

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--EFFECT OF TISSUE AND HUMORAL FACTORS ON VISCOS METAMORPHOSIS OF  
THROMBOCYTES -U-  
AUTHOR-(02)-MARTYNOV, S.M., GROMNATSKIY, N.I.  
COUNTRY OF INFO--USSR  
SOURCE--VRACHEBNOYE DELU, 1970, NR 4, PP 98-100  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--THROMBOCYTE, BLOOD COAGULATION, BLOOD CELL, FATTY TISSUE,  
BRAIN TISSUE, MUSCLE TISSUE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1702 STEP NO--UR/0475/70/000/004/0098/0100  
CIRC ACCESSION NO--AP0129072  
UNCLASSIFIED

2/2 022  
CIRC ACCESSION NO--AP0129072

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. RESULTS INDICATE THAT TISSUE EXTRACTS (SUBCUTANEOUS FATTY CELLULAR TISSUE, BRAIN MUSCLES AND KIDNEYS) AND ALSO FORM ELEMENTS OF THE BLOOD INDUCE AGREGATION OF THROMBOCYTES IN CITRATE PLASMA. THE BASIS OF THIS THROMBOCYTOAGGREGATING EFFECT OF THIS EXTRACTS IS ACTIVATION OF PHASE I OF BLOOD COAGULATION AND THROMBOGENESIS. THROMBOCYTOAGGREGATING EFFECT OF SOME TISSUES AND BLOOD CELLS MAY BE THE BASIS OF THE PATHOGENESIS OF INTRAVASCULAR THROMBOSIS.

FACILITY: L'VOVSKOGO NAUCHNO-ISSLED. INSTITUTA GEMATOLOGII I PERELIVANIYA KROVI.

UNCLASSIFIED

Coatings

USSR

UDC: 546.831+546.821.824

YEMYASHEV, A. V., KILIN, V. S., MARTYKOV, S. Z., and SHAROVA, A. V.

"Pyrolytic Nitrides of Titanium and Zirconium and Areas of Their Application"

Moscow, Tsvetnyye Metally, NO. 12, Dec 70, pp 30-32

Abstract: Data on the deposition of titanium and zirconium nitrides from the gas phase are discussed. Use was made of commercial zirconium and titanium tetrachloride, hydrogen, and nitrogen. The process of deposition of zirconium pyronitride takes place at 1400--2000°C, with the deposition rates sufficiently high to obtain coatings of appropriate thickness. The most favorable conditions for depositing zirconium pyronitride are attained at a molar ratio of initial components of  $ZrCl_4:N_2:H_2=1:3:2$ . The temperature may be varied within 1700--2000°C. A table in the original article indicates the same processing relationships and specifications for titanium

1/2

USSR

YEMYASHEV, A. V., et al, Tsvetnyye Metally, no. 12, Dec 70, pp 30-32

pyronitride. The maximum deposition rate, however, was observed at 1600-1700°C. The decrease in the deposition rate with an increase in temperature is related to the fact that the titanium pyronitride deposition rate becomes commensurable with the vaporization rate. It was also found that the deposition rate of pyronitrides is directly proportional to the effective cross section of the vapor-gas mixture in the reaction zone. The high electroconductivity of titanium and zirconium nitrides permits their use in special areas of electrical engineering and electronics. The superconductivity of zirconium nitride makes it a potential material for subzero-temperature technology. High melting temperatures and good refractory properties make these materials suitable for use as strengthening components. The method of deposition from the gas phase may be used for applying refractory coatings to parts of intricate configuration.

2/2

- 16 -

USSR

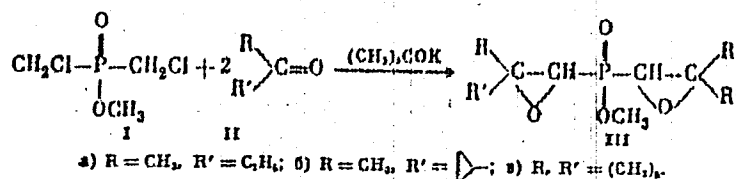
UDC 547.26'118

DORMIDONOV, I. A., MARTYNOV, V. F., and TIMOFEYEV, V. Ye., Institute of Applied Chemistry

"Bis(chloromethyl)phosphinic Acid Methyl Ester in the Darzens Reaction"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 479-480

Abstract: Bis(chloromethyl)phosphinic acid methyl ester (I) reacts with ketones (II) under the influence of potassium tert.-butoxide to give bis(1,2-epoxyalkyl)phosphinic acid esters (III) which have not been previously described.



1/1

USSR

UDC: 622.243.94

BELYAYEV, V. P., VERCHEBA, A. O., MARTYNOV, V. E., PROTSVETOV, Yu. G.,  
SHCHENNIKOV, Ye. V., Moscow Geological Prospecting Institute imeni S.  
Ordzhonikidze

"Some Results of Modeling of the Process of Thermomechanical Destruction  
of Rocks, Using a Laser as the Heat Generator"

Moscow, IVUZ Geologiya i Razvedka, No 7, Jul 71, pp 125-126

Abstract: The authors discuss the feasibility of using lasers as the  
heat source for combination thermomechanical destruction of rocks.  
Research was done using a 30-watt continuous laser based on a mixture of  
CO<sub>2</sub>, N<sub>2</sub>, and He. The rock specimen was chucked up in a lathe with a special  
device for controlling tool pressure over a wide range. The laser beam  
was focused ahead of the tool into a spot with a diameter equal to the  
width of the tool. Spindle rotation was 18 rpm, and cutting was done  
for 3 minutes. The effectiveness of laser heating was determined by com-  
parison with rock destruction by cutting alone. The results show that  
heating increases cutting effectiveness by a factor of 2.25-3.5. One table.

1/1

- 64 -

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--AMINO ACIDS AND PEPTIDES. III. SYNTHESIS OF PEPTIDES WITH  
PHENYLALANINE CONTAINING FLUORINE IN THE AROMATIC RING -U-  
AUTHOR-(03)-KAUROV, O.A., MARTYNOV, V.F., SHIRNOVA, M.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 903-4

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PEPTIDE, CHEMICAL SYNTHESIS, PHENYLALANINE, FLUORINATED  
AROMATIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/1986

STEP NO--UR/0079/70/040/004/0903/0904

CIRC ACCESSION NO--AP0127381

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127381

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. L-PHENYLALANINE AND  
N-CARBOBENZOXY-S BENZYL-L-CYSTEINE P-NITROPHENYL ESTER (I) IN DIOXANE  
(FOLLOWED BY ELECTROPHORESIS) GAVE 85PERCENT  
N-CARBOBENZOXY-S-BENZYL-L-CYSTEINYL L-PHENYLALANINE, M. 156-80DEGREES,  
(ALPHA) PRIME20 SUBD 85DEGREES, AFTER ACIDIFICATION WITH HCL. SIMILARLY  
WAS PREPD. 80PERCENT N-CARBOBENZOXY-S-BENZYL-L  
CYSTEINYL-DL-P-FLUROPHENYLALANINE, M. 174.5-5.5DEGREES. DL-PENTA  
FLUROPHENYLALANINE-HBR ADJUSTED TO PH 8 WITH NA SUB2 CO SUB3, THEN  
TREATED WITH I OVERNIGHT, EVAPD., AND KEPT 6 HR IN AW. DMF GAVE  
72PERCENT  
N-CARBOBENZOXY-S-BENZYL-L-CYSTEINYL-DL-PENTAFLUROPHENYLALANINE, M.  
167-8.5DEGREES. FACILITY: LENINGRAD. GDS. UNIV., LENINGRAD,  
USSR.

UNCLASSIFIED



1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--AMINO ACIDS AND PEPTIDES. IV. SYNTHESIS OF THE HEXAPEPTIDE AMIDE OF  
THE 1-6 SEQUENCE OF OXYTOCIN -U-  
AUTHOR--(03)-KAUROV, D.A., MARTYNOV, V.F., POPERNATSKIY, D.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 904-8

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HORMONE, PEPTIDE, AMIDE, CHEMICAL SYNTHESIS, MOLECULAR  
STRUCTURE, PITUITARY GLAND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/1963

STEP NO--UR/0079/70/040/004/0904/0908

CIRC ACCESSION NO--AP0127362

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127362

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BY PRODUCT FORMED IN THE AZIDE  
SYNTHESIS OF OXYTOCIN FROM CONDENSATION OF HEXA AND TRIPEPTIDES WAS  
SHOWN TO BE THE AMIDE (I) OF THE HEXAPEPTIDE OF 1-6 ACID SEQUENCE OF  
OXYTOCIN. SHOWN ON MICROFICHE. FACILITY: LENINGRAD. GOS.  
UNIV., LENINGRAD, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--AMINO ACIDS AND PEPTIDES, V. SYNTHESIS OF PEPTIDES OF AN OXYTOCIN  
SEQUENCY USING HYDROXYPHTHALIC ESTERS OF BENZYLOXYCARBONYLAMINO ACIDS  
AUTHOR--(03)-KAUROV, O.A., MARTYNOV, V.F., MOROZOV, V.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 908-11

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, PEPTIDE, ORGANIC SYNTESIS, HYDROXYL RADICAL,  
PHTHALIC ACID, IMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3006/1509

STEP NO--UR/0079/70/040/004/0908/0911

CIRC ACCESSION NO--AP0135170

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135170

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATING DICARBOBENZOXYTYROSINE AND N, HYDROXYPHTHALIMIDE IN DMF, DIOXANE WITH DICYCLOHEXYLCARBODIIMIDE OVERNIGHT GAVE 70PERCENT DICARBOBENZOXY, L, TYROSINE HYDROXYPHTHALIMIDE ESTER, M. 68-9DEGREES; SIMILARLY WAS PREPD. 90PERCENT HYDROXYPHTHALIMIDE ESTER OF CARBOBENZOXY, L, ISOLEUCINE, M. 122DEGREES, 60PERCENT HYDROXYPHTHALIMIDE ESTER OF CARBOBENZOXY, L, ASPARAGINE, M. 153-5DEGREES, AND 80PERCENT HYDROXYPHTHALIMIDE ESTER OF CARBOBENZOXY, L, GLUTAMINE, M. 132-4DEGREES. THESE ESTERS TREATED WITH APPROPRIATE AMINO COMPONENTS AND ET SUB3 N AT MINUS 10DEGREES IN DMF, CHCL SUB3, OR DIOXANE GAVE THE FOLLOWING L, AMINO ACIDE PEPTIDES (Z EQUALS CARBOBENZOXY):

Z, ASN, CYS(PHCH SUB2), GME M. 192-5DEGREES; Z, GLN, ASN, CYS(PHCH SUB2), GME M. 238-9DEGREES; Z, LEU, GLY, OET, M. 104-6DEGREES; Z, PRO, LEU, GLY, OET, M. 148-51DEGREES; Z, CYS(PHCH SUB2), PRO, ELU, GLY, NY SUB2, M. 170-1DEGREES; Z, ASN, CYS(PHCH SUB2), PRO, ELU, GLY, NH SUB2, M. 213-14DEGREES; Z, GLN, ASN, CYS(PHCH SUB2), PRO, LEU, GLY, NH SUB2 M. 232-3DEGREES; Z, ILI, GLYN, ASN, CYS(PHCH SUB2), PRO, LEU, GLY, NH SUB2, M. 233-5DEGREES; Z, CYS(PHCH SUB2), TYR, OME, M. 95-6DEGREES; AND Z, TYR(Z), ILF, OME, M. 148-50DEGREES.

FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--FERROELECTRIC TRANSITION IN AMMONIUM SULFATE, DIELECTRIC, OPTICAL,  
AND ELECTROOPTICAL PROPERTIES NEAR THE CURIE POINT -U-  
AUTHOR-(02)-ANISTRATOV, A.T., MARTYNOV, V.G.  
COUNTRY OF INFO--USSR  
SOURCE--KRITALLOGRAFIYA 1970, 15(2), 308-12  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--FERROELECTRIC EFFECT, PHASE TRANSITION, ELECTROOPTIC EFFECT,  
DIELECTRIC CONSTANT, CURIE POINT, CRYSTAL DEFORMATION, AMMONIUM SULFATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/1477 STEP NO--UR/0070/70/015/002/0308/0312  
CIRC ACCESSION NO--AP0118466  
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NDV70

CIRC ACCESSION NO--AP0118466

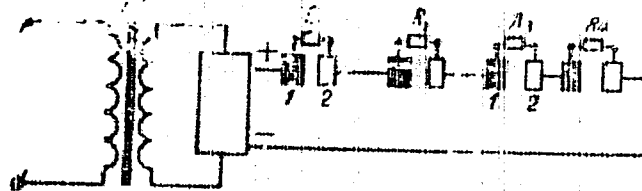
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTROOPTICAL PROPERTIES WERE STUDIED FOR (NH SUB4) SUB2 SO SUB4. THE DIELEC. CONST. AND BIREFRINGENCE WERE DETD. SIMULTANEOUSLY FOR SAMPLES CUT FROM THE SAME CRYSTALS. THE BEHAVIOR OF THE DIELEC., OPTICAL, AND ELECTROOPTICAL PROPERTIES NEAR THE POINT OF THE PHASE TRANSITIONS ARE INTERPRETED ON THE BASIS OF THE MODEL OF D. O'REILLY AND T. TSANG (1967). THE ANOMALIES IN THE BIREFRINGENCE AT THE CURIE POINT ARE ATTRIBUTED TO THE SPONTANEOUS DEFORMATION OF THE CRYSTAL. FACILITY: INST. FIZ., KRASNODVARSK, USSR.

UNCLASSIFIED

AA0038346 - MARTYNOV, V. I. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

237521 ELECTROCHEMICAL MACHINING of several parts simultaneously involves coupling each pair of electrodes (part 1 and tool electrode 2) in series to the power source TP. If their areas are unequal, the voltage is levelled out by coupling parallel to the pairs shunting resistances  $R_1, R_2, R_3, R_4$  and these serve to level out the current densities and provide the accurate finish sought. 27.3.67. as 1144205/25-28. OZERNOY, V.G. et al. (2.7.69.) Bul. / 2.2.69. Class 48a. Int.Cl. C23b.



1/2

7  
LD

19731464

AA0038346

AUTHORS: Ozernoy, V. G.; Danilov, M. A. and  
Martynov, V. I.

2/20

19731465



Polymers and Polymerization

USSR

UDC 678.06:631.459

REVUT, I. B., ROMANOV, I. A., and MARTYNOV, V. P.

"Effectiveness of the Utilization of Latexes in Preventing Soil Erosion"

Moscow, Plasticheskiye Massy, No 11, 1973, pp 26-28

Abstract: The preventive action of several latexes on wind erosion of the soil has been studied. In particular the attention was directed towards the serial divinylstyrene latex SKS-50PG and SKS-65GP. Both formed durable film covers within a very short time, which were able to withstand hurricane force winds both on sandy soils as well as on clay surfaces. No particular changes were noted in water permeability temperature of the soil or in biological processes after treatment with the latex. The yield of the products increased principally on account of decreased losses due to wind effect and seeds being blown away with top soil surface.

1/1

USSR

UDC: 532

DUBOVIK, M. F., MARTYNOV, V. P.

"Investigation of the Electrical Properties of Barium-Strontium Niobate"

V sb. Monokristally i tekhnika (Single Crystals and Technology--collection of works), vyp. 5, Khar'kov, 1971, pp 190-192 (from RZh-Fizika, No 6, Jun 72, Abstract No 6Ye132)

Translation: The electrical properties of  $Ba_xCr_{1-x}Nb_2O_6$  are studied in the solid and liquid state. Experimental curves are plotted for the electrical conductivity and thermoelectromotive force as functions of temperature. Authors' abstract.

1/1

- 62 -

ELECTRONICS

Microelectronics

UDC: 534.232.082.73-8

USSR

BRITSYN, K. I., DEMIDOV, V. P., ~~MARTYNOV, V. P.~~ KOCHALOV, B. F., SMIRNOV, A. A.,  
and IVANOV, L. A.

"Studying Thin-Film CdS-Piezo-Converters"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No 9, 1970, pp 1937-1944

Abstract: The authors present the results of the study of CdS-piezo-converter test specimens vaporized onto  $Al_2O_3$ . Basic converter characteristics are calculated and it is shown that the frequency characteristic depends as much on the relationships between the electrical impedances of a converter and the measuring tract as it does on the relationships between the mechanical impedances of cadmium sulfide and the material of an acoustic line. A shift in the least loss point is predicted for CdS on  $Al_2O_3$  with respect to mechanical resonance frequency. This shift makes it possible to vary the band width and the position of the least loss point completely by electrical methods. A simple equivalent converter circuit proposed by the authors makes it readily possible to estimate its harmonization with the measuring tract and to determine the aspect of the frequency characteristic for various methods of excitation. The experimental converter specimens yielded a loss in the order of 30 db for a double conversion with a band of approximately 35 percent. The minimal loss point shifts toward the lower frequency region in comparison with the acoustic resonance point. The experimental and theoretical data are in good agreement. The loss values presented are not minimal and can be reduced more using

1/2

USSR

BRITSYN, K. I. ~~et al.~~, Radiotekhnika i Elektronika, Vol. 15, No 9, 1970, pp 1937-1944

supplementary matching equipment. The original article has six figures, 12 formulas, and nine bibliographic entries.

2/2

USSR

UDC 535.872

BEYNAROVICH, L. N., SALIMOVA, E. A., MARTYNOV, V. P.

"Manufacture of Large Mirrors of Polymers by the Copying Method"

Optiko-mekhanicheskaya Promyshlennost', No 10, 1971, pp 41-44.

BASTRACT: A method is described for manufacture of spherical mirros 700 mm in diameter of a polyester resin, using silumin as a base. The cost of these mirrors is significantly lower than similar glass mirrors. The copying method used is quite straight forward, involving production of a master reversed shape by casting of polyester on an optical glass mirror, after which the reversed shape master is used to produce polyester mirrors of the proper shape. A photograph is presented of the casting table used for production of the mirrors.

1/1

USSR

UDO 534.232.082.75.001.5

DEMIDOV, V.P., MARTYNOV, V.P., MOCHALOV, B.F., SMIRNOV, A.A.

"Electric Impedance Of A Film Piezo Converter"

Radiotekhnika i elektronika, Vol XVII, No 3, Mar 1972, pp 648-652

Abstract: The impedance of experimental specimens of piezo converters based on Ods is studied by direct methods in the 200-800 MHz range, in order to determine the coefficient of electromechanical coupling,  $K$ , of the film. Measurements conducted in pulse and continuous regimes are described. The authors are grateful to N.I. Fokin and B.L. Bobikov for assistance in the work. 2 fig. 7 ref.  
Received by editors, 22 Oct 1970.

1/1

USSR

UDC 621.382.002

LABUTIN, N.I., MARTYNOV, V.V., PAVILAYNEN, V.S., STOROZHEUK, G.A.

"Transfer Of Defects Of Photopattern To A Silicon Oxide Film In The Process Of Contact Photolithography"

Elektron.tekhnika. Nauch.-tekhn.sb. Mikroelektronika (Electronic Technics. Scientific-Technical Collection. Microelectronics), 1971, Issue 5(31), pp 41-44 (from RZh:Elektronika i yeye primeneniye, No 5, May 1972, Abstract No 5B592)

Translation: The transfer in the process of photolithography of the defects of a photopattern [fotoshablon] to  $\text{SiO}_2$  was studied by the electron microscopic method for standard photolithographic regimes which are used in the production of silicon integrated circuits with the aid of positive photoresists. The critical dimensions of the permissible defects on the photopattern are determined. Summary.

1/1

RA0044643

M

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

239664 ODD-EVEN CHECK for pulse codes requires two transformers (1,2) which are connected in opposition in such a way that output signals are produced only when the number of input pulses is odd. Two diodes (3,4) clear the passage of pulses of only positive polarity to collective diodes (5,6). The output pulses of the previous check stage (7) which appear only on the outputs of modules I - V where the number of input pulses is even, are passed to similarly operating modules VI - VII of the last check stage (8) etc.

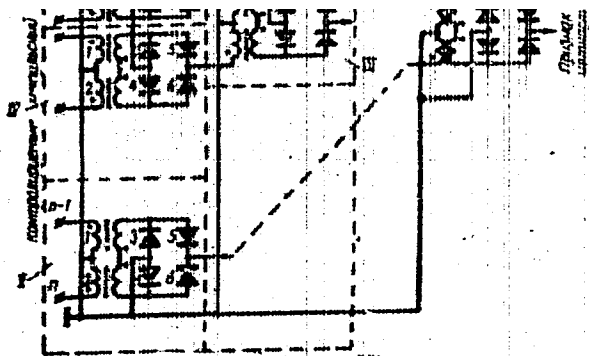
13.2.68 as 1218368/18-24. V.V. MARTYNOV & L.M. CHAIROYAN.  
 (10.9.69) Bul 11/18.3.69. Class 42m. Int.Cl.G 06 E.

1/2

4

19771347



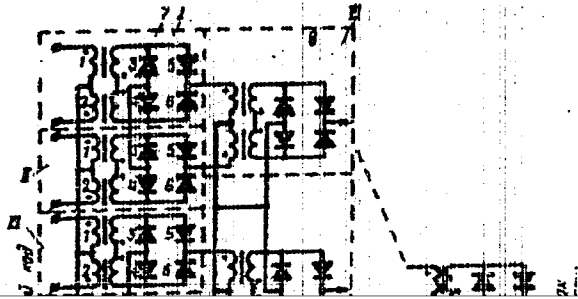


2/2

68

19771348

AA0044643.



