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TABATAJEE, B. G., BOL'SHON, Ye. V., and ~~SKASNIKOV~~, I. A., Scientific Institute
Physico Chemical Institute imeni L. Ya. Karpev, Moscow, State Committee for
Chemistry

"Adsorption of Vapors of Noble Metals on a Semiconductor Film of Zinc Oxide"
Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 7, Jul 70, pp 1604-1606

Abstract: Au, Pt, and Ag were adsorbed on a semiconductor ZnO film at 120° from
the vapor phase on heating electrically wired of these metals to 320, 125° and
320° in an evacuated glass vessel which also contained the ZnO film. The elec-
tric conductivity of ZnO increased considerably as a result of adsorption of
atoms of the noble metals, but dropped after evaporation of these metals was
stopped. The decrease in conductivity was observed even at temperatures 120°.
It was not due to desorption of the noble metal atoms from the ZnO surface. This
was established in experiments in which Pt containing ¹⁹⁷Pt was used. No secondary
aggregation of noble metal atoms on the surface of ZnO took place after migration
of the atoms on this surface.

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1/2 017 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--SEMICONDUCTOR DETECTOR FOR ATOMIC NITROGEN AND ITS USE IN STUDIES
OF SOME PHYSICO-CHEMICAL PROCESSES -U-
AUTHOR-(02)-TSIVENKO, V.I., MYASNIKOV, I.A.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 267-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, METHODS AND EQUIPMENT

TOPIC TAGS--NITROGEN, SEMICONDUCTOR MATERIAL, SORPTION, ZINC OXIDE,
ELECTRICAL CONDUCTIVITY, CHEMICAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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PROCESSING DATE--02OCT70

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CIRC ACCESSION NO--AP0107302
ABSTRACT/EXTRACT--(U) GP-0-

PLATES OF ZN OXIDE CAUSES
PHENOMENON CAN BE USED IN

ABSTRACT. CHEMISORPTION AT AT. N ON THIN
A MARKED DROP IN ITS ELEC. COND. THIS
STUDY OF FORMATION AND DECAY OF AT. N.

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Acc. Nr:

AT0048315

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

UR 0020



93720j Mechanism of the heterogeneous recombination of hydrogen atoms. Pospelova, I. N.; Myasnikov, A. (Fiz.-Khim. Inst. im. Karpova, Moscow, USSR). Dokl. Akad. Nauk SSSR 1970, 190(2), 390-3 [Phys Chem] (Russ). Recombination coeffs. were exptl. evaluated of H atoms on glass, quartz, and ZnO at concns. 10^{11} - 10^{13} H atoms/cm³ from -196 to 300°. It was concluded that the heterogeneous recombination of H atoms was the result of the primary interaction of free H atoms with chemisorbed H atoms both of the uncharged and of the charged type. H atoms phys. adsorbed or in an unknown, weakly chemisorbed form, play the main part in the process, while strong chemisorbed atoms play a minor role. The velocity of the heterogeneous recombination of H atoms on ZnO was independent of its electrocond. and, as a consequence, of its charge. S. Santoli

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.UDC: . 534.322.3+534.83

YEFIMOV, Yu. S., MAKAROV, L. T., MYASNIKOV, L. L., FINAGIN, B. A.

"A Maskless, Fiber-Optics Acoustic Analyzer"

Tr. Leningr. korablestroit. in-ta (Works of Leningrad Shipbuilding Institute), 1972, vyp. 77, pp 45-48 (from RZh-Fizika, No 5, May 73, abstract No 5Zh591 by R. I. G.)

Translation: A device is described which is designed for analyzing complex acoustic and electric signals by using a multichannel filter made of fiber light guides. Oscillations are optically fixed by passing light through resonating fibers. The maskless analyzer developed by the authors uses the effect of intensity modulation of light as it passes through vibrating fiber-optics light guides. It is experimentally shown that the maskless analyzer accomplishes linear conversion of a signal over a fairly wide range of dynamic variation.

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UDC 621.314.58

MYASNIKOV, N.I.

"Harmonic Composition Of Output Voltage Of Frequency Converter With Direct Coupling"

Tr. TsNII mor. flota (Works Of The Central Scientific-Research Institute Of The Maritime Fleet), 1970, Issue 132, pp 90-103 (from RZh--Elektronika i yeye primeneniye, No 3, March 1971, Abstract No 3B56A)

Translation: By means of an analytical Fourier expansion, formulas are obtained for determining the frequency composition of the voltage curve at the output of a frequency converter with direct coupling. A computation was made on a digital converter of the composition of the voltage curve for various multiplicities K of the input and output frequency, the magnitude of the triggering angle of rectifiers [ventil'] and the inductances of the load. Tables are presented of the values of the amplitude and phase shift of the harmonics for different ratios of the values of the input and output voltages and the comparative durations of the inverter regime. It is recommended that the voltage curve be shaped according to the arcsinusoidal law. 5 ill. 3 ref. A.S.

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Miscellaneous

USSR

UDC 532.573

MYASNIKOV, S. K., KULOV, N. N., MALYUSOV, V. A., and ZHAVORONKOV, N. M.,
Institute of General and Inorganic Chemistry Imeni N. S. Kurnakov, Acad. Sc.
USSR

"Effective Velocity of the Free Surface of a Flowing Liquid Film"

Moscow, Teoreticheskiye Osnovy Khimicheskoy Tekhnologii, Vol 6, No 6, Nov-Dec
72, pp 893-899

Abstract: A method was developed for the determination of the effective rate of movement of a free surface of a flowing liquid film \bar{w}_L . On the basis of the experimental data obtained, equations have been derived for the calculation of \bar{w}_L for four conditions of flowing: transitional flow ($35 \leq Re_L \leq 80$), first wave laminar flow ($80 \leq Re_L \leq 280$), second wave laminar flow ($280 \leq Re_L \leq 1600$), and turbulent flow ($Re_L > 1600$). It has been shown that the ratio of \bar{w}_L to the average liquid velocity \bar{v}_L in the range of laminar flow conditions is less than $3/2$. The velocity on the liquid film surface has also been determined in presence of surface active materials and dilute aqueous solutions of polymers.

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172 . 039 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SPACE PSYCHOPHYSIOLOGY -U-
AUTHOR--KOSMOLINSKIY, F., MYASNIKOV, V.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA GAZETA, JUNE 5, 1970, P 3, COLS 1-2
DATE PUBLISHED--05JUN70
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TOPIC TAGS--METABOLISM, SLEEP, COSMONAUT TRAINING, DIET, DRUG, MAN MACHINE SYSTEM
CONTROL MARKING--NO RESTRICTIONS
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PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AN0103348

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE IS A BRIEF DISCUSSION OF THE "MAN FLYING VEHICLE" THEME IN THE MEDICAL BIOLOGICAL FRAMEWORK. IN CONCLUDING, THE AUTHORS SAY THAT THE IMPROVEMENT OF THE METHODS OF GENERAL AND SPECIAL PHYSICAL TRAINING, AND THE CONTROL OF THE METABOLISM WITH THE AID OF PROPER DIETING AND CERTAIN DRUGS MERIT SPECIAL ATTENTION. THEY ALSO STRESS THE IMPORTANCE OF SELF REGULATED SLEEP.

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MYASNIKOV, V. A.

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METALLURGY AND MINERALS

SR: 2074 60382

PROG. 1707-10
RESOURCES 2 1973
No. 1973

M. Maslov
SCST

AUTOMATED PROCESSES AT FERROUS METALLURGY ENTERPRISES

Article by V. A. Myasnikov, Chief of the Main Administration for Computer Equipment and Control Systems of the State Committee for Science and Engineering of the Council of Ministers of the USSR; Planning, while preparing for the future; Moscow, Izvestiya, Russian, 11 September 1973, p. 27

Metal is referred to as the bread of industry. Naturally, all branches of the national economy are thus dependent upon the status of affairs in the metallurgical industry, the degree to which it is equipped and also upon its labor productivity.

The Directives of the 24th CPSU Congress for the five-year plan for developing the national economy of the USSR during the 1971-1975 period assigned great tasks to ferrous metallurgy with regard to increasing its output and improving the quality of its products, raising labor productivity and introducing progressive production methods. Plans call for the placing in operation of a number of powerful blast furnaces, electro-steel smelting furnaces, oxygen converters and metal rolling and tube rolling mills.

Optimum control over modern metallurgical assemblies, such as a blast furnace capable of producing up to four million tons of cast iron annually and thin sheet rolling mills capable of turning out 4-6 million tons of rolled metal annually, cannot be achieved if use is not made of modern automatic and computer equipment.

Unfortunately the level of automation of technological processes in ferrous metallurgy is still inadequate and does not always conform with the modern technical level.

The first stage of automation is mechanization. However the level of mechanization in this branch is very low. Of all of the operations being carried out at metallurgical enterprises, an average of only 50 percent have been mechanized. Moreover, in such processes as the extraction of ore and raw materials and in a number of operations concerned with the production of

V. A. Myasnikov

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MYASNIKOV, V.A.

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INCREASED AUTOMATED CONTROL CAUSES DIFFICULTIES

Article by V. Masnikov, head of the Main Administration of Computer Technology and Control Systems, member of the State Committee for Science and Technology of the USSR Council of Ministers, doctor of technical sciences, professor Masnikov, Izv., Russian, 27 November 1973, p 21

Today's electronic computer technology is firmly entrenched in our lives. Industry is already producing the third generation of electronic computers and scientists are working on creating machines of subsequent generations.

Progress takes place extremely rapidly in this area. Quite recently, little more than 9 years ago, the first automatic "controllers" appeared in the plants and factories. At first they only looked after individual operations of technological processes... then they began to assist in the control of production of entire enterprises. On the agenda now is the question of extensively introducing branch automated control systems -- OASU. The experience of the Ministry of Instrument Building, means of Automation, and Control Systems shows how effective this system is. The first section of OASU-Prilob has already been in industrial operation for several years. The overall economic effect from introducing it in 1971 was more than 12 million rubles and last year it was 11.5 million rubles.

