USSR

VARNAVSKIY, I. N., et al., Izvestiya Uchebnykh Vysshikh Zavedeniy--Chernaya Metallurgiya, No 6, Jun 73, pp 53-56

particles and oxide films, then the heterogeneous nucleation of refractory oxides and nitrides of titanium in the molten steel is possible under specified conditions. 3 figures, 1 table, 9 bibliographic references.

2/2

USSR

UDC 620.178.74.222:669.14.018.29-153.65

ZELICHENOK, B. Yu., Candidate of Technical Sciences; VARNAVSKIY, I. N., and VINOGRADOVA, A. I., Orsko-Khalilov Metallurgical Combine

"Shock Resistance of 17G1S Sheet Steel at Low Temperatures"

Moscow, Stal', No 2, Feb 71, pp 171-173

Abstract: This article is a continuation of an earlier article written by the same authors and published in the journal named above (No 6, 1966, pp 543-545) in which they examined the effect of the chemical composition of 17G1S steel, designed for manufacturing gas piping of large diameter, on its strength under shock at temperatures of from -40 to -60°C. Curves plotted for the frequency distribution of the metal's shock resistance show them to follow the normal law. The steel alloyed in a 400-ton furnace had a slightly lesser shock resistance than the steel manufactured in a furnace of lower capacity due, probably, to the 0.002-0.003% higher content of sulfur. The effect of this factor was investigated. Also investigated was the effect of manganese on the shock resistance of the steel; it was found that at -40°C the effect was negative, whereas at -60° it was positive.

1/1

USSR

VARNAVSKIY, S. P., ZUYEV, G. M., KULESHOV, Yu. P., RYAZANSKAYA, L. A.

UDC: 621.325.65.522

"Hydraulic Digital Devices Using Valves"

Probl. Gidroavtomatika [Problems of Hydraulic Automation -- Collection of Works], Moscow, Nauka Press, 1969, pp 40-48 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7, 1970, Abstract No 7A64, by V. D.)

Translation: Discrete hydraulic devices based on miniature 3-band valves (V) are analyzed. The V base has five channels forming a 4-slit distributor. The end chambers of the V are connected with the input channels. The pressure drop in the input channels causes the V to move between its extreme positions and switch the connection between the channels in the base. Diagrams of channel connections in elements realizing the principal logic operations are presented, as well as circuits of an oscillator, triggers with separate and counting inputs, and a shift register. An electromagnetic device is included to convert electrical current signals to displacement of a 2-slit V. The switching frequency of the element can reach one KHz; the specific volume of 1 V is 4 cm^3/element; the specific weight is 10 g/element; the power consumption, 5-15 mw/element; the information signal transmission frequency, 50 Hz. Six illustrations.

1/1

USSR

UDC 546.26

FEDOSEYEV, D. V., DERYAGIN, B. V., VARNIN, V. P., and USPENSKAYA, K. S., Institute of Physical Chemistry, Acad. Sc. USSR, Moscow

"Diamond Synthesis. II. Diamond Synthesis From Methane in the Diffusion Zone"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 47, No 1, Jan 73, pp 28-31

Abstract: The transition from the kinetic zone to the diffusion zone is affected by temperature, by the thickness of the powder layer, its dispersion and dilution by the reaction product of methane decomposition -- i.e., hydrogen. Hydrogen slows down the growth of diamond, but even more so it slows down the formation of soot, so that the original process is prolonged. A similar effect is achieved by limiting the consumption of methane. The rate of growth of diamond powder of various degrees of dispersion was determined. Experimental data obtained agree with the calculated values obtained from the equation of diffusion kinetics.

1/1

USSR

UDC 546.26

FEDOSEYEV, D. V., GALIMOV, E. M., VARNIN, V. P., PROKHOROV, V. S., and DERYAGIN, B. V., Corresponding Member Academy of Sciences USSR, Institute of Physical Chemistry, Academy of Sciences USSR, Moscow, Moscow Gas and Oil Institute

"Fractionation of Carbon Isotopes During the Physical-Chemical Synthesis of Diamond From Gas"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 5, 1971, pp 1149-1150

Abstract: In the synthesis of diamond from gas by deposition, a highly dispersed diamond powder was used as the primer. Methane pressure was 0.2 - 0.5 torr at 1000 - 1050°. The isotopic composition of the deposited carbon was studied by mass spectrometry. From the results obtained it was concluded that assumptions on the thermodynamic isotopic effect can be eliminated since the value of the distribution coefficient in the methane-diamond system at 1050°C is negligible. Probably the fractionation of the isotopes of carbon during the synthesis of diamond is determined by a kinetic effect together with a formation process and the growth of a new phase.

1/1

USSR

UDC: 621.373.531(088.8)

LISIN, V. N., VARNOVITSKIY, Ye. Ye.

"A Pulse Generator"

USSR Author's Certificate No 267681, filed 19 Sep 68, published 6 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G214 P)

Translation: This Author's Certificate introduces a pulse generator which contains a DC voltage source, a current limiter, a shaping device and a pulse transformer connected in series. To simplify the circuit in the mode of operation with low off-duty factor, a capacitor-shunted rectifier is connected to one end of the secondary winding of the transformer.

1/1

USSR

VARSAK, M. I. and KUTSENKO, N. T. UDC: 51

"An Algorithm for Solving a Problem in Piecewise-Linear Programming"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Instruments and Systems, Republic Interdepartmental Topics, Scientific-Technical Collection) No 21, 1972, pp 134-138 (from RZh--Matematika, No 8, 1972, Abstract No 8V539)

Translation: A compact algorithm is proposed for solving convex piecewise-linear programming. The simplicity of the computing system makes it convenient for realization on an electronic digital computer. The proposed algorithm may also be used for solving linear programming problems. From the authors' abstract

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USSR

VARSAK, M. I., KUTSENKO, N. T. UDC: 51

"An Algorithm for Solving One Problem of Piecewise-Linear Programming"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Instruments and Systems of Automation. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 21, pp 134-138 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V539)

Translation: A compact algorithm is proposed for solving the problem of convex piecewise-linear programming. The simplicity of the computational scheme makes it convenient for digital computer realization. The proposed algorithm may be used as well for solving problems of linear programming. From the authors' abstract.

1/1

USSR

VARSANOVICH, S. A., TSEYTLIN, A. I. UDC 8.74

"Set of Programs for Dynamic Calculation of Construction Parts on the Mir Computer"

V sb. Mashiny dlya inzh. raschetov. Vyp. 5 (Machines for Engineering Calculations. Vyp. 5 -- collection of works), Kiev, 1972, pp 101-134 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V650)

No abstract

1/1

USSR

Epidemiology

UDC 616.621.5-036.33+576.858.75

IL'INA, T. S., DZHALALOV, KH. D., VARSANOVA, YE. TA., YELISEYEVA, T. S., SEMIKHANIDU, L. G., and KIRGIZOVA, T. M., Laboratory of Virology, Scientific Studies Institute of Epidemiology, Microfiology, and Infectious Diseases

"Epidemological Characteristic of Three Epidemics of Flu Produced by the A_2 Hong Kong Virus"

Tashkent, Meditainskiy Zhurnal Uzbekistana, No 8, Aug 73, pp 68-73

Abstract: Since the appearance of the A_2 Hong Kong flu virus in January, 1969, in Tashkent, there have been three epidemics. Although the epidemics were similar in a general way, each exhibited particular features of the spread of infection, age of those infected, change with time and season of the year, and immunological characteristics toward various serums. The studies indicated that the cycles of flu produced by the A_2 Hong Kong-68 flu virus showed a tendency toward a gradual damping of the epidemic process, which is expressed in a decrease in the intensity of subsequent epidemics, in the reduction in the severity of the disease, in a decrease in infectiousness among adults, but an increase among young children, and in a general increase in immunity.

1/1

USSR

UDC 666,113.621'82'46'28:535.34-15

VARSHAL, B. G., YUSIN, L. M., and KNYAZHER, G. B., State Institute of Glass

"Effect of Heat Treatment on the Optical Properties of Titanium-Containing Aluminosilicate Glasses"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2202-2205

Abstract: The addition of traces of TiO_2 to the system SiO_2-Al_2O_3-CaO-MgO in the form of a glass causes the absorption edge to shift nonlinearly with the TiO_2 concentration. The glasses may be divided into these groups based on the % TiO_2: 1) a homogeneous group, 0 - 3% TiO_2; 2) a heterogeneous group distinctly opalescent and having a coarse structure, 4 - 8%; and 3) a heterogeneous fine-grained group which darkens on low temperature heat treatment, 9 - 20% TiO_2. The spectra in the range 300-1500 millimicrons are shown for members of the 2^o and 3^o groups for heat treatment at temperatures of 650 to 950°C. In general, the absorption increases with increasing temperature of treatment and % TiO_2. Group 3 exhibited the greatest influence; group 2 less; and group 1 was essentially not changed. The maximum absorption, dependent on the selective absorption of chromatophoric centers, is related to the liquefaction of the glass structure. 1/1

172 028 UNCLASSIFIED

TITLE--INTERNAL FRICTION AND SHEAR MODULUS OF TITANIUM CONTAINING, TWO PHASE FORMING GLASSES DURING THERMAL TREATMENT -U-

PROCESSING DATE--18SEP70

AUTHOR-(03)-BALASHOV, YU.S. VARSHAL, B.G., DARINSKIY, B.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1) 70-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--INTERNAL FRICTION, THERMODYNAMICS, PHASE ANALYSIS, TITANIUM GLASS, ALUMINOSILICATE GLASS, SHEAR MODULUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0597

STEP NO--UR/0363/70/006/001/0070/0073

CIRC ACCESSION NO--AP0105580

UNCLASSIFIED

2/2 028 UNCLASSIFIED

CIRC ACCESSION NO--AP0105580 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF PHASE SEPN. ON ELASTIC AND INELASTIC PROPERTIES OF GLASSES OF THE SIO SUB2 NEGATIVE AL SUB2 O SUB3 NEGATIVE MGO MINUS TIO SUB2 SYSTEM WAS INVESTIGATED BY USING LOW FREQUENCY VIBRATIONS (SIMILAR TO 1C HZ). THE SAMPLES TO BE STUDIED WERE IN THE FORM OF RODS MEASURING 1.5-2 MM IN DIAM. AND 100 MM IN LENGTH. THE CHANGES IN INTERNAL FRICTION AND SHEAR MODULUS OF THESE GLASSES DURING ISOTHERMAL HEATING AND HOLDING WERE STUDIED. IT IS PROPOSED THAT THE OBSERVED CHANGES IN THE INTERNAL FRICTION ARE CAUSED BY SPINODAL PHASE SEPN. AND ARE ASSOCD. WITH THERMODYNAMIC CONSTS. OF THE GLASS.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--INTERNAL FRICTION AND SHEAR MODULUS OF TITANIUM CONTAINING, TWO PHASE FORMING GLASSES DURING THERMAL TREATMENT -U-

AUTHOR-(03)-BALASHOV, YU.S, VARSHAL, B.G., DARINSKIY, B.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1) 70-3

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--INTERNAL FRICTION, THERMODYNAMICS, PHASE ANALYSIS, TITANIUM GLASS, ALUMINOSILICATE GLASS, SHEAR MODULUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0597 STEP NO--UR/0363/70/006/001/0070/0073

CIRC ACCESSION NO--AP0105580

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105580

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF PHASE SEPN. ON ELASTIC AND INELASTIC PROPERTIES OF GLASSES OF THE SIO SUB2 NEGATIVE AL SUB2 O SUB3 NEGATIVE MGO MINUS TIO SUB2 SYSTEM WAS INVESTIGATED BY USING LOW FREQUENCY VIBRATIONS (SIMILAR TO 10 HZ). THE SAMPLES TO BE STUDIED WERE IN THE FORM OF RODS MEASURING 1.5-2 MM IN DIAM. AND 100 MM IN LENGTH. THE CHANGES IN INTERNAL FRICTION AND SHEAR MODULUS OF THESE GLASSES DURING ISOTHERMAL HEATING AND HOLDING WERE STUDIED. IT IS PROPOSED THAT THE OBSERVED CHANGES IN THE INTERNAL FRICTION ARE CAUSED BY SPINODAL PHASE SEPN. AND ARE ASSOCD. WITH THERMODYNAMIC CONSTS. OF THE GLASS.

UNCLASSIFIED

VARSHAVA, S. S.

JPRS 59208
6 Jun 73

3

II-12. STUDY OF THE PROCESS OF OBTAINING GALLIUM ARSENIDE CRYSTALS IN THE GaAs-Br$_2$ SYSTEM

[Article by M. I. Dronyuk, K. S. Shcherbak, S. S. Varshava, L'vov] Novosibirsk, III Simpozium po Protsessam Rosta i Sovershenstvovaniya Monokristallov i Plenok, Russian, 12-17 June 1972, p 23]

In this paper a quantitative analysis was made of the growth conditions of Gallium arsenide crystals in the bromide system. For this purpose a study was made of the equilibrium in the GaAs-Br$_2$ system. The experimental determination of the partial pressures of the gas components in the system was made by measuring the temperature dependence of the total pressure using the quartz zero manometer to a temperature of 1200°K. The data obtained were used to calculate the temperature dependence of the equilibrium constant of the chemical transport reaction.

A theoretical and experimental study was made of mass transport in a closed bromide system, and the relation was established between the chemical composition of the crystals and the crystallization conditions. The sources of contamination of the grown crystals were investigated. The crystals were characterized with different admixtures, and a study was made of the effect of the admixtures on the morphology of the crystals and their electrophysical properties.

- 21 -

Acc. Nr: AP0106263

Abstracting Service: INTERNAT. AEROSPACE ABST. 6-70

Ref. Code: UR0120

A70-28187 # Ohmic contacts for gallium arsenide single crystals (Omicheskie kontakty k monokristallam arsenida galliia). A. V. Sandulova, S. S. Varshava, and K. S. Shcherbai (L'vovskii Politekhnicheskii Institut, Lvov, Ukrainian SSR). *Pribory i Tekhnika Eksperimenta*, Jan.-Feb. 1970, p. 224, 225. 5 refs. In Russian.

Description of a technique for obtaining ohmic contacts attached to gallium arsenide single crystals having the form of filaments or ribbons grown from the gaseous phase. The contacts are obtained when microwires are welded-on with the aid of an ac furnished by an additional electrode, using alcohol as a protective medium. The ohmic contacts have linear current-voltage characteristics and provide resistances from 1/10k to 1/100k ohm/sq cm in low-resistance n and p type specimens. V.Z.

REEL/FRAME
19881507

UDC 612.46.014.45

USSR

GEKHMAN, B. S., LAZARETNIK, A. Sh., VARSHAVER, L. G., BONDARENKO, V. P., DANILENKO, N. F., Kiev District Military Hospital

"The Effect of Supersonic Waves on Kidneys and Urinary Tracts"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 3, May/Jun 70, pp 17-21

Abstract: A high-intensity source emitting a spherical supersonic wave was used for irradiating 30 dogs, ten of which were in an acute test, 19 of which had been under observation for six months, and one control. The vesical, center, and perirenal parts of the ureter, the renal pelvis, and kidney were subjected to the supersonic waves. In 12 tests, temperature gradients were measured. No significant morphological changes in the tissues of the urinary bladder or ureters were detected after short or long periods of treatment. In no case was thermocoagulation of the tissues observed. Results of histochemical studies of the kidneys were in agreement with histological data. The results were explained by the fact that a supersonic source producing a spherical wave comparatively rapidly, i.e., over short distances, loses its intensity. When a 1:5 irradiation rhythm was used, elimination of heat by the systems of the organism regulating heat exchange was assured.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SPONTANEOUS MUTATION RATE IN DIPLOID AND ANEUPLOID HUMAN CELLS RESISTANT TO 8 AZAGUANINE IN VITRO -U-

AUTHOR-(02)-MARSHAK, M.I., VARSHAVER, N.B.

