

ANDIJAN STATE MEDICAL INSTITUTE

Chairman of the expert council

Doctor of Philosophy, professor

_____ **M.M. Madazimov**

" ____ " _____ **2025 y.**

Kholboev Yu.Kh.

**BASED ON UREA DERIVATIVES COVERAGE OF NEW
PRODUCTS AND THEIR PLACE IN TRADITIONAL MEDICINE.**

(monograph)

Andijan 2025

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I APPROVE

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CONVENTIONAL ABBREVIATIONS:

1. DMSO - dimethylsulfoxide
2. GMDI - hexamethylene diisocyanate
3. AD - atopic dermatitis
4. KIGGS (German Child and Adolescent Health Survey)
5. NMF is a natural moisturizing factor
6. A cylinder coated with a DCB drug
7. TIF TN – External economic activity Goods nomenclature
8. UT – Adapted system
9. BTN – Brussels goods nomenclature
10. BUDD – Customs cargo declaration
11. DMFA-Dimethylformamide
12. IR – Infrared
13. PMR – Proton magnetic resonance
14. NMR – Nucleus magnetic resonance
15. UB – Ultraviolet
16. HOMO – Highly compound molecular orbital
17. LUMO – Lower compound molecular orbital
18. UAN-a solution with stable total nitrogen content
19. MIC- Methylisocyanate
20. MDI- methylenediphenyldiisocyanate
21. TDI- toluene diisocyanate
22. BUN is a blood urea nitrogen test
- 23 . TEWL-transepidermal water loss rate
24. THF-tetrahydrofuran
25. Ru-pyridine
26. DMATs-dimethylacetamide
27. DMSO-dimethylsulfoxide
28. XYuX-Kholboev Yusubjon Xakimovich
29. BTI - biological exposure index

Introduction. (science, doctor (DSc) of the thesis annotation)

The relevance and necessity of the dissertation topic. The commercial pharmaceutical industry and plant growth in the world of ever advancing despite biostimulators to create harmless medicines used in the treatment of skin diseases dangerous, as well as studies on the development of effective biostimulators have not been developed at all. In this regard, on the basis of safe compared to synthetic drugs, medicinal plants, yonaki to have effect, environmentally friendly, skin diseases in the structure of natural biological active compounds that have properties of food which kept the treatment and prevention of the formation of plant that develops biostimulyatorlar and complex to produce, and determine their chemical composition mechanism of the effects to the body, and Traditional practice is one of actual problems of medicine and agriculture.

In the treatment and prevention of skin diseases in the world, which have an impact on the basis of local raw materials to create a drug effective medicinal them for the body to determine the effects and pharmacological properties, as well as agricultural crops that great importance is given to studies on the synthesis of biologically active compounds that develop quickly. In this regard, on the basis of local medicinal plants is relatively harmless to synthetic drugs, biologically active compounds have properties which kept the diagnosis and the treatment and prevention of psoriasis, cheap and effective natural food affecting the formation of them to develop chemical composition, determine pharmacological effects, as well as create effective for plants on the basis of ferrosen biostimulyatorlar to determine the biological activity and chemical composition of the commodity nomenclature of foreign economic activity on the basis of them (GN FEA) paid special attention to the development of the code number on international goods.

Local plants in our republic on the basis of the prevention and treatment of some skin diseases which has the features of the formation of a new food, create a pacemaker and has conducted research on the development of biologically active plant tissues and the development of certain results be achieved in the prevention

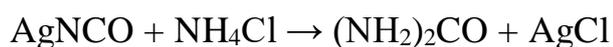
and treatment of disease, psoriasis, affecting the formation of biologically active food have that feature effective to create, and the development of the research on the development of plant tissues have biostimulyatorlar is important. Uzbekistan's strategic development at new “food and non-food products offered in the market increase and elimination of seasonal shortage on the important tasks that are carried out are given. One of the tasks of local medicinal plants this proceeding on the basis of the patient's active compounds against his fisher psoriasis, effective natural therapeutic properties, unharmed, to develop effective economic formation, the food plants that develops complex biostimulyatorlar to create their chemical composition, structure and texture of the commodity nomenclature of foreign economic activity to develop code on the study and goods, and pressing one of the tasks is recommended to practice.

CHAPTER I. STRUCTURE, PROPERTIES AND PREPARATION OF UREA BASED BIOLOGICALLY ACTIVE SUBSTANCES (LITERATURE ANALYSIS)

I.1-§. Structure, production and properties of urea and its derivatives

Urea $\text{H}_2\text{N}-\text{CO}-\text{NH}_2$ A white crystalline, colorless, odorless, bitter-sour substance with the formula, density 1.32 g/cm^3 , $\text{pK}_a = 0.1$, and its liquefaction temperature is $133\text{-}135^\circ\text{C}$. Its solubility in water is 545 g/l at 25°C , and it is also easily soluble in glycerol 500 g/l , ethanol 50 g/l , and acetonitrile 4 g/l , or in a mixture of water and alcohol in ratios of 1:1 and 1:5. Dissolution in water occurs by absorbing heat. Urea is the end product of the breakdown of protein molecules and is excreted from the body by the kidneys. Determination of the amount of urea in blood serum is used to assess the excretory function of the kidneys and monitor the effectiveness of treatment in patients with kidney diseases [1; 416, pp. 860–861, 2; 2909-2913-p].

Urea was first discovered in urine in 1727 by the Dutch scientist Hermann Boerhaave. In some literature, this discovery is often attributed to the French chemist Hilaire Ruel and also to William Cruikshank [3; pp. 452–459]. In 1828, the German chemist Friedrich Wöhler obtained urea artificially by treating silver cyanate with ammonium chloride [4; pp. 253–256].

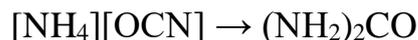


Artificial synthesis from inorganic starting materials, without the participation of the living body was the first condition of urea. The results of this experiment vital - living organisms from lifeless chemicals of the chemical substance of the matter, who can say indirectly obro'sizlantirish completely different theory. This concept was very important for the development of organic chemistry. This opening Vyolerni Berseliusga caused me to write the letter: “I must say to you, I can work out without using urea buyragi the man or his dog. Ammonium tsianat – this is urea”. In fact this was wrong. These same chemical formula $\text{N}_2\text{H}_4\text{CO}$ are two different chemicals, the chemical balance in favor of urea in standard conditions in [5;1-14-p].

Primary or secondary reactions in the laboratory to get through with urea fogsenni amines you can add:



These reactions will go through isocyanate to be formed as intermediate product. The symmetry can prepare you to enter through the reactions with primary or secondary urea amines isocyanate. Ammonium urea tsianatni 60°C Dyou can get through a heating too:



In the year 1773, and also feel human siydigi crystals crystals from gilaire ru urea bug'latish repeatedly through processing before it with alcohol merab [6; 451-468-p]. The deposition of crystals in the urine by this method vilgelm karl sheele treatment with nitric acid to give to discover that brought kontsentrlangan. Fransua Antuan quite the year in 1799 with nikolas and louis ruelle de som foursroiks voklin nitratli crystals of the same substance that is used to determine and "urea" are included in the terms of [7; 48-71-p, 8; 80-112, 113-162-p]. To clean it Rozenfeld [9; 41-p] achieved further improvement and finally, in the year 1817, William is able to determine the chemical composition of a pure substance Praut [10; 526-549-p]. Adding strong nitric acid to urine technical urea, urea sink is in the form of nitrate. They also dissolved in boiling water with charcoal to clean the crystals obtained is filtered. After sovut urea pure crystals of nitrate is formed. Nitrate and barium carbonate crystals are dissolved in warm water is added to get from urea. Then water is added to water without alcohol bug'latiladi. Dekantasiyalanadi bug'latiladi this solution and, as a result, the net remains urea [11; 21-41-p].

Urea in the composition of carbon sp² gibridlanish. Urea eruvchanlik reflects his ability to form hydrogen gardens with water high in water [12; 76-81-p].

Urea is produced in a numerous amount of scale industry. But in the world in 2012 for production urea mIROf the drug, approximately 184 million tonnes, respectively. Urea is prepared from synthetic ammonia and carbon dioxide in the industry. From hydrocarbons (predominantly natural gas, less oil products) or occasionally from coal (the conversion reaction of the water and

ammonia) as an additional product in the production process of large quantities of carbon dioxide fall harvest reason, almost always urea production factories is located near the place of ammonia produced. Although most inexpensive and convenient raw materials for the production of natural gas, usually ammonia, the ammonia needed to convert all of the devices that it produces urea manufactured in the amount of carbon dioxide does not produce. In recent years, km-SDR operation, such as new technologies appear [13; 36-38-p], that they produce ammonia, which is formed from the combustion gas of the plant reforming additional carbon dioxide in the oven is designed to separate out. The method developed in years Urea formed qilishning 1922 Head-Meyzer is based on his reaction. Urea various industrial production processes and the reactions they did not enter into urea is formed to the conditions of the reagents with the description of the processing method is next. Full balance is associated with the process konvertasiyasi two reactions of reagents. In one karbamat the harvest: liquid ammonia with gaseous carbon dioxide (CO₂) at high temperature and pressure with high speed exothermic karbamat reaction of ammonium is formed as a result of: ([H₂N-CO₂][NH₄])



In the second - in conversion: ammonium is formed from a low-speed decompose into water karbamatning urea endothermic urea:



Gevers B. and others have shown that the concept of "Total recycling" has two main shortcomings. Firstly, the complexity of this technological scheme and the correspondingly large number of technological equipment required. Secondly, the amount of water recycled to the carbamate solution negatively affects the equilibrium in the urea conversion reaction and thus the overall efficiency of the plant. The open-pit concept, developed in the early 1960C by *the Stamicarbon* company in the Netherlands, solved both problems. It also improved the recovery and recycling of heat in the process. The equilibrium state for the formation and decomposition of carbamate depends on the partial pressures of the reactants. In full-recirculation processes, a decrease in the total pressure promotes the decomposition

of carbamate, which reduces the partial pressures of ammonia and carbon dioxide. However, the same result can be achieved without reducing the total pressure, but by reducing the partial pressure of only one of the reactants. Instead of feeding carbon dioxide gas directly into the reactor with ammonia, as in the full recirculation process, in the evaporation process, the carbon dioxide is first directed to a flash column (a flash column is a carbamate decomposition device that operates at full system pressure and is designed to ensure maximum gas release) [14; 113–125-p].

Snamprogetti (now Saipem) (Italy), the former Montedison (Italy), Engineering Corporation Toyota (Japan) and Sasaleur (Switzerland) is the development of its competitors offer. Today, almost all new and fully processed plant urea urea many uses this principle of the transition to the cleaning process of the plant [15; 29-38-p].

Biuret molecule a molecule of ammonia production is formed with two urea birikkanda departure:



James G.R. and Oomen C.J. s This reaction is usually carried out by maintaining an excess of ammonia in the synthesis reactor, but it is stopped after the stripper column until the temperature drops. Biuret is not suitable for use as a urea fertilizer, as it is toxic to cultivated plants.

For use as a fertilizer, urea is mainly sold in crystalline or granular form. The advantage of crystalline urea is that it is cheaper to produce than granular urea. This method was widely used in industry long before the commercialization of urea granulation. However, due to the limited size of particles that can be obtained at any desired degree of sphericity and the low strength, crystalline urea is usually (with some exceptions) preferred over granular urea during storage, transportation, and use [18; 23-27-p].

High-quality compound fertilizers containing nitrogen in granular form with other components such as phosphates have been produced regularly since the emergence of the modern fertilizer industry, due to the low melting point and

hygroscopicity of urea. However, in the late 1970s, three companies began producing fluidized bed granulation [19; 277-278-p].

Considering the safety and security concerns for fertilizers, UAN is significantly preferable to urea as a fertilizer in regions with short growing seasons without complete loss of agronomic properties. is a safe alternative. In addition, it is easier to store and handle than a solid product, and it is easier to apply correctly to the ground using mechanical means [20; 26-27-p].

Urea can also be used for various purposes. Urea is used as an alternative to rock salt to melt icy roads. Urea is an ingredient in some skin creams, moisturizers, hair conditioners, and shampoos, and is used in conjunction with other salts in textile dyeing or printing dye baths as a solubility enhancer and water-retaining additive [21; 97-p].

Donaldson were held by scientists in the lens optical parametrik urea headed by the application generator, as well as urea toxins to form, water the flowering of the grass to be the cause of his underground while flowering to be toxic o'g'itlangan expressed the idea that may play an important role in the increase. Decompose and creates toxic gases if heated from high melting point urea, and strong oxidants are nitritlar, inorganic chlorides, and to enter into reactions with chlorides and per chlorides, leads to fire and explosion [22; 25-27-p].

At the present time chemical compounds of the quantum-chemical calculation using the computer program to rely on the results of comprehensive molecules can quantify. Such results on the basis of the properties of substances, reaction the ability of molecules to the center verified reaction most importantly give you the opportunity to tell in advance is born. It should be mentioned that, quantum-chemical and molecular dynamic calculations, especially in organic chemistry and chemical technology have not been developed enough [23; 29-32-p, 24; 4-8-p].

The new survey results obtained by applying the methods of quantum chemistry bis-urea the surge cloud of the molecule in the electronic distribution of the total energy, the energy is formed and gives important information about dipol moment. This in conjunction with the methods of quantum chemistry are much cheaper,

convenient and universal, if it is important in the study of the properties of the molecules [25; 721-723-p].

The reactivity and mobility of molecules in chemical reactions depend largely on the energetic characteristics of their composition and structure. The use of modern quantum chemical methods allows chemists to plan experimental studies in advance and is of great importance in the synthesis of chemical products [26; 29-32-p, 27; 4-8-p].

M.Kh. Mamarahmonov, L.I. Belenkiy and N.D. Chuvilkin studied the structure of some derivatives of ferrocene and pyrimidinone using quantum chemistry methods and classified them based on their chemical composition [28; 31-33-p, 29; 654-657-p, 30; 22-23-p, 31; 125-p].

Conclusion words in chemical compounds quantum-chemical reference direction and explain the mechanism of the reaction of descriptive and molecules participating in the reaction plays a large role in determining the center reaction.

I.2-§. Importance of urea and its derivatives in metabolic processes in human and animal organisms

The synthesis of urea and its derivatives in human and animal organisms mainly occurs in the form of 85% residual nitrogen (uric acid, creatinine, and bilirubin) in liver tissue due to the deamination of non-exchangeable amino acids in amino acid catabolism. In liver tissue, it is formed from the deamination of glutamate:



produced in the world is used as a nitrogen fertilizer. Of all the widely used solid nitrogen fertilizers, urea has the highest nitrogen content. Therefore, it has the lowest transportation costs per unit of nitrogenous feed. The most common additive in synthetic urea is biuret, which negatively affects plant growth. In the soil, urea decomposes to form ammonium ions. The ammonium ions are absorbed by plants. In some soils, ammonium is oxidized by bacteria to form nitrates, which are also nutrients for plants. The loss of nitrogenous compounds as a result of their release into the atmosphere and discharge with wastewater is, on the one hand, wasteful,

and on the other hand, harmful to the environment. Therefore, urea is sometimes pretreated or modified to increase its efficiency in agricultural use. One such technology is urea coated with an inert shell, which allows controlled nutrient release. Another technology is the conversion of urea into various derivatives that break down at a rate that matches the plant's nutrient needs [32; 333-p].

Duran have noted that urea at concentrations up to 10 M is a strong protein denaturant, because it breaks non-covalent chemical bonds in proteins. This property can be used to increase the solubility of certain proteins. A mixture of urea and choline chloride is used as a deep eutectic solvent (DES), a substance similar to an ionic liquid. When used in a deep eutectic solvent, urea does not denature dissolved proteins. Urea concentration can be affected by the amount of protein consumed by a person. An average of up to 30 grams of urea is produced per day from every 100 grams of protein. Normally, urea levels in children and women are slightly lower than in men. A decrease in this indicator occurs due to an increase in blood volume during pregnancy. In young children, urea levels decrease slightly due to increased protein synthesis. In older people, blood urea levels may increase because the kidneys are unable to retain sufficient urine volume. Urea levels may increase during fasting and excessive physical exertion. Urea can serve as a source of hydrogen for energy production in cells. Urea present in wastewater can be used directly (although bacteria usually break down urea quickly). Hydrogen production by electrolysis of urea solution occurs at a low voltage (0.37 V) and therefore requires less energy than electrolysis of water [33; 2081-2089-p].

Urea at concentrations up to 8 M can be used to make the brain tissue transparent for visible light imaging while preserving the fluorescent signals from the labeled cells. Imaging of neuronal mechanisms allows for much deeper imaging than previously possible with single-photon or two-photon confocal microscopes [34; 1481-1488-p].

Crawford Dj. X. and others *It was pointed out that* urea has diuretic properties, it was first used in 1892 by Dr. W. Friedrich. Urea in the blood is synthesized in the liver from ammonia and carbon dioxide, transported through the blood to the

kidneys, where it is filtered through the glomerulus, and then excreted in the urine. Urea is an osmotically active substance, so its accumulation leads to swelling of parenchymal organs (liver, kidneys, lungs, spleen, pancreas, thyroid gland), myocardium, central nervous system, subcutaneous tissue. Basically, an increase in the urea concentration several times higher than normal, accompanied by a pronounced clinical intoxication syndrome, is called uremia. Often, in the context of kidney disease, the concentration of urea in the blood increases, while its amount in the urine decreases (decreased kidney function leads to an increase in urea in the blood) [35; 530-536-p].

Which kept local skin cream is used as a means stimulating dermatologik regidratasiyasini urea in the structure. 40 % li urea psoriasis, keratosis, keratoderma, onychomycosis, ichthyosis, eczema, skin diseases such as recommended the use of packaging.

The quotes you covered with fungus nails if 40 % li urea with neyrohirurgik will not be used for cleaning. 40 % li intercellular matrix of the urea plate quotes will dissolve. Healthy quotes did not damage to the part this is the case, just sick and damaged parts are removed. This drug (as urea peroxide ear wax helps to remove [35; 537-541-p].

Decaux X. In a 2010 study of intensive care unit patients led by scientists, urea was used to treat volemic hyponatremia and was found to be safe, inexpensive, and convenient. The study is prescribed for cardiovascular diseases, systemic connective tissue diseases (rheumatoid arthritis, rheumatism, systemic scleroderma, etc.), arterial hypertension (regardless of the duration of its presence), when abnormalities are detected in a general urine test during screening, liver disease, impaired function (hepatitis, cirrhosis), if inflammatory or infectious diseases of the kidneys, diseases of the gastrointestinal tract are suspected, as well as before drug therapy and during the study of an acute disease, after dialysis sessions to assess their effectiveness before hospitalization of the patient. The concentration of urea in the blood is characterized by:

- the state of the kidneys' excretory function, that is, their ability to excrete substances unnecessary to the body through urine;
- the state of muscle tissue (as a result of the breakdown of proteins, urea is formed in the muscles);
- liver function, where it is converted into new urea [36; 184-p].

P. I. Diggory while also though this method is now widely used salted as a solution, causing the uterus to abortion urea be sent to the past [37; 9-p].

Treynor J. urea of the test of blood and other azoti (IT) is a measure of the amount of nitrogen in the blood, which comes from urea. It is used as a sign of renal function, though it is low kreatinin like other brands, although other factors such as dehydration that would affect those who determine and liver function. The level of enzyme activity results in the analysis of many factors, in particular, depends on a person's sex and age.

1. In the blood causes an increase in the amount of urea separated among the accumulation of metabolic products in the body due to the disorder of the system (storage) are there.

2. Ekstrarenal to keep azotemia - hemodynamics kidney disorder, decrease the circulating blood volume and the blood supply of the kidney as a result of.

3. Production azotemia - escalation of tissue breakdown (protein hypercatabolism).

Urea the high amount of protein breakdown in the body in the blood and associated with the rate of increase of the excess amount is the result of a pathological process.

In the blood of raising the level of the main clinical urea consists of the following reasons:

the hold associated with cases of chronic kidney and urinary diseases (pyelonephritis, glomerulonephritis, amiloidoz, kidney stone disease, kidney failure and acute kidney tumours arising from any prostate adenomasi), diseases of other organs (diabetes, acute or chronic heart failure, cardiomyopathy, arterial hypertension, tuberculosis, rheumatoid arthritis and others), the escalation of protein breakdown, traumatic skeletal muscle injury, stress, burns a wide range of various inflammatory processes that are going to last long the night with diarrhea and

vomiting, from the upper part of the gastrointestinal system bleeding (gastric ulcer, duodenal ulcer, gastric cancer, duodenal ulcer and others), hematologic malignancies (leukemia, neither mali anaemia, haemolytic jaundice), severe infections, including intestinal infections (dysentery, TIF fever, cholera), nefrotoksik drugs, glucocorticoids androgen receive. Urea in the blood reduces the amount of many liver diseases. For this reason, the damaged liver cells could be synthesized to urea this, in turn, will lead to the development of ammonia in the blood and liver concentration of encephalopathy increase. Also, in the blood is observed in many diseases of the liver, the decrease in the amount of urea: liver failure, hepatitis, sirrosis, acute hepatodystrophy, liver tumors, hepatic coma, the poison gepatotoksik (phosphorus, which arsenic) poisoning, drug dose boosts send acromegalia (principal hormone increase with the description is a hormonal disease, hunger, vegetarian, low protein diet, a violation of absorbed in the intestine (malabsorbtsiya), for example, seliakia disease, nefrotik syndrome (protein in the urine of the escalation of the separation chamber, giperlipidemiya, reduction of the amount of protein in the blood), antidiuretik an increase in hormone production and, as a result, pathological gipervolemiya (increase of the circulating blood volume), after dialysis condition, gipergidratasiya [38; 733-p].

Werk Michael, by scientists led by Verle [39; 831-840-p, 40; 635–641] Urea has been studied as an excipient in a drug-eluting balloon (DEB) coating formulation to improve local drug delivery to stenotic blood vessels. Many drugs taken affect urea levels (especially cephalosporins, cisplatin, aspirin, tetracyclines, thiazide diuretics increase it).

Kolachalama, and others to cover the surface of DSB urea low doses ($\sim 3 \mu\text{g}/\text{mm}^2$) when used as an auxiliary substance in blood, without a toxic effect on endothelial cells, which contribute to the transport of the drug to strengthen identify those who may form crystals [41; 6839-p].

Sakami V. and Harrington H. s Amino acids obtained from consumed food, used to synthesize proteins and other biological substances, or produced from the catabolism of muscle protein, are oxidized to form urea and carbon dioxide as an

alternative energy source for the body. Oxidation begins with the removal of the amino group by transaminase, which is then transferred to the urea cycle. The first step in the conversion of amino acids from protein to metabolic waste in the liver is the removal of alpha-amino nitrogen, resulting in the formation of ammonia. Because ammonia is toxic, it is excreted immediately in fish, converted to uric acid in birds, and urea in mammals [42; 98-p].

Walter F. and Storms as stated Circulation and renal excretion of urea is a vital part of mammalian metabolism. In addition to its role as a transporter of unnecessary nitrogen, urea participates in the countercurrent exchange system of the nephrons, which allows the reabsorption of water and important ions from the excreted urine. Urea is reabsorbed in the internal collecting tubules of the nephron brain substance [43; 837-p] and consequently increases the osmolarity in the brain interstitium surrounding the thin lower part of Henley's ring, which causes water reabsorption.

Klein Dj. et al have suggested that a portion of this reabsorbed urea, by the action of urea transporter 2, eventually flows back through the collecting ducts into the descending duct and into the excreted urine. The equivalent nitrogen content (in grams) of urea (in mmol) can be calculated using the coefficient 0.028 g/mmol. Also, 1 gram of nitrogen corresponds to about 6.25 grams of protein, and 1 gram of protein corresponds to about 5 grams of muscle tissue. In conditions such as muscle atrophy, 1 mmol of excess urea in the urine (found by multiplying the urine volume measured in liters by the urea concentration in mmol/l) corresponds to a loss of approximately 0.67 grams of muscle mass [44; 699-729-p].

Ammonia nitrogen in waste water, the most common is in the form of the living body, the land will turn into toxic ammonia in the body in the urine or urea acid. Urea amfibiylar of milk and nursing, as well as some fish siydigi occurs. Birds and lizards reptiliylar able to form other nitrogen metabolism, it requires less water and as a result, nitrogen is excreted in the urine in the form of acids. If the larva of a frog – fish sperm produces ammonia, but during metamorphosis will take urea to work out.

We summarize the above, despite the fact that not only in mammals and is formed to amfibiyalar urea the way, but also in many other organisms, in particular birds, vertebrates, insects, plants, yeast, and fungi and even in micro-organisms also observed [45; 76-p].

Scientists led by Baumgartner M. and Greenan N.S. [46; 71-p] found that urea can be easily determined by various methods, such as the diacetylmonooxime colorimetric method and the Berthelot reaction (after initial conversion of urea to ammonia by the urease enzyme), and that these methods are suitable for high-throughput equipment such as automatic flow analyzers and 96-well microplate spectrophotometers [47; 2519-2529-p].

Thus, the synthesis in the body urea jarayonning karbamoilfosfat regulating the synthesis stages, and is the final stage of the synthesis by tsitrulin arginaza katalizlangan. With the person's normal diet and moderate physical activity cycle to the effectiveness of its orna approximately 60% make up for it.

I.3-§. Diseases of the importance of his skin and the surge urea

With over 200 skin diseases in the world according to statistics more than species are known, which keeps them in its movement and the composition in the treatment of the surge in the formation of biologically active food urea play an important role.

Scientists headed by one of the above mentioned sirmays n. s. liver cirrhosis the skin from skin diseases - excessive dryness of the skin, is a condition which is observed due to the change of his mantia gidrolipid that itch, appear to be micro cracks, irritation, and infections of the skin barrier function due to decrease in some cases had learned that appeared with the addition of [48; 82-p].

O.A. Pritulo and A. V. Gorbenko They found that the skin syndrome is many pathological conditions of the skin and its appendages - atopic dermatitis (AD), ichthyosis, congenital keratoderma, asteatotic eczema, skin aging, psoriasis, etc [49; 45-p].

In the literature [50; 37-42-p] xerosis is a widespread dermatological pathology that occurs in chronic and acute forms under the influence of exogenous (environmental factors), endogenous (taking certain medications, concomitant diseases, for example, diabetes mellitus, kidney and biliary tract) factors, and is age-dependent. A study of the medical examination of the German population by Augustin M. et al. showed that every third person (29.4%) aged 16 to 70 years suffers from skin xerosis [51; 147-150-p].

The prevalence of xerosis increases with age in the work of Paul S. et al. They found that 99.1% of elderly people (mean age 83.6 years) had skin xerosis [52; pp. 260-265].

[53; 6-10-p, 54 ; 701-710-p] scientists studied the prevalence of skin xerosis in patients with atopic dermatitis (AD). Data from the KIGGS (German Child and Adolescent Health Survey) showed that the prevalence of AD among children and adolescents is 13.2%.

xerosis contributes to increased skin sensitivity to environmental factors (exposure to allergens, bacterial and fungal pathogens). Therefore, it has been suggested that if skin xerosis is not detected, diagnosed and treated promptly, it can lead to the development of atopic and contact dermatitis, as well as other dermatoses [55; 406-410-p].

N.G. Kochergin and T.A. Belousova noted that the correction of dry skin is an important component of the main external therapy for chronic dermatoses - psoriasis, ichthyosis, AD, etc., and also that softening or moisturizing the skin reduces its sensitivity to itchy, bacterial and contact allergens [56; 8-10-p, 57; 32-37-p, 58; 92-94-p].

Augustin M. et al. [59; 3-33-p] considered skin xerosis to be a disruption of the skin's natural barrier function, which may lead to a decrease in its hydration.

Scientists [60; 270-296-p, 61; 255-262-p, 62; 3142-3155-p, 63; 215-223-p] have studied that the hydration level of the stratum corneum is an important indicator of its barrier properties, and the use of therapeutic and cosmetic products helps

restore the barrier structure of the epidermis and normalize the level of transepidermal water loss (TEWL).

led by K. Bonsak [64; 29-39-p] have recently studied the increasing importance of the skin barrier function, since its strength directly affects AD, eczema, and other diseases and conditions accompanied by increased skin dryness, and have concluded that the pathogenesis of xerosis is based on 3 main points: a decrease in the level of natural moisturizing factor (NMF), changes in the composition of the intercellular lipid layer, and disruption of the skin's own moisturizing system formed by water channels - aquaporins.

Scientists such as Boustra J.A., Ponc M., and Haftek M. have suggested that changes in NMF and corneal lipids are of particular importance in the development of dry skin [65; 2080-2095, 66; 117-122].

O.G. Bashura and M. Loden found that NMF is a complex of water-soluble low molecular weight compounds of organic and inorganic nature that have the ability to attract and retain water molecules due to osmotic activity [67; p. 186-241, 68; 771-788-p].

Harding S.R. and colleagues have shown that studying the moisture content of the corneal epithelium under various conditions allows us to determine the ability of the NMF complex to absorb water from the external environment and retain it in dry climates. They also concluded that NMF is a breakdown product of the corneal protein filaggrin and plays a key role in skin hydration processes [69; pp. 412-423].

Fowler J. conducted studies on the presence of hydrophilic substances in NMF, such as urea, lactic acid, pyrrolidonecarboxylic acids, amino acids (alanine, arginine, glycine, histidine, leucine, lysine, serine, threonine), ammonia, and inorganic salts, and on the constant decrease in the concentration of NMF in the epidermis in xerosis, AD, and ichthyosis [70; 324-330-p].

With strong alkaline washing facilities, hot water and the regular use of the content on the cornea of the skin, ultraviolet radiation can cause a decrease in nmf. Also the proven fact that estrogen is related to the components of NMF, therefore,

the secondary dry skin always develops in young women in the background related gipoestrogenizm perimenopozal period [71; 10-13-p].

Scientists [72; 288-293-p, 73; 441-446-p] NMF components gomeostaz be difficult to assess the importance of maintaining the excess of the cornea, they clear has moisturizing properties, will maintain the acidic environment of the skin, stimulates differentsiasiyani at epiderma korneositlarning control and combined (e.g., palmitol transferaza, cholesterol sintetaza, sfingomielinaza and others) lipid synthesis and increases the activity of enzymes by keratinositlar sfingolipid exchange. From the aspect of clinical failure qichishi nmf skin, sense and appears to be with the appearance of shrinkage cracks. Urea scientists, milk and NMF components used in topical preparations is the best among pirrolidonkarbon come to the idea that [74; 633-639-p, 75; 383-390-p, 76; 231-239-p]. Most of them urea is a lot to learn. It not only effectively moisturize the skin, but his barrier function will also improve. In addition, one of the useful features of this urea other active components that penetrate to the deep layers of the skin, enhancing the ability to reduce itching and high kontsentrasiyalarda keratolitik show the effects.

For more than a century due to the effects of moisturizing and keratolitik urea dermatologik has been used for the treatment of skin diseases [77; 166-174-p]. In recent years, important new mechanisms of its effects was found: genomi and functional analysis of a number of transport proteins and against mikroblarga transkriptomik urea at epiderma of the effects showed. Studying the effects of skin urea, plasebo compared on the basis of the cream urea run for a few hours TEWLwas shown to improve the skin's barrier function and reduce.

In the literature [78; p. 20-23, 79; 239-240 -p, 80; 917-925 -p, 81; 29-39-b] urea is able to retain water in the epidermis, and at concentrations up to 10% urea is used to treat xerosis, including itching, to eliminate dryness of the skin and moisturize it. At concentrations of 10-25%, it causes conformational changes in the protein structures of the skin, thereby promoting exfoliation of the epidermis without affecting the physiology and integrity of the skin. At concentrations above 25%, the keratolytic effect of urea is more pronounced, which is often used to treat

hyperkeratosis. At higher concentrations and when using occlusive dressings, urea is able to dissolve hard nail keratin, therefore it is used in combination with antifungal drugs for the treatment of onychomycosis. The main effects of urea include: moisturizing, reducing TEWL, stimulating epidermal differentiation, enhancing lipid synthesis by keratinocytes (due to increased activity of sphingolipid metabolism enzymes), improving the skin barrier function (by enhancing skin repair mechanisms), antimicrobial (due to the production of antimicrobial peptides by keratinocytes), and keratolytic effects.

In these sources [82; 9-p, 83; 591-592-p, 594-597 -p, 84; pp. 330-335, 8 5; 2264-b] urea stimulates the action of antimicrobial peptides - catalicidin and beta-defensin-2, helps to increase the production of enzymes responsible for lipid synthesis. Urea is able to retain water in the epidermis, urea is used in concentrations up to 10%. The moisturizing effect of urea is enhanced in combination with ceramides, vitamins, kerosene, glycerin, glycolglycerol and other NMF components (e.g. lactic acid). In addition, Wohlrab V. [86; 390-395-p] studied the effect of urea on the dosage form of the drug. Water-in-oil emulsions have a much stronger and longer-lasting effect than oil-in-water emulsions.

In dry skin, the amount of urea is significantly reduced, and the use of urea-containing preparations can compensate for the lack of urea in the skin. With increasing concentration (from 2 to 15%), the hydrating ability of urea also increases. In a number of studies, products containing 5 or 10% urea were combined with panthenol, bisabolol, ceramides and lactic acid [87; 175-179-p], and it was found that such combined preparations had better moisturizing properties than combinations without urea.

In clinical studies, a complex moisturizer containing urea (10%) in combination with additional NMF components and stratum corneum lipids was used to treat patients with xerosis. An inert base without active ingredients was used as a control. Unlike inert-based drugs, the complex moisturizer significantly increased the amount of urea in the cornea within 2 weeks, as well as improving skin hydration

and barrier function. The study showed that the moisturizing composition activates the action of aquaporins [88; 135-147-p].

Aquaporins are a family of water channels responsible for water transport throughout the body. Aquaporin-3 (AQP-3) is the main channel located in the epidermis that transports water and glycerol. In dry skin, AQP-3 levels are reduced, which leads to increased TEWL [89; 135-141-p]. In addition, moisturizing compositions increase the activity of genes related to the epidermal differentiation complex, and compositions for AD, ichthyosis, and psoriasis increase their utilization.

Studies conducted under the direction of Bonte F. showed good results in the treatment of xerosis of the skin in patients with diabetes mellitus. It is known that 30-70% of patients with diabetes have skin problems. A moisturizing composition containing 10% urea, lactic acid and other NMF components, ceramide-3 and glycolglycerin is applied to problem skin areas of the hands, feet and legs twice a day for 2 weeks. A large amount of moisturizing components significantly reduced the clinical and subjective signs of xerosis (tightness, itching, tingling sensation) [90; 327-329-p]. In other studies, the use of urea contributed to the prevention of the development of diabetic heels [91; 63-66-p, 92; 26-32-p].

Wortmann A., in a multicenter study conducted in 6 countries, the authors studied 1299 patients with varying degrees of xerosis (from mild to severe) as the only symptom or as part of chronic diseases (psoriasis, diabetes mellitus, follicular keratosis), urea, ceramides, glycolglycerol Dermatocosmetic preparations containing other components of NMF are used twice a day for 4 weeks. At the end of the study, a significant reduction in the incidence of xerosis (by 91%) was noted, including in patients with chronic diseases such as psoriasis and follicular keratosis [93].

Mr. M. In dermatology, urea is used to treat a wide range of skin diseases caused by dry skin (ichthyosis, atopic, contact, seborrheic dermatitis, psoriasis), as well as onychomycosis. A review of products containing urea has shown that most adverse reactions are not caused by urea itself, but by the excipients added [94; p.

11]. Loden M. in his work emphasizes that, as a rule, adverse reactions to urea are rare, providing a high concentration of urea and manifesting itself in the form of irritation in products containing it [95; p. 45-47].

Based on the scientific data presented above, it can be concluded that urea is the "gold standard" in the treatment of xerosis. It not only effectively moisturizes the skin, but also improves its barrier function, as well as the skin's own protective and moisturizing mechanisms. Urea increases the penetration of active substances into the skin and has an antipruritic effect, and in high concentrations, a keratolytic effect.

When choosing the concentration and dosage form of urea, the individual condition of the patient's skin and his disease should be taken into account. From the point of view of the moisturizing effect of urea, products containing a combination of urea, ceramides and NMF are more effective. When using water-in-oil emulsions, the effect may be longer than when using oil-in-water emulsions. Substituted ureas attract attention due to their various applications in industry, engineering, agriculture and medicine [96; 448-p, 97; 429-449, 98; 787-p]. They are widely used as pesticides and plant growth regulators, they are effective additives to hydrocarbon fuels, oils and polymeric materials for various purposes, and are used as drugs and dyes.

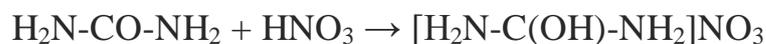
To date, a large amount of factual material has been accumulated on the methods of synthesis, properties and applications of substituted ureas. In 1982, urea fragments A review was published, which presents the synthesis methods, structure and properties of a certain class of ureas - hydrocarbon derivatives. It was found that sulfonylureas, even at very low concentrations, are capable of inhibiting acetolactate synthetase, the first specific enzyme in the chain of isoleucine and valine biosynthesis, which leads to the blocking of cell division. Urea derivatives are distinguished by different selectivity of action depending on their structure. Sulfonylureas of the chlorsulfuron type are mainly selective for dicotyledons, isoproturon for wheat. Due to the availability of a wide range of herbicides based on urea derivatives, they can be used to combat weeds in various crops. Most urea derivatives are soil herbicides [99; 677-p].

the 1,2,3-thiadiazolyl ureas have a strong herbicidal effect and can be used as defoliants. From this group of substances, the drug thidiazuron, a defoliant for fine-fiber cotton, has found practical application, for which no other effective defoliants have yet been found. According to the mechanism of action, this group of substances can be classified as cytokinins. Along with insecticides, fungicides and herbicides, zoocides have been found among the urea derivatives. The most powerful zoocides are the arylpyridyl ureas, of which N-nitrophenyl-N'-(pyridyl-3-methyl)-urea (0.5% active substance), which is used as a food additive, has found practical application. Monoarylguanidines have also been proposed as zoocides. In the first half of the 20th century, the ability of antibacterial sulfonamide drugs to lower blood sugar was discovered by accident. Then the search for sulfonamide derivatives with a pronounced hypoglycemic effect began. Since then, three generations of sulfonylurea drugs have been synthesized [100; p. 189].