1/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--THE PLASTICITY AND STRENGTH OF SOLID BODIES AT HIGH PRESSURES -U-

AUTHOR--(05)-BERESNEV, B.I., ~~MARTYNOV~~, YE.D., RODIONOV, K.P., BULYCHEV,  
D.K., RYABIBIN, YU.N.  
COUNTRY OF INFO--USSR

SOURCE--THE PLASTICITY AND STRENGTH OF SOLID BODIES AT HIGH PRESSURES  
(PLASTICHNOST' I PROCHNOST' TVERDYKH TEL PRI VYSOKIKH DAVLENIYAKH)  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PLASTIC DEFORMATION, HIGH PRESSURE EFFECT, MECHANICAL  
STRENGTH, METAL MECHANICAL PROPERTY/(U)GT&K METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3003/1703

STEP NO--UR/0000/70/000/000/0001/0159

CIRC ACCESSION NO--4M0130571

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AM0130571

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5. INTRODUCTION 9. CHAPTER I. THE EQUIPMENT FOR THE REALIZATION OF PLASTIC DEFORMATION OF SOLID BODIES AT HIGH PRESSURES 11. II. PLASTICITY, STRENGTH AND DESTRUCTION OF SOLID BODIES AT HIGH PRESSURE 39. III. THE INFLUENCE OF DEFORMATION UNDER HIGH PRESSURE ON THE PROPERTIES OF PLASTIC GTSK (?) METALS 99. LITERATURE 159. THE MONOGRAPH DEALS WITH QUESTIONS CONNECTED WITH THE DEVELOPMENT OF EQUIPMENT FOR THE CREATION OF PRESSURE IN LIQUID UP TO 25,000 KG-CM PRIMEZ AS WELL AS FOR THE REALIZATION UNDER THESE CONDITIONS OF PLASTIC DEFORMATION. DESCRIBED IS THE INFLUENCE OF PRELIMINARY DEFORMATION UNDER PRESSURE ON THE CHANGE IN MECHANICAL PROPERTIES FOR VARIOUS METALS. THE BOOK IS DESIGNED FOR SPECIALISTS IN THE PHYSICS OF SOLID BODIES AND METALLURGISTS.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--DEPENDENCE OF THE RUNOUT TIME OF AN ELECTROSTATIC GYROSCOPE ON THE  
ROTOR UNBALANCE -U-  
AUTHOR-(03)-MARTYNYENKO, YU.G., NOVOZHILOV, I.V., DANILIN, V.P.  
COUNTRY OF INFO--USSR M  
SOURCE--IZVESTIYA, MEKHANIKA TVERDOGO TELA, MAR. APR. 1970, P. 20-22  
DATE PUBLISHED-----70  
SUBJECT AREAS--NAVIGATION  
TOPIC TAGS--GYROSCOPE MOTION, ELECTROSTATICS, VIBRATION DAMPING, RUNOFF  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/0268 STEP NO--UR/0484/70/000/000/0020/0022  
CIRC ACCESSION NO--AP0124029  
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124029

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF ROTOR UNBALANCE ON THE RUNOUT TIME OF AN ELECTROSTATIC GYROSCOPE WITH A SPHERICAL SHAPED ROTOR. IT IS SHOWN THAT THE ROTOR UNBALANCE LEADS TO BEATING OF THE ROTOR RELATIVE TO THE GYROSCOPE CASING AND TO DISSIPATION OF THE ROTATIONAL MOTION ENERGY OF THE ROTOR BY DAMPING FORCES OF THE GYROSCOPE SUSPENSION. A FORMULA GIVING THE TRUE RUNOUT TIME OF THE GYROSCOPE IS PRESENTED, AND AN EXAMPLE ILLUSTRATING THE CALCULATION OF THE RUNOUT TIME IS CITED.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--SOLUBILITY OF SILVER CHLORIDE IN THE SYSTEM CHLORIDE, PERCHLORATE,  
SODIUM, AMMONIUM WATER -U-  
AUTHOR--(02)-SIMULIN, YU.N., MARTYNOV, YU.M. M  
COUNTRY OF INFO--USSR  
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 889-91  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--SILVER COMPOUND, CHLORIDE, SOLUBILITY, SODIUM, WATER, AMMONIUM  
PERCHLORATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0437 STEP NO--UR/0080/70/043/004/0889/0891  
CIRC ACCESSION NO--AP0126190  
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126190

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF AGCL IN THE PRESENCE OF THESE ICNS WAS STUDIED AT 25-70PERCENT AND THE ACTIVITY COEFFS. OF AGCL CALCD. AN INCREASE IN THE CONCN. OF NH SUB4 CLO SUB4 FROM 0.1 TO 1.04 MOLE-L. DECREASED THE SOLY. OF AGCL BY A FACTOR OF SIMILAR TO 2.5. FOR ADDNL. INCREASE IN THE CONCN. OF NH SUB4 CLO SUB4 TO 1.79 MOLE-L. THE SOLY. REMAINED ALMOST CONST. OR INCREASED SOMEWHAT. FOR THIS SYSTEM THE HEAT OF SOLN. DELTAH INCREASED WITH INCREASED CONCN. OF NH SUB4 CLO SUB4 (OR NH SUB4 OH) AND CAN BE DESCRIBED BY AN EXPRESSION OF THE FORM LOG DELTAH EQUALS ALPHA C PLUS B, WHERE C IS THE CONCN. OF NH SUB4 CLO SUB4 OR NH SUB4 OH.

UNCLASSIFIED



MARTYNOV, Yu.P.

Collection of papers sponsored by the State Committee for the Use of Atomic Energy of the USSR, 1972, Moscow

DISPOSAL OF RADIOACTIVE WASTES

JPRS 58764  
17 APRIL 1973

23

CONTENTS	PAGE
Technical and Economic Aspects of Handling Liquid Waste With Intermediate and High Levels of Radioactivity (V. I. Spitsyn, et al.) .....	1
Study of the Possibility of Using Alumina for Processing Highly Active Wastes (K. P. Zakharenko, et al.) .....	14
Technical-Economic Comparison of the Methods of Solidification and Tank Storage for Highly Active Liquid Wastes from the Processing of Spent Fuel Elements of Water-Cooled Water-Federated Power Reactors (L. G. Anan'yeva, et al.) .....	26
Scientific Preconclusions for Burying Highly Active Liquid Waste in Deep Geological Formations (V. I. Spitsyn, et al.) .....	47
Development of Methods for Preparing the Wastes from Hexafluoride Technology for Burial (N. V. Kravtsov, et al.) .....	62

[ I - USSR - K ]

STUDY OF THE POSSIBILITY OF USING BITUMINIZATION FOR PROCESSING HIGHLY ACTIVE WASTES

Article by K. P. Zakhayeva, V. V. Kulichevko, Yu. P. Martynov, I. A. Sobolev, and L. M. Khomychik, State Committee for the Use of Atomic Energy of the USSR, IAEA publication ST-193 (30), Moscow, 1972, Russian pp. 1-23

At the present time the problem of the possibility of increasing the permissible specific activity of wastes enclosed in bitumen is being raised more and more frequently.

Now already there is no doubt of the possibility of bituminization of wastes with a specific activity of up to 1 curie per liter. At the same time, works are known on the enclosure of wastes with a specific activity up to 100 curies per liter in bitumen [1].

The limiting value of the specific activity is determined by two factors: the radiation-chemical stability of the bitumen blocks and the possible ex- traction of the heat accumulated in the blocks due to the energy of radio- active decay.

1. Radiation-chemical stability of bitumens

An essential factor determining the conditions of the burial of blocks is a possible liberation of gaseous products of radiolysis.

For 5 years observations have been made of the change in the pressure in metals with bitumen blocks containing 60% bitumen Bl-III (oxidized) and 40% sodium nitrate, and having a specific activity from 0.15 to 15.4 curies per liter with respect to strontium-90 (Figure 1). The liberation of gaseous products of radiolysis was observed in all the experiments after a pro- longed period of the process of gas absorption, accompanied by a decrease in the pressure in the metal. For a block with an activity of 0.15 curies

5

After irradiation after two years of storage the rate of gas liberation from blocks insignificant and the pressure in the vessel does not increase, in practice. For specimens with a specific activity of 1.54 and 15.4 curies per kilogram gas liberation is still observed, but, however, its rate begins to decrease, and the tendency toward a retardation is observed in a specimen with a specific activity of 15.4 curies per kilogram. The beginning of noticeable gas liberation and an increase in pressure in a tank for blocks with a specific activity of 1.5 curies per kilogram is noticeable considerably earlier than for blocks of a specific activity of 15.4 curies per kilogram. At the present time, specimens have been prepared with a specific activity of 55 and 52 curies per kilogram with respect to strontium-90 on the basis of bitumen bitumite (GOSMINTI, a 40% sludge). The volume of the specimen was 83 cubic centimeters (weight 109 grams, free volume in the tank 151 cubic centimeters). During the first forty days gas absorption in the specimens was observed (Figure 2), after which gas liberation began. After 150 days the pressure somewhat exceeded the pressure in the tank.

For pure bitumen bitumite and two specimens based on it, irradiated in a Co-60 installation with a power of the dose of  $2.1 \times 10^7$  rad per hour, the composition of the gaseous phase formed as a result of radiolysis was determined (Table 1).

A comparison of these results with some obtained earlier (2) with a dose of absorbed energy of  $7 \times 10^6$  rad and a power of the dose of  $2.9 \times 10^4$  rad per hour demonstrated that the increase in the power of the dose and the dose of absorbed energy leads to an increase in the content of hydrogen and the appearance of methane, hydrocarbons of group C<sub>2</sub> and carbon dioxide in the gaseous phase.

Simultaneously in all cases a decrease in the oxygen content in the gaseous phase, in comparison with the air ratio, was noted.

The presence of volium attracts in the specimen in the given case has no essential effect on the composition of the gaseous phase.

For determination of the nature of radiation changes in the bitumen and in bitumen preparations special investigations were conducted.

Specimens in the form of cylinders, the diameter and height of which amounted to 3.5-4 centimeters, were irradiated on a Co-60 installation with various powers of the dose, and in this case the total dose of absorbed energy was preserved practically constant. The irradiation was conducted in an atmosphere of air.

1/2 025 UNCLASSIFIED PROCESSING DATE--300CT70  
 TITLE--CLINICO MORPHOLOGICAL CHARACTERISTICS OF CEREBRAL VASCULAR  
 DISTURBANCES IN HEPATIC INSUFFICIENCY -U-  
 AUTHOR--(02)--MARTYNOV, YU.S., MALKOVA, YE.V.  
 COUNTRY OF INFO--USSR  
 SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 61-67  
 DATE PUBLISHED--70  
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
 TOPIC TAGS--LIVER DISEASE, CEREBRUM, EDEMA, SYNDROME, HEADACHE  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--3001/1038 STEP NO--UR/0497/70/048/005/0061/0067  
 CIRC ACCESSION NO--AP0126676  
 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 025

CIRC ACCESSION NO--A0126676

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN YOUNG AND MIDDLE AGE PATIENTS SUFFERING FROM HEPATIC INSUFFICIENCY IN DETERIORATION OF THEIR CONDITION ONE OFTEN OBSERVES DIFFERENT VASOMOTOR DISTURBANCES. STROKE AND CRISIS COMMONLY DEVELOP IN A REDUCED OR NORMAL ARTERIAL PRESSURE. THE GENERAL PICTURE OF PATHOHISTOLOGICAL CHANGES MAY BE FORMULATED AS FOLLOWS: HEPATIC METABOLIC TOXIC DYCIRCULATORY ENCEPHALOPATHIA WITH DISORDER OF THE VASCULAR PERMEABILITY, DISTURBANCE OF CEREBROSPINAL FLUID CIRCULATION AND CEREBRAL EDEMA. AS THE RESULT OF THESE DISTURBANCES THERE OCCUR DIFFERENT CLINICAL VARIANTS OF VASCULAR DISORDERS, MIGRAINE, CRISIS, PARENCHYMATOUS HEMORRHAGES, ETC. IN THE DEVELOPMENT OF DISTURBANCES OF CEREBRAL CIRCULATION OF IMPORTANCE IS ALSO THE INITIAL BACKGROUND, VEGETATIVE DYSTONIA, INITIAL MANIFESTATIONS OF ATHEROSCLEROSIS, ETC. EARLY AND TIMELY PATHOGENETIC THERAPY OF HEPATIC INSUFFICIENCY IS THE PRINCIPAL MEANS OF PROPHYLAXIS OF CEREBRAL VASCULAR DISORDERS AND IS CONDUCTIVE TO THEIR Milder COURSE. FACILITY:  
KAFEDRA NERVNYKH BOLEZNEY UNIVERSITETA DRUZHBY NARODOV IM. P. LUMUMBY.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70  
 TITLE--THE MENINGEAL SYNDROME IN DISORDERS OF CEREBRAL CIRCULATION -U-  
 AUTHOR-(03)-MARTYNOV, YU.S., YESIPOVA, I.K., KHOKLOV, YU.K.  
 COUNTRY OF INFO--USSR  
 SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,  
 VOL 70, NR 5, PP 702-708  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
 TOPIC TAGS--CEREBRUM, PAIN, BLOOD CIRCULATION, HEMORRHAGE, THROMBOSIS  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAE--1996/0227 STEP NO--UR/0246/70/070/005/0702/0708  
 CIRC ACCESSION NO--AP0117481  
 UNCLASSIFIED