CCUNTRY OF INFO--USSR

SOURCE--GENETIKA 1970, 6(2), 130-8

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HUMAN GENETICS, BIOLOGIC MUTATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1372 STEP NO--UR/0473/70/006/002/0130/0138

CIRC ACCESSION NO--AP0125020
UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125020
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RATE OF SPONTANEOUS GENE MUTATIONS WAS STUDIED IN NORMAL DIPLOID AND MALIGNANT ANEUPLOID CELLS OF COMMON ORIGIN OBTAINED FROM HUMAN EMBRYOS; 8 AZAGUANINE WAS USED AS A GENETIC MARKER. THE RESISTANT CELLS RETAINED THE DIPLOID KARYOTYPE, AND THE RESISTANCE WAS HEREDITARY. NO CONCN. EFFECT WAS OBSERVED WHEN THE RESISTANT CELLS WERE ISOLATED FROM THE PARENTAL ANEUPLOID LINE. ISOLATION OF RESISTANT MUTANTS FROM THE DIPLOID STRAIN WAS POSSIBLE ONLY WHEN THE SIZE OF THE INOCULUM WAS SIMILAR TO 75,000-DISH: AT LOWER CELL NO., THE PLATING EFFICIENCY OF THE MUTANTS DECREASED CONSIDERABLY; AT CELL NO. GREATER THAN 10 PRIME5, DUE TO CONTACT INHIBITION, ONLY A PART OF THE CELLS DEGENERATED. NO DIFFERENCES IN THE MUTATION RATES WERE FOUND BETWEEN THE DIPLOID AND ANEUPLOID CELLS, THE RATE BEING 7 TIMES 10 NEGATIVE PRIME5 MUTATIONS PER CELL IN 1 CELL GENERATION.
FACILITY: I. V. KURCHATOV INST. AT. ENERGY, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 665.662.3-402.001.4

RUDENKO, N. D., VARSHAVER, YE. M., and KUTSEVALOV, V. V.

"Influence of Type of Solvent and Its Quantity on Group Chemical"

Neftepereerabotka i veftekhimiya. Nauchno-tekhn. sb., (Petroleum Processing and Petrochemistry. Scientific-Technical Collection), No 4, pp 12-14, 1969 (from Referativnyy Zhurnal Khimiya, No 3, Vol 2, 10 Feb 70, Abstract No 3 P161)

Translation: The effectiveness of purification was determined from the physical-chemical indicators, yield and group composition of rafinates. The raw material used was concentrated distillate (density 0.8680, kinematic viscosity 7.58 cst at 50°, flash point 148°, 10% of fraction boils off before 320°), produced by boiling off low-boiling fractions from the second vacuum run of a commerical atmospheric-vacuum pipe still installation operating with a mixture of khirnov and korobkov petroleums. The concentrate was purified with phenol containing 8% water and anhydrous furfural. It was found that with increasing quantity of the solvent in the rafinates, the content of all hydrocarbon groups is decreased from the potential, but least of all the paraffin-naphthene groups. In furfural

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USSR

RUDENKO, N. D., et al., Neftepererabotka i neftekhimiya. Nauchno-tekhn. sb., No 4, pp 12-14, 1969

purification rafinates, the content of the potential of paraffin-naphthene hydrocarbons, resins and aromatic hydrocarbons of group I ($n^{20}D$ up to 1.53) is higher, of aromatic hydrocarbons in group II ($n^{20}D$ 1.53-1.59) is less (up to a solvent consumption of 230%), than in the rafinates of phenol purification with identical solvent expenditure. Furfural provides higher yield of oils with practically identical quality.

I. I. Shmeleva

2/2

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE SYNDROME OF COCCYGODYNIA IN OSTEOCHONDROSIS OF THE LUMBAR REGION OF THE SPINE -U-

AUTHOR-(04)-YUNASHEV, G.S., YELIZAROV, M.N., VARSHAVICHIK, F.P., FAYZIYEV, KH.F.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 6, PP 116-119

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BONE DISEASE, PAIN, MEDICAL EXAMINATION, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1881 STEP NO--UR/0497/70/048/006/0116/0119

CIRC ACCESSION NO--AP0129241

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129241

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONTROVERSIAL OPINIONS OF SOVIET AND FOREIGN AUTHORS ON THE ORIGIN OF COCCYGEAL PAIN TESTIFY TO THE FACT THAT IT IS STILL INADEQUATELY STUDIED. LITERATURE SOURCES GIVE NO DATA ON THE RELATION OF COCCYGODYNIA WITH OSTEOCHONDROSIS OF THE LUMBAR REGION OF THE SPINE. IN 15 (13PERCENT) OUT OF 114 PATIENTS UNDER OBSERVATION COCCYGODYNIA WAS OF A SOMEWHAT DIFFERENC CHARACTER THAN THAT DESCRIBED IN OTHER SOURCES. THUS, COCCYGEAL PAIN WAS COMBINED WITH PAIN IN THELUMBOSACRAL REGION; IT WAS ASSOCIATED WITH MOVEMENTS AND NOTICABLY INTENSIFIED IN INDUCTION OF SYMPTOMS OF STRETCHING THE NERVE TRUNKS. IN SINGLE PURPOSE EXAMINATIONOF THE PATIENTS THE AUTHORS DIAGNOZED OSTEOCHONDROSIS OF THE LUMBAR REGION OF THE SPINE. THE DIAGNOSIS WAS CONFIRMED BY MEANS OF EPIDUROGRAPHY AND DISCOGRAPHY. AFTER CONSERVATIVE TREATMENT OF LUMBAR OSTEOCHONDROSIS A SIGNIFICANT IMPROVEMENT OCCURRED IN ALMOST ALL PATIENTS AND THEY RESUMED THEIR WORK. THE AUTHORS ARE OF THE OPINION THAT COCCYGODYNIA MAY BE ONE OF THE SYMPTOMS OF OSTEOCHONDROSIS OF THE LUMBAR REGION OF THE SPINE.

FACILITY: KAFEDRA TRAVMATOLOGII I ORTOPEDII I MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM SECHENOVA, NEVROLOGICHESKOYE OTDELENIYE GORODSKOY KLINICHESKOY BOL'NITSY NO 67 RENTGENODIAGNOSTICHESKIY OTDEL MOSKOVSKOGO NAUCHNO-ISSLED. RENTGENO-RADIOLOGICHESKOGO INSTITUTA I UZBEKSKOGO NAUCHNO ISSLED. RETGENO-RADIOLOGICHESKOGO I ONKOLOGICHESKOGO INSTITUTA.

UNCLASSIFIED

Acc. Nr: AP0041736 Abstracting Service: CHEMICAL ABST. Y-70 Ref. Code: UR 0459

79605u **Features of thermal and chemical (acidic) degradation of poly-1,3-dioxolane.** Kumpanenko, E. N.; Kovtun, T. S.; Varshavskaya, A. I.; Karmilova, L. V.; Enikolopyan, N. S. (Inst. Khim. Fiz., Moscow, USSR). *Vysokomol. Soedin., Ser. A* **1970**, 12(1), 229–42 (Russ). The kinetics and compn. of the products of the acid and thermal degradation of poly-1,3-dioxolane (I) at 140–310° were studied. I was prepd. by bulk polymn. of 1,3-dioxolane and had mol. wt. 16–18 × 10^3. Acid degradation was carried out in the presence of H_3PO_4 or picric acid. Initiation of degradation proceeded via "random" homo- or heterolytic cleavage of the chain at the acetal group. The major product of acid degradation was the cyclic monomer, while thermal degradation yielded a wide variety of volatile products including AcH, ethylene oxide, MeOH, and EtOH. Oligomeric fragments with d.p. 5–8 were formed in both cases; those formed by a thermal degradation were linear, but those formed during acidolysis were apparently cyclic. The fraction of monomer in the products decreased with increasing temp. and extent of decompn. Mechanisms for the formation of the major decompn. products are discussed. The activation energy and kinetic chain length for depolymn. (ν) were 17 ± 2 kcal/mole and 13–20, resp., for acidolysis, and 31 ± 2 kcal/mole and 5–8 × 10^{-4}, resp., for thermal cleavage. ν for acidolysis was independent of temp., but ν for thermal cleavage decreased sharply with increasing temp. Depolymn. was not the primary mechanism for thermal cleavage. DBJR

REEL/FRAME
19751613

USSR

UDC 632.954

VARSHAVSKAYA, V. T., Simferopol' Vegetable-Melon Field Experimental Station

"Effectiveness of Herbicides on Irrigated Carrot Plantings in the Crimea Oblast'"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 7, 1971, pp 52-56

Abstract: The effectiveness of the herbicides prometrin, propazine, solan, dicryl, gramoxon, reglon, linuron, tenoran, and sodium trichloroacetate on irrigated carrot plantings in the Crimea was studied. The most effective herbicides of those tested were the sym-triazine derivatives prometrin and propazine, which killed 75-99% of the weeds when applied in amounts of 1.5-2.0 kg/ha before planting or before sprouting of the plants. Prometrin could also be applied after sprouting. When applied after sprouting, solan in amounts of 3-6 kg/ha killed 47-74% of the weeds and dicryl in amounts of 4-8 kg/ha 87-91% of the weeds. These two herbicides acted on young weeds only. Application of the herbicides did not reduce the amounts of nitrate N, ammonia N, and mobile P available to the carrot plants in the soil. It did not lower the yield or reduce the quality of the carrots. The work that is described was carried out under the direction of V. F. RUBIN, Candidate of Agricultural Sciences.

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USSR

UDC 616.9-084.4:616.9-036.22+614.4

VARSHAVSKIY, E. I., Central Antiplague Station, Ministry of Health USSR, Moscow

"Epidemiological Efficacy of Prophylactic Preparations and Planning of Control Measures"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972, pp 136-140

Abstract: Vaccination programs often fail to achieve the epidemiological effectiveness determined experimentally. The incidence of the disease does not decline as much as expected and not infrequently a vaccine has no effect on the sick rate at all. The reason for the unpredictability of the results is the numerous random factors involved, e.g., the probability that an individual will be part of the group vaccinated, the probability that the vaccine will actually protect him, the probability that he will be infected or that the infection will occur at a time when the vaccine still has protective effect. From an analysis of these probabilities the author developed a method of quantitative planning of prophylactic vaccination based on determining the potential efficacy of the contemplated action. A single index is computed which reflects the various parameters involved: prevalent incidence of the disease to be combatted, immunization power of the particular vaccine, number and kinds of people to be vaccinated and the best time to carry out the campaign.

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USSR

UDC 536.46:533.6

VARSHAVSKIY, G. A., FEDOSEYEV, D. V., FRANK-KAMENETSKIY, A. D.

"A Quasi-steady Theory of the Ignition of Drop of Liquid Fuel"

Kiev, Fizika Aerodispersnykh Sistem -- Sbornik (The Physics of Aerially Dispersed Systems -- Collection of Works), Kiev University, No 1, 1969, pp 101-107 (from Referativnyy Zhurnal, Mekhanika, No 7, 1970, Abstract 7D949 By V. M. Gremyachkin)

Translation: The problem of the ignition of a drop of liquid fuel is solved under the assumption that the fuel vapors do not burn up, that the time of thermal and concentration relaxation is infinitely small, that a likeness to excess-concentration and excess-temperature fields exists, and that the chemical reaction is bimolecular. As a result of solving this problem, approximate equations are obtained for the ignition lag time and for the ratio of the ignition radius to the radius of the drop. Adopted here as the ignition point was a point at which there was a local maximum of chemical reaction rate and at which the fuel-oxidizer ratio was stoichiometric. The results obtained by the analytic method are compared with the results obtained by means of numerical integration of the unsteady equations of thermal conductivity and diffusion on an electronic computer.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ANTISMOKE ADDITIVES FOR DIESEL FUEL -U-

AUTHOR-(05)-KULIYEV, A.M., ALIYEV, Z.E., AGAYEVA, S.M., SHAKHGELDIYEV, M.A., VARSHAVSKIY, I.L.
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,843
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--FUEL ADDITIVE, DIESEL FUEL, CHEMICAL PATENT, PHENOL, FORMALDEHYDE, CONDENSATION REACTION, ANTISMOKING PROGRAM, ORGANOBARIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1343 STEP NO--UR/0482/70/000/000/0000/0000

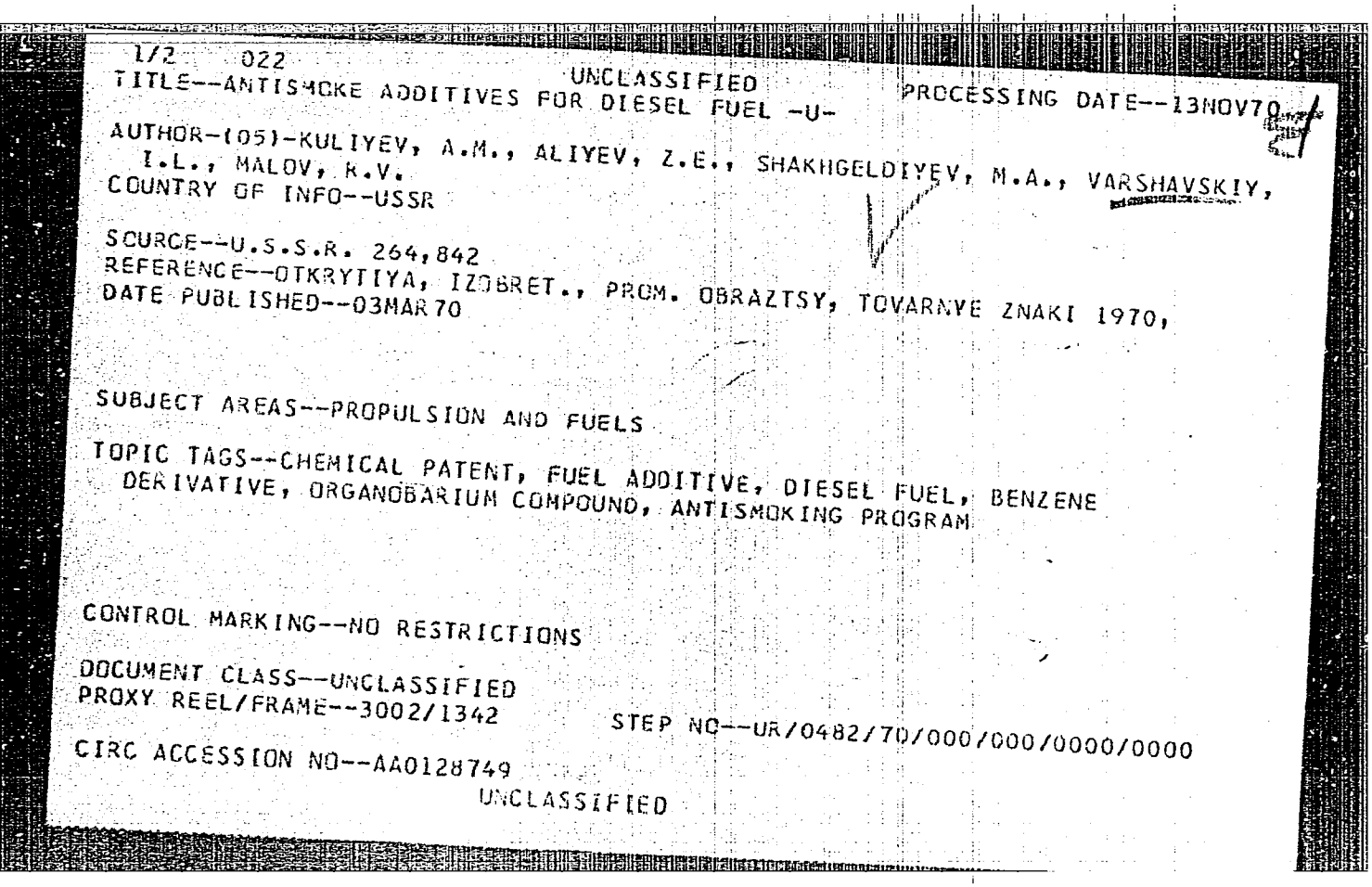
CIRC ACCESSION NO--AA0128750
UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128750

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BA SALT OF A CONDENSATION PRODUCT OF AN ALKYLPHENOL WITH HCHO IS USED AS AN ANTISMOKE ADDITIVE FOR DIESEL FUEL. FACILITY: INSTITUT KHIMII PRISADOK AN AZERBAYDZHANSKOY SSR.

