

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125476

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CELL WALLS, CYTOPLASMIC MEMBRANES AND INTACT CELLS OF CHOLERA, EL TOR AND NAG VIBRIOS WERE STUDIED WITH RESPECT TO THEIR ABILITY TO INDUCE THE STATE OF NON SPECIFIC RESISTANCE IN ALBINO MICE TO CHOLERA INFECTION. THE PREPARATIONS OF CYTOPLASMIC MEMBRANES AND CELL WALLS OF VIBRIUS NAG WERE MOST ACTIVE. FACILITY: NATIONAL ANTIPLAGUE INSTITUTE MICROBE, SARATOV.

UNCLASSIFIED

USSR

PETROVA, L. T., PIVKINA, N. N.

"Large Block Programming Language"

Sb. tr. In-t mat. Sib. otd. AN SSSR [Collected Works of Institute of Mathematics, Siberian Division, Acad. Sci. USSR], 1972, No 7(24), pp 71-104
(Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1975, Abstract No 8 V602 by the authors)

Translation: A specialized programming language is described, designed for mathematical-economic problems with block data structure. The language has a large-block structure, special organization of files into "trees" and a system of indirect references to information already accumulated; certain means for associative information retrieval are included; it is possible to access individual elements of reference information concerning files; statistical and dynamic distribution of memory are allowed. The syntax of the language is described in the form of Becus formulas. An example of inscription of a linear-programming algorithm for problems with hierarchaical matrix structure is presented.

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1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THIN LAYER SILICAGEL CHROMATOGRAPHY OF ANTIBIOTICS CLOSE TO
AZALOMYCIN F -U-
AUTHOR--PETROVA, L.YA. P
COUNTRY OF INFO--USSR
SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 395-397
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ACTINOMYCES, CHROMOTOGRAPHY, ANTIBIOTIC/(U)AZALOMYCIN F
ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/0099 STEP NO--UR/0297/70/015/005/0395/0397
CIRC ACCESSION NO--AP0114495
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114495

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIN LAYER CHROMATOGRAPHY ON SILICAGEL IN A SYSTEM OF SECONDARY BUTYL ALCOHOL PHOSPHATE BUFFER PH 6.0 (2 TO 1) SHOWED THAT ANTIBIOTICS FROM STRAINS LIA-0111, LIA-0112 AND LIA-0328 OF ACTINOMYCES IMBRIACATUS N. SP. DIFFERED IN THEIR COMPOSITION FROM AZALOMYCIN F. EFFECTIVE SEPARATION OF THE ANTIBIOTIC COMPLEXES WAS OBSERVED ONLY IN SILICAGEL CHROMATOGGRAPHY WITH THE SIZE OF THE SILICAGEL GRAINS NOT MORE THAN 20 MU. FACILITY: LENINGRAD INSTITUTE FOR ANTIBIOTICS.

UNCLASSIFIED

Acc. Nr: APO101134

L. Ya. Petrova

Ref. Code: UR0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr. 3, pp208-212

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PRODUCTION OF ANTIBIOTICS OF AZALOMYCIN F TYPE BY ACTINOMYCES IMBRICATUS N. SP.

Y. A. Tsiganov, Yu. Ye. Konev, N. P. Barashkova, L. Ya. Petrova, S. N. Solov'ev

Leningrad Institute for Antibiotics

Three actinomycetes belonging to non-chromogenic actinomycetes were isolated from soils of arid zones of the South regions of the USSR. The aerial mycelium of the cultures was slightly developed of whitish color. The sporophores were spiral, the spores oval with smooth membrane. When grown on soybean media with glucose, the cultures produced antifungal antibiotics close to azalomycin F. Comparison of the isolates with the organism producing azalomycin F described in the literature and close species of actinomycetes allowed to classify it as a new species designated as Actinomyces imbricatus (Konev, Tsyganov, Barashkova) n. sp.

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.UDC 541.62:661.718.1

USSR

RAYEVSKIY, O. A., SHAGIDULLIN, R. R., and PETROVA, L. YE., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Study of Rotational Isomerism of the Acid Dichloride of Methylphosphoric Acid"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, 1971,
pp 1426-1429

Abstract: Two physical methods were used in assigning geometrical configuration to possible rotational isomers of the acid dichloride of methylphosphoric acid (ADMPA): infrared spectroscopy and dipole moments. Infrared spectra were used to determine the existence of a dynamic equilibrium of isomeric forms and their relative proportions in a nonpolar medium. Experimental dipole moments were compared with calculated values to ascertain which isomeric forms are present in equilibrium. Absorption bands in the infrared spectra were assigned to specific isomers. A well-defined dependence of absorption band intensities on dielectric permeability of solvents led to the determination of the ratio of absolute integral band intensities caused by particular kinds of vibrations of the two isomers found to be present. The assignment of configuration was made by the dipole method. The experimental dipole moment of ADMPA in CCl_4 at 298°A

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RAYEVSKIY. O. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 7, 1971, pp 1426-1429

is 3.40 ± 0.03 D. The moment closest to agreement with the experimental values is observed for the equilibrium composition of 20 percent of the trans and 80 percent of the gauche forms. The low probability of configurations with layering of identically directed dipoles P-C and O-C led to the determination of one of the configurations of ADMPA being the trans-form.

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1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--INFRARED SPECTRA AND CLASSIFICATION OF RARE EARTH ORTHOGERMANATES
-U-
AUTHOR--(04)-TENISHEVA, T.F., LAZAREV, A.N., BONDAR, I.A., PETROVA, M.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 766-72
DATE PUBLISHED-----70

P

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS, CHEMISTRY
TOPIC TAGS--IR SPECTRUM, SPECTROSCOPIC ANALYSIS, CRYSTAL STRUCTURE,
GERMANIUM COMPOUND, SILICATE, RARE EARTH COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0902 STEP NO--UR/0363/70/006/004/0766/0772

CIRC ACCESSION NO--AP0131488

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0131488

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR ABSORPTION SPECTRA OF GERMANATES OF THE COMPN. 4LN SUB2 O SUB3 .9GEO SUB2, LN SUB2 O SUB3 .GEO SUB2, AND 2LN SUB2 O SUB3 .GEO SUB2 WERE INVESTIGATED. COMPS. OF THE COMPN. 7LN SUB2 O SUB3 .9GEO SUB2 AND 2 STRUCTURAL TYPES OF COMPS. OF THE COMPN. LN SUB2 O SUB3 .GEO SUB2 ARE SIMILAR IN CRYSTAL STRUCTURE TO THE CORRESPONDING SILICATES. THE STABILITY OF THESE COMPS. WERE EXAMD. AS A FUNCTION OF THE TEMP. AND RADIUS OF THE CATION. IN COMPARISON TO THE CORRESPONDING SILICATES, THE STABILITY OF THE GERMANATES DECREASES WITH DECREASING CONC. OF GEO SUB2. ANAL. OF IR SPECTRA FOR COMPS. OF THE COMPN. 2LN SUB2 O SUB3 .GEO SUB2 LEAD TO THE STRUCTURAL FORMULA LN SUB4 (GEO SUB4) O SUB4, AND TO THE IDENTIFICATION OF 2 TYPES OF CRYST. STRUCTURE. FACILITY: INST. KHIM. SILIKAT. IM. GREBENSHCHIKOVA, LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr: A/0034407

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 112-116

COMBINED USE OF SEMI-SYNCHETIC PENICILLINS IN EXPERIMENTS

Petrova, M. A.; Berezina, Ye. K.; Chavdarova, V. B.;
Navashin, S. M.

National Institute for Antibiotics, Moscow

The efficacy of ampicillin combination with oxacillin was estimated on a model of mixed infection caused by intravenous injection of B. coli and intranasal administration of Staph. ablus.

D.N.

REEL/FRAME

19711067

PETROVA, M. G.

So: JPRS 53103

12 MAY 71

CAPACITY OF SHORT-TERM MEMORY OF LETTER STIMULI

Ya. F. Rybaiko, M. G. Petrova

pp 16-21

This investigation had the purpose of determining the capacity of short-term memory for letter stimuli in dependence upon quantitative and spatial factors.

In the experiments a LEVI-65 projector was used to show individual letters on a screen for 500 milliseconds. Thirty people, men and women aged 20-27, participated in the experiments. The series contained 25 letters of the Russian alphabet, and all frames differed in quantitative composition and in the spatial location of test objects. From four to 20 letters were presented simultaneously during the experiments, and the number of recalled letters, errors, and the time for completing each problem were recorded.

Analysis of the experimental material obtained showed that the capacity of short-term memory is equal to 1.7 letters on the average, if all the data is considered. Only 5.3 percent of the test subjects gave correct answers when the frame contains four letters as shown. In the other cases only a portion of the objects seen was recalled.

Further analysis showed that the absolute memory capacity is not a constant but changes with different quantitative variations of the stimulus, showing a tendency for a certain increase. This was expressed by the fact that when the number of letter stimuli was increased by five times the absolute capacity of memorized literal material approximately doubled (from 1.1 to 2.3 units).

Comparison of the relative number of correctly recalled letters showed that the relative accuracy of recalling the letter decreased as the numerical content of a projected frame increased, in which case the rate of deterioration of memory in recalling individual letters was found to be directly proportional to the number of letters. At the beginning, when four to 10 letter symbols were shown, the level of accuracy decreased significantly (by more than two times). Later, as the number of letters shown increased to a range of 10-20 objects, the level of accuracy of recall for a single letter hardly changed at all (about 1).

Thus the dependence of short-term memory of letter stimuli on the quantitative factor is expressed through a number of a relatively small numerical content of objects.

1/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--FIELD EFFECT IN THE ORGANIC SEMICONDUCTOR CHLORANIL -U-

AUTHOR--(02)-PETROVA, M.L., ROZENSHTYN, L.D.

P

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 961-2

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--FIELD EFFECT, ORGANIC SEMICONDUCTOR, ORGANIC CRYSTAL, VOLT
- AMPERE CHARACTERISTIC, PHTALOCYANINE, CHLORINATED ALIPHATIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1983

STEP NO--UR/0181/70/012/003/0961/0962

CIRC ACCESSION NO--AP0105057

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105057

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ORG. SEMICONDUCTORS WERE INVESTIGATED: METAL FREE PHTALOCYANINE, TETRAGENE, AND CHLORANIL. WORK WAS CARRIED OUT ON THIN LAYERS OF THE COMPS. OBTAINED BY VACUUM SUBLIMATION AND IN THE CASE OF CHLORANIL ALSO ON SINGLE CRYSTALS. A STRONG EFFECT OF THE FIELD WAS OBSO. ON SINGLE CRYSTALS OF CHLORANIL. V-A CHARACTERISTICS IN THIS CASE SHOW THAT AT POS. VOLTAGE ON THE FIELD ELECTRODE, THE COND. OF THE SINGLE CRYSTAL INCREASES. THIS INDICATES THAT THE CARRIERS INTRODUCED BY THE TRANSVERSE FIELD ARE ELECTRONS. FACILITY: INST. POLUPROV., LENINGRAD, USSR.

