CIRC ACCESSION NO--AP0107351 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MACROSCOPIC DEGRADATION OF A NO. OF RIGID EPOXY RESINS (I) AND POLYESTERS (II) (USED AS BINDERS FOR GLASS FIBER REINFORCED PLASTICS) WAS STUDIED DURING ELONGATION AT A CONST. DEFORMATION RATE. THE DEGRADATION OF I AND II SAMPLES DEPENDED ON THE DEFORMATION RATE. THE DATA OBTAINED CONFIRMED THE EXISTENCE OF 2 MARKEDLY DIFFERENT DEGRADATION PATTERNS. THE ELASTIC, STRENGTH, AND STRAIN PROPERTIES OF I AND II WERE DETD. THE DEGRADATION CAUSING STRESS CAN BE APPROX. EVALUATED AS A FUNCTION OF THE DEFORMATION RATE FROM THE GENERALIZED MAXWELL EQUATION.

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203320017-1"

USSR

UDC: 519.2

TRNOVSKY, Juraj

"Spectral Decomposition"

Ekon.-mat. obz. (Mathematical Economics Review), 1972, 8, No 4, pp 384-401 (from RZh-Kibernetika, No 5, May 73, abstract No 5V396 by the author)

Translation: The purpose of the article is to present in compact form the theory of so-called spectral decomposition used in analyzing the stability of prediction models in order to develop a procedure for constructing composite prediction models based on particular models.

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USSR

UDC: 621.315.4

SHVARTSBURD, Ye. Ya., TROFILEYEVA, G. K., POPENENKOV, V. A., PISAREV, A. V.

"Enameled Aluminum Wires With Polyimide Insulation"

Kabel'n. tekhnika. Nauchno-tekhn. sb. (Cable Technology. Scientific and Technical Collection), 1970, vyp. 61, pp 8-9 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6V320)

Translation: Polyimide insulation is of interest because of its high resistance to heat. The authors point out the technological difficulties which had to be encountered in developing eluminum wires with polyimide insulation (chiefly the poor adhesion between a polyimide film and aluminum). The characteristics of wires developed with a double layer of polyesterimidopolyimide insulation are given. Two tables. N. S.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CHROMATOGRAPHIC ANALYSIS OF THE PRODUCTS OF THE CATALYTIC HYDROGENATION OF ADIPONITRILE -U-

AUTHOR-(03)-TROFILKINA, V.P., BOBYLEVA, L.I., SLAVNOVA, A.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 388-9

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMATOGRAPHIC ANALYSIS, CATALYTIC HYDROGENATION, ORGANIC NITRILE COMPOUND, SILICONE, HEXAMETHYLENEDIAMINE/(U)PFMS4 SILICONE OIL

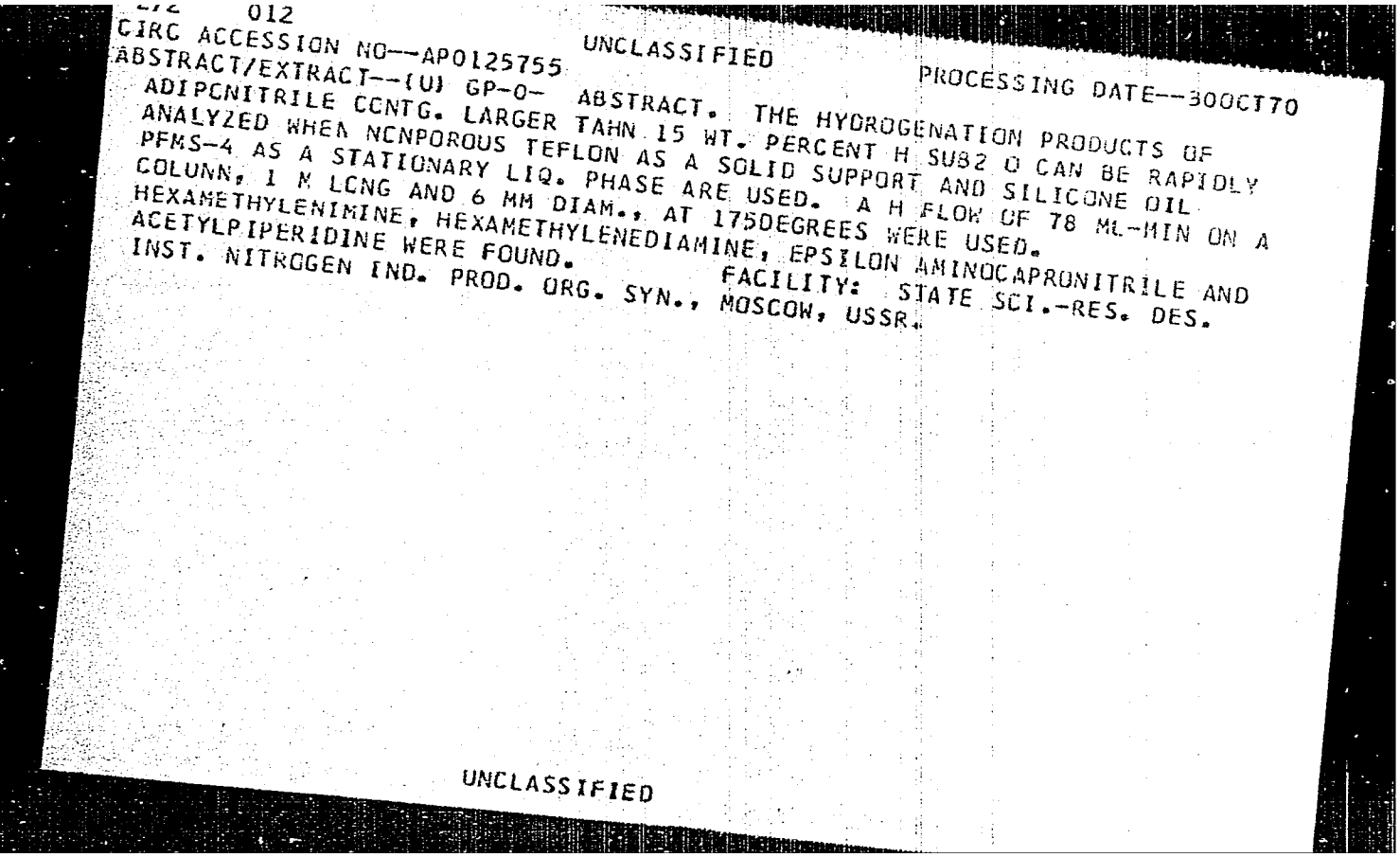
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2175 STEP NO--UR/0015/70/025/002/0388/0389

CIRC ACCESSION NO--AP0125755

UNCLASSIFIED



2/2 012
CIRC ACCESSION NO--AP0125755 UNCLASSIFIED PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HYDROGENATION PRODUCTS OF ADIPONITRILE CONTG. LARGER THAN 15 WT. PERCENT H SUB2 O CAN BE RAPIDLY ANALYZED WHEN NONPOROUS TEFLON AS A SOLID SUPPORT AND SILICONE OIL PFMS-4 AS A STATIONARY LIQ. PHASE ARE USED. A H FLOW OF 78 ML-MIN ON A COLUMN, 1 M LONG AND 6 MM DIAM., AT 175DEGREES WERE USED. HEXAMETHYLENIMINE, HEXAMETHYLENEDIAMINE, EPSILON AMINOCAPRONITRILE AND ACETYLPIPERIDINE WERE FOUND. FACILITY: STATE SCI.-RES. DES. INST. NITROGEN IND. PROD. ORG. SYN., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203320017-1"

USSR

UDC: 621.382.3

ALFEROV, Zh. I., AMOSOV, V. I., GARBUZOV, D. Z., ZHILYAYEV, Yu. V., KONNIKOV, S. G., KOP'YEV, P. S., and TROFIM, V. G.

"Investigating the Dependence of the Luminescent Characteristics of n and p Type GaP_xAs_{1-x} and $Al_xGa_{1-x}As$ Solid Solutions"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1879-1887

Abstract: The present article is the latest of a series published by the first-named author in collaboration with these or other researchers regarding the nature of photoluminescence spectra in solid solutions of GaP_xAs_{1-x} and $Al_xGa_{1-x}As$. In the present paper, results are given of experimental investigations into the position of the fringe band maximum radiation and the relative radiation intensity in the band as they depend on the composition of the solid solutions of both n and p types. The experimental specimens were in the form of epitaxial layers obtained by the liquid and gas transport method, their compositions being determined by the microroentgen spectral method with the JXA-5A analyzer. The luminescence was excited by a DRSh-250 lamp with a filter system removing the yellow and green mercury lines, and the radiation spectra were recorded by the MDR-2 monochromator with a grating of 1/2

USSR

UDC: 621.382.3

ALFEROV, Zh. I., Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1879-1887

600 lines/mm. The radiation receivers were germanium photodiodes or the FEU-22. The authors express their gratitude to N. V. Klepikova and V. P. Kuz'min for their assistance with the experiments, and V. M. Tuchkevich for his interest in the work.

2/2

USSR

Semiconductors and Transistors

UDC: 621.382.2

LUK'YANCHIKOVA, N. B., SOLGANIK, B. D., SHEYNKMAN, M. K., PROTASOV, I. I., and TROFIM, V. G.

"Excess Noise in Heterogeneous p-$Al_xGa_{1-x}As$--n-GaAs Photodiodes"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1851-1855

Abstract: Stating that research on the noise characteristics of heterojunctions has been neglected, the authors present the results of experimental investigations into the low-frequency noise characteristics, at 20-2.10^3 Hz, of p-$Al_xGa_{1-x}As$--n-GaAs specimens. The specimens were obtained by the growth of solid solution AlAs-GaAs p-type epitaxial layers on n-GaAs substrates. The current noise spectral density was measured in darkness with the heterojunctions biased in the forward as well as inverse directions, and with the heterojunctions illuminated in the gate and photodiode modes. The measurements were conducted at temperatures of 77-300° K and the wavelength of the illuminating light was 0.68 microns. It was found that the current noise was in all cases much higher than the shot noise level, and that illumination of the specimens did not vary the current noise spectral density with the specimens biased

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USSR

UDC: 621.382.2

LUK'YANCHIKOVA, N. B., et al, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1851-1855

in the inverse direction. Current noise spectral densities and families of volt-ampere characteristics of the specimens are plotted.

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USSR

UDC 621.382.3

ALFEROV, ZH. I., ANDREYEV, V. M., GARBUZOV, D. Z., MOROZOV, YE. P., PORTNOY, YE. L., TROFIM, V. G., KHALFIN, V. B.

"Current Flow Mechanisms in the Presence of Electroluminescence of p-GaAs-n-$Al_xGa_{1-x}As$ Heterojunctions"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 2, 1972, pp 366-375

Abstract: A study was made of the electroluminescent properties of p-GaAs-n-$Al_xGa_{1-x}As$ heterojunctions with a different level of alloying of the p and n-regions. The electroluminescence spectra and the dependencies of the radiation intensity on the voltage applied to the heterojunction were investigated in the temperature range of 77-400° K. In heterojunctions with an acceptor concentration in the p-region of $\approx 10^{19}$ cm^{-3} and a donor concentration in the n-region $>3 \cdot 10^{17}$ cm^{-3} in the temperature range of 77-200° K, the radiation in the gallium arsenide band is caused by tunneling of the electrons in the p-GaAs through the barrier in the conduction band. The experimental results obtained are compared with the theoretical calculation made within the framework of the model usually used when investigating tunneling in Schottky barriers.

In heterojunctions with weakly alloyed n-region ($N_D \leq 3 \cdot 10^{17}$ cm^{-3})

USSR

ALFEROV, ZH. I., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 2, 1972, pp 366-375

there is two-way injection of the carriers. The electron and hole current components responsible for emission in the gallium arsenide and red bands of the electroluminescent spectrum are caused by thermal injection of the carriers. With an increase in the alloying level of the n-region ($3 \cdot 10^{17} < N_D < 10^{18}$ cm^{-3}), the electron component of the current increases quickly and the relative radiation intensity in the gallium arsenide band builds up correspondingly. At reduced temperatures the electron component of the current in such heterojunctions is caused by tunneling of the carriers through the barrier in the conduction band. The thermal injection mechanism of the current responsible for recombination in the gallium arsenide band is retained after 300° K in heterojunctions with $N_D \leq 7 \cdot 10^{17}$ cm^{-3}. In heterojunctions with strongly alloyed n-region ($N_D \geq 2 \cdot 10^{18}$ cm^{-3}), the transparency of the barrier in the conduction band is so great that its presence has no noticeable effect on the dependence of the electron component of the current on voltage. At low voltages $eV_n < E_g$ (GaAs) the radiation in these heterojunctions is caused by diagonal tunnel junctions of the n-$Al_xGa_{1-x}As$ conduction band and the p-GaAs valence band.

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USSR

UDC 532.517.4

ARTYUKH, L. Yu., KRASIL'NIKOV, T. K., TROFIMENKO, A. T.

"Study of the Microstructure of a Turbulent Stream on a Permeable Surface"

V sb. Prikl. i teor. fizika Vyp. 3 (Applied and Theoretical Physics. No. 3 -- Collection of Works), Alma-Ata, 1972, pp 201-206 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B1057)

Translation: The results of an experimental study of average and pulsation characteristics of a plane turbulent jet propagating along a permeable surface through which there is homogeneous injection or ejection of a gas of varying intensity are presented. It is shown that upon injection (or ejection) of the gas, there occurs a total restructuring of both the average velocity fields and the pulsation velocity profiles. It was established on the basis of thermo-anemometer measurements of the tangential friction stress that the point of zero friction in a transverse cross section of the jet does not coincide with the point of the maximum of the average velocity. The effect of injection and ejection on the transition from a laminar flow regime to a turbulent regime was shown experimentally. 8 ref. Authors' abstract.