UNCLASSIFIED



1/2 022 UNCLASSIFIED

TITLE--ANTISMOKE ADDITIVES FOR DIESEL FUEL -U- PROCESSING DATE--13NOV70

AUTHOR-(05)-KULIYEV, A.M., ALIYEV, Z.E., SHAKHGELDIYEV, M.A., VARSHAVSKIY, I.L., MALOV, R.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,842

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL PATENT, FUEL ADDITIVE, DIESEL FUEL, BENZENE DERIVATIVE, ORGANOBARIUM COMPOUND, ANTISMOKING PROGRAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1342 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128749

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128749

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HIGH ASH BA ALKYLPHENOLATE IS USED AS A SMOKE INHIBITOR FOR DIESEL FUEL. FACILITY: INSTITUT KHIMII PRISADOK AN AZERBAYDZHANSKOY SSR.

UNCLASSIFIED

USSR

BLIZNYUK, N. K., KVASHA, Z. N., VARSHAVSKIY, MADZHARA, G. A.,
All-Union Institute of Plant Pathology

"A Method for Preparing Mixed Thiophosphonates"

USSR Author's Certificate No 239946, class 12a, 23/03, (C 07 f), filed 20 Jun 66, published 13 Feb 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No 21 N559 P by I. A. Mel'nikova)

Translation: Compounds with the general formula RP(S)(OR')(OR") (I) (R = Me, Ph, $PhCH_2$; R' = Et, R" = alkyl, naphthyl, subst. aryl), active as pesticides, are obtained by reaction of chlorides of thiophosphinic acids with alcohols at 60-100° without a HCl acceptor in the presence of a catalyst (derivatives of P acids, their mixtures with bases, boron trifluoride ester, heterocyclic bases). For example, a mixture of 0.03 g mole of MeP(S)(OPh)Cl, 0.09 mole of abs. EtOH and 74 mg (1 mole %) beta-diethylaminoethyltrithiomethylphosphonate (II) is boiled for 4 hours and allowed to evaporate, producing in the residue I (R = Me, R" + Ph, R' = Et), yield 92.7%, boiling point 102-121, $n^{20}D$ 1.5370, d_4^{20} 1.1486. I (R'

USSR

BLIZNYUK, N. K., USSR Author's Certificate No 239946, class 12a, 23/03, (C 07 f), filed 20 Jun 66, published 13 Feb 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No 21 N559 P by I. A. Mel'nikova)

= Et, R, R", and catalyst are given, yield in %, boiling point in °C, $n^{20}D$, d_4^{20}) is prepared in a similar fashion: Me, 2,4,5-$Cl_3C_6H_2$, $P_2S_5 + C_5H_5N$, 67, 157-9/1, 1.5683, 1.4159; Me, 2-$MeOC_6H_4$, II, 88, 139-41/1, 1/5400, 1.1922; Me, iso-Bu, II, 81, 65-6/2, 1.4585, 1.0010; Me, 2-ClC_6H_4, II 65, 125-7/1, 1.5310, 1.3062; Me, 2,4-$Cl_2C_6H_3$, II, 77, 142-3/0.5, 1.5500, 1.3177; Me, beta-naphthyl, II, 70, 176-8/0.5, 1.5720, 1.1811; $PhCH_2$, II, 58, 219-22/1, 1.5850, 1.3230; Me, alpha-naphthyl, $(PhO)_2P(S)SR$, 66, 176-9/1, 1.5980, 1.2210; Ph, beta-naphthyl, $MePS_2 + Et_3N$, 76, 237-40/1, 1.6260, -; Ph, 2-$MeOC_6H_4$, $MePS_2 + C_5H_5N$, 61, 174-6/1, 1.5775, 1.1627.

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(8)

USSR

UDC 632.95

BLIZNYUK, N. K., KHOKHLOV, P. S., KVASHA, Z. N., MARKOVA, L. I., LEVSKAYA, G. S., PROTASOVA, L. D., SOLNTSEVA, L. M., MATYUKHINA, Ye. N., VARSHAVSKIY, S. A., BARANOV, Yu. I., LIBMAN, B. Ya., ZHEMCHUZHIN, S. G.

"Method of Production of Dichlorides or Dibromides of Thiophosphonic Acids or Their Bis Analog"

USSR Author's Certificate No 332095, filed 19/08/69, published 17/04/72 (Translated from Referativnyy Zhurnal Khimiya, No 24(II), 1972, Abstract No 24N591, by T. A. Belyayeva)

Translation: Compounds of the formula $RP(X)X_2$ (I) (R=alkyl, aryl, aralkyl; X=Cl or Br) and $X_2P(S)A(S)PX_2$ (II) (A-bivalent hydrocarbon radical) were produced by the reaction of mono- or dihalo hydrocarbons with S, P and PX_3 with heating to 250-400° in an autoclave of stainless steel or nickel in the presence of catalytic quantities of I_2 or its compounds. Example. A mixture of 0.24 mole PhCl, 0.24 g-atom S, 0.16 g-atom white P, 35 ml PCl_3 and 0.05 g I_2 is heated at 290-330° for seven hours in an autoclave of stainless steel, the PCl_3 is distilled, then vacuum distillation is used to separate I (R=Ph, X=Cl), yield 60%, B. P. 109-112°/3, $n^{20}D$ 1.6241. Similarly, I were produced (given R, X, yield in %, B. P. in °C/mm, $n^{20}D$): $4\text{-}ClC_6H_4$,

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BLIZNYUK, N. K., et al., USSR Author's Certificate No 332095, filed 10/08/69, published 17/04/72

Cl, 53.5; 124-3/1.5-2, 1.6229; p-MeC_6H_4, Cl, 54.5, 125-7/1, 1.6120; $4FC_6H_4$, Cl, 72.2, 95-7/0.5, 1.6028; Ph, Br, 61, 127-130/2, 1.6850; 4-FC_6H_4, Br, 55, 135-8/1, 1.6758; $PhCH_2$, Cl, 76.4, 120-3/2, 1.6150; 3-FC_6H_4, Cl, 108-110/1.5, 1.5908; 4-$MeC_6H_4CH_2$, Cl, 53.3, 126-9/2, 1.6035; 4-$ClC_6H_4CH_2$, Cl, 61.6, 129-133.2, m. p. 74-6°, --; 2-$FC_6H_4CH_2$, Cl, 61.6, 129-133.2, m. p. 48-9°, --; 2.4-$Me_2C_6H_3CH_2$, Cl, 47.5, 140-1.6045; 2.4-$Cl_2C_6H_3CH_2$, Cl, 43.4, 147-9/2, m. p. 100-1°, --. Also produced were II (X=Cl, A=CH_2CH_2), yield 61.5%, m. p. 92-3°. I and II are intermediate products for the production of insecticides, acarocides, fungicides and herbicides.

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(5)

USSR

UDC 632.95

BLIZNYUK, N. K., KOLOMIYETS, A. F., GOLUBEVA, R. N., GRANIN, Ye. F., FADEYEV, Yu. N., VRUBLEVSKAYA, L. S., VARSHAVSKIY, S. L., KOFMAN, L. P., VIKHANSKIY, K. N.

"A Method of Making Derivatives of Aryl Esters of β-Isothiuronium Ethanesulfonic Acid"

USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72 (from RZh-Khimiya, No 9, May 73, abstract No 9N522P by T. G. Chekareva)

Translation: Compounds of the general formula $RO_3SC_2H_4SC(NH_2)=NH\cdot HA$ (I) (R = aryl unsubstituted or substituted by Cl, No_2, Me; A = Cl or an organic acid radical) are synthesized by reacting $Ch_2=CHSO_3R$ (II) with salts of thiourea or a mixture of thiourea with inorganic or organic acids. Example. Solutions of equimolar quantities of II and thiourea hydrochloride in butanol which are saturated at 60-90°C are heated at 80-90°C for 1 hour, cooled, and filtered, giving I with a yield of 85-96%. Evaporation of the mother liquor gives an additional quantity of I. The overall yield of I is 95-100%. The following compounds of type I (A = Cl) are synthesized (given are R and the melting point in °C): Ph, 165-6; 4-ClC_6H_4 (Ia),

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BLIZNYUK, N. K., et al., USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72

144-6; 3-ClC_6H_4, 168-70; 2,4-$Cl_2C_6H_3$, 157-9; 2,4,5-$Cl_3C_6H_2$, 178-80; 2,4,6-$Cl_3C_6H_2$, 184 (decomp.); 4-$NO_2C_6H_4$, 155-8; 3-MeC_6H_4, 160-2. Saturated aqueous solutions of equimolar quantities of Ia and 2,4-$Cl_2C_6H_3OCH_2COONa$ are mixed at 90-100°C, cooled, and filtered, giving compound I (A = 2,4-$Cl_2C_6H_3OCH_2COO$-, R = 4-ClC_6H_4), melting point 134-5°C, yield 99.5%. In concentrations of 3.1-25 mg per liter compound I suppresses the growth of the mycelium Botritis cinerea and Piricularia orysae by 50-100%; in concentrations of 0.25-1 mg per liter, compound I suppresses the growth of spores of Botritis cinerea and Piricularia orysae by 8-100%, and in a concentration of 0.1% the chemical suppresses rust of the wheat strain Puccinia graminis f. tritici by 42-58%.

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USSR

UDC 632.95

BLIZNYUK, N. K., KOLOMIYETS, A. F., GOLUBEVA, R. N., GRANIN, Ye. F., FADEYEV, Yu. N., VRUBLEVSKAYA, L. S., VARSHAVSKIY, S. L., KOFMAN, L. P., VIKHANSKIY, K. N.

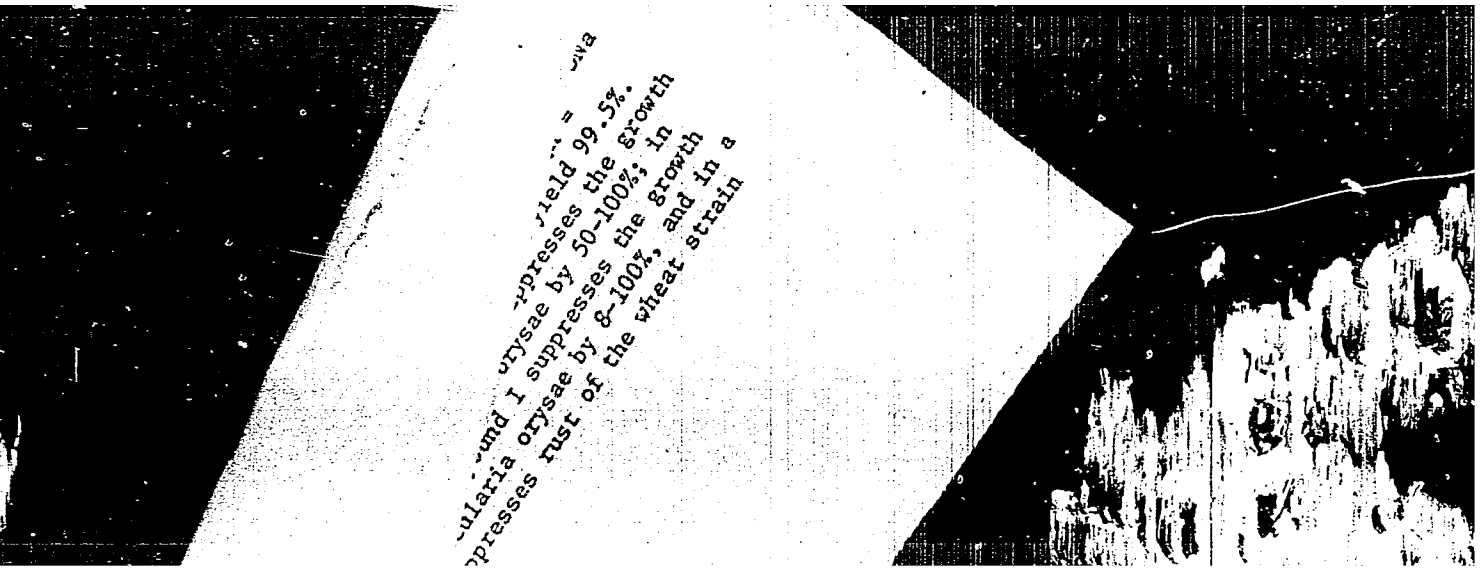
"A Method of Making Derivatives of Aryl Esters of β-Isothiuronium Ethanesulfonic Acid"

USSR Author's Certificate No 337381, filed 1 Aug 63, published 1 Jun 72 (from RZh-Khimiya, No 9, May 73, abstract No 9N522P by T. G. Chekareva)

Translation: Compounds of the general formula $RO_3SC_2H_4SC(NH_2)=NH\cdot HA$ (I) (R = aryl unsubstituted or substituted by Cl, No_2, Me; A = Cl or an organic acid radical) are synthesized by reacting $Ch_2=CHSO_3R$ (II) with salts of thiourea or a mixture of thiourea with inorganic or organic acids. Example. Solutions of equimolar quantities of II and thiourea hydrochloride in butanol which are saturated at 60-90°C are heated at 80-90°C for 1 hour, cooled, and filtered, giving I with a yield of 85-96%. Evaporation of the mother liquor gives an additional quantity of I. The overall yield of I is 95-100%. The following compounds of type I (A = Cl) are synthesized (given are R and the melting point in °C): Ph, 165-6; 4-ClC_6H_4 (Ia),

1/2

- 41 -



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UDC 632.95

BLIZNYUK, N. K., KVASHA, Z. N., VARSHAVSKIY, S. L., BARANOV, Yu. I., LIBMAN, B. Ya., STREL'TSOV, R. V., PROTASOVA, L. D., MARKOVA, L. I., KHOKHLOV, P. S., MADZHARA, G. A., KIRILINA, L. E., All-Union Scientific Research Institute of Phytopathology

"A Method of Making Thiophosphonyl Dihalides"

USSR Author's Certificate No 337384, filed 31 Oct 69, published 2 Jun 72 (from RZh-Khimiya, No 9, May 73, abstract No 9N500 by T. G. Chekareva)

Translation: Compounds of the general formula $RP(S)X_2$ (I) (R = C_1-C_{12}-alkyl, cycloalkyl, aryl, unsubstituted alkyl or alkyl containing substituents, Cl or Br; X = Cl, Br) are synthesized by reacting $(RS)_3P$ (II) with a 2-10-fold excess of PX_3 with heating to 250-330°C in an autoclave. Example. A mixture of 0.07 mole of II (R = Me) and 0.7 mole of PCl_3 is heated in an autoclave test tube of stainless steel at 290-320°C for 5 hours. The excess PCl_3 is driven off at atmospheric pressure and distillation of the residue in a vacuum gives I (R=Me, X=Cl), boiling point 70-3°/80, $n^{20}D$ 1.5510, d_4^{20} 1.4421, yield 52%. Similar methods are used to produce other compounds of type I (given are R, X, boiling point in °C/mm, $n^{20}D$, d_4^{20}, yield in %): Et, Cl, 64-8/15, 1.5418, 1.3527, 58; Pr, Cl, 85-8/15, 1.5285, 1.2942, 40; iso-Pr, Cl, 72-5/15, 1.5290, 1.3017, 47.5; Bu, Cl, 111-13/25, 1.5269, --, 65;

USSR

SUKHOMLINOV, B. P., Vopr. tekhnol. ulavlivaniya i pererab. produktov koksovaniya, Kharkov, 1972, pp 50-56

sulfur with a sufficient amount of powdered SL. A SN screw mixer is recommended for bringing the components into contact under pressure and pulverizing them at the same time.

