysts RBEA-25 and BEA-150 under MWirradiation (200 W. run time 1 h): at 40 and 70 °C conversion of D-linalool is 29.7 and 27.7% trans-geraniol yield and selectivity is 27.5/92.5 and 24.7/87.7, respectively.

Residual antibiotics pollution has become one of the most severe environmental problems today. Antibiotics from hospitals and drug factories represent a potential risk for human and ecological health. Therefore, it has been a high exigency to develop some efficient and cost-effective treatment methods and technologies for antibiotics removal from industrial and household contaminated water. Adsorption is one of the most utilised techniques and has many competitive advantages such as the unique properties of flexibility, effectiveness, superior performance and the robustness for consecutive cycles. The present research concerns the adsorption of two frequently used fluoroguinolone antibiotics - moxifloxacin and norfloxacin on natural zeolite - clinoptilolite and its acid-modified form from aqueous solutions. For the first time, the adsorption of the antibiotics mentioned above on the selected natural zeolite was investigated under static and dynamic conditions. Adsorption experiment under dynamic conditions carried out using the specially constructed dynamic type of laboratory equipment. The effect of the inlet concentration, the flow rate and the pH value of the antibiotic solution, also, the contact time of system zeolite/antibiotic solution on the adsorption process were examined and evaluated using the Langmuir and Freundlich adsorption models. The results showed that the highest static adsorption capacities were observed at low initial concentration - 0.2 mg/mL of antibiotic solution for both adsorbents; the highest dynamic adsorption capacities - at low flow rate - 1.5 mg/mL and low inlet concentration - 0.2 mg/mL of antibiotic solution for both adsorbents. The static adsorption capacity was up to 2.71 mg/g for moxifloxacin hydrochloride; 4.14 mg/g for norfloxacin and the dynamic adsorption capacity was up to 1.20 mg/g for moxifloxacin hydrochloride; 2.10 mg/g for f&src=s&st1=Melikishvili+Institute+of+Physical+an norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively d+Organic+Chemistry&sid=f491018437f073eaaae22 in sample solutions using the developed and validated HPLC methods with a limit of quantitation - 0.05 µg/ml. Hence, this study demonstrates and proves that natural zeolite could be an effective adsorbent for the removal of the selected antibiotics from wastewaters

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87	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	wastewaters using natural zeolites. Mediterranean journal of Chemistry. 2019. Mediterranean Journal of Chemistry.
88	01030013839	Kordzakhia	Telmuraz	6.03.1953	Doctor of Science	Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and nonfloxacin from wastewaters using natural zeolites. Mediterranean Journal of Chemistry. 2019. Mediterranean journal of Chemistry.
89	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Adsorptive removal study of the frequently used fluoroequinolne antibiotics - Moxifloxacin and nonfloxacin from mortloxacin from wastewaters using natural zeolites. Mediterranean Journal of Chemistry. 2019. Mediterranean Journal of Chemistry.

Adsorptive removal study of

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https://www.scopus.com/record/display.uri?eid=2s2.0-85072609034&origin=resultslist&sort=plf-0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M mistry%29&relpos=27&citeCnt=6&searchTerm=

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90	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	normonatural avastewaters using natural zeolites. Mediterranean Journal of Chemistry. 2019. Mediterranean Journal of Chemistry.
91	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	Adsorptive removal study of the frequently used fluoroquinolne antibiotics - Moxifloxacin and nonfloxacin from wastewaters using natural zeolites. Mediterranean Journal of Chemistry. 2019. Mediterranean Journal of Chemistry.
92	6000300669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Development and validation of quantitative determination HPLC methods of the fluoroequinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. Periodico Tche Quimica. 2019. Tche Quimica Group.
93	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Development and validation of quantitative determination HPLC methods of the fluoroquinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. Periodico Tethe Quimica. 2019. Tche Quimica Group.

Adsorptive removal study of

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0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M  $\underline{elikishvili+Institute+of+Physical+and+Organic+Che}$ mistry%29&relpos=28&citeCnt=3&searchTerm=

94	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	Development and variantion of quantitative determination HPLC methods of the fluoroquinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. Periodico Tche Quimica. 2019. Tche Quimica Group.	Grant Project
95	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	Development and validation of quantitative determination HPLC methods of the fluoroquinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. Periodico Tche Quintes. 2019. Tche Quimica Group.	Grant Project
96	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	High deformations in lead selenide nanolayers and related new properties. European Chemical Bulletin. 2019. Deuton-X Ltd.	State Target Program
97	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Hydrothermal transformation of natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences Science.	Grant Project
98	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Hydrothermal transformation of natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project

Development and validation

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The article deals with the modified method of "hot-wall" beam epitaxy for obtaining the strained lead selenide nanolayers over a wide range of growth rates and controlling their thickness. With detection of the two-stage growth of the layers, the layers with high deformations – tangential lattice constants, and hence with high "negative" pressure were formed. Observations of the shift of the optical spectrum in strained layers and the possibility of deep compensation of the concentration of current carriers when doping the layers with impurities with variable valence turned out to be interesting as well. Under high deformations, the texture of a tetragonal phase <a href="d+Organic+Chemistry&sid=f491018437f073eaaae22">d+Organic+Chemistry&sid=f491018437f073eaaae22</a> is formed. There appears a new level in the conduction band and hence additional absorption in the optical spectrum. The given specific features were first discovered in the physics and technology of IV-VI semiconductors, and they open new opportunities of using these semiconductors in IR optoelectronics

The present paper studies hydrothermal transformation of natural zeolites analcime and phillipsite, widespread in Georgia, in order to obtain valuable products. It is found that phase-pure zeolite NaA with Si/Al~1 can be prepared in the form of cubic/rhombus crystallites with uniform micrometric (3-5  $\mu m$ ) dimensions by hydrothermal crystallization of aged at room temperature gel (4.5Na 2 O: 0.45Al 2 O 3: 1SiO 2: 178H 2 O) obtained from natural analcime, treated with hydrochloric acid before suspending in water and mixing with sodium hydroxide. Phase-pure zeolite NaX with Si/Al~1.5 can be prepared in the form of octahedral crystallites with uniform micrometric (2-7 um) dimensions by hydrothermal crystallization of aged at room temperature gel (2.9Na 2 O: 0.26Al 2 O 3: 1SiO 2: 150H 2 O) obtained from water suspension of natural phillipsite, treated with hydrochloric acid and mixed with sodium https://www.scopus.com/record/display.uri?eid=2hydroxide. Crystal structure of both zeolites is testified by X-ray diffraction patterns and infra-red spectra. Synthesized zeolite NaX is characterized by specific surface area of 589 m 2/g and total pore volume of 0.578 cm 3/g f&src=s&st1=Melikishvili+Institute+of+Physical+an calculated by the Brunauer-Emmett-Teller method from the low-temperature nitrogen adsorption-desorption isotherms. Along with ordered homogeneous micropores, the obtained zeolite NaX has a developed system of cylindrical channels with an average diameter of 55 nm (calculated by the Barrett-Joyner-Halenda method), which elikishvilii-Institute+of+Physical+and+Organic+Che opens up the prospect of its use in catalytic processes.

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s2.0-85064112949&origin=resultslist&sort=plfd+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M mistry%29&relpos=30&citeCnt=2&searchTerm=

s2.0-85064112949&origin=resultslist&sort=plfd+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=30&citeCnt=2&searchTerm=

99	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Hydrothermal transformation of natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences	Grant Project
100	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Hydrothermal transformation of natural analcime and phillipaite. Bulletin of the Georgian National Academy of Sciences 2019. Georgian National Academy of Sciences with the Science of Scie	Grant Project
101	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Hydrothermal transformation of natural analctime and phillipsite. Bulletin of the Georgian National Academy of Sciences. 2019. Georgian National Academy of Sciences.	Grant Project
102	01024007356	Gabunia	Vakhtang	06.02.1963	Master	Hydrothermal transformation of natural analcime and phillipsite. Bulletin of the Georgian National Academy of Sciences 2019. Georgian National Academy of Sciences	Grant Project
103	01024048913	Tsintskaladze	Giorgi	31.1.1950	Doctor of Science	Synergic actions of BEA-	Grant Project
104	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	type zeolites and ultrasonic irradiation in conversion of geraniol. Asian Journal of Chemistry. 2019. Asian	Grant Project

The present paper studies hydrothermal transformation of natural zeolites analcime and phillipsite, widespread in Georgia, in order to obtain valuable products. It is found that phase-pure zeolite NaA with Si/Al~1 can be prepared in the form of cubic/rhombus crystallites with uniform micrometric (3-5 um) dimensions by hydrothermal crystallization of aged at room temperature gel (4.5Na.2.0: 0.45Al.2.0.3: 1SiO.2: 178H.2.0) obtained from natural analcime, treated with hydrochloric acid before suspending in water and mixing with sodium hydroxide. Phase-pure zeolite NaX with Si/Al~1.5 can be prepared in the form of octahedral crystallites with uniform micrometric (2-7 μm) dimensions by hydrothermal crystallization of aged at room temperature gel (2.9Na 2 O: 0.26Al 2 O 3: 1SiO 2: 150H 2 O) obtained from water suspension of natural phillipsite, treated with hydrochloric acid and mixed with sodium <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> hydroxide. Crystal structure of both zeolites is testified by X-ray diffraction patterns and infra-red spectra. Synthesized zeolite NaX is characterized by specific surface area of 589 m 2/g and total pore volume of 0.578 cm 3/g [8src=s&st]=Melikishvilii+Institute+of+Physical+an calculated by the Brunauer-Emmett-Teller method from the low-temperature nitrogen adsorption-desorption isotherms. Along with ordered homogeneous micropores, the obtained zeolite NaX has a developed system of cylindrical channels with an average diameter of 55 nm (calculated by the Barrett-Joyner-Halenda method), which opens up the prospect of its use in catalytic processes.

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The geraniol conversion reaction was initiated by the simultaneous action of micro- and micro-mesoporous BEAtype zeolites and ultrasonic irradiation (UMR-300B hybrid reactor, 25 kHz, 100-900 W; SRF-1, 20-60 kHz, 100 W). Geraniol by ultrasonic irradiation at 27-100 °C, had a low degree of conversion, upto 2 %. Geraniol was a resistant to https://www.scopus.com/record/display.uri?eid=2ultrasound in argon atmosphere solutions of N,Ndimethylformamide and methanol. In methanolic solution, geraniol \$2.0-85059768573&origin=resultslist&sort=plfwas actively converted to linalool and to methyl ethers of linalool and nerol with the selectivity of 80 % on zeolite [8src=s8stl=Melikishvilli+Institute+of+Physical+an BEA-25 under ultrasonic irradiation in air at 30 °C. Using BEA-type zeolite/ultrasonicassisted reaction was increased <a href="d+d-rganic+Chemistry&sid=f491018437f073eaaae22">d+Organic+Chemistry&sid=f491018437f073eaaae22</a> the degree of conversion of geraniol, the selectivity and yield to linalool and nerol on the most active RBEA-25 zeolite by prolonged ultrasonic irradiation (1.5-5 h) or under combined ultrasound and microwave irradiation (US 300 W/MW 550 W. 1 5 h. 80 °C)

s2.0-85064112949&origin=resultslist&sort=plfd+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M mistry%29&relpos=30&citeCnt=2&searchTerm=

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105 01	1030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Synergic actions of BEA- type zeolites and ultrasonic irradiation in conversion of genaniol. Asian Journal of Chemistry. 2019. Asian Publication Corporation	Grant Project
106 60	0003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
107 01	1006015635	Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
108 01	1030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
109 01	1030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
110 01	1010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
111 01	1011065843	Buzariashvili	Manana	12.03.1961	Academic Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project
112 01	1005000620	Khachidze	Miranda	14.04.1947	Academic Doctor of Science	Sequential extraction and HPLC analysis of total anthocyanins of grape skin. Chemist. 2018. American Institute of Chemists, Inc.	Grant Project

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The objective of the present study was to develop sequential extraction procedures for the anthocyanins obtained from agro-industrial waste material - grape skin using ultrasound-assisted, magnetic stirring and supercritical fluid extraction techniques. A rapid and selective high performance liquid chromatographic (HPLC) method for quantitative determination of the major anthocyanins in obtained organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range, accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, the temperature, the extraction time, the flow rate of a supercritical fluid, the composition of solvent's mixture, the sample size, the ultrasound power and the solvent nature used were investigated. The optimal conditions for extraction were found. The calibration curve of the developed HPLC method is linear over a concentration range 0.04-80.0 µg/mL for total anthocyanins expressed as cyanidin chloride (r 2 =0.9999); the average recovery equals to 95.62 %.

