

REEL # 36
VORONINA, A.I.

PROCESSING DATE--04DEC70

UNCLASSIFIED

2/2 022

CIRC ACCESSION NO--AP0131490
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. AN IMPROVED RAPID METHOD OF DETERMINING CR IN METALLIC SN BY PHOTOMETRIC ANALYSIS IS DESCRIBED. THE CR IS CONVERTED INTO A HEXAVALENT STATE BY MEANS OF NH₄ SUB₄ PERSULPHATE IN AN ALKALINE MEDIUM; THERE IS THEN NO NEED TO EFFECT PRELIMINARY SEPARATION OF THE SN IN THE FORM OF SNCL₂ SUB₄ AS IN EXISTING METHODS. THE SENSITIVITY OF THE METHOD FOR A 0.25 G SAMPLE IS 4 TIMES 10 PRIME NEGATIVE 4 PERCENT CR. A TYPICAL ANALYSIS TAKES 1 H, AND THE RELATIVE ERROR AVERAGES 5 PERCENT.

UNCLASSIFIED

USSR

UDC 616.381-003.2-092.9-022.6:576.858.095.383

KHESIN, Ya. Ye., VORONINA, E. V., and AMCHENKOVA, A. M., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"Cytological Study of the Peritoneal Exudate of Mice in the Course of Interferon Production in Vitro"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 544-549

Abstract: Cytological and cytochemical studies were made of cultures obtained from peritoneal exudate of mice which were producing interferon owing to infection with Newcastle disease virus and of control groups. During the production of interferon (1-5 hrs after inoculation with the virus), signs of the activation of RNA synthesis appeared, including increased activity of glucose-6-phosphate dehydrogenase, some oxidative enzymes, and, particularly, acid phosphatase, in cells of the peritoneal exudate. These shifts were not associated with multiplication of the virus in cells. Swelling of lysosomes during interferon production, formation of Homori-positive vacuoles in macrophages, and release of these vacuoles into the culture field suggest that the lysosome apparatus of the cells takes part in the production and release of interferon.

1/1

172 035 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CYTOPHOTOMETRIC AND RADIOAUTOGRAPHIC STUDY OF RNA SYNTHESIS IN
CULTURES OF LEUKEMIA CELLS SENSITIVE AND RESISTANT TO COXSACKIE B3 VIRUS
AUTHOR--(05)--KHESIN, YA.E., TKHORZHEVSKIY, V.V., YERMAN, B.A., AMCHENKOVA,
A.M., VGRONINA, F.V.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1218-21
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEUKEMIA, COXSACKIE B VIRUS, RNA, BIOSYNTHESIS, TRITIUM,
CHEMICAL LABELLING, AUTORADIOGRAPHY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
ROXY REEL/FRAE--1998/0705 STEP NO--UR/0020/70/190/005/1218/1221
IRC ACCESSION NO--AY0121364
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

IRC ACCESSION NO--AT0121364
 BSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR
 CHANGES IN RNA CONTENT OF NORMAL AND SPECIFICALLY RESISTANT LEUKEMIA L69
 CELLS AFTER INFECTION WITH HOMOLOGOUS VIRUS. THE RESISTANT CELLS
 DISPLAY A PECULIAR METABOLISM IN THAT THE INTRACELLULAR DEVELOPMENT OF
 THE VIRUS IS INTERRUPTED AT AN EARLY STAGE WITHOUT REACHING FULL
 DEPROTEINIZATION WHILE THE SECONDARY GROWTH OF RNA CONTENT IS NOT
 ACCOMPANIED BY A RISE OF VIRUS RNA SYNTHETIC ACTIVITY IN THE CYTOPLASM
 OR CYTOPATHIC CHANGES OF THE CELLS. TREATMENT OF THE INFECTED CELLS BY
 ACTINOMYCIN FOR 1 HR COMPLETELY INHIBITED NUCLEIC ACID SYNTHESIS SO THAT
 IN SUBSEQUENT TREATMENT WITH URIDINE PRIMES H SUBSTANTIALLY NO TAG IS
 INTRODUCED INTO THE NUCLEI OF THE CELLS. THUS THE PRODUCTION OF
 MESSENGER RNA FOR THE VIRUS INHIBITOR OF SYNTHESIS OF CELLULAR RNA IS
 CODED NOT BY THE VIRUS GENOME BUT BY THE CELLULAR GENOME.
 FACILITY: INST. EPIDEMIOLOG. MIKROBIOLOG. IM. GAMALEI, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.155.3-008.13:576.858.13.095.383

BOCHAROV, A. F., MOYSIADI, S. A., AMCHENKOVA, A. M., VORONINA, F. V., and KHESIN, YA. YE., Chair of Virology, Central Institute of Advanced Training of Physicians, Ministry of Health USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Effect of Immunological Reactivity of Rabbit Leukocytes and Macrophages on Interferon Production in the Presence of Herpes Virus"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 725-731

Abstract: Upon contact with herpes virus in vitro, interferon is produced in small amounts by leukocytes obtained from the peripheral blood of control rabbits, in larger amounts of leukocytes and macrophages obtained from the peritoneal exudate of control rabbits, and in the largest amounts and at the fastest rate by peritoneal leukocytes and macrophages of previously immunized rabbits. After vaccination, white blood cells mobilized in the peritoneal exudate have a faster metabolic rate, including a higher activity of oxidative and hydrolytic enzymes and a greater RNA concentration, than in the control state, and they also absorb the antigen more readily. Evidence indicates that these factors are responsible for the augmented production of interferon.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
 TITLE--INTERFERON PRODUCTION AND SOME HISTOCHEMICAL CHANGES IN RABBIT
 LEUKOCYTES -U-
 AUTHOR-(04)-SUROKIN, A.M., MOYSIADI, S.A., ANCHENKOVA, A.M., VORONINA,
 F.V.
 COUNTRY OF INFO--USSR
 SOURCE--VOPORSY VIRUSOLOGII, 1970, NR 3, PP 291-295
 DATE PUBLISHED--70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--INTERFERON, LEUKOCYTE, DEHYDROGENASE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--2000/1854 STEP NO--UR/0402/70/000/003/0291/0295
 CIRC ACCESSION NO--AP0125465
 UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125465

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CAPACITY OF LEUKOCYTES OF 24 HOUR AND 72 HOUR PERITONEAL EXUDATES AND OF LEUKOCYTES OF THE PERIPHERAL BLOOD OF RABBITS TO PRODUCE INTERFERON WAS STUDIED. CELLS OF THE PERITONEAL EXUDATA WERE FOUND TO PRODUCE INTERFERON IN EQUALLY HIGH TITERS REGARDLESS OF THE PREVALENCE IN IT OF ANY CELLULAR FORMS. LEUKOCYTES FO THE PERIPHERAL BLOOD PRODUCED LESS INTERFERON THAN THOSE OF THE EXUDATE. INTERFERON PRODUCTION BY LEUKOCYTES OF THE PERITONEAL EXUDATE WAS ACCOMPANIED BY ENHANCED INTENSTIY OF THEIR REACTION TO RNA, INCREASED ACTIVITY OF GLUCOSO,6,PHOSPHATEDEHYDROGENASE AND ACTIVATION OF LYSUSOME APPARATUS. FACILITY: KAFEDRA VIRUSOLOGII TSENTRAL'NOGO INSTITUTA USOVERSHENSTOVOVANIYA VRACHEY, OTDEL VIRUSOLOGII INSTITUTA EPIDEMIOLOGII I MIKROBIOLOGII IMENI N. F. GAMALEV AMN SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 621.372.826

VESELOV, G. I., VORONINA, G. G.

"Calculation of an Open Dielectric Wave Guide of Rectangular Cross Section"

Gor'kiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XIV, No 12, 1971, pp 1891-1901

Abstract: The method of partial regions is used to solve the problem of propagation of electromagnetic waves along a regular rectangular dielectric wave guide in an unlimited homogeneous medium. The dispersion equations are obtained which determine the propagation constants of all types of surface waves that can exist in the investigated system. The dispersion curves for the even wave of the dipole type (HE)^{even}₁₁ are calculated on the basis of the approximate equations. A comparison is made with the results obtained by other methods [Goell, Bell System Technical Journal, Vol 48, No 7, 2133, 1969]. Tables of special auxiliary functions simplifying the practical calculations on the basis of the dispersion equation of the first approximation are presented. The possibility of calculating the parameters of a rectangular dielectric wave guide by the proposed equations is proved.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POSSIBLE RAPID DETERMINATION OF EXCHANGEABLE BASIS IN SOILS -U-
AUTHOR--VORONINA, I.N. V
COUNTRY OF INFO--USSR
SOURCE--AGROKHIMIYA 1970, (2), 144-7
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE, CHEMISTRY
TOPIC TAGS--SOIL CHEMISTRY, CHEMICAL ANALYSIS, CALCIUM COMPOUND, MAGNESIUM
COMPOUND, TITRATION, CHELATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--300.1/1629 STEP NO--UR/0485/70/000/002/0144/0147
CIRC ACCESSION NO--AP0127120
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0127120

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

ABSTRACT. DETN. OF AVAILABLE CA AND MG BY TOTAL SUBSTITUTION USING N NACL IS DESCRIBED; 5 G AIR DRY SOIL IS TREATED WITH 100 ML N NACL FOR 1 HR IN A ROTATOR, THE SOLN. IS FILTERED AND CA AS WELL AS CA PLUS MG ARE TITRATED COMPLEXOMETRICALLY. SOD PODZOLIC SOILS, GRAY FOREST SOILS, AND CHERNOZEMS WERE STUDIED. THE FAST METHOD GIVES GOOD RESULTS. FACILITY: POCHV. INST. IM. DOKUCHAEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 614.23:614.88]:612.821

BARYSHEVA, L. M. and VORONINA, L. A., Institute of Experimental and Clinical
Medicine and Tallin First Aid Station

"Nature of the Work of Physicians of the Tallin First Aid Station and Changes
in Some of Their Psychophysiological Functions"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 8, 1972, pp 10-15

Abstract: Physicians of the Tallin First Aid Station work a 24-hour shift, spending, according to time-motion studies, about half the time providing medical care, riding ambulances, collecting case histories, etc. and half the time sleeping, eating, reading, etc. To study the correlation between the physical and mental stress associated with the work and the degree of resulting fatigue, the following psychophysiological parameters were investigated in 10 physicians 5 times a day for 4 days: central and autonomic nervous systems, cardiovascular function, EKG, arterial pressure, leukocyte count, and blood sugar levels. The subjective sensation of fatigue was generally matched by corresponding changes in the physiological parameters studied. While fatigue in some systems decreased toward the end of the shift after rest, the sensation of overall fatigue steadily intensified.

1/1

- 69 -

USSR

UDC 621.374.4.029.65:621.382.2

VIZEL', A.A., NAVROTSKIY, V.I., BERLIN, A.S., VORCHINA, L.A., VORONENKO, V.P.

"Frequency Multipliers Based On GaAs Diodes For Millimeter Wavelengths"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1337-1339

Abstract: The results are presented of a study of frequency triplers and quadruplers of millimeter wavelengths (27-36 GHz) based on GaAs diodes. The subject of the study was diffusion diodes with junction capacitance $C_{-6v} = 0.24-0.4$ pf, $T_{-6v} = (C_{p-n} \cdot R_g) = 0.6-0.8$ nsec and a breakdown voltage of 40-60 v in an ordinary metalceramic casing; and also diodes with a metal-semiconductor barrier with $C_{OV} = 0.5-1.0$ pf, $T_{-2v} = 0.5-0.8$ nsec and a breakdown voltage of 13-24 v (in a small-size metalceramic casing). The experimental study of the diodes was conducted in a frequency multiplier of the waveguide "cross overlap" [krest vnakhlest] type, with open circuits which have a high efficiency and a satisfactorily high output power. It is shown that on the base of GaAs diodes with a metal-semiconductor barrier and also of diffusion GaAs diodes it is possible to create effective frequency multipliers for millimeter wavelengths. The principal results of the work were reported at the 1971 European Microwave Conference. 3 fig. 3 ref. Received by editors, 9 September 1971.