UNCLASSIFIED

Epidemiology

USSR

UDC 616.988.75-036.22(477.74)"1969"

PETROVA, M. S., KNYAZEVA, N. I., and NEMETS, Z. M., Odessa Oblast Sanitary
Epidemiological Station

"Epidemiological and Virological Characteristics of the 1969 Influenza Out-
break in Odessa and Odessa Oblast"

Moscow, Terapevticheskiy Arkhiv, Vol 43, No 2, Feb 71, pp 105-107

Translation: An outbreak of influenza epidemic in Odessa and Odessa Oblast was recorded in January-March 1969. It began with the last week in January and continued for sixty days. In late March the number of influenza cases was the same as the initial number of cases at the time of the outbreak of the disease, and by April 10th morbidity returned to the level of the inter-epidemic period.

In January, 1969, the number of influenza cases was double that in December, and triple that in January, 1968. A comparison of the morbidity rate during January of the epidemic years 1969 and 1967 shows that the incidence of influenza and acute respiratory diseases during January of 1969 was 20% higher than that in the same month of 1967. This can be explained by the earlier outbreak of the influenza epidemic (beginning with 13 January) in 1967.

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USSR

PETROVA, M. S., et al., Terapevticheskiy Arkhiv, Vol 43, No 2, Feb 71, pp 105-107

The 1969 outbreak of the disease began on 20 January, seven days later. On that day 2405 cases of influenza, a number equal to 40-50% of the cases in a decade of the interepidemic period, were recorded in Odessa. The maximum increase in the number of cases occurred in February 1969 (a 4.8% increase as compared with February 1968). The morbidity of the disease was 10% higher than that in February 1967, and was to equal 33.8% of the number of influenza cases during the entire year as against 31.4% in 1967. In 1969, as in 1967, the peak of the epidemic was reached during early February. The intensity of influenza and morbidity of acute respiratory diseases in the oblast per 100,000 of the population equaled 20357.3 in 1969 and 19161.7 in 1967.

Of the total number of the year's influenza cases in 1969, 52.2% occurred in the period (first quarter) of outbreak of the disease, as against 62.3% in 1967. The morbidity of the disease was considerably lower in rural areas: 22.7% of the total number of cases in 1969 and 24.5% in 1967.

In 1969, 11.6% of the oblast population was stricken with the disease; in 1967 -- 11%. The intensity index per 100.00 of the population equalled 11642.5 in 1969 and 19163.4 in 1967.

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USSR

PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

A considerable number of cases (80.7) occurred among the adult population. Of the total number of cases in 1969, 18.1% occurred among children up to 14 years of age; in 1967 -- 25%. The intensity index of morbidity in 1969 per 100,000 children under 14 equalled 16320.5; in 1967 -- 20907. The largest number of cases, 75.5% of the year's total, in 1969 occurred in Odessa. In 1967 this percentage equalled 75.5%. In 1969, as in 1967, the clinical course of influenza was characterized by the predominance of light and moderate forms of the disease. Severe cases of the disease and complications were mainly noted in older persons, and children under one year of age. Post-influenza pneumonia was the most frequent complication. Hospitalizations in 1969 reached 1.2% of all who were stricken with the disease.

The mortality rate in 1969 throughout the oblast was higher than that in 1967 (respectively 0.050 -- 3.6 and 0.0066 -- 1.2 per 100,000). Lethality was highest among children of under one year of age and people 60 and over (30-35%).

The influenza epidemic in 1969, as in 1967, was characterized by a rapid rise and a gradual decline in morbidity. The curve of the 1969 epidemic repeated the curve of 1967. However, on the basis of an analysis which

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

was conducted, it may be concluded that the 1969 influenza epidemic was characterized by higher indexes of morbidity and lethality. Influenza morbidity was recorded in the form of sporadic outbreaks in all of the organized collectives; local outbreaks in the oblast were not recorded.

The 1969 influenza outbreak was conditioned by the absence of a population stratum immune to the Hong Kong type of A2 virus. The epidemic was studied virologically. Tests of the blood serum of healthy people were conducted during the years 1968 and 1969. A total of 3,117 people were examined. The results of the investigations established that two months prior to the epidemic, an increase in the incidence of influenza A2 cases, an increase in the average antibody level against the agent of the approaching epidemic (that is virus A2), was discovered in a practically healthy segment of the population. The dynamics of anti-influenza antibody titers attested to the intensified circulation of influenza A2 virus, despite the normal seasonal level of the number of cases recorded.

Serological studies of 750 paired serum samples conducted in the first quarter of 1969 revealed a fourfold and greater increase in antibodies against A2 virus in 37.1% of the sera. During the epidemic, 84 strains of

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Feb 71, pp 105-107

of A2 virus were isolated from nasopharyngeal smears obtained from influenza and acute respiratory disease patients. When typed, all of the strain were identical to Hong Kong virus A2 1/68.

Dried mouse ascitic fluid immune to Hong Kong influenza virus A2 1/68 and standard influenza diagnostic sera A, A1, A2, and B were used in the typing. Study of 57 paired blood sera from influenza and acute respiratory disease patients with influenza diagnosticum Hong Kong A2 1/68 (experimental series) together with the use of standard diagnosticum A2 revealed a four-fold and greater increase of anti-influenza antibodies to virus Hong Kong A2 1/68 in 29 patients and to virus A2 (standard diagnosticum) in 36 cases. Investigation of 24 paired sera taken from influenza patients with the isolated Hong Kong A2 1/68 virus revealed an increase in antibodies to the isolated virus, which was typed as virus Hong Kong A2 1/68 virus 4-8-16-32 times in 19 paired sera.

During the 1968-1969 pre-epidemic period, considerable work was done in the organized collectives on mass influenza immunization. In all 317,128 people in the oblast were inoculated.

Conclusions: 1. As a result of the mass immunization against influenza

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PETROVA, M. S., et al., *Terapevticheskiy Arkhiv*, Vol 43, No 2, Fen 71, pp 105-107

conducted in the period of the 1969 epidemic, no local outbreaks of influenza in the organized collectives were recorded.

2. The possibility of forecasting an outbreak of influenza in a pre-epidemic period -- two months before the actual epidemic increase in the incidence of influenza cases -- by the increase in the average level of antibodies against the agent of the upcoming epidemic (virus A2) in practically healthy people has been established.

3. As a result of the virological studies which were conducted, the etiological role of influenza virus Hong Kong A2 1/68 in the 1969 outbreak of the disease was proved.

4. On the basis of the analysis of influenza morbidity during the years of 1967 and 1969, it may be concluded that the 1969 outbreak of the disease was characterized by higher indexes than that of 1967.

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UDC 547.775.547.26'118

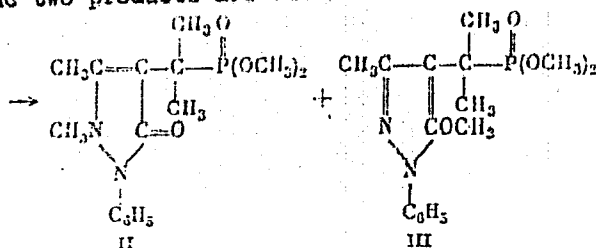
USSR

ARBUZOV, B. A., DIANOVA, E. N., VINOGRADOV, V. S., and PETROVA, M. V., Chemical Institute imeni A. M. Butlerov and Kazan State University imeni V. I. Ul'yanov-Lenin

"Reaction of Trimethyl Phosphite With 1-Phenyl-3-methyl-4-isopropylidene-pyrazolone-5"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 746-749

Abstract: The title reaction does not occur at room temperature; however, if the reactants are allowed to react for 6 hours at 130°C in an atmosphere of dry nitrogen, two products are formed: compound (II), if the entering methyl group bonds to the 2-nitrogen and compound (III), if the methyl group bonds to the keto oxygen. The two products are difficult to separate.



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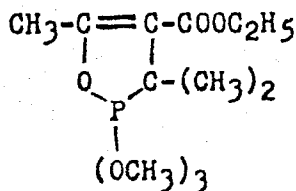
UDC: 661.718.1+547.241+541.6

ARBUZOV, B. A., DIANOVA, E. N., VINOGRADOVA, V. S., and PETROVA, M. V., Chemical Institute Imeni A. M. Butlerov at the Kazan' State University Imeni V. I. Ul'yanov-Lenin

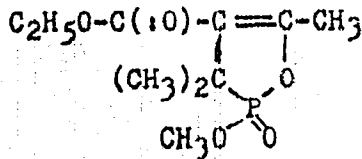
"Reaction of Trimethylphosphite With Isopropylideneacetoacetate"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 5, Dec 70, pp 1094-1096

Abstract: Trimethylphosphite reacts with isopropylidene acetoacetate at room temperature to yield the cyclic phosphorane A, b.p. 85-87° at 2·10⁻⁴ mm Hg, n_D²⁰ = 1.4721, d₄²⁰ = 1.1132.



"A"



"C"

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USSR

ARBUZOV, B. A., et al, Doklady Akademii Nauk SSSR, Vol 195, No 5, Dec 70, pp 1094-1096

At room temperature with a water excess A hydrolyzes to yield a dimethyl-2-acetyl-2-carbethoxyethylphosphinic acid (B), $n_D^{20} = 1.4620$, $d_4^{20} = 1.1722$.

When acetic anhydride was reacted with A at $70-80^\circ$ for 7 hrs, the product was an enol acetate of B, b.p. $107-108^\circ/2 \cdot 10^{-4}$ mm, $n_D^{20} = 1.4630$, $d_4^{20} = 1.1578$.

When an attempt was made to distill B, the cyclic product C was obtained, b.p. $133^\circ/2 \cdot 10^{-4}$ mm, $n_D^{20} = 1.4738$.

2/2

Pharmacology and Toxicology

C

USSR

UDC 615.214.3

KHOLODOV, L. Ye., TASHUNSKIY, AL'TSHULER, R. A., MASHKOVSKIY, M. D.,
ROSHCHINA, L. F., SHERSHNEVA, S. I., LEYBEL'MAN, F. Ya., VOLZHINA, O. N.,
GORODETSKIY, L. Sh., and PETROVA, N. A., All-Union Chemical and Pharmaceutical
Institute imeni S. Ordzhonikidze, Moscow

"Sydnocarb, a New Central Nervous System Stimulant"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

Abstract: The recently developed heterocyclic compound sydnocarb -- N-phenyl-carbamoyl-3-(β -phenylisopropyl) sydnomine, $C_{18}H_{18}N_4O_2$ -- produced marked motor excitation in mice, rats, dogs, and cats, increased the frequency and decreased the amplitude of electrical potentials, shortened the latent period of conditioned avoidance reflexes, and reduced the duration of the somnifacient action of hexobarbital. It did not depress monamine oxidase activity, effect arterial pressure, or cause morphological changes in the viscera or peripheral blood. Administered to persons with various neurological and mental diseases (average dose 10 to 25 mg) characterized by asthenic, adynamic, and apathic disorders, sydnocarb had a pronounced stimulatory effect (exceeding that of amphetamine) without inducing euphoria or motor excitement, tachycardia, elevated blood pressure, or other peripheral changes. No signs of physical or

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KHOLODOV, L. Ye., Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

mental dependence were observed even in patients that received the drug more than 2 years. Sydnocarb has been authorized by the USSR Ministry of Health for use as a psychotropic agent.

