

USSR

UDC 539.194

GALIMOV, D. G., YUDIN, D. M., and YAFAYEV, N. R.

"The Problem of Iron Coordination in Glasses"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 19, No 2 1973, pp 364-366

Abstract: In glasses containing three-valent iron, lines for $g=4.27$ are observed along with electron paramagnetic resonance lines with $g=2.00$. The authors of the present paper offer new data regarding the nature of the center causing the appearance of lines with g factors of 2.00 and 4.27 which they obtained by studying the tendency of the iron ions to the capture of charge carriers in a gamma radiation field. The measurements were made with the RE-1201 radio spectrometer at room temperature. Electron paramagnetic resonance spectra were obtained under identical conditions from various glass specimens identical in weight and shape. A type K-50000 gamma-ray source with a power output of 300 roentgens/sec, and a maximum dosage of 10^9 roentgens was used for the irradiation. The EPR spectra for the various types of glasses are plotted.

1/1

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USSR

UDC: 681.3.06:51

ATSTOPAS, F. F., YAFETAS, T. R.

"Investigation of the Ruta-110 I Data-Gathering System"

V sb. Avtomatika i vychisl. tekhn. (Automation and Computer Technology--
collection of works), No 3, Vil'nyus, "Mintis", 1971, pp 147-153 (from
RZh-Kibernetika, No 12, Dec 71, Abstract No 12V934)

Translation: The effectiveness and usability of the RUTA-110 I data-gathering system are calculated. The results can be used in determining the potentialities of the Ruta-110 I when it is used for solving a specific problem. The method of studying the usability of the Ruta-110 I device can be used for studying other systems in this category. Authors' abstract.

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USSR

UDC 612.836:613.166

YAGANOV, YE. M., Col Med Serv, Professor, Honored Scientist RSPSR, and
~~LAPAYEV~~, Z. V., Lt Col Med Serv, Candidate of Medical Sciences

"The Effect of High Temperature on Manifestation of Motion Sickness"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 6, 1972, pp 86-88

Abstract: Ambient temperature of over 35°C increases sensitivity to acceleration and speeds up the development of motion sickness. This effect was revealed by Coriolis continuous cumulative acceleration (CCCA) tests, in which the subject turns his head right and left at an angle of at least 30° and at a rate of 30 turns/min while he is being rotated in a chair with an angular velocity of 180°/sec. In control tests performed at 20°C on 42 subjects who had passed aviation medicine examinations, 45% of the subjects endured the treatment for 15 min and more (group 0), 12% for 10-15 min (group I), 26% for 5-10 min (group II), 14% for 2-5 min (group III), and 3% for less than 2 min (group IV). Ambient temperature of 35°C reduced the resistance of only one subject. However, at 40-45°C, almost one-half of the subjects became less tolerant, increasing group IV to 26%. At 50°C, the effect was still more pronounced, with group IV comprising 35%. It is concluded that this type of examination is valuable for a stricter selection of aviation personnel.

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USSR

UDC: 51:621.391

OGANESYAN, S. Sh., YAGDZHYAN, V. G., TAIRYAN, V. I.

"Weight Spectra of Some Classes of Cyclic Codes"

Moscow, Vesovyye spektry nekotorykh klassov tsiklicheskih kodov. Nauch. sovet po kompleksn. probl. "Kibernetika" AN SSSR (Cf. English above. Scientific Council on the Complex Problem of Cybernetics, Academy of Sciences of the USSR), 1972, 32 pp, bibl. of 8 titles (manuscript deposited in VINITI, No 5372-73 from 8 Jan 73) (from RZh-Kibernetika, No 5, May 73, abstract No 5V584 DEP by the authors)

Translation: Up to the present attempts have been made to find cyclic representatives for arbitrary cyclic codes over $GF(q)$ where $(n,q) = 1$ (q is the power of the simple number p). In this paper formulas are presented for expressing not only cyclic representatives, but also at the same time formulas are presented for representatives (so-called p -nary representatives) which unite cyclic representatives in accordance with identical weights by means of the operation of involution

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USSR

OGANESYAN, S. Sh. et al., Vesovyye spektry nekotorykh klassov tsiklicheskikh kodov, 1972, No 5372-73 Dep.

of p for arbitrary cyclic codes over $GF(q)$ when $(n,p) = 1$. On the basis of these results and coupling equations stemming from the MacWilliams relation for weight spectra of orthogonal ideals (codes), weight spectra are found for some classes of cyclic codes.

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USSR

UDC 51:621.391

OGANESYAN, S. Sh., YAGDZHYAN, V. G.

"Certain Classes of Optimal Cyclical Codes"

Nauchn. Sovet po Kompleksn. Probl. "Kibernetika" AN SSSR [Scientific Council on the Combined Problem of "Cybernetics," Academy of Sciences, USSR], Moscow, 1970, 10 pages (Translated from Referativnyy Zhurnal Kibernetika, No 3, 1971, Abstract No 3 V373 Dep*).

Translation: New classes of optimal cyclical codes are studied, for which the weight spectra and code distances are calculated.

*"Dep" refers to a manuscript of a completed scientific work performed at an institution of the Academy of Sciences of the USSR or Union Republic, stored at the All-union Institute for Scientific and Technical Information. Copies can be ordered from the institute.