USSR

UDC: 616.931+616.981.553-092.9-07:616.36-008-092-07

MIKHAYLOV, V. V., and VORONTINA, L. A., Chair of Pathological Physiology imeni A. A. Bogomoleta, Saratov Medical Institute

"The Mechanism of Impairment of Bile Secretion, Concentration, and Clearance Functions of the Liver in Experimental Botulism and Diphtheria"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, Vol 14, No 6, Nov/Dec 70, pp 36-41

Abstract: Experiments on dogs showed that the concentration, clearance, and bile secretion functions of the liver are intensified in botulism but weakened in diphtheria. Liver dysfunction in botulism is attributed in part to the marked activation of the sympathetic-adrenal system. In diphtheria, on the other hand, liver activity is affected not only as a result of irreversible injury by the toxin to the adrenergic portions of the nervous system, but also because the liver parenchyma is involved, especially in the late stages of the disease.

1/1

- 1/1 -

USSR

UDC 621.81:621.78

VORONINA, L. V., SHPEYZMAN, V. M., BABEY, YU. I., and
VEYNGARTEN, A. M.

"Influence of Surface Hardening on Properties of Structural Steels"

Sudostroyeniye, No 2, Feb 71, pp 47-53

Abstract: Studies were performed to determine the influence of the form of microirregularities on the physical properties of surface-hardened steel specimens. Specimens of type 20 steel and type 12 KhN₃A steel were subjected to carburizing with surface rolling, while specimens of type 40 Kh steel were subjected to induction hardening. Microhardness and surface smoothness of the specimens were measured. Carburized type 20 steel was found to have a maximum microhardness of about 900 kg/mm² at 0.1-0.3 mm from the surface. Surface rolling was found to increase surface smoothness, increasing the radius of curvature of peaks and hollows, thus improving the operational properties of the metal. Fatigue tests were also performed in air and in a 3% aqueous solution of sodium chloride. The surface rolling increased 1/2

USSR

VORONINA, L. V., et al., Sudostroyeniye, No 2, Feb 71, pp 47-53

fatigue strength, particularly in the salt solution. Type 20 steel carburized with subsequent surface rolling was found to be equal to alloy steels in fatigue strength. The fatigue strength of type 40 Kh steel was increased by almost 50% by induction hardening. The hardening processes were also found to decrease the coefficient of friction of the metal surfaces. Corrosion resistance was little changed by the treatment, however.

2/2

1/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--EFFECT OF SEVIN ON LIVER FUNCTION AND STRUCTURE -U-

AUTHOR--(05)--KAGAN, YU.S., RODIONOV, G.A., VORONINA, L.YA., VELICHKO, L.S.,
KULAGIN, O.M.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(2), 219-24

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PESTICIDE, LIVER, RABBIT, CHOLINESTERASE, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0162

STEP NO--UR/0390/70/033/002/0219/0224

CIRC ACCESSION NO--AP0123933

UNCLASSIFIED

2/2 020

CIRC ACCESSION NO--AP0123933

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROLONGED ADMINISTRATION OF SEVIN TO RABBITS AND RATS CHANGED LIVER FUNCTION AND REDUCED THE CHOLINESTERASE ACTIVITY IN THE BLOOD AND INTERNAL ORGANS. SEVIN INTRODUCED THROUGH A STOMACH PROBE AT 38 MG-KG DAILY FOR 1 MONTH INCREASED SERUM ALANINE AMINOTRANSFERASE AND ALK. PHOSPHATASE ACTIVITIES AND INCREASED THE RATIO OF LIVER WT. TO BRAIN WT. AT 7.6 MG-KG (ADDED TO THE FOOD) DAILY FOR 3 DAYS SEVIN INCREASED THE DURATION OF HEXOBARBITAL SLEEP AND SOMEWHAT INCREASED THE WT. RATIO OF LIVER TO BRAIN. SEVIN ADMINISTERED TO RABBITS AT 0.76 MG-KG AND TO RATS AT 0.38 MG-KG DAILY INHIBITED LIVER FUNCTION. REDUCED CHOLINESTERASE ACTIVITY AND CHANGES IN SERUM PROTEIN FRACTIONS WERE OBSD. WITH ALL DOSES. THE PESTICIDE INDUCED NECROTIC CHANGES IN THE LIVER. HITOCHEM. STUDIES SHOWED SHIFTS IN THE CONTENT AND DISTRIBUTION OF GLYCOGEN, IN LIVER SUCCINATE DEHYDROGENASE, AND IN CHOLINESTERASE OF THE BRAIN, SPINAL COLUMN, AND MOTOR NERVE ENDINGS OF THE STRIATED MUSCLES. SEVIN DID NOT ACCUMULATE IN THE BODIES OF RATS AND RABBITS. FACILITY: VSES. NAUCH. ISSLED. INST. GIG. TOKSIKOL. PESTITS., POLIM. PLAST. MASS, KIEV, USSR.

UNCLASSIFIED

USSR

UDC: 577.1:615.7/9

VORONINA, N. M., TREGUBENKO, I. P., LATOSH, N. I., SUKHACHEVA, Ye. I., SEMENOV, D. I.

"Effect of Complexing Agents (Iminodiacetate Derivatives of the Oxytriphenylmethane Series) on the Behavior of Iron-59, Zinc-65, Strontium-90, Yttrium-91 and Cerium-144 in an Organism"

Tr. In-ta ekol. rast. i zhivotnykh. Ural'sk. fil. AN SSSR (Works of the Institute of Animal and Plant Ecology. Ural Affiliate, Academy of Sciences of the USSR), 1970, vyp. 63, pp 68-75 (from RZh-Biologicheskaya Khimiya, No 23, 10 Dec 70, Abstract No 23F2205)

Translation: The effectiveness of the complexing agents (amount of extraction of yttrium and cerium from the organism and the degree of reduction of their deposition in tissues) increases symbatically with the increase in the number of iminodiacetate groups in the molecule. With respect to their effectiveness, preparations with three and four groups are therapeutically on a level with ethylenediaminetetraacetic acid sodium salt (data from experiments with yttrium), and in some instances (experiments with cerium) are considerably more effective. From the authors' resumé.

1/1

USSR

VORONINA, N. N.

"Transmission of Electromagnetic Radiation Through the Skin of Fishes and Amphibia"

Alma-Ata, Vestnik Akademii Nauk Kazakh SSR, No 2, 1973, pp 68-70

Abstract: *Hypomesus pretiosus*, *Hypomesus olidus*, *Schizothorax argentatus*, *Paralichtys coreanikus* (fishes), and *Bufo viridis* (toad), *Rana chensinensis* (frog) were subjected to irradiation with incandescent lamp with wavelength from 3700 to 6400 Å. The amount of light passed through the subjects was automatically recorded. The obtained results indicated that the penetrating ability of ultraviolet and visible light is inversely dependent on the skin thickness of fishes and Amphibia, their physiological state (expansion, contraction), melanophores, and the amount of melanin in melanophores. The thicker the skin with a large number of melanin grains in melanophores, the lower the penetration of it by incident light rays. Ultraviolet radiation was absorbed in higher percentage compared with infrared. The celomic pigmentation cannot protect fishes and Amphibia from ultraviolet radiation because most of this radiation is absorbed by the outer skin layers and other body components. The skin of Amphibia absorbed much more ultraviolet radiation compared with fishes
1/2

- 75 -

USSR

VORONINA, N. N., Vestnik Akademii Nauk Kazakh SSR, No 2, 1973, pp 68-70

because of much greater pigmentation. The skin of toads absorbed not only the ultraviolet but also the blue spectral rays, while only 2.5 percent of red rays penetrated it. In contrast, the skin of frogs absorbed almost completely only the ultraviolet rays.

2/2

172 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FORMATION OF BETA LYSINE IN THE COURSE OF BIOSYNTHESIS OF
STREPTOTHRICINE ANTIBIOTICS -U-
AUTHOR--(03)-VORONINA, O.I., TOVAROVA, I.I., KHEKHELOV, A...
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 3,
PP 435-440
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ANTIBIOTIC, BIOSYNTHESIS, LYSINE,
FERMENTATION/(U)STREPTOTHRICINE ANTIBIOTIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY KEEL/FAME--3001/0498 STEP NO--UR/0216/70/000/003/0435/0440
CIRC ACCESSION NO--AP0126246
UNCLASSIFIED

Z/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0126246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT PAPER DEALS WITH THE QUESTION OF FORMATION OF BETA LYSINE IN THE COURSE OF BIOSYNTHESIS OF STREPTOTHRICIN ANTIBIOTICS. UTILIZATION OF C PRIME14 LABELLED AMINOACIDS HAS SHOWN THAT BETA LYSINE CARBON IN CONTRAST TO OTHER AMINOACIDS BECOMES PREFERABLY INCORPORATED INTO POLYMYCINE (A, b, c, d, F-TYPES OF STREPTOTHRICINS) AND STREPTOTHRICINE F. DETERMINATION OF C PRIME14 IN DIFFERENT PARTS OF THE STREPTOTHRICINE F MOLECULE WHICH IS FORMED IN THE PRESENCE OF 1,C PRIME14 DL, ALPHA, LYSINE HAS SHOWN THAT THE INCORPORATED CARBON OF 1,C PRIME14 DL, ALPHA, LYSINE IS COMPLETELY DETECTED IN BETA LYSINE, WHEREAS NO LABEL IS FOUND BOTH STREPTOLIDINE AND GULDSAMINE, THIS SHOWING THE SPECIFICITY OF INCORPORATION. THUS IT WAS CONCLUDED THAT ALPHA LYSINE LIES VERY CLOSE TO THE PATH OF BETA LYSINE FERMENTATION IN THE COURSE OF STREPTOTHRICIN BIOSYNTHESIS.

FACILITY: INSTITUTE OF CHEMISTRY OF NATURAL PRODUCTS, ACADEMY OF SCIENCES, USSR.

UNCLASSIFIED

USSR

UDC 633.11:632.93

KRUPNOV, V. A. and VORONINA, S. A., Institute of Southeastern Agriculture

"Susceptibility of Soft and Hard Wheats With Gene and Cytoplasmic Male Sterility to Loose Smut - *Ustilago tritici* (Pers.) Jens."

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk, No 11, 1972, pp 6-8

Abstract: Pot and field experiments were performed with the soft spring wheat variety Saratovskaya 29 and hard wheat variety Gordeiforme 432 inoculated with spores of the causative agent of loose smut to determine the susceptibility of the plants to the disease. The results showed that mutation of the fertility gene in the Saratovskaya 29 variety and transfer of the genome of this variety and that of Gordeiforme to the cytoplasm of *Triticum timopheevi* did not have any appreciable effect on their resistance to loose smut. In the offspring of plants with either gene or cytoplasmic male sterility, the incidence of infection was the same as in the fertile analogs.

1/1

- 78 -

Transportation and Conveying

USSR

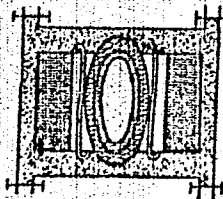
UDC: 621.643

ATROSHCHENKO, L. S., ~~VORONINA, S. M.~~, Donetsk State University

"A Pipeline for Transporting Liquid Oxygen"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 10, Apr 72, Author's Certificate No 332284, Division F, filed 27 Jul 70, published 14 Mar 72, pp 145-146

Translation: This Author's Certificate introduces a pipeline for transporting liquid oxygen which consists of an inner heat-insulated tube and an outer jacket. As a distinguishing feature of the patent, the liquid oxygen is transferred without a pump by fitting the pipeline with a magnetic circuit and an electric winding.



1/1

USSR

UDC 620.186.5:669.14

VORONINA, T. I., PEL'TS, E. I. and PRUSAKOV, B. A.