Isocyanates, which react with sulfamides to form sulfonylureas, are often used to synthesize sulfonylureas. The reaction of primary aliphatic or aromatic amines with phosgene is used to obtain isocyanates:



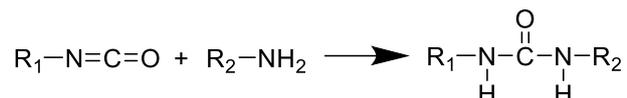
Primary isocyanates related to a combination of high toxicity. Amid the ability of urea reaction is typical for both nucleofil are also nitrogen atom, that is urea salts with strong acids, nitrates with N-and n nitrokarbamid ensure galogenli using galogen will generate the movement of the surge:



N-alkylureas containing urea are alkylated to form $\text{RNH}-\text{CONH}_2$, react with aldehydes to form derivatives of 1-amino alcohols $\text{RC}(\text{OH})\text{NHCONH}_2$, and under specific conditions urea is acylated with carboxylic acid anhydrides to form ureides (N-acylureas). Sulfonylureas increase insulin secretion due to their effect on pancreatic beta cells (therefore, they act until the reserves of insulin-synthetic function of the pancreas are exhausted). As a result, the sensitivity of beta cells is restored and the number of insulin receptors increases. Sulfonylurea drugs, which have been used in clinical practice since the mid-1960C, are of primary importance

in the treatment of type 2 diabetes mellitus. The wide range of hypoglycemic drugs of sulfonylurea derivatives is due to the difference in the radicals of the phenol ring. Sulfonylurea drugs are divided into first and second generation drugs. To date, sulfonylurea drugs of the first generation (tolbutamide, chlorpropamide) are not used in practice. Currently, there are several main methods of obtaining urea, among which the following can be noted:

1) Interaction of amino compounds with organic isocyanates:



2) Interaction of amines and alkyl halides with alkali metal cyanates;

3) Interaction of primary and secondary amines with phosgene;

4) Interaction of amines with urea and nitro urea;

5) Interaction of urea with various compounds;

6) Carbonylation of amines to substituted ureas;

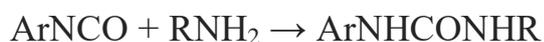
7) Synthesis of substituted urea from acid amides (Goffman rearrangement)

[101; 1740-p].

One of the simplest methods for obtaining urea derivatives is the reaction of amines with isocyanates. Isocyanates are organic compounds containing the functional group $-N=C=O$. Isocyanates are heterocumulenes and are active electrophilic reagents. It can be concluded that substituted ureas, when interacting with primary and secondary amines, form carbamates (urethanes) with alcohols and hydrolyze with water to amines and carbonic anhydride.

I.4-§. Isocyanate, structure, production, properties and its biologically active derivatives

Our research taken as the research object hexamethylene diisocyanate isocyanatesni is the representative of the most common method of its synthesis reaction with this amines fosgen (sure fosgenasiyasi), in an inert environment will continue to be generated through the space of each karbamoil chlorides :



In each of organic reaction will go. The process depends on the initial temperature and the composition of isocyanates amines. The use of organic tin compounds as catalysts or can be uclamchi amines. The process is done properly are enhanced, the product is taken in yield quantitative practice. This method is necessary for isocyanates, generally high temperatures to suit through that has reacted with the amines fosgen the input is taken. Isocyanatesni synthesized in the industry as a key method this method. Sulfonil isocyanates is prepared in the same way. Yield was good and original isocyanates amid from oxalyl chloride allowing other is formed. With the speed of the reaction can be expressed with the following equation kreyven isocyanates sure that said:

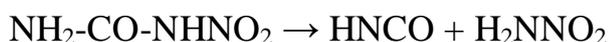
$$v = k [\text{isocyanate}][\text{amine}]^n.$$

In addition, in some cases, can be the catalyst of the reaction product. You formed a strong catalyst urea without it if you are near to n 2 in the equation is weak, will draw from 1 to n. Acid and alkaline metal was often change urea tsianatlari tsianid have been used to get. The same variety of methods for the synthesis of tsianat with exchange urea galogenidlarning tsianat reaction with juicy dimetilformamidda alkil[102; 1586-p].

The effect of the formation of primary alkyl halides on the yield of substituted ureas was studied [103; 77-p]. It was found that when primary amines with a linear structure were used, the products were formed in high yields. When tertiary aromatic amines were used, the the reaction doesn't go away even when the effects are used. Phosgenation of the corresponding amines afforded symmetrical dialkyl-, diaryl-, and alkylarylureas. Passing phosgene through a saturated aqueous solution of aniline, Goffman was the first to obtain diphenylurea [104; 129-p]:



With a convenient method of synthesis is the reaction of nitrourea with exchange urea amines in this case, the acid is formed and heat isocyanate nitramid [105; 1790-p]:

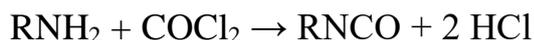


Since the nitro group is an electron-withdrawing agent, nitrourea decomposes more rapidly than urea. Primary and secondary amines reacted with nitrourea to form substituted ureas in 80-90% yield. Equimolecular amounts of nitroureas reacted with monoalkyl-, dialkyl-, and alkylarylamines in water to form variously substituted ureas in 75-95% yield. The reaction of aldehydes and ketones with urea under hydrogen pressure over nickel and cobalt catalysts gave N-Methods for the preparation of alkyl- and N,N¹-diacylureas are of interest [106; 4015-p]. The reaction is carried out at a temperature of 60-150 °C, and at 60-100 °C, mainly N-alkylureas, 100-150 °C - N,N¹-Thus, 4-octadecyl urea was obtained from stearic aldehyde in 75% yield, and secondary butyl urea was obtained from methyl ethyl ketone in 77% yield.

Various tertiary alkyl derivatives of urea were obtained by direct alkylation of urea with olefins in the presence of concentrated sulfuric acid as a catalyst [107; 7649-p, 108; 47-p; 109; 3069-p, 110; 160-p]. The study of the reaction conditions showed that the best yield of alkylation products was obtained at a temperature of 0 to -5 °C, a sulfuric acid concentration of 96%, a molar ratio of urea, sulfuric acid and olefin of 1:2:4, and a reaction time of 4-5 hours. Isocyanate is a compound with the structure RN=C=O and the functional group -N=C=O. Organic compounds containing an isocyanate group are called isocyanates. An organic compound containing two isocyanate groups is called a diisocyanate. Diisocyanates are used to produce polyurethanes, a class of polymers. Isocyanates should not be confused with cyanate esters and isocyanides, very different classes of compounds. The cyanate functional group (cyanate ester) (R-O-C≡N) has a different structure from the isocyanate group (RN=C=O). Isocyanides have the structure RN≡C, lacking the oxygen of the cyanate groups [111; 611-p].

S. Catlin showed that from the point of view of chemical bonding, isocyanates are closely related to carbonic anhydride (CO₂) and carbodiimides (C(NR)₂), the R₃CN=C=O element, which determines isocyanates, is planar, and the -N=C=O bond has an almost linear structure. They reported that in phenylisocyanate, the distances =C=N - and =C=O are equal, 1.195 and 1.173 Å, respectively [112; 9480-9497].

Isocyanates are usually obtained by phosgenation of amines:



These reactions occur in the presence of carbamoyl chloride (RNHC(O)Cl). Phosgene, due to its specificity, requires special precautions in the production of isocyanates. Another method of obtaining isocyanates is associated with the addition of isocyanic acid to alkenes. In addition, alkyl isocyanates are formed as a result of substitution reactions involving alkyl halides and alkali metal cyanates [113; 619-818-p].

Three rearrangement reactions involving nitrenes give isocyanates. In the Schmidt reaction, isocyanates are formed by the reaction of a carboxylic acid with azide:



Isocyanate and nitrogen gas are formed from the decomposition of acylazide by the Curtius rearrangement reaction.



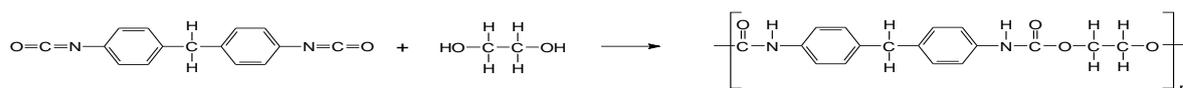
The hydroxamic acid is converted to an isocyanate by the Lossen rearrangement reaction, forming an O-acyl, sulfonyl, or phosphoryl intermediate:



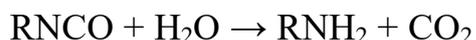
Isocyanates are electrophilic and therefore react with a variety of nucleophiles, including alcohols, amines, and even water, which are more reactive than structurally similar isothiocyanates [114; 8383-8402-p].

Isocyanates spirtlar interaction with the form of a park from uretan: $\text{ROH} + \text{R}'\text{NCO} \rightarrow \text{ROC(O)N(H)R}'$ (R and R' are alkyl or aryl groups)

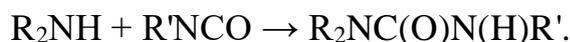
If diisocyanate is treated with a compound containing two or more hydroxyl groups, such as a diol or a polyol, polymer chains called polyurethanes are formed.



Isocyanates react with water to form carbonic anhydride:



This reaction is used for the production of foam poliuretan. Puflovchi works as a means of carbon dioxide. Isocyanates enter into reactions with secondary amines to urea will generate:



Addition of isocyanate to urea forms a biuret:



In the Hoffman rearrangement, a primary amide is treated with a strong oxidizing agent, such as sodium hypobromite or lead tetraacetate, to form an isocyanate intermediate [115; 3554-3561-p].

Isocyanates can be a respiratory hazard in the form of particulates, vapors, or aerosols. Auto body shop workers are frequently tested for exposure to isocyanates because they are repeatedly exposed to them during spray painting of automobiles [116; 329-339-p] and may be exposed during truck body assembly [117; 3-13-p]. Hypersensitivity pneumonitis has a more insidious onset and is characterized by chronic inflammation that can be seen on lung imaging. Occupational asthma is a worrying consequence of airway sensitivity to isocyanates because it can be fatal. [118; pp. 1073-1077].

Occupational asthma is usually diagnosed by pulmonary function testing (PFT) and is performed by a pulmonologist or occupational health physician [119; pp. 282-292]. Occupational asthma closely resembles normal asthma in that it causes intermittent shortness of breath and wheezing. Skin exposure can occur through inhalation, skin contact with dust, or hand contact. Both the dose and duration of exposure to isocyanates can lead to respiratory sensitization [120; pp. 328-335].

Skin exposure to isocyanates can cause respiratory problems in humans. Even when appropriate personal protective equipment is used, exposure to areas of the body that are not fully covered can occur. Isocyanates can also be absorbed through unsuitable personal protective equipment, requiring frequent changes of disposable gloves and suits if they are overexposed. Methyl isocyanate (MIC) is highly flammable, while methylenediphenyl diisocyanate (MDI) and toluene diisocyanate (TDI) are very flammable. The flammability of materials is an important factor in

furniture design. Specific flammability hazards are listed in the safety data sheets for specific isocyanates [121; pp. 551-560].

Personal protective equipment (PPE) represents the lowest level of risk control. For commonly used isocyanates, this includes respirators to protect against inhalation and gloves to reduce skin absorption. Personal protective equipment such as respirators is sensitive to fit and requires periodic maintenance. In some cases, when spraying paints and clearcoats, exposure limits exceed the protection factor of half-mask respirators and a full facepiece is required. Eye protection is an important component of PPE. Gloves and coveralls are suitable personal protective equipment for workers. Gloves and protective clothing can be effective in reducing skin exposure, but resistance to the wearer may occur as a result of loss of tactile sensation or increased thermal stress. The material and thickness of the gloves are important components of protection [122; 306-313].

Occupational health surveillance is primarily the responsibility of health care professionals. This may include monitoring of biological exposures through counseling, respirator suitability testing, biological exposure indices (BEIs), and results. Biological monitoring levels for isocyanates are available, but they cannot be applied universally. One example is the US Navy monitoring program, which is based on lung function tests and screening questionnaires [123; pp. 1015–1023]. The combination of industrial hygiene and medical surveillance can have a significant impact on the incidence of occupational asthma [124; pp. 58–62].

The complex emergency management preparedness process associated with the release of MICs should be considered in situations where large-scale production of chemicals could pose a threat to the well-being of the population. The Bhopal disaster, which killed thousands and affected hundreds of thousands of people, has led to the development of disaster preparedness programs that focus on risk assessment, prevention techniques, and coordinated response [125; pp. 126–133]. In response to such major industrial accidents, health officials have proposed disaster preparedness programs that focus on risk assessment, prevention techniques, and coordinated response [125; 126-133-p].

I.5-§. Emergence of Traditional medicine as a science

About 70 percent of the physician in the treatment of diseases to cocaine, the remaining 30 percent of the mineral in the stone say. Proverbs a loss of dignity at the heart of this coming centuries osha mother nature is an integral part of the treatment of diseases which the human being that lies in the truth which lay around the surrounding vital to our well-being. Abu ali ibn sina ancient tradition not only continued, but also the creation of new methods of treatment, based on medical science lowered. Traditional medicine, its traditions specific to ensure the health of the population, medical and sanitary assistance, in particular, the prevention of chronic diseases, the treatment of them in quality in terms of safety and efficacy have many difficulties in practice. The high level of attention to the development of Traditional medicine in our country in regard also then. Association of uzbekistan Traditional medicine, “medicine” in the academy was founded and xi, contrary to the results of the consistent efforts conducted by the spheres, the development of it began to face [126; 5-p].

“On measures to create an added value chain through the effective use of the raw material base of medicinal plants, support for processing,” signed by the President of the Republic of Uzbekistan Sh.M. Mirziyoyev by Decree PF-139 dated May 20, 2022 [127], and the Resolution PP-251 dated May 20, 2022 “On measures to organize the cultivation and processing of medicinal plants in a cultural form and their widespread use in treatment” [128] are also a vivid example of this. Our country has accumulated thousands of years of experience in this regard, and today special attention is paid to the development of the sector.

40 medical specialties in the system of sciences in the world are laid the basis to the discovery by scientists of europe and america. 41-specialization – “Traditional medicine” called. The year 2019 this science in uzbekistan, Uzbek created by scientists is science uzbekistan passport “medicine” of the academy of chairman, honoured inventor and rasionalizator of uzbekistan, doctor of chemical sciences, professor r. i. asqarov of uzbekistan andijan state university and the chemistry department of “medicine” real member of the academy, doctor of medical sciences,

head of the department of andijan state medical institute, professor n. s. Mamasoliev was written by and submitted to the commission [129; 1590-p].

Many debate a and from studies then science passport reception done, "14.00.41" cipher with "People" "treatment" qualification official register. "People" "treatment" on specialized gi Doctor of Science (DSc) and Doctor of Philosophy (PhD) at Andijan State University and Andijan State Medical Institute awarding degrees specialized scientific councils were established [130; 1084-p]. 14.00.41 for the first time in D union – Traditional remedies In this specialized scientific council, researcher M.N. Abdullaev presented the results of his scientific research in the form of a book titled "People's "treatment" qualification on "Hepatitis Chemical composition of drugs used in the treatment of V disease and Dissertation on "Treatment with Traditional remedies" protecting, chemistry science philosophy doctor (PhD) scientific level was [1 31 ; 102 -p].

Doctor of Chemical Sciences M.M. Mominjanov under the guidance of Doctor of Chemical Sciences I.R. Askarov there is plant waste based on hepatitis C, hypothyroidism and treatment of endemic goitre diseases and prevention has the characteristic production of natural food additives named "Asdavo" and "Alkaman". climbed, people treatment methods with this diseases for treatment recommendation did. In practice exists methods improved in case "Asdavo" and "Alkaman" food additions from the composition amentaflavone, carvacrol, avenanthramide, hypericin quercetin natural biological active associations was separated. "Alkaman" food addition in the composition of iodine quantity potentiometric titration, antioxidant properties compared to standard substances "Alkaman" to others relatively high antioxidant to the feature owner being was determined. The research "Asdavo" the formation of viral hepatitis c diagnosis of food, "Al" food and Traditional medicine, while the formation of endem gipoterioz diseases can be prevented and treated with the methods of buqoq found to be proved [132; 15-72-p].

Based on glycyrrhizic acid as a result of scientific research by Doctor of Chemical Sciences, Associate Professor Yu.T.Isaev consisting of sweetmeat root extract

keeper For use in the prevention and treatment of anemia FERRACON BABY has developed a biologically active food supplement. This food supplement has been issued a certificate of conformity by the National Certification System of the Republic of Uzbekistan (UZ.SMT.01.0007.66806862, dated 27.07.2021, "Sanitary and epidemiological conclusions have been obtained" No. 360006 of the Ministry of Health of the Republic of Uzbekistan [133; 9-p].

Doctor of Chemical Sciences I.Yu. Mamatova conducted scientific research on the development of food additives containing biologically active substances that have the properties of preventing and treating inflammatory bowel diseases, as well as identifying the mechanisms of their action in the treatment of the disease. By studying the chemical composition, structure, and biological activity of some local medicinal plants, she created and introduced into Traditional medicine the food additives "Sanjam" and "Altin Vodiy" with properties against inflammatory bowel diseases. In order to put these food additives into practice, a hygienic and conformity certificate and a production license were obtained from the Ministry of Health of the Republic of Uzbekistan. The antioxidant properties of the food supplements "Sanjam" and "Altin Vody" and the effect of the food supplement "Sanjam" on the gastrointestinal tract evacuator activity were studied, and it was found that it has the property of normalizing the functional state of the gastrointestinal tract, and that the food supplement "Altin Vody" has the property of preventing hyperglycemia that occurs in inflammatory bowel diseases. Clinical studies have proven that the food supplements "Sanjam" and "Altin Vody" are superior to synthetic drugs in the treatment of inflammatory bowel diseases [134; 36-58-p].

D.R. Kheydarova is the first *Phlomis nuda* growing in Uzbekistan The macro- and microelements, natural biologically active substances in the plant were determined using modern methods, and it was found that it contains biologically active substances that have the property of preventing hepatitis B and hypertension. It was observed that the natural, biologically active food additives "Asikhan" and "Kukamaron" are effective in the treatment of hepatitis C and hypertension [135; p. 97].

Egamberdiev D.U. and our country in the territory grower medicine plants deepened pharmacognostic to study as a result anemia illness A new source of medicinal raw materials with preventive and therapeutic activity offer did. Sweetmeat root based on taken food addition watery Extraction and standardization of the extract and its syrup-based preparation biological active addition work output Ts 27191873-01:2017 digital technician condition work was released and Uzbekistan Republic health to keep ministry by approved [136; 103-p].

I.5.1-§. The stage of the formation of the psoriasis disease

Urea and bis-urea derivatives are used in medical practice abroad, in addition to their use as anti-tumor and anti-cancer agents, neurotropic agents, and antioxidants, as well as in Alzheimer's disease, autoimmune diseases, psoriasis, and in the processing of radioactive waste. They are also used in the treatment of diabetes, glaucoma, and osteoporosis [137; 6-p].

As is known, the skin is not only an organ covering the entire human body, but also performs a number of important functions, being inextricably linked with all internal organs. Human health, along with the cardiovascular, nervous, gastrointestinal tract, endocrine systems, also depends on the function and properties of the skin. Today, the number of patients with skin diseases is increasing among the population. Among these skin diseases, the most severe are allergic skin diseases, psoriasis, i.e., lichen planus. Psoriasis is a dermatosis of an erythematous-scaly multifactorial nature, with a predominance of genetic causes. Psoriasis is a disease characterized by hyperproliferation of epidermal cells, impaired keratinization, an inflammatory reaction in the dermis, and changes in various internal organs and systems [138; 23-p].

Psoriasis has been known for a long time. It is noted that the classic psoriasis is characterized by a chronic course and that heredity plays an important role. In recent years, the number of patients with psoriasis has been increasing, especially among young people, able-bodied people. Psoriasis is a widespread dermatosis, affecting 0.1-3% of the world's population. According to the literature, psoriasis is widespread in Western Europe and Scandinavia. For example, in Denmark -2.9%,

in Great Britain -2.0%, in Norway -4.8 %, in China and Hong Kong it is 0.57 %. Among other non-communicable skin diseases in Uzbekistan, psoriasis occurs in 1% of cases. [139; pp. 151-155].

Boboev G.M. and others have studied the fact that the disease is not gender-dependent, and men and women are equally affected by this disease. Psoriasis most often occurs in people aged 20-40. The disease can begin at any age, but most often plaques appear between the ages of 15-25. Every third patient detects symptoms of psoriasis before the age of 20. Psoriasis is not transmitted by shaking hands or through household and personal hygiene items. It manifests itself as large spots on the skin, which can be located anywhere on the human body. Excitement is a very common cause of exacerbation, development or onset of the disease. Psoriasis can be triggered by emotional shocks of varying degrees. To date, reliable causes of psoriasis are unknown to science [140; 57-59-p].

Borzov M.V. and his co-authors [141; 8-12-p] explained that the mechanism of the appearance of psoriatic rashes is based on an imbalance of immunity. The development of a strong imbalance of immunity in the body can be caused by a hereditary predisposition, severe stress or constant neuropsychiatric stress, diseases of the endocrine system, factors such as vitamins, micronutrients and metabolic disorders can cause it.

Scientists led by Yushchenko emphasized the need for an individual approach to the treatment of the disease for each patient. Treatment depends on the patient's age, general condition (mental and physical), profession (the influence of professional factors), and personal characteristics. The nature of the course of the disease, its stage should be determined, and provoking factors (alcohol consumption, intolerance to medications, allergic diseases) should be eliminated. If a person has symptoms of psoriasis, self-treatment is considered quite dangerous, as it can further aggravate the disease. Secondly, it is necessary to constantly monitor the condition of the skin, refrain from scratching itchy areas, and drink alcoholic beverages [142 ; 20-23-p.].

Scientists led by Volkova E.N. studied one of the important elements of the clinical picture and course of psoriasis - its division into stages. Although this is of less importance for acute diseases, in the case of chronic pathology it is extremely important to clearly distinguish the current stage. Because in this way it is much easier to assess the state of the disease, determine its sensitivity to a particular treatment method, and choose the tactics of treating patients with psoriasis.

The stages of psoriatic skin formation are as follows:

1. Initial stage 2. Progressive stage 3. Stationary stage 4. Regressive stage.

In the stationary stage of psoriasis, the disease is just beginning to manifest itself, small, needle-like lesions begin to form on the skin, which increase in size as the disease progresses. The initial papules often appear in the flexural areas of the arms and legs, as well as in the places of previously formed scars. The papules that first appear in such places are characterized by the lack of progression due to enlargement. The papules are pink in color, and a few days after their appearance, they become covered with a grayish scaly crust, which indicates that the epithelium is dying off and being replaced by a new one. If the skin is not damaged, this process lasts about three weeks, but in people with psoriasis it lasts no more than 5-6 days, as a result of which the epithelium does not have time to renew itself and manifests itself in the form of scaly plaques [142; 19-22- p].

Volkova E.N., Butov Yu.S., Gnedenko B.B., Morozov S.G. s In the progressive stage of psoriasis, it indicates the beginning of another attack of the disease. Since psoriasis is characterized by a wave-like development. The progression of the process can be determined clinically based on the following signs:

- the appearance of new papules characteristic of psoriasis in typical areas, such as the feet, hands, or exposed skin of the body;
- papular elements merge with each other, forming characteristic conglomerates (plaques) of a whitish color against a background of reddened skin;
- the formation of various flakes in the form of small coins on the surface of newly appearing psoriatic elements;

-the edges of the flaking plaques are free of small hyperemic ring-shaped scales. These signs are one of the main evidence of psoriasis progression. Because redness is one of the signs of ongoing inflammation. In this case, scales do not have time to cover the newly inflamed areas [143; 19-22-p].

The Koebner phenomenon is a characteristic of plaque-free areas of the skin in patients with psoriasis, in which any injuries to it are manifested not by simple scarring from healing, but by the transformation into typical psoriatic plaques. It is an indicator of the decrease in inflammatory changes in the skin during the stationary phase of psoriasis. These data indicate the effectiveness of the treatment and the need to switch to less aggressive methods.

Clinical features of the stationary stage of psoriasis:

- cessation of the appearance of new red papules;
- stopping the growth of existing plaques;
- scales begin to cover the entire psoriatic skin plaques;
- absence of a red ring around the creasing elements;
- Failure to observe the Köbner phenomenon [144; 52-p].

Belenky G. B. and Mashkilleyson L.N. is most suitable for both the doctor treating psoriasis and the patient in the regressive stage of psoriasis. This stage means that the disease has almost completely disappeared, and the main task for the near future is to prevent further exacerbations. Signs of the regressive stage of psoriasis:

-Voronov's pseudoatrophic ring. This is manifested by slight small folds and radial lines of the skin around psoriatic plaques;

- gradual reduction of dandruff, until its complete disappearance;

-formation of whitish hypopigmented or more dense hyperpigmented spots in place of plaques. The basis of the staging of psoriasis is the activity of the inflammatory process. The pattern of clinical manifestations is that the more pronounced the redness of the skin, the more active it is [145; p. 93].

Psoriasis is a chronic relapsing disease. When all forms of psoriasis are broadly classified, they are divided into pustulosis and nonpustulosis types.

Nonpustulosis psoriasis:

simple or vulgar, simple psoriasis (chronic stable psoriasis, plaque psoriasis);

psoriatic erythrodermia (Erythrodermic psoriasis);

pustular psoriasis:

gross pustular psoriasis;

- palmoplantar psoriasis (chronic persistent palmoplantar pustulosis, pustulosis psoriasis of the limbs);

- annular pustulosis psoriasis or annular pustulosis;

- chronic persistent acrodermatitis (palm psoriasis);

-herpetic psoriatic impetigo.

Additional forms or types of psoriasis that can be distinguished are:

drug-induced psoriasis;

psoriasis of the skin and subcutaneous tissue or "inverse psoriasis";

Napkin psoriasis;

seborrheic psoriasis [146; p. 92].

The classic symptoms of psoriasis include raised areas of red, scaly skin. They usually occur on the elbows and knees. There are several types of psoriasis. Their symptoms can come in different combinations and vary in intensity. The most common symptoms of psoriasis are bright red psoriatic plaques, often covered with silvery scaly scales. They can appear anywhere, but are most commonly found on the elbows, feet, lower back, knees, and wrists. About 90 percent of people with psoriasis have this symptom. Small areas of bleeding are seen in areas where the scaly skin has completely fallen off or broken off. Nail changes are a common symptom, especially in severe cases of the disease. Small pits appear on the nails, the tip of the nail separates from the nail bed, and the nails on the feet or, in some cases, the hands become yellow. Itching, especially during spontaneous flare-ups of the disease or when the plaque is located in areas such as the buttocks or under the breasts.

Also, symptoms of psoriasis include:

- the presence of similar plaques located on both sides of the body;
- flares of the disease, manifested by the appearance of numerous plaques resembling drops;
- joint pain, hypersensitivity, swelling [147; 51-56-p].

I.5.2-§. Various forms of the disease psoriasis

Psoriasis is a term that describes a wide range of skin diseases with different manifestations, course, and causes. Various rashes that itch and scaly on the surface have long been called psoriasis. Accordingly, there are red flat psoriasis, pink psoriasis, simple psoriasis on the face, psoriasis - scaly psoriasis, trichophytosis - wrinkled psoriasis, and others. Red flat psoriasis is a chronic skin disease. In this case, small nodules of red, light pink or purple color, with a concave center, shiny, polygonal shape appear on the skin of the inner forearms, front of the shins, waist, and genitals. They itch severely, grow and spread, sometimes merging with each other, forming blisters. Red flat psoriasis is more common in older people, anywhere on the body (except the face), on the mucous membrane of the mouth, and on the red border of the lips. Pink psoriasis is an infectious skin disease that occurs in people of all ages. Initially, small, round or oval, light pink spots appear on the skin. After 4-20 days, the spots cover a significant part of the body, with a crust in the middle. The patient's general condition may not change, sometimes his temperature rises, his body itches, and he becomes weak. Later, the spots turn brown and disappear on their own after 4-8 weeks, leaving no traces. Sometimes, if the skin of people prone to allergies is not properly cared for during the disease, acute inflammation is observed (the spots become red and moist) [148; 47-49-p].

Simple psoriasis on the face is caused by streptococci. Light pink rashes of various sizes appear on the face and around the mouth. It is more common in children.

Scaly or hairy psoriasis occurs mainly on the palms and soles of the feet, often on the buttocks. In these areas, small gray nodules with hair inside, scaly surface, hard to the touch, and soft to the touch appear. It is more common in children. The

affected skin is dry, rough. It occurs as a result of a violation of the keratinization process in the hair follicles. The characteristic symptoms of the disease appear when the child is 2-5 years old, become clearly visible during puberty, gradually disappear, and the disease most often flares up in winter. The patient is treated by a doctor specializing in skin diseases. In addition to medications, he is prescribed a special diet. Proper skin care is recommended [149; 28-31-p].

In addition to the above, the onset or exacerbation of the disease is more often observed in the spring-summer, and in some in the autumn-winter seasons. In some cases, exudative psoriasis also occurs. In this type, dense yellowing or brownish-brown scaling is observed on the surface of dark red nodules, and when the scales are removed, a weakly moist area is visible. A less common form of the disease (for example, pustular psoriasis) occurs with rashes on the body, arms and legs, as well as on the skin of the palms and soles. Psoriatic erythroderma is one of the severe complications of psoriasis, in which the rashes occupy all parts of the skin, the disease is severe, the patient loses a large amount of fluid, the temperature rises, the skin becomes rough, and the patient is worried about severe itching. Patients are even at risk of heart and kidney failure [150; 19-22].

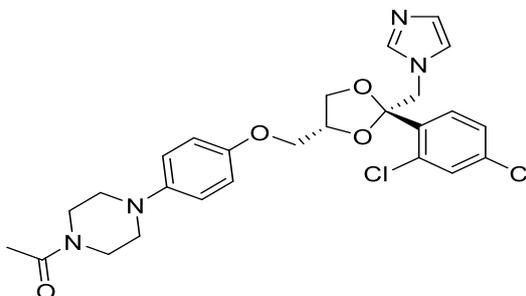
Psoriatic arthropathy occurs in 10% of patients with psoriasis. The joints of the hands, feet, and ankles are affected and become painful. The first signs of the disease are pain in the joints without clinical changes. Later, as the disease progresses, the joints swell, the skin on their surface becomes red, and movement is limited and painful. Joint movement is limited and painful. Joint movement is limited, which sometimes leads to disability. Changes in the nails of patients are common. Thickening and brittle nails are often observed [151; 18-19-p].

I.5.3-§. “Psoralin” – some of the advantages of the formation of food compared to synthetic drugs

In modern medicine, various synthetic drugs are used to treat psoriasis. The first of these is Trinazole ointment, 1 gram of which contains the following active ingredients: ketoconazole 10 mg, clobetasol propionate 0.25 mg, neomycin sulfate 5000 IU. The cream is for external use in tubes of 5 g, 10 g, 15 g, 20 g, and is

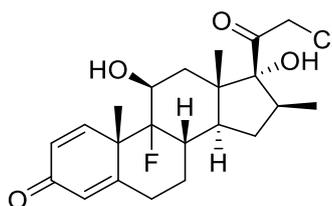
packaged in a cardboard box with instructions for use. Excipients: stearic acid, IIRuid kerosene, glycerin, polysorbate-80 (polyoxyethylene fatty acid ester), stearyl alcohol, disodium edetate, PF-037 (essence), distilled water [151; 90-92-p].

According to its pharmacotherapeutic group, ketoconazole is a drug mainly used in dermatology and venereology. It has the following pharmacological properties: ketoconazole is a broad-spectrum antifungal agent that affects the fungal cell membrane by changing its permeability. Pharmacological studies have shown that ketoconazole has a very strong antifungal effect against dermatophytes (e.g. *Trichophyton* spp., *Epidermophyton* spp., *Microsporum* spp.), *Saccharomycetes* and *Candida albicans*. Fungal strains are not naturally resistant to the effects of ketoconazole [152; 64-68-p].



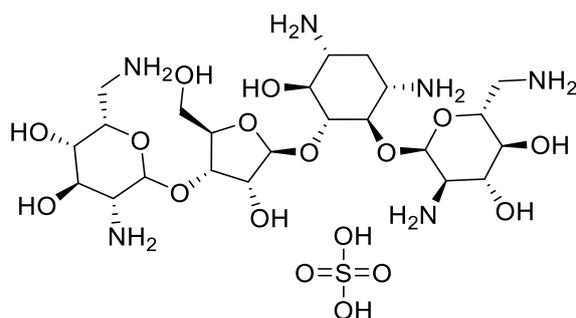
1.1-picture. Ketoconazole in the composition main impact doer component

Clobetasol propionate is a corticosteroid hormone that acts as a highly effective anti-inflammatory and anti-allergic agent with minimal side effects [153].



1.2-picture. Clobetasol Propionate in the composition main impact doer component

Neomycin sulfate is effective against both gram-positive and gram-negative bacteria. This combination of agents makes it very effective for fungal and bacterial infections, inflammatory processes, and itching.



1.3-picture. Neomisin sulfat in the structure of the main components affecting

Synthetic drugs trinazol cream is one of his foydalanish consists of following guidelines:

-Trinazol cream is prescribed to treat fungal infections of the skin, for example:

- hand mycoses;
- epidermofitozi of the legs (Mikozi);
- smooth skin trixofitozi;
- colorful like that;
- eczema and itching.

Method of application and dosage: for external application. Apply a thin layer to the affected areas of the skin twice a day. The recommended course of treatment for trichophytosis of normal smooth skin and trichophytosis of the perineum is 2 weeks, and for epidermophytosis of the feet and hands is 4 weeks.

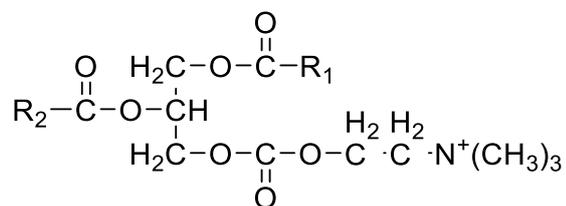
Side effects: usually the drug is well tolerated. Burning sensation or irritation in place to apply the cream may appear during treatment, but this typically does not require the drug to stop

Contraindications: high sensitivity to the drug or its components.

In the diagnosis and treatment of psoriasis more a number of synthetic drugs are used:

1. Itching to Diazolin
2. Essensiale forte- is used in the treatment of liver diseases. It have the following side effects in the human body. In rare cases the alcohol content in gasoline by the immune system due to high drug hypersensitivity reactions may develop. In very

rare cases, allergic skin reactions (rash, ekzantema or urtiker) can give [154].
Unknown frequency: itching.



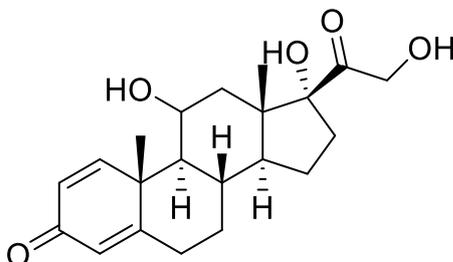
1.3-picture. In the structure of the main components affecting Essentsiale –
fosfatidilxolin.

M.M. Mominjonov [155; 36-39-p] in his work “Fosfogliv” structure of a synthetic drug that keeps affecting phosphatidylcholine key combinationis that it is a membrane inside the cell and the cell is the basic structure of the element, if the infected restore the structure and function of membrane that will impact tsitoprotektivlearned the rollers. Also, protein and lipid metabolism, normalize, gepatosid will help restore cells, detoksifikasiya improves the function of the liver, fibrosis of the liver and reduces your liver cirrhosis.

However, it also has some harmful effects on the body. is available. This drug affects the central and peripheral nervous system showing, asthenia, drowsiness, paresthesia, hypesthesia, memory decrease, can cause peripheral neuropathy, nervousness, etc. Breath supreme system to the authorities impact meat, cough, breath contraction, nasopharyngitis, some in cases pneumonia and interstitial pneumonitis causes diseases. Organs of the circulatory system, especially the liver dysfunction, abnormal liver degeneration, can lead to cholangitis, erosive and inflammatory liver disease. Heart failure vein in the system and, arrhythmia, endocarditis like diseases to the surface to come reason will be. Also, in the blood neutropenia, leukopenia, thrombocytopenia situations to the surface brings. This medicine means to the body capsule in the case of per day 2-3 times will be sent. This medicine When the tool is absorbed into the blood, the main active substance is phosphoric acid, highmolecular acids and third amen It will break apart. Harvest was Some of the chemical compounds kill viruses in the blood and liver to the nature

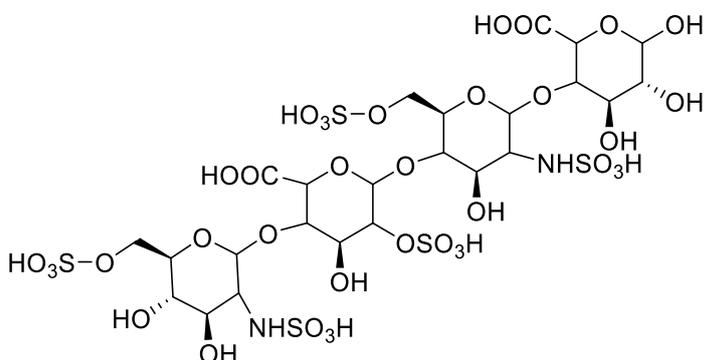
owner if, some blood through your liver healthy to the cells and kidney slime damage to the floor delivers [156].

3. The severe form of psoriasis to – prednizalon-1,4 -trio at-11 β , 17 α , 21-Dion-3, 20, or Δ' -degidrokortizon white or white – yellowish powder crystals later [156]. In practice, it does not achieve the water, melts spirtda.



