"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

Metrology, Surveying, Mapping

USSR

UDC 772.99.004:778.142

ZNAMENSKIY, V. B., KUKAROV, G. V., STRUKOV, V. S.

"Study of Possibilities of Using Holography to Increase the Information Packing Density of Microfilm"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 6, Nov-Dec 72, pp 419-422.

Abstract: This work presents an experimental study of the maximum packing density of information of varying degrees of complexity on microfilm (letters and text). The method of successive and simultaneous superimposition of holograms and various methods of production of reduced-dimension holograms were used. The dependence of the maximum number of holograms of an individual letter and of a segment of text on letter height is determined: the number of holograms decreases with decreasing letter height. When a spherical converging signal wave is used, the readability of the restored image of a microfilm text is good when the area occupied by the hologram is 1/16th the area of the initial microfilm. An additional hologram can be superimposed over each of these reduced-size holograms with only a slight reduction in text readability. The compacting of information achieved corresponds to a 45-times reduction in dimensions of the original text, letter

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USSR

UDC 772.99.004:778.142

ZNAMENSKIY, V. B., KUKAROV, G. V., STRUKOV, V. S., Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 6, Nov-Dec 72, pp 419-422.

height 1.7 mm, with satisfactory readability.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC 669.71'721.048

REUTOVA, G. A., and KUKASHENKO, E. YE.

"Composition and Properties of Salt Baths for Two-layer Processes of Vacuum Distillation"

V. sb. Vakuumn, protesessy v tsvetn. metallurgii (Vacuum Processes in Nonferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 144-149 (from Referativnyy Zhurnal -- Metallurgiya, No 6, Jun 71, Abstract No 6G158)

Translation of Abstract: According to results of tests and calculations, optimum composition of a "hot" bath was selected and successfully operated for a two-layer process of vacuum distillation for alloys on Al and Mg bases. The composition of the fusion recommended was $CaCl_2$ with 15-20% CaF_2 for alloys on a Mg base and a mixture of MgF_2, CaF_2, and BaF_2 in a 40:18:42 ratio for alloys on an Al base. (three illustrations; 3 bibliographic entries)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC:535.82:546.791

SUVOROV, A. L., KUKAVADZE, G. M., RAZINKOVA, T. L., SHAROV, B. V., FEDORCHENKO, V. A., BOBKOV, A. F. and KUZNETSOV, V. YA.

"Autoionic Microscopy of Uranium. Preliminary Results"

Moscow, Atomnaya Energiya, Vol 36, No 1, Jan 74, pp 14-18

Abstract: The primary factor inhibiting autoionic microscopic analysis for new (particularly fissionable) materials, apparently, is the lack of any final theory of the formation of images in the autoionic microscope, or of a complete understanding of the physical principles upon which the field evaporation phenomenon is based. The first stage of the work reported is an explanation of the capabilities of the autoionic microscopic method for studying uranium specimens, and a search for more effective modes of analysis, as well as the development of certain associated methodological problems. It is found that uranium needles can resist the mechanical stresses imposed in the autoionic microscope. The best result is achieved using pure argon and a mixture of He + 0.5% H_2 as imaging gases. A computer is used to construct a model of the autoionic image of α-uranium and standard stereographic projections for α-uranium in the planes (010), (001) and (110), allowing the crystallographic faces to be indicated on the photomicrographs produced. Preliminary results presented indicate the possibility in principle of autoionic microscope analysis (in atomic details) of uranium specimens.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR

UDC 669-172:541.12.037

SUVOROV, A. L., and KUKAVADZE, G. M.

"Mobility of Displaced Atoms and Their Complexes in Crystalline Lattice of Tungsten Under the Influence of an Electric Field"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 108-111

Translation: A helium ion projector is used to study the development of displaced atoms and small complexes in tungsten specimens bombarded with deutrons with energies of 5 MeV. A method is described for identification of individual atoms displaced into interstitial positions and small complexes of these atoms on ion images of specimens subjected to bombardment. It is demonstrated that the individual displaced atoms diffuse to the surface under the influence of the electric field in the projector at 78°K. The temperature threshold for immobility of the displaced atoms with an electric field intensity of 450 Mv/cm is assumed to be 21°K. It is demonstrated that the complexes of displaced atoms observed on ion images of bombarded tungsten specimens, containing up to 10 individual atoms, are practically immobile in a strong electric field at 78°K. This allows their crystallographic distribution to be determined. 3 Figures; 5 Biblio. Refs.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 669-172:539.2

USSR

SUVOROV, A. L., and KUKAVADZE, G. M.

"Nature of Defects in Single Crystals of Tungsten as a Function of Energy of Bombarding Deutrons and Method of Irradiation"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 103-107

Translation: Results are presented from an experiment studying the structure of tungsten single crystals subjected to bombardment with deutrons at energies of 100 KeV, 4, 5, 8, 10, and 12 MeV, performed in a low-temperature helium ion projector.

Significant differences are established in the nature of defects formed with the two methods of irradiation, differing in the sequence of preparation and irradiation of specimens. The dependence of the nature and concentration of defects (individual vacancies, vacancy clusters, individual displaced atoms and their complexes and dislocations) observed on ion images of the irradiated specimens on energy of bombarding deutrons is studied. 3 Figures; 6 Bibliographic References.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR

UDC 669-172:621.3.032.26

KUKAVADZE, G. M., SUVOROV, A. L., and SHCHAROV, B. V.

"Study of Neutron-Bombarded Tungsten Single Crystals Using an Ion Projector"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 99-102

Translation: A low-temperature helium ion projector is used to study defects arising upon bombardment of tungsten specimens with fission-spectrum neutrons (intergral flux $1.5 \cdot 10^{19}$ n/mm^2). The formation of individual vacancies is detected (concentration $\sim 10^{-4}$), as well as individual atoms displaced into interstitial positions, vacancy clusters ~ 10 A in diameter and larger, and dispersion clusters encompassing multiatomic areas, in which a significant number of atoms of the lattice are located. 3 Figures; 5 Biblio. Refs.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED

TITLE--AUTO ION MICROSCOPY OF DEFECTS IN TUNGSTEN SINGLE CRYSTALS DUE TO ALPHA PARTICLE BOMBARDMENT--U-

PROCESSING DATE--03JUL70

AUTHOR--SUVOROV, A.L., KUKAVADZE, G.M., BOBROV, A.F.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 1, PP 85-87

DATE PUBLISHED--------70

18
5
23

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SINGLE CRYSTAL STRUCTURE, TUNGSTEN, PARTICLE BOMBARDMENT, ALPHA PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1973/1072

STEP NO--UR/0056/70/058/001/0085/0087

CIRC ACCESSION NO--APO038031

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

Ref. Code: UR 0056

Acc. Nr: AP0038031

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 1, pp 85-87

AUTO-ION MICROSCOPY OF DEFECTS IN TUNGSTEN SINGLE CRYSTALS DUE TO α-PARTICLE BOMBARDMENT

A. L. Suvorov, G. M. Kukavadze, A. F. Bobkov

Tungsten crystal imperfections due to bombardment with α particles of various energies (from 12.7 to 23.4 MeV) are investigated by means of a helium ion projector operating at 78° K. The integral irradiation doses varied between $4.7 \cdot 10^{15}$ and $1.5 \cdot 10^{16}$ particles /cm². Four main types of imperfections were observed in the irradiated samples: single vacancies, atoms displaced to interstitial positions, vacancy clusters of ~ 10 Å diameter and small complexes of displaced atom on the surface.

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REEL/FRAME
19731072

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--03JUL70

TITLE--AUTO ION MICROSCOPY OF DEFECTS IN TUNGSTEN SINGLE CRYSTALS DUE TO ALPHA PARTICLE BOMBARDMENT -U-

AUTHOR--SUVOROV, A.L., KUKAVADZE, G.M., BOBROV, A.F.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 1, PP 85-87

DATE PUBLISHED--------70

18
5
23

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SINGLE CRYSTAL STRUCTURE, TUNGSTEN, PARTICLE BOMBARDMENT, ALPHA PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0056/70/058/001/0085/0087

PROXY REEL/FRAME--1973/1072

CIRC ACCESSION NO--AP0038031

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

Ref. Code: UR 0056

Acc. Nr: AP0038031

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1970, Vol 58, Nr 1, pp 85-87

AUTO-ION MICROSCOPY OF DEFECTS IN TUNGSTEN SINGLE CRYSTALS DUE TO α-PARTICLE BOMBARDMENT

A. L. Suvorov, G. M. Kukavadze, A. F. Bobkov

Tungsten crystal imperfections due to bombardment with α particles of various energies (from 12.7 to 23.4 MeV) are investigated by means of a helium ion projector operating at 78° K. The integral irradiation doses varied between $1.7 \cdot 10^{15}$ and $1.6 \cdot 10^{16}$ particles /cm². Four main types of imperfections were observed in the irradiated samples: single vacancies, atoms displaced to interstitial positions, vacancy clusters of ~ 10 Å diameter and small complexes of displaced atom on the surface.

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REEL/FRAME
19731072

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR

KUKAYN, R., Director, Institute of Microbiology Imeni A. Kirkhenshteyn, Corresponding Member, Academy of Sciences Latvian SSR

"Virus Inhibitors"

Riga, Sovetskaya Latviya, 11 Feb 70, p 4

Abstract: Progress in the discovery of virus inhibitors in the past few years is described. The discussion centers around interferon -- an antivirus protein which a normal cell forms during the process of its vital activity in response to introduction of a virus into the cell. Interferon itself has a limited effect, but one of interferon inducers is promising. Ribonucleic acids, both natural and synthetic, and macromolecular polyanions are active interferon inducers. Methods of obtaining pure interferon and natural inducers have been successfully developed at the Institute of Microbiology. Co-workers of the Laboratory of Molecular Immunobiology, E. Plandere and G. Feldmane, and others are studying the effects of interferon. A. Rostoka has studied the capacity of various human tissues to form interferon. It has been demonstrated that the process of formation of interferon is closely connected with other specific response reactions 1/2

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USSR

KUKAYN, R., et al., Riga, Sovetskaya Latviya, 11 Feb 70, 3 -

of the organism. It has recently been discovered that interferon suppresses multiplication of both infectious and tumor-producing viruses. It can inhibit the process of malignant degeneration of the cell, even when introduced after the formation of a tumor.

Virologists and specialists in organic synthesis and chemical reagents are called on to investigate the synthesis of chemical analogs of nucleic acids and expand research on synthesis of polyanions -- the high-molecular-weight substances which can be good inducers of anti-virus protein in the organism.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--16OCT70

1/2 027

TITLE--STERILIZATION OF TIPS AND DENTAL DRILLS BY MEANS OF ULTRAVIOLET IRRADIATION -U-

AUTHOR--KUKES, SH.E.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 64-65

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DENTAL EQUIPMENT, MEDICAL SUPPLY STERILIZATION, UV IRRADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0511/70/049/003/0064/0065

PROXY REEL/FRAME--1998/0076

CIRC ACCESSION NO--AP0120776

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 027

CIRC ACCESSION NO--AP0120776

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. THE AUTHOR PROPOSES A DEVICE IN WHICH STERILIZATION IS EFFECTED BY MEANS OF ULTRAVIOLET IRRADIATION. BACTERIOLOGICAL CONTROL (286 INVESTIGATIONS) DEMONSTRATED THE HIGH EFFECTIVENESS OF THE ABOVE MENTIONED METHOD. FACILITY: DNEPROPETROVSKAYA GPRODSKAYA BOL'NITSA NO 11 AND KAFEDRA TERAPEVTICHESKOY STOMATOLOGII KIEVSKOGO MEDITSINSKOGO INSTITUTA IM. A. A. BOGOMOL'TSA.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 547.412

USSR

KUKHAR', V. P., KASHEVA, T. N., and KIRSANOV, A. V.

