

USSR

UDC 575.111:575.24:576.851.48

KONDRAT'YEV, Yu. S. and SKAVRONSKAYA, A. G., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow

"The Effect of 5-Bromouracil on the Sensitivity of Hcr⁺ and Hcr⁻ Bacteria to the Lethal and Mutagenic Effect of Ultraviolet Light"

Moscow, Genetika, No 9, 1971, pp 149-154

Abstract: The incorporation of 5-bromouracil into the DNA of Escherichia coli KMBL 49 and its derivative Hcr mutant E. coli KMBL 100 dar₅, bacterial strains with equal thymine requirement, increased their sensitivity to lethal ultraviolet irradiation to the same extent. This suggests that the action of the thymine analog is not associated with the inhibition of dark repair, at least the first stage, which is defective in Hcr mutants. 5-Bromouracil intensified the mutagenic effect of UV irradiation on both direct mutations and reversions. As in the case of the lethal effect, the sensitizing effect of 5-bromouracil on the mutagenic effect of UV irradiation was independent of the Hcr phenotype.

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Genetics

UDC 575.24

USSR

KONDRAT'YEV, Yu. S. and SKAVRONSKAYA, A. G., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR

"The Effect of 5-Bromouracil Substitution on the Ultraviolet Sensitivity of Escherichia coli Strains With Normal and Decreased Capacity for Dark Repair"

Moscow, Genetika, No 4, 1971, pp 123-128

Abstract: The effect of 5-bromouracil (5-BU) on the sensitivity of microorganisms to ultraviolet light was studied in the E. coli strains B/r Hcr⁺ thy try and B/r Hcr thy try. The incorporation of 5-BU into DNA and thymine starvation was found to increase the sensitivity of both strains to UV light. The effect was independent of the activity of the hcr gene. The Hcr⁺ strain was much more dependent on thymine. Grown on a medium without thymine or a low concentration of the substance, the cells eventually died. The degree of sensitivity to the lethal action of UV light was also a function of the difference in the thymine requirements of the two strains. Addition of 5-bromodesoxyuridine to the medium did not influence bacterial growth, but it tended to diminish the inhibitory effect of thymine deprivation.

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USSR

UDC 536.2.023

KARPINOS, D. M., ~~KONDRAT'YEV, YU. V.~~, KLIMENKO, V. S., BARANTSEVA, I. G., PILIPOVSKIY, YU. L., DOBROVOL'SKIY, O. A., and SHAMATOV, YU. M., Institute of Problems of Material Science, Academy of Sciences, Ukrainian SSR

"Physical Properties of Hot-Extruded W-Cu Pseudoalloy"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, Vol 20, No 1, Jan 71, pp 96-99

Abstract: A study was made of a number of physical properties of W-Cu pseudoalloys in a wide range of temperatures: thermal conductivity from 370 to 2200°K, electrical conductivity from 300 to 1970°K, and thermal expansion from 300 to 870 and 1370 to 2200°K. The investigated alloys contained 8-9 wt% Cu.

Results showed that the thermal and electrical conductivities of W-Cu pseudoalloys exceed those of tungsten. The higher conductivity is caused by the effect of copper, where both conductivities in the solid state are 2.5-3 times greater than for tungsten. The sharper lowering of thermal and electrical conductivity

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KARPINOS, D. M., et al., Inzhenerno-Fizicheskiy Zhurnal,
Vol 20, No 1, Jan 71, pp 96-99

of the pseudoalloys, observed at temperatures above the melting point of copper, is caused partially by a decrease of copper conductivity due to its transition to the liquid state. At temperature above the melting point of copper the pseudoalloy is depleted of copper, and after the high temperature tests the Cu content did not exceed 2-3%.

Values for the coefficient of thermal expansion (CTE) of the pseudoalloys exceed those for tungsten. This attributed to the presence of a significant amount of copper in the samples. As in conductivity tests, at temperatures close to 2200°K the copper melts and flows from the tungsten skeleton, thus reducing the copper content and resulting in an alloy with a thermal expansion close to that of tungsten.

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1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70
 TITLE--OXIDATION OF HIGHLY CONCENTRATED SULFUR DIOXIDE USING TECHNICAL
 GRADE OXYGEN IN A CONTACT UNIT WITH FLUIDIZED CATALYST BEDS -U-
 AUTHOR--MAYDUROVA, O.V., MALKIMAN, V.I., KONDRATYEVA, G.P., KRAVCHENKO,
 E.A.
 COUNTRY OF INFO--USSR
 SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1) 24-7
 DATE PUBLISHED-----70
 SUBJECT AREAS--MATERIALS
 TOPIC TAGS--FLUIDIZED BED CATALYST, WEAR RESISTANCE
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1986/0012
 STEP NO--UR/0064/70/046/001/0024/0027
 CIRC ACCESSION NO--AP0102112
 UNCLASSIFIED

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2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102112

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GASEOUS MIXT. CONTG. 56.5 VOL. PERCENT SO SUB2 AND 42.6 VOL. PERCENT O SUB2 WAS PASSED (AT A FLOW RATE OF 1600 VOL. PER HR) THROUGH A CATALYTIC REACTOR WITH 3 FLUIDIZED BEDS OF A WEAR RESISTANT CATALYST; THE TEMPS. OF THE FIRST, SECOND, AND THIRD BEDS WERE 600, 550, AND 500DEGREES, RESP., AND THE PRESSURE WAS 1 ATM. THE DEGREE OF OXIDN. OF THE SO SUB2 AFTER THE THIRD BED WAS 93.1PERCENT. EXPTS. IN A PILOT PLANT REACTOR CONFIRMED THAT STABLE OPERATION MAY BE ACHIEVED WITHOUT PREHEATING THE GAS; A FLOW SHEET FOR A LARGE SCALE OXIDN. PLANT IS PROPOSED.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

1/2 017

TITLE--MODELING OF BIOTIN BIOSYNTHESIS. 2. INTRODUCTION OF OXYGEN AND SULFUR ATOMS INTO MOLECULES OF 2-IMIDAZOLINONE DERIVATIVES -U-
AUTHOR--(05)-RODIONOVA, N.A., UNANYAN, M.P., KONDRATYEVA, G.V., ZAVYALOV, S.I., FILIPPOV, V.V.
COUNTRY OF INFO--USSR

K

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3) 660-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--IMIDAZOLE, KETONE, ORGANIC SULFUR, BIOSYNTHESIS, GLYCINE, SERINE, VITAMIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1764

STEP NO--UR/0062/70/000/003/0660/0665

CIRC ACCESSION NO--AP0123563

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123563

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 3.5 G 4, METHYL, 2, IMIDAZOLINONE WITH 1.1 G PARAFORMALDEHYDE AND 1-2 DROPS ET SUB3 N IN MEQH 3 HR GAVE 4(5), METHYL, 5(4), HYDROXYMETHYL, 2, IMIDAZOLINONE, DECOMP. LARGER THAN 300DEGREES. SIMILAR REACTION WITH PARAFORMALDEHYDE IN THE PRESENCE OF PIPERIDINE IN MEQH 4 HR GAVE 58PERCENT 4(5), METHYL, 5(4), PIPERIDINOMETHYL, 2, IMIDAZOLINONE, DECOMP. SMALLER THAN 290DEGREES, ALSO PREPD. FROM 1,3, DIACETYL, 4(5), METHYL, 5(4), BROMOMETHYL, 2, IMIDAZOLINONE AND PIPERIDINE. HYDROXYDEHYDRODETHIOBIOTIN AND PARAFORMALDEHYDE REFLUXED IN ETOH 3 HR GAVE HYDROXYDEHYDRODETHIOBIOTIN, DECOMP. LARGER THAN 280DEGREES. 1,3, DIACETYL, 4, (5), BROMOMETHYL, 2, IMIDAZOLINONE AND ACSK IN ME SUB2 CO OVERNIGHT GAVE 36PERCENT 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL) 2, IMIDAZOLINONE, M. 49-51DEGREES. SIMILARLY WAS PREPD. THE 4(5), ME ANALOG, M. 67-80DEGREES AND 1,3, DIACETYL, 4, 5, BIS (ACETYLTHIOMETHYL), 2, IMIDAZOLINONE, M. 106-7DEGREES, AND 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL), 5(4), DELTA, CARBETHOXYVALEROYL, 2, IMIDAZOLINONE, M. 109-10DEGREES, WHICH WITH N, BROMOSUCCINIMIDE IN REFLUXING CCL SUB4 GAVE IN 1 HR AN OIL, WHICH TREATED WITH ACSK, THEN WITH AQ. KMNO SUB4. GAVE AFTER FINAL HEATING 3 HR WITH AQ. HCL 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL), 5(4), (CARBETHOXYAMYL), 2, IMIDAZOLINONE, OIL. A POSSIBLE SCHEME OF BIOGENESIS OF BIOTIN FROM SERINE, GLYCINE AND DETHIOBIOTIN WAS DISCUSSED. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 624.131.557:626.82.06-15

YEVDOKIMOV, P. D., Professor, Doctor of Technical Sciences, APTEKAR', L. D.,
Candidate of Technical Sciences and KASHKAROV, P. N., LIPOVETSKAYA, T. F.,
and KONDRAT'YEVA, K. B., Engineers

"Experimental Studies to Determine the Stability of the Building of Nizhne-
Kamskaya Hydroelectric Power Station"

Gidrotekhnicheskoye Stroitel'stvo, No 3, 1972, pp 11-15.

Abstract: Results are reported from field tests of the shear strength of
the foundation of the Nizhne-Kamskaya hydraulic electric power station power
house. Experiments on shear of stamps performed in the construction trench
at the level of the structure were used as a basis for the design charac-
teristics of foundation soil strength for the power house and to establish
possible types of deformation of the foundation upon shifting of the struc-
ture under the engineering and geological conditions of the site.

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KONDRATYEVA, L.N.

RELATIONSHIP BETWEEN IMPULSE ACTIVITY OF NUBAR RESPIRATORY NEURONS, ELECTRIC ACTIVITY OF RESPIRATORY MUSCLES AND PULMONARY VENTILATION UNDER DECREASED RESPIRATION

ISSN 0122-064

Article by A. M. Kulik and L. N. Kondrat'yeva, Moscow, Kazanskaya Biologiya, Publishing, Russian, Vol. 6, No. 2, Number October 1972, 27-29-35, submitted for publication 13 November 1971.

Abstract: The level of impulse activity of bulbar respiratory neurons, electric activity of respiratory muscles and pulmonary ventilation were investigated using cat anesthetized with barbital during different phases of the respiratory cycle. Upon additional resistance to respiration applied during inhalation the activity of inspiratory neurons increased but that of expiratory neurons did not change or decreased. Upon resistance applied during expiration the activity of both expiratory and inspiratory neurons increased. With resistance applied simultaneously during inspiration and expiration the activity of inspiratory and expiratory neurons increased initially; one to two minutes later the activity of inspiratory neurons continued to increase, whereas that of expiratory neurons began to decline. During and after resistance the electric activity of respiratory neurons. An increase in afferent and efferent impulses did not provide an adequate level of pulmonary ventilation under resistance conditions. The inability of the anesthetized animals to overcome additional resistance to respiration was temporary for their asphyctic state and related disturbances.

The problem of the influence of additional resistance on respiration is assuming particular importance in relation to the problems involved in the conquest of space and study of the earth's hydrosphere. Under these conditions man at rest and during muscular work is forced to use respiration apparatus exerting a resistance to respiration.

JKRS 57617
15 MAR 1972

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KONDRAT'YEVA, L. V.