1/1

1/2 039 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MICROSTRUCTURE OF GLASS FIBER REINFORCED PLASTICS -U-
AUTHOR--(02)-GUMENYUK, V.S., YAGELSKIY, A.N.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (6), 52-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GLASS FIBER, REINFORCED PLASTIC, ELONGATION, LIGHT INTERFERENCE, MICROSCOPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0917 STEP NO--UR/0191/70/000/006/0052/0054
CIRC ACCESSION NO--AP0134646
UNCLASSIFIED

2/2 039

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134646

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COLOR STREAKS OBSD. AT GREATER THAN 400 TIMES MAGNIFICATION ON THE SURFACE OF GLASS FIBER RESIN LAMINATES ARE CAUSED BY THE DELAMINATION OF THE SINGLE GLASS MONOFIBRILS AND BY LIGHT INTERFERENCE. ELONGATION OF A SAMPLE TO 50-60PERCENT OF BREAKING LENGTH CAUSED INTENSIFICATION OF THESE LIGHT PATTERNS. EVIDENTLY THE DELAMINATION STARTS AT THIS ELONGATION STAGE.

UNCLASSIFIED

USSR

UDC 547.26'118 + 543.226

PUDOVIK, A. N., KONOVALOVA, I. V., YAGFAROV, M. Sh., GOL'DFARB, E. I., and ROMANOV, G. V.

"Decomposition of α -Hydroxyalkyl(benzyl)phosphonates"

Leningrad, Zhurnal Obschey Khimii, Vol 43 (105), No 3, Mar 73, pp 556-559

Abstract: Thermal behavior of α -hydroxyalkylphosphonates containing alkyl and phenyl substituents at the α -carbon atom has been studied by means of differential-thermal analysis in the range 20-300°. Substituting a hydrogen atom for a methyl group at the α -carbon results in a higher temperature of the endoeffect of the beginning of breakdown, while introduction of a phenyl group lowers the thermal stability of the phosphonate. Differential thermal analysis of an equimolar mixture of O-ethylethylphosphonite and ethylpyro-racemate shows a formation of O-ethyl- α -carboethoxyethylphosphinate followed by its isomerization to O-ethyl-O-(α -carboethoxyethyl)ethylphosphonate; benzaldehyde and diethylphosphite from diethyl- α -hydroxybenzylphosphonate in temperature range 100-120° to be followed by decomposition. Thermography of phenyl- α -hydroxybenzylphosphinic acid at 220-250° is accompanied by a strong exothermic effect yielding a dense mass suggestive of the formation of phenylphosphine.

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USSR

UDC 547.26'118+543.226

ROMANOV, G. V., YAGFAROV, M. Sh., KONOVALOV, A. I., PUDOVIK, A. N.,
KONOVALOVA, I. V., and YUSUPOVA, T. N., Institute of Organic and Physical
Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR, and Kazan' State
University imeni V. I. Ul'yanov-Lenin, Kazan'

"The Thermodynamic and Kinetic Characteristics of the Phosphonate-Phosphate
Rearrangement"

Leningrad, Zhurnal Obshchey Khimii, Vol 43, No 11, pp 2378-2386

Abstract: The thermal effects in the rearrangement

$$(I) \rightarrow \begin{array}{c} R \\ \diagup \\ P(=X)-O-CH \\ \diagdown \\ R' \end{array} \begin{array}{c} R'' \\ \diagup \\ \\ \diagdown \\ R''' \end{array} \quad (II) \begin{array}{c} R \\ \diagup \\ P(=X)-C(CH) \\ \diagdown \\ R' \end{array} \begin{array}{c} R'' \\ \diagup \\ \\ \diagdown \\ R''' \end{array}$$

where R=Alk, AlkO, Ph; R' = Alk,

AlkO, Ph, OH; R'' = H, Me, Ph, COOAlk; R''' = COOAlk, COMe, P(O)(OR)₂, CN;
X = O, S. The heat capacities at -50 - +120° and the changes in enthalpy
during the rearrangement I → II at the temperature of the reaction were deter-
mined for a number of compounds I. It was shown that an approximately linear
relation exists between the temperatures at which the reaction begins and the
logarithms of the velocity constants of the isomerization of compounds I deter-
mined at a single temperature.

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1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF THE DEGREE OF CRYSTALLINITY OF POLYMERS -U-
AUTHOR--~~YAGFAROV, M.SH.~~
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 262,442
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)
DATE PUBLISHED--26JAN70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CRYSTALLINE POLYMER, CHEMICAL PATENT, HEAT CAPACITY,
TRANSITION TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0833 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0136267
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136267

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEGREE OF CRYSTALLINITY IN POLYMERS IS DETD. BY MEASURING THE HEAT CAPACITY OF THE SAMPLE AT A TEMP. LOWER AND HIGHER THAN THE GLASS TRANSITION TEMP. OF THE POLYMER, MEASURING THE CRYSTALLINITY OF THE SAMPLE, AND AGAIN MEASURING THE HEAT CAPACITY AT THESE SAME TEMPS. AND THE HEAT OF FUSION. THE DEGREE OF DRYSTALLINITY IS CALCD. FROM THESE DATA.

UNCLASSIFIED

USSR

UDC 541.64:547.341

LEVIN, YA. A., PYRKIN, R. I., YAGFAROVA, T. A., and USOL'TSEVA, A. A.,
Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy
of Sciences USSR

"The Polymers and Copolymers of Divinylphosphinates"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15 (A), No 9, Sep 73,
pp 2070-2074

Abstract: The radical-chain block polymerization of derivatives of divinylphosphinic acid $(CH_2-CH)_2P(=O)X$ (I; X = OMe, OEt, OPr, OPh, OC_8H_{17} , $OCH_2CH_2CH_2Cl$, OCH_2CH_2Br , NEt_2) in the presence of azoisobutyric acid resulted in the formation of polymers with a tridimensional network, the properties of which ranged from those of elastomers to those of solids. Polymerization of I (X = OEt) in benzene resulted in the formation of a polymer with a tridimensional network, while that in EtOH led to a soluble cycloliner oligomer. In the Copolymerization of