But, as with anything new, when creating automated control systems there arose many complicating problems which required immediate solution. Today, for example, many industries and branches are not prepared to introduce ASU. Serious discrepancies arise between the existing level of organization of production and control on the one hand and new technical equipment on the other. After all, the use of ASU presupposes a qualitatively different approach to these problems. Beginning with new criteria, it is necessary to improve the management staff levels and clearly determine the functions of each worker in this system, his rights and responsibilities. In particular, it is necessary to considerably simplify or even replace several forms of documents. Say that when introducing ASU-Prilob it turns

Up to now economic accountability has not been introduced at the districts and in
 in enterprises of basic and auxiliary production. Accounting of the expenditure of material
 resources has been poorly organized, and instruments of padding are still em-
 ployed.
 The level of political indoctrination has been low, and this has been reflected in
 the state of labor discipline.
 The collective of the 'Mangyshskiy' Association has major problems to solve in
 increasing the output of oil and gas.
 For this it is essential to take measures to accelerate the rate of petroleum ex-
 ploitation on the basis of improved and utilizing all reserves. The task for the oil sector
 is to ensure that the plan for the year is fulfilled. The task for the oil sector
 is to ensure that the plan for the year is fulfilled. The task for the oil sector
 is to ensure that the plan for the year is fulfilled.

D. Programming and Theory of Mathematical Machines

USSR

MYASNIKOV. V. A.

"Improvement of Control and Automated Systems"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1972, No 1, pp 3-8 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V592, by the author).

Translation: The basic scientific and technical problems arising in connection with fulfillment of the directives of the resolutions of the 24th CPSU Congress in the area of automation of control of the national economy are presented.

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MYASNIKOV, V.M.

T.V. Engineering

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INCREASE IN RESOLUTION POWER OF CAMERA TUBES

Y.A. Ryftin and V.M. Myasnikov
TV Engineering

Tekhn. Kino and Telev. 8 (Aug. 1972) 37-42
(from Russian)

ERIC Transl. No. 3025 January 1973

Translated by F.C. Allen

USSR

MYASNIKOV, V. Ye.

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UDC 621.372:8:621.385.63

"Isofrequencies of a Multistage Type Delay System"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Engineering. Scientific and Technical Collection. Superhigh-Frequency Electronics), 1970, vyp. 5, pp 140-142 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8B131)

Translation: This article contains a study of a two-dimensional periodic multi-stage delay system of the multiconductor line type rolled into a cylinder and loaded periodically along the axis with reactive elements. When constructing the isofrequencies the given system is represented in the form of a planar two-dimensional periodic orthogonal array. Analysis of the picture of the isofrequencies permits us to draw some conclusions with respect to the geometry of the system and the direction of propagation of normal waves. There are two illustrations and a two-entry bibliography.

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Epidemiology

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DOBROKHOTOV, B. P., MESHCHERYAKOVA, I. S., DOLOTOVA, L. A., POMANSKAYA, L. A., ARSEN'YEV, V. P., LEVACHEVA, Z. A., PANINA, T. V., KATELINA, A. F. and MYASNIKOV, Yu. A., Institute of Epidemiology, and Microbiology imeni Gamaleya, Academy of Medical Sciences, and Tul'skaya Oblast Sanitary-Epidemiological Station

"Application of a New Method of Detecting Tularemia Epizootics Under Practical Conditions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

The timely detection, study, and prognostication of tularemia epizootics occupy an important place in the work of divisions of especially dangerous infections of sanitary-epidemiological stations inasmuch as this makes it possible to plan and carry out prophylactic measures against this infection properly. However, methods employed at the present time for detecting epizootics in nature are extremely labor-consuming and require a great deal of time both for the collection of field material and for its laboratory examination. It is practically impossible to survey each year the entire territory serviced by the station; therefore it is expedient to conduct a detailed study of circumstances in localities only after an approximate determination of the
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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

probability of the presence of tularemia epizootics in any of their parts. For this preliminary estimate it was suggested that pellets of birds of prey be examined for the presence of the tularemia microbe antigen [1]. Results of the practical application of this method under the conditions of Tul'skaya Oblast are presented in this report.

On the given territory, located in the Central Russian highlands, foci of tularemia of the meadow-field type [2] are widely distributed, the principal carrier being the ordinary field mouse and the long-time preserver of the causative agent, the tick *D. pictus*. In spite of substantial changes which have taken place in the method of conducting agriculture, these foci continue to exist; although as a result of the mass vaccination of the population, instances of disease among the people are extremely rare [3].

During 1968 to 1971 regular organized zoologic-parasitological work was carried out in the Oblast. A total of 25,832 traps were set up in the fields by workers in the Division of Especially Dangerous Infections during the time indicated; 497 cubic meters of straw were displaced; 84 hectares of the control areas were dug up and as a result 2,199 ordinary field mice were caught.

In the autumn of 1968 a large number of ordinary field mice were observed in the southern rayons of the Oblast: more than 500 per hectare; and in the

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north up to 1000-1500 in some places. This led to a concentration of small animals in the stacks (19 to 25% falling into the traps) and to the occurrence among them of tularemia epizootics. In December of 1968 and in January 1969 15 strains of the causative agent were isolated in Kurkinskiy and Shchekinskiy rayons of the Oblast: 5 from the carcasses of the field mice and 10 from the excrement. In the course of the entire year 1969 the number of field mice was low and the next increase was not registered until in the autumn of 1970: on isolated fields (clover) up to 2000, and in Shchekinskiy and Odoyevskiy rayons, up to 5000 per hectare. In 1971 the number of ordinary field mice in the entire Oblast was extremely low. During these years negative results were obtained in bacteriological investigations of small animals; only one culture of the tularemia microbe was isolated in June 1970 from the ticks *D. pictus* collected from cows in Suvorovskiy Rayon. Thus from 1968 to 1971 during an intensive inspection of the Oblast, the presence of tularemia was established by a bacteriological method in only three rayons -- Kurkinskiy, Shchekinskiy, and Suvorovskiy.

During 1969 to 1971, 1490 pellets of birds of prey were collected and examined in the Oblast. Their collection took place primarily in the spring

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

(April - May) at the time of three-to-four-day field trips by automobile; a certain number was collected incidentally while other zoological work was being carried out. The pellets were most frequently found near poles of electro-transmission and communications lines, on stacks, and near other structures on the landscape. During the entire time in the collection of pellets approximately 30 man-days were used which comprised an extremely insignificant part of the time expended by the division for inspecting the Oblast. Unfortunately in some of the 18 rayons covered by the collection, an insufficient number of pellets were found, which did not permit the positive determination of an epizootic condition of the rodent population in their territory (See Drawing). The number of pellets collected at any point was directly dependent on the number of ordinary field mice in a given locality: under an increased concentration of these rodents more birds of prey were observed and it was possible to find more pellets.

In the spring collections pellets (which had been preserved since autumn) of ordinary and rough-legged buzzards that winter in the territory predominated (more than 90%). A large portion of the pellets of the lesser falcons had disintegrated by this time. In 88 to 96% of the pellets the remains of ordinary

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

field mice were encountered; those of other kinds of mammals (mice of plowed land, field mice, grey hamsters, gophers, weasels, shrews) and birds were rarely encountered. During a selective examination in 1969, the remains of 128 small animals were detected in 85 pellets; in 1970, in 232 pellets, the remains of 356 small animals; and in 1971, the remains of 200 small animals in 140 pellets, giving an average of 1.5 small animal per pellet.

In this manner the 1490 pellets collected contained more small animals than those obtained in the fields during these years for investigation by all other methods. One should also keep in view that by consuming in nature primarily the weakened animals or their carcasses, birds of prey ensure the selection out of the animal population of precisely those individuals which are desirable for bacteriological investigation.

The presence of an antigen in the pellets positively confirmed the fact of an epizootic condition while through an analysis of the bone remains it was possible to determine the kinds of mammals involved in the epizootic process.

For the purpose of detecting the antigen the antibody neutralization reaction was employed. The material was prepared and the reaction carried out by the method described earlier [1].

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The antigen of the tularemia microbe was detected in 173 pellets collected in the territory of 11 rayons of the Oblast. Only those results were considered positive in which there was a sharp delay in hemagglutination which was observed in titrations (from the initial dry weight of the pellet); 1:10 - 1:20 in 73 cases; 1:40 - 1:80 in 67 cases; 1:160 - 1:320 in 23 cases; 1:640 - 1:1280 in 12 cases (See Table).

The number of sites where pellets were found containing an antigen was significantly greater than the number of sites where cultures were formed -- 21 against 4. This made it possible to establish with far greater precision the boundaries of epizootics that had transpired, and it testified to the fact that an epizootic situation with respect to tularemia still exists in a significant part of the territory of Tul'skaya Oblast. Moreover, the presence of epizootics was successfully established for the years having a smaller number of ordinary field mice where it is impossible to detect the causative agent of tularemia by the usually applied methods.

In such torpid epizootics the tularemia microbe antigen is detected only in 1 to 1.5% of the pellets. Cultures of the tularemia microbe from rodents can be isolated only at the time of sufficiently intensive epizootics, and in 6/10

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such places more than 20% of the collected pellets contained the tularemia microbe antigen.

In this way, results of an examination of pellets (by the antibody neutralization reaction) collected in early spring in meadow-field foci of tularemia can serve as a precise indication of the existence during the past winter of epizootic tularemia in the territory being surveyed and its magnitude. The revelation of this fact is extremely important in determining the enzooticity of the territory for the purpose of conducting prophylactic measures, the first and foremost being systematic vaccinations. Necessarily in a suspect territory a more thorough collection of material must be achieved for the purpose of isolating the causative agent of tularemia by ordinary bacteriological methods.

Conclusions

1. Examination of pellets of birds of prey collected in springtime in meadow-field foci of tularemia for the presence of the tularemia microbe antigen makes it possible quickly and with a small expenditure of work to establish the past winter's epizootics of this infection and their intensity over extensive areas.

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

2. In the course of the years 1969 to 1971, tularemia enzooticity was established by the indicated method in 11 rayons of Tul'skaya Oblast; whereas by the bacteriological method the causative agent was detected in only 3 rayons.

3. With a sufficient amount of research material (100 to 200 pellets from each point) it will be possible to successfully detect each year even torpid tularemia epizootics, given a reduced number of ordinary field mice per focus.

4. The suggested method is completely suitable for use in work of divisions of especially dangerous infections of sanitary-epidemiological stations.

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2. Myasnikov, Yu. A., Prirodnyye Ochagi Tulyaremiy Srednerusskoy Vozvyshennosti, ikh Epidemiologicheskiye Osobennosti i Profilaktika [Natural Tularemia Sites of Central Russian Highlands, Their Epidemiological Features and Prophylactics], Thesis for Doctor of M., 1963.
4. Olsuf'yev, N. G., Dobrokhotov, B. P. et al., Zh. Mikrobiol., 1971, No 6, p 117.