1.4-picture. Predm willothe same time in the neighboring countries in the structure of the main components affecting

4. Geparin - similar structure of the walls of the blood vessels include the family unit disaxaridlar geparin sulfate element, but more N-groups and less sulfatlar have atsetil.

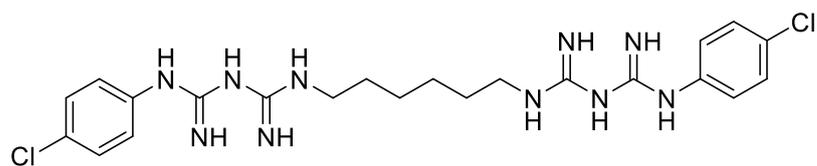


1.5-picture. In the structure of the main components affecting Geparin - sulfate
geparin

Heparin and heparin sulfate, sulfate xondroitin the same, such as with protein tetrasaxarid fragmenti is bound by his communication of the terminal D-ksilozadir. The texture of anticoagulant that prevents blood clotting Geparin show [158].

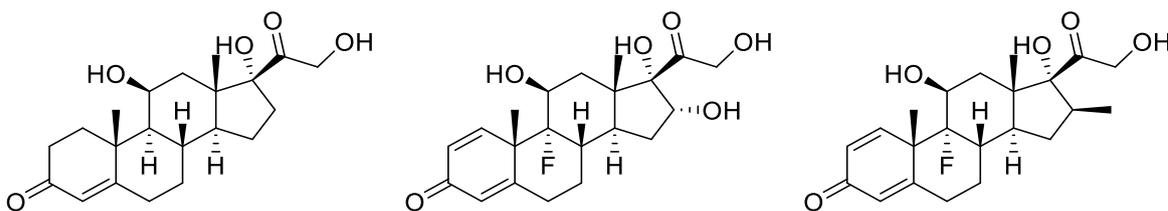
5. Salisilovaya 2-5% maz, maz - psoriasis (xlorgeksidin acid and sali), maz hormonalDIS – cream, fatidkrem [159].

Ointment sali – sali acid: $\text{C}_6\text{H}_4\text{N}_4\text{S}_6\text{O}_{10}$



1.6-picture. Psoriasis affecting the main components in the structure of maz - xlorgeksidin.

Hormonal ointment is also used in the diagnosis and treatment of psoriasis. Their content ointment in the picture below listed areas.



hydrocortisone triamsinolon betametazon

This ointment has the following yonaki hormonal effects: rash, inflammatory processes on the skin of your face, in the form of strips atrophic (striae) processes, redness (eritema), a change of color in the form of age spots in various sizes as the characters it produces. Contraindications: glyukokortikoidlar based synthetic hormonal means of a chain of chemical reactions that lead to the development of inflammation in the body is suspended, the better it helps. However, with the use of long-term studies on the activity of sushi they cause the adrenal glands can lead to the development of the syndrome or even violation of his [160].

Policyib,psoriasis of synthetic drugs used in the treatment of disease this patientlik provide benefits in the treatment of parts they contain a human body,ida, many of the bodies in those instances can cause pathological activity. Therefore, this caution is necessary in the use of this drug problems andskin diseases, ihas a feature to the treatment of which requires the formation of new natural food to produce it.

I.6-§. The emergence and development of the science of chemistry of goods

There are 20 disciplines in the world system of chemical sciences, 19 of them It was founded by scientists from Europe and the Americas, and the twentieth It was

called “Classification and Certification of Goods Based on Their Chemical Composition”. The discovery of this discipline by its founders, Doctor of Chemical Sciences, Honored Inventor and Rationalizer of Uzbekistan, Professor I.R. Askarov, and Doctor of Technical Sciences, Professor T.T. Riskiev, was a truly global innovation and led to the rapid development of commodity chemistry. 02.00.22- The specialty “Classification and Certification of Goods Based on Their Chemical Composition” was included in the system of chemical sciences. In accordance with the letter No. 01-84/0917 of the Presidium of the Supreme Attestation Commission under the Cabinet of Ministers of the Republic of Uzbekistan dated July 9, 1997, by the resolution of the Committee of the Republic of Uzbekistan for Science and Technology dated July 15, 1997 No. 14, this specialty in the field of chemical and technical sciences was included in the "Nomenclature of Specialties of Scientific Workers" with the code 02.00.22 "Classification and Certification of Goods Based on Chemical Composition" (since 2015, the code has been changed to 02.00.09) [161; 12-p].

Considering that today, research on the classification and certification of goods based on their chemical composition is widespread and of scientific and practical importance worldwide, and that these studies are related to the chemistry of goods in content, at the proposal of Professor I.R. Askarov, by the resolution of the Presidium of the OJSC of Uzbekistan No. 242/4 dated September 28, 2017, the name of the specialty “Classification and Certification of Goods Based on Their Chemical Composition” was changed to “Chemistry of Goods” and approved with the specialty code 02.00.09 [161; 17-p].

According to the classification of goods in this specialization in TIF, without the composition of the substance associated with certification, obtained the origin, structure, organoleptik and physical-chemical indicators of the chemical to the survey, with a number of technological studies in economic research is being conducted. 02.00.09- “chemical goods,” goods specialty chemical composition, chemical and physical properties on the basis of industrial and other international

and the certificate will specify the code numbers to the problems of research at TN TIF[161; 18-p].

At the same time confirming that the requirements of safety and quality indicators of the goods, that is, a certificate of quality should also be provided. GN FEA10 digital code corresponds to the number of goods determines that the relevant international criteria and is perfect for a lot of goods in many countries the index of the research is being conducted in this direction. The international code of goods, determine the number of their chemical composition, and technological processes, to control the quality of imported goods or export them to give quality certificates according to the results of scientific studies and other issues allows creating base [161, b 27-30].

The main research elements of GN FEA are the terms "goods" and "nomenclature".

Goods are any movable property that is the object of purchase, sale or exchange, including currency and currency assets, electricity, thermal energy and other types of energy, means of transport, and intellectual property.

Nomenclature is derived from the Latin word "nomenclature" and is a set of lists of brand names used in any field of science and technology.

The nomenclature of goods is closely linked to such disciplines as "Commodity Studies", "Harmonized System", "Fundamentals of Customs", "Customs Expertise", "State Management of Foreign Economic Activity", "Customs Value", and lists more than 100 thousand names of goods [162; 129-p].

The nomenclature of goods is a list of the names of goods used in human life, entered into a certain system, which is used by customs officers and customs clearance specialists-declarants in their service activities.

Classification means dividing various goods into groups (position, sub-position, sub-position) according to their functions, composition, value and characteristics specific to the goods. Goods can also be classified according to their chemical composition, degree of processing, function and other properties. According to this system, all goods are assigned separate GN FEA code numbers by department,

group, position and subheading. GN FEA determines the code numbers of goods with any physical movement, used for human needs, based on the basic rules of classification of goods [162; 130-p].

When classifying goods according to the nomenclature of goods, the following tasks are performed:

- favorable conditions are created for the free movement of goods in international trade;
- goods are given a code number according to GN FEA;
- through the GN FEA code number, customs duties are correctly and fully collected from goods (economic security of the country is ensured);
- The GN FEA code number is used to maintain customs and state statistics, and to analyze and study the movement of goods in the process of foreign trade.

Each product has its own name, label, where the product was manufactured, its composition and use, expiration dates and international mark, barcode and GN FEA code number, and all this information is indicated on the product label or on the packaging in which the product is packaged or placed. One of the main tasks assigned to the customs authorities of the Republic of Uzbekistan is the implementation of the TN for the classification and coding of goods in foreign economic activity, which is an integral part of customs work. Determining the price of goods and correctly calculating and collecting customs payments depend on the correct classification of goods according to the GN FEA. Creation of a harmonized system The international practice of classifying goods based on their chemical composition and assigning them a unIRue UT code number in international trade has certain characteristics[162; 131-p].

By the middle of the 19th century, as a result of the development of industry, science and technology, foreign trade also developed. The movement of goods in international trade increased, as a result of which a number of problems began to arise in the implementation of customs control of various goods. This indicated to the countries engaged in foreign trade the need to regulate goods for customs purposes, to name them and to develop a nomenclature of goods. Currently, 02.00.09

– Goods chemistry qualification A lot of scientific research is being conducted on this, resulting in a mature science Doctorates (DSc) and science candidates and philosophy Doctors of Science (PhD) make a worthy contribution to the economy of our country and the scientific potential of our republic's higher educational institutions. To mature scientific potential have t.f.d., professor K.M. Karimkulov, Doctor of Philosophy, professor L. Pulatova, Doctor of Philosophy, professor Kh. Isakov, Ph.D. Sh. Kh. Abdulloev, Doctor of Philosophy M.A. Akhmadaliev, Ph.D. M.M. Khojimatov, Ph.D. M.M. Mominjonov, Ph.D. Yu.T. Isaev, Ph.D. I. Yu. Mamatova Ph.D., associate professor N. Tokhtaboev, chemistry sciences according to philosophy doctors D.T. Hasanova, N.K. Tulakov, M.Kh. Mamarakhmonov, M.Yo. Imomova, B.N. Sattarova, Q.Q. Otakhonov, F.S. Abdug'afforov, A. Khojikulov, O. Sh. Abdulloev, S.A. Ashuraliev, D.U. Egamberdiev, D.R. Khaydarova scientists these including [163, 27-30-p].

Doctor of Chemical Sciences, associate professor M.M. Khojimatov in his scientific research ferrocene and methyl urea their chemical composition in the classification of compounds containing derivatives main attention directed, external economic activity goods nomenclature according to ferrocene and his/her derivatives for 2942 00 000 1, nitrogen catcher ferrocene derivatives for 2942 00 000 2 code numbers recommended [164, 107-p].

The main goal of the research conducted by K.M. Karimkulov in 2010 in protected natural areas was to develop a classification of goods based on a deep and comprehensive analysis of the physical and mechanical characteristics of cotton products, unify them, and put code numbers into practice. Based on the results of studying the chemical composition and physical and mechanical properties of cotton fiber and products made from it for use in foreign economic relations, scientists developed and proposed new commodity codes [165; 167-p].

The year 2015 in L. Po'latova “Tsefalosporinli antibiotics, the drug substance physical-chemical properties of drugs and their classification of the immunological properties” on the theme and GN FEA new codes for scientific researches recommend. Chromatographic to analyze cephalosporin antibiotics solvent

combinations of exactly system work climbed and water-acetonitrile of various concentrations of the mixture optimal in motion phase essence of use based on given. This is a determination. methods Uzbekistan Republic Central customs laboratory to practice application was done [166; 297-p].

Sh.Kh. Abdulloev recommended new commodity code numbers for monometallic trinuclear oxocentered carboxylate complexes and their derivatives - 2915 90 000 2, for heterobimetallic trinuclear oxocentered carboxylate complexes and their derivatives -2915 90 000 3, for heterotrimetallic trinuclear oxocentered carboxylate complexes and their derivatives -2915 90 000 4, for four and more nuclear oxocentered carboxylate complexes and their derivatives -2915 90 000 5 [167; 170-p, 168; 235-236-p, 169; 288-289-p].

As a result of his scientific research, M.M. Muminjonov received the following codes for the food additives "Asdavo" and "Alkaman" according to the Customs Tariff: 1212300003 for the food additive "Asdavo" and 1212300004 for "natural food additives prepared on the basis of walnut fruit waste, enriched with some medicinal plant parts" [170; 118-p].

Yu.T. Isaev by licorice root extract containing biologically active compounds for 1212 99 950 1 outside economic activity goods nomenclature according to goods code work was released and customs in practice application for recommended [133; 11-p].

H. Isakov in his doctoral thesis Urea is one of the most important chemical compounds thiourea derivatives chemical composition based on, GN FEA according to conducting the class "urea" and of thiomochevine aliphatic "derivatives" for – 3808949001, "urea" and of thiomochevine heterocyclic "derivatives" and for 3808949002, he proposed to allocate commodity codes and use them in customs practice [171; 200-p.]

I.Yu. Mamatova and in his doctoral thesis some natural food additions chemical classification based on their composition and their use in tuberculosis, one of the most dangerous diseases in the human body scientific finish research many food additions invention did. For example, chemical composition based on (Astosh)

for "S uli based on medicine plant parts with enriched food addition" to 110412900, (calcium A) for "Egg pod and medicinal plant Food enriched with components and activated by laser beams addition" to - 0407220000, (Total Rahmani) for " Oil's hydrocarbon prepared from fractions and enriched with medicinal plant parts food addition" to - 2710192901 code to separate the numbers and practice offer did [134; 119-p].

D.T. Khasanova beer by drinks scientific conducting research, By studying its chemical composition, it is divided into classes di, t arrow in color beers for 2203 00 010 3 and 2203 00 010 4, oh oh colorful beers for 2203 00 010 1 and 2203 00 010 2 The TIF has developed new commodity codes for the CN and customs offer to practice did [172; 121-p].

NN.K. Tulakov ferrocenecarbon in his scientific work acids synthesis, chemical composition and classification, ferrocenecarbon of acid new derivatives synthesize, based on their chemical composition ferrocenecarbonic acid in water soluble derivatives for 3808939001, ferrocene in the water New commodity code numbers for soluble aromatic derivatives under the TIF CN 3808939002 recommendation did [173; 133-p].

O. Sh.Abdulloev research during the growth and development of plants jadallashtiruvchi physiological aspects of the surge movement Ferrosen active oil and gas yield to with, the keeping of iron compounds for oksomarkazlashgan karboksil complex and their rage for the surge 2915 90 000 1, xalqa aromatic ferrosenningli acids and their complex combination of carbon, and the surge of the salt brand code numbers for other people 2942 00 4 000 GN FEA the rules on the production [174; 123-p].

M.Kh. Mamarakhmanov in his scientific works some derivatives of ferrocene and pyrimidine of pyrimidine based on its electronic structure and chemical composition some derivatives for 2933 59 950 1, derivatives of ferrocene with a heterocyclic ring for 2942 00 000 3 and TIF TN according to new goods codes work came out [175; 125-p].

M.Yo.Imomova some oil products chemical composition according to

conducting scientific research on classification, engine and gearbox mass in determining the codes of oils spectrometry, infrared spectroscopy, inductively coupled plasma developed new methods using mass spectrometry and chromatography-mass spectrometry and GN FEA also in practice to apply recommendation did [176; 120-p].

B.N. Sattarova scientific chemical composition of chicken meat and products in studies to study and classification with, 4 new ones based on their chemical composition 0207 11 100 1, 0207 11 300 1, 0207 11 900 1 and 0207 12 100 1 commodity code worked out numbers and proposed to use them in customs practice [177; 135-p].

F.S. Abdug'apparov ferrocenebenzoic acid acid and from amygdalins synthesis of new compounds, new compounds obtained associations for 2938 90 900 1 international trade code number work went out and in customs practice i invitation to apply did [1 78 ; 114-p.].

K.K. Otakhonov of plants in his scientific research work growth and biostimulants with a strong effect that enhance development ferrocene based on to produce in the works on " *p* -ferrocenylbenzoy acid "derivatives" for GN FEA by 3808 93 900 3 developed the product code number and recommended its use in practice [1 79 ; 121- b].

A. Khojikulov in the scientific research works iodine bearded some food additions it is obtained on the basis of pumpkin fruit and contains more than 50% according to study and classification for food additives containing pumpkin GN FEA according to 0709 93,900 1 new goods code offer did [1 80 ; 144 - p].

S.A. Rustamov glycyrrhizic acid and its biologically active derivatives to take and classification according to take gone scientific Amino group in the composition of research A new commodity code 2938 90 300 1 has been developed for glycyrrhizic acid derivatives containing practice application recommended for [1 81 ; 116-p.].

D.R. Khaydarova introduced the commodity code 1212300007 into customs practice for the food additives "Asikhan" and "Kukamaron" according to the

Customs Tariff Code for “Natural biologically active food additives prepared on the basis of the plants of *Scutellaria comosa* and *Phomoides nuda* ” [135; p. 9].

External by D. U. Egamberdiev economic activity goods nomenclature (TYP TN) according to in the composition sweetmeat root keeper biological active additional New 1212 3000 02 developed for food additives international goods code customs in practice application for recommendation [136 ; p. 8].

I.6.1-§. Goods TIF TN according to classification problems.

Goods in the world market is in high demand, and emotional talking about the same brand, as it developed, the state comes before our eyes. For example, the central asian states, uzbekistan, in particular his cotton fiber, cocoons, silk-atlas Karakul skin, and are popular in the world market with fruits and vegetables.

The production of a very long and complex process. Production of goods on the scale of the state when it is initially small parties in the least amount of produced. Get them only after the positive conclusion of state testing laboratory are allowed to work on the scale of the industry [182; 16-p].

Goods in uzbekistan, initially small-a small party in technical conditions (TSH) is produced on the basis of the requirements. Developed by businesses and organizations tsh, and TSH Uzstandard agency has been approved by this product is produced on the basis of requirements. For example momig'i cotton TSH-1215-2002 on the basis of it is produced and controlled.

Uzstandard agency brand products are recommended by some of the leading organizations in the group agreed with and approved without leading network of organizations (OST) produced by based on the requirements can be developed. For example, cotton momig'i 1212-2002 OST.

Uzstandard agency for industrial-scale production of goods in which they developed and approved by the state standard (ds) on the basis of requirements is carried out. Cotton fiber, gost-1215-2002 is produced and is controlled on the basis of [182; 17-p].

As it is known in some countries so that the amount of imported goods and

goods is roughly 10-15 produces more than a thousand such cases in the range of goods, from not using them, that is, in the use of the goods for customs purposes will be problems in practice. For example, the type of food to food products, fruits and vegetables, bread and chocolate in the lobby. Of the fruits, apples, quince, pear, orange, banana, palm, and others refers to the type of food. In such cases the production of goods without a clear and thorough range of tif was difficult to manage at night. One of these problems is handled by means of the range of goods of the republic of uzbekistan.

One of the main tasks assigned to the customs authorities of the Republic of Uzbekistan is the implementation of the Customs Code for the classification and coding of goods in foreign economic activity, which is an integral part of customs work. Determining the price of goods and correctly calculating and collecting customs payments depend on the correct classification of goods according to the Customs Code. In the process of organizing customs control of goods and means of transport and carrying out customs clearance, the correct classification of goods is of great importance in developing state customs policy and accurately maintaining foreign trade customs statistics. Therefore, in order to organize customs work at a high level, customs officers are required to have a thorough knowledge of the theoretical rules of classification of goods and their practical application [182; 18-p].

I chapter according to conclusions

Urea and its derivatives are very important among chemical compounds. owned associations Urea and bis-urea derivatives are of great interest from the point of view of biological, pharmacological and technical activity. They are successfully used in technology as vulcanizing agents, rocket fuels, and lubricants. In agriculture, they are used as pesticides and herbicides for citrus, fruit trees, coffee, tea, and cocoa plants.

Urea and bis urea derivatives are the same in foreign countriesrow in countries scientific research works take has been. This Synthesis of aliphatic and aromatic compounds of urea, physico -chemical properties work learned, chemistry of

isocyanates and his/her urea and derivatives with biological active associations synthesis to do with respect to x is natural and local scientific in publications take visited scientific about the results of research works, their implementation in practice information analysis is covered.

Also, urea and its derivatives application sectors and practical importance, The article contains ideas on the search for medicinal plants used in Traditional medicine, the preparation of raw materials based on them, the organization of scientific research, and the localization of rare medicinal plants.

The emergence of Traditional medicine as a science, the use of urea derivatives in Traditional medicine, the stages of the formation of psoriasis, and its various forms have been touched upon.

Information on the development of the science of commodity chemistry, the problems of classification of food additives made from medicinal plants according to GN FEA is presented

CHAPTER II. STRUCTURE , PROPERTIES AND METHODS OF OBTAINING N,N¹-HEXAMETHYLENE BIS- [(AMINO AROYL) UREA] - AND THEIR DERIVATIVES (DISCUSSION OF RESULTS).

Plant growth regulators or biostimulants are natural or synthetic compounds that, in very small doses, can cause significant changes in plant growth and development.

Growth regulators include:

- phytohormones (auxins, gibberellins, cytokinins, endogenous ethylene, abscisic acid);
- non-hormonal inhibitors (phenols, urea derivatives);
- synthetic (retardants, defoliant, morphactins)

The use of growth bioregulators leads to changes in the body's metabolism, accelerates metabolic reactions and, depending on the composition of enzymatic catalysis, increases the body's defense response to external negative factors. Plant resistance contributes to qualitative changes in the endogenous system. Phytohormones in biofertilizers, which have a low molecular weight and additional energy reserves, increase the mobility of reactions and reduce metabolic time.

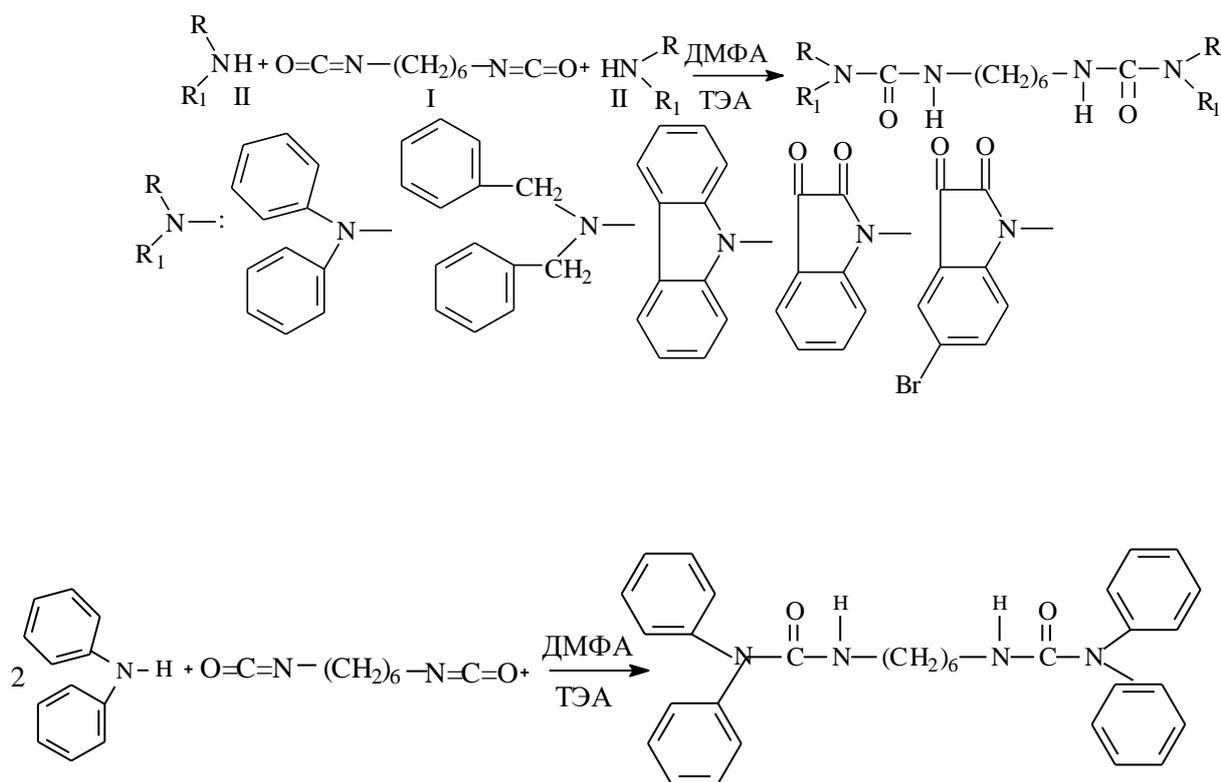
Today, urea derivatives are used in agriculture as herbicides, pesticides, fungicides, defoliant, and biofertilizers. Heterocyclic compounds (barbitals, phenobarbital, medinal, etc.) that are difficult to obtain in urea-based organic synthesis with other reagents have been obtained. This list can be continued, because urea, bis-urea and the field of use of polyurea derivatives is wide. Based on the above, we began to search for the synthesis and technologies for obtaining bis-aminoaroyl urea derivatives, a new direction that has been little studied in the world of organic synthesis and production technologies. Continuing research on the synthesis of new previously unknown bis- urea derivatives and the study of their chemical properties and activity, as well as the systematic study of unIRue urea derivatives, we set ourselves the goal of developing waste-free technologies based

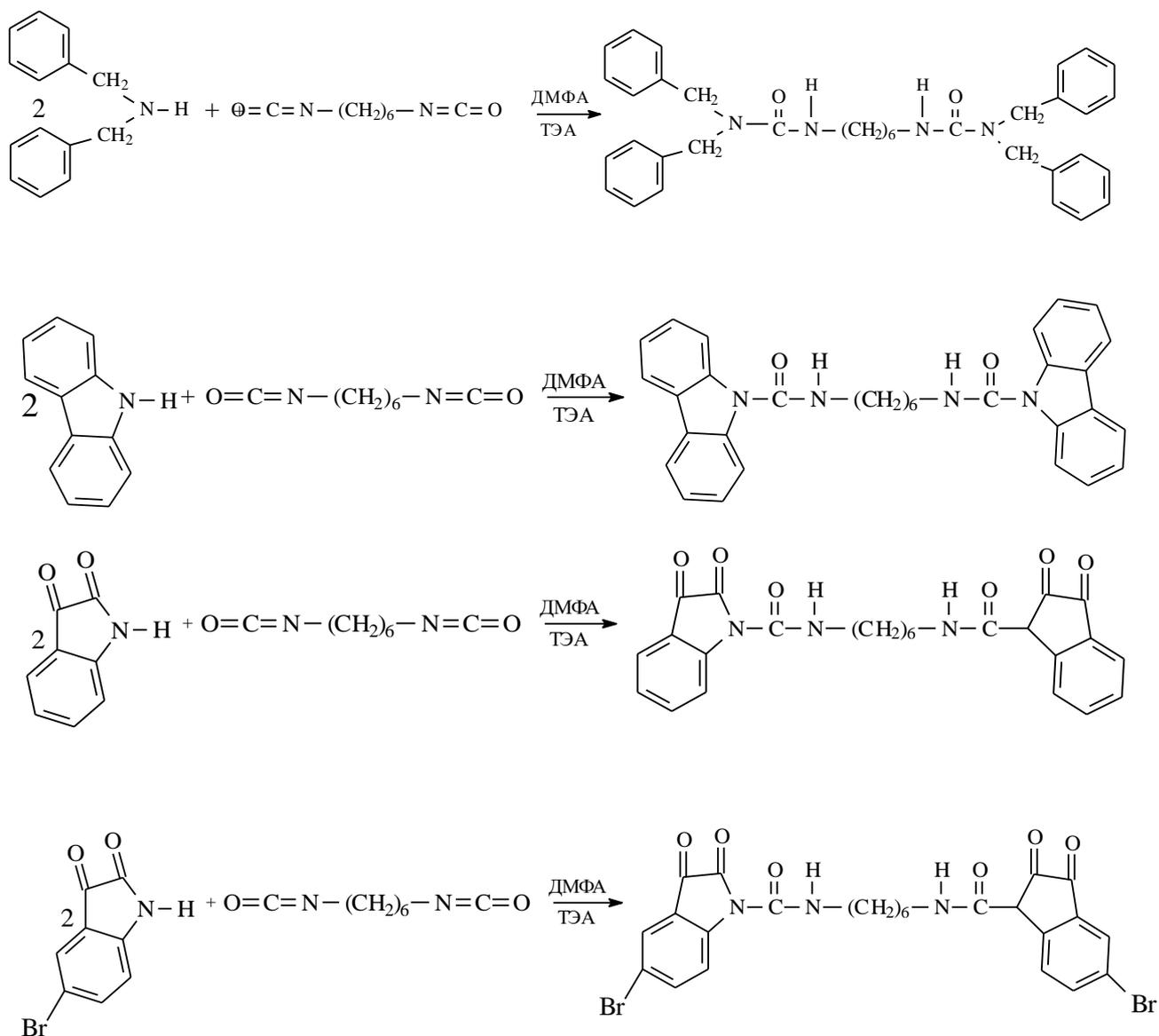
on the synthesis of G MDI and its reaction with compounds containing aromatic series HN< or H₂N - [183; 203-207-p, 184; 432-435-p, 185; 435-437-p].

II.1-§. Synthesis of N,N¹-hexamethylene bis-[(aminoaroyl) -ureas] and their derivatives

A_N - (nucleophilic addition) reactions of aromatic secondary amines with hexane- 1,6 - diisocyanate [137; 47-49].

On the basis of the studied aromatic compounds containing at least Aminoguruhlarni urea the movement of the surge to continue her research in the field to synthesize N,N¹-bis hexamethylene-[(aminoaroyl) urea] we have developed a simple method for the synthesis of the movement of the surge. Reagents and the ratio of I:II=1:2, the reaction at room temperature, 3,5-4,0 DMFA was conducted with the participation of hours. The reaction scheme is as follows:

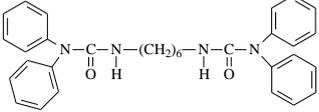
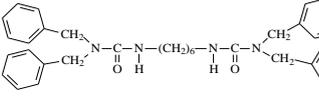
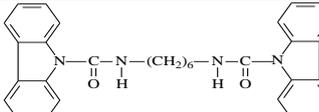
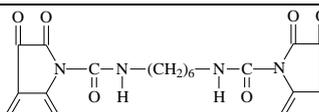


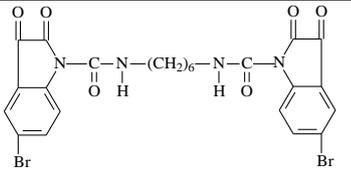


These products, which were first synthesized, are colorless substances, sparingly soluble in water and readily soluble in organic solvents (DMAC, DMSO, DMFA, pyridine, HCOOH, CCl₄, etc.), the presence of these two urea groups and aromatics makes them soluble in heteropolar solvents. The physicochemical properties of N,N¹-hexamethylene bis-[(aminoaroyl) urea] are given in Table 2.1 [137; 53-54-p].

2.1-table

N,N¹-bis hexamethilen-[(aminoaroyl)urea]s physical-chemical properties

N	Shifr	Structure of the formula name and	Unum, %	S. h. °S	R _f	Brutto formula	element analysis, N,%	
							, Accounting.	Found
I	Xyux-1	 <p>N,N'-bis hexamethylene [(diphenylamino)- urea]</p>	92	224- 225	of 0.7	C ₃₂ H ₃₄ N ₄ O ₂	11,0 6	10,78
II	Xyux-2	 <p>N,N'-bis hexamethylene [(dibenzylamino) urea]</p>	94	190- 191	0,69	C ₃₆ H ₄₂ N ₄ O ₂	9,56	9,31
III	Xyux-3	 <p>N,N'-bis hexamethylene [(carbazoleil) urea]</p>	90	230- 232	0,79	C ₃₂ H ₃₀ N ₄ O ₂	11,1 5	10,88
IV	Xyux-4	 <p>N,N'-bis hexamethylene [(izatinil) urea]</p>	89	163- 164	0,70	C ₂₄ H ₂₂ N ₄ O ₆	12,1 2	11,87

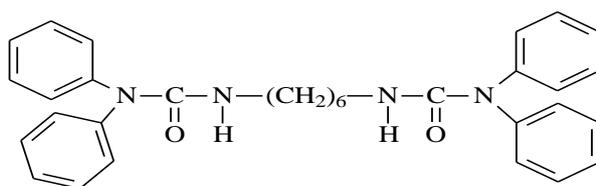
V	Xyux- 5	 N,N ¹ - bis hexamethylene [(5- bromizatinil) urea]	85	174- 175	0,76	C ₂₄ H ₂₀ Br ₂ N ₄ O ₆	9,03	8,74
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As can be seen from the table, hexamethylene bis-[(aminoaroil) urea] yield secondary aromatic molecule amines the radical nature and based on that is not associated to a constant [137; 49-p]. For example, diphenylamine, dibenzylamine, carbazole, izatin, 5-in yield bromizatin that go with the reaction from 84 and 94% is reached. Strengthen the ability of the aromatic amines reaction that is not on a secondary increase will increase according to yield is observed. N,N¹ - hexamethylene-bis-[(aminoaroil)-urea] that would be of high diisocyanateda smoking at yield group (-N=c=o) with high electronic mobility and the cloud can be easy to explain zichlikda [186; 601-605-p, 187; 592-659-p, 188; 595-600-p].

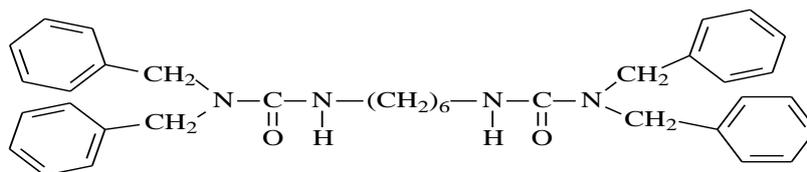
II.1.1-§. IR spectroscopic analysis of synthesized substances

The synthesized hexamethylene-bis-urea the movement of the surge IR-spektroskopik numbering them in the research were as follows [137; 49-p]:

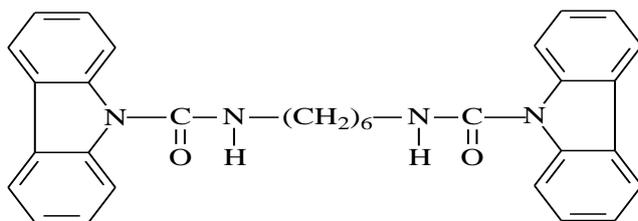
I. N,N¹-hexamethylene-bis-[(diphenylamino)-urea]



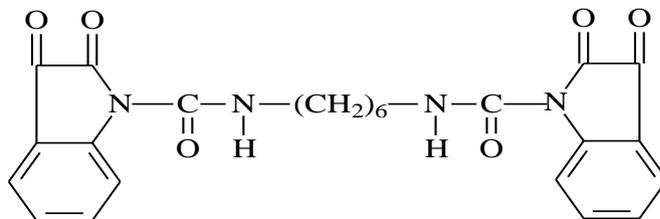
II. N,N¹-hexamethylene-bis-[(dibenzylamino)-urea]



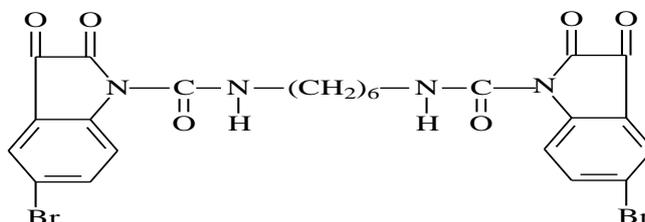
III. N,N¹-hexamethylene-bis-[(carbazoleilo)-urea]



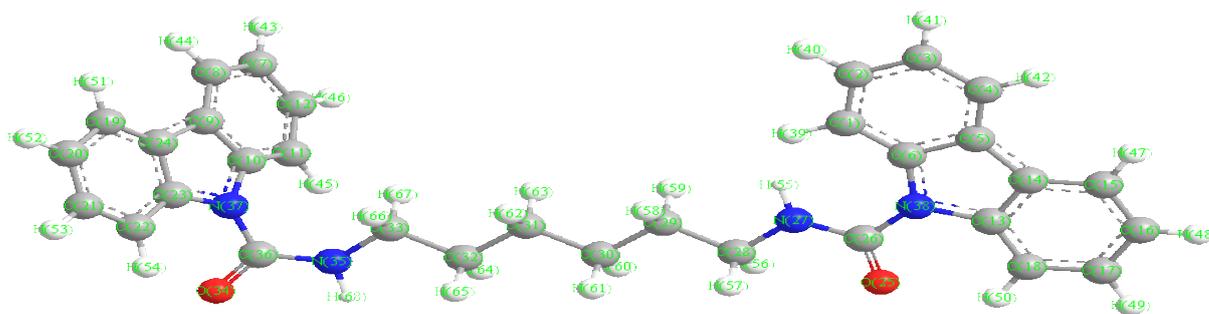
IV. N,N¹-hexamethylene-bis-[(izatioilo)-urea]



V. N,N¹-hexamethylene-bis-[(5-bromoizatioil)-urea]



The IR spectra of the studied compounds I - V were measured in the range of 400-4000 cm⁻¹ on a Fourier transform spectrometer with a KBr tablet 2000 (Perkin Elmer) model, as well as on a KBr tablet "Spekord -75" obtained on a model spectrometer and Fure processing was measured by the method. To determine which vibrations of the molecules correspond to the absorption regions in the obtained spectra, we used the literature [189; 528-p, 190; 328-p, 191; 177-224-p] and the method of comparing the vibrational spectrum with the measured spectrum by quantum-chemical calculation. In the theoretical calculation of the IR spectra, the 6-31G basis of the Gaussian 09W programming package DFT method was used. Initially, the molecular structure of the studied substances was optimized in this basis, and then the vibrational spectra of these molecules were calculated. In Figure 2.1, for example, III **The optimized molecular structure of the compound N,N¹-hexamethylene bis-[(carbazolyl)urea]** is shown.



2.1-picture. The optimized molecular structure of N,N¹-hexamethylene bis-[(carbazolyl)-urea].