JPKS 05882
15 May 72

STABILITY OF THE LAMINAR BOUNDARY LAYER ON A DEFORMABLE PLATE
(Article by L. V. Kondrat'eva, and V. M. Krasovskiy, Kiev; Kiev. Gos. Univ. Moscow, 55 St. 257, 125-70 Naukova Dumka, PP 43-45)

We will examine the stability of viscous flow near a deformable plate. We will select the origin of coordinates on the leading edge of the plate; x_0 will direct the x -axis along the bounding line and z_0 will direct the z -axis perpendicular to it. All parameters will henceforth be considered dimensionless, as the plates will select the velocity U of the oncoming flow and the boundary layer thickness

$$\delta = 6\sqrt{x}$$

In a linear formulation the problem of the stability of boundary layer flow is reduced to determining the nontrivial solution of the differential equation for the dimensionless stream function $\psi(x, z)$

$$\Delta^2 \psi - \alpha^2 \psi = 0 \quad (1)$$

subject to the boundary conditions

$$\psi = \Delta \psi = 0 \quad \text{at } z = 0 \quad (2)$$

$$\psi = \Delta \psi = 0 \quad \text{at } z = \delta \quad (2a)$$

Under the condition of proportionality of pressure p and lateral deformation η ,

$$\eta = \alpha^2 \psi(x, z)$$

$$\eta = \alpha^2 \psi(x, z), \quad \psi = \int_0^z \eta dz \quad (3)$$

The pressure amplitude $\psi(0)$ can be determined from the linearized equation of momentum in projection onto the x -axis

$$\rho(0) = \frac{1}{\alpha^2} \eta''(0) = \alpha^2 \psi(0) \quad (4)$$

1/2 021 UNCLASSIFIED PROCESSING DATE--20NDV70
TITLE--OBJECTIVE METHODS OF INVESTIGATING ASTIGMATISM -U-

AUTHOR--KCNLRATYEVA, M.I.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 76-77

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OPHTHALMOLOGY, MEDICAL EXAMINATION, VISUAL DISORDER, MILITARY
MEDICINE, MILITARY MEDICAL FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0678

STEP NO--UR/0177/70/000/003/0076/0077

CIRC ACCESSION NO--AP0134425

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134425

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT THE PRESENT TIME OPHTHALMOLOGISTS HAVE AT THEIR DISPOSAL A NUMBER OF METHODS OF OBJECTIVE INVESTIGATION OF ASTIGMATISM, SKIASCOPY, REFRACTOMETRY, AND OPHTHALMOMETRY. OUR PROBLEM WAS TO SELECT FROM THEM THE MOST PRECISE, SIMPLEST AND MOST CONVENIENT FOR THE DETERMINATION OF ASTIGMATISM IN MILITARY MEDICAL EXPERTISE. THE WORK WAS DONE MAINLY AT THE BASE OF THE GARRISON POLYCLINIC OF LENINGRAD AND ALSO THE CENTRAL POLYCLINIC AND EYE CLINIC OF THE MILITARY MEDICAL ACADEMY IMENI S. M. KIROV. IN ALL, 219 EYES WITH ASTIGMATISM (IN 115 PERSONS) WERE INVESTIGATED. THOSE EXAMINED WERE FROM 8 TO 67 YEARS OLD, MOST OF THEM MEN 20-25 YEARS OLD. MYOPIC ASTIGMATISM WAS FOUND IN 98 EYES, HYPERMETROPIC IN 85, AND MIXED IN 36. SLIGHT ASTIGMATISM (TO 0.75D) WAS FOUND IN 75 EYES, MODERATE (1.0-2.0D) IN 78, AND HIGH (2.5D OR MORE) IN 66.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SOLUBILITY IN UREA, COBALT NITRATE, COBALT SULFATE, WATER SYSTEMS AT
40 DEGREES -U-
AUTHOR--(02)-KONDRATYEVA, N.G., BESKOV, S.D.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1090-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--COBALT COMPOUND, NITRATE, SOLUBILITY, SULFATE, UREA
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1112 STEP NO--UR/0078/70/015/004/1090/1093
CIRC ACCESSION NO--AP0123014
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0123014
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOLY. ISOTHERMS (40DEGREES) OF
COX,UREA,H SUB2 O SYSTEMS WHERE X IS NITRATE OR SULFATE AND OF CO(NO
SUB3) SUB2,CO(SO SUB4),UREA,H SUB2 O WERE DETD. AND THEIR DIAGRAMS ARE
GIVEN. THE TERNARY SYSTEM OF CO(NO SUB3) SUB2 FORMS 2 NEW COMPOS. CO(NO
SUB3) SUB2 .6 UREA AND CO(NO SUB3) SUB2 .10 UREA. CONGRUENTLY SOL. COSO
SUB4 .2 UREA .4H SUB2 O FORMS IN THE TERNARY SYSTEM OF COSO SUB4. THE
QUATERNARY SYSTEM FORMS CO(NO SUB3) SUB2 .4COSO SUB4 .20 UREA,2H SUB2 O.

UNCLASSIFIED

Acc. Nr: AP0040312

Ref. Code: UR0481

K *3*

PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya, 1970, Nr 1, pp 3-10

ON THE STATE AND PERSPECTIVES IN DEVELOPMENT OF CRYOSURGERY

Sirotkina, M. G.; Gol'dina, B. G.; Gutkin, V. S.;
Komarov, R. A. → Kondrat'eva, N. I.; Mikhaloyts, S. N.;
Rudnya, P. G.

The trends of development and practical evaluation of cryosurgical methods of treatment in the last two decades are presented. Their use being of pure empiric nature it has been decided to use canine palate tonsils as a suitable model for scientific optimization of demands applied to cryosurgical apparatuses and rationalization of their application. The dynamics of general and local changes after tonsillectomy in the fluid nitrogen (-196°C) as a cold source have been studied by clinical, haemathological and pathomorphological investigations. By lowering the temperature in the tissue under tonsil to -7°C a subsequent expressed destructive effect can be anticipated. Complete disappearance of the tonsil tissue was observed in 51.8 per cent of cases, partial destruction—in 35.1 per cent. The authors believe that along with an intensive biological search for complex evaluation of the method a simple cryogen technique for a number of surgical fields to be equipped with must be developed.

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REEL/FRAME
19741743

02.kc

Organometallic Compounds

USSR

UDC 539.193:547.242

KONDRAT'YEVA, O. I., TROITSKAYA, A. D., CHADAYEVA, N. A., CHUYKOVA, A. I.,
USACHEVA, G. M., and IVANTSOV, A. Ye., Kazan' Chemical Technological
Institute Imeni S. M. Kirov and Kazan' Institute of Organic and Physical
Chemistry Imeni A. Ye. Arbutov, Academy of Sciences USSR

"Investigation of the Complex Compounds of Chromium (I) With Organic
Derivatives of Arsenic by the EPR Method"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 9, Sep 73, pp 2087-2088

Abstract: Eight new complex compounds of chromium (I) with organic derivatives
of arsenic (III) were obtained in acetone solution. The reaction occurred
instantaneously at room temperature with a slight excess of the arsenic com-
ponent. It was found that changes even in remote areas surrounding arsenic
had a definite effect on the characteristics of the chromium(I)-arsenic(III)
bond, which could be due to a possible decrease of the participation of S
electrons in formation of s_p^u -hybrid orbitals.

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USSR

UDC 542.91 + 661.718.1

PUDOVIK, A. N., KHAYRULLIN, V. K., and KONDRAT'YEVA, R. M., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Synthesis of 5-Methyl-2-ethyl-4-chloro-2-keto-1,2-oxa-4-phospholene"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 70, pp 2548-2553

Abstract: The article reports the counter synthesis of 5-methyl-2-ethyl-4-chloro-2-keto-1,2-oxa-4-phospholene (III). Chlorination of 5-methyl-2-ethyl-2-keto-1,2-oxa-4-phospholene (I) gives 5-methyl-2-ethyl-4,5-dichloro-2-keto-1,2-oxaphospholane (II), which is readily dehydrochlorinated with triethylamine in benzene to give III. Subsequent conversion of III gives the ethyl ester of ethyl-(β -chloro- γ -keto-butyl)phosphinic acid (IV) and 5-methyl-2-ethyl-4,4,5-trichloro-2-keto-1,2-oxaphospholane (V). V is readily dehydrochlorinated on treatment with 2 M triethylamine in benzene to give triethylamine hydro-

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PUDOVIK, A. N., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, Nov 70, pp 2548-2553

chloride and 2-ethyl-5-methylene-4-chloro-2-keto-1,2-oxa-3-phospholene (VI).

The reaction of ethyl- or phenyldichlorophosphine with methyl isopropenyl ketone in the presence of acetic anhydride gives 4,5-dimethyl-2-ethyl-(VII) and 4,5-dimethyl-2-phenyl-2-keto-1,2-oxa-4-phospholenes (VIII). VII and VIII are readily chlorinated at room temperature to give oxaphospholanes, which react with 2 M triethylamine in an inert solvent to give 4-methyl-2-ethyl-(IX) and 4-methyl-2-phenyl-5-methylene-2-keto-1,2-oxa-3-phospholene (X). IX and X readily react with water or alcohols to give phosphorylated α, β -unsaturated ketones.

The IR spectra for the various products are described.

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1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ATP CONTENT IN THE CELLS OF THE POLYPLOID STRAIN OF CANDIDA SCOTTII
-U-
AUTHOR--(03)-IMSHENETSKIY, A.A., KONDRATYEVA, T.F., SOTNIKOV, G.G.
COUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 30-34
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ADENOSINE TRIPHOSPHATE, YEAST, CELL CULTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0444 STEP NO--UR/0220/70/039/001/0030/0034
CIRC ACCESSION NO--AP0117680
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117680

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CELLS OF THE EXPERIMENTALLY OBTAINED POLYPLOID YEAST CANDIDA SCOTTII (12, 18 AND 24 HOURS' OLD) CONTAIN MORE ATP PER BIOMASS UNIT THAN THE CELLS OF THE PARENT CULTURE OF THE SAME AGE. THE POLYPLOID CELLS OF THE OLDER CULTURES CONTAIN LESS ATP THAN THE PARENT STRAIN. THE POLYPLOID STRAIN R OF C. SCOTTII SEEMS TO ACCUMULATE AND UTILIZE ENERGY IN THE FORM OF ATP MORE INTENSIVELY THAN THE PARENT CULTURE.

UNCLASSIFIED

1/3 037 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--DETERMINING ABSORPTION OF EXPLOSIVE WAVES IN GROUND FROM RECORDS OF
STRESSES AND STRAINS -U-
AUTHOR--(03)-IVANOVA, L.A., KONDRATYEVA, T.G., SCHERBO, M.N.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO 2, 1970, PP
21-29
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--STRESS ANALYSIS, STRAIN, LONGITUDINAL WAVE, SEISMIC WAVE, WAVE
AMPLITUDE, EARTH CRUST DEFORMATION, DEFORMATION RATE, WAVE PROPAGATION,
EXPLOSION, ELASTICITY, ABSORPTION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1991/0727

STEP NO--UR/0387/70/000/002/0021/0029

CIRC ACCESSION NO--AP0110455

UNCLASSIFIED

2/3 . 037

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0110455

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS HAVE DEVELOPED APPARATUS AND A METHOD FOR THE DIRECT REGISTRY OF THE NORMAL COMPONENTS OF STRESSES σ_{SUBXX} (T) AND STRAINS ϵ_{SUBXX} (T) IN REAL MEDIA; IT IS POSSIBLE TO DETERMINE THE ENERGY LOSS IN THE MEDIUM IN THE PROPAGATION OF AN EXPLOSIVE WAVE CAUSED BY IMPERFECT MEDIUM ELASTICITY. THE ENERGY LOSSES DUE TO IMPERFECT ELASTICITY WERE DETERMINED IN THE UPPER PART OF THE GROUND FROM THE HYSTERESIS LOOP FORMED BY THE DEPENDENCE OF STRESS ON STRAIN, REGISTERED AT ONE POINT OF THE GROUND. THE RESULTS OF DETERMINATION OF THE RELATIVE LOSSES AND THEIR COMPARISON WITH RESIDUAL GROUND DEFORMATIONS FOR DIFFERENT ϵ_{SUBXX} MADE POSSIBLE A CLEAR DISCRIMINATION OF A REGION OF LARGE DEFORMATIONS (ϵ_{SUBXX} GREATER THAN $10 \text{ PRIME NEGATIVE}^3$) OF THE GROUND AND A REGION OF SMALL DEFORMATIONS (ϵ_{SUBXX} SMALLER THAN $10 \text{ PRIME NEGATIVE}^3$). IN THE REGION OF LARGE DEFORMATIONS THE RELATIVE ENERGY LOSS $\Delta W/W$ IS DEPENDENT ON THE AMPLITUDE OF THE DEFORMATIONS; THE RATIO $\Delta W/W$ INCREASES WITH AN INCREASE IN ϵ_{SUBXX} AND WHEN ϵ_{SUBXX} APPROXIMATELY EQUAL TO $10 \text{ PRIME NEGATIVE}^2$ THE LOSSES EXCEED BY SEVERAL TIMES THE ENERGY OF ELASTIC DEFORMATION. IN THIS SAME REGION THERE ARE RESIDUAL DEFORMATIONS OF THE GROUND WHOSE MAGNITUDE ALSO INCREASES WITH AN INCREASE IN ϵ_{SUBXX} . THIS INDICATES A RELATIONSHIP BETWEEN THE MECHANISM OF ENERGY LOSSES IN THE REGION OF LARGE DEFORMATIONS AND THE RESIDUAL DEFORMATIONS OF THE MEDIUM.