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

NUMBER OF PELLETS BY YEAR

RAYON	1969		1970		1971	
	Total	With Antigen	Total	With Antigen	Total	With Antigen
Kurkinskiy	149	33	24	--	22	1
Yefremovskiy	58	23	40	--	14	--
Kamenskiy	--	--	14	--	40	1
Chernskiy	--	--	8	--	117	--
Teplo-Orarevskiy	27	4	24	--	--	--
Kireyevskiy	--	--	30	--	166	2
Odoyevskiy	--	--	2	--	98	42
Dubenskiy	--	--	--	--	185	55
Leninskiy	--	--	22	--	168	5
Venevskiy	2	--	67	2	--	--
Yasnogorskiy	--	--	23	3	--	--
Zaokskiy	--	--	4	--	46	2
Aleksinskiy	--	--	12	--	36	--
Prochiye	8	--	50	--	32	--
Total	274	60	320	5	932	103

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

Drawing

EXAMINATION OF PELLETS OF BIRDS OF PREY FOR
TULAREMIA MICROBE ANTIGEN CONTENT IN MEADOW-
FIELD FOCI OF TUL'SKAYA OBLAST

1. Sites of Formation of Cultures of Tularemia Microbe From the Smaller Mammals, From Their Excrement and Ixodic Ticks
2. Collection Point of Pellets in 1969
3. Collection Point of Pellets in 1970
4. Collection Point of Pellets in 1971

Crosshatched symbols are points where the tularemia microbe antigen was found in pellets; dotted symbols are points at which more than 5 pellets were collected.

- Key:
- | | |
|---------------|--------------|
| 1. Yasnogorsk | 7. Kireyevsk |
| 2. Venev | 8. Odoyev |
| 3. Tula | 9. Teploye |
| 4. Dubna | 10. Kurkino |
| 5. Suvorov | 11. Yefremov |
| 6. Shchekino | |

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UDC 620.193.28

ZAKHAROV, YU. V., MYASNIKOV, YU. E., UL'YANIN, YE. A., VASIL'YEV, P. YE.,
and USTIMENKO, M. YU., Central Scientific Research Institute of Ferrous
Metallurgy imeni I. P. Bardin

"Investigation of High-Strength Steels and Alloys for Work in Humid Hydrogen
Sulfide"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 61-63

Abstract: The tendency to failure under the action of hydrogen sulfide was investigated on 40Kh and 65G structural steels. 4Kh13 and Kh16N7M2Yu stainless steel subjected to martensitic transformation, and dispersion-hardened KhN40MDTYu (EP543) austenitic steel. Cylindrical specimens of 40Kh and 4Kh13 steels and EP-543 alloy were over a period of one month. The test results revealed that 40Kh and 4Kh13 steels in the hardened state ($R_c > 30$) are highly inclined to cracking in the presence of humid hydrogen sulfide, whereas the EP-543 alloy is stable. Laboratory tests under similar conditions revealed a high stability of austenitic dispersion-hardened EI437B alloy on a nickel base. One figure, twelve bibliographic references.

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USSR

UDC: 621.386.12:548.73.08

KUZNETSOV, F. I., SMIRNOVA, Z. F., and MYASNIKOV, YU. G.

"The Mars-2 X-ray Unit"

V sb. Apparatura i metody rentgenovsk. analiza (Equipment and Methods of X-ray Analysis -- collection of works), Vyp.11, Leningrad, "Mashinostroyeniye", 1972, pp 39-43 (from RZh-32.Metrologiya i Izmeritel'naya Tekhnika, No 5, 1973, Abstract No 5.32.892)

Translation: The authors present a description of the Mars-2 bench type x-ray unit with an x-ray radiation generator of 0.1 kw output in the form of the BSV-7 sealed off, sharp-focus tube. The x-ray unit ensures the supply of uniformly controllable voltage to the tube within the 0 to 50 kv limits. The anode current is regulated by the supply of direct current with a 0-125v shift to the forcing electrode of the tube. The standard deviation from the given voltage value and the anode current for 12 hours of continuous operation does not exceed 2 percent. An example is given of using the unit in the realization of the high-resolution topographic Lang method. Original article: three illustrations and two bibliographic entries. Resume.

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USSR

UDC 613.6:612.766.1-08

VOL'KHINA, T. P., KAGAN, B. I., and MYASNIKOVA, G. P., Sverdlovsk Scientific Research Institute of Labor Hygiene and Occupational Diseases"

"Physiological Evaluation of the Difficulty of Work"

Moscow, Gigiyean i Sanitariya, No 4, 1971, pp 100-102

Abstract: Various physiological indexes (pulse rate, muscular strength, coordination of movement, reactions to sound and light, attention, and so forth) were investigated as a means of grading the difficulty of the jobs of several categories of workers - lathe operator, machinist, milling machine operator, engineer/programmer - in a pilot machine plant. Pilot plants are characterized by the lack of strict control of the industrial processes, uniqueness of the products, creative nature of the workers' participation, and so forth. Judging primarily by the pulse rate, the lathe operator's job is moderately difficult (90 to 99 beats per minute) while the jobs of the machinist, milling machine operator, and engineer/programmer are light (less than 90 pulse beats per minute). But with regard to nervous strain and fatigue, all four categories of workers are essentially a like, i.e., the work of a lathe operator, machinist, and milling machine operator in a pilot plant is essentially a variety of mental work.

1/1

Microbiology

USSR

UDC 576.851.45.077.3:576.8.073.4

URALEVA, V. S., FETSAYLOVA, O. P., MYASNIKOVA, G. S., DASHKEVICH, L. V., and AZARTSEV, A. N., Rostov-na-Donu Scientific Research Antiplague Institute and Poltavskaya, Yaroslavskaya, and Orlovskaya Oblast Sanitary Epidemiological Stations

"Results Obtained by Means of Fluorescent Antibodies During Investigation of Natural Foci of Tularemia"

Moscow, Laboratornoye Delo, No 1, 1973, pp 57-58

Abstract: Spleen, blood, lymph node, liver, and lung smear prints of 13 infected laboratory mice were treated with luminescent tularemia serum. A large number of brightly luminescent microbes were found in the samples of seven animals. Bacteriological investigations yielded tularemia pathogen from all 13 animals. Luminescent bodies resembling tularemia microbes were also observed in two additional mice infected with *Dermacentor pictus* ticks. However, no tularemia bacteria were isolated from these animals. It was established that smear prints of internal organs remain suitable for treatment with luminescent serum for up to 6 months if kept in a refrigerator and for up to 3 months if kept at room temperature. The method of contrasting specific luminescence yields good results only if bovine albumin tagged with fluorothiocyanate is used. Albumin tagged with isothiocyanate is ineffective.

1/1

USSR

UDC 577.858.27.095.51.095.14

SOKOLOV, M. I., and MYASHNIKOVA, I. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Mutagenic Action of Ultraviolet Rays on Fowl Plague Virus. Selection and Characterization of Some Properties of Plus and Minus UV-Mutants"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 453-456

Abstract: The nature of UV mutagenesis was studied on the model of LpI (large-plaque) fowl plague virus growing in chick embryo fibroblast culture. When subjected to 200 ergs/mm^2 , the rate of S⁻-mutant appearance in intracellular reproducing colonies increased 10-fold over that of the wild virus. Such mutations were found to be reversible after several passages. All S⁻-mutants displayed reduced reproductive activity at optimum (37°C) and higher and lower temperatures (32°, 40°). However, differences in response to temperature, in erythrocyte agglutinating ability, and response to triprotamine sulfate separated these mutants into 3 groups: Group 1 -- lowest reproductive rates at all temperatures, loss of ability to agglutinate chick and rat erythrocytes (minus mutants), no response to triprotamine sulfate; group 2 -- reproduce at 32 and 37°C but not at 40°C, added ability to agglutinate mouse erythrocytes, in addition to those of chicks and rats

1/2

USSR

SOKOLOV, M. I. and MYASHNIKOVA, I. A., Voprosy Virusologii, No 4, Jul/Aug 72, pp 453-458

(plus mutants), no response to triprotamine sulfate; group 3 -- reproductive rates intermediate to those of groups 1 and 2, maintained ability to agglutinate chick and rat erythrocytes, reproduction inhibited by agar polysaccharides and plaque formation stimulated by protamine sulfate. Intracellular mutations probably arise due to simple replacement of nitrogenous bases. Mutants arose in extracellular (intact) wild colonies subjected to 1,000 and 1,500 ergs/mm² only after 2 or more passages, dissociating into colonies with large and small plaques. Late development of S⁻-mutants in this case suggests heterozygotic dissociation of the large-plaque phenotype and prolonged mutagenesis.

2/2

USSR

UDC 576.858.75.095.57

PODCHERNYAYEVA, R. Ya., SOKOLOV, M. I., PARASYUK, N. A., MYASNIKOVA, I. A.,
BASOVA, E. A., SOKOLOVA, N. N., and MOLIBOG, Ye. V., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Study of Genetic Markers and Their Variability in Influenza Virus Isolated
During the 1968-1969 Influenza Epidemic. II. Variability of Genetic
Markers in Influenza Type A₂ (Hongkong) Virus In Passages in Mice at Low
Temperatures"

Moscow, Voprosy Virusologii, No 5, 1971, pp 543-548

Abstract: Ten passages of influenza type A₂ (Hong Kong) virus in mice re-
sulted in variants that produced lung changes typical of influenza in mice.
After the 20th passage, the pathogenic variants exhibited increased repro-
ductive activity at 36 and 40°C. All strains, except A₂ (Hong Kong) 1/68
M₂₀, resisted heating to 56°C. Like the original strains, they were com-
pleted adsorbed on chick erythrocytes but were more readily eluted from
them. Neuraminidase activity was half that in the original strains. The
pathological variants remained sensitive to normal animal serum inhibitors
and did not agglutinate mouse erythrocytes. They resembled the original
strains in resistance to trypsin, urea, and ultraviolet irradiation.

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USSR

PODCHERNYAYEVA, R. Ya., et al., Voprosy Virusologii, No 5, 1971, pp 543-548

After 10 passages of A2 (Hong Kong) 1/68 and its pathogenic variant A2 (Hong Kong) 1/68 M₂₀ in chick embryos incubated after inoculation at 28°C both strains reproduced actively and remained able to do so even at 40°C.

2/2

USSR

UDC 519.21

MYASNIKOVA, I. A.

"Necessary and Sufficient Condition for Existence of Limiting Cycles of One Class of Systems of Differential Equations with Random Right Portion"

Nekotor. Krayev. Zadachi Obyknoven. Differents. Uravneniy [Some Boundary Problems of Ordinary Differential Equations -- Collection of Works], Moscow, 1970, pp 98-103, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V102 by M. Nevel'son).

Translation: A system of two equations with random coefficients dependent on a small parameter μ and having a "center" type singular point where $\mu = 0$ is studied. Conditions are presented providing the existence of a limiting cycle for this system with probability 1 with all sufficiently small μ .

