

## 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 / productivity, published scientific papers (title of the paper, date of publication, 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 clonitrolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i> . 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 (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 rights reserved.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a>
2	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i> . 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 (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 rights reserved.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a>
3	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i> . 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 (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 rights reserved.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a>
4	6000300669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i> . 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 (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 rights reserved.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a>
5	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science			Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i> . 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 (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 rights reserved.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sdh=h&amp;sl=638&amp;AFPL%28M.elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a>

6	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	<p>Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i>. 2021. Publishing: International Congress of Chemistry and Environment.</p>	Grant Project	<p>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 <math>\beta</math>-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 rights reserved.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a></p>
7	01024048913	Tsintskaladze	Giorgi	31.1.1950	Doctor of Science	<p>Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i>. 2021. Publishing: International Congress of Chemistry and Environment.</p>	Grant Project	<p>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 <math>\beta</math>-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 rights reserved.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a></p>
8	01026007548	Antia	Giorgi	29.04.1981	Academic Doctor of Science	<p>Effect of clinoptilolite acid activation on ceftriaxone sorption from wastewaters. <i>Research Journal of Chemistry and Environment</i>. 2021. Publishing: International Congress of Chemistry and Environment.</p>	Grant Project	<p>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 <math>\beta</math>-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 rights reserved.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-2-0-85105487587&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;et1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=63&amp;AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=3&amp;citeCnt=0&amp;searchTerm=</a></p>

9	01024048913	Tsitskaladze	Giorgi	31.1.1950	Doctor of Science	Anionic zeolite nanomaterial – Environmentally safe complex fertilizer with prolonged action. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2021. Georgian National Academy of Sciences.	Grant Project	The development and implementation of effective and cost-effective environmental technologies is one of the priority problems in Georgia for the rehabilitation of soil fertility and natural vegetation cover. The paper proposes a new method for nanomodification of natural zeolite-clinoptilolite, based on the introduction of the appropriate salt into the structure of the zeolite so that the resulting material does not lose its zeolite structure and acquires both cation-exchange and anion-exchange properties. Some amount of ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ), potassium nitrate (KNO <sub>3</sub> ) and cations mixed with them (Fe, Ca, Mn, Zn, Mg, Cu, Mo, Co, Sn) were introduced by fusion method into the clinoptilolite structure. Only the amount of ammonium dihydrogen phosphate changed, while the amount of potassium nitrate (KNO <sub>3</sub> ) and cations remained unchanged. Accordingly, zeolite nanomaterials of various composition, structure and properties were obtained, which were studied by the methods of chemical, IR spectroscopic and X-ray diffractometric analyses. The obtained zeolite nanomaterials as fertilizers of complex composition and long-term action were used to study their effect on wheat productivity both in the open field and in laboratory conditions. Zeolite nanomaterials of three different compositions were studied.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f</a>
10	01010013012	Sharashenidze	Tinatin	3.05.1952	Master	Anionic zeolite nanomaterial – Environmentally safe complex fertilizer with prolonged action. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2021. Georgian National Academy of Sciences.	Grant Project	The development and implementation of effective and cost-effective environmental technologies is one of the priority problems in Georgia for the rehabilitation of soil fertility and natural vegetation cover. The paper proposes a new method for nanomodification of natural zeolite-clinoptilolite, based on the introduction of the appropriate salt into the structure of the zeolite so that the resulting material does not lose its zeolite structure and acquires both cation-exchange and anion-exchange properties. Some amount of ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ), potassium nitrate (KNO <sub>3</sub> ) and cations mixed with them (Fe, Ca, Mn, Zn, Mg, Cu, Mo, Co, Sn) were introduced by fusion method into the clinoptilolite structure. Only the amount of ammonium dihydrogen phosphate changed, while the amount of potassium nitrate (KNO <sub>3</sub> ) and cations remained unchanged. Accordingly, zeolite nanomaterials of various composition, structure and properties were obtained, which were studied by the methods of chemical, IR spectroscopic and X-ray diffractometric analyses. The obtained zeolite nanomaterials as fertilizers of complex composition and long-term action were used to study their effect on wheat productivity both in the open field and in laboratory conditions. Zeolite nanomaterials of three different compositions were studied.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f</a>
11	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Anionic zeolite nanomaterial – Environmentally safe complex fertilizer with prolonged action. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2021. Georgian National Academy of Sciences.	Grant Project	The development and implementation of effective and cost-effective environmental technologies is one of the priority problems in Georgia for the rehabilitation of soil fertility and natural vegetation cover. The paper proposes a new method for nanomodification of natural zeolite-clinoptilolite, based on the introduction of the appropriate salt into the structure of the zeolite so that the resulting material does not lose its zeolite structure and acquires both cation-exchange and anion-exchange properties. Some amount of ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ), potassium nitrate (KNO <sub>3</sub> ) and cations mixed with them (Fe, Ca, Mn, Zn, Mg, Cu, Mo, Co, Sn) were introduced by fusion method into the clinoptilolite structure. Only the amount of ammonium dihydrogen phosphate changed, while the amount of potassium nitrate (KNO <sub>3</sub> ) and cations remained unchanged. Accordingly, zeolite nanomaterials of various composition, structure and properties were obtained, which were studied by the methods of chemical, IR spectroscopic and X-ray diffractometric analyses. The obtained zeolite nanomaterials as fertilizers of complex composition and long-term action were used to study their effect on wheat productivity both in the open field and in laboratory conditions. Zeolite nanomaterials of three different compositions were studied.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f</a>
12	01024061718	Burdjanadze	Manana	27.07.1945	Academic Doctor of Science	Anionic zeolite nanomaterial – Environmentally safe complex fertilizer with prolonged action. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2021. Georgian National Academy of Sciences.	Grant Project	The development and implementation of effective and cost-effective environmental technologies is one of the priority problems in Georgia for the rehabilitation of soil fertility and natural vegetation cover. The paper proposes a new method for nanomodification of natural zeolite-clinoptilolite, based on the introduction of the appropriate salt into the structure of the zeolite so that the resulting material does not lose its zeolite structure and acquires both cation-exchange and anion-exchange properties. Some amount of ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ), potassium nitrate (KNO <sub>3</sub> ) and cations mixed with them (Fe, Ca, Mn, Zn, Mg, Cu, Mo, Co, Sn) were introduced by fusion method into the clinoptilolite structure. Only the amount of ammonium dihydrogen phosphate changed, while the amount of potassium nitrate (KNO <sub>3</sub> ) and cations remained unchanged. Accordingly, zeolite nanomaterials of various composition, structure and properties were obtained, which were studied by the methods of chemical, IR spectroscopic and X-ray diffractometric analyses. The obtained zeolite nanomaterials as fertilizers of complex composition and long-term action were used to study their effect on wheat productivity both in the open field and in laboratory conditions. Zeolite nanomaterials of three different compositions were studied.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f</a>
13	01026007548	Antia	Giorgi	29.04.1981	Academic Doctor of Science	Anionic zeolite nanomaterial – Environmentally safe complex fertilizer with prolonged action. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2021. Georgian National Academy of Sciences.	Grant Project	The development and implementation of effective and cost-effective environmental technologies is one of the priority problems in Georgia for the rehabilitation of soil fertility and natural vegetation cover. The paper proposes a new method for nanomodification of natural zeolite-clinoptilolite, based on the introduction of the appropriate salt into the structure of the zeolite so that the resulting material does not lose its zeolite structure and acquires both cation-exchange and anion-exchange properties. Some amount of ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ), potassium nitrate (KNO <sub>3</sub> ) and cations mixed with them (Fe, Ca, Mn, Zn, Mg, Cu, Mo, Co, Sn) were introduced by fusion method into the clinoptilolite structure. Only the amount of ammonium dihydrogen phosphate changed, while the amount of potassium nitrate (KNO <sub>3</sub> ) and cations remained unchanged. Accordingly, zeolite nanomaterials of various composition, structure and properties were obtained, which were studied by the methods of chemical, IR spectroscopic and X-ray diffractometric analyses. The obtained zeolite nanomaterials as fertilizers of complex composition and long-term action were used to study their effect on wheat productivity both in the open field and in laboratory conditions. Zeolite nanomaterials of three different compositions were studied.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117754428&amp;origin=resultlists&amp;sort=plf-f</a>
14	01017024004	Japaridze	Maia	28.11.1965	Magister	Effects of graphene on morphology, fracture toughness, and electrical conductivity of titanium dioxide. <i>Diamond and Related Materials</i> . 2021. Elsevier B.V.	Grant Project	This study reports the role of graphene in improving the mechanical and electrical properties of TiO <sub>2</sub> /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 TiO <sub>2</sub> matrix, providing uniform distribution of rGO nanoplatelets among the matrix particles. Spark plasma sintering technique (SPS) was used for sintering initial powder of the TiO <sub>2</sub> /rGO composite. Alongside the sintering of the powder, SPS induces rGO transformation to graphene nanoplatelets at high temperatures and provides the densification of TiO <sub>2</sub> /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 TiO <sub>2</sub> and TiO <sub>2</sub> /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 TiO <sub>2</sub> /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 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85102075910&amp;origin=resultlists&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=491018437073eaae22dc184952702&amp;sort=b&amp;sdct=b&amp;cl=638&amp;AFPL%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=48&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85102075910&amp;origin=resultlists&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=491018437073eaae22dc184952702&amp;sort=b&amp;sdct=b&amp;cl=638&amp;AFPL%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=48&amp;citeCnt=2&amp;searchTerm=</a>

15	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Effects of graphene on morphology, fracture toughness, and electrical conductivity of titanium dioxide. <i>Diamond and Related Materials</i> . 2021. Elsevier B.V.	Grant Project	This study reports the role of graphene in improving the mechanical and electrical properties of TiO <sub>2</sub> /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 TiO <sub>2</sub> matrix, providing uniform distribution of rGO nanoplatelets among the matrix particles. Spark plasma sintering technique (SPS) was used for sintering initial powder of the TiO <sub>2</sub> /rGO composite. Alongside the sintering of the powder, SPS induces rGO transformation to graphene nanoplatelets at high temperatures and provides the densification of TiO <sub>2</sub> /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 TiO <sub>2</sub> and TiO <sub>2</sub> /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 TiO <sub>2</sub> /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 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85102025910&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=4&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85102025910&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=4&amp;citeCnt=2&amp;searchTerm=</a>
16	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. <i>Protection of Metals and Physical Chemistry of Surfaces</i> . 2021. Pleiades Publishing, Ltd.	Grant Project	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 m <sup>2</sup> /g) and micropore volume (0.3 cm <sup>3</sup> /g), as well as a system of cylindrical pore channels (0.28 cm <sup>3</sup> /g) with an average diameter of 55 nm. Crystallization of a diluted gel with an average sodium content leads to the formation of zeolite X with a higher silicon content (Si/Al = 2.5), having a lower specific surface area (440 m <sup>2</sup> /g) and micropore volume (0.23 cm <sup>3</sup> /g), and irregular system of mesopores (0.15 cm <sup>3</sup> /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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=</a>
17	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. <i>Protection of Metals and Physical Chemistry of Surfaces</i> . 2021. Pleiades Publishing, Ltd.	Grant Project	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 m <sup>2</sup> /g) and micropore volume (0.3 cm <sup>3</sup> /g), as well as a system of cylindrical pore channels (0.28 cm <sup>3</sup> /g) with an average diameter of 55 nm. Crystallization of a diluted gel with an average sodium content leads to the formation of zeolite X with a higher silicon content (Si/Al = 2.5), having a lower specific surface area (440 m <sup>2</sup> /g) and micropore volume (0.23 cm <sup>3</sup> /g), and irregular system of mesopores (0.15 cm <sup>3</sup> /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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=</a>
18	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. <i>Protection of Metals and Physical Chemistry of Surfaces</i> . 2021. Pleiades Publishing, Ltd.	Grant Project	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 m <sup>2</sup> /g) and micropore volume (0.3 cm <sup>3</sup> /g), as well as a system of cylindrical pore channels (0.28 cm <sup>3</sup> /g) with an average diameter of 55 nm. Crystallization of a diluted gel with an average sodium content leads to the formation of zeolite X with a higher silicon content (Si/Al = 2.5), having a lower specific surface area (440 m <sup>2</sup> /g) and micropore volume (0.23 cm <sup>3</sup> /g), and irregular system of mesopores (0.15 cm <sup>3</sup> /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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=</a>
19	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Formation of Highly Dispersed Faujasites in Natural Aluminosilicate Gels. <i>Protection of Metals and Physical Chemistry of Surfaces</i> . 2021. Pleiades Publishing, Ltd.	Grant Project	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 m <sup>2</sup> /g) and micropore volume (0.3 cm <sup>3</sup> /g), as well as a system of cylindrical pore channels (0.28 cm <sup>3</sup> /g) with an average diameter of 55 nm. Crystallization of a diluted gel with an average sodium content leads to the formation of zeolite X with a higher silicon content (Si/Al = 2.5), having a lower specific surface area (440 m <sup>2</sup> /g) and micropore volume (0.23 cm <sup>3</sup> /g), and irregular system of mesopores (0.15 cm <sup>3</sup> /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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85105926472&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=5&amp;citeCnt=0&amp;searchTerm=</a>
20	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	On modeling of synthesis process of boron carbide based nanocomposites. <i>Condensed Matter</i> . 2021. Multidisciplinary Digital Publishing Institute (MDPI).	Grant Project	Nanocomposites based on boron carbide B <sub>4</sub> C 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 B <sub>4</sub> C-TiB <sub>2</sub> composites containing titanium diboride (TiB <sub>2</sub> ) as an additional phase is suggested and resolved numerically for a typical ratio of reaction constants. Reagents and products concentrations are found as time-functions. In this way, the optimal route of production technology of boron carbide-based nanomaterials can be identified.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8510051888&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=6&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8510051888&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=6&amp;citeCnt=2&amp;searchTerm=</a>
21	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	On modeling of synthesis process of boron carbide based nanocomposites. <i>Condensed Matter</i> . 2021. Multidisciplinary Digital Publishing Institute (MDPI).	Grant Project	Nanocomposites based on boron carbide B <sub>4</sub> C 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 B <sub>4</sub> C-TiB <sub>2</sub> composites containing titanium diboride (TiB <sub>2</sub> ) as an additional phase is suggested and resolved numerically for a typical ratio of reaction constants. Reagents and products concentrations are found as time-functions. In this way, the optimal route of production technology of boron carbide-based nanomaterials can be identified.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8510051888&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=6&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8510051888&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sd=63&amp;sc=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=6&amp;citeCnt=2&amp;searchTerm=</a>