UNCLASSIFIED

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PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0110455

ABSTRACT/EXTRACT--FOR DEFORMATIONS ϵ SUBXX SMALLER THAN 10 PRIME NEGATIVE3 THE GRAPH OF THE DEPENDENCE OF RELATIVE LOSSES ON ϵ SUBXX IS REPRESENTED BY A HORIZONTAL ASYMPTOTE AND THE RATIO $\Delta W/W$ ASSUMES A CONSTANT VALUE NOT DEPENDENT ON ϵ SUBXX. RESIDUAL DEFORMATIONS ARE ABSENT, EVIDENCE OF A DIFFERENCE IN THE ABSORPTION MECHANISM DURING SMALL DEFORMATIONS, OBVIOUSLY NOT ASSOCIATED WITH RESIDUAL DEFORMATIONS, ON THE ABSORPTION MECHANISM FOR SMALL DEFORMATIONS. THUS, THE REGION OF VALUES ϵ SUBXX APPROXIMATELY EQUAL TO 10 PRIME NEGATIVE3 IS THE BOUNDARY BETWEEN THE INELASTIC ZONE WHERE THE RELATIONSHIP BETWEEN σ SUBXX AND ϵ SUBXX IS NONLINEAR AND THE LINEARLY INELASTIC REGION WHERE A LINEAR DEPENDENCE EXISTS BETWEEN STRESSES AND STRAINS IN THE PRESENCE OF DEVIATIONS FROM IDEAL ELASTICITY. THE VALUE OF THE ABSORPTION COEFFICIENT IN GROUND, DETERMINED BY THE DIRECT METHOD IN THE LINEARLY INELASTIC ZONE, COINCIDES WITH THE ATTENUATION VALUES OF THE LONGITUDINAL SEISMIC WAVE IN SIMILAR ROCKS DETERMINED BY THE METHOD OF COMPARING WAVE AMPLITUDE AT DIFFERENT DISTANCES FROM A SOURCE. THIS AGREEMENT MAKES IT POSSIBLE TO ASSUME THAT IN SOFT GROUND WAVE ATTENUATION IS DETERMINED FOR THE MOST PART BY IMPERFECT MEDIUM ELASTICITY. FACILITY: INSTITUTE OF PHYSICS OF THE EARTH.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ULTRAVIOLET FLUORESCENCE OF BIOLOGICAL OBJECTS EXPOSED TO IONIZING
RADIATION EFFECTS -U-
AUTHOR--(051)-ALEKSANDROV, S.N., BRUMBERG, I.YE., VOROBTSOVA, I.YE.,
KONDRATYEVA, T.M., SAFRONOVA, V.G.
COUNTRY OF INFO--USSR
SOURCE--KOSMICHESKAIA BIOLOGIIA I MEDITSINA, VOL. 4, JAN.-FEB. 1970, P.
66-72
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CANCER, RADIATION BIOLOGIC EFFECT, CELL PHYSIOLOGY, UV
IRRADIATION, FLUORESCENCE, TISSUE TRANSPLANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1967

STEP NO--UR/0453/70/004/000/0066/0072

CIRC ACCESSION NO--AP0120619

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120619

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL STUDY OF THE HEREDITARY UV LUMINESCENCE OF CANCEROUS CELLS OF MICE AND LYMPHOSARCOMATOUS CELLS OF RATS TRANSPLANTED TO NONIRRADIATED ANIMALS AFTER EXPOSURE TO A 500 R DOSE OF IONIZING RADIATION. IT IS FOUND THAT THE DAUGHTER CELLS PRODUCED BY SUCH TRANSPLANTED CELLS RETAINED THE FLUORESCENT PROPERTIES OF THEIR PARENT CELLS AND PASSED ON THESE PROPERTIES TO THEIR OFFSPRING DURING THE MULTIPLICATION IN NONIRRADIATED ORGANISMS. THE HEREDITARY TRANSMISSION OF RADIATION INDUCED CHANGES IN THE MYELOCYTES, METAMYELOCYTES AND SEGMENTAL NUCLEUS NEUTROPHILS OF IRRADIATED RATS IS ALSO DEMONSTRATED. THE VARIOUS TYPES OF RADIATION DAMAGE LEADING TO THE INTENSIFICATION OF UV FLUORESCENCE IN IRRADIATED CELLS ARE DISCUSSED.

UNCLASSIFIED

KONDRAT'YEVA, T.S.

SPS 59205
6-73

III-2. THE CHARACTERISTIC FEATURES OF GROWTH OF AUTOEPITAXIAL SILICON LAYERS
IN A DEVICE WITH A HORIZONTALLY ADVANCED REACTOR

(Article by Ye. I. Borzov, V. P. Gylshenok, V. M. Kazenov, T. S. Kondrat'eva, N. A. Nelyov, Leningradskiy Neftnykh Instytut, III Simpozium po Probleme Silitsa Poluprovodnikov Kristallov I Plenok, Russkian, 11-17 June 1972, p. 155)

A study was made of the effect of the growth conditions on the electric physical parameters (the thickness and specific resistance) of autoepitaxial layers of silicon. In order to measure the thickness and specific resistance, the infrared method and the method of spreading resistance were used. It was demonstrated that the autoepitaxial layers grown in the device with a horizontally arranged reaction chamber have specific characteristics of distribution of the thickness and specific resistance. Recommendations are made with respect to the application of the technological procedures and measurements for growing epitaxial layers which are uniform with respect to thickness and specific resistance.

KONDRAT'YEVA, T.S.

5-192 5
59008
6-73

XIV-13. STUDY OF THE CHARACTERISTIC FEATURES OF CRYSTALLIZATION OF MICRODROPS OF THE MELT ON THE SURFACE OF AMORPHOUS SILICON LAYERS

Article by R. B. FRIKH, R. A. PETER, I. S. KONDRAT'YEVA, V. A. SHALOMENKO, Leningrad, No. 10, p. 117, 1972, 111. Symposium on Progresses in the Field of Microdroplets, Moscow, 1971, p. 117, June 1972, p. 205.

Data are presented from a statistical analysis of the frequency of encountering growth defects caused by crystallization of microdrops of the melt on the surface of amorphous silicon layers obtained by the method of reducing the silicon tetrachloride by hydrogen. The growth conditions of the amorphous silicon layers promoting the formation of microdrops of the melt were simulated. Silicon plates allowed with iron and gold containing contamination by metal, graphite, dust, and traces of washing solutions on the surface were used as substrates in the experiments. It was demonstrated that the formation of microdrops of the melt is favored by the presence of such admixtures as iron, gold, hydrogen, oxygen, antimony and others, the sources of which can be the crystal itself (above all, the contamination of the given surface) and the crystallization medium. The movement of the microdrops of the melt with respect to the morphological characteristics of the defects formed corresponds to the directions of predominant growth - 112° and 100° of the angles 110°. It was noted that the crystallization of the melt can be accompanied by the rather effect of the adhesion from the surrounding regions of the crystal and can serve as a cause of the formation of growth defects of the following type: plate-like elevations, faceted whiskers, tongues, growth hills of pyramidal appearance, and complex twins -- tripods, according to the morphological characteristics of the relief connected with the presence of the liquid phase on the growth surface of the crystal and on its back side -- the sandwich layer -- pursuant judgment of the conditions of the growth process of the surface microdrops of the melt are discussed, and the different technological methods of lowering the probability of their occurrence are proposed.

KONDRAT'YEVA, T.S.

59305
6.13

SESSION XV

XV-1. HARDNESS OF AUTOEPITAXIAL SILICON LAYERS

(Article by T. S. Kondrat'yeva, H. A. Bolov, A. N. Zil'bin, L. K. Hailiyev, T. N. Guseva, Leningrad, Sovetskoye Radio, III. Sbornik po Pochtennoy Bozhe I. Sin-
[33] Fizicheskoye Kristallo I. Pioner, Kazan, 12-17 June 1972, p 2121

This paper is devoted to the study of the hardness of silicon crystals used as substrates and autoepitaxial layers grown by the method of reducing silicon tetrafluoride by hydrogen.

Experimental data are presented on the hardness of crystals as a function of the mechanical, chemical and electrochemical processing and with respect to the effect of different types of treatment on the mechanical properties of the autoepitaxial layer. It is demonstrated that the anisotropy of the hardness of the crystals and the autoepitaxial layers of silicon has an analogous nature -- the magnitude of the hardness (H) decreases on going from the (111) facets to the (110) ones. The magnitude of H is defined as a function of the concentration of the alloying mixture in the layers. The data obtained were checked by calculating the Kolmogorov criterion on the Minsk-22 computer by the M. M. Dlin procedure. The statistical analysis indicates a decrease in hardness with an increase in the phosphorus concentration in the layers.

The variation in hardness with respect to depth of the layers was observed which is caused by the effect of the substrate properties: the type and concentration of the alloying admixture, the type of surface machining.

In this paper it is demonstrated that the magnitude of the hardness is a parameter which permits estimation of the perfection of the autoepitaxial layers reflecting the interrelation of the mechanical and structural properties with the crystallization conditions.