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1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ISOLATION OF POLY,STYRENESULFONIC ACID, FROM A REACTION MIXTURE -U-
AUTHOR--(05)-ALEKSANDROV, I.V., YEVDOKIMOVSKOPINSKIY, A.N., PETROVA, N.A.,
DUSHEYKO, D.A., ZAYTSEVA, V.N. *P*
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 265,439
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMER, STYRENE, SULFONIC ACID, CHEMICAL SEPARATION, CHEMICAL
PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/1763

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

CIRC ACCESSION NO--AA0137003

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

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CIRC ACCESSION NO--AA0137003

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLY(STYRENESULFONIC ACID) IS
SEPD. FROM A REACTION MIXT. IN THE FORM OF ITS SALT. THE MIXT. IS
TREATED WITH AMMONIA AND THEN ACETONE UNTIL IMMISCIBLE LAYERS ARE
OBTAINED.

UNCLASSIFIED

P
UDC 628.31:669.018.2

USSR

NADEYENKO, V. G., KHARKOVER, S. V., and PETROVA, N. N., Sverdlovsk Institute of Labor Hygiene and Occupational Diseases

"The Effect of Effluents From a Hard Alloy Plant on the Groundwater"

Moscow, Gigiyena i Sanitariya, No 4, 1970, pp 106-107

Abstract: The discharge of untreated effluents from an unspecified hard alloy plant into a lake resulted in pollution of the groundwater in the vicinity, both through direct percolation of water from the lake, and through the washing out by rain of salts from the soils adjacent to the lake. Analysis of well water at several points located 3-7 km from the lake revealed the presence of tungsten in all the water-supply sources. Concentrations were highest in the wells of inhabited localities closest to the lake. The amount of the element in many wells was somewhat greater during the flood season than in the low-water period. The tungsten content was 2-5 times above the permissible concentration in well water (0.1 mg/liter). Tungsten was also present in concentrations of 0.02-0.06 mg/liter in bodies of open water free from industrial effluents.

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USSR

P UDC 616.12-008.331.1-039.31-02:/614.8:550.34

PETROVA, N. S., and KAMILOV, F. K., Chair of Internal Diseases,
Pediatric Faculty, Tashkent Medical Institute and Tashkent Muni-
cipal First Aid Station

"Level of Arterial Pressue and Hypertensive Crises in Inhabitants
of Tashkent During the 1966 Earthquake"

Moscow, Terapevticheskiy Arkhiv, No 1, 1970, pp 37-39

Abstract: During the severe tremors that shook Tashkent on 26 April 1966, and for two weeks thereafter, the frequency and severity of hypertensive crises was markedly greater than during the comparable period of the year before, especially among males in the 41-50 year age group. The level of arterial pressure among the young people of Tashkent was appreciably higher during the period of tremors than it was 5-12 months later. However, earthquakes of equal intensity (7 point) later in June, early July, and October of the same year did not significantly increase the incidence of hypertensive crises or alter the usual symptoms, presumably because of the absence of the surprise factor. This is additional evidence for the role of neurogenic factors in the general mechanisms of the pathogenesis and dynamics of hypertension.

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1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREPARATION AND PROPERTIES OF DISPERSE DYES WITH
HYDROXYETHOXYMETHYL GROUPS -U-
AUTHOR--(03)--BORODKIN, V.F., PETROVA, R.A., VIKHAREVA, N.M.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 100-2
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ANTHRAQUINONE, AMINE, DYE, CAPRONE, HYDROXYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0962 STEP NO--UR/0153/70/013/001/0100/0102
CIRC ACCESSION NO--AP0124622
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2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124622

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON TREATMENT OF ARYLAMINOANTHRAQUINONES CONTG. A CLCH SUB2 GROUP WITH (CH SUB2 OH) SUB2 (I) AT 120-300DEGREES, HOCH SUB2 CH SUB2 OCH SUB2 GROUPS (Q) ARE FORMED. THE REACTION IS CONDUCTED BY GRINDING 1 G. CLCH SUB2 SUBSTITUTED COMPD. WITH 30 ML I, ADDING 20 ML I TO GIVE A SOLN., HEATING WITH AGITATION TO 120DEGREES, AND HOLDING FOR 6 HR (FOR MONOARYL COMPS.), OR FOR 10 HR (FOR DIARYL COMPS.). MOST OF THE I IS VACUUM DISTD. AND THE REMAINDER WASHED OUT WITH 75 ML H SUB2 O. THUS WERE PREPD. II (R PRIME1-R PRIME3, PERCENT YIELD, M.P., LAMBDA SUBMAX IN NM, AND COLOR GIVEN): H, H, H 83, 80-30DEGREES, 512, BORDEAUX RED; H, OH, H, 68, 70-20DEGREES, 588, GREY VIOLET; H, 3,4,QMEC SUB6 H SUB3 NH, H, 69, 103-50DEGREES, 654, GREEN; ME, 2,4,6,3,ME SUB3 QC SUB6 HNH, H, 58, 148-50DEGREES, 534, BLUE; H, H, 3,4,QMEC SUB6 H SUB3 NH, 68, 114-111DEGREES (SIC), 532, LILAC. II ARE READILY APPLIED TO KAPRON FIBERS TO YIELD BRIGHT DYEINGS FAST TO H SUB2 O, WARM SOAPY H SUB2 O, AND OTHER REAGENTS. FACILITY: IVANONV. KHIM. TEKHNOLOG. INST., IVANONO, USSR.

UNCLASSIFIED

1/2 012

UNCLASSIFIED

PROCESSING DATE—30OCT70

TITLE—IRON CARBONYLS AS INHIBITORS OF RADICAL CHAIN REACTIONS OF
ORGANOSULFUR COMPOUNDS —U—

AUTHOR—(05)—KANDROR, I.I., PETROVA, R.G., PETROVSKIY, P.V., TERENTYEV,
A.B., FREYDLINA, R.KH.

COUNTRY OF INFO—USSR

SOURCE—DOKL. AKAD. NAUK SSSR 1970, 191(4), 835-8 (CHEM) *P*

DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—IRON COMPOUND, CARBONYL COMPOUND, ORGANIC SULFUR COMPOUND,
ALKENE, CHAIN REACTION

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAE—2000/0698

STEP NO—UR/0020/70/191/004/0835/0838

CIRC ACCESSION NO—AT0124370

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124370

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING MIXTS. OF UNSATD. SULFIDES AND PHSH WITH FE(CO) SUB5 (I) (0.5 MOLE PERCENT) IN SEALED AMPULS AT 80DEGREES OR 150DEGREES 10 HR WAS USED AS THE TECHNIQUE FOR STUDYING THE EFFECT OF THE CARBONYL ADDITIVE ON THE REACTION. I INHIBITED THE RADICAL ADDN. OF PHSH TO THE OLEFINS. THE FOLLOWING PRODUCTS WERE OBTAINED FROM THE INDICATED OLEFINS IN THE PRESENCE (ABSENCE) OF I; PHSCH:CH SUB2 100PERCENT MECH (SPH) SUB2 (100PERCENT (PHSCH SUB2) SUB2); PHSCPH:CH SUB2 100PERCENT MEC(SPH) SUB2 PH (56PERCENT PHSCHPHCH SUB2 SPH AND 27PERCENT MEC(SPH) SUB2 PH); AND MEC(SPH) SUB2 PH 100PERCENT MECH(SPH)PH; NO REACTION TOOK PLACE WITH OR WITHOUT FE(CO) SUB5 WITH PHSH AND MECH(SPH) SUB2. FORMATION OF PHSCHPHME ABOVE RESULTED FROM ADDN. OF PHSH IN ACCORD WITH THE MARKOVNIKOV RULE, AND CONVERSION OF THE MERCAPTAL INTO THE FINAL PRODUCT OCCURRED BY LOSS OF PHS RADICAL, WITH FE(CO) SUB5 INHIBITING THE RADICAL ADDN. OF PHSH OT THE ORIGINAL OLEFINIC SULFIDE. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 611-018.46-018.13-086.2

PYATKIN, Ye, K., SUSKOV, I. I., and PETROVA, S. A., Institute of Biophysics,
Moscow

"The Dependence of the Type and Frequency of Chromosome Aberration Induced
by Gamma Rays in Human Bone Marrow Cells During Local Irradiation on the
Method of Hypertonic Processing"

Moscow, Laboratornoye Delo, No 1, 1973, pp 6-8

Abstract: Bone marrow samples were collected from the iliac bone and the sternum of patients 24 hrs after a single therapeutic irradiation with 100, 200, 277, and 300 rad of Co^{60} gamma rays. The samples, containing at least 4 million cells, were suspended in medium No 199, incubated at 37°C for 1 hr, resuspended, divided into two equal portions, and centrifuged. The supernatant fluid was removed, and 7 ml of a warm 0.5% KCl solution added to one portion, while an equal volume of Hanks' solution diluted with distilled water (1:3) was added to the other portion. The cells were left in the hypotonic solutions for 10-15 min and then fixed and stained. In bone marrow cells treated with hypotonic KCl, the observed proportion of metaphases suitable for analysis was 60-70%, and a considerably larger number of aberrant cells, chromatid type aberrations (chromatid fragments and exchanges), and 1/2

USSR

PYATKIN, Ye. K., et al, Laboratornoye Delo, No 1, 1973, pp 6-8

paired fragments were observed than after treatment with diluted Hanks' solution (only 30-40% of metaphases suitable for analysis), though no significant difference was detected in the frequency of chromosome-type aberration (dicentrics and rings). The average frequency of chromatid fragments and exchanges per aberrant cell after treatment with KCl was more than twice as high as after treatment with Hanks' solution. Thus, in the latter case, a large number of aberrant metaphases, especially those with chromatid type aberrations, become unsuitable for cytological analysis.

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USSR

UDC 621.35.035.222.3

PETROVA, S. A., and KSENZHEK, O. S.

"A Study of Adsorption Diffusion Models for the Wetting of a Carbon-Oxygen Electrode"

Vopr. khimii i khim. tekhnol. Resp. mezhved. temat. nauch.- tekhn. sb. (Questions of the Chemistry and Chemical Technology. Republic Interscientific Topics in Scientific and Technical Works), Vyp 27, 1972, pp 191-197 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L223)

Translation: The adsorption-diffusion mechanism was thoroughly studied for the wetting of the carbon-oxygen electrode. The rate of propagation of the monomolecular film of the adsorbed water molecules from the micropores of the grains (G) of the carbon are inversely proportional to the distance from the external surface of G to the zone of adsorption. The time for the wetting of G in the case where the process of the volume surface coverage of G by the liquid precedes the coating of the entire inner surface of the pores with a monomolecular film is 6 to 28 hours. However, the velocity of the electrochemical stabilization of O_2 in G is very great. G may be impregnated by liquid simultaneously on all sides but the wetting of G may occur by means of the simultaneous impregnation of G of different layers. The time for wetting the electrode to a thickness of 1 mm, in this case, varies from 4 to 21
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USSR

PETROVA, S. A., and KSENZHEK, O. S., Vopr. khimii i khim. tekhnol. Resp. mezhved. temat. nauch.-tekhn. sb., Vyp 27, 1972, pp 191-197

hours. The adsorption-diffusion mechanism gave a time of impregnation which was significantly less than actually observed and did not show a dependence between the polarization and the velocity of wetting. Therefore, this mechanism is insufficient to describe the process of wetting of the carbon electrode. (Author's abstract).