22	01006015635	Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	<p>Four Valuable Bioactive Compounds Obtained from Citrus Waste Using Sequential Two-Step Ultrasound-Assisted Extraction Method.</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	State Target Program	<p>Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice concentrates and jams production present rich and promising sources of such valuable bioactive compounds as essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food 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 was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to 50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials 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 of the developed stepwise ultrasound-assisted extraction procedures is simple, effective, selective and low cost laboratory method which provides high quality of target products and can be used to develop a standard technological process for utilization of citrus wastes.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=</a></p>
23	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	<p>Four Valuable Bioactive Compounds Obtained from Citrus Waste Using Sequential Two-Step Ultrasound-Assisted Extraction Method.</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	State Target Program	<p>Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice concentrates and jams production present rich and promising sources of such valuable bioactive compounds as essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food 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 was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to 50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials 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 of the developed stepwise ultrasound-assisted extraction procedures is simple, effective, selective and low cost laboratory method which provides high quality of target products and can be used to develop a standard technological process for utilization of citrus wastes.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=</a></p>
24	01009018959	Chkhaidze	Mariam	3.10.1968	Academic Doctor of Science	<p>Four Valuable Bioactive Compounds Obtained from Citrus Waste Using Sequential Two-Step Ultrasound-Assisted Extraction Method.</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	State Target Program	<p>Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice concentrates and jams production present rich and promising sources of such valuable bioactive compounds as essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food 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 was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to 50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials 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 of the developed stepwise ultrasound-assisted extraction procedures is simple, effective, selective and low cost laboratory method which provides high quality of target products and can be used to develop a standard technological process for utilization of citrus wastes.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=</a></p>
25	01005000620	Khachidze	Miranda	14.04.1947	Academic Doctor of Science	<p>Four Valuable Bioactive Compounds Obtained from Citrus Waste Using Sequential Two-Step Ultrasound-Assisted Extraction Method.</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	State Target Program	<p>Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice concentrates and jams production present rich and promising sources of such valuable bioactive compounds as essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food 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 was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to 50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials 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 of the developed stepwise ultrasound-assisted extraction procedures is simple, effective, selective and low cost laboratory method which provides high quality of target products and can be used to develop a standard technological process for utilization of citrus wastes.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=</a></p>
26	01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	<p>Four Valuable Bioactive Compounds Obtained from Citrus Waste Using Sequential Two-Step Ultrasound-Assisted Extraction Method.</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	State Target Program	<p>Citrus is one of the important agricultural crops in Georgia, and agro-industrial wastes of tangerine and orange juice concentrates and jams production present rich and promising sources of such valuable bioactive compounds as essential oil, carotenes, natural flavanone hesperidin and pectin, which could be applied by pharmaceutical and food 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 was developed using the concept of sequential stepwise technique. Under optimal conditions, the percentage of D-limonene in the extracted essential oil varies from 75% to 98%, the yield of pectin and hesperidin varies from 15% to 50% and from 60% to 80%, respectively, the recovered content of beta-carotene in the dried citrus waste materials 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 of the developed stepwise ultrasound-assisted extraction procedures is simple, effective, selective and low cost laboratory method which provides high quality of target products and can be used to develop a standard technological process for utilization of citrus wastes.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85129225111&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=7&amp;citeCnt=0&amp;searchTerm=</a></p>
27	01009001196	Amirkhanashvili	Koba	5.08.1954	Doctor of Science	<p>Structure of bis(Lidocaine) tetrachloridocuprate(II).</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	Grant Project	<p>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, β = 104.874(1)°, V = 6625.58(13) Å<sup>3</sup>, Z = 8, and Dc = 1.355 Mg/m<sup>3</sup>. The coordination of the Cu<sup>2+</sup> ions with chlorine atoms generates two differently distorted tetrahedral anions [CuCl4]<sup>2-</sup>, while four protonated cations LidH<sup>+</sup> remain in an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-H...Cl type to form the 2((LidH)2(CuCl4)) molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of hydrogen bonds of the type N-H...O and N-H...Cl, each dimer is connected with four neighboring dimers, resulting in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the crystallographic axis in the ab planes located at a distance of 10.67 Å from each other.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=</a></p>
28	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	<p>Structure of bis(Lidocaine) tetrachloridocuprate(II).</p> <p><i>Bulletin of the Georgian National Academy of Sciences.</i> 2021. Georgian National Academy of Sciences.</p>	Grant Project	<p>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, β = 104.874(1)°, V = 6625.58(13) Å<sup>3</sup>, Z = 8, and Dc = 1.355 Mg/m<sup>3</sup>. The coordination of the Cu<sup>2+</sup> ions with chlorine atoms generates two differently distorted tetrahedral anions [CuCl4]<sup>2-</sup>, while four protonated cations LidH<sup>+</sup> remain in an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-H...Cl type to form the 2((LidH)2(CuCl4)) molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of hydrogen bonds of the type N-H...O and N-H...Cl, each dimer is connected with four neighboring dimers, resulting in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the crystallographic axis in the ab planes located at a distance of 10.67 Å from each other.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaaae22f0c1849527028sor-b&amp;sdtr=b&amp;sl=638&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=</a></p>

29	01008019345	Zhorzholiani	Nani	07.05.1946	Academic Doctor of Science	<p>Structure of bis(Lidocaine) tetrachloridocuprate(II). The complex with the formula <math>(C_{14}H_{23}ON_2)_2CuCl_4</math> (or <math>(LiDH)_2(CuCl_4)</math>) crystallizes in the monoclinic space group <math>P2_1/c</math> with <math>a = 15.7831(2)</math>, <math>b = 24.2992(2)</math>, <math>c = 17.8748(2)</math> Å, <math>\beta = 104.874(1)^\circ</math>; <math>V = 6625.58(13)</math> Å<sup>3</sup>, <math>Z = 8</math>, and <math>D_c = 1.355</math> Mg/m<sup>3</sup>. The coordination of the <math>Cu_2</math>-ions with chlorine atoms generates two differently distorted tetrahedral anions <math>[CuCl_4]^{2-}</math>, while four protonated cations <math>LiDH^+</math> remain in an outer coordination sphere. Anions and cations are associated by hydrogen bonds of the N-H...Cl type to form the <math>2(LiDH)_2(CuCl_4)</math> molecular dimer, in which the distance between two copper atoms is 8.95 Å. With the help of hydrogen bonds of the type N-H...O and N-H...Cl, each dimer is connected with four neighboring dimers, resulting in a three-dimensional hydrogen-bonded network in which dimers lie at an angle of 28.39° to the crystallographic axis in the ab planes located at a distance of 10.67 Å from each other.</p> <p>The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tadzami 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-ion-exchangers 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 over 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 Aspergillus niger; 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 for applications is copper-containing heulandite-clinoptilolite.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117845208&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=8&amp;citeCnt=0&amp;searchTerm=</a></p>
30	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	<p>Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2021. Georgian National Academy of Sciences.</p> <p>The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tadzami 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-ion-exchangers 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 over 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 Aspergillus niger; 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 for applications is copper-containing heulandite-clinoptilolite.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=</a></p>
31	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	<p>Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2021. Georgian National Academy of Sciences.</p> <p>The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tadzami 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-ion-exchangers 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 over 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 Aspergillus niger; 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 for applications is copper-containing heulandite-clinoptilolite.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=</a></p>
32	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	<p>Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2021. Georgian National Academy of Sciences.</p> <p>The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tadzami 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-ion-exchangers 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 over 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 Aspergillus niger; 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 for applications is copper-containing heulandite-clinoptilolite.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=</a></p>
33	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	<p>Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2021. Georgian National Academy of Sciences.</p> <p>The coronavirus pandemic has increased interest in antibacterial agents containing bioactive metals, for which zeolites are promising carriers. The Tadzami 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-ion-exchangers 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 over 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 Aspergillus niger; 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 for applications is copper-containing heulandite-clinoptilolite.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sr=b&amp;sd=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=9&amp;citeCnt=0&amp;searchTerm=</a></p>

					Properties of Georgian natural heulandite-clinoptilolite and its silver, copper and zinc-containing forms. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2021. Georgian National Academy of Sciences.				
34	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Graphite foil waste to graphene: New carbon precursors for synthesis of graphene and its oxides. <i>Key Engineering Materials</i> . 2021. Trans Tech Publications Ltd, Switzerland.	Grant Project	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-ion-exchangers 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 over 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 <i>Escherichia coli</i> , Gram positive bacteria <i>Staphylococcus aureus</i> and <i>Bacillus subtilis</i> , fungal pathogenic yeast <i>Candida albicans</i> , and a fungus <i>Aspergillus niger</i> : zinc-containing zeolite is active against <i>Bacillus subtilis</i> , weak against fungi and inactive against <i>E. coli</i> and <i>staphylococcus</i> . The most active is a silver-containing zeolite, but from a practical point of view, the most promising for applications is copper-containing heulandite-clinoptilolite.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=98&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85117822678&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=98&amp;citeCnt=0&amp;searchTerm=</a>
35	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Graphite foil waste to graphene: New carbon precursors for synthesis of graphene and its oxides. <i>Key Engineering Materials</i> . 2021. Trans Tech Publications Ltd, Switzerland.	State Target Program	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 functionalization-oxidation 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 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 structure.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85113925602&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=10&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85113925602&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=10&amp;citeCnt=0&amp;searchTerm=</a>
36	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Graphite foil waste to graphene: New carbon precursors for synthesis of graphene and its oxides. <i>Key Engineering Materials</i> . 2021. Trans Tech Publications Ltd, Switzerland.	State Target Program	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 functionalization-oxidation 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 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 structure.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85113925602&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=10&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85113925602&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=10&amp;citeCnt=0&amp;searchTerm=</a>
37	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Influence of Dysprosium Addition on the Phase Formation and Transport Properties of Hg-1223 Superconductor. <i>Journal of Superconductivity and Novel Magnetism</i> . 2020. Springer Nature.	State Target Program	We study the influence of dysprosium (III) oxides on the superconductivity properties of Hg-1223 material. Dysprosium-free Hg-1223 and dysprosium-doped HgBa2Ca2Cu3DyO8.6 (x = 0.00-0.075 wt%) superconductors are 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85088832037&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=11&amp;citeCnt=4&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85088832037&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=11&amp;citeCnt=4&amp;searchTerm=</a>
39	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Synthesizing fine-grained powders of complex compositions B4C-TiB2-WC-Co. <i>Solid State Sciences</i> . 2020. Elsevier.	Grant Project	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).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=</a>
40	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Synthesizing fine-grained powders of complex compositions B4C-TiB2-WC-Co. <i>Solid State Sciences</i> . 2020. Elsevier.	Grant Project	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).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=</a>
41	01017024695	Sarajishvili	Ketevani	12.09.1959	Academic Doctor of Science	Synthesizing fine-grained powders of complex compositions B4C-TiB2-WC-Co. <i>Solid State Sciences</i> . 2020. Elsevier.	Grant Project	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).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=</a>
42	01012030786	Korkia	Tamara	18.09.1964	Magister	Synthesizing fine-grained powders of complex compositions B4C-TiB2-WC-Co. <i>Solid State Sciences</i> . 2020. Elsevier.	Grant Project	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).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85091938804&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;sl=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;s=AF11%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=12&amp;citeCnt=7&amp;searchTerm=</a>

43	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. <i>Materials Today: Proceedings</i> . 2020. Elsevier Ltd.	Grant Project	<p>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 applications. Wet chemical method was used to prepare preceramic precursors. The technique provides annealing of a viscous paste of the mixture of ammonium paratungstate-zirco nium(IV) oxide-cobalt acetate tetrahydrate-sucrose-amorphous 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 WC-x, Co3O4, CoO, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZrB2, B4C, and W2B5. Tungsten carbide was completely converted into tungsten boride. Structural-morphological characteristics of the obtained samples were studied by using the SEM.</p> <p>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 applications. Wet chemical method was used to prepare preceramic precursors. The technique provides annealing of a viscous paste of the mixture of ammonium paratungstate-zirco nium(IV) oxide-cobalt acetate tetrahydrate-sucrose-amorphous 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 WC-x, Co3O4, CoO, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZrB2, B4C, and W2B5. Tungsten carbide was completely converted into tungsten boride. Structural-morphological characteristics of the obtained samples were studied by using the SEM.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=</a></p>
44	01017024695	Sarajishvili	Ketevani	12.09.1959	Academic Doctor of Science	Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. <i>Materials Today: Proceedings</i> . 2020. Elsevier Ltd.	Grant Project	<p>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 applications. Wet chemical method was used to prepare preceramic precursors. The technique provides annealing of a viscous paste of the mixture of ammonium paratungstate-zirco nium(IV) oxide-cobalt acetate tetrahydrate-sucrose-amorphous 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 WC-x, Co3O4, CoO, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZrB2, B4C, and W2B5. Tungsten carbide was completely converted into tungsten boride. Structural-morphological characteristics of the obtained samples were studied by using the SEM.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=</a></p>
45	01012030786	Korkia	Tamara	18.09.1964	Magister	Method of obtaining multicomponent fine-grained powders for boron carbide matrix ceramics production. <i>Materials Today: Proceedings</i> . 2020. Elsevier Ltd.	Grant Project	<p>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 applications. Wet chemical method was used to prepare preceramic precursors. The technique provides annealing of a viscous paste of the mixture of ammonium paratungstate-zirco nium(IV) oxide-cobalt acetate tetrahydrate-sucrose-amorphous 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 WC-x, Co3O4, CoO, and amorphous carbon. The XRD data confirmed low temperature (800-1000 °C) formation of WC-Co, ZrB2, B4C, and W2B5. Tungsten carbide was completely converted into tungsten boride. Structural-morphological characteristics of the obtained samples were studied by using the SEM.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85126714086&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=13&amp;citeCnt=2&amp;searchTerm=</a></p>
46	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020. Editura Academiei Romane/Publishing House of the Romanian Academy	Grant Project	<p>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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=</a></p>
47	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020. Editura Academiei Romane/Publishing House of the Romanian Academy	State Target Program	<p>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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=</a></p>
48	01006015635	Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020. Editura Academiei Romane/Publishing House of the Romanian Academy	State Target Program	<p>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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=</a></p>
49	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020. Editura Academiei Romane/Publishing House of the Romanian Academy	State Target Program	<p>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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f&amp;srsc=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;repos=14&amp;citeCnt=1&amp;searchTerm=</a></p>



					Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020, Editura Academiei Romane/Publishing House of the Romanian Academy				
50	01009018959	Chkhaidze	Mariam	3.10.1968	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020, Editura Academiei Romane/Publishing House of the Romanian Academy	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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=</a>
51	01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	Extraction and analysis of oleonic acid and ursolic acid from apple processing waste materials using ultrasound-assisted extraction technique combined with high performance liquid chromatography. <i>Revue Roumaine de Chimie</i> . 2020, Editura Academiei Romane/Publishing House of the Romanian Academy	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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=</a>
52	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Modified clinoptilolite as a precursor for formation of silver nanoparticles-zeolite nanocomposites. <i>International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM. 2020. International Multidisciplinary Scientific Geoconference</i>	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 (HPLC) method for obtaining isomeric triterpene acids – oleonic 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, 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 found.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85107878340&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=14&amp;citeCnt=1&amp;searchTerm=</a>
53	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	State Target Program	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 <sup>+</sup> ) on the zeolite support. It has been found that sodium modified clinoptilolite exchanged in highest degree Ag <sup>+</sup> ions, followed by natural zeolite. Preliminary transformation of natural clinoptilolite into hydrogen form leads to decreasing of zeolite ability to bind Ag <sup>+</sup> ions. The kinetics and thermodynamics of Ag <sup>+</sup> 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 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 <sup>+</sup> ions on the three investigated zeolites. Nanocomposites 'silver nanoparticles-zeolite' have been successfully formed by heating the Ag <sup>+</sup> -loaded zeolites at temperature 400 °C for 2 hours in air. The obtained materials have been characterized by X-ray diffraction, BET, SEM and EDS analyses. The current study has revealed that the chemical composition and morphology of synthesized nanocomposites are influenced by the modified form of clinoptilolite.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85099263268&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=15&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85099263268&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=15&amp;citeCnt=1&amp;searchTerm=</a>
54	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	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-containing materials show bacteriostatic action against <i>Escherichia coli</i> regardless of whether the number of released ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silver-containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=16&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=16&amp;citeCnt=1&amp;searchTerm=</a>
55	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	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-containing materials show bacteriostatic action against <i>Escherichia coli</i> regardless of whether the number of released ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silver-containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=16&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=AFFIL%28Melikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=16&amp;citeCnt=1&amp;searchTerm=</a>

56	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	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-containing materials show bacteriostatic action against <i>Escherichia coli</i> regardless of whether the number of released ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silver-containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=</a>
57	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	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-containing materials show bacteriostatic action against <i>Escherichia coli</i> regardless of whether the number of released ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silver-containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=</a>
58	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Properties of bactericidal adsorbents prepared from georgian natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	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-containing materials show bacteriostatic action against <i>Escherichia coli</i> regardless of whether the number of released ions of the bioactive metal reaches the minimum inhibitory concentration in solution. The most active is a silver-containing synthetic zeolite, but from a practical point of view, the most promising materials for applications are modified phillipsites.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85098106524&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=16&amp;citeCnt=1&amp;searchTerm=</a>
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. <i>International Journal of Veterinary Science</i> . 2020. Unique Scientific Publishers	Grant Project	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 FeCl <sub>2</sub> ·4H <sub>2</sub> O and NaHCO <sub>3</sub> 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85095936549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=17&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85095936549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=17&amp;citeCnt=0&amp;searchTerm=</a>
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. <i>International Journal of Veterinary Science</i> . 2020. Unique Scientific Publishers	Grant Project	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 FeCl <sub>2</sub> ·4H <sub>2</sub> O and NaHCO <sub>3</sub> 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85095936549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=17&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85095936549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st=1-Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1-b&amp;sl=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=17&amp;citeCnt=0&amp;searchTerm=</a>



65	01009001196	Amirkhanashvili	Koba	5.08.1954	Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II). <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	Grant Project	The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)-N-(2,6-dimethylphenyl)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, β = 95.026(2)°, V = 3297.10(10) Å <sup>3</sup> , Z = 4, and Dc = 1.366 Mg/m <sup>3</sup> . In molecular structure the coordination of the Zn <sup>2+</sup> ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl4 <sup>2-</sup> , while two protonated cations LidH <sup>+</sup> remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by 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 group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in pairs 2((LidH)2ZnCl4). Each pair forms intermolecular N-H...Cl hydrogen bonds with four adjacent pairs, arranging them into endless sheets lying in the bc plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=</a>
66	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II). <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	Grant Project	The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)-N-(2,6-dimethylphenyl)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, β = 95.026(2)°, V = 3297.10(10) Å <sup>3</sup> , Z = 4, and Dc = 1.366 Mg/m <sup>3</sup> . In molecular structure the coordination of the Zn <sup>2+</sup> ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl4 <sup>2-</sup> , while two protonated cations LidH <sup>+</sup> remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by 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 group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in pairs 2((LidH)2ZnCl4). Each pair forms intermolecular N-H...Cl hydrogen bonds with four adjacent pairs, arranging them into endless sheets lying in the bc plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=</a>
67	01008019345	Zhorzholiani	Nani	07.05.1946	Academic Doctor of Science	Molecular and crystal structure of bis(Lidocaine) tetrachlorozincate(II). <i>Bulletin of the Georgian National Academy of Sciences</i> . 2020. Georgian National Academy of Sciences.	Grant Project	The present paper reports on the synthesis, molecular and crystal structure of bis(2-(diethylamino)-N-(2,6-dimethylphenyl)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, β = 95.026(2)°, V = 3297.10(10) Å <sup>3</sup> , Z = 4, and Dc = 1.366 Mg/m <sup>3</sup> . In molecular structure the coordination of the Zn <sup>2+</sup> ion with chlorine atoms generates slightly distorted tetrahedral anion ZnCl4 <sup>2-</sup> , while two protonated cations LidH <sup>+</sup> remain in an outer coordination sphere. The anion and cations are associated by hydrogen bonds formed by 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 group and the oxygen atom of the carboxamide group. Protonated amino nitrogen atoms also form intermolecular hydrogen bonds with the oxygen atoms of neighboring molecules of the charge-transfer complex, combining them in pairs 2((LidH)2ZnCl4). Each pair forms intermolecular N-H...Cl hydrogen bonds with four adjacent pairs, arranging them into endless sheets lying in the bc plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85090836904&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=18&amp;citeCnt=1&amp;searchTerm=</a>
68	01009001196	Amirkhanashvili	Koba	5.08.1954	Doctor of Science	Re-refinement of crystal structure of bis(lidocaine) diaquatetrathioyanatonickelate(II). <i>Chemistry Journal of Moldova</i> . 2020. Institute of Chemistry, Academy of Sciences of Moldova.	Grant Project	This paper reports on the synthesis and structure re-refinement of bis(lidocaine) diaquatetrathioyanatonickelate(II). The compound with the formula (LidH)2[Ni(NCS)4(H2O)2], where Lid is 2-(diethylamino)-N-(2,6-dimethylphenyl)acetamide, crystallizes in the monoclinic space group P21/c with a = 18.3509(5), b = 7.6532(2), c = 14.9585(4) Å, β = 109.964(2)°, V = 1974.57(9) Å <sup>3</sup> , and Z = 2. Coordination of the Ni <sup>2+</sup> ion with thiocyanate ions and water molecules generates the slightly distorted octahedral anion [Ni(NCS)4(H2O)2] <sup>2-</sup> with N-bonded thiocyanate groups, while two protonated cations LidH <sup>+</sup> 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 amino nitrogen atom are involved in the formation of hydrogen bonds with sulphur atoms of neighbouring unit cells arranging alternating [Ni(NCS)4(H2O)2] <sup>2-</sup> anions and LidH <sup>+</sup> cations into endless sheets lying in the ac plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=</a>
69	01008019345	Zhorzholiani	Nani	07.05.1946	Academic Doctor of Science	Re-refinement of crystal structure of bis(lidocaine) diaquatetrathioyanatonickelate(II). <i>Chemistry Journal of Moldova</i> . 2020. Institute of Chemistry, Academy of Sciences of Moldova.	Grant Project	This paper reports on the synthesis and structure re-refinement of bis(lidocaine) diaquatetrathioyanatonickelate(II). The compound with the formula (LidH)2[Ni(NCS)4(H2O)2], where Lid is 2-(diethylamino)-N-(2,6-dimethylphenyl)acetamide, crystallizes in the monoclinic space group P21/c with a = 18.3509(5), b = 7.6532(2), c = 14.9585(4) Å, β = 109.964(2)°, V = 1974.57(9) Å <sup>3</sup> , and Z = 2. Coordination of the Ni <sup>2+</sup> ion with thiocyanate ions and water molecules generates the slightly distorted octahedral anion [Ni(NCS)4(H2O)2] <sup>2-</sup> with N-bonded thiocyanate groups, while two protonated cations LidH <sup>+</sup> 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 amino nitrogen atom are involved in the formation of hydrogen bonds with sulphur atoms of neighbouring unit cells arranging alternating [Ni(NCS)4(H2O)2] <sup>2-</sup> anions and LidH <sup>+</sup> cations into endless sheets lying in the ac plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=</a>
70	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Re-refinement of crystal structure of bis(lidocaine) diaquatetrathioyanatonickelate(II). <i>Chemistry Journal of Moldova</i> . 2020. Institute of Chemistry, Academy of Sciences of Moldova.	Grant Project	This paper reports on the synthesis and structure re-refinement of bis(lidocaine) diaquatetrathioyanatonickelate(II). The compound with the formula (LidH)2[Ni(NCS)4(H2O)2], where Lid is 2-(diethylamino)-N-(2,6-dimethylphenyl)acetamide, crystallizes in the monoclinic space group P21/c with a = 18.3509(5), b = 7.6532(2), c = 14.9585(4) Å, β = 109.964(2)°, V = 1974.57(9) Å <sup>3</sup> , and Z = 2. Coordination of the Ni <sup>2+</sup> ion with thiocyanate ions and water molecules generates the slightly distorted octahedral anion [Ni(NCS)4(H2O)2] <sup>2-</sup> with N-bonded thiocyanate groups, while two protonated cations LidH <sup>+</sup> 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 amino nitrogen atom are involved in the formation of hydrogen bonds with sulphur atoms of neighbouring unit cells arranging alternating [Ni(NCS)4(H2O)2] <sup>2-</sup> anions and LidH <sup>+</sup> cations into endless sheets lying in the ac plane.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85089230973&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=19&amp;citeCnt=2&amp;searchTerm=</a>
71	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Simultaneous quantitative estimation of lisinopril and hydrochlorothiazide residues using HPLC for cleaning validation. <i>Chemistry Journal of Moldova</i> . 2020. Institute of Chemistry, Academy of Sciences of Moldova.	State Target Program	The aim of this study was to develop and validate direct-swab and indirect-rinse sampling procedures and a high performance liquid chromatography (HPLC) method for simultaneous quantitative estimation of residues of active pharmaceutical ingredients (API)-lisinopril and hydrochlorothiazide (HCT) in cleaning control samples collected from pharmaceutical manufacturing equipment surfaces after manufacturing of lisinopril/hydrochlorothiazide 20/25 mg uncoated tablets. The swab and rinse sampling procedures were developed and validated in order to obtain a suitable and good recovery (>80%). The acceptance limits of the above-mentioned APIs on the manufacturing equipment surfaces have been established based on pharmacological and toxicological criteria. The new, rapid, specific and selective, developed HPLC method for simultaneous quantitative determination of lisinopril and HCT residues was validated with respect to robustness, system suitability test, specificity, linearity-range, precision, limits of detection and quantitation. The stability of APIs solutions and membrane filter compatibility were studied as well. The method validation was carried out according to ICH Q2 guideline and United States Pharmacopeia requirements. The limit of detection and the limit of quantitation for lisinopril were 0.039 µg/mL and 0.155 µg/mL and for HCT-0.012 µg/mL and 0.025 µg/mL, respectively.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85089211818&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=20&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85089211818&amp;origin=resultslist&amp;sort=plf-f&amp;srcc=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073ea9a220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFII%28M%20elikhshvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=20&amp;citeCnt=2&amp;searchTerm=</a>