USSR

UDC 621.315.592.546.28

BELOV, N. A., ERLIKH, R. N., KAZANOV, V. M., and ~~KONDRAT'YEVA, T. S.~~

"Properties of Autoepitaxial Silicon Layers"

Elektron. prom-st'. Nauchno-tekhn sb (Electronic Industry--scientific and technical collection of works), 1970, No 1, 99-100 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11G388)

Translation: The layers were grown by the method of hydrogen reduction of SiCl_4 in a unit with vertically and horizontally distributed radiation chambers. Under the conditions of decreasing temperature in the process of growing (down to $\sim 1170^\circ$), autoepitaxial layers were obtained with good reproducibility of results and a mirror-smooth surface (density of growth figures and packing defects $\leq 10 \text{ cm}^{-2}$), and the width of the concentration transition sublayer-autoepitaxial layer was reduced to 2-3 μ . During growth under constant low temperature conditions, the production of layers with perfect structure was hindered owing to the necessity of rigid stability of the parameters of the process.
(From RZh A 1 R)

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- 36 -

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ENHANCED ANTIMICROBIAL STABILITY OF OINTMENT BASES -U-
AUTHOR--(02)-IVANOVA, L.A., KONDRATYEVA, T.S.
COUNTRY OF INFO--USSR
SOURCE--FARMATSIYA (MOSCOW) 1970, 10(1), 23-6
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERICIDE, CHEMICAL STABILITY, PHARMACEUTICS, AMMONIUM
CHLORIDE, BENZENE DERIVATIVE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1355 STEP NO--UR/0466/70/010/001/0023/0026
CIRC ACCESSION NO--AP0125003
UNCLASSIFIED

2/2 018
CIRC ACCESSION NO--AP0125003
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE ANTIBACTERIAL ACTIVITY OF VARIOUS PRESERVATIVES WAS INVESTIGATED ON THE FOLLOWING OINTMENT BASES: PARAFFIN, OPHTHALMIC BASE, EMULSION BASE AND HYDROPHILIC BASE. MICROORGANISMS (A 500,000 COUNT) WERE INTRODUCED AND BACTERIOLOGICAL EXAMNS. WERE PERFORMED AFTER 1, 3, 6, 24, AND 168 HR INCUBATION. WHEN THE PRESERVATIVES WERE INEFFECTIVE, ADDNL. EXAMNS. WERE PERFORMED AFTER 14, 30, AND 90 DAYS. THE EFFECTIVENESS OF THE PRESERVATIVES DEPENDS ON THE NATURE OF THE BASE: IN PARAFFIN AND OPHTHALMIC OINTMENTS THEY ARE GENERALLY MORE EFFECTIVE THAN IN OTHER BASES. THE MOST ACTIVE PRESERVATIVES ARE DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE AT 1:10,000 DILN. AND 0.2PERCENT SORBIC ACID. FACILITY: MOSK. MED. INST. IM. SECHENOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ASSIMILATION PRODUCTS OF CO SUB2 AND SOME ORGANIC COMPOUNDS BY
CHLOROPSEUDOMONAS -U-
AUTHOR--(4)--TRUTSENKO, YU.A., SIMISKER, YA.A., KONDRATYEVA, YE.N., DOMAN,
N.G.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA AKADEMII NAUK SSSR, SERIYA BIOLOGICHESKAYA, 1970, NR 3,
PP 415-422
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PSEUDOMONAS, PHOTOSYNTHESIS, CARBON ISOTOPE, CHEMICAL
LABELLING, CARBON DIOXIDE, BICARBONATE, AMINO ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0493

STEP NO--UR/0216/TG/000/003/0415/0422

CIRC ACCESSION NO--AP0126243

UNCLASSIFIED

PROCESSING DATE--20NOV70

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--A0126243
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. DURING SHORT TIME (10-30 SEC.) FIXATION OF C PRIME14 BICARBONATE BY THE GREEN PHOTOSYNTHETIC BACTERIA, CHLOROPSEUDOMONAS UNDER AUTOTROPHIC CONDITIONS AND IN THE PRESENCE OF SULFIDE AS WELL AS FORMATE OR PROPANOL THE FIRST TO BE DETECTED ARE LABELLED SUCINATE, GLUTAMATE ASPARTATE AND THEN FUMARATE, AND SERINE GLYCINE. MOST OF C PRIME14 IS PRESENT IN GLUTAMATE. THE LABEL APPEARS IN PHOSPHATE ESTERS NOT EARLIER THAN UPON 5 MINUTES LONG EXPOSURE OF THE CELLS WITH C PRIME14 BICARBONATE. PROPANOL MAINLY PLAYS THE ROLE OF THE ELECTRON DONOR AND BECOMES OXIDIZED FORMING PROPIONIC ACID. INSIGNIFICANT C PRIME14 INCORPORATION FROM PROPANOL INTO THE CELLS EVIDENTLY OCCURS THROUGH THE FORMATION FROM PROPIONATE OF SUCCINATE AND THEN GLUTAMATE AS THE LABEL APPEARS THE FIRST PLACE IN THESE COMPOUNDS. UTILIZATION BY CHLOROPSEUDOMONAS OF C PRIME14 FORMIATE SHOWS THAT AFTER 10-30 SECONDS THE FIRST TO BECOME LABELLED ARE SERINE GLYCIN AND GLUTAMATE AND THEN ASPARTATE AND OTHER PRODUCTS. C PRIME14 FIXATION BY THE CELLS FROM FORMATE AND C PRIME14 O SUB2 IN PRESENCE FORMATE IS CONSIDERABLE SUPPRESSED BY HYPOFOSFATE (5 TIMES 10 PRIME NEGATIVE3 M), INHIBITOR OF FORMATE DEHYDROGENASE. SULFIDE ADDITION DOES NOT REDUCE THE INHIBITING ACTION OF HYPOFOSFATE ON THE FIXATION BY THE BACTERIA OF C PRIME14 FROM FORMIATE. THESE DATA SUGGEST THAT INCORPORATION IN THE CELLS OF FORMATE CARBON BASICALLY TAKES PLACE AFTER IT BECOMES OXIDIZED TO CARBON DIOXIDE.

FACILITY: M. V. LOMONOSOV STATE UNIVERSITY,
MOSCOW AND A. N. BAUCH INSTITUTE OF BIOCHEMISTRY, ACADEMY OF SCIENCES,
USSR.

UNCLASSIFIED

Acc. Nr:
AP0051119

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
4R0138

KONDRAT'YEVA E.N.

101596r Effect of the vulcanization of latexes on the biological stability of films obtained from them. Spektor, E. M.; Gutman, A. M.; Kondrat'eva, E. N.; Gusev, M. V. (Mosk. Univ. Univ. im. Lomonosova, Moscow, USSR). Kauch. Rezina 1970, 29(1), 15-16 (Russ). S vulcanization of butadiene-styrene SKS-65GP latex (I) produced increased biol. stability and fungicidal properties of I films. Nairit L-7 latex films had higher resistance to molds than I films. Vulcanization of L-7 films also had a favorable effect on their fungus resistance. I and L-7 films inhibited bacterial growth. CKJR

JK

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REEL/FRA
19811162

1/2 007 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--ASSIMILATION OF ACETATE BY RHODOPSEUDOMONAS PALUSTRIS -U-
AUTHOR-(03)-CHERNYADYEV, I.I., KONDRATYEVA, YE.N., ODMAN, N.G.
COUNTRY OF INFO--USSR K
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 24-29
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PSEUDOMONAS, CARBON ISOTOPE, PHOTOSYNTHESIS, ACETATE, BACTERIA
MUTATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1456 STEP NO--UR/0220/70/039/001/0024/0029
CIRC ACCESSION NO--AP0109516
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0109516

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RHODOPSEUDOMONAS PALUSTRIS ASSIMILATES 2-C PRIME14 NEGATIVE ACETATE BOTH UNDER ANAEROBIC AND AEROBIC CONDITIONS ON LIGHT AND UNDER AEROBIC CONDITIONS IN DARKNESS. THE GREEN MUTANT OF RH. PALUSTRIS, UNCAPABLE FOR PHOTOSYNTHESIS, INCORPORATES 2-C PRIME14 NEGATIVE ACETATE UNDER AEROBIC CONDITIONS BOTH ON LIGHT AND IN DARKNESS. THE CHARACTER OF THE PRODUCTS FORMED, C PRIME14 DISTRIBUTION DURING ASSIMILATION OF LABELED ACETATE BY THE PARENT STRAIN OF RH. PALUSTRIS AND ITS MUTANT AS WELL AS ALMOST COMPLETE INHIBITION OF C PRIME14 NEGATIVE ACETATE INCORPORATION IN THE CELLS IN THE PRESENCE OF FLUOROACETATE AND PARTIAL INHIBITION IN THE PRESENCE OF MALONATE SUGGEST FUNCTIONING OF THE REACTIONS OF THE TRICARBOXYLIC ACID CYCLE AND OF THE GLYOXYLATE CYCLE IN THESE BACTERIA BOTH ON LIGHT AND IN DARKNESS.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SPECTROFLUORIMETRY OF PIGMENTS OF THE INITIAL STRAIN AND
PROTOCHLOROPHYLL MUTANTS RHODOPSEUDOMONAS PALUSTRIS -U-
AUTHOR--(04)-KRASNOVSKIY, A.A., FEDENKO, YE.P., LANG, F., KONDRATYEVA,
~~YE. N.~~
COUNTRY OF INFO--USSR *K*
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(1), 218-21 (BIOCHEM)
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHLOROPHYLL, BIOLOGIC PIGMENT, BIOSYNTHESIS, FLUORESCENCE,
BACTERIA MUTATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1096 STEP NO--UR/0020/70/190/001/0218/0221
CIRC ACCESSION NO--AT0119955
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0119955

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHYTIN AND PHYTIN FREE FORMS OF PROTOCHLOROPHYLL PIGMENT WERE FOUND IN THE 5 MUTANTS OF THE TITLE ORGANISM; THESE MUTANTS CARRIED MUCH SMALLER AMTS. OF THE PIGMENTS THAN DID THE PARENT FORM. IN ADDN. ALL MUTANTS ALSO CONTAINED, AS DID THE PARENT FORM, CHLOROPHYLL LIKE PIGMENTS WITH MAXIMA OF FLUORESCENCE IN 658,674 AND 700 M MU REGIONS. THESE ARE POSSIBLY INTERMEDIATES IN BIOSYNTHESIS OF BACTERIOCHLOROPHYLL. FACILITY: INST. BIOKHM. IM. BAKHA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 51:621.391

KOMDRAT'YEVA, Ye. A., SOPRUNENKO, Ye. P.

"On a Homogeneous Medium Which Realizes Symmetric Functions"

V sb. Diskretn. avtomaty i seti svyazi (Discrete Automata and Communications Networks--collection of works), Moscow, "Nauka", 1970, pp 82-85 (from RZh-Kibernetika, No 1, Jan 71, Abstract No 1V372)

Translation: The authors consider the problem of realizing an arbitrary symmetric function on a homogeneous medium. As the authors point out, this realization may be achieved for instance by modeling a known circuit for a symmetric function of n variables by a Neumann-Church automaton. The number of elements (complexity) of this medium is equal to $cn \log_2 n$, the elements used for constructing such a medium being fairly complex in structure. In the article being abstracted here, a medium is proposed which is constructed from much simpler elements, and which realizes an arbitrary symmetric function of n variables. The complexity of such a medium is equal to cn^2 . G. Blokhina.

USSR

UDC: 621.319.849

KONENKOV, Yu. S.

"A Method of Correcting Thin-Film Potentiometers"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 26, 1970, Soviet Patent No 278820, Class 21, filed 29 Dec 67, p 52

Abstract: This Author's Certificate introduces a method of correcting thin-film potentiometers. The procedure is based on profiling by removing part of the resistor. As a distinguishing feature of the patent, correction precision is improved by maintaining a constant current flow through the potentiometer being made.

1/1

USSR

UFG 511771.08

TERESHCHENKO, V. T., YANOVSKIY, V. I., TINKOVA, Ye. V., and KOLLEKALIN, A. M.
Moscow Institute of Steels and Alloys; Donetsk Metallurgical Plant

"Surface Quality of Rolled Products in Out-of-Furnace Deoxidation"

Moscow, Metallurg, No 3, Aug 70, pp 42-44

Abstract: The object of this study was to examine the effect of the method of deoxidation on the quality of rolled products. The experimental work involved the following four groups of steels: I--low and medium-carbon (St.3, St.5, St.45, and St.35); II--low-carbon (St.3sp, St.4sp); III--medium-carbon manganese (45G2); and IV--low-carbon manganese (39G2). Both furnace and out-of-furnace deoxidation methods were used. With respect to surface quality the rolled products were divided into the following groups: 1) billets with a practically clear surface sometimes requiring chisel sampling; 2) billets with surface defects (small cracks, hairline cracks, fissures, etc.) 3) billets for which the external defects did not require chiseling an arbitrary double length of the billets; 4) billets with large surface defects requiring chisel sampling. Analysis of the test data suggests that the quality of the surface of the rolled product is basically determined by conditions of teeming and rolling.

USSR

TERESHCHENKO, V. K., et al, Metallurg, No 8, Aug 76, pp 43-44.

and depends little on the method of decarburization. Since the method of decarburization affects the fluidity of the metal, the tendency to form films and crust on the meniscus, and the viscosity and composition of the floating scum, it can be responsible for the appearance of sand particles in the surface layer of the plates.