"Reaction of Trichlorophosphazoperchloro Ethane with Aryl Amines and Their Hydrochlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 22-25

Abstract: Hydrochloride salts of aromatic amines and fine aromatic amines with $pK_a < 2$ react with trichlorophosphazo perchloro ethane on the α-dichloromethylene group with the formation of trichlorophosphazo-N-aryl iminotrichloro acetyls. On interaction of trichlorophosphazo perchloro ethane with aryl amines in a 1:4 ratio, tris(arylamino)phosphazo-N-arylimino trichloroacetyls are formed. Some of the physical properties, the yields and formulas of these compounds are tabulated, and the experimental procedures for obtaining five of them are outlined.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 546.185

USSR

ZHMUROVA, I. N., KUKHAR', V. P., TUKHAR', A. A., ZOLOTAREVA, L. A.

"Mutual Effect of Substitutions in Triphenylphosphazo Benzenes"

Leningrad, Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 82-86

Abstract: A study was made of the mutual effect of substitutions in triphenylphosphazo benzenes. The basicity constant of the triphenylphosphazo benzenes $(C_6H_5)_3P = NC_6H_4X$ and anilines $XC_6H_4NH_2$ are correlated identically satisfactorily with σ^0, σ and σ^- by the constants of the substitutions X. In contrast to the diemthylamino and the amino groups, the triphenylphosphato group has a positive induction effect. The following tales of values are presented: 1) the parameters of the correlation equations pK_a -- the constants σ^0, σ and σ^- for triphenylphosphazo benzenes $(C_6H_5)_3P = NC_6H_4X$ calculated by the data of V. P. Kukhar', et al., [ZhOKh, No 40, 1696, 1970], the more exactly defined parameters of the correlation equations pK_a -- constants σ^0, σ and σ^-, the parameters of the correlation

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USSR

ZHMUROVA, I. N., et al., Zhurnal Obshchey Khimii, Vol XLIII (CV), No 1, 1973, pp 82-86

equations pK_a -- constants σ^0, σ and σ^- for triphenylphosphazo benzylidenanilines n, n'-$(C_6H_5)_3P = NC_6H_4CH = NC_6H_4X$ in nitromethane, the parameters of the correlation equations pK_a -- constants σ^0, σ and σ^- for analines $NH_2C_6H_4X$, the reaction constants of the triphenylphosphazo group in alcohol and nitromethane by the equations of M. I. Kabatschnik [Phosphorus, No 1, 117, 1971], the Hammett constants and the components σ_n of the constants of the groups $(C_6H_5)_3P=N_-$, $(CH_3)_2N_-$, the basicity constants of the triphenylphosphazo-n-binyl benzenes $(C_6H_5)_3P=NC_6H_4CH=CXY$ in nitromethane (95% alcohol) and σ_n^0 substitution constants in nitromethane (95% alcohol) calculated by pK_a of triphenylphosphazo benzenes $(C_6H_5)_3P=NC_6H_4X$.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 547.419.1

USSR

ZHMUROVA, I. N., YURCHENKO, R. I., KUKHAR', V. P., ZOLOTAREVA, L. A., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Protonation of Triphenylphosphazoazobenzenes. II. Effect of Substituents on the Position of Tautomeric Equilibrium"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1954-1959

Abstract: Tautomeric equilibrium in the solutions of 4-triphenylphosphazoazobenzene salts depends on the concentration of acid as well as on the electronic nature of the substituents at 4'-position. The differences in absorption maxima in neutral and acid media and the basicity constants of 4-triphenylphosphazoazobenzenes can be correlated with the σ^- constants of 4'-substituents.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 546.185:541.651.2

USSR

ZHMUROVA, I. N., YURCHENKO, V. G., KUKHAR', V. P., and ZOLOTAREVA, L. A., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"The Effect of the Substituents at the Phosphorus Atom on the Reactivity and Electron Donor Properties of the Phosphazo Group"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 12, Dec 72, pp 2656-2660

Abstract: In an attempt to compare the effects of substituents on the basicity constants and electron spectra of phosphazobenzenes, pK_a values of a series of triazylphosphazobenzenes were determined. The basicity constants vary considerably with the electron nature of alkyl substituents -- up to 6-7 pK_a units. The substituents at the phosphorus atom have a lesser influence on the electron donor properties of the phosphazo group in the excited state than on the reactivity of the P:N.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 012

TITLE--REACTION OF TRICHLOROPHOSPHAZOPERCHLOROETHANE WITH ARENESULFONAMIDES -U-

AUTHOR-(03)-KUKHAR, V.P., SEMENIY, V.YA., PISANENKO, N.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSCH. KHIM. 1970, 40(3), 557-61

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLOROETHANE, ORGANIC PHOSPHORUS COMPOUND, SULFONAMIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0870 STEP NO--UR/0079/70/040/003/0557/0561

CIRC ACCESSION NO--AP0124533

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 012
CIRC ACCESSION NO--AP0124533
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REFLUXING AN EQUIMOLAR MIXT. OF ARSO SUB3 NH SUB2 AND CCL SUB3 CCL SUB2 N:PCL SUB3 IN PHCL 8-10 HR GAVE 100PERCENT HCL AND, AFTER PROLONGED EVACUATION AT 100DEGREES, CCL SUB3 C(:NSO SUB2 AR)N:PCL SUB3 (AR SHOWN): PH, OIL, B SUB0.05 180-2DEGREES, D PRIME20 1.6292; P,CLC SUB6 H SUB4, M. 102-4DEGREES; P,BRC SUB6 H SUB4, M. 109-11DEGREES; P,MEC SUB6 H SUB4, M. 104-6DEGREES; M,O SUB2 NC SUB6 H SUB4, M. 78-80DEGRESS; P,O SUB2 NC SUB6 H SUB4, M. 184-5DEGREES; 3,4,O SUB2 N(CL)C SUB6 H SUB3 M. 97-8DEGREES; 2,C SUB10 H SUB7, OIL. THE SAME WERE PREPD. FROM EQUIMOLAR MIXTS. OF PCL SUB5 AND CCL SUB3 C(:NSO SUB2 AR)NHPOCL SUB2 (I) IN REFLUXING C SUB6 H SUB6. THE PRODUCTS TREATED WITH 1 MOLE ACOH IN C SUB6 H SUB6 GAVE, AFTER 10 HR AT ROOM TEMP., I IN 46-90PERCENT YIELDS (AR GIVEN): P,MEC SUB6 H SUB4 M. 130-2DEGREES; O,CLC SUB6 H SUB4, M. 153-4DEGREES; P,CLC SUB6 H SUB4, M. 120-3DEGREES; P,BRC SUB6 H SUB4, M. 150-1DEGREES; M,O SUB2 NC SUB6 H SUB4, M. 164-6DEGREES; 3,4,O SUB2 168-70DEGREES; P,O SUB2 NC SUB6 H SUB4, M. 179-80DEGREES. N(CL)C SUB6 H SUB3 M. 173-4DEGREES; 2,C SUB10 H SUB7, M. 179-80DEGREES. SIMILAR REACTION WITH H SUB2 O OF EITHER I OR THE PHOSPHAZOACYLS GAVE 80-90PERCENT CL SUB3 CCONHSO SUB2 AR (AR GIVEN): PH, M. 156-8DEGREES; P,MEC SUB6 H SUB4 M. 140-2DEGREES; P,CLC SUB6 H SUB4 M. 169-71DEGREES; P,BR,C SUB6 H SUB4, (M. 163-6DEGREES); M,O SUB2 NC SUB6 H SUB4, (M. 167-8DEGREES); P,O SUB2 NC SUB6 H SUB4, (M. 210-11DEGREES); 3,4,O SUB2 N(CL)C SUB6 H SUB3 (M. 149-50DEGREES); 2,C SUB10 H SUB7 (M. 138-9DEGREES). HOT H SUB2 O GAVE ARSO SUB2 NH SUB2.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC 547.412.74 + 547.464.7

USSR

KUKHAR', V. P., and KOVAL', A. A., Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Interaction of α,α'-Bistrichlorophosphazo-α, α, β, β, α', α', β', β'-octachloroalkanes With Alcohols"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 776-781

Abstract: α,α'-Bistrichlorophosphazo-α,α,β,β,α',α',β',β'-octachloroalkanes react with primary alcohols at a molar ratio of 1 : 8 to give dialkyl esters of N,N'-bisdialkoxyphosphonyl-α,α,α',α'-tetrachloro-α,α'-bisiminocarboxylic acids (I). The latter react with alcohols in the presence of hydrogen chloride at 80° to give diesters of α,α,α',α'-tetrachloro-α,α'-dicarboxylic acids, as well as reacting with ammonia or dimethylamine to give diamidines of N,N'-bisdialkoxyphosphonyl-α,α,α',α'-tetrachloro-α,α'-dicarboxylic acids. Dialkyl esters (I) are hydrolyzed with water at 20-25° to give diamides of N,N'-bisdialkoxyphosphonyl-α,α,α',α'-tetrachloro-α,α'-dicarboxylic acids. The interaction of the bisphosphazo com-

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

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KUKHAR', V. P., and KOVAL', A. A., Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 776-781

pounds with secondary alcohols was studied, using isopropyl alcohol. It was found that diamides of N,N'-bis-diisopropoxyphosphonyl-α,α,-α',α'-tetrachloro-α,α'-dicarboxylic acids are obtained with a molar ratio of 1 : 8. The authors thank V. I. SHEVCHENKO for his advice and assistance.

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UDC 547.464.7

USSR

RUDAVSKIY, V. P., LITOSHENKO, N. A., and KUKHAR', V. P., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Phosphorylated Derivatives of Polychlorodicarboxylic Acid Diamides"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 5, May 70, pp 1002-1005

Abstract: Polychlorodicarboxylic acid diamides react with phosphorus pentachloride to give bistrichlorophosphazopolychloracyls (I). The latter react with primary amines, phenols and thiophenols to give bistriamidophosphazopolychloracyls (II) and bistriaroxy- and bistrithioaroxyphosphazopolychloracyls (III). Bisphosphazo compounds I-III are readily hydrolyzed with water or atmospheric moisture to corresponding bisacylamidophosphoric acid derivatives (IV). Tetraamides, tetraesters and tetrathioesters of polychlorobisacylamidophosphoric acids are obtained from polychlorobisacylamidophosphoric acid tetrachlorides (IV, X=Cl) and amines, phenols and thiophenols in the presence of triethylamine.