72	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. <i>Nanotechnology Perceptions</i> . 2019. Collegium Basilea.	Grant Project	Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard 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 from liquid precursors are elaborated.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=</a>
73	01017024695	Sarajishvili	Ketevani	12.09.1959	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. <i>Nanotechnology Perceptions</i> . 2019. Collegium Basilea.	Grant Project	Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard 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 from liquid precursors are elaborated.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=</a>
74	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Obtaining ultrafine powders of some boron carbide-based nanocomposites using liquid precursors. <i>Nanotechnology Perceptions</i> . 2019. Collegium Basilea.	Grant Project	Due to their unique set of physical and chemical properties, boron carbide-based composites have become the hard 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 from liquid precursors are elaborated.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85116371650&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=21&amp;citeCnt=3&amp;searchTerm=</a>
75	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Production of titanium-containing metal-ceramic composites based on boron carbide in the nanocrystalline state. <i>Advances in Applied Ceramics</i> . 2019. Taylor & Francis	Grant Project	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 (alloy) on some physico-mechanical properties (linear expansion coefficient, hardness, and bending strength) of hardmetal-ceramic 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 not depend much on temperature. At room temperature, their bending strength is about 1 GPa. A new method of chemical synthesis of nanocrystalline ceramic compositions of boron carbide and titanium diboride using suspension solutions for the preparation of powders and their spark plasma sintering was also developed to obtain a compacted material of composition B 4 C-30 wt-%TiB 2, which has a high hardness of 95 HRA (with maximum microhardness 45.6 GPa) and sufficient strength (with a bending strength of 834 MPa).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85065394198&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=22&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85065394198&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=22&amp;citeCnt=6&amp;searchTerm=</a>
76	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	Analysis of the conditions of deformation's formation in lead selenide nanolayers. <i>IOP Conference Series: Materials Science and Engineering</i> . 2019. Institute of Physics Publishing	State Target Program	The results of reservation of strained state in PbSe layers grown on KCl, BaF2, NaCl, CaF2 substrates during several years 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064868071&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=23&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064868071&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=23&amp;citeCnt=0&amp;searchTerm=</a>
77	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis of nitrogen-containing biodegradable polymer fertilizers with the prolongation action. <i>Bulletin of the Georgian National Academy of Sciences</i> . 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 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 and 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=24&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=638&amp;=AFFIL%28M elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=24&amp;citeCnt=0&amp;searchTerm=</a>

78	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science	<p>Synthesis of nitrogen-containing biodegradable polymer fertilizers with the prolongation action. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2019. Georgian National Academy of Sciences</p>	Grant Project	<p>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 and 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=</a></p>
79	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	<p>Synthesis of nitrogen-containing biodegradable polymer fertilizers with the prolongation action. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2019. Georgian National Academy of Sciences</p>	Grant Project	<p>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 and 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=</a></p>
80	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	<p>Synthesis of nitrogen-containing biodegradable polymer fertilizers with the prolongation action. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2019. Georgian National Academy of Sciences</p>	Grant Project	<p>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 and 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=</a></p>
81	Gugava	Eldar			Doctor of Science	<p>Synthesis of nitrogen-containing biodegradable polymer fertilizers with the prolongation action. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2019. Georgian National Academy of Sciences</p>	Grant Project	<p>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 and 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077377049&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=24&amp;citeCnt=0&amp;searchTerm=</a></p>

82	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Linalool oxidation reaction with air under ultrasound and microwave irradiations. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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 air-oxidation of linalool under microwave and ultrasound irradiations the following monoterpene diols (C10H18O2) are mainly formed: (3E)-2,6-dimethylocta-3,7-diene-2,6-diol; (2Z)-2,6-dimethylocta-2,7-diene-1,6-diol; (2E)-2,6-dimethylocta-2,7-diene-1,6-diol; 2,6-dimethylocta-1,7-diene-3,6-diol; 1-methyl-4-prop-1-en-2-yl-cyclohexane-1,2-diol; 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-methylloxlan-2-yl)propan-2-yl 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 identical.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077366988&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=25&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077366988&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=25&amp;citeCnt=1&amp;searchTerm=</a></p>
83	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	Linalool oxidation reaction with air under ultrasound and microwave irradiations. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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 air-oxidation of linalool under microwave and ultrasound irradiations the following monoterpene diols (C10H18O2) are mainly formed: (3E)-2,6-dimethylocta-3,7-diene-2,6-diol; (2Z)-2,6-dimethylocta-2,7-diene-1,6-diol; (2E)-2,6-dimethylocta-2,7-diene-1,6-diol; 2,6-dimethylocta-1,7-diene-3,6-diol; 1-methyl-4-prop-1-en-2-yl-cyclohexane-1,2-diol; 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-methylloxlan-2-yl)propan-2-yl 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 identical.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85077366988&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=25&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85077366988&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=25&amp;citeCnt=1&amp;searchTerm=</a></p>
84	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	Catalytic conversions of linalool on micro- and micro-mesoporous BEA-type zeolites under microwaves irradiation. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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 monoterpene 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 linalool with microwaves in the presence of BEA-type zeolite catalysts initiates also methoxylation reactions forming the methyl ethers of linalool, nerol, geraniol and α-terpineol; selectivity for the products of linalool isomerization to geraniol and α-terpineol was only about 5%. D-Linalool of coriander oil dissolved in methanol in argon atmosphere or in solvent-free state in air is predominantly transformed regioselectively into geraniol on catalysts RBEA-25 and BEA-150 under MW-irradiation (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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-850733017048&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=26&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-850733017048&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=26&amp;citeCnt=2&amp;searchTerm=</a></p>
85	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Catalytic conversions of linalool on micro- and micro-mesoporous BEA-type zeolites under microwaves irradiation. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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 monoterpene 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 linalool with microwaves in the presence of BEA-type zeolite catalysts initiates also methoxylation reactions forming the methyl ethers of linalool, nerol, geraniol and α-terpineol; selectivity for the products of linalool isomerization to geraniol and α-terpineol was only about 5%. D-Linalool of coriander oil dissolved in methanol in argon atmosphere or in solvent-free state in air is predominantly transformed regioselectively into geraniol on catalysts RBEA-25 and BEA-150 under MW-irradiation (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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-850733017048&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=26&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-850733017048&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=26&amp;citeCnt=2&amp;searchTerm=</a></p>
86	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i> . 2019. Mediterranean Journal of Chemistry.	Grant Project	<p>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 utilized 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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPI%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>

87	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	<p>Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i>. 2019. Mediterranean Journal of Chemistry.</p>	<p>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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>
88	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	<p>Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i>. 2019. Mediterranean Journal of Chemistry.</p>	<p>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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>
89	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	<p>Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i>. 2019. Mediterranean Journal of Chemistry.</p>	<p>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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p>	Grant Project	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf&amp;src=s&amp;et=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>



90	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	<p>Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i>. 2019. Mediterranean Journal of Chemistry.</p>	<p>Grant Project</p>	<p>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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>
91	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	<p>Adsorptive removal study of the frequently used fluoroquinolone antibiotics - Moxifloxacin and norfloxacin from wastewaters using natural zeolites. <i>Mediterranean Journal of Chemistry</i>. 2019. Mediterranean Journal of Chemistry.</p>	<p>Grant Project</p>	<p>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 fluoroquinolone 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 norfloxacin at a neutral pH value and constant temperature of 200°C. Each antibiotic was determined quantitatively 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072609034&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=27&amp;citeCnt=6&amp;searchTerm=</a></p>
92	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	<p>Development and validation of quantitative determination HPLC methods of the fluoroquinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. <i>Periodico Tche Quimica</i>. 2019. Tche Quimica Group.</p>	<p>Grant Project</p>	<p>The fluoroquinolone antibiotics have been widely used in human and animal medicine. Residual antibiotics pollution has become one of the most serious environmental and human health problems today. Therefore, it has been a great exigency to develop some efficient and cost-effective treatment methods and technologies for antibiotics removal from industrial and household contaminated water. There is the most used technique - adsorption for the treatment of wastewaters. Due to high cation-exchange ability as well as to the molecular sieve properties, natural zeolites can be used as adsorbents for removal of the above-mentioned antibiotics from wastewaters and in the purification process. The present research concerns the development and validation of new, selective, sensitive and rapid HPLC methods for the quantitative determination of the most frequently used fluoroquinolone antibiotics - moxifloxacin hydrochloride and norfloxacin in aqueous solutions to measure their adsorption on the natural zeolites and for routine analysis of wastewaters. The proposed HPLC methods were validated with respect to robustness (standard solution stability study, membrane filter compatibility test, critical factors effect study using design of experiments - DoE), system suitability test, specificity, linearity-range (over the concentration range of 0.05 to 2000 µg/mL for both antibiotics), precision, accuracy, limits of detection (LOD) and quantitation (LOQ). The LOD and LOQ were 0.01 and 0.05 µg/mL for moxifloxacin hydrochloride and 0.008 and 0.05 µg/mL for norfloxacin, respectively. Adsorption experiment by natural zeolites in static and dynamic conditions was used for sample preparation of both test fluoroquinolone antibiotics.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=28&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=28&amp;citeCnt=3&amp;searchTerm=</a></p>
93	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	<p>Development and validation of quantitative determination HPLC methods of the fluoroquinolone antibiotics - Moxifloxacin hydrochloride and norfloxacin in support of adsorption study on natural zeolites. <i>Periodico Tche Quimica</i>. 2019. Tche Quimica Group.</p>	<p>Grant Project</p>	<p>The fluoroquinolone antibiotics have been widely used in human and animal medicine. Residual antibiotics pollution has become one of the most serious environmental and human health problems today. Therefore, it has been a great exigency to develop some efficient and cost-effective treatment methods and technologies for antibiotics removal from industrial and household contaminated water. There is the most used technique - adsorption for the treatment of wastewaters. Due to high cation-exchange ability as well as to the molecular sieve properties, natural zeolites can be used as adsorbents for removal of the above-mentioned antibiotics from wastewaters and in the purification process. The present research concerns the development and validation of new, selective, sensitive and rapid HPLC methods for the quantitative determination of the most frequently used fluoroquinolone antibiotics - moxifloxacin hydrochloride and norfloxacin in aqueous solutions to measure their adsorption on the natural zeolites and for routine analysis of wastewaters. The proposed HPLC methods were validated with respect to robustness (standard solution stability study, membrane filter compatibility test, critical factors effect study using design of experiments - DoE), system suitability test, specificity, linearity-range (over the concentration range of 0.05 to 2000 µg/mL for both antibiotics), precision, accuracy, limits of detection (LOD) and quantitation (LOQ). The LOD and LOQ were 0.01 and 0.05 µg/mL for moxifloxacin hydrochloride and 0.008 and 0.05 µg/mL for norfloxacin, respectively. Adsorption experiment by natural zeolites in static and dynamic conditions was used for sample preparation of both test fluoroquinolone antibiotics.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=28&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=28&amp;citeCnt=3&amp;searchTerm=</a></p>

94	01030013839	Kordzakhia	Teimuraz	6.03.1953	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. <i>Periodico Tche Quimica</i> . 2019. Tche Quimica Group.	Grant Project	<p>The fluoroquinolone antibiotics have been widely used in human and animal medicine. Residual antibiotics pollution has become one of the most serious environmental and human health problems today. Therefore, it has been a great exigency to develop some efficient and cost-effective treatment methods and technologies for antibiotics removal from industrial and household contaminated water. There is the most used technique - adsorption for the treatment of wastewaters. Due to high cation-exchange ability as well as to the molecular sieve properties, natural zeolites can be used as adsorbents for removal of the above-mentioned antibiotics from wastewaters and in the purification process. The present research concerns the development and validation of new, selective, sensitive and rapid HPLC methods for the quantitative determination of the most frequently used fluoroquinolone antibiotics - moxifloxacin hydrochloride and norfloxacin in aqueous solutions to measure their adsorption on the natural zeolites and for routine analysis of wastewaters. The proposed HPLC methods were validated with respect to robustness (standard solution stability study, membrane filter compatibility test, critical factors effect study using design of experiments - DoE), system suitability test, specificity, linearity-range (over the concentration range of 0.05 to 2000 µg/mL for both antibiotics), precision, accuracy, limits of detection (LOD) and quantitation (LOQ). The LOD and LOQ were 0.01 and 0.05 µg/mL for moxifloxacin hydrochloride and 0.008 and 0.05 µg/mL for norfloxacin, respectively. Adsorption experiment by natural zeolites in static and dynamic conditions was used for sample preparation of both test fluoroquinolone antibiotics.</p> <p>The fluoroquinolone antibiotics have been widely used in human and animal medicine. Residual antibiotics pollution has become one of the most serious environmental and human health problems today. Therefore, it has been a great exigency to develop some efficient and cost-effective treatment methods and technologies for antibiotics removal from industrial and household contaminated water. There is the most used technique - adsorption for the treatment of wastewaters. Due to high cation-exchange ability as well as to the molecular sieve properties, natural zeolites can be used as adsorbents for removal of the above-mentioned antibiotics from wastewaters and in the purification process. The present research concerns the development and validation of new, selective, sensitive and rapid HPLC methods for the quantitative determination of the most frequently used fluoroquinolone antibiotics - moxifloxacin hydrochloride and norfloxacin in aqueous solutions to measure their adsorption on the natural zeolites and for routine analysis of wastewaters. The proposed HPLC methods were validated with respect to robustness (standard solution stability study, membrane filter compatibility test, critical factors effect study using design of experiments - DoE), system suitability test, specificity, linearity-range (over the concentration range of 0.05 to 2000 µg/mL for both antibiotics), precision, accuracy, limits of detection (LOD) and quantitation (LOQ). The LOD and LOQ were 0.01 and 0.05 µg/mL for moxifloxacin hydrochloride and 0.008 and 0.05 µg/mL for norfloxacin, respectively. Adsorption experiment by natural zeolites in static and dynamic conditions was used for sample preparation of both test fluoroquinolone antibiotics.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=288&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85072607299&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=288&amp;citeCnt=3&amp;searchTerm=</a></p>
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. <i>Periodico Tche Quimica</i> . 2019. Tche Quimica Group.	Grant Project	<p>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 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064521137&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=298&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064521137&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=298&amp;citeCnt=0&amp;searchTerm=</a></p>
96	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	High deformations in lead selenide nanolayers and related new properties. <i>European Chemical Bulletin</i> . 2019. Deuton-X Ltd.	State Target Program	<p>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<sup>1</sup> can be prepared in the form of cubic/rhombus crystallites with uniform micrometric (3-5 µm) 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<sup>1.5</sup> 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 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<sup>2</sup>/g and total pore volume of 0.578 cm<sup>3</sup>/g 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=</a></p>
97	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Hydrothermal transformation of natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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<sup>1</sup> can be prepared in the form of cubic/rhombus crystallites with uniform micrometric (3-5 µm) 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<sup>1.5</sup> 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 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<sup>2</sup>/g and total pore volume of 0.578 cm<sup>3</sup>/g 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=</a></p>
98	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Hydrothermal transformation of natural analcime and phillipsite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2019. Georgian National Academy of Sciences	Grant Project	<p>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<sup>1</sup> can be prepared in the form of cubic/rhombus crystallites with uniform micrometric (3-5 µm) 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<sup>1.5</sup> 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 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<sup>2</sup>/g and total pore volume of 0.578 cm<sup>3</sup>/g 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064112949&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute+of+Physical+an+d+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFI%28M+elikhshvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=308&amp;citeCnt=2&amp;searchTerm=</a></p>