"Phase Recrystallization of Steel at Heating"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 62-63

Abstract: An investigation was made of two steels (types 40 and 50) to confirm an earlier-proposed recrystallization scheme. The structure of overheated steels after repeated heating at 50 degrees/min changes substantially and depends greatly on the microstructure developing at overheating. After repeated heating, sections resembling the initial overheating grain in magnitude and shape are clearly visible. The assumed diameter of the real austenite grain formed during repeated heating at a magnification of 100 is 40-50 times smaller than the diameter of the sections observed at a magnification of 5. The real grains increase with increasing repeated heating temperature, but even after a 28-hr holding time, they remain substantially smaller than the initial overheating grains. A metallographic study of sections at large magnifications did not show any sign of boundaries in places corresponding to the grain boundaries at small magnification. This suggests that the sections observed are not grains, but rather, "pseudograins". This is confirmed by the results of a study of the microstructure formed, during the repeated heat treatment, in the preliminarily overheated and water-cooled type 40 steel. The

1/2

USSR

VORONINA, T. I., et al., Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 62-63

"pseudograins" are sections with a grain-oriented martensite, which selectively reflect light after etching, thus producing the appearance of coarse grains in the steel. If the martensite orientation is destroyed (at third tempering) the pseudograins also disappear. 7 references.

2/2

.. 75 =

Acc. Nr:

AP0049172

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4R0080

103961e Physicochemical properties of 1,4-tetra- and 1,8-
 octamethylene diisocyanates. Zhuravlev, E. Z.; Voronina, T.
 L.; Pereslegina, L. S.; Kormushechkina, A. I.; ~~Reas, S. I.; Kozlov, I. I.~~
 I. I. (Inst. Azot. Prom. Org. Sin., Dzerzhinsk, USSR). Zh.
 Prikl. Khim. (Leningrad) 1970, 43(1), 159-63 (Russ). From
 temp. dependence of mol. vols. in $(CH_2)_n(NCO)_2$ with $n = 4$ or
 8, as well as from temp. dependence of their d , viscosity and n ,
 it was concluded that the contribution of methylene groups to
 mol. vols. depends not only on the temp. but also on their
 location in the mol. Activation energy of flow is increased by
 120 cal/mole per CH_2 in the 20-50° interval and by 90 in the
 50-80° interval. The NCO group contribution is 2700 cal/mole
 and 2350 cal/mole, resp. Thus, these isocyanates have a
 degree of interaction or conjugation not only within NCO groups
 but also between the terminal NCO groups, which declines with
 increasing value of n .
 G. M. Kosolapoff

1/1

REEL/FRA
19800979

714

USSR

UDC 621.771.251.07

ZHADAN, V. T., KULAK, Yu. Ye., and VORONINA, V. A., Moscow Institute of Steels and Alloys; Ukrainian Scientific Research Institute of Metals

"Strength Properties of Steel Rolls"

Moscow, Metallurg, No 8, Aug 79, pp 40-42

Abstract: In selecting materials for structural and merchant rolls, the primary indicators are strength properties. Thus, a study was made of the tensile strength, transverse strength, torsional strength, and endurance limit of a number of steels. Test data on 90KhF, 60KhN, U10, and 150KhNM steels are cited. The strength properties of hypereutectic heat-treated steel are 10-30% higher than those of U10 not subjected to such treatment. A principal property of roll materials is torsional strength. The tensile strength-to-torsional strength ratio decreases with an increase in strength of the steel. In U10 steel, the torsional strength is somewhat higher than its tensile strength, while the opposite is observed in 55Kh, 60KhN, and 90KhF steels. An essential indicator qualifying a steel for roll material is the fatigue limit. It accounts for only 40% of the tensile strength. The fatigue limits of 60KhN and 90KhF forged steels are among the highest and have the same value, while those of 55Kh are 10-15% lower. Consequently, ranks from 55Kh and 90KhF, with respect to their strength properties, 1/2

USSR

ZHADAN, V. T., et al, Metallurg. No 8, Aug 77, pp 41-42

may be used in structural mill rolls as substitute for 60SiMn, which contains scarce nickel.

2/2

USSR

UDC 615.917

VORONINA, V. M.

"Experimental Data on the Embryotoxic Effect of Phthalophos"

V sb. Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl. (Hygiene of the Application and Toxicology of Pesticides and the Clinical Aspects of Poisoning — collection of works), vyp. 9, Kiev, 1971, pp 254-257 (from RZh-Farmakologiya. Khimioterapevticheskiye sredstva. Toksikologiya, No 2, Feb 72, Abstract No 2.54.771)

Translation: On intraventricular injection of phthalophos (I; insectoacaricide; derivative of dithiophosphoric acid) in the amount of 15 mg/kg (1/10 DL₅₀ in rats every other day, beginning with the first day of pregnancy, by the 21st day of pregnancy, death and resorption of the embryos were observed in 90.3% of the cases. The weight of the embryos remaining alive was appreciably lower than in the control group. On intraventricular injection of I every other day in the amount of 7.5 mg/kg, death and resorption of the embryos occurred in 73.6% of the cases (9% in the control group), and the number of baby rats in the litter was 27.2% less than in the control group. A decrease in weight of the live embryos was also noted by comparison with the control group. When using the chromatographic method of investigation, metabolites of I -- hydroxymethyl-phthalimide and phthalimide--were detected in the experimental rats in the uterus, the placenta and the tissues of the fetus. The conclusion of the potential danger of I was drawn.

1/1

USSR

UNC: 577.1:615.7/9

VORONINA, V. M.

"Experimental Data on the Embryotoxic Action of Phthalophos"

V sb. Gigiyena primeneniya, toksikol. pestitsidev i klinika otravl. (Pesticides -- Sanitary Measures in Using, Toxicology, and the Poison Clinic--collection of works), vyp. 9, Kiev, 1971, pp 254-257 (from RZh-Biologicheskaya Khimiya, No 6, Mar 72, Abstract No 6F2I77)

Translation: The new insectoscaricide Phthalophos (a derivative of dithio-phosphoric acid) contains the phthalimide group in its molecule, which in the author's opinion explains its embryotoxic action. When pregnant rats were administered this chemical (in the stomach, starting with the first day of pregnancy), its metabolites -- hydroxymethylphthalimide and phthalimide -- are found by thin-layer chromatography in the uterus, placenta and embryos.
M. Sh.

1/1

USSR

UDC 577.1:547.963.3:612.8.015

VORONKA, G. Sh., DEMIN, N. N., RUBINSKAYA, N. L., and SOLOV'YEVA, I. A.,
Institute of Physiology imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

"RNA Content of Neurons and Their Glial Satellite Cells in the Supraoptic Nucleus of Rats During Natural Sleep, Deprivation of the REM Phase, and Amphetamine Insomnia"

Kiev, Ukrain's'kiy Biokhimichnyi Zhurnal, No 6, 1972, pp 712-717

Abstract: During natural sleep the RNA concentration in the cytoplasm of neurons in the supraoptic nucleus of the hypothalamus and in the glial satellite cells remains virtually unchanged. In rats deprived of REM sleep, the RNA concentration in the neurons likewise scarcely changes but increases markedly in the neuroglia. However, the absolute RNA content decreases in the neurons (especially after the first day) while remaining unchanged in the surrounding neuroglia. Insomnia induced by amphetamine injections reduced the absolute RNA content in all the cells, but does not alter the RNA concentration. During sleep after partial and complete 96 hours' insomnia, the RNA content remains low in the neurons but returns to the normal level in the neuroglia.

1/1

- 67 -

USSR

VORONKA, G. Sh., DEMIN, N. N., and PEVZNER, L. Z., Institute of Physiology
imeni I. P. Pavlov, Academy of Sciences USSR, Leningrad

"Total Proteins and Content of Simple Proteins in the Neurons and Neuroglia
of the Supraoptic and Red Nuclei in Rats During Natural Sleep and After
Deprivation of the Paradoxical Phase of Sleep"

Moscow, Doklady Akademii Nauk SSSR, Vol 198, No 4, 1971, pp 974-977

Abstract: In rats, natural sleep resulted in the accumulation of total proteins and especially of simple proteins in the neuroglial cells of the supraoptic nucleus of the hypothalamus and of simple proteins in the neurons of this nucleus. In the red nucleus, however, total proteins decreased both in the neuroglia and especially in the neurons, while the content of simple proteins increased only slightly in the glial cells but remained virtually unchanged in the neurons. Insomnia for 24 hours resulted in a sharp decrease in total proteins in the neurons followed by a slight increase, while total proteins in the neuroglia decreased slightly. The simple proteins decreased only in the neurons of this nucleus but remained unchanged in the glial cells. Deprivation of the paradoxical phase of sleep caused a rapid decrease in total proteins in the red nucleus, but the decrease was smaller in the neurons of 1/2

USSR

VORONKA, G. Sh., et al., Doklady Akademii Nauk SSSR, Vol 198, No 4, 1971, pp 974-977

this nucleus than in the supraoptic nucleus and there was no subsequent increase. Thus, natural sleep as well as the paradoxical phase of sleep stimulate protein synthesis, whereas deprivation of paradoxical sleep (insomnia), a stress factor, reduces the protein content of the supraoptic nucleus, chiefly in the neurons, although some adaptation takes place.

2/2

- 71 -

USSR

VORONKIN, M. A. and BESOV, A. V.

"10th All-Union Conference on Powder Metallurgy"

Kiev, Poroshkovaya metallurgiya, No 5, May 71, pp 103-105

Abstract: An account is given of the work of the 10th All-Union Conference on Powder Metallurgy, which was held in Kiev on 19-22 January 1971 and organized by the Scientific Council on Powder Metallurgy, the powder metallurgy section of the Central Administration of the Scientific-Technical Society of the Machinery Industry, the Institute of Problems of Material Science, the Academy of Sciences Ukr SSR and by the Kiev House of Scientific-Technical Propaganda. It was attended by 385 representatives from 98 Soviet cities and 150 organizations. Eighteen survey reports on important problems and trends in powder metallurgy were presented. Twenty-eight reports on problems of the development and introduction of methods for the production of powders, forming the sintering of new kinds of metal-ceramic materials and items were presented. Particular attention was given to problems of the development and application of metal-ceramic products.

1/1

Miscellaneous

USSR

UDC 669:539.43

KARLASHOV, A.V., RADCHENKO, A. I., ZAYKA, A. YA., and VORONKIN, N. F., Kiev
Institute of Civil Aviation Engineers

"Fatigue Resistance of Corrosion-Damaged Aircraft Covering"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Academy of Sciences
Ukrainian SSR, Vol 7, No 1, 1971, pp 53-56

Abstract: An investigation was made of the effect that a group of corrosion craters, simulating local corrosion of aircraft covering, has on the fatigue longevity of smooth and structural specimens made, respectively, of D16AT (1.85 mm thick) and D16ATV (2.5 mm thick) sheet materials. The fatigue tests of the smooth specimens of two batches were performed with net symmetrical bending ($\sigma = 14 \text{ dynes/mm}^2$) at a frequency of 70 cpm. The corrosion craters on the surface of the first-batch specimens were of constant geometrical dimensions (depth $t = 0.3 \text{ mm}$ and diameter $d = 1.3 \text{ mm}$), varying only in the number of craters per unit surface. On the specimens of the second batch, in the middle of small craters 0.3 mm deep and 1.3 mm in diameter there was one "general" crater: $t = 1.0 \text{ mm}$ and $d = 3.5 \text{ mm}$. It was found that the adverse effect of a group of corrosion craters of identical geometrical size covering approximately 10% of the area involved is practically the same as the effect of a single damage area, in the variation of fatigue longevity $1/2$

USSR.

KARLASHOV, A.V., et al, Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Academy of Sciences Ukrainian SSR, Vol 7, No 1, 1971, pp 53-56

of duralumin D16AT as a function of density of corrosion damage. For the case when the group of corrosion craters included a general crater in the D16AT duralumin specimens, it was found that the added presence of the small craters did not lead to a further reduction in fatigue longevity of the material beyond that induced by the general crater. In contrast to smooth specimens, specimens with rivetted joints were found to be practically unaffected by the presence of groups of corrosion craters.