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							oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of	
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							$-{\rm H~2~SO~4}$ ) and relatively high-temperature (~50°C; KMnO 4 $-{\rm H~2~SO~4}$ ) modes. In case of low-temperature mode	https://www.scopus.com/record/display.uri?eid=2-
					Synthesis of graphene oxide		oxidation of pGFW the C/O ratio (at.%) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19.	s2.0-85063320325&origin=resultslist&sort=plf-
					and reduced graphene oxide		The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid	f&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&sid=f491018437f073eaaae22
					from industrial graphite foil wastes. European Chemical		and ions (K + , Na + , and Mn +2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCl solution). A 5 % solution of HCl precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is	d+Organic+Chemistry&sid=t491018437t0/3eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
					Bulletin. 2018. Deuton-X		accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-	elikishvili+Institute+of+Physical+and+Organic+Che
113 01015007229	Barbakadze	Natia	13 09 1979	Academic Doctor of Science		State Target Program	temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.	mistry%29&relpos=33&citeCnt=3&searchTerm=
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							Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced	
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					wastes. European Chemical Bulletin. 2018. Deuton-X		A 5 % solution of HCl precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-	elikishvili+Institute+of+Physical+and+Organic+Che
114 01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science		State Target Program	temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.	mistry%29&relpos=33&citeCnt=3&searchTerm=
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							-H~2~SO~4~) and relatively high-temperature (~50°C; KMnO 4 $-H~2~SO~4~)$ modes. In case of low-temperature mode	https://www.scopus.com/record/display.uri?eid=2-
					Synthesis of graphene oxide		oxidation of pGFW the C/O ratio (at.%) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19.	s2.0-85063320325&origin=resultslist&sort=plf-
					and reduced graphene oxide		The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid	f&src=s&st1=Melikishvili+Institute+of+Physical+an
					from industrial graphite foil wastes. European Chemical		and ions (K + , Na + , and Mn +2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCl solution).  A 5 % solution of HCl precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is	d+Organic+Chemistry&sid=f491018437f073eaaae22 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
					Bulletin. 2018. Deuton-X		accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-	elikishvili+Institute+of+Physical+and+Organic+Che
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					Synthesis of graphene oxide		graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wear and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°O'C; KMnO 4 ~NaNO 3 —H 2 SO 4) and relatively high-temperature (°SO'C; KMnO 4 ~H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (£%) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19.	s2.0-85063320325&origin=resultslist&sort=plf-
					and reduced graphene oxide		graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°0°C; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°50°C; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at.%) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid	s2.0-85063320325&origin=resultslist&sort=plf- f&src=s&st1=Melikishvili+Institute+of+Physical+an
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					and reduced graphene oxide from industrial graphite foil wastes. European Chemical		graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <pre>c140</pre> µm was obtained by west and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°0°C; KMnO 4 – NaNO 3 – H2 SO 4) and relatively high-temperature (°50°C; KMnO 4 – H2 NaNO 3 in case of their practical oxidation of pGFW the CO ratio (s81):98 in Class of their reduction with ascorbic acid the CO ratio is 81:199. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K + , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H2 O, 3 times 5% HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is	<u>s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-</u> <u>R&amp;src=s&amp;st1=Melikishvili-Institute+of+Physical-an</u> <u>d+Organis+Chemistry&amp;sid=f4910184378073eaaae22</u> <u>0c184952702&amp;sost=b&amp;sd1=b&amp;sl-63&amp;s-AFFII.9628M</u>
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116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (O°C; KMO 4 – NaNO 3 – H 2 SO 4) and relatively high-temperature ("50°C; KMO 4 – 14 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the CO ratio (at %) is 61:38. In case of their reduction with ascorbic acid the CO ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K+, Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O. 3 times 59» HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (GO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical	s2.0.85063320325&origin=resultslist&sort=plf- f&src=s&st1=Mellikishvili+Institute=of+Physical+an d+Organi+Chemistry&sid=f491018437f073eaaae22 0:184952702&sot=b&sd=b&sl=G3&s=AFFII-%28M ellikishvili+Institute+of+Physical+and+Organi+Che
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116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°O'C; KMO 4 ~NaNO 3 ~H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at.%) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K+, Na +, and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O, 3 times S9-HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by we tand dry grinding. The EDX analysis showed that the powder consists of carbon and of 140 µm was obtained by we for obtain graphene oxide for about of carbon and for grinding. The EDX analysis showed that the powder consists of carbon and or the powder consists of carbon and for grinding of the powder consists of carbon and for grinding of the powder consists of carbon and for grinding of the powder consists of carbon and for grinding of the powder consists of carbon and for grinding of the powder consists of carbon an	s2.0-85063320325&origin=resultslist&sort=plf- f&src=s&st1=Mellikishvill+Institutes-oft-Physical+an d+Organic+Chemistry&sid=f491018437f073eaaae22 0:184952702&sot=b&sdt=b&sl=63&s=AFFII-928M ellikishvill+Institute+oft-Physical+and+Organic+Che
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116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°DC; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (SOC; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at-8) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K + , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O. 3 times 5% HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°TC; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°5C°; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the CO? or atio is 81:19.	ag 0.850633203258.origim-resultslist&cort-plf:  fix:res_dest_bulklishwill: almitune_of_Physical-an d+Organic+Chemistry&sid=f491018437B/73eaaae22 Oc184952702&sort-b&sid=548+-638+-AFTI-Mg88M ellikishvill: almitune_of_Physical-and+Crpanic+Che mistry%29&relpos=53&citeCnt=3&searchTerm=  https://www.scopus.com/record/display.uri?eid=2 g2.0.85063320325&origim-resultslist&sort-plf-
116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide and reduced graphene oxide	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of c140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°CV; KMnO 4 –NaNO 3 –H1 2 SO 4) and relatively high-temperature (FOC; KMnO 4 –12 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K +, Na +, and Mn +2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (rGFW) were successfully used for the synthesis of graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical acidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature ("C5 KMnO 4 –NaVO 3 –H 2 SO 4) and relatively high-temperature ("50°C; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the CO ratio (at \$) is 61:38. In case of their reduction with ascorbic acid the CO oxido is 81:19. The method of synthesis of GO and its separation from the reaction mixture were pa	ag. 0. 8506332035-8601glm-resultslist-8cort-pH- f8xrt=s8xt1=Mellikishrilis-Institute-of-Physical-an d-Organic-Chemistry-8sid-f4910184378073eaaae22 0c1849527028.soc-b8sid-68xel-68xel-68xe-8-FFII-9828M elikishrili-Institute-of-Physical-and-Organic-Che mistry-96298-relpos=338-citeCnt=38-searchTerm=
116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (7°C; KMnO 4 – NaNO 3 – H2 SO 4) and relatively high-temperature (7°C; KMnO 4 – H2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K + , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H2 O, 3 times 5% HCI solution). A 5% solution of HCI precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by west and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°C°C; KMnO 4 – NaNO 3 – H2 SO 4) and relatively high-temperature (°SO°C; KMnO 4 – H2 SO 4) modes. In case of how-temperature roote and to sox (H2 – H2 C) at the removed using 5-fold decanting (2 times H2 O, 3 times 5% HCI solution). The method of synthesis of GO and its separation from the reaction mixture were partially cor	2.0.85063320325&origin=resultslist&cort=plf- fksrr=s&st1-Melkishvili: Institute=of-Physical-an d-Organic+Chemistry&sid=f491018437f072eaae22 0c184957202&sot=b8sd-b8sd-638ea-FFII-Mg88M elikishvili: Institute=of-Physical-and-Organic-Che mistry%029&relpos=33&citeCnt=3&searchTerm=  https://www.scopus.com/recond/display.uri?eid=2- \$2.0.85063320325&origin=resultslist&sort=plf- fkstr=s&st1-Melkishvili: Institute=of-Physical-an d-Organic-Chemistry&sid=f91018437f072eaae22
116 01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide and reduced graphene oxide	State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°D'C; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°D'C; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at-9) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K + , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCI solution). A 5% solution of HCI precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (GO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°CC; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°GC; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the CO? or atio (8:119). In method of synthesis of GO and its separation from the reaction mixture were partially corrected. Suffuric acid and ions	2.0.85063320325&origin=resultslist&cort=plf- fksrr=s&st1-Melkishvili: Institute=of-Physical-an d-Organic+Chemistry&sid=f491018437f072eaae22 0c184957202&sot=b8sd-b8sd-638ea-FFII-Mg88M elikishvili: Institute=of-Physical-and-Organic-Che mistry%029&relpos=33&citeCnt=3&searchTerm=  https://www.scopus.com/recond/display.uri?eid=2- \$2.0.85063320325&origin=resultslist&sort=plf- fkstr=s&st1-Melkishvili: Institute=of-Physical-an d-Organic-Chemistry&sid=f91018437f072eaae22
116 01006010955	Amiridze	Zurab	25.06.1955 13.03.1952	Academic Doctor of Science  Academic Doctor of Science	and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X	State Target Program  State Target Program	graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of $<140$ µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°C°C; KMnO 4 ~NaNO 3 $+12$ SO 4) and relatively high-temperature (°C°C; KMnO 4 ~12 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the traction mixture were partially corrected. Sulfuric acid and ions ( $K + $ , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCI solution). A 5% solution of HCI precipitates GO-flakes in $7-10$ min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the tGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure. Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (GO). The remaining graphite foil wastes (wastes) are expanded graphites and their chemical oxidation to GO or to oxbair agraphene can be conducted using known methods. A fraction with a particle size of $<140$ µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results oxidation to GFW the CO' ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuria acid and ions ( $K + $ , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H 2 O, 3 times 5% HCI solution). A 5% solution of HCI precipitates GO-flakes in $-10$ min a	ag 0.85063320325&torighm-resultalist&cort-pH- fexrc=s&t1=Mellikishvilis-Institutes-of-Physical-and-dcOrganic-cthemistry&sid=491018437072eaaae22 0c184952702&sot=b&sd=65&t=65&t=65&t=65&t=65&t=65&t=65&t=65&t
					and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X		graphene oxide (GO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (70°C; KMnO 4 –NaNO 3 –H1 2 SO 4) and relatively high-temperature (FO°C; KMnO 4 –1 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K +, Na +, and Mn +2) can be removed using 5-fold decanting (2 times H2 O, 3 times 5% HCl solution). A 5 % solution of HCl precipitates GO-flakes in 7–10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the fGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°CV; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°CVC; KMnO 4 –H 2 SO 4) modes. In case of low-temperature would not of the conducted using thos more main and relatively high-temperature (°CVC; KMnO 4 –H 2 SO 4) modes. In case of low-temperature (rove, Sulfiria caid and ons (K +	ag. 0. 8506332035-8601gim-resultslist-8cort-plf- f8xrt=s8xt1=Mellikishrilis-Institute-of-Physical-an d-Organit-c/hemistry-8sid-f491018437f073-eaane22 0c1849527028-soc-b8xd-c8xd-c8xd-c8xd-pFII-f828M elikishrili-Institute-of-Physical-and-Organic-Che mistry-f6298-relpos=338-cite-Cnt=38-searchTerm=  https://www.scopus.com/recond/display.uri?eid-2- 2g. 0. 85063320375-8corigim-resultslist-8cort-plf- f8xrc-s8xt1-Mellikishvill-Institute-of-Physical-an d-Crganic-Chemistry-8sid-f491018437f073-eaane22 0c1849527028-soc-b8xd-c8xd-c8xd-sFII-f828M elikishvill-Institute-of-Physical-and-Organic-Che likishvill-Institute-of-Physical-and-Organic-Che likishvill-Institute-of-Physical-and-Organic-Che
					and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X		graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of 140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°CC; KMnO 4 –NaNO 3 –H1 2 SO 4) and relatively high-temperature (SOC; KMnO 4 –H2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at-8) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K + , Na + , and Mn + 2) can be removed using 5-fold decanting (2 times H2 O.) 3 times 5% HCI solution). A 5 % solution of HCI precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature reatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphene oxide (GO) and reduced graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°C'C; KMnO 4 –NaNO 3 –H 2 SO 4) and relatively high-temperature (°C'C; KMnO 4 –H 2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the CO' or atio is 81:19.  The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and i	ag. 0. 85063320358.origin=resultslist8.cort=plf- f8xrt=s8xt1=Mellikishrilis-Institute=off-Physical-an d-Organit=c/hemistry&sid=f491018437f073eaaae22 0c1849527028.soc-b8xd-c8xd-c8xd-c8xd-pFII-9628M elikishrili-Institute=off-Physical-and-Organic-iChe mistry%0298.relpos=338.citeCnt=38.searchTerm=  https://www.scopus.com/recond/display.uri?eid-2- 2g.0.850633203758.origin=resultslist8.socrt=plf- f8xrc=s8xt1=Mellikishrill=Institute=of-Physical-an d-Organic-iChemistry&sid=f491018437f073eaaae22 0c1849527028.soc-b8xd-c8xd-c8xd-sFII-9628M elikishrili-Institute=of-Physical-and-Organic-iChe likishrili-Institute=of-Physical-and-Organic-iChe elikishrili-Institute=of-Physical-and-Organic-iChe elikishrili-Institute=of-Physical
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					and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. European Chemical Bulletin. 2018. Deuton-X Ltd.  Formation of long-chain and macrocyclic compounds during catalytic conversion		graphene oxide (GGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of c140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°O'C; KMnO 4 ~NaNO 3 ~14 Z SO 4) and relatively high-temperature (°FO'C; KMnO 4 ~12 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio is 81:19. The method of synthesis of GO and its separation from the reaction mixture were partially corrected. Sulfuric acid and ions (K +, Na +, and Mn +2) can be removed using 5-fold decanting (2 times 112 O, 3 times 5% HCl solution). A 5 % solution of HCl precipitates GO-flakes in 7-10 min and, thus, the process of removing the main impurities is accelerated. From decanted solutions, GO was reduced to the rGO with ascorbic acid at 80°C. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.  Powdered graphite foil wastes (pGFW) were successfully used for the synthesis of graphine oxide (GO) and reduced graphene oxide (rGO). The remaining graphite foil pieces (wastes) are expanded graphites and their chemical oxidation to GO or to obtain graphene can be conducted using known methods. A fraction with a particle size of <140 µm was obtained by wet and dry grinding. The EDX analysis showed that the powder consists of carbon and oxygen only. The paper presents results obtained in pGF oxidation using low-temperature (°C'C; KMnO 4 -NaNO 3 -H2 SO 4) and relatively high-temperature (°G'C; KMnO 4 + H2 SO 4) modes. In case of low-temperature mode oxidation of pGFW the C/O ratio (at %) is 61:38. In case of their reduction with ascorbic acid the C/O ratio 81:19. The method of synthesis of GO and its separation	ag. 0. 85063320325&ordinneresultslist&ort=plf- Rexr=s&xt1 = Mellikishrilis Institute=of-Physical=an d+Organit=(themistry&sid=f91018437R072eaaae22 0c184957702&sord=b&xd+c58a=638e=aFPII-9628M ellikshvill=Institute=of-Physical=and+Organit=Che mistry9629&relpos=33&citeCnt=3&searchTerm=  https://www.scopus.com/record/display.uri?eid=2- g2.0.85063320325&ordinneresultslist&ort=plf- Rexr=s&xt1=Mellikshvill=Institute=of-Physical=an d+Organit=Chemistry&sid=f91018437R073eaaae22 0c184957202&sord=b&xd+c58a=AFPII-9628M ellikshvill=Institute=of-Physical=and+Organit=Che mistry9629&relpos=53&citeCnt=3&searchTerm=
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						The present paper studies catalytic transformations of the terpene alcohols used in the perfumery industry,	
				Formation of long-chain and		transformation of geraniol on micro-and micro-mesoporous BEA-type zeolites. Experiments were carried out with	
				macrocyclic compounds		the use of various mass ratios of catalyst/geraniol (0.0075-0.053 g/g), in the inert atmosphere (nitrogen, argon) and at	
				during catalytic conversion		temperatures from 27 to 150oC. The analysis of the products of catalytic transformations was carried out by the gas	
				of geraniol on micro-and		chromatography – mass spectrometry (GC-MS) method; conversion of geraniol, yield of products and selectivity	https://www.scopus.com/record/display.uri?eid=2-
				micro-mesoporous BEA-type		were calculated from experimental data. The reaction products contain mainly unconverted trans-Geraniol, β-	s2.0-85058656935&origin=resultslist&sort=plf-
				zeolite. Bulletin of the Georgian National Academy		Linalool, trans,trans-Farnesol and (2E,6E)-6,11-Dimethyl-2,6,10-dodecatrien-1-ol, small quantities of β-Myrcene, D- Limonene, trans-β-Ocymene, β-Ocymene, α-Terpineol, cis-Geraniol (Nerol), cis-Isogeraniol, trans,trans,trans,	d+Organic+Chemistry&sid=f491018437f073eaaae22
				of Sciences. 2018. Georgian		Limonene, trans-p-Ocymene, p-Ocymene, α-Terpineol, cis-Geraniol (Nerol), cis-isogeraniol, trans,trans,trans- Geranylgeraniol, p-and m-Camphorene (Dimyrcene), and unidentified isomer of trans-geranylgeraniol are present. It	
				National Academy of			elikishvili+Institute+of+Physical+and+Organic+Che
119 01007011134 Ramishvili	Tsiuri	31.07.1943	Doctor of Science	Sciences.	Grant Project	molecules, but to produce macrocycles.	mistry%29&relpos=34&citeCnt=3&searchTerm=
						The ratio between the complexing metal and ligand in the complexes Fe (III), Zn (II), Mn (II), Cu (II), Co (II) and D-	
						fructose was determined by the metal-indicatory method. In the study methods of isomolar series and shift of	
						equilibriums are used. On the basis of Bent-Branch method logarithmic relations between metal ion concentration	
						and optic density of solutions were calculated. Optical densities of complex solutions were measured on	
						spectrophotometer UV-VIS. In the process of study of optical properties of Fe (III)-D-fructose, the colorimetric	
						reagent of Fe ions – pyrocatechol-violet (pcv) was used as the indicator, while nitrate Fe(III) was taken as the	
						standard solution. Optical densities of the investigated complexes – Fe (III)-D-fructose were measured at 520	
						nanometer wave length. The dependence of the optical density of the metal-indicator system on the D-fructose concentration were measured, after adding D-fructose to solutions of Fe(NO3)3 and pcv in various quantities (at	
				Study of metal-complexes		PH=6). Concentration of metal in the complex that is bound to metal-indicator was determined by means of	https://www.scopus.com/record/display.uri?eid=2-
				composition by metal-		preliminary constructed calibration curves. The relationship between the values of -lg[Fe-Fru]-[Pki]/[Fe-Pki] and-lg	
				indicatory method. Bulletin		[Fru] was determined by immediate calculations. Tangent of angle inclination of the line, which reflects the	f&src=s&st1=Melikishvili+Institute+of+Physical+an
				of the Georgian National		dependence of these value, corresponds to the number of fructose ions participating in equilibrium ( $tg\alpha = n$ ). By	d+Organic+Chemistry&sid=f491018437f073eaaae22
				Academy of Sciences. 2018.		researches of the optical properties of the complexes of metals Fe (III), Zn (II), Mn (II), Cu (II) and Co (II) with D-	0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
				Georgian National Academy		fructose, respectively, at wavelength of 520, 530, 540, 590 and 630 nm, it was established, that the relation of the	elikishvili+Institute+of+Physical+and+Organic+Che
120 01034003949 Japaridze	Leila	01.08.1944	Academic Doctor of Science	of Sciences.	Grant Project	constituent components (metal: ligand) in all the cases is 1:1.	mistry%29&relpos=35&citeCnt=1&searchTerm=
						The ratio between the complexing metal and ligand in the complexes Fe (III), Zn (II), Mn (II), Cu (II), Co (II) and D-	
						fructose was determined by the metal-indicatory method. In the study methods of isomolar series and shift of	
						equilibriums are used. On the basis of Bent-Branch method logarithmic relations between metal ion concentration	
						and optic density of solutions were calculated. Optical densities of complex solutions were measured on	
						spectrophotometer UV-VIS. In the process of study of optical properties of Fe (III)-D-fructose, the colorimetric	
						reagent of Fe ions – pyrocatechol-violet (pcv) was used as the indicator, while nitrate Fe(III) was taken as the	
						standard solution. Optical densities of the investigated complexes – Fe (III)-D-fructose were measured at 520	
						nanometer wave length. The dependence of the optical density of the metal-indicator system on the D-fructose concentration were measured, after adding D-fructose to solutions of Fe(NO3)3 and pcv in various quantities (at	
				Study of metal-complexes		PH=6). Concentration of metal in the complex that is bound to metal-indicator was determined by means of	https://www.scopus.com/record/display.uri?eid=2-
				composition by metal-		preliminary constructed calibration curves. The relationship between the values of -lg[Fe-Fru]·[Pki]/[Fe-Pki] and-lg	
				indicatory method. Bulletin		[Fru] was determined by immediate calculations. Tangent of angle inclination of the line, which reflects the	f&src=s&st1=Melikishvili+Institute+of+Physical+an
				of the Georgian National		dependence of these value, corresponds to the number of fructose ions participating in equilibrium ( $tg\alpha = n$ ). By	d+Organic+Chemistry&sid=f491018437f073eaaae22
				Academy of Sciences. 2018.		researches of the optical properties of the complexes of metals Fe (III), Zn (II), Mn (II), Cu (II) and Co (II) with D-	0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
				Georgian National Academy		fructose, respectively, at wavelength of 520, 530, 540, 590 and 630 nm, it was established, that the relation of the	$\underline{elikishvili+Institute+of+Physical+and+Organic+Che}$
121 01004005857 Gabelia	Tsiala	18.06.1944	Academic Doctor of Science	of Sciences.	Grant Project	constituent components (metal: ligand) in all the cases is 1:1.	mistry%29&relpos=35&citeCnt=1&searchTerm=
						The ratio between the complexing metal and ligand in the complexes Fe (III), Zn (II), Mn (II), Cu (II), Co (II) and D-	
						fructose was determined by the metal-indicatory method. In the study methods of isomolar series and shift of	
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				Study of metal-complexes composition by metal-		PH=6). Concentration of metal in the complex that is bound to metal-indicator was determined by means of preliminary constructed calibration curves. The relationship between the values of -lg[Fe-Fru]-[Pki]/[Fe-Pki] and-lg	https://www.scopus.com/record/display.uri?eid=2-
				indicatory method. Bulletin		preliminary constructed calibration curves. The relationship between the values of -ig[Fe-Fru]-[Fki]/[Fe-Pki] and-ig  [Fru] was determined by immediate calculations. Tangent of angle inclination of the line, which reflects the	s2.0-85054500924&origin=resultslist&sort=plf- f&src=s&st1=Melikishvili+Institute+of+Physical+an
				of the Georgian National		dependence of these value, corresponds to the number of fructose ions participating in equilibrium $(tg\alpha = n)$ . By	d+Organic+Chemistry&sid=f491018437f073eaaae22
				Academy of Sciences. 2018.		researches of the optical properties of the complexes of metals Fe (III), Zn (II), Mn (II), Cu (II) and Co (II) with D-	0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
				Georgian National Academy		fructose, respectively, at wavelength of 520, 530, 540, 590 and 630 nm, it was established, that the relation of the	elikishvili+Institute+of+Physical+and+Organic+Che
122 01024054940 Salukvadze	Eter	28.11.1945	Academic Doctor of Science	of Sciences.	Grant Project	constituent components (metal: ligand) in all the cases is 1:1.	mistry%29&relpos=35&citeCnt=1&searchTerm=
						The ratio between the complexing metal and ligand in the complexes Fe (III), Zn (II), Mn (II), Cu (II), Co (II) and D-	
						fructose was determined by the metal-indicatory method. In the study methods of isomolar series and shift of	
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						spectrophotometer UV-VIS. In the process of study of optical properties of Fe (III)-D-fructose, the colorimetric	
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						standard solution. Optical densities of the investigated complexes – Fe (III)-D-fructose were measured at 520 nanometer wave length. The dependence of the optical density of the metal-indicator system on the D-fructose	
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				Study of metal-complexes		PH=6). Concentration of metal in the complex that is bound to metal-indicator was determined by means of	https://www.scopus.com/record/display.uri?eid=2-
				composition by metal-		preliminary constructed calibration curves. The relationship between the values of -lg[Fe-Fru]-[Pki]/[Fe-Pki] and-lg	
				indicatory method. Bulletin		[Fru] was determined by immediate calculations. Tangent of angle inclination of the line, which reflects the	f&src=s&st1=Melikishvili+Institute+of+Physical+an
				of the Georgian National		dependence of these value, corresponds to the number of fructose ions participating in equilibrium ( $tg\alpha = n$ ). By	d+Organic+Chemistry&sid=f491018437f073eaaae22
				Academy of Sciences. 2018.		researches of the optical properties of the complexes of metals Fe (III), Zn (II), Mn (II), Cu (II) and Co (II) with D-	0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M
				Georgian National Academy		$fructose, respectively, at wavelength of 520, 530, 540, 590 \ and 630 \ nm, it was established, that the relation of the$	$\underline{elikishvili+Institute+of+Physical+and+Organic+Che}$
123 01024001324 Lomtadze	Omar	26.02.1947	Academic Doctor of Science	of Sciences.	Grant Project	constituent components (metal: ligand) in all the cases is 1:1.	mistry%29&relpos=35&citeCnt=1&searchTerm=