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Acc. Nr: **AP0 101518** - Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code:
UR 0195

120834h Organic peroxide compounds of Group IVB elements. II. Kinetics of the rearrangement of mono- and diarylalkyl hydroperoxides. Vablokov, V. A.; Petrova, S. A.; Livadonova, A. B. (Gor'k. Gos. Univ. im. L'obachevskogo, Gorki, USSR). Kinet. Katal. 1970, 11(1), 51-6 (Russ). The study concerns the effect of structure of substituted cumene hydroperoxides (I) on the rate of their rearrangement and the kinetics of rearrangement of *p*- and *m*-diisopropylbenzene dihydroperoxides (II). Rearrangement of I in the presence of H₂SO₄ in AcOH or dioxane, is a 1st order reaction in respect to H₂SO₄ concn. Rate consts. of rearrangements of a series of substituted I, their ΔH^\ddagger and ΔS^\ddagger are tabulated. The reactivity agreed with the Hammett equation. A mechanism for II rearrangement is proposed. HMJR

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PETROVA, S. G.

"Normal Approximation of a Composition of Even Distributions"

Izv. Vyssh. Uchev. Zavedeniy. Matematika [News of Higher Educational Institutions, Mathematics], 1973, No 3, pp 88-94 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V10)

Translation: Asymptotic Chebyshev-Kramer expansions for functions of the distribution of sums of independent random quantities are studied. Absolute estimates are produced for the residual term in an expansion in the case of evenly distributed components. L. Osipov

1/1

USSR

UDC: 669.24'26:620.183

VINOGRADOVA, N. I., DAVYDOVA, V. V., MAKHANEK, G. V., PETROVA, S. N.,
SADOVSKIY, V. D., Leningrad Polytechnic Institute imeni Kalinin

"Application of a Metallographic Method for Determination of the Depth of
Surface Hardening in Nickel-Chromium Based Alloys"

Moscow, Zavodskaya Laboratoriya, No 11, 1972, pp 1359-1360.

Abstract: The influence of the chemical composition of alloys on the possibility of metallographic determination of strain hardening by decoration of dislocations with the carbide phase liberated upon aging is studied. The method can be used for nickel-chromium alloys of any composition with carbon contents of at least 0.05%. Hardening 20-30 μ up to several millimeters in depth is revealed.

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USSR

UDC: 669.14.018.44:620.18

SADOVSKIY, V. D., PETROVA, S. N., MAKHANEK, G. V.

"A Special Type of Separation of the Carbide Phase During Aging of KhN77TYuR Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 12, 1972, pp 5-7.

Abstract: This work studies the peculiarities of intragrain separation of chromium carbides during aging of KhN77TYuR commercial alloy. Specimens 20 mm in diameter and 10 mm high were heated at 1080, 1150 and 1200°C, then cooled in water, in air and with the furnace, after which they were aged at 700-900°C for several minutes to 30 hours. This was followed by structural studies with optical and electron microscopes. The data presented show that in this alloy the chromium carbide Cr₂₃C₆, having an identical face-centered cubic lattice with the matrix, but with three times greater lattice parameter, can develop at dislocations during aging and separate within the grain. With high dislocation density, the carbide phase decorates the dislocations, allowing the dislocation structure of the alloy to be studied on an optical microscope.

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USSR

UDC 616.832.9-008.8:616.981.49]074

PONOMARENKO, V. N., MIKHAYLENKO, A. F., and PETROVA, T. A.

"Isolation of the Mendoza Type Salmonella from Spinal Fluid"

Kiev, Vrachebnoye Delo, No 9, 1971, pp 117

Abstract: A pure Mendoza type Salmonella culture was isolated from the spinal fluid of a 2-month-old infant who died of purulent meningoenephalitis and cerebral edema. The child, fed whole cow's milk since it was 3 weeks old, had been hospitalized 6 days for bilateral acute catarrhal otitis and parenteral dyspepsia.

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- 61 -

USSR

UDC: 621.317.34:621.372.8

MEKHANNIKOV, A. I., PETROVA, T. I.

"A Simple Method of Measuring Attenuation of a Section of Regular Waveguide"

Tr. VNII fiz.-tekh. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 50-51 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5B176)

Translation: A simple method is proposed for realizing the resonance method of measuring small attenuations of regular waveguides of rectangular cross section operating on the fundamental mode. A block diagram of the measurement installation is given. Resumé.

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USSR

UDC 621.039.534.44:620.193.23

MARTYNOVA, O. I., NAZAROV, A. I., CHECHETKIN, Yu. V., KOBZAR', I. G., SAMOYLOV, Yu. F., and PETROVA, T. I.

"Transition of Zinc Corrosion Products From Boiling Water Into Steam and Distribution of the Active Component on the Circuit of the VK-50 Boiling Water Reactor"

Moscow, Atomnaya Energiya, Vol 29, No 2, Aug 70, pp 82-86

Abstract: Values are presented for the distribution coefficient (K_d) of Zn corrosion products at 180 atm (355°C) and 100 atm (310°C) and are compared with experimental data of the visible Zn distribution coefficient in the VK-50 boiling water reactor according to measurements with the Zn^{65} isotope. Insofar as K_d ($K_d = 11.6$ at 70 atm) and the half-life of Zn^{65} ($T_{1/2} = 245$ days) are very high, the Zn^{65} activity is assumed to represent the principal part of the activity of corrosion products in the steam-condensate cycle of the VK-50 reactor. This is shown from data on the activity of several blocks of the steam-condensate cycle. Steam washing and replacing brass parts in the turbine condenser and preheaters with parts made from other alloys are considered effective means for reducing Zn activity.

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UDC 632.95

USSR

PETROVA, T. M.

"Detection of Some Organochlorine and Organophosphorus Insecticides by the Method of Thin-Layer Chromatography with Fluorescent Agents"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zarrvaz-neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp 184-185 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N439)

Translation: Methylnitrophos and other organophosphorus insecticides were analyzed by the fluorescent-chromatographic method. The sensitivity was 0.5 γ of insecticide. The luminescent substance (fluoresceine) was introduced directly into the sorbents in the form of an aqueous 0.02% solution.

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- 61 -

USSR

P
UDC: 632.937.14

KOROBAYNIKOVA, A. V., Candidate of Biological Sciences, Reader at the Svevdlovsk Pedagogical Institute, and PETROVA, T. N., Teacher of Biology, Sverdlovsk School No 23

"Treatment of Seeds with Trochotecin"

Moscow, Zashchita Rasteniy, No 2, 1970, p 24

Abstract: In connection with damp weather in the Central Urals during the ripening and harvesting seasons, antibiotics have been used in recent years to counteract the effects of microorganisms and fungi. In 1967 - 1968 the authors tested trichothecin for this purpose, treating seeds for 30 minutes in trichothecin solutions of various concentrations before planting (winter wheat was used in the tests). It was found that this treatment resulted in more than a 50 percent reduction of the diameter of fungus colonies, with better than 40 percent increase in yield. The authors' results are similar to those obtained by other Soviet experiments in 1963 and 1964.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

1/3 018

TITLE--NEW ORGANIC REAGENTS FOR THE PHOTOMETRIC DETERMINATION OF BARIUM,
STRONTIUM, CALCIUM, AND SULFATE ION -U-

AUTHOR--(03)--PETROVA, T.V., KHAKIMKHODZHAYEV, N., SAVVIN, S.B.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 259-65

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOTOMETRIC ANALYSIS, BARIUM, STRONTIUM, CALCIUM, SULFATE,
COMPLEX COMPOUND/(U)KUZ ION EXCHANGE RESIN

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1539

STEP NO--UR/0062/70/000/002/0259/0265

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PROCESSING DATE--300CI70

2/3 018

CIRC ACCESSION NO--AP0125167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 2,7,BISAZO DERIVS. OF CHROMOTROPIC ACID WERE SUGGESTED AS ANAL. REAGENTS MAINLY FOR BA AND SR, AS WELL AS FOR OTHER ALK. EARTHS. CHROMOTROPIC ACID WAS COUPLED IN ALK. SOLN. WITH DIAZOTIZED AMINES IN THE PRESENCE OF SALTS OF LI AND NA WHICH SERVED AS CATALYSTS. THE FOLLOWING CONDITIONS WERE DETD. EXPTL. FOR SPECTROPHOTOMETRY OF THE INDICATED METAL IONS IN AQ. SOLN. (UNLESS MENTIONED OTHERWISE) FOR DERIVS. OF I (X SHOWN): I, X EQUALS 4,H, NO DETAILS; I, X EQUALS P,NO SUB2, CU PH 2,4, TH PH 1.6,2, LA PH 2,4; I X EQUALS P,SO SUB3 H, LA PH 3,4 IN 80PERCENT ETOH, TH PH 1.5,2, CU PH 2,6; I, X EQUALS M,SO SUB3 H, LA PH 3,5.5 IN 80PERCENT ETOH, TH PH 1.5,2.5, CU PH 3,6; I, X EQUALS P,ASO SUB3 H SUB2, TH PH 3.5,4, CU PH 2.5,4, LA PH 2.8,3.5. THE ABSORPTION SPECTRA OF THE ACIDS AND THEIR METAL COMPLEXES WERE REPORTED AND CALIBRATION CURVES SHOWN FOR DETN. OF BA, SR, AND SO SUB4 PRIME2 NEGATIVE. I, X EQUALS P,NO SUB2, WAS BEST FOR THE PHOTOMETRIC DETN. OF SR, BA, AND SO SUB2 PRIME2 NEGATIVE. COLOR TESTS FOR AL AND PB WITH I WERE ALSO POSSIBLE. OTHER I TESTED INCLUDED THOSE WITH X EQUALS M,NO SUB2, P, ME, M,ME, P,MEQ, M,CO SUB2 H AND P,CL. FOR PHOTOMETRIC DETN. OF SMALL AMT. OF SO SUB4 PRIME2 NEGATIVE THE COMPLEX OF BA WITH I, X EQUALS P, NO SUB2, WAS USED AS AN INDICATOR IN AQ. ETOH,ME SUB2 CO; THE METHOD WAS USEFUL FOR DETN. OF SO SUB4 PRIME2 NEGATIVE IN TAP WATER; THE SAMPLE WAS PASSED OVER KU2 ION EXCHANGE RESIN IN H POSITIVE FORM TO REMOVE THE INTERFERING CATIONS, THEN ANALYZED COLORIMETRICALLY IN THE PRESENCE OF THE BA,I COMPLEX. DETN. OF 4,5 GAMMA BA AND SR WAS POSSIBLE.

