

SUMMARY

BIOLOGICAL SCIENCES

Dzheldubayeva E.R., Chuyun E.N. **Dependence of analgesic effect of low intensity of electromagnetic irradiation of extremely high frequency from technical characteristics of the generator and exposition of influence** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 3-16.

Dependence of analgesic effect of low intensity of electromagnetic irradiation of extremely high frequency (a wave-length is 7.1 mm; closeness of stream of power – 0.1 mVt/cm²) is explored in this article from technical characteristics of generator and exposition (15, 30, 60 minutes and fractional regime of irradiation) at the experimentally caused tonic pain in rats.

Keywords: electromagnetic radiation of extremely high-frequency, polarization, display, tonic pain.

Ibragimova E. E., Balichiyeva D. V. **Influence of technogenic stress on viability of pollen and seeds of *Acer platanoides*** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 17-25.

The parameters of quality of pollen and seeds, formed by bodies of reproductive system of populations *Acer platanoides*, growing in zones with various motor transport loading are investigated. The received data testify, that the processes of microsporegenesis and fruiting of *Acer platanoides* can be used for phytoindication of quality of an environment.

Keywords: pollen, seeds, sterility, fertility, spontaneous, induce, reproductive, fruiting, viability, population, phytoindication.

Kotov S.F., Galdak S.N. **The growth and productivity *Salicornia europaea* L. on the gradient of salinity** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 26-31.

On the gradient of salinity (contents of readily soluble salts in soil from 2% till 4%) growth and productivity of *S. europaea* were investigated. The relative speed of the plant growth in height (RGR) increases with growth of salinity. On the contrary, on the gradient of salinity the falling of speed of organic substances accumulation at *S. europaea* is observed; middle value of netto-assimilation (NAR) decreases, air-dry mass of plants reduces approximately in 2 times.

Keywords: salinity, *Salicornia europaea* L., RGR, NAR, biomass.

Malygina V.I., Grabowskaja E.Yu. **Influence of alternating magnetic fields of frequency 8Hz on state of sympathoadrenal system** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 32-35.

By influence of alternating magnetic fields of 8Hz frequency in rats with middle level of motion activity, adaptational reaction is developed which characterised by intensification of

functional activity of sympathoadrenal system. Regularities that have been found, could be used for prognostication of men's reaction on magnetic fields action of 8 Hz frequency and induction of 5 mTl.

Keywords: changing magnetic fields, motion activity, adaptation, sympathoadrenal system.

Nikolskaya V. A., Suleimanova Z. R. Dynamics of biochemical blood indices in people of different age group under on influence of balsam «Cape Martyan» // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 36-39.

Results of investigation of cholesterol and low-density lipoproteins in blood serum of practically healthy people of different age groups are presented. Obtained results show normalizing effect of balsam on studied indices.

Keywords: balsam, general lipids, general cholesterol low-density lipoproteins.

Pavlenko O.M. Dynamics of EEG-potentials during psychological counseling session // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 40-47.

It is shown that psychological counseling sessions lead to a significant changes in electrical brain wave activity which can be recorded by EEG. Major activity changes had place in frontal cortex of right hemisphere where an increase of relative power of beta₂- and gamma-rhythms has been detected.

Keywords: brain, psychological counseling, EEG-potentials.

Panova S.A., Kirillova A.V. Mishina C.C. An influence of Chinese health system Do-IN and massage for the improvement of mental abilities of mentally children retarded // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 48-50.

The use of the special methods improving mental abilities (the Chinese health system Do-IN, massage for the improvement of mental abilities) exposed statistically reliable improvement of indexes of attention in mentally children retarded. The methods can be used in correction classes.

Keywords: attention, a capacity, for work mental retardation.

Repetskaya A.I., Leonov V.V., Malashenko E.V. The Collection of Crimean species of genus Rosa in Botanical Garden of V.I. Vernadsky Taurida National University // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 51-56.

A work on creation of Crimean natural flora Rosaceae exposition has been started in the Botanical Garden of V.I. Vernadsky Taurida National University in 2004 year. In the article biomorphological and phenological characteristic of plants from the collection of Crimean wild rose were presented.

Keywords: biodiversity, wild rose, Crime. Botanical Garden.