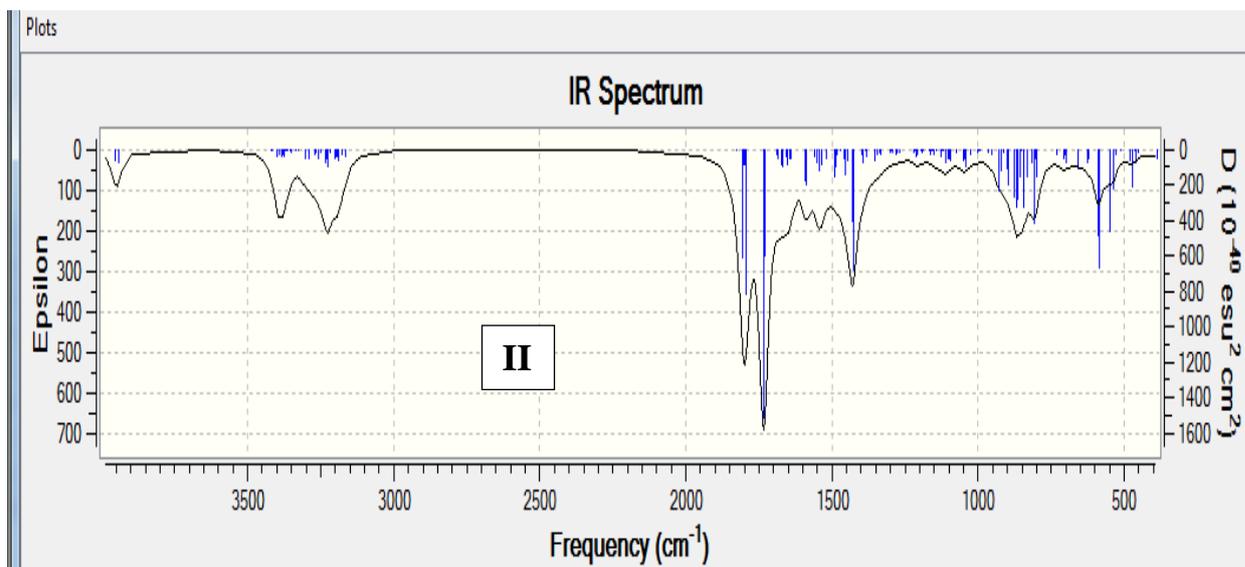
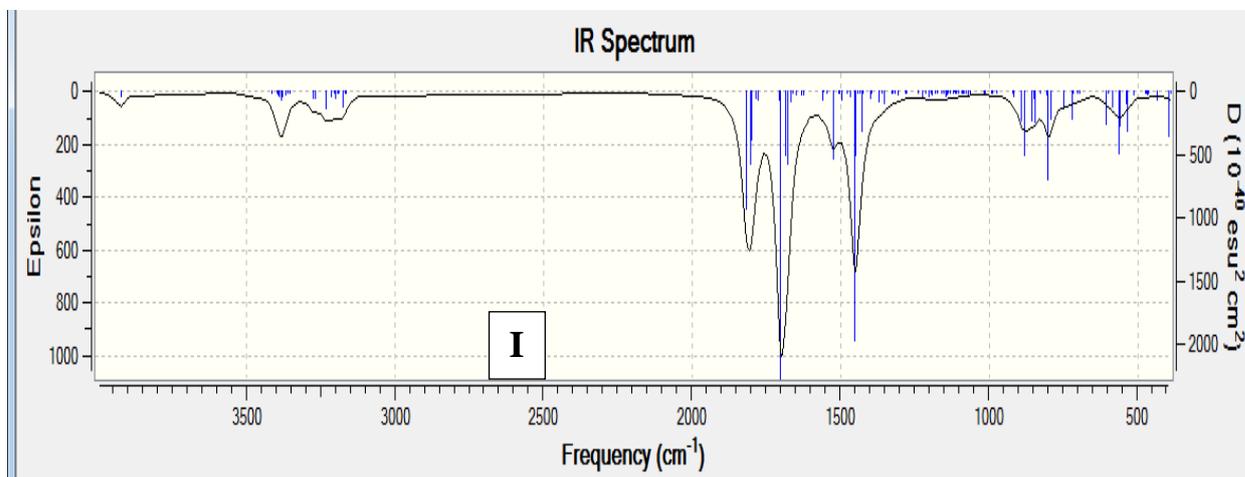
The absorption of all substances measured in the spectrum area is typically large, with a few side-by-side shall consist of the sum of the peaks are located. Therefore, we identifikasiyalashda IR spektroskopik ingredients, basically, the level of measured and calculated the relative intensity in the spectrum significantly (from 5%) of the area were high absorption using the method of comparison to each other.

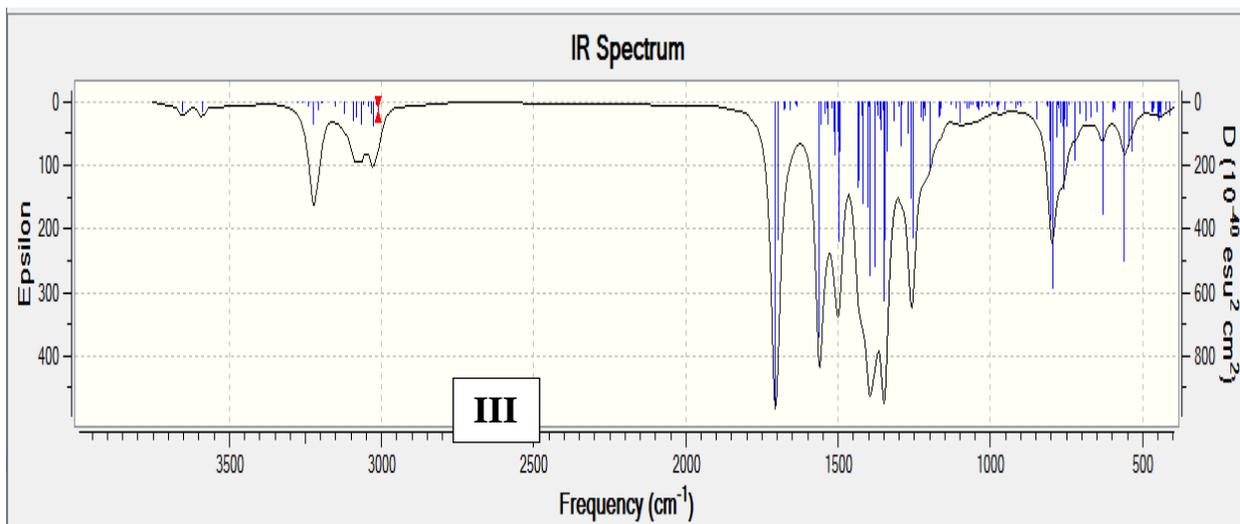
For example, the researched I-III theoretically calculated IR spectra of substances are shown in Figure 2.2. In Table 2.2, experimentally measured and theoretically calculated substances The results of comparing the peaks in the IR-spectra with the corresponding vibrations and their wavenumber values are presented.

Analysis of the data presented in Table 2.2 shows, first of all, that the closeness of the wave numbers of the experimentally determined and calculated absorption fields corresponding to the corresponding vibrations in the IR spectra of IV substances [192; 3312-p, 193; 242-b] fully confirms the assumed structure of the compounds under study and indicates the correct choice of the quantum-chemical calculation model used in the theoretical calculation of the IR spectra.

IV In the IR spectra of the compounds, the shearing deformation vibrations of the methylene groups of carbon atoms δ (CCC) are observed in the region of 530-580 cm^{-1} and show slight shifts under the influence of functional groups on both sides. The peak in the region of 675 cm^{-1} in the spectrum of compound V **corresponds to** the valence vibration of the carbon-bromine bond in the molecule ν (C-Br). The two absorption bands observed in the region of 760-890 cm^{-1} and in the region of 760-890 cm^{-1} in the spectra of compounds I-III containing a benzene ring

(rows 3 and 5 in the table) belong to the fan-shaped vibrations of the hydrogen atoms in the ring.





2.2-picture. I- III measured and theoretically calculated IR spectra of substances.

2.2-table

**Experimentally measured and theoretically calculated values of substances IV
Corresponded certain peaks in IR-spectra to corresponding vibrations and the
results of comparison of their wavenumber values**

N	type vibration	Absorption maximum of the field wave number(cm^{-1}), hisoblangan/measured				
		I	II	III	IV	V
1.	$\delta(\text{c-c-C})$	561/580	586/590	561/560	533/530	555/570
2.	$\nu(\text{C-Br})$					671/675
3.	$\pi(\text{C-H})_{(\text{Ar})}$	804/796	799/785	759/760		
4.	$r(\text{n-h})$				808/795	803/800
5.	$\pi(\text{C-H})_{(\text{Er})}$	883/890	870/875	795/780		
6.	$r(\text{FROM}_2)_{(\text{gas}}oline)$		1040/1040			
7.	$\delta(\text{S-H})_{(\text{Ar})}$		1211/1210			1275/1250
8.	$\nu\text{S-N}_{(\text{Ar})}$	1430/1430	1428/1430			
9.	$\pi(\text{FROM}_2)$	1454/1460		1346/1340	1420/1430	
10.	$r(\text{S-N})_{(\text{Ar})}$	1688/1688		1497/1497	1510/1505	1614/1600

		80		2		0
11.	r(n-h)	1703/17 02		1561/156 0		
12.	$\pi(\text{FROM}_2)$	1526/15 30	1542/154 0		1546/1550	
13.	$\pi(\text{FROM}_2)_{(\text{gasoline})}$		1588/159 0			
14.	$\delta(\text{FROM}_2)$	1688/16 84	1651/165 0		1664/1670	1650/165 2
15.	$\nu(\text{C}=\text{O})$	1801/18 10	1807/180 0	1708/170 0	1872/1860	1897/189 0
16.	$\nu_s(\text{CH}_2)$	3176/31 70	3189/318 0	3016/301 0	3175/3180	2948/245 0
17.	$\nu_s(\text{CH}_2)_{(\text{gasoline})}$		3196/319 0			
18.	$\nu_{as}(\text{CH}_2)_{(\text{gasoline})}$		3280/328 0			
19.	$\nu_{as}(\text{CH}_2)$	3232/32 39	3224/323 0	3059/306 0	3234/3230	3012/290 0
20.	$\nu(\text{C}-\text{N})_{(\text{Er})}$	3382/32 85	3268/326 0	3222/324 0	3400/3400	3374/330 0
21.	$\nu(\text{n-h})$	3922/39 20	3930/392 0	3554/361 0	3780/3750	3664/366 0

Methylen radical of the group ii in a combination of gasoline 1040 cm^{-1} in the area mayatniksimon $r(\text{FROM}_2)_{(\text{gasoline})}$, 1590 cm^{-1} π elpig'ichsimon in the area $(\text{FROM}_2)_{(\text{gasoline})}$ and 3190 cm^{-1} and 3280 cm^{-1} in the areas of carbon-hydrogen and the fluctuations in the garden valent form of the substance to be superimposed however asimmetrik individuallik represents the realization of the show.

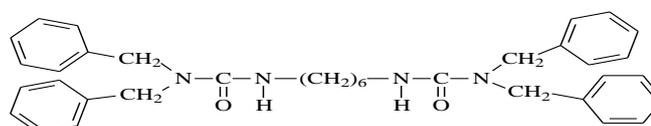
The presence of benzene rings in the structure of research of new compounds in the spectrum 1210-1250, 1505-1680 and 1430 cm^{-1} observed in the areas respectively $\pi(\text{C-H})_{(\text{Ar})}$, $\delta(\text{S-H})_{(\text{Er})}$ and $\nu(\text{S-N})_{(\text{Ar})}$ the vibration is caused by the fact that they belong to. Also valent vibrations of the hydrogen atom on a benzene ring I-v substance in 3240-3400 cm^{-1} appears in the field. Metilen fluctuations in the structure of the combination of the group π 6(FROM₂), δ (FROM₂), $\nu_s(\text{CH}_2)$ and $\nu_{\text{as}}(\text{CH}_2)$ view appears. Carbonil group carbon-oxygen vibrations of the garden valent I-v depends on the nature of the substance without 1700-1890 cm^{-1} is observed in the range of.

As I can conclude, I-v compounds IR of the spectrum [194; 216-p, 195; 304-p] according to the literature, and quantum-chemical analysis of the computed spectrum to teach students on the basis of the comparison: combination of the dimensions of the structure assumed full approved.

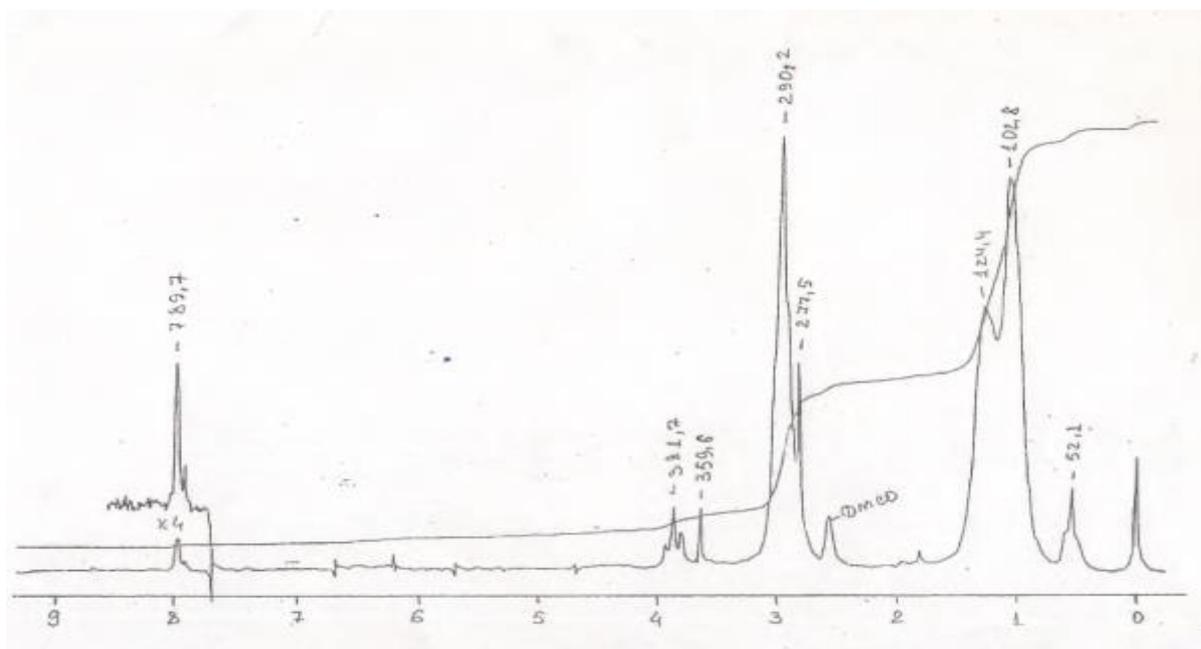
II.1.2-§. The synthesized substances ¹N NMR analyses of the spectrum

N,N¹- bis hexamethylene-[(dibenzilamino) urea]'s ¹N NMR analyses of the spectrum

The structure of the synthesized compounds ¹N NMR using spectroscopy methods confirms. In particular, N,N¹-bis hexamethylene- [(dibenzilamino) urea]in the spectrum of 21 - and 22-status metilen (CH₂) of the proton signals in the group of single 1,29 m.he., 20 - and 23 - metilen signals the state of the group triple 1,46 m.he., 19 - and 24 - metilen the state of the proton signals in the group triple 3,10 m.he., also, the residual proton signal corresponding to the single group on gasoline metilen 4,47 m.it. were observed in the area. 6,38 m.it. aminoguruh in the area (NHK) s single proton signal, 7,25-7,31 m.it. while proton signals in the aromatic residues in the range from the gardens of kvartet appeared. The results obtained II has the following structure we assume that the combination of confirm.



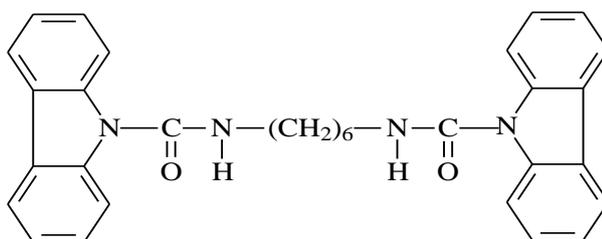
N,N¹- hexamethylene bis-[(dibenzilamino) urea]



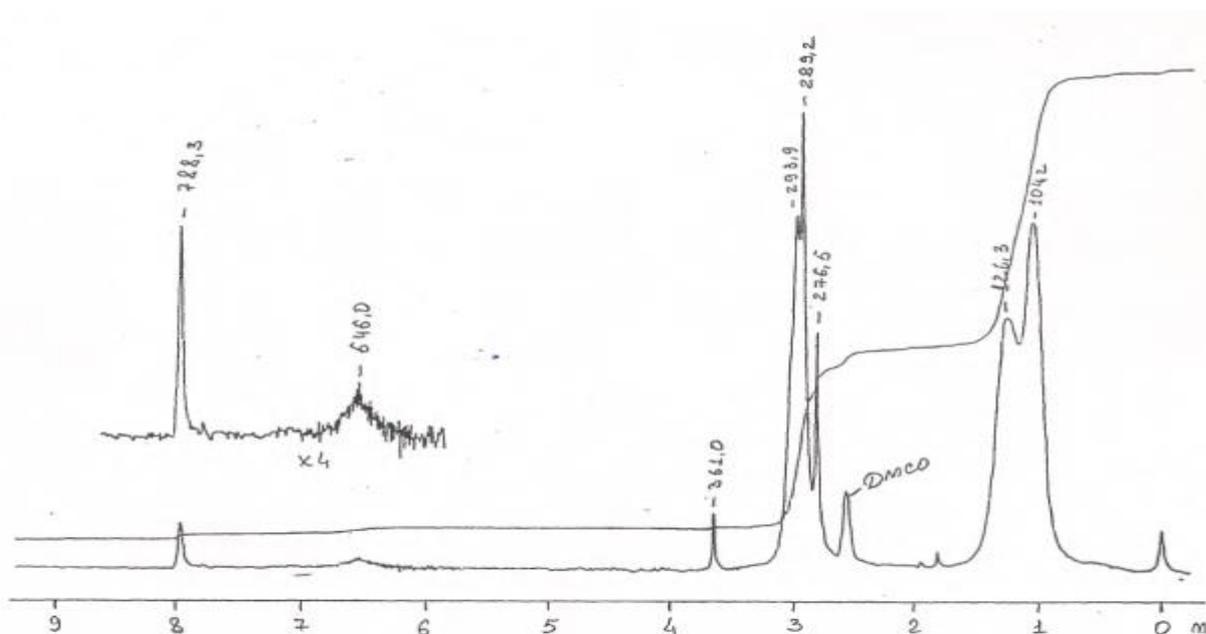
2.3-picture. N,N¹- bis hexamethylene- [(dibenzilamino) urea]'s ¹H NMR spectrum of Ni.

N,N¹- hexamethylene bis-[(karbazolilo)-urea]'s ¹N NMR spectrum of analyses [196; 304-p]

N,N¹- hexamethylene-bis-[(karbazoleilo)-urea]hexamethylene in gasoline and residual in the spectrum of 19 - and 20-metilen status of the proton signals in the group single 1,29 m.he., 18 - and 21-state triple proton signals in the group metilen 1,55 m.he., 17 - and 22-state triple proton signals in the group metilen 3,29 m.he., also, 6,48 m.it. the area in the 16 - and 32-state aminoguruh (-NHK₂) s single proton signal, 7,34-7,57 m.it. karbazole residual proton signals are available from the gardens in the area quartet shows the structure of the substance and the following:



N,N¹- hexamethylene bis-[(karbazolilamino) urea]



2.4-picture. ^{13}C NMR spectrum of N,N^1 - hexamethylene bis-[(carbazolyl)-urea].

II.1.3-§. The secondary aromatic aminlar geksan-1.6-ditsianat with a mechanism of mutual influence the chances of the coming [137; 50-51].

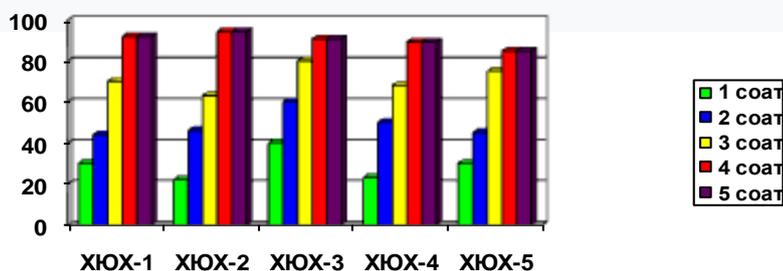
Literature [197; 40-42-p] as it is known, isocyanate group $-\text{N}=\text{C}=\text{O}$ structure is known to influence the affairs of the deputy's active molecule in r shows. Nucleofil combination of reagents in reactions diisocyanatesga elektronoaktseptor assistants will increase the ability reaction therefore, while elektronodonorlar decreases. Qonuniyat many authors that the $-\text{n}=\text{C}=\text{o}$ group with the decrease and increase in the positive charge of the carbon understand. The carbon atom in ($-\text{N}=\text{C}=\text{o}$ group) to increase the density of electronic kamchilligining diisocyanatesga nucleofil reagents $[(\text{Ph})_2\text{N}-\text{H}]$, which leads to an increase of the rate constant. A number of articles in a static state, but the group structure is used in a hard isocyanate.

Quantum-chemical calculation basically, $-\text{N}=\text{C}=\text{o}$ group in the molecule of substitute replacement charge density r in the atom does not change. The deputy isocyanatesning reaction the ability to influence or change the length of the garden have been isocyanate however diisocyanatesga nucleofil combination group (A_N) reaction at different stabiled to the transition state.

But it was difficult to conclude about the mechanism attached to heterocyclic amines known to gm, in addition to the study of the reaction kinetics is also necessary.

II.1.4-§. Bis-urea of the surge of unumto the effects of various factors [137; 52-55-p]

Bis-learning technIRue, the optimal conditions for the reaction to him urea surge sintezida the duration of the reaction, the yield of the product and the effects of temperature and the nature of each of yield to be studied. The duration of the experiment to determine the effect of the reaction 33⁰c. it was held at.

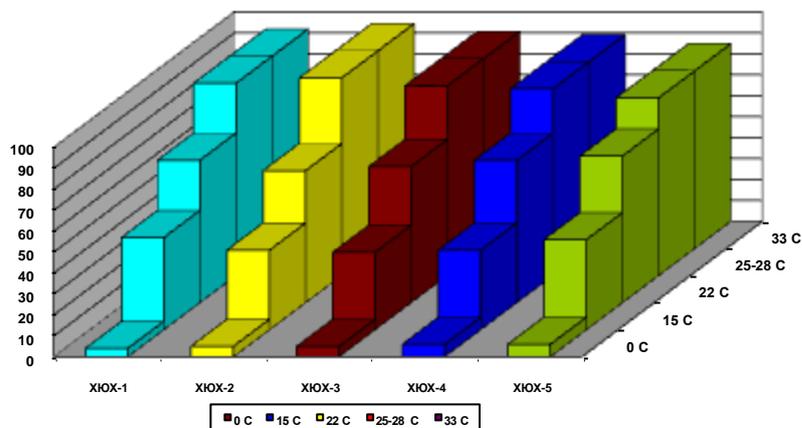


2.5-picture. The influence of the bis unum aminoaroilurea the duration of the reaction.

The duration of the process has been changed from 1 hour to 5 hours (2.5-picture). It is found that the optimal conditions of the process duration of 4 hours. As is known from the results obtained, the optimal duration of 4 hours yield providing the highest product of the reaction, 5 - hours the product has been changed yield [199; 69-83-p].

The reaction to the effects of temperature. The study of the influence of reaction temperature yield products in the environment by conducting the reaction at different temperatures was carried out. 2.6-ras seen from asm, the reaction at 0 °c is carried out at the product if the yield of from 4 to 6 % is. With the increase of temperature yield began to rise: for example, 15 °c at yield, 25, from 17 % to 22 °c at a temperature of - 50-60 %, and 28 °c- 94 percent. 33 °c temperature of the product at yield.

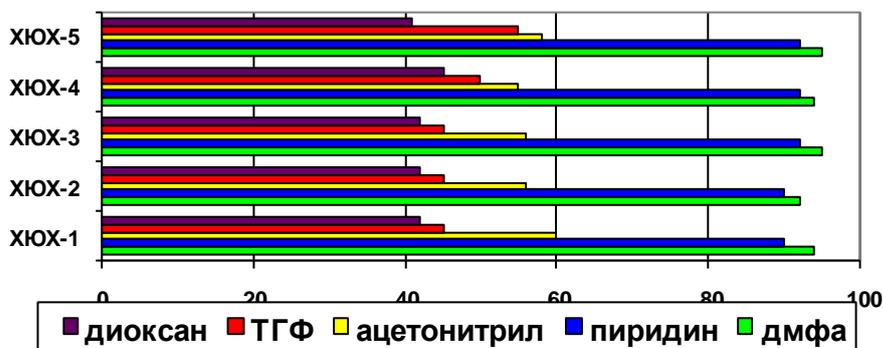
Yield the effects of targeted temperature of the product to determine the reaction was done through a different environment held at temperature (2.6-picture).



2.6-picture. Bis-aminoilurea unum of the effects of temperature

The effects of each nature. To study the effect of the nature of each Dmfadan, in addition to each (TGF ru dioxide FROM₃Sauce) has been used from the world. Therefore stabilizes the reactions and the reaction of each of these components is realized incoming ionization.

My experience has identified bis-urea to the effect of each of yield is significant.



2.7-picture. Bis-aminoilurea the to yield of each of the nature of the effect.

Bipolar A protonli dipol moment of the product changes with increase in each of yield follows: DMFA (reconstruction-3.8) > P (of 2.19) > TGF (was 1.7) > dioxide (0) (2.7-picture).

Has identified 28⁰ diisocyanate at secondary aromatic amines in DMFA S >N-H and n₋₂N - groups to enter into reactions with bis urea of N,N¹-the surge creates movement. Like, like in” melting according to the principle of mutual tasirlashadi regiselektiv with secondary aromatic amines DMFA, in this turn -N=C=O of the

aromatic series amines $\text{h-n} < \text{h}_2\text{N}$ -complex groups with stable and solid forms. Bipolar and great dipol moment which has afforded high dielektrik wasn't yield causes an increase of a proton each product.

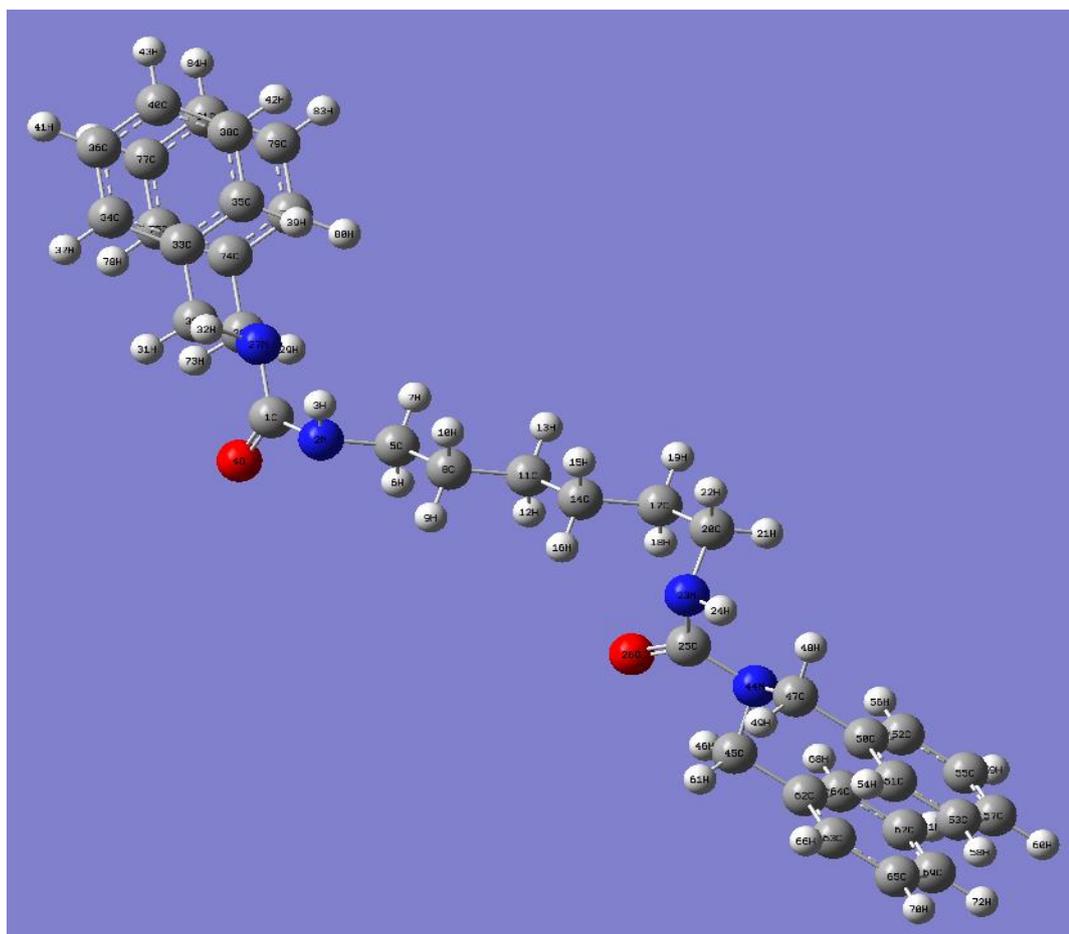
Karbonil isocyanate specific group of carbon future solvatlanish re-tsiya aminoguruh in the process of aromatic $\text{h-n} < \text{h}_2\text{N}$ - s evidence-based donor-aktseptor complex to be formed as a result of increased. DMFA and compared to TGF dioksanda_N yield product of the reaction is low. DMFA is relatively easy going and tgf solvation to dioxane at ru, and therefore, the product yield increases.

To conclude, when bis-urea to be formed for the optimum conditions are as follows: 28 °C, for each of DMFA, the reaction duration of -4 hours.

II.1.5-§. The surge urea the molecular structure of the quantum-chemical analysis results

N,N¹-bis hexamethylene-[(dibenzylamino) urea] biostimulyator is unIRue for the growth of plants. To determine the geometric parameters and the electronic structure of the object, we have N,N¹-bis hexamethylene-[(dibenzylamino) urea] quantum chemical calculations of the geometry of the 3-21 take the basic package on the basis of the modern bootkit from using the program Gaussian-B3-LYP realized from using the methods of quantum chemistry. Matrisa initial prepared using GaussView program.

The numbering of atoms selected by the program on a conditional basis to be gaussian, this leads to simplify the analysis of the data is (2.8-picture).



2.8-picture. N,N¹-bis hexamethylene-[(dibenzilamino) urea] the example of the atom numbering of the molecule.

2.3-table.

N,N¹-bis hexamethylene-[(dibenzilamino) urea] molecules quantum-chemical description of the calculation structure.

N	the number of atoms	among the core distance, Å	Valent angle or torsion	angle is the size of °
1.	1C-2	1.47000	27-1C-28	120.00691
2.	1C-27	1.46998	FROM 2-1C-4	119.99683
3.	1C-4	1.25840	AT 4-1C-27	119.99626
4.	25C-23	1.47000	1C-2-3h	109.47549
5.	25C-44	1.46998	1C-2-5C	109.46804
6.	25C 26-	1.46998	8C-11C-14C	109.47522

7.	FROM 2-5C	1.46999	11C-14C-17C	109.46577
8.	FROM 2-3H	1.00000	14C-17C-20C	109.47559
9.	23-23C	1.47000	17C-20C-23	109.46258
10.	23-24H	1.00000	20C-23-25C	109.46835
11.	5C 6H	1.07000	20C-23-24H	109.47218
12.	5C 7H	1.07000	23-25C-44	120.01666
13.	5C-8C	1.53999	23-25C 26-	119.99130
14.	8C-11C	1.53998	25C-44 WAS-45C	109.46390
15.	11C-14C	1.53999	25C-44 WAS 47C	109.48011
16.	14C-17C	1.53998	FROM 44-45C-52C	109.47253
17.	17C-20C	1.53998	FROM 44-47C-50C	109.46642
18.	27-28C	1.47001	47C-50C-51C	120.00247
19.	27-30C	1.47001	50C-51C-53C	119.99954
20.	28C-74C	1.54000	51C-53C-57C	120.00018
21.	30C-33C	1.53998	53C-57C-55C	120.00004
22.	30C-31-H	1.07000	52C-55C-57C	119.99978
23.	30C-32H	1.07000	50C-52C-55C	120.00046
24.	33C-34C	1.40139	40-1C-27N-28C	-30.01063
25.	34C-37H	1.07000	40-1C-27N-30C	89.98828
26.	34C-36C	1.40140	3H-2-1C-4	-150.00764
27.	36C-40C	1.40140	C1-2-5C-6H	-59.97882
28.	38C-40C	1.40140	C1-2-5C-7H	60.02098
29.	33C-35C	1.40140	FROM 2-5C-8C-11C	179.98488
30.	28C-30C	2.40050	5C-8C-11C-14C	-179.97307
31.	25C-76C	2.40011	8C-11C-14C-17C	179.97726
32.	38C-79C	2.39984	11C-14C-17C-20	-179.96744

33.	40C-81C	2.39982	20C-23-25C-26	-89.99555
34.	35C-77C	2.40006	24H-23-25C-26	149.99995
35.	34C-75C	2.40031	23-25C-44 WAS 47C	30.00961

The following 2.9-picture and 2.5-calculated geometric and electronic parameters of the charge of the atom is shown in the table.

Modern quantum-chemical programs, in particular the Gaussian-98 program is conducted in the spatial coordinates of the molecule dekart doing calculations. The distance between the atom (d , Å), valent corners (φ , $^{\circ}$), the torsion angle (φ , $^{\circ}$)high-precision select, 1/10000 to get results in a share of the unit and cause damage. Gaussian-98 program, the results of this physical-research methods (FT) method in the other IR-x-ray makes it easy to service compared with the results of the research methods.

Table 2.4

Geometric parameters and atom in the electronic distribution.

Atomic	Charge, e	Atomic	Charge e
N1	-0.547	C22	-0.207
C2	-0.254	C23	-0.192
C3	-0.272	C24	-0.193
C4	0.744	C25	-0.034
O5	-0.471	C26	-0.205
N6	-0.607	C27	-0.191
C7	-0.262	C28	-0.207
C8	-0.396	C29	-0.165
C9	-0.360	C30	-0.166
C10	-0.385	C31	-0.170
C11	-0.387	C32	-0.025
C12	-0.233	C33	-0.193

N13	-0.503	C34	-0.192
C14	0.691	C35	-0.207
O15	-0.565	C36	-0.163
N16	-0.239	C37	-0.205
C17	-0.244	C38	-0.029
C18	-0.028	C39	-0.168
C19	-0.171	C40	-0.164
C20	-0.163	C41	-0.207
C21	-0.207	C42	-0.190

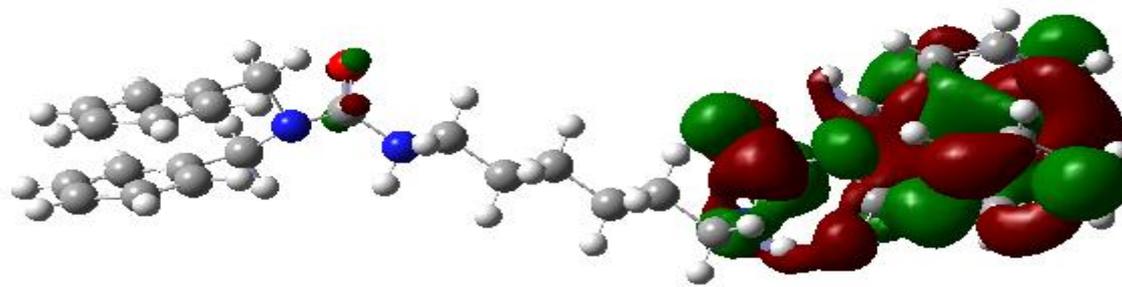
We calculated ma'lumotlarimizga, according to the 2.5-as shown in the table, the maximum negative charge geteroatomlarda, namely nitrogen and atomic oxygen is gathered in.

For example, N1, O5, N6, N13, O15, N16 atom, respectively, the size of the electronic charge $q = -0,55 e, -0,47 e, e -0,61, -0,50 e, -0,56 e, e$ is equal to $-0,24$.

The geometric parameters of the molecule, i.e., the inter-atomic distance analysis shows that the aromatic ring s-s corresponds to the value given in the literature of the gardens and the average length of $d = 1.4 \text{ \AA}$. Also, $>C4=O5$ and $>C14=O15$ carbonyl bond length and the same group of $d = 1,26 \text{ \AA}$ is equal to fits to the data in literature [200; 40-42-p].

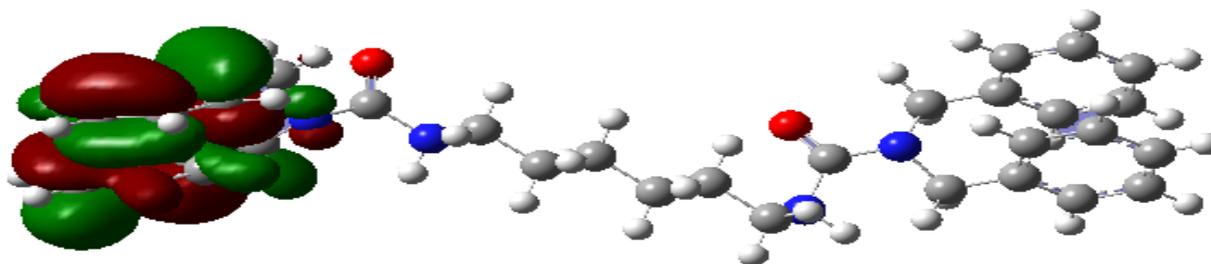
In the literature there are mainly two different methods in evaluating reactions to reaction led with led with the charge and orbital and the reaction reaches. The maximum collected charge in the distribution of electronic charge in the above quotes network serves as the center of the particle elektrofil the potential for atomic attack. Heteroatoms mean of appropriate agreements in the properties of the substance in the composition, according to the type of functional groups, the center also always reaction of charge with the maximum value will not be assigned. For example, polident (multilateral), antident (two yoqlama) center multilateral substances which have the capabilities to reaction will show. Likewise in our example, the reaction of the method of orbital technIRue is also determined. The

molecule orbital of the border in the literature (cho) on the basis of the analysis of reaction is widely used in the center.



2.9-picture. YUBMO molecules of the size of a view.

Ma'lumotlarimizga is according to the highest occupied molecular orbital of the aromatic molecule in the right and all the neighboring geteroatomlar fragmenti (YUBMO) contribute to the formation of will. Therefore, the main reagents in the reaction, respectively, can be turned to the main reaction center (2.9-see picture).