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USSR

UDC 547.341.07

KAABAK, L. V., VARSHAVSKIY, S. L., MYAGKAYA, M. YE., KOSHECHKINA, L. A., KALITINA, M. I., and KABACHNIK, M. I.

"Process for the Preparation of Tri-Secondary-Alkylphosphine Oxide"

USSR Author's Certificate No 362024. Filed 18 Jan 71, published 13 Dec 71 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 2, 1873, p 54)

Translation: This process is improved in that white phosphorous reacts with secondary halide alkyls and magnesium or zinc while being heated, with the subsequent treatment of the reaction mixture with alkali. The desired product can be separated by known methods.

2. The process in number 1 is improved in that the mixture is heated to a temperature of 120-210°C.

3. The processes described in number 1 and 2 are improved in that the treatment of the reaction mixture with alkali is carried out at 270°C.

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USSR

UDC 547.241.07

3

BLIZNYUK, N. K., KVASHA, Z. N., PROTASOVA, L. D., MADZHARA, G. A., VARSHAVSKIY, S. L., LIBMAN, B. Ya., and BARANOV, Yu. I., All-Union Scientific Research Institute of Phytopathology

"A Method of Making Dihalophosphines"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 5, Feb 71, Author's Certificate No 292988, Division C, filed 10 Nov 69, published 15 Jan 71, p 102

Translation: This Author's Certificate introduces: 1. A method of making dihalophosphines by interacting a hydrocarbon halide or polyhalide with white phosphorus or a phosphorus trihalide with the application of heat and in the presence of a catalyst, with subsequent isolation of the goal product by conventional methods. As a distinguishing feature of the patent, the yield of the goal product is increased by using selenium, selenium anhydride or phosphorus selenide as the catalyst. 2. A modification of this method distinguished by the fact that the process is done at a temperature of 250-380°C.

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USSR

UDC 632.95

BLIZNYUK, N. K., LEVSKAYA, G. S., KVASHA, Z. N., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology

"A Method of Synthesizing 1,4-bis-(dialkyl- or dibenzyltrithiophosphoryl)-benzene"

USSR Author's Certificate No 259881, filed 1 Jul 68, published 28 May 70 (from RZh-Khimiya, No 2, 25 Jan 71, Abstract No 2N566 P)

Translation: Compounds of formula $C_6H_4[P(S)(SR)_2]_2$-1,4 (I) (R is an unsubstituted or substituted alkyl or benzyl) are synthesized by interacting 1,4-bis-(dichlorothiophosphoryl) benzene (II) with alkyl or benzyl halides and H_2S at 120-70°C in the presence of catalytic quantities of organic base (C_5H_5N). For instance, two drops of C_5H_5N are added to a mixture of 0.02 mole of II and 0.09 mole of $PhCH_2Cl$, and H_2S is bubbled through at 130-40°C for 10-12 hours, and then for 3-4 hours at 150-60°C until liberation of HCl ceases. Upon cooling, the resultant product is compound I (R = $PhCH_2$), melting point 114-5°C (PhH), yield 80.7 percent. The following compounds (I) are synthesized analogously (given are R, melting point in °C or d_4^{25} and $n^{25}D$): 4-$ClC_6H_4CH_2$, 137-8 (ethyl amine); 2,4-$Me_2C_6H_3CH_2$, 94-5; C_7H_{15}, 1.071, 1.5072. Compounds I can be used as insecticides or as additives to lubricants.

1/1

USSR UDC 547.241.07

BLIZNYUK, N. K., PROTASOVA, L. D., KVASHA, Z. N., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Synthesizing 1,4-Phenylenehexabenzyldiphosphonium Chlorides"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268418, filed 7 Jun 68, p 23

Abstract: This Author's Certificate introduces: 1. A method of synthesizing 1,4-phenylenehexabenzyldiphosphonium chlorides. The distinguishing feature of this procedure is that 1,4-phenylene-bis-dichlorophosphine is interacted with substituted bensylchloride and white phosphorus in the presence of heat with subsequent isolation of the goal product by conventional methods. 2. The method described in (1) is distinguished by the fact that the temperature reaches 170-220°C.

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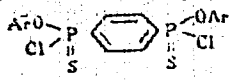
USSR UDC 547.558.1.26'.118.07

BLIZNYUK, N. K., LEVSKAYA, G. S., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Synthesizing Bis-(aryloxychlorothiophosphoryl)-benzenes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268421, filed 1 Mar 68, pp 23-24

Abstract: This Author's Certificate introduces: 1. A method of synthesizing bis-(aryloxychlorothiophosphoryl)-benzenes of the general formula



where Ar is an unsubstituted phenyl, or a chloro- or nitrosubstituted phenyl, or an unsubstituted naphtyl. As a distinguishing feature of the patent, 1,4-bis-(dichlorothiophosphoryl)-benzene is interacted with a substituted phenyl or naphthyl with heating in the presence of catalytic quantities of salts of esters of polythiophosphoric or thiophosphoric acids or semiproducts of

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203430002-5"

USSR

BLIZNYUK, N. K., et al., Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970

their synthesis such as a mixture of phosphorus pentasulfide or pyridine pentasulfide in an organic solvent such as xylene with subsequent isolation of the goal product by conventional methods. 2. The method described in (1) is distinguished by the fact that the temperature reaches 100-200°C.

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1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--POLYACRYLATES -U-

AUTHOR-(05)-BODNARYUK, F.N., KORSHUNOV, M.A., BRINEVA, T.P., VARSHAVSKIY, S.I., VIKHANSKIY, K.N.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 265,441

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--09MAR70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYACRYLATE RESIN, CHEMICAL PATENT, ESTERIFICATION, CARBOXYLIC ACID ESTER, ORGANIC SULFUR COMPOUND, GLYCOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1754 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136994

UNCLASSIFIED

2/2 010 UNCLASSIFIED

CIRC ACCESSION NO--AA0136994 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYACRYLATES ARE PREPD. BY CONVENTIONAL INTERESTERIFICATION OF ALKYL ESTERS OF MONO AND DICARBOXYLIC ACIDS WITH THIOGLYCOLS IN INERT SOLVENTS AND IN THE PRESENCE OF A CATALYST AND AN INHIBITOR.

UNCLASSIFIED

USSR

UDC 632.95

BLIZNYUK, N. K., PROTASOVA, L. D., KVASHA, Z. N., YARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculature USSR

"Method of Preparing Quaternary Phosphonium Chlorides"

USSR Authors' Certificate No 250134, filed 23 Mar 68, published 4 Jan 70 (from RZh-Khimiya, No 20 (II), 25 Oct 70, Abstract No 20 N553P by I. M. MIL'SHTEYN)

Translation: Compounds of the general formula [(R) (R')P(CH_2X) (CH_2-Y)]$^+$Cl$^-$ (I) (R and R' = alkyl, Ph, $PhCH_2$, substituted Ph or $PhCH_2$; and X and Y are substituted or unsubstituted aryl), which may possess physiological activity, are obtained by conjugated alkylation of chloro or dichlorophosphines with benzyl chlorides at 170-320°. I_2 or Lewsi acids can be used as catalyst. The process can be initiated by UV irradiation. A mixture of 0.03 mole benzyldichlorophosphine, 0.04 gram atom white Ph and 0.135 mole $PhCH_2Cl$ is heated in a stream of N_2 until distillation of PCl_3 ceases (3-3.5 hours); excess $PhCH_2Cl$ is distilled off the residue is dissolved in alcohol, and kept in a crystallizer 19-20 hours, and I (R = R' = $PhCH_2$, X = Y = Ph) is separated out,

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USSR

BLIZNYUK, N. K., et al., USSR Authors; Certificate No 250134

yield 89.2%, melting point 225-6 (alcohol-acetone). Analogously obtained are the following I (enumerated are R = R', X = Y% yield melting point in °C): 4-$ClC_6H_4CH_2$, 4-ClC_6H_4, 96.5, 235-6; 2,4-$Cl_2C_6H_3CH_2$, 2,4-$Cl_2C_6H_3$, 58, 140-142; 2-$ClC_6H_4CH_2$, 2-ClC_6H_4, ~100, -- . Analogously obtained are the following I (enumerated are R, R', X = Y% yield, melting point in °C): Ph, 4-$ClC_6H_4CH_2$, 4-ClC_6H_4, ~100, --; Ph, $PhCH_2$, Ph, ~100, 128-30 (acetone); Ph, 2,4-$Cl_2C_6H_3CH_2$, 2,4-$Cl_2C_6H_3$, ~100, 160-2 (alcohol-acetone); 4-MeC_6H_4, $PhCH_2$, Ph, ~100, 85-7; C_9H_{19}, $PhCH_2$, Ph, ~100; Ph, 4-$ClC_6H_4CH_2$, Ph, ~100, 115-6.

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USSR

BLIZNYUK, N. K., LEVSKAYA, G. S., KIRILINA, L. E., VARSHAVSKIY, S. L., All-Union Institute of Plant Pathology

"A Method for Preparing 1,4-Phenylenebisthiophosphonic Acid Esters"

USSR Author's Certification No 255267, class 12o, 26/01 (C 07 f), filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

Translation: Compounds with the general formula 1,4-$/R_2P(S)7_2C_6H_4$ (I) (R = aryloxy-, arylthio-, alkylthic group), active as pesticides or used as intermediates for synthesizing them, are obtained by reaction of 1,4-bis-(dichlorothiophosphoryl)-benzol (II) with phenols, thiophenols, mercaptans in the presence of a catalyst at 120-190°. For example, a mixture of 0.01 mole of II, 0.06 mole of thiophenol, 0.01 g of P_2S_5 and 0.016 g of C_5H_5N is heated for 2 hours at 140-160° until HCL (gas) ceases to evolve, blowing dry N_2 through the reaction mixture. The mixture is allowed to evaporate, forming in the residue I (R = PhS), yield 100%, boiling point 173-4°. I is prepared in a similar fashion: (R, yield in %, boiling point

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USSR

BLIZNYUK, N. K., et al, USSR Author's Certification No 255267, class 12o, 26/01 (C 07 f), filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

in °C or nD (t) are given)7: 4-ClC_6H_6S, 62, 183-3; BuS, 93.2, 1.6130 (24); n-$C_6H_{13}S$, 95.8, 1.5755 (22); n-$C_8H_{17}S$, 96.5, 1.5590 (20); PhO, 100, 88-9; 4-$NO_2C_6H_4O$, 95.4, 205-7; 2-ClC_6H_4O, 83.5, 125-6; 4-ClC_6H_4O, 82.5, 145-6; 2,4-$Cl_2C_6H_3$, 86.5, 146-7; 2,4,5-$Cl_3C_6H_2$, 70.9, 193-4.

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USSR

UDC: 632.95

KABACHNIK, M. I., MASTRYUKOVA, T. A., SHIPOV, A. E., ANDRIANOVA, L. V., VARSHAVSKIY, S. L., and KOPMAN, L. P.

"A Method for Preparing N-Acyl-S-(o-Alkylmethylthiophosphonyl) Cysteine Ester Derivatives"

USSR Author's Certificate No 253063, filed 18 July 68, published 3 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N650 P by G. V. Kusnetsova)

Translation: The indicated substances with the general formula ROPMe(S)SCH_2-$CH(NH\text{-}COR')COOR''$ (I) (R, R' and R'' = alkyls) are obtained from the reaction of ROPMe(S)Cl with $HSCH_2CH(NHCOR')COOR''$ in an organic solvent medium in the presence of an HCL acceptor. A solution of 1,7 g of iso-PrOPMe(S)Cl in 10 ml of absolute C_6H_6 is added to a solution of 2 g of $HSCH_2CH(NHAc)COOEt$ and 1,1 g of Et_3N in 50 ml of absolute C_6H_6 in an inert gas atmosphere while being mixed. The mixture is stirred for 1 hour at 20-5° and then at 50-5°. The precipitated Et_3N hydrochloride is filtered off and the filtrate washed with cold 2% Na_2CO_3 solution and water. The solution is evaporated and by chromatography on SiO_2 (hexane-acetone 3:2) 1.38 g (42.2%) of I (R=iso-Pr, R'=Me,

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USSR

KABACHNIK, M. I., et al, USSR Author's Certificate No 253063, filed 18 July 68, published 3 Apr 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N650 P by G. V. Kusnetsova)

R"=Et), $C_{11}H_{22}NO_4PS_2$, is obtained. The next I (R'=Me; R, R", yield in %, d_4^{20}, and n_D are given) is prepared in a similar fashion: Me, Me, 42.6, 1.2446, 1.5296; Me, Et, 48.7, 1.2068, 1.5210; Me, iso-Pr, 66.8, 1.1694, 1.5108; Et, Me, 40.5, 1.2041, 1.5152; Et, Et, 51.5, 1.1780, 1.5138; Et, iso-Pr, 23.5, 1.1608, 1.5082; Pr, Me, 54.4, 1.1948, 1.5151; Pr, Et, 38.3, 1.1477, 1.5050; Pr, Pr, 45.2, 1.1497, 1.5140; Pr, iso-Pr, 1.1490, 1.5069; iso-Pr, Me, 45, 1.1560, 1.5029; and iso-Pr, iso-Pr, 22.5, 1.1506, 1.4990. I can be used as physiologically active substances and as intermediate products in organic synthesis.