2/2

20

VORONKIN, V. G.

chemistry

THE INFLUENCE ON HEAT EXCHANGE OF FREEZING CHEMICAL REACTIONS
IN A NON-EQUILIBRIUM LAMINAR BOUNDARY

Article by V. G. Voronkin; Moscow, Iz Ak Nauk SSSR, Mekhanika Zhidkosti i Gaza, No. 5, 1970, submitted 2 February 1970, pp 127-129

JPRS 56835
22 August 1972

It has been shown that in a non-equilibrium boundary layer on a wall with a finite catalytic activity, the ratio of heat currents can significantly differ from that of an equilibrium case owing to the variable freezing degree of chemical reactions in individual regions of the boundary layer.

It is known that for a boundary layer in a perfect gas or in air dissociating at equilibrium in truncated bodies, the ratio of heat currents q/q_0 , where q_0 is the heat flow at the critical point, depends little on the thermodynamic state of the gas (in other words, on the adiabatic index γ) in a boundary layer and on its upper border [1, 2]. In the case of a boundary layer in air dissociating at equilibrium under hypersonic conditions of circumvention, this ratio is determined primarily by the distribution of pressure along the body and practically does not depend on the velocity and height of flight [2]. In the non-equilibrium boundary layer on a wall with a finite catalytic activity, the indicated situation does not take place owing to the variable freezing degree of chemical reactions in the individual regions of the current; in this case the heat flow essentially depends on the thermo-chemical state of the gas in the boundary layer [3], and therefore one can expect a large difference in the magnitude q/q_0 in a non-equilibrium and, for example, in an equilibrium flow in a boundary layer.

This conclusion is confirmed by results of numerous calculations of a non-equilibrium plane laminar boundary layer in multi-component dissociated air for a discrete body with a constant thickness $2R$ and a plane nose section. For such a body the pressure in the approach to the angular point and in a free exhaustion fan, originating from this point, changes rapidly, which facilitates the freezing of chemical reactions in a boundary layer.

- 1 -
[1 - USSR - D]

USSR

UDC 577.1.615.7/9

GLEYBERMAN, S. YE., and VORONKINA, T. M.

"The Dynamics of the Absorption, Accumulation, and Elimination of Diethyltoluamide During Application on Skin"

Sb. nauch. Tr. Mosk. NII vaktsii i syvorotok (Collection of Scientific Works of the Moscow Scientific Research Institute of Vaccines and Serum), 1972, Vyp 22, pp 235-242 (from RZh-Biologicheskaya Khimiya, No 16, Aug 73, Abstract No 16F1951)

Translation: Tests on mice, rabbits, and guinea pigs show that diethyltoluamide is rapidly absorbed into the blood through undamaged skin. It is distributed to various degrees in the organs and permeates through the hemoencephalic and placentarian barriers. The dynamics of the development of the clinical symptoms of poisoning and their manifestation are a direct function of the dynamics of the diethyltoluamide content in the blood which in turn is determined by the preparation dosage applied to the skin. The diethyltoluamide concentration in the blood is determined by its absorbability through the skin, by the absorption and reabsorption by tissues and organs, by its elimination from the organism, and possibly by the partial breakdown of diethyltoluamide molecules. The discontinuous nature of the diethyltoluamide content curve for blood occurs for all the animal species studied.

1/2

USSR

GLEYBERMAN, S. YE., and VORONKINA, T. M., Sb. nauch. tr. Mosk. NII vaktsii i syvorotok, 1972, Vyp 22, pp 235-242

The particulars associated with species find expression in the different rates and the massiveness of the entry of diethyltoluamide into the blood during the first hours after application and in the different amount of time required to reach the maximum concentration. Diethyltoluamide has a certain tropism for lipid rich organs. The clinical picture of poisoning shows damage symptoms of these organs. The elimination of diethyltoluamide from the organism takes long time and takes place primarily through urine.

2/2

- 72 -

USSR

UDC 632.95

BRIKMAN, L. I., TSETLIN, V. M., ROGINSKAYA, Ye. Ye., ZHUK, Ye. B., VOLKOVA,
A. P., VORONKINA, T. M., KLIMENCHUK, V. I., POZHARSKAYA, Ye. B.

"Compound for Controlling Household Insects"

USSR Author's Certificate No 340384, filed 15 Feb 71, published 23 Jun 72
(from RZH-Khimiya, No 2 (II), Feb 73, Abstract No 2N486)

Translation: The compound for controlling cockroaches, clothes and moths
contains the following (in % by weight): γ -hexachlorocyclohexane 0.19%;
DDT 1.71%; DDVF 0.6%; xylol 5%; a mixture of CF_2Cl_2 (freon-12) and $CFCl_3$
(freon-11) 55% and kerosene to 100%.

1/1

USSR

UDC 632.95

VORONKINA, T. V., ZHUKOVA, Ye. V.

"Quantitative Determination of DETA in Concentrates, Alcohol Solution, and Aerosol Cylinders by Dry Titration"

Sb. nauch. tr. Mosk. NII vaktsin i syvorotok (Transactions of the Moscow Institute of Vaccines and Sera), 1972, No 22, pp 222-224 (from RZh-Khimiya, No 18 (II), Sep 73, Abstract No 18 N438 by S. G. Zhemchuzhin)

Translation: A method is suggested for determining the content of the repellent diethylamide of m-toluic acid in concentrates, alcohol solutions, and aerosol cylinders by dry titration. Some 200 to 300 mg of a sample of the compound or 10 to 25 mg of a concentrate are dissolved in 10 to 15 ml of Ac_2O and titrated potentiometrically with 0.1 N $HClO_4$ solution (prepared from 72% acid) in absolute dioxane in an LPU-01 apparatus with glass and calomel electrodes. The analytical error is 1.5 to 2%.

1/1

Lasers & Masers

USSR

UDC: 535.343+535.371

VORON'KO, Yu. K., OSIKO, V. V., PROKHOROV, A. M., SHCHERBAKOV, I. A.

"Some Questions of Spectroscopy of Laser Crystals With Ionic Structure"

Moscow, Trudy Ordena Lenina Fizicheskogo Instituta imeni P. N. Lebedev Akademii Nauk SSSR. Spektroskopiya Lazernykh Kristallov s Ionnoy Strukturou, Vol 60, 1972, pp 3-30

Abstract: The paper analyzes the basic spectroscopic characteristics of ionic laser crystals (structure of absorption and luminescence spectra, quantum yield, kinetics of intracenter relaxation, processes of excitation energy transfer) which have a direct influence on emission parameters. The authors discuss the effect which the distribution of impurity ions of rare-earth elements with respect to centers of different structure has on these characteristics. Methods are outlined for analyzing the complex Stark structure of the absorption and luminescence spectra of trivalent rare-earth ions.

1/1

USSR

ALEKSANDROV, V. I., VORON'KO, YU. K., MIKHALEVICH, V. G., OSIKO, V. V.,
PROKHOROV, A. M., Academician, TATARINISEV, V. M., UDOVENCHIK, V. T., and
SHIPULO, G. P., Physics Institute imeni P. N. Lebedev, USSR Academy of
Sciences, Moscow

"Spectroscopic Properties and Generation of Nd^{3+} in Crystals of ZnO_2 and HfO_2 "

Doklady Akademii Nauk SSSR, Vol 199, No 6, 1971, pp 1282-1283

Abstract: The spectroscopic properties of Nd^{3+} are known in various crystals and glasses. Materials such as crystals of $V_3Al_5O_{12}$ and silicate glasses activated with neodymium have been widely used in lasers. The authors of this article first describe the spectroscopic properties and generation of Nd^{3+} in cubic crystals of ZrO_2 and HfO_2 . These materials have a fluorite type crystal lattice in which the Nd^{3+} ions replace the tetravalent ions of zirconium or hafnium. In addition to the Nd^{3+} the crystals contained impurities of CaO or V_2O_3 for the purpose of stabilizing the cubic structure of the ZrO_2 and HfO_2 . The authors describe the experiment and give 1 figure and 1 table to illustrate the results. The figure graphically shows the optical spectra of HfO_2-Nd^{3+} crystals, including the spectrum of absorption, the

1/2

- 97 -

USSR

ALEKSANDROV, V. I., et al., Doklady Akademii Nauk SSSR, Vol 199, No 6, 1971, pp 1282-1283

absorption group, and the spectrum of luminescence transition. The table gives two structural types of crystals with their properties. The article contains 1 figure, 1 table, and 9 bibliographic entries.

2/2

USSR

VORON'KO, Yu. K., OSIKO, V. V., PROKHOROV, A. M., and SHCHERBAKOV, I. A.,
Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

"Study of the Mechanism of an Elementary Act of Excitation Energy Transfer
Between Rare Earth Ions in Crystals"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 60, No 3,
Mar 71, pp 943-954

Abstract: The micromechanism of the interaction of impurity ions in crystals with one another and with the crystal lattice matrix is investigated. The variation with temperature of the probability of excitation energy transfer between rare earth ions was studied using doubly activated fluorite to exclude the effect of energy migration along donor ions. It is shown that the transfer process varies directly with temperature, even in the case of the absence of spectral resonance of electron transitions of the donor and acceptor. It is concluded that the results indicate that the probability of excitation energy transfer in the absence of overlapping of donor and acceptor spectra is determined by the density of phonon states in the frequency region corresponding to the Stokes resonance detuning. The mechanism of temperature activation is associated with the population of the phonon state
1/2

USSR

VORON'KO, Yu. K., et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki,
Vol 60, No 3, Mar 71, pp 943-954

corresponding to the acoustical branch of the dispersion diagram. It is noted that these effects also appear in the infrared absorption spectra as a function of temperature, both of crystals of the fluorite type and of crystals of alkali-halide and other compounds.

2/2

- 33 -

1/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--A FRICTION MACHINE, MTK 1, FOR TESTING FRICTION PARIS IN AN
AGGRESSIVE MEDIUM AT HIGH TEMPERATURES -U-
AUTHOR--(03)-VORONKOV, B.D., DOKUCHAYEV, YU.N., TYAZHELNIKOVA, L.N.



COUNTRY OF INFO--USSR

SOURCE--FIZ.-KHIM, MEKHAN. MAT., 1970, 6(1), 72-75

DATE PUBLISHED-----70

SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS

TOPIC TAGS--PHYSICS LABORATORY INSTRUMENT, TEST METHOD, WEAR RESISTANCE,
FRICTION TEST/(U)MTK1 FRICTION TESTING APPARATUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0211

STEP NO--UR/0359/70/006/001/0072/0075

CIRC ACCESSION NO--AP0129467

UNCLASSIFIED

272 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129467

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

ABSTRACT. A GENERAL DESCRIPTION OF A NEW FRICTION MACHINE DESIGNED FOR STUDYING THE BEHAVIOUR OF FRICTION PAIRS FORMED BETWEEN METALS AND VARIOUS OTHER SUBSTANCES IN A CORROSIVE MEDIUM IS PRESENTED. THIS MACHINE FACILITATES THE DETERMINATION OF WEAR EXPRESSED EITHER AS A CHANGE OF DIMENSIONS OR A WEIGHT LOSS, AND IS SUITABLE FOR BOTH METALLIC AND NON METALLIC SAMPLES IN CORROSIVE MEDIA AT TEMP. UP TO 150DEGREESC. VARIOUS OTHER PHENOMENA (E.G. PHASE CHANGES) ACCOMPANYING THE PROCESS OF FRICTION MAY BE STUDIED AT THE SAME TIME.