2.10-picture. Molecules electoral "lapses" size of a view

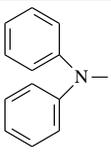
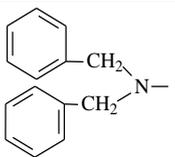
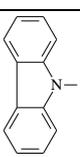
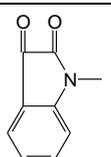
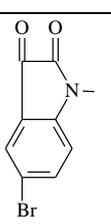
When you interact with reagents which have the character of acid ta'sirlashib reaction center of the molecule and can be directly linked to the aromatic fragmenti aminoguruhi on the left (2.10-picture).

II.2-§. N,N¹ –bis hexamethylene-[(aminoaroil) urea]s of chemical changes

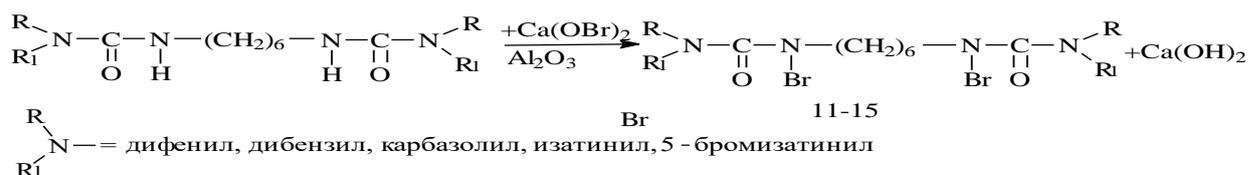
Synthesis Qilinga the bis- urea the surgein N-N< reaction the center for the study of chemical properties of N,N¹ -digalogenlash reactionproducts was conducted.

N,N¹ -was replaced dixlor N,N¹-bis hexamethylene-[(aminoaroil) urea]to get

Bis-aromatic compounds having nitrogen as the surge urea qimmatbaxo in the synthesis of a different structure, which kept raw. A lot of them expert, chemist,

		%			, Accoun ting.	Found
6		96	178- 179	C ₃₂ H ₃₂ Cl ₂ N ₄ O ₂	9,73	9,52
7		98	159- 160	C ₃₆ H ₄₀ Cl ₂ N ₄ O ₂	8,87	8,52
8		95	184- 185	C ₃₂ H ₂₈ Cl ₂ N ₄ O ₂	9,80	9,53
9		89	163- 164	C ₂₄ H ₂₀ Cl ₂ N ₄ O ₆	10,54	10,29
10		84	174- 175	C ₂₄ H ₁₈ Cl ₂ Br ₂ N ₄ O ₆	8,13	7,88

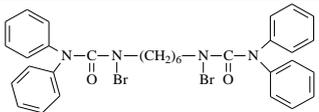
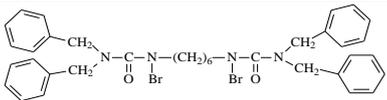
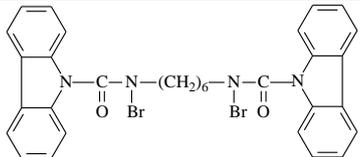
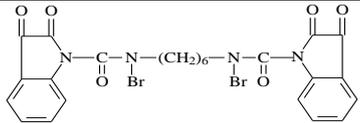
N,N¹-dibromolated N,N¹-hexamethylene-bis-[(aminoaroyl)-urea] (**11-15**) we first reported the high-efficiency N,N¹-dibromination of bis-[(aminoaroyl) urea] with calcium hypobromide. We developed an effective, inexpensive, environmentally friendly method [202;1298-p, 203; 1299-p, 204; 1299-1300; 205;116-117-p, 206; 117-p]:

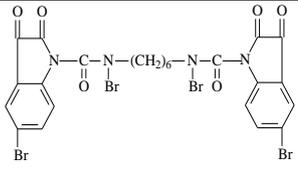


Dibrominated N,N¹-hexamethylene bis-[(aminoaroyl) urea] physical-chemical indicators 2.6-are listed in the table [137; 99-p].

2.6- table

Dibrominated N,N1 -bis hexamethylene-[(aminoaroyl) urea] features

№	The name and structure of the formula	Yield, %	S. T. °C	Brutto formula	analysis of elements, N, %	
					acc ount	find it at.
11	 <p>N,N¹ -bis dibromohexamethylene- [(difenilamino) urea]</p>	86	217- 218	C ₃₂ H ₃₂ Br ₂ N ₄ O ₂	8,43	8,19
12	 <p>N,N¹ -bis dibromohexamethylene- [(dibenzilamino) urea]</p>	84	226- 227	C ₃₆ H ₄₀ Br ₂ N ₄ O ₂	7,78	7,47
13	 <p>N,N¹ -bis dibromohexamethylene- [(carbozolil) urea]</p>	95	189- 190	C ₃₂ H ₂₀ Br ₂ Br ₄ O ₂	8,48	8,31
14	 <p>N,N¹ -bis dibromohexamethylene- [(izatinoil) urea]</p>	84	177- 178	C ₂₄ H ₂₀ Br ₂ N ₄ O ₆	9,03	8,79

15	 <p data-bbox="316 347 730 517">N,N¹ -bis dibromohexamethylene- [(5-bromoisatinoyl) urea]</p>	80	196- 197	C ₃₂ H ₃₂ Br ₂ N ₄ O ₂	7,20	7,01
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The newly synthesized dibrominated N,N¹-bis hexamethylene-[(aminoaroyl) urea] (11-15) prove the structure of to the spectrum of IR, element analysis and Ag₃ with the quality of the reactions held.

The reaction to quality brome ion (Br⁻). Taken dibrominated N,N¹ –bis hexamethylene-[(aminoaroyl)-urea] to confirm the structure of compounds obtained Ag₃ has reacted with a solution that would add. Color pale yellowish AgBr dilute is formed, a small amount of alkali was added to a solution of ammonium him. AgBr dilute silver Diamminbrome's harvest would have to be:



This method of chemical N,N¹ - dibrominated N,N¹-hexamethylene bis-[(aminoaroyl) urea] that would take a fully confirms. In D.I. Mendeleev's periodic table of chemical elements, in the elements of the main group, for example, halogens, atomic radius and polarizability values increase from top to bottom. As can be seen from 2.7-table, compounds with iodine has a higher relative density and boiling point than bromine compounds. Bromine - substituted gan derivatives, in turn, have higher densities and boiling points than chlorine-substituted gan analogues.

2.7-table

Boil a surge galogenli whose temperature and relative density

Formations	T. boiling. °C				d ₄ ²⁰			
Halogened	F	my cl	Br	J	F	my cl	Br	J

CH ₃ -CHX-CH ₃	-10,1	36,5	59,3	89,5	colorle	0,87	1,32	1,70
CH ₃ -(CH ₂) ₄ -X	62,8	108,2	129	156	ss gas 0,788	0,88	of 1.25	1,52

The structure of the molecule incoming “galogenthe atom the mass of with the increase of r-X, the relative density increases, the relative energy density also connecting to its length, etc depends on.

2.8-table

The surge galogenli some of whose properties

The bond of the	Energy, kkal /mol	Length of the bond A ^o	polarization the bond, d	Polarizability
C- F	102	1,40	2.3	Was 1.7
C- C l	78	1,76	2.3	6,5
C - Br	65	1,91	2,2	9,6
C-I	57	2,12	2,0	14,6

Molecules are characterized by a property called polarizability, that is, the polarizability increases as the attacking reagent approaches. The greater the polarizability of a bond, the greater the electron shell, size, and mobility of the atoms forming the bond. Polarizability is best observed in the case of C-X bonds. Thus, if the polarizabilities of the RF, R-Cl, R-Br, and RI bonds are relatively close, the CI bond will be much more polarizable than the CF bond (2.8, 2.9-tables).

It is known from the literature review noted that with modern medical treatment skin diseases methods urea extensive use of medicines prepared on the basis of the surge and its members (see 1.3-§). The next stage of our work dissertasion that come out of the skin one of the most common ailments people the

methods used in the treatment of psoriasis, medicine, natural resources saved in the structure on the basis of the formation of the surge urea food we have set the goal to develop. The formation of this food “psoralin” has been renamed.

II.3-§. The formation of biologically active natural food “psoralin”'s clinical research results

We conducted clinical trials of the food supplement "Psoralin", prepared on the basis of medicinal plants, in collaboration with specialists from the Andijan City Skin Diseases Dispensary, Department of Dermatovenerology. Purpose of the clinical study The purpose of the practical application of the food supplement “Psoralin” is to determine its effect on psoriasis, a dangerous skin disease. Clinical studies were carried out by systematically administering the natural biological food supplement “Psoralin” to 10 patients with various stages of psoriasis and being treated with synthetic drugs at the Andijan City Skin Diseases Dispensary. The patients’ disease stage, blood test, and sensitivity to biologically active substances were studied, and it was determined that they were not sensitive to synthetic drugs and the biologically active substances contained in the natural biological food supplement “Psoralin”. These patients, who were being treated with synthetic drugs, were additionally given the natural biological food supplement “Psoralin” for 15 days. Along with them, another 10 patients were treated only with synthetic drugs. As a result, 80% of patients who were given the natural biological food supplement “Psoralin” as an addition to synthetic drugs showed positive results, and the symptoms of psoriasis on their skin decreased. The same positive result was observed in 30% of patients who were treated only with synthetic drugs. This showed that the addition of the natural biological food supplement “Psoralin” to patients with psoriasis who were treated with synthetic drugs was several times more effective and harmless than treatment with synthetic drugs alone.

Also, the majority of synthetic drugs that have been applied to different systems and organs of the human body remain negative effects of not only the economic side a few times more expensive [207; 27-28-p].

10 students of the patient for 15 days “psoralin” food 200000 to treatment with the formation of the total sum, while the remaining 10 000 soums 1510 treat them with the patient for 15 days students synthetic drugs (medicines) have been spent.

While such information, “Psoralin” food of the formation of significantly compared with treatment using treatment with synthetic drugs (every 10 students from patients 1 310 000 soums) also appeared in the level of that is cheap.

II.4-§. “Psoralin” food add-on machine GN FEA according to classification

The present time until the formation of biologically active natural food self's content, structure, and in the process the commodity nomenclature of foreign economic activity to be able to them (GN FEA) classification at 10 talik separate commodity code was not available. This, in turn, the food in the classification of the formation of the customs declaration, the committee was being produced, filling many problems themselves.

Taking this into account, in order to solve the problem, plants based on prepared natural food additions for GN FEA in 1212 newly developed for the position “ Psoralin ” natural food additive s iga Foreign economic active goods of nomenclature exactly 121230 - "medicine" from plants, or their separate from parts prepared food "additions" subposition according to classify, to them: For “ Natural food supplements prepared on the basis of juniper meristem and enriched with other medicinal plants ” – 121230000 6 and new synthesized “ N, N¹ - bis aminoaroyl ureas” **code number 29 29 90 0 00 1** was developed for compounds and state customs to practice current done international goods code number customs recommendation for practice We have proposed new food additives goods code numbers Uzbekistan Republic Customs committee by reception was done and relevant certificate was given [208; 69-83-p].

2.9 table

Plants based on prepared food compounds containing compounds and other nitrogen-containing functional groups TIF TN according to classification

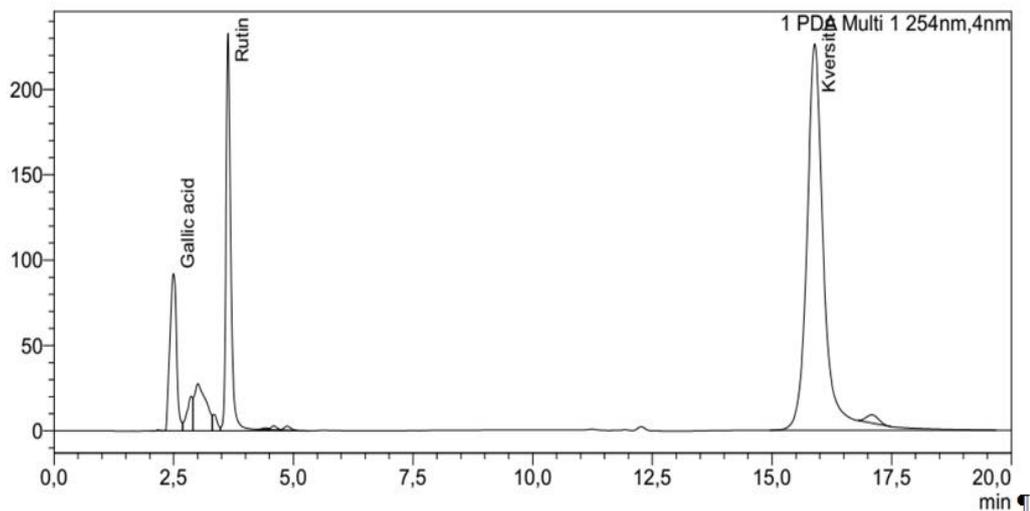
Current			proposed
1212	demon-we are eitherin or on the fruit of the trees roja, chilled, frozen or dried, pulverized or maydalanmagan karabuklar, food, and herbal products which are used for purposes	1212	demon-we are eitherin or on the fruit of the trees roja, chilled, frozen or dried, pulverized or maydalanmagan karabuklar, for the purposes of food, herbal products, which are used
		121230 000 6	meristema prepared on the basis of Fir plant and other medicinal plants enriched with natural food the formation of
2929	Other compounds containing nitrogen functional groups that keep,		that keep functional groups and other nitrogen containing compounds
		2929 90 0001	N,N, ¹ - bis-aminoaroil-the urea

II.5-§. “Psoralin” food compound noun determination of flavonoid content

Nitrogen substances which keep the structure, i.e. the structure of the plants along with the surge in the presence of urea flavonoidlar detected. Plant flavonoidlar quickly fatigue and weakness, stress, for any injury bleeding, especially those with the fragility of capillaries, pressure, problems with blood circulation to the violation of the chamber, inflammatory diseases of the stomach and intestines and is prescribed to men. Currently more than 6500 flavonoidlar type of science is known. Degidroquersitin most important of them, ruth may, plays an important role in the

management of physiological processes in the human body is kversetin [209; 1271-1278-p].

We part “psoralin” the formation of food composition flavonoidlar modern physical-chemical methods was studied.



2.12-picture. Chromatogram of flavonoids in the extract

On the basis of standard samples, 0,75 ml/min in gradient mode at a flow rate chromatogramm we see that get shown in 12 minutes. Extract the content we are in the south of acid - 2,5 minutes, ruth may – 3,6 minutes and minutes while the peak -16 quersitin given on the basis of specific gradient.

In the following table, taken as the benchmark for highly effective IRuid solution of etalon kontsentrasiyalari chromatografic flavonoidlar and their quotes:

2.10-table

Standard samples taken as reference for high-performance liquid chromatography and their concentrations

Peak	Time	Zone	Height	Kons	Unit	Char acter	Name
2	2,493	898349	92205	0,050	mg/ml	V	South acid

6	3,635	161632 0	232739	0,050	mg/ml	MW F	ruth may
10	15, 891	560015 5	226403	0,050	mg/ml	S	Kversitin
Total		811542 4	551347				

In the above table “psoralin” food of the formation of the highly effective HIRuid composition using flavonoidlar taken as a model for the detection of acid chromatografic south, ruth and may otherwise etirilgan kontsentrasiyalari quersitin larning etalon of the solution.

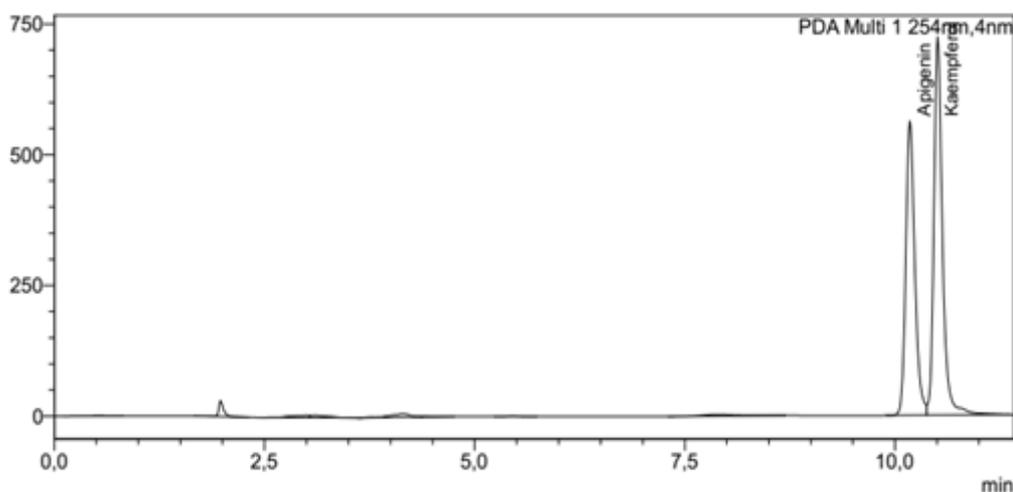
The complexity of the analysis carried out in the following table determine the value of quotes:

2.11-table.

Correlation analysis between each phase and fixed in YUSSX.

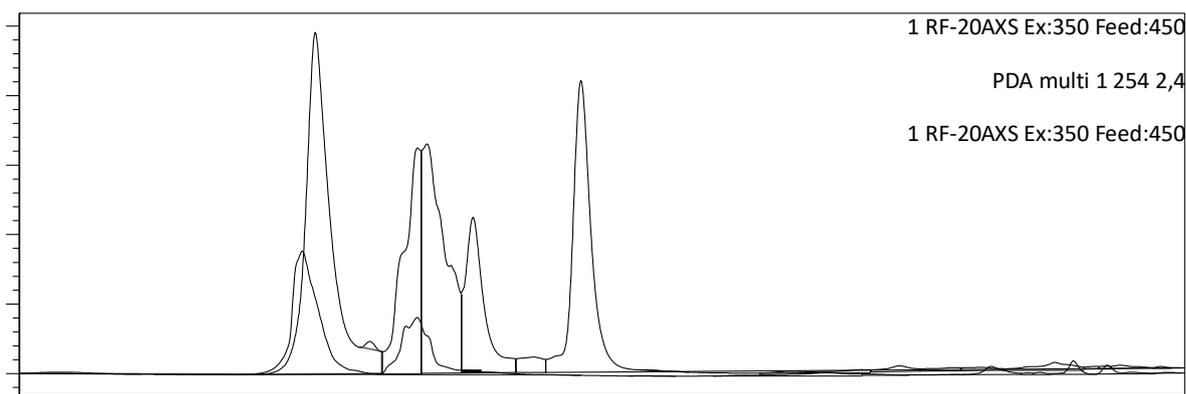
Time	phase c % acetic acid in water of 0.5% solution of the li	phase b % Atsetonitril
1	60	40
3	70	30
6	55	45
10	80	20
12	Stop	

The implementation of the above parameters based on analysis of apigenin and kempferol the device 0,75 ml/min in gradient mode at a flow rate of 12 minutes chromatogramm is the following:



2.13-picture. Flavonoidlar xromatogrammasi of the Etalon.

The results of the above chromatogramm kempferolning HPLC apigenin and quotes. By apigenin 10.2 minutes, while the corresponding peak in the range of kempferol gave 10,5 minutes.



2.14-picture. Chromatogram of reference flavonoids

Table 2.12

Concentrations of apigenin and kaempferol obtained by high-performance liquid chromatography

The number of peak	- Time	Zone	Height	Concentration	Unit	Character	Name
12	10,009	840882	59608	0,025	mg/ml	V	apigenin
14	10,5	1086	13963	0,003	mg/	V	kempfero

	09	80			ml		l
total		9495 63	73571				

2.12-as seen from the table, “psoralin” the formation of food content flavonoidlar determine the amount of substance of highly effective than when using IIRuid chromatografic apigeninga kempferol kontsentrasiyasi 0,003 mg/ml determined that.

Also, extraction, separated by “psoralin” flavonoidlar identified the amount of food in the formation of the composition are listed in the following table.

Table 2.13

“Psoralin” flavonoidlar identified the amount of food in the formation of the composition.

The name of the sample	the sample of the substance detected in the content of the name				
“Psoralin”	South acid	ruth may	Kversitin	Apigenin	Kaempferol
	0,223	0,029	0	0,025	0,003

2.13-as seen from the table, psoralin” food dried thoroughly pulverized the formation of the quantitative composition of the sample IIRuid in the composition and quality of highly effective at check flavonoidlar chromatografic in this case, most of the south will determine that the amount of acid. Gall acid – 22,3 mg %, ruth may - 2,9 mg %, apigenin - 2.5 mg % mg and kempferol, while 0.3% of the amount it is known that, I found kversetin.

II.6-§. “Psoralin” determine the amount of heavy metals in the formation of the composition of food

Biogenic elements — the structure of the body that play an important role in their life and in business that is always the chemical elements. Them primarily

oxygen, carbon, hydrogen, calcium, nitrogen, potassium, phosphorus, magnesium, sulphur, chlorine, sodium, iron included. In the spectrum due to the success of the analysis analytical chemistry and the structure of the body, which is in a very small amount of elements (micronutrients) have found their role is to identify and biological. All available in natural conditions in the cells and tissues of the body certain physiological role of the chemical elements. The body the body the same amount of elements in the composition of the characteristics of the type of the environment, food composition (in particular, salts in the soil for the plants and to kontsentrasiyasiga eruvchanlik), the body depends on environmental and other features.

None of biogenic elements will take place in the absence of disease in the body a sufficient amount (biogeokimyoviy endemiyalar), for example, there is a shortage of iodine in water and food, there remains a black dog'li people bo'qoq or sugar beet [210; b 12-14.].

Ins, for the body of “Psoralin” food of the formation ofsiin the structure of a prescribed amount than the amount of heavy metal that have been, in order to determine the extent of their amount was studied. The republic of uzbekistan Min seop I n 0366-19.p.10.7 on the requirements ofog'ir metalsstudy was carried out, olinadi results provisional president, i2.14- are listed in the table [211; 106-p].

2.14table

“Psoralin” food of the compound heavy metal indicators.

Heavy metal,	heavy metal, the amount of mg/kg		Compliance of the indicators with the requirements of the normative document
	normative acts on	Psoralin	
Cadmium	1,0	0,2	It fits.
Lead	6,0	3.4 At	It fits.
Arsenic	0.5	0	It fits.

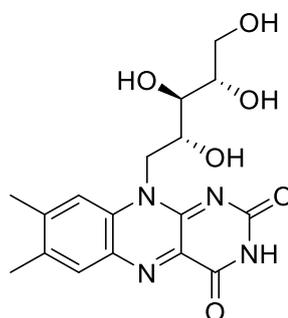
Mercury	0,1	0,02	It fits.
---------	-----	------	----------

2.14-as seen from the table, “Psoralin” food of the formation in the amount of heavy metals when determining the composition in kadmiy, lead, mercury and heavy metals likerumors that amount is less than the amount of a regulatory byak while is not available to be certain. This is testified that the food on the human organism that is quantitative indicators that have been unharmed for the formation of heavy metal shows.

II.7-§. “Psoralin the” food composition in the formation of vitamin identify

Due to damage to the skin surface in dermatovenereological diseases vitamin deficiency occurs, therefore, for their treatment, the use of vitamin complexes is required to facilitate the treatment. Food supplement "Psoralin" contains vitamins B₂, B₆, PP and C [199; 559-p].

B₂ vitamin (riboflavin) plays an important role in protein and carbohydrate metabolism. This vitamin helps food to be digested well in the gastrointestinal tract. It is of great importance for the growth and development of the body. As a result of its insufficient intake into the body, weight loss and weakness are observed. Changes in the mucous membranes of the eyes and skin diseases may occur. The most important sources of vitamin B₂ are milk, cheese, cottage cheese, eggs, meat and bread [212; 544-p].

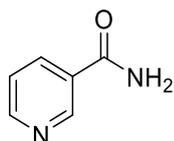


Vitamin B₂

B₆ Vitamin B₆, along with other vitamins of group B, is involved in protein metabolism. It has a positive effect on the functioning of the nervous system and blood formation. If the body does not receive enough vitamin B₆, irritability,

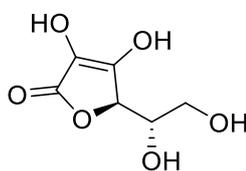
weakness, and skin damage are observed. This vitamin is found in meat, liver, fish, egg yolk, and fruits and vegetables.

PP vitamin, plays an important role in the exchange process of cells. Participates in the oxidation process of the body. Makes it easy to harvest have a positive effect on vascular tension and blood. PP vitamin, meat, milk, kidney, liver, bread, potatoes, cereals in grechixa [212; 545-p].



Vitamin PP

Vitamin C is involved in the metabolism of carbohydrates, proteins and minerals, in the oxidation-reduction processes in the body and in blood formation. Vitamin C increases the body's resistance to infections and helps the growth of tissues and cells. It also strengthens the walls of small blood vessels (capillaries). This vitamin is abundant in fruits and vegetables. Since vitamin C quickly breaks down during light and boiling, proper storage and cooking of products is important. Vitamins are of great importance in the development of the child. Vitamins are regulators of metabolic processes. They increase resistance to diseases, that is, strengthen immunity. Meeting the child's need for vitamins during the growth period is important for his healthy development in the future [212; 550-p].



Ascorbic acid

Quotes used in diseases of the skin according to the data of this food in the composition of the formation, we conducted qualitative and quantitative analysis to determine the presence of vitamins.

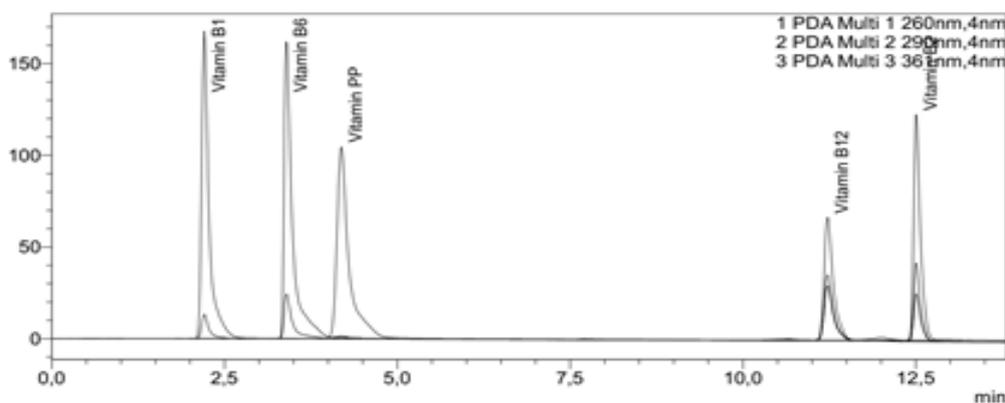
The extraction of the “Psoralin” food supplement sample was carried out as follows: 1 g of the “Psoralin” food supplement sample (FA220 4N) was weighed on an analytical balance with an accuracy of 0.001 mg. Then, it was placed in 10 ml of 0.1 N hydrochloric acid solution, centrifuged at 12,000 rpm for 15 minutes at room temperature, and at 6 ° C for 10 minutes for Vitamin C, and filtered through a 0.45 µm filter. The analysis was carried out and the following results were obtained. The amount of vitamins in the “Psoralin” food supplement was studied by comparing them with the vitamins in the standard sample. The sedimentation time (Rt) of vitamin B1 was determined to be 0.026 mg/ml at 2.208 minutes, and this vitamin was not detected in the “Psoralin” food supplement.

2.15-table.

“Psoralin” the amount of vitamin in the formation of the food composition.

	Vitamin B ₁ mg/ml	Vitamin B ₂ mg/ml of	Vitamin B ₆ mg/ml of	Vitamin B ₁₂ mg/ml	Vitamin PP mg/ml	Vitamin C mg/ml of
Dried plant	0	0,003	0,004	0	0,005	0,775

The sample group 12.507 standard v2 vitamin minutes at 0.01 mg/ml, while vitamin PP 4.190 minutes 0.034 mg/ml, while vitamin v6 3.396 minutes at 0.032 mg/ml, 0.031 mg vitamin v12 minutes while 11.225/will constitute million.



2.14 - picture. Chromatogram of standard samples of vitamins B₁, B₂, B₆, B₁₂ and PP

2.14 - as a standard for determining vitamins in the extracts from the studied plants using HPLC B₁, B₂, B₆, B₁₂ and PP

2.16-table.

“Psoralin” the amount of vitamin in the formation of the food composition.

<Peak Table>

PDA Ch1 260nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
1	2,208	1258987	167577	0,026	mg/ml		Vitamin B1
3	4,190	1272815	104629	0,034	mg/ml	V	Vitamin PP
8	12,507	834121	122917	0,010	mg/ml		Vitamin B2
Total		3365923	395123				

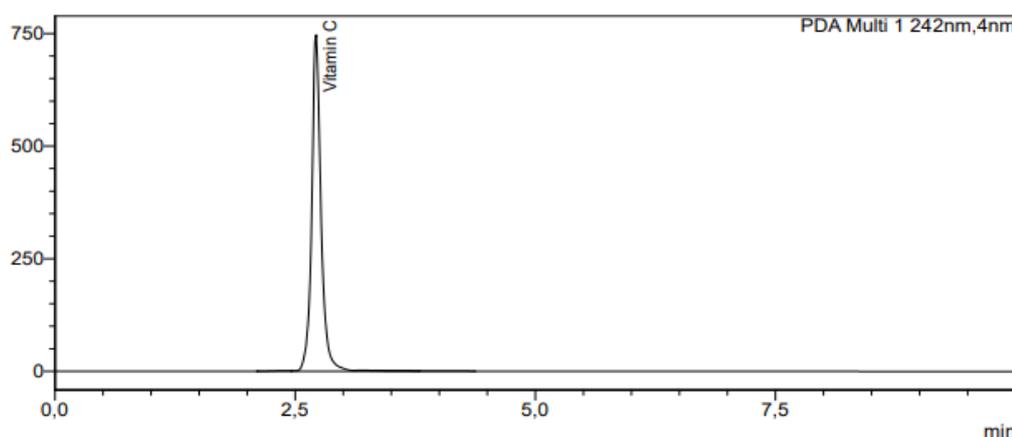
PDA Ch2 290nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
2	3,396	1379091	161911	0,032	mg/ml	S	Vitamin B6
Total		1379091	161911				

PDA Ch3 361nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
4	11,225	624631	67034	0,031	mg/ml		Vitamin B12
Total		624631	67034				

In the above table, the students can teach in the composition of plant extracts obtained from using HPLC as the benchmark for determining vitamin B₁, B₂, B₆, B₁₂ and vitamin pp quotes of the standard solution.



2.15 - picture. Chromatogram of a standard sample of vitamin C.

“Psoralin” food of the formation of the vitamins in the composition of the sample standard analogy with the amount of vitamin progressing continued learning. Vitamin 2.717 secs time to sink in minutes 0.130 mg/ml organization

2.15-picture “psoralin” the standard chromatogram of vitamin C taken as a sample for determination of vitamin C content of food q using high-performance HPLC chromatography is shown..

Table 2.17

S sample standard amount of vitamin

<Peak Table>

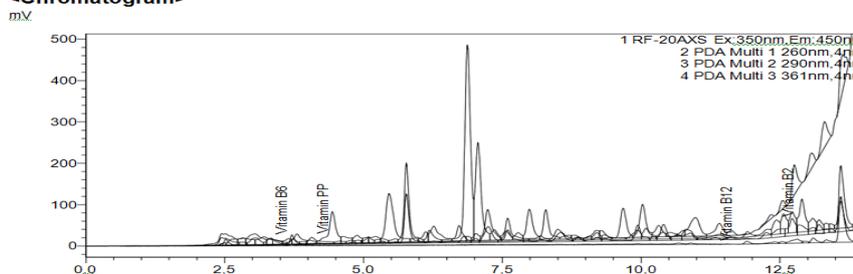
PDA Ch1 242nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
2	2,717	5081023	747102	0,130	mg/ml	SV	Vitamin C
Total		5081023	747102				

2.17- “in the table psoralin” The concentration of the standard solution of vitamin C taken as a sample for the determination of the vitamin C content of food q using high-performance HPLC chromatography is shown.

The plant extract obtained with standard samples we are comparing chromatogramlarini chromatogrammsi etalon. As we have seen, “Psoralin” food of the formation of composition B₂, B₆, vitamin pp, respectively, the amount of 12.443, 3.329, 4.068 minutes 0.003 mg/ml, 0.004 mg/ml, 0.005 mg/ml, available from B₁ and b₁₂ vitamin while is detected.

<Chromatogram>



2.16 - picture. “Psoralin” food of the formation of composition B₂, B₆, vitamin pp

2.16 - teach the students in the picture: from plant extracts obtained using as the benchmark for determining the composition of vitamin in HPLC B₁, B₂, B₆, B₁₂ and vitamin pp chromatogrammsi taken quotes.

Table 2.18

“Psoralin” food of the formation of composition B₂, B₆, vitamin pp, the amount of

<Peak Table>

PDA Ch1 260nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
8	4,068	213641	15768	0,005	mg/ml	V	Vitamin PP
38	12,443	281146	34247	0,003	mg/ml	V	Vitamin B2
Total		494787	50015				

PDA Ch2 290nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
6	3,329	194696	16552	0,004	mg/ml	V	Vitamin B6
Total		194696	16552				

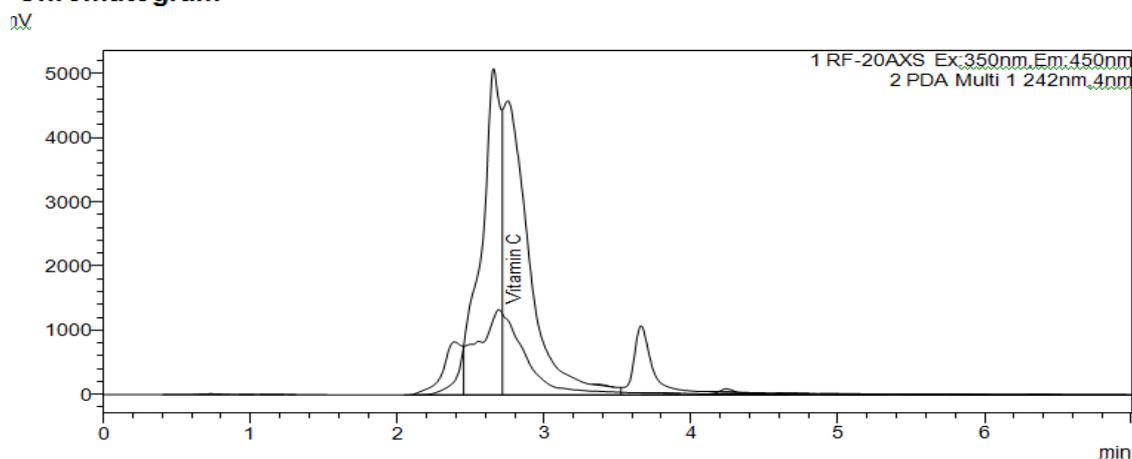
PDA Ch3 361nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
58	11,326	6899	809	0,000	mg/ml	V	Vitamin B12
Total		6899	809				

In the above table, the students can teach in the composition of plant extracts obtained from using HPLC as the benchmark for determining vitamin B₁, B₂, B₆, B₁₂ and vitamin pp obtained the amount of quotes.

“Psoralin” food of the formation of the amount of vitamin c in the composition in the amount of vitamins than most other 2.693 minutes 0.775 mg/ml in the presence of the amount will determine that.

<Chromatogram>



2.17 - picture. Chromatogram of vitamin C in food additive "Psoralin".

Table 2.19

“Psoralin” food of the formation of composition B₂, B₆, vitamin pp, the amount of

<Peak Table>

PDA Ch1 242nm

Peak#	Ret. Time	Area	Height	Conc.	Unit	Mark	Name
5	2,693	30894383	1328058	0,775	mg/ml	SV	Vitamin C
Total		30894383	1328058	0,775			

Therefore, this daily dose of vitamin “psoralin” food of the formation of the structure, there are enough of them gets to satisfy the need for daily consumption in the amount of 10 grams of vitamin. Also, “psoralin” food of the formation of structure in the B₁ and b₁₂ vitamin while is detected. As seen from the results, the composition of this food vitamins used in the treatment and prevention of the disease in the formation of their give good results when found proof.

II.8-§. “Psoralin the” food composition in the formation of β-carotene to determine the amount of

As it is known, in the composition of retinol vitamin a food tab (pet products) and of karotinoid (plant products) to the body of the tab falls. Karotinoid in nature plants, water gardens, and in some zamburug o'tlaridan occurs. Girth gets to vitamin a when consumed. To them, α-, β-carotene, lut, likopen, zeaksantin such as you can add. Karotinoid of all five hundred are known. Karotinoid the most studied β-carotene. It provitamin if converted to vitamin a in the liver and enzymatic reduction [212; 534-536-p].

β-carotene in the food industry, the orange-red color is used as allowing many products, including tropical fruits, edible oils, cheese, soft drinks, confectionery and a clear example of the heat treatment is added to the course.

“Psoralin the” food composition in the formation of β-carotene amount of HIRuid chromatografic highly effective if you check in 9,03 determines that it is equal to mg.

II.9-§. Study of the biological activity of synthesized N,N1-hexamethylene bis-[(aminoaroyl)urea] in laboratory conditions

The biological activity of the synthesized compounds is high and the cotton plant seeds to sprout growth effects was tested in laboratory and field practice experience.

In laboratory conditions “Xyux-1” and “Xyux-2” biostimulyatorlarining 0.001% solutions with unuvchanlik soak the seeds of 88 % and 98 %, unuvchanlik to soak the seeds in water of 70%, when compared to him, 18% and 28 % were observed to be higher. While Xyux Mivalga than the Etalon-1 unuvchanlik 1% if it

was Xyux-2 biostimulyatori Mivalga than 9% gave higher results. Xyux-0.001 a 2% solution is used when the energy of sprouts is 48% if compared to the control water 10 %, when comparing the benchmark Mivalga a 5% advantage of the fact that it has detected.