PROCESSING DATE--16OCT70

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AP0117481  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS STUDIED CLINICALLY THE FEATURES OF 22 MENINGEAL SYMPTOMS (PAIN AND TONIC) IN 513 CASES WITH DISORDERS OF CEREBRAL CIRCULATION THE AGE GROUP FROM 16-89 YEARS. AMONG THESE CASES 317 HAD ISCHEMIC SOFTENINGS, 189, HEMORRHAGES AND 7, STROKES OF A COMBINED CHARACTER. THE CHARACTER OF THE PROCESS IN 96 CASES WAS CONFIRMED ANATOMICALLY IN THE REMAINING CASES BY A CLINICAL DEVELOPMENT AND LUMBAR PUNCTURE. THE MENINGEAL SYNDROME IN HEMORRHAGIC STROKES WAS SEEN APPROXIMATELY IN 70PERCENT OF THE PATIENTS, IN THROMBEMBOLIZATION, IN 50PERCENT, IN NONTHROMBOTIC SOFTENINGS, 30PERCENT, IN THROMBOSIS, IN 15PERCENT. IN ALL FORMS OF STROKES THE MOST FREQUENT SIGNS WERE KERNIGS SYMPTOM, OCCIPITAL RIGIDITY, THE LOWER SYMPTOM OF BRUDZINSKI, THE MANDIBULAR SYMPTOM OF BEKHTEREV, PAINFUL POINTS OF KEHRER, MENDELS SYMPTOM, PHOTOPHOBIA. THE ORDER OF APPEARANCE OF MENINGEAL SYMPTOMS IS THE SAME FOR THROMBEMBOLIZATION, NONTHROMBOTIC SOFTENINGS AND THROMBOSIS, AS WELL AS FOR HEMORRHAGES. THE FIRST TO APPEAR WAS THE OCCIPITAL MUSCLE RIGIDITY, THE MANDIBULAR BEKHTEREV SYMPTOM, KERNIGS SYMPTOM AND THE LOWER BRUDZINSKI'S SYMPTOM. IN HEMORRHAGES, ESPECIALLY SUBARACHNOIDAL AND SUBARACHNOIDAL, PARENCHYMATOUS, THE MENINGEAL SYMPTOMS APPEAR EARLIER AND ARE MORE EXPRESSED.

FACILITY:  
KAFEDRY NERVNYKH BOLEZNEY I PATOLOGICHESKOY MORFOLOGII UNIVERSITETA  
DRUZHBY NARODOV IM. PATRISA LUMUMBY, MOSCOW.

UNCLASSIFIED

PROCESSING DATE--0900110

UNCLASSIFIED

1/2 030

TITLE--HEPATO PORTAL ENCEPHALOMYELOPATHY -U-

AUTHOR--(04)--BGOLEPOV, N.K., MARTYNOV, YU.S., MALKOVA, YE.V., TSIVILKO, V.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970, VOL 70, NR 4, PP 496-506

DATE PUBLISHED--70

M

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, BILE, BRAIN, SPINAL CORD, BONE MARROW, CIRRHOSIS, DIET, MEMORY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1988/1661

STEP NO--UR/0246/70/070/004/0496/0506

CIRC ACCESSION NO--AP0106407

UNCLASSIFIED



PROCESSING DATE--090011

UNCLASSIFIED

2/2 030

CIRC ACCESSION NO--AP0106407  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE PRESENTATION IS CONCERNED WITH THE DESCRIPTION OF A NEW ORIGINAL FOR OF PATHOLOGY: HEPATO PORTAL ENCEPHALOMYELOPATHY, DEVELOPING IN PORTECAVAL DYSIRCULATORY DISORDERS IN 54 PATIENT WITH DIFFERENT DISEASES OF THE LIVER AND THE BILIARY TRACT. THE AGE OF THE PATIENTS RANGED FROM 16-63. IN 9 CASES THERE WAS A PATHOHISTOLOGICAL STUDY OF THE BRAIN AND SPINAL MARROW, AND A HISTOCHEMICAL STUDY OF THE BRAIN TISSUE AND LIVER FOR CU. ENCEPHALOMYELOPATHY OCCURS AT THE DIFFERENT STAGES OF LIVER CIRRHOSIS FORMATION AND IS CHARACTERIZED BY POLYMORPHIC NEUROPSYCHIC DISORDERS IN THE FORM OF MEMORY AND ATTENTION WEAKENING, INTELLECTUAL LOWERING, DIFFERENT PYRAMIDAL AND EXTRAPYRAMIDAL DISTURBANCES, SYMPTOMS OF ORAL AUTOMATISMS, PELVIC DISORDERS. THE SPECIAL FEATURES OF PATHOMORPHOLOGICAL AND HISTOCHEMICAL BRAIN LESIONS IN HEPATO PORTAL ENCEPHALOMYELOPATHY, CONDITIONED BY CHRONIC LIVER AND BILIARY TRACT PATHOLOGY IN COMPARISON WITH WILSON KONOVALOV DISEASE IS THE ABSENCE OF CU IN THE BRAIN TISSUES AND LIVER, AS WELL AS THE ABSENCE OF THE I AND II TYPE OF ALZHEIMER'S GLIA. COMMON FOR BOTH DISEASES IS THE FEATURES OF THE PARENCHYMATOUS CELLULAR AND VASCULAR PATHOLOGY OF A TOXIC NATURE AND THE PHENOMENA OF FIGURATIVE NUCLEI OF THE ASTROCYTE GLIA. THE TREATMENT OF ENCEPHALOMYELOPATHY SHOULD FIRST OF ALL BE DIRECTED AGAINST THE MAIN DISEASE AND SHOULD INCLUDE MEDICATIVE PREPARATIONS, A DIET, AND IN SOME CASES SURGICAL TREATMENT.

UNCLASSIFIED

USSR

UDC 621.373.52-181.48

ZHITNIKOV, YE. I., SIMONOV, L. A., and MARTYNOVA, G. G.

"Generators Based on RC-Structures With Distributed and Lumped Parameters Made From Integrated Hybrid Circuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems in Microelectronics. Moscow Institute of Electronics Technology), 1972, vyp.10, pp 194-200 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 D266)

Translation: The authors describe the principal circuits and present the results of the experimental studies of RC-generators based on integrated hybrid microcircuits. The studies were carried out within a broad range of frequencies from 3 cps to 10 Mc. Data are also given on the stability of the frequency and amplitude of RC-generators and on the control of the frequency of RC-generators with the aid of varicaps of p-n-junctions. Resume.

1/1

- 99 -

UDC 548.4

USSR

RAYCHENKO, A. I., and MARTYNOVA, I. E., Institute of Problems of Material Science, Academy of Sciences UkrSSR

"The Function of Scattering X-Rays by Metals with a Hexagonal Lattice Containing Dislocations"

Kiev, Metallofizika, No 31, 1970, pp 126-132

Translation: Intensity distributions on Debye's powder diagram corresponding to the scattering of roentgen radiation from metals containing dislocations with Burgers's vectors  $1/3 [2110]$  (screw and mixed dislocations) and  $1/6 [2023]$  (edge dislocations) were calculated. The course of radiation intensity scattered by metals with chaotically distributed dislocations is expressed by the Gaussian distribution depending on  $\Delta\alpha$  (the Wulff-Bragg angle). The distribution dispersions pertaining to the dislocations mentioned differ in factors ("orientational factors") depending on Miller's indices, elastic constants, and the relationship of crystal lattice parameters.

Bibliography: 14 entries, 1 illustrations, 2 tables.

1/1

UDC 533+536.423.1

USSR

VYSHENSKAYA, V. F., KOSOV, N. D., KURLAPOV, L. I., MARTYNOVA, G. P.

"Study of the Dependence of the Coefficient of Mutual Diffusion of a Helium-Carbon Dioxide System on Concentration"

V sb. Fizika (Physics -- Collection of Works), No. 5, Alma-Ata, 1971, pp 78-80 (from RZh-Fizika, No 1, Jan 73, Abstract No 1Ye45)

Translation: The coefficient of mutual diffusion in the entire concentration interval was measured by a stationary method for a concentration difference of  $\sim 0.1$ . A considerable decrease was noted in the coefficient of mutual diffusion with a decrease in  $\text{CO}_2$  concentration from 0.1 to 0. The coefficient of mutual diffusion of this system can be considered constant in the  $\text{CO}_2$  concentration interval 1-0.1. Authors' abstract.

1/1

UDC 533+536.423.1

USSR

KURLAPOV, L. I., MARTYNOVA, G. P.

"Viscosity Coefficients of Multicomponent Gas Mixtures"

V sb. Fizika (Physics -- Collection of Works), No 5, Alma-Ata, 1971, pp  
123-127 (from RZh-Fizika, No 1, Jan 73, Abstract No 1Ye53)

Translation: The classical concept of free path length (the Maxwell-Boltzmann theory) is applied to describe the viscosity of multicomponent gas mixtures, and the calculations are carried out for three- and two-component mixtures. The calculations are within the limits of the error with experimental data available in the literature. Authors' abstract.

1/1

USSR

UDC: 537.312.62

SAVITSKIY, Ye. M., BARON, V. V., MYZENKOVA, L. F., MARTYNOVA, L. P.

"A Study of Magnetization of Niobium and Zirconium Single Crystals"

Moscow, Sverkhprovodyashchiye splavy i soedin.--sbornik (Superconductive Alloys and Compounds--collection of works), "Nauka," 1972, pp 122-125 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D559 [résumé])

Translation: Curves are plotted for the magnetization of single crystal specimens of niobium with 5% zirconium having various crystallographic axial orientations (at 4.2 K). The results show anisotropy of the critical magnetic fields, the residual magnetic moment and the maximum "diamagnetic" moment. Three illustrations, bibliography of 13 titles.

1/1

USSR

UDC 669.293.5.296.548.55.620.186.537.312.62

SAVITSKIYY, Ye. M., MYZENKOVA, L. F., BARON, V. V., MARTYNOVA, L. F.

"Study of the Structure and Superconducting Properties of Niobium Single Crystals with 5 and 10% Zirconium"

Probl. Sverkhprovodyashch. Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp. 148-155. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 1784 by the authors).

Translation: The structure of single crystals of the alloys of Nb with 5 and 10% Zr produced by the method of cathode-ray zone melting is studied. Data are presented on the distribution of Zr and interstitial impurities through the length of a bar of the single crystal. The transition temperature  $T_c$  - is measured. For the alloy Nb-5% Zr,  $T_c=10^\circ\text{K}$ , for the alloy Nb-10% Zr,  $10.5^\circ\text{K}$ . Magnetization curves of specimens with various crystallographic orientation are measured. 5 figs; 1 table, 6 biblio refs.

1/1

USSR

UDC: 537.312.62

SAVITSKIY, Ye. M., MYZENKOVA, L. F., BARON, V. V., MARTYNOVA, L. F.

"Investigation of the Structure and Superconducting Properties of Single Crystals of Niobium With 5 and 10 Percent Zirconium"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 173-177 (from RZh--Radiotekhnika, No 5, May 71, Abstract No 5D552)

Translation: The authors study the structure of single crystals of alloys of niobium with five and ten percent by weight of zirconium made by the method of electron-beam zone melting. Data are given on the distribution of zirconium and introduced impurities with respect to the length of the single-crystal bar. The temperature of transition to the superconducting state is measured. For a niobium alloy with 5 percent zirconium, the transition temperature is 10°K, while the corresponding temperature is 10.5°K for an alloy of niobium with 10 percent zirconium. Magnetization curves are plotted for specimens with various crystallographic orientations. Five illustrations, one table, bibliography of six titles. Resumé.