2/2

USSR

UDC 632.95

BLIZNYUK, A. K., KVASHA, Z. N., VARSHAVSKIY, S. L., and MADSHARA, G. A., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Preparing Mixed Esters of Dithiophosphonic Acids"

USSR Authors; Certificate No 222384, filed 26 Oct 66, published 20 Jan 70 (from Referativnyy Zhurnal Khimiya, No 17, 10 Sept 70, Abstract No 17 N594 P)

Translation: A mixture of 0.03 g-mole of acid chloride of S-ethyl methylthiophosphante, 0.12 g-mole alcohol, 1 mol% P_2S_5 and 2 mol% pyridine is heated for 4 hours at 90-100°C, and O,S-diethyldithiophosphonate, $C_6H_{13}OPS_2$, is isolated with a yield of 82% and a boiling point of 78-80°C/2, $n^{20}D$ = 1.5310. O-Methyl-S-phenyldithipmethylphosphonate $C_8H_{11}OPS_2$ is also prepared with a yield of 100%, melting point of 46-7°C, $N^{20}D$ = 1.6125.

T. A. Belyayeva

1/1

USSR

UDC: 547.26'118.07

BLIZNYUK, N. K., LEVSKAYA, G. S., MATYUKHINA, Ye. N., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Synthesizing 1,4-bis-(O-alkyl-O-arylthiophosphoryl)-benzenes"

Moscow, Otkrytiya, Izobretdniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268420, filed 22 May 68, p 23

Abstract: This Author's Certificate introduces: 1. A method of synthesizing 1,4-bis-(O-alkyl-O-arylthiophosphoryl)-benzenes of the general formula  where Ar is a substituted or unsubstituted phenyl or napthyl, and R is an alkyl. As a distinguishing feature of the patent, the appropriate 1,4-bis-(O-arylchlorothiophosphoryl)-benzenes are interacted with alcohols in an organic solvent such as benzene with the application of heat in the presence of an organic base such as pyridine as a catalyst, with subsequent isolation of the

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USSR

BLIZNYUK, N. K., et al., Otkrytiya, Izobretneiya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970,

goal product by conventional methods. 2. The method described in (1) is distinguished by the fact that the temperature reaches 60-90°C.

USSR UDC 632.95

BLIZNYUK, N. K., KVASHA, Z. N., PROTASOVA, L. D., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Method of Producing Pyrocatechin Chlorophosphites"

USSR Authors' Certificate No 250139, filed 10/05/67, published 4/01/70 (from Referativnyy Zhurnal Khimiya, No 16 (II), 25 Aug 70, Abstract No 16 N676 P by I. A. Mel'nikova)

Translation: A mixture of 1.125 mole PCl_3, 0.75 mole pyrocatechin and 0.6 g C_5H_5N is heated 1.5-2 hr with agitation at 60-80° in a current of dry N_2, separating pyrocatechin chlorophosphite (I) with a yield of 91-95%; b. p. 78°/9, $n^{20}D$ 1.5672. I is an organic synthesis intermediate.

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1/2 022 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--CATHODIC HYDRODIMERIZATION OF ACRYLONITRILE TO ADIPONITRILE FOR NYLON 66 -U-

AUTHOR-(03)-TOMILOV, A.P., KLIMOV, V.A., VARSHAVSKIY, S.L.

COUNTRY OF INFO--USSR, SOUTH AMERICA

SOURCE--GER. OFFEN. 1,948,445

DATE PUBLISHED--23APR70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--DIMERIZATION, ACRYLONITRILE, ADIPONITRILE, NYLON, GRAPHITE ELECTRODE, ION EXCHANGE RESIN, COPOLYMERIZATION, STYRENE, BENZENE DERIVATIVE, CATHODE, ELECTRODE REACTION, PATENT

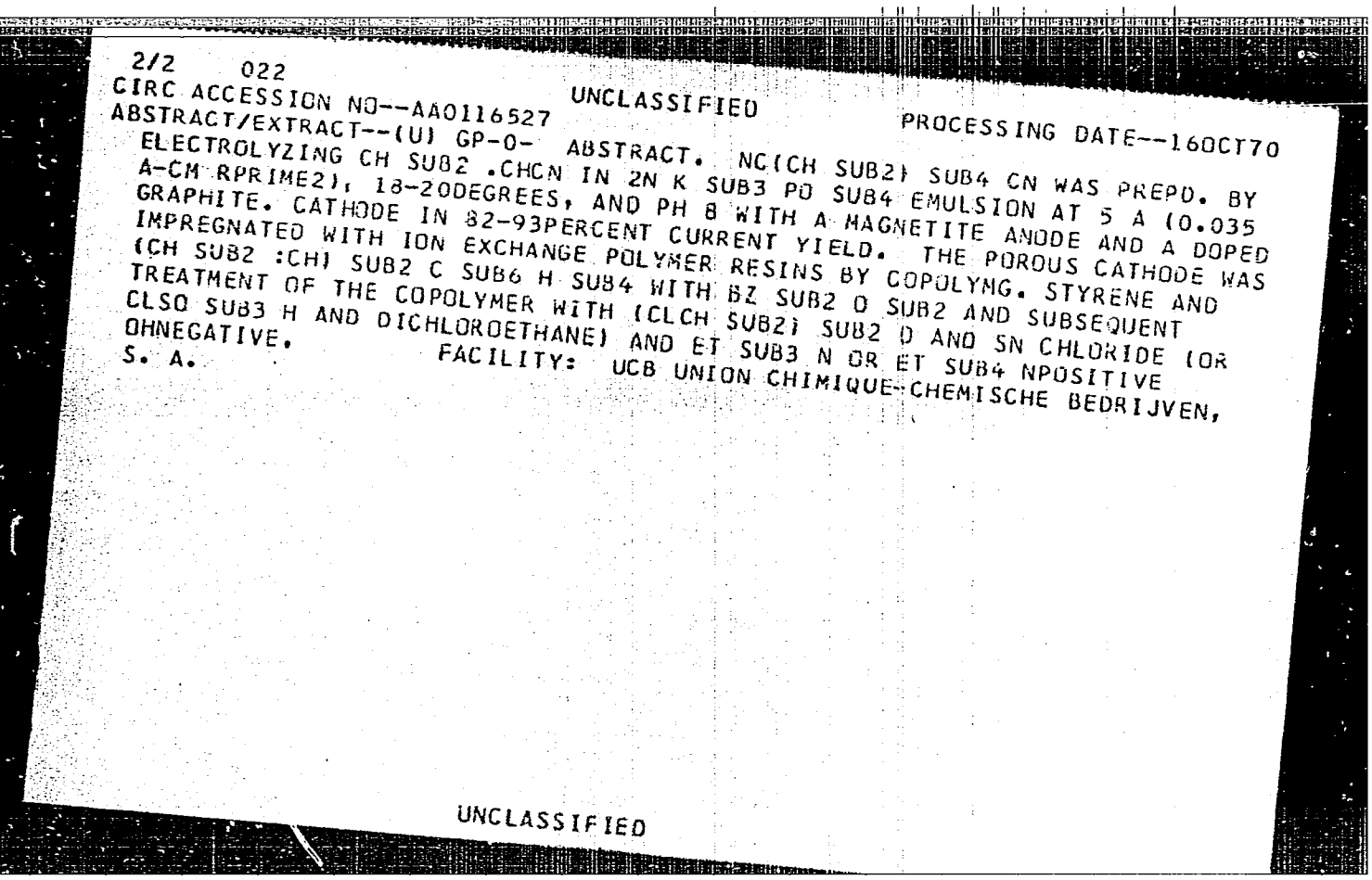
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1061 STEP NO--GY/0000/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116527

UNCLASSIFIED



2/2 022 UNCLASSIFIED

CIRC ACCESSION NO--AA0116527 PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NC(CH SUB2) SUB4 CN WAS PREPD. BY ELECTROLYZING CH SUB2 .CHCN IN 2N K SUB3 PO SUB4 EMULSION AT 5 A (0.035 A-CM RPRIME2), 18-20DEGREES, AND PH 8 WITH A MAGNETITE ANODE AND A DOPED GRAPHITE. CATHODE IN 82-93PERCENT CURRENT YIELD. THE POROUS CATHODE WAS IMPREGNATED WITH ION EXCHANGE POLYMER RESINS BY COPOLYMG. STYRENE AND (CH SUB2 :CH) SUB2 C SUB6 H SUB4 WITH BZ SUB2 O SUB2 AND SUBSEQUENT TREATMENT OF THE COPOLYMER WITH (CLCH SUB2) SUB2 O AND SN CHLORIDE (OR CLSO SUB3 H AND DICHLOROETHANE) AND ET SUB3 N OR ET SUB4 NPOSITIVE OHNEGATIVE.

S. A. FACILITY: UCB UNION CHIMIQUE-CHEMISCHE BEDRIJVEN,

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--METHACRYLIC ESTERS OF SULFUR CONTAINING GLYCOLS -U-

AUTHOR-(05)-RODNARYUK, F.N., KORSHUNOV, M.A., VARSHAVSKIY, S.L., VIKHANSKIY, K.N., CHASKINA, L.B.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,392

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, ORGANIC SULFUR COMPOUND, ESTER, GLYCOL, METHACRYLATE, POLYMERIZATION INHIBITION

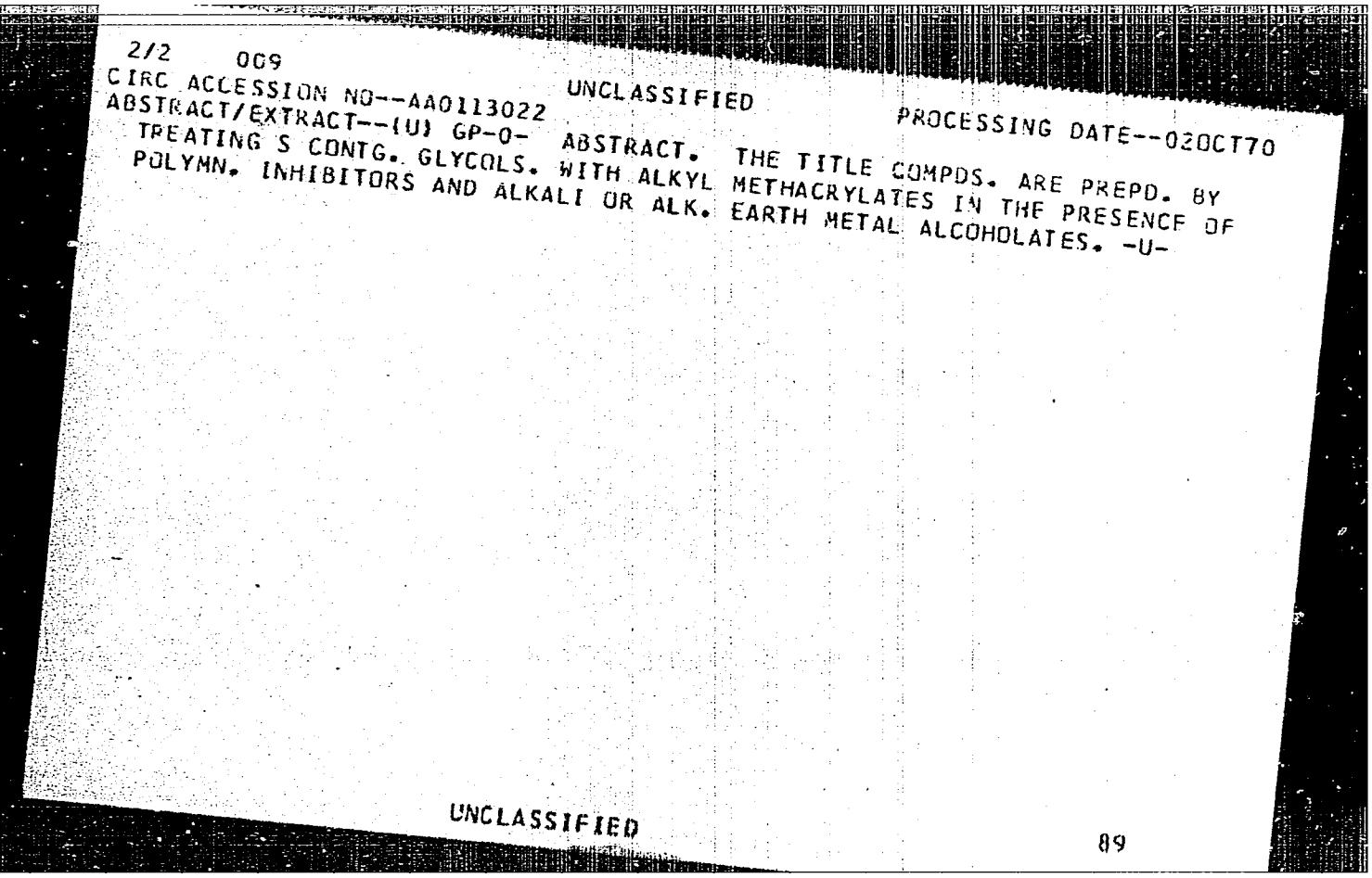
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0022 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0113022

UNCLASSIFIED



2/2 009 UNCLASSIFIED
CIRC ACCESSION NO--AA0113022 PROCESSING DATE--02OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPDS. ARE PREPD. BY TREATING S CONTG. GLYCOLS. WITH ALKYL METHACRYLATES IN THE PRESENCE OF POLYMN. INHIBITORS AND ALKALI OR ALK. EARTH METAL ALCOHOLATES. -U-

UNCLASSIFIED
89

1/2 025 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--EFFECTIVE CROSS SECTIONS OF THE FORMATION OF EXCITED MERCURY IONS DURING THE IONIZATION OF MERCURY ATOMS BY ELECTRON IMPACT -U-

AUTHOR-(03)-VARSHAVSKIY, S.P., MITYUREVA, A.A., PENKIN, N.P.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(1) 26-30

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--MERCURY, ELECTRON BOMBARDMENT, IONIZATION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/1326 STEP NO--UR/0051/70/028/

CIRC ACCESSION NO--AP0049487

UNCLASSIFIED

2/2 025 UNCLASSIFIED

CIRC ACCESSION NO--AP0049487 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTIVE INTERACTION CROSS SECTION OF THE FORMATION OF EXCITED HG IONS BY THE IMPACT OF ELECTRONS ON HG ATOMS HAVE BEEN CALCD. EXCITATION FUNCTIONS AND ABS. VALUES OF EFFECTIVE CROSS SECTION OF STATES S, P, D CORRESPONDING TO NORMAL TERMS OF HG II, AND ALSO TO THE 4 LOWER STATES OF THE BUTLER SYSTEMS HAVE THE SAME ORDER OF MAGNITUDE (10 PRIME NEGATIVE18 MINUS 10 PRIME NEGATIVE19 CM PRIME2). EXCITATION CROSS SECTION OF THE RESONANCE STATE 6 PRIME2 P SUBONE

1/2 026 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--IMMUNOMORPHOLOGY OF EXPERIMENTAL GLOMERULONEPHRITIS IN THE LIGHT OF GENERAL PATHOLOGIC PROCESSES -U-

AUTHOR-(05)-SEROV, V.V., MITIN, K.S., VARSHAVSKIY, V.A., UFIMTSEVA, A.G., TOMILINA, N.A.