105	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	<p>Synergic actions of BEA-type zeolites and ultrasonic irradiation in conversion of geraniol. <i>Asian Journal of Chemistry</i>. 2019. Asian Publication Corporation</p>	Grant Project	<p>The geraniol conversion reaction was initiated by the simultaneous action of micro- and micro-mesoporous BEA-type 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 ultrasound in argon atmosphere solutions of N,N-dimethylformamide and methanol. In methanolic solution, geraniol was actively converted to linalool and to methyl ethers of linalool and nerol with the selectivity of 80 % on zeolite BEA-25 under ultrasonic irradiation in air at 30 °C. Using BEA-type zeolite/ultrasonicassisted reaction was increased 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).</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85059768573&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=31&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85059768573&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=31&amp;citeCnt=1&amp;searchTerm=</a></p>
106	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
107	01006015635	Tsitsagi	Mzia	1.03.1960	Academic Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
108	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
109	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
110	01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
111	01011065843	Buzariashvili	Manana	12.03.1961	Academic Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>
112	01005000620	Khachidze	Miranda	14.04.1947	Academic Doctor of Science	<p>Sequential extraction and HPLC analysis of total anthocyanins of grape skin. <i>Chemist</i>. 2018. American Institute of Chemists, Inc.</p>	Grant Project	<p>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 (<math>r^2 = 0.9999</math>); the average recovery equals to 95.62 %.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85064863722&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaaae220c1849527028sor-b&amp;sd=63&amp;=AFPI%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=32&amp;citeCnt=1&amp;searchTerm=</a></p>

113	01015007229	Barbakadze	Natia	13.09.1979	Academic Doctor of Science	Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. <i>European Chemical Bulletin</i> . 2018. Deuton-X Ltd.	State Target Program	<p>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 &lt;math&gt;140\ \mu\text{m}&lt;/math&gt; 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 (<math>0^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-NaNO}_3\text{-H}_2\text{SO}_4</math>) and relatively high-temperature (<math>50^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-H}_2\text{SO}_4</math>) 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 (<math>\text{K}^+</math>, <math>\text{Na}^+</math>, and <math>\text{Mn}^{2+}</math>) can be removed using 5-fold decanting (2 times <math>\text{H}_2\text{O}</math>, 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 <math>80^{\circ}\text{C}</math>. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=</a></p>
114	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. <i>European Chemical Bulletin</i> . 2018. Deuton-X Ltd.	State Target Program	<p>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 &lt;math&gt;140\ \mu\text{m}&lt;/math&gt; 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 (<math>0^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-NaNO}_3\text{-H}_2\text{SO}_4</math>) and relatively high-temperature (<math>50^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-H}_2\text{SO}_4</math>) 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 (<math>\text{K}^+</math>, <math>\text{Na}^+</math>, and <math>\text{Mn}^{2+}</math>) can be removed using 5-fold decanting (2 times <math>\text{H}_2\text{O}</math>, 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 <math>80^{\circ}\text{C}</math>. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=</a></p>
115	01012030786	Korkia	Tamara	18.09.1964	Magister	Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. <i>European Chemical Bulletin</i> . 2018. Deuton-X Ltd.	State Target Program	<p>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 &lt;math&gt;140\ \mu\text{m}&lt;/math&gt; 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 (<math>0^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-NaNO}_3\text{-H}_2\text{SO}_4</math>) and relatively high-temperature (<math>50^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-H}_2\text{SO}_4</math>) 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 (<math>\text{K}^+</math>, <math>\text{Na}^+</math>, and <math>\text{Mn}^{2+}</math>) can be removed using 5-fold decanting (2 times <math>\text{H}_2\text{O}</math>, 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 <math>80^{\circ}\text{C}</math>. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=</a></p>
116	01006010955	Amiridze	Zurab	25.06.1955	Academic Doctor of Science	Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. <i>European Chemical Bulletin</i> . 2018. Deuton-X Ltd.	State Target Program	<p>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 &lt;math&gt;140\ \mu\text{m}&lt;/math&gt; 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 (<math>0^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-NaNO}_3\text{-H}_2\text{SO}_4</math>) and relatively high-temperature (<math>50^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-H}_2\text{SO}_4</math>) 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 (<math>\text{K}^+</math>, <math>\text{Na}^+</math>, and <math>\text{Mn}^{2+}</math>) can be removed using 5-fold decanting (2 times <math>\text{H}_2\text{O}</math>, 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 <math>80^{\circ}\text{C}</math>. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=</a></p>
117	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Synthesis of graphene oxide and reduced graphene oxide from industrial graphite foil wastes. <i>European Chemical Bulletin</i> . 2018. Deuton-X Ltd.	State Target Program	<p>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 &lt;math&gt;140\ \mu\text{m}&lt;/math&gt; 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 (<math>0^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-NaNO}_3\text{-H}_2\text{SO}_4</math>) and relatively high-temperature (<math>50^{\circ}\text{C}</math>; <math>\text{KMnO}_4\text{-H}_2\text{SO}_4</math>) 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 (<math>\text{K}^+</math>, <math>\text{Na}^+</math>, and <math>\text{Mn}^{2+}</math>) can be removed using 5-fold decanting (2 times <math>\text{H}_2\text{O}</math>, 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 <math>80^{\circ}\text{C}</math>. By the high-temperature treatment of rGO received from graphite foil wastes graphene is obtained with a defective structure.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85063320325&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=33&amp;citeCnt=3&amp;searchTerm=</a></p>
118	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Formation of long-chain and macrocyclic compounds during catalytic conversion of geraniol on micro- and micro-mesoporous BEA-type zeolite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2018. Georgian National Academy of Sciences.	Grant Project	<p>The present paper studies catalytic transformations of the terpene alcohols used in the perfumery industry, transformation of geraniol on micro- and micro-mesoporous BEA-type zeolites. Experiments were carried out with the use of various mass ratios of catalyst/geraniol (0.0075-0.053 g/g), in the inert atmosphere (nitrogen, argon) and at temperatures from 27 to <math>150^{\circ}\text{C}</math>. The analysis of the products of catalytic transformations was carried out by the gas chromatography – mass spectrometry (GC-MS) method; conversion of geraniol, yield of products and selectivity were calculated from experimental data. The reaction products contain mainly unconverted trans-Geraniol, <math>\beta</math>-Linalool, trans-trans-Farnesol and (2E,6E)-6,11-Dimethyl-2,6,10-dodecatrien-1-ol, small quantities of <math>\beta</math>-Myrcene, D-Limonene, trans-<math>\beta</math>-Ocymene, <math>\beta</math>-Ocymene, <math>\alpha</math>-Terpinolol, cis-Geraniol (Nero), cis-Isogeraniol, trans-trans-trans-Geranylgeraniol, p-and m-Camphorene (Dimyrcene), and unidentified isomer of trans-geranylgeraniol are present. It is established that by one-pot method in "zeolitic reactor" it is possible not only to receive long-chain C14 – C20 molecules, but to produce macrocycles.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058656935&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=34&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058656935&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M%20elikhvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=34&amp;citeCnt=3&amp;searchTerm=</a></p>





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. <i>Eurasian Journal of Analytical Chemistry</i> . 2018. Moment Publications.	Grant Project	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 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 the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ are 0.0081 µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No 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 - 165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=</a>
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. <i>Eurasian Journal of Analytical Chemistry</i> . 2018. Moment Publications.	Grant Project	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 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 the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ are 0.0081 µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No 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 - 165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=</a>
132	01009016784	Zautashvili	Marine	03.05.1967	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. <i>Eurasian Journal of Analytical Chemistry</i> . 2018. Moment Publications.	Grant Project	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 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 the solvent nature used was investigated. The optimal conditions for extraction were found. The LOD and the LOQ are 0.0081 µg/mL and 0.00405 µg/mL for beta-carotene, 0.034 µg/mL and 0.0085 µg/mL for lycopene, respectively. No 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 - 165.11-179.56 µg (tomato skin), 11.12-17.91 µg (tangerine peel), 8.37-10.65 µg (orange peel).	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85041085437&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=37&amp;citeCnt=12&amp;searchTerm=</a>
133	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Polymers which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polymers 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=</a>
134	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science	Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Polymers which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polymers 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=</a>
135	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science	Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Polymers which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polymers 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=</a>
136	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Polymers which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polymers 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=</a>
137	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Polymers which contain ether bonds in the main polymer chain have been synthesized. Diphenyloxidedicarbonic acid was used as acid component. Polymers 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=638&amp;AFPL%28M-elikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=38&amp;citeCnt=0&amp;searchTerm=</a>



Synthesis of polyarylates containing ether bonds in macromolecules (Book Chapter). *Chemical Engineering of Polymers: Production of Functional and Flexible Materials*. © 2017 by Apple Academic Press, Inc.

138 01026017278 Tabukashvili Zurab 05.01.1957 Master

State Target Program

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 oxygen atom between the phenyl nucleus of diphenyloxidedicarbonic acid causes reduction of softening temperature and increase of elasticity.

<https://www.scopus.com/record/display.uri?eid=2-s2.0-85058607797&origin=resultlist&sort=plf&src=s&st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&sid=H91018437073eaaae22de184952702&sort=bs&id=63&as=AFFII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&rebase=38&citeCnt=0&searchTerm=>

139	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
140		Maisuradze	Nunu		Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
141	01011058197	Gavashelidze	Ezer	01.01.1950	Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
142	36001004756	Gurgenshvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
143	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
144		Sherozia	Vitali		Academic Doctor of Science	Synthesis of polyarylates on the base of nucleus bisphenols in high boiling solvents (Book Chapter). <i>Chemical Engineering of Polymers: Production of Functional and Flexible Materials</i> . © 2017 by Apple Academic Press, Inc.	State Target Program	Card group-containing heterochain polyesters 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85058605336&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=39&amp;citeCnt=0&amp;searchTerm=</a>
145	01024001324	Lomtadze	Omar	26.02.1947	Academic Doctor of Science	Innovative insecto-acaricidal preparation against peach aphids. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2017. Georgian National Academy of Sciences	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 ( <i>Mysodes persicae</i> , <i>Hyalopterus pruni</i> ) 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" and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrin) 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) 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=40&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFPI%28M+elikhshvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=40&amp;citeCnt=0&amp;searchTerm=</a>

146	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Grant Project	<p>Innovative insecto-acaricidal preparation against peach aphids. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2017. Georgian National Academy of Sciences</p> <p>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 (<i>Mysodes persicae</i>, <i>Hyalopterus pruni</i>) 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" and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrin) 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) 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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=</a></p>
147	01026012404	Kavtaradze	Nino	13.04.1972	Academic Doctor of Science	Grant Project	<p>Innovative insecto-acaricidal preparation against peach aphids. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2017. Georgian National Academy of Sciences</p> <p>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 (<i>Mysodes persicae</i>, <i>Hyalopterus pruni</i>) 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" and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrin) 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) 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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=</a></p>
148	01010003714	Ebralidze	Ketevan	18.08.1964	Academic Doctor of Science	Grant Project	<p>Innovative insecto-acaricidal preparation against peach aphids. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2017. Georgian National Academy of Sciences</p> <p>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 (<i>Mysodes persicae</i>, <i>Hyalopterus pruni</i>) 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" and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrin) 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) 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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=</a></p>
149	01007000656	Shalvashvili	Nunu	10.08.1946	Master	Grant Project	<p>Innovative insecto-acaricidal preparation against peach aphids. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2017. Georgian National Academy of Sciences</p> <p>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 (<i>Mysodes persicae</i>, <i>Hyalopterus pruni</i>) 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" and is slightly lower than that of "Actara". It should be taken into account that the estimated cost of "Actara" is 10 times lower than of the imported preparations taken as reference for comparison. Residual amount of pyrethroid (cypermethrin) 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) 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.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85040521549&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=F491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repose=40&amp;citeCnt=0&amp;searchTerm=</a></p>