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UDC: 546.185 - 546.224

USSR

KUKHAR', V.P., Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSSR

"Interaction of Trichlorophosphazo Compounds With Hydrogen Chloride and Sulfur Dioxide"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 785-787

Abstract: The ability of trichlorophosphazo compounds to react with hydrogen chloride depends on their basicity, which is determined by the electronegativity of the substituents X at the nitrogen atom. It was found by the author that trichlorophosphazo compounds with strongly electronegative substituents $X = RSO_2$, RCO, $4\text{-}NO_2\text{-}2,6\text{-}Cl_2C_6H_2$, $RCCl_2CCl_2$ do not possess basic properties and therefore remain unchanged under the simultaneous action of hydrogen chloride and sulfur dioxide at 20-25° for 8-10 hours. The interaction of hydrogen chloride and sulfur dioxide with trichlorophosphazo hydrocarbons with less electronegative substituents ($X = C_6H_5$, CH_3 etc.) in the monomeric

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KUKHAR', V. P., Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 785-787

state was studied, using o-trichlorophosphazochlorobenzene as an example. The latter is converted to N-o-chlorophenylamidophosphoric acid dichloride. Dimers of trichlorophosphazo hydrocarbons also react with a hydrogen chloride-sulfur dioxide mixture, resulting in cleavage of the N-P bond and the formation of N,N'-diaryl(dialkyl)-N-dichlorophosphonyldiamidophosphoric acid chlorides.

The author thanks A. V. KIRSANOV and V. I. SHEVCHENKO for their advice and assistance.

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UDC: 547.491.8

USSR

BUKOVSKIY, M.I., SOLODUSHENKOV, S.N., MOSIYCHUK, A.I., and KUKHAR', V.P.,
Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Phosphazotriazines. III. Oxidative Imination of Trivalent Phosphorus Compounds by 1,3,5-Triazine Azides"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 782-784

Abstract: For purposes of a study of physiological activity the authors synthesized a series of previously unknown phosphazo-1,3,5-triazines by oxidative imination of trivalent phosphorus compounds with 1,3,5-trazine azides. Triphenylphosphine, trialkyl phosphites and N,N,N,N-tetraethyl diaminoethylphosphite react with 1,3,5-triazine azides to evolve nitrogen and form corresponding phosphazo compounds. Trialkoxyphosphazo-1,3,5-triazines are hydrolyzed by 1 n. hydrochloric acid to give 2-N-dialkoxyphosphonylamino-4,6-bisarylamino-1,3,5-triazines.

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TITLE--PHOSPHAZOTRIAZINES. III. OXIDATIVE IMINATION OF COMPOUNDS, OF PHOSPHORUS. III. WITH AZIDES OF 1,3,5,TRIAZINES -U-

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EQUIMOLAR MIXT. OF PH SUBB P AND I IS SHOWN ON MICROFICHE.

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UDC 546.185

USSR

KUKHAR', V. P., SHEVCHENKO, M. V., and PINCHUK, A. M., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Reaction of N,N-Dichloroamides of Arenesulfonic Acids With Trichlorophosphazo-1,1-dichloroalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1649-1650

Abstract: A mixture of 0.02 g-mole of trichlorophosphazoperchloroethane, 0.02 g-mole of the dichloroamide of Benzenesulfonic acid and 5% aluminum trichloride is heated for 1-2 hrs at 80-90°, until chlorine stops evolving. The mixture is then kept for 0.5 hr at 120°, cooled to 20-25° to yield 95% of trichlorophosphazocarbacyl $Cl_3C-C(:NSO_3C_6H_5)N:PCl_3$.

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UDC 546.185

KUKHAR', V. P., PAVLENKO, N. G., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Phosphorylation of the Derivatives of Tricyanomethane"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 1896-1900

Abstract: Phosphorus pentachloride reacts with the sodium salt of tricyanomethane in chloroform at 20° forming sodium chloride and 1-phosphazo-1-chloro-2,2-dicyanoethylenes (I) -- colorless crystalline compounds soluble in most organic solvents except for hexane and carbon tetrachloride. The same products (I) can also be obtained from the reaction of tricyanomethane halides with triphenylphosphine and phosphorus trichloride. The silver salt of tricyanomethane reacted with 1-amino-1-chloro-2,2-dicyanoethylene and phosphorus pentachloride give a mixture of 1-trichlorophosphazo-1-chloro-2,2-dicyanoethylene and 2,2,4,6-tetrachloro-5-cyano-1,3-diaza-2-phosphorene.

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USSR

KUKHAR', V. P., KASHEVA, T. N., and KOZLOV, E. S., Institute of Organic Chemistry, Academy of Sciences, UkrainianSSR

"Reaction of Trichlorophosphazoperchloroethane With Ammonium Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 4, Apr 73, pp 743-747

Abstract: Trichlorophosphazoperchloroethane reacts with ammonium chloride forming a four member heterocyclic 2,2-dichloro-4-trichloromethyl-1,3-diaza-2-phosphate, m.p. 83-84°. Evidently the first step in the reaction is the formation of trichlorophosphazoiminotrichloroacetyl which then undergoes cyclization. The reaction takes place in 20-25 hrs at 150-170° in absence of a solvent. Catalytic amounts of aluminum chloride shorten the reaction time to 10-12 hours. Diazaphosphete is easily hydrolyzed even with air moisture yielding trichloroacetamide. Reaction of the diazaphosphete with acetic acid goes probably via formation of 2-chloro-4-trichloromethyl-2-oxo-1,3-diaza-2-phosphetene [not isolated] which then converts to N-dichlorophosphonyl-N'-acyltrichloroacetamidine, m.p. 207-208°. With formic acid N-dichlorophosphonyltrichloroacetamidine, m.p. 202-204° is obtained. The four member ring of the phosphete appears to be planar.

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KUKHAR', V. P., ZHMUROVA, I. N., ZOLOTAREVA, L. A., and TUKHAR', A. A.,
Institute of Organic Chemistry, Acad. Sc. UkrSSR

"Basicity of Phosphazo Compounds. II. N-(4-Triphenylphosphazobenzylidene)-anilines and Triphenylphosphazoanilines"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 8, No 4, Apr 72, pp 756-758

Abstract: 3- or 4-X-N-(4-triphenylphosphazobenzylidene)anilines are more basic than the corresponding N-(4-dimethylaminobenzylidene)anilines by about 2-3.5 pK_a units. Their basicity constants correlate with the σ° constants of the substituent X. This indicates that N-(4-triphenylphosphazobenzylidene)anilines are protonated at the triphenylphosphazo group, and N-(4-dimethylaminobenzylidene)anilines are protonated at the nitrogen atom of the CH=N group. N,N-Dimethyl-p-phenylenediamine is protonated at the dimethylamino group. Triphenylphosphazo anilines add a proton to the nitrogen atom of the triphenylphosphazo group. p-Triphenylphosphazoaniline is more basic than p-phenylenediamine (pK_a 11.85) and N,N-dimethyl-p-phenylenediamine (pK_a 13.00), but less basic than p-bis-(triphenylphosphazo)phenylene (pK_a 18.72).

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UDC 546.185

USSR

LAZUKINA, L. A., KOTLYAR, N. G., KUKHAR', V. P., and SOLODUSHENKOV, Institute of Organic Chemistry, Ukrainian Academy of Sciences

"Phosphazo-1,3,5-Triazines. VI. Phosphorus-Containing Compounds Based on 2,4-Diamino-6-Halomethyl-1,3,5-Triazines"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,386-2,389

Abstract: The synthesis of phosphorus-containing compounds based on 2,4-diamino-6-haloalkyl-1,3,5-triazines is of interest in connection with study of the physiological activity of this group of compounds. Several different approaches to the synthesis were tried. In particular, the attempt to obtain a phosphoran from a phosphonium salt by the action of sodium methoxide in methanol, was unsuccessful. Sixteen triazines were synthesized.

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USSR UDC 547.556:547.561+546.185

KUKHAR', V. P., ZHMUROVA, I. N., and YURCHENKO, R. I., Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"Hammett Constants of the Triphenylphosphazo Group"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 279-281

Abstract: The experimental values of pK_a for p-(m'- and p'-triphenylphosphazophenyl)azophenols are used as a basis for calculating the values of the σ-constants of meta- and para- triphenylphosphazo groups: σ_m-0.33, σ_p-0.77. The value of the constant for the para-position is smaller than that of the dimethylamino group (-0.83), while the figure for the meta-position is somewhat larger than for the dimethylamino group (-0.211). A similar pattern is observed when σ^0 values are compared for these groups in the two positions.

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KUKHAR', V. P., BOYKO, A. P., ZOLOTAREVA, L. A., and KIRSANOV, A. V.,
Institute of Organic Chemistry, Academy of Sciences, UkrSSR

"Trichlorophosphazoperchloroethane in the Friedel-Crafts Reaction"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 281-283

Abstract: The authors study the catalytic activity of Lewis acids in the Friedel-crafts reaction. In the reaction of trichlorophosphazoperchloroethane with benzene, the catalytic activity of Lewis salts decreases in the order $SbCl_5>AlCl_3>FeCl_3>SnCl_4>TiCl_4$. In the case of toluene, the reaction proceeds somewhat more readily in the presence of $SbCl_5$, while chlorobenzene reacts less readily than benzene with this catalyst. The reaction of trichlorophosphazoperchloroethane with other organic solvents in the presence of Lewis acids leads to resin formation and difficulty in isolating the corresponding trichloromethylketones. N-Dichlorophosphonylimidotrichloroacetyl chloride reacts much more slowly with benzene in the presence of antimony pentachloride than does trichlorophosphazoperchloroethane with a much lower yield of trichloroacetophenone.

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USSR UDC 546.185

KUKHAR', V. P., SEMENIY, V. YA., KIRSANOV, A. V.

"Complexes of Trichlorophosphazopolychloralkanes with Lewis Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 98-102

Abstract: Trichlorophosphazotetrachloralkanes react easily with Lewis acids to form crystalline salt-like complexes (I) which were isolated in the individual state:

$$RCCl_2CCl_2N{=}PCl_3 + MCl_n \rightarrow \underset{I}{[RCCl_2CCl{=}N{=}PCl_3]^+MCl^-_{n+1}}.$$

The yields, formulas and some physical characteristics of the compounds are presented. In the infrared spectra of the (I) complexes there is an intense absorption band in the 1630-1700 cm^{-1} range belonging to the $C{=}\overset{+}{N}{=}$ bond vibrations [Z. Arnold, Coll. Czech. Chem. Commun., No 27, 2887, 1962]. The (I) complexes are strong electrophilic agents, and they react easily with various organic compounds — hydrocarbons, aldehydes, ketones, simple and complex esters, nitriles, nitroalkanes, and so on. Structures are proposed to explain the chemical and spectral properties of these complexes.