UNCLASSIFIED

USSR

UDC: 539.293

KOBTSEV, Yu. D., VORONKOV, B. I., Kiev Polytechnical Institute

"Using Semiconductor Oxides to Make Nonlinear Resistors"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika. Resp. Mezhd. Sb.,
No. 7, 1972, pp 116-121

Abstract: The authors discuss the possibilities for using semiconductor oxides to make nonlinear resistors. An investigation is made into the mechanism of nonlinearity in sintered ceramic systems based on oxides of zinc, tin, and nickel with various dopants used to control the coefficient of nonlinearity. Various semiconductor systems are given together with their coefficients of nonlinearity as a function of sintering temperature. The current-voltage characteristics of the investigated systems are given. The results of the studies show that the coefficient of nonlinearity in such systems can be increased by using dopants whose ion radii are considerably greater than the ion radius of the main component. The technique for making such resistors is extremely simple and requires no expensive materials.

1/1

- 74 -

USSR

UDC: 621.391.81

ZOLOTAREV, I. D., VORONKOV, B. N.

"Passage of a Phase-Keyed Signal Through a Transistorized Resonance Amplifier"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics--- collection of works), Voronezh, 1970, pp 9-12 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A82)

Translation: To evaluate the effect of transient process on intersymbol distortions and distortions of the autocorrelation function in the case of optimum processing of a phase-keyed signal, the authors determine the response of a transistorized resonance amplifier to a complex phase-keyed signal as a whole. Expressions are derived which describe phase and amplitude variations of the output signal in time. One illustration, bibliography of seven titles. N. S.

1/1

Circuit Theory

USSR

UDC: 621.391.81:519.272

ZOLOTAREV, I. D., VORONKOV, B. N.

"Evaluation of the Effect of Transient Processes on the Autocorrelation Function of Multidimensional Wide-Band Signals"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics-- collection of works), Voronezh, 1970, pp 7-8 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A56)

Translation: The authors consider distortion of the autocorrelation function of multidimensional wide-band signals under the influence of transient processes in an optimum processing channel. Distortions in all elements are taken into consideration -- in the part of the channel preceding the compression circuit, in the compression circuit, and in the optimum filter. The greatest danger is presented by the first section, where the addition of distortions takes place. One illustration, bibliography of two titles.
N. S.

1/i

USSR

UDC [537.226+537.311.33]:[537+535]

SHALIMOVA, K. V., VORONKOV, E. N., and MURAV'YEV, L. N.

"Kinetic Study of Photoconductivity of Cadmium Telluride Films"

V sb. Tonkiye plenki sovedineniy tellura s metallami podgrupp tsinka i galliya (Thin Films of Tellurium Compounds With Metals of Zinc and Gallium Subgroups -- Collection of Works), Vil'nyus, 1970, p 22 (from RZh-Fizika, No 10, Oct 71, Abstract No 10YE800 by authors)

Translation: A kinetic study was made of the photoconductivity of CdTe thin layers obtained by the method of vacuum condensation on various substrates. Basic parameters were determined for films annealed in Cd and Te vapor as well as those doped with elements of the first, third, and seventh groups of the periodic system of elements. The authors investigated the lux-ampere and relaxation photocurrent characteristics in the 100-400° K temperature range. On the basis of the results obtained an estimate was made of the trapping and recombination center parameters.

1/1

- 62 -

1/2 008 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ANTHOCYANIN INHIBITION OF THE AUXIN OXIDASE ACTIVITY OF PEROXIDASE
-U-
AUTHOR--~~VORONKOV~~, L.A. ✓
COUNTRY OF INFO--USSR
SOURCE--SEL'SKOKHEZ. BIDL. 1970, 5(1), 58-63
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BIOLOGIC PIGMENT, CEREAL CROP, PLANT PHYSIOLOGY, ENZYME
ACTIVITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0298 STEP NO--UR/9062/70/005/001/0058/0063
CIRC ACCESSION NO--AP0135793
UNCLASSIFIED

UNCLASSIFIED

2/2 008

CIRC ACCESSION NO--AP0135793

UNCLASSIFIED

PROCESSING DATE--11DEC70

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

ABSTRACT. ANTHOCYANINS AND ANTHOCYANIDINS

EXTD. FRGH CORN LEAVES INHIBITED THE AEROBIC OXIDN. OF INDOLE,3,ACETIC ACID BY PEROXIDASE. THE INHIBITING EFFECT OF THESE COMPS. WAS CAUSED BY THE FLAVONOID GROUP. ANTHOCYANINS AND THEIR AGLYCONS INHIBITED THE OXIDN. OF INDOLE,3,ACETIC ACID BUT DID NOT DESTROY AUXIN OXIDASE OR FORM A STABLE COMPLEX WITH IT. FACILITY: MOSK. GOS. UNIV. IM.

LDMCNDSOVA, MOSCOW, U.S.S.R.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--CATALYTIC PROPERTIES OF CHLOROPLAST PEROXIDASE -U-
AUTHOR--(03)-RUBIN, B.A., VORONKOV, L.A., ZHIVOPISTSEVA, I.V.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD, NAUK SSSR 1970, 190(6), 1483-5
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE
TOPIC TAGS--CHLOROPLAST, CATALYSIS, PHOTOSYNTHESIS, PHOSPHORYLATION,
OXIDASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1099 STEP NO--UR/0020/70/190/006/1483/1485
CIRC ACCESSION NO--AT0119958
UNCLASSIFIED

2/2 007

CIRC ACCESSION NO--AT0119958

UNCLASSIFIED

PROCESSING DATE--23OCT70

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

LEAVES WAS 4-13PERCENT AS EFFECTIVE AS CYTOPLASMIC PEROXIDASE FROM THE
SAME LEAVES IN CATALYZING OXIDN. WITH H₂ SUB2 O SUB2, BUT WAS 55PERCENT
AS EFFECTIVE IN CATALYZING OXIDN. WITH MOL O. THIS UNUSUAL PROPERTY OF
CHOLORPLAST PEROXIDASE SUGGESTS THAT IT MAY PERFORM A SPECIFIC FUNCTION
IN PHOTOSYNTHESIS, PERHAPS IN PHOTOPHOSPHORYLATION.

UNCLASSIFIED

USSR

UDC 547.245 + 543.422.4

D'YAKOV, V. M., VORONKOV, M. G., SIDORKIN, V. F., D'YAKOVA, T. L., and ORLOV, N. F., Irkutsk Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences USSR

"PMR Spectra and the Structure of Trialkylsilyl Esters of Aroylphosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1535-1539

Abstract: PMR spectra of bis(triethylsilyl)aroylphosphonates -- $p\text{-XC}_6\text{H}_4\text{COP(O)[OSi(C}_2\text{H}_5)_3]_2$ -- were studied. The data obtained from the PMR and IR-spectral analyses were compared with the calculated results of the distribution of electronic density by the method of SSP MO LKAO (PPP). No satisfactory correlation was observed between the chemical shifts of aromatic protons and the Hammett σ -constants in the investigated series of compounds. Anomalous behavior was noted for p-halogen substituted derivatives for which a mechanism has been proposed for the reaction of the halogen substituent with the reactive center.

1/1

- 47 -

USSR

UDC 547.26'118+546.287

TROFIMOV, B. A., GAVRILOVA, G. M., KALABIN, G. A., and VORONKOV, M. G.,
Irkutsk Institute of Organic Chemistry, Siberian Branch of the Academy of
Sciences USSR

"Bis(trimethylsilyl)phosphonemethyldioxacyclanes, Cyclic Addition Products of
Bis(trimethylsilyl) Phosphite and Divinyl Ethers of 1,1- and 1,2-Alkanediols"

Leningrad, Zhurnal Obshchey Khimii, Vol 43, No 11, Nov 73, pp 2420-2425

Abstract: Homolytic addition of bis(trimethylsilyl) phosphite to divinyl
ethers of 1,1-diols led to the formation of 4-methyl-5-/bis(trimethylsilyl)
phosphonomethyl/-1,3-dioxolanes. The reaction proceeded stereospecifically
with the formation of cis-isomers to the extent of 92%. The reaction of bis
(trimethylsilyl) phosphite with the divinyl ether of ethyleneglycol resulted
in the formation of 2-methyl-3-/bis(trimethylsilyl)phosphonomethyl/-1,4-dioxan.

1/1

- 35 -

USSR

UDC 541.91:547.1'118'128

D'YAKOV, V. M., and VORONKOV, M. G., Irkutsk Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences USSR

"Trialkylsilyl Esters of Polyfluoracylphosphonic Acids"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp. 399-402

Abstract: Studies were conducted on the reactions of tris(trialkylsilyl) phosphites with trifluoroacetyl chloride (I) and α -hydrohexafluoroisobutyryl chloride (II), with the formation of the corresponding bis(trialkylsilyl)per(poly)fluoroacylphosphonates in 31-52% yields. The following were synthesized: bis(trimethylsilyl) trifluoroacetylphosphonate (III), bis(triethylsilyl) trifluoroacetylphosphonate (IV), bis(trimethylsilyl) - α -hydrohexafluoroisobutyrylphosphonate (V), and bis(triethylsilyl) - α -hydroperfluoroisobutyrylphosphonate (VI). The products were viscous, colorless, liquids with weak characteristic odors; they had low indexes of refraction in comparison with organic and silicoorganic α -keto-phosphonates. Their structures were confirmed by IR, NMR, and PMR spectra. Compound III was synthesized by percolating a solution

1/3

USSR

D'YAKOV, V. M. and VORONKOV, M. G., *Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya*, No 2, 1973, pp 399-402

of (27.6 g of I through 20.0 g of tris(trimethylsilyl) phosphite at 40°; a residue was obtained which, on fractional distillation, gave III and 8.5 g of a fraction with a b.p of 88-93° (7 mm), consisting of unreacted tris(trimethylsilyl) phosphite, bis(trimethylsilyl) phosphite, and fluorine-containing products. IV was synthesized in a similar manner from 10.0 g of tris(triethylsilyl) phosphite and 9.3 g of I; the yield of IV was 3.0 g (31.3%)[b.p. 123-126° (5 mm), n_D^{20} 1.4436, d_4^{20} 1.070]. In addition, 3.1 g of an unidentified fraction (b.p. 145-148°(5 mm)) were obtained, as well as 1.9 g (54.4%) of triethylchlorosilane. V was prepared by the dropwise addition of 19.0 g of fresh α -hydrohexafluorbutyroyl chloride acid over a 15 min period to 20.0 g of tris(trimethylsilyl) phosphite at 40°. Distillation of the residue yielded V. VI was prepared by the dropwise addition of 9.0 g of fresh α -hydroperfluoroisobutyroyl chloride over a 3 min period to 10.0 g of tris(triethylsilyl) phosphite at 40°. The reaction mixture became opalescent and the temperature rose to 65°; the system was rapidly and carefully vacuum evaporated to remove $(C_2H_5)_3SiCl$ and unreacted

- 50 -

USSR

D'YAKOV, V. M. and VORONKOV, M. G., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, 1973, pp 399-402

α -hydroperfluorisobutyryl chloride. Subsequent fractional distillation yielded VI and 1.1 g of an unidentified fraction (b.p. 90-105° (2 mm)).

3/3

USSR

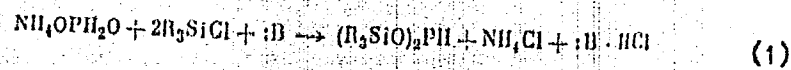
UDC 547.245

VORONKOV, M. G., MARMUR, L. A., DOLGOV, O. N., PESTUNOVICH, V. A.,
POKROVSKIY, Ye. I., and POPEL, Yu. I., Leningrad Institute of Textile and
Light Industry imeni S. M. Kirov; Institute of Organic Synthesis, Academy
of Sciences Latvian SSR

"Bis(trialkylsilyl) Hypophosphites"

Leningrad, Zhurnal Obshchey Khimii, Sep 70, Vol 41, No 9, pp 1987-1991

Abstract: This is the first report on the synthesis of organosilicon --
bis(trialkylsilyl) hypophosphites $(R_3SiO_2)PH$. One method is based on the
reaction of ammonium hypophosphite with trialkylchlorosilanes in the
presence of secondary and tertiary amines:



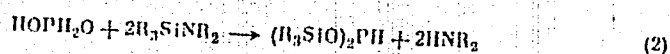
R = alkyl, : B = amine

1/2

USSR

VORONKOV, M. G., et al., Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 1987-1991

The hypophosphite yield reaches 35-45%. The second method produces a much higher yield (80-90%) and is based on the reaction of hypophosphorus acid with trialkyl(dialkylamino)silanes:



Some of the properties of these compounds are discussed. The compounds readily disproportionate in the presence of alkyl halides, transsilylate are oxidized by oxygen, and add to double bonds. The IR and NMR spectra of bis(trialkylsilyl) hypophosphites are presented in a table.