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- 4 -

4

USSR

UDC 576.858.75.095 5

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., MYASHNIKOVA, I. A.,
MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STAKHANOVA, V. M.,
Institute of Biology imeni D. I. Ivanovskiy, Academy of Medical Sciences,
USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the
1968-1969 Influenza Epidemic. Communication 1: Biological Properties of
Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuro-
midase and eluent activities, stability against UV light, and pathogenic and
toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar
strains isolated in the USSR. The latter strains did not differ significantly
from the former. On the basis of the test results, it is assumed that evolu-
tion of the A2 virus in nature does not involve reversion to strains of group
AO. Additional studies with laboratory varieties are required to elucidate
this problem.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--GENETIC MARKERS OF HERPES SIMPLEX VIRUS COMMUNICATION 2:
INVESTIGATION OF GENETIC MARKERS OF THE US STRAIN OF HERPES SIMPLEX
AUTHOR--(04)-RUDNEVA, I.A., GERMANDY, A.G., MYASNIKOVA, I.A., SOKOLOV, M.I.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 182-186

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERPES SIMPLEX VIRUS, TISSUE CULTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0729

STEP NO--UR/0402/70/000/002/0182/0186

CIRC ACCESSION NO--AP0108935

UNCLASSIFIED

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2/2 011

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108935

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VARIANT OF THE US STRAIN OF HERPES SIMPLEX VIRUS PRODUCING A CYTOPATHIC EFFECT IN HUMAN EMBRYO AND CHICK EMBRYO FIBROBLAST CULTURES WAS STUDIED. DIFFERENT SENSITIVITY OF THE US STRAIN TO SULFATED AGAR POLYSACCHARIDES DEPENDING ON THE TYPE OF CELL CULTURE WAS DEMONSTRATED: COMPLETE INHIBITION OF PLAQUE PRODUCTION WAS OBSERVED ONLY IN CHICK EMBRYO FIBROBLAST CULTURE BUT NOT IN HUMAN EMBRYO FIBROBLASTS. THE VARIANT UNDER STUDY WAS FOUND TO BE SENSITIVE TO 5-BROMODEOXYURIDINE AND TO BE INCAPABLE OF REPRODUCTION AT HIGH TEMPERATURE.

UNCLASSIFIED

USSR

UDC 669.292.5'24'71.013.13

MYASNIKOVA, K. P., PONOMAREVA, L. F., PRYAKHINA, L. I., and
MARSHAKOV, I. K., Moscow, Voronezh

"Study of the NiAl_3 - VAl_3 and Ni_2Al_3 - V_5Al_8 "

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71,
pp 186-189

Abstract: Microstructural, x-ray structural and thermal analysis were made to study the phase equilibria in NiAl_3 - VAl_3 and Ni_2Al_3 - V_5Al_8 . It is demonstrated that in the solid state, the alloys of both sections have a two-phase structure, the phase components of which are the initial compounds. The polythermal section of the NiAl_3 - VAl_3 cross section has three fields of primary crystallizations: $\text{L} + \text{Ni}_2\text{Al}_3$, $\text{L} + \text{VAl}_3$, and $\text{L} + \text{V}_5\text{Al}_8$. Fusion of the NiAl_3 compound in the entire concentration interval is incongruent in nature. The combined crystallization of the phases Ni_2Al_3 and V_5Al_8 in the 20-80 at.% V_5Al_8 interval occurs according to the eutectic type. The peritectic nature of the formation of the compounds Ni_2Al_3 and V_5Al_8 results in the presence of two three-phase areas on the polythermal section. The mutual replacement of nickel and vanadium atoms has little

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USSR

MYASNIKOVA, K. P., et al., Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan 71, pp 186-189

influence on increasing the hardness of alloys, due to the similarity of their atomic radii. The absolute value of hardness of alloys in the $Ni_2Al_3-V_5Al_8$ cross section is 2,5 times greater than the hardness of alloys in the $NiAl_3-VAl_3$ cross section.

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USSR

UDC 669:539.1:548.4

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MYASNIKOVA, K. P., Moscow

"Hereditary" Phenomena in the Crystallization Process of Double Solid Solutions of Nickel"

Moscow, Izvestiya Akademii Nauk SSSR, Metallurgy, No 4, Jul-Aug 70, pp 141-44.

Abstract: The "hereditary" bond of the cast structure of alloys with a chemical substructure of homogenized solid solutions was experimentally investigated on double solid solutions of electrolytic Ni with Zr iodide, electron-beam Nb, Nb in moldings, and refined Ru, Rh, and Pb, by the method of selective etching the surfaces in the cast, annealed, deformed, and recrystallized states. The analysis of microstructures of the investigated alloys shows that their solidification proceeds in accordance with the character of their instability diagram. Small additions of the second component in the Ni-Mo, Ni-Ru, and Ni-Rh systems do not give rise to noticeable liquation phenomena and their structure shows a polygonal character, but an increased concentration produces at first a vesicular and then a dendritic structure. Zr, Nb, and Pb dissolved in Ni intensively decrease the melting temperature and widen the temperature interval between the liquidus and solidus lines. The microstructure of all investigated alloys

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USSR

MYASNIKOVA, K. P., *Izvestiya Akademii Nauk SSSR, Metallurgiya*, No. 4, Jul-Aug 70, pp 143-149

becomes uniphase after a long-term homogenizing anneal at 1100° C. A comparison of microstructures also shows that the vesicular, acicular, and dendritic crystallization characters are related to analogous characters in the distribution of etching figures of annealed alloys and that the etching figures are consolidated with orientation characteristics of crystalline grains. The heat treatment, deformation, and recrystallization only slightly affect the "hereditary" structure of the crystallization process.

2/2

USSR

UDC 615.332 (LINCOMYCINUM).036.8:616.981.555-092.9

POLYAK, M. S. and MYASNIKOVA, L. G., Leningrad Scientific Research Institute of Antibiotics

"Experimental Study of Lincomycin in Gas Gangrene Infection"

Moscow, Antibiotiki, No 3, 1972, pp 218-222

Abstract: Lincomycin suppressed the multiplication of 15 pathogenic clostridial strains (*Cl. perfringens*, *Cl. oedematiens*, *Cl. septicum*, *Cl. histolyticum*, *Cl. sordelli*) in vitro at concentrations not exceeding 4 µg/ml (except *Cl. sordelli* which was resistant to the antibiotic). The bactericidal concentrations were generally twice the bacteriostatic. Bacteriostatic and bactericidal concentrations of erythromycin were in most cases similar to those of lincomycin. In experimental infection of mice caused by *Cl. perfringens* and *Cl. septicum*, lincomycin exhibited therapeutic activity, but it was ineffectual against *Cl. oedematiens* and *Cl. histolyticum*. When lincomycin was combined with tetracycline, the effect on all the *Cl. septicum*, *Cl. oedematiens*, *Cl. histolyticum*, and *Cl. sordelli* strains studied was negligible. However, a synergistic effect was noted in 7 of 8 *Cl. perfringens* strains treated with the two antibiotics. Study of the effect of sub-bacteriostatic concentrations of lincomycin and tetracycline on multiplication 1/2

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USSR

POLYAK, M. S., and MYASNIKOVA, L. G., Antibiotiki, No 3, 1972, pp 218-222

of the Clostridia revealed a considerable prolongation of the lag phase and decreased density of the biomass in the logarithmic and stationary phases.

2/2

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER
IN THE IRON CHROMIUM SILICON ALLOY SYSTEM -U-
AUTHOR-(03)-KRISHTAL, M.A., MOKROV, A.P., MYASNIKOVA, L.V.

COUNTRY OF INFO--USSR

SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 59-65

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHROMIUM STEEL, SILICON CONTAINING ALLOY, METAL DIFFUSION,
THERMODYNAMIC ANALYSIS, METAL SURFACE PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1679

STEP NO--UR/0369/70/006/002/0059/0065

CIRC ACCESSION NO--AP0129049

UNCLASSIFIED

2/2 026
CIRC ACCESSION NO--AP0129049

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME GENERAL LAWS GOVERNING THE KINETICS AND THERMODYNAMICS OF THE FORMATION OF A DIFFUSION LAYER ON CR STEELS IN THE COURSE OF SILICIZING (RESULTING IN THE FORMATION OF AN FE,CR,SI ALLOY) ARE PRESENTED. THE EFFECT OF CR ON THE SI DISTRIBUTION IS INDICATED AND THE KINETIC AND THERMODYNAMIC CONSTANTS FOR THE DIFFUSION OF SI IN THE FE,CR,SI SYSTEM ARE LISTED. THE RESULTS PRESENT A CLEAR PICTURE OF THE PROCESSES GOVERNING THE MUTUAL REDISTRIBUTION OF CR AND SI DURING THE SILICIZING OF CR STEELS AND HELP IN ESTIMATING THE MECHANICAL PROPERTIES OF THE SURFACE LAYER.

UNCLASSIFIED

Polymers and Polymerization

USSR

UDC 678.742.2.01:53

MYASNIKOVA, N. M. *M*

"Incombustible High-density Polyethylene"

Moscow, Plasticheskiye Massy, No 7, Jul 70, pp 37-39

Abstract: The article describes results of a study to determine the optimal quantities of additives for creating incombustible compositions based on high-density polyethylene. The additives used were chlorinated paraffin brand KhP-70, antimony trioxide and basic lead acetate and were introduced into the polyethylene individually or in combination. The best physicomechanical indices were found in a self-extinguishing composition consisting of high-density polyethylene plus 5 parts by weight of chloroparaffin plus 15 parts by weight of antimony trioxide plus one part by weight of basic lead acetate.

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Acc. Nr: **AP0049920**

Abstracting Service:
CHEMICAL ABST. 570

Ref. Code:
UR 0070

M

104827c Elastic constants of the anthracene crystal as a function of temperature. Afanas'eva, G. K.; Myasnikova, R. M. (Inst. Elementoorg. Soedin., Moscow, USSR) ~~Crystallografiya~~ 1970, 15(1), 189-90 (Russ). Elastic const. of monoclinic single crystals of anthracene were detd. by a method described earlier (CA 68: 33930k) for the temps. 100, 140, 180, 220, 260, and 300°K. For these temps. the elastic wave velocities V , and elastic constants c_{ij} are given. V increases with increasing temp. in a slightly distorted parabolic fashion. The av. value $\partial \ln c_{ij} / \partial T$ was, on the av., 2-times lower than that for naphthalene crystals. K. Volka

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USSR

UDC: 535.343

MYASNIKOVA, T. P. and YEVSEYEVA, R. Ya., Rostov-on-Don State University

"Effect of Light Dispersion on Infrared Spectra"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy--Fizika, No 11, 1972, pp 155-157

Abstract: To clarify the question of how close the spectrum of a suspension in vaseline, the most often used immersion material, is to the true spectrum, the authors undertook experiments comparing the infrared spectra of such specimens as potassium nitrate, sodium nitrite, and sodium argentonitrite. The first was made as a suspension in vaseline, as a cooled melt on a metallic grating, and as a monocrystal; the second as a suspension and a melt; the third as a suspension and as a monocrystal. The absorption spectra of all three are plotted. The purpose of the experiments described in this brief communication was to help explain experimental results in infrared spectroscopy.