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1/2 015 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--BREMSSTRAHLUNG SPECTRUM IN DIRECT NUCLEAR REACTIONS -U-
AUTHOR--KONDRATYUK, L.A.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(1), 151-67
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--BREMSSTRAHLUNG, GAMMA SPECTRUM, NUCLEAR REACTION, RADIOACTIVE
DECAY

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1976/0428 STEP NO--UR/0367/T0/001/001/0151/0167
CIRC ACCESSION NO--AP0042464
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0042464

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF USING THE BREMSSTRAHLUNG SPECTRUM IN DIRECT NUCLEAR REACTIONS FOR THE IDENTIFICATION OF THE REACTION MECHANISM IS INVESTIGATED. THE AMPLITUDES OF RADIOACTIVE DECAY ARE CALCD. FOR PARTICLES WITH ARBITRARY SPINS IN NONRELATIVISTIC CASES, IN THE SOFT QUANTA APPROXN., BY TAKING INTO ACCOUNT THE CHARGE RADIATION OF THE PARTICLES AND THE CONTACT RADIATION FROM THE VERTEXES. THE GAMMA QUANTA BREMSSTRAHLUNG SPECTRUM FOR THE POLE AND TRIANGLE GRAPHS IS ALSO CALCD. IN BOTH CASES, THE SPECTRA HAVE MARKED QUAL. DISTINCTIONS. A CRITERION OF THE APPLICABILITY OF THE METHOD IS GIVEN. THE BREMSSTRAHLUNG SPECTRUM CAN SERVE AS AN IMPORTANT INFORMATION SOURCE ON THE REACTION MECHANISM IN DIRECT NUCLEAR REACTIONS. IN THE REGION OF LIGHT NUCLEI, THE APPROXN. OF THE SOFT GAMMA QUANTA FOR THE RADIATION AMPLITUDES, IN WHICH THE CHARGE RADIATION OF THE PARTICLES IS CALCD., AND THE CONTACT RADIATION AT THE VERTEXES, IS CONSIDERED A GOOD APPROXN. FACILITY: INST. TEOR. EKSP. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--T, ODD CORRELATION IN SIGMA PRIMEO YIELDS AE PRIME POSITIVE E PRIME
NEGATIVE DECAY DUE TO FINAL STATE INTERACTION -U-
AUTHOR--(02)-KONDRATYUK, L.A., KOPELIDVICH, V.B.
COUNTRY OF INFO--USSR
SOURCE--YADERN. FIZ.: 11: 1080-6, MAY 1970
DATE PUBLISHED----MAY70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--RADIOACTIVE DECAY, HYPERON, PARTICLE INTERACTION, NUCLEAR
MAGNETIC MOMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605020/D10 STEP NO--UR/0367/70/011/000/1080/1086
CIRC ACCESSION NO--AP0141024
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0141024

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE T ODD CORRELATION IS CALCULATED IN SIGMA PRIME0 YIELDS AE PRIME POSITIVE E PRIME NEGATIVE DECAY BETWEEN THE POLARIZATION VECTOR OF LAMBDA (SIGMA) HYPERON AND THE NORMAL TO THE DECAY PLANE, WHICH IS DUE TO THE FINAL STATE INTERACTION. THE HYPERON POLARIZATION DUE TO THIS CORRELATION IS SIMILAR TO 10 NEGATIVE PRIME4 WHILE THE EXPERIMENTAL LIMIT FOR IT IS SIMILAR TO 10 NEGATIVE PRIME2. MEASUREMENT OF THE CORRELATION IN VIEW MAY BE IN PRINCIPLE USED FOR A DETERMINATION OF THE MAGNETIC MOMENT OF THE SIGMA PRIME0 HYPERON. FACILITY: INST. OF THEORETICAL AND EXPERIMENTAL PHYSICS, MOSCOW.

UNCLASSIFIED

USSR

UDC 632.4:582.285.2:581.17

LESOVOY, M. P., SHELEKHOVA, L. N., and KONDRATYUK, G. K., Ukrainian Scientific Research Institute for Plant Protection, Kiev

"Chemical Composition of Germinating Uredospores of Puccinia triticina Races Differing in Virulence"

Leningrad, Mikologiya i Fitopatologiya, Vol 7, No 5, 1973, pp 437-440

Abstract: The chemical composition of the germinating uredospores of two races of Puccinia triticina (race 77 -- aggressive, and race 52 -- less aggressive) were determined at 22° to 24° on a susceptible wheat strain Erythrosperrum-15. Analysis of the results showed that total nitrogen content and free amino acid concentration was significantly greater in race 52 uredospores. Peroxidase activity was detected only in resting spores. In race 77 peroxidase activity was three-fold less than in the less virulent race 52. The relationship with respect to catalase was reversed. RNA and DNA phosphorus content in race 77 was much greater than in race 52. On germination the content of each of the above mentioned chemical entities decreases; the decrease in protein nitrogen and free amino acids was less pronounced in race 77 than in race 52.

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USSR

UDC 517.1:615.7/9

MARCHUK, R. YA., LIPIKAN, G. N., ZAIKA, A. P., KONDRATYUK, V. I. and IVANOVA, ZH. M.

"Detoxification and Anticholinesterase Action of Two Representatives of Acid Fluorides of Alkyl Esters of Alkylthiophosphonic Acid"

Fiziol. aktivn. veshchestva, Resp. mezhved. sb. (Physiologically Active Substances, Republic Interdepartmental Collection), 1971, vyp 3, pp 75-79 (from RZh-Biologicheskaya Khimiya, No 17, Sep 71, Abstract No 17F2100)

Translation: In experiments on rabbits it is shown that there is no direct relationship between toxicity, anticholinesterase activity and detoxification in the tissues for isopropyl and ethyl ethers of methylfluorothio-phosphonic acid.

1/1

USSR

UDC:532.595.2+662.215.2

KONDRIKOV, B. N., CHUBAROV, V. D., Moscow

"Development of Explosion Upon Impact"

Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 318-326

Abstract: The behavior of a number of solid explosives was studied under both impact loading and slow compression. The results of the experimental work performed indicated that the explosion of an explosive tablet upon impact is closely related to its rupture: explosions occurred in the same area of values of ΔA as did rupture, were quite similar in the nature of the accompanying phenomena, requiring only somewhat greater expenditure of energy. It is logical to assume that explosion occurs during rupture of solid tablets when the intensity of rupture, i. e. rate of movement of the material, and energy absorbed in the process are sufficiently great. Calculations establish the existence of a critical value of energy absorbed from the impact, above which explosion occurs with very high probability.

1/1

1/2 046 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SEVERAL WAYS OF REDUCING THE FLAMMABILITY OF AMMONIUM NITRATE
EXPLOSIVES -U-

AUTHOR--(04)--KONDRIKOV, B.N., ANNIKOV, V.E., KOZAK, G.D., LUSHKIN, V.P.

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DATE PUBLISHED-----70

SUBJECT AREAS--ORDNANCE, PROPULSION AND FUELS, CHEMISTRY

TOPIC TAGS--AMMONIUM NITRATE, EXPLOSIVE, COAL, LITHIUM, SODIUM COMPOUND,
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FLUORIDE, ALUMINUM FLUORIDE, NITROGLYCERIN, FLAMMABILITY

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CIRC ACCESSION NO--AR0129319

UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AR0129319

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT IN THE PRESENCE OF COAL PARTICLES, METHODS OF REDUCING FLAMMABILITY BY MEANS OF LI AND NA FLUORIDES, CYANURIC ACID, AND MELAMINE AS ADDITIVES IN EXPLOSIVES PROVE TO BE LESS EFFECTIVE; ONLY OXALATES AND DIAMMONIUM PHOSPHATES WITHSTAND THE CATALYTIC EFFECT OF COAL. A MIXTURE OF LIF AND CAF SUB2 OR LIF AND NA SUB3 ALF SUB6 IS THE BEST SAFETY EXPLOSIVE ADDITIVE. THE FLAMMABILITY OF EXPLOSIVES RISES WITH GREATER ADDITIVE PARTICLE SIZE. IT IS ALSO POSSIBLE TO CONSIDERABLY REDUCE THE FLAMMABILITY OF EXPLOSIVES CONTAINING HEXOGEN AND NITROGLYCERIN BY THE ADDITION OF DIAMMONIUM PHOSPHATE AND LIF.

UNCLASSIFIED

KONDRIKOV, B. N.

TECHNICAL TRANSLATION

FSTC-WF-23-319-72

ENGLISH TITLE: Low Velocity Detonation of Cast Explosive Charges

FOREIGN TITLE: O Detonatsii s Maloy Skorost'yu Litzykh Zaryadov W

AUTHOR: N. V. Badaysev, B. N. Kondrikov, V. F. Tyshkevich

SOURCE: Vryvnoe Delo, 1970, No. 68-25, p 215-221

Translated for FSTC by: Albert L. Pebody
EGG KAMMER ASSOCIATES, INC.

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This translation was microfiched from a xerox manuscript. The graphics were not reproducible. An attempt to obtain the original graphics yielded negative results. Thus, this document was published as is, in order to make it available on a timely basis.

KONDRIKOV, B.N.

RAN / 1 R. 160 / 5-11-11-13
Dec 1972

(6)

1. SHOCK WAVES AND EMISSIONS IN CASES

Buyev, V. K., B. N. Kondrikov, V. P. Korobeynikov, V. V. Mitrofanov, R. I. Solonkhin, and M. Ye. Topchiyan.
Research on explosion gas dynamics and reacting systems. FCIV, no. 2, 1971, 311-317.

The Third International Colloquium on explosion gas dynamics and reacting systems took place on September 12-17, 1971 in Marseille, France. Basic topics of theoretical and experimental research reported on were in the field of unsteady dynamic gas flow, accompanied by physicochemical transformations of the medium; gas-dynamic aspects of detonation; and problems of the physics and chemistry of rocket-fuel combustion and working processes in engines. The colloquium also dealt with the gas dynamics of explosions in space. The conference was divided into seven sections: a) space phenomena, b) vortex flow, c) explosion gas dynamics, d) detonation, e) shock waves, f) gas-liquid systems, and g) reacting systems. V. P. Korobeynikov gave a gas-dynamic description of the motion and explosion of meteorites on the basis of the supposed explosion pattern of the Tunguska meteorite.

A session on twisted flows included a joint report by four U.S. delegates and V. P. Korobeynikov on the influence of heat conduction and viscosity on wave propagation from a powerful explosion. A. A. Vasil'yev, T. P. Gavrilenko, and M. Ye. Topchiyan described planned experimental research on the position of the Chapman-Jouguet plane in a multi-front detonation wave in gas. V. P. Korobeynikov, G. G. Chernyy, et al. presented a theoretical analysis and an example of a numerical

USSR

UDC 662.236+536.46

KONDRIKOV, B. N., and SVIRIDOV, Ye. M., Moscow"Burning of Aromatic Nitrocompounds"Novosibirsk, Fizika Goreniya i Vzryva, Vol 7, No 2, Jun 71,
pp 204-211

Abstract : The burning of aromatic nitrocompounds was experimentally investigated in a bomb of constant pressure in argon atmosphere. The investigation included: hexanitro-derivatives of diphenyl, diphenylamine, and diphenylsulfide; trinitro-derivatives of benzene, aniline, chlorobenzoyl, benzoic acid, m-xylol, and resorcinol; dinitro-derivatives of benzene, toluene, resorcinol, diphenyl, and naphthalene; and also paramononitrotoluene. For all mentioned compounds, including the last, a steady-state burning was produced and the burning rate dependence on pressure was established. The investigation results are discussed by reference to photograms of burning and diagrams of burning rate depending on pressure. Most of investigated compounds show two characteristic types of burning: a uniform burning at high pressures, where the burning rate dependence on pressure is characterized by $u = b \times p^{\nu}$, by $\nu =$ constant and near to 1, and a less uniform burning at lower pressures and with a complexly varying burning rate. Probable reasons for the different burning characters are discussed. Four illustr., one table, six bibli. refs.

USSR

UDC 629.12:532

FOMENKO, YU. I., KONDRIKOV, L. V.