2/2

172 020 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RAMAN AND INFRARED ABSORPTION SPECTRA OF SOME BUTOXYSILANES -U-
AUTHOR--OZOLINS, L., KOVALEV, I.F., ARBUZOVA, V.A., SHEVCHENKO, I.V.,
VORONKOV, M.G.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR ZINAT. AKAD. NESTIS, KIM. SER. 1970, (1), 47-61
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--RAMAN SPECTRUM, IR SPECTRUM, ORGANIC SILANE, ORGANIC OXYGEN
COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0440 STEP NO--UR/0464/70/000/001/0047/0061
CIRC ACCESSION NO--AP0107046
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107046

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RAMAN AND IR SPECTRA OF ME SUB3
 SI(OBU) (I), ME SUB2 SI(OBU) SUB2 (II), MEST(OBU) SUB2 (III), SI(OBU)
 SUB4 (IV), SI(SEC-BUO) SUB4 (V), AND SI(ISO-BUO) SUB4 (VI) WERE
 MEASURED. FREQUENCIES, INTEGRAL INTENSITIES, HALF BANDWIDTHS, AND
 DEGREES OF DEPOLARIZATION OF THE RAMAN LINES ARE TABULATED. THE
 SCATTERING COEFFS. IN THE SCALES 5B PRIME2 PLUS 7G PRIME2 (S) AND 5B
 PRIME2 PLUS 13G PRIME2 (R), THE TRACE, AND THE ANISOTROPY OF THE
 POLARIZABILITY TENSOR WERE CALCD. ESTN. OF FORCE CONSTS. FOR III AND
 IV WAS MADE. THE DISPERSION OF THE REFRACTION COEFF. WAS STUDIED IN II,
 V, AND VI AND THE ABS. RAMAN SCATTERING CROSS SECTIONS FOR THE STOKES
 WAVES NU SUB3 (SI-O) WERE EVALUATED. THE CORRECTED FREQUENCIES,
 HALF-BANDWIDTHS, AND ABS. INTENSITIES OF SELECTED IR VIBRATIONS WERE
 OBTAINED BY NUMERICAL BAND SEPN. THE EFFECT OF SUBSTITUENTS ON THE
 STUDIED PARAMETERS IS DISCUSSED.

UNCLASSIFIED

USSR

UDC 547.245

VORONKOV, M. G., MARMUR, L. Z., Leningrad Institute of Textile and Light Industry imeni S. M. Kirov, Leningrad, Ministry of Higher and Secondary Specialized Education RSFSR

"Trialkylsilyl Ethers of Hypophosphorous Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 2135-2136

Abstract: Reaction of ammonium hypophosphite with trialkylamino-silanes or hexaalkyldisilazanes gives complete organosilicon ethers of hypophosphorous acid. The reagents are heated to 100° in a nitrogen atmosphere. The products isolated by fractional distillation are: bis-(trimethylsilyl)-hypophosphite, b.p. 52°/10 mm, n_D^{20} 1.4116, d_4^{20} 0.8969; and bis-(triethylsilyl)-hypophosphite, b.p. 96-97°/1 mm n_D^{20} 1.4517, d_4^{20} 0.9223. The compounds are colorless liquids, self-igniting in air and very reactive towards oxygen, sulfur, compounds with labile hydrogen, various halides, unsaturated compounds, etc. IR spectra show a strongly shifted P-H band at 2165 cm^{-1} .

1/1

USSR

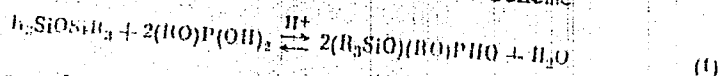
UDC 547.245

DOLGOV, O. N., VORONKOV, M. G., and ORLOV, N. F., Leningrad Institute of the Textile and Light Industry imeni S. M. Kirov

"Cleavage of Hexaalkyldisiloxanes by Monoalkyl Phosphites"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1667-1668

Abstract: It was found by the authors that hexaalkyldisiloxanes are cleaved by monoalkyl phosphites according to the general scheme



The reaction proceeded in the presence of protonic and aprotic acids (H₂SO₄, p-CH₃C₆H₄SO₃H, ZnCl₂) provided there is continuous distilling off of the water that forms. It was suggested that the reaction was a stepwise process.

Organophosphorous Compounds

UDC 547.245

USSR

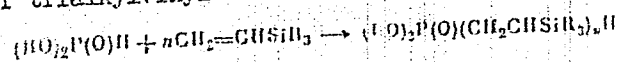
DOLGOV, O. N., and VORONKOV, M. G., Leningrad Institute of the Textile and Light Industry imeni S. M. Kirov

"Telomerization of Dialkyl Phosphites and Bis(trialkylsilyl) Phosphites with Vinylsilane Derivatives"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1668-1669

Abstract: Dialkyl phosphites and bis(trialkylsilyl) phosphites add to trialkylalkenylsilanes in the presence of tert-butyl peroxide according to the general scheme $(RO)_2P(O)H + CH_2=CH(CH_2)_nSiR_3 \rightarrow (RO)_2P(O)(CH_2)_{n+1}SiR_3$

It was found by the authors that at $n = 0$ the addition reaction may be accompanied by a telomerization reaction. The latter resulted in adducts of the composition 1:2, 1:3 etc., the formation of which was promoted by the presence of an excess of trialkylvinylsilane in the reaction mixture.



1/1

172 014 UNCLASSIFIED PROCESSING DATE—30OCT70

TITLE—NITROGEN CONTAINING ORGANOSILICON COMPOUNDS. XV. MORPHOLINO,
 N, METHYLPIPERAZINYL, AND PERHYDROAZEPIN, 1, YL, SILANES —U—

AUTHOR—(05)—LUKEVITS, E., PESTUNOVICH, A. YE., GAYLE, R., PESTUNOVICH,
 V. A., VGRONKEV, M. G.

COUNTRY OF INFO—USSR

✓

SGURCE—ZH. OBSHCH. KHIM. 1970, 40(3), 620-3

DATE PUBLISHED—70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—AMINE, MORPHOLINE, ORGANIC SILANE, THERMAL EFFECT, ORGANIC
 SYNTHESIS

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/0889 STEP NO—UR/0079/70/040/003/0620/0623

CIRC ACCESSION NO—AP0124552

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 014

CIRC ACCESSION NO--AP0124552

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

ABSTRACT. HEATING ME SUB3 NEGATIVE SINET

SUB2 OR ME SUB2 SI(NET SUB2)SUB2 WITH HIGHER AMINES SUCH AS MORPHOLINE,

1, METHYLPIPERAZINE OR PERHYDROAZEPINE GAVE: TRIMETHYL(MORPHOLINO)

SILANE, B SUB18 61-2DEGREES, N SUBD PRIME20 1.4385, D PRIME20 0.9014;

DIMETHYLDIMORPHOLINOSILANE, B SUB4 106-10DEGREES, 1.4743, 1.0163.

METHYLTRIMORPHCLINOSILANE, M. 109-12DEGREES.

TRIMETHYL(1, METHYL, 4, PIPERAZINYLSILANE, B SUB35 65DEGREES, 1.4461,

0.8590. TRIMETHYL(PERHYDROAZEPIN, 1, YL)SILANE, B SUB21 74-6DEGREES,

1.4525, C. 8547. DIMETHYLDIPERHYDROAZEPIN, 1, YLSILANE, B SUB2

117-20DEGREES, 1.4860, 0.9380.

FACILITY: INST. ORG. SIN., RIGA,

USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--NITROGEN CONTAINING ORGANOSILICON COMPOUNDS. XIX.
N,3,TRIALKYL SILY, ALLYL AND N,3,TRIALKYL SILY, PROPARGYL DERIVATIVES OF
AUTHOR--(04)-LUKEVITS, E., PESTUNOVICH, A.YE., PESTUNOVICH, V.A., VORONKOV,
M.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 624-6
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOSILICON COMPOUND, PYRROLIDINE, MORPHOLINE, ORGANIC
NITROGEN COMPOUND, CATALYTIC ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0926 STEP NO--UR/0079/70/040/003/0624/0626
CIRC ACCESSION NO--AP0124587
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124587

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REFLUXING HSIET SUB3 WITH
 1,PROPARGYLPIPERIDINE IN THE PRESENCE OF H SUB2 PTCL SUB6 CATALYST 10 HR
 GAVE 27.4PERCENT ET SUB3 SICH:CHCH SUB2 R (II) (R EQUALS PIPERIDINO), B
 SUB19 141-3DEGREES, N PRIME20 SUBD 1.4756, D PRIME20 0,8696. SIMILARLY
 WAS PREPD. THE 1,PYRROLIDINYL ANALOG, B SUB3 131-2DEGREES, 1.4743,
 0.8657, AND MORPHOLINO ANALOG, B SUB17 145-7DEGREES, 1.4765, 0.9155.
 REACTION OF ET SUB3 SICL WITH BRMGC TRIPLE BOND CCH SUB2 R (R EQUALS
 PIPERIDINO) GAVE 40PERCENT ET SUB3 SIC TRIPLE BOND CCH SUB2 R (III), B
 SUB5 123-6DEGREES, 1.4782, 0.7891. HEATING 4.3 G PYRROLIDINE WITH 8.42
 G 3,TRIMETHYLSILYL,1,CHLORO,2,PROPYNE IN C SUB6 H SUB6 WITH 6.1 G ET
 SUB3 N 5 HR GAVE 38PERCENT ME SUB3 SIC TRIPLE BOND CCH SUB2 R (R EQUALS
 1,PYRROLIDINYL) (III), B SUB48 98-100DEGREES, 1.4650, 0.8686.
 TREATMENT WITH HCL-ET SUB2 O GAVE THE HCL SALTS OF: I, M. 157-9DEGREES;
 II, M. 241.5-2.5DEGREES; III, M. 129.5-31DEGREES. FACILITY:
 INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DIORGANYLSILOXANE, ALPHA, OMEGA, DIOLS -U-
AUTHOR--(03)-VORONKOV, M.G., SVIRIDOVA, N.G., BORISOV, S.N.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 263,595
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANOSILICON COMPOUND, SILOXANE, FLUORINATED ORGANIC
COMPOUND, CHEMICAL PATENT, ALCOHOL, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/1596 STEP NO--IJR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0135237
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0135237

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPOS. ARE PREPD. BY
TREATING 1,3,DIACETOXYTETRAMETHYLDISILOXANE OR
ALPHA,OMEGA,DIACETOXYDIORGANYLSILOXANES CONTG. A CF SUB3 CH SUB2 CH SUB2
GROUP WITH H SUB2 O IN THE PRESENCE OF AN ACID ACCEPTOR, E.G. CACO SUB3,
NAOH.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--WATERPROOFING OF MATERIALS BY ORGANOSILICON COMPOUNDS. XVIII.
AGING OF FILM FORMING SOLUTIONS OF HYDROLYZED TETRAETHOXY-SILANE -U-
AUTHOR-(04)-VDRONKOV, M.G., PASHCHENKO, A.A., TISHCHENKO, V.T., ZAGATA, L.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 611-15
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--WATERPROOFING, ORGANOSILICON COMPOUND, ORGANIC SILANE, ACID
CATALYSIS, HYDROLYSIS, HYDROGEN ION CONCENTRATION, METAL COATING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1463 STEP NO--UR/0080/70/043/003/0611/0615
CIRC ACCESSION NO--AP0116900
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116900

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INCREASES IN H SUB2 O CONCN. IN AQ. ME SUB2 CO AND AQ. DIOXANE SOLNS. OF SI(OET) SUB4 (I) RETARDED CONDENSATION REACTIONS AND INTENSIFIED THE ACID CATALYZED INITIAL HYDROLYSIS PROCESS WITH THE RESULT THAT THE MAX. IN THE ISOTHERMAL CURVES FOR THE VARIATION OF N SUBD PRIME20 WITH TIME WERE SHIFTED TO THE RIGHT. THE EFFECT OF CATALYTIC AMTS. OF ACIDS LASTED ONLY BRIEFLY WHEN HCL AND HNO SUB3 WERE USED AND FOR 300 DAYS WHEN H SUB3 PO SUB4 WAS USED BECAUSE SOLNS. CONTG. THE FORMER RAPIDLY APPROACHED PH 7 WHEREAS THOSE CONTG. THE LATTER REMAINED AT PH IS SMALLER THAN 7. ISOTHERMAL TIME VARIATIONS OF ALL OF THE PROPERTIES TESTED (D SUB20, N SUBD PRIME20, VISCOSITY, AND OPTICAL D.) EXHIBITED MAX. CORRESPONDING TO THE HIGHEST CONCNS. OF SIOH GROUPS, THE AMT. OF WHICH WERE REDUCED LATER BY CONDENSATION REACTIONS. METAL COATING PROPERTIES OF PARTIALLY HYDROLYZED I WERE BEST WHEN ME SUB2 CO SOLNS. CONTG. I, H SUB2 O, AND HNO SUB3 IN AMTS. OF 0.1-1.0, 2-3, AND 0.015-0.04 MOLE-L WERE USED.