					Development and validation		
					determination and sampling		
					methods for acetaminophen		
					residues on pharmaceutical		The present study concerns the development and validation of rapid and selective high performance liquid <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a>
					equipment surfaces.		chromatographic (HPLC) method for quantitative estimation of acetaminophen residues in samples collected from \$2.0-85045117772&origin=resultslist&sort=plf-
					Bulletin of the Georgian		pharmaceutical manufacturing equipment surfaces and the development of the methodology of establishing the <a href="Mestre-sest1=Melikishvili+Institute+of+Physical+an">Mestre-sest1=Melikishvili+Institute+of+Physical+an</a>
					National Academy of		allowable limits for cleaning validation. The developed swab and rinse sampling procedures and HPLC method were da-Organic+Chemistry&sid=f491018437f073eaaae22
					Sciences. 2018. Georgian National Academy of		validated with respect to accuracy, system suitability test, specificity, linearity, limit of detection (LOD) and  oel849527028sot=b8sdt=b8sd=638s=AFFII.9028M  quantitation (LOQ). The calibration curve is linear r2=99999 over a concentration range 0.00002-0.01 mg/ml; LOQ - elikishyili+Institute+of+Physical+and+Organic+Che
124 60003006669	Ruhashvili	Imeda	14 05 1981	Academic Doctor of Science	Sciences.	State Target Program	quantitation (LOQ). The campitation curve is linear (2=99999 over a concentration range 0.0002 mg/ml and LOD - 0.0002 mg/ml and LOD - 0.0002 mg/ml.  mistry%29&relpos-36&citeCnt=1&esaerchTerm=
					Development and validation		
					of quantitative		
					determination and sampling		
					methods for acetaminophen		
					residues on pharmaceutical		The present study concerns the development and validation of rapid and selective high performance liquid <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a>
					equipment surfaces.		chromatographic (HPLC) method for quantitative estimation of acetaminophen residues in samples collected from \$2.0-85045117772&origin=resultslist&sort=plf-
					Bulletin of the Georgian National Academy of		pharmaceutical manufacturing equipment surfaces and the development of the methodology of establishing the allowable limits for cleaning validation. The developed swab and rinse sampling procedures and HPLC method were d+Organic+Chemistry&sid=f4910184378073eaaae22
					Sciences, 2018. Georgian		aniowatie iminis to tealining varioustorii. The developed swar ani mine sampling procedures and irTex. intention dee  validated with respect to accuracy, system suitability test, specificity, linearity, limit of detection (LOD) and  0c188/972028/ssc16888-1988888888888888888888888888888888
					National Academy of		quantitation (LOQ). The calibration curve is linear r2=99999 over a concentration range 0.00002-0.01 mg/ml; LOQ - elikishvili-Institute+of-Physical+and+Organic+Che
125 01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Sciences.	State Target Program	0.0002 mg/ml and LOD - 0.00002 mg/ml. <u>mistry%29&amp;relpos=36&amp;citeCnt=1&amp;searchTerm=</u>
							The objective of the present study was to develop sequential extraction procedures for the major carotenoids - beta-
					T		carotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the
					Extraction and analysis of the major carotenoids of		ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in
					agro-industrial waste		performance rapid throatographic method to quantitative determination to be a varieties and sycopes in organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range.
					materials using sequential		accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, https://www.scopus.com/record/display.uri?eid=2-
					extraction techniques and		the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and <a extraction-state<="" href="scale=" td=""></a>
					high performance liquid		the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ fesrc-s&st1=Melikishvilli+Institute+of+Physical+an
					chromatography. Eurasian		are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22
					Journal of Analytical		interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39-  0c1849527028sot=b8sdt=b8sd=638s=AFFIL9628M
126 60003006669	Rubashvili	Imeda	14 05 1981	Academic Doctor of Science	Chemistry. 2018. Moment Publications	Grant Project	12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene - elikishvili±Institute+of+Physical+and+Organic+Che mistry%29&relpos=37&citeCnt=12&searchTerm=
120 000000000	Autousiiviii	medu	11.03.1301	redefine Doctor of Science	i donctions.	Grant 1 Toject	institution of the particular period of the pa
							The objective of the present study was to develop sequential extraction procedures for the major carotenoids - beta-
							carotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the
					Extraction and analysis of		${ m ultrasound}$ -assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high
					the major carotenoids of agro-industrial waste		performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in
					agro-industrial waste materials using sequential		organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range, accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure,  https://www.scopus.com/record/display.uri?eid=2-
					extraction techniques and		the temperature, the extraction time (to a superritical fluid, the sample size, the ultrasound power and
					high performance liquid		the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ [Resrc=88xt]=Melikishvili-Institute+of-Physical+an
					chromatography. Eurasian		are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22
					Journal of Analytical		interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39- 0c184952702&sot=b&sd=b&sl=63&s=AFFII.%28M
105 0100/015/05	m		1 03 1960		Chemistry. 2018. Moment	0	12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene - elikishvilis-Institute+of+Physical+and+Organic+Che
127 01006015635	Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	Publications.	Grant Project	165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel). mistry%29&relpos=37&citeCnt=12&searchTerm=
							The objective of the present study was to develop sequential extraction procedures for the major carotenoids - beta-
							carotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the
					Extraction and analysis of		ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high
					the major carotenoids of		performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in
					agro-industrial waste		organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range,
					materials using sequential extraction techniques and		accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and \$2.0-85041085437&origin=resultslist&sort=plf-\$
					high performance liquid		the temperature, the extraction time, the now late or supericritical must, the sample size, the untrasonal power and the solven nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ Restre-88st 1-Melikishyll-Institute-of-Physical-an
					chromatography. Eurasian		are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22
					Journal of Analytical		interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39-
					Chemistry. 2018. Moment		12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene - elikishvili+Institute+of+Physical+and+Organic+Che
128 01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	Publications.	Grant Project	165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel). mistry%29&relpos=37&citeCnt=12&searchTerm=
							The objective of the present study was to develop sequential extraction procedures for the major carotenoids - beta-
							The objective on the present study was to ueverup sequential extraction procedures for the major cardiomoles - beta- cardene and lycopene from agro-industrial waste materials - tomato skin, transperine and orange peels using the
					Extraction and analysis of		ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high
					the major carotenoids of		performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in
					agro-industrial waste		organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range,
					materials using sequential		accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, https://www.scopus.com/record/display.uri?eid=2-
					extraction techniques and		the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and <a href="mailto:special-super-su&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;high performance liquid&lt;br&gt;chromatography. Eurasian&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ &lt;a href=" mestre-s&st]='Melikishvili+Institute+of+Physical+an"'>Mestre-s&amp;st]=Melikishvili+Institute+of+Physical+an</a> are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No <a href="de-organic-chemistry&amp;sid=f491018437f073eaaae22">de-Organic-chemistry&amp;sid=f491018437f073eaaae22</a>
					chromatography. Eurasian Journal of Analytical		are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+0rganic+Chemistry&sid=i49101843/10/3eaaee22 interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39-  0.184952702&sot=b&sd=b&sd=6&ss=AFFII.%28M
					Chemistry. 2018. Moment		12.75 ug (tomato skin, 25.65-32.18 ug (tangerine pee), 41.66-59.16 ug (orange pee) and the content of lycoper -
129 01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Publications.	Grant Project	165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel). mistry%29&relpos-37&citeCnt=12&searchTerm=