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USSR

UDC 629.78.015:532.526

ARTYUKH, L. Yu., KRASIL'NIKOVA, T. K. and TROFIMENKO, A. T.

"Study of a Turbulent Jet on a Penetrable Plate"

Minsk, Teplo- i Massoperenos (Heat and Mass Transfer), Vol 1, 1972, pp 212-218; (Referativnyy Zhurnal, Series 41, No 6, 1972, Abstract No 6.41.169)

Abstract: Transverse input or discharge of matter in a boundary layer is one of the effective methods of influencing the structure of flow and the condition of heat exchange in the boundary layer; it may be used to diminish surface friction, prevent breakaway of flow, secure thermal shielding of surface, etc. The given paper is devoted to an experimental study of the motion of an isothermal jet along a penetrable plate in the presence of homogeneous injection or suction of air across a plate. Given are the design of an experimental apparatus and the results of the experiment. Biblio. 5, illus. 5.

1/1

USSR

UDC 621.3.035.4

SELIVERSTOV, V. P., MEL'NIKOV, A. M., TROFIMENKO, M. I., and KUNIN, T. I., (DECEASED)

"On the Question of Constructing Chlorous-Cupri-Magnesium Current Sources"

Ivanovo, Khimiya i Khimicheskaya Tekhnologiya, Vol 15, No 11, 1972, pp 1754-1756

Abstract: It is well known that the use of magnesium current sources with cathodes coated with CuCl is limited by their long period of activation and by not allowing high current densities. This work attempts to improve the characteristics of sources by changing their structure. The negative electrode was made of a magnesium alloy (MA-8), CuCl consisted of not less than 95% of the basic component. In the new current source the perforation of the conductor was increased for coated electrodes, and the position of the electrode in the model was reversed. The period of activation is reduced only to the time needed for the impregnation of the diaphragm. Cathode potential has a sufficiently positive value, and the elements are characterized by a high and stable tension/ strain. A/h capacity increases by 18-20%. One condition or the attainment of these favorable electric characteristics is the exclusion of conductive

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USSR

SELIVERSTOV, V. P., et al., Khimiya I khimicheskaya Tekhnologiya, Vol 15, No 11, 1972, pp 1754-1756

impurities from the active material. This variant of current sources allows a further improvement in the technological process of preparing current sources with Cu(1) chloride and significantly broadens the sphere of their use.

2/2

Therapy

USSR

2

UDC 616.981.553-06:616.8-036.17

ANTONOVA, T. M., VORONTSOVA, L. P., KYDRYAVTSEVA, Ye. L., OSADCHAYA, Ye. I., POLOZOV, A. M., and TROFIMENKO, N. K., Volgograd Children's Infections Hospital No 21, and Volgograd Medical Institute

"Clinical Characteristics and Management of Patients Suffering From Botulism With Severe Affections of the Nervous System"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70, pp 130-133

Abstract: Twenty botulism patients, including 12 with bulbar involvement were studied. Nineteen of the 20 patients recovered. Treatment with botulin antiserum (polyvalent initially, and monovalent after identification of the bacterium type) is effective. However, injections of the serum do not suffice when bulbar disorders develop. In such cases, it is imperative to perform tracheotomy, drain mucus from the trachea and the bronchi, and apply an artificial respiration apparatus. Patients with impaired deglutition and breathing should be admitted to artificial respiration departments as soon as possible; tracheotomy should be performed and other measures such as injection of the antiserum, washing of the gastrointestinal tract, etc., should be taken immediately. Since most botulism cases are caused by consumption of improperly

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USSR

ANTONOVA, T. M., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70, pp 130-133

home-canned food, it is necessary to expand public education in sanitation and hygiene. This work must be carried out by physicians in all of the specialties, who must enlighten the general public on the importance of proper processing and canning of food.

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USSR

IDC 577.150.6

TROFIMENKO, N. M., TIKHONOVA, N. P., KUBLITSKAYA, M. A., and RYABTSEVA, N. A.

"Strains of Botrytis cinerea, Pathogens of Gray Mold of Grapes, and Producers of Enzymes of the Pectinase Complex"

Kishinev, Izvestiya Akademii Nauk Moldavskoy SSR, Seriya Biologicheskikh i Khimicheskikh Nauk, No 4, 1971, pp 41-44

Abstract: In connection with a study of gray mold (Botrytis rot) of grapes in the Crimea, five strains of Botrytis cinerea were isolated from infected grapes. These strains differed in morphological, physiological, and biochemical characteristics. Two of the strains isolated (Nos 20 and 30), which infected grapes most frequently, had a high pectinolytic activity. This activity was preserved during artificial cultivation of the fungus on a medium based on sugarbeet pulp. After the culture fluid derived from strains Nos 20 and 30 had been separated by filtration, an enzyme preparation with a high pectinolytic activity was isolated by precipitation with alcohol or ammonium sulfate. The preparation also had some proteolytic activity and expedited the hydrolysis of cellulose. Tests in the wine-making industry indicated that the enzyme preparation, which acted on the skin of grapes, increased the yield of juice (by 2-4%), of tanning

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USSR

TROFIMENKO, N. M., et al., Izvestiya Akademii Nauk Moldavskoy SSR, Seriya Biologicheskikh i Khimicheskikh Nauk, No 4, 1971, pp 41-44

substances and dyes (by 30-50%), and of some other products derived from grapes. The results of the tests showed that enzymes derived from Botrytis cinerea can be used to advantage in the wine-making and grape juice (fruit juice) industries.

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USSR

UDC 669.018.44:539.214

TROFIMENKO, V. N., and KORNEYEV, N. I.

"Nature of the Ductility of Various Smelts of ZhS6KP and EP109 Heat-Resisting Alloys"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa (Technology of Light Alloys. Scientific and Technical Bulletin of All-Union Institute of Light Alloys), 1970, No 5, pp 105-108 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3I750 by E. Volin)

Translation: Ductility diagrams are constructed for low-ductile smelts at 950-1200°. Brittle fracture under hot deformation occurs in metal with lowered technological ductility characteristics (ψ, δ, ψ, ε). The drop in the ductility of individual smelts of EP109 alloy results from their higher Si oxide content (up to 0.0018-0.0025%) and Mg content (up to 0.011%). The ductility drop in ZhS6KP alloy is due to the presence in the structure of large aggregations of Ti carbides and carbonitrides, which are sources of crack initiation. The content of low-melting impurities (Pb, Sn, Bi) in the alloys is insignificant; their concentration in ductile and brittle smelts is the same. Five illustrations. Four tables. Bibliography with seven titles.

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USSR

UDC 632.3

TROFIMETS, L. N., Senior Scientific Associate, Laboratory of Potato Virus Diseases, Institute of Potato Culture, Ministry of Agriculture, RSFSR and VINKLER, G. N., Junior Scientific Associate, Laboratory of Potato Virus Diseases, Institute of Potato Culture, Ministry of Agriculture RSFSR

"The Potato and Viruses"

Moscow, Priroda, No 7, 1971, pp 49-55

Abstract: The potato suffers from various virus diseases and from degeneration -- the loss of yield by any given strain over a course of years. The characteristics and symptoms of the various virus diseases are briefly discussed and illustrated by photographs of affected plants. Methods of diagnosis, including serological methods (introduction of test material into the blood of experimental animals, and the obtaining of sera) are discussed. Identification of viruses by electron microscopy is covered.

The experience of Soviet and US plant breeders in producing virus-resistant strains of potato is summarized. Some of these strains react to virus infection by forming zones of dead cells around the site of introduction of the virus. Crossing with wild types to produce virus-resistant strains is made difficult by the distance between the wild types and the cultivated

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USSR

TROFIMETS, L. N., and VINKLER, G. N., et al., Priroda, No 7, 1971, pp 49-55

plant. Special methods such as experimental polyploidy have been developed to overcome this difficulty. An infected planting of potatoes will sometimes contain a few healthy individual plants. These are removed in separate packets, and planted the following year in isolation from the infected plants. After 4 years of progeny testing, new virus-free strains are developed from them.

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USSR

TROFIMOV, ALEKSEY

"Will Robots Find Life on Mars?"

Moscow, Leninskoye Znamya, 12 Mar 72, p 4

The scientific world is now without emotion, seriously and in a businesslike way, discussing the problem of seeking methods and the necessary instrumentation, and ways to process information and transmit it to earth. The next engineering problem is being solved. The time is arriving when automatic biological stations will land on the Martian surface. The robot biologists will answer the age-long question: is there any life on Mars?

It has been established that many inhabitants of the earth's microworld can also live under Martian conditions. From the chemical point of view life on Mars could develop and evolve with ease. Accordingly, on Mars it would be most logical to search for microorganisms and these should be very numerous. Thus, as a sample of what is sought scientists are using the world of terrestrial microorganisms: bacteria, ray

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USSR

TROFIMOV, ALEKSEY, Leninskoye Znamya, 12 Mar 72, p 4

fungi, yeasts, and mold fungi. One gram of processed earth usually contains two or three billion bacteria (in chernozem up to 10 billion). The waters of seas, oceans and rivers swarm with representatives of the microworld.

It can be postulated that on Mars representatives of the microworld are also numerous and found everywhere. Then the first mission of the automatic microbiological laboratory (AMBL) will be to take samples of the Martian soil and atmosphere and convey them for analysis to the appropriate instruments. Naturally, it is desirable that the soil be taken from different places and the Martian air must be long pumped through a dense filter which will retain the representatives of the microworld. Then this filter must be subjected to investigation.

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USSR

TROFIMOV, ALEKSEY, Leninskoye Znamya, 12 Mar 72, p 4

How will we know if the AMBL has encountered living matter? There are two ways. The first is to demonstrate that the investigated object is living and developing, and the second is to carry out a chemical analysis of the matter and determine that it contains molecules characteristic only of living organisms.

Metabolism in the living organism, transformation of one kind of energy into another, finally, exchange of a number of chemical compounds with the surrounding medium, some of which are necessary to the organism for normal life, whereas others are its wastes. Such are the characteristics of vital functions. The release of heat and carbon dioxide are processes which can serve as a basis in creating an automatic biologist.

Highly complex instrumentation must also be created for a chemical analysis of living Martian matter. According to terrestrial concepts, any living matter consists of protein which breaks down into amino acids, detectable by chemical analysis. Possibly such experiments can be carried out within the AMBL. Specific organic compounds also accompany vital functions: fats, lipids, nucleic acids, carbohydrates, etc. Each of these

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USSR

TROFIMOV, ALEKSEY, Leninskoye Znamya, 12 Mar 72, p 4

compounds can be identified by chemical analysis methods. Such a complex analysis within an automatic space apparatus is a difficult but soluble problem.

The macromolecular structure of proteins, enzymes, and nucleic acids necessary to the organism as material for the formation of cells is indicative of life. Molecules of living matter are very large. They frequently contain tens and hundreds of thousands of atoms. These make them very different from the molecules of inorganic substances in which there may be only dozens of atoms. Determination of the size of molecules and investigation of characteristic functional groups is still another of the directions in operation of the AMBL.

We may find that the chemistry and biology of life on Mars are completely different and unknown to us today. Then automatic apparatus designed for seeking life similar to that on earth will be ineffective. It will not be able to "comprehend" the specific nature of the other world and will not be able to

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USSR

TROFIMOV, ALEKSEY, Leninskoye Znamya, 12 Mar 72, p 4

discriminate the living from the nonliving. Phenomena beyond the horizon of present-day knowledge can be understood and evaluated only by man. Accordingly, even the most modern AMBL will not be able to cope with the problem. Then the last word in the debate on life on Mars will be left to man, who sooner or later will tread the surface of the "red planet."

5/5

USSR

UDC 621.791.948+621.375.8.037:
681.326.3:62-41

TYCHINSKIY, V. P., Doctor of Technical Sciences, VASIL'YEV, K. V., Candidate of Technical Sciences, TROFIMOV, A. A., BABENKO, V. P., SUKHININ, G. K., YELISEYENKOV, V. I., Engineers, Research Institute for Gas Welding and Cutting Machinery

"Program-controlled Machine for Gas-laser Cutting of Sheet Materials"

Moscow, Svarochnoye Proizvodstvo, No 4, Apr 72, pp 52-53.

Abstract: The Institute has developed a machine for cutting of alloy steels, titanium and other materials using carbon-dioxide lasers, allowing any contour to be cut in the tracking mode. Contour control of the machine is by a digital programmed device using punch tape. The machine has been tested using various materials including 1-10 mm sheets of low-carbon and alloy steels of various types. Good cutting accuracy has been achieved: parts have been cut from sheets up to 3 mm thick, with smooth, even edges and very small zone of thermal effect near the cut. Cuts are very thin (a few tenths of a millimeter).

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USSR

UDC 621-51

TROFIMOV, A. A.