1/1

USSR

UDC 681.325.3(088.8)(47)

MYASNOV, V. I., PLESHAKOV, A. A., and GASUMYAN, K. A.

"A Converter Which Converts an Interval of Time Into Digital Code"

USSR Author's Certificate, No 292173, Filed 8 Sep 69, Published 26 Feb 71
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B373 P)

Translation: A converter which contains generators of standard-frequency pulses, a pulse counter, and gates is suggested. In order to reduce errors in quantization that is performed n times and to reduce the possibility of using the counting elements with the least limiting frequency of switching, the lower positions of the pulse counter contain n counting cells, and to the inputs of these cells the corresponding codes of the n -step standard-frequency pulse generator are connected via the gates. The one and zero outputs of the counting cells of the lower positions are connected to the corresponding inputs of the AND logic circuits, the outputs of which are connected via an OR circuit with the counting input of the higher positions of the counter. 1 illustration.

1/1

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USSR

UDC: 681.325

MYASNOV, V. I., PLESHAKOV, A. A., GASUMYAN, K. A.

"A Converter Which Changes a Time Interval to Digital Code"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 4, Feb 71, Author's Certificate No 292173, Division G, filed 28 Mar 69, published 6 Jan 71, p 135

Translation: This Author's Certificate introduces a converter for changing a time interval to digital code. The unit contains a standard frequency pulse oscillator, a pulse counter and diodes. As a distinguishing feature of the patent, the unit is designed for reducing the error of quantization by a factor of n , and provision is made for using counting elements with a lower maximum switching frequency. The least significant digits of the pulse counter contain counting cells with the outputs of the n -cycle standard frequency pulse oscillator connected to their corresponding inputs through diodes. The one-output and zero-output terminals of the counting cells of the least significant digits are connected to the inputs of AND logic circuits whose outputs are connected through an OR circuit to the counting input of the most significant digits in the counter.

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USSR

UDC 543.70

SAVVIN, S. B., MYASOYEDOV, B. F., YELISEYEVA, O. P.,
Institute of Geochemistry and Analytical Chemistry imeni
V. I. Vernadskiy, Moscow, Academy of Sciences USSR

"Removal of Microimpurities of Tantalum from Niobium by Sorption
on Chelate Resins"

Moscow, Zhurnal Analiticheskoy Khimii, Vol XX, No 7, pp 1023-1026

Abstract: The authors report the results of their study of the separation of small amounts of tantalum from niobium using chelate resins -- as derivatives of polystyrene containing arsono groups. The experimental procedure is described and data are presented for the sorption of test quantities of ^{182}Ta and ^{95}Nb from HCl and H_2SO_4 under varying conditions and as a function of the time the initial Ta solution has been stored. The effect of the Nb concentration on sorption of the test quantities of Ta from 20 N H_2SO_4 is also given. Data are presented for sorption of Ta by one of the arsono groups from 20N H_2SO_4 , desorption of ^{182}Ta by anhydrous hydrofluoric acid (20 mg of resin, $V = 10 \text{ ml}$), and sorption of Ta in the presence of 10 mg of Nb from 20 N H_2SO_4 . The experiment in

USSR

SAVVIN, S. B., et al, Zhurnal Analiticheskoy Khimii, Vol XX,
No 7, pp 1023-1026

separating niobium from microimpurities of tantalum by sorption
on a resin from 20 N H_2SO_4 solutions was successful.

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UDC 519.2

USSR

MALYUTOV, M. B., MYATLEV, V. D.

"Minimax Plans for Checking the Adequacy of a Linear Model on a Cube and a Sphere"

Minimaksnyye plany proverki adekvatnosti lineynoy modeli na kube i share (Minimax Plans for Checking the Adequacy of a Linear Model on a Cube and a Sphere), Interdepartmental Laboratory of Statistical Methods, Preprint No 23, Moscow, Moscow University, 1971, 18 pp, 3 k. (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V165K)

Translation: Let in the domain $X \subset \mathbb{R}^k$ the second order polynomial $\eta(x)$ be measured where the measurements are independent and equally accurate. The hypothesis $\theta_2 = 0$ is checked where θ_2 is the vector of the coefficients for the second degree terms. The parameter of noncentralness $\Delta(\epsilon, \theta_2)$ of the F-criterion depends on the experimental plan ϵ and the vector θ_2 . The minimax plans ϵ^* maximizing $\min \Delta(\epsilon, \theta_2)$ are introduced. These plans are found for the

case where X is a cube or a sphere. It turns out that the part D_2 of the dispersion matrix of estimates pertaining to the parameters θ_2 in these cases is a multiple of the unit part for the ϵ^* plan. Thus, $\Delta(\epsilon^*, \theta_2)$ does not depend on

θ_2 for $\theta_2^T \theta_2 = 1$.

AA0044790

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243259 MEASURING THE ADHESION OF PARTICLES to a prepared electrode by imposing a powerful electrical field is effective by loses accuracy if the exact breakaway point cannot be observed. The proposed design offers observation by making the electrode transparent. The diagram shows the upper transparent electrode 1 carrying a transparent conducting coating 2, on the lower surface of which are deposited the particles 12, of which the breakaway force is to be determined; these are distributed not less than 2-3 diameters apart. The lower electrode 6, in net form, is replaced, with ring 7, after inserting the particles,

AUTHORS: Myazdrikov, O. A.; Nikolayev, O. S.; Puzanov, V. N.;
Bantikov, V. S.; Yekimova, N. F.
Leningradskiy Institut Aviatsionnogo Priborostroyeniya

18

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AA0044790

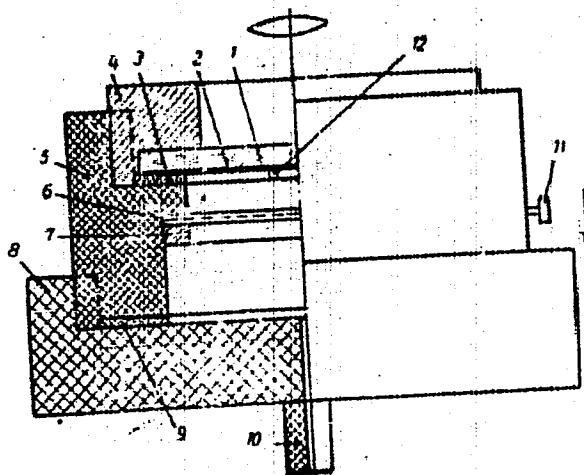
sealing cap 8 replaced and the cavity filled with some gas at required pressure via nipple 10. The assembly is then placed under the microscope and a high voltage applied between terminal 11 of 6, and 4. Under the microscope the largest particles are selected for observation and their mean diameter estimated. As the specification shows mathematically, the adhesion force is a function of the square of the breakaway voltage and, inversely, the particle mean radius. These functions are observed by microscope, hence the force can be calculated.

23.12.67 as 1205295/26-25.O.A.MYAZDRIKOV et al.
(LENINGRAD) AVIATION INSTRUMENTATION INST.(23.9.69)
Rul 16/5.5.69. Class 421. Int.C1.G Oln.

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AA0044790



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19771612

Handwritten signature or mark

Acc. Nr.: AT0046533

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Ref. Code: UR 0146

USSR

UDC 621.317.335.2
621.317.331

MYAZDRIKOV, O.A., PAVLOV, V.V.

"Technique for Measuring Capacitor Parameters by the Discharge Method"

Sposob ismereniya parametrov kondensatorov po metodu razryada (cf. English above), Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, 1970, No 1, pp 24-29

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Reel/Frame
19781793

AT0046533

Translation:

A technique for measuring capacitance by direct current is examined, which is based on the discharge of a precharged capacitor with the aid of a macrocharge self-oscillatory system.

A different version of the self-oscillatory circuit is proposed for use as a converter of the measured capacity, time constant, and insulation resistance.

Formulas for the measurement and for the systematic errors are derived.

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19781794

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70
 TITLE--EFFECT OF NEROBOLIL ON THE DEVELOPMENT OF REPARATIVE PROCESSES IN
 THE MYOCARDIUM OF RABBITS DURING EXPERIMENTAL MYOCARDIAL INFARCTION -U-
 AUTHDR-(03)-KNYAZEVA, G.D., MYAZORIKOVA, A.A., MIRDONENKO, A.I.
 COUNTRY OF INFO--USSR
 SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 182-7
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--ANDROGEN, HEART DISEASE, ELECTROCARDIOGRAPHY, TISSUE
 REGENERATION
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1997/0181 STEP NO--UK/0390/70/033/002/0182/0187
 CIRC ACCESSION NO--AP0119177
 UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0119177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEROBOLIL ADMINISTERED I.M. AT 10 MG-KG TO RABBITS WITH EXPTL. MYOCARDIAL INFARCTION NORMALIZED THE SERUM ALBUMIN TO GLOBULINS AND THE BETA LIPOPROTEINS TO ALPHA LIPOPROTEINS RATIOS, RESTORED THE DECREASED LECITHIN TO CHOLESTEROL RATIO, AND IMPROVED THE ELECTROLYTE BALANCE AND ELECTROCARDIOGRAM. NEROBIL FASTENED REGENERATIVE PROCESSES BY STIMULATING FORMATION OF GRANULATION TISSUE DURING RESORPTION OF NECROSIS, AND ACCELERATED DIFFERENTIATION OF THE CELLULAR ELEMENTS. SCAR TISSUE FORMED MORE RAPIDLY AND AS A RESULT COVERED LESS AREA. FACILITY: I. MOSK. MED. INST. IN. SECHENOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 582.26:581.4:03

VELYCHKO, I. M., and MYGAL', O. K., Institute of Hydrobiology, Academy of Sciences Ukrainian SSR, Kiev

"Method for Determination of the Average Volume of Algae Cells"

Kiev, Ukrainskiy Botanicheskiy Zhurnal, Vol 28, No 2, Mar/Apr 71, pp 251-253

Abstract: Direct determination of the biomass of algae is possible only when algae occur in great numbers (e.g., in "blooming" reservoirs) and the water does not contain a large number of particles other than algae cells. If these conditions are not fulfilled, the volume method of estimating the biomass is applied, which is based on a determination of the average cell volume. The average volume of algae cells that belong to different dimensional groups, but constitute geometrically similar bodies can be calculated more precisely by using the mean cubical rather than mean arithmetic linear parameters of a cell. The mean cubic linear parameters are calculated according to the formula

$$K = \sqrt[n]{\frac{\sum x^3}{n}},$$

where x are the results of individual measurements and n is the number of cells measured.