130	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science		Extraction and analysis of the major carotenoids of agro-industrial waste materials using sequential extraction techniques and high performance liquid chromatography. Eurasian Journal of Analytical Chemistry. 2018. Moment Publications.
131	01009018959	Chkhaidze	Mariam	3.10.1968	Academic Doctor of Science		Extraction and analysis of the major carotenoids of agro-industrial waste materials using sequential extraction techniques and high performance liquid chromatography. Eurasian Journal of Analytical Chemistry. 2018. Moment Publications.
132	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Synthesis of polyarylates	Extraction and analysis of the major carotenoids of agro-industrial waste materials using sequential extraction techniques and high performance liquid chromatography. Eurasian Journal of Analytical Chemistry. 2018. Moment Publications.
133	01008013825	Papava	Givi	20.10.1931	Doctor of Science	containing ether bonds in macromolecules (Book Chapter). Chemical Engineening of Polymers: Production of Functional and Flexible Materials. © 2017 by Apple Academic Press, Inc. Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). Chemical	
134	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science	Engineering of Polymers:  Production of Functional and  Flexible Materials. © 2017 by  Apple Academic Press, Inc.  Synthesis of polyarylates  containing ether bonds in  macromolecules (Book  Chapter). Chemical  Engineering of Polymers:  Production of Functional and	
135	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science	Pleuble Materials. © 2017 by Apple Academic Press, Inc. Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). Chemical Engineering of Polymers: Production of Functional and Flexible Materials. © 2017 by	
136	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Apple Academic Press, Inc. Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). Chemical Engineering of Polymers: Production of Functional and	
137	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Flexible Materials. © 2017 by Apple Academic Press, Inc.	

The objective of the present study was to develop sequential extraction procedures for the major carotenoids - betacarotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range. accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and \$2.0-85041085437&origin=resultslist&sort=plfthe solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ [8src-s8st1=Melikishvili+Institute+of+Physical+an are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22 interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39-12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene - elikishvili+Institute+of+Physical+and+Organic+Che 165.11-179.56 μg (tomato skin), 11.12-17.91 μg (tangerine peel), 8.37-10.65 μg (orange peel).

https://www.scopus.com/record/display.uri?eid=2mistry%29&relnos=37&citeCnt=12&searchTerm=

The objective of the present study was to develop sequential extraction procedures for the major carotenoids - betacarotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range. accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and \$2.0-85041085437&origin=resultslist&sort=plfthe solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ f8src=s8st1=Melikishvili+Institute+of+Physical+an are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22 interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.39
0c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M 12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene elikishvili+Institute+of+Physical+and+Organic+Che 165.11-179.56 μg (tomato skin), 11.12-17.91 μg (tangerine peel), 8.37-10.65 μg (orange peel).

https://www.scopus.com/record/display.uri?eid=2mistry%29&relpos=37&citeCnt=12&searchTerm=

 $The \ objective \ of \ the \ present \ study \ was \ to \ develop \ sequential \ extraction \ procedures \ for \ the \ major \ carotenoids - \ beta-present \ study \ was \ to \ develop \ sequential \ extraction \ procedures \ for \ the \ major \ carotenoids - \ beta-present \ study \ was \ to \ develop \ sequential \ extraction \ procedures \ for \ the \ major \ carotenoids - \ beta-present \ study \ was \ to \ develop \ sequential \ extraction \ procedures \ for \ the \ major \ carotenoids - \ beta-present \ study \ was \ to \ develop \ sequential \ extraction \ procedures \ for \ the \ major \ carotenoids - \ beta-present \ sequential \ extraction \ procedures \ extraction \ extrac$ carotene and lycopene from agro-industrial waste materials - tomato skin, tangerine and orange peels using the ultrasound-assisted extraction and the supercritical fluid extraction techniques. A rapid, effective and selective high performance liquid chromatographic method for quantitative determination of beta-carotene and lycopene in organic extracts solutions was developed and validated with respect to robustness, specificity, linearity-range, accuracy, precision, limit of detection (LOD) and quantitation (LOQ) as well. The effect of the operating pressure, https://www.scopus.com/record/display.uri?eid=2the temperature, the extraction time, the flow rate of supercritical fluid, the sample size, the ultrasound power and the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ f8src=s8st1=Melikishvili+Institute+of+Physical+an are 0.0081µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No d+Organic+Chemistry&sid=f491018437f073eaaae22 interference was observed. The content of beta-carotene per 1 g of dried agro-industrial waste material varies 8.390c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M 12.75 µg (tomato skin), 25.65-32.18 µg (tangerine peel), 41.66-59.16 µg (orange peel) and the content of lycopene -165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel).

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic d+Organic+Chemistry&sid=[49]018437f073eaaae22 acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL9628M oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature elikishvili+Institute+of+Physical+and+Organic+Che

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature elikishvili+Institute+of+Physical+and+Organic+Che and increase of elasticity

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic d+Organic+Chemistry&sid=f491018437f073eaaae22 acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an 0c1849527028 sot=b&sdt=b&sl=63&s=AFFII.9628M oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature elikishvili+Institute+of+Physical+and+Organic+Che and increase of elasticity.

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an 0c1849527028sot=b8sdt=b8sd=638s=AFFIL9628M oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature elikishvili+Institute+of+Physical+and+Organic+Che and increase of elasticity.

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an Oct849527028 sot=b8 sdt=b8 sl=638 s=AFFII 9628M oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature elikishvili+Institute+of+Physical+and+Organic+Che and increase of elasticity.

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Polyesters which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic d+Organic+Chemistry&sid=f491018437f073eaaae22 acid was used as acid component. Polyesters are characterized by high heat and thermal stability. The presence of an oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature and increase of elasticity.

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140	Maisuradze	Nunu		Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). Chemical Engineering of Polymens: Production of Functional and Flexible Materials. © 2017 by Apple Academic Press, Inc.	
141 01011058197	Gavashelidze	Eter	01.01.1950	Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). Chemical Engineering of Polymers: Production of Functional and Flexible Materials. © 2017 by Apple Academic Press, Inc.	
142 36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus hisphenols in high boiling solvents (Book Chapter). Chemical Engineering of Polymens: Production of Functional and Flexible Materials. © 2017 by Apple Academic Press, Inc.	
					Synthesis of polyarylates on the base of nucleus hisphenols in high boiling solvents (Book Chapter). Chemical Engineering of Folymens: Production of Functional and Flexible Materials. © 2017 by	
143 01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Apple Academic Press, Inc. Synthesis of polyarylates on the base of nucleus hisphenols in high boiling solvents (Book Chapter). Chemical Engineering of Polymes: Production of Functional and Flexible Materials. © 2017 by	
144	Sherozia	Vitali			Apple Academic Press, Inc.	
						Innovative insecto- acaricidal preparation
						against peach aphids.

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Academic Doctor of Science

Card group-containing heterochain polyesthers were synthesized on the base of norbornene-type polycyclic bisphenols and diphenyldicarboxylic acid dichloroanhydride by the method of high temperature polycondensation. The obtained polymers are characterized by high heat- and thermal stability, are well soluble in chlorinated hydrocarbons and they form transparent films in solutions which are characterized by good mechanical and dielectric properties.

Card group-containing beterochain polyesthers were synthesized on the base of norhornene-type polycyclic bisphenols and diphenyldicarboxylic acid dichloroanhydride by the method of high temperature polycondensation. The obtained polymers are characterized by high heat- and thermal stability, are well soluble in chlorinated hydrocarbons and they form transparent films in solutions which are characterized by good mechanical and dielectric properties.

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Card group-containing heterochain polyesthers were synthesized on the base of norbornene-type polycyclic hisphenols and diphenyldicarboxylic acid dichloroanhydride by the method of high temperature polycondensation. The obtained polymers are characterized by high heat- and thermal stability, are well soluble in chlorinated hydrocarbons and they form transparent films in solutions which are characterized by good mechanical and dielectric properties

Card group-containing heterochain polyesthers were synthesized on the base of norbornene-type polycyclic bisphenols and diphenyldicarboxylic acid dichloroanhydride by the method of high temperature polycondensation. The obtained polymers are characterized by high heat- and thermal stability, are well soluble in chlorinated hydrocarbons and they form transparent films in solutions which are characterized by good mechanical and dielectric properties

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Pyrethroid preparation against plant pests named "Antipest" was prepared using natural compound of turpentine. Preparation contains synthetic pyrethroid and turpentine oil, natural compound obtained from plant remains (pine resin). Content of turpentine oil in the composition of "Antipest" defines the prolonged action of synthetic pyrethroid. As a result, low concentration of the synthetic pyrethroid in the preparation is enough for the whole period of development of pest cycle. The content of pyrethroid (cypermethrin) in the "Antipest" is 40% less than in a widely used imported cypermethrin-containing acaricidal preparation "Arivo". The results of application of new insecto-acaricidal preparation "Antipest" against peach aphids (Mysodes persicae, Hyalopterus pruni) both in laboratory and field conditions are presented in the paper. In lab conditions the optimal effective concentration of "Antipest" working solutions causing maximal mortality of green peach aphids was determined. Effective concentration of the working mixtures of "Antipest" determined under lab conditions were used in the pilot site of peach orchard. Highly effective and costly imported acaricidal preparations "Confidor" (Bayer, Germany) and 'Actara" (Syngenta, Switzerland) were taken as references for comparison. According to the testing results the effectiveness of "Antipest", in accordance with the percentage of mortality of pests, is higher than that of "Confidor" <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrine) was determined in the fruits of peaches treated with "Antipest". The result of the analysis is  $0.006+00.012 \ mg/kg, \ while \ according \ to \ European \ Food \ Safety \ Authority (EFSA) \ the \ maximum \ residue \ level (MRL) \\ 0.018 \ 4952702 \ sot = b \ sdt = b \ sl = 63 \ s = AFFIL \ 928M \ sot = 100 \ sot =$ of cypermethrin in nectarine and peach is 2.0 mg/kg. Thus, "Antipest" is an effective and cheap preparation to protect plants from pests and its application is absolutely safe for people and the environment

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Innovative insectoacaricidal preparation against peach aphids. Bulletin of the Georgian National Academy of Sciences, 2017. Georgian National Academy of 146 01030012597 Teiteichvili Vladimer 17 03 1947 Doctor of Science Sciences Grant Project Innovative insectoacaricidal preparation against peach aphids. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of 147 01026012404 Kaytaradze 13.04.1972 Academic Doctor of Science Sciences Innovative insecto acaricidal preparation against peach aphids. Bulletin of the Georgian National Academy of Sciences 2017 Georgian National Academy of 148 01010003714 Ebralidze 18.08.1964 Academic Doctor of Science Grant Project Ketevan Sciences Innovative insectoacaricidal preparation against peach aphids. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of 149 01007000656 Shalvashvili 10.08.1946 Maste Grant Project

Pyrethroid preparation against plant pests named "Antipest" was prepared using natural compound of turpentine. Preparation contains synthetic pyrethroid and turpentine oil, natural compound obtained from plant remains (pine resin). Content of turpentine oil in the composition of "Antipest" defines the prolonged action of synthetic pyrethroid. As a result, low concentration of the synthetic pyrethroid in the preparation is enough for the whole period of development of pest cycle. The content of pyrethroid (cypermethrin) in the "Antipest" is 40% less than in a widely used imported cypermethrin-containing acaricidal preparation "Arivo". The results of application of new insecto-acaricidal preparation "Antipest" against peach aphids (Mysodes persicae, Hyalopterus pruni) both in laboratory and field conditions are presented in the paper. In lab conditions the optimal effective concentration of "Antipest" working solutions causing maximal mortality of green peach aphids was determined. Effective concentration of the working mixtures of "Antipest" determined under lab conditions were used in the pilot site of peach orchard. Highly effective and costly imported acaricidal preparations "Confidor" (Bayer, Germany) and "Actara" (Syngenta, Switzerland) were taken as references for comparison. According to the testing results the effectiveness of "Antipest", in accordance with the percentage of mortality of pests, is higher than that of "Confidor" https://www.scopus.com/record/display.uri?eid=2and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 <a href="mailto:s2.0-85040521549&origin=resultslist&sort=plf-">s2.0-85040521549&origin=resultslist&sort=plf-</a> times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrine) was determined in the fruits of peaches treated with "Antipest". The result of the analysis is  $0.006+00.012\ mg/kg,\ while\ according\ to\ European\ Food\ Safety\ Authority\ (EFSA)\ the\ maximum\ residue\ level\ (MRL) \\ 0.0184952702\&sot=b\&sd=b\&sl=63\&s=AFFIL9628M$ of cypermethrin in nectarine and peach is 2.0 mg/kg. Thus, "Antipest" is an effective and cheap preparation to protect plants from pests and its application is absolutely safe for people and the environment.