"Methods of Investigation of the Nozzle Apparatus of Centripetal Microturbines"

Moscow, Pnevmaticheskiye Privody i Sistemy Upravleniya -- Sbornik (Pneumatic Drives and Control Systems -- Collection of Works), "Nauka," 1971, pp 112-118 (from Referativnyy Zhurnal, Aviatsionnyye i Raketnyye Dvigateli, No 11, Nov 71, Abstract No 11.34.37)

Translation: The article deals with the working process of microturbines in comparison to that of conventional turbines. It is shown that in the designing of microturbines, the use of certain values of independent variables, which affect the operation of conventional turbines, brings about serious errors. Some results of theoretical and experimental research on the operation of microturbines are presented. 4 figures. 4 references.

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USSR

PANINA, S. M., TROFIMOV, A. D.

UDC 8.74

"Problems of Using Punch Tape to Create Normative Base for an Automatic Control System"

Tr. N.-i. i proyekt. in-ta po vnedreniyu vychisl. tekhn. v nar. kh-vo (Works of the Scientific Research and Planning and Design Institute for Introduction of Computer Engineering into the National Economy), 1971, vyp. 8, pp 50-55 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V602)

No abstract

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USSR

UDC 548.0:532.783

KAPUSTIN, A. P., KUVATOV, Z. Kh., TROFIMOV, A. N., Institute of Crystallography, Academy of Sciences of the USSR, Bashkir State University

"Thermodielectric Effect With Phase Transition Between a Liquid Crystal and a Solid Crystal"

Moscow, Kristallografiya, Vol 18, No 3, May/Jun 73, pp 647-648

Abstract: It has long been known that an electrically charged solid phase is grown in the case of phase transitions between an isotropic liquid and a solid dielectric. In this paper the authors describe an analogous effect accompanying phase transitions between a liquid crystal and a solid crystal. A small drop of molten azoxyanisole was crystallized on a grounded substrate at a cooling rate of 5 deg/min. At the instant of crystallization, charge induction was observed on a measurement electrode placed close to the specimen. It was found that the specific charge of the solid specimen depends on the rate of crystallization. The charge increases with crystallization rate, approaching some saturation value. The charge gradually decreases with time, apparently due to the adsorption of ions from the air.

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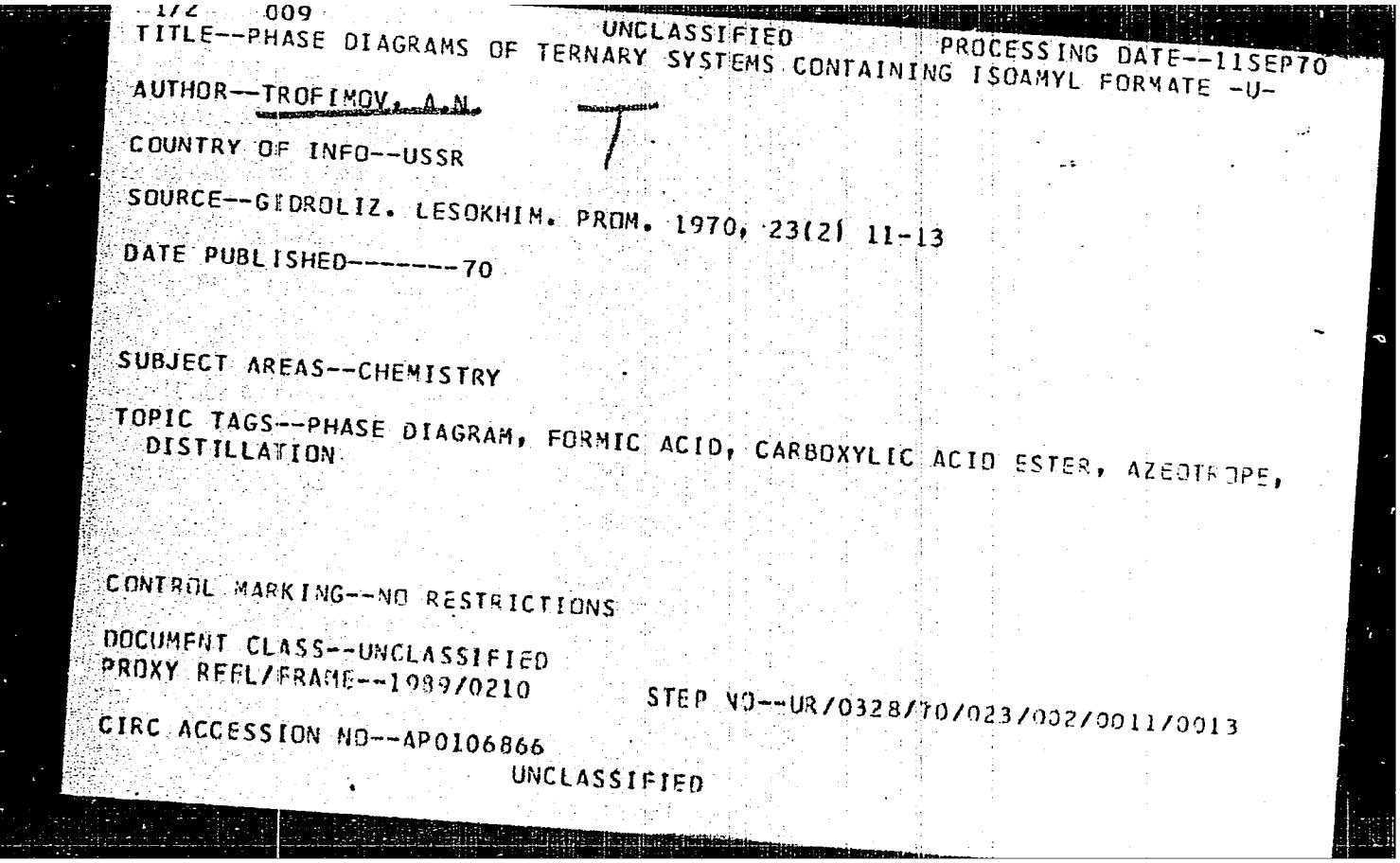

172 009 UNCLASSIFIED

TITLE--PHASE DIAGRAMS OF TERNARY SYSTEMS CONTAINING ISOAMYL FORMATE -U-

PROCESSING DATE--11SEP70

AUTHOR--TROFIMOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--GIDROLIZ. LESOKHIM. PROM. 1970, 23(2) 11-13

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2/2 009 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106866

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF AN AZEOTROPE IN THE SYSTEM ISOAMYL FORMATE (I),HCO SUB2 H (II) HAS REPORTED EARLIER (A.N.T., ET AL., 1968). THE STUDY WAS EXTENDED TO INCLUDE BINARY AND TERNARY SYSTEM CONTG. I AND OTHER LOW MOL. WT. ORG. ACIDS. AS PREVIOUSLY, THE METHODS USED WERE RECTIFICATION AND EBULLIOMETRY, AND THE COMPN. OF THE MIXTS. WAS DETD. BY GAS LIQ. CHROMATOG. THE AZEOTROPE IN THE SYSTEM I,ACOH (III) CONTAINED 77 WT. PERCENT III AND ITS B.P. WAS 117.5DEGREES (AT 760MM). NO AZEOTROPES WERE PRESENT IN THE SYSTEMS I,ETCO SUB2 H (IV) AND I,PRCO SUB2 H (V). IN THE MULTICOMPONENT MIXTS. OF II, III, IV, AND V WITH I AND H SUB2 O, THERE ARE 10 TERNARY SYSTEMS CONTG. I. THESE WERE STUDIED. THE SYSTEM I,IV,V NONAZEOTROPIC, AND THE SYSTEM I,II,H SUB2 O CONTAINED (AS SHOWN PREVIOUSLY) A TERNARY AZEOTROPE. THE SYSTEMS I,II,IV, I,II,V, I,III,IV, AND I,III,V CONSISTED OF 2 BINARY AZEOTROPES. THE SYSTEMS I,III,H SUB2 O, I,IV,H SUB2 O, I,V,H SUB2 O, AND I,II,III CONSISTED OF ONE AZEOTROPE AND A 3RD HIGH BOILING COMPONENT. PHASE DIAGRAMS ARE PRESENTED FOR THE 10 SYSTEMS AND THE RECTIFICATION DATA ARE TABULATED. THE RESULTS ARE DISCUSSED IN TERMS OF THE THEORY OF AZEOTROPY.

UNCLASSIFIED

Magnetohydrodynamics

USSR UDC: 533.951

YESIPCHUK, Yu. V., MOROZOV, A. I., TILININ, G. N., TROFIMOV, A. V.

"Fundamental Properties of Plasma Oscillations in an Accelerator With Closed Drift and Extended Acceleration Zone"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, Jul 73, pp 1466-1473

Abstract: The authors investigate oscillations in an accelerator with closed drift and extended acceleration zone. It is shown that oscillations with a fairly high amplitude level are set up in all investigated working modes. The two main types of instabilities having the highest amplitudes are studied. It is shown that in the case of easily ionized working substances, modes with one or the other type of instability -- ionization or drift -- can be independently realized. Previous studies have shown that conductivity anomalously high compared with Coulomb conduction is observed across the magnetic field in an accelerator with closed drift and extended acceleration zone. Based on available data it may be stated that this conducitivity is caused by buildup of oscillations in the accelerator, the main contribution apparently coming from transverse amplitude electric fields. Electron drift in crossed electric and magnetic fields intensifies

USSR

YESIPCHUK, Yu. V., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, pp 1466-1473

transverse diffusion. In previous work transverse conductivity had been connected only with an ionization wave. It is shown that in many modes of operation without an ionization wave, in which drift oscillations are the fundamental waveform, the conductivity across the field is still several orders of magnitude higher than Coulomb conduction. It is hypothesized that the mechanism responsible for both ionization and drift instability may be oscillations with a frequency close to the electron cyclotron frequency.

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USSR

UDC 547.26'118+546.287

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

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

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

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

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USSR

UDC 547.37+547.26'118

TROFIMOV, B. A., NIKITIN, V. M., and ATAVIN, A. S., Irkutsk Institute of Organic Chemistry, Siberian Department of the Academy of Sciences of the USSR

"Vinyl Ethers Containing Trivalent Phosphorus. V. Particulars of Hydrolysis of 2-(ω-Vinylhydroxyalkoxy)-1,3,2-dioxaphospholans"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 346-350

Abstract: The authors studied the hydrolysis of a new group of five-membered cyclic triorgano phosphites -- 2-(ω-vinylhydroxyalkyl)-1,3,2-dioxaphospholans -- in an attempt to define more precisely the hydrolysis of molecules of this type and to derive additional information on their reactivity as compared with their acyclic analogs. It is found that 2-(ω-vinylhydroxyalkyl)-1,3,2-dioxaphospholans are hydrolyzed by the stoichiometric quantity of water, primarily with the ring intact, giving the corresponding alkylene phosphites regardless of the presence or absence of substituents in the phospholan ring. The rate of hydrolytic decay of five-membered cyclic triorganophosphites exceeds the rate for acyclic analogs both on the stage of conversion to alkylene phosphites and on the stage of conversion from alkylene phosphites to monoorganophosphites. It is proved that the first stage of the hydrolysis is autocatalytic, and

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TROFIMOV, B. A., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 346-350

that there are no appreciable stresses in the 1,3,2-dioxaphospholan ring with trigonal phosphorus.

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USSR

UDC 547.26'118+547.271

TROFIMOV, B. A., NIKITIN, V. M., ATAVIN, A. S., and KHIL'KO, M. Ya.

"Vinyl Esters Containing Trivalent Phosphorus. IV. Hydrolysis of Dialkyl (ω-Vinylhydroxyalkyl) Phosphites. Effect of the Vicinal Hydroxyl Group"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 342-346

Abstract: It is shown that uncatalized hydrolysis of dialkyl(ω-vinylhydroxyalkyl) phosphites goes through a stage of formation of dialkyl- and alkyl (ω-vinylhydroxyalkyl) phosphites in a ratio determined both by the structure of the initial triorganophosphite and by the conditions of the reaction. It is proved that further hydrolysis of alkyl (β-vinylhydroxyalkyl) phosphites is limited by the decomposition of the vinylhydroxy group. It is shown that the vicinal hydroxy radical is a specific accelerator of hydrolysis of alkyl (β-hydroxyalkyl) phosphites.

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USSR

UDC 547.26'118

ATAVIN, A. S., TROFIMOV, B. A., GAVRILOVA, G. M., and KORATAYEVA, I. M.
Irkutsk Institute of Organic Chemistry, Siberian Branch, Acad. Sc. USSR

"Cyclization Occurring During Homolytic Addition of Dialkyl Phosphites to Divinyl Ethers of vic-Diols"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 4, Apr 71, pp 804-810

Abstract: It has been shown that dialkyl phosphites reacted with divinyl ethers of ethylene glycol, 1,2-propylene glycol, and 2,3-butylene glycol in presence of benzoyl or tert-butyl peroxides or azoisobutyronitrile produce methyl substituted 2-(dialkylphosphonemethyl)-1,4-dioxanes rather than the expected β-alkoxyethyl phosphates. In addition to these 1:1 cyclic addition products, phosphorus-containing oligomers were obtained in 35-100% yield, depending on the ratio of the reagents. In general, the main course of the addition of dialkyl phosphites to divinyl ethers of vicinal diols under homolytic conditions is the telomerization of ethers.