UNCLASSIFIED

3/3 018
CIRC ACCESSION NO--AP0125167
ABSTRACT/EXTRACT--FACILITY:
MOSCOW, USSR.

UNCLASSIFIED

PROCESSING DATE--30OCT70

INST. GEOKHIM. ANAL. KHIM. IM. VERNADSKOGO,

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF SUBSTITUENTS ON THE DISSOCIATION OF THE HYDROXY GROUPS ON
THE NAPHTHALENE RING OF BISAZO SUBSTITUTED CHROMOTROPIC ACID -U-
AUTHOR--PETROVA, T.V., KHAKIMKHODZHAYEV, N., SAVVIN, S.B.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 226-30
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--DISSOCIATION CONSTANT, HYDROXYL RADICAL, NAPHTHALENE, ORGANIC
AZO COMPOUND, CONJUGATE BOND SYSTEM, ORGANIC SULFUR COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1058 STEP NO--UR/0075/70/025/002/0226/0230
CIRC ACCESSION NO--AP0104456
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PROCESSING DATE--11SEPT0

2/2 008

CIRC ACCESSION NO--AP0104456
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DISSOCN. OF THE OH GROUP OF THE NAPHTHALENE NUCLEUS FOR 27 BIS(PHENYLAZO SUBSTITUTED) CHROMOTROPIC ACIDS WITH THE SO SUB3 H, CO SUB2 H, OH, OME ANE ME GROUPS IN THE C SUB6 H SUB6 NUCLEI IN DIFFERENT POSITIONS WAS STUDIED. AN INDUCTION EFFECT OF SUBSTITUENTS TOGETHER WITH A CONJUGATION EFFECT EXISTS FOR REAGENTS WITH SUBSTITUENTS IN THE M AND P POSITIONS IN THE C SUB6 H SUB6 RINGS. THUS, SOME OF THE SUBSTITUENTS INCREASE AND SOME DECREASE THE ACID PROPERTIES OF THE OH GROUPS. SUBSTITUENTS IN THE Q POSITION, IRRESPECTIVE OF THEIR CHARACTER, DECREASE THE ACID PROPERTIES OF THE REAGENTS, OWING TO STABILIZATION OF THE QUINONE HYDRAZONE FORM OF THE REAGENT.

UNCLASSIFIED

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UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

243437 ABRASIVE FINISHING of workpieces is carried out in a closed chamber 1 with entry 3 for the component 4, and rod 5 of the nozzle control. The shot blast nozzles 6 are with crossed axes, and rod 5 is supported on guide rollers 7 of carriage 8 which can vertically move on upright 9 by drive mechanism 10. The workpiece is clamped on carriage 11, and the shot is fed by hoses 13, the return ensured by tank 15 and an elevator.

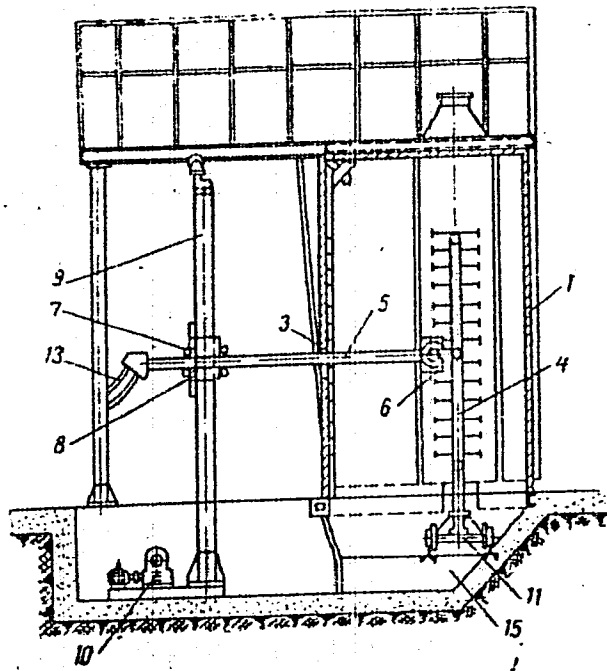
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T.V. (15.9.69) Bul. 16/5.5.69. Class 67b, Int.
Cl. B 24c.

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19791527

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PETROV

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TECHNICAL TRANSLATION

NUM | FSTC JF 23-2015-12

89 dtd 72

ENGLISH TITLE: PROBLEMS OF LASER BEAM DATA TRANSMISSION
PROCEEDINGS OF THE FIRST ALL-UNION CONFERENCE, KIEV,
SEPTEMBER 1968

FOREIGN TITLE: ПРОБЛЕМЫ ПЕРЕДАЧИ ИНФОРМАЦИИ ЛАЗЕРНЫМ ИЗЛУЧЕНИЕМ

AUTHOR: I. A. DERUGIN, ET AL.

SOURCE: KIEV ORDER OF LENIN STATE UNIVERSITY
IRENI T.G. SCHEVCHENKO

Translated for FSTC by ACSS

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- 1 of 1 Page -

1/2 026 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PREPARATION OF BLOCK COPOLYMERS OF PROPYLENE AND APHYA OLEFINS -U-

AUTHOR--(05)-YAKOBSON, F.I., AMERIK, V.V., PETROVA, V.F., SHTEYNBAK, V.SH.,
IVANYUKOV, D.V.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 11-13

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--COPOLYMER, PROPYLENE, CATALYTIC POLYMERIZATION, TITANIUM
CHLORIDE, INTRINSIC VISCOSITY, ETHYLENE, ISOBUTENE, STYRENE,
CYCLOHEXANE, FREEZING, IMPACT. STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1986/0259

STEP NO--UR/0191/70/000/003/0011/0013

CIRC ACCESSION NO--AP0102309

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PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102309

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF REACTION CONDITIONS (TIME (5 MIN, 5 HR), CONC. OF MONOMER AND TICL SUB3, MACRO CHAINS IN POLYMN. OF PROPYLENE (II) (MIXED WITH PROPANE) CATALYZED BY 4:1 ET SUB2 ALCL AND TICL SUB3 MIXTS. WAS STUDIED. MOL. WTS., CALCD. FROM POLYMER INTRINSIC VISCOSITY DETNS. IN DECALIN, INCREASED ABRUPTLY WITH REACTION TIME AND TEMP. WHETHER MONOMER CONC. WAS DECREASING OR CONST. INCREASING TICL SUB3 CONC. (0.4 TO 3.5 TIMES 10 PRIME NEGATIVE 2 MOLE-1.) DID NOT INFLUENCE CHAIN VIABILITY, BUT DECREASED INTRINSIC VISCOSITY, PROBABLY DUE TO INCREASED NOS. OF ACTIVE CENTERS. THE LINEAR DEPENDENCE OF POLYMER YIELD ON MOL. WT. AT DIFFERENT REACTION TIMES AND TICL SUB3 CONCNS., EXCLUDING INITIAL NON STEADY STATE REGIONS, INDICATED FREEDOM FROM MOL. CHAIN TERMINATION AND AFFIRMED THE EXISTENCE OF LIVING MACROMOLS. IN THE SYSTEM. SUCCESSIVE POLYMN. OF II WITH ETHYLENE (0.13 TO 1PERCENT), ISOBUTYLENE (III) (4 TO 4.8PERCENT), VINYL CYCLOHEXANE, AND STYRENE (1 TO 1.2PERCENT) AND III (3 TO 4.1PERCENT) GAVE BLOCK COPOLYMERS HAVING RESISTANCE TO FREEZING IMPACT STRENGTH 2 TO 4 AND 2 TO 3 TIMES, RESP., GREATER THAN THOSE OF I.

UNCLASSIFIED

USSR

UDC 621.385.6

MASHNIKOV, V. V., ZHELEZOVSKIY, B. YE., PETROVA, V. N.

"Study of Complete Suppression of one of the Signals in the Two-Frequency Operating Mode of Traveling Wave Tubes"

Kiev, Izvestiya vysshikh uchebnykh zavedeniy--Radiotekhnika, Vol XIV, No 9, 1971, pp 1027-1031

Abstract: A study is made of some results of the theoretical and experimental investigations of the Kompfner effect in traveling wave tubes operating in the two-frequency mode. Inasmuch as the output signal in this case has a complex spectrum, the complete suppression of one of the signals is taken as absence of the component with the frequency of the investigated signal at the traveling wave tube output. Analytical methods of analyzing multifrequency operating modes of O-type devices are developed, and the physical processes in them are analyzed in depth. Graphs are presented for the relative drift angle as a function of the parameter X_1 proportional to the amplitude of the input signal, the magnitude of the suppression current as a function of the parameter X_1 , the voltage of the total damping of the first signal as a function of the input power of the second signal, and the experimental function for the output power $1/2$

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MASHNIKOV, V. V., et al., Izvestiya vysshikh uchebnykh zavedeniy--Radiotekhnika, Vol XIV, No 9, 1971, pp 1027-1031

of the first signal as a function of the input power of the second signal. With an increase in power (amplitude) of the second signal the voltage at which complete damping of the first signal takes place changes. The output power (amplitude) from cutoff of the signal depends on the input power of the second signal. The mechanisms behind these phenomena are discussed.

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USSR

UDC: 669.15'26'24'28'3-194:669'14.018.821

PETROVA, V. S., FROLOV, A. V., BATRAKOV, V. P., FILIMONOVA, L. A., BELOUS, V. Ya., NIKISHOV, A. S., BONDAREV, V. V., PODOL'SKIY, M. L.

"Stainless Steel"

Moscow, Otkrytiya, Izobreneniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334273, Division C, filed 2 Sep 68, published 30 Mar 72, p 104

Translation: This Author's Certificate introduces: 1. A stainless steel which contains carbon, chromium, nickel, molybdenum, copper and iron. As a distinguishing feature of the patent, mechanical properties are improved by taking the components in the following proportions in percent: carbon--0.03-0.1; chromium--10.05-11.9; nickel--3.3-4.0; molybdenum--2.3-3.0; copper--1.0-2.0; manganese--less than 0.6; silicon--less than 0.8; the remainder iron; and 2. a modification of this steel distinguished by the fact that the chromium:nickel ratio is 2.8-3.8.

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USSR

UDC: 621.372.852.2

PETROVA, V. S.

"Plotting the Maxwell-Ampere Characteristic of a UHF Ferrite Phase-Shifter Control System"

Elektron. tekhnika, Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering, Scientific-Technical Collection, Ferrite Techniques) 1970, No. 4(26) pp 33-38 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B185)

Translation: Formulas are given for computing the characteristics of ferrite UHF phase shifters.

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USSR

UDC: 621.396.6-181.48

AFANAS'YEV, V. Ya., DOROKHOVA, L. B., PETROVA, V. Z.