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156	01009007252	Nijaradze	Manana	31.08.1952		Ion exchange properties of Georgian natural zeolites. Chemistry Journal of Moldova. 2017. Institute of Chemistry, Academy of Sciences of Moldova
157		Alelishvili	Maia			Ion exchange properties of Georgian natural zeolites. Chemistry Journal of Moldova 2017. Institute of Chemistry, Academy of Sciences of Moldova

The catalytic conversion of the tertiary terpenic alcohol linalool (C10H18O) on samples of the beta type microporous zeolites (BEA-25 and BEA-150 with n(SiO2)/n(Al2O3) equal to 25 and 150) and on their modified micro-mesoporous forms (RBEA-25 and RBEA-150 with n(SiO2)/n(Al2O3) equal to 23.8 and 176.4, and transport mesopores with pore diameters 3.5 and 3.8 nm, respectively)was studied. The micro-mesoporous materials were synthesized by recrystallization of initial commercial BEAzeolites in NaOH aqueous solutions. The chemical composition of the catalysts was determined using X-ray fluorescence analysis. The micro-and mesopores volumes and specific surface areas of catalysts were defined by nitrogen adsorption-desorption. The acid properties of catalysts were estimated using temperature-programmed desorption of ammonia. The catalytic conversion of linalool was carried out in a static system in the liquid phase. The analysis of products of catalytic reactions was carried out by the GC-MS. The reactions of isomerization, dehydration, cyclization and condensation of linalool take placeon the studied micro-and <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a>  $micro-mesoporous\ zeolites\ by\ the\ conversion\ of\ linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ 60-\underbrace{s2.0-85030752439\&origin-results list\&sort=plf-linalool\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ a\ liquid\ phase\ at\ of\ nitrogen\ or\ argon\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ or\ argon\ in\ an\ atmosphere\ of\ nitrogen\ or\ argon\ or\ argon\$ 170 °C. The conversion of linalool (4-40%) and the selectivity (45-12 %) of the formation of nerol and geraniol as f&src=s&st1=Melikishvilli+Institute+of+Physical+an products of linalool isomerization are low. The introduction of mesopores in the microporous BEA-type zeolite catalysts leads to a significant increase in conversion of linalool and a slight growth in selectivity towards nerol and 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M geraniol. Comparatively high amount of weak acid sites in microporous BEA zeolites contributes to enlarge in selectivity

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Ion exchange properties of Georgian analcime, phillipsite and scolecite have been studied. The exchange capacity of analcimes is higher for sodium cations, decreasing in the following series: Na+>K+>Ag+>NH4+>Ca+2>Sr+2>Li+, the <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca+2>K+~Sr+2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca+2>Mg+2 for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca+2>Mg+2 d+Organic+Chemistry&sid=f491018437f073eaaae22 for samples with high K-content. For scolecite selectivity sequences depend on temperature and flow rate, at low temperatures and under static conditions the selectivity sequence is Sr+2>Ba+2>Rb+ >Ca+2>Cs+ >K+>NFLt+>Na+

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d+Organic+Chemistry&sid=f491018437f073eaaae22 elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=41&citeCnt=6&searchTerm=

s2.0-85021073608&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M elikishvili+Institute+of+Physical+and+Organic+Che mistry%29&relpos=42&citeCnt=6&searchTerm=

158	01024031982	Khetsuriani	Natela	8.12.1958	Academic Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	State Target Program
159	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	State Target Program
160	01010012527	Topuria	Elza	11.11.1939	Academic Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	State Target Program
161	01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	Grant Project
162	57001006403	Gogaladze	Maia	15.02.1981	Academic Doctor of Science	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	Grant Project

Polycyclic aromatic hydrocarbons from vacuum gas oil fraction of Norio oil (Georgia) with boiling point 340–590  $^{\circ}\text{C}$ was studied by GC-MS method. As a result of using multistage separation method, over one thousand samples of crude oil were collected: 876 samples from netroleum ether clustes: 78 samples from henzene extracts: 90 crystal samples Petroleum ether eluate #56 and the components obtained from its crystallization were studied. Gaschromatographic (GC) separation of the samples concentrate was carried out of capillary columns (15 m and 30 m) by dimethyl-polysiloxane in programmed temperature conditions. For analysis of the obtained data an automated system of mass deconvolution and identification (AMDIS) was used. In the eluate under investigation the following https://www.scopus.com/record/display.uri?eid=2structures were identified; indenes, tetralines, dinaphtilbenzenes, naphthalenes, fluorenes, phenantrenes, antracenes, \$2.0-85018280316&origin=resultslist&sort=plfmono- and polyalkyl derivatives of naphtofluorene and phenantrene, and terpeniles. In crystal samples of the eluate [8src=s8st]=Melikishyili+Institute+of+Physical+an the banzantracene, chrizene, their methyl-, dimethyl and trymethyl-analoges, phenentrene derivatives, antracenes

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0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M retention indices and mass-spectral data was successfully used for the structure elucidation of the components of this elikishvilli-Institute+of+Physical+and+Organic+Che particular complex mixture.

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The results of the study of physicochemical properties of chelate-type compounds with mixed ligands are presented. The formula for these compounds is M·gl·L·nH2O (where: M = Mn, Zn, Fe, Co, Cu; gl is the glutamic acid molecule, L-2 citrate ion). Study of qualitative dissolubility of the above referred compounds in various solvents proved that these compounds are not soluble in water at ambient temperature, while at heating their dissolution capacity increases. In organic solvents (alcohol, acetone, dimethylformamide) they reveal low solubility  $indices. Thermographic study \ of the synthesized \ compounds \ show \ that \ these \ compounds \ are \ rather \ stable \ thermally$ and decomposition of water-containing compounds commences at a relatively low temperature (75-1900C), while waterless compounds decompose at higher temperature (205-2400C). Decomposition of these compounds proceeds gradually in three stages: I. detachment of water molecules; II. gradual oxidation of glutaminic acid; and III. citrate ion oxidation. The

final product of thermolysis is metal oxide or a mix of metal oxide and coal. Study of IR absorption spectra of the compounds showed that neutral molecules of glutaminic acid coordinate with complexforming metals through carbonyl group oxygen atoms and amino group nitrogen atoms that lead to the formation of five-member metalcycles. In case of the citric acid molecule, two of three carboxyl groups suffer deprotonation, and by means of oxygen atoms of this deprotonated carboxyl group they form bond with metal atoms. Premixes prepared on the base of a chelate-type compound with mixed ligands were tested in rabbit feeding and the relevant formulas were developed. http://science.org.ge/bnas/vol-11-2.html The results of the study of physicochemical properties of chelate-type compounds with mixed ligands are presented. The formula for these compounds is M-gl-L-nH2O (where: M = Mn, Zn, Fe, Co, Cu; gl is the glutamic acid molecule, L-2 citrate ion). Study of qualitative dissolubility of the above referred compounds in various solvents proved that these compounds are not soluble in water at ambient temperature, while at heating their dissolution capacity increases. In organic solvents (alcohol, acetone, dimethylformamide) they reveal low solubility indices. Thermographic study of the synthesized compounds show that these compounds are rather stable thermally and decomposition of water-containing compounds commences at a relatively low temperature (75-1900C), while waterless compounds decompose at higher temperature (205-2400C). Decomposition of these compounds proceeds gradually in three stages: I. detachment of water molecules; II. gradual oxidation of glutaminic acid; and III. citrate

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mistry%29&relpos=43&citeCnt=0&searchTerm=

163	01001052902	Klarjeishvili	Nazibrola	13.11.1957	Master of Chemistry		Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	Grant Project
164	01024001324	Lomtadze	Omar	26.02.1947	Academic Doctor of Science		Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. Bulletin of the Georgian National Academy of Sciences. 2017. Georgian National Academy of Sciences	Grant Project
165	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	CHAPTER 8: Adsorption Selectivity of Boron Nitride Nanostructures Designed for Environmental Protection. RSC Detection Science. 2017. Royal Society of Chemistry.		State Target Program
166	01024006730	Urotadze	Spartak	23.06.1943	Doctor of Science		Laumontite-Natural zeolite mineral of Georgia. Bulletin of the Georgia National Academy of Sciences. 2016. Georgian National Academy of Sciences	State Target Program
167	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science		Laumontite-Natural zeolite mineral of Georgia. Bulletin of the Georgian National Academy of Sciences. 2016. Georgian National Academy of Sciences	State Target Program
168	01024006731	Osipova	Nana	31.10.1944	Academic Doctor of Science		Laumontite-Natural zeolite mineral of Georgia. Bulletin of the Georgian National Academy of Sciences. 2016. Georgian National Academy of Sciences	State Target Program

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Because of the adsorption selectivity of different molecules from gaseous and liquid media, boron nitride (BN) nanostructures with large specific surface area are considered as useful materials in environmental protection, e.g., in water treatment for removal of organic pollutants. Here, we propose a theoretical model explaining the selectivity of boron nitride surfaces to adsorb different molecules. The weakness of interaction between BN hexagonal layers gives <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> the possibility for such kind of reconstruction of the surface layer when B and N atoms are displaced in opposite directions from the surface plane. Bonding in BN is partially ionic, i.e., B and N atoms possess non-zero effective electrical charges of opposite signs. Thus, BN surfaces should be polarized and interact with ions, and induce and/or d+Organic+Chemistry&sid=f491018437f073eaaae22 attract the electrical dipoles of molecules. The adsorption depends on the relation between electrical attraction and 0c184952702&sot=b&sdt=b&sl=63&s=AFFIL%28M Pauli repulsion forces between BN hexagonal surface and molecules, i.e., their characteristics, such as size, charge, dipole moment, and polarizability

Integrated research of Georgian laumontite-containing tuffs and their modified (treated with water solutions of HCl and NH4Cl) forms was carried out to create the scientific basis for their use. Zeolite phase content in rocks (50-90% in untreated samples) as well as the laumontite resistance to the treatment with ammonium chloride tuffs (up to 3N) and hydrochloric acid (up to 1N) were determined on the basis of X-ray diffraction pattern analysis Thermogravimetric methods show the complete stability of crystalline microporous structure of laumontite up to https://www.scopus.com/record/display.uri?eid=2-450°C. Chemical composition of laumontitecontaining rocks, water sorption capacity, ion exchange capacity relative <a href="mailto:s2.0-84966277517&origin=results]ist&sort=plf-100">s2.0-8496627751 to alkali and alkali earth metal cations ammonium cation and selectivity of the laumontite relative to single-and double-charged cations of metals were discovered. Quite high content of zeolite phase in rocks determines the prospect of their mining, and physical-chemical properties of laumontite-containing rocks give the basis of their applicability as adsorbents and ion exchangers in catalytic systems and as a raw material for the production of nanomateriale

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170	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Quantitative estimation of some volatile N- nitrosamines in tobacco smoke using validated GC-Ms estended. Asian Journal of Chemistry. 2015. Asian Publication Corporation	Grant Project
171	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	Quantitative estimation of some volatile N- introsamines in tobacco smoke using validated Gc- MS method. Asian Journal of Chemistry. 2015. Asian Publication Corporation	Grant Project
						Application of methionine- containing complexes and their composites with	
172	01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	clinoptilolite in poultry nutrition. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences	Grant Project
173	01024006730	Urotadze	Spartak	23.06.1943	Doctor of Science	Application of methionine- containing complexes and their composites with clinoptilolite in polltry mutrition. Bulletin of the Georgian National Academy of Sciences. 2015, Georgian National Academy of Sciences	Grant Project
174	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Application of methionine- containing complexes and their composites with clinoptilolite in poultry nutrition. Bulletin of the Georgian National Academy of Sciences. 2015, Georgian National Academy of Sciences	Grant Project

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Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part <a href="https://www.scopus.com/record/display.uri?eid=2-">https://www.scopus.com/record/display.uri?eid=2-</a> of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water \$\frac{\sigma \cdot 0.85055168436\cdot \sigma \sigma \cdot \sigma \sigma \sigma \cdot 0.85055168436\cdot \sigma \sigma \cdot \sigma \cdo solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of <a href="mailto:likelikishvili+Institute+of+Physical+an">[likelikishvili+Institute+of+Physical+an</a> medicinal preparations from various admixes. Hydrogen forms of natural zeolite - clinoptilolite and bromoacetic acid d+Organic+Chemistry&sid=f491018437f073eaaae22 were used to resolve this problem. Chemical modification of clinoptilolite, by inculcation of ionogen groups into 0c184952702&sot=b&sdt=b&sl=63&s=AFFII.%28M zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite elikishvili+Institute+of+Physical+and+Organic+Che with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g

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Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part https://www.scopus.com/record/display.uri?eid=2of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water <a href="scale="exchange">s2.0-85055168436&origin=resultslist&sort=plf-</a> solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of [8src=s8st]=Melikishyili+Institute+of+Physical+an medicinal preparations from various admixes. Hydrogen forms of natural zeolite - clinoptilolite and bromoacetic acid d+Organic+Chemistry&sid=f491018437f073eaaae22 were used to resolve this problem. Chemical modification of clinoptilolite, by inculcation of ionogen groups into  $\underline{0c184952702\&sot=b\&sdt=b\&sl=63\&s=AFFIL9628M}$ zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite elikishvili+Institute+of+Physical+and+Organic+Che with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.

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182 01026017278	Tabukashvili	Zurab	05.01.1957	Master	Organomineral ionites. (Book Chapter). High-Performance Polymers for Engineering- Based Composites. 2015. © 2016 by Apple Academic Press, Inc.		State Target Program
183 01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Zeolite based hybrid cationites.  High-Performance Polymers for Engineering-Based Composites 2015, 6 2016 by Apple Academic Press, Inc.		State Target Program
184 36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Zeolite based hybrid cationites.  High-Performance Polymers for Engineering-Based Composites. 2015. © 2016 by Apple Academic Press, Inc.		State Target Program
185 01008013825	Papava	Givi	20.10.1931	Doctor of Science	Zeolite based hybrid cationites. High-Performance Polymers for Engineering-Based Composites. 2015. © 2016 by Apple Academic Press, Inc.		State Target Program
186	Sherozia	Vitali			Zeolite based hybrid cationites. High-Performance Polymers for Engineering-Based Composites. 2015. © 2016 by Apple Academic Press, Inc.		State Target Program
187 01030034608	Khotenashvili	Nanuli	14.04.1941	Master	Zeolite based hybrid cationites. High-Performance Polymers for Engineering-Based Composites. 2015. 0 2016 by Apple Academic Press, Inc.		State Target Program
188 01026017278	Tabukashvili	Zurab	05.01.1957	Master	Zeolite based hybrid cationites. High-Performance Polymers for Engineering-Based Composites. 2015. O 2016 by Apple Academic Press, Inc.		State Target Program
189 01024044373	<b>Khiri</b> ri	Guram	06 10 1949	Academic Doctor		Study and wasteless utilization of the residue after profilaxis of oil pipe- line. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of	State Target Program

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Oct849527028 sot=b8:sdt=b8:sl=638:s=AFFIL%028M zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite elikishvili+Institute+of+Physical+and+Organic+Che with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.