Savushkina I.G. Accumulation and migration Cd, Zn, Cu and Al in leaves of oak, larva and excrement oak leafroller moth and gipsy moth // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 57-65.

In this article the results of studying of the contents of cadmium, zinc, copper and aluminium in leaves of pubescent oak, larva and excrement oak leafroller moth (*Tortrix viridana* L.) and gipsy moth (*Lymantria dispar* L.) are presented. Dependence of concentration of chemical elements in a body of insects on a level of their contents in a forage is marked. Biological absorption factor is designed for evaluation of a degree of accumulation of the microelements, absorbed by insects from a vegetative food is designed.

Keywords: heavy metals, microelements, oak leafroller moth, gipsy moth, pubescent oak, excrement, accumulation.

*Stryukov A.A. Host variability of *Corynosoma pseudohamanni* Zdzitowiecki, 1984 from phocid seals of // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 66-72.*

Host variability of acanthocephalan *Corynosoma pseudohamanni* from the Weddell seal (*Leptonychotes weddelli* Lesson, 1826), crab-eater seal (*Lobodon carcinophagus* Hombron & Jacquinot, 1842) and Southern elephant seal (*Mirounga leonina* (L., 1758)) were studied. An unusual phenomenon was discovered: acanthocephalans in the secondary definitive host (crab-eater seal) were larger than in main definitive host (Weddell seal).

Keywords: *Corynosoma*, Acanthocephala, seals, Antarctic.

Shinkarevsky P.V., Pavlenko V.B., Polonskaya A.K., Kulichenko A.M., Birjukova E.A. Study of low-dosage balsam effect on physiological status of human with help of gas-charge visualization // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 73-77.

It was discovered that experimental balsam help to stabilize emission ability of man's skin surface.

Keywords: balsam, biologically active substances, gas-charge visualization.

CHEMICAL SCIENCES

Efanov K.P., Fedorenko, A.M., Tsibriy U.I. Outlooks of complex usage of barium compounds at modification of a titanium dioxide // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P.78-83.

On the basis of theoretical and experimental researches the perspective direction on application of carbonate of barium for manufacturing of pigments is revealed on the basis of dioxide of a titanium.

Keywords: technology, dioxide of a titanium, photochemical activity, filling materials, carbonate of barium, synthesis.

Zhilyakova T.A., Aristova N.I., Panova E.P., Lutkov I.P., Slastia E.A., and Belyaev V.I. **Modern methods of quality and safety control of wine** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 84-93.

In this paper the results of contents of metals cations, specific radioactive nuclide index and mass concentration of organic acids are presented. A possibility of wine detection received by interspecific hybridisation, and also detecting of cases attenuation wines by water have been shown. Results of the carried out investigations are standardised in the scientific center "Magarach", that allows to carry out quality control and safety of wine and wine material (stum).

Keywords: wine, wine material (stum), metals cations, organic acids, radioactive nuclide, high-performance liquid chromatography.

Zemlyakov A.E., Zemlyakov S.A., Kur'yanov V.O., Chirva V.Ya. **Synthesis of bis-N-acetylglucosaminides** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 94-99.

The synthesis of peracetates of ethylene-, tetramethylene-, octamethylene-, *p*-phenylenedimethyl-, and *o*-phenylenedioxyethyl-*bis*- β -D-*N*-acetylglucosaminides were realized by oxazoline method.

Keywords: oxazoline synthesis, *bis*-*O*-*N*-acetylglucosaminides.

Korzh E.N., Danilova O.G., Soloreva A.A., Grishkovets V.I., Yakovishin L.A. **The peculiarities of physical and chemical properties of cooling liquids on the basis of chloride of calcium** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 100-103

The article contains results of pH measurements of CaCl₂ solutions. The increase in concentration causes sharp falling pH, rise in temperature has converse effect. It can be explained by a difficult character of processes of hydrolysis.

Keywords: solutions of calcium chloride, concentration, temperature, pH, hydrolysis.

Kropotov V.A. **Prediction of random errors of a potentiometric titration curve parameters: a theoretical aspect** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P.104-110.

The new method of prediction of random errors of potentiometric titration curve parameters on the basis of known random errors of potential (or pX) and titrant volume measurements is described. The method has made it possible to estimate separately the effect of initial data (V and E) errors upon titration results starting from a single titration.