1/1

- 148 -



USSR

UDC 669.018.045+537.312.62

SAVITSKIY, Ye. M., MYZENKOVA, L. F., BARON, V. V., and MARTYNOVA, L. F.

"Study of Structure and Superconducting Properties of Single Crystals of Niobium With 5 and 10% Zirconium"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials--Collection of Works], Moscow, Nauka Press, 1970, pages 148-155

Translation: The structure of single crystals of the alloys of niobium with 5 and 10 wt.% Zr produced by the method of cathode ray zone melting is studied. Data are presented on the distribution of zirconium and interstitial impurities over the length of a monocrystalline bar. The transition temperature is measured. For the alloy niobium-5% Zr,  $T_c = 10^\circ\text{K}$ ; for the alloy niobium-10% Zr,  $T_c = 10.5^\circ\text{K}$ . Magnetization curves of specimens with various crystallographic orientation are measured.

5 figures; 1 table; 6 biblio. refs.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--STRUCTURE OF THE CARBOHYDRATE CHAINS OF THE BLOOD GROUP SUBSTANCE  
(A PLUS H) -U-  
AUTHOR--(05)-KOCHEKOV, N.K., DEREVITSKAYA, V.A., LIKHOSHERSTOV, L.M.,  
MARTYNOVA, M.D., SENCHENKOVA, S.N.  
COUNTRY OF INFO--USSR  
SOURCE--CARBOHYD. RES. 1970, 12(3), 437-47  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--CARBOHYDRATE, BLOOD TYPE, PEPTIDE, ENZYME, CLOSTRIDIUM  
PERFRINGENS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0428 STEP NO--NE/0000/70/012/003/0437/0447  
CIRC ACCESSION NO--AP0117664  
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30DCT70

CIRC ACCESSION NO--AP0117664

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STRUCTURE OF THE CARBOHYDRATE CHAINS OF BLOOD GROUP SUBSTANCE (A PLUS H) (BGS) IN THE REGION ADJACENT TO THE PEPTIDE BACKBONE WAS INVESTIGATED. TWO APPROACHES WERE USED: (1) A STUDY OF THE DEGRADATION OF BGS BY A COMBINATION OF CHEM. AND ENZYMIC (PREPN. FROM CLOSTRIDIUM PERFRINGENS) METHODS, AND (2) A STUDY OF THE ALK. DEGRADATION OF BGS BY MEASUREMENT OF THE ACCUMULATED PRODUCTS OF DEGRADATION OF N ACETYLHEXOSAMINES (3,ACETAMIDO,5,DIHYDROXYETHYLFURAN) AND D GALACTOSE (METASACCHARINIC ACID AND 5, HYDROXYMETHYL,2,FURAL DEHYDE). THE CARBOHYDRATE PEPTIDE LINKAGE UNIT CONTAINS 2,ACETAMIDO,2,DEOXY,D,GALACTOSE RESIDUES. DIRECTLY ADJACENT TO THIS REGION IS A CHAIN OF SEVERAL N ACETYLHEXOSAMINE RESIDUES BOUND BY (1 YIELDS 3) LINKAGES AND PARTIALLY BRANCHED AT C 6. FACILITY: INST. ORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

Thermomechanical Treatment

USSR

UDC: 669.295'71'28:621.789-974

KHOREV, A. I., CHINENOV, A. M. (Deceased), and MARTYNOVA, M. M.

"Thermomechanical Treatment of Alloys of the Titanium-Aluminum-Molybdenum System"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, Sept 71, no 9, pp 43-46

Abstract: This study concerns the effect of thermomechanical treatment (TMT) on the hardening of titanium alloys. TMT combines quenching, forming, and aging. The Ti-Al-Mo test alloys had a constant aluminum content (3%) with Mo content varying from 0.5 to 30%. Alloy strips were quenched from a temperature 50°C below that of  $\alpha\beta$  transformation (holding time 15 mins) and cold rolled for 20 and 40% deformations. Aging was performed at 450 and 500°C for 5 and 25 hrs. It was found that hardening due to cold deformation is a function of phase composition; it is maximal in an alloy of Ti with 3% Al and 15% Mo possessing high forgeability at cold deformation. Cold deformation minimizes primarily uniform elongation while affecting to a lesser degree localized elongation. Compared to conventional strengthen-

1/2

USSR

KHOREV, A. I., et al, Metallovedeniye i termicheskaya obrabotka metallov, Sept 71, no 9, pp 43-46

ing-type thermal treatments, TNT provides higher strength while frequently increasing plasticity as well. Deformation of the Ti+3% Al+15 Mo alloy by 20% prior to aging at 500°C for 25 hrs increases its strength from 155 to 172 kgf/mm<sup>2</sup> while decreasing its per-unit elongation from 4 to 3%.

2/2

USSR

UDC 621.382.002

REVELEVA, M. A., MARTYNOVA, N. A., NIFONTOV, N. G.

"Effect of Some Nonorganic Protective Coatings on the Surface Properties of Silicon"

V sb. Vopr. mikroelektroniki (Problems of Microelectronics -- Collection of Works), Kiev, "Nauk. dumka," 1971, pp 103-110 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B490)

Translation: Films of SiO<sub>2</sub>, which are not inferior in their characteristics to the thermally grown, are produced by the reactive sputtering method. The effect of reactive sputtering of films on the surface properties of Si is studied. At the SiO<sub>2</sub>--Si boundary an accumulation of holes is discovered in the space-charge layer of both n- and p-Si. It is assumed that in contrast to thermal SiO<sub>2</sub>, the reactive SiO<sub>2</sub> contains a negative charge. The density of this charge is equal to (2-5) · 10<sup>11</sup> cm<sup>-2</sup>. Drift of the charge is not discovered. The small changes of the characteristics with prebreakdown fields are explained by polarization of the dielectric. A test of the passivating properties of the films obtained showed their reliability for protection and creation of non-housed semiconductors. 3 ill. 5 ref. I.M.

1/1

USSR

MARTYNOVA, N. F.

"Application of the Statistical Test Method to Study of the Motion of an Artificial Satellite"

Byul. In-ta teor. astron. AN SSSR (Bulletin of the Institute of Theoretical Astronomy, Academy of Sciences USSR), 1970, 12, No 2, pp 293-301 (English summary) (from RZh-Mekhanika, No 1, Jan 71, Abstract No 1A51 by V. G. Dëmin)

Translation: The article studies the motion of an artificial earth satellite around the center of mass under the influence of the moments of forces of the central gravitational field, moments from the magnetic passive stabilizer and disturbing moments of aerodynamic forces, moments caused by eddy currents in the satellite shell, etc. From moments of disturbing forces are separated out random components caused by the random character of variation in atmospheric density, intensity of the earth's magnetic field, etc. In addition, random initial conditions are considered as random factors. Numerical investigation of satellite motion around the center of mass was conducted on a computer by the statistical test method (Monte Carlo method), with numerical integration of differential equations of motion being performed by the Runge-Kutta method. The initial conditions selected were close to the initial  
1/2

USSR

MARTYNOVA, N. F., Byul. In-ta teor. astron. AN SSSR (Bulletin of the Institute of Theoretical Astronomy, Academy of Sciences USSR), 1970, 12, No 3, pp 293-301 (English summary) (from RZh-Mekhanika, No 1, Jan 71, Abstract No 1A51 by V. G. Dëmin)

conditions corresponding to steady rotation conditions, and the random character of initial conditions was assured by a program of random numbers. Numerical integration was performed for a satellite with or without a magnetic damper. It was established that the distribution laws of angular velocities and orientation angles are not Gaussian in both cases (oriented and unoriented satellite motion). It was found that before and after the "capture" of satellite motion around the center of mass by the earth's gravitational field an unstationary random process takes place. A correlation was found between angular velocities and orientation angles.

2/2

- 14 -



USSR

UDC: 532.721.69

MAL'TSEV, G. V., MARTYNOVA, N. K., and NOVOKRESHCHENOV,  
P. D.

"Influence of Mercury on Strength of Copper Subject to Ultra-  
sonic Vibrations"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5,  
1971, pp 29-32

Abstract: Tensile tests of amalgamated copper specimens subject  
to ultrasonic vibrations were conducted.

The specimens were of 1 mm diameter. The coating of  
mercury was 0.001 mm thick. One end of the specimen was  
connected to a vibrator operating at 22 and 17.5 kilohertz frequency.  
The other end was subject to a static load. The grain size was  
varied by varying the annealing temperature.

1/2

USSR

MAL'TSEV, G. V., et al, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 7, No 5, 1971, pp 29-32

On Fig. 1 the tensile strength is plotted versus the square of the vibratory stress. The tensile strength of copper specimens without mercury is affected little by the vibratory stress. The tensile stress of amalgamated specimens is lower than of the specimens without mercury, it remains constant for small values of vibratory stress, then decreases linearly with the square of the vibratory stress. Curves for six different grain sizes are given, the strength decreases with the size of grain.

The explanation of these results is that the vibratory stress destroys the intermetallic bond between copper and mercury and makes it possible for the liquid mercury to penetrate into the cracks between the grains of copper.

2/2

- 74 -

AA0047011

M

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

2/70

238306 VACUUM SURFACING DEVICE FOR OUTER SURFACE OF HOLLOW CYLINDRICAL PARTS consists of vacuum chamber 1 with endface caps 2, within which are evaporator 3, heater 4, contact refrigerator 5 and vacuum system 6. Heater 4 and refrigerator 5 are on fixed horizontal holder shaft 8, attached to the endface cap and passing through the cavity of the part 7 being processed. The part is fixed onto holder shaft 8. In processing, the revolving part is enclosed in the vacuum chamber, moving on extending rails. Dusting is done by the evaporation of a substance such as amorphous selenium, with which evaporator 3 is filled. Contact thermo-couples fixed to holder shaft 8 are inside part 7. The thermo-couples are slid by a handle along the inner surface of part 7 to measure its temperature.

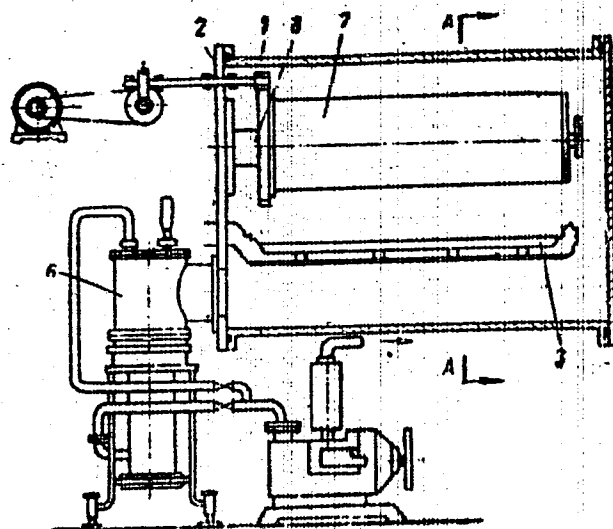
9.4.64 as 892940/22-1 MARTYNOVA N.N. (3.7.69) Bul. 9/20.2.69. Class 48b, ~~Int. Cl. C 23c.~~

18

1/2

19790441

AA0047011



2/2

19790442

A.S

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--DETERMINATION OF ISOBUTYLENE AND ETHYL ALCOHOL IMPURITIES IN ETHYL  
CHLORIDE BY A GAS LIQUID CHROMATOGRAPHIC METHOD -U-  
AUTHOR-(04)-KUDRYAVTSEVA, N.A., LULOVA, N.I., MARTYNOVA, N.V., CHESNOKOVA,  
R.I. M  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(3), 58-60  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ISOBUTYLENE, ETHANOL, CHROMATOGRAPHIC ANALYSIS, CHEMICAL  
LABORATORY APPARATUS, CHEMICAL PURITY, CHLORINATED ALIPHATIC COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0542 STEP NO--UR/0065/70/015/003/0058/0060  
CIRC ACCESSION NO--AP0119461  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE—23OCT70

CIRC ACCESSION NO--AP0119461  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IMPURITIES GREATER THAN

0.005PERCENT WERE DETD. WITH THE KHL-4 APP. BY USING HE AS CARRIER GAS.  
ISOBUTYLENE WAS DETD. WITH A 6 M COLUMN PACKED WITH 12K MODIFIED WITH  
LIQ. PETROLATUM AND SODA, BY USING PROPANE, BUTANE, OR ISOBUTANE AS  
INTERNAL STDS. ETOH WAS DETD. WITH A 2 SECTION COLUMN, PACKED WITH  
PEG-400 ON SPEROKHROM-1 (I) FOR THE 2-M SECTION AND 15PERCENT TRICRESYL  
PHOSPHATE ON I FOR THE OTHER 3 M, WITH A C SUB6 H SUB6 SOLN. IN PHME AS  
INTERNAL STD.