150	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Catalytic conversion of linalool on micro-mesoporous BEA-type zeolite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2017. Georgian National Academy of Sciences	Grant Project	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 place on the studied micro-and mesoporous zeolites by the conversion of linalool in an atmosphere of nitrogen or argon in a liquid phase at 60-170 °C. The conversion of linalool (4-40%) and the selectivity (45-12 %) of the formation of nerol and geraniol as 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 geraniol. Comparatively high amount of weak acid sites in microporous BEA zeolites contributes to enlarge in selectivity.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85030752439&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=41&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85030752439&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=41&amp;citeCnt=6&amp;searchTerm=</a>
151	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	Catalytic conversion of linalool on micro-mesoporous BEA-type zeolite. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2017. Georgian National Academy of Sciences	Grant Project	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 place on the studied micro-and mesoporous zeolites by the conversion of linalool in an atmosphere of nitrogen or argon in a liquid phase at 60-170 °C. The conversion of linalool (4-40%) and the selectivity (45-12 %) of the formation of nerol and geraniol as 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 geraniol. Comparatively high amount of weak acid sites in microporous BEA zeolites contributes to enlarge in selectivity.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85030752439&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=41&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85030752439&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=41&amp;citeCnt=6&amp;searchTerm=</a>
152	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>
153	01008019716	Dolaberidze	Nanuli	18.11.1940	Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>
154	01024006730	Urotadze	Spartak	23.06.1943	Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>
155	01024037297	Mirdzveli	Nato	13.10.1962	Academic Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>
156	01009007252	Nijaradze	Manana	31.08.1952	Academic Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>
157		Alelishvili	Maia		Doctor of Science	Ion exchange properties of Georgian natural zeolites. <i>Chemistry Journal of Moldova</i> . 2017. Institute of Chemistry, Academy of Sciences of Moldova	State Target Program	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+>Ca2->Sr2->Li+, the selectivity sequence for the sodium-enriched form is NH4+>Ag+>Li+>Ca2->K+>Sr2. For phillipsite ion exchange isotherms prove the high selectivity towards NH4+ and K+ depending on the origin of zeolite: K+>NH4+>Ca2->Mg2+ for samples with comparatively low content of potassium, and NH4+>K+>Na+>Ca2->Mg2+ 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 Sr2->Ba2->Rb+>Ca2->Cs+>K+>NfL+>Na+>Mg2->Li+>Cd2->Cu2->Mn2->Zn2->Co2->Ni2.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85021073608&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;sl=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c184952702&amp;or=b&amp;sd=6&amp;sl=638&amp;AFPI%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=42&amp;citeCnt=6&amp;searchTerm=</a>

158	01024031982	Khetsuriani	Natela	8.12.1958	Academic Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2017. Georgian National Academy of Sciences	State Target Program	Polycyclic aromatic hydrocarbons from vacuum gas oil fraction of Norio oil (Georgia) with boiling point 340–590°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 petroleum ether eluates, 78 samples from benzene extracts, 90 crystal samples. Petroleum ether eluate #56 and the components obtained from its crystallization were studied. Gas-chromatographic (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 structures were identified: indenes, tetralines, dinaphthalenes, naphthalenes, fluorenes, phenantrenes, anthracenes, mono- and polyalkyl derivatives of naphthofluorene and phenantrene, and terpeniles. In crystal samples of the eluate the banzantracene, chizrene, their methyl-, dimethyl and trimethyl-analogues, phenentrene derivatives, anthracenes and pyrenes were identified. The results of the present work show that the complex analysis of gas chromatography retention indices and mass-spectral data was successfully used for the structure elucidation of the components of this particular complex mixture.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=</a>
159	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2017. Georgian National Academy of Sciences	State Target Program	Polycyclic aromatic hydrocarbons from vacuum gas oil fraction of Norio oil (Georgia) with boiling point 340–590°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 petroleum ether eluates, 78 samples from benzene extracts, 90 crystal samples. Petroleum ether eluate #56 and the components obtained from its crystallization were studied. Gas-chromatographic (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 structures were identified: indenes, tetralines, dinaphthalenes, naphthalenes, fluorenes, phenantrenes, anthracenes, mono- and polyalkyl derivatives of naphthofluorene and phenantrene, and terpeniles. In crystal samples of the eluate the banzantracene, chizrene, their methyl-, dimethyl and trimethyl-analogues, phenentrene derivatives, anthracenes and pyrenes were identified. The results of the present work show that the complex analysis of gas chromatography retention indices and mass-spectral data was successfully used for the structure elucidation of the components of this particular complex mixture.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=</a>
160	01010012527	Topuria	Elza	11.11.1939	Academic Doctor of Science	Study of polycyclic aromatic hydrocarbons of norio oil by GC-MS method. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2017. Georgian National Academy of Sciences	State Target Program	Polycyclic aromatic hydrocarbons from vacuum gas oil fraction of Norio oil (Georgia) with boiling point 340–590°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 petroleum ether eluates, 78 samples from benzene extracts, 90 crystal samples. Petroleum ether eluate #56 and the components obtained from its crystallization were studied. Gas-chromatographic (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 structures were identified: indenes, tetralines, dinaphthalenes, naphthalenes, fluorenes, phenantrenes, anthracenes, mono- and polyalkyl derivatives of naphthofluorene and phenantrene, and terpeniles. In crystal samples of the eluate the banzantracene, chizrene, their methyl-, dimethyl and trimethyl-analogues, phenentrene derivatives, anthracenes and pyrenes were identified. The results of the present work show that the complex analysis of gas chromatography retention indices and mass-spectral data was successfully used for the structure elucidation of the components of this particular complex mixture.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85018280316&amp;origin=resultlist&amp;sort=plf-f8src=&amp;st1=Melikishvili-Institute+of+Physical+and+Organic+Chemistry&amp;id=491018437073eaae220c184952702&amp;sort=h&amp;sd=h&amp;sl=638=&amp;AFFIL%28M+elikishvili-Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=43&amp;citeCnt=0&amp;searchTerm=</a>
161	01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2017. Georgian National Academy of Sciences	Grant Project	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:nH <sub>2</sub> O (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 metal-cycles. 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.	<a href="http://science.org.ge/bnas/vol-11-2.html">http://science.org.ge/bnas/vol-11-2.html</a>
162	57001006403	Gogladze	Maia	15.02.1981	Academic Doctor of Science	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. <i>Bulletin of the Georgian National Academy of Sciences</i> , 2017. Georgian National Academy of Sciences	Grant Project	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:nH <sub>2</sub> O (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 metal-cycles. 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.	<a href="http://science.org.ge/bnas/vol-11-2.html">http://science.org.ge/bnas/vol-11-2.html</a>

163	01001052902	Klarjeishvili	Nazibrola	13.11.1957	Master of Chemistry	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2017. Georgian National Academy of Sciences	Grant Project	The results of the study of physicochemical properties of chelate-type compounds with mixed ligands are presented. The formula for these compounds is M-g-L-nH <sub>2</sub> O (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 glutamic 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 glutamic acid coordinate with complexforming metals through carbonyl group oxygen atoms and amino group nitrogen atoms that lead to the formation of five-member metal-cycles. 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. The results of the study of physicochemical properties of chelate-type compounds with mixed ligands are presented. The formula for these compounds is M-g-L-nH <sub>2</sub> O (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 glutamic 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 glutamic acid coordinate with complexforming metals through carbonyl group oxygen atoms and amino group nitrogen atoms that lead to the formation of five-member metal-cycles. 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.	<a href="http://science.org.ge/bnas/vol-11-2.html">http://science.org.ge/bnas/vol-11-2.html</a>
164	01024001324	Lomtadze	Omar	26.02.1947	Academic Doctor of Science	Results of Physico-Chemical Study of Chelate-Type Compounds with Mixed Ligands. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2017. Georgian National Academy of Sciences	Grant Project	The results of the study of physicochemical properties of chelate-type compounds with mixed ligands are presented. The formula for these compounds is M-g-L-nH <sub>2</sub> O (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 glutamic 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 glutamic acid coordinate with complexforming metals through carbonyl group oxygen atoms and amino group nitrogen atoms that lead to the formation of five-member metal-cycles. 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. 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 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 attract the electrical dipoles of molecules. The adsorption depends on the relation between electrical attraction and Pauli repulsion forces between BN hexagonal surface and molecules, i.e., their characteristics, such as size, charge, dipole moment, and polarizability.	<a href="http://science.org.ge/bnas/vol-11-2.html">http://science.org.ge/bnas/vol-11-2.html</a>
165	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science	CHAPTER 8: Adsorption Selectivity of Boron Nitride Nanostructures Designed for Environmental Protection. <i>RSC Detection Science</i> . 2017. Royal Society of Chemistry.	State Target Program	Integrated research of Georgian laumontite-containing tuffs and their modified (treated with water solutions of HCl and NH <sub>4</sub> Cl) 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 ~450°C. Chemical composition of laumontite-containing rocks, water sorption capacity, ion exchange capacity relative 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 nano-materials.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85006485751&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=44&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85006485751&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=44&amp;citeCnt=0&amp;searchTerm=</a>
166	01024006730	Urotadze	Spartak	23.06.1943	Doctor of Science	Laumontite-Natural zeolite mineral of Georgia. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2016. Georgian National Academy of Sciences	State Target Program	Integrated research of Georgian laumontite-containing tuffs and their modified (treated with water solutions of HCl and NH <sub>4</sub> Cl) 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 ~450°C. Chemical composition of laumontite-containing rocks, water sorption capacity, ion exchange capacity relative 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 nano-materials.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=</a>
167	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Laumontite-Natural zeolite mineral of Georgia. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2016. Georgian National Academy of Sciences	State Target Program	Integrated research of Georgian laumontite-containing tuffs and their modified (treated with water solutions of HCl and NH <sub>4</sub> Cl) 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 ~450°C. Chemical composition of laumontite-containing rocks, water sorption capacity, ion exchange capacity relative 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 nano-materials.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=</a>
168	01024006731	Osipova	Nana	31.10.1944	Academic Doctor of Science	Laumontite-Natural zeolite mineral of Georgia. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2016. Georgian National Academy of Sciences	State Target Program	Integrated research of Georgian laumontite-containing tuffs and their modified (treated with water solutions of HCl and NH <sub>4</sub> Cl) 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 ~450°C. Chemical composition of laumontite-containing rocks, water sorption capacity, ion exchange capacity relative 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 nano-materials.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84966277517&amp;origin=resultslist&amp;sort=plf-f&amp;rec=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=63&amp;=AFFIL%28M.eli.kishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=</a>

169	01010002570	Kvernadze	Tamar	16.03.1951	Academic Doctor of Science	State Target Program	<p>Laumontite-Natural zeolite mineral of Georgia. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2016. Georgian National Academy of Sciences</p> <p>The aim of this work was the quantitative estimation of some volatile N-nitrosamines in tobacco smoke of local cigarette different brands using an efficient, rapid and sensitive GC-MS method. The chromatographic system suitability was tested by using the following characteristics. The RSD, % of peak areas (five replicate injections) was &lt; 2.0 %; The RSD, % of retention times &lt; 1.0 %; the number of theoretical plates was &gt; 2000; the tailing factor &lt; 2.0; the resolution between the two nearest peaks &gt; 2.0 for all N-nitrosamines. The calibration curve was linear over a concentration range 0.5-100 µg mL<sup>-1</sup> with a correlation coefficient &gt; 0.99. The limit of detection and limit of quantitation were 0.25 and 0.5 µg mL<sup>-1</sup>, respectively. The determined quantities of some volatile N-nitrosamines e.g., N-nitrosodimethylamine, N-nitrosomethylethylamine and N-nitrosodiethylamine in tobacco smoke vary 190-320, 87-119 and 99-166 ng/cigarette, respectively.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-849527028&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-849527028&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=45&amp;citeCnt=4&amp;searchTerm=</a></p>
170	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	Grant Project	<p>Quantitative estimation of some volatile N-nitrosamines in tobacco smoke using validated GC-MS method. <i>Asian Journal of Chemistry</i>. 2015. Asian Publication Corporation</p> <p>The aim of this work was the quantitative estimation of some volatile N-nitrosamines in tobacco smoke of local cigarette different brands using an efficient, rapid and sensitive GC-MS method. The chromatographic system suitability was tested by using the following characteristics. The RSD, % of peak areas (five replicate injections) was &lt; 2.0 %; The RSD, % of retention times &lt; 1.0 %; the number of theoretical plates was &gt; 2000; the tailing factor &lt; 2.0; the resolution between the two nearest peaks &gt; 2.0 for all N-nitrosamines. The calibration curve was linear over a concentration range 0.5-100 µg mL<sup>-1</sup> with a correlation coefficient &gt; 0.99. The limit of detection and limit of quantitation were 0.25 and 0.5 µg mL<sup>-1</sup>, respectively. The determined quantities of some volatile N-nitrosamines e.g., N-nitrosodimethylamine, N-nitrosomethylethylamine and N-nitrosodiethylamine in tobacco smoke vary 190-320, 87-119 and 99-166 ng/cigarette, respectively.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8495035620&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=46&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8495035620&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=46&amp;citeCnt=0&amp;searchTerm=</a></p>
171	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	Grant Project	<p>Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p> <p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group - 7.33%, while in the control one - 5.13%. Poultry preservation index in the I group equalled to 93.75%, in the II group - 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=</a></p>
172	01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	Grant Project	<p>Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p> <p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group - 7.33%, while in the control one - 5.13%. Poultry preservation index in the I group equalled to 93.75%, in the II group - 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=</a></p>
173	01024006730	Urotadze	Spartak	23.06.1943	Doctor of Science	Grant Project	<p>Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p> <p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group - 7.33%, while in the control one - 5.13%. Poultry preservation index in the I group equalled to 93.75%, in the II group - 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=</a></p>
174	01030012597	Tsitishvili	Vladimer	17.03.1947	Doctor of Science	Grant Project	<p>Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p> <p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group - 7.33%, while in the control one - 5.13%. Poultry preservation index in the I group equalled to 93.75%, in the II group - 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-8493913836&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=491018437073eaae220c1849527028&amp;or=h&amp;sd=h&amp;sl=63&amp;=AFFIL%28M%20elkishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=47&amp;citeCnt=1&amp;searchTerm=</a></p>