Keywords: potentiometric titration, error prediction.

Kuryanov V.O., Tokarev M.K. **Synthesis of 2,5-disubstituted 1,3,4-oxadiazoles from the formyl phenylglycosides** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 111-115.

The synthesis of some 2,5-disubstituted 1,3,4-oxadiazoles from the formyl phenylglycosides of N-acetylglucosamine by the oxidative cyclisation was described.

Keywords: N-acetylglucosamine, 1,3,4-oxadiazoles, antimicrobial activity.

Panova E.P., Katceva G.N., and Dryuk V.G. **Interaction of Fe(III) salts with malic and citrus pectin's** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 116-120.

It was found that relation of reacted molecules of carboxyl groups of pectin and Fe (III) form 2.7:1 have been found. Findings allow to use pectin-Fe(III) complex a struggle against the disease of plants (chlorosis).

Keywords: pectin substances, Fe(III) salts, conductometric titration.

Pershina E.D., Vyatkina O.V., Glazunova M. I., Chernetskaya A.P., Bodnarchuk A.V. **Oxidizing conversion of phenols in the model systems with natural water** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 121-125.

The results of study of kinetics of conversion of biphenols in natural water with a high level of mineralization in presence of peroxide of hydrogen as an oxidant are presented in the article. It is shown, that the kinetic parameters of the oxidizing systems with natural water considerably exceed the indexes of similar systems with the low level of mineralization.

Keywords: diatomic phenols, conversion, hydrogen peroxide, mineralization.

Tolstenko D.P., Vyatkina O.V., Tolkacheva N.V., Kapitonov D.S. **Methods of research of properties of bentonites for their use in winemaking** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 126-133.

It is shown that the analysis of various methods for an estimation of quality of bentonites used in winemaking is carried out. Carrying out of additional researches with use of more exact and informative physical-chemical methods such as X-ray diffraction, differential thermal analysis, infrared spectroscopy, potentiometric titration is actual for optimization of process of bentonite selection and, as consequence, increases of efficiency of their application in winemaking.

Keywords: winemaking, bentonite, physical-chemical methods.

Fedorenko A.M. Kurmachov E.A., Tsibiry U.I., Gudim A.N. **Spectrophotometric definition of a titanium(IV) and (III), ferrum(III) and (II) in vitriolic solutions** // Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry». – 2006. – V.19 (58). – № 2. – P. 134-138.

Based on spectrophotometry data the sulphate technological solutions are investigated with the purpose of detection of possibility of selective definition of ions of a titanium (IV) and (III), ferrum (III) and (II). It is offered to use the method of the repeated disturbed full internal reflection in a technological process of titanium dioxide receiving.

Keywords: titanium dioxide, thechnology, titanium and ferrum ions reduction,

spectrophotometry, monitoring, concentration.

Shul'gin V.F., Melnikova E.D., Larin G.M., Chernega A.N. **Molecular and crystalline structure of the binuclear copper (II) complexes of trifluoroacetylacetone acyldihydrazones** // *Uchenye zapiski Tavricheskogo Natsionalnogo Universiteta im. V. I. Vernadskogo. Series «Biology, chemistry».* – 2006. – V.19 (58). – № 2. – P. 139-143.

The results of X-ray analysis of the binuclear copper (II) complex of acyldihydrazone produced by coupling of succinic acid and trifluoroacetylacetone with the composition of $[\text{Cu}_2\text{L}\cdot 4\text{Py}]$ were shown. It was found that crystals are monoclinic: $a = 12.773(3)$; $b = 8.872(2)$; $c = 17.147(4)$ Å; $\beta = 103.36(2)^\circ$; $Z = 2$; space group P21/n. The number of the symmetrically independent reflections were 3319, $R = 0.041$; $R_w = 0.117$. Central atoms were separated by the 7 σ -bonds chain and located on the distance of 8.750 Å from each other. Coordination sphere of the copper atom had tetragonal pyramidal geometry with pyridine molecule in axial position. An equatorial plane was formed by two oxygen atoms, nitrogen atom of the hydrazone double-deprotonized chelatophore groups and nitrogen atom of the second pyridine molecule.

Keywords: copper (II) complexes, trifluoroacetylacetone acyldihydrazones, crystalline structure.