UNCLASSIFIED

UDC 621.039.534.44:620.193.23

USSR

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.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--DEPOSITION OF SALTS AND CORROSION PRODUCTS IN THE FLOW THROUGH PART  
OF TURBINES WITH SUPERCRITICAL PARAMETERS -U-  
AUTHOR-(GZ)-MARTYNOVA, G.I., ROGATSKIN, B.S.

COUNTRY OF INFO--USSR  
SOURCE--TEPLCENERGETIKA 1970, 17(5), 50-4  
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, ENERGY CONVERSION (NGN-PROPULSIVE)  
TOPIC TAGS--X RAY ANALYSIS, STEAM TURBINE, CHEMICAL COMPOSITION, INORGANIC  
SALT, CLEANING TECHNIQUE, CORROSION TEST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/1908 STEP NO--UR/0096/70/017/005/0050/0054

CITIC ACCESSION NO--AP0132170  
UNCLASSIFIED



2/2 025

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132170

ABSTRACT/EXTRACT--(U) GP-Q- ABSTRACT. THE RESULTS OF X RAY ANAL. OF THE DEPOSIT ON THE VANES ARE GIVEN. THE COMPN. DEPENDS ON THE LOCATION OF THE DEPOSIT AND CONSISTS OF SiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, AND CuO. ON THE 1ST STEPS MORE CuO IS FOUND. THE Fe,Cu DEPOSIT IS VERY DANGEROUS FOR THE TURBINE AS IT IS FORMED IN THE ZONE OF THE SMALLEST FLOW, WHERE A VERY SMALL DEPOSIT CAN EFFECT THE CAPACITY OF THE TURBINE ON A LARGE SCALE. ONLY A NO. OF MEASURES CAN IMPROVE THE CAPACITY, FOR EXAMPLE REGULAR CHEM. CLEANING OF THE BOILERS OR PURIFICATION OF THE HEATED CONDENSATE BEFORE DEAERATION.

UNCLASSIFIED

172 023 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--SELECTIVE REMOVAL OF DISPERSED PARTICLES INTO A STEAM AREA -U-  
AUTHOR--(03)-MARTYNOVA, O.I., NAZAROV, A.I., CHECHETKIN, YU.V.  
COUNTRY OF INFO--USSR  
SOURCE--TEPLOENERGETIKA 1970, 17(3), 51-4  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PARTICLE DISTRIBUTION, IMPURITY LEVEL, SURFACE ACTIVE AGENT,  
STEAM BOILER, MASS TRANSFER/(U)VK50 REACTOR LOOP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1992/0386

STEP NO--UR/0096/70/017/003/0051/0054

CIRC ACCESSION NO--AP0111579

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0111579

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTAMINATION OF STEAM WITH SOLID PARTICLES, CARRIED ON BUBBLES, WAS STUDIED BY THE USE OF RADIOSOTOPES ON A VK-50 BOILING WATER REACTOR LOOP OPERATING AT STEAM PRESSURES OF 70 KG,CM PRIME<sup>2</sup>. VARIOUS ACTIVITY DISTRIBUTION DETNS. SHOWED THAT THE CONTAMINATION WAS NOT PROPORTIONAL TO THE STEAM MOISTURE. THE PRESSURE OF SURFACE ACTIVE AGENTS IN THE BOILING LIQ. (HEAT TRANSFER AGENT), AND THEIR EFFECT ON THE SELECTIVE TRANSFER OF DISPERSED PARTICLES INTO THE STEAM WAS OBSD. FACILITY: MOSK. ENERG. INST., MOSCOW, USSR.

UNCLASSIFIED

Oncology

USSR

UDC 615.272.6:547.963.32].015:616-006-092.9

MATIYENKO, N. A., RONICHEVSKAYA, G. M., BELYAYEV, D. K.,  
MARTYNOVA, R. P., and SALGANIK, R. I., Institute of Cytology and  
Genetics, Siberian Department, Academy of Sciences USSR,  
Novosibirsk

"Inhibitory Effect of Homologous Ribonucleic Acid on the Growth  
of Spontaneous Tumors in Mice of the High-Cancer A and C<sub>3</sub>H Lines"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya  
Terapiya, No 1, 1971, pp 45-47

Abstract: Deproteinized RNA from mice of the low-cancer C<sub>57</sub>B1  
line was injected subcutaneously into A and C<sub>3</sub>H mice with  
palpable mammary tumors. The antitumor effect of the preparation  
was assessed from the differences in the weight of tumors in  
control and experimental mice (the tumors were systematically  
weighed in animals sacrificed 10, 20, 30, 40, 80, and 100 days  
after the injection) and in the survival time of animals. Where-  
as the weight of tumors in control mice increased rapidly for  
the first 1 to 1-1/2 months and remained stable thereafter, it  
was significantly lower (50 to 77%) in the experimental group at  
1/2

USSR

MATIYENKO, N. A., et al., Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 1, 1971, pp 45-47

all stages, especially during the first 2 months. The survival time of experimental animals was also markedly longer than that of controls. Injection of the RNA had no toxic effects, judging by the fact that the body weight of experimental and control animals was virtually the same at the end of the experiment.

2/2

USSR

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

PETROV, V. M., and MARTYNOVA, S. V.

"Dielectric Dispersion in BaTiO<sub>3</sub> Single Crystals as a Function of Their Domain Structure"

V sb. Segnetoelektriki i okisnyye poluprovodniki (Ferroelectrics and Oxide Semiconductors -- Collection of Works), Dnepropetrovsk, 1971, pp 91-99 (from RZh Fizika, No 12, Dec 71, Abstract No 12Yell77)

Translation: The dielectric permeability  $\epsilon$  and  $\tan \delta$  were measured as a function of frequency in the range 1 kHz - 5000 MHz and of the uniaxial pressure at frequencies of 1 kHz and 30, 300, and 200 MHz for c-domain single crystals of BaTiO<sub>3</sub>. It was established that  $\epsilon$  drops with an increase of frequency over the entire range indicated and not only in the region of piezoelectric resonance. Losses increase and in the ultrahigh-frequency region  $\tan \delta$  of c-domain crystals reaches 0.3-1. It is concluded that relaxation of 180° domain walls with a wide relaxation time interval exists in addition to piezoresonance. With the application of pressure along the c-axis  $\epsilon$  and  $\tan \delta$  increases at all frequencies so that at 300 MHz  $\tan \delta$  passes through a maximum at a pressure of about 100 kG/cm<sup>2</sup>. The average relaxation frequency increases with an increase of pressure, which fact is explained by reduction of the grain structure. V. M. Petrov.

1/1

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--COMPARISON OF PHOSPHORITES OF VARIOUS ORIGINS DURING THE  
FERTILIZATION OF PLANTS DIFFERING IN THE ABILITY TO USE HARD TO  
AUTHOR--(02)-SIROTIN, YU.P., MARTYNOVA, T.A. *m*  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. VSES. AKAO. SEL'SKOKHOZ. NAUK 1970, (2), 17-19  
DATE PUBLISHED-----70  
SUBJECT AREAS--AGRICULTURE  
TOPIC TAGS--CEREAL CROP, PHOSPHORUS FERTILIZER, PARTICLE SIZE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605009/009 STEP NO--UR/3275/70/000/002/0017/0019  
CIRC ACCESSION NO--AT0140083  
UNCLASSIFIED

2/2 006

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0140083

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING GROWTH TESTS WITH MILLET, OATS, AND BUCKWHEAT (PLANTS WITH LOW, AV., AND HIGH ABILITY TO ASSIMILATE P FROM THE SOIL) THE EFFECTIVENESS OF 11 SAMPLES OF PHOSPHORITE MEAL OF VARIOUS ORIGINS WERE INVESTIGATED. THE SAMPLES DIFFERED MAINLY IN CHEM. COMPN., ESP. LEVELS OF R SUB2 O SUB3, CAO, F, CO SUB2, AND INSOL. RESIDUE, WHILE THE PARTICLE SIZE WAS THE SAME. THE FERTILIZING EFFECTIVENESS DEPENDED MAINLY ON THE PROPERTIES OF THE INITIAL PHOSPHORITE. FACILITY: GOR'K. SEL'SKOKHOZ. INST., GORKI, USSR.

UNCLASSIFIED



USSR

UDC 616.155.392-036.11-07:[616.157+616.419]-078

KAGAN, G. Ya., GOLOSOVA, T. V., ~~MARTYNOVA, V. A.~~, CHUMAKOVA, L. P., KOPELOVA, Ye. I., and RASKOVA, T. M., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Sciences USSR, and Central Institute of Hematology and Blood Transfusion

"Isolation and Identification of Microbial Agents From Bone Marrow and Blood of Acute Leukemia Patients"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 72-76

Abstract: Four types of microorganisms can be isolated directly from blood and bone marrow of acute leukemia patients. Two of them are streptomicrococci and diphtheria-like microbes unlike the classical streptococci and diphtheroids. They are probably altered variants of the patient's microflora. Microbial agents of the third type are either a phase of induction of the L-form in the patient's body or a phase of bacterial reversion from the L-form. Polymorphic agents of the fourth type resemble the Mycoplasmataceae in several respects and they can be tentatively regarded as "mycoplasma-like" organisms.

1/1

- ii -

1/2 . 010

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--CONDENSATION OF AROMATIC COMPOUNDS WITH ALLYL TYPE HALIDES. X.  
CATALYTIC ALPHA REARRANGEMENT OF 4,3,CHLORO,2,BUTENOXY, TOLUENE -U-

AUTHOR--(04)-BUNINAKRIVORJKOVA, L.I., YAGGIN, V.G., MARTYNOVA, V.P.,

BALYAN, KH.V.

COUNTRY OF INFO--USSR

*M*

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 991-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZINC CHLORIDE, CATALYST, CONDENSATION REACTION, TOLUENE,  
CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/1342

STEP NO--UR/0356/70/005/005/0991/0995

CIRC. ACCESSION NO--AP0135016

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135016

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CLAISEN REARRANGEMENT OF P-MEC  
SUB6 H SUB3 OCH SUB2 CH:CCLME GIVES P-MEC SUB6 H SUB4 OH, HOOC SUB6 H  
SUB4 (CH SUB2 CH:CCLME) ME-2,4, AND HOOC SUB6 H SUB2 (CH SUB2 CH:CCLME)  
SUB2 ME-2,6,4, SHOWING THAT THE REACTION IS INTERMOL. THE REARRANGEMENT  
INVOLVES THE ALPHA-C ATOM OF OCH SUB2 CH:CCLME (L. I. BUNINA-KRIVORUKOVA  
ET AL., 1968). THE REARRANGEMENT RATE DEPENDS ON THE AMT. OF CATALYST  
(ZNCL SUB2), SOLVENT POLARITY (DECALIN, PHNO SUB2, O-HOC SUB6 H SUB4 NO  
SUB2), AND TEMP. FACILITY: LENINGRAD. TEKHNOL. INST. IN.  
LENSOVETA, LENINGRAD, USSR.