Cotton branch at andizhan uzbekistan PSUEAITI experience in the area conducted, the results of

The population in the country because of the increase in number from year to year, the population of the agricultural sector to meet the food needs of cotton, wheat and other crops from the removable crop that needs larger. Get plenty of quotes from the above crops requires the use of the different factors to ensure that. We created Xyux part-1 and Xyux-2 biostimulyatorlik a feature of the drug had to be, for the reason that were intended to study the effects of the growth and development of crops. Andijan uzbekistan since 2008, in cooperation with the staff of the branch PSUEAITI studied, and has achieved positive results was tested in a small cotton field and in the laboratory. Cotton cotton biostimulyator discuss the results of field experience in the area biostimulyator used when compared to the growth and development of the side of good with the unused area stand out. When harvested and the yield Xyux account book-2 ts in the field of application of the results when compared to control 3-4/ha additional yield achieved. According to the results of the survey, Xyux-2 of the drug 0.001% of seeds treated with a solution of li unuvchanlik 98% of accounted for, most of the energy kontsentrasiyada sprouts the same high 48%, it Mivalning kontsentrasiyasidagi unuvchanlik this energy when compared to 5 %, compared to water control, while 10 % higher. This kontsentrasiyada unuvchanlik mival compared to the benchmark of 9 %, when compared to water control 29% will take the higher result. Xyux-2 of the drug 0.001 % solution results in the region of large li had given the reason cited above is recommended to apply in a cotton field [137; 86-p].

II.10-§. Some farmers in the area of cotton the results of the conducted field of practice

At andizhan region, Pakhtaabad district in the area over the years 2019-2021 180 “light-Agro” according to the results of the experiment on the farm in the year 2019 compared to the control 3,0 ts/ha, that in the year 2020 ts 3.7/ha if taken in excess, in the year 2021 4,0 ts/ha achieved a high yield. 1,356 million dollars from each hectare farm in the year 2019, the year 2020 1,716 million dollars in 1 ha, 1 ha 2,840 million soums in the year 2021 (million dollars 2.048 average) cost effective were achieved.

Also, over the years 2019-2021 region “shokirova a., prof. djurayev”, “Bunyodbek I.” farms in the area of 180 ha in the results of the experiment, according to “A. shokirova, prof. djurayev” on the farm per hectare in the year 2019 1,401 million dollars 1 million dollars in the year 2020 1,265 ha, ha 1,356 hectares in the year 2021 1 million soums from each be achieved cost-effective, “I. Bunyodbek” 2,05 million hectares on the farm from the year 2019 to the year 2020 1,792 million dollars, while in the year 2021 1,997 million soums economic efficacy. Xyux-2 in the treated area out with cotton seeds biostimulyatori in a time of sprouts. Cotton in different periods of the growing season, including: shonalash, flowering, ko'saklash, make progress in the opening phase as cotton, cotton 7-8 days early ripening integration of ko'sak bo'IIR to be chanoqning paxtalar to be full of seeds, fiber length, short bring the indicators to improve the quality of cotton. Also in relation to the control option, the harvest early, the opportunity to increase resistance to disease and pests were observed in the presence of [137; 86-p].

The above quotes of field practice experience Pakhtaabad and Ulugnor district of the farm, the total number of 361 hectares of field in 2019-2021 year was conducted (Ru QXV known.).

Chapter II according to conclusions

In this chapter, synthesis made physical properties of new substances in the industrial element analysis, IR-, PM-spectroscopy, the results of the tahlil of the quantum-chemical calculation methods in the literature in comparison to the spectrum obtained using the structure of the molecular structure qiyosi combination

that is suitable to it has been proven completely.

“Psoralin” check results in the formation of curative foodpsoriasis is a disease thatgaccounted for in the treatment ofused compared to the synthetic drug showed that it was effective.

Psoralin” food dried thoroughly pulverized the formation of the quantitative composition of the sample IIRuid in the composition and quality of highly effective at check flavonoidlar chromatografic in this case, most of the south will determine that the amount of acid. Gall acid – 22,3 mg %, ruth may - 2,9 mg %, apigenin - 2.5 mg % mg and kempferol, while 0.3% of the amount it is known that, I found kversetin.

“Psoralin” food of the formation of theelements in analysis learn when, how much does a 30 to a number of chemical elements and heavy metals - kadmiy, lead, mercury ofthe world's rumors that amount is less in amount from a regulatoryуъyak while the absence of will detect. “Psoralin” food for the human organism that is the formation of quantitative indicators that have been unharmed heavy metal shows.

“Psoralin” food of the formation in the structure of which is to analyze the presence of vitamins b₂, B₆, vitamin c and vitamin s will determine the presence of RR. B₁ and b₁₂ vitamin while is detected. As seen from the results, the formation of this food vitamins in the prevention and treatment of the disease were determined to give good results when used.

“Psoralin the” food composition in the formation of β-carotene is viewed, the amount of its value determines that it is equal to 9,03.

The commodity nomenclature of foreign economic activity “on Psoralin” food to the formation of “Fir meristema plant and other medicinal plants enriched with natural food prepared on the basis of the formation ofa”for – 1212300006 is recommended to practice the customs of the code number.

The surge of new properties on the basis of some of the synthesized compounds also urea biostimulyatorlik unuvchanlik seeds in laboratory conditions and in field trials in the growth and development of cotton plants cotton farms in the practice conducted in the field practice experience, the statement of the area ofthe world

quotes.

Of the synthesized compounds formed with high yield in agriculture, plant growth accelerated reference laboratory and field conditions biostimulyatorlik of the drug which show the texture of the results of the test in practice quotes.

CHAPTER III. SECONDARY AROMATIC AMINS And HEXAMETHYLENE DIIZOCYANAT's rage surge synthesis of (EXPERIMENTAL PART)

III.1-§. The states of these objects and methods QIQOT

Necessary reagents and instruments [1 37; 39-p] :

1. Tetra chlormethane (carbon tetra x chloride) ;
2. Etanole - ch. - TU 6-09-1710-77: $T_q = 78.33 \text{ }^\circ\text{C}$; $n_d^{20} = 1.3616$; $d_4^{20} = 0.7890$;
3. T G F (tetrahydrofuran) – ch. - TU 6-09-3986-77;
4. Benzene - – ch.d.a.- GOST 5789-51, $T_q = 78 \text{ }^\circ\text{C}$;
5. Dimethylformamide – xch. – GOST 20-289-74 ;
6. Acetone -ch.d.a. GOST 2603-994; hexane – ch – TU 6-093375-78;
7. Dioxan - ch. – GOST 10455-80;
8. Methanol – xch - GOST 6995-92;
9. Dimethylsulfoxide - DMSO - hh;
10. Ethyl acetate - h.d.a. – GOST 22300-96;
11. Diphenylamine – xch., $T_s = 53 \text{ }^\circ\text{C}$; $Q. = 302 \text{ }^\circ\text{C}$;
12. Dibenzylamine- ch.d.a, $T_{cay} = 300 \text{ }^\circ\text{C}$, $M_M = 197.29$;
13. Carbazol-x, $T_{IRuid.} = 238 \text{ }^\circ\text{C}$, $T_{ca.} = 354.8 \text{ }^\circ\text{C}$; $M_M = 167.21$;
14. Izatin – hch;
15. 5-bromizatin – xch
16. Hexane-1.6 - diisocyanate (hexamethylene diisocyanate, gm), a colorless, oily IIRuid with a pungent odor, empirical formula - $S_8N_{12}N_2O_2$; family structure with the formula $O=C=N-(CH_2)_6-N=C=O$, $M_m = 168,20$; $T_s = - 67 \text{ }^\circ\text{S}$; $T_q = 255-258 \text{ }^\circ\text{S}$;

127 °s, c 10 mm.it.; density - d_4^{20} ; g/cm^3 - 1,0465, n_D^{20} =1,4533; GMD - organic with the intervention of many each of them will enter into reactions with N_2O , r-oh, R_2NN , where rn_2 , izotsiapossesses all the properties of the nat. All reagents vakuumda distillation at atmospheric pressure or, where appropriate, or re-kristallash through each cleanses.

Research methods

2000 IR of the spectrum (the may be able to elmer) modelli IR-spektrometriada, as well as "Spekordtaken at -75. Pm 60 mg of the spectrumTs irol-frequency c-60 HI proton-resonance spektrometriada obtained. Each of the different progress of the reaction and purity of the product systemsiat Silufol UV-254 Plastic was many years ago in TLC method with control did not go:

System 1: $HCOOH: CHCl_3: cml, cc_4=0.5:0.5:0.4$;

System 2: hexane: $CHCl_3 = 1:9$;

System 3: $C_6H_6:C_6H_{14} = 5:1$;

System 4: $CHCl_3:C_6H_{14}=7:1$;

System 5: $CHCl_3 :C_6H_6 = 6:1$;

System 6: $C_6H_6 :CH_3COOC_2H_5 = 4:1$;

System 7: $CHCl_3: C_2H_5OH = 4:1$.

bleaches: eitherD of steam [137; 39-40-p].

III.2-§. N,N^1 -bis hexamethylene-[(aminoaroil) of urea] synthesis

N,N^1 - hexamethylene bis-[(difenilamino) urea] (1)* (HyungX-1) [137; 40-p, 215; 9611-9619-p].

Mechanic mixer, thermometer and separate sinks equipped with kalt chloride tubes are connected back condenser four oralli to the tube 70 ml dimetilformamidda melted 16,9 ml (0.1 moleb) diphenylamine 20 ml triewish may be, continuous mixing with 8,5 ml (up to 0.05 moleb) GMD qitwas the year. The reaction 26-36°C. at a temperature of 4 hours. Filtrlangan the precipitate with distilled water and was dried at room temperature were washed 2-3 times. Appearance: white later powder

substance. Yield - the 23,2 g (92%); $T_{s.}=224-225$ °S. of the product obtained individually TLC was checked by. $R_f=0,72$

Found - %: 10,78 6,49 N N C 75,68

$S_{32}N_{34}N_4O_2$ for isDi %: 11,06 N N C 6,72 75,89

IR - range: -NHK-C(O)-N< group 1622 cm^{-1} at-NHK - group 3330 cm^{-1} , $(FROM_2)_6$ - $768-734\text{ cm}^{-1}$.

N,N¹-bis Hexamethylene-[(dibenzilamino) urea] (2) (Xyux-2) [137; 40-p, 216; 11-16-p]

Mechanical mixer, thermometer and separate sinks equipped with calcium chloride tubes are connected oppositely connected refrigerator to the tube 55 ml in dimethylformamide 19,7 ml (0.1 mole) Dibenzsee also:, 18 ml of triewish may be, continuous mixing with 8,5 ml (up to 0.05 mole) GMD qitwas the year. The reaction $25-38^\circ\text{C}$. at a temperature of 4 hours. Filtrlangan the precipitate with distilled water and was dried at room temperature were washed 2-3 times. Appearance: white powder product. Yield - 26,5 g (94%); $T_{fluid.}=190-191$ °S. the product obtained individually 3-clean the system level II, evident (Al_2O_3) TLC was checked by. $R_f=0,69$

Found - %: 7,23 9,31 N N C 76,51

$C_{36}N_{42}N_4O_2$ for the calculated %: C H N 76,82 7,47 9,56

T. m. = $224-225$ °C, in the literature 215 °C.

IR - range:-NHK-C(O)-N< group 1624 cm^{-1} at >N-H group 3334 cm^{-1} , $(FROM_2)_6$ - $770-736\text{ cm}^{-1}$.

N,N¹- bis hexamethylene [(dibenzylamino) urea] N¹ NMR spectrum, δ , m.it. (DMSO, 400 mhz) : 1,29 ($_{21,22}CH_2$), 1,46 ($_{20,23}CH_2$), 3,10 ($_{19,24}CH_2$), 4,47 ($_{7,9,25,27}CH_2$), 6,38 (NHK), 7,25-7,31 (CH_{Ar});

N,N¹-bis Hexamethylene-[(Carbazolil) urea] (3) (XYUX-3) [137; 41-p, 217; 23-26-p]. Mechanical stirrer, thermometer and separate sinks equipped with kalıtsiya chloride tubes are connected back sovutgichli four

mouth ofli to the tube 60 ml dimetilformamidda 16,7 ml (0.1 mole) karbazole, 25 ml of triewish may be, continuous mixing with 8,5 ml (up to 0.05 mole) GMD qitwas the year. The reaction 23-39 °C. at a temperature of 4 hours. The precipitate is filtered, washed 2-3 times with distilled water and dried at room temperature. Appearance: white-gray powder product. Yield - 22,75 g (90%); $T_{\text{fluid.}}=230-232$ °S. of the product obtained individuallik 6-clean the system level ii, evident (Al_2O_3) TLC was checked by. $R_f=0,79$

Found %: C N N 76,19 5,68 10,88

$\text{S}_{32}\text{N}_{30}\text{N}_4\text{O}_2$ for the calculated %: C H N 11,15 5,97 76,49

$T_{\text{m.}} = 230-232$ °C, in the literature 215 °C.

IR - range:-NHK-C(O)-N< group 1626 cm^{-1} at >N-H group 3335 cm^{-1} , (FROM_2)₆- $772-728\text{ cm}^{-1}$.

N,N¹- bis hexamethylene-[(carbazoleilo)-urea] N¹ NMR of the spectrum, δ , m.it. (DMSO, 400 mhz): 1,29 (_{19,20}CH₂), 1,55 (_{18,21}CH₂), 3,29 (_{17,22}CH₂), 6,48 (NHK), 7,34-8,31 (CH_{Ar});

N,N¹-bis Hexamethylene-[(izatinil) urea] (4) (XYUX-4) [137; 41-p, 218; 48-50-p]

Mechanical mixer, thermometer and separate sinks equipped with kal'tsiya chloride tubes are connected back sovutgichli four oralli to the tube 60 ml dimetilformamidda by 14.7 ml (0.1 mole) izatin, 25 ml of triewish may be, continuous mixing with 8,5 ml (up to 0.05 mole) GMD qitwas the year. The reaction 24-37 °C. at a temperature of 4 hours. The precipitate elephant'trlandi, were washed 2-3 times with distilled water and was dried at room temperature. Appearance: bright red powder product. Yield – 18,53 g (89%); $T_{\text{fluid.}}=163-164$ °S. of the product obtained individuallik6-clean the system level ii, evident (Al_2O_3) TLC was checked by. $R_f=0,57$

Found %: 62,06 S; N 4,44; N 11,87

$\text{S}_{24}\text{N}_{22}\text{N}_4\text{O}_6$ for calculated %: C 62,33; H 4,76; N 12,12

T. s. =163-164 °C

IR - range:-NHK-C(O)-N< group 1623 cm⁻¹ at >N-H group 3331 cm⁻¹, (FROM₂)₆-767-733 cm⁻¹.

N,N¹-bis Hexamethylene-[(5-bromizatinil)urea] (5) (XYUX-5) [137; 42-p, 219; 54-56-p]

Mechanical mixer, thermometer and separate sinks equipped with kalъtsiya chloride tubes are connected back condenser four oralli to the tube 55 ml dimetilformamidda their 23.6 ml (0.1 mole) of 5-bromizatin, 24 ml triewish may be, continuous mixing with 8,5 ml (up to 0.05 mole) GMD qitwas the year. The reaction 25-42 °C. at a temperature of 3.5 hours. The precipitate elephantъtrlandi, were washed 2-3 times with distilled water and was dried at room temperature. Appearance: brown- red colored powder product. Yield – 26,9 g (85%); T_{fluid.}=174-175°S.

Found - %: S 46,23 N 3,01 N 8,74

S₂₄N₂₀Br₂N₄O₆ for calculated %: C H N 46,46 3,22 9,03

T. s. =174-175 °C.

IR - range:-NHK-C(O)-N< group 1625 cm⁻¹at >N-H group 3333 cm⁻¹, (FROM₂)₆-771-730 cm⁻¹.

III.3-§.N,N¹-bis hexamethylene-[(aminoaroil) the urea]

let's chemical properties

N,N¹-Dixent-exchange of then -gan hexamethylene bis-[(aminoaroil) of urea] synthesis (6-10) (General method)

N,N,¹-Dixenthexamethylene bis-[(difenilamino)urea] (6) [137; 43-p, 220; 54-56-p]

Mechanical mixer, thermometer and separate sinks equipped with kalъtsiya chloride tubes are connected back sovutgichli three oraltube li 5,06 g (0,01 moleъ) N,N¹-hexamethylene bis-[(diphenylamineo)urea], 60 ml of carbon tetraxent, 25,0 g wet aloxide and further yumi 4,7 g of calcium gipoxlorit 37 °c for 4 hours at this drop isthe oldest and largestb was added. Then the reactionon the mass was

postponed to 24 hours. The precipitate which is formed elephantıtrılandı washed and air. Yield 6,26 g (96 %). $T_{\text{fluid.}} = 178-179^{\circ}\text{C}$.

Found, %: N 9,52

$\text{S}_{32}\text{N}_{32}\text{my cl}_2\text{N}_4\text{O}_2$ calculated, %: N 9,73

Similarly, the above description is based on the method with N,N¹-Dixloroz-N,N¹-bis hexamethylene-[(dibenzylamino)ureas], N,N¹-Dixloroz - N,N¹-geksametile bis-[(carbazoleil) urea], N,N¹-Dixloroz-N,N¹-hexamethylene bis-[(izatinil) urea], N,N¹-Dixloroz-N,N¹-bis hexamethylene-[(5-bromezati) urea], (7-10) can be synthesized like a combination of.

N,N¹-Dibrome-exchange of then -gan hexamethylene bis-[(aminoaroil) of urea] synthesis of (11-15) (General method)

N,N¹-Dibromeo- N,N¹-hexamethylene bis-[(difenilamino)urea] (11) [137; 43-p, 221; 4-10-p]

Mechanical mixer, thermometer and separate sinks equipped with kalıtsiya chloride tubes are connected back sovutgichli three oraltube li 5,06 g (0,01 moleı) N,N¹-hexamethylene bis-[(diphenylamineo)urea], 6, 5 ml xloroform, 30 g wet aloxide and yumi further 10 g baldıtsiya hypobromedog 60 °c for 3.5 hours during this drop,the oldest and largestb was added. Then the reactionon the mass was postponed to 24 hours. The precipitate which is formed elephantıtrılandı was washed and air. Yield 5,73 g (86 %). $T_{\text{fluid.}} = 217-218^{\circ}\text{C}$.

Found, %: N 8,19

$\text{C}_{32}\text{N}_{32}\text{Br}_2\text{N}_4\text{O}_2$ calculated, %: N 8,43

Similarly, the above description is based on the method with N,N¹-Diat brome- N,N¹-bis hexamethylene-[(dibenzylamino) urea], N,N¹-Diat brome-N,N¹-geksametile bis-[(carbazoleil) urea], N,N¹-Dibromine-N,N¹-hexamethylene bis-[(izatinil) urea], N,N¹-Diat brome-N,N¹-bis hexamethylene-[(5-bromezati) urea], (12-15) can be synthesized, such as a combination of.

III.4-§. “Psoralin” the extraction of food from the formation of the composition, structure and composition of the combination of quantum-chemical study

At present, it was still unexplored research complex chemical processes and chemical reactions go from studying the theoretical aspects of the quantum-chemical calculation methods use the results from. Reaction mainly of their ability and mobility of molecules in chemical reactions, the composition, structure, energy depends on the specifications. Most importantly, the center of organic molecules is one of the issues important to know in advance of and topical reaction. Modern quantum-chemical methods to the application of her research chemist experimental pre-planning allows the synthesis of chemical products and plays an important role in [222; 52-55-p].

For this purpose, this research work also in hexamethylene diisocyanate amines and secondary aromatic substances to be obtained on the basis of the yield of the reaction, the content and the structure of the quantum-chemical analysis “Gaussian 98” from using the software package was carried out. Organilayotgan combination of the structure and the molecular structure of 3-some 21 GETaoptimallashtirildi explains in this program bootkit/B3LYP hybrid method, their IR of the spectrum and the hart energy is found. The molecular structure of compounds to enter the program in the “builder” of the equipment “dihedral modify” and “bond” modify the molecule led to the builder.

IR- spectra calculation and "Frequency" and “Gaussian calculation "setup" in the department "Job" type of “Optimization” orders of molecules using structures optimization to do increased. Calculation procedures for molecules are solvent-free, chloroform and were carried out separately in diethyl ether medium. Solvents "Gaussian" calculation "setup" of "solvation" through the department was selected.

III.5-§. “Psoralin” the amount of food in the formation of the composition flavinoidlar determine

Dried and finely ground " Psoralin " The following method was used to determine the quality and quantity of flavonoids in the food additive.

Reagents : Spectrophotometric analysis for following from reagents used: sample extract, rutin, gallic acid, quercetin.

Solutions : For spectrophotometric analysis the following solutions used: 96 % ethyl alcohol, Psoralin 1:10 mass in relation to taken aqueous extracts.

Tools : " Psoralin " determination of the amount of flavinoids in the food additive spectrophotometer or graduated measurement (beaker, micropipette) containers, 50-100 cm³ chemical beakers, plain filter paper, glass funnel, 250 cm³ in volume flask used.

“ Psoralin ” To separate the substances to be determined from the composition, we used 96% ethyl alcohol as a solvent. For this, the obtained sample and alcohol were mixed in a ratio of 1:10 and extracted for 75 minutes at 30°C using a magnetic stirrer. The amounts of rutin, gallic acid and quercetin in the samples were determined using an Agilent Zorbax 4.6 mm ID x 12.5 mm cartridge and a Perkin Elmer C18 250x4.6 mm 5 μm C₁₈ (USA) column as the stationary phase. For this, solutions of different concentrations: 0.025 mg/ml and 0.05 mg/ml were prepared from a 0.5% solution of acetic acid and standard solutions in acetonitrile in a ratio of 35:65, and a calibration curve was generated at a flow rate of 1 ml/min, a thermostat temperature of 40 °C, and an injection sample volume of 10 μl. Based on standard samples, 2.5 min of gallic acid, 3.6 min of rutin and 16 min of quercetin The experimental results were obtained on an HPLC device (LC 2030 C 3D Plus Shimadzu Japan).

III.6-§. "Psoralin" Determination of heavy metals in food additives using THE AVIO 200 (OEM) optical emission spectrometric method

For the experience “psoralin” the water extract and alcohol were taken. Who do research in the formation of heavy metals in the food composition were determined by the methods of analytical chemistry.

Reagents : Spectrophotometric analysis for following from reagents used:

sample extract, distilled acid.

Solutions : The following solutions for spectrophotometric analysis used: 6 ml of nitric acid (HNO_3), 2 ml of hydrogen peroxide (H_2O_2)

96 % ethyl alcohol, What is your question ? 1:10 mass in relation to taken aqueous extracts.

Tools : analytical balance (FA220 4N), " Psoralin " mineralization device for converting food additives into a mineral state (MILESTONE Ethos Easy, Italy), test tube of the device, Infrared acid purification (Distillacid BSB-939-IR) device, Avio200 ICP-OES Optical emission spectrometer with inductively coupled plasma (Perkin Elmer, USA).

For mineralization of the obtained sample, i.e., to bring it to a clear solution, 500 mg is weighed on an analytical balance (FA220 4N). A mineralization device (MILESTONE Ethos Easy, Italy) was used to convert the sample to a mineral state. For this, a sample (200 mg), 6 ml of nitric acid (HNO_3) purified by distillation, i.e., acid distilled in an infrared light-based acid purification device (Distillacid BSB-939-IR) and 2 ml of hydrogen peroxide (H_2O_2) as an oxidant are placed in a test tube of the device. The entire mixture is brought to a mineral state at 180°C for 20 min.

After the mineralization process is complete, the mixture in the test tube is transferred to a separate conical volumetric flask and diluted to 50 ml with distilled water (BIOSAN, Latvia).

The solution in the flask is placed in special test tubes in the Autosampling Department and placed for analysis. The prepared sample was analyzed on an Avio200 ICP-OES inductively coupled plasma optical emission spectrometer (Perkin Elmer, USA). The device has a high level of accuracy, allowing the measurement of elements in the solution to an accuracy of 10^{-9}g .

III.7-§. "Psoralin the" food composition determine the amount of vitamin in the formation of

“Psoralin” food composition to determine the amount of vitamin in the formation of the following manufacturing of chemical agents, the solution is to use the tools and led.

Manufacturing of chemical agents: sample extract.

Solution: acetic acid of 0,5 % solution of li, CH₃COOH in water of 0.5% solution of li, atsetonitril.

Tools: lc 2030 yssx c plus 3d device, C18 250x4,6 mm, 5 µm Precisely (the may be able to elmer) spektrofotometri.

in the composition of the dry sample in case B₁ (47858), B₂ (47864), B₆ (80823-50MG), B₁₂(PH1234-1), C (47863), and PP (47865-IT) of vitamin in catalog number (Sigma Aldrich) From germany quotes standard samples on the basis of quality and quantity indicators in japan (Shimadzu) produced YSSX LC 2030 c plus 3d PDA device using detektor, 260, 290, and 361 nm wavelength is detected in the selected mode. Fixed C18 250x4,6 mm, 5 µm Precisely (may be able to elmer the us) led the columns to use.

As the implementation phase of the analysis of vitamins portable acetic acid 0,5% of solution phase and the phase of changing the mode on the basis of a li v atsetonitril was carried out.

III.1-table

Time	for a phase % acetic acid of 0,5 % solution of li	B phase % Atsetonitril
1	96	4
4	90	10
8	85	15
12	60	40
14	-	-

The flow rate 1 ml/min at 40 thermostat temperature is °c is the size of the sample injection was performed at 10 mk at the time of the analysis was done in 14 minutes follows, and is chromatogrammlar.

Vitamin c analysis based on the above parameters, the device of 0.8 ml/min at qo'zg'aluvchi phase as the ac/CH₃COOH in water of 0.5% solution li/N₂ and o's taken in a 60/30/10 ratio has been completed.

III.8-§. “Psoralin” the food composition in the formation of β-carotene to determine the amount of

“Psoralin the” food composition in the formation of β-carotene following to determine the amount of manufacturing of chemical agents, the solution is to use the tools and led.

Manufacturing of chemical agents: extract sample, C₆H₁₄.

Solution: K₂Cr₂O₇.

Tools: MB-300 I have the bios, Latvia, neither justified when DR 3900 (Germany) spektrofotometri.

The samples in laboratory conditions in the structure of β-carotene to determine the amount of a sample of the dried herb were selected. Samples taken for analysis (exact 2204 subject to the afl, the level of accuracy of 0.1 mg to 5 g, and up to a size of 1 mm in diameter were laid to ground the tube and 100 ml capacity. Each 25 ml Hexane as (C₆H₁₄ chemical clean, 2631-003 tu-) with the extraction was. Extraction for 90 min in a magnetic aralashitirgich (MB-300 I have the bios, Japan) was carried out. Filtrlangan the solution after completion of the extraction process. Take 1 ml and 25 ml filtrat measure was put into the tube from the tube and diluted with each of belgisigacha li.

DR 3900 neither justified when the amount of carotene (Germany) spektrofotometri detected (spectrum in the wavelength range of 320-800 nm).

In parallel to the process of determining the amount of karotinoid bixromat potassium (K₂Cr₂O₇)0.04% of li were taken to determine the optical density of the solution prepared in order to compare.

Purified water (I have the bios, Latvia) in parallel bixromat potassium (GOST 4220-75 clean xim) rs solution optical density (0,04%) was measured. Plant samples the amount of β-carotene, total carotene mg % on the formula is on.

$$X = \frac{D1 \times 0.00208 \times 25 \times 25 \times 100 \times 100}{D0 \times m \times 1 \times (100 - w)}$$

Here; D1-verified the optical density of the solution, D0 - sample of the standard solution standard solution of potassium dixromatning that the optical density, 0,00208 - dixromatning standard in the sample solution in a suitable solution of potassium β -carotene amount of mg, m - g sample of raw materials.

III.2-table

Raw materials name for	Each	sample and the nature of each	Maydalanish level (mm)	Extraction time (min)	in the structure of β – carotene amount (mg) of
plant sample	Geksan	1:5	1	90	9,03

III.9-§. Laboratory study of the biological activity of synthesized compounds

Andijan state medical institute " Medical " "chemistry" scientific research on the basis of urea derivatives in the laboratory of his worksbiostimulants new generation creation for the purpose of take there is a hookour research as a result one row We succeeded in synthesizing biologically active compounds. It was synthesized based on several experiments The compounds were also tested and put into practice as new biostimulants for seed germination. Kalinkevich method with synthesis done of associations biological activity was determined. Numbered P etry for cups cotton seed and filter paper was put. His on top of selected seeds one on the plain typing was placed. Then being checked of the drug pre-prepared 0.01, 0.001, 0.0001 % in concentration equal in volume solutions inserted seeds on top of poured. E is widely used as a ticket biologically active substances MIVAL solution and n azorate distilled water was used for After a day, the seeds were moistened with distilled water at the same time every day. Check sevencontinued until the day. 3 days from

the date of arrival passing, the number of germinated seeds, the germination energy, and the germination after 5 days determination for was counted [164; 67-p, 223; 5-8-p].

In the water frozen seeds to the memory heated in urea - based biostimulant of seeds forgetfulness level one how many interest high When treated with the most effective preparation, the germination rate was 11% higher than that of Mival, which was taken as a reference, and 26% higher than that of plain water. When compared with the germination rate of seeds treated with the same concentration of preparation, such as 0.0001% solution of preparation HYU-2, 15% more germination was observed.

III.3-the table

Biostimulators are warmed up seed memory comparison

N	drug name	in ts faen mine in trasiyasi	date of experiment, of unuvchanlik, %				
			3.03. 2019	4.03. 2019	5.03 . 2019	6.03. 2019	7.03. 2019
1	XYux-1	0.01	8	29	36	55	74
		0.00 1	9	30	39	58	82
		0.0001	8	27	35	53	77
2	XYux-2	0.01	10	30	56	74	88
		0.00 1	13	36	60	74	97
		0.000 1	11	33	57	75	92
3	Mival (etalon)	0.01	9	25	42	64	77

		0.001	10	26	45	68	86
		0.0001	8	24	40	63	80
4	Water (control)	-	5	17	46	52	70

Based on the laboratory experiments conducted, we can say that the biostimulating properties of the drug HYUH-2 are stronger than those of Mival, which was obtained as an e-talon, and therefore we believe that it can be widely used in practice.

PSUEAITI of Uzbekistan Andijan branch laboratory and cotton in the field passed experiments

The Andijan branch of the Uzbek State University of Biological Sciences (PSUEAITI) tested the biological activity of our synthesized preparations of XIOX-1 and XIOX-2 in laboratory conditions using the Kalinkevich method [164; p. 69]. The results of the test are presented in Table III.4. During the experiment, we took water as a control and Mival drug as a standard.

III.4-the table

The results of the study of biostimulatory properties of XYuX-1 and XYuX-2

N	name drug	Erit m mini ng ma - cent s - city- west c, %	energy sprouts, %				Accuracy,%					
			Experie nce the number of		the average	Deviati ons		of experien ce, number		Average	Deviati ons- shoots	
			1	2		from the control	from the	1	2		from the control	from the

1	Xyux-1	0.01	29	31	3	-1	-1	7	72	7	+1	-1
					7			0		6		
		0.00 1	33	28	4	+4	-1	7	75	8	+13	-
			2			1		8	8		11	
		0.000 1	37	38	3	0	-8	7	82	8	+8	-9
					9			8		0		
2	Xyux-2	0.01	38	42	4	+2	-3	8	90	8	+1	-2
					0			4		7	7	
		0.00 1	49	47	4	+1	+5	9	99	9	+2	+9
			8	0		7		8	8			
		0.000 1	38	40	3	+1	-3	9	90	9	+2	+2
					9			2		1	1	
3	Mival (etalon)	0.01	30	34	3	-2	-	7	77	7	+5	-
					6			3		5		
		0.00 1	43	43	4	+5	-	8	97	8	+1	-
			3			7		9	9			
		0.000 1	47	45	4	+8	-	9	96	8	+1	-
					6			8		7	7	
4	Water (control)	-	40	36	3	-	-5	7	68	7	-	-
					8			2		0		19

XYuX-1 and XYuX-2 biostimulants The results of the laboratory experiment to study the effect of the temperature on seed germination are presented in Table III.5.

III.5 table

On germination energy and germination of seeds under laboratory conditions

N	name drug	solution minimizing - rasiyasi, %	energy sprouts,%			Unuvchanlik,%		
			of the average value	deviations		of the average value	deviations	
				from the control	from the etalon		control	from the etalon
1	Xyux-1	0.01	82	+3	+1	88	+4	+1
		0.001	83	+4	+1	91	+7	+1
		0.0001	82	+3	+1	91	+7	+4
2	Xyux-2	0.01	85	+6	+3	92	+8	+4
		0.001	87	+8	+4	98	+14	+8
		0.0001	84	+5	+3	94	+10	+4
4	Mival (etalon)	0.01	82	+3	-	88	+4	-
		0.001	83	+4	-	90	+6	-
		0.0001	80	+1	-	87	+3	-

III.10-§. PSUEAITI uzbekistan Andijan branch of cotton in the field experiments conducted

In laboratory conditions show that the texture of biostimulyatorlik good Xyux-1 and Xyux-2 s 0,001%-aqueous solution of li 2019 PSUEAITI of the year from march until December Andijan branch of the cotton area in a field test was conducted. Experience cotton “S-2120” sort were selected. Water the seeds (control) (1-option) mival (2-option) Xyux-1 (3-option) Xyux-2 (4-option) with an aqueous solution of biostimulyatorlari soak a total of 5 hectares planted. 1 hectares at the same time to compare water (control) (1-a option) to soak the seeds planted. Track sprouting seeds on a regular basis. The purpose of the experience mival (2-option) Xyux-1 (3-option) Xyux-2 (4-option) in a solution of water biostimulyatorlari support o'simligida of cotton, seeds and sprouts out of the plant and the yield is to determine the effect on growth and development. PSUEAITI Andijan branch of cotton of experience in the field of m-4 and m 2 hectares in the area of 3 hectares in the field has been carried out on 0, [164; 69-p].

III. Table 6

The results of the andijan branch of the branch conducted in field conditions
in psueaiti experience

N	name drug	Kons., %	Area planted (ha)	energy sprouts, %			Unuvchanlik, %		
				of the averag e	Deviations		of the averag e	Deviations	
					wat er	Mival		wat er	Mival
1	water (control)	0	1	38	-	-5	70	-	-19
2	Mival	0.001	1	43	+5	-	89	+19	-
3	Xyux-1	0.001	2	42	+4	-1	88	+18	-1
4	Xyux-2	0.001	2	48	+10	+5	98	+28	+10

Track planted cotton ochilguncha of experience matured to start from day one. Agronomic measures, fertilizer application, irrigation, the timely processing was carried out against disease.

Andijan region of the farms in the area practice tests the cotton fields

In laboratory conditions show that the texture of biostimulyatorlik good Xyux-2 drug in the 0.001%-water solution of lisi the seeds treated with 2019 march of the year from the month of October till the month of, at andizhan region, Pakhtaabad district “light-Agro” cotton plantation areasida field test was conducted.

Experience cotton “Andijan-37” sort were selected. Cotton “Andijan-37” sort will choose to go to get experience. Xyux seeds-2 of the drug 0.001%-li with a solution of water and soak a total of 180 hectares planted. At the same time to soak the ground with water of 20 hectares planted the seeds compared to the control selected.

III. Table 7

Biostimulyator Xyux-2 “light-Agro” farm in the cotton field of the application of economic efficiency (2019-2021), yield ha-1 (ts/ha).

Used f/name x	years of	Area (ha)		Seedling s, the thickness of the bush (thousan d)	Total yield obtained, ts/ha		the yield obtai ned Addit ional, ts/ha	1 t the sum of the price of cotton (one thousa nd)	from 1 ha obtained the sum economi c efficienc y (million)
		to contr ol	the exp erie nce		, Con trol ha	exp erie nce			
“Light- Agro”	2019	5	-	80,0	37,0	-	3,0	452,0	1,356
		-	35		-	40, 0			
	2020	5	-	80,0	36,5	-	3.7	464,0	1,716
		-	55		-	40, 2			
	2021	10	-	80,0	37.8	-	4,0	710,0	2,840
		-	70		-	40, 8			
Total		20	160	average	37,1	40, 3	3,6	569,0	2,048

“Light-Agro” on the farm from 1 ha of cotton in the area of economic efficiency obtained in the year of the year 2021 in the year of 2019 and 2020 will get results higher than the yield.

III. Table 8

Biostimulyator Xyux-2 “bunyodbek grace” farm in the cotton field of the application of economic efficiency (2019-2021), yield ha-1 (ts/ha).

Used f/name x	years of	Area (ha)		Seedling s, the thickness of the bush (thousan d)	Total yield obtained, ts/ha		the yield obtai ned Addit ional, ts/ha	1 t the sum of the price of cotton (one thousa nd)	from 1 ha Obtaine d the sum economi c efficienc y (million)
		to contr ol	the exp erie nce		, Con trol ha	exp erie nce			
“Grace Bunyodbek”	2019	5	-	80,0	34,9	-	4,0	452,0	2,05
		-	20		-	34, 0			
	2020	5	-	80,0	36,5	-	3,5	464,0	1,792
		-	20		-	33, 5			
	2021	5	-	80,0	37,6	-	3,9	710,0	1,997
		-	45		-	32, 0			
Total		15	65	average	36,3	and 33. 2	recon struct ion- 3.8	569,0	1,947

“Grace Bunyodbek” farm from 1 ha of cotton in the area of economic efficiency obtained in the year of the year 2021 in the year of 2019 and 2020 will get results higher than the yield.

III. Table 9

Biostimulyator Xyux-2 “shokirova azimjon, prof. djurayev” farm in the cotton field of the application of economic efficiency (2019-2021), yield ha-1

(ts/ha).