"Stabilizing Effect of a Steering Nozzle on the Pitching and Tossing of a Ship"

Tr. TsNII mor. flota (Works of the All-Union Scientific Research Institute of the Maritime Fleet), 1973, vyp. 165, pp 98-107 (from RZh--Mekhanika, No 6, Jun 73, Abstract No 6B544)

Translation: The coefficients of the rotational derivatives of C_y^α and $C_y^{\bar{\alpha}}$ required to determine the additional terms in the equations for pitching and tossing were defined experimentally in the experimental model basin of the Leningrad Shipbuilding Institute. The device simulated the displacements of the steering nozzle during pitching; oscillographic recordings of the vertical force on the steering nozzle were processed by computer. The values of the coefficients C_y^α and $C_y^{\bar{\alpha}}$ were obtained in the form of graphical relations as functions of the relative loading of the steering nozzle and the Strouhal number with respect to the propeller.

The stabilizing effect of the nozzle is defined in the first approximation on the basis of the equations of pitching and tossing in quiet water. This estimate permits establishment of the maximum effect of the nozzle in the form $1/2$

USSR

FOMENKO, YU. I., et al., Tr. TsNII mor. flota, 1973, vyp. 165, pp 96-107

of the degree of moderation of the role during resonance. By linearizing the equations of pitching and tossing in quiet water in the usual fashion and neglecting (with respect to their smallness) the auxiliary terms from the effect of the nozzle, the authors obtained the expressions for the coefficients of resistance to roll of the stabilized ship. In the example of using the formulas obtained for a motor ship, the 50-Letiye Komsomola, the degree of moderation of pitching was 7%, and tossing, 1.4%.

The amplitude graphs of the rolling were obtained which show that the presence of the nozzle decreases the amplitudes in the resonance range by 3-5%. The results of the calculations by the formulas obtained make it possible to draw the conclusion that the stabilizing effect of the steering nozzle on the pitching and tossing of ships is inversely proportional to their displacement. Noticeable moderation of roll can occur on ships with a displacement less than 5000 tons. The bibliography has 7 entries.

2/2

UDC 621.357.3

USSR

ZIMINA, T. I., and KONDRIKOV, N. B.

"Anode Processes During the Electrolysis of Aqueous Solutions of the Salts of Diphenylacetic Acid"

Nekotoryye problemy kinetiki electrodivostok (English Version Above), Topic Books from the Dal'nevost University, Vladivostok, 1972, pp 54-59 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No BL270, by L. S. Kanevskiy)

Translation: A study was made of the electro-oxidation of aqueous solutions of the potassium salt of diphenylacetic acid in conditions analogous to the electro-oxidation of sodium acetate. It was shown that the series of anions of this acid are produced at potentials more positive than the potential for the formation O_2 . The anode polarization curves in solutions of the potassium salt of diphenylacetic acid are somewhat different than the analogous curves in the acetate solution. The difference lies, apparently, in the presence of weakly conducting films on the anode and in the incomplete suppression of the reaction of discharging water into the substituted salt solutions. The minimum VT [expansion unknown] of the oxygen under these conditions was about 40%.

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USSR

UDC 621.357.3.035.2

PINCHUK, R. I., and KONDRIKOV, N. B.

"The Electrochemical Behavior and Adsorption of Aryl-Substituted Carbonic Acids in Aqueous Solutions on Platinum"

Nekotoryye problemy kinetiki elektrodovostok (English Version Above)
Topic Books from the Dal'nevost University. Vladivostok, 1972, pp 60-67
(from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L271
by L. S. Kanevskiy)

Translation: The electrochemical behavior and adsorption of phenyl substituted acids (phenylacetic, diphenylacetic, triphenylacetic) in aqueous solutions on platinated platinum was studied by methods of line loading and differential capacity. The character of the shift in potential during the introduction of these compounds onto the degassed surface of the platinum was specified, apparently, by the combination of the orientation of adsorption and the change in capacity factors for the acids studied. It was shown that the presence of specificity of the adsorbed compounds was not destroyed during the process of washing but was completely removed during anode polarization, and partly removed for cathode polarization. On the basis that the electrochemical behaviors of the different phenol-substituted acetic acids are similar to each other in their basic properties, the assumption was made
1/2

USSR

PINCHUK, R. I., and KONDRIKOV, N. B., Nekotorye problemy kinetiki elektrodvostok, 1972, pp 60-67

that the orientation of the phenol-substituted acids on the surface of the platinum during adsorption was the same. Most probable orientation is that of the carbonyl group towards the surface. During the study of the behavior of platinum electrodes having acids adsorbed on their surface ($E = 1.2$ volts) in different phenol substituted acids, it was established that the latter have a low reactivity strength relative to adsorbed oxygen.

2/2

- 21 -

UDC 669.872.411(088.8)

USSR

TSIMMERGAKL, V. A., LAVROVA, G. V., and KONDRUK, YE. I., Institute of General and Inorganic Chemistry, Academy of Sciences Ukrainian SSR

"Method for Refining Indium"

USSR Author's Certificate No 263369, filed 6 Jul 67, published 2 Jun 70
(From RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G178 P)

Translation: A method is proposed for refining In which involves fine diffusion of molten metal and separation of metallic In by electrolysis. To improve work conditions prior to fine diffusion, In is subjected to fusion with Bi and with alloys of Bi with Pb and Sn.

1/1

- 70 -

BIOLOGY

Agriculture

UDC 632,937

USSR

KONDRYA, V. S., Candidate of Biological Sciences, All-Union Scientific Research Institute of Biological Methods, Kishinev

"Bacteria Protect Plantings"

Moscow, Zashchita Rasteniy, No 10, 1971, pp 47-48

Abstract: Field and industrial tests of entobacterin and dendrobacillin in Moldavia have shown that these preparations are highly effective against the leaf-gnawing caterpillars of the fall web-worm moth, and they may be used safely in cultivated areas where pesticides are inadvisable. However, at temperatures lower than 15°C, a 1% concentration of these preparations is needed, which is too high to be economically feasible. In such cases it was found that small doses of the insecticide chlorophos (Dipterex) added to the usual concentrations of the biological agents (0.1-0.5%) restored their effectiveness. It was also discovered that a combination of entobacterin and dendrobacillin was more effective than either one used alone.

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USSR

UDC 521.1:629.78

KONDURAP', V. T. and SHINKARIK, T. K.

"Concerning the Points of Libration in a Limited Generalized Three-Body Problem"

Byul. In-Ta Teor. Astron. AN SSSR (Bulletin of the Institute of Theoretical Astronomy, Academy of Sciences, USSR), Vol 13, No 20, 1972, pp 102-110 (from Referativnyy Zhurnal, Issledovaniye Kosmicheskogo Prostranstva, No 5, May 72, Abstract No 5.62.308, from Resume)

Translation: The paper deals with the existence of some solutions of the problem of the progressive-rotational motion of an axisymmetrical sputnik of infinitely small mass in the gravitational field of two spherical or point bodies. It is proven that two-dimensional solutions of the problem, different from the classic solutions, exist; they are satisfied by movements of the bodies when their centers of mass either form an isosceles triangle, or are situated on a straight line passing through the centers of mass of the bodies. In the first case, during the entire time of motion the axis of the sputnik is perpendicular to the plane of the triangle, and at equal masses of the attracting bodies it furthermore lies in this plane and is directed either toward the center of mass of the examined system of bodies or is parallel to the line of their centers. In the second case, the sputnik axis coincides
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USSR

KONDURAR', V. T. and SHINKARIK, T. K., Byul. In-Ta Teor. Astron AN SSSR, Vol 13, No 20, 1972, pp 102-110 (from Referativnyy Zhurnal, Issledovaniye Kosmicheskogo Prostranstva, No 5, May 72, Abstract No 5.62.308, from Resume)

with the line of the centers of the bodies or lies in a plane orthogonal to it. In these movements, rotation about the axis of the body itself is possible if the axis does not lie in the plane of motion of the centers of mass of the bodies. As an example, there was investigated the question of the existence of points of libration in the case of an approximate expression of the force function of a dynamically symmetric sputnik, as well as in the case of its rigorous expression for the case of a sputnik composed of two material points, situated at an invariable distance from one another. It is shown that if the compression of the sputnik is equal to 0, the points of libration in this problem pass into classical ones. 5 references.

2/2

- 83 -

USSR

UDC 539.1

VOROB'YEV, A. A., GRACHEV, V. T., KONDUROV, I. A., NIKITIN, A. M., and SELIVESTROV, D. M., Physicotechnical Institute imeni A. F. Ioffe

"The Formation of Light Nuclei in the Thermal-Neutron Induced Fission Reaction of Uranium Isotopes"

Moscow, Problemy Fiziki Elementarnykh Chastits i Atomnogo Yadra [(Problems of the Physics of Elementary Particles and the Atomic Nucleus)], Atomizdat, Vol 2, No 4, 1972, pp 939-958

Abstract: Consideration is given to the results of an experimental study of light nuclei produced in the process of thermal-neutron induced ternary fission of U^{235} and U^{233} . The experimental installation is described. Instead of using semiconductor-detector $\Delta E - E$ telescopes for identification of the particles, a mass spectrometer was used for simultaneous measurement of the following particle parameters: BP, v , E , $\Delta E/\Delta x$. Data on the yield and energy spectra of hydrogen, helium, lithium, and beryllium isotopes are presented. The yields of all the isotopes were measured with respect to the yield of the alpha-particles. These results are compared with the theoretical data and with data obtained from fission under the action of fast protons. 12 figures, 6 tables, 32 references.

1/1

AA0052414 KONDYAKOVA YE. V. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 2/70

243463 CHARGING OF IGNITERS such as percussion igniters/primers/ for small-gauge sporting and hunting ammunition comprises vibrational treatment and subsequent pressing of the igniter composition filled in the igniter bodies and is modified, for ensuring long-lasting uniform composition and reliable performance, by introduction into the igniter body before the vibrational treatment of a slight amount of a lacquer such as a 1.5-2.0% cellulose nitrate lacquer. The so formed igniter paste is then subjected to vibration for approx. 35 secs. dried and pressed.

21.12.67.
as 1204981/40-23, KOROLEV, P. S. et al. (30.9.69)
Bul. 16/5.5.69. Class 78a, 72d, Int. Cl. C 06c, F 42b.

Korolev, P. S.; Kondyakova, Ye. V.; Novozhilova, L. I.;
Khudayev, P. N.

//
19821045
also //

USSR

UDC: 534.26

KONENKOV, Yu. K., Moscow Aviation Institute imeni S. Ordzhonikidze

"Interaction of Modes When a Bounded Plate Vibrates in a Medium"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 2, Apr-Jun 72, pp 265-269

Abstract: The author considers simultaneous solution of the one-dimensional wave equation of flexural oscillations of a plate supported at the edges in the case of concentrated excitation at the center, and the two-dimensional Helmholtz equation. The boundary conditions for the acoustic field correspond to an absolutely rigid screen on those sections of the boundary where the plate terminates. The problem reduces to a study of certain special functions.

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USSR

K

UDC 539.3:534.1

RAKHMATULIN, I. SH., VASIL'YEV, YU. M., KONENKOV, YU. K.

"Transfer Impedances of Finite Cylindrical Shells Under Random Vibration Perturbation"

Nauchn. raboty in-tov okhrany truda VTsSPS (Scientific Works of the Institutes of Labor Conservation of the All-Union Central Trade-Union Council), 1969, No 59, pp 69-71 (from RZh-Mekhanika, No 5, May 70, Abstract No 5V243)

Translation: The problem of the transfer properties of a bounded closed cylindrical shell with one fastened and one free end on which a kinematic random excitation acts is considered. L. N. Nagornov.