1/1

USSR

UDC 541.63:547.1'118

SHAGIDULLIN, R. R., SAMITOV, YU. YU., MYKHAMETOV, F. S., and RIZPOLOZHENSKIY, N. I., Institute of Organic and Physical Chemistry Imeni A. Ye. Arbuzov, Acad. Sc. USSR

"Stereochemistry of Organophosphorus Compounds. 1 Communication. Configuration and Conformations of 2-Substituted Oxaphospholanols-3"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 72, pp 1604-1612

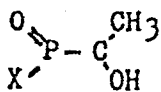
Abstract: In continuation of their studies, the reaction of diacid chlorides of phosphorous, amidophosphorous, and alkyl(aryl)phosphonous acids with diacetone alcohol in presence of triethylamine was investigated. In two cases of the reaction of the diacid chlorides of diethylamidophosphorous and phenylphosphonous acids with diacetone alcohol two pairs of products were isolated with sharp melting points 125-126° and 118-119° for one pair, and 135-136° and 164-165° for the other pair. Analytical data showed these pairs to have identical composition. Analysis of IR and NMR spectra showed them to be configurational isomers of

1/2

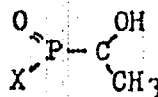
- 38 -

USSR

SHAGIDULLIN, R. R., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, Jul 72, pp 1604-1612



and



α -Hydroxyphosphoryl compounds with open chains exist as rotational isomers stabilized by intramolecular H-bond with the oxygen of the phosphoryl group or the heteroatom of the ether group.

2/2

USSR

UDC 615.21



MYKHIN, YE. A., MATKOVSKIY, K. D., and PARIY, B. I., editors

Farmakologiya Amidinovykh Soyedineniy (Pharmacology of Amidine Compounds),
Kishinev, "Shtinitza", 1972, 188 p

Translation:

Annotation

The collection presented experimental data and clinical material on the protective properties and mechanism of action of amidine compounds during hyperoxia and hypoxia as well as on the effect of these substances on physical fitness, the cardiovascular system, and uterus. The review articles on athyrone and gutimine provide a fairly complete idea of the nature of this new and highly promising group of drugs.

The collection is of interest to pharmacologists, pathophysiologicalists, physiologists, surgeons, anesthesiologists, obstetricians and gynecologists, and sports physicians.

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MYKHIN, YE. A., et al., Shtinitza", 1972, 188 p

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MYKHIN, YE. A., et al., "Shtinitsa", 1972, 188 p

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Immunology

USSR

UDC 576.851.55.086

RYAGIN, S. T., and MYKYTYUK, P. V., Belaya Tserkov' Agricultural Institute,
Belaya Tserkov'

"Application of the Immunofluorescence Serological Method for the Detection
and Identification of the Botulism Agent"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 5, Sep/Oct 71, pp 613-618

Abstract: The immunofluorescence method was applied on an experimental basis for the detection and identification of *Cl. botulinum* of types A, B, C, D, and E. The indirect procedure of fluorescent antibodies proposed by Weller and Coons was followed. Dry antirabbit fluorescent serum; antitoxin agglutinating rabbit sera of the five types; and smears taken from the organs of infected guinea pigs were used. Kitt-Tarozzi medium was used to culture the pathogen to obtain smear prints. By applying the immunofluorescence method, all types of *Cl. botulinum* could be detected in pathological material taken from the guinea pigs, but only types C, D, and E could be identified, while identification of types A and B required toxin neutralization with antitoxic sera. Use of the procedure described resulted in a considerable saving of time as compared with older methods.

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USSR

UDC: 621.317:621.372.8

MEKHANNIKOV, A. I., MYL'NIKOV, A. V.

"Master Waveguide Standards for Low Attenuations"

Tr. VNI fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 32-40 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A210)

Translation: The authors describe the design and give the analytical calculation of master waveguide standards for small attenuations (0.1-1.0 DB). Master standards of this type have been developed at the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements. These standards are designed for inspection work in the section dealing with instruments for measuring low attenuations in waveguide channels at frequencies of 2.14-16.7 GHz. Five illustrations, two tables, bibliography of four titles. Resumé.

1/1

USSR

ANAN'YEVSKIY, M. G., BOCHKOV, N. G., SPEVAK, YE. YA., PARFENOV, G. V., and MYL'NIKOV, R. M.

"The Effect of Vanadium, Titanium, and Boron Modification on the Structure, Magnetic Properties, and Aging of Electric Unalloyed Steel"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 1(79) Jan/Feb 73, pp 36-38

Abstract: In order to prevent E0100-E0300 electric steels from magnetic aging, which takes place primarily on account of nitrogen, an attempt was made to modify these steels with vanadium, titanium, and boron. Magnetic properties, aging coefficient, and microstructure of modified steels were studied after 200 hours of heat treatment at 120°C. Addition of 0.02-0.03% Ti (as ferrotitanium) to molten steel almost completely suppressed the magnetic aging while the magnetic reversal losses were $P_{1.5/50} = 9.3 \text{ W/kg}$. Higher amounts (0.04%) of titanium decreased considerably the size of grains. The aging of steel was completely suppressed with the addition of 0.03-0.06% V (as ferrovanadium) but the magnetic reversal losses were $P_{1.5/50} > 9 \text{ W/kg}$. High magnetic reversal losses in this case are attributed to small ferrite grains formed in steel (10-9 relative units, control 8-9 relative units).

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USSR

ANAN'YEVSKIY, M. G., et al., Metallurgicheskaya i Gornorudnaya Promyshlennost',
No 1(79), Jan/Feb 73, pp 36-38

Boron in amount 0.0025-0.0030% was ineffective with respect to magnetic properties of steel, while it made the steel structure nonuniform. The concentration of nitrogen in steel increased with increasing concentration of Ti and V. For practical purposes the use of Ti as a modifier is recommended.

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USSR

UDC 537.226.33:535.551

KAMZINA, L. S., KRAYNIK, N. N., GENE, V. V., and MYL'NIKOVA, I. Ye.,
Institute of Semiconductors, USSR Academy of Sciences

"Elasto-Optical Effect in Ferroelectric Materials With a Diffused Phase
Transition"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 9,
Sep 71, pp 1862-1864

Abstract: The authors investigate the elasto-optical effect in ferroelectric materials with diffused phase transition $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ (PMN) and $\text{PbZn}_{1/2}\text{Nb}_{1/2}\text{O}_3$ (PZN). They determine the magnitude of the half-wave mechanical stresses in the wavelength band of 4000-7000 Å and measure the variation with temperature of the piezooptical coefficients π_{11} - π_{12} . They also find the dependence of the slope of the double refraction Δn on the size of the mechanical load in the area of diffusion of the phase transition. The authors find that a study of the elasto-optical properties of perovskite type ferroelectric materials permits a better understanding of the nature and character of the diffused phase transition and enables the researcher to distinguish the true electro-optical effect in the total effect; they

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USSR

KAMZINA, L. S., et al., Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya,
Vol 35, No 9, Sep 71, pp 1862-1864

feel that such investigations are of great practical significance. They
show graphically the temperature boundary of diffusion for PMN and PZN.
The article contains 3 illustrations, 1 table, and 4 bibliographic entries.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROPHOTOMETRIC STUDY OF NICKEL AMMONIA COMPLEXES -U-
AUTHOR-(03)-MYLNIKOVA, V.M., ASTAKHOV, K.V., BARKOV, S.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 560-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, AMMONIA,
SPECTROPHOTOMETER/(U)SF4A SPECTROPHOTOMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1195 STEP NO--UR/0076/70/044/003/0560/0563
CIRC ACCESSION NO--AP0128613
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--20NDV7C

CIRC ACCESSION NO--A0128613

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. SPECTROPHOTOMETRIC METHOD IS USED TO STUDY THE FORMATION OF NI,NH SUB3 COMPLEXES IN AQ. SOLN. THE COMPLEXING PROCESS PROCEEDS STEPWISE. THE ABSORBANCE OF THE SOLNS. WAS DETD. ON SF,4A SPECTROPHOTOMETER AT 500-730 NM. THE COMPS. OF THE COMPLEXES FORMED AND THE 1ST 3 INSTABILITY CONSTS. WERE DETD. THE PK SUB1, PK SUB2, AND PK SUB3 VALUES FOR NINH SUB3 PRIME2 POSITIVE WERE 2.993 PLUS OR MINUS 0.136, 2.14, AND 1.60, RESP. FACILITY: MOSK. GURGD. PECACOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--SPECTROPHOTOMETRIC STUDY OF THE COMPLEXING OF NICKEL(II) WITH TRIAMINOTRIETHYLAMINE -U-

AUTHOR--(02)--MYLNIKOVA, V.M., ASTAKHOV, K.V.