Used f/name x	years of	Area (ha)		Seedling s, the thickness of the bush (thousan d)	Total yield obtained, ts/ha		the yield obtai ned Addit ional, ts/ha	1 t the sum of the price of cotton (one thousa nd)	from 1 ha Obtaine d the sum economi c efficienc y (million)
		to contr ol	the exp erie nce		, Con trol ha	exp erie nce			
“shokirov a azimjon, prof. djurayev”	2019	5	-	80,0	37,0	-	3,0	452,0	1,401
		-	35		-	40, 0			
	2020	5	-	80,0	36,5	-	3.7	464,0	1,265
		-	55		-	40, 2			
	2021	10	-	80,0	37.8	-	4,0	710,0	1,356
		-	70		-	40, 8			
Total		20	160	average	37,1	40, 3	3,6	569,0	1,341

“Shokirova azimjon, prof. djurayev” farm from 1 ha of cotton in the area of economic efficiency obtained in the year of the year 2021 in the year of 2019 and 2020 will get results higher than the yield. (1 ton of cotton from state farm 452,0 thousand of the purchase price by the year 2019, the year 2020 464,0 thousand dollars, thousand

dollars 710,0 set in the year 2021).

I can say that the conclusion we developed xyux part-2 biostimulyatori 360 hectares in the region with additional 108 for 3 years to be applied to the account on cotton t-144 t you can get additional cotton crop, on account of money into it the year 2021:

$710,0 \times 108 \times g = 76,68$ mln of the sum or $14 \text{ g} \times 710,0 = 102,24$ million soums cost effective is achieved.

III-conclusions chapter

In this chapter, N,N¹-bis Hexamethylene-[(aminoamongst fail to keep) urea] the world of objects and methods to methodological solutions.

Also N,N¹-bis Hexamethylene-[(aminoamongst fail to keep) urea] s the chemical properties of the obtained compounds and some physical-chemical properties determined.

Hexamethylene diisocyanate amines and secondary aromatic substances to be obtained on the basis of the yield of the reaction, the content and the structure of the quantum-chemical study “Gaussian 98” from using the software package was carried out. O'rganilayotgan combination of the structure and the molecular structure of 3-some 21 GETaoptimallashtirildi explains in this program bootkit/B3LYP hybrid method, their IR of the spectrum and the hart energy is found.

Also, the part allocated from meristema fir tree “psoralin” food of the diagnosis and the treatment and prevention of the formation properties will determine the fact that you have psoriasis.

“Psoralin” flavinoidlar spektrofotometriya determine the amount of food in the formation of the composition, HPLC (shimadzu lc c 2030 japan 3d plus) is the result of the experience on the device. On the basis of standard samples of 2.5 minutes South chromatogrammning acid, 3,6 quersitin lar minutes may be known in the presence of ruth and 16 minutes.

“Psoralin the” food composition of heavy metals in the formation of ADOBE KEY IS CONTINUOUSLY 200 (ISP – OE) FROM (may be able to Elmer, Usa) was spektrometrda optical emission analysis.

“Psoralin” food in the formation of the composition to determine the amount of vitamin c in 2030 YSSX LC plus 3d device, C18 250x4,6 mm, 5 μm Precisely (the elmer may be able to) use spektrofotometrlaridan led.

“Psoralin the” food composition in the formation of β-carotene to determine the amount of mb-300 I have the bios, Latvia, neither justified when DR 3900 (Germany) spektrofotometrlaridan to use led.

Yangi study the biological activity of the combination, x -Yux-2 of the drug biostimulyatorlik feature to conduct the laboratory test, in the area of cotton farms was conducted in the field practice's experience with the results of quotes.

CHAPTER IV. “PSORALIN” THE CURATIVE PROPERTIES OF FOOD DETERMINE THE FORMATION OF

IV.1-§. The formation of biologically active natural food “psoralin” use in the treatment of that disease from psoriasis

“Psoralin” food in order to study the formation of the features of clinical diagnosis and treatment of psoriasis was conducted inspections. Prepared on the basis of medicinal plants “psoralin” food andijan andijan state medical institute and clinic of the city of the formation of the department of skin diseases, we conducted a clinical trial in dermatovenerologiya. The purpose of the results of clinical research “Psoralin” food for introduction to the practice of the formation of skin diseases psoriasis affect is to determine the disease from its dangerous [225; 157-164-p].

Below is the year 2021 in the andijan region of skin-diseases, psoriasis clinic quality videoconference infected body therapies and clinical examination of patients and their results executed at some provides information about:

1. Tolibjon To'lqinova Marjonaxon daughter. Address: district of Karakalpakstan Andijan region Altinkul trip MFY-27, passport series and number: AS 2674591. S1. Patient come date: 26.08.2021 year. Gone date: 6.09. The year 2021. Status loc: the apartment is located in the pathological process of the skin, if your head sochli part two in the body and in the skin of the hands and feet, the skin is slightly red and pink tugunchalar in the levels of standing up, and one with they added pilakchalarni form, their surface is covered with white kumushsimon to afford to tangacha stand is removed.

Subjective: itching.

Ds: vulgar psoriasis. Progressive stages.

Be patient when it comes to the complaints of the skin, head, feet, hands, shoulder parts rash, misty qichishi am. The general condition is satisfactory. Come and check was to be general.

General blood analysis: NV-78, eritm-3,0, rn-0,78, Ley-5,8, rm-4.

Urine analysis: kz –n/m, protein-won out, and gl-abs, grass-otrad. lipid ep -2-3, Leu-5-6.

25.08.2021 blood to the analysis of HIV. No. 3577.

Body treatments:

Ketotifen Tab. 1 behold, calcium gluconate 5 ml v/v, 1 x 3mahal tab Laktofiltrum, tselestoderm + 5% boric ointment for rides of 2 sticks.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 6.09. The house has been given permission in the year 2021.

2. Mansurjon Pulat Umarov. Address: uzbekistan, at andizhan region, at andizhan district Cho'ngbog'ish MFY -21 Chorbog, passport series and number: 2674591 AS S1. Patient come date: 24.08.2021 year. Loc: the skin is scattered in the pathological process all the body part is located.

Subjective: psoriatic uchlamchi the positive area.

ds: vulgar psoriasis. Progressive stages.

Be patient when it comes to the complaints of the skin, head, feet, hands, shoulder parts rash, misty qichishi am. The general condition is satisfactory. The following section surveys conducted to the patient.

General blood analysis: NV-by 10.2, eritm-3,0, rn-0.8, Ley-6,4, rm-4.

Urine analysis: the color yellow, kz –m/m, protein-won out, and gl-abs, grass-otrad.,

litter analysis: environment-brown. 14308 analysis of HIV.negative. Rv – negative.

Body treatments:

Ketotifen Tab. 1 behold, calcium gluconate 5 ml v/v, hexametazone 1,0 v/m, ox cream at+ meta maz 2 sticks of grease.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 6.09. The house has been given permission

in the year 2021.

3. Ibroximjon Isroilovich Yuldashev. Address: uzbekistan, at andizhan region, district five at andizhan-MFY Bo'lynoq Bodomzor 247, passport series and number: AS 0778426. S1. Patient come date: 13.09.2021 year. Status loc: a pathological process in the skin of the skin is located in the head and foot part your hair standing up on the skin in the area is slightly red and pink tugunchalar with each other pilakchalarni join form and to stand covered with white kumushsimon tangacha to afford their surface is removed.

Subjective: kichishish.

DS: vulgar psoriasis. Do type. Progressive stage.

13.09.2021 year. The head of the patient to the hospital when it comes to psoriatic skin rash, foot, hand, on the shoulder part is there is no rash. The general condition is satisfactory. The following section surveys conducted to the patient.

General blood analysis: NV-10,8, eritm-4,0, rn-0,83, Ley-5,4, rm-4.

Urine analysis: the color yellow, clarity – change of the protein-won out, epiteliy – 1-2/1, leykositlar - 1-2/1, microcirculation – abs, salt – at the rate of the little. Hiv – negative. RW – negative.

Body treatments:

Diazolin of 0.5 - 1 tab. 2 sticks

Sodium Tiosulfat 30% - 10 ml, v/i.

Dexamethasone 1,0 m/I days 1 to sticks.

Ox cream at+2 hydrocortisone ointment sticks for rides.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Improve the general condition of the patient and dynamics of treatment therapies are stopped 6.09.2021 home and are allowed in.

4. Kodirjon Otajonov Khoshimovich address: Andijan region
MFY Pillakashlik pakhtaabad district 73 Independence, passport series and number: AV 7991598

Patient come date: 16.08..the year 2021. Gone date: 06.09. The year 2021.
Status loc: the apartment is located in the pathological process of the skin, the pink color blyashkalar, misty appeared from the skin between your fingers.

Subjective: itching. Ds: vulgar psoriasis. Progressive stages.

General blood analysis: NV-9,2, eritm-4,0, rn-0,9, Leu-66, rm-4. Urine analysis: the color yellow, clarity – change of the protein-won out, epiteliy – 1-2/1, leykositlar - 1-2/1, microcirculation – abs, salt – at the rate of the little. 07.09.2021 blood to the analysis of HIV. No. 3577.

Body treatments:

Ketotifen Tab. 1 behold, Bifalayf 1 t -2 sticks, vitamin v₁₂ v/m, a borni maz fekron to hiv 18.08.2021 blood analysis. 27890 n negative. R_v 18.08.2021 the analysis of blood. №28 negative.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 20.09. The house has been given permission in the year 2021.

5. Ergashboy about Xoldorovich address: district of andijan region altinkul oftoboger mfy burn passport series and number: AS 0330210. Patient come date: 07.09.2021 year. Gone date: 20.09. The year 2021.

Status loc: the apartment is located in the pathological process of the skin, the entire body is distended kiz if the beginning part sochli overflow (silver white), standing up slightly on the skin tugunchalar red and pink, and one with they added pilakchalarni form, to afford it because of their surface being covered with white kumushsimon tangacha is removed.

Subjective: kichishish. Ds: psoriasis vulgar, common era, in the progressive stage

General blood analysis: NV-10,4, eritm-4,0, rn-1,0 Lake-6,4, rm-4. Urine analysis: the color yellow, clarity – uzgarib, the protein-won out, eptiliy – 1-2/1, leykositlar -

1-2/1, microcirculation – abs, salt – at the rate of the little. Blood to the analysis of HIV – negative. The analysis of blood on RW - negative.

Body treatments:

Ketotifen at tab 1. 1 behold, natrium tiosulfat 30% 10.0 v/I 1 the sticks, lesval 5,0 v/I, which is 1, tab 1 at Laktofiltrum. 2 sticks cream at ox+2 maxal rides tselestoderm of ointment, vitamin “A” at tab 1. 3 maxal.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 20.09. The house has been given permission in the year 2021.

6. Shoxsanam Nazirova Ilyosjon daughter. Mmanzil: at andizhan region, Asaka district, white-mesh MFY Andavon 61, passport series and number 0154200.

Patient come date: 20.09.2021 year. Gone date: 28.09. The year 2021.

Status loc: located in the bulk of skin trauma in the whole body, there are three positive tuguncha tangacha pilakchalar tab relieve symptoms of psoriasis. Subjective: slightly kichishiish. DS: vulgar psoriasis. The period of excitement. General blood analysis: NV-7.0, eritm-3.4, rn-0,75, Ley-5,8. Urine analysis: pathological unchanged. 22.09.2021 blood to the analysis of HIV. No. 3932 negative. IF 22.09.2021 blood analysis. №27 negative.

Body treatments:

Ketotifen Tab. 1 behold, calcium gluconate 10 ml, v/i, hexametazone 1,0 v/I, st. vitus s 2% 1X 3mahal, 1tab acid folievaya x 3 sticks, 3 charcoal sticks, 1 x aktivlangan, maz bornaya+dermavayt 2mahal for rides.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 28.09. The house has been given permission

in the year 2021.

7. Abdunabi O'rmonov Xurlaevich -living at andizhan region, kurgantepa district mfy ibn sina 20, series and number of passport AV 40154288.

Patient come date: 18.05.2021 year. Gone date: 02.06. The year 2021.

Status loc: the apartment is located in the pathological process of the skin, the entire body is distended kiz if the beginning part sochli overflow (silver white), standing up slightly on the skin tugunchalar red and pink, and one with they added pilakchalarni form, to afford it because of their surface being covered with white kumushsimon tangacha is removed. The three positive relieve symptoms of psoriasis. Subjective: itching. Ds: vulgar psoriasis. The period of excitement. In progressive boskich. General blood analysis: NV-9,8, eritm-3,0, rn-0,85, Ley-by-6.8. General urine analysis: the color yellow, protein-won out, glyukozxa -abs, grass-otrad. lipid ep -3-4, Leu-2-3. 19.05.2021 to hiv. 15673 R n_v 19.05.2021 the analysis of blood. Negative n 40.

Body treatments:

1 Loratal Tab. 2 sticks, natrium tiosulfat 30% 10.0 v/I 1 the sticks, lesval 5,0 v/I, which is 1. Vitamins c,R groups. Diprosalik 2 sticks of ointment for local rides.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional "psoralin of food" with the formation on the basis of an orderly procedures making in Di. Dynamics and improve the overall condition of the patient in treatment was stopped and 2.06. The house has been given permission in the year 2021.

8. Miss politeness Minuraxon Qurvonboy daughter, at andizhan region, asaka district 18 Baynalminimal MFY T. Malik, passport series and number 0527303. Patient come date: 26.05.2021 year. Gone date: 11.06. The year 2021.

Located in the pathological process of the skin in bulk, pink, red-colored populalar, is covered with white kumushsimon tangacha. The three positive relieve symptoms of psoriasis. Laboratory analysis: blood: NV, eritm, rn, ley-obtained. The analysis of urine – norm, unchanged.

Body treatments:

Suprastin 1 Tab. 2 sticks of calcium gluconate 10% - 10 ml -1 which is vitamin V₁ - 1 of 1 ml vitamin c which is 5% of 5 ml, which is 1, 1 tab at a vitamin. 3 behold, Laktofiltrum at tab 1. 2 sticks, maz dermavat + maz bornaya + hydrocortisone mixed maz. NaCl 0,9 % - 100 ml+hexametazone 1,0 v/I, which is 1.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 11.06. The house has been given permission in the year 2021.

9. Zafarjon G'iyosov Abdulhay son. Yangizamon Shaxrixon at andizhan region district MFY Azamat 179, series and number of passport AV 5608528. Patient come date: 28.05.2021 year. Gone date: 09.06. The year 2021.

The bulk of the pathological process in the skin are located here, if papular pink hungry “blyashkalar” are seen in the tangacha. Subjective: no complaints.

General blood analysis: NV-9,0, eritm-at 3.4, rn-of 0.7, please ley-7,0. Rm - 4,0. The analysis of urine – norm, unchanged.

Body treatments:

Loratal at tab 1. 2 sticks, vitamin c 5% - 3 ml 1 maxal, calcium gluconate 10% - 10 ml, v/I 1 maxal, maz dermavat + maz bornaya + for 2 sticks mixed and rides prednizolon maz.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures making in Di. Dynamics of treatment therapies are stopped and improve the overall condition of the patient and 9.06. The house has been given permission in the year 2021.

10. Sherqulova Nigorakhon Azamtjonovna. Address: mfy pakhtaabad district andijan region navoi a. abad 19, passport series and number: AA 4173285. Patient

come date: 20.05.2021 year. Gone date: 02.06. The year 2021. Status loc: a pathological process in the bulk of the skin of the whole body is located in your head sochli part two in the body and on the skin of the hands and feet papulalardir light pink, white kumushsimon their surface is covered with tangacha.

General blood analysis: NV-owns a 8.0, eritm-at 3.4, rn-0.8, Ley-7,4. Rm - 4,0. The analysis of urine - norm.

Body treatments:

Ketotifen Tab. 1 behold, vitamin c 2%, which is 4 ml 1, vitamin b -12 – 500 m gamma/1 maxal, calcium gluconate 10% 10 ml, v/i, maz dermavat + maz bornaya + 2 maxal mixed maz metasiklin for rides.

The patient andijan region of skin-diseases in the clinic of a videoconference quality of the treatment process in medicinal plants prepared on the basis of additional “psoralin of food” with the formation on the basis of an orderly procedures makinginDi. Dynamics and improve the overall condition of the patient in treatment was stopped and 2.06. The house has been given permission in the year 2021.

The remaining patients of 10 doctors synthetic drugs vositalari have been using the treatment. Information about the status of some of them are listed below:

1. Muxiddin Mo'minov Karimovich. Address: gulshan district of andijan region 6 mfy haqulobod the old fisherman, passport series and number: AA 1741006. Patient come date: 17.05.2021 year. Gone date: 01.06. The year 2021.

S1.Status loc: boshda the wound in the skin of the whole body, the bulk of which are located in here if tuguncha tangacha seen. The three of psoriasis simptomi positive.

Subjective: a little bit of itching. General blood analysis: NV-11,0, eritm-reconstruction-3.8, rn-0,75, Ley-by-6.8. Rm - 3,0. Pathological analysis of urine unchanged. 19.05.2021 blood analyses to hiv. 15672 n negative. R_v 19.05.2021 to blood analysis. №39 negative.

D. s.: Vulgar psoriasis. Common type. The progressive period.

Body treatments:

Ketotifen at tab 1. 2 sticks 3 sticks folievaya tablet 1 tablet of acid, vitamin c 2% 100 ml x 2 1 tbsp sticks, 3 diklomid ml-1 have reached, metatreksat+glucose 5%, 100 ml, which is 1 v/v, 1 quarter 2 sticks presosil, maz benom I + maz sizaran + 2 metilurasil maz driven to the sticks.

Compared to the condition of the patient improved and was recommended to continue the therapies 1.06. The house has been given permission in the year 2021.

2. G'ulomova Nigoraxon Boxodirovich. Address: 33 karasu Karasu city of Andijan region Uchtegirmon MFY, passport series and number: AV 1443101. Patient come date: 17.05.2021 year. Gone date: 02.06. The year 2021. S1. Status loc: the pathological process in the skin are located throughout the whole body, and here's to me like eli tugunchalar red, white kumushsimon their surface is covered with tangacha.

Subjective: itching and achishish

General blood analysis: NV-8,4, eritm-3,0, rn-0,85, Ley-6,4. Rm - 3,0. In the norms of analysis of urine, unchanged.

Body treatments:

Folievaya tablet 1 tablet 3 sticks of acid, vitamin c 2% 100 ml x 3 sticks 1 tbsp, NaCl 0,9% + suprastin + sodium tiosulfat + dexamethasone v/v 1 behold, ox cream at+ furatsen 2% 2 sticks of 10 ml, lesfol 5,0 v/v, 1 ml when 1, 2 sticks maz diprosalik for rides.

The condition of the patient improves and 2.06. The house has been given permission in the year 2021.

3. Solijon Abdullaev. Address: uzbekistan, at andizhan region, Asaka district development mfy to rise to 160, passport series and number: AS 0882564. Patient come date: 31.05.2021 year. Gone date: 08.06. The year 2021. S1. Status loc: throughout the whole body are located in the pathological process of the skin, psoriasis simptomi light pink in color and covered with torn tangacha tugunchalar here are three of the positive.

Subjective: minor itching. 7.06.2021 to hiv. The analysis of blood on RW 2.06.2021. 30 negative.

General blood analysis: NV-9,7, eritm-3.1 manuals, rn-0,9, Ley-7,0. Rm - 4,0. Unchanged in the urine.

Body treatments:

Ketotifen at tab 1. 2 sticks 3 sticks folievaya tablet 1 tablet of acid, vitamin c 5% - 3 x 100 ml 1 teaspoon sticks, lesfol 5,0 v/i, which is 1 when 1 ml, maz metisit + maz bornaya + 2 dermovayt driven to the sticks.

The condition of the patient improves and 8.06. The house has been given permission in the year 2021.

4. Shokirjon Raxmonova Xurshidaxon daughter. Address: industrial district, Andijan region, Pakhtaabad MFY 15 Xushmon, passport series and number: AA 5769374. Patient come date: 27.05.2021 year. Gone date: 08.06. The year 2021. S1. Status loc: a pathological process in the body in the skin of the hands, are located in the skin of the feet here, if a tumor spots, are seen in the tangacha tugunchalar and pink colored. Psoriatic three positives.

Subjective: Itching. Hiv negative KS.

General blood analysis: NV-7,6, eritm-at 3.4, rn-0,9, Ley-7,0. Rm - 6,0. Unchanged in the urine.

Body treatments:

Ketotifen at tab 1. 2 sticks of calcium gluconate 10% - 5 ml v/I, which is 1, maz bornaya + benom I + metasid, vitamin b₁₂ 1,0 m/o, ts Following 1,0 m/o, 1 m bifolayf 1,0, dermavayt, glucose 40% v/v.

8.06 and the condition of the patient improved slightly. The house has been given permission in the year 2021.

5.Khojiakbar Mirzamansurov Adaxamjon son. Address: MFY district Andijan region Altinkul 30 XonarIR Culture, passport series and number: AN 0358329. Patient come date: 28.05.2021 year. Gone date: 09.06. The year 2021. S1. Status loc: the wound in the skin on the face, neck and entire body be located in different. Tugunchalar is covered with torn tangacha.

Subjective: minor itching.

General blood analysis: NV-7,6, eritm-reconstruction-3.8, rn-0,75, Ley-6,6. Rm - 3,0. Unchanged in the urine.

Body treatments:

Ketotifen at tab 1. 2 sticks 3 sticks folievaya tablet 1 tablet of acid, vitamin c 5% - 2 x 100 ml 1 teaspoon sticks, natrium tiosulfat 10%, 2 sticks 1 teaspoon of 100 ml, 1 x por pritanil than 2, which is a maz borni +maz who benom+ metasid mix 2 sticks driven.

The patient routines at home to continue the re-ko'ruv after 10 days.

6. Xurshidbek spiritually daughter Dilnavoz, address: MFY turtkul ulugnor district Andijan region 11 in the times, the series and number of passport: an 0405251. Patient come date: 18.05.2021 year. Gone date: 28.06. The year 2021. S1. Status loc: the apartment is located in the pathological process of the skin, if your head sochli part manually in the body in the abdomen, legs in pink color populalar have tangacha join with each other will form.

Subjective: itching.

General blood analysis: NV-owns a 8.0, eritm-at 3.4, rn-0.7 of Ley-6,4. Rm - 6,0. Unchanged in the urine.

Body treatments:

Ketotifen at tab 1. 2 sticks of vitamin a, 1,0 m/o, 1 tablet 3 tablet aitrol sticks, gluconate calcium 10% - 5 ml v/I 1 maxal, vitamin c 5% - 2 x 100 ml 1 teaspoon sticks, a maz borni + gelmetazon maz+ 2 sticks driven to the mix.

The patient will continue at home routines and re-ko'ruv after 10 days.

7. Zokirov Oribjon Raximberdievich. Address: MFY izboskan district of andijan region Five Umarposhsho 87, series and number of passport: av 3129305. Patient come date: 15.06.2021 year. Gone date: 29.06. The year 2021. S1. Status loc: the apartment is located in the pathological process of the skin, if your head sochli part of the body is removed to afford tangacha eritrodermik tangacha light pink in color.

Subjective: itching.

General blood analysis: NV-10.0, eritm-3,0, rn-0,75, Ley-7,4. Rm - 3,0.
Analysis of urine-yellow color.

Body treatments:

Ketotifen at tab 1. 2 sticks of vitamin a, 1,0 m/o 2 sticks, natrium tiosulfat 10% 100 ml 2 sticks of 1 tsp, 1 tablet 3 tablet apkosul sticks, NaCl 0,9% 200, suprastin 1,0, 1,0 dexamethasone, metisit + maz borni a + 2 sticks driven to the mix.

The patient to continue at home routines, re-ko'ruv after 10 days.

8. Nasirdinova Dildoraxon Abduxalil daughter. Address: andijan district of Andijan region Shaxrixon MFY Merganbosh 2, series and number of passport: av 0261351. Patient come date: 15.06.2021 year. Gone date: 29.06. The year 2021. S1. Status loc: the apartment is located in the pathological process of the skin, if your head sochli part ko'kraklari two manual, abdomen, limbs papular blyashkalar merged with the one, white with light pink in color of the kumushsimon tangacha to afford tangacha is removed. The three positive psoriatic simptomi.

Subjective: itching.

General blood analysis: NV-7,6, eritm-at 3.4, rn-0,9, Ley-7,4. Rm - 5,0.
Analysis of urine-yellow color.

Body treatments:

Ketotifen at tab 1. 2 sticks of vitamin a, 1,0 m/o 2 sticks, vitamin b₁₂, vitamin c, natrium tiosulfat 10% 100 ml 2 sticks of 1 tsp, 1 tablet 3 tablet apkosul sticks, NaCl 0,9% 200, suprastin 1,0, 1,0 dexamethasone, metisit + maz borni a+ 2 sticks driven to the mix.

After taking the patient home routines were allowed.

9. Karataeva Mamuraxon Botirbekovna. Address: MFY izboskan district of andijan region the way my mom steppe, passport series and number: AV 6769182. Patient come date: 01.06.2021 year. Gone date: 11.06. The year 2021. S1. Status loc: a pathological process of the skin are located throughout the entire body scattered in here if tugunchalar, tangacha the tugunchalar pilakchalarni added and builds. The three positive psoriatic simptomi.

Subjective: itching to.

General blood analysis: NV-8,2, eritm-3,0, rn-0,9, Ley-6,6. Rm - 5,0. Urine analysis-pathological o'zgarishlarsiz.

Body treatments:

Ketotifen at tab 1. 2 sticks, natrium tiosulfat 10% 100 ml 2 sticks 1 teaspoon of vitamin b₁₂, which is 1, 1 ml Tsinkoleron 1mahal v/m vitamin c, benom 2 sticks driven to the maz.

Recommendations from the physician with patients who had received home after therapies were allowed.

10. Abdurasul abdurashidov and son at the same time. Address: uzbekistan, at andizhan region, district 29 Jevosh MFY anjirzor at andizhan, passport series and number: AS 2267233. Patient come date: 01.06.2021 year. Gone date: 11.06. The year 2021. S1. Status loc: scattered throughout the entire body of the skin is located in the pathological process in the skin the proverbial rose light pink in color and covered with kumushsimon tangacha tugunchalar on psoriatic three simptomi positive.

Subjective: slightly itching to.

General blood analysis: NV-10.0, eritm-3,0, rn-0,75, Ley-of 7.2. Rm - 6,0. Urine analysis-pathological unchanged.

Body treatments:

Ketotifen at tab 1. 2 sticks, vitamin c 2%, aorana, presosil, vitamin a bornaya maz + 2 derpeovayt maz driven to the sticks.

Recommendations from the physician with patients who had received home after therapies were allowed.

Words for conclusion in patients with psoriasis during a certain period “psoralin” food means in comparison to the treatment of the formation of the medicinal synthetic observed that the symptoms of the disease had significantly decreased [226; 127-136-p].

Chapter IV conclusion

In this chapter, “Psoralin” food for the skin disease psoriasis introduction to the practice of the formation of dangerous diseases affecting the quotes to determine. Disease in patients with psoriasis “Psoralin” means treatment with the medicinal synthetic food than to the formation of more short - term symptoms of the disease showed significantly decreased.

Qo'llanilgan the majority of synthetic drugs, the negative effects of different systems and organs of the human bodyi, psoriasis diagnosis and methods of Traditional medicine “Psoralin” is that they are cheaper than synthetic drugs for the treatment of the formation of economically using food provides the information about.

CHAPTER V. N,N¹-BIS HEXAMETHYLENE- [(DIBENZILAMINO) UREA] (XYUX-2) TO GET THE TECHNOLOGY IN THE INDUSTRY AND IN LABORATORY CONDITIONS

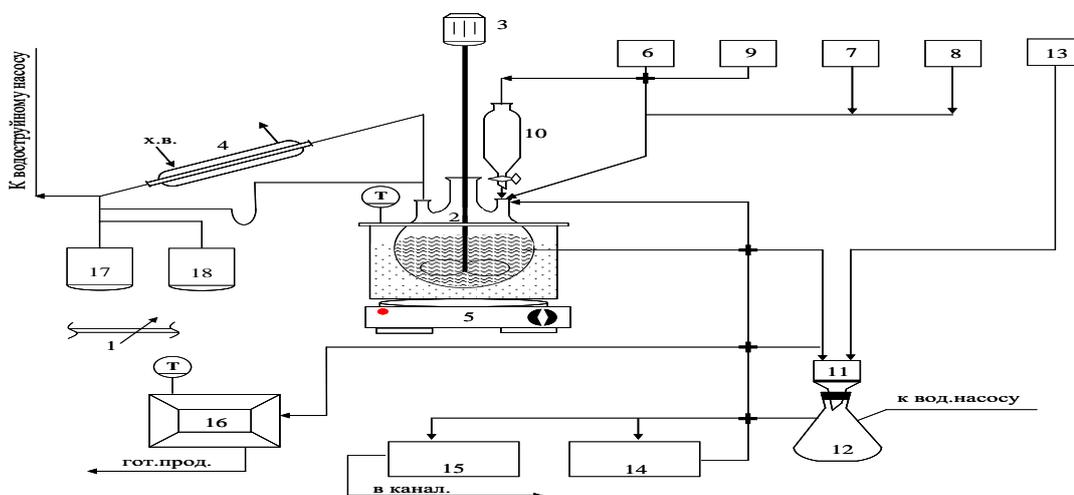
V.1-§. In laboratory conditions, n, n^1 -bis hexamethylene- [(dibenzilamino) urea] (Xyux-2) the development of technology to get

The research results show that N, N^1 -bis hexamethylene- [(dibenzylamino) urea] (Xyux-2) high-in yield separation, and accelerated the growth of plants as reference since biostimulyator can be applied to laboratory conditions has been developed in the context of and due to technology in the industry, and is conducted as follows:

R-2 of catalyst solution to loading and d. v. trietilamin download dibenzylaminening dmfadagi 72 g-10 g gm mix with a strong sinks down from 34 was added. The reaction is 25 - 28⁰C at a temperature of 4 hours. Then the stirring is stopped, the mixture is cooled and the sink.

The reaction products ivoryьrlash to wash and is held.

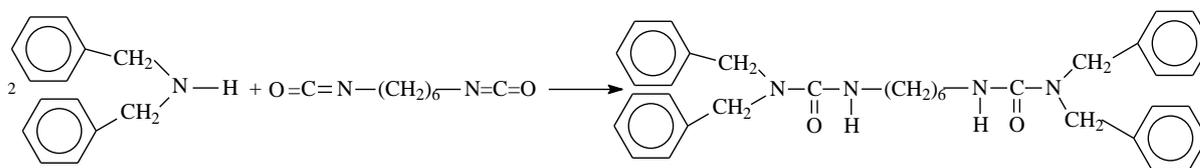
The reaction products (mixture components) nut after-filter is filtered. Byuxner sinks VB-13 and student filtrat accept - tube Bunzen kb-14 from nut-filter are collected. Namlab water and sinks to the filter paper is placed.



4.1-picture. N, N^1 -bis Hexamethylene-[(dibenzilamino)urea] in laboratory conditions description of the technological process of production.

1-scales; 2-loading; 3-elektrodivigatel; 4-xolodilnik; 5-elektroplita; 6,7,8,9 - gm is dibenzylamine, dimetilformamid, containers for trietilamines; 10-divide sinks; 11-Byuxner sinks; 12-Bunzen of the tube; 14,15,17,18-are yig'gich; 13-distilled water; 16-dryer.

Geksan-1.6-diizosianatning dibenzilamin in interaction with N,N¹- - hexamethylene bis-[(dibenzilamino) urea] following the reaction equation is obtained:



Bunzen of the tube to form a vacuum pump is connected to the water flow. Then r-2 catalyst loading from the top layer mainly consisting of dmfa and trietilamin (IIRuid) from the filter will be held. Filtrat SB-collection 15 December meeting. The precipitate is washed 3-4 times with distilled water in the filter. Distilled water and filtering the reaction components to speed up the dissolution process 30-35 °c can be heated. For drying the washed precipitate is held.

The drying of the wet precipitate obtained AN-17 oven-100 – 110 °c temperature for 2 or 3 hours humidity of the drug to 2 % to less than until it is performed.

SB-15 collection taken filtrat r-2 loading download. Loading in a water bath ep-12 electric stove with 90 – 100 °c is heated to a temperature. Distilled trietilamin at this temperature, the temperature boil 89,5 °C. after loading of the pump water flow through the vacuum distilled from Trietilamin is formed. S 35 mm.it. with residual pressure and dimetilformamid (DMFA) 76 °is expelled at a temperature of C. The drain of the wash water is excreted in [227; 31-34 a-p].

In laboratory conditions, n, n¹-bis hexamethylene [(dibenzilamino) urea] (Xyux-2) has developed the technology to get in the industry from taking advantage of technology to obtain.

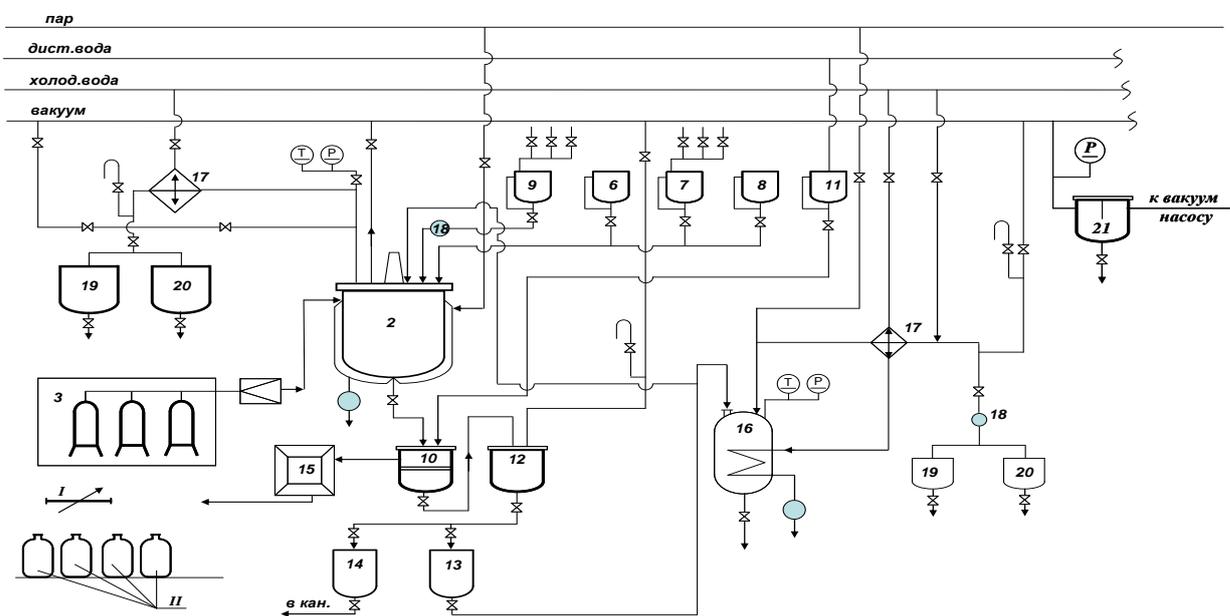
V.2-§. In the industry, N,N¹-bis hexamethylene-[(aminoaroil) urea]development of technology to get

The device will line up in the case of one technological experience. The proposed Xyux-1 and Xyux-2 shift commercial plant growth stimulants (biostimulyatorlar) gm territories dibenzylamine get method (or diphenylamine) as a result of each of dmfa and mutual reaction with N,N¹-hexamethylene-bis-[(aminoaroil)-urea]to select based on [137; 78-80-p, 228; 19-22-p].

Solution Dibenzylamine R-2 is prepared in loading. To do this 3,6719 kg (3,5788 l) and dibenzylamine 10,2516 kg (10,5982 l) dimetilformamid (DMFA) m-7 m from the measuring container-the container measuring 6to be down to discharge, 7 m from the measuring container-the container measuring 6to be down to discharge, all of these Dibenzylamine dimetilformamidda eriguncha full 20 - 25 minutes until it is mixed.

Before starting work, the device's if you need all the equipment washed with water and nitrogen gas, and cleared [199; 69-83-p]. Nitrogen, ar-3 nitrogen from the container paslatuvchi rednarrow through e- check-in passengers is given.

Technological scheme of the process



5.2-picture. N,N¹-bis hexamethylene-[(aminoaroil) urea]to produce technological scheme printsipial

1-scales; 2-loading; 3-azotnaya frame; 4.5-containers; 6,7,8,9 - geksan-1.6-diizosianat, dibenzilamin, dimetilformamid, trietilaminlar to measure the container;

10-nut after-filter; 11-distilled water; 12,13,14,19,20-are yig'gich; 15-dryer, 16-kubi driving; 17-kondensator; 18-view mirror; 21-collector.

Components of a vacuum pump using a dressing made through vacuum E 4,5 from the container into the measuring container will be downloaded. Solution preparation and hyungXto -2 to get r-2 loading are carried out on it kondensator, heating this forG' floor and is equipped with aralashitirgich for mixing. Dibenzylaminening DMF, A solution is prepared while there is r-2 reaktorga 3,35551 kg (4,6412 l) triecatalyst that may wish m-8 from the container measuring the discharge is going to be reduced and the m-9 retention with intensive mixing tank through a window see 1,5843 kg (1,5139 l) hexamethylenediizotsiana is added. The reaction is 25 – 35 °c for this loading at a temperature ofG' floorsteam to send out with areiladi. Future retsiya duration of 4 hours. Aralashitirgich then loading will be stopped, then re futuretsiya products are cooled and pennyis iri. Then the elephantъtrlash to wash and is held. Future retsproducts iya NF-10 nut after-filter is filtered. Nut after-filter NF-10 and yig'gich from 12. Elephantъwill be covered with water and the paper tr namlab. Then future retsivory iya products from loadingъtr by, is held. Collector container 12 is collected in the tra. Elephantъtry sediment m-11 from the measuring container that falls washed with distilled water. Elephantъtrlatothe process of city of distilled water speed up to 30 – 35 °c. it can be heated. The washed precipitate is dried. XY.X-2 AN drying of the precipitate-15 shkafida drying 100 – 110 °c temperature for 2 or 3 hours is carried out. SB-13 yig'gich collected in the container and consisting of a mixture of dimetilformamid trietilamin filtrat r-2 shall be reaktorga, and then through the vacuum equipped with heating the battery PK-16 driving kubi is taken to boiling temperatureis heated igacha [137; 79-80-p]. 17 by Bug'kondensator are removed.