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During the pipeline operation a large amount of heavy components are deposited in the form of semisolid, viscousflow mass. The residue reduces a pipeline throughput capacity and causes various delays which may be followed by some serious accidents and ecological problems. To avoid such results it is necessary to inspect and clean the pipeline periodically. After cleaning the pipeline a heavy semisolid viscous mass of residue is accumulated, utilization of which is one of the topical problems of chemistry and ecology today. The residue is characterized by specific physical and chemical properties. The main components of residue are relatively high-molecular saturated naphtenic aromatic hydrocarbons and heteroatomic compounds. Its composition is quite different from the oil wastes, and it is much more prospective for production of some deficient goods. The chromatomasspectrometric study of the sample of pipeline reasidue taken in 2013, show that it consists of: 5% resins, 5% water, 17% liquid hydrocarbons, 72% solid hydrocarbons, among them octan, nonan, dakan, hydrocarbons of eikozan, tricozan, tetracozan groups, and the others. It should be noted that the sample-2013 contains approximately 28% of mechanical impurities, while the sample-2012 only 8.3% As a result of vacuum fractionation of the residue in the rectifying column, five fractions under study were obtained: 80-190: 190-300: 300-350: 350-450°C and the residue >450°C. The main parameters of the fractions are determined: yield, inflammation and explosion points, acid number and the content of sulfur, paraffins, arenes, naphtenes, resins and pyrobitumens. Recommendations on the spheres of utilization of these fractions are worked out. The ecologically safe scheme is elaborated for wasteless processing of oil pipeline residue, which gives possibility to obtain high-quality deficient products by means of rectification and molecular distillation preventing cracking and bypassing expensive stages i.e. by a simple technique.

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https://www.scopus.com/record/display.uri?eid=2s2.0-85055142353&origin=resultslist&sort=plff&erc-e&et1-Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 and+Organic+Chemistry%29&relpos=51&citeCnt= 0&searchTerm=

https://www.scopus.com/record/display.uri?eid=2s2 0-85055142353&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 and+Organic+Chemistry%29&relnos=51&citeCnt= 0&searchTerm=

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s2.0-85055142353&origin=resultslist&sort=plff&erc-e&et1-Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 and+Organic+Chemistry%29&relpos=51&citeCnt=

https://www.scopus.com/record/display.uri?eid=2s2 0-84951846293&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=52&citeCnt=

190	01021003125	Gabunia	Tinatini	06.02.1963	Master	Study and wasteless utilization of the residue after profilaxis of oil pipe-line. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences	State Target Program
191	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences colors.	State Target Program
192	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Influence of the soil-free substrate on the biometric parameters of bean and barley Germination.  Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences Sciences Sciences Sciences	State Target Program
193	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences.	State Target Program
194	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	Influence of the soil-free substrate on the biometric parameters of bean and barley Germination.  Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences.	State Target Program

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https://www.scopus.com/record/display.uri?eid=2s2.0-84951846293&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 0&searchTerm=

In the laboratory conditions, influence of the substrate based on brown coal and natural zeolite (clinoptilolite) on the biometric parameters of bean and barley germination has been investigated. In the first version the soil (object of comparison) was used as the standard. In the second version the substrate was produced by mixing 50% of finelygrained (up to grain size < 1 mm) zeolite and 50% of soil. The third main version is similar to the second one, where brown coal (50%) was used instead of soil. The following biometric parameters were determined: germination energy (GE), relative value of germination energy (RVGE), germination (G), relative value of seed germination (RVSG), https://www.scopus.com/record/display.uri?eid=2height of sprout (HS), relative size of height of sprout (RSHS), rate of germination (RG) and intergrowth (IG). As it is \$2.0-84928615007&origin=resultslist&sort=plfseen, introduction of zeolite into the soil has an essential influence on the calculated parameters, raising their values [8src=s8st]=Melikishvili+Institute+of+Physical+an by 2% and higher. These parameters are even higher for the samples containing zeolites and brown coal. Variation of d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 these parameters on the substrate occurs in the sequence: soil (object of comparison) < zeolite-soil < zeolite-brown  $\frac{184376073eaaae220c184952702\&sot=b\&sdt=b\&sd=6}{2}$ coal. It was shown that the enrichment of the soil with zeolite in combination with brown coal substantially raises 3&s=AFFIL9628Melikishvili+Institute+of+Physical+ germination and development of the seeded cultures. The present work has preliminary character and the results

and+Organic+Chemistry%29&relpos=53&citeCnt= provide a basis for field experiments, and for more detailed agrochemical research of the examined substrates.

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					parameters of bean and		height of sprout (HS), relative size of height of sprout (RSHS), rate of germination (RG) and intergrowth (IG). As it is	
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					Bulletin of the Georgian		by 2% and higher. These parameters are even higher for the samples containing zeolites and brown coal. Variation of	
					National Academy of		these parameters on the substrate occurs in the sequence: soil (object of comparison) < zeolite-soil < zeolite-brown	18437f073eaaae220c184952702&sot=b&sdt=b&sl=6
					Sciences. 2015. Georgian		coal. It was shown that the enrichment of the soil with zeolite in combination with brown coal substantially raises	
								and+Organic+Chemistry%29&relpos=53&citeCnt=
		26.1	14111000		National Academy of		germination and development of the seeded cultures. The present work has preliminary character and the results	
195 01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	Sciences	State Target Program	provide a basis for field experiments, and for more detailed agrochemical research of the examined substrates.	0&searchTerm=
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							biometric parameters of bean and barley germination has been investigated. In the first version the soil (object of	
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							grained (up to grain size < 1 mm) zeolite and 50% of soil. The third main version is similar to the second one, where	
					Influence of the soil-free		brown coal (50%) was used instead of soil. The following biometric parameters were determined: germination energy	,
					substrate on the biometric		(GE), relative value of germination energy (RVGE), germination (G), relative value of seed germination (RVSG),	https://www.scopus.com/record/display.uri?eid=2-
					parameters of bean and		height of sprout (HS), relative size of height of sprout (RSHS), rate of germination (RG) and intergrowth (IG). As it is	
					barley Germination.		seen, introduction of zeolite into the soil has an essential influence on the calculated parameters, raising their values	
					Bulletin of the Georgian		by 2% and higher. These parameters are even higher for the samples containing zeolites and brown coal. Variation of	
					National Academy of		these parameters on the substrate occurs in the sequence: soil (object of comparison) < zeolite-soil < zeolite-brown	18437f073eaaae220c184952702&sot=b&sdt=b&sl=6
					Sciences. 2015. Georgian		coal. It was shown that the enrichment of the soil with zeolite in combination with brown coal substantially raises	3&s=AFFIL%28Melikishvili+Institute+of+Physical+
196 01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	National Academy of		germination and development of the seeded cultures. The present work has preliminary character and the results	and+Organic+Chemistry%29&relpos=53&citeCnt=
196 01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	Sciences	State Target Program	provide a basis for field experiments, and for more detailed agrochemical research of the examined substrates.	0&searchTerm=
					volatile N-Nitrosamines in			
					tobacco smoke using			
					validated GC-MS method			
					and its uncertainty		The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine	
					evaluation, illustrated by		volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the above-	https://www.scopus.com/record/display.uri?eid=2-
					determination of N-		mentioned compounds in tobacco smoke or in sample solutions obtained from solid/ liquid material using extraction.	
					nitrosomethylethylamine.		The concentration of sample solution should not be less than 0.5 µg mL-1 (Limit of quantitation of this method) for	
					Bulletin of the Georgian		each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by	d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910
					National Academy of		determination of N-nitrosomethylethylamine in tobacco smoke of the commercial best-selling local cigarette brand.	
					Sciences. 2015. Georgian		The uncertainty value was used as the acceptance criteria for evaluation of the method precision. The determined	3&s=AFFIL%28Melikishvili+Institute+of+Physical+
					National Academy of		quantity of Nnitrosomethylethylamine varying from 108 to 124ng per cigarette is very high, which can be caused by	
107 (000300(((0	D. L. J. 31	T 1	1405 1001	4 1 ' D CC'		Company Devices		
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences	Grant Project	high nitrate and tar content in local tobacco.	0&searchTerm=
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in	Grant Project		
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences	Grant Project		
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in	Grant Project		
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using	Grant Project		
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method	Grant Project	high nitrate and tar content in local tobacco.	
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine	08searchTerm: https://www.scopus.com/record/display.uri?eid-2-
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N-	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobacco smoke or in sample solutions obtained from solid/liquid material using extraction.	0&searchTerm= https://www.scopus.com/record/display.uti?eid=2- \$\( \text{2.0-8492803502&origin=resultsint&sort=pH} \).
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine.	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobacco smoke or in sample solutions obtained from solid/liquid material using extraction. The concentration of sample solutions should not be less than O.5 μg mL-1 (Limit of quantitation of this method) for	08searchTerm= https://www.scopus.com/record/display.uri?eid=2- \$2.0.84928603502&origin-resultslinksort-pH: R8srcs-8ut-Dhikishvill-Institut-of-Physical-an
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine. Bulletin of the Georgian	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobacco smoke or in sample solutions obtained from solid/liquid material using extraction. The concentration of sample solution should not be less than 0.5 µg mL-1 (Limit of quantitation of this method) for each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by	08searchTerm= https://www.scopus.com/record/display.uri?eid=2- \$2.0.849286055028origin-resultslist8:ort-pH- f8scr=88st1=Melikishvili-Institute-of-Physical-and dcTrganis*ci-Chemistry.Rulo-8.nic-Rulo-8sid-4910
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine. Bulletin of the Georgian National Academy of	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobaccos moke or in sample solutions obtained from solid/ liquid material using extraction. The concentration of sample solution should not be less than 0.5 µg ml I (Limit of quantitation of this method) for each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by determination of N-nitrosamyhelythylamine in tobacco smoke of the commercial best-selling local cigarette brand.	08searchTerm= https://www.scopus.com/record/display.uri?eid-2- s2.0-84928603502&origin=resultalist&ort=plf- f8stre=skst1-Melhishvili-Institute-tof-Physical-am d4:Organi-t-Chemistry&nlo-&nlr-&nls-&ssid-4910. l8437072-asus220:18495270286st-b8sid-b8sid-b8sid-
197 60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian	Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobacco smoke or in sample solutions obtained from solid liquid material using extraction. The concentration of sample solution should not be less than O.5 yag mL-1 (laim of quantitation of this method) for each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by determination of N-nitrosomethylethylamine in tobacco smoke of the commercial best-selling local cigarette brand. The uncertainty value was used as the acceptance criteria for evaluation of the method precision. The determined	08searchTerms  https://www.scopus.com/record/display.uri?eids2- 20_0.8497860350728cripin-resultsin8sort-plf- 88crs=88x1-Melikshivlil-Institut-of-Physical-an 4LOrganic-Chemistry&nlo-&nlo-&nlo-&side-4910 10457073eauae220c1849527028.sor-b8xdi-b8xdi- 88x=AFFII3928Melikshivlil-Institute-of-Physical-
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<ul><li>197 60003006669</li><li>198 01030012597</li></ul>	Rubashvili Tsitsishvili	Imeda	14.05.1981 17.03.1947	Academic Doctor of Science  Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian	Grant Project  Grant Project	high nitrate and tar content in local tobacco.  The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobacco smoke or in sample solutions obtained from solid liquid material using extraction. The concentration of sample solution should not be less than O.5 yag mL-1 (laim of quantitation of this method) for each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by determination of N-nitrosomethylethylamine in tobacco smoke of the commercial best-selling local cigarette brand. The uncertainty value was used as the acceptance criteria for evaluation of the method precision. The determined	08searchTerms  https://www.scopus.com/record/display.uri?eids2- 20_0849786035078/origin-resultslint8/ori-plf- 88srs=88x1-Melikshvill-Institut-of-Physical-an di-Organic-Chemistry&mlo-&nlr-&nls-&sid-f4910 18457073eauae220c1849527028.ori-b&sdr-b&sl-6 38x=AFF119.820Melikshvill-Institut-of-Physical-
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198 01030012597 199	Tsitsishvili Andronikashvili	Vladimer Teimuraz	17.03.1947	Doctor of Science  Doctor of Science	Sciences volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N- nitrosomethylethylamine. Bulletin of the Georgian National Academy of Sciences. 2015. Georgian National Academy of Sciences. Autural zeolite - One of the possibilities of transition from chemical to biological agronomy. Bulletin of the Georgian National Academy of Sciences. 2012. Georgian National Academy of Sciences in the Science of the possibilities of transition from chemical to biological agronomy. Bulletin of the Georgian National Academy of Sciences. Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. Bulletin of the Georgian National Academy of Sciences. 2012. Georgian National Academy of Sciences Natural zeolite - One of the possibilities of transition	Grant Project  State Target Program	The present work describes an efficient, sensitive and rapid GC-MS method for quantitative estimation of nine volatile N-nitrosamines diluted in methanol as a sample solution, which can be used to determine the abovementioned compounds in tobaccos moke or in sample solutions obtained from solid/ liquid material using extraction. The concentration of sample solution should not be less than 0.5 µg ml I (Limit of quantitation of this method) for each N-nitrosamine. The uncertainty of this method is estimated based on validation data, which is illustrated by determination of N-nitrosomethylethylamine in tobacco smoke of the commercial best-selling local cigarette brand. The uncertainty value was used as the acceptance criteria for evaluation of the method precision. The determined quantity of Nnitrosomethylethylamine varying from 108 to 124ng per cigarette is very high, which can be caused by high nitrate and tar content in local tobacco.  Some aspects of transition from chemical to biological agronomy are discussed in the article. Attention is focused on the questions of use of natural zeolites of sedimentary origin in practice of plant growing. On the basis of the natural zeolites on its physical and chemical properties, biological activity and efficiency are established.  Some aspects of transition from chemical to biological agronomy are discussed in the article. Attention is focused on the questions of use of natural zeolites of sedimentary origin in practice of plant growing. On the basis of the researches carried out at the end of the 20th and at the beginning of the 21 st centuries, positive influences of the natural zeolites of natural zeolites of sedimentary origin in practice of plant growing. On the basis of the researches carried out at the end of the 20th and at the beginning of the 21 st centuries, positive influences of the researches carried out at the end of the 20th and at the beginning of the 21 st centuries, positive influences of the	08searchTerms  https://www.scopus.com/record/display.uri?eid-2- 2-0-84928603502&origin=resultslist&sort=plf- f8str=s&st-1-Melhishvili-Institute-of-Physical-and dc.Organi-cChemistry&nlo-&nlr-&nls-&ssid-4990 18437072-asacy20c1849527208sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and+Organi-cChemistry&nlo-&nlr-&nls-&ssid-4990 18437072-asacy20c1849527208sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and+Organi-cChemistry&nlo-&nlr-&nls-&ssid-4990 18457072-asacy20c1849527208sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and+Organi-cChemistry&nlo-&nlr-&nls-&sid-4990 18437072-asacy20c1849527208sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and+Organi-cChemistry&nlo-&nlr-&nls-&sid-4990 18437072-asacy20c1849527208sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and+Organi-cChemistry&nlo-&nlr-&nls-&sid-4910 18437072-asacy20c18495272028sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-cChemistry&nlo-&nlr-&nls-&sid-4910 18437072-asacy20c18495272028sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-4910 18437072-asacy20c18495272028sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-4910 18437072-asacy20c18495272028sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-4910 18437072-asacy20c18495272028sco-b&sdt-b&sl-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-6 38s-AFF18x28Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-6 38s-AFF18x288Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-6 38s-AFF18x288Mellishvili-Institute-of-Physical-and-Organi-c-Chemistry&nlo-&nlr-&nls-&sid-6 28s-ASS-35376&organ-resubslistsxor-plf-
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Doctor of Science