"Investigation of the Possibility of Using Lo-Melting Glass for Insulation Between Layers in Thin-Film Microcircuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics. Moscow Institute of Electronic Technology), 1972, vyp. 8, pp 102-108 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V311)

Translation: The paper deals with the general requirements to be satisfied by silicate dielectrics for interlayer insulation. A study is made of low-melting glasses in the $\text{SiO}_2\text{-PbO-ZnO-B}_2\text{O}_3$ system. Films 5-10 μ thick were produced by sedimentation of glass powder on a pyroceramic substrate with microcircuit made by gold vaporization. The sedimentation was done from a glass suspension in ethyl acetate with centrifuging (2500-3000 rpm). The structure of the resultant films was studied by infrared spectroscopy. A study was also made of the moisture and heat resistance of the films and their electrical parameters. Three illustrations, bibliography of four titles. N. S.

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USSR

UDC: 621.396.6-181.48

PETROVA, V. Z.

"Inorganic Dielectrics for Coating in Microelectronics"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics. Moscow Institute of Electronic Technology), 1972, vyp. 8, pp 61-71 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V312)

Translation: The paper presents a table of typical inorganic dielectrics used in microelectronics for various purposes (substrates, bases for flat chassis, hermetic sealing, interlayer insulation, insulation of micro-circuit elements, etc.) with indication of characteristic parameters. The requirements to be satisfied by these dielectrics are considered. Discussed in particular detail are the insulation of elements within microcircuits, and also making a matched joint in flat chassis. Methods of making films are briefly described. Two tables, bibliography of sixteen titles. N. S.

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1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PHASE DIAGRAM OF HYDRAZINETRIMETHYLBORON PYRIDINE AND
METHYLAMINETRIMETHYLBORON PYRIDINE SYSTEMS -U-
AUTHOR--(05)-SVITSYN, R.A., ZHIGACH, A.F., SOROKIN, P.Z., PETROVA, YE.I.,
OSOKIN, V.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1131-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHASE DIAGRAM, ORGANOBORON COMPOUND, PYRIDINE, HYDRAZINE
COMPOUND, AMINE, COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1145 STEP NO--UR/0078/70/015/004/1131/1133
CIRC ACCESSION NO--AP0136565

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136565

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAMS OF N SUB2 H SUB4 .BME SUB3 PYRIDINE (PY) AND MENH SUB2 .BME SUB2 -PY SYSTEMS ARE PRESENTED. THE SYSTEMS FORM ADDUCTS (N SUB2 H SUB4 .BME SUB3).PY, (N SUB2 H SUB4 .BME SUB3).2PY, AND (MENH SUB2 .BME).-PY WHICH CONGRUENTLY M. MINUS 19.1, MINUS 30.3, AND MINUS 14.5DEGREES, RESP.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 014
TITLE--PHASE DIAGRAMS OF DIETHYLAMINE TRIMETHYLBORON PYRIDINE AND
TRIMETHYLAMINE BORANE PYRIDINE SYSTEMS -U-
AUTHOR--(04)--SVITSYN, R.A., ZHIGACH, A.F., SOROKIN, P.Z., PETROVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 829-30

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DAIGRAM, AMINE, ORGANOBORON COMPOUND, PYRIDINE,
EUTECTICS

CENTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0968

STEP NO--UR/0078/70/015/003/0829/0830

CIRC ACCESSION NO--AP0124627

UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124627

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PHASE DIAGRAMS OF THE TITLE SYSTEMS ARE CONSTRUCTED. THE SYSTEM OF (ET SUB2 NH)BME SUB3 (I) FORMS AN ADDUCT (II) CONTG. 61.98 WT. PERCENT I AND CONGRUENTLY M. 4.5DEGREES. II FORMS EUTECTICS WITH PYRIDINE, M. MINUS 55DEGREES, AND WITH I, M. MINUS 6.8DEGREES. THE SYSTEM OF ME SUB3 NBH SUB3 FORMS A SIMPLE EUTECTIC (M. MINUS 44.2DEGREES AND CONTG. 5.0 WT. PERCENT ME SUB3 HBH SUB3) SYSTEM WITH PYRIDINE.

UNCLASSIFIED

Acc. Nr: AP0049032

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Ref. Code: UR0607

PRIMARY SOURCE: Vestnik Otorinolaringologii, 1970, Nr / ,
PP 74-80

ELECTRONYSTAGMOGRAPHY IN PATIENTS WITH OTOSCLEROSIS

V. T. Palchun, Ye. I. Petrova (Moscow)

Summary

In experimental caloric stimulation of the labyrinth the authors recorded electro-nystagmograms (ENG) in 100 patients with otosclerosis before the operation and 1-5 years later in 60 patients after stapedoplasty for the purpose of elucidating the general regularities of the influence of the otosclerotic process on the function of the vestibular apparatus. Besides, the reaction of the labyrinth to the operative trauma was studied by recording the ENG during the first minutes after the operation in 60 patients without experimental stimulation of the labyrinth. On the basis of ENG analysis the authors singled out three types of functional state of the labyrinth in otosclerosis: 1) close to normal (21% of patients), 2) reduced sensitivity or hyporeflexia (64%), 3) augmented sensitivity of the labyrinth or hyper-reflexia (15%). Apart from the usual criteria of nystagmus curves the authors distinguish the following: 1) intermittent type and 2) a type

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of curve with nonuniform amplitude. An intermittent type of ENG is characterized by a frequent appearance of areas without fluctuations; the authors called them nystagmus pauses. ENG with a nonuniform amplitude has separate, often repeated oscillations, the amplitude of which exceeds other. A presumptive explanation of these phenomena is given. An analysis of the material obtained during studies of the labyrinthine state directly after stapedoplasty confirmed the fact that the operative trauma of the labyrinth is the lesser, the more careful the operation is performed; during the first two weeks of the postoperative period acute reactions of the labyrinth to the operation disappear and the function of the vestibular apparatus on the operated side normalizes within a year.

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PETROVA, Ye. M.

TECHNOLOGY OF PRODUCING NEW MATERIALS

JPRS 59875
23 August 1973

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Translation of Russian-language collection: Tekhnologiya
Polucheniya Novykh Materialov, 1972, Kiev.

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Composite Materials

USSR

UDC 537.29.669.01

SAMSONOV, G. V., VERKHOTUROV, A. D., and PETROVA, YE. M., Kiev

"Regularities of the Anode Erosion of Alloys of Carbides of Transition Metals with Iron, Cobalt, and Nickel"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 140-144

Abstract: The problem of the bonding agent in developing composite materials based on brittle metal carbides of the fourth and fifth groups of the periodic table was experimentally investigated on specimens of alloys produced by a method of separate pressing and caking (Petrova, Ye. M., Dissertation Abstract, Institut Problem Materialovedeniya, Academy of Sciences, UkrSSR, 1970). The investigation results are discussed by reference to erosion and anodic transition coefficient dependences on the cubic content of the bonding agent and microstructures of steel U8 alloyed with different composite materials. It was found that the bonding of the investigated carbides with metal additions sharply decreases their erosion in comparison with pure carbides, but the transition coefficient increases from 6-7% to 70-80%. Carbides with bonding agent contents of up to 10-15% are recommended for practical use of composite materials. Nickel is recommended as the best bonding agent. Two illustrations, 10 bibliographic references.

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USSR

KARKLIT, A. K., STEGANTSEV, S. A., and PETROVA, Ye. V., All-Union Institute of Refractory Materials

"Properties of Ceramics in the MgO-MgCr₃O₄ System"

Moscow, Ogneupory, No 12, Dec 70, pp 38-40

Abstract: A study was made of the sintering of masses of magnesium oxide and chrome-magnesium spinel. The effect of the chrome-magnesium spinel on sintering and on the microstructure of the periclase was studied. Mixtures were prepared from analytical-grade materials. Magnesium oxide was preliminarily calcined at 900°C, and then the powders were mixed in drums, pelletized, and calcined at 1750°C for 4 hours. The completion of the spinel formation reaction was controlled by chemical analysis according to the free magnesium oxide content. Compositions covering a wide range of proportions were investigated. Mixtures were pelletized under a pressure of 500 kg/cm² and calcined at 1400-1700°C for one hour. Samples from a pure periclase had the greatest density. Porosity increased sharply with spinel addition, reaching a maximum at 35% of spinel. Microstructure was studied on samples calcined at 1700°C. It differed sharply with spinel content; a 40-45%

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KARKLIT, A. K., et al, *Ogneupory*, No 12, Dec 70, pp 38-40

spinel content contributed to periclase recrystallization, while the periclase and $MgCr_2O_4$ grain sizes were maximum. It is concluded that the presence of a small quantity of spinel in a periclase delays sintering. This is explained by variations in the crystal lattice related to the formation of solid solutions.

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UDC 355.3/613.644

TROYANSKIY, M. P., SIDORTSOV, I. P., and PETROVA-GOLUBENKO, L. B.

"Effect of Noise on Blood Cholinesterase Activity"

Moscow, Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 47-49

Translation: The effect of industrial noise on workers' health has been investigated in quite a few scientific studies which mention the changes that take place in the body as a result.

Our purpose was to study indexes that would not only testify to the presence of noise but also serve as a criterion of its adverse effect. One such index, at least in part, is whole blood cholinesterase activity and the state of the autonomic nervous system in persons working in diesel and blower stations. Their work is light to moderate and does not involve much nervous or mental strain. The noise levels ranged from 94 to 97 db, with medium and high frequencies and an energy peak at 400 to 1,250 hz. None used ear plugs. A work shift was 12 hours long and there was an interval of 24 hours between shifts. During the examination period a temporary change in the schedules of some groups resulted in shortening the interval between shifts to 12 hours. The workers, especially those on the job after a 12-hour break, complained of ready fatigability, headaches, general weakness, irritability, and so forth.

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TROYANSKIY, M. P., et al., Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 47-49

Cholinesterase activity was determined by Hestrin's method before work and every 3 hours during work, at the end, and 12 and 24 hours afterward. The results were expressed in units of extinction. Baseline neurological examination given at the same time included: interrogation, neurological status, Aschner's phenomenon, dynamic observation of the pulse, arterial pressure, and dermographic reaction. The examination were given right at the work places.

A total of 55 persons were examined: 16 worked 12-hour shifts (after a 24-hour break (group 1) and 24 worked 12-hour shifts after a 12-hour break (group 2)). The other 15 worked under the same conditions but were not exposed to noise (control).

The neurological examination revealed a significant lengthening of the latent period of the dermographic reaction ($p=0.01$) and a rather pronounced slowing of the pulse in Aschner's test ($p=0.05$) at the end of the workday.

Analysis of the dynamics of blood cholinesterase activity showed that it decreased significantly in those who came to work after a 24-hour break in the course of the shift, the maximum decrease occurring toward the end. Although the decrease was gradual, it was manifested after only 3 hours of

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TROYANSKIY, M. P., et al., *Voyenno-Meditsinskiy Zhurnal*, No 2, 1971, pp 47-49

work ($p=0.05$). Cholinesterase activity returned to the original level 24 hours after the work was over, but in some cases it was higher.