UNCLASSIFIED

17Z 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ELECTRON EFFECTS OF N,ALKYL GROUPS IN 1,CHLOROALKANES STUDIED BY
NUCLEAR QUADRUPOLE RESONANCE, NQR -U-
AUTHOR--(03)-VORONKOV, M.G., FESHIN, V.P., POPOVA, YE.P.
COUNTRY OF INFO--USSR V
SOURCE--LAIV. PSR ZINAT. AKAD. VESTIS 1970, (2), 33-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--ALKANE, CHLORINATED ALIPHATIC COMPOUND, ELECTRON DENSITY,
NUCLEAR RESONANCE, ELECTRON DISTRIBUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0685 STEP NO--UR/0197/70/000/002/0033/0034
CIRC ACCESSION NO--AP0119593
UNCLASSIFIED

2/2 019

CIRC ACCESSION NO--AP0119593

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSFER OF THE ELECTRON EFFECTS ALONG THE SATD. HYDROCARBON CHAIN WAS STUDIED IN A SERIES OF COMPS. ME(CH SUB2) SUBN CL (N EQUALS 0-11) BY PRIME35 CL NZR SPECTRA AT 77DEGREESK. ON PASSING FROM N EQUALS 0 TO N EQUALS 1 THE RESONANCE FREQUENCY, NU, IS HARPLY REDUCED OWING TO A LARGE INDUCTIVE EFFECT OF ET AS COMPARED TO ME GROUP ENHANCED ALSO IN THE FORMER COMPD. BY THE SIGMA,SIGMA CONJUGATION. FOR N EQUALS 2 THE NU VALUE BECOMES LARGER TO OSCILLATE AROUND THE AV. NU VALUE OF 33.0 MHZ WITH INCREASING N. HIGHER NU VALUES FOR EVEN THAN FOR ODD N'S ARE NOTICED. ANOMALOUS BEHAVIOR FOR 1,CHLOROBUTANE WAS OBSD. ALSO HERE (NU 33.255 MHZ). THE VALUE IS CONDITIONED BY THE ELECTRON D. DISTRIBUTION BETWEEN THE CL ATOM AND THE CLOSEST CH SUB2 GROUPS IN THE CHAIN. WHEN THE HYDROCARBON CHAIN BECOMES LONGER (N GREATER THAN 4) THE AV. NU VALUE AROUND WHICH THE OSCILLATIONS OCCUR GRADUALLY INCREASES. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

1/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--CHLORINE 35 NUCLEAR QUADRUPOLE RESONANCE NQR OF 1, ALKANECARBOXYLIC ACID CHLORIDES -U-

AUTHOR--(04)-VORONKOV, M.G., FESHIN, V.P., GONCHAROVA, I.N., MIRONOVA, L.I.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR. ZINAT. AKAD. VESTIS 1970, (2), 35-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS

TOPIC TAGS--NUCLEAR RESONANCE, CARBOXYLIC ACID, ALKANE, CHLORINATED ORGANIC COMPOUND, SPECTRUM, ELECTRON TRANSFER, CONJUGATE BOND SYSTEM, CHLORINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1997/0649

STEP NO--UR/0197/70/000/002/0035/0037

CIRC ACCESSION NO--AP0119561

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119561

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH THE PURPOSE TO LEARN THE NATURE OF THE ELECTRON TRANSFER THROUGH SATD. HYDROCARBON CHAIN THE PRIME35 CL NQR SPECTRA WERE STUDIED IN A SERIES OF COMPOS. OF THE TYPE X(CH SUB2) SUBN Y, WHERE X EQUALS ME OR COCL, N EQUALS 0-10, 12, 13, AND X EQUALS Y EQUALS COCL, N EQUALS 0-8. THE SPECTRA WERE MEASURED AT 77DEGREESK ON A SPIN ECHO TYPE APP. THE RESONANCE FREQUENCY V FOR BOTH SERIES STUDIED ARE SIMILAR (SIMILAR TO 29 MHZ) AND LOWER THAN IN THE CORRESPONDING CL ANALOGS (X EQUALS ME, Y EQUALS CL, OR X EQUALS Y EQUALS CL). THIS IS DUE TO THE GEMINAL CONJUGATION BETWEEN THE CL ATOM AND THE C:O GROUP IN THE ACYL CHLORIDES. THE RELATION V VS. N HAS A DIFFERENT CHARACTER FOR EITHER SERIES. IN DIACYL CHLORIDES THE V VALUE DECREASES ON PASSING FROM N EQUALS 0 TO N EQUALS 3 DOWING TO A DECREASED MINUS 1 EFFECT. AT N EQUALS 3-8 IT OSCILLATES AROUND AN AV. AVLUE LARGER FOR EVEN AND SMALLER FOR ODD N VALUES. THE AMPLITUDE OF THESE OSCILLATIONS AND THE AV. V VALUE INCREASES WITH LENGTH OF THE CHAIN. IN MONOACYL CHLORIDES THE V VALUE OSCILLATES BEGINNING FROM N EQUALS 0. FOR N EQUALS 1 V IS INCREASED CONTRARY TO THE EXPECTATIONS ON THE BASIS OF THEIR SIGMA VALUES. THIS IS DUE TO THE SIGMA, SIGMA INTERACTION EFFECT OVERWEIGHING THE PLUS 1 EFFECT OF THE ALKYL GROUP. WHEN PASSING FROM N EQUALS 1 TO 2 THE V VALUE BECOMES LOWER AS THE PLUS 1 EFFECT BECOMES INOPERATIVE THERE. ON FURTHER LENGTHENING OF THE CHAIN IN LARGER THAN 2) THE PERIODIC CHANGES OF V RESULT ONLY FROM THE OSCILLATION EFFECT WHICH IS REGULAR THERE.

FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

100809a Pyrolysis of α,ω -diacetoxyoligodimethylsiloxanes and dimethyldiacetoxyelane. Voronkov, M. G.; Syridova, N. G. (Vses. Nauch.-Issled. Inst. Sm. Kauch. im. Lebedeva, Leningrad, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 90-7 (Russ). Pyrolysis at 250° in an autoclave of $\text{AcO}(\text{SiMe}_2\text{O})_x\text{Ac}$ (I) gave Ac_2O and analogous polysiloxanes with lesser as well as greater value of x than in the initial material. Pyrolysis of $\text{Me}_2\text{Si}(\text{OAc})_2$ led also to Ac_2O and similar polysiloxanes with $x = 2, 3, \text{ or } 4$. Such pyrolysis in the presence of H_2SO_4 gave $\leq 24\%$ I ($x = 2$). I may be directly prepd. from Ac_2O and Me_2SiCl_2 in the presence of FeCl_3 ; in typical run 387.2 g Me_2SiCl_2 and 632.9 g Ac_2O , heated until the calcd. amt. of AcCl distd. and the residue heated with 2 g FeCl_3 , gave a distillate of Ac_2O and residual I, which were fractionated conventionally; the yields declined with increasing value of x .
G. M. Kosolapoff

REEL/FRA
19800939

di 7

Acc. Nr:

AP0049133

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0079

100809a Pyrolysis of α,ω -diacetoxyoligodimethylsiloxanes
and dimethyldiacetoxysilane. Voronkov, M.G.; Syridova, N.
G. (Vses. Nauch.-Issled. Inst. Sint. Kauch. i Polim.)

USSR

UDC 541.124.542.938.547.1'118.547.1'128

D'YAKOV, V. M., VORONKOV, M. G., ORLOV, N. F., Irkutsk Institute of Organic Chemistry of the Siberian Department of the USSR Academy of Sciences and the Leningrad Technological Institute imeni Lensovet

"Mechanism of the Hydrolysis of Trialkylsilyl Esters of Phosphorus Oxy Acids"

Moscow, Izvestiya Akademii Nauk SSR -- Seriya Khimicheskaya, No 11, 1972, pp 2484-2488

Abstract: A study was made of the hydrolysis of the absolute and acid trialkylsilyl esters of phosphorus acids of the $(R_3SiO)_3P$ and $(R_3SiO)_2P(O)$ type and aroylphosphonic acids of the $XC_6H_4CNP(O)(OSiR_3)_2$ type (V. M. D'yakov, et al., Kremniyorganicheskiye materialy, Nauka, Leningrad, 139, 1971). In order to establish the hydrolysis mechanism $H_2^{18}O$ with different contents of tagged oxygen was used. By the reaction with $H_2^{18}O$ it was found that during neutral and acid hydrolysis of trialkylsilyl esters of the tri and quadruple-coordinated phosphorus atom there is predominant breaking of the Si-O bond in the P-O-Si and P(O)-O-Si groups. The experimental procedures and results are presented for the hydrolysis of tris(triethylsilyl)phosphite, bis(triethylsilyl)phosphite and bis(triethylsilyl) o-methylbenzoylphosphonate. 1/

- 54 -

USSR

UDC 547.25'541.64:632.953

KOCHKIN, D. A., VORONKOV, N. A., VORONKOV, V. A., and AZERBAYEV, I. N.,
Institute of Physical Chemistry, Academy of Sciences USSR, Moscow, and
Institute of Chemical Sciences, Academy of Sciences KazSSR, Alma-Ata

"Biologically Stable Grafted Copolymers of Perchlorovinyl Resin and Organotin
Acrylates and Formation of Films Based on Them"

Alma-Ata, Izvestiya Akademii Nauk KazSSR, Seriya Khimicheskaya, No 1,
Jan-feb 72, pp 78-80

Abstract: Copolymers of trialkylmetacryloxystannates with perchlorovinyl
(PCV) resin were obtained by heating the components in a mixture of acetone,
toluene, butyl acetate, in presence of isobisnitrilisobutyric acid. These
copolymers provide strong protective coverings with high antifungal activity.
Optimal tensile strength, heat conductivity and temperature conductivity
were obtained with 1% content of organotin metacrylates. PCV films modified
with 1-2% organotin additives showed improved physico-mechanical properties
and higher heat stability. The new copolymers were tested on: Chaetomium
globosum, Stachybotrys atra, Aspergillus niger, Aspergillus amstelodamy,
Pecylomyces variety, Penicillium cyclopium, Penicillium brevicompactum.
None of these cultures showed any growth on samples protected by experimental
copolymer films.