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USSR UDC 546.185

GUSAR', N. I., IVANOVA, Zh. M., KUKHAR', V. P., and KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"N,N-Dialkyl-N'-Dialkoxyphosphonylformamidines"

Leningrad, Zhurnal Obshchey Khimii, Sep 71, Vol 41, No 9, pp 2107-2108

Abstract: N,N-Dialkyl-N'-dialkoxyphosphonylformamidines are readily obtained by treating N-dialkoxyphosphonyliminoformic acid esters with secondary amines at 0-5°C without a solvent

$$\underset{II}{(RO)_2P(O)-N=CH-OR'} + HNR_2^2 \longrightarrow \underset{I}{(RO)_2P(O)-N=CH-NR_2^2} + R'OH$$

N-dialkoxyphosphonyliminoformic acid methyl ester (II, $R'=CH_3$) was obtained in low yield from the 1,1-dichloromethyl ester and dialkylamidophosphate, in the presence of triethylamine in benzene

$$(RO)_2P(O)NH_2 + Cl_2CHOCH_3 \xrightarrow{2Et_3N} (RO)_2P(O)N=CH-OCH_3 + 2Et_3N \cdot HCl$$

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USSR UDC 547.558.1+546.185

ZHMUROVA, I. N., YURCHENKO, R. I., KUKHAR', V. P., PETRASHENKO, A. A., and KIRSANOV, A. V., Institute of Organic Chemistry, Acad. Sc., Ukrainian SSR

"Protonation of Triphenylphosphazoazobenzenes"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 5, May 71, pp 1027-1031

Abstract: 4-Triphenylphosphazoazobenzenes (I) are protonated in alcoholic solution of 1N HCl principally at the triphenylphosphazo group. When the strength of hydrochloric acid is increased to the level of 3-6 N, the tautomeric equilibrium is shifted slightly towards the azo group salts. The differences in absorption maxima of (I) spectra taken in neutral and acid media (4N HCl) correlate with the σ^- constants of the 4'-position substituents. In comparison to 4-amino- and 4-dimethylaminoazobenzenes, the 4-triphenylphosphazoazobenzenes are more basic by about 5-6 pKa units. Although accurate comparisons were not possible, the basicity constants of (I) type c compounds correlate with the σ^0 and σ^- constants of the substituents on the 4-position.

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USSR

BODNARCHUK, N. D., SEMENIY, V. Ya., KUKHAR', V. P. and KIRSANOV, A. V., Institute of Organic Chemistry, Ukrainian Academy of Science SSR

"Phenyldichlorophosphazopolychloroalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 984-988

Abstract: Phenyldichlorophosphine was treated with aliphatic nitriles and chlorinated to saturation, to give phenyldichlorophosphazo-1,1,2,2-tetrachloroalkanes. These reactions proceed simultaneously and the products readily hydrolyze, react with amines, alcohols, and phenols. In a further reaction sequence, the phenyldichlorophosphazopolychloroalkanes were treated with arenesulfamide.

$$RCCl_2N{=}PCl_2X + H_2NSO_2Ar \rightarrow 2HCl + RC\begin{matrix}NSO_2Ar\\ N{=}PCl_2X\end{matrix}$$

I

X = Cl, Ph.

This reaction proceeds slowly in the temperature range of 110-130°. The product is easily hydrolyzed, reacts with alcohols, amines and phenols to form phenyldichlorophosphazo-N-arylesulfonyliminopolychloro acyl compounds.

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USSR UDC 547.491.8

KUKHAR', V. P., BUKOVSKII, M. I., KASHEVA, T. N., PALKYCHUK, V. S., [redacted], A. A., SOLODUSHENKOV, S. N., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Phosphazo-1,3,5-triazines. IV"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, 1226-1229

Abstract: 2-Azido-4,6-dimethoxy(phenoxy)-1,3,5-triazines easily react with tertiary phosphines and trialkyl phosphites to form 2-phosphazo-4,6-dimethoxy (phenoxy)-1,3,5-triazines. The reaction is exothermic and is completed within 10-15 min. Triphenyl phosphite reacts less rapidly. Tertiary phosphines react easily with azides of diaminotriazines to form 2-phosphazo-4,6-diamino--1,3,5-triazines. The phosphazo compounds are colorless crystals which readily dissolve in alcohol, acetone, methanol, but which are insoluble in water and hexane. They are hydrolyzed in boiling water or in 1N hydrochloric acid. The basicities of the compounds were determined in nitromethane and recalculated to the corresponding values in water. All these compounds were found to be weak bases. Presence of amino or alkylamino groups in the molecule raises the basicity by 3-4 units.

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USSR UDC 546.185:541.651.2

KUKHAR', V. P., PETRASHENKO, A. A., ZHMUROVA, I. N., TUKHAR', A. A., SOLODUSHENKOV, S. N., Institute of Organic Chemistry, Kiev, Academy of Sciences Ukrainian SSR

"Basicity of Phosphazo Compounds. I"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1696-1699

Abstract: m-Triphenylphosphazobenzoic acid and its methyl ester, melting at 199-201° and 126-127°, respectively, were synthesized by adding triphenylphosphine to a hot solution of the parent acid or ester in benzene and collecting the product precipitated from the cooled mixture. The p-triphenylphosphazobenzoic acid was obtained analogously with reversed addition of the reagents; the product melted at 241-243°C. To obtain triphenylphosphazo-p-trifluoromethylsulfonylbenzene, m.p. 157-159°, triphenylphosphine was added to the benzene solution of p-trifluoromethylsulfonylazidobenzene. A solution of p-trifluoromethylsulfonylaniline in dilute hydrochloric acid was diazotized, and a solution of sodium azide

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KUKHAR', V. P., et al, Zhurnal Obshchey Khimii, Vol 40, No 8, Aug 70, pp 1696-1699

was added gradually, yielding p-trifluoromethylsulfonylazidobenzene, m.p. 53-55°. Other compounds were obtained by known methods. Their pK values for basic and acidic ionization were determined. It was found that the substituents on the phenyl ring show principally an inductive effect on the reactive center of the triphenylphosphazoarenes. The m-triphenylphosphazo group is a greater electron donor than the m-dimethylamino group, and the p-triphenylphosphazo group is a slightly lesser electron donor than the p-dimethylamino group. In 95% alcohol the m- and p-triphenylphosphazobenzoic acids exist to a considerable degree as internal salts.

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USSR

UDC 546.185

SHEVCHENKO, V. I., LITOVCHENCKO, N. R., KUKHAR', V. P., Institute of Organic Chemistry, Academy of Sciences Ukrainian SSR

"Phosphorylation of 1,1,2-Tricyanoalkanes with Phosphorus Pentachloride"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, pp 1229-1234

Abstract: Trichlorophosphazopropylenes (I) which are obtained by the reaction of 1,1,2-tricyanoalkanes with PCl_5, easily add chlorine at the double bond to form trichlorophosphazo-1,1,2-trichloro-2,3-dicyano-3,3-dialkylpropanes. I yield cyclic compounds on hydrolysis. With excess water, they are hydrolyzed to 2-amino-3,3-dialkyl-4-cyano-5-chloropyrrolenes, whereas with a stoichiometric amount of water the hydrochlorides are obtained. Trichlorophosphazo-1-chloro-2,3-dicyano-3,3-dialkyl-1-propylenes react with chlorine to form trichlorophosphazo-1,1,2-trichloro-2,3-dicyano-3,3-dialkylpropanes which are hydrolyzed with excess water to yield 1-chloro-1,1,2-tricyanoalkanes.

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USSR UDC: 546.185

KUKHAR', V. P., SEMENIY, V. Ya., KIRSANOV, A. V., Institute of Organic Chemistry, Academy of Sciences of the Ukrainian SSR

"Interaction of Trichlorophosphazoperchloroethane With Amides of Carboxylic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2382-2385

Abstract: The interaction of trichlorophosphazoperchloroethane (I) with amides of carboxylic acids was studied by reacting (I) with acetamide (II). Interaction at a 1:1 molar ratio did not produce the expected N-acetyltrichlorophosphazoiminotrichloroacetyl (III). Instead, the acetamide dehydrated to acetonitrile, and products of hydrolysis or acidolysis of (I) formed -- N--dichlorophosphonyliminotrichloroacetyl chloride (IV) and N-dichlorophosphonyltrichloroacetamide (V) in a ratio of approximately 2:1. When (I) interacted with acetamide in a molar ratio of 1:2, the yield of compound (V) was 75-80%, while the nitrile yield remained unchanged. Reaction in a 1:3 ratio reduces the yield of (V) somewhat (to 50-60%); however, trichloroacetamide was isolated from the final products with a yield of 10-15%. When the components were taken in 1:4 ratio the basic products of the reaction were acetonitrile and trichlo-

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USSR

KUKHAR', V. P., et al., Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2382-2385

roacetamide. In the last two cases, the reaction was accompanied by precipitation of a resinous substance soluble in water with a strongly acid reaction, and apparently consists of a mixture of phosphoric and amidophosphoric acids. It was found that carboxylic acid amides with electron-acceptor substituents react somewhat more slowly than amides with electron-donor substituents.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CHLOROMETHYL AND DICHLOROMETHYLDICHLOROPHOSPHAZO ACYLS -U-

AUTHOR-(03)-SHOKOL, V.A., GAMALEYA, V.F., KUKHAR, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 554-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, ORGANIC PHOSPHORUS COMPOUND, AZO COMPOUND, CHLORIDE, NITRILE, PYROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1380 STEP NO--UR/0079/70/040/003/0554/0557

CIRC ACCESSION NO--AP0126780

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 014

CIRC ACCESSION NO--AP0128780

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EQUIMOLAR MIXT. OF (SHOWN ON MICROFICHE). PYROLYSIS OF THESE, COMPLETED AT 130-50DEGREES FOR CHLORO AND DICHLOROMETHYL MEMBERS AND 210-300DEGREES FOR THE REMAINDER, GAVE DICHLORIDES OF HALOMETHYLPHOSPHONIC ACIDS AND NITRILES. TREATED WITH 1 MOLE DRY (SHOWN ON MICROFICHE). FACILITY: INST. ORG. KHIM., USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--27NOV70

1/3. 014

TITLE--REACTION OF ALPHA,ALPHA PRIME BISTRICHLOROPHOSPHAZO ALPHA,ALPHA,BETA,BETA,ALPHA PRIME, ALPHA PRIME, BETA PRIME, BETA PRIME

AUTHOR-(02)-KUKHAR, V.P., KOVAL, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 776-81

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, AZO COMPOUND, ORGANIC PHOSPHORUS COMPOUND, AMMONIUM CHLORIDE, COMPLEX COMPOUND, AMINE DERIVATIVE, ALKANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1480 STEP NO--UR/0079/70/040/004/0776/0781

CIRC ACCESSION NO--AP0135146

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/3 014 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135146