175	01008019345	Zhorzholiani	Nani	07.05.1946	Academic Doctor of Science	Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015, Georgian National Academy of Sciences	Grant Project	<p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group – 7.33%, while in the control one – 5.13%. Poultry preservation index in the I group equaled to 93.75%, in the II group – 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84939138368&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84939138368&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=47&amp;citeCnt=1&amp;searchTerm=</a></p>
176	57001006403	Gogaladze	Maia	15.02.1981	Academic Doctor of Science	Application of methionine-containing complexes and their composites with clinoptilolite in poultry nutrition. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015, Georgian National Academy of Sciences	Grant Project	<p>A premix and its composite with clinoptilolite were prepared to study physiological activity of chelate compounds and natural zeolite -clinoptilolite, which was used to balance formula feed for poultry layers. Experiment lasted 60 days on three groups: control group was given a feed used generally at the factory, I experimental group was given a feed balanced by premix prepared on the base of biometals (Mn, Zn, Fe, Co, Ca, Mg, Cu) and chelate compounds of sulfur-containing amino acid, methionine, while that of the II experimental group - by clinoptilolite and the same formulation premix composite. Observations were made over poultry development, egg-laying intensity and physical properties of eggs (egg yolk, white, shell mass et al). The role of amino acids, namely methionine, on the one hand, and that of biometals, on the other hand, is known in poultry and animal nutrition. Therefore, simultaneous presence of methionine and biometals in chelate form should provide sharp increase of their biological activity, decrease of toxicity and high grade of assimilation. It was proved by analysis of the obtained data. In particular, researches showed that live mass increase in the I group reached 6.7%, in the II group – 7.33%, while in the control one – 5.13%. Poultry preservation index in the I group equaled to 93.75%, in the II group – 95.06, while in the control - 81.3%. Productivity of layers, egg-laying capacity and egg quality and physical characteristics (egg mass, egg length, width, white mass, yolk mass, shell mess and others) were increased. The obtained results are conditioned by biometals in chelate form (I exp. group) and simultaneous presence of these chelate forms and clinoptilolite (II exp. group), which provided better assimilation of biometals and improvement of metabolism in experimental poultry.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84939138368&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=47&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84939138368&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=47&amp;citeCnt=1&amp;searchTerm=</a></p>
177	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i> . 2015. © 2016 by Apple Academic Press, Inc.	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=</a></p>
178	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i> . 2015. © 2016 by Apple Academic Press, Inc.	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=</a></p>
179	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i> . 2015. © 2016 by Apple Academic Press, Inc.	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=</a></p>
180		Sherozia	Vitali			Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i> . 2015. © 2016 by Apple Academic Press, Inc.	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=</a></p>
181	01030034608	Khotenashvili	Nanuli	14.04.1941	Master	Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i> . 2015. © 2016 by Apple Academic Press, Inc.	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;sid=f491018437073eaae220c184952702&amp;sort=b&amp;sd=1&amp;sl=63&amp;=AFFL%28Mlikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;repos=49&amp;citeCnt=0&amp;searchTerm=</a></p>



182	01026017278	Tabukashvili	Zurab	05.01.1957	Master	<p>Organomineral ionites. (Book Chapter). <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p> <p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Organomineral ionites have been synthesized, in which natural mineral sorbent is chemically bound to organic part of a molecule, containing ionogen groups. Ionogen groups of these ionites contribute to efficient exchange in water solutions. They might be used for cleaning drainage waters and technical solutions, as well as for purification of medicinal preparations from various admixes. Hydrogen forms of natural zeolite – clinoptilolite and bromoacetic acid were used to resolve this problem. Chemical modification of clinoptilolite, by incultation of ionogen groups into zeolite skeleton, enables us to increase significantly ionite exchange capacity. Static exchange capacity of a cationite with carboxyl ionogen groups increases from 0.1-0.9 (for chemically unmodified zeolite) to 5-6 mg-equiv/g.</p> <p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=49&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055168436&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=49&amp;citeCnt=0&amp;searchTerm=</a></p> <p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
183	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
184	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
185	01008013825	Papava	Givi	20.10.1931	Doctor of Science	<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
186		Sherozia	Vitali			<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
187	01030034608	Khotenashvili	Nanuli	14.04.1941	Master	<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
188	01026017278	Tabukashvili	Zurab	05.01.1957	Master	<p>Zeolite based hybrid cationites. <i>High-Performance Polymers for Engineering-Based Composites</i>. 2015. © 2016 by Apple Academic Press, Inc.</p>	State Target Program	<p>Low acidity cationite with carboxyl ionogen groups in zeolite skeleton was synthesized on the basis of modified clinoptilolite (H-form) and chloropropionic acid. At the treatment of the clinoptilolite by water, Na leaves clinoptilolite skeleton, forming water-soluble chloride. At washing of the hydrogen form clinoptilolite that is formed in the process Na is removed and silane groups are formed. At the interaction of these groups with chloropropionic acid the chemical bonds are created between them. The obtained cationite is stable to acids and alkali; it possesses high mechanical strength and increased exchange capacity.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-85055142353&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=51&amp;citeCnt=0&amp;searchTerm=</a></p>
189	01024044373	Khitiri	Guram	06.10.1949	Academic Doctor	<p>Study and wasteless utilization of the residue after proflaxis of oil pipeline. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p>During the pipeline operation a large amount of heavy components are deposited in the form of semisolid, viscous-flow 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 naphthenic, 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 residue 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 &gt;450°C. The main parameters of the fractions are determined: yield, inflammation and explosion points, acid number and the content of sulfur, paraffins, arenes, naphthenes, resins and pyrobitumens. Recommendations on the spheres of utilization of these fractions are worked out. The ecologically safe scheme is elaborated for the 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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84951846293&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=52&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84951846293&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b&amp;sd1=b&amp;sl=638s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=52&amp;citeCnt=0&amp;searchTerm=</a></p>

190	01021003125	Gabunia	Tinatini	06.02.1963	Master	<p>Study and wasteless utilization of the residue after proflaxis of oil pipeline. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84951846293&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84951846293&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a></p>
191	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	<p>Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a></p>
192	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	<p>Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a></p>
193	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	<p>Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a></p>
194	01030013839	Kordzakhia	Teimuraz	6.03.1953	Doctor of Science	<p>Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2015. Georgian National Academy of Sciences</p>	State Target Program	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;et=1-Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaae220c1849527028&amp;ot=b&amp;sd=b&amp;sl=63&amp;s=AFPI%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a></p>

During the pipeline operation a large amount of heavy components are deposited in the form of semisolid, viscous-flow 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 naphthenic, 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 chromatographic study of the sample of pipeline residue 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 ekoizan, 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, naphthenes, 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.

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 finely-grained (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), height of sprout (HS), relative size of height of sprout (RSHS), rate of germination (RG) and intergrowth (IG). As it is seen, introduction of zeolite into the soil has an essential influence on the calculated parameters, raising their values by 2% and higher. These parameters are even higher for the samples containing zeolites and brown coal. Variation of these parameters on the substrate occurs in the sequence: soil (object of comparison) < zeolite-soil < zeolite-brown coal. It was shown that the enrichment of the soil with zeolite in combination with brown coal substantially raises germination and development of the seeded cultures. The present work has preliminary character and the results provide a basis for field experiments, and for more detailed agrochemical research of the examined substrates.

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195	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science		State Target Program			
						Influence of the soil-free substrate on the biometric parameters of bean and barley Germination. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences			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 finely-grained (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), height of sprout (HS), relative size of height of sprout (RSHS), rate of germination (RG) and intergrowth (IG). As it is seen, introduction of zeolite into the soil has an essential influence on the calculated parameters, raising their values by 2% and higher. These parameters are even higher for the samples containing zeolites and brown coal. Variation of these parameters on the substrate occurs in the sequence: soil (object of comparison) < zeolite-soil < zeolite-brown coal. It was shown that the enrichment of the soil with zeolite in combination with brown coal substantially raises germination and development of the seeded cultures. The present work has preliminary character and the results provide a basis for field experiments, and for more detailed agrochemical research of the examined substrates.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928615007&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=53&amp;citeCnt=0&amp;searchTerm=</a>
196	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N-nitrosomethylethylamine. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences	State Target Program			
						volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N-nitrosomethylethylamine. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences			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 above-mentioned 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 <sup>-1</sup> (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 N-nitrosomethylethylamine varying from 108 to 124ng per cigarette is very high, which can be caused by high nitrate and tar content in local tobacco.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928603502&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=54&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928603502&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=54&amp;citeCnt=0&amp;searchTerm=</a>
197	60003006669	Rubashvili	Imeda	14.05.1981	Academic Doctor of Science	volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N-nitrosomethylethylamine. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences	Grant Project			
						volatile N-Nitrosamines in tobacco smoke using validated GC-MS method and its uncertainty evaluation, illustrated by determination of N-nitrosomethylethylamine. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2015. Georgian National Academy of Sciences			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 above-mentioned 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 <sup>-1</sup> (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 N-nitrosomethylethylamine varying from 108 to 124ng per cigarette is very high, which can be caused by high nitrate and tar content in local tobacco.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84928603502&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=54&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84928603502&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=54&amp;citeCnt=0&amp;searchTerm=</a>
198	01030012597	Tsitsishvili	Vladimer	17.03.1947	Doctor of Science	Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences	Grant Project			
						Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences			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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=</a>
199		Andronikashvili	Teimuraz		Doctor of Science	Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences	State Target Program			
						Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences			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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=</a>
200	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences	State Target Program			
						Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences			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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=</a>
201	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences	State Target Program			
						Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2012. Georgian National Academy of Sciences			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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nl0=&amp;nlr=&amp;nls=&amp;sid=f491018437f073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=58&amp;citeCnt=0&amp;searchTerm=</a>

202	01010013817	Burkiashvili	Nino	28.02.1960	Academic Doctor of Science	State Target Program	<p>Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p> <p>Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p> <p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=58&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=58&amp;citeCnt=3&amp;searchTerm=</a></p>
203	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	State Target Program	<p>Natural zeolite - One of the possibilities of transition from chemical to biological agronomy. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p> <p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=58&amp;citeCnt=3&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84865363776&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=58&amp;citeCnt=3&amp;searchTerm=</a></p>
204	01011058197	Gavashelidze	Ezer	01.01.1950	Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
205		Maisuradze	Nunu		Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
206	01026014230	Dokhturishvili	Nora	10.04.1936	Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
207	01008013825	Papava	Givi	20.10.1931	Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
208	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
209	01008004780	Molodinashvili	Zaza	02.08.1961	Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>
210	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	State Target Program	<p>Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences</i>. 2012. Georgian National Academy of Sciences</p>	<p>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.</p>	<p><a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili+Institute+of+Physical+and+Organic+Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-638s=AFPII%28Melikishvili+Institute+of+Physical+and+Organic+Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a></p>

211	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Polyurethanes on the basis of card-type polycyclic bisphenols and different diisocyanates. <i>Bulletin of the Georgian National Academy of Sciences.</i> 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 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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860908965&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=59&amp;citeCnt=0&amp;searchTerm=</a>
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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860899517&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=60&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860899517&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=60&amp;citeCnt=0&amp;searchTerm=</a>
213		Dolidze	Avtandil		Doctor of Science	Antiplasmodial in vitro activity of chysanthemoyl-substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. <i>Chemija.</i> 2011. Lietuvos Mokslu Akademijos Leidykla.	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 quinone/semiquinone redox couple (single-electron reduction potential, E 1 7), and the inhibition 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 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 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 efficient antiplasmodial agents with a low mammalian cell cytotoxicity.	<a href="https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones">https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones</a>
214	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Antiplasmodial in vitro activity of chysanthemoyl-substituted quinones: Roles of single-electron reduction potential and glutathione reductase inhibition. <i>Chemija.</i> 2011. Lietuvos Mokslu Akademijos Leidykla.	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 quinone/semiquinone redox couple (single-electron reduction potential, E 1 7), and the inhibition 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 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 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 efficient antiplasmodial agents with a low mammalian cell cytotoxicity.	<a href="https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones">https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones</a>
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. <i>Chemija.</i> 2011. Lietuvos Mokslu Akademijos Leidykla.	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 quinone/semiquinone redox couple (single-electron reduction potential, E 1 7), and the inhibition 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 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 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 efficient antiplasmodial agents with a low mammalian cell cytotoxicity.	<a href="https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones">https://www.yumpu.com/en/document/read/37864389/antiplasmodial-in-vitro-activity-of-chysanthemovl-substituted-quinones</a>
216		Andronikashvili	Teimuraz		Doctor of Science	New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. <i>Bulletin of the Georgian National Academy of Sciences.</i> 2011. Georgian National Academy of Sciences	State Target Program	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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=</a>
217	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. <i>Bulletin of the Georgian National Academy of Sciences.</i> 2011. Georgian National Academy of Sciences	State Target Program	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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=</a>
218	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. <i>Bulletin of the Georgian National Academy of Sciences.</i> 2011. Georgian National Academy of Sciences	State Target Program	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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f&amp;src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;id=f491018437073eaaac220c1849527028&amp;ot-b&amp;sd=b&amp;cl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=</a>