In the laboratory conditions, influence of the substrate based on brown coal and natural zeolite (clinoptilolite) on the biometric parameters of bean and barley germination has been investigated. In the first version the soil (object of

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203	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science
204	01011058197	Gavashelidze	Eter	01.01.1950	Academic Doctor of Science
205		Maisuradze	Nunu		Academic Doctor of Science
206	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science
207	01008013825	Papava	Givi	20.10.1931	Doctor of Science
208	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science
209	01008004780	Molodinashvili	Zaza	02.08.1961	Academic Doctor of Science
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of Sciences	State Target Program
Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. Bulletin of the Georgian National Academy of Sciences. 2012. Georgian National Academy	
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Polyurethanes on the basis of card-type polycyclic bisphenois and different diisocyanates. Bulletin of the Georgian National Academy of Sciences. 2012.	
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Polyurethanes on the basis of card-type polycyclic bisphenois and different diisocyanates. Bulletin of the Georgian National Academy of Sciences. 2012. Georgian National Academy	
of Sciences	State Target Program

State Target Program	Some aspects of transition from chemical to biological agronomy are discussed in the article. Attention is focused on the questions of use of natural zeolites of sedimentary origin in practice of plant growing. On the basis of the researches carried out at the end of the 20 th and at the beginning of the 21 st centuries, positive influences of the natural zeolites on its physical and chemical properties, biological activity and efficiency are established.
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State Target Program	Card-Type secondary diols are synthesized by means of oxyalkylation of bisphenols. Linear homogeneous polyurethanes are obtained through interaction of diols and disocyanates. Their physical and chemical properties, thermal and hear-resistence are studied, as well as resistance in respect of radiation emanation of polymeric compositions obtained on their basis.
State Target Program	Card-Type secondary diols are synthesized by means of oxyalkylation of bisphenols. Linear homogeneous polyurethanes are obtained through interaction of diols and disocyanates. Their physical and chemical properties, thermal and hear-resistance are studied, as well as resistance in respect of radiation emanation of polymeric compositions obtained on their basis.
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State Target Program	Card-Type secondary diols are synthesized by means of oxyalkylation of bisphenols. Linear homogeneous polyurethanes are obtained through interaction of diols and diisocyanates. Their physical and chemical properties, thermal and heat-resistance are studied, as well as resistance in respect of radiation emanation of polymeric compositions obtained on their basis.

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Card-Type secondary diols are synthesized by means of oxyalkylation of bisphenols. Linear homogeneous polyurethanes are obtained through interaction of diols and diisocyanates. Their physical and chemical properties, thermal and heat-resistance are studied, as well as resistance in respect of radiation emanation of polymeric compositions obtained on their basis

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211 01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Polyurethanes on the basis of card-type polycyclic bisphenols and different disco-yantes. Bulletin of the Georgian National Academy of Sciences. 2012. Georgian National Academy of Sciences	State Target Program	Card-Type secondary diols are synthesized by means of oxyalkylation of bisphenols. Linear homogeneous polyurethanes are obtained through interaction of diols and disocyanates. Their physical and chemical properties, thermal and hear-resistance are studied, as well as resistance in respect of radiation emanation of polymeric compositions obtained on their basis.	https://www.scopus.com/record/display.uri?eid=2- g2_0-84800908965.korigin=resultslist&sort=plf: f8xrr=s8xt = Mellikishvili-Institute=of-Physical-san d+Organic=ChemistryRnlo-&nlr-&nls-&sid=645910 18437f073eaase220c184952702&sot=b&sdt=b&sl=6 3&sca_FFII:%28Mellikishvili-Institute=of-Physical- and+Organic=Chemistry%29&relpos=59&citeCnt= 0&searchTerm=
								https://www.scopus.com/record/display.uri?eid=2- g2.0.84860899517&origim=resultslitt&sort=plf- f&src=s&st1=Mellikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo-&nlr-&nls-&sid=4910 18437073eaaae/220:184952702&sot=b&sdt=b&sl=6
212 01017006189	Karkashadze	Nino	08.05.1964		N-Lactosylation of amino benzoic acids. © 2012 Bull. Georg. Natl. Acad. Sci.	State Target Program	The N-lactosylation of isomeric amino benzoic acids by D-lactose is studied. N-m- Carboxyphenyl-β-D-lactosyl amine and N-p-Carboxyphenyl-β-D-lactosyl amine are synthesized and characterized.  Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action	3&s=AFFII.9628Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=60&citeCnt= 0&searchTerm=
					Antiplasmodial in vitro activity of chysanthemoyl-substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition.		against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase- catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E 1 7), and the inhibition of the antioxidant flavoenzyme glutathione reductase (GR, EC 1.8.1.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FeB1 and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphtho- and hydroxynathraquinones and their setters of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E 1 7 in the antiplasmodial activity of quinones as compared with their mammalian cell	
					Chemija. 2011. Lietuvos Mokslu Akademijos		cytotoxicity, and to a modest role of GR inhibition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively efcient	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of-
213	Dolidze	Avtandil		Doctor of Science	Leidykla.  Antiplasmodial in vitro	State Target Program	antiplasmodial agents with a low mammalian cell cytotoxicity.  Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E I 7), and the inhibition	chvsanthemovl-substituted-quinones
					activity of chysanthemoyl- substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. Chemija. 2011. Lietuvos Mokalu Akademijos		of the antioxidant favoenzyme glutathione reductase (GR, EC.1.8.1.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcB1 and the inhibition activity of P. falciparum (St several previously uninvestigated hydroxynaphtho- and hydroxynathraquinones and their esters of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E 1.7 in the antiplasmodial activity of quinones as compared with their mammalian cell cytotoxicity, and to a modest role of GR inhibition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively eclient	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of-
214 01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Leidykla.			
					Antiplasmodial in vitro activity of chysanthemoyl- substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition.	State Target Program	antiplasmodial agents with a low mammalian cell cytotoxicity.  Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E IT), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, EC 18.1.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcB1 and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphtho- and hydroxynathraquinones and their esters of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E I T in the antiplasmodial activity of quinones as compared with their mammalian cell	chysanthemoyl-substituted-quinones
215 01026012404	Kavtaradze	Nino	13.04.1972	Academic Doctor of Science	Antiplasmodial in vitro activity of chysanthemoyl-substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition.  Chemip. 2011. Lietuvos Mokslu Akademijos  Leidykla.	State Target Program  State Target Program	Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E I 7), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, ECI 8.1.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcB1 and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphthe- and hydroxynathraquinones and their setters of chrysanthemia cdd. Taken together with our previous results, the obtained data point to a less	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of- chysanthemoyl-substituted-quinones
215 01026012404	Kavtaradze	Nino	13.04.1972		Antiplasmodial in vitro activity of chysanthemoyl- substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. Chemija. 2011. Lietuvos Mokalu Akademijos Leidykla. New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy		Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinom/semiquinone redox couple (single-electron reduction potential, E I 7), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, EC I 81.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcB1 and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphthe- and hydroxynathraquinones and their estens of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E 1 7 in the antiplasmodial activity of quinones as compared with their mammalian cell cytotoxicity, and to a modest role of GR hinbition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively efcient antiplasmodial agents with a low mammalian cell cytotoxicity.	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of- chvanthemovl-substituted-outinones https://www.scopus.com/record/display.uri?eid_2_ 2_0_8485864593&origin-resultslsrksort-plf- f8src=s8st1=Mellikishvilt-Institute-of-Physical-an dcOrganic-Chemistry &nlo-&nlr-&nls-&sid=f4910 48437073@asa22021849527028&ort-&s4nl-b8sl=6
215 01026012404	Kavtaradze Andronikashvili		13.04.1972		Antiplasmodial in vitro activity of chysanthemoyl- substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. Chemigs. 2011. Lictuvos Mokalu Akademijos Leidykla. New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Geozgian National Academy of Sciences. 2011. Georgian National Academy of Sciences		Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E17), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, EC1.8.1.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcBI and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphtho- and hydroxynathraquinones and their esters of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E17 in the antiplasmodial activity of quinones as compared with their mammalian cell cytotoxicity, and to a modest role of GR inhibition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively effent	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of- chvanthemovl-substituted-outinones https://www.scopus.com/record/display.uri?eid_2_ 2_0_8485864593&origin-resultslsrksort-plf- f8src=s8st1=Mellikishvilt-Institute-of-Physical-an dcOrganic-Chemistry &nlo-&nlr-&nls-&sid=f4910 48437073@asa22021849527028&ort-&s4nl-b8sl=6
			13.04.1972 03.05.1967	Academic Doctor of Science	Antiplasmodial in vitro activity of chysanthemoyl- substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. Chemijs. 2011. Lietuvos Mokalu Akademijos Leidykla. New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy of Sciences New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy of Sciences.	State Target Program	Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single-electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinone/semiquinone redox couple (single-electron reduction potential, E17), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, EC1 81.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcB1 and the inhibition activity of P. falciparum GR several previously uninvestigated hydroxynaphtho- and hydroxyanthraquinones and their esters of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E17 in the antiplasmodial activity of quinones as compared with their mammalian cell cytotoxicity, and to a modest role of GR inhibition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively effcient antiplasmodial agents with a low mammalian cell cytotoxicity.  On the basis of brown coal and natural zeolite (heulandite-clinoptilolite containing tuff) modified by ammonium and potassium cations a substrate has been developed; the bioproduction of plants grown on this substrate is 2.9 times	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of- chvsanthemovl-substituted-quinones  https://www.scopus.com/record/display.un?eid=2_ 22_0.84858645493&origin-resultslist&sort-plf- [88:rc=8st1=Mellkishylil-Institute-of-Physical-san d-Organic-Chemistry-Rio-8-Rin-8-Ris-8id-64-910 184371073easae220c184952702&sort-8-Ris-8-Ris-64-910 184571073easae220c1849527028sort-8-Ris-8-Ris-64-910 18458645493&origin-resultslist&sort-plf- [88:rc=8st1+Mellkishylil-Institute-of-Physical-san d-Organic-Chemistry-Ris-8-Ris-
216	Andronikashvili	Teimuraz		Academic Doctor of Science  Doctor of Science	Antiplasmodial in vitro activity of chysanthemoyl- substituted quinoners. Roles of single-electron reduction potential and glutathione reductase inhibition. Chemijs. 2011. Lietuvos Mokalu Akademijos Leidykla.  New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy of Sciences New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy	State Target Program  State Target Program	Although quinones have been a subject of great interest as possible antimalarial agents, their mechanisms of action against the malaria parasite Plasmodium falciparum are vaguely understood. Flavoenzyme electrontransferase-catalyzed single electron reduction with the subsequent redox cycling and oxidative stress that accelerates with an increasing the the quinom/semiquinone redox couple (single-electron reduction potential, E I 7), and the inhibition of the antioxidant favoenzyme glutathione reductase (GR, EC I 81.7) have been proposed, among several possible mechanisms. Here, we examined the in vitro activity against the P. falciparum strain FcBI and the inhibition activity of Falciparum GR several previously uninvestigated hydroxynaphthe—and hydroxynathquinones and their estens of chrysanthemic acid. Taken together with our previous results, the obtained data point to a less pronounced role of E I 7 in the antiplasmodial activity of quinones as compared with their mammalian cell cytotoxicity, and to a modest tool of GR inhibition underlying the other dominant mechanisms of quinone action. However, it also implies that quinones with a low reduction potential may be used as relatively efcient antiplasmodial agents with a low mammalian cell cytotoxicity.  On the basis of brown coal and natural zeolite (heulandite-clinoptilolite containing tuff) modified by ammonium and potassium cations a substrate has been developed; the bioproduction of plants grown on this substrate is 2.9 times higher than that grown on soil. This substrate is characterized by long continuous utilization in plant growing.  On the basis of brown coal and natural zeolite (heulandite-clinoptilolite containing tuff) modified by ammonium and potassium cations a substrate has been developed; the bioproduction of plants grown on this substrate is 2.9 times higher than that grown on soil. This substrate is characterized by long continuous utilization in plant growing.	https://www.yumpu.com/en/document/read/37864 389/antiplasmodial-in-vitro-activity-of- chvsanthemovl-substituted-quinones  https://www.scopus.com/record/display.uri?eid=2_ \$2_0.84858645493&origin-resultslist&sort-plf.  88x=c-8st1=Mellikishvilis-Institute-of-Physical-san d-Organic-Chemistry-Rio-8-Rio-8-Riod-6-8-di-6-910 18437073eaase220c184952702&sort-b&sdt-b&d-6- 38x=AFIL%28Mellikishvilis-Institute-of-Physical-san di-Organic-Chemistry-Rio-8-

219	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science
220	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science
221	01008013825	Papava	Givi	20.10.1931	Doctor of Science
222	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science
223	01008004780	Molodinashvili	Zaza	02.08.1961	Academic Doctor of Science
224	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science
225	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science
226		Lekveishvili	Erna		Doctor of Science

New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy of Sciences
New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. Bulletin of the Georgian National Academy of Sciences. 2011. Georgian National Academy of Sciences
Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. Journal of the Balkan Tribological Association. 2011. Scientific Bulgarian Communication.
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Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. Journal of the Balkan Tribological Association. 2011. Scientific Bulgarian Communication.
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Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. Journal of the Balkan Tribological

ntific ntific Balkan Tribological Association. 2011. Scientific Bulgarian Communication polycyclic hydrocarbon from georgian petroleum Medziagotyra . 2010. Kaunas

State Target Program

Separation and characterization of University of Technology On the basis of brown coal and natural zeolite (heulandite-clinoptilolite containing tuff) modified by ammonium and 3&s=AFFIL9628Melikishvili+Institute+of+Physical+ potassium cations a substrate has been developed; the bioproduction of plants grown on this substrate is 2.9 times

and+Organic+Chemistry%29&relpos=65&citeCnt= higher than that grown on soil. This substrate is characterized by long continuous utilization in plant growing.

higher than that grown on soil. This substrate is characterized by long continuous utilization in plant growing. Methylol derivative on the basis of 2,2-bis-(4-oxyphenyl) adamantane was obtained. Some kinematic regularities of reaction of interaction of 2,2-bis-(4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in npropyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. https://www.scopus.com/record/display.uri?eid=2-It was proved that the reaction proceeded according to the second order. Activation energy and reaction rate constants were calculated. The effect of various factors on the process of reaction was investigated. IR-spectroscopy was used to study the process of thermal hardening of methylol derivative of 2.2-bis-(4-oxy phenyl) adamantane, at d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of resite, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke

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[85:st==88:st]=Melikishvilii+Institute+of+Physical+an was used to study the process of thermal hardening of methylol derivative of 2,2-bis-(4-oxy phenyl) adamantane, at d+Organic+Chemistry&nlo-&nlr=&nls=&sid=f4910 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of resite, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke

A novel method of isolation of polycyclic aromatic hydrocarbons (PAHs) from three Georgian petroleum fields has been developed. PAHs are classified as carcinogenic compounds and monitored worldwide in a wide range of environments including drinking water, waste water, furnace emissions, soil, hazardous waste extracts and in air over major cities. Our method is a combination of photo-chemical condensation of petroleum PAHs via reaction with maleic anhydride, followed by photodecomposition of resulting photo-adducts. Extraction with gas-liquid chromatography constitutes a final step for isolating narrow fractions of phenanthrene, naphthalene and benzene. Gas-liquid chromatography, mass spectrometry, chromato-mass spectrometry and spectrofluorimetry were used to analyze individual compounds. Our method of isolation of PAHs can be successfully used for crude petroleum, petroleum fractions and for petroleumderived materials-in spite of differences in their compositions

https://www.scopus.com/record/display.uri?eid=2s2.0-84858645493&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6

https://www.scopus.com/record/display.uri?eid=2s2.0-84858645493&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+ar d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 On the basis of brown coal and natural zeolite (heulandite-clinoptilolite containing tuff) modified by ammonium and 3&s=AFFIL9628Melikishvili+Institute+of+Physical+ potassium cations a substrate has been developed; the bioproduction of plants grown on this substrate is 2.9 times

and+Organic+Chemistry%29&relpos=65&citeCnt= 1&searchTerm=

> s2.0-80055100305&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+a 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 3&c-AFFII 9628Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=66&citeCnt= 0&searchTerm=

> s2.0-80055100305&origin=resultslist&sort=plf-18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=66&citeCnt=

> s2.0-80055100305&origin=resultslist&sort=plff&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=66&citeCnt= 0&searchTerm=

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> https://www.scopus.com/record/display.uri?eid=2s2.0-80055100305&origin=resultslist&sort=plf-18437f073eaaae220c184952702&sot=b&sdt=b&sl=6 3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=66&citeCnt= 0&searchTerm=

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227	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis and study of phenolformaldehyde type polymers on the base of bisphenol with adamantane grouping (Book Chapter). Handhook of Condensed Phase Chemistry: 2010. © 2011 Nova Science Publishers.		:
228	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science	Synthesis and study of phenolformaldehyde type polymers on the base of bisphenol with adamantane grouping (Book Chapter). Handthook of Condensed Phase Chemistry: 2010. © 2011 Nova Science Publishers.		
229	01008004780	Molodinashvili	Zaza	02.08.1961	Academic Doctor of Science	Synthesis and study of phenolformaldehyde type polymers on the base of bisphenol with adamantane grouping (Book Chapter). Handhook of Condensed Phase Chemistry; 2010. © 2011 Nova Science Publishers.		
230	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis and study of phenolformaldehyde type polymers on the base of bisphenol with adamantane grouping (Book Chapter). Handhook of Condensed Phase Chemistry; 2010. © 2011 Nova Science Publishers.		
231	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Synthesis and study of phenolformaldehyde type polymers on the base of bisphenol with adamantane grouping (Book Chapter). Handbook of Condensed Phase Chemistry. 2010. © 2011 Nova Science Publishers.		
232		Dolidze	Avtandil		Doctor of Science		Redox properties of chrysanthemic acid esters of hydroxy-naphthoquinones: Implications for their toxicity in mammalian cells. Chemija. 2009. Lietuvos Mokslu Akademijos Leidykla	
233	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science		Redox properties of chrysamhemic acid esters of hydroxy-naphthoquinones: Implications for their toxicity in mammalian cells. Chemija. 2009. Lietuvos Mokslu Akademijos Leidykla	

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3&s=AFFIL9628Melikishvilli-Institute+of+Physical+ formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at the temperature and+Organic+Chemistry%29&relpos=70&citeCnt= exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.

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OksearchTerms Because the chrysanthemic acid derivatives comprise a class of natural insecticides, the synthesis of new compounds

of this group and the studies of their action in various cell types deserve certain interest. We have found that the reactivity of juglonyl chrysanthemate and isonaphthazarinyl chrysanthemate towards the model single-electron transferring fa-voenzyme ferredoxin: NADP + reductase and two-electron-transferring DT-diaphorase correlated with the electron-accepting and sterical properties of analogous naphthoquinones. Teir toxicity in primary mice splenocytes and bovine leukemia virus-transformed lamb kidney fbroblasts (line FLK) also correlated with the single- f8src=8st1=Melikishvili+Institute+of+Physical+an  $electron-transfer properties of model quinones which possess no chrysanthemate substituent. Te cytotoxicity was \\ \frac{d+Organic+Chemistry&nlo=&nlr=&nls=&sid=[4910]}{d+Organic+Chemistry&nlo=&nlr=&nls=&sid=[4910]}$ partly protected by antioxidants and potentiated by the prooxidant 1.3-bis-(2-chloroethyl)-1-nitrosourea and by the 1843/f073eaaae220c184952702&sot=b&sdt=b&sd= inhibitor of DT-diaphorase, dicumarol. Tis implies their 'oxidative stress'-type cytotoxicity. Taken together, these 38:s=AFFII.9628Melikishvili+Institute+of+Physical+ data indicate that the chrysanthemate group may not introduce any additional factor(s) of quinone cytotoxicity in

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					Chemija. 2009. Lietuvos Mokslu Akademijos		inhibitor of DT-diaphorase, dicumarol. Tis implies their 'oxidative stress'-type cytotoxicity. Taken together, these data indicate that the chrysanthemate group may not introduce any additional factor(s) of quinone cytotoxicity in	3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=73&citeCnt=
234 01026012404	Kavtaradze	Nino	13.04.1972	Academic Doctor of Science	Leidykla	Grant Project	mammalian cells.	1&searchTerm=
					Study of heteroligand complex compounds of		A study was conducted to determine the stability constant of heteroligand complex compounds formed in aqueous solutions of metals with citric acid and o-nitrobenzoylhydrazine. The molecule of citric acid, contain functional	https://www.scopus.com/record/display.uri?eid=2- s2.0-44349182528&origin=resultslist&sort=plf-
					metals with citric acid and o- Nitrobenzovlhydrazine in		groups made complex formation in conformity with the solution pH. The study found that the molecule of o- nitrobenzovlhydrazine was composed by hydrazide and nitro groups arranged in the o-positions with respect to the	f&src=s&st1=Melikishvili+Institute+of+Physical+an d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910
					aqueous solutions.		hydrazide. Metal appeared only with the hydrazide group as ligand was treated by tautomeric transformation. The	18437f073eaaae220c184952702&sot=b&sdt=b&sl=6
					Protection of Metals. 2008. Maik Nauka/Interperiodica		complex formation ability of two-valent metals with o-nitrobenzoylhydrazine and citric acid was studied by pH- potentiometric titration method. The titration was carried out with a pH 373 pH meter and a glass electrode. The	3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=77&citeCnt=
235 01008019345	Zhorzholiani	Nani	07.05 1946	Academic Doctor of Science	Publishing	State Target Program	basic titration of the solution produced dissociation and complex formation involving the metal ions.	0&searchTerm=
					Study of heteroligand complex compounds of		A study was conducted to determine the stability constant of heteroligand complex compounds formed in aqueous solutions of metals with citric acid and o-nitrobenzoylhydrazine. The molecule of citric acid, contain functional	https://www.scopus.com/record/display.uri?eid=2- s2.0-44349182528&origin=resultslist&sort=plf-
					metals with citric acid and o-		groups made complex formation in conformity with the solution pH. The study found that the molecule of o-	f&src=s&st1=Melikishvili+Institute+of+Physical+an
					Nitrobenzoylhydrazine in aqueous solutions.		nitrobenzoylhydrazine was composed by hydrazide and nitro groups arranged in the o-positions with respect to the hydrazide. Metal appeared only with the hydrazide group as ligand was treated by tautomeric transformation. The	d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6
					Protection of Metals. 2008.		complex formation ability of two-valent metals with o-nitrobenzoylhydrazine and citric acid was studied by pH-	3&s=AFFIL%28Melikishvili+Institute+of+Physical+
236 01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	Maik Nauka/Interperiodica Publishing	State Target Program	potentiometric titration method. The titration was carried out with a pH 373 pH meter and a glass electrode. The basic titration of the solution produced dissociation and complex formation involving the metal ions.	and+Organic+Chemistry%29&relpos=77&citeCnt= 0&searchTerm=
					Study of heteroligand		A study was conducted to determine the stability constant of heteroligand complex compounds formed in aqueous	https://www.scopus.com/record/display.uri?eid=2-
					complex compounds of metals with citric acid and o-		solutions of metals with citric acid and o-nitrobenzoylhydrazine. The molecule of citric acid, contain functional groups made complex formation in conformity with the solution pH. The study found that the molecule of o-	s2.0-44349182528&origin=resultslist&sort=plf- f&src=s&st1=Melikishvili+Institute+of+Physical+an
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237 57001006403	Gogaladze	Maia	15.02.1981	Academic Doctor of Science	Maik Nauka/Interperiodica Publishing	State Target Program	potentiometric titration method. The titration was carried out with a pH 373 pH meter and a glass electrode. The basic titration of the solution produced dissociation and complex formation involving the metal ions.	and+Organic+Chemistry%29&relpos=77&citeCnt= 0&searchTerm=
								https://www.scopus.com/record/display.uri?eid=2-
					Cation-modified silikalit-2		A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and	s2.0-33846160924&origin=resultslist&sort=plf- f&src=s&st1=Melikishvili+Institute+of+Physical+an
					as a selective adsorbent for gas chromatography		silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the	d+Organic+Chemistry&nlo=&nlr=&nls=&sid=f4910 18437f073eaaae220c184952702&sot=b&sdt=b&sl=6
					columns. Journal of		molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with	3&s=AFFIL%28Melikishvili+Institute+of+Physical+
238	Andronikashvili	Teimuraz		Doctor of Science	Analytical Chemistry. 2007.	State Target Program	molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.	3&s=AFFIL%28Melikishvili+Institute+of+Physical+ and+Organic+Chemistry%29&relpos=80&citeCnt= 0&searchTerm=
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239 01009010669	Eprikashvili	Luba		Doctor of Science	Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. Journal of Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. Journal of Analytical Chemistry. 2007.	State Target Program	cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sive properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the	and-Organic-Chemistry%29&relpos-80&citeCnt= 0&searchTerms. http://www.scopus.com/record/display.uri?eid-2- 52.0-33846160924&origin=resultslist&sort=plf- 0&sers-8&xt1-Melikishvila-Institute-of-Physical-and-Organic-Chemistry&in-8-ain-8-ais-di-910 18437073-eauae220c184952702&sort=8&ait-1-8&ai-6 3&c-AFF[19-28Melikishvila-Institute-of-Physical-and-Organic-Chemistry%29&relpos-80&citeCnt- 0&searchTerms. https://www.scopus.com/record/display.uri?eid-2- 52.0-33846160924&origin=resultslist&sort=plf- 0&searchTerms-https://doi.org/10.1009/1
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239 01009010669	Eprikashvili	Luba		Doctor of Science	Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. Journal of Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. Journal of Analytical Chemistry. 2007. Pleiades Publishing	State Target Program	cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.	and-Organic-Chemistry%29&relpos-80&citeCnt= 0&searchTerms. http://www.scopus.com/record/display.utr?eid-2- 52.0-33846160924&origin=resultslist&sort=plf- 8&srcs&xd-1-Melikishvili-Institute-sof-Physical-and -Organic-Chemistry&in-8-sin-8-sin-4-fi910 18437073-eause220c184957202&sot-b&sd-1- 384s-AFF[19.28Melikishvili-Institute-sof-Physical-and-Organic-Chemistry%029&relpos-80&citeCnt- 0&searchTerms. https://www.scopus.com/record/display.utr?eid-2- 22.0-33846160924&origin=resultslist&sort=plf- 8&src-s&xt1-Melikishvili-Institute-sof-Physical-and-Organic-Chemistry%029&relpos-80&citeCnt- 0Assacrid-Ferms. https://www.scopus.com/record/display.utr?eid-2- 23.0-33846160924&origin=resultslist&sort=plf- 8&src-s&xt1-Melikishvili-Institute-sof-Physical-and-Organic-Chemistry&0-98x-glos-980&citeCnt- 0&searchTerms. https://www.scopus.com/record/display.utr?eid-2- 20033846160924&origin-resultslist&sort=plf-
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239 01009010669 240 01005018838	Eprikashvili Pirtskhalava	Luba Nino	29.03.1964	Doctor of Science  Academic Doctor of Science	Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gus chromatography columns. Journal of Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gus chromatography columns. Journal of Analytical Chemistry. 2007. Pleiades Publishing  Cation-modified silikalit-2 as a selective adsorbent for gus chromatography columns. Journal of Analytical Chemistry. 2007. Analytical Chemistry. 2007.	State Target Program  State Target Program	cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the complexation effect.  A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers derivatives. The adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, tallium, and silver cations. It is intended for the gas chromatographic separation of some isomeric benzene derivatives. The adsorbent possesses pronounced retention properties to para isomers of aromatic compounds, which is due to the molecular sieve properties of the zeolite and the ability of benzene derivatives to form unstable complexes with cations entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the conditions entering the composition of the zeolite. Low selectivity to ortho and meta isomers is due to only the	and-Organic-Chemistry%029&relpos-80&citeCnt= 0&searchTerms https://www.scopus.com/record/display.uri?eid-2- 29_0-33846160924&origin-results/display.uri?eid-2- 29_0-33846160924&origin-results/display.uri?eid-2- 29_0-33846160924&origin-results/display.uri?eid-2- 20_0-33846160924&origin-results/display.uri?eid-3- di-Organic-Chemistry&029&relpos-808&citeCnt= 0&searchTerms https://www.scopus.com/record/display.uri?eid-2- 20_0-33846160924&origin-results/display.uri?eid-2- 20_0-33846160924&origin-results/display.uri?e
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Alkylation of phenol with dimethyl carbonate and methanol on modified zeolites and mesoporous materials. Petroleum Chemistry. 2005. Pleiades Publishing.

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and MCM-41 in the H- form and modified by Cs- ions and cesium hydroxide (to obtain acidic and hasis catalysts)

as studied. The activity and selectivity of phenol alkylation were shown to depend on the type of active sites and structural characteristics of the catalyst, as well as on the nature of the alkylating agent. The base zeolites possess to the highest selectivity with respect co anisole, whereas the highest selectivity for cresols and xylenols is dishplayed by acidic catalysts and zeolites with strong acid sites and pores with diameters greater than 7 Å, respectively. Dimethyl

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