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USSR

UDC 547.341:538.27

KALABIN, G. A., ATAVIN, A. S., GAVRILOVA, G. M., TROFIMOV, B. A., and Corresponding Member of the Academy of Sciences USSR SHOSTAKOVSKIY, M. F., Irkutsk Institute of Organic Chemistry, Irkutsk, East Siberian Affiliate, Siberian Department, Academy of Sciences USSR

"Structure of the Products Resulting From the Addition of Dialkylphosphites to Divinyl Ethers of Gem-diols"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 4, Feb 70, pp 849-852

Abstract: On the basis of PMR data the authors conclude that the addition of dialkylphosphites to 1,1-divinylhydroxyalkanes occurs stereospecifically yielding 1,3-dioxolanes with cis-oriented substituents at C_4 and C_5. The PMR spectra indicate absence of free rotation around the P-C and C-C bonds in the $(RO)_2$-P(:O)-CH_2C- fragment; furthermore, the cycle is not planar. An assumption is made that one of the carbon atoms of the cycle (C_4 or C_5) sticks out of the plane of the ring by an angle of more than 30°.

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UNCLASSIFIED

TITLE--STRUCTURE OF PRODUCTS OF THE ADDITION OF DIALKYL PHOSPHITES TO DIETHYL ETHERS OF GEM DIOLS -U-

PROCESSING DATE--13NOV70

AUTHOR-(05)-KALABIN, G.A., ATAVIN, A.S., GAVRILOVA, G.M., TROFIMOV, B.A., SHOSTAKOVSKIY, M.F.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 849-52 (CHEM)

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHER, HETEROCYCLIC OXYGEN COMPOUND, PHOSPHATE ESTER, NUCLEAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1985/1894

STEP NO--UR/0020/70/190/004/0849/0852

CIRC ACCESSION NO--AT0101938

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0101938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM THE NMR SPECTRA OF THE PRODUCTS OF REACTION OF (R PRIME1 O) SUB2 PHO WITH RCH(OCH:CH SUB2) SUB2 (PROFIMOV, ET AL., 1969), THE STRUCTURES OF THE PRODUCTS WERE SHOWN TO BE I (R EQUAL H OR ALKYL, R PRIME1 EQUAL ALKYL). THUS WERE PREPD. I (R EQUAL H, R PRIME1 EQUAL R PRIME2 EQUAL ME), I (R EQUAL H, R PRIME1 EQUAL PR, R PRIME2 EQUAL ME), AND I (R EQUAL R PRIME1 EQUAL R PRIME2 EQUAL ME). THE SPECTRAL DATA ARE TABULATED IN DETAIL. THE REACTION IS STEREOSPECIFIC, YIELDING CIS,4,5,SUBSTITUTED-I.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--RADICAL PROPARGYL EXCHANGE OF HYDROXYETYL TERTIARY AMINES. SYNTHESIS OF N, 2 HYDROXYETHYL, PROPARGYLAMINES -U-

AUTHOR--(05)-DMITRIYEVA, Z.T., SHOSTAKOVSKIY, M.F., ATAVIN, A.S., KASHIK, T.V., TROFIMOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 902-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BROMINATED ORGANIC COMPOUND, TERTIARY AMINE, CHEMICAL SYNTHESIS, ORGANIC AZC COMPOUND, ETHANOL, BENZENE DERIVATIVE

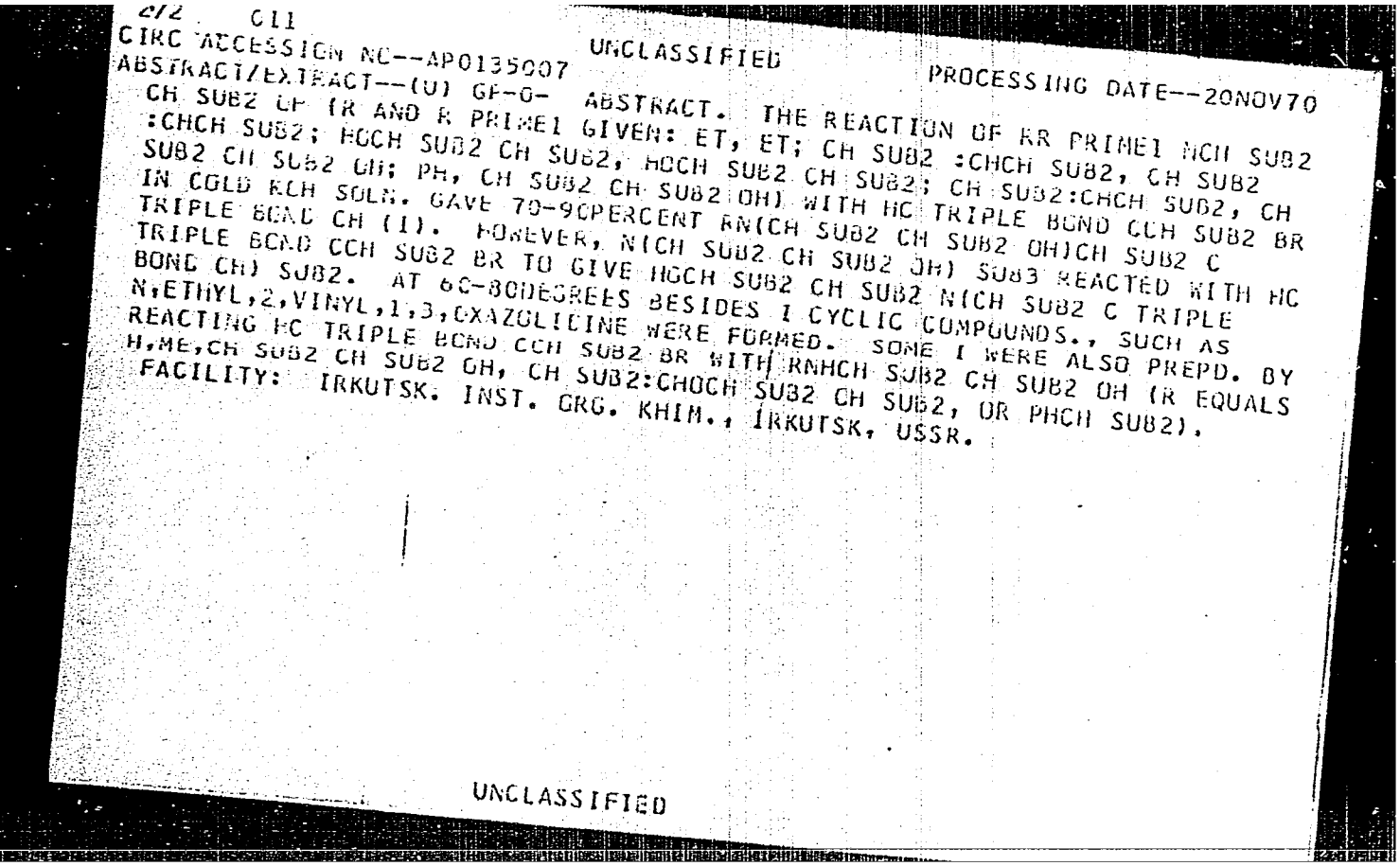
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1333 STEP NO--UR/0366/70/006/005/0902/0908

CIRC ACCESSION NO--AP0135007

UNCLASSIFIED



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UNCLASSIFIED
CIRC ACCESSION NO--AP0135007 PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RR PRIME1 NCH SUB2 CH SUB2 OP (R AND R PRIME1 GIVEN: ET, ET; CH SUB2 :CHCH SUB2, CH SUB2 :CHCH SUB2; HOCH SUB2 CH SUB2, HOCH SUB2 CH SUB2; CH SUB2:CHCH SUB2, CH SUB2 CH SUB2 OH; PH, CH SUB2 CH SUB2 OH) WITH HC TRIPLE BOND CCH SUB2 BR IN COLD KOH SOLN. GAVE 70-90PERCENT RN(CH SUB2 CH SUB2 OH)CH SUB2 C TRIPLE BOND CH (I). HOWEVER, N(CH SUB2 CH SUB2 OH)CH SUB2 C TRIPLE BOND CCH SUB2 BR TO GIVE HOCH SUB2 CH SUB2 N(CH SUB2 C TRIPLE BOND CH) SUB2. AT 60-80DEGREES BESIDES I CYCLIC COMPOUNDS., SUCH AS N,ETHYL,2,VINYL,1,3,OXAZOLIDINE WERE FORMED. SOME I WERE ALSO PREPD. BY REACTING HC TRIPLE BOND CCH SUB2 BR WITH RNHCH SUB2 CH SUB2 OH (R EQUALS H,ME,CH SUB2 CH SUB2 OH, CH SUB2:CHOCH SUB2 CH SUB2, OR PHCH SUB2).
FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF 1,3,DIOXOLANES WITH ACETYLENE UNDER IOTSICH REACTION CONDITIONS -U-

AUTHOR-(05)-SHOSTAKOVSKIY, M.F., ATAVIN, A.S., TROFIMOV, B.A., KOROSTOVA, YE.S., NEKRASOVA, L.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 668-73

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, ACETYLENE, HYDROXYL RADICAL, ETHER, DIOXANE, CYCLIZATION, CYCLOHEXANE, CHEMICAL REACTION TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1762

STEP NO--UR/0062/70/000/003/0668/0673

CIRC ACCESSION NO--AP0123562

UNCLASSIFIED

2/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,3,DIOXOLANES REACT AT 80-120DEGREES WITH THE LOTSICH COMPLEX OF C SUB2 H SUB2 AND GIVE LOW YIELDS OF HYDROXYETHYL ETHERS OF ACETYLENIC HO COMPDS. FROM IR DATA IT WAS EVIDENT THAT IN A NO. OF CASES CYCLIZATION TO 1,4,DIOXANE DERIVS. TOOK PLACE. 2,METHYL,1,3,DIOXOLANE (9 ML) AND REACTION PRODUCT OF ETMGBR AND C SUB2 H SUB2 (FROM 4.8 G MG) GAVE AFTER 3 HR, ON A STEAM BATH IN MEPH 16.7PERCENT 3,METHYL,3,(2,HYDROXYETHYL),1,PROPYNE, B SUB24 68-71DEGREES; A SIMILAR REACTION IN WHICH THE ORIGINAL COMPLEX WAS PREPD. AT 37-50DEGREES AND THE REACTION WAS RUN IN A STREAM OF C SUB2 H SUB2 2 HR AT REFLUX GAVE SEC-BU CELLOSOLVE, B SUB19 60-30EGREES. WHEN THE ABOVE REACTION WAS RUN IN THF THERE WAS FORMED AFTER 3 HR AT 120DEGREES CRUDE HC TRIPLE BOND CCHMEOCH SUB2 CH SUB2 OH, B SUB19 50-62DEGREES. 2,METHYL,2,ETHYL,1,3,DIOXOLANE IN A SIMILAR REACTION BOMPLETED BY HEATING 3 HR AT 120DEGREES GAVE 18.2PERCENT 3,METHYL,3,ETHYL,3,(2,HYDROXYETHYL),1,PROPYNE, B SUB15 82-5DEGREES, CONTG. IMPURITIES, ALONG WITH 8.9PERCENT 3,6,DIMETHYL,3,6,BIS(2,HYDROXY,ETHYL),4,OCTYNE, B SUB1 118-20DEGREES. WHEN THE REACTICN WAS RUN IN A CONTINUED STREAM OF C SUB2 H SUB2, FINALLY AT 80DEGREES, IT GAVE 19PERCENT 2,METHYL,2,ETHYL,3,METHYLENE,1,4,DIOXOLANE MIXED WITH MEET SUB2 COCH SUB2 CH SUB2 OH, B SUB3 50-5DEGREES, WHILE THE REACTION RUN 3 HR AT 0-5DEGREES, THE 3 HR AT 100DEGREES IN MEPH GAVE MAINLY THE LAST ETHER (IMPURE).