219	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2011. Georgian National Academy of Sciences	State Target Program	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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=</a>
220	01030038864	Dzagania	Maia	16.11.1959	Academic Doctor of Science	New substrate of prolonging action on the basis of natural zeolite and brown coal for growing agricultural crops. <i>Bulletin of the Georgian National Academy of Sciences</i> . 2011. Georgian National Academy of Sciences	State Target Program	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.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-84858645493&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=65&amp;citeCnt=1&amp;searchTerm=</a>
221	01008013825	Papava	Givi	20.10.1931	Doctor of Science	Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. <i>Journal of the Balkan Tribological Association</i> . 2011. Scientific Bulgarian Communication.	State Target Program	Methylol derivative on the basis of 2,2-bis (4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. 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 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of residue, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing residue was decomposed without formation of coke residue.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=</a>
222	01026015319	Gelashvili	Nazi	28.07.1940	Academic Doctor of Science	Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. <i>Journal of the Balkan Tribological Association</i> . 2011. Scientific Bulgarian Communication.	State Target Program	Methylol derivative on the basis of 2,2-bis (4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. 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 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of residue, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing residue was decomposed without formation of coke residue.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=</a>
223	01008004780	Molodinashvili	Zaza	02.08.1961	Academic Doctor of Science	Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. <i>Journal of the Balkan Tribological Association</i> . 2011. Scientific Bulgarian Communication.	State Target Program	Methylol derivative on the basis of 2,2-bis (4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. 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 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of residue, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing residue was decomposed without formation of coke residue.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=</a>
224	36001004756	Gurgenishvili	Marina	8.09.1958	Academic Doctor of Science	Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. <i>Journal of the Balkan Tribological Association</i> . 2011. Scientific Bulgarian Communication.	State Target Program	Methylol derivative on the basis of 2,2-bis (4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. 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 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of residue, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing residue was decomposed without formation of coke residue.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=</a>
225	01012028516	Chitrekashvili	Ia	20.04.1965	Academic Doctor of Science	Synthesis and study of phenol-formaldehyde type polymers on the basis of bisphenol with adamantane grouping. <i>Journal of the Balkan Tribological Association</i> . 2011. Scientific Bulgarian Communication.	State Target Program	Methylol derivative on the basis of 2,2-bis (4-oxyphenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at an initial bis-phenol-formaldehyde molar ratio of 1:4. 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 isothermal terms, on air, at 115, 200, 250 and 300°C. Thermogravimetric and thermomechanical investigations of residue, formed at thermal hardening of methylol derivative of bis-phenol were carried out. When heated at a temperature exceeding destruction one, adamantane-containing residue was decomposed without formation of coke residue.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-80055100305&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=66&amp;citeCnt=0&amp;searchTerm=</a>
226	Lekveishvili	Erna			Doctor of Science	Separation and characterization of polycyclic hydrocarbons from georgian petroleum. <i>Medziagotya</i> . 2010. Kaunas University of Technology	State Target Program	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, chromatographic 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 petroleum-derived materials-in spite of differences in their compositions.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-77956223264&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=69&amp;citeCnt=1&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-77956223264&amp;origin=resultslist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-and-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdi-b8sl-63&amp;s=AFFII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=69&amp;citeCnt=1&amp;searchTerm=</a>

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). <i>Handbook of Condensed Phase Chemistry</i> . 2010. © 2011 Nova Science Publishers.	State Target Program	Methylol derivative on the base of 2,2-bis-(4-oxophenyl) adamantane was obtained. Some cinematic regularities of reaction of interaction of 2,2-bis-(4-oxophenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at the initial bis-phenol formaldehyde molar ratio 1:4. 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-oxophenyl) adamantane, at isothermal terms, on the 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 the temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=70&amp;citeCnt=0&amp;searchTerm=</a>
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). <i>Handbook of Condensed Phase Chemistry</i> . 2010. © 2011 Nova Science Publishers.	State Target Program	Methylol derivative on the base of 2,2-bis-(4-oxophenyl) adamantane was obtained. Some cinematic regularities of reaction of interaction of 2,2-bis-(4-oxophenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at the initial bis-phenol formaldehyde molar ratio 1:4. 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-oxophenyl) adamantane, at isothermal terms, on the 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 the temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=70&amp;citeCnt=0&amp;searchTerm=</a>
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). <i>Handbook of Condensed Phase Chemistry</i> . 2010. © 2011 Nova Science Publishers.	State Target Program	Methylol derivative on the base of 2,2-bis-(4-oxophenyl) adamantane was obtained. Some cinematic regularities of reaction of interaction of 2,2-bis-(4-oxophenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at the initial bis-phenol formaldehyde molar ratio 1:4. 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-oxophenyl) adamantane, at isothermal terms, on the 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 the temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=70&amp;citeCnt=0&amp;searchTerm=</a>
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). <i>Handbook of Condensed Phase Chemistry</i> . 2010. © 2011 Nova Science Publishers.	State Target Program	Methylol derivative on the base of 2,2-bis-(4-oxophenyl) adamantane was obtained. Some cinematic regularities of reaction of interaction of 2,2-bis-(4-oxophenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at the initial bis-phenol formaldehyde molar ratio 1:4. 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-oxophenyl) adamantane, at isothermal terms, on the 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 the temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=70&amp;citeCnt=0&amp;searchTerm=</a>
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). <i>Handbook of Condensed Phase Chemistry</i> . 2010. © 2011 Nova Science Publishers.	State Target Program	Methylol derivative on the base of 2,2-bis-(4-oxophenyl) adamantane was obtained. Some cinematic regularities of reaction of interaction of 2,2-bis-(4-oxophenyl) adamantane and formaldehyde were studied at 115-130°C, in n-propyl alcohol, in the presence of ammonia, as the catalyst, at the initial bis-phenol formaldehyde molar ratio 1:4. 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-oxophenyl) adamantane, at isothermal terms, on the 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 the temperature exceeding destruction one, adamantane-containing resite was decomposed without formation of coke residuum.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-85016806228&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=70&amp;citeCnt=0&amp;searchTerm=</a>
232		Dolidze	Avtandil		Doctor of Science	Redox properties of chrysanthemic acid esters of hydroxy-naphthoquinones: Implications for their toxicity in mammalian cells. <i>Chemija</i> . 2009. Lietuvos Mokslu Akademijos Leidykla	Grant Project	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-voenzymie ferredoxin : NADP + reductase and two-electron-transferring DT-diaphorase correlated with the electron-accepting and sterical properties of analogous naphthoquinones. Their toxicity in primary mice splenocytes and bovine leukemia virus-transformed lamb kidney fibroblasts (line FLK) also correlated with the single-electron-transfer properties of model quinones which possess no chrysanthemate substituent. Te cytotoxicity was partly protected by antioxidants and potentiated by the prooxidant 1,3-bis-(2-chloroethyl)-1-nitrosourea and by the inhibitor of DT-diaphorase, dicumarol. This 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 mammalian cells.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=73&amp;citeCnt=1&amp;searchTerm=</a>
233	01002017618	Chedia	Roin	13.03.1952	Academic Doctor of Science	Redox properties of chrysanthemic acid esters of hydroxy-naphthoquinones: Implications for their toxicity in mammalian cells. <i>Chemija</i> . 2009. Lietuvos Mokslu Akademijos Leidykla	Grant Project	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-voenzymie ferredoxin : NADP + reductase and two-electron-transferring DT-diaphorase correlated with the electron-accepting and sterical properties of analogous naphthoquinones. Their toxicity in primary mice splenocytes and bovine leukemia virus-transformed lamb kidney fibroblasts (line FLK) also correlated with the single-electron-transfer properties of model quinones which possess no chrysanthemate substituent. Te cytotoxicity was partly protected by antioxidants and potentiated by the prooxidant 1,3-bis-(2-chloroethyl)-1-nitrosourea and by the inhibitor of DT-diaphorase, dicumarol. This 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 mammalian cells.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an</a> <a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-84860845361&amp;origin=resultslist&amp;sort=plf">d:Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaaz220c1849527028sot-b&amp;sd1-b&amp;sl=63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=73&amp;citeCnt=1&amp;searchTerm=</a>

234	01026012404	Kavtaradze	Nino	13.04.1972	Academic Doctor of Science	Redox properties of chrysanthemic acid esters of hydroxy-naphthoquinones: Implications for their toxicity in mammalian cells. <i>Chemija</i> . 2009. Lietuvos Mokslu Akademijos Leidykla	Grant Project	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 <i>fa</i> -vozenmyne ferredoxin : NADP <sup>+</sup> reductase and two-electron-transferring DT-diaphorase correlated with the electron-accepting and steric properties of analogous naphthoquinones. Their toxicity in primary mice splenocytes and bovine leukemia virus-transformed lamb kidney fibroblasts (line FLK) also correlated with the single-electron-transfer properties of model quinones which possess no chrysanthemate substituent. The cytotoxicity was partly protected by antioxidants and potentiated by the prooxidant 1,3-bis-(2-chloroethyl)-1-nitrosourea and by the inhibitor of DT-diaphorase, dicumarol. This 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 mammalian cells.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=73&amp;citeCnt=18&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=73&amp;citeCnt=18&amp;searchTerm=</a>
235	01008019345	Zhorzholiani	Nani	07.05.1946	Academic Doctor of Science	Study of heteroligand complex compounds of metals with citric acid and o-Nitrobenzoylhydrazine in aqueous solutions. <i>Protection of Metals</i> . 2008. Maik Nauka/Interperiodica Publishing	State Target Program	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 groups made complex formation in conformity with the solution pH. The study found that the molecule of o-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 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 basic titration of the solution produced dissociation and complex formation involving the metal ions.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=77&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=77&amp;citeCnt=0&amp;searchTerm=</a>
236	01012006774	Beshkenadze	Iamze	10.06.1947	Academic Doctor of Science	Study of heteroligand complex compounds of metals with citric acid and o-Nitrobenzoylhydrazine in aqueous solutions. <i>Protection of Metals</i> . 2008. Maik Nauka/Interperiodica Publishing	State Target Program	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 groups made complex formation in conformity with the solution pH. The study found that the molecule of o-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 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 basic titration of the solution produced dissociation and complex formation involving the metal ions.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=77&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-44349182528&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=77&amp;citeCnt=0&amp;searchTerm=</a>
237	57001006403	Gogaladze	Maia	15.02.1981	Academic Doctor of Science	Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. <i>Journal of Analytical Chemistry</i> . 2007. Pleiades Publishing	State Target Program	A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, thallium, 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 href="https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=</a>
238	Andronikashvili	Teimuraz			Doctor of Science	Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. <i>Journal of Analytical Chemistry</i> . 2007. Pleiades Publishing	State Target Program	A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, thallium, 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 href="https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=</a>
239	01009010669	Eprikashvili	Luba	7.05.1949	Doctor of Science	Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. <i>Journal of Analytical Chemistry</i> . 2007. Pleiades Publishing	State Target Program	A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, thallium, 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 href="https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-33846160924&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=80&amp;citeCnt=0&amp;searchTerm=</a>
240	01005018838	Pirtskhalava	Nino	29.03.1964	Academic Doctor of Science	Cation-modified silikalit-2 as a selective adsorbent for gas chromatography columns. <i>Journal of Analytical Chemistry</i> . 2007. Pleiades Publishing	State Target Program	A selective adsorbent was proposed on the basis of synthetic zeolite silikalit-2 modified with cadmium, thallium, 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 href="https://www.scopus.com/record/display.uri?eid=2-s2.0-33750176698&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=81&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-33750176698&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=81&amp;citeCnt=7&amp;searchTerm=</a>
241	01009016784	Zautashvili	Marine	03.05.1967	Academic Doctor of Science	The mechanism of phenol methylation on acid and basic zeolite catalysts. <i>Russian Journal of Physical Chemistry A</i> . 2006. Pleiades Publishing.	State Target Program	The alkylation of phenol with methanol on HY and CsY/CsOH catalysts was studied in situ under static conditions by <sup>13</sup> C NMR spectroscopy. Attention was largely given to the identification of intermediate compounds and mechanisms of anisole, cresol, and xylenol formation. The mechanisms of phenol methylation were found to be different on acid and basic catalysts. The primary process on acid catalysts was the dehydration of methanol to dimethyl ether and methoxy groups. This resulted in the formation of anisole and dimethyl ether, the ratio between which depended on the reagent ratio, which was evidence of similar mechanisms of their formation. Subsequent reactions with phenol gave cresols and anisoles. Cresols formed at higher temperatures both in the direct alkylation of phenol and in the rearrangement of anisole. The main alkylation product on basic catalysts was anisole formed in the interaction of phenolate anions with methanol; no cresol formation was observed. The deactivation of acid catalysts was caused by the formation of condensed aromatic hydrocarbons that blocked zeolite pores. The deactivation of basic catalysts resulted from the condensation of phenol and formaldehyde with the formation of phenol-formaldehyde resins.	<a href="https://www.scopus.com/record/display.uri?eid=2-s2.0-33750176698&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=81&amp;citeCnt=7&amp;searchTerm=">https://www.scopus.com/record/display.uri?eid=2-s2.0-33750176698&amp;origin=resultlist&amp;sort=plf-f8src=s&amp;st1=Melikishvili-Institute-of-Physical-an-d-Organic-Chemistry&amp;nlo=&amp;nlr=&amp;nls=&amp;sid=f491018437073eaaac220c1849527028sot-b8sdt-b8sl-63&amp;s=AFPII%28Melikishvili-Institute-of-Physical-and-Organic-Chemistry%29&amp;relpos=81&amp;citeCnt=7&amp;searchTerm=</a>
242	01007011134	Ramishvili	Tsiuri	31.07.1943	Doctor of Science		State Target Program		



243 01007011134 Ramishvili Tsiuri 31.07.1943 Doctor of Science

Alkylation of phenol with dimethyl carbonate and methanol on modified zeolites and mesoporous materials. Petroleum Chemistry, 2005. Pleiades Publishing.

State Target Program

The alkylation of phenol with methanol and dimethyl carbonate on the micro- and mesoporous materials MFI, BEA, and MCM-41 in the H<sup>+</sup> form and modified by Cs<sup>+</sup> ions and cesium hydroxide (to obtain acidic and basic catalysts) was 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 the highest selectivity with respect to anisole, whereas the highest selectivity for cresols and xylenols is displayed by acidic catalysts and zeolites with strong acid sites and pores with diameters greater than 7 Å, respectively. Dimethyl carbonate is a more effective O-alkylating agent than methanol.

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