COUNTRY OF INFO--USSR

SOURCE--ARKH. PATHOL. 1970, 32(1), 29-40

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMMUNOLOGY, NEPHRITIS, RAT, SERUM PROTEIN, ALBUMIN, URINE, MITOCHONDRION, ENZYME ACTIVITY, DEHYDROGENASE, CYTOPLASM, PHOSPHATASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0474 STEP NO--UR/9056/70/032/001/0029/0040

CIRC ACCESSION NO--AP0117710

UNCLASSIFIED

2/2 026 UNCLASSIFIED

CIRC ACCESSION NO--AP0117710 PROCESSING DATE--090CT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMMUNOMORPHOL. OF NEPHROTOXIC NEPHRITIS WAS STUDIED ON 75 YOUNG RATS AT VARIOUS STAGES OF THE DISEASE BY BIOCHEM., HISTOCHEM., ELECTRON MICROSCOPIC, AND IMMUNOFLUORESCENT METHODS. TOTAL BLOOD SERUM PROTEIN IN INTACT RATS WAS 6.38 G PERCENT, IN RATS ON THE 2ND-3RD DAYS OF THE ACUTE STAGE 3.8 G PERCENT, ON THE 4TH-12TH DAYS 5.2 G PERCENT, AND IN RATS WITH CHRONIC NEPHRITIS (31-122 DAYS) 5.65 G PERCENT; ALBUMIN WAS 38.86, 25.1, 27.8, AND 31.1PERCENT, RESP. PROTEIN IN THE URINE WAS 0, 2.27, 260, AND 0.097PERCENT, RESP. ELECTRON MICROSCOPY SHOWED STRONGLY VACUOLIZED CYTOPLASMA IN THE PROXIMAL TUBULES AND SWOLLEN MITOCHONDRIA WITH DESTRUCTED CRISTS AND VACUOLES. DESTRUCTION OF MITOCHONDRIA WAS ACCOMPANIED BY DECREASED ACTIVITIES OF SUCCINIC AND MALIC DEHYDROGENASES, NAD AND NADP DIAPHORASES, AND INCREASED ACTIVITY OF LACTIC DEHYDROGENASE. OTHER HISTOL. ALTERATIONS WERE ACCOMPANIED BY DECREASED ALK. PHOSPHATASE AND ITS DIFFUSION INTO THE CYTOPLASMA. LYSOSOMIC ACTIVITY WAS PROVEN BY A STRONG INCREASE OF HYDROLASES, ESP. ACID PHOSPHATASE. ALTERED ENXYMIC ACTIVITIES OF THE TUBULAR EPITHELIUM GAVE EVIDENCE OF SUPPRESSED CELLULAR RESPIRATION AND ACTIVATION OF GLYCOLYSIS AND HYDROLYSIS. IT WAS EMPHASIZED THAT THE GENERALLY ACCEPTED TERM GLOMERULONEPHRITIS DOES NOT REFLECT THE NATURE OF THE PHENOMENON.

INST. IM. SECHENOVA, MOSCOW, USSR. FACILITY: MOSK. MED.

UNCLASSIFIED

III. MATHEMATICAL CYBERNETICS
A. Theory of Control Systems

USSR

VARSHAVSKIY, V. I.

"The Collective Behavior of Automata"

Kollektivnoye povedeniye avtomatov [English version above], Moscow, Nauka Press, 1973, 407 pages (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V399K)

Translation: This book is dedicated to an important branch of theoretical cybernetics. Using a common language and based on common positions, results are studied, produced at the present time in the study of models of the collective behavior of automata, and the application of the idea and methods of collective behavior to the description of complex systems and the organization of control in such systems. The book encompasses a broad range of problems from the behavior of automata in random media to the behavior of systems of interacting automata, solving purely logical problems.

The book is of interest for scientific workers and engineers, working in the area of the theory of automata, the theory of control and planning of control systems in complex systems. 147 Biblio. Refs.

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USSR

VARSHAVSKIY, V. I.

UDC: 577.4

"Some Problems on Systems of Interacting Automata"

V sb. Avtomaty, gibridn. i upravlyaushch. mashiny (Automata, Hybrid and Control Computers--collection of works), Moscow, "Nauka", 1972, pp 7-24 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V447)

[No abstract]

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--QUANTITATIVE ULTRAMICROANALYSIS OF AMINO ACIDS IN THE FORM OF THEIR DNS, DANSYL, DERIVATIVES. I. APPARATUS FOR ULTRAMICROANALYSIS OF DNS

AUTHOR-(04)-SPIVAK, V.A., ORLOV, V.M., SHCHERBUKHIN, V.V., VARSHAVSKIY, YA.M.

COUNTRY OF INFO--USSR

SOURCE--ANAL. BIOCHEM. 1970, 35(1), 227-34

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--AMINO ACID ANALYSIS, MICROCHEMICAL ANALYSIS, LUMINESCENCE, UV SPECTRUM, CHROMATOGRAPHIC SEPARATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0058 STEP NO--UK/0000/70/035/001/0227/0234

CIRC ACCESSION NO--AP0119054

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119054

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. IS DESCRIBED THAT PERMITS DETN. OF THE RELATIVE AMTS. FO DNS AMINO ACIDS DIRECTLY IN THE THIN LAYER OF ADSORBANT AFTER CHROMATOGRAPHIC SEPN. THE METHOD OF MEASUREMENT IS BASED UPON THE ABILITY OF THE DNS AMINO ACIDS TO LUMINESCENCE IN THE VISIBLE REGION OF THE SPECTRUM AFTER EXCITATION BY UV LIGHT. THE AMTS. OF DNS AMINO ACIDS ON CHROMATOGRAMS MAY BE AS LOW AS 10 PRIME NEGATIVE11 TO 10 PRIME NEGATIVE10 MOLE. TO ILLUSTRATE THE POSSIBILITIES OF THE PRACTICAL APPLICATION OF THE APP., THE KINETICS OF SPLITTING OFF OF THE C TERMINAL AMINO ACIDS OF RNASE BY CARBOXYPEPTIDASE A WAS INVESTIGATED. THE DATA ARE IN AGREEMENT WITH THE AMINO ACID SEQUENCE IN RNASE. THUS, THE TECHNIQUE OPENS THE POSSIBILITY OF DETG. THE TERMINAL AMINO ACID SEQUENCES IN PROTEINS AND PEPTIDES ON AN ULTRAMICRO SCALE.

FACILITY: INST. MOL. BIOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 539.192/.194+535.33/.34.01

VARSHAVSKIY, YU. S., MASHIROV, L. G., SUGLOBOV, D. N.

"On the Possibilities and the Limitations of an Empirical Approach to an Analysis of Vibrational Spectra of Coordination Compounds"

V sb. Kolebatel'n. spektry v neorgan. khimii (Vibrational Spectra in Inorganic Chemistry -- Collection of Works), Moscow, "Nauka," 1971, pp 29-37 (from RZh-Fizika, No 5, May 71, Abstract No 5D134)

Translation: A critical discussion of the possibilities of an analysis of spectroscopic data on the basis of empirical correlations between spectroscopic characteristics of correlation compounds and their "chemical structure" is attempted. The meaning of the concept of characteristic frequencies underlying the empirical approach is discussed; it is shown that the use of this concept in no way restricts, in practice, the possibility of chemical interpretation of vibrational spectra of coordination compounds. Cases are discussed in which the absence of a characteristic nature contains important chemical information. From a comparison of the force constants obtained with the aid of approximate calculations with values found by an "exact" calculation it is concluded that the approximate calculations in many

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USSR

VARSHAVSKIY, Yu. S., et al, Kolebatel'n, spektry v neorgan, khimii

cases give applicable results. The empirical approach in the sense of volume, truth, and value of information achieved is not inferior to computational methods. Future promise of vibrational spectroscopy of coordination compounds is associated with the parallel, mutually enriching development of both approaches.

2/2

Acc. Nr: AP0055924 Abstracting Service: CHEMICAL ABST. 6-70 Ref. Code: 4R0075

116326b Infrared spectra of complexes of platinum(II) with hydroxylamine and o-methylhydroxylamine. Mitkinova, N. D.; Ivannikova, N. V.; Varshavskii, Yu. S.; Stetsenko, A. I. (USSR). *Zh. Neorg. Khim.* 1970, 15(2), 572-4 (Russ). Redn. of $K_2[PtCl_4]$ by NH_2OH or NH_2OMe gave $[Pt(NH_2OH)_4]Cl_2$ (I) and $[Pt(NH_2OMe)_4]Cl_2$ (II), resp. $[Pt(L_4)]Cl_2$ (III) (L = ND_2OD or ND_2OMe) were prepd. analogously. IR spectra of I, II, III, and $[PtL'_4][PtCl_4]$ (L' = NH_2OH or ND_2OH) are tabulated and their absorption bands are assigned. The study reveals that acidity of NH_2OH complexes is correlated with OH and not with NH_2 group.

HMJR

pc

REEL/FRAME
19841253

1/2 007 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--REACTION OF THE PRODUCT OF RHODIUM CARBONYLATION BY DIMETHYLFORMAMIDE WITH 8 HYDROXYQUINOLINE AND 8 MERCAPTOQUINOLINE -U-

AUTHOR-(05)-VARSHAVSKIY, YU.S., KNYAZEVA, N.N., CHERKASOVA, T.G., IVANNIKOVA, N.V., IONINA, T.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 715-22

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--RHODIUM COMPOUND, COMPLEX COMPOUND, CARBONYL RADICAL, FORMIC ACID, AMIDE, QUINOLINE, HYDROXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1469 STEP NO--UR/0078/70/015/003/0715/0722

CIRC ACCESSION NO--AP0116906

UNCLASSIFIED

2/2 007 UNCLASSIFIED

CIRC ACCESSION NO--AP0116906 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BROWN VIOLET (RHL(CO) SUB2), BROWNISH (RHL PRIME (CO) SUB2), AND ORANGE (RHL PRIME H(L PRIME)), FORM IN HCONME SUB2 SOLNS. FO RHCL SUB3 WITH SALTS OF 8 HYDROXYQUINOLINE (LH) OR 8 MERCAPTOQUINOLINE (L PRIME H), RESP. THEIR STRUCTURE IS ANALOGOUS TO THAT OF DICARBONYL COMPLEXES OF IR(I) AND RH(I) AND SCHIFF BASES. L PRIME H EASILY REPLACES CO GROUPS IN THE INNER COORDINATION SPHERE: SOME (RH(L PRIME H)L) SEPD. EVEN AT 1:1 L PRIME H:RH RATIO. THIS AND THE EASE OF THE REPLACEMENT OF CO GROUPS FROM (RHL PRIME (CO) SUB2) BY L POINT TO A STRONG TRANS EFFECT OF L PRIME LIGANDS.

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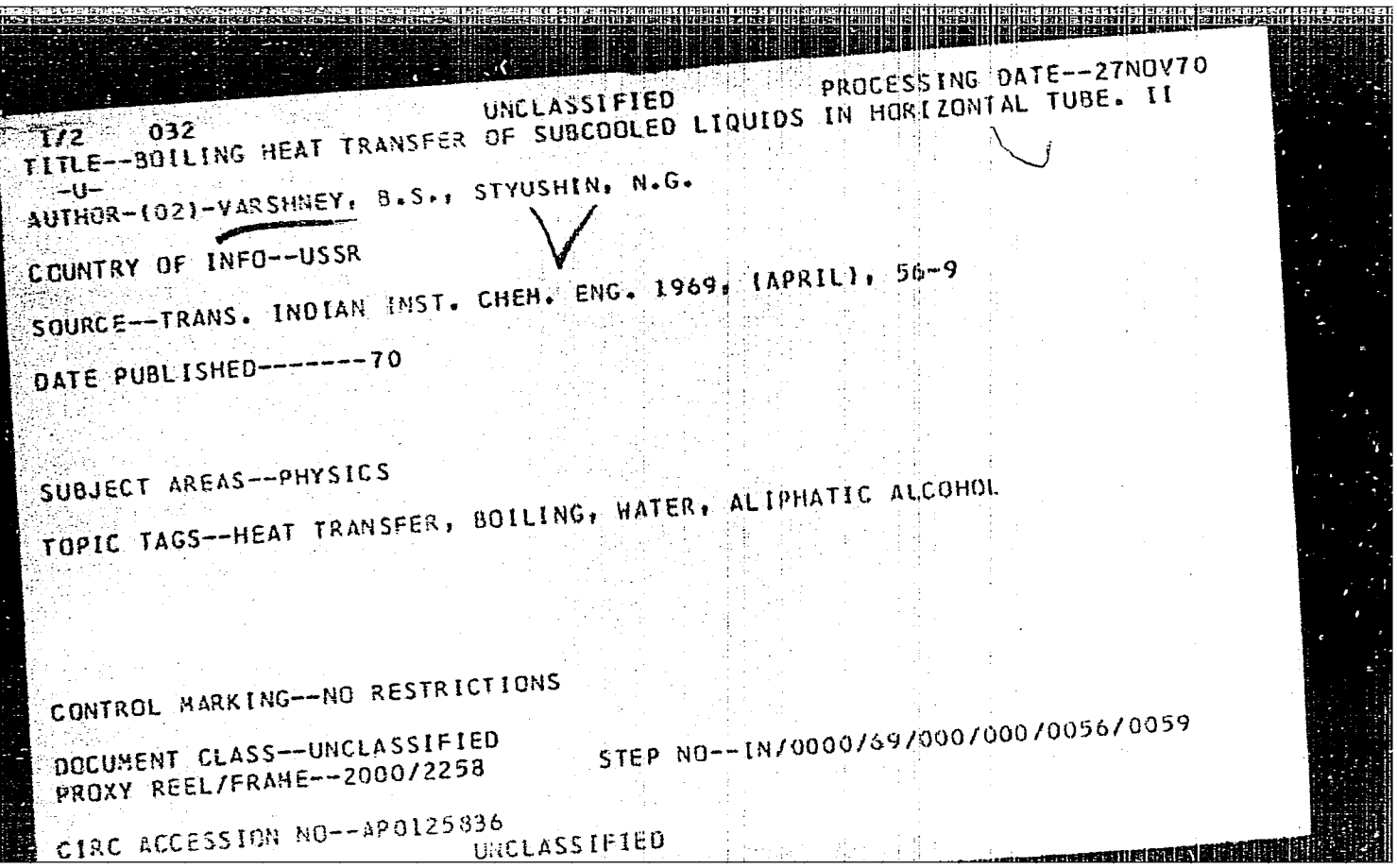

1/2 032 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--BOILING HEAT TRANSFER OF SUBCOOLED LIQUIDS IN HORIZONTAL TUBE. II

-U-

AUTHOR-(02)-VARSHNEY, B.S., STYUSHIN, N.G.