See represented faction Distillyat window through SB-19 sb-20 into the collecting container falls. First frytsiya - triecatalyst that may wish 89,5 °C. at a temperature of driveadi. Triemay wish after mixedma cooled. Kubi is formed in vacuum distillation. 76 dimetilformamid with residual pressure of 35 mm °C at a temperature of driveadi. The process from the balance at the end of cubic shedadi,

that should be separated after new mixedma him again put. Triethat may wish residualwashing products used for water SB-14 yig'gich container is collected and the drain is removed. The same operation on R-can be done in 2 loading [229; 201-p].

V.3-§. Xyux-5 as the active drug of the paint

This anilin dye substance to structure a painted xromofor gruppa related to your industry, in particular N,N¹-bis hexamethylene- [(5-bromizatinil) urea] synthetic polymers (polyethylene, polypropylene, polystyrene, poliamid, poliuretan, and poliakrilat and polimetakrilat) is able to texture painting [137; 88-p, 230; 429-431-p].

XYUX-5 (N,N¹ -bis hexamethylene- [(5-bromizatinil) urea]) of organic matter “in vivo the color” painted in varnish paint colored enterprises ltd manufactured in the product has been used as an ingredient.

The ingredients, which are usually painted or come work are expensive given the fact that we have this new synthesis have been painted which organic substances - is not toxic, since local, and differs with the fact that it is cheap. Can be recommended for use in practice [231; 179-181-p].

V-CHAPTER conclusion:

1. In laboratory conditions, n, n¹-bis hexamethylene [(dibenzylamino) urea] (Xyux-2) has developed regulations for the technology laboratory.
2. N,N¹-bis hexamethylene [(dibenzilamino) urea] (Xyux-2) to get in the industry while the technological conditions was developed.
3. XYUX-5 (N,N¹ -bis hexamethylene [(5-bromizatinil) urea]) of organic matter “in vivo the color” painted in varnish paint colored enterprises ltd manufactured in the product has been used as an ingredient.

CONCLUSIONS

Received a dissertation on the topic " Obtaining new products based on urea derivatives and their role in Traditional medicine " visited as a result of research following conclusions present was done:

1. A method for the synthesis of previously unknown bis-[(aminoaroyl)urea] derivatives with a yield of 84-94% was developed by the interaction of GMDI with secondary aromatic amines in DMF. The effect of various factors (process duration, temperature, nature of the solvent) on the yield of the reaction products and the physicochemical properties of the synthesized substances were studied.

2. A possible mechanism for the formation of bisaminoaroyl urea was proposed. The composition and structure of the newly obtained substances were confirmed using modern physicochemical methods (IR, PMR spectroscopies, SQ) and elemental analysis. "GAUSSIAN 98" from the table using, quantum chemical calculation based on analysis was done. Reaction in the GMDI molecule to the nitrogen atom Implementation according to the A_N mechanism theoretical and practical from the point of view proven.

3. Synthesis done compounds to the fertility of cotton varieties "Andijan-37", "Andijan-36" and "Sultan" effect laboratory under the circumstances when studied from them 1 yes of the article biological showed high activity. That's it " XYuX-2 " drug cotton development and cotton fertility field for raising under the circumstances from the tests was conducted. " XYuX-2 " biostimulant with to the cotton processing when given per hectare average 3-4 ц. additional harvest to give proven. Low-toxic dyes for polymer materials " XYuX-5 " i was found and recommended for use in the polymer industry.

4. External economic activity goods nomenclature for " Natural food supplements prepared on the basis of juniper meristem and enriched with other medicinal plants " – 1212300006, " N,N¹-bis aminoaroyl ureas" 2929 90 000 1 code number was developed for compounds and state customs to practice current done.

5. " N, N¹ - bisaminoaroyl ureas" synthesized from secondary aromatic amines biostimulants application technology 201 9 -202 1 Over the years, a total of 360 hectares of cotton have been cultivated in the Pakhtaabad, Izboskan and Ulugnor

districts of Andijan region. fields done. Every 1000910 soums per hectare, total additional profit 3603276 00 soums received. A permit was obtained from the Ministry of Foreign Affairs of the Republic of Uzbekistan.

6. A natural biologically active food supplement “Psoralin” prepared on the basis of medicinal plants was created and its effect on psoriasis, a dangerous skin disease, was studied. Clinical studies were conducted at the Department of Dermatovenerology, Andijan City Dermatological and Venereal Diseases Dispensary, ADTI. Studies have shown that when patients with psoriasis who are treated with synthetic drugs are given the natural biologically active food supplement “Psoralin”, it is several times more effective and harmless than treatment with synthetic drugs alone.

7. Psoralin When the qualitative and quantitative composition of flavonoids in a dried and finely ground sample of the food additive was examined by high-performance HPLC chromatography, it was determined that gallic acid was the most abundant, and quercetin was not found.

8. “ Psoralin ” food of the compound heavy The amount of metals is measured by the amount of heavy metals such as cadmium, lead, and mercury in the exhaust gas. quantity normative in documents it was found that it is less than the amounts, and arsenic is not present. This food supplement is human organism for quantification of heavy metals indicators harmless shows that.

9. When analyzing the vitamins contained in the food supplement “Psoralin”, it was found that it contained B₂, B₆, vitamin C and vitamin PP. Vitamins B₁ and B₁₂ were not detected. The amount of β-carotene in the food supplement “Psoralin” was studied, and its value was found to be 9.03.

10. External economic activity goods nomenclature " Natural food supplements prepared on the basis of juniper meristem and enriched with other medicinal plants " 1212 30 000 6 code number was developed for and state customs to practice current done.

¹-hexamethylene bis - [(dibenzylamino) urea], a biostimulant for agricultural plants,

were developed in laboratory conditions and on an industrial scale. The basic technological schemes of the processes were proposed.

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2022-yil 14-may № 07/35-04/3012

МАЪЛУМОТНОМА

Андижон давлат тиббиёт институтининг мустақил изланувчиси Холбоев Юсубжон Хакимовичнинг “Мочевина ҳосилалари асосида янги товарлар олиш ва уларни халқ табобатидаги ўрни” мавзусидаги кимё фанлари доктори (DSc) ихтисослиги бўйича илмий даражасини олиш учун олиб борган илмий-тадқиқот ишлари натижасида дала амалиёти (ишлаб чиқариш) бўйича қуйидаги илмий-амалий натижалар олинган.

Тадқиқотчи томонидан мочевина ҳосилалари асосида олинган ХЮХ-2 биостимулятори синтезини ажратиб олиш амалга оширилган. Синтез қилинган биостимуляторнинг биологик фаоллиги лаборатория жараёнида ва дала амалиёти (ишлаб чиқариш)да синовларидан ўтказилган. Биостимуляторнинг биологик фаоллигини ўрганиш ва амалиётга жорий этиш учун тажрибаларда бугунги кунда Андижон вилояти учун районлаштирилган “Андижон-37”, “Андижон-36” ва “Султон” ғўза навларининг чигитини экишдан олдин дорилаш орқали ўрганилган.

Тажрибалар 2019-2021 йиллар давомида Андижон вилоятининг Пахтаобод туманидаги “Нур-агро”, “Иноят Бунётбек” ҳамда Улуғнор туманидаги “Азимжон Жўраев” фермер хўжалиқларининг жами 360 гектар майдонларида тажрибалар ўтказилган. Уруғлик чигитлар ХЮХ-2 биостимулятори билан дориланган, уруғлик чигитнинг униб чиқиши, шоналаш, гуллаш, кўсаклаш ва очилиш даврларида фенологик кузатувлар ўтказилган.

Тажрибалар якунида пахта ҳосилдорлиги аниқланганда, чигитни экишдан олдин ХЮХ-2 биостимулятори билан дориланган вариантда 40-41,8 ц/га назорат вариантыда 37-39,5 ц/га олиниб назоратга нисбатан 3-4 ц/га кўпроқ ҳосил олинган.

Юқорида келтирилган маълумотлар Андижон вилояти қишлоқ хўжалиги бошқармаси ва фермер хўжаликлари томонидан берилган далолатномаларда ўз аксини топганлигини, шунингдек, лаборатория ҳамда дала (амалиёти) тажрибаларида юқори натижа берган **ХЮХ-2** биостимуляторини пахта етиштиришда кенг фойдаланиш мумкинлигини маълум қиламиз.

Вазир ўринбосари

A handwritten signature in black ink, consisting of a large, stylized initial 'A' followed by several loops and a long horizontal stroke extending to the right.

А.Тураев



№ 01/11-1119
2022 yil 21.09

Ўзбекистон Республикаси
Қишлоқ хўжалиги вазирлигига

МАЪЛУМОТНОМА

Андижон давлат тиббиёт институти раҳбарияти мустақил излашунчи Холбоев Юсубжон Хакимовичнинг "Мочевина ҳосиллари асосида янги товарлар олиш ва уларни халқ табиоботидаги ўрни" мавзусидаги илмий фахшари доктори (DSc) илмий даражасини олиш учун бажарган илмий-тадқиқот ишлари натижасида дала амалиёти бўйича қуйидаги илмий-амалий натижалар олинган.

Илмий маслаҳатчилар Тошкент илмий-технология институти Нефть ва тини қайта ишлаш илмий-технологияси кафедраси профессори, илмий фахшари доктори А.Г.Махсумов ва Андижон давлат университети Илмий кафедраси профессори, Ўзбекистонда хизмат кўрсатган ихтирочи, илмий фахшари доктори И.Р.Аскарлар раҳбарлигида мочевина ҳосиллари асосида ХЮХ-2 биостимуляторни синтези амалга оширилган. Синтез қилинган биостимуляторнинг биологик фаоллиги лаборатория ва дала амалиёти синовларидан ўтказилган.

Биостимуляторнинг биологик фаоллигини ўрганиш учун тажрибаларда хоширги кунда экилаётган пахтанинг "Андижон-37" "Андижон-36" ва "Султон" ўза ишлари чигитидан фойдаланилган. Тажрибаларда 2019-2021 йилларда

Анджон вилояти Пахтабод туманидаги "Нур-агро", "Иноят Бунёдбек", ҳамда Улутнор туманидаги "Алимжон Жўраев" фермер хўжаликларида амалга оширилган. 2019-2021 йилларда Анджон вилояти фермер хўжаликларининг жами 360 гектар майдонларга амалиётга жорий қилинган. Уруғлик чигитлари ХЮХ-2 биостимулятори билан дориланган, натижада уруғлик чигитларининг унвоб чиқиши, шовнаши, туллиш, қўсақлаш ҳамда очилиш давриларида фенологик кузатувлар ўтказилган. Тажриба якунида пахта ҳосилдорлиги аниқланганда чигитни экнадан олдин ХЮХ-2 биостимулятори билан дориланган вариантда 40-41,8 ц/га назорат вариантда 37-39,5 ц/га олтивоб назоратга висбатан 3-4 ц/га кўпроқ ҳосил олинган.

Юқорида келтирилган маълумотларга асосланиб лаборатория ҳамда дала тажрибаларида юқори натижа берган ХЮХ-2 биостимулятори пахта етатиришида Анджон вилояти Пахтабод туманидаги "Нур-агро", "Иноят Бунёдбек", ҳамда Улутнор туманидаги "Алимжон Жўраев" фермер хўжаликларида жорий қилинган.

Вилонт кишлоқ хўжалиги
бўшқармаси бошлиғи:



С. Эсонова

“ТАСДИҚЛАЙМАН”
Андижон давлат тиббиёт
институти ректори,
профессор М.М.Малазимов

« _____ » _____ 2021 й.

**ХЮХ-5 (гексаметилен бис [(5-бромизатинил) мочевина]) ни
бўёқ модда сифатида ишлатиш бўйича**

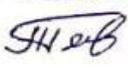
ДАЛОЛАТНОМА

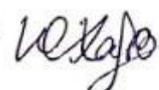
Бизким куйида тажриба-синов ишларини бажаришда имзо кўювчилар: “VIVO COLORS” МЧЖ Бош технологи В.К.Холбоев, к.ф.н., мустақил изланувчи Ю.Х.Холбоев, “VIVO COLORS” МЧЖ технологи А.М. Тожиматовлар далолатномани шу ҳақда тузишди: ХЮХ-5 (N,N¹ -гексаметилен бис [(5-бромизатинил) мочевина]) органик моддаси корхонада ишлаб чиқарилаётган рангли лок-бўёқ маҳсулотларида бўёвчи модда сифатида қўллаб кўрилди.

Бўёвчи модда чет элдан импорт қилинаётган рангли пигментлар билан белгиланган нисбатда кўшилди, технологик ишлаб чиқариш эса одатдагидек олиб борилди. Аралашма таркиби: импорт килинган рангли пигмент - 70 гр ва бўёвчи N,N¹ -гексаметилен бис [(5-бромизатинил) мочевина] -60 гр 50% ли эритма. Бунда маҳсулот ранглари ва ёпувчанликлари ўзгармаган, кўриниши ёрқинлашган ва бир хилда аралашган. Бу шундан далолат берадики, бўёвчи модда ХЮХ-5 (N,N¹-гексаметилен бис [(5-бромизатинил) мочевина]) лок-бўёқ маҳсулотлари билан яхши аралашади. Унинг физик-механик хоссаларига ва сифатига таъсир қилмайди.

Шуни эслатиб ўтиш керакки, одатдаги ишлатилиб келинаётган бўёвчи моддалар қимматлигини ҳисобга олсак, бу янги синтез қилинган бўёвчи органик модда - захарли эмаслиги, маҳаллий бўлганлиги, ҳамда арзон эканлиги билан ажралиб туради. Ишлатиш учун амалиётга тавсия этиш мумкин.

“VIVO COLORS” МЧЖ Бош технологи:  В.К. Холбоев

“VIVO COLORS” МЧЖ технологи:  А.М. Тожиматов

Кимё фаолари номзоди, мустақил изланувчи:  Ю.Х.Холбоев

Агентство по интеллектуальной собственности при
Министерстве юстиции Республики Узбекистан

Государственное унитарное предприятие
«Консультационный центр
интеллектуальной собственности»

СВИДЕТЕЛЬСТВО

№004772

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Директор

М.С.Мансуров

М 008

“ТАСДИҚЛАЙМАН”

Андижон вилояти тери-таносил касалликлари диспансери бош шифокори



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“ТАСДИҚЛАЙМАН”

Андижон давлат университети ректори, ф.ф.д., профессор



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ДАЛОЛАТНОМА

Биз куйида далолатнома тузувчилар: Андижон давлат тиббиёт институти Дерматовенерология кафедраси мудир, т.ф.д., профессор А.Б.Пакирдинов, Андижон давлат университети Кимё кафедраси профессори, к.ф.д., И.Р.Асқаров, Андижон давлат тиббиёт институти Тиббиёт кимё кафедраси мудир, к.ф.н., доцент Ю.Х.Холбоев, Андижон давлат университети Кимё кафедраси катта ўқитувчиси, к.ф.ф.д. (PhD) М.М.Мўминжоновлар тузамиз шу мазмундаким, к.ф.д., профессори И.Р.Асқаров ва к.ф.н., доцент Ю.Х.Холбоев томонларидан доривор ўсимликлар асосида тайёрланган “Псоралин” табиий биологик фаол озик-овқат қўшилмасини Андижон шаҳар тери касалликлари диспансери, Дерматовенерология кафедрасида клиник синовдан ўтказдик.

Клиник тадқиқотнинг мақсади “Псоралин” табиий биологик фаол озик-овқат қўшилмасини амалиётга жорий этиш учун унинг хавфли тери касалликларидан бўлган псориаз касаллигига таъсирини аниқлашдан иборат.

Клиник тадқиқотлар псориаз касаллигининг турли босқичлари билан касалланиб, Андижон вилояти тери-таносил касалликлари диспансерида синтетик дори воситалари билан даволанаётган 10 беморларга қўшимча равишда “Псоралин” табиий биологик фаол озик-овқат қўшилмасидан тартиб асосида бериш билан амалга оширилди. Бунда, дастлаб 10 нафар беморнинг касаллик даражаси, қон таҳлили, биологик фаол моддаларга таъсирчанлиги ўрганидиб, уларнинг синтетик дори воситалари ва “Псоралин” табиий биологик фаол озик-овқат қўшилмаси таркибидаги биологик фаол моддаларга таъсирчан эмаслиги аниқланди. Синтетик дори воситалари билан

даволанаётган ушбу 10 нафар беморларга 15 кун мобайнида “Псоралин” табиий биологик фаол озик-овқат қўшилмаси қўшимча сифатида берилди. Улар билан бир вақтда бошқа 10 нафар беморлар эса фақат синтетик дори воситалари ёрдамида даволанди. Натижада синтетик дори воситаларига қўшимча сифтида “Псоралин” табиий биологик фаол озик-овқат қўшилмаси берилган беморларнинг 80% ида ижобий натижа кузатилиб, уларнинг терисидаги псориаз касаллиги белгилари миқдори камайди. Фақат синтетик дори воситалари билангина даволанган касалларнинг эса 30% ида шундай ижобий натижа кузатилди. Бу эса, синтетик дори воситалари билан даволанаётган, ипсориаз билан касалланган беморларга “Псоралин” табиий биологик фаол озик-овқат қўшилмаси қўшиб берилганда, фақат синтетик дори воситалари билан даволашга нисбатан бир неча баробар самарали ва зарарсиз эканлигини кўрсатди.

Андижон вилояти тери-таносил касалликлари диспансерида “Псоралин” табиий биологик фаол озик-овқат қўшилмасининг псориаз касаллигига таъсирини ўрганиш бўйича ўтказилган клиник тадқиқотлар натижасида синтетик дори воситалари билан даволанаётган ипсориаз касаллигига чалинган беморларни даволашда “Псоралин” табиий биологик фаол озик-овқат қўшилмаси қўшиб берилганда, фақат синтетик дори воситалари билан даволашга нисбатан бир неча баробар самара беради деб хулоса қилиш мумкин.

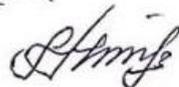
Далолатнома тузувчилар:

АДТИ Дерматовенерология
кафедраси мудири:



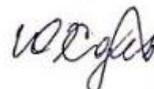
т.ф.д.,проф. А.Б.Пакирдинов

АДУ кимё кафедраси профессори:



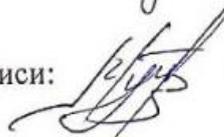
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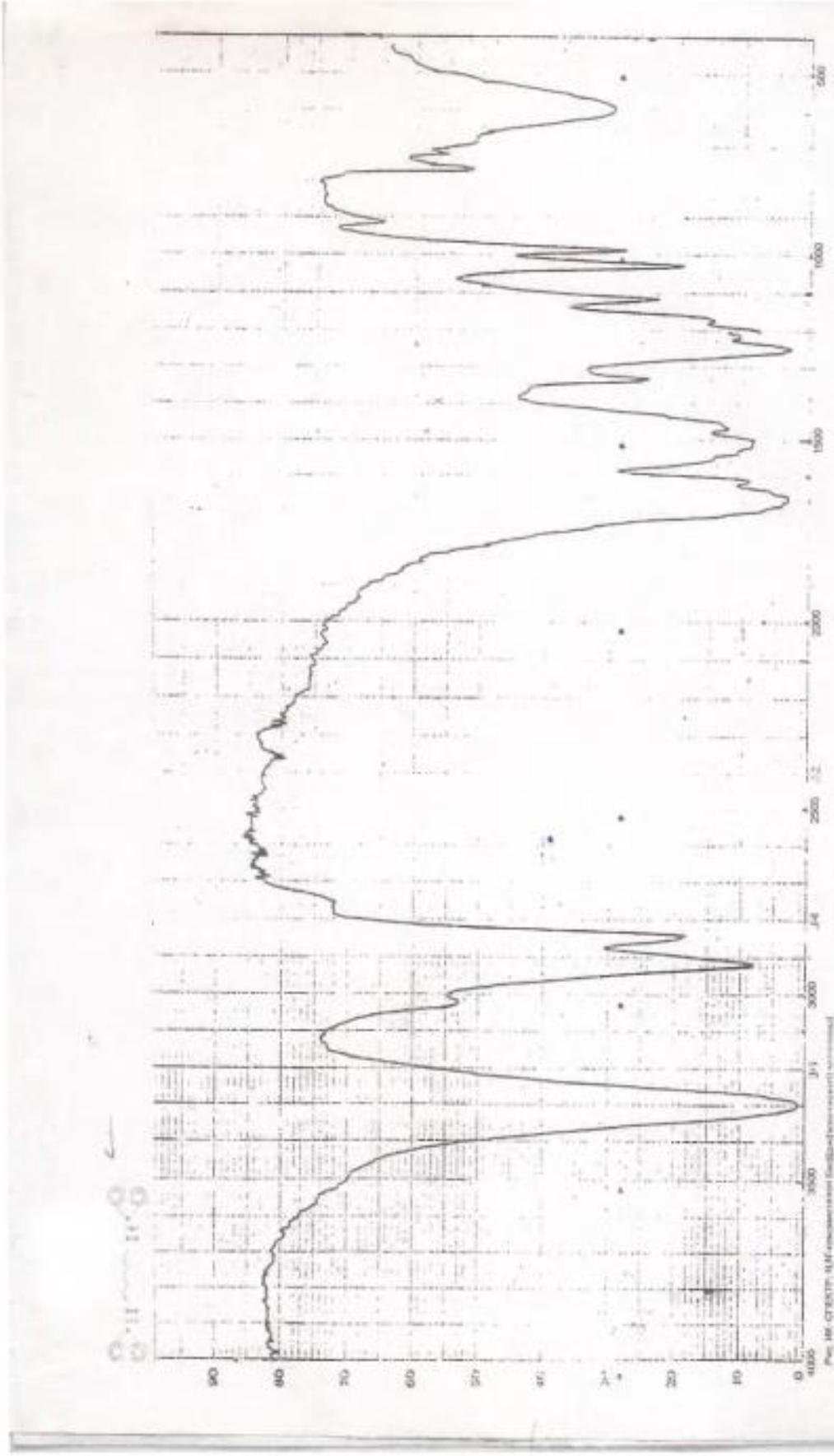


к.ф.н., доц. Ю.Х.Холбоев

АДУ кимё кафедраси катта ўқитувчиси:



PhD, М.М.Мўминжонов



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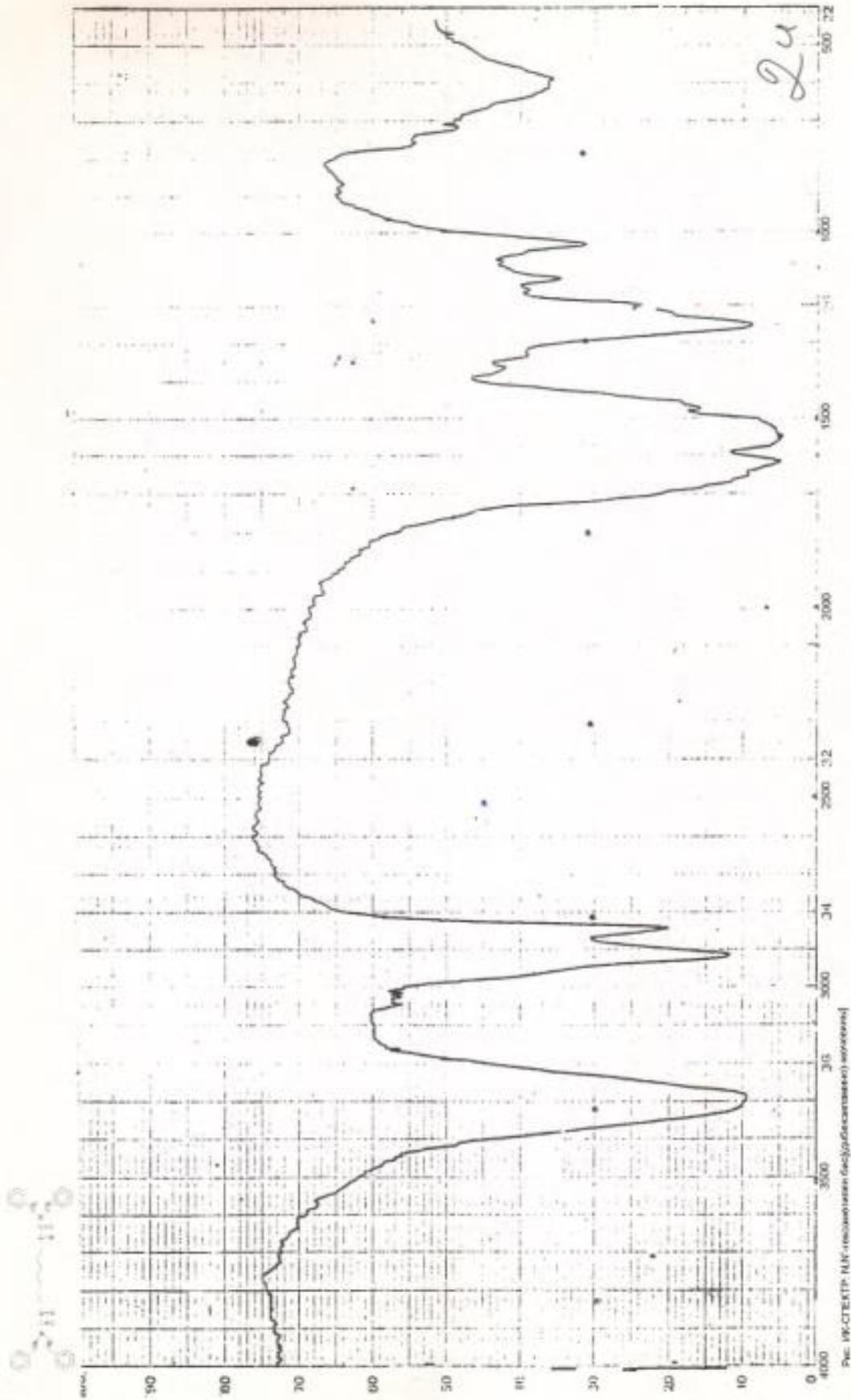
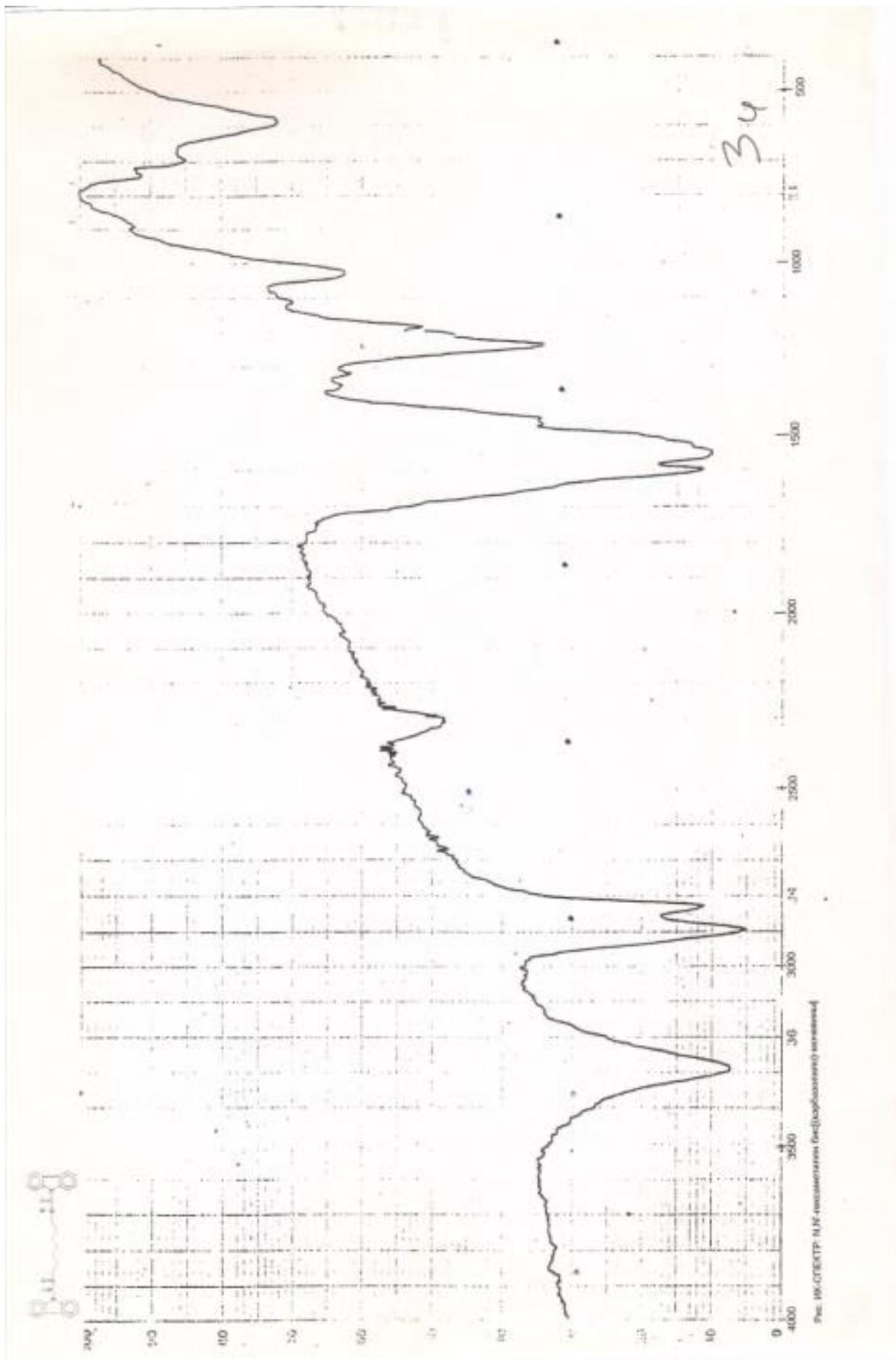


Рис. ИР-СПЕКТР: N,N'-бис(2-оксоэтил)этан-1,2-диамин



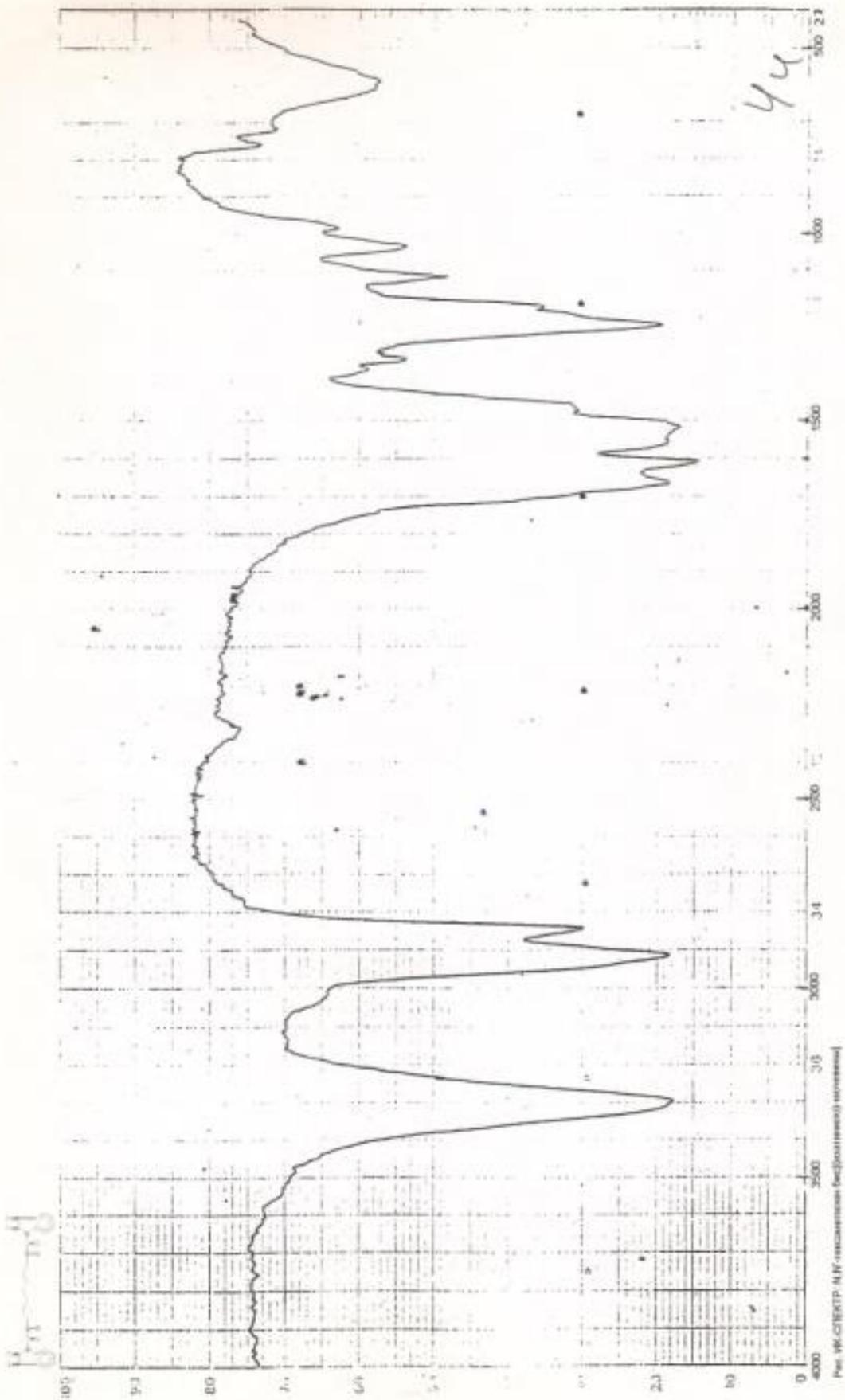


рис. ПМР-спектр N,N'-гексаметилен бис[дибензиламиноэтановины]

17.

Раств.: ТФХ + DMSO

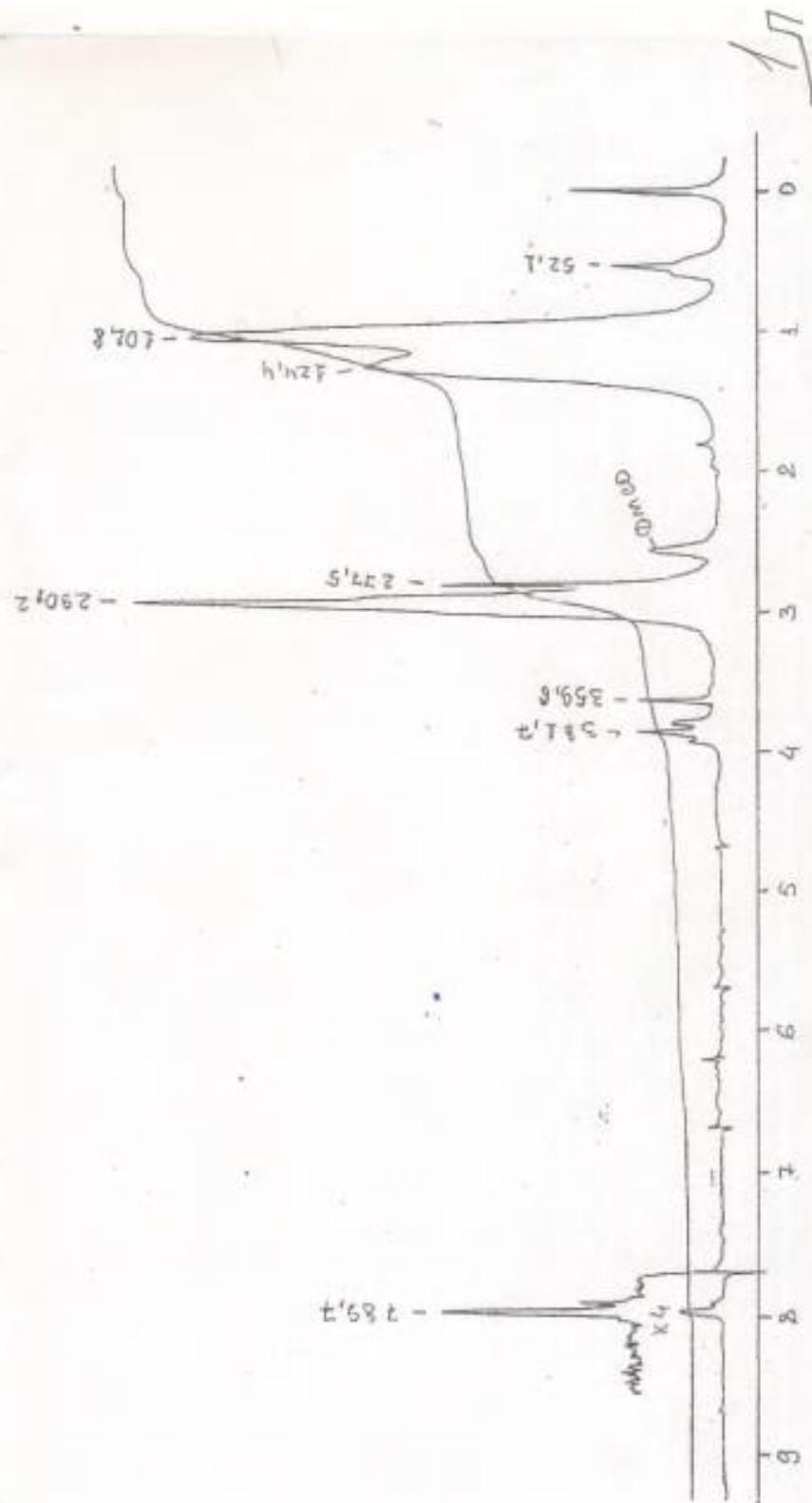


рис. ПМР-спектр N,N'-гексаметилен бис((карбазолил)мочевины)

Расср. 1:6: ТФК + DMSO