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING 8 MOLES ROH TO 1 MOLE (CH SUB2) SUBN (CCL SUB2 CCL SUB2 N:PCL SUB3) SUB2 (I) IN C SUB6 H SUB6 GAVE, AFTER BRIEF HEATING TO EXPEL HCL, 90-5PERCENT (CH SUB2) SUBN (CCL SUB2 C(OR):NPO(OR) SUB2) SUB2 (IA) (N 2) (R SHOWN): ME, M. 56-7DEGREES; ET, B SUB0.04 96-8DEGREES, N PRIME20 SUBD 1.4633; N EQUALS 4: ME, B SUB0.04 120-2DEGREES, 1.4709; ET, M. 36-7DEGREES; N EQUALS 5: ME, B SUB0.03 117-19DEGREES, 1.4705; ET, B SUB0.03 126-8DEGREES, 1.4745; N EQUALS 6: ME, M. 71-2DEGREES; AND ET, B SUB0.04 144-7DEGREES, 1.4728. THE YIELDS WERE ABOUT 7OPERCENT OF DISTD., PUREPRODUCTS. ALTERNATIVELY, THESE WERE PREPD. FROM (CH SUB2) SUBN (CCL SUB2 CCL:NPOCL SUB2) SUB2 AND ROH AFTER BRIEF REFLUXING IN C SUB6 H SUB6. THE RESULTING ESTERS TREATED WITH DRY HCL IN ROH AT REFLUX 1 HR, GAVE AFTER SEPN. OF 90-5PERCENT NH SUB4 CL, SOME (RO) SUB3 PO FOLLOWED BY (CH SUB2) SUBN (CCL SUB2 CO SUB2 R) SUB2 (II) IN GOOD YIELD; THE OVERALL EQUATION IS I PLUS 12 ROH YIELDS 4HCL PLUS 4RCL PLUS 2NH SUB4 CL PLUS 2 PO(OR) SUB3 PLUS II. ALTERNATIVELY, ADDING 0.05 MOLE I TO 1 MOLE REFLUXING ROH IN C SUB6 H SUB6, HEATING 1 HR LONGER, FILTERING, AND DISTG. GAVE II IN A SINGLE OPERATION. IA TREATED WITH DRY NH SUB3 WITH ICE COOLING IN C SUB6 H SUB6 GAVE (CH SUB2) SUBN (CCL SUB2 C(NH SUB2):NPO(OR) SUB2) SUB2: N EQUALS 2: R EQUALS ME, M. 182-4DEGREES; ET, M. 115-16DEGREES; N EQUALS 4: R EQUALS ME, M. 157-9DEGREES; ET, M. 93-4DEGREES; WITH ME SUB2 NH THERE WERE FORMED (CH SUB2) SUBN (CCL SUB2 C(NME SUB2): NPO(OR) SUB2) SUB2: N EQUALS 2; R EQUALS ME, M. 170-20DEGREES; N EQUALS 4; R EQUALS ME, M. 120-1DEGREES.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--27NOV70

3/3 014

CIRC ACCESSION NO--AP0135146

ABSTRACT/EXTRACT--IA KEPT OVERNIGHT WITH H SUB2 O GAVE UP TO 96PERCENT AMIDES (CH SUB2) SUBN (CCL SUB2 CONHPO(OR) SUB2) SUB2: N EQUALS 1: R EQUALS ME, M. 189-90DEGREES; ET, M. 161-2DEGREES; PR, M. 137-8DEGREES; ISO-PR, M. 150-1DEGREES; N EQUALS 2; R EQUALS ME M. 214-15DEGREES; ET, M. 189-90DEGREES; ISO-PR, M. 187DEGREES; N EAUALS 3: R EQUALS ME, M. 139-40DEGREES; ET, M. 129-30DEGREES; N EQUALS 4: R EQUALS ME, M. 170-2DEGREES; ET, M. 124-5DEGREES; N EQUALS 5: R EQUALS ME, M. 126-7DEGREES; N EQUALS 6: R EQUALS ME, M. 160-2DEGREES; AND ET, M. 115-17DEGREES. THE SAME WERE FORMED FROM I BY HEATING WITH ISO-PROH IN C SUB6 H SUB6 1 HR. THE DIAMIDES TITRATED WITH NAOH (PHENOLPHTHALEIN) GAVE THE NA SALTS (CH SUB2) SUBN (CCL SUB2 CONPO(OR) SUB2) SUB2 NA SUB2: N EQUALS 2: R EQUALS ME, M. 222-4DEGREES; ET, M. 197-8DEGREES; N EQUALS 3: ME, M. 182-3DEGREES; ET, M. 183-5DEGREES; N EQUALS 4: ME, M. 196-7DEGREES; ET, M. 205-6DEGREES; N EQUALS 6: ME, M. 176-7DEGREES.

FACILITY: INST. ORG. KHIM., KIEV, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/3 017 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--REACTION OF TRICHLOROPHOSPHAZO COMPOUNDS WITH HYDROGEN CHLORIDE AND SULFUR DIOXIDE -U-

AUTHOR--KUKHAR, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 785-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, AZO COMPOUND, ORGANIC PHOSPHORUS COMPOUND, HYDROGEN CHLORIDE, SULFUR OXIDE, THIONYL CHLORIDE, ELECTRONEGATIVITY, CHEMICAL SUBSTITUENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1478 STEP NO--UR/0079/70/040/004/0785/0787

CIRC ACCESSION NO--AP0135145

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/3 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135145

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHILE GENERALLY XN:PCL SUB3 (I) REACT SUCCESSIVELY WITH HCL AND SO SUB2 TO FORM SOCL SUB2 AND XNHPOCL SUB2 (II), THE MEMBERS WITH STRONGLY ELECTRONEG. SUBSTITUENTS DO NOT UNDERGO SUCH A REACTION. I(X EQUALS O CLC SUB6 H SUB4) TREATED THUS IN C SUB6 H SUB6 WITH ICE COOLING GAVE II (X EQUALS O CLC SUB6 H SUB4), M. 75-6DEGREES, ALSO FORMED FROM I BY TREATMENT WITH ACOH. III (R EQUALS PH) IN CH SUB2 CL SUB2, POCL SUB3 OR MECN, TREATED 2 HR WITH DRY SO SUB2 UNTIL DISSOLVED, GAVE 85PERCENT IV (R EQUALS PH), M. 141-3DEGREES. TREATING RNHP(O)C1NRP(O)CL SUB2 (V) R EQUALS PH WITH ET SUB3 N IN C SUB6 H SUB6 GAVE IN 1 HR ET SUB3 N.HCL AND IV (R EQUALS PH). SIMILARLY WAS PREPD. IV (R EQUALS ME), M. 161-2DEGREES. PASSING HCL SO SUB2 INTO III IN CCL SUB4, C SUB6 H SUB6, POCL SUB3 OR OTHER SOLVENT 1 HR GAVE AFTER SEPN. OF UNREACTED III AND EVAPN. THE FOLLOWING V R EQUALS ME (VI), OIL; R EQUALS PH, M. 142-3DEGREES; P HEC SUB6 H SUB4, M. 150-1DEGREES; AND P CLC SUB6 H SUB4, M. 159-6DEGREES. VI B SUB0.05 104-5DEGREES, N PRIME20 SUBD 1.5060; THE YIELDS WERE UP TO 95PERCENT. PASSING DRY HCL INTO IV IN C SUB6 H SUB6 SIMILARLY GAVE 59PERCENT VI. FORMATION OF IV IN REACTION OF III, SHOWN ABOVE, OCCURS ONLY IN POLAR SOLVENTS; SO SUB2 DOES NOT REACT WITH DIMERIC PHOSPHAZO COMPDS. IN CCL SUB4, C SUB6 H SUB6 AND NONPOLAR SOLVENTS IN THE ABSENCE OF HCL. REACTION OF HCL AND SO SUB2 WITH I DOES NOT TAKE PLACE EVEN AFTER 8 HR, IF X EQUALS RSO SUB2, RCO, 4,2,6,O SUB2 N(CL SUB2) C SUB6 H SUB2, AS THESE DO NOT HAVE BASIC PROPERTIES. THEIR ANALOGS WITH X EQUALS PH, ME, ETC. ARE NOT STABLE IN THE MONOMERIC STATE AND FORM III.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

3/3 017 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135145

ABSTRACT/EXTRACT--FACILITY: INST. ORG. KHIM., KIEV, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC: 621.396.69:621.372.54(088.8)

BEL'MAN, M. Kh., BLINOV, B. V., KUCHAR', V. V., GOLOVIZNINA, N. V., RAZUMOVA, T. A.

"An Electromechanical Filter"

USSR Author's Certificate No 270125, filed 10 Dec 68, published 30 Jul 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V345 P)

Translation: An electromechanical filter is proposed with a T-shaped resonance element whose ends fit into gaps in magnetic systems of input and output converters interconnected by two permanent magnets. To improve the thermal stability of the filter, shunts of thermomagnetic alloy are connected in parallel with the permanent magnets.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC: 681.327

BLAZHKO, S. S., ZASLAVSKIY, R. I., KALAYDA, Ye. I., MASHEETS, N. Ya., KUKHARCHUK, A. G., NIKITIN, A. I., Institute of Cybernetics of the Academy of Sciences of the UkrSSR, and Electronic Computer and Control Computer Plant

"A Device for Data Transmission From the Input Unit to the Memory in a Digital Computer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 30, Oct 71, Author's Certificate No 317056, Division G, filed 27 Jun 69, published 7 Oct 71, p 172

Translation: This Author's Certificate introduces a device for data transmission from the input unit to the memory in a digital computer. The device contains a data address counter and a symbol register. As a distinguishing feature of the patent, program processing of words is simplified by including a balance circuit, a word symbol counter, a pattern address counter, an initial pattern address register, a space symbol decoder, and a zero decoder for the word symbol counter. The first output of the balance circuit is connected to the input of the data address counter, the second output is connected to the input of

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR

BLAGHIO, S. S. et al, Otkrytiya, Izobreteniya, Promyshlennye Obraztsy, Tovarnye Znaki, No 30, Oct 71

the word symbol counter, and the third output is connected to one input of the pattern address counter. Connected to the other input of the pattern address counter is the output of the initial pattern address register. The first input of the balance circuit is connected to the output of the [illegible] symbol decoder, whose input is connected to the output of the [illegible] register. The second input of the balance circuit is connected to the output of the word symbol counter, and the third input of the [illegible] circuit is connected to the output of the zero decoder for the [illegible] symbol counter. The zero decoder input is connected to the output of the word symbol counter.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR

KUKHARCHUK, L. P., and KAL'VISH, T. K., Biological Institute, Academy of Sciences USSR, Siberian Branch, Novosibirsk

"Blood-Sucking Mosquitoes (Diptera, Culicinae) in the Northern and Central Altai"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR, Seriya Biologicheskikh Nauk, No 10, 1972, pp 97-101

Abstract: The mosquito fauna of the Northern Altai appears to be largely the same as that of the Central Altai. Of the 28 species indigenous to these mountains, 27 are found in the former and 25 in the latter. Besides the common species, Aedes galloisi, Culex modestus, and C. territans occur in the Northern Altai and Aedes beklemishevi in the Central Altai. In the course of field trips in 1968 and 1969, Culex pipiens, Anopheles maculipennis, Aedes vexans, and A. cinereus were observed most frequently in the Northern Altai and Aedes diantaeus, A. intrudens, and A. punctor in the Central Altai. The areas investigated have a pronounced continental climate, with wide ranges of daily and annual temperatures and a comparatively small amount of precipitation (270 to 460 mm).

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC 621.385.833.28:[621.385.832:621.317.755]002

DERKACH, V.P., KIYASHKO, G.F., KUKHARCHUK, N.S.