COUNTRY OF INFO--USSR

SOURCE--TRANS. INDIAN INST. CHEM. ENG. 1969, (APRIL), 56-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, BOILING, WATER, ALIPHATIC ALCOHOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--IN/0000/69/000/000/0056/0059

PROXY REEL/FRAME--2000/2258

CIRC ACCESSION NO--AP0125836

UNCLASSIFIED

2/2 032 UNCLASSIFIED

CIRC ACCESSION NO--AP0125836 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GENERALIZED CORRELATION FOR DETG. HEAT TRANSFER COEFFS. IN FULLY DEVELOPED BOILING OF SUBCOLLED LIQUS., H SUB2 O AND ISO PROH, IN HORIZONTAL TUBES IS GIVEN AS H SUBB-H SUBC EQUALS 2.6 TIMES 10 PRIME7 ((X-D) PRIME0.1 (T SUBS PRIME-DELTA T PRIME PRIME SUB) PRIME0.5 (Q-LAMBDA SUBLAMBDA PRIME PRIME V)(GAMMA PRIME PRIME-GAMMA PRIME) PRIME 0.85)((SIGMA-(GAMMA PRIME MINUS GAMMA PRIME PRIME)) PRIME0.5 (L-LAMBDA) PRIME0.7, WHERE H SUBB IS THE LOCAL COEFF. OF HEAT TRANSFER IN BOILING, H SUBC CONVECTIVE HEAT TRANSFER COEFF., X DISTANCE FROM INLET OF TUBE, D INSIDE DIAM., T SUBS PRIME SATN. TEMP. AT TUBE INLET, DELTA T PRIME PRIME SUB LOCAL DEGREE OF SUBCOOLING, Q HEAT FLUX, LAMBDA LATENT HEAT OF VAPORIZATION, GAMMA PRIME AND GAMMA PRIME PRIME SP. WT. OF LIQ. AND VAPOR, RESP., V LIQ. VELOCITY AT TUBE INLET, AND SIGMA SURFACE TENSION. FACILITY: MOSCOW, INST. CHEM. ENG., MOSCOW, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--OXIDATIVE DEHYDROGENATION OF LOW MOLECULAR WEIGHT OLEFINS ON TIN ANTIMONY OXIDE CATALYSTS -U-

AUTHOR-(04)-SEKUSHOVA, KH.Z., VARTANOV, A.A., ALKHAZOV, Y.G., BELENKIY, M.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 102-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DEHYDROGENATION, CATALYST ACTIVITY, ANTIMONY COMPOUND, TIN OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1019 STEP NO--UR/0153/70/013/001/0102/0106

CIRC ACCESSION NO--AT0119886

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--23OCT7C

CIRC ACCESSION NO--AT0119886

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES OF THE ACTIVITY OF 13 SN-SB OXIDE CATALYSTS COVERING THE COMPLETE COMPN. RANGE, FOR THE OXIDATIVE DEHYDROGENATION, DEEP SEATED OXIDN., AND ISOMERIZATION OF C SUB4-5 OLEFIN MIXTS. IN PULSE AND FLOW SYSTEMS AT 350-450DEGREES, INDICATE THAT ACTIVITY IS PROPORTIONAL TO SP. SURFACE OF CATALYSTS, AND THAT MAX. ACTIVITY IS NOTED FOR CATALYSTS WITH 4:1 OR 9:1 ATOM RATION SN-SB. LITTLE ACTIVITY IS SHOWN BY SNO SUB2, AND LESS BY SB SUB2 O SUB4. THE CATALYSTS ARE PREPD. BY MIXING NITRATE SOLNS., SEPG. AND DRYING THE PPT., AND CALCINING 16 HR AT 850DEGREES. SP. SURFACE AREAS RANGED FROM 0.9-27.2 M PRIME2 PER G. THE ACTIVE CATALYST IS SN-SB SOMPD., WHICH IS AMORPHOUS TO X RAY EXAMN. FACILITY: AZERB. INST. NEFTI KHIM. IM. AZIZBEKOVA, BAKU, USSR.

UNCLASSIFIED

USSR

UDC 539.1.074.55

VARTANOV, N. A., SAMOYLOV, P. S., STUGAREV, Yu. N.

"Operation of Universal Scintillation Coincidence Spectrometer with Ge(Li) Detectors"

Tr. Soyuz. NII Priborostr. [Works of Union Scientific Research Institute for Instrument Building], 1972, No 17, pp 32-38, (Translated from Referativnyy Zhurnal, Metrologiya i Izmeritel'naya Tekhnika, No 7, 1972, Abstract No 7.32.1408).

Translation: The possibility is studied of the operation of the "Lena" series-produced universal spectrometer with Ge(Li) detectors. The operation of this spectrometer with semiconductor detectors is checked in the double and trible fast-slow coincidence modes. The use of a coincidence circuit with long resolving time ($2\tau \sim 200$ ns) allows the time spread in the rise fronts of pulses to overlap with the Ge(Li) detector, achieving 100% effectiveness of coincidence recording.

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USSR

UDC 621.385.18.019.3

LOVPACHE, K.YU., VARTANOVA, G.A., SHANIN, YU.N., SAKULIN, G.P.

"Study Of The Effect Of Prolonged Storage Under Conditions Of Higher Than Usual Humidity On The Vacuum In A M-Type Electron Device"

Elektron.tekhnika. Nauch.-tekhn.sb. Tekhnol. i organiz. proiz-va (Electronics Technology. Scientific-Technical Collection. Technology And Organization Of Production), 1971, Issue 5(43), pp 47-51 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 11A173)

Translation: Information is presented on the change of the overall pressure in M-Type metal-glass devices during storage under conditions of higher than usual humidity. The data were obtained by measurement of the current of the electron gas discharge in devices with an axial magnetic field. It is shown that a change of the vacuum takes place primarily because of an increase of the partial pressure of hydrogen, methane, and a mixture of carbon monoxide with nitrogen. Summary.

1/1

USSR

VARTANOVA, S. V., POPOV, I. V., PROCHUKHAYEV, M. V., Moscow

UDC 533.6.011.8

"Study of the Effect of the Angle of Opening of Conical Nozzles on the Flow Parameters of a Rarefied Gas"

Moscow, Mekhanika zhidkosti i gaza, No. 5, Sep/Oct 72, pp 175-178

Abstract: A study of gas flow in conical nozzles with half-opening angles $\alpha = 15\text{-}35°$ in the range of Mach numbers from 4-11 at static pressures at the cutoff section $p = 0.2\text{-}100$ n/m^2 is described. It is noted that there are many difficulties both in principle and of an engineering nature in producing a hypersonic flow of a low density gas in nozzles of wind tunnels. The growth of the boundary layer at the walls of the supersonic nozzle essentially limits the possibility of producing flows with large Mach numbers and sufficient isentropic cores. It is also observed that one of the methods of improving flow characteristics is cooling the nozzle walls so that the thickness of the boundary layer decreases and the effective angle of opening of the nozzle increases with a decrease in the temperature factor $t_w = T_w/T_0$. The

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USSR

VARTANOVA, S. V., et al, Mekhanika zhidkosti i gaza, No. 5, Sep/Oct 72, pp 175-178

effect of deep cooling ($t_w = 0.135$) on the flow parameters was investigated for a nozzle with an angle of opening $\alpha = 20°$. The calculations provide an empirical relationship for calculating conical nozzles in the range of angles of half-opening from 15 to 35° and values of t_w from 0.135 to 1. Photographs are given showing that a shock wave of low intensity was formed in a nozzle with $\alpha = 15°$, which is attributed to the interaction of the boundary layer with the nonviscous flow. A decrease in the thickness of the boundary layer in the region of the output cross section at the nozzle with deep cooling led to a decrease in the curvature of the outer boundary of the boundary layer and to a weakening of its interaction with the flow. An increase in the angle of the half-opening led to an increase in the interaction of the boundary layer with the flow and hence to an increase in the intensity of the shock wave. The photograph of the flow for $\alpha = 35°$ shows that at high angles of opening of the nozzle ($\alpha \geq 30°$), the flow formation approximates in character the flow formation in free jets.

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1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF THICKNESS AND THE SURROUNDING AGS MEDIUM ON THE SPECTRAL DEPENDENCE OF A PHOTOCURRENT IN RHODAMINE B LAYERS -U-

AUTHOR-(02)-MESHKOVA, G.N., VARTANYAN, A.T.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(1), 16-21

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--CHEMICAL INDICATOR, SPECTRUM ANALYSIS, ABSORPTION SPECTRUM, PHOTOEFFECT, CHEMICAL DECOMPOSITION, VACUUM

CONTROL MARKING--NO RESTRICTIONS

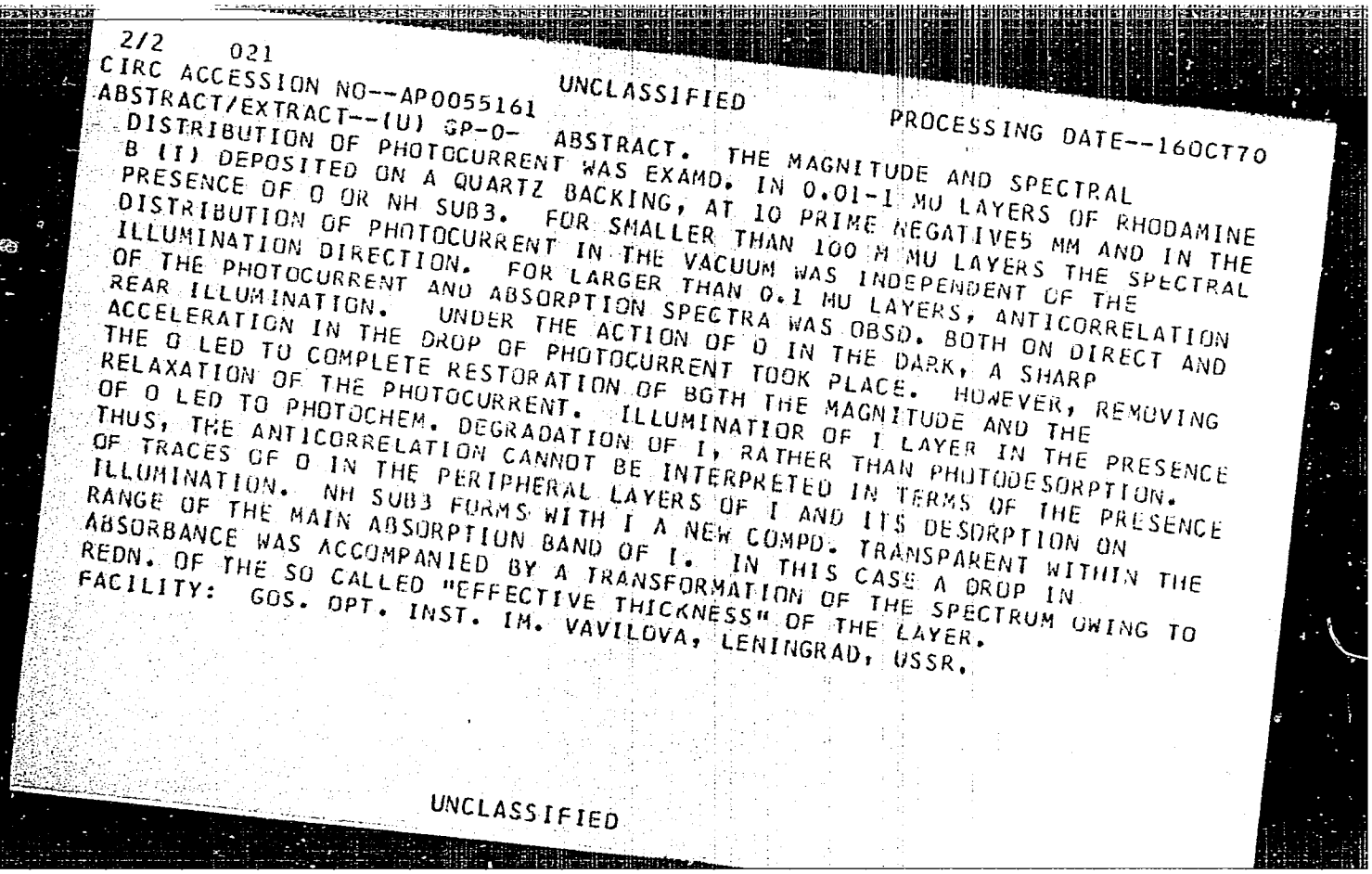
DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0376

STEP NO--UR/0364/70/006/001/0016/0021

CIRC ACCESSION NO--AP0055161

UNCLASSIFIED



2/2 021 UNCLASSIFIED
CIRC ACCESSION NO--AP0055161 PROCESSING DATE--16OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAGNITUDE AND SPECTRAL DISTRIBUTION OF PHOTOCURRENT WAS EXAMD. IN 0.01-1 MU LAYERS OF RHODAMINE B (I) DEPOSITED ON A QUARTZ BACKING, AT 10 PRIME NEGATIVE5 MM AND IN THE PRESENCE OF O OR NH SUB3. FOR SMALLER THAN 100 M MU LAYERS THE SPECTRAL DISTRIBUTION OF PHOTOCURRENT IN THE VACUUM WAS INDEPENDENT OF THE ILLUMINATION DIRECTION. FOR LARGER THAN 0.1 MU LAYERS, ANTICORRELATION OF THE PHOTOCURRENT AND ABSORPTION SPECTRA WAS OBSD. BOTH ON DIRECT AND REAR ILLUMINATION. UNDER THE ACTION OF O IN THE DARK, A SHARP ACCELERATION IN THE DROP OF PHOTOCURRENT TOOK PLACE. HOWEVER, REMOVING THE O LED TO COMPLETE RESTORATION OF BOTH THE MAGNITUDE AND THE RELAXATION OF THE PHOTOCURRENT. ILLUMINATION OF I LAYER IN THE PRESENCE OF O LED TO PHOTOCHEM. DEGRADATION OF I, RATHER THAN PHOTODESORPTION. THUS, THE ANTICORRELATION CANNOT BE INTERPRETED IN TERMS OF THE PRESENCE OF TRACES OF O IN THE PERIPHERAL LAYERS OF I AND ITS DESORPTION ON ILLUMINATION. NH SUB3 FORMS WITH I A NEW COMPD. TRANSPARENT WITHIN THE RANGE OF THE MAIN ABSORPTION BAND OF I. IN THIS CASE A DROP IN ABSORBANCE WAS ACCOMPANIED BY A TRANSFORMATION OF THE SPECTRUM OWING TO REDN. OF THE SO CALLED "EFFECTIVE THICKNESS" OF THE LAYER.
FACILITY: GOS. OPT. INST. IM. VAVILOVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 535

VARTANYAN, E. G., VARTANYAN, E. S., KAZARYAN, R. A., MANUCHARYAN, R. G.

"Amplitude Distributions of Laser Radiation Passing Through a Turbulent Atmosphere"

Uch. zap. Yerevan. un-t. Yestestv. n. (Scientific Notes of Yerevan University. Natural Sciences), 1970, No 3(115), PP 140-142 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D884)

Translation: Measurements of the energy fluctuations of laser radiation propagating through a turbulent atmosphere were measured on a track of length 25 km for diameters of the receiving objective from 30 to 50 cm and averaging times of 2, 10, 30, 60, and 120 sec. The measurements were conducted in the spring from 2000 to 2400 hrs. On the basis of the χ^2 criterion for five degrees of freedom, in the opinion of the authors, the distribution of fluctuations in the energy received agreed with a logarithmically normal and normal law. It was found that, independent of the averaging time for diameters of the receiving objective up to 15 cm, the values of the χ^2 were less for the logarithmically normal distribution law than for the normal distribution law, and for averaging over an area of the objective of the diameter above 15 cm the χ^2 was less for a normal law. A. A. Yakovlev.