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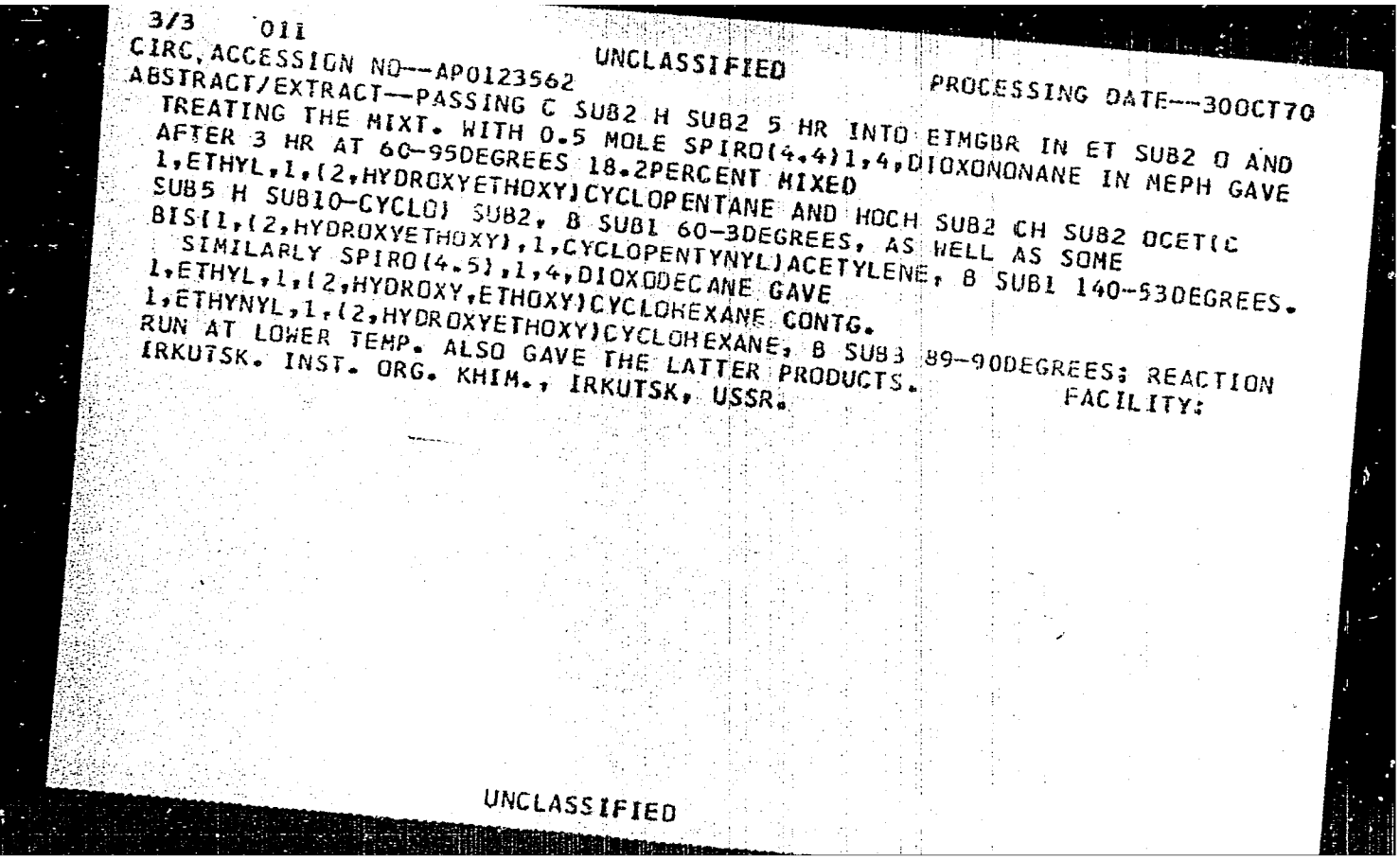


3/3 011 UNCLASSIFIED

CIRC. ACCESSION NO--AP0123562 PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--PASSING C SUB2 H SUB2 5 HR INTO ETMGBR IN ET SUB2 O AND TREATING THE MIXT. WITH 0.5 MOLE SPIRO(4.4)1,4,DIOXONONANE IN MEPH GAVE AFTER 3 HR AT 60-95DEGREES 18.2PERCENT MIXED 1,ETHYL,1,(2,HYDROXYETHOXY)CYCLOPENTANE AND HOCH SUB2 CH SUB2 OCET(C SUB5 H SUB10-CYCLO) SUB2, B SUB1 60-3DEGREES, AS WELL AS SOME BIS(1,(2,HYDROXYETHOXY),1,CYCLOPENTYNYL)ACETYLENE, B SUB1 140-53DEGREES. SIMILARLY SPIRO(4.5),1,4,DIOXODECANE GAVE 1,ETHYL,1,(2,HYDROXY,ETHOXY)CYCLOHEXANE CONTG. 1,ETHYNYL,1,(2,HYDROXYETHOXY)CYCLOHEXANE, B SUB3 89-90DEGREES; REACTION RUN AT LOWER TEMP. ALSO GAVE THE LATTER PRODUCTS. FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--SPLITTING OF AN ETHER BOND DURING DIETHYLENE GLYCOL VINYLATION -U-

AUTHOR--ATAVIN, A.S., AMOSOVA, S.V., VYLEGZHANIN, O.N., KEYKO, V.V., TROFIMOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 149-52

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHYLENE GLYCOL, CHEMICAL BONDING, ETHER, ETHYLENE

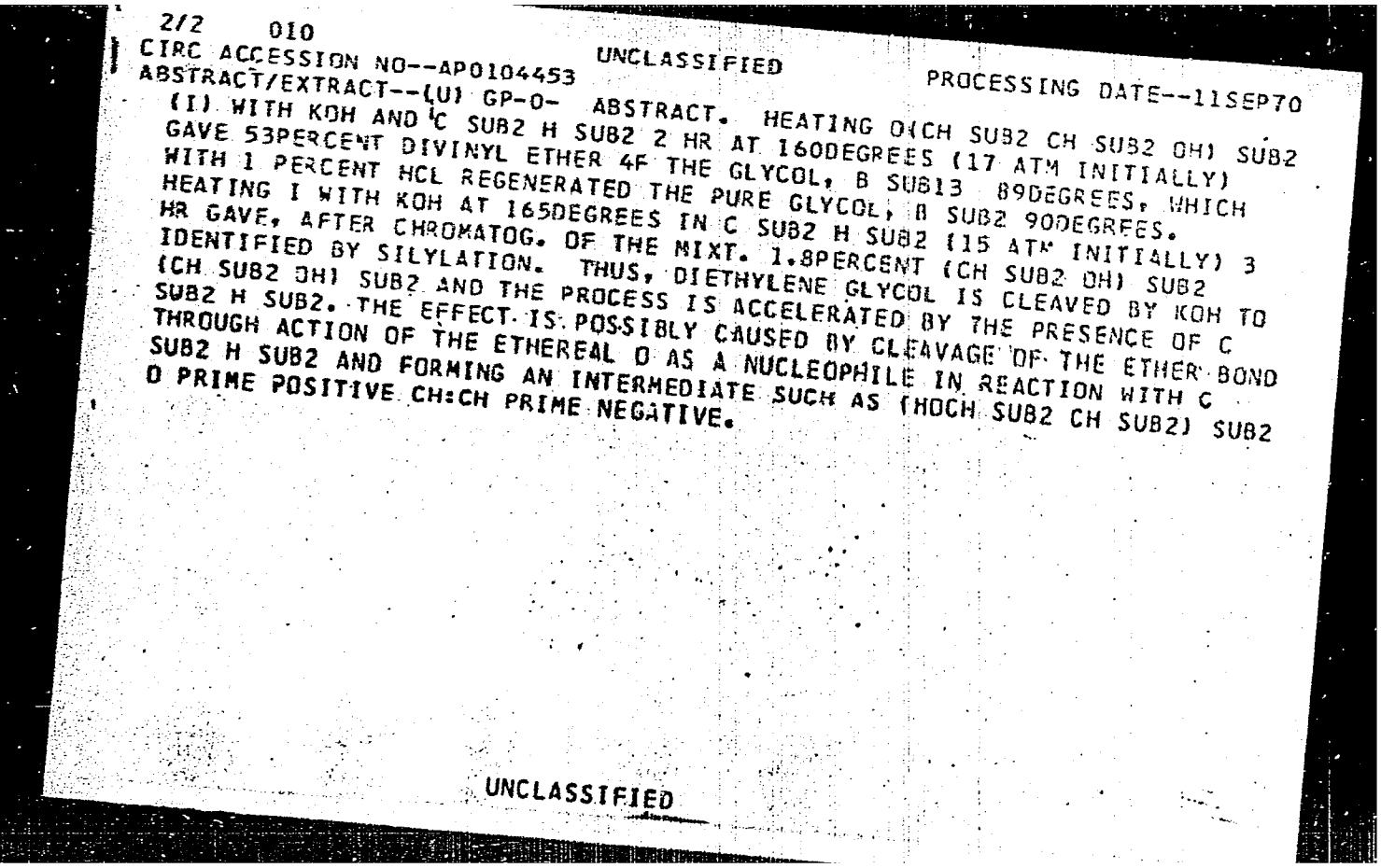
CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/1055 STEP NO--UR/0062/70/000/001/0149/0152

CIRC ACCESSION NO--AP0104453

UNCLASSIFIED



2/2 010 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0104453
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING O(CH SUB2 CH SUB2 OH) SUB2 (I) WITH KOH AND C SUB2 H SUB2 2 HR AT 160DEGREES (17 ATM INITIALLY) GAVE 53PERCENT DIVINYL ETHER 4F THE GLYCOL, B SUB13 89DEGREES, WHICH WITH 1 PERCENT HCL REGENERATED THE PURE GLYCOL, B SUB2 90DEGREES. HEATING I WITH KOH AT 165DEGREES IN C SUB2 H SUB2 (15 ATM INITIALLY) 3 HR GAVE, AFTER CHROMATOG. OF THE MIXT. 1.8PERCENT (CH SUB2 OH) SUB2 IDENTIFIED BY SILYLATION. THUS, DIETHYLENE GLYCOL IS CLEAVED BY KOH TO (CH SUB2 OH) SUB2 AND THE PROCESS IS ACCELERATED BY THE PRESENCE OF C SUB2 H SUB2. THE EFFECT IS POSSIBLY CAUSED BY CLEAVAGE OF THE ETHER BOND THROUGH ACTION OF THE ETHEREAL O AS A NUCLEOPHILE IN REACTION WITH C SUB2 H SUB2 AND FORMING AN INTERMEDIATE SUCH AS (HOCH SUB2 CH SUB2) SUB2 O PRIME POSITIVE CH:CH PRIME NEGATIVE.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--VINYL ETHERS OF HALOALCOHOL. IV. GENERAL METHOD FOR SYNTHEZIZING MONOHALOALKOXYETHYLENES -U-

AUTHOR--SHOSTAKOVSKIY, M.F., ATAVIN, A.S., TROFIMOV, B.A., GUSAROV, A.V., NIKITIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(1), 70-77

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, ETHYLENE, ORGANIC PHOSPHORUS COMPOUND, GLYCOL, HETEROCYCLIC OXYGEN COMPOUND, CHEMICAL SYNTHESIS, FLUORINATED ORGANIC COMPOUND, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/1342 STEP NO--UR/0079/70/040/001/0070/0077

CIRC ACCESSION NO--AP0049502

UNCLASSIFIED

Acc. Nr: AP0049502 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR0079

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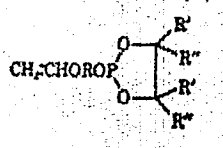
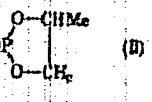
99938h Vinyl ethers of haloalcohols. IV. General method for synthesizing monohaloalkoxyethylenes. Shostakovskii, M. F.; Atavin, A. S.; Trofimov, B. A.; Gusarov, A. V.; Nikitin, V. M.; Skorobogatova, V. I. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 70-7 (Russ). A synthesis of (haloalkoxy)ethylenes was developed from the Arbuzov rearrangement of vinyloxyalkyl glycol phosphites. Heating 100 g $(CH_2)_6(OH)_2$ and 10 g KOH under 70 ml tetrahydrofuran in an autoclave 4 hr at 120° gave 54% $H_2C{=}CHO(CH_2)_6OH$, b_{13} 95°, d^{20} 0.8926, n_D^{20} 1.4460. Treating 0.228 mole vinyl glycol ether in 0.3 mole pyridine and 200 ml Et_2O with 0.228 mole phosphorochloridite of a glycol at 15-20° gave, after removal of $C_5H_5N.HCl$, (I) (R, R', and R" given): $(CH_2)_2$, H,



(I) $CH_2{=}CHOCH_2CH_2O$



(II)

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REEL/FRAME
19801342

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AP0049502

Me, b_3 96.5°, d^{20} 1.1090, n_D^{20} 1.4615; $(CH_2)_2$, H, Me, b_1 86–7°, 1.0730, 1.4580; $(CH_2)_4$, H, Me, $b_{2.5}$ 105°, 1.0599, 1.4583; $(CH_2)_6$, H, Me, b_2 135°, 1.0940, 1.4605; $(CH_2)_3$, Me, Me, b_1 87°, 1.0500, 1.4572; $(CH_2)_4$, Me, Me, b_1 105–8°, 1.0391, 1.4595; $(CH_2)_2$-CHMe, H, Me, b_1 90–5°, 1.0511, 1.4520; $(CH_2)_2O(CH_2)$, H, Me, b_7 145°, 1.1106, 1.4645; $(CH_2)_2$, H, H, b_6 93°, 1.1795, 1.4710; II, b_2 65°, 1.1334, 1.4614. These with 5 moles alkyl halide heated in a sealed tube at 90–150° several hr gave 20–85% H_2C:CHORX (R and X shown): $(CH_2)_2$, F, b. 79°, 0.9745, 1.3860; $(CH_2)_2$, Cl, b. 106°, 1.0470, 1.4375; $(CH_2)_2$, Br, b_{51} 50°, 1.4051, 1.4710; CH_2CH_2, I, b_{37} 71°, 1.7585, 1.5263; $(CH_2)_3$, F, b. 95–8°, 0.9534, 1.4003; $(CH_2)_3$, Cl, b_{13} 52–3°, 1.0273, 1.4375; $(CH_2)_3$, Br, b_{13} 55°, 1.3484, 1.4705; $(CH_2)_3$, I, b_9 54–5°, 1.6368, 1.5193; $(CH_2)_4$, Cl, b_{17} 61–5°, 0.9965, 1.4458; $(CH_2)_4$, Br, b_{23} 72–3°, 1.2860, 1.4710; $(CH_2)_4$, I, b_6 70–1.5°, 1.5471, 1.5158; $(CH_2)_6$, Cl, b_{12} 84–6°, 0.9718, 1.4478; $(CH_2)_6$, Br, b_1 54–5°, 1.2049, 1.4708; $(CH_2)_6$, I, b_1 84–5°, 1.3947, 1.5015; $(CH_2)_2CHMe$, Br, b_{50} 76–8°, 1.2671, 1.4650; $(CH_2)_2CHMe$, I, b_7 62–4°, 1.5056, 1.5080; $(CH_2)_2O(CH_2)_2$, Cl, b_4 69–71°, 1.1040,

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19801343

AP0049502

1.4535; $(CH_2)_2O(CH_2)_2$, Br, b_1 73–5°, 1.3564, 1.4750; $(CH_2)_3O(CH_2)_3$, I, b_1 58–9°, 1.5893, 1.5189. Exchange of the iodo members with KF gave the fluoro analogs: $(CH_2)_3$, F, described above; $(CH_2)_4$, F, described above; $(CH_2)_5$, F, b. 115–20°, 0.9272, 1.4045. Rearrangement of I [R = $(CH_2)_2$, $R^1 = R^2$ = H] with $H_2C:CHCH_2Br$ resulted in ring opening only and gave $H_2C:CHCH_2P(O)(OCH_2CH_2Br)O(CH_2)_2OCH:CH_2$ (III); $(PrO)_2POCH_2CH_2OCH:CH_2$ and EtI similarly gave only the open-chain $H_2C:CHO(CH_2)_2OP(O)(Et)OPr$, b_1 87–9°, 1.0476, 1.4417. III, b_1 144–5°, 1.3630, 1.4890, was obtained above in 67% yield. Reaction of 2 moles chlorohydrin with 2 moles AcH and dry HCl at −5–0° gave the requisite chloro ethers, which with 2.2 mole Et_3N at this temp., then 5 hr at 80–90°, gave the (haloalkoxy)ethylenes $H_2C:CHORX$ (R and X shown): $(CH_2)_2$, Cl; $(CH_2)_3$, Cl and $(CH_2)_3$, Br and $(CH_2)_4$, Cl, described above. Triethylene glycol and Br with red P gave $(BrCH_2CH_2OCH_2)_2$ $b_{1.5}$ 103–5°, 1.6638, 1.5010, which with powd. KOH in a Cu vessel at 95–110° in partial vacuo gave 18.5% $H_2C:CHO(CH_2)_2O(CH_2)_2Br$, described above.