"Scanning Microscope Using Oscillographic Tube"

Elektron. tekhnika. Nauch.-tekhn. sb. Kontrol'no-izmeril. apparatura (Electronics Technology. Scientific-Technical Collection. Monitoring and Testing Equipment), 1971, Issue 1(22), pp 89-98 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10A265)

Translation: A device is described which acts according to the principles of the scanning electron microscope and which makes it possible to study the physical pattern of the surface of objects. The small dimensions of the pickup unit make it possible for all practical purposes to place it in any functioning vacuum chamber and to fulfill investigations as part of the preparation or processing of an object without depressurizing the chamber. Summary.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

USSR UDC: 537.32 .03

KUKHARCHUK, V. G., MOISEYEV, A. I., UGOL'NIKOVA, T. A.

"Producing Diffusion Layers of the Compound V_3Ga on Vanadium Wire"

Moscow, Sverkhprovodyashchiye splavy i soyedin.--sbornik (Superconducting Alloys and Compounds--collection of works), "Nauka", 1972, pp 29-34 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D569 [resume])

Translation: A study was made of the conditions of synthesizing a superconductive layer of the compound V_3Ga on vanadium wire when it is treated in molten gallium at temperatures from 100 to 500°C and subsequent annealing at temperatures from 600 to 1100°C. The specimens were subjected to radiographic and metallographic analysis. Temperature-time conditions were determined for formation of the diffusion layer of compound V_3Ga. Specimens gallium-plated at 400°C showed an unknown gallium-vanadium phase whose composition and structure were not determined. The maximum temperature of transition to the superconductive state for V_3Ga layers produced by the diffusion method is 15.2 K. Two illustrations, one table, bibliography of 13 titles.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 CC7 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ISOMORPHISM IN MINERALOGY -U-

AUTHOR--KUKHARENKO, A.A.

COUNTRY OF INFO--USSR

SOURCE--ZAP. VSES. MINERAL. OBSHCHEST. 1970, 99(2), 200-13

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--ISOMORPHISM, METAMORPHIC ROCK, MINERAL FORMATION ANALYSIS, MINERALOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0634 STEP NO--UR/0000/70/099/002/0200/0213

CIRC ACCESSION NO--AP5[illegible]

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135376

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW IS PRESENTED. 27 REF., WITH A DEFINITION OF METAMORPHISM AND ITS RELATION WITH OTHER PHENOMENA OCCURRING IN CRYSTAL PHASES OF VARIABLE COMPN. THE MAIN SCHEMES OF REPLACEMENT AND THE SERIES OF ISOMORPHIC ELEMENTS WERE DISCUSSED BY USING EXAMPLES FROM INDIVIDUAL CLASSES AND GROUPS OF MINERALS. SOME PETROGENIC AND MINERAGENIC ASPECTS OF ISOMORPHISM ARE DISCUSSED.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

AT9043930 CHEMICAL ABST. 10-69 ULR 3661

76592f Comparison of some radiometric methods for measuring a level. Kukharenko, I. V.; Mashinin, V. A.; Shipulina, L. A. (USSR). *Tr., Vses. Nauch.-Issled. Inst. Radiats. Tekh.*, 1969, No. 3, 63-8 (Russ). The statistical fluctuation of the radiation flux intensity registered by the detector is the main source of errors in the radiometric level measurement. To compare various measurement methods, the following factors were considered: (*1*) the influence of the emitter radioactivity, the diam. and height of the reservoir, and the type of the detector, (*2*) the nonlinearity of the registered flux intensity with dependence on the level, and (*3*) the sensitivity of the detector towards the change of the reservoir wall thickness with the distance from the bottom. The best results can be obtained with devices in which both the emitter and the detector move with the level. Slightly worse results can be gained with devices in which only the detector is mobile. In low reservoirs, the devices can be used which measure the back-scattered radiation as well as those with floating emitters or with radioactive gas. Z. Kolarik

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

AA0040645 KUKHARENKO UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

242367 ESTABLISHING RESISTANCE PROBES, e.g. in the surface of articles made from thermoplastics materials, involved the embedding of wire gauze in the surface layer of the article concerned, but this was found to lead to some collapse of the original structure of the plastics surface. To improve the method for inserting the wire resistance probes, it is suggested that the wire gauze should be heated to a temperature higher than the melting temp. of the material from which the article is made, and the gauze is then embedded in the surface layer of the article using a tool, the temp. of which is lower than the melting point of the plastic. Heating of the wire gauze can be done with an electric current. 25.1.67. as 1129737/23-5, BELYI, V.A. and others Belorussian Acad. of Sciences. (2.9.69) Bul. 15/25.4.69. Class 39a[2] Int. Cl. B 29c.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

AA0040645

AUTHORS: Belyy, V. A.; Inyutin, I. S.; Sysoyev, P. V.; Kupchinov, B. I.; and Kukharenko, L. B.

Otdel Mekhaniki Polimerov AN Belorusskoy SSR

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--DEPENDENCE OF THE SPECIFIC FORCE OF CUTTING ON THE MECHANICAL CHARACTERISTICS OF POLYMER MATERIALS -U-

AUTHOR-(03)-SYSOYEV, P.V., CHETVERIKOV, G.M., KUKHARENKO, L.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., MASHINOSTR, 1970, (2), 143-51

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--THERMOPLASTIC MATERIAL, FLUORINATED ORGANIC COMPOUND, POLYETHYLENE, VINYL RESIN, POLYFORMALDEHYDE, POLYMETHYLMETHACRYLATE, CAPROLACTAM, HARDNESS, ELONGATING, PLASTIC MECHANICAL PROPERTY, TEST METHOD/(U)FTOROPLAST FLUORINE RESIN, (U)VINIPLAST VINYL RESIN, (U)KAPROLON PLASTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1117 STEP NO--UR/0145/70/000/002/0148/0151

CIRC ACCESSION NO--AT0134803

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134803

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE CUTTING STRENGTH (P SUB2) OF THERMOPLASTIC POLYMERS, E.G., FTORUPLAST, POLYETHYLENE, VINIPLAST, POLYFORMALDEHYDE, POLY(ME PETHACRYLATE), POLYCAPROLACTAM, P,63, AND KAPROLON INDICATED THAT P SUB2 INCREASED WITH POLYMER HARDNESS AND RELATIVE ELONGATION. AN EXPONENTIAL EQUATION (EXPONENT SMALLER THAN 1), WHICH EXPRESSED P SUB2 AND POLYMER SHAVING CROSS SECTION AS A FUNCTION OF THE YIELD POINT, WAS DERIVED. FACILITY: BELORUSS. INST. INZH. ZHELEZNODORGZH. TRANSP., USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DETERMINATION OF THE PYROMELLITIC ACID CONTENT IN COAL OXIDATION PRODUCTS -U-

AUTHOR-(02)-KUKHARENKO, T.A., GRIGORYEVA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--KHIM. TVERD. TOPL. 1970, (2), 149-51

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PYROMELLITIC ACID, COAL, OXIDATION, CHROMATOGRAPHY, CARBOXYLIC ACID ESTER, SILICONE RUBBER, CHROMATOGRAPHIC SEPARATION/(U)E301 SILICONE RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0570 STEP NO--UR/0467/70/000/002/0149/0151

CIRC ACCESSION NO--AP0119468

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119488

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CHROMATOG. METHOD WAS WORKED OUT FOR SEPN. OF ME ESTERS OF BENZENETETRACARBOXYLIC ACIDS USING A 3 M,4 MM COLUMN PACKED WITH 5PERCENT SILICONE ELASTOMER (E-301) ON CHROMOSORB W, COLUMN TEMP. 240DEGREES, AND CARRIER GAS HE. RELATIVE RETENTION TIMES AND SENSITIVITY COEFFS. OF THE STUDIED ACIDS ARE GIVEN. FACILITY: INST. GORYUCH, ISKOP., MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DETERMINATION OF BENZENEPOLYCARBOXYLIC ACIDS BY A GAS CHROMATOGRAPHIC METHOD -U-

AUTHOR-(02)-KUKHARENKO, T.A., GRIGORYEVA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--NEFTEKHIMIYA 1970, 10(2), 303-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE, CARBOXYLIC ACID, GAS CHROMATOGRAPHY, ISOMER, SILICONE RUBBER, CHEMICAL LABORATORY APPARATUS/(U)E301 SILICONE RUBBER, (U)XHVI CHROMATOGRAPH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0971 STEP NO--UR/0204/70/010/002/0303/0308

CIRC ACCESSION NO--AP0134689

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 006

CIRC ACCESSION NO--AP0134689

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ISOMERS OF THE ACIDS WERE QUAL. AND QUANT. DETD. AS ME ESTERS BY USING 2 TYPES OF PHASES, AND AS BETA CYANOETHYL ESTER OF A POLYATOMIC ALC. AND SILICONE ELASTOMER E 301 AND A HIGH TEMP. CHROMATOGRAPH KHV 1 WITHOUT A PROGRAMMER. THE ANAL. WAS CARRIED OUT AT 3 TEMPS. THE MIXT. OF ESTERS OF THE AICD ISOMERS WERE SEPD. WITH THE SAME COLUMN AND A POLAR PHASE, BUT THE TEMP. AND AMT. OF OF CARRIER GAS (HE) WERE INCREASED TO DECREASE THE RETENTION TIME OF THE SUBSTANCE. THE RELATIVE ANAL. ERROR WAS 2.0PERCENT. THE METHOD WAS USED TO STUDY THE STRUCTURE OF NATURAL SUBSTANCES BY OXIDN. AND THE PRODUCTION OF THE TITLE ACIDS. FACILITY: INST. GORYUCH. ISKOP., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--KINETIC STUDY OF THE ANTITUMOR ACTIVITY OF N-NITROSALKYLUREA IN EXPERIMENTS -U-

AUTHOR-(04)-EMANUEL, N.M., VERMEL, YE.M., OSTROVSKAYA, L.A., KUKHARENKO, YU.A.

COUNTRY OF INFO--USSR

SOURCE--INST. CHEM. PHYS., MOSCOW, USSR

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTINEOPLASTIC DRUG, UREA DERIVATIVE, NITROSO COMPOUND, DRUG DOSAGE RESPONSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/2043 STEP NO--UR/0506/70/016/003/0046/0054

CIRC ACCESSION NO--AP0117286

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 016

CIRC ACCESSION NO--AP0117286

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NITROSOMETHYLUREA, NITROSOETHYLUREA, OR NITROSOPROPYLUREA GIVEN S.C. TO MICE WITH ASCITES SARCOMA 180 OR EHRLICH TUMORS CHANGED THE PARAMETERS OF THE KINETIC EQUATIONS GOVERNING TUMOR GROWTH. NITROSOETHYLUREA WAS THE MOST EFFECTIVE, AND NITROSOPROPYLUREA THE LEAST EFFECTIVE, IN REDUCING THE GROWTH RATE. ALL 3 COMPOS. GREATLY INCREASED THE DOUBLING TIME OF THE TUMOR CELL POPULATION. A LARGE DOSE OF A DRUG GIVEN ONCE WAS MORE EFFECTIVE THAN MULTIPLE DOSES GIVEN IN SMALLER AMOUNTS.