Cholinesterase activity was found to be lower in group 2 (worked 12-hour shifts after a 12-hour break) than in the first and control groups. After 3 hours' work it decreased more sharply than in group 1, although by the end of the shift the rate of decrease slowed and cholinesterase activity was almost indistinguishable from that in group 1.

Systematic incomplete restoration of cholinesterase activity can eventually lead to decompensation. A significant decrease therein during restoration puts great stress on the compensatory mechanisms and it may cause them to break down. Therefore, we are justified in stating that a 12-hour interval between shifts is insufficient.

Thus, the extent of decrease and time of restoration of cholinesterase activity can be used to judge the degree of harm done by noise and the completeness of restoration of physical fitness. These indexes can serve as the basis for establishing sound standards of work and rest time. Complete restoration of cholinesterase activity to the original level before the start of the next shift is the criterion for judging the soundness of the standards. The mere fact that cholinesterase activity decreases is not an invariable sign of pathology. It can be regarded as an index of adaptation of the body to new conditions, especially in cases where its activity is completely

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TROYANSKIY, M. P., et al., Voenno-Meditsinskiy Zhurnal, No 2, 1971, pp 47-49

restored. A decrease in cholinesterase activity and change in neurological status (lengthening of the latent period of the dermographic reaction, pronounced slowing of the pulse in Aschner's test) are indicative of a parasympathetic trend in the changes that take place in persons working under noisy conditions.

Conclusions

1. Workers exposed to noise when examined directly at the work places showed a statistically significance decrease in blood cholinesterase activity, increase in the latent period of the dermographic reaction, and rather pronounced slowing of the pulse in Aschner's test, the lowest value being recorded at the end of a shift.
2. Cholinesterase activity was restored when the workers were no longer exposed to noise. After a 12-hour shift complete restoration took 24 hours.
3. The extent of decrease and time of restoration of cholinesterase activity can serve as a criterion for judging the degree of injury done by noise and the nature of the body's response.

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UNCLASSIFIED *P*

PROCESSING DATE--17JUL70

TITLE--VIBRATION IN DIESEL ELECTRIC LOCOMOTIVE -U-

AUTHOR--PETROVICH, D., KOSTIC, M., GRUJA, S.

COUNTRY OF INFO--YUGOSLAVIA

SOURCE--TEHNIKA, 1970, VOL 25, NR 1, PP 21-24

DATE PUBLISHED-----70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PROPULSION AND FUELS

TOPIC TAGS--LOCOMOTIVE, VIBRATION, DIESEL ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1979

STEP AC--YU/0001/70/025/001/0021/0024

CIRC ACCESSION NO--P0000006

Acc. Nr: **AP0046666**

Ref. Code: **YU0001**

PRIMARY SOURCE: **Tehnika, 1970, Vol 25, Nr / , pp 21-24a.**

VIBRATION IN DIESEL-ELECTRIC LOCOMOTIVE

Dragoljub Petrović, Dr., Manjilo Kostić, Dipl. Ing and
Slobodan Grlja, El. Technician — Depart-
ment for Work Hygiene of Medical Mili-
tary Academy, Beograd

The vibrations in a diesel electric locomotive, serie 661, No 142, made by „General Motors”, at a speed of 90 km/hour on the railroad line Beograd—Niš, was the subject of our investigation. In doing this, the measurements are also made of the local vibrations which were taking place for example on the hand

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joints of the locomotive driver, as well as, the general vibrations which were measured on the floor of the locomotive and on the seats of driver and his helper.

These measurements demonstrated conclusively that these vibrations are notably big, due to the fact, that all three characteristics: start, speed and acceleration are going over the allowed limit in certain frequency span.

In closing, the corresponding technical, medical and hygienic protecting measures are suggested.

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AUTHOR-- PETROVICH, G., PROFESSOR, EDITOR-IN-CHIEF OF THE
"KOSMONAUTICS" ENCYCLOPEDIA

TITLE-- SPACE CHRONICLE

NEWSPAPER-- PRAVDA, APRIL 10, 1970, P 3, COLS 4-8

ABSTRACT-- THE ARTICLE REVIEWS THE SECOND EDITION OF THE
"KOSMONAUTICS" ENCYCLOPEDIA WHICH IS ABOUT TO BE PUBLISHED IN
SEVERAL LANGUAGES, INCLUDING ENGLISH.

PETROVICH CLAIMS THAT "CONTRARY TO CERTAIN PUBLISHED INFORMATION",
THE PRINCIPAL DEVELOPERS OF "KATYUSHA" ROCKET MISSILES WERE
B. S. PETROPAVLOVSKIY AND G. E. LANGEMAK, AND THAT N. I. TIKHOMIROV
AND V. A. ARTEM, YEV CONDUCTED THE FIRST EXPERIMENTS. ALL FOUR
WERE ASSOCIATES OF THE GASDYNAMICS LABORATORY.

/ABSTRACTER'S NOTE-- A CHECK IN THE "KOSMONAUTICS" ENCYCLOPEDIA,
1968, HAS REVEALED THAT IT LISTS PETROPAVLOVSKIY, LANGEMAK, AND
TIKHOMIROV, GIVING THEIR DATES OF BIRTH AND DEATH, BUT DOES NOT
MENTION ARTEM, YEV.

19710000

USSR

UDC 577.391

SMIRNOV, A. V., and PETROVICH, I.K., Institute of Biophysics, Ministry of Health USSR, Moscow

"The Effect of External General Beta-Irradiation on the Composition of the Peripheral Blood of Rats"

Moscow, Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 607-610

Abstract: Changes in the morphological composition of the peripheral blood after general irradiation of rats with beta-rays from a Sr-90Y source in the dose range of 800-4500 rad were studied. The changes observed varied in extent with the dose of radiation applied and were different for male and female rats. During the first 5 days after irradiation, females exhibited leukopenia caused by a decrease in the number of neutrophils and lymphocytes, where as in males, on application of doses of 1600-4500 rad, there was an increase in the number of leukocytes due to an increase in both lymphocytes and neutrophils. After the 5th day, the changes in the leukocyte composition were of a polymorphous type for females; the number of lymphocytes decreased, while that of neutrophils increased. In the blood of irradiated males the number of both lymphocytes and neutrophils increased from the 5th to 7-14th

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SMIRNOV, A. V., and PETROVICH, I. K., Radiobiologiya, Vol 11, No 4, Jul/Aug 71, pp 607-610

day. A tendency toward normalization of the quantitative composition of white blood elements was observed only toward the 28th day. At that time, the number of lymphocytes reached normal values, while the acute neutrophilosis which developed in both females and males was still observed. The high leukocytosis could be explained by inflammation of the skin and infection. There were no significant changes in the erythrocyte count as a result of irradiation.

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USSR

UDC 621.391.833

KOZLENKO, N. I., ~~PETROVICH, N. T.~~, KABLUKOVA, M. V., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Determination of the Correlation Functions of Signal and Interference at the Output of a Discrete Communications Channel"

Moscow, Radiotekhnika, Vol 26, No 9, Sep 71, pp 7-11

Abstract: A Fourier transform method is used to separate the useful signal from masking noises in a quantized speech message transmitted through a communications channel with interference. Formulas are derived for calculating the correlation functions of the useful part of the message and the masking noises at the output of a discrete communications channel with respect to known correlation functions for the undistorted and distorted messages and a function which accounts for the action of interference in the channel. Expressions are also given for determining the spectral densities of the corresponding components of the received message and for calculating the intelligibility in conformity with the general theory of formant perceptibility when speech messages are transmitted by discrete methods over a communications channel with interference.

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UNCLASSIFIED

PROCESSING DATE—30OCT70

TITLE—SYNTHESIS OF SYMMETRICAL AND UNSYMMETRICAL ACETALS OF NITRO
ALCOHOLS —U—
AUTHOR—(03)—TSYBASOV, V.P., TARASOVA, T.I., PETROVICH, V.F.

COUNTRY OF INFO—USSR

SOURCE—IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 70-2

DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—ORGANIC SYNTHESIS, ACETAL, ORGANIC NITRO COMPOUND, HYDROXYL
RADICAL, PENTANOL, BUTANOL

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—2000/0784

STEP NO—UR/0153/70/013/001/0070/0072

CIRC ACCESSION NO—AP0124453

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYM. ACETAL IA) OF 2 NITRO 1 PENTANOL (I) IS PREPD. IN 45.5PERCENT YIELD BY ADDING 1.7 G ACH TO 10 G I AND 0.1 ML CONCD. HCL AND HEATING THE MIXT. 1.5 HR AT 60DEGREES. IA, D PRIME20 1.0801, N PRIME20 SUBD 1.4464, B IS LESS THAN SUB1 136DEGREES. A SYM. ACETAL, B SUB2 110DEGREES, D PRIME20 1.1798, N PRIME20 SUBD 1.4485, IS PREPD. SIMILARLY FROM 2 NITRO 1 PROPANOL IN 25PERCENT YIELD. THE UNSYM. ACETAL OF ETOH AND I, B SUB1 73-4DEGREES, D PRIME20 1.0052, N PRIME20 SUBD 1.4303, IS PREPD. IN 48PERCENT YIELD BY REACTING 13.9 G I AND 0.1 ML CONCD. HCL WITH 7.5 G. H SUB2C:CHOET (II), HOLDING THE TEMP. AT 20-30DEGREES DURING ADDN. AND 1 HR AT 60DEGREES. BY REVERSING THE ADDN. OF THE REAGENTS AND DOUBLING THE PROPORTION OF II, THE YIELD IS INCREASED TO 76PERCENT. UNSYM. ACETALS, B SUB1 90-91DEGREES, D PRIME20 1.1371, N PRIME20 SUBD 1.4363, AND B SUB1 94-5DEGREES, D PRIME20 1.1142, N PRIME20 SUBD 1.4378, ARE PREPD. FROM II AND 2, 2 DINITRO 1 BUTANOL AND 2,2 DINITRO 1 PENTANOL IN 62 AND 42PERCENT YIELDS.

FACILITY: LENINGRAD. MEKH. INST., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.313.333:538.4

KALNYN', A. Ya., MIKRYUKOV, Ch. K., PETROVICHKA, R. A.,
RUPENEYT, V. A., and ULMANIS, L. Ya.

"Flat Induction Pump Characteristics With Heterogeneous Electro-
magnetic Force Distribution Along the Channel Width"

Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 71, pp 94-98

Abstract : Velocity profiles and $p(Q)$ -characteristics of magneto-
hydrodynamic (MHD) machines with accounting for local slipping
along the channel width with non-uniform distribution of electro-
magnetic forces are calculated and compared with experimentally
derived results. The letter comply satisfactorily with theoretic-
cal calculations. The velocity profiles calculated for various
flow rates Q and a current load of $A=0.27 \times 10^5$ A/m show that at
pumping conditions a reverse flow exists on channel borders. The
investigation revealed that the calculation of MHD-machines by
simultaneous accounting for electromagnetic and hydraulic proces-
ses results in more precise conformity of theoretical and experi-
mental data. Five illustr., four formulas, six biblio. refs.