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70  
 TITLE--CONDENSATION OF AROMATIC COMPOUNDS WITH ALLYL HALIDES. IX.  
 ALKENYLATION OF NITROPHENOLS BY 4 CHLORO 2 PENTENE -U-  
 AUTHOR-(03)-MARTYNOVA, V.P., BUNINAKRIVORUKOVA, L.I., BAIYAN, KH.V.  
 COUNTRY OF INFO--USSR  
 SOURCE--ZH. ORG. KHIM. 1970, 6(4), 775-81  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 TOPIC TAGS--ORGANIC NITRO COMPOUND, PHENOL, CHLORINATED ORGANIC COMPOUND,  
 ALKYLATION, CHEMICAL REDUCTION, CATALYST, PALLADIUM  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FKAME--2000/1944 STEP NO--UR/0366/70/006/004/0775/0781  
 CIRC ACCESSION NO--AP0125533  
 UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125533

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ALKENYLATION OF O, M, AND P  
 NITROPHENOLS WITH MECHCLCH:CHME (I) IN ACETONE SOLN. CONTG. K SUB2 CO  
 SUB3 GAVE O, M, AND P O SUB2 NC SUB6 H SUB4 OCHMECH:CHME (II) AND SMALL  
 AMTS. OF O SUB2 NC SUB6 H SUB3 (OH)CHMECH:CHME 2,3 (III). THE FORMATION  
 OF III IS DUE TO THE REARRANGEMENT OF O II ISOMER AND NOT TO C  
 ALKYLATION. HEATING II IN DECALIN AT 150-60DEGREES GAVE III AND ITS  
 OTHER 2 ISOMERS. THE REDN. OF II OVER PD-CACO SUB3 CATALYST GAVE H  
 SUB2 NC SUB6 H SUB4 OCHMECH:CHME. THE ATTEMPTED ALKENYLATION OF  
 NITROPHENOLS WITH I IN MECH GAVE ONLY 4 METHOXY 2 PENTENE; THE  
 ALKENYLATION WITHOUT SOLVENTS GAVE THE STARTING NITROPHENOLS AND TARS.  
 FACILITY: Leningrad. TEKHNOL. INST. IM. LENSQVETA, Leningrad,  
 USSR.

UNCLASSIFIED

USSR

UDC: 911.3.616.831-002

BAROYAN, O. V., MEDVEDEVA, G. I., SHATKIN, A. A., PICHUSHEKOV, A. V., BESKINA, S. R.,  
ARUTYUNOVA, I. A., MARTYNOVA, V. R.

"Immunological-Epidemiological Research on Tick-Borne Encephalitis"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektsionov, tezisy dokl. Ch. I (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists and Specialists in Infectious Disease, Thesis Reports Part I -- collection of works) Moscow, 1970, pp 186-187 (from RZh-36. Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.86)

/No abstract/

1/1

021.517.39:551.708  
7.  
RAZIN, K. A., Candidate of Technical Sciences, METLITSKIY, R. S., KABIN, Yu. Ya., LYUBESHKIN, V. P., AND MARTYNOVA, Ye. Ye., Engineers

"The Densimeter of the "Venera-5" and "Venera-6" Space Stations"

Pribory i Sistemy Upravleniya, No 10, 1971, pp 39-40.

Abstract: A description, drawing, block diagram, schematic diagram and photograph are presented of the densimeter used on the "Venera-5" and "Venera-6" spacecraft. The device is based on the method of measurement of gas density consisting in that a body is placed in motion in the medium whose density is to be measured and the aerodynamic resistance or drag of the gas, which is a function of density, is determined. In the vibration densimeter described, the moving bodies consisted of the arms of a continually excited tuning fork. The oscillating amplitude of the arms was inversely proportional to the aerodynamic drag, and the high Q of the tuning fork allowed good sensitivity of the device to be achieved. The device can measure densities from 0.5 to 45 kg/m<sup>3</sup> in the 0-350°C temperature interval with an error of not over ±10%. Its indications are independent of gas composition. Calibration of the densimeter is described. As the example of the operation of the densimeter, tables are presented of the measurement data produced from the "Venera-5" spacecraft as it descended on Venus.

1/1

USSR

UDC 911.3.61.001.8

MARTYNOVA, Z. I., and KUDOYAROVA, I. Ya.

"A Survey of the Use of Maps in Studying Parasitic Diseases. An addition to the Development of Medical Cartography"

V sb. Vopr. Med. Parazitol. (Problems in Medical Parasitology -- collection of works), Moscow, 1970, pp 182-192 (from RZh-36. Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.9)

Translation: An analysis is presented of nosogeographical maps designed and used for the study of the geography of parasitic disease. Approximately 400 such maps of the text and atlas type, all charted by USSR parasitologists, were studied. One of the first maps was one showing the distribution of malaria in Finland for 1830-1832. The Russian and Soviet contribution to this field has been great; particularly distinguished pioneers are N. Toropov, V. Stoletov, and A. Leontovich. A formulation is given for the significance of cartography as a research method in the geography of disease. A subject classification of these maps is suggested. Eight map groups are characterized: 1) survey maps of disease areas without consideration of their inner structure; 2) maps of disease area structures; 3) maps of disease vectors; 4) maps of the seasonal prevalence of medical phenomena; 5) historical

1/3



USSR

MARTYNOVA, Z. I., and KUDOYAROVA, I. Ya., V sb. Vopr. Med. Parazitol. (Problems in Medical Parasitology -- collection of works) Moscow, 1970, pp 182-192 (from RZh-36. Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.9)

nosogeographical maps; 6) maps showing planning of counter-measures against infection; 7) nosoprognostic maps; 8) district division maps. A total of 393 nosogeographic maps are classified according to content form of illustration and disease. It was found that the nosoprognostic maps were most prevalent (176); the most frequent method of chart illustration was flagging (181) and nosological spectrum (107); and the most frequent map content was malaria distribution (163). A critical analysis was made of representational methods to convey medical information on maps. For purposes of research and practice, the most valuable maps are those showing the relation between disease and the environment in a way that facilitates prognosis about the future development of epidemics in similar territories. The pressing problems in medical mapping were defined as: the construction of a series of maps on the structure of disease areas for basic parasitic illnesses, and extending the subject matter of complex medico-geographic maps in geographical atlases. It would be useful to include medico-geographic maps in

2/3

USSR

MARTYNOVA, Z. I., and KUDOYAROVA, I. Ya., V sb. Vopr. Med. Parazitol.  
(Problems in Medical Parasitology -- collection of works), Moscow, 1970,  
pp 182-192 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract  
No 1.36.9)

regional atlases as well as epidemiological division of districts, as these  
are constructs of medico-geographical assessment of the territory.

3/3

USSR

UDC 621.382.5

MARTYNOVSKIY, V.S., NAYER, V.A., KHIRICH, I.YA., KRAVCHENKO, P.N.

"Low-Temperature Thermoelectric Microrefrigerator"

V sb. Niskotemperaturn. termoelektrich. materialy (Low-Temperature Thermoelectric Materials--Collection Of Works). Vishnev, 1970, pp 165-168 (from RZh--Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B191)

Translation: The construction is described of a 5-stage thermoelectric micro-refrigerator. Electric power supply of the thermopile was accomplished by a circuit with current splitting. Consumable power did not exceed 20 watt. The device makes it possible to reduce the temperature to 122 degrees with a heat transfer temperature of 303° K. 2 ill. 1 tab. 2 ref. Author's Abstract.

1/1

1/2 027 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--OPTIMIZATION OF DESIGN OF THERMOELECTRIC COOLING BATTERIES -U-

AUTHOR--MARTYNOVSKIY, V.S., SEMENYUK, V.A., TOMASHEVICH, M.N. M

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KHOLODIL'NAYA TEKHNIKA, NO 2, 1970, PP 31-35

DATE PUBLISHED-----70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--THERMOELECTRIC COOLING, THERMO BATTERY, HEAT TRANSFER THEORY,  
CONVECTIVE HEAT TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1987/1408

STEP NO--UR/0066/70/000/002/0031/0035

CIRC ACCESSION NO--AP0104722

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0104722

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT ONE OF THE POSSIBILITIES FOR INTENSIFICATION OF HEAT EXCHANGE IS A DISPERSAL OF THERMOELEMENTS WHICH CONSIDERABLY INCREASES THE AREA OF THE RIBBING BASE AND DECREASES HARMFUL TEMPERATURE DROPS BETWEEN JUNCTIONS AND MEDIA. DESIGN RATIOS ARE GIVEN FOR DENSITIES OF HEAT CURRENTS ON JUNCTIONS OF THERMOBATTERIES. SINCE THE OPTIMUM DEGREE OF DISPERSAL OF THERMOELEMENTS CANNOT BE DETERMINED THEORETICALLY IN A GENERAL FORM, A METHOD OF EXPERIMENTAL DETERMINATION OF THE OPTIMUM DENSITY OF PACKING FOR THE CASE OF NATURAL CONVECTION WAS USED. AN OPTIMUM DESIGN OF THE MODULE FOR A REFRIGERATOR WITH CONVECTIVE COOLING OF HOT JUNCTIONS WAS FOUND. ONE TABLE. THREE ILLUSTRATIONS. SEVEN REFERENCES.

UNCLASSIFIED

Acc. Nr: AP0044190

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i  
Immunobiologii, 1970, Nr 2, pp 62-67

DIAGNOSTIC SIGNIFICANCE OF INTRADERMAL ALLERGIC  
TEST IN LISTERIOSIS

Yegorova, A. P., M. Ya. Martynshin, A. N. Malyshev

A lysate of agar culture of Listeria was used as an allergen. Intradermal test was made in 278 persons; of this number 18 were suffering from bacteriologically confirmed listeriosis, 116 were pregnant women with suspected listeriosis, 97 healthy persons, and 47 patients with diseases of various (not caused by Listeria) etiology. Besides, serological examination (reaction of agglutination and complement fixation) before and after the intradermal test, was carried out. Analogous investigations were performed on experimental animals.

A conclusion was drawn on the possibility of utilization of an allergic test for diagnostic purpose. The required degree of sensitization occurred only in half of listeriosis patients. It is considered that allergic reactions in the form of hyperemia and edema of the skin not less than 20 mm in diameter, developing in 24 hours and not disappearing by 48 hours may be of diagnostic significance. The absence of reaction in response to the allergen gives no grounds for excluding listeriosis. Weak reactions may be taken into consideration only in the presence of convincing data of serological examination — high antibody titres or their distinct growth.

1/1

REEL/FRAME  
19770675

6 DI

Aerosols

UDC 615.453.28.014.23.002.5

USSR

MAR'YASIN, B. YA., NAZHESTKIN, K. P., MARTYNTSEVA, M. N., and TSETLIN, Y. M.,  
All Union Scientific Research Institute of Medical Polymers, All Union Scientific  
Research Institute of Disinfection and Sterilization, Moscow

"Investigation of Sprayers for Aerosol Cylinders"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 1, Jan 72, pp 39-42

Abstract: Nitrogen is often used as a propellant in forming aerosol preparations. To use it effectively, special atomizers are required as nitrogen is insoluble in most solvents and is being used only to propel the product out of the cylinders. The basic working unit in such atomizers is a centrifugal sprayer with feeding channels. The centrifugal forces press the product against the walls of the sprayer producing a thin film which breaks down into fine droplets -- the aerosol particles. Data used for calculations of centrifugal sprayer parameters include liquid utilization per second, pressure, viscosity, and base angle of the jet. When a finely dispersed aerosol is required, the angle must be increased. Most calculations used in constructing the sprayers are assuming constant pressure which is not the case under real conditions, as the pressure in the cylinders drops continuously. The jet angle becomes smaller with a decrease in the pressure inside the cylinder; this effect

1/2

USSR

MAR'YASIN, B. YA., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 1,  
Jan 72, pp 39-42

is quite strong at pressures below 3 atms. The relationship between the length of the stream and the pressure is more complex: it decreases continuously as the pressure drops to 3-3.5 atms., then it begins to increase again. The diameters of the particles increase linearly, as the pressure is dropped. The crucial points occur at about 3 atm pressure, so the aerosol cylinders should be constructed in a way assuring a final pressure of 3 atms.