G. M. Kosolapoff

19801344

Acc. Nr. AP0053454 Abstracting Service: CHEMICAL ABST 5/70 Ref. Code: UR0366

110704b Vinyl ethers of halo alcohols. V. Synthesis of new functional alkoxyethylenes by nucleophilic substitution of the halogen. Atavin, A. S.; Gusarov, A. V.; Trofimov, B. A.; Shamarina, N. V. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Org. Khim.* 1970, 6(2), 228–32 (Russ). The reaction of $H_2C{:}CHO(CH_2)_nX$ (I) (X is Cl or Br) with KSCN gave 47–65% $H_2C{:}CHO(CH_2)_nSCN$ (*n* is 2, 3, or 4). Similarly, I reacted with $AcCH_2CO_2Et$ to give 32.5 and 48.0% $H_2C{:}CHO(CH_2)_nCHAcCO_2Et$ (*n* is, resp., 2 or 4). The reaction of I with $Et_2NC(S)SK$ gave the previously unknown $H_2C{:}CHO(CH_2)_nSC(S)NEt_2$ (*n* is 2 or 4). NaCN with I gave $H_2C{:}CHO(CH_2)_nCN$ (*n* is 3 or 4) and Na_2S_2 with I gave $[H_2C{:}CHO(CH_2)_nS]_2$.

CPJR

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REEL/FRAME
19830479

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Acc. Nr AP0041853 Abstracting Service: CHEMICAL ABST. 4/70 Ref. Code UR0366

89688n Rearrangement in the thiolysis of 2-methyl-2-(hydroxymethyl)-1,3-dioxolane. ~~Teofilova, B. Ts.~~ Atavin, A. S.; Mikhaleva, A. I.; Kalabin, G. A.; Vasil'ev, N. P. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Org. Khim.* 1970, 6(1), 190-1 (Russ). The reaction of 2-methyl-2-(hydroxymethyl)-1,3-dioxolane with RSH (R = Pr or iso-Bu) in acid medium gave 5-10% $(RS)_2CMeCH_2OH$ and 80-90% $(RS)_2CHCHMeSR$. The expected "normal" reaction products $(RS)_2CMeCH_2SR$ were not formed. CPJR

REEL/FRAME
19751734

USSR

UDC 547.728.1'756:542.944.1

TROFIMOV, F. A., TSYSHKOVA, N. G., and GRINEV, A. N., Scientific Research Institute of Medicinal Radiology, Acad. Sc. USSR, All Union Scientific Chemical Pharmaceutical Research Institute Imeni S. Ordzhonikidze, Moscow

"2-Bromomethyl Derivatives of Benzofuran and Indole and Their Reactions With Some Nucleophilic Reagents"

Riga, Khimiya Geterotsiklicheskikh Soyedinenii, No 3, Mar 73, pp 308-311

Abstract: Bromination of 2-methyl-3-carbethoxy-5-methoxybenzofuran with N-bromosuccinimide in presence of benzoyl peroxide and light yielded 2-bromomethyl-3-carbethoxy-5-methoxybenzofuran, m.p. 80-81°. Under analogous conditions, 1,2-dimethyl-3-carbethoxy-5-methoxyindole yielded only 1,2-dimethyl-3-carbethoxy-5-methoxy-6-bromoindole, m.p. 164-165°, which upon further reaction with N-bromosuccinimide gave 1-methyl-2-bromomethyl-3-carbethoxy-5-methoxy-6-bromoindole, m.p. 141-142°. The bromomethylated products react easily with mercaptans, thiophenols and secondary amines yielding 2-alkyl(aryl)thiomethyl and 2-dialkylaminomethyl derivatives of benzofuran and indole.

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1/2 032 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ABSORPTION, DISTRIBUTION, AND ELIMINATION OF DIMECARBINE PRIME14 C IN HEALTHY AND IRRADIATED ANIMALS -U-

AUTHOR-(02)-SHADURSKIY, K.S., TROFIMOV, F.A.

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 44-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CARBON ISOTOPE, CHEMICAL LABELLING, BLOOD CHEMISTRY, RADIATION BIOLOGIC EFFECT, SELECTIVE DRUG EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0139 STEP NO--UR/0390/70/033/001/0044/0047

CIRC ACCESSION NO--AP0120839

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120839

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AFTER SINGLE GASTRIC DOSES OF DIMECARBINE PRIME14 C IN RABBITS AND RATS RADIOACTIVITY IN ORGANS WAS HIGHER FOR ANIMALS IRRADIATED (600 R) 24 HR BEFORE DOSAGE THAN IN CONTROLS. BLOOD CONTAINED DETECTABLE PRIME14 C 45-60 MIN AFTER DOSAGE IN BOTH HEALTHY AND IRRADIATED ANIMALS. DIMECARBINE PRIME14 C WAS ELIMINATED MOSTLY IN URINE, UNCHANGED OR AS 2 METABOLITES, ONE GIVING A NEG. TEST FOR THE INDOLE RING. AFTER 5 DOSES THE ORGANS SHOWED MORE RADIOACTIVITY THAN AFTER 1 DOSE; AFTER 10 DOSES A DECREASE SET IN.

FACILITY: OTD. RADIATS. FARMAKOL., INST. MED. RADIOL., OBNINSK, USSR.

UNCLASSIFIED

Mechanical Properties

USSR UDC 621.7.011

TRET'YAKOV, A. V., TROFIMOV, G. K., and GUR'YANOVA, M. K.

Mekhanicheskiye Svoystva Staley i Splavov pri Plasticheskom Deformirovanii. Spravochnik (Mechanical Properties of Steels and Alloys at Plastic Deformation. Handbook), Moscow, "Mashinostroyeniye," 1971, 63 pp.

Abstract: Data are presented on the variation of mechanical properties of steels and alloys in the presence of plastic deformation. Empirical formulas are given for determining nominal yield point, temporary strength, relative elongation, and hardness as a function of the degree of deformation for any kind of steel and alloy at room temperature.

Empirical formulas for deformation conditions at high temperatures, as well as tables of real strength variation with temperature and rate and degree of deformation are presented.

The handbook is intended for designers and industrial engineers at machine building and metallurgical plants. It may also be useful for scientific personnel, graduate students, and students of related specialties. 36 tables, 10 figures, and 18 references.
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USSR

TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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TRET'YAKOV, A. V., et al., "Mashinostroyeniye," 1971, 63 pp

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Acc. Nr: AP0051935 Ref. Code: UR0219

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i Meditsiny, 1970, Vol 69, Nr 2, pp 75-78

ORGANOSPECIFIC ANTIGENS IN THE HUMAN LUNG

G. K. Tratimov, V. A. Semenova

Kazakh Scientific Research Institute

The antigenic pattern of the normal human lung was investigated. Methods of precipitation and immunoelectrophoresis made it possible to demonstrate 4 organospecific antigens. It is shown that the lung, spleen, liver and kidney contain non-specific antigens common to each of them.

TROFIMOV, I. L.

JPRS 56018

17 May 1972

UDC 550.837 (268)

SOME RESULTS OF MAGNETOTELLURIC PROFILING IN THE ARCTIC OCEAN

[Article by I. L. Trofimov and G. A. Fonarev, Moscow, Izvestiya Akademii Nauk SSSR, Fizika Zemli, Russian, No 2, 1972, submitted 5 October 1970, pp 81-82]

A distinguishing characteristic of a marine geological cross section is the presence of a layer of sediments in its upper part /1/, in contact on the one side directly with the water and on the other side with high-impedance rocks of the crystalline basement. The relativity of marine sediments is greater than the resistivity of sea water, but the order of magnitude is the same /2/. The first marine magnetotelluric soundings (MTS), made from the drifting ice in the Arctic Ocean, revealed that the total longitudinal conductivity S obtained in an interpretation of the ascending branch of the impedance curves is greater than the total longitudinal conductivity of the sea water layer S_1 (3.4). This is attributable to the presence of a well-conducting sedimentary layer having a total longitudinal conductivity S_2 equal to the difference $S_2 = S - S_1$. Study of the S_2 distribution can be called marine magnetotelluric profiling (MMTP).

We have data on magnetotelluric observations made from the drifting ice in several regions of the Arctic Ocean.

During 1962-1963 such observations were made on the "Severnyy Polyus" drifting station in the region of the Lomonosov Ridge and during 1967-1968 in the region of the Chukotskiy arch and the abyssal Amundsen Basin. We constructed a map of the total longitudinal conductivity of the sedimentary layer S_2 for the central part of the Lomonosov Ridge. Map compilation was based on an interpretation of the ascending branch of about 80 MTS curves constructed for two mutually perpendicular directions. For most of the curves the impedance values ρ app in both directions coincide, evidence of the geo-

USSR

UDC 536.24:628.165

TROFIMOV, L. I., and ZAOSTROVSKIY, F. P., Sverdlovsk Scientific Research Institute of Chemical Machinery

"Heat Transfer During Vapor Condensation of Paraffin Streams in Contact Condensers of the Desalination Apparatus"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 7, 1973, pp 23-26

Abstract: On the basis of experiments carried out, equations have been obtained for the calculation of heat transfer processes during the condensation of vapor on liquid paraffin streams of the contact condensers of thermodistillation desalination apparatus based on hydrophobic heat carriers.

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USSR UDC 666.76:621.792

VERENKOVA, E. M., TROFIMOV, M. G., FROLOV, A. S., and DIKAYA, I. I., All-Union Scientific Research Institute of Aircraft Materials

"Properties of Ceramic Coatings From Phosphate Ceramics"

Moscow, Ogneupory, No 1, Jan 71, pp 41-45

Abstract: Working on the assumption that the introduction of phosphate compounds into the composition of refractory oxides permits an increase in the adhesion strength of ceramic coatings and their thermal stability, the authors studied Al_2O_3 and ZrO_2 powder compositions with additions of aluminum phosphate binder with the following composition: 10-11 percent H_3PO_4, 15-16 percent $Al(H_2PO_4)_3$, 23-24 percent $Al_2(HPO_4)_3$, 50-51 percent H_2O. Density of binder 1.55-1.64 g/cm^3. Weight ratio Al_2O_3:P_2O_5 in the binder was 1:3.8. The coatings were applied by rod gas-flame

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VERENKOVA, E. M., et al., Ogneupory, No 1, Jan 71, pp 41-45

spraying. The resultant phosphate ceramic coatings possess good adhesion to metals and alloys, thermal stability, and impact strength. These properties are 1.5-3 times greater than those of existing aluminum oxide and zirconium dioxide coatings with or without additions of sodium silicate. On the basis of their low thermal conductivity and high adhesion strength and thermal stability, the coatings are recommended for the protection of metals and alloys against the effects of high-temperature gas flows.