1/1

AA0040509

P

UR 0482

7-70

Soviet Inventions Illustrated, Section I Chemical, Derwent,

236411 STAMPING of lightgauge austenitic plate
 is made on lead and zinc stamp by preheat-
 ing the plate to the temperature of the austenitic
 formation and then cooling it down to 25-30°C
 above the martensitic conversion but below the
 melting point of the stamp (327°C). Preheating
 is done in a furnace and for cooling the plate
 is transferred to an electric oven or to an
 alkaline bath. 31.7.67. as 1177719/25-27.
 N.P.PETROVICHEV et al. (11.6.69.) Bul.7/
 3.2.69, Class 7c, 18c. Int.Cl. B21d, C21d.

4D

18

AUTHORS: Petrovichav, M. P.; Fomin, A. P.; Stroganov, G. B.;
Natapov, S. L.; Entin, L. Kh.; Orzhekhovskiy, Yu. P.

19750009

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE VELOCITY VARIATION OF A STAR AS PURELY DISCONTINUOUS RANDOM
PROCESS. I. ZERO MASS STARS -U-
AUTHOR-[02]-KALIBERDA, V.S., PETROVSKAYA, I.V.
COUNTRY OF INFO--USSR
SOURCE--ASTROFIZIKA (USSR), VOL. 6, NO. 1, P. 135-47, FEB. 1970
DATE PUBLISHED----FEB70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--RANDOM PROCESS, STAR, VELOCITY DISTRIBUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0132 STEP NO--UR/0398/70/006/001/0135/0147
CIRC ACCESSION NO--AP0130894
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130894

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VARIATION OF VELOCITY MODULUS OF A STAR IN THE SYSTEM IS CONSIDERED AS A PURELY DISCONTINUOUS RANDOM PROCESS. USING THE SECOND KOLMOGOROV-FELLER EQUATION THE EVOLUTION OF THE VELOCITY DISTRIBUTION FUNCTION OF ZERO MASS STARS IN AN OPEN CLUSTER IS INVESTIGATED WITHOUT TAKING INTO ACCOUNT THE REGULAR POTENTIAL. THE ESCAPE OF STARS AND THE AMOUNT OF ENERGY, TAKEN AWAY BY THE DISSIPATED STARS IN DIFFERENT MOMENTS OF TIME ARE ALSO FOUND.

UNCLASSIFIED

USSR

UDC 547.241

MIRONOVA, Z. N., TSVETKOV, Ye. N., PETROVSKAYA, L. I., NEGREBETSKIY, V. V.,
NIKOLAYEV, A. V., and KABACHNIK, M. I., Institute of Inorganic Chemistry,
Siberian Division, Academy of Sciences USSR, and Institute of Heteroorganic
Compounds, Academy of Sciences USSR

"Synthesis Starting With Tetraoxymethylphosphine Chloride; Aminomethyl-
phosphines and Their Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

Abstract: Eleven aminomethylphosphines, general formula $R_nP(CH_2NR')_2$ 3-n' were synthesized from tri(acetoxymethyl)phosphine, whose synthesis the authors have previously reported, and secondary amines in aqueous methanol in the presence of potassium hydroxide. This synthetic pathway is said to have fewer difficulties than those described previously, and to proceed via a saponification mechanism. The yield, boiling point, refractive index, density, observed and calculated molar refraction, percentages of C, H, and P, and formula are reported. Using hydrogen peroxide in acetone the phosphines were oxidized to their corresponding oxides. Several previous synthetic pathways are listed and some of the constants are reported for ten of these. Proton magnetic resonance and double resonance

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USSR

MIRONOVA, Z. N., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 10, 1972, pp 2152-2158

were used for confirmation of structure; the chemical shift and spin-spin coupling constant of the PCH_2N interaction are given for eleven of the compounds synthesized. An intense doublet at $1130-1165\text{ cm}^{-1}$ in the IR spectrum of tri(dimethylaminomethyl)phosphine is interpreted as an indication of rotational isomerism. All operations with trivalent phosphorus compounds were conducted under argon.

2/2

- 35 -

USSR

VYSOTSKIY, V. Z., GAPONOV, S. V., KULIKOVA, N. P., PENTROVSKAYA, M. P.,
SALASHCHENKO, N. N.

UDC: 621.373.826:62

"Precision Laser Machining of Foil"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 4, pp 93-94 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D487 by A. L.)

Translation: A method is described for making masks of thin foil (Cu, Pb, Al, Mo, W) 20-60 μm by using a laser. The pulse duration of the laser emission was varied over a range of $3 \cdot 10^{-4}$ - $5 \cdot 10^{-8}$ s. Straight-through machining of the masks is done at durations of the order of 10^{-6} s, but the outline of the mask is distorted in this mode due to ejection of a considerable quantity of metal. With a reduction in pulse duration to $5 \cdot 10^{-8}$ - 10^{-7} s, a layer about 1 μm thick is removed from the surface of the mask during the laser burst, and the outline of the mask is not as distorted.

1/1

1/2 019

TITLE--FINE MOSAIC STRUCTURE OF NATIVE GOLD CRYSTAL GRAINS ELECTRON
MICROSCOPE DATA -U- UNCLASSIFIED PROCESSING DATE--23OCT70

AUTHOR--(03)--PETROVSKAYA, N.V., FROLOVA, K.YE., PLYASHKEVICH, L.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 433-5 (MINERAL)

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GOLD, ELECTRON MICROSCOPY, MINERAL DEPOSIT, SINGLE CRYSTAL
STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1046

CIRC ACCESSION NO--AT0119913

STEP NO--UR/0020/70/191/002/0433/0435

UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AT0119913
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. FINE MOSAIC STRUCTURE WAS STUDIED WITH SAMPLES OF NATIVE AU FROM BALEISK AREA (TRANSBAIKALIA) AND AGATOVSK DEPOSIT (JKHOTSK-CHUKOTKA VOLCANIC BELT). THE BALEISK AND AGATOVSK DEPOSIT AU CONTAINED 21.67-2.14 AND 44.70-5.87PERCENT AG, RESP., WITH TRACES 2PERCENT CU, FE, SE, HG, AND SB. SINGLE CRYSTALS OF BALEISK AU HAD A COMPLEX STRUCTURE CORRESPONDING GENERALLY TO THE TYPICAL MOSAIC (BLOCK) STRUCTURE OF CRYSTALS. FINE GRAINS OF EARLY AU CONSISTED OF VERY FINE (0.2-1 MU) SUBINDIVIDUALS, SO CALLED BLOCKS. THEY HAD ISOMETRIC SHAPE OFTEN CLOSE TO OCTAHEDRAL. THE FINE ZONES OF SOME OTHER AU, MORE EASILY ETCHABLE BY AQUA REGIA, WERE PRESENT BETWEEN THESE SUBINDIVIDUALS. THESE ZONES CONSISTED OF PARTICLES GREATER THAN OR EQUAL TO 1-10 AS SMALL AS MOSAIC BLOCKS. THE AG RICH AU FROM AGATOVSK DEPOSIT CONSISTED OF IRREGULAR DENDRITIC SEGREGATIONS IN A FINE GRAINED QUARTZ. THEY HAD SHARPLY EXPRESSED MOSAIC STRUCTURE OF THE GRAINS. THE MOSAIC BLOCKS, WHICH ARE USUALLY SMALL IN CENTRAL PARTS OF SEGREGATIONS (0.2-0.3 MU), BECAME LARGER (1-2 MU) TOWARDS THE PERIPHERY. IN PLACES, THEY BECAME MUCH LONGER, ACQUIRING DIRECTION SUBPARALLEL TO THE GRAIN BOUNDARY.

FACILITY: INST. GEOL. RUD. MESTOKOZH., PETROGR., MINERAL. GEOKHIM., MOSCOW, USSR.

UNCLASSIFIED

Steels

USSR

UDC 6 69.14.018.8

BABAKOV, A. A., POSYSAYEVA, L. I., ~~PETROVSKAYA, V. A.~~, and
SIDORKINA, YU. S., Central Scientific Research Institute of
Ferrous Metallurgy imeni I. P. Bardin

"New High-Alloy Corrosion-Resistant Steel Type 000Kh21N2nM4B"
Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 99-103

Abstract: Experimental data are presented on the properties of
the new 000Kh21N21M4B steel, designed for the manufacture of
equipment for the production of double superphosphate by extrac-
tion phosphoric acid containing fluoride compounds. The chemical
composition and mechanical properties of the steel are presented,
as well as certain data on the corrosion resistance of the steel
and its physical properties. The chemical composition is (per-
cent):

1/2

USSR

BABAKOV, A. A., et al., Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 99-103

C	Mn	Si	P	S	Cr	Ni	Mo	Nb
0.03	0.6	0.6	0.03	0.02	20-22	20-22	3,4-3.7	% CX15 up to 0.8

The steel has high resistance to intercrystalline and knife-line corrosion.

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USSR

Steels

UDC 6 69.14.018.8

BABAKOV, A. A., POSYSAYEVA, L. I., PETROVSKAYA, V. A., and
SIDORKINA, YU. S., Central Scientific Research Institute of
Ferrous Metallurgy imeni I. P. Bardin

"New High-Alloy Corrosion-Resistant Steel Type OOKh21N2nM4B"
Moscow, Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 99-103

Abstract: Experimental data are presented on the properties of
the new COOKh21N21M4B steel, designed for the manufacture of
equipment for the production of double superphosphate by extrac-
tion phosphoric acid containing fluoride compounds. The chemical
composition and mechanical properties of the steel are presented,
as well as certain data on the corrosion resistance of the steel
and its physical properties. The chemical composition is (per-
cent):

1/2.

USSR

BABAKOV, A. A., et al., Zashchita Metallov, Vol 7, No 2, Mar-Apr 71, pp 99-103

C	Mn	Si	P	S	Cr	Ni	Mo	Nb
0.03	0.6	0.6	0.03	0.02	20-22	20-22	3,4-3.7	% CX15 up to 0.8

The steel has high resistance to intercrystalline and knife-line corrosion.

2/2

Genetics

USSR

UDC 576.851.49.097.21.07

PETROVSKAYA, V. G. and BLINOVA, N. I., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Assessment of the Significance of Type-Specific Antigen in the Virulence of *Shigella flexneri* 2a in Studies of Recombinants of Certain Genetic Classes"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971, pp 69-74

Abstract: Conjugation of the virulent *S. flexneri* 516 2a strain with the nonpathogenic *E. coli* K12 HfrC, Ab 312, and AB 732 strains produced different classes of hybrids with definite genetic characters and antigenic structure. The virulence of these hybrids was studied in different biological models. After intraperitoneal infection of white mice, it was impossible to differentiate the cultures from the results of the keratoconjunctival test. However, extremely virulent strains could be differentiated from attenuated ones in chick embryos. The virulence of the attenuated hybrids that included the rha^+xyl^+ region was regularly reduced by a factor of two compared with virulent cultures. *Shigella* strains can be differentiated more accurately with respect to virulence by using the

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