M

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 512-14

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, ORGANONICKEL COMPOUND, ORGANIC COMPLEX COMPOUND, AMINE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2171

STEP NO--UR/0076/70/044/002/0512/0514

CIRC ACCESSION NO--AP0125751

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--J00CT70

CIRC ACCESSION NO--AP0125751

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEX FORMATION IN THE SYSTEM $NiCl_2 \cdot 6H_2O$ TRIAMINOTRIETHYLAMINE (TREN) WAS STUDIED PHOTOMETRICALLY IN THE PH RANGE 2-10 AT 560 AND 940 NM. AT PH 4.7 A COMPLEX IS FORMED WITH AN OPTIMAL PH RANGE OF 5.9-8.4 FOR ITS FORMATION. THE ISOMOLAR SERIES METHOD GIVES 1:1 COMPN. OF THE COMPLEX IN THAT RANGE. AT HIGHER PH VALUES THE ABSORBANCE DECREASES AS A RESULT OF HYDROXOCOMPLEXES. THE COMPLEX FORMATION IS ASSUMED TO PROCEED ACCORDING TO: $Ni^{2+} + 2H_2O \rightleftharpoons Ni(OH)_2 + 2H^+$ $Ni(OH)_2 + 3TREN \rightleftharpoons Ni(TREN)_3 + 2H_2O$ $Ni^{2+} + 3TREN \rightleftharpoons Ni(TREN)_3$ $Ni^{2+} + 3H_2O \rightleftharpoons Ni(OH)_3^- + 3H^+$ WITH INSTABILITY CONST. $K = 1.4 \times 10^{-10}$ AND $Ni^{2+} + 3H_2O \rightleftharpoons Ni(OH)_3^- + 3H^+$ WITH $K = 1.56 \times 10^{-15}$. FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

172 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROPHOTOMETRIC STUDY OF THE COMPLEXING OF NICKELII WITH
TRIMETHYLENEDIAMINE -U-
AUTHOR-(OZ)-MYLNIKVA, V.M., ASTAKHOV, K.V.
COUNTRY OF INFO--USSR M
SOURCE--Zh. Fiz. Khim. 1970, 44(4), 1084-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, NICKEL COMPLEX, DIAMINE, IONIC
BONDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1165 STEP NO--UR/0076/70/044/004/1084/1086
CIRC ACCESSION NO--AP0128587
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128587

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SPECTROPHOTOMETRIC INVESTIGATION OF 0.01 M NICKEL SUB2 AND 0.084 M TRIMETHYLENEDIAMINE (A) SOLNS. INDICATES FORMATION OF COMPLEXES NIA PRIME2 POSITIVE AT PH 7.007.6, NIA SUB2 H SUB3 POSITIVE AT PH 8.2-8.5, NIA SUB2 PRIME2 POSITIVE AT PH 8.5-8.9, AND NIA SUB3 PRIME2 POSITIVE AT PH LARGER THAN 10.8. FROM MEASUREMENT AT 20 PLUS OR MINUS 2 DEGREES IN SOLNS. WITH IONIC STRENGTH 0.1 (KCL), THE EQUIL. CONSTS. FOR THE FOLLOWING REACTIONS WERE CALCD.: NI PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE EQUALS NIA PRIME2 POSITIVE PLUS 2H PRIME POSITIVE, K EQUALS 4.07 TIMES 10 PRIME NEGATIVE14; NIA PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE EQUALS NIA SUB2 H SUB3 POSITIVE PLUS H PRIME POSITIVE, K EQUALS 1.05 TIMES 10 PRIME NEGATIVE7; AND NIA PRIME2 POSITIVE PLUS AH SUB2 PRIME2 POSITIVE PLUS 2H PRIME POSITIVE, K EQUALS 3.98 TIMES 10 PRIME NEGATIVE16. FACILITY: MOSK. GOS. PEDAGOG. INST. IM. LENINA, MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--VARIABILITY OF POLYHEDRA FORMS IN TISSUE CULTURES OF INSECTS
INFECTED WITH NUCLEAR POLYHEDROSIS VIRUS -U-
AUTHOR--MYLOSERDOVA, V.D.

COUNTRY OF INFO--USSR *M*

SOURCE--MIKROBIOL ZH (KYYIV) 32(1): 82-86. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INSECTA, REPRODUCTIVE SYSTEM, TISSUE CULTURE, VIRUS DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0487

STEP NO--UR/0438/70/032/001/0082/0086

CIRC ACCESSION NO--AP0134255

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134255

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE FORMATION OF POLYHEDRA OF ABERRANT SHAPE WAS OBSERVED AFTER INFECTION OF CULTIVATED CELLS FROM TESTICULAR CYSTS OF BOMBYX MORI L. PUPAE. IT WAS ESTABLISHED THAT WITH INCREASE OF TEMPERATURE UP TO 28-32DEGREES THE NUMBER OF POLYHEDRA HAVING AN ALTERED SHAPE INCREASES UP TO 52-76PERCENT RESPECTIVELY. THE TEMPERATURE CONDITIONS HAVE AN EFFECT ON TIME OF MANIFESTATION OF VIRUS INFECTION (FORMATION OF POLYHEDRA). WITH A RISE OF TEMPERATURE UP TO 32DEGREES, POLYHEDRA ARE FOUND IN 24 HR. AT ROOM TEMPERATURE THEY ARE FORMED ONLY ON THE 4TH DAY. FACILITY: INST. MICROBIOL. VIROL., ACAD. SCI. UKR. SSR, KIEV, USSR.

UNCLASSIFIED

172 035 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NEW PHASE TRANSITION IN TRIGLYCINE SELENATE AT HIGH PRESSURES --U-

AUTHOR--(03)--MYLGV, V.P., CHURAGULOV, B.R., LEONIDOVA, G.G.

COUNTRY OF INFO--USSR

SOURCE--FI2. TVERD. TELA 1970, 12(4), 1288-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOSELENIUM COMPOUND, ORGANIC CRYSTAL, HIGH PRESSURE,
THERMAL EFFECT, PHASE TRANSITION, THERMOGRAM, GLYCINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0011

STEP NO--UR/0101/70/012/004/1288/1289

CIRC ACCESSION NO--AP0132311

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 035
CIRC ACCESSION NO--AP0132311
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IN TRIGLYCINE SELENATE CRYSTAL (NH
SUB2 CH SUB2 COOH) SUB3.H SUB2 SEO SUB4 THE 1ST ORDER PHASE TRANSITION
WAS INVESTIGATED AT HIGH PRESSURE BY THE DTA METHOD. IT FOLLOWS FROM
THERMOGRAMS OBTAINED AT ROOM TEMP. THAT IN ADDN. TO THE KNOWN TRANSITION
AT 6.5 KILOBARS THERE IS A NEW PHASE TRANSITION AT 13.6 KILOBARS. BOTH
TRANSITIONS HAVE THE SAME SIGNS OF THEIR THERMAL EFFECTS. THE NEW PHASE
TRANSITION IS REVERSIBLE. IT IS CHARACTERIZED BY HYSTERESIS IN PRESSURE
OF APPROX. 1.5-2 KILOBARS. FACILITY: INST. FIZ. VYS. DAVLENII,
USSR.

UNCLASSIFIED

Econ.

ROLE OF INTERMEDIATE PRODUCTION ASSOCIATIONS DISTRICT

Article by Candidate of Economic Sciences N. N. ~~_____~~ "Agro-Industrial Associations", Moscow, ~~_____~~, December 1971, p. 21

"The rapid development of agriculture is leading to the increasingly widespread formation of inter-planting and state and collective production associations and to the creation of agro-industrial complexes.... The party will support these forms of production organization in the countryside." (From the CPSU Central Committee Report to the 24th Party Congress.)

An early fall morning. The morning cereals and fields are still covered by the dawn mist, yet nothing like is in full swing. The harvest is at its height: the harvested rye and wheat are stacked, the wheat is to be promptly prepared for the city. The trucks arrive one after another and transport the produce away to the city. There it is transferred without any delay to the counters of the firm's own stores. The "field-to-store" line interval is reduced to a minimum, which is extremely important for preserving perishable produce, and losses here have been practically eliminated. Not only is the customer who is particularly pleased. Apples, tomatoes, onions, fennel, and other fruits and vegetables breathe freshness, and moreover the prices suit the customer, being lower than market prices.

One part of the harvest goes for sale, while the rest is sent to canning plants. Like the stores, these also belong to the farm. Even until recently these enterprises were equipped with obsolete machinery. Now the process of modernizing them and increasing their capacities is underway. Several modern automated lines for producing fruit and tomato juices and canned vegetables are already in operation.

This was a picture I had occasion to observe last fall in the Checheno-Ingush ASSR. It is now 2 years since the "Komsomolcedovoshch" agro-industrial association, formed from nine soykoses, four canning plants, and 12 stores together with the transport belonged to them, was created here. This would seem a short time, but the results are already in evidence. Previously the production of agricultural produce and its processing, storage, transportation, and sale were the concerns of different

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departments. Under these conditions it was difficult to achieve complete coordination in the work of all the elements. As a result a proportion of the fruit and vegetables sometimes failed to reach a market, and production efficiency was reduced.

The situation is now completely different. The fusion of enterprises from the different sectors into a single economic unit and the creation of a unified leading organ have opened the way for comprehensive planning of the production, processing, and sale of the sovkhoses' produce. The areas under orchards and market-gardens are now being increased in complete accordance with the country's needs and stores' requirements for fruit and vegetables. The plants' capacities are, in turn, being extended in proportion to the growth of raw materials production in the republic. And the volume of produce being sold through the stores is being determined in dependence on the population's demand and the sovkhoses' potential.

In addition, an appreciable upsurge has occurred in the economies of all the sectors which joined the association. In the very first year the area under vegetable crops, for example, increased 1.3 times. Vegetable production increased 1.4 times, and sales increased 1.3 times. Whereas previously some sovkhoses were maintaining losses, now they are all working at a profit. The country's produce production output increased by 20 million standard-size cans in a year. Vegetable sales in the stores increased by 10 percent, and fruit sales increased by 57 percent. In eight months of the current year 217 tons more fruit, 300 tons more vege crops, and 909 tons more vegetables than last year were sold to the population. The quality of the produce rose appreciably, the range was extended, and distribution costs were reduced.

The creation of the association made it possible not only for the production and economic indicators of all its subdivisions to be raised, the link between them to be simplified, and reductions to be made on superfluous staff but also for the utilization of the available monetary resources in one pair of hands made it possible for the association to construct for itself large, improved warehouses, refrigerated stores, hothouses, automatic production lines, cultural and sports projects, and so forth.

The "Komservprodovozhch" association is confidently raising its strength, developing, and improving. The following figures testify to its present acchie. The area under market gardens and orchards has been extended to almost 10,000 hectares. More than 8,000 personnel work in the association. The plants' canned goods output is over 1 million cans per day.

There are many associations of this kind. They exist in the Ukraine, Moldavia, Uzbekistan, the Kuban area and other regions. The process of their formation is law-governed and is caused by the rise in the level of development of production forces and by the influence of scientific and technical progress. While agriculture is a sector which supplies raw material for industry, under the present conditions it is simultaneously becoming increasingly active in

USSR

PRELOVSKAYA, R. D., GIMBURZHEVSKAYA, M. F., ~~MYMRINA, N. I.~~

"Analysis of Production Program with Various Criteria of Optimality"

Tr. Arkhang. Lesotekhn. In-ta [Works of Arkhangl'sk Institute of Forestry],
1971, Vol 31, pp 89-94, (Translated from Referativnyy Zhurnal, Kibernetika,
No 3, 1972, Abstract No 3 V473).

NO ABSTRACT.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70
 TITLE--EVALUATING THE WATERPROOFING CAPACITY OF PAINT AND VARNISH COATINGS
 APPLIED ON CAPILLARY POROUS MATERIALS -U-
 AUTHOR-(03)-LEPARSKIY, L.O., MYSELOVA, G.N., GORGUNOVA, R.I.