1/1

USSR

UDC 591.174

K
ZHILBINO, T. P. and KUMOV, A. D., Marine Biology Division, Academy of Sciences USSR, Vladivostok

"The Quantitative Relationship Between the Individual Variability of Muscle Tissue Thermostability and the Van't Hoff Coefficient of the Thermostability Curve"

Moscow, Zoologicheskii Zhurnal, No 2, 1970, pp 182-197

Abstract: The thermostability of muscle tissue in 10 different animal species (*Ctenomytilus gajanus*, *Littorina saxatilis*, *L. kurila*, *L. mandchurica*, *Strongylocentrotus intellus*, *L. edulis*, *Phrynocephalus holoseopus*, *Lagurus lagurus*, *Hirudo medicinalis*, and *Rana temporaria*) was determined along with individual variations. Semilogarithmic thermostability graphs were constructed for the following conditions: June-July, water temperature 18-20°, and salinity 30-33‰. Individual variability was calculated from the results of experiments in which the length of time muscle excitability was preserved averaged about 30 min. The value of dispersion of the logarithm of the length of time excitability was preserved σ ($\lg \sigma$) served as a parameter of individual variability of cell
1/3

USSR

ZHIBENKO, T. P., Et al., Moscow, Zoologicheskiy Zhurnal, No 2,
1970, pp 193-197

thermostability. Individual variability was closely correlated
with the Van't Hoff coefficient as follows:

$$D(\lg t') = \frac{a}{\lg Q_{10}} \quad (a=0.013)$$

This relationship was common to all the species under study.

2/2

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USSR

UDC 536.46:533.6

SUKHININ, A. I., KONEV, E. V.

"On the Combustion of Vegetable Materials Under Differing Compositions of the Surrounding Medium"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 153-156 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B963)

Translation: The characteristics of the relationship of flame propagation from pine branches and the introduction of an air medium of helium, hydrogen oxide, nitrogen and oxygen, and also on the air pressure are investigated. The slight dependence of the combustion rate on pressure for a given composition, the presence of the linearity under a change of composition of the mixture and a given pressure, and also the results of thermocouple measurements testify to the validity of the hypothesis that inert gases upon diffusing inside the jet lower its temperature. Accordingly the rate of flame propagation decreases linearly and combustion ceases at a certain concentration of the additive. Authors' abstract.

USSR

UDC 621.317.6(088.8) 2

KOVALENKO, N. V., ROSLYAKOV, N. M., SIZOV, V. P., TARASENKO, O. M., KONEV, L. N.

"Device for Measuring the Phase Characteristics of Antennas"

USSR Author's Certificate No 272401, Filed 12 Dec 68, Published 22 Sep 70 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A314P)

Translation: A device is proposed for measuring the phase characteristics of antennas. It is based on using the modulation of the reflected field and comprises a generator, a receiver, a low frequency reference signal amplifier, two transmitting antennas, the investigated receiving antenna and an auxiliary receiving antenna. In order to improve the measurement accuracy, Π -modulators are included in the wave guide channels of the investigated and auxiliary antennas, and a mixer is connected to the timer outputs.

1/1

USSR

UDC: 621.317.326

K
KOVALENKO, N. V., ROSLYAKOV, N. M., SIZOV, V. P., TARASENKO, O. M., KONEV, L. N.

"A Device for Measuring the Phase Characteristics of Antennas"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratzy, Tovarnyye Znaki, No 19,
1970, Author's Certificate No 272401, filed 12 Dec 68, p 50

Abstract: This author's certificate introduces a device for measuring the phase characteristics of antennas. The device is based on using the modulation of a reflected field, and consists of an oscillator, a receiver, an amplifier for the low frequency of the reference signal, two transmitting antennas, the receiving antenna to be studied, and an auxiliary receiving antenna. As a distinguishing feature of the patent, measurement precision is improved by connecting Π -modulators in the waveguide channels of the antenna to be studied and the auxiliary antenna, and a mixer is connected to the timer outputs.

1/1

USSR

UDC 577.3

RUDEKOV, A. N., and KONEV, S. V., Laboratory of Biophysics and Isotopes,
Academy of Sciences Belorussian SSR, Minsk

"Self-Protection of Cells From Heat Damage"

Moscow, Doklady Akademii Nauk SSSR, Vol 208, No 4, 1973, pp 977-980

Abstract: The effect of the concentration of yeast cells in aqueous suspensions on the resistance of the cells to high temperatures was studied. Experiments were carried out on cultures of *Saccharomyces cerevisiae* and *Candida utilis* in the late logarithmic stage grown on diluted (1:1) beer wort at 29°C. The damage of the cells to heating was determined by staining with Ponceau red - uranyl nitrate and on the basis of the capacity of the cells for propagation. With increasing concentrations of the cells in the heated suspensions, the ratio of cells that were damaged by the heat decreased. The resistance to heat was due to the release by the cells of protective substances that were evolved at any concentration of the suspension. Repeated heating of fresh portions of cells in a low concentration resulted finally in a supernatant liquid that exerted a protective effect equal to that of the supernatant liquid of a concentrated cell suspension heated only once. The protective substances could also be concentrated by evaporation of the supernatant liquid from a dilute

1/2

USSR

RUDEKOK, A. N., and KONEV, S. V., Doklady Akademii Nauk SSSR, Vol 208, No 4, 1973, pp 977-980

suspension. These substances were evolved on heating to 48-50° (a temperature range in which no damage to cells took place even in dilute suspensions) as well as heating at temperatures $\geq 60^\circ$, at which all cells were damaged. Boiling of the supernatant liquid containing the protective substances did not reduce the protective effect - i.e., these substances were thermally stable. Tests with various substances that could be released by yeast cells on heating led to the conclusion that the protective substances were amino acids. The results of tests with amino acids showed that only nonpolar (hydrophobic) amino acids which had no charge in a side chain exerted a protective effect. The effect of aromatic and heterocyclic amino acids was more pronounced than that of aliphatic amino acids. The protective activity decreased in the order L-tryptophan, D-tryptophan, DL-beta-phenyl-alpha-alanine > DL-alpha-norleucine > glycine. (Submitted by Academician A. N. Belozerskiy, 30 May 72)

2/2

- 42 -

USSR

UDC 577.3:541.14:541.144.7:547.96:581.188.5:591.185.6

KONEV, Sergey Vasil'evich, and VOLOTOVSKIY, Igor' Dmitriyevich; Laboratory of Biophysics and Isotopes, Academy of Sciences, Belorussian SSR

Vvedeniye v molekulyarnuyu fotbiologiyu (Introduction to Molecular Photobiology), Minsk, "Nauka i Tekhnika," 1971

Translation: Annotation: The book represents the first attempt in the Soviet and world literature at a systematic examination of the main questions and trends of modern photobiology at the molecular and membrane levels. It examines both physiological (photosynthesis, photoreception, phototaxis, and others) and destructive damaging photobioeffects, leading either to death of the cell or to disturbance or modification of its functions (photomutagenesis, photolethality, etc.). Partial contribution to the bioeffect of singlet and triplet electron-excited states of chromophores, processes of migration between them, primary, intermediate labile, and terminal stable photoproducts, and mechanisms of dark intensification, constitute a wide range of problems discussed in the book. Special attention in this monograph is paid to the role of membranes in photobiology.

The book is intended for biophysicists, biochemists, physiologists, cytologists, geneticists, radiobiologists, and for postgraduates and students of corresponding specialties. 232 pages, 33 figures, 4 tables, 969 references.

1/3

USSR

KONEV, Sergey Vasil'yevich, and VOLOTOVSKIY, Igor' Dmitriyevich, Vvedeniye v molekulyarnuyu fotobiologiyu, Minsk, "Nauka i Tekhnika," 1971

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USSR

KONEV, Sergey Vasil'yevich, and VOLOTOVSKIY, Igor' Dmitriyevich, Vvedeniye v molekulyarnuyu fotobiologiyu, Minsk, "Nauka i Tekhnika," 1971

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3/3

1/2 026 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ON THE DEPENDENCE OF THE PHOTSENSITIVITY OF SOME PROTEINS TO
ULTRAVIOLET LIGHT ON THE MOLECULE CONFORMATION -U-
AUTHOR-(03)-KONEV, S.V., VOLOGOVSKIY, I.D., VOSKRESENSKAYA, L.G.
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSIDERABLE CHANGES ARE OBSERVED OF THE QUANTUM YIELDS OF ARGINASE AND UREASE PHOTOINACTIVATION (Q) DUE TO TEMPERATURE CHANGES IN THE REGION 5-35DEGREES WHICH ARE NOT ACCOMPANIED BY ANY CHANGES OF THE RATE OF THE TRYPTOPHANYL PHOTOLYSIS OR BY CHANGES IN THE NATURE OF PHOTOPRODUCTS. A GOOD CORRELATION BETWEEN THE EXPERIMENTAL CURVES Q EQUAL F(T) AND CURVES OD DEPENDENCE OF THE DEGREE OF FLUORESCENCE POLATIZATION OF TYPTOPHANYLS ON THE TEMPERATURE P SUBFL EQUALS F(T) TESTIFIES THAT THE EARLIER FOUND COOPERATIVE CONFORMATIONAL TRANSITION BETWEEN A AND B FORMS OF THE NATIVE PROTEINS IS RESPONSIBLE FOR THE CHANGES IN PHOTOSENSITIVITY OF ENZYMES. IT IS SUGGESTED THAT CHANGES IN PHOTOSENSITIVITY OF THE PROTEINS ARE CONNECTED WITH INFLUENCES OF MACROMOLECULAR CONFORMATION ON EVENTS WHICH PRECEED THE FORMATION OF THE FINAL STABLE PHOTOPRODUCTS. FACILITY: LABORATORY OF BIOPHYSICS AND ISOTOPES, ACADEMY OF SCIENCES, BESSR, MINSK.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--CONFORMATIONAL TRANSITIONS OF NATIVE PROTEINS IN SOLUTION AND CELLS

-U-
AUTHOR--(03)-MAZHUL, V.M., CHERNITSKIY, YE.A., KONEV, S.V.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 5-11

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ENZYME, ALBUMIN, FLUORESCENCE SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

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PROCESSING DATE--30OCT70

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSITIONS OF FLUORESCENCE
MAXIMA AND POLARIZATION IN SOLNS. OF BETA, AMYLASE, ARGINASE, HEXOKINASE,
HYALURONIDASE, GLYCERALDEHYDE, 3, PHOSPHATE DEHYDROGENASE, DNASE, LACTATE
DEHYDROGENASE, LYSOZYNE, PEPSIN, BOVINE AND HUMAN SERUM ALBUMINS,
UREASE, CHYMOTRYPSINOGEN, AND EGG ALBUMIN WERE STUDIED AT DIFFERENT
TEMPS. BETWEEN 0 DEGREES AND PLUS 35 DEGREES, UNEVEN CHANGES IN THE
DEGREE OF POLARIZATION AND LOCATION OF FLUORESCENCE MAXIMA WERE OBSD.
THE CHANGES WITH TEMP. WERE REVERSIBLE AND THE TRANSITIONS OCCURRED IN
SMALL TEMP. INTERVALS OF 10-15 DEGREES. THE DATA INDICATED THE PROBABLE
EXISTENCE OF 2 OR 3 TEMP. DEPENDENT FORMS OF THE PROTEINS. THE MODE OF
TRANSITION WAS CHARACTERISTIC FOR EACH PROTEIN. THE DELTA H VALUES WERE
BETWEEN 50 AND 100 KCAL-MOLE. SIMILAR COOPERATIVE CONFORMATIONAL
TRANSITIONS WERE DEMONSTRATED ALSO IN EPITHELIUM TISSUE OF FROG
ESOPHAGUS AND CONSIDERED TO BE OF PHYSIOL. SIGNIFICANCE.
FACILITY: LAB. BIOPHYS. ISOTOP., MINSK, USSR.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--CONFORMATION TRANSITIONS OF PROTEINS IN INTACT CELLS -U-

AUTHOR--(04)--KONEV, S.V., CHERNITSKIY, YE.A., MAZHUL, V.M., YASKEVICH, V.P.