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1/2 013 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--PERCARBONATES CONTAINING PERALKYL GROUPS -U-

AUTHOR-(03)-TROFIMOV, N.N., BESHENOVA, YE.P., ETLIS, V.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3), 462-5

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, ORGANIC PEROXIDE, CARBONYL CHLORIDE, CARBONATE, CARBON DIOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1575 STEP NO--UR/0366/70/006/003/0462/0465

CIRC ACCESSION NO--AP0112569
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0112569

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF ROO-CH SUB2 CHR PRIME1 OH IWTH COCL SUB2 GAVE ROOCH SUB2 CHR PRIME1 O SUB2 CCL (I). REACTING I WITH NA SUB2 O SUB2 GAVE (ROOCH SUB2 CHR PRIME1 O SUB2 C) SUB2 O SUB2 (R AND R PRIME1 GIVEN); TERT-BU, H; TERT-BU, ME; PHCME SUB2, H. THE REACTION OF I (R EQUALS TERT-BU) WITH (BZOO) SUB2 BA GAVE TERT-BUOOCH SUB2 CH SUB2 O SUB2 CO-OBZ. THE THERMAL DECOMPN. OF (TERT-BEOOCH SUB2 CH SUB2 O SUB2 C) SUB2 O SUB2 (II) IN BENZENE GAVE CO SUB2, TERT-BUOOCH SUB2 CH SUB2 OH (III), TERT-BUO-OCH SUB2 CHO, AND HCHO. IN CUMENE AT 60DEGREES, II DECOMPD. TO CO SUB2, III, AND TERT-BEOOCH SUB2 CH SUB2 O SUB2 COCME SUB2 PH, AND IN ISO-PROH, II GAVE CO SUB2, III, AND ACETONE.

UNCLASSIFIED

USSR UDC 51.621.391

RABINOVICH, V. M., TROFIMOV, O. Ye.

"Certain Estimates of the Entropy of Discrete Random Quantities"

Veroyatnostn. Metody v Izmerenii i Kontrole. Vyp. 2. [Probability Methods in Measurement and Testing, No. 2 -- Collection of Works], Novosibirsk, Nauka Press, 1970, pp 63-68 (Translated From Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V497 by V. Kolchin).

Translation: It is proven that if for random quantity ξ

$$P\left\{\xi=\frac{i}{n}\right\}=p_i,\quad i=-n,\quad -n+1,\ldots,n;\quad \sum_{i=-n}^{n} p_i=1,$$

$p_i \geq p_{i+1}$ where $i \geq 0$, $p_i \leq 1/2$ and $p_i=p_{-i}$ for all i, then

$$H(\xi)\geq\frac{a^2}{4}\ln n+O\left(\frac{\ln n}{n}\right),$$

$$H(\xi)\geq\frac{2}{3}b^2\ln n+O\left(\frac{\ln n}{n}\right),$$

where $H(\xi)$ is the entropy of ξ, $a=M|\xi|$, $b=D\xi$.

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USSR

TROFIMOV, V.

"The Fifth Ocean"

Moscow, Moskovskaya Pravda, 11 Nov 70, p 3

Abstract: Many foreign scientists believe that the cleanest air in the world is that of Moscow. Contributing to the sanitation of the atmosphere, the "fifth ocean," are hundreds of scientists, sanitary inspectors, hygienists, construction workers, and engineers who are fighting air pollution. The Institute of the General Planning of Moscow, the city Sanitary Epidemiological Station, the Institute of General and Municipal Hygiene imeni Sysin, and the Research Institute of Sanitation and Hygiene imeni Erisman have inspected about 500 factories and plants in the capital and have established a plan for sanitizing the air in Moscow. Factories have installed pollution-control devices or are changing their technology. The use of electrosmelting, gasification of boiler rooms, and application of electrical filters have remarkably decreased pollution of the air. All of these control measures are directed by laboratories: some 27,000 analyses of air quality are made by 25 stations in the city every year. More than

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TROFIMOV, V., Moskovskaya Pravda, 11 Nov 70, p 3

60 factories have organized their own laboratories for air analysis. Green protection zones have been created in the industrial area and, when necessary, some nonvaluable housing resources are moved into other zones. Many large plants (automobile, chemical, asphalt-concrete, etc) will be required to carry out sanitation measures at a more intensive rate, however.

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USSR

Circuit Theory

UDC 621.372.852

BOGDANOV, G. B., KOZHARIN, I. D., MEL'NIK, O. F., TROFIMOV, V. A.

"Experimental Characteristics of Certain Types of Halfopen Multicircuit Ferrite Microwave Filters"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2043-2046

Abstract: The electromagnetic characteristics of multicircuit halfopen filters and the temperature functions of these filters -- direct losses, resonance curves, decoupling, suppression of spurious resonances and thermal stability characteristics -- were obtained experimentally in order to check the known theoretical principles and determine the possibilities of practical application of such filters. The ferrite resonators were installed in the round holes of metal diaphragms, and a constant magnetic field was applied. The diaphragms were arranged at a variable distance from each other, and the input and output ferrite resonators were located so that an intermediate ferrite resonator could be inserted as a third circuit. Investigations in the 3 centimeter band demonstrated that with an increase in the diameter of the ferrite resonators the minimum loss region corresponding to the critical couplings is shifted towards large distances between the filters, and it becomes less expressed as a result of relatively redistribution of the mutual losses and the losses to radiation. For the ferrite filter without an intermediate resonator the

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BOGDANOV, G. B., et al., Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2043-2046

decoupling varies within the limits of 50-52 decibels, and for a ferrite filter with an intermediate resonator, within the limits of 62-63 decibels in a broad frequency range. With orientation of the ferrite filters on the [110] axis, the thermal variations of the losses are noticeable especially in the positive temperature range. The thermal effect on the parameters and characteristics of semiopen filters can be reduced significantly if the ferrite resonators of the filters are oriented independently (in the sense of coupling) along the isotropic axis. The frequency drift obtained for two coupled ferrite resonators (67 kilohertz/degree) indicates high thermal stability of the investigated halfopen filters.

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USSR UDC 661.14

GROMOV, L. A., LUKOMENKO, V. D., TROFIMOV, V. A., Leningrad Technological Institute imeni Lensovet

"Physico-Chemical Investigation of the Process of Formation of ZnS(Cu)-Phosphors; Report I: Activation of Zinc Sulfide by Metallic Copper"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 1, Jan 1970, pp 122-126

Translation: It was established that ZnS(Cu)-phosphors with blue and green luminescence can be obtained by calcination of deoxidized zinc sulfide with metallic copper in the absence of oxygen, sodium chloride and other substances which contribute to the appearance of luminescence centers. The intensity of luminescence of ZnS(Cu)-phosphors, produced by the activation of deoxidized zinc sulfide with metallic copper, is analogous to the intensity of these phosphors produced in the presence, for example, of potassium chloride. Introduction of free zinc into a charge, which contains deoxidized zinc sulfide and metallic copper, leads to suppression of green as well as of blue luminescence, and additions of free sulfur -- to the appearance of the centers of red heat.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PHYSICAL CHEMICAL STUDY OF THE FORMATION OF ZNS(AS) PHOSPHORS -U-

AUTHOR-(03)-GROMOV, L.A., LUKONENKO, V.D., TROFIMOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 621-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CRYSTAL PHOSPHOR, CHEMICAL REACTION, ZINC SULFIDE, ARSENIDE, ARSENIC SULFIDE, THERMOLUMINESCENCE, RADIATION INTENSITY, LUMINESCENCE QUENCHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1137 STEP NO--UR/0076/70/044/003/0621/0626

CIRC ACCESSION NO--AP0124792

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124792

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHANGE IN THE OPTICAL PROPERTIES OF ZNS(AS) PHOSPHORS IN THE REACTION ZNS PLUS ZN SUB3 NEGATIVE AS SUB2 YIELDS 6ZN PLUS AS SUB2 S SUB3 UNDER VARIOUS CONDITIONS WAS STUDIED. MIXTS. OF ZNS AND ZN SUB3 AS SUB2 WERE HEATED 1 HR AT 1100DEGREES IN AN EVACUATED QUARTX AMPUL. THE CONCN. OF ZN SUB3 AS SUB2 VARIED FROM 5 TIMES 10 PRIME NEGATIVE5 TO 3 TIMES 10 PRIME NEGATIVE3 G-G ZNS, AND THE VOL. OF THE AMPUL, VARIED FROM 3.5 TO 50 ML. THE INTENSITY OF THE ORANGE LUMINESCENCE FIRST INCREASED, THEN DECREASED WITH INCREASING CONCN. OF ZN SUB3 AS SUB2 IN THE REACTION MIXT. THE CONCN. OF ZN SUB3 AS SUB2 FOR OPTIMUM INTENSITY DEPENDED ON THE VOL. OF THE AMPUL AND INCREASED WITH AMPUL VOL. WHEN THE CONCN. OF ZN SUB3 AS SUB2 WAS CONST., THE INTENSITY OF THE ORANGE LUMINESCENCE DECREASED WITH INCREASING AMPUL VOL. THE AMT. OF FREE ZN INCREASED WITH INCREASED AMPUL VOL. ADDN. OF ZN TO THE REACTION MIXT. LED TO INCREASED INTENSITY OF THE ORANGE LUMINESCENCE. THE INTENSITY WAS DECREASED BY ADDN. OF AS SUB2 S SUB3. THIS WAS EXPLAINED BY REACTION OF AS SUB2 S SUB3 WITH ZN SUB3 AS SUB2 TO GIVE ZNS AND FREE AS. THE INTENSITY WAS ALSO DEPRESSED BY THE ADDN. OF S. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

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USSR

UDC: 535.37

GROMOV, L.A., LUKONENKO, V.D., TROFIMOV, V.A., Leningrad Technological Institute imeni Lensovet, Leningrad, Ministry of Higher and Secondary Specialized Education RSFSR

"Physicochemical Investigation of the Formation Process of ZnS(As)-Phosphors"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 3, Mar 70, pp 621-626

Abstract: Research indicates that the centers of orange luminescence in ZnS(As)-phosphors are formed during physicochemical conversion of the ZnS-An_3As_2 system, the chief stages being chemical interaction of the components and diffusion of arsenic (in the form of negative ions) into the zinc sulfide lattice. The validity of this interpretation can be checked by studying the way in which optical properties of ZnS(As)-phosphors are affected by factors which determine the state of redox equilibrium of the reaction

$$3ZnS(solid) + Zn_3As_2(solid\ or\ gas) - 6Zn(solid) + As_2S_3(gas) \quad (1)$$

The authors studied the optical properties of ZnS(As)-phosphors and the state of equilibrium of reaction (1) as functions of the concentration of zinc arsenide in the charge, the volume of the quartz ampules, and the introduction of free zinc, sulfur, and arsenic sulfide into the charge. The state of equilibrium of reaction (1) was determined from data on the determination of free zinc. In addition, chemical interaction was studied in mixtures of zinc arsenide with arsenic sulfide and with sulfur. It is shown that the intensity of the orange band in ZnS(As)- phosphors depends on the state of the ZnS-Zn_2As_2system. The authors are sincerely grateful to A. V. MOSKVIN for interest in the work and constructive criticism offered

USSR

UDC 621.371.332.4

ALEKSEYEV, G.V., VOLKOVSKIY, S.A., ZHUKOVSKIY, A.P., ONOPRIYENKO, YE.I., TROFIMOV, V.D. [Moscow Aviation Institute]

"Experimental Investigations Of The Effective Width Of The Surface Back Scattering Patterns And The Distribution Of Reflected Signals In The Meter And Decimeter Range"

Izv.VUZ: Radiofizika, Vol XV, No 2, Feb 1972, pp 200-210

Abstract: An account is given of a method of determining back scattering patterns (SSP) with the aid of the Doppler effect. The special features of the equipment for processing the signal are shown. Experimental values of the effective width $\sigma_{эф}$ were obtained at wavelengths of 2 m, 68 cm, 34 cm, and 11.3 cm, and for various surfaces (sea, plowed fields, sandy-solonchak terrain with large crescent-shaped sand dunes, sparse forrest [summer]). The flights were horizontal at heights from 500--2000 m and at speeds from 200-400 km/hr. The results of conversion of $\sigma_{оп}$ into the angle of slope are close to data obtained by the optical method. The experimentally obtained distribution confirmed the theoretical concepts concerning the signal structure and made it possible to determine the level of the mirror components as a function of the radiation frequency and the type of reflecting surface. It is concluded that experimental determination of the effective width of the SSP are feasible in practice on the base of the Doppler effect with possible modulation of the probing signal. 4 fig. 10 ref. [illegible] by editors, 21 Aug 69; after revision, 11 Oct 71.

1/1

USSR

UDC 621.371.332.4

ALEKSEYEV, G. V., VOLKOVSKIY, S. A., ZHUKOVSKIY, A. P., ONOPRIYENKO, E. I., TROFIMOV, V. D., Moscow Aviation Institute

"Experimental Studies of the Effective Backscattering Pattern Width of Surfaces and the Distribution of Reflected Signals in the Meter and Decimeter Wave Ranges"

Gor'kiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 200-210

Abstract: A study was made of a procedure for determining the backscatter pattern of a surface using the doppler effect. Results are presented from experimental studies in the waverange from 11 cm to 2 meters above different types of surfaces (the sea, Plowedfields, forest and sand dunes). Results are presented also from measuring the ratios of the levels of the reflected and scattered components of the echo on the basis of the distribution laws obtained. The possibility of remote determination of the statistical characteristics of the surface is indicated.

In practice, experimental determinations of the effective width of the backscatter pattern on the basis of the doppler effect considering possible modulation of the sounding signal are possible. Experimental values of $\theta_{backscatter\ 1/2}$ [the effective width of the backscatter pattern] are presented in

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ALEKSEYEV, G. V., et al., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 300-210

a broad wave range and for the various mentioned surfaces. The results of recalculating $\sigma_{backscatter}$ in the mean square value of the angle of inclination $\beta_{mean\ square}$ are close to the data obtained by the optical method. The demonstrated characteristic nonstationarity of the echo has a significant effect on the shape of the experimental distributions. The method of synchronous processing permits consideration of the mentioned characteristic. The experimentally determined distributions confirmed the theoretical principles of signal structure and they permitted determination of the level of the reflected component as a function of the radiation frequency and type of reflecting surface.