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USSR

UDC 535

VARTANYAN, E. G., VARTANYAN, E. S., KAZARYAN, R. A., MANUCHARYAN, R. G.

"Amplitude Distributions of Laser Radiation Passing Through a Turbulent Atmosphere"

Uch. zap. Yerevan. un-t. Yestestv. n. (Scientific Notes of Yerevan University. Natural Sciences), 1970, No 3(115), pp 140-142 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D884)

Translation: Measurements of the energy fluctuations of laser radiation propagating through a turbulent atmosphere were measured on a track of length 25 km for diameters of the receiving objective from 30 to 50 cm and averaging times of 2, 10, 30, 60, and 120 sec. The measurements were conducted in the spring from 2000 to 2400 hrs. On the basis of the χ^2 criterion for five degrees of freedom, in the opinion of the authors, the distribution of fluctuations in the energy received agreed with a logarithmically normal and normal law. It was found that, independent of the averaging time for diameters of the receiving objective up to 15 cm, the values of the χ^2 were less for the logarithmically normal distribution law than for the normal distribution law, and for averaging over an area of the objective of the diameter above 15 cm the χ^2 was less for a normal law. A. A. Yakovlev.

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VARTANYAN, F. Ye.

SO: JPRS 53378
16 June 71

UDC: 616.895.8-091-02:615.214

SOME PROBLEMS DEALING WITH PATHOMORPHOSIS OF SCHIZOPHRENIA AS RELATED TO ADMINISTRATION OF PSYCHOTROPIC DRUGS

[Article by A.B. Smulevich, F.Ye. Vartanyan, G.I. Zavidovskaya, G.M. Rumyan, Institute of Psychiatry, USSR Academy of Medical Sciences, Moscow; Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 5, May 1971, pp 79-83]

Problems dealing with therapeutically determined alteration (pathomorphosis) of clinical manifestations and patterns of development of psychoses considered within the framework of schizophrenia are the subject of numerous investigations pertaining mainly to therapeutic pathomorphosis, as well as to the concept of target symptoms, provocation symptoms, intermediate syndromes, etc. One of the most popular pathogenetic conceptions interpreting the heterogeneity of reactions to drugs is the effort to relate the differences in influence of psychotropic agents to the degree of activity of the pathological process (Petrilowitch; Janzarik; Heinrich, and others). According to this view, pharmacogenic pathomorphosis can occur only during activation of the moving forces of the disease, and is almost never observed with a chronic malignant course or at the stabilization stage. In the latter cases, according to this view (Janzarik; Huber; Krumz) psychotropic drugs have only a symptomatic action, i.e. their influence consists only of reducing manifestations of the disease.

Studies pursued at the Institute of Psychiatry, USSR AMS, are indicative of the existence of some bias in this point of view. And we take the liberty to voice the following positions, but strictly in the nature of hypotheses.

Onset of therapeutic pathomorphosis is possible during rational administration of pharmacological agents not only during a period of exacerbation but also during other phases of the pathological process. However, the nature and severity of therapy-related changes in the clinical findings are related to 1) severity of brain function damage; 2) degree of activity or, on the contrary, stabilization of the process.

To substantiate these positions we had to compare the results of prolonged administration of psychotropic agents to at least three groups of

VARTANYAN, G.S.

Nuclear Physics

VARTANYAN, G.S.

JPRS 54479

12 November 1971

UDC 621.3.032.266

MEASURING AND MONITORING THE SPATIAL CHARACTERISTICS OF EXTERNAL BEAMS OF THE YEREVAN NING ELECTRON ACCELERATOR

[Article by G. A. Arutelyan, G. S. Vartanyan, S. K. Vesin, I. I. Karabekov, A. M. Kotelnikov, M. A. Martirosyan, Yu. M. Muradyan, Yerevan Physics Institute; Moscow, Pribory i Tekhnika Eksperimenta, Russian, No 4, 1971, received 2 September 1970, pp 46-48]

Apparatus are proposed which make it possible to determine the magnitude of current of accelerated particles which deflect onto the internal target, the vertical electron beam position at the instant of deflection, and an apparatus to determine the position of the beam's center of gravity. Methods for using the information obtained for regulating the accelerator parameters in the ejection stage are considered.

The efficiency of using external accelerator beams depends, in many respects, on the stability of their spatial characteristics, the stability of the average beam intensity, and the energy content of particle distribution particularly those for the gamma beams can change considerably, even if the measured parameters of the internal beam and the deflecting apparatus are within standard limits. Therefore, continuous information is necessary concerning the position of the gamma beam axis, and the deflection angle, which is determined by the degree of the conversion of the flux of the primary accelerated electron flow into the beam quanta flux. To monitor the motion of the gamma beam axis on the Erevan Electron Synchrotron (ESSY) phosphor-coated targets and television units are used. However, such a monitoring system, in addition to its high cost, is outdated in that the information thus obtained is unsuitable for further processing in systems for automatically regulating external beam parameters. Furthermore, this information is inadequate both for operational correction of the accelerator and for data before deflection, and for regulating the deflection devices. In the Yerevan electron accelerator the apparatus and methods were developed to obtain quantitative information concerning the spatial parameters of gamma beams and the state of the internal electron beam at the moment of deflection, so as to monitor and regulate the parameters of the magnetic accelerator system and the deflecting devices.

VARTANYAN, G. Ye

POLITICAL

Dep Gen Public Health

SO: JPRS 55204
16 Feb 72

UDC: 614.23.007(479.25)

A STUDY OF COMPOSITION, ASSIGNMENT, AND EMPLOYMENT OF SPECIALIST PHYSICIANS IN ARMENIAN SSR

(Public Health)

[Article by G.Ye. Vartanyan, Deputy Minister of Health, Armenian SSR; Moscow Sovetskoye Zdravookhraneniye, Russian, No 1, 1972, submitted 29 July 1971, pp 8-11]

The doctor force plays a decisive role in development of public health. The definite improvement in quality of medical care in the years of Soviet rule is attributable to the constant growth of the doctor force, in many respects.

Much has been achieved in Armenian SSR, as in other Union republics, with respect to training and improving the qualifications of specialists. Until 1920, Armenia had only a few dozen physicians, now they number 2,200. The indices of availability of physicians in the republic are rather high (30.3 per 10,000 population, whereas the figure for the Union as a whole is 27.6 per 10,000).

While we realize that the size of the doctor force plays a decisive role in organization and improvement of medical care, it must be indicated that it is not merely a matter of an increase in quantity and availability, but also it is a matter of how well they are trained, whether they are properly assigned to different areas and rationally employed. This also applies to the public health agencies of Armenia since, in spite of the gradual addition of new specialists to the ranks, there is still inadequate training for some specialties, and doctors are not evenly distributed in the different administrative areas. As a result we now have a considerable reserve of specialists in some fields and, on the contrary, there is a shortage in others; there is also a difference between availability of doctors in urban and rural areas to the detriment of the latter.

The urgency, practical significance and theoretical scientific importance of these issues for public health agencies in the republic prompted us to undertake an in-depth study of the composition, assignment, and employment of specialists in the last five years (1966-1970). Statistical and expert evaluation methods were used. The physician was the unit in the statistical study.

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VARTANYAN, I. A.

Electrical Reaction of Rat Cochlea in Response to Clicks

TECHNICAL TRANSLATION

FSTC-HT-23- 292-72

ENGLISH TITLE: The Electrical Reactions of the Rat Cochlea in Response to Short Audible Signals (Clicks)

FOREIGN TITLE: Ob Elektricheskikh Reaktsiyakh Ulitki Krys Pri Deystvii Korotkikh Zvukovykh Signalov (Shchelchkov)

AUTHOR: I. A. Vartanyan and A. N. Naruseva

SOURCE: Fiziologicheskiy Zhurnal SSSR im. I. M. Sechenov, Vol 51, No 9, 1965, pp 1,037-1,042

Translated for FSTC by Albert L. Penbody
Leo Kanner Associates

NOTICE

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ON DEPENDENCE OF UNIT ACTIVITY IN THE INFERIOR COLLICULUS OF RATS ON THE STIMULUS RISE TIME -U-
AUTHOR-(02)-VARTANYAN, I.A., SNETKOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 5, PP 696-706
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRAIN, ANESTHESIA, ELECTROPHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0246 STEP NO--UR/0239/70/056/005/0696/0706

CIRC ACCESSION NO--AP0126020
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN RATS ANAESTHETIXED WITH CHLORALOSE AND URETANE IMPULSE ACTIVITY OF 95 UNITS WAS STUDIED. THE FOLLOWING CHARACTERISTICS OF UNIT RESPONSES WERE INVESTIGATED: 1) DISCHARGE PATTERNS AND THE NUMBER OF SPIKES FOR SOUNDS OF DIFFERENT INTENSITY AND RISE TIME; 2) LATENCY OF THE FIRST SPIKE AS A FUNCITON OF STIMULUS RISE TIME; 3) THRESHOLD OF RESPONSE AS A FUNCTION OF STIMULUS RISE TIME; 4) TURINING CURVES FOR SOUNDS OF TWO DURATIONS (2 AND 200 MSEC) AND SOUNDS OF 200 MSEC DURATION AND DIFFERENT RISE TIME. THE DATA OBTAINED SHOWED A GREAT DIFFERENCE IN REACTIONS OF TWO EXTREME GROUPS OF NEURONS TO THE INCREASING OF THE SOUND RISE TIME. THE FIRST GROUP (WITH SUSTAINED DISCHARGE, LONG LATENCY AT THRESHOLD INTENSITY, PRONOUNCED TEMPORAL SUMMATION) IS CHARACTERIZED BY THE DECREASE OF THE NUMBER OF SPIKES IN RESPONSE, THE INCREASE OF LATENCY, ESPECIALLY AT THRESHOLD INTENSITY OF NOISE OR CHARACTERISTIC FREQUENCY, THE ABSENCE OF CHANGING IN THRESHOLDS VALUES AND THE SHARPENING OF TURNING CURVES WITH THE INCREASE OF THE STIMULUS RISE TIME. THE SECOND GROUP OF NEURONS (WITH INITIAL "ON" DISCHARGE, SHORT LATENCY AT THRESHOLD INTENSITY OF SIGNAL AND LOW TEMPORAL SUMMATION) IS CHARACTERIZED BY ABSENCE OF CHANGES IN DISCHARGE PATTERN AND LATENCIES, HIGH RISING OF THRESHOLDS AND ABSENCE OF THE SHARPENING OF TURNING CURVES WHEN THE STIMULUS RISE TIME INCREASES. FACILITY: PAVLOV INSTITUTE OF PHISIOLOGY, ACAD. SCI. USSR, LENINGRAD.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SYNTHESIS OF ALPHA, OMEGA, BIS(ACYLOXY)POLYORGANOSILOXANES -U-

AUTHOR-(03)-MELIKYAN, M.O., TERGAZAROVA, D.A., VARTANYAN, M.M.

COUNTRY OF INFO--USSR

SOURCE--ARM. KHIM. ZH. 1970, 23(1), 74-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, POLYSILOXANE, CARBOXYLIC ACID, ANHYDRIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1483 STEP NO--UR/0426/70/023/001/0074/0077

CIRC ACCESSION NO--AP0116920

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116920

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACO(SIETRO) SUB3 AC(WHERE R EQUALS ME OR PR) AND R CO SUB2(SIET SUB2O)SUB3 COR' (WHERE R' EQUALS ME, ET, PR, BU, OR AMYL) WERE PREPD. BY TREATING HEXAALKYLCYCLOTRISILOXANES WITH EQUIMOLAR AMTS. OF THE APPROPRIATE CARBOXYLIC ACID ANHYDRIDE. THE REACTION PROCEEDED WITHOUT CATALYST AT 250DEGREES, WITH ZNCL SUB2 AT 100DEGREES, OR WITH HCLO SUB4 AT ROOM TEMP., IN 14-33, 28-63.5, AND 21.5-30.1PERCENT YIELDS, RESP. FACILITY: INST. OBHCH. NEORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

VARTAN'YAN, N.V.

mechanics

VARTAN

TECHNICAL TRANSLATION

FSTC-HT-23-1501-71

ENGLISH TITLE: SCIENTIFIC AND TECHNICAL CONFERENCE OF THE INSTITUTE OF ELECTROMECHANICS

FOREIGN TITLE: NAUCHNO-TEKHNICHESKAYA KONFERENTSIYA INSTITUTA ELEKTROMEKHANIKI

AUTHOR: N. V. Vartan'yan

SOURCE: Elektrotekhnika No. 10 1970 pp 59-60

Translated for FSTC by ACSI

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USSR V UDC 621.313.001.5(063)

VARTAN'YAN, N. V., Engineer

"Scientific and Technical Conference of the Institute of Electromechanics"

Moscow, Elektrotekhnika, No 10, Oct 70, pp 58-60

Abstract: A conference on the results of scientific research work for 1969 at the Institute of Electromechanics was held in Leningrad in June 1970. About 500 scientific workers, engineers and representatives of 87 scientific research organizations and enterprises from 43 Soviet cities took part in the conference. Reports were heard at the General Session by Doctor of Technical Sciences Professor L. P. Gnedin, Candidate of Technical Sciences Ya. B. Danilevich, Candidate of Technical Sciences L. Ya. Stanislavskiy and Engineer Yu. A. Arozhidze on "1500 rpm High-Power Turbogenerators and Fundamental Scientific and Technical Problems Connected With Producing Them," by Doctor of Technical Sciences Professor V. V. Khrushchev on "Prospects for the Use of Semiconductor Electronics in Miniature Electric Motors and Generators," by Candidate of Technical Sciences V. A. Kozhevnikov on "Future Prospects for the New P2 Series of DC Machines With Technical Indices on the 1980 Level for Controlled Electric Drive," and by Doctor of Technical Sciences L. T. Ponomarev on "Ways to Develop Insulation and Electric Machines." The conference was organized in the following sections and subsections: A section on large electric machines with four subsections on

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USSR

VARTAN'YAN, N. V., Elektrotekhnika, No 10, Oct 70, pp 58-60

1) magnetic fields, loss parameters and heating problems, 2) ventilation problems, 3) problems of mechanical calculations, and 4) electric machine-diode systems with frequency control, and synchronous compensators; a section of DC machines; a section on systems for excitation of synchronous machines and static power converters; a technical and economic section; a section on low-power electric machines; a section on quality and reliability; a section on cryogenic electrical engineering equipment and MHD devices with two subsections on 1) cryogenic equipment and 2) low-temperature plasma generators and high-current arc generators. In the sections and subsections, 141 papers and 63 reports were heard from members of the institute and workers in a number of other organizations with which the institute is involved in joint research. In addition, a number of reports were made by representatives of other organizations. The titles of some of the papers are given together with brief mention of their contents.

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