COUNTRY OF INFO--USSR

SOURCE--LAKOKRASOCH. MATER IKH PRIMEN. 1970, (1), 57-8.

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--WATERPROOFING, PAINT, VARNISH, WOOD, ENAMEL, ALKYD RESIN, UREA
 RESIN, POLYESTER RESIN/(U)MAYIH OIL BASE COATING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--1997/0425

STEP NO--UR/0303/70/000/001/0056/0058

CIRC ACCESSION NO--AP0119361

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119361

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. IS DESCRIBED FOR DETG. THE INTERNAL STRESS (SIGMA) DUE TO SWELLING WHEN A MATERIAL ABSORBS WATER. THE SAMPLE IS KEPT AT A CONST. TEMP. AND VOL. IN WATER AND THE INCREASE IN SIGMA WITH TIME IS DETD. ALTERNATIVELY, THE DECREASE OF SIGMA DURING DRYING AT CONST. VOL. CAN BE DETD. THE APP. WAS USED TO DET THE SIGMA OF UNCOATED PINWOOD AND OF PINWOOD COATED WITH VARIOUS ENAMELS. NATURAL OIL BASED COATING MA-11H WAS FOUND TO PREVENT WOOD SWELLING IN WATER BETTER THAN COM. ALKYD UREA OR POLYESTER COATING.

UNCLASSIFIED

USSR

UDC: 532.516

MYSHENKOV, V. I.

"Investigation of the Development of Flow Detachment Behind a Plate by Numerical Solution of Navier-Stokes Equations"

Tr. Sektsii po chisl. metodam i gaz. dinamike 2-go Mezhdunar. kollokviuma po gazodinamike vzryva i reagiruyushchikh sistem. 1969. T. 1 (Works of the Section on Numerical Methods and Gas Dynamics of the Second International Colloquium on Gasdynamics of Explosion and of Reacting Systems), Moscow, 1971, pp 67-82 (from RZh-Mekhanika, No 5, May 72, Abstract No 5B890)

Translation: The author considers the problem of flow of a viscous gas in the wake behind a plate of finite thickness. The problem is solved numerically by the method of adjustment on an explicit difference scheme of the second order of accuracy of the Laks-Vendrov type. An infinite region is considered which is transformed by substitution of variables into the rectangle $0 \leq x \leq 1$, $0 \leq y \leq 1$. The problem is solved for Reynolds numbers $1 \leq R \leq 100$, and Mach numbers $0.288 \leq M \leq 2$. It is shown that a region of detachment develops and grows behind the plate as the Reynolds number increases, and also that an increasing Mach number stabilizes the flow. Stream lines and pressure distribution are given for different R and M . T. V. Kuskova.
1/1

1/2 045
 TITLE--SUBSONIC AND TRANSONIC FLOWS OF A VISCOUS GAS IN THE WAKE OF A FLAT
 BODY -U-
 AUTHOR--MYSHENKOV, V.I.
 COUNTRY OF INFO--USSR
 SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, MEKHANIKA ZHIKOSTI I GAZA,
 MAR.-APR. 1970, P. 73-79
 DATE PUBLISHED--70

UNCLASSIFIED

PROCESSING DATE--20NOV70

M

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SUBSONIC FLOW, TRANSONIC FLOW, VISCOUS FLUID, WAKE FLOW,
PRANDTL NUMBER, REYNOLDS NUMBER, NAVIER STOKES EQUATION, MOTION
EQUATION, GAS FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1244

STEP NO--UR/0421/70/000/000/0073/0079

CIRC ACCESSION NO--AP0124896

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 045

CIRC ACCESSION NO--AP0124896

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ANALYSIS OF SUBSONIC AND TRANSONIC GAS FLOW IN THE WAKE BEHIND A PLATE OF FINITE THICKNESS FOR A PRANDTL NUMBER OF 0.71 AND REYNOLDS NUMBERS RANGING FROM 1 TO 1000, ON THE BASIS OF THE NAVIER STOKES EQUATIONS. A SOLUTION TO THE PROBLEM IS OBTAINED BY APPROXIMATING THE EQUATION OF MOTION AND THE EQUATION OF STATE (IN DIMENSIONLESS FORM) BY A STABLE TWO STEP EXPLICIT DIFFERENCE SCHEME.

UNCLASSIFIED

Acc. Nr.: **AP0031633**

Ref. Code: UR 0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 1, pp 11-13

INVESTIGATION OF RELATIONSHIP BETWEEN PHASES OF THE RESPIRATORY CYCLE AND FLUCTUATIONS OF BIOPOTENTIALS IN THE CEREBRAL CORTEX OF THE RABBIT

I. Yu. Myshkin (Moscow)

Relation between background and reactive fluctuations of biopotentials in the visual cortex (area striata) and respiratory cycle phases was elicited in tests on 15 non-anesthetized rabbits through machine-made analysis. This correlation was inconstant and in 90% of observations the ratio between the biopotential fluctuations amplitude associated with respiratory phases and the mean summary EEG amplitude was not more than 3%. Permanent and deeper association in normal conditions is an artefact but recurrent periods of short-term amplification of such a correlation appears to be a characteristic feature.

REEL/FRAME

19691760

Acc. Nr: A P0044847

Ref. Code:

UR 0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol. 48,
Nr 2, pp 149-151

THE DIAGNOSIS OF INTRATHORACIC NEOPLASMS ON THE BASIS
OF MATHEMATICAL ANALYSIS

K. I. Myshkin, L. A. Migal'

Summary

The problem of the search of new differential diagnosis signs of spheroid intrathoracic neoplasms is still pressing in connection with the absence of accurate methods of diagnosis. As one of the new trends the authors propose to utilize mathematical analysis of the symptom-complex of tumors and cysts of the lung and mediastinum. By means of a specially elaborated scheme the authors coded the case histories of 300 patients operated for the above-mentioned diseases. The data derived were treated on the electron computer «Ural-2». This resulted in the creation of a differential diagnosis table based on the determination of the sum total of weight values of the most characteristic symptoms selected by the computer. With due consideration of the critical value the table enables to answer three most important practical questions: malignant or benign character of the disease, tumor or cyst, pulmonary or extrapulmonary localization of the neoplasm. The value of the table was verified by confrontation of the preoperative and postoperative diagnoses. The results testify to the perspective nature of the method proposed for the diagnosis of spheroid neoplasms of intrathoracic localization.

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REEL/FRA
19771702

Acc. Nr: **AP0044607**

Ref. Code: **UR0497**

PRIMARY SOURCE: *Klinicheskaya Meditsina*, 1970, Vol 48,
Nr 1, pp 66-70

M

**MATHEMATICAL ASSESSMENT OF THE IMPORTANCE
OF SYMPTOMS IN THE DIFFERENTIAL DIAGNOSIS OF ACUTE
PANCREATITIS AND PERFORATING GASTRIC ULCER**

K. I. Myshkin, L. A. Frankfurt, M. V. Koltsova

Summary

By means of mathematical treatment on «Urals-2» electron computer of 320 case histories of patients suffering from acute pancreatitis and perforating gastric ulcer the authors have elaborated an original table of weight values of symptoms which enables to carry out the differential diagnosis between these two diseases. Verification of the diagnostic value of the table on another 330 case histories has demonstrated that the error comprised only 4 per cent and thus is not inferior to routine differential diagnosis. The authors are of the opinion that the proposed table as an accumulator of extensive clinical experience may in the first place be of essential aid to the inexperienced physician and in the second place be an important element in the programmatic teaching of clinical surgery.

11
REEL/FRAME
19771284

44 02

USSR

UDC 615.216.6:547.831.8].012.1

KOZELLO, I. A., GASHEVA, A. YA., AGLITSKAYA, K. V., and MYSEKIN, N. N.,
All-Union Scientific Chemical-Pharmaceutical Research Institute Izrael S.
Ordzhonikidze, Ural Branch, Sverdlovsk

"Synthesis of 4[1H]-Quinolone Derivatives. II. 1-(N',N'-Dialkylaminoalkyl)-4-
quinolones and Their Quaternary Salts"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 4, Apr 72, pp 28-30

Abstract: A mixture of 1.45 g 4-hydroxyquinoline, 4.74 g δ' -dimethylaminopropyl chloride hydrochloride (obtained from dimethylaminopropanol and thionyl chloride), and 50 ml absolute ethanol was refluxed for 10 hrs. The mixture was cooled and a sodium ethoxide solution prepared from 1 g sodium and 25 ml ethanol was added; the mixture was refluxed again for a long time, filtered, and evaporated. The residual oil was dissolved in ethanol and acidified with ethanolic HCl, precipitating the crystalline dihydrochloride of 1-(δ' -dimethylaminopropyl)-4-quinolone, m.p. 260-262° (I). Similarly, the 1-(γ' -dimethylaminoethyl)- (II), and 1-(γ' -diethylaminoethyl)-4-quinolone (III), m.p. 249-251° and 258-60°, respectively, were obtained. To obtain the di-(methiodides) of above compounds, (I), (II), or (III) were dissolved in benzene, methyl iodide was added, the mixture was kept for 5 hrs at 35-40°, cooled, and benzene was evaporated. The

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KOZELLO, I. A., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol. 6, No 4, Apr 72, pp 28-30

residual oil was suspended in alcohol, and the solid formed was filtered at 60° in the dark. The product -- di-(methiodides) of (I), (II), and (III) melt at 227-28°, 204°, and 205° respectively.

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--6, HYDRAZINOPYRIMIDO, 4, 5, 8, 1, 4, THIAZINES OR
6, HYDRAZINOPYRAZINO, 2, 3, 8, 1, 4, THIAZINES -U-
AUTHOR--(03)-SAFONOVA, T.S., NEMERYUK, M.P., MYSHKINA, L.A.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265, 110
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDRAZINE ORGANIC COMPOUND, PYRIMIDINE, ORGANIC SULFUR
COMPOUND, ORGANIC SYNTHESIS, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1767

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0137007

UNCLASSIFIED

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2/2 009

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0137007

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPS. ARE PREPD. BY
TREATING 6,AMINOPYRIMIDO(4,5,B) (1,4)THIAZINES OR 6,AMINOPYRAZINO(1,3,B)
(1,4)THIAZINES WITH HYDRAZINE HYDRATE AT THE B.P. OF THE REACTION MASS,
PREFERABLY IN AN ORG. SOLVENT (E.G. METHANOL OR ETHANOL).
FACILITY: VSESOYUZHNY NAUCHNO-ISSLEDOVATEL'SKIY
KHIMIKO-FARMATSEVTICHESKIY INSTITUT IM. SERGO GROZHNIKIDZE.

UNCLASSIFIED