COUNTRY OF INFO--USSR *K*

SOURCE--DOKL. AKAD. NAUK BELORUSS. SSR 1970, 14(1), 68-71

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FROG, GASTROINTESTINAL SYSTEM, CELL PHYSIOLOGY, PEPTIDE,
MOLECULAR BIOLOGY, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

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PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0105803

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE PERFORMED ON THE CILIARY EPITHELIAL CELLS OF ESOPHAGUS IN RANA TEMPORARIA. THE CONFORMATIONS OF THE PROTEINS WAS DETD. BY A SPECTRAL LUMINESCENCE METHOD. THE INDICATOR OF FUNCTIONAL ACTIVITY OF CELLS WAS THE MOTILITY RATE. SHARP CHANGES IN THE ACTIVATION ENERGY OF THE CELL MOTILITY IN THE TEMP. INTERVAL 3-9DEGREES WERE FOUND. THE CHANGES AND SIGMOID CHARACTER OF THE CURVE λ_{SUBMAX} . EQUALS $f(T)$ IN THE INTERVAL 11-3DEGREES DUE TO INVERSE CONFORMATION TRANSITION A IN EQUILIBRIUM B IN EQUILIBRIUM C AND PRONOUNCED CHANGES OF THE ENTHALPY (120 KCAL-MOLE) WERE OBSD. THESE FACTS POINT TO THE GENERAL CHARACTER OF TRANSITION INFLUENCING THE GREATEST PART OF POLYPEPTIDE CHAINS OF MACROMOLS. AND EVEN ITS ENVIRONMENT. THE SHORT WAVE CHARACTER OF THE SHIFT OF PROTEIN SPECTRAL FLUORESCENCE AT A TEMP. OF 3-11DEGREES IS FOUND BECAUSE THE A CONFORMATION CONTAINS MORE HYDROPHOBIC TRYPTOPHAN RESIDUES IN A NONPOLAR AMINO ACID ENVIRONMENT THAN CONFORMATION B EXISTING AT A HIGHER TEMP. (10-20DEGREES).

FACILITY: LAB. BIOFIZ. IXOTOP., MINSK, USSR.

UNCLASSIFIED

Acc. Nr: APO054282

Ref. Code: UR0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 2 ,
pp 184-189

STUDIES OF CONFORMATIONAL HETEROGENEITY OF NATIVE PROTEINS
BY PHOTOCHEMILUMINESCENCE METHOD

S. L. AKSENTSEV, G. D. NISENBAUM, S. V. KONEV, and I. M. OKUN'

Laboratory of Biophysics and Isotopes, Belorussian Academy
of Sciences, USSR, Minsk

The break points were revealed in the curves rate constant of decay--temperature at photochemiluminescence investigation of several proteins in solutions. These breaks are mainly due to the fact that the protein molecules at 5--40° exist in more than one native reversible conformational state. Investigation of influence of salt and propanol concentration on the photochemiluminescence parameters permits to suggest that the regions of protein molecules controlled by hydrophobic interactions are able to manifest gradual structural transitions rather than cooperative rearrangements.

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USSR

UDC 620.1

TRET'YACHENKO, G. N., VOLOSHCHENKO, A. P., KONEV, V. A., KRAVCHUK, L. V.,
KURIYAT, R. I., (Kiev)

"Influence of Salts of Sea Water in a Gas Stream on Thermal Stability of
Turbine Blades"

Kiev, Problemy Prochnosti, No 12, Dec. 1972, pp 40-43.

Abstract: Methodological problems are studied, related to the study of the
influence of sea salt in a gas stream on the load-bearing ability of the
nozzle blades of marine gas turbine engines with thermal cycling of loading.
Certain quantitative data are produced on the influence of sea salts on the
nature of development of thermal fatigue cracks. The stress-strain state
of the blade and its changes during a thermal loading cycle are studied.

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AF0049170

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

480080

99979x Synthesis of some O-alkylthiono carbamate derivatives. Ryaboi, V. I.; Krutikov, V. K.; Konev, V. A. (USSR). *Zh. Prikl. Khim. (Leningrad)* 1970, 43(1), 210-11^a (Russ). Prepn. of title compds., ROCSNHR¹ (I), flotation reagents, is described. I (R = Pr, or Bu; R¹ = Ac) were prepd. from O-alkylthiocarbamate with excess Ac₂O. Thus, 11.9 g propylthionocarbamate was heated 3 hr with 47 ml Ac₂O on a water bath to give 92.3% I (R = Pr, R¹ = Ac), m. 62-3° (petroleum ether). Similarly prepd. was 90% I (R = Bu, R¹ = Ac), m. 56.5-7.5° (petroleum ether). I (R = Bu, R¹ = Bz), m. 57-8°, was prepd. in 82% yield by refluxing 20 g benzoyl isothiocyanate with 17 ml BuOH and 8 ml toluene. I (R = Bu, R¹ = CH₂-CH₂NH₂Cl) (III) was also prepd. Thus, 18.8 g K butylxanthogenate in 20 ml H₂O was treated with 12.5 g NaO₂CCl₂ in 30 ml H₂O, kept overnight, and 60 g 50% ethylenediamine (IV) added to give 34% III, m. 176-7° (decompn.). If only 6 g IV was added (1:1 mole ratio), 84% I (R = Bu, R¹ = CH₂CH₂NHC(S)OBu), m. 64-5° (benzene), was formed. I. Haiduc

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19800977

USSR

UDC: 620.193.5

K
~~KONEV, V. N.~~, CHEBOTIN, V. N., SUNTSOV, N. V., and STAVTSEVA, L. I., Ural State University imeni A. M. Gor'kiy

"Nickel Oxidation in an Atmosphere With Various Amounts of Sulfur Dioxide"

Moscow, Zashchita Metallov, Vol. 6, no. 4, Jul-Aug 70, pp 448-450

Abstract: The presence of sulfur dioxide in the air strongly increases the nickel oxidation rate and causes the formation of scale of a complex composition. However, research in the subject is far from complete. The scale produced in this study at 750 and 800°C comprises three layers. According to x-ray diffraction and microscopic examination data, the outer layer is the most dense, the middle layer is relatively porous and contains a NiO phase, while the inner layer, with a metallic glitter, closely adheres to the metal and comprises the Ni₃S₂ phase. The crystal lattice parameter of NiO decreases with an increase in SO₂ in the oxidizing atmosphere. The growth of scale on the nickel is, under all conditions, described by the parabolic law. The NiO layer grows at the scale-gas boundary. The higher rate of scale growth from NiO with SO₂ in the atmosphere may be explained by an increase in the con-

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USSR:

KONEV, V. N., et al, Zashchita Metallov, Vol 6, no. 4, Jul-Aug 70, pp 448-450

centration of cation vacancies in the oxide on sulfur dissolution in it. Use is made of the relationship between the constant of the parabolic law K and P_{SO_2} in a mixture of SO_2+O_2 at P_{O_2} = constant obtained in earlier research to explain the formation of Ni_3S_2 phase which grows with an increase in P_{SO_2} .

The results of this study suggest that sulfur is transferred toward the metal through the NiO phase by diffusion through the scale lattice rather than along the microcracks and pores. The disappearance of Ni_3S_2 in the scale when passing from 800 to 850°C is apparently related to a decrease in sulfur solubility in NiO with an increase in temperature. The maximum S solubility in NiO is at 800°C.

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USSR

UDC: 519.2:621.391

KONEV, V. V., TARASENKO, F. P.

"On Communication With an Object Whose Coordinates are Measured With an Error"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te (Works of the Siberian Physicotechnical Institute Affiliated With Tomsk University), vyp. 51, 1970, pp 282-286 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V289)

Translation: The authors discuss the problem of improving the traffic handling capacity of a radio communications channel with a stationary object whose coordinates are not precisely known and are estimated by means of a measurement system. V. Brikker.

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USSR

UDC: 621.391

KONEV, V. V., TARASENKO, F. P.

"On Communication With an Object Whose Coordinates are Measured With an Error"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te (Works of the Siberian Physico-technical Institute Associated With Tomsk University), 1970, vyp. 51, pp 282-286 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A31)

Translation: The authors consider a system for communicating with a stationary object through a Gaussian channel with unknown exact signal-to-noise ratio. The optimum width of the radiation pattern of the antenna with and without feedback is determined. It is shown that when feedback is present it is necessary to use antennas with the maximum possible directivity. N. S.

1/1

USSR

KARLOV, N. V., KONEV, YU. B., and PROKHOROV, A. M., Physics Institute imeni P. N. Lebedev, Academy of Sciences, USSR

"Using Lasers for the Selective Breaking of Chemical Bonds"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 14, No 3, 5 Aug 71, pp 178-181

Abstract: The authors propose using two-stage photoexcitation for the selective breaking of previously chosen molecular chemical bonds. They find that one serious obstacle in solving the problem of selective bond breaking by using laser radiation is the anharmonic oscillations of the molecules. The authors discuss the necessary parameters of the lasers based on a system of equations which is easy to solve but whose solution is difficult to foresee. As a result of their research and computations, the authors find that the photoexcitation of molecular oscillations can substantially increase the rate of photodissociation from wide-band sources of visible light because of the increase in the number of photodissociation channels. The article contains 8 bibliographic entries.

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USSR

UDC: 621.375.029.67

BARCHUKOV, A. I., KONEV, Yu. B., PROKHOROV, A. M., TEREN, V. S.

"A 10.6 Micron Laser Amplifier With Periodic Structure of the Amplified Beam"

Moscow, Radiotekhnika i Elektronika, Vol. 16, No 6, Jun 71, pp 996-1004

Abstract: An experimental study is made of a single-mode CO₂ laser amplifier based on a 90-meter quasioptical mirror transmission line. An estimate is made of the effect which errors in alignment of the line correctors and amplitude-phase distortions have on beam degradation. Basic design data and characteristics are presented for the laser. The output power is more than 500 watts. The study showed that the proposed design could be competitive with the telescopic amplifier described by P. Miles and W. Lotus (IEEE J. Quantum Electronics, 1968, QE-4, 11, 811). The principal advantage of the gas laser studied in this work is the fact that the phase correctors in the line are simpler devices than the telescopes in the Miles-Lotus laser. These correctors provide periodic focusing of the beam, thus reducing broadening due to non-linearity of amplification. Calculations show that cells no more than 20-25 mm in diameter should be used to simplify matching between the line and the optical laser, shifting the matching itself to the laser. The total experimentally measured losses in amplification were too high to allow any appreciable increase in output power.

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USSR

UDO 621.382.2

KONEV, YU.I.

"Some Limiting Possibilities Of The Miniaturization Of Power Semiconductor Devices"

V sb. Elektron.tekhn. v avtomatike (Electronic Techniques In Automation--Collection Of Works), Issue 3, Moscow, "Sov.radio," 1972, pp 3-16 (from RZh:Elektronika i yeye primeneniye, No 11, Nov 1972, Abstract No 11B243)

Translation: The paper considers some possibilities and limitations of the miniaturization of power semiconductor devices, dependent on the basic energy relations. The limiting magnitude of the efficiency of a diode rectifier and the optimum area of the junction of a semiconductor diode are theoretically determined. The minimum dimensions are determined of a stage [kaskad] with a saturated transistor, corresponding to some optimum magnitude of the power dissipated, and also the area of reasonable use of an unsaturated transistor. 4 ill. 1 tab. 8 ref. Summary.

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- 92 -

USSR

UDC: 621.382.3+62.523.8

KONEV, Yu. I., Editor

Elektronnaya Tekhnika v Avtomatike (Electronic Engineering in Automation), Moscow, "Sovetskoye radio," 1972, 184 pp

Abstract: This book contains 33 papers on electronic techniques and circuitry used in automation. Some of the subjects handled are miniaturization of semiconductor devices, integrated-circuit amplifier design, piezoceramic voltage converters, transistor converter output filter design, thyristor current stabilizers, and the like. Most of the articles are valuable for the practical design engineer of electronic components in automatic control systems, with the general tone of the book practical rather than theoretical. The last few pages following the final article are devoted to abstracts of each article.

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USSR

UDC: 621.382.3+62.523.8

KONEV, Yu. I., Editor

Elektronnaya Tekhnika v Avtomatike (Electronic Engineering in Automation), Moscow, "Sovetskoye radio," 1972, pp 183-184

Translation:

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KONEV, Yu. I., Elektronnaya Tekhnika v Avtomatike. 1972, pp 183-184

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