FACILITY: INST. CHEM. PHYS., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--STATISTICAL BASIS OF THE KINETIC EVALUATION OF THE EFFECTIVITY OF ANTICANCER INFLUENCES IN THE COURSE OF THE EXPERIMENT -U-

AUTHOR-(04)-EMANUEL, N.M., KUKHARENKO, YU.A., DRONOVA, L.M., YERDKHIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 2, PP 224-228

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STATISTIC ANALYSIS, ANTITUMOR DRUG EFFECT, TUMOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0949 STEP NO--UR/0216/70/000/002/0224/0228

CIRC ACCESSION NO--AP0109106

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--09OCT70

2/2 018

CIRC ACCESSION NO--AP0109106

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MATHEMATICAL BASIS FOR THE CRITERION OF EFFECTIVITY OF ANTITUMOR INFLUENCES AS WELL AS A METHOD OF CONSTRUCTION OF CONFIDENTIAL INTERVALS IN ORDER TO OBTAIN MEAN VALUES REGARDING TWO NORMAL AGGREGATES ARE PROPOSED. THE FORMULAS OBTAINED ARE APPLIED FOR THE ANALYSIS OF EXPERIMENTAL KINETIC CURVES DESCRIBING TUMOR GROWTH. THE RESULTS ARE COMPARED WITH THOSE OBTAINED BY MEANS OF A TRANSFORMATION METHOD PROPOSED EARLIER. THE LIMITS OF APPLICATION OF THE LATTER ARE DISCUSSED. FACILITY: INSTITUTE OF CHEMICAL PHYSICS, ACADEMY OF SCIENCES, USSR.

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Acc. Nr. AP0047692 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code 21R0136

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92428h Bases of the process for updraft sintering of bend charges. Novoselov, S. S.; Khobdabergenov, R. Zh.; Bryukhanov, N. G.; Kukharev, A. K. (USSR). *Tsvet. Metal.* 1970, 43(1), 8-13 (Russ). The updraft sintering of Pb concs. was studied. The operation required careful prepn. of the charge, esp. the maintenance of the concn. of S at 6.5-7.5 and moisture at 5.5-6.5%, addn. of recycled material 160-70 wt. % of the conc., and particle size −10 mm. Addn. of −3-mm conc. 0.8-1% of the charge was necessary to maintain 1000-1100° in the combustion zone, since the temp. could not be controlled by the S concn. only. Addn. of conc. decreased the sinter S concn. improved the S elimination, and enhanced the quality an[illegible] of sinter. E. M. [illegible]

REEL/FRAME
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UDC: 51

USSR

KUZ'MIN, I. V., DEDIKOV, E. A., KUKHAREV, B. Ye.

"A Method of Constructing a Global Criterion in Mathematical Programming Problems"

Mekhaniz. i avtomatiz. upr. Nauch.-proizv. sb. (Mechanization and Automation of Control. Scientific-Production Collection), 1971, No 6, pp 11-12 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V371)

Translation: A procedure is considered for reducing the object functions of a mathematical programming problem to a united mathematical form which can be used as a basis for formulating global criteria. Two types of global criteria are proposed for evaluating a compromise solution from the standpoint of the minimum sum of losses relative to each localized criterion with regard to weight coefficients, and the minimum of maximum losses (minimax). Errors in linearizing the functions of localized criteria are presented. Authors' abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

Theoretical Automation

USSR

KUZ'MIN, I. V., DEDIKOV, E. A., KUKHAREV, B. Ye.

"Method of Obtaining a Global Criterion in Problems of Mathematical Programming"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya; November-December, 1971; pp 11-2

Abstract: The authors consider a procedure for reducing specific functions of a problem in mathematical programming to a single mathematical form, on the basis of which global criteria can be formulated. Two types of global criteria are suggested for evaluating a compromise solution from the point of view of the minimum of the sum of the losses with relation to each local criterion, taking into account the weight coefficients and the minimum of the maximum losses (minimax). The errors in linearization of the functions of local criteria are found.

The article includes 5 equations and a graph showing a function and its linearization.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--18SEP70

1/2 034

TITLE--FUNCTIONAL DISORDERS IN CHILDREN WITH EYE INJURIES AND POSSIBILITIES OF THEIR ELIMINATION -U-

AUTHOR--KUKHAREVA, L.T.

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COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 78-88

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EYE, WOUND, PEDIATRICS, VISUAL ACUITY, VISUAL DEFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0678 STEP NO--UR/0357/70/000/002/0078/0088

CIRC ACCESSION NO--AP0102662

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--18SEP70

2/2 034

CIRC ACCESSION NO--AP0102662

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHILE STUDYING LATE RESULTS IN 206 CHILDREN TREATED FOR A PENETRATING WOUND WITHOUT ANY DAMAGE OF THE LENS, GROSS CHANGES IN THE REFRACTIONAL MEDIA AND IN THE OPTICO NERVOUS SYSTEM A GROUP OF THEM WAS SINGLED OUT IN WHOM THE VISUAL ACUITY DID NOT ACCORD WITH ORGANIC ALTERATIONS WHICH THEY PRESENTED. PLEOPTIC TREATMENT IN 49 OF 54 SUCH CHILDREN LED TO THE IMPROVEMENT OF THE VISUAL ACUITY AND TO RESTORATION OF BINOCULAR VISION. THE AUTHOR BELIEVES THAT CHILDREN WITH SUCH EYE INJURIES MAY POSSIBLY DEVELOP FUNCTIONAL DISORDERS IN THE SHAPE OF DISTURBED BINOCULAR VISION AND AMBLYOPIA. THE FACT THAT PLEOPTIC TREATMENT UNDERTAKEN ONE HALF TO 1 YEAR AFTER SUSTAINED INJURY RESULTS IN RAISING OF VISUAL ACUITY AND RESTORATION OF BINOCULAR VISION PROVES THAT SUCH A TREATMENT SHOULD BE INCLUDED IN THE COMPLEX SET OF CURATIVE MEASURES IN CHILDREN WHO SUFFERED PENETRATING EYE WOUNDS WITHOUT IMPAIREMENT OF THE LENS, GROSS CHANGES OF REFRACTIVE MEDIA AND OF THE OPTICO NERVOUS SYSTEM. IT IS NECESSARY THAT THE SCOPE OF DISPENSARY OBSERVATION OVER SUCH CHILDREN BE BROADENED.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

242087 SELECTIVE NUTRIENT MEDIUM for the assay of the microorganisms similar to Escherichia coli comprises peptone, sodium chloride, a saccharide and an acid-base indicator, and is modified, for ensuring the possibility of visual detection of the above microorganisms, by introducing into it yeast autolysate as a growth-stimulating agent, Chinosol and bile as inhibitors of the growth of the saprophytic microorganisms and bromocresol purple as the acid base indicator. 22.1.68. as 1212439/28-13, FREIDLIN, E.M. KUKHARKOVA, L.L. Meat Ind. Res. Inst. (5.9.69) Bul 15/25.4.69. Class 6a, Int. Cl. C 12k.

LD

AUTHORS: Freydlin, Ye. M.; and Kukharkova, L. L.
Vsesoyuznyy Nauchno - Issledovatel'skiy Institut Myasnoy Promyshlennosti

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THYROIDIN TREATMENT OF PATIENTS WITH NODULAR NONTOXIC GOITER -U-

AUTHOR--KUKHARSKAYA, E.P.

COUNTRY OF INFO--USSR

SOURCE--PROBL ENDOKRINOL 16(1): 15-19, 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GOITER, THYROID GLAND, DRUG TREATMENT, IODINE ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0257 STEP NO--UR/0502/70/016/001/0015/0019

CIRC ACCESSION NO--A0134067
UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 017

CIRC ACCESSION NO--AP0134062

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ONE HUNDRED PATIENTS SUFFERING FROM NODULAR NONTOXIC GOITER WERE TREATED WITH THYROIDIN FOR UP TO 24 MO IN MAXIMAL TOLERANCE DOSES OR IN DOSES REDUCING THE I PRIME131 UPTAKE BY THE THYROID GLAND BY OVER 50PERCENT OF THE INITIAL LEVEL. REDUCTION AND DISAPPEARANCE OF THE NODES WAS SEEN ONLY IN 7 OF 23 PATIENTS WITH INDISTINCTLY PALPABLE NODES AND NOT IN ANY OF 77 PATIENTS WITH NODES WHICH HAD DISTINCT OUTLINES ON PALPATION. NO GROWTH OF THE NODES TOOK PLACE IN ANY OF THE PATIENTS DURING THYROIDIN ADMINISTRATION. ALTHOUGH THERE WAS SOME TENDENCY OF REDUCTION OF THE I PRIME131 ABSORBING NODES, NO SUCH TENDENCY WAS NOTED IN NONFUNCTIONING TYROID GLAND NODES. THERE WAS NO RELATIONSHIP BETWEEN THE DEPRESSION OF I PRIME131 UPTAKE IN THE NODE AND THE CHANGE OF ITS SIZE AGAINST THE BACKGROUND OF THYROIDIN ADMINISTRATION. THE CHANGE OF THE CURVE OF I PRIME131 UPTAKE BY THE THYROID GLAND AGAINST THE BACKGROUND OF THYROIDIN ADMINISTRATION GAVE SOME UNDERSTANDING OF THE FUNCTIONAL ACTIVITY OF THE GLAND. THE ABSENCE OF ANY REDUCTION OF I PRIME131 UPTAKE OR ITS RISE WAS OBSERVED ONLY IN THE PRESENCE OF INCREASED FUNCTION OF THE THYROID GLAND NODE. REDUCTION OF I PRIME131 UPTAKE BELOW 50PERCENT OF THE INITIAL LEVEL WAS SEEN BOTH IN THE NODES WITH REDUCED FUNCTION OF NONFUNCTIONING, AND IN THE NODES WITH ABSORBED I PRIME131 BUT FUNCTIONALLY DEPENDED ON HYPOTHALAMO HYPOPHYSICAL REGULATION. FACILITY: DEP. ENDOCRINOL., INST. OBSTET. GYECOL., ACAD. MED. SCI. USSR, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

Composite Materials

USSR

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UDC [illegible]

KORITSKA, M. V., [illegible]SKAYA, E. V., and SHORIK, Yu. I., Institute of Silicate Chemistry imeni I. V. Grebenshchikov, Leningrad, Academy of Sciences [illegible]

"Grafting of Polydimethylsiloxane Macromolecules Onto Surface of Glass Fiber by Thermal Shock Method"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 9, Sep 70, pp [illegible]

Abstract: The article describes results of experiments on the hydro[illegible] of glass in polydimethylsiloxane by the thermal shock method, i.e., by sharply cooling specimens of alkali-free glass or glass fiber from [illegible] 550 to 25° in a toluene solution of polydimethylsiloxane. The hydrophobization of the glass and glass fiber is due to chemical grafting of macromolecules of the organosilicon polymer onto the surface of the glass. The polymeric film obtained in this way on the glass fiber surface is resistant to thermooxidative degradation up to 450° and endows the glass fiber with high dielectric properties.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF THE DEGREE OF DISPERSION AND COMPOSITION OF SILICEOUS FILLERS OF RUBBER ON FILLER REINFORCING ACTION -U-