1/1

USSR

UDC $\Delta 621.3.032.269.1$

BOGDANOVICH, B. Yu., VORONKOV, R. M., GASS, V. F., and DANILICHEV, V. A.

"Autoelectronic Beam for Linear Electron Accelerators"

Moscow, Pribery i Tekhnika Eksperimenta, No. 1, January-February, 1971, pp 44-46

Abstract: The authors present the results of their measurements of electron beam parameters from a gun designed to inject electron bunches throughout a phase of $30-40^\circ$ and with an energy of 300-400 keV in the accelerating section, with a constant phase velocity equal to that of light and a field intensity of 100 kV/cm. They also describe the equipment they used to make these measurements. A cross-sectional drawing of the electron gun in this device is given and its dimensions specified. A "Nord-10" and a "Nord-100," both of them electric discharge pumps, were used to obtain the required degree of evacuation, which was from $2 \cdot 10^{-6}$ to $5 \cdot 10^{-6}$ mm Hg for the first experimental run. A block diagram of the entire equipment is given as well as curves for the equipment characteristics and for the results obtained. All measurements, lasting for 20 hours, were made with the same cathode, which underwent no change in dimensions. 1/1

USSR

UDC 547.25'541.64:632.953

KOCHKIN, D. A., VORONKOV, N. A., VORONKOV, V. A., and AZERBAYEV, I. N.,
Institute of Physical Chemistry, Academy of Sciences USSR, Moscow, and
Institute of Chemical Sciences, Academy of Sciences KazSSR, Alma-Ata

"Biologically Stable Grafted Copolymers of Perchlorovinyl Resin and Organotin
Acrylates and Formation of Films Based on Them"

Alma-Ata, Izvestiya Akademii Nauk KazSSR, Seriya Khimicheskaya, No 1,
Jan-feb 72, pp 78-80

Abstract: Copolymers of trialkylmetacryloxystannates with perchlorovinyl
(PCV) resin were obtained by heating the components in a mixture of acetone,
toluene, butyl acetate, in presence of isobutylacrylate. These
copolymers provide strong protective coverings with high antifungal activity.
Optimal tensile strength, heat conductivity and temperature conductivity
were obtained with 1% content of organotin metacrylates. PCV films modified
with 1-2% organotin additives showed improved physico-mechanical properties
and higher heat stability. The new copolymers were tested on: Chaetomium
globosum, Stachybotrys atra, Aspergillus niger, Aspergillus amstelodani,
Pezizomyces variety, Penicillium cyclopium, Penicillium brevicompactum.
None of these cultures showed any growth on samples protected by experimental
copolymer films.

1/1

Radiation Chemistry

USSR

UDC 678.01:53:66.095.26-13

KABANOV, V. YA., VORONKOV, V. A., KOCHKIN, D. A., and Academician Vict. I. SPITSYN, Institute of Physical Chemistry, Academy of Sciences USSR, Moscow

"Radiation-Chemical Synthesis of Grafted Polymer Materials With Fungicidal Properties"

Moscow, Doklady Akademii Nauk SSSR, Vol 200, No 3, 1971, pp 628-629

Abstract: Triethylmethacryloxystannane was grafted onto polyethylene, polypropylene, polyamides, polyethyleneterephthalate, and polyvinyl chloride from solutions in suitable organic solvents. The direct radiation-chemical method of grafting from the liquid phase of pre-irradiation of the polymer was applied. Irradiation was carried out with gamma-rays at dosage rates of 0.3-5 rad/sec. Total doses of 0.1-15 Mrad were applied. The solutions of the monomeric Sn compound were deaerated by passing Ar through them. Wood slabs (spruce, pine, birch, and oak) were grafted with the Sn compound by direct irradiation after wood that had been dried in vacuo was treated with a 10% benzene solution of this compound. The fungicidal properties of the treated materials were tested by applying seven species of fungi and using the method recommended by the International Electrotechnical Association. The materials exhibited fungicidal characteristics which, at a degree of grafting amounting to 0.5-1%, were 1/2

USSR

KABANOV, V. YA., et al., Doklady Akademii Nauk SSSR, Vol 200, No 3, 1971,
pp 628-629

retained for 1 yr notwithstanding repeated treatment of the samples with solvents, exposure of the samples to the action of sunlight and water, and other procedures applied in connection with the tests. One may assume that at a higher degree of grafting the physiological action towards fungi will persist for several years. Materials that had been treated by simple impregnation with solutions of tin-organic compounds had a higher antifungal activity than those which had compounds of this type such as triethylmethacryloxystannane grafted onto them, but this activity persisted for a considerably shorter period of time. The fungicidal action of the polytriethylmethacryloxystannane chains grafted onto the materials was based on gradual decomposition of the bound Sn-organic groups resulting in formation of tin-organic radicals that diffused into various parts of the materials modified by grafting.

2/2

- 95 -

1/2 050 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EFFECT OF ULTRAVIOLET RADIATION ON THE STRUCTURE AND PROPERTIES OF
EPOXY COATINGS -U-
AUTHOR--(03)-SUKHAREVA, L.A., VORONKOV, V.A., ZUBOV, P.I.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 261-265
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--UV RADIATION, RADIATION EFFECT, EPOXY RESIN, MOLECULAR
STRUCTURE, PLASTIC COATING, POLYMER DEGRADATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1552 STEP NO--UR/0069/70/032/002/0261/0265
CIRC ACCESSION NO--AP0112546
UNCLASSIFIED

2/2 050

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY HAS BEEN MADE OF THE EFFECT OF ULTRAVIOLET RADIATION, AS ONE OF THE RAPID METHODS OF TESTING COATINGS FOR DURABILITY, ON THE MOLECULAR AND SUPERMOLECULAR STRUCTURE OF EPOXY COATINGS AND THEIR PROPERTIES. STRUCTURAL TRANSFORMATIONS IN COATINGS INDUCED BY ULTRAVIOLET RADIATION ARE A MULTISTEP PROCESS ASSOCIATED WITH THE BREAKDOWN OF MOLECULAR AND SUPERMOLECULAR STRUCTURES ARISING DURING THE FORMATION OF COATINGS, AND WITH THE APPEARANCE OF NEW MORPHOLOGICAL FORMS OF SUPERMOLECULAR STRUCTURES, ACCOMPANIED BY A CHANGE IN MECHANICAL AND THERMOPHYSICAL PROPERTIES OF COATINGS.

UNCLASSIFIED

USSR

UDC: 621.394.142:621.376.56

VORONKOV, V. D., KAZAKOV, A. A., RAMOSHCHENKOV, N. A.

"A decoding Device for Cyclic Majority Binary Codes with Redundancy When There is Multiple Repetition of Messages"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, 1970, p 39, patent No 261460, filed 14 Oct 68

Abstract: This Author's Certificate introduces a decoding device for cyclic majority binary codes with redundancy when there is multiple repetition of messages. The unit contains a shift register, adders, a distributor and counters. As a distinguishing feature of the patent, the device is designed for more complete utilization of the correcting capacity of the code with improved resistance to interference in reception. The mod-two outputs of the adder in the majority decoder are series-connected through the distributor to the majority check counters for all repetitions, the number of such counters being equal to the number of information symbols. The values of the information symbols are determined from the majority of the results of these checks.

1/1

USSR

UDC:536.468

ROZENBERG, A. S., ARSEN'YEV, Yu. N., ~~VORONKOV, V. G.~~ Moscow

"Ignition of Gaseous Mixtures of Hydrazoic Acid With Various Diluents"
Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 302-310

Abstract: Most studies on hydrazoic acid have noted that there is a pressure threshold, below which decomposition of HN_3 occurs at a measurable rate. In recent times, the value of this threshold has been measured and its dependence on the power of the igniting spark has been demonstrated. This report presents the results of studies on the concentration boundaries of spark ignition of pure HN_3 and its mixtures with various diluents. The analysis results in the production of a formula for the concentration boundaries of ignition which is found to describe the experimentally observed dependences well. Qualitative calculations demonstrate that diluents with high Q_{11} also have high values of the inclination of the slope of the linear portion of the experimental dependence.

1/1

USSR

UDC: 539.293

KOBTSEV, Yu. D., VORONKOV, V. I., ZAPOROZHETS, L. F., Kiev Polytechnical
Institute

"Nonlinear Resistors -- Elastic Films"

Kiev, Poluprovodnikovaya Tekhnika i Mikroelektronika. Resp. Mezhved. Sb.,
No 7, 1972, pp 113-116

Abstract: A method is proposed for making nonlinear resistors in the form of elastic films. The nonlinear current-voltage curves for such resistors based on zinc oxide with a polyvinyl butyral binder are given. The characteristics of films at various ambient temperatures are studied, and it is found that their thermal stability is determined by the choice of organic binder, and that their resistance decreases with increasing temperature. The capacitance of the films is $50-60 \text{ pF}\cdot\text{cm}^{-2}$. The results of the studies showed that the film resistors can be used to good effect in electroluminescent matrix display panels for controlling brightness and contrast.

1/1

USSR

UDC 621.382

VYATKIN, A. P., and VORONKOV, V. P., Siberian Physico-Technical Institute imeni V. D. Kuznetsov at Tomsk State University

"Influence of the Conditions of Formation on the Electrical Properties of Alloyed p-n-Junctions in Germanium"

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, No 7, 1971, pp 123-125

Abstract: The electrical properties of alloyed p-n-junctions depend substantially on the conditions of their formation: the crystallographic orientation of the semiconductor surface, the purity of the surface and medium in which the interaction takes place between the semiconductor and the molten metal, the temperature mode of the alloying. All these factors ultimately determine the geometry of the p-n-junction. The authors briefly describe the method used to set up the problem and cite their results using schematics as illustration; these schematics predict the manner in which the p-n-junctions will vary by increasing the alloying temperature from 400 to 800°C. They find that: 1. the solubility of In in solid germanium increases as the alloying temperature is raised; 2. an intense thermal conversion takes place in the Ge at temperatures higher than 550°C; 3. as the value of σ_n

1/2

USSR

VYATKIN, A. P., and VORONKOV, V. P., *Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika*, No 7, 1971, pp 123-125

becomes higher, the temperature at which the thermal conversion of the semiconductor takes place becomes higher; 4. the substantial change in α that takes place at temperatures greater than the extremal is due to the creation of an n-i-p-structure as a result of thermal conversion. The article contains 4 figures and 5 bibliographic entries.

2/2

USSR

UDC: 621.315.59

VORONKOV, V. V., VORONKOVA, G. I., and IGLITSYN, M. I."Effect of Second-Phase Inclusion on Conductivity and the Hall Effect"Leningrad, Fizika i tekhnika poluprovodnikov, Vol. 4, No. 12, 1970, pp 2263-2266

Abstract: The included second phase is represented by the impurities that precipitate out of the semiconductor solid solution. Because of this inclusion, there is a deviation in the conductivity in the neighborhood of the inclusion from the volume value. If the inclusion is metallic, it acts as an emitter; if it is non-metallic, the distortion of the conductivity within the Debye screening distance is low. In addition to these phenomena, this article considers the case in which the radius of the nonuniformity in the semiconductor caused by the inclusion is small compared to the average distance between inclusions, and estimates the correction that must be given the measured value of the conductivity and the Hall effect coefficient. The authors also discuss their study of the form of Cu precipitation when introduced into Si for diffusion as well as for alloying.

1/1

UNCLASSIFIED

PROCESSING DATE--09OCT70

1/2 021
TITLE--MOVEMENT OF AN ELEMENTARY STEP BY THE FORMATION OF ONE DIMENSIONAL
NUCLEI -U-
AUTHOR--VORONKOV, V.V.
COUNTRY OF INFO--USSR



SOURCE--KRISTALLOGRAFIYA 1970, 15(1), 13-19
DATE PUBLISHED--70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEATION, CRYSTAL SURFACE, REACTION KINETICS, CRYSTAL DEFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1980/0161

STEP NO--UR/0070/70/015/001/0013/0019

CIRC ACCESSION NO--AP0048453

UNCLASSIFIED