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USSR

GOLOVACH, A. V., YERINA, A. M. and TROFIMOV, V. P.

"Criteria of Mathematical Statistics in Economic Studies"

Kriterii Matematicheskoy Statistiki v Ekonomicheskikh Issledovaniyakh [English version above], Moscow, Statistika Press, 1973, 136 pp (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V325K)

Translation: This book studies the general statements of the theory of testing of hypotheses, presents the characteristics of the basic statistical criteria and indicates the peculiarities of their application to social-economic studies. The classifications of criteria were based not on their mathematical properties, but rather on the following problems, solved using the criteria: testing of hypotheses concerning the basic parameters of a set, testing of hypotheses concerning distributions and testing of the existence of a relationship between characteristics. The appendices present tables of distribution functions and quantiles, as well as graphs of the power of criteria. The book is designed for economists, statisticians, teachers and students in economic schools and departments.

Annotation

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USSR UDC 662.215.1

TROFIMOV, V. S., TROFIMOVA, G. P., DREMIN, A. N., Moscow

"Shocked Air Electrical Conductivity as a Function of the Piston Material"

Novosibirsk, Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

Abstract: When using a streak camera to observe the exit of a shock wave from plexiglass into air the following phenomenon was detected: if a strip of black paper or copper foil was applied to the surface of the plexiglass, the corresponding section of the shock front glowed in the air appreciably more brightly than the adjacent sections. If the front exits into rarefied air (initial pressure $P_0 = 10^{-2}$ mm Hg), the glow is not observed. The glow over the copper foil is much less than the glow over the black paper, but a detailed study was made of copper to demonstrate that the observed phenomenon was caused by the penetration into the air of foreign particles which shoot ahead in the microcumulation process (collapse of microscopic depressions on the foil surface) and are heated up during the process of heat exchange with the environment. This would lead to the expectation that the appearance of the metal vapors must increase the electrical conductivity of the shocked air, and a reduction in temperature must decrease it. It was found that the lifetime of the proposed copper particles must be much less than the transit time of the shock front to the electrodes. Thus, the reduction in conductivity of the air cannot be explained by cooling

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002203320017-1"

USSR

TROFIMOV, V. S., et al., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

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USSR

TROFIMOV, V. S., et al., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

must have significant width decreasing as the amount of copper contained in it decreases which makes it essentially nonstationary. This explains the effect of the copper on the conductivity of the air.

USSR

UDC 621.327.534.15.032.43(088.8)

MAMSUROV, A.KH., OSKOLKOV, I.N., SAZHIN, L.I., TROFIMOV, V.V., YUDOVSKIY, B.Z.
[Vses. n.-i. kinofotoin-t--All-Union Scientific-Research Camera Institute]

"Device For Ignition Of Xenon Lamps"

USSR Author's Certificate No 311430, filed 13 Apr 70, published 6 Oct 71 (from RZh:Elektrotekhnika i energetika, No 5, May 1972, Abstract No 5V190P)

Translation: A device is proposed for ignition of xenon lamps, which contains a rectifier made with a thyristor, with a control circuit consisting of a RC network [tsepochka] with a switching diode. The rectifier is supplied from a supplementary winding of the power transformer of the rectifier. In order to accomplish control of the process of ignition of the lamps, an increase of their lifetime, and a decrease of the overall size of the device, the rectifier is connected in series with a supplementary winding of the transformer in the ignition circuit [tsep'] of the xenon lamp. For supply of the control circuit an auxiliary rectifier is used, connected to the power transformer, at the output of which the RC network is connected. 1 ill. Ye.I. Afanas'yeva.

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USSR

POPOV, B. G., TROFIMOV, V. V.

"Stability of Rings and Cylindrical Reinforced Shells Under Local Loadings"

4-ya Vses. Konf. po Probl. Ustoychivosti v Stroyit. Mekh. Tezisy Dokl. [Fourth All-Union Conference on Problems of Stability in Structural Mechanics, Theses of Reports -- Collection of Works], Moscow, 1972, pp 100-101, (Translated from Referativnyy Zhurnal, Mekhanika, No 10, 1972, Abstract No 10 V314).

Translation: The problem of stability of rings and cylindrical reinforced shells is solved in its linear statement considering heterogeneity of the initial stress-strain state. Loading with concentrated radial forces is studied. An energetic method is used for the solution. The bifurcational bend functions are fixed as trigonometric series. The normal displacements of the second order of magnitude are determined in general form, allowing the operation of a fixed system of external forces to be calculated. The problem is solved of the stability of a ring loaded with four "dead" forces, acting along mutually perpendicular diameters, with opposite forces equal and mutually perpendicular forces interrelated by a proportionality factor. The problem of the stability of a reinforced cylindrical shell is solved using a semi-momentless theory. A freely supported shell is loaded through

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USSR

POPOV, B. G., TROFIMOV, V. V., 4-ya Vses. Konf. po Probl. Ustoychivosti v Stroyit. Mekh. Tezisy Dokl., Moscow, 1972, pp 100-101.

a rib with concentrated radial forces. A solution for a smooth shell is produced as a particular case. The influence of relative rigidity of a rib on the critical force and form change upon loss of stability is estimated. Results are presented from an experimental study of the stability of rings and shells; the experimental results were close to the calculated results.

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USSR

UDC: 621.396.6:621.315.612

KOPTELEV, V. T., FAYFER, S. I., TROFIMOV, Ye. A., SHISHKINA, I. P.

"Emissivity of Cermets Based on Aluminum Oxide and Molybdenum"

Elektron. tekhnika. Nauchno-tekhn. sb. Materialy (Electronic Technology. Scientific and Technical Collection. Materials), 1970, vyp. 3, pp 118-119 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V446)

Translation: An investigation was made into the emissivity of pressed and sintered ceramals with composition (16-18) vol.% Mo + 4% BeO+Al_2O_3. A check on various methods of measurement showed that the most reliable is the method of the vanishing reference point: a light beam is directed at the surface of the specimen and the reference (MgO); the illuminance or temperature of the specimen, which is heated by the direct passage of current, is selected in such a way that the brightness of the specimen and reference is equal in monochromatic light. The resultant values of the coefficient of 0.81 (±5%) are considerably higher than the coefficients of emission of the components of the ceramal. N. S.

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USSR

UDC 621.762.5

OMETOVA, L. F., and TROFIMOVA, A. A., Moscow

"Sintering of Thin Nichrome Films"

Kiev, Akademiya Nauk Ukr SSR, Poroshkovaya Metallurgiya, No 7, Jun 72, pp 22-27

Abstract: The process of sintering thin nichrome films (80Ni-20Cr) of various thickness (1000, 32, and 20 Å) is considered by studying the variation of their electrical resistance during heat treatment. The processes of zonal isolation are supposed to have a decisive effect on the electrical resistance variation during heat treatment. Optimal conditions are suggested for vaporized coating and heat treatment of thin nicrome films (300 Ohm/cm^2 surface resistivity with deviations not exceeding 0.02% during heat resistance tests, and not more than 0.1% for cold resistance and thermal shock tests).

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USSR

UDC 665.637.6:621.892.096/.097

BLAGOVIDOV, I. F., SHOR, G. I., TROFIMOVA, G. L., and LAPIN, V. P.

"Some Aspects of the Development of Contemporary Motor Oils"

Moscow, Neftepererabotka i Neftekhimiya, No 10, 1973, pp 29-32

Abstract: Compatibility of alkyl salicylate, sulfonate, succinimide, and dithiophosphate additives was investigated as well as their pickup by oils of various chemical compositions. On the basis of experimental results effective motor oils have been developed for the current high performance engines, containing a selection of contemporary additives with consideration of maximum utilization of their functional properties.

USSR

UDC 615.472:616.12-008.1-78

BELILOVSKIY, M. A., BERGER, I. I., FROLKIN, O. A., STETSIN, A. A., TROFIMOVA, G. N., and GUSMAN, V. Ye., All Union Scientific Research Institute for Medical Instrumentation, Moscow

"The Biopulse-2, an Apparatus for Auxiliary Blood Circulation"

Moscow, Meditsinskaya Tekhnika, No 4, 1971, pp 14-19

Abstract: The Biopulse-2 is an electromagnetic pump with bioelectric control designed to provide auxiliary blood circulation in different kinds of cardiac insufficiency in order to relieve the heart and increase the venous blood flow. The apparatus consists of a cardiac biopotential amplifier, control unit, power amplifier, motor with a pump, and power supply. The biopotential amplifier collects and processes biological information. The control unit regulates the pulsating current. The power amplifier boosts the pulsating current of low-power electrical energy while the electromagnetic motor with a diaphragm pump head transforms the electrical energy into mechanical energy to move the blood.

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USSR

UDC 662.215.1

TROFIMOV, V. S., TROFIMOVA, G. P., DREMIN, A. N., Moscow

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Novosibirsk, Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

Abstract: When using a streak camera to observe the exit of a shock wave from plexiglass into air the following phenomenon was detected: if a strip of black paper or copper foil was applied to the surface of the plexiglass, the corresponding section of the shock front glowed in the air appreciably more brightly than the adjacent sections. If the front exits into rarefied air (initial pressure $p_0 = 10^{-2}$ mm Hg), the glow is not observed. The glow over the copper foil is much less than the glow over the black paper, but a detailed study was made of copper to demonstrate that the observed phenomenon was caused by the penetration into the air of foreign particles which shoot ahead in the microcumulation process (collapse of microscopic depressions on the foil surface) and are heated up during the process of heat exchange with the environment. This would lead to the expectation that the appearance of the metal vapors must increase the electrical conductivity of the shocked air, and a reduction in temperature must decrease it. It was found that the lifetime of the proposed copper particles must be much less than the transit time of the shock front to the electrodes. Thus, the reduction in conductivity of the air cannot be explained by cooling

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TROFIMOV, V. S., et al., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

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TROFIMOV, V. S., et al., Fizika goreniya i vzryva, Vol 8, No 4, 1972, pp 490-501

must have significant width decreasing as the amount of copper contained in it decreases which makes it essentially nonstationary. This explains the effect of the copper on the conductivity of the air.

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--NEW REACTION FOR THE PREPARATION OF PEROXIDES OF POLYNITROCARBOXYLIC ACIDS -U-

AUTHOR-(03)-EREMENKO, L.T., NATSIBULLIN, F.YA., TROFIMOVA, G.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 630-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PEROXIDE, ORGANIC NITRO COMPOUND, CARBOXYLIC ACID, FLUORINATED ORGANIC COMPOUND, BROMINATED ORGANIC COMPOUND, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0735 STEP NO--UR/0062/70/000/003/0630/0633

CIRC ACCESSION NO--AP0124405

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124405

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 0.1 MOLE POLYNITROCARBOXYLIC ACID IN H SUB2 O WAS ADDED AT 18-20DEGREES 0.055 MOLE 10PERCENT K SUB2 CO SUB3 OR KOH AND AFTER 30 MIN THE HOMOGENEOUS SOLN. OF THE K SALT WAS DILD. AND TREATED AT 1-3DEGREES WITH F OILD. WITH N IN 1:30 RATIO. THE DECOLORIZED SOLN. DEPOSITED 69-80PERCENT THE FOLLOWING (RCH SUB2 CH SUB2 CO SUB2) SUB2 (R SHOWN): MEC(NO SUB2) SUB2, M. 88.5DEGREES; (O SUB2 N) SUB3 C, M. 114DEGREES; CF(NO SUB2) SUB2, M. 89.5DEGREES; (O SUB2 N) SUB2, M. 94DEGREES; AND CBR(NO SUB2) SUB2, M. 69DEGREES. RCO SUB2 F WAS THE LIKELY INTERMEDIATE IN THE REACTION. FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DEVICE FOR MEASURING THE CONTACT PRESSURE OF A V BELT ON A PULLEY -U-

AUTHOR-(02)-SAZHENOV, A.F., TROFIMOVA, I.N.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA 1970, 29(2), 49-50

DATE PUBLISHED-------70

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

TOPIC TAGS--MECHANICAL POWER TRANSMISSION DEVICE, MECHANICAL ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1302 STEP NO--UR/0138/70/029/002/0049/0050

CIRC ACCESSION NO--AP0109386

UNCLASSIFIED

2/2 008 UNCLASSIFIED

CIRC ACCESSION NO--AP0109386 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESSURE (P) EXERTED BY A TRANSMISSION BELT OF TRAPEZOID CROSS SECTION ON THE INNER SURFACES OF A SHEAVE CHANGES WITH THE TENSION OF THE BELT. THE TENSION CHANGES THE SHAPE OF THE CROSS SECTION AND, CONSEQUENTLY, THE DISTRIBUTION OF P. AN APP. IS DESCRIBED FOR DETG. P AT VARIOUS LOCATIONS OF THE INNER SHEAVE SURFACE. IT CONSISTS OF A BELT TENSIONING SYSTEM, AND A SHEAVE THE 2 SIDES OF WHICH CAN MOVE IN PARALLEL TO THE AXIS. ONE OF THE INNER SIDES HAS SMALL PERFORATIONS SERVING FOR THE HYDRAULIC P DETN. THE APP. IS USED IN THE DESIGN OF SHEAVE GROOVES FOR THE V AND TRAPEZOID CROSS SECTION BELTING. FACILITY: NAUCH-ISSLED. INST. REZIN. PROM., LENINGRAD, USSR.

UNCLASSIFIED