AUTHOR-(04)-KUKHARSKAYA, E.V., CHIGAREVA, O.G., SKORIK, YU.I., GILEVA, K.G.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(3), 21-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FILLER, SYNTHETIC RUBBER, SILICA, ALKALINE EARTH METAL, STYRENE/(U)SKMS30RP SYNTHETIC RUBBER, (U)AEROSIL SILICEOUS FILLER, (U)ULTRASIL VN3 SILICEOUS FILLER, (U)HISIL SILICEOUS FILLER, (U)B550 SILICEOUS FILLER, (U)ZEOLEX25 SILICEOUS FILLER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0838 STEP NO--UR/0138/70/029/002/0021/0023

CIRC ACCESSION NO--AP0124505

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124505

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A RUBBER MIXT., CONTG. SKMS-30RP AS ITS MAIN COMPONENT, WAS FILLED WITH SEVERAL SILICEOUS FILLERS, E. G., AEROSIL 300, ULTRASIL VN-3, HI-SIL, SILOXIDE, BS-50 (I), ZEOLEX-25 (II), AND ZEOLEX-23 (III), AND THE MIXT. WAS EXAMD. MICROSCOPICALLY. NO CORRELATION WAS OBTAINED BETWEEN THE DEGREE OF DISPERSION OF A FILLER AND ITS REINFORCING EFFECT. THE REINFORCING EFFECT OF THE FILLERS WAS INVERSELY PROPORTIONAL TO THE CONTENT OF ALK. AND ALK. EARTH CATIONS; THUS III, II, AND I WERE THE LEAST EFFECTIVE FILLERS. FACILITY: INST. KHIM. SILIKATOV IM. GREBENSHCHIKOVA, LENINGRAD, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

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USSR

UDC 621.317.799:538.569.4

AKVILONOVA, A. B., GORELIK, A. K., KALASHNIKOV, V. V., KRYLOVA, M. S., KUTUZA B. G., KUKHARSKAYA, N. F., MITNIK, L. M., PUZANOV, V. A., and FROLOV, Yu. A.

"Measuring the Full Absorption in a Cloudless Atmosphere in the 0.55-0.59 Range"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 8-11 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A422)

Translation: Experimental data is given on the full absorption of radio waves in a cloudless atmosphere in the 0.55-0.59 cm range, with simultaneous recording of vertical profiles for temperature, pressure, and humidity at the observation point. Resume

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--OPTICAL PROPERTIES OF INSB SUBX MINUS INTE SUB1 NEGATIVE X SOLID SOLUTIONS -U-

AUTHOR-(04)-GASANLY, N.M., ALIYEV, M.I., KUKHARSKIY, A.A., SUBASHIYEV, V.K.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(3), 576-8

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--OPTIC PROPERTY, IR SPECTRUM, POLYCRYSTAL, INDIUM ANTIMONIDE, ABSORPTION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1712 STEP NO--UR/0449/70/004/003/0576/0578

CIRC ACCESSION NO--AP0120424

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 032 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120424

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INFRARED SPECTRA WERE OBTAINED FOR COARSE, POLYCRYST. SAMPLES OF (INSB) SUBX MINUS (INTE) SUB1 NEGATIVE X SOLID SOLNS. PRODUCED BY DIRECT MELTING OF THEIR COMPONENTS AND HOMOGENIZATION BY HEATING FOR 200 HOURS AT 450DEGREES. THE VALUE OF X RANGED FROM 0.999 TO 0.99999. CURVES INDICATE THE SPECTRAL RELATION OF REFLECTION AND TRANSMISSION COEFFS. IN THE 2-25 MU RANGE AS WELL AS THE RELATION BETWEEN THE EFFECTIVE MASS OF CONDUCTION ELECTRONS AND COMPN. THE EFFECTIVE MASS INCREASED FROM 0.013 AT X EQUALS 0.99999 TO 0.063 AT X EQUALS 0.999. THE ABSORPTION COEFF. ALPHA (H OMEGA) WAS OBTAINED FROM TRANSMISSION SPECTRA; THE ABSORPTION CROSS SECTION OF LIGHT FOR ELECTRONS, (ALPHA DIVIDED BY N), IN THE COMPN. RANGE 0.85 SMALLER THAN OR EQUAL TO 0.85 SMALLER THAN OR EQUAL TO X SMALLER THAN OR EQUAL TO 0.999, OBTAINED AT 7 MU, CHANGED FROM 4.3 TIMES 10 PRIME NEGATIVE17 TO 7 TIMES 10 PRIME NEGATIVE17 CM PRIME2. FACILITY: INST. POLUPROV., LENINGRAD, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

1/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE PROBLEM OF DETERMINING THE EFFECTIVE MASS AND THE RELAXATION TIME OF THE CARRIERS IN SEMICONDUCTORS FROM INFRARED SPECTRA OF LIGHT

AUTHOR-(02)-KUKHARSKIY, A.A., SUBASHIYEV, V.K.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA I TEKHNIKA POLUPROVODNIKOV, VOL. 4, FEB. 1970, P. 287-293.

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SEMICONDUCTOR MATERIAL, CARRIER SCATTERING, CARRIER DENSITY, RELAXATION PROCESS, IR SPECTRUM, ELECTRIC CONDUCTIVITY, ION TRAP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1466 STEP NO--UR/0449/70/004/000/0287/0291

CIRC ACCESSION NO--AP0112460

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620013-4

2/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112460

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE DIFFERENCE BETWEEN THE PHENOMENOLOGICAL RELAXATION TIMES OF FREE CARRIERS, DETERMINED IN THE PAST FROM THE SHAPE OF THE INFRARED REFLECTION SPECTRA OF A NUMBER OF SEMICONDUCTORS, AND THESE SAME RELAXATION TIMES DETERMINED FROM STATIC ELECTRICAL CONDUCTIVITY DATA. IT IS SHOWN THAT THIS DIFFERENCE CAN BE SUBSTANTIALLY DECREASED BY CARRYING OUT A CORRECT AVERAGING OF THE FREE CARRIER CONTRIBUTION TO THE DIELECTRIC CONSTANT WITH RESPECT TO THE RELAXATION TIMES. THIS AVERAGING IS CARRIED OUT FOR AN ARBITRARY DEGREE OF DEGENERACY OF THE ELECTRON GAS. THE CASE OF SCATTERING OF CARRIERS BY IONIZED CENTERS IS CONSIDERED IN GREATEST DETAIL.

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TITLE--DEPENDENCE OF THE LIFETIME OF OPTICAL PHONONS IN GALLIUM ARSENIDE ON THE HOLE AND ELECTRON CONCENTRATION -U-

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYTICAL AND EXPERIMENTAL INVESTIGATION OF THE IR REFLECTION SPECTRA OF SEMICONDUCTORS BEYOND THE INTRINSIC ABSORPTION EDGE, IN THE CASE WHERE THE PLASMA FREQUENCY IS CLOSE TO FREQUENCY OF THE OPTICAL PHONONS. IT IS SHOWN THAT IN ORDER TO OBTAIN INFORMATION ON THE INTERACTION BETWEEN THE PHONONS AND THE FREE CHARGE CARRIERS, IT IS ESSENTIAL TO TAKE INTO ACCOUNT THE DAMPING OF BOTH THE ELECTRON AND PHONON SYSTEMS. A PHENOMENOLOGICAL LIFETIME OF OPTICAL PHONONS (DEFINED AS A QUANTITY RECIPROCAL OF THE DAMPING IN THE OSCILLATOR EQUATION DESCRIBING LATTICE VIBRATIONS) IS INTRODUCED WHICH CHARACTERIZES THE DAMPING OF THE PHONON SYSTEM. IT IS FOUND THAT THE PHONON LIFETIME DECREASES MONOTONICALLY WITH INCREASING NUMBER OF HOLES, WHICH AN INCREASE IN THE ELECTRON CONCENTRATION LEADS TO AN ABRUPT INCREASE IN THE PHONON LIFETIME. THIS UNEXPECTED RESULTS IS ATTRIBUTED TO THE DIFFERENT SCREENING ACTION OF ELECTRONS AND HOLES.

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DZHIBLADZE, R.N., [redacted], MUMLADZE, V.V.

"Regular Variations Of The Intensity Of Generation Of A Glass Fiber Laser Activated By Neodymium"

Kvantovaya elektronika, Moscow, No 5, May 71, pp 120-122

Abstract: The regular pulsations of generation intensity resulting from the appearance of absorptive centers in the glass fiber are investigated. The experiments were conducted on fibers activated by Nd^{3+} 120 cm long and 27-35 micrometer in diameter (diameter of core 20-25 micrometer) mixed in a reflector with flowing distilled water. Pumping was produced by two IFP-5000 gas-discharge pulse lamps. The time characteristics of the emission were studied with the aid of a FEU-22 photomultiplier on a S1-29 oscillograph. The concentration of absorptive centers was varied with the aid of an aqueous solution of $K_2Cr_2O_7$, cutting off the ultraviolet part of the spectrum. The dependences of the period of the pulsations and the generation delay time on the pump power were investigated. An anomalous growth of the pulsations period with an increase of the pump power was displayed, caused by the absorptive layers in the glass. The

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DZHIBLADZE, R. N., et al., Kvantovaya elektronika, Moscow, No 5, May 71, pp 120-122

dependences of the threshold population inversion of the operating levels on the pump power and on the degree of formation of absorptive centers are obtained from kinetic equations based on the experimental results. The ratio of the threshold difference of the populations of the levels to the overall number of atoms of neodymium for a fiber laser attains a magnitude of 0.7--0.9. Establishment of a stationary value ofthe absorption coefficient occurs with small concentrations of the absorptive centers. Received by editors,28 Apr 71.4 fig.6 ref.

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GAPRINDASHVILI, KH. I., KUKHARSKIY, R. N., LEBEDEVA, YE. A., LEZHAVA, B. S., MUMLADZE, V. V., CHAVCHANIDZE, V. V.

"Coupled Filament Lasers"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 7, 1970, pp 1457-1460

Abstract: Experimental results are presented for the conversion of energy from one passive light conductor to another at a small distance from the first. The minimum length of contact required for maximum transfer of the radiation is determined. The effect of the transfer is used for mutual decrease in the radiation of two-filament lasers (quenching). The case in which a one-filament laser quenches two adjacent ones is investigated.

The possibility of an effect of a one-filament laser on several is also investigated. Experiments performed with three-filament lasers demonstrated that the radiation jumps from one filament to the other two and decreases their radiation intensity.

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GAPRINDASHVILI, KH. I., et al, Radiotekhnika i Elektronika, Vol 15, No 7, 1970, pp 1457-1460

The experimental results are presented in a table including a case in which laser I extinguished lasers II and III. The maximum extinguishing coefficients obtained for two- and three-filament lasers turn out to be identical and equal to 0.50-0.65. The extinguishing coefficient depends on the radiation energy of the extinguishing laser and increases with an increase in it, for the cases of both two and three filaments.

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DISSOCIATING GASES AS COOLANTS AND WORKING SUBSTANCES AT ATOMIC POWER PLANTS

Translation of Russian-language materials presented at the third All-Union Conference by A.K. Krasin, et al., Dissotsiiruyushchiye Gazy kak Teplonositeli i Rabochiye Tela Energeticheskikh Ustanovok, 1973, Minsk. UDC: 621.311+622.987, signed to press 12 April 1973

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