2/2

= 3 =



USSR

UDC 517.933

MARTYNYUK, A. A. (Kiev), Institute of Mathematics, Academy of Sciences,  
Ukrainian SSR

"The Method of Averaging and the Principle of Comparison in the Technical  
Theory of the Stability of Motion"

Kiev, Prikladnaya Mekhanika, Vol 7, No 9, Sep 71, pp 64-69

Abstract: In the article is investigated the technical stability of the motion of systems containing a small parameter in standard form. By means of differential inequalities for a locally large Lyapunov function, constructed for an averaged system of equations, are proven the theorems of the technical stability of motion. Conceptions of quasi-compressed and compressed technical stability of systems with a small parameter are introduced, and the corresponding theorems are proved. The introduced concepts and theorems make it possible to estimate the behavior of integral curves on a given interval in finite regions of phase space. Five references.

1/1

- 88 -

UDC 551.36

USER

MARTYNUK, A. A., Institute of Mathematics, Academy of Sciences, Ukrainian SSR

"Instability of the Equilibrium Position of a Multidimensional System Consisting of 'Neutrally' Unstable Subsystems"

Kiev, Prikladnaya Mekhanika, No 6, Jun 72, pp 77-82

Abstract: Consideration is given to the instability of the equilibrium position of a multidimensional system, consisting of uniform subsystems, when all the subsystems are only "neutrally" unstable. The investigation is conducted by means of Lyapunov's second method, and by Mitropol'skiy's method of averaging in nonlinear mechanics. The instability of the multidimensional system is determined by the properties of the average of the product of the Lyapunov-function gradient of a subsystem, by a vector function which takes the connection of the subsystems into account. Theorems of the Lyapunov and Chetayev type concerning the instability of a multidimensional system are presented, and a method for applying Lyapunov's perturbed function for stability problems of this kind is announced. 7 references.

1/1

USSR

UDC 665.52

ZHURBA, A. S., SMOL'NIK, Yu. Ye. (deceased), BRYANSKAYA, E. K., and  
MARTYNYUK, A. D., All Union Scientific Research Institute of Petrochemistry

"Production of Jet Fuel With Improved Qualitative Properties"

Kiev, Neftyanaya i Gazovaya Promyshlennost'", No 4, 1973, pp 36-38

Abstract: Hydrogenation conditions for kerosene fractions 130-180, 130-240 and 180-240°C over aluminum-platinum catalyst AP-56 were investigated. It was established that at 40 atm and 300°C the degree of conversion of mono and bicyclic aromatic hydrocarbons is 90%. The hydrogenation product should be used as the low aromatic component for the production of commercial re-active fuel by mixing it with straight distillate.

1/1

- 57 -

USSR

UDC 541.67 + 547.558.1

PEN'KOVSKIY, V. V., YEGOROV, Yu. P., YURCHENKO, R. I., and MARTYNYUK, A. P.,  
Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Electron Transfer From Phosphazoarenes to Acceptor Molecules"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2639-2642

Abstract: In the reactions of phosphazoarenes with tetracyanoethylene and chloranil an electron transfer takes place from the phosphazoarene molecule to the electron accepting one. The stable anion radicals formed have been observed by means of EPR. The concentration of paramagnetic centers in the systems studied increases with growing alkalinity of the phosphazo compounds.

1/1

UDC 547.419.1

USSR

ZHMIROVA, I. N., MARTYNYUK, A. P., and KIRSANOV, A. V., Institute of Organic Chemistry, Acad. Sc., Ukrainian SSR

"Triphenylphosphazophenols"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 782-784

Abstract: Reaction of triphenylphosphine (I) with azidophenols yields triphenylphosphazophenols. To a solution of 0.01 g-mole of azidophenol in 15-20 ml benzene a solution of 0.01 g-mole of (I) in 10 ml benzene was gradually added. The product either precipitated at the completion of the reaction or after removal of the solvent followed by treatment with ethanol. These compounds are stable to cold water and dilute mineral acids but are easily hydrolyzed with bases. Triphenylphosphazophenols are stronger bases than the corresponding aminophenols. In a solution of glacial acetic acid o- and p-quinoneazides are converted to diazonium acetates which, when treated with sodium azide, yield azidophenols.

1/1

UNCLASSIFIED  
 TITLE--ANION RADICALS OF PHOSPHAZO COMPOUNDS. CONDUCTIVITY OF S AND SU  
 BRIDGE GROUPS -U-  
 AUTHOR--(05)--PENKOVSKIY, V.V., KUZMINSKIY, B.N., YEGOROV, YU.P., ZHMROVA,  
 I.N., ~~MARTYNYUK, A.P.~~  
 COUNTRY OF INFO--USSR  
 SOURCE--TOER. EKSP. KHIM. 1970, 6(1), 94-7  
 DATE PUBLISHED-----70  
 SUBJECT AREAS--CHEMISTRY  
 OPIC TAGS--ELECTRON DENSITY, EPR SPECTRUM, ORGANIC PHOSPHORUS COMPOUND,  
 AZO COMPOUND, SULFUR OXIDE  
 CONTROL MARKING--NO RESTRICTIONS  
 DOCUMENT CLASS--UNCLASSIFIED  
 PROXY REEL/FRAME--3008/0910  
 STEP NO--UR/0379/70/006/001/0094/0097  
 IRC ACCESSION NO--AP0137938  
 UNCLASSIFIED

212 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

IRC ACCESSION NO--AP0137938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTRON D. DISTRIBUTION WAS STUDIED, BY EPR SPECTROSCOPY, IN COMPS. TREATED ELECTROCHEM. TO PRODUCE ANION RADICALS. THUS TREATED WERE I (R PRIME1, R PRIME2, R PRIME3, AND R PRIME4 GIVEN): H:PPH SUB3, H, H, NO SUB2; SN:PPH SUB3, H, H, NO SUB2; SN:PPH SUB3, NO SUB2, H, H; SN:PPH SUB3, NO SUB2 H, NO SUB2; S(O)N:PPH SUB3, H, H, NO SUB2; SN:PPH SUB3, H, NO SUB2, H; S(O)N:PPH SUB3, NO SUB2, H, H; SNH SUB2, H, H, NO SUB2; SNME SUB2, H, H, NO SUB2. THE COND. OF THE SO BRIDGE IS MUCH LOWER THAN THAT OF THE S BRIDGE. FACILITY: INST. ORG. KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 546.185

ZHMUROVA, I. N., YURCHENKO, V. G., MARTYNYUK, A. P., and KIRSANOV, A. V.,  
Institute of Organic Chemistry, Academy of Sciences, UkrSSR

"Effect of the Substituents at the Phosphorus Atom on the Auxochromic Action of  
the Phosphazo Group. II"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1948-1953

Abstract: On the basis of a series of phosphazobenzenes and phosphazoazobenzenes  
it was shown that introduction of electron donor substituents onto phenyl radi-  
cals of the triphenylphosphazo group had practically no effect on its auxochromic  
action.

1/1

- 24 -



USSR

UEC 547.558.1

ZHMUROVA, I. N., YURCHENKO, R. I., and MARTYNYUK, A. P., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"The Effect of Substituents at the Phosphorus Atom on the Auxochromic Activity of the Phosphazo Group. III"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1040-1043

Abstract: The group  $(C_6H_5)_2[(C_6H_5)_3P=N]P=N$  is a stronger auxochromic agent than  $(C_6H_5)_2[(CH_3)_2N]P=N$  or  $(C_6H_5)_3P=N$ . The effect of the dimethylamino group on the electron-donating properties of the P=N bonds is diminished in comparison with its electron donating effect ( $\sigma_p$ ). The increase in the auxochromic activity due to the substitution of one phenyl group by a triphenylphosphazo group is due evidently to the specific structure of the auxochrom  $(C_6H_5)_2[(C_6H_5)_3P=N]P=N$ . Two interconverted phosphazo groups contain the bond system P-N-P within which a uniform distribution of electron density is possible.

1/1

USSR

UDC 541.67 + 547.558.1

PEN'KOVSKIY, V. V., YEGOROV, YU P., ZHMUROVA, I. N., MARTYNIUK, A. P., and SHURUBURA, A. K., Institute of Organic Chemistry, Acad. Sc. UkrSSR, Kiyev

"Distribution of Electronic Density in Anion Radicals Containing Triarylphosphazo Groups"

Kiyev, Teoreticheskaya i Eksperimental'naya Khimiya, Vol 9, No 1, Jan-Feb 73, pp 112-116

Abstract: Eight anion radicals of the type  $(p-RC_6H_4)_2(p-R'C_6H_4)P:N-C_6H_4NO_2-p$  generated by the electrochemical method in acetonitrile have been studied by means of EPR. In all cases a split was noted on the  $p^{31}$  nucleus indicating  $\pi$ -electronic interaction of the P:N group with p-nitrophenyl residue of the anion radical. This effect can be explained only on the basis of  $d\pi-p\pi$  interaction. The effects of various electron donor and electron acceptor R and R' on the distribution of spin density has been compared. Qualitative explanation of this effect has been proposed based on the mobility of  $\pi$ -electrons of the imino nitrogen and a direct polar conjugation of the phosphazo group with the nitro group. The values of the splitting constants at the  $p^{31}$  nucleus are not correlated with the  $\sigma$ -constants of R and R'.

1/1

1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ELECTRICAL RESISTANCE OF COPPER CONDUCTORS DURING PULSED HEATING  
-U-  
AUTHOR--(02)-MARTYNYUK, M.M., GANZHELA, N.F.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(3), 30-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, ELECTRONICS AND ELECTRICAL ENGR.  
TOPIC TAGS--ELECTRIC PROPERTY, WIRE, COPPER, THERMAL EFFECT, EXPLOSION,  
ELECTRICAL RESISTANCE, LIQUID METAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3003/1493 STEP NO--UR/0139/70/013/003/0030/0034  
CIRC ACCESSION NO--AT0130422  
UNCLASSIFIED

2/2 025  
CIRC ACCESSION NO--AT0130422  
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT. THE DEPENDENCE OF THE RESISTANCE OF CU WIRES ON THE ENERGY DURING PULSED HEATING WAS DETD. BY THE OSCILLOGRAPHIC METHOD. THE RESULTS WERE COMPARED WITH THOSE OBTAINED BY DIRECT MEASUREMENTS. THE CURRENT PULSES WHICH ARISE DURING THE ELEC. EXPLOSION OF WIRES DURING RAPID HEATING AND WHICH EXCLUDE THE RUPTURE OF THE WIRE ARE EXPLAINED BY THE PASSAGE OF THE METAL THROUGH THE UPPER LIMIT FOR THE EXISTENCE OF A LIQ. METAL PHASE, SPINDAL CRIT. CURRENT QUASISPINODAL. IN THIS CASE, PRECRIT., CRIT., OR POSTCRIT. CONVERSION OF THE METAL INTO THE GAS PHASE CAN TAKE PLACE, DEPENDING ON THE EXTERNAL PRESSURE.

FACILITY: UNIV. DRUZHBYNAR, IN. LUMUMBY, MOSCOW, USSR.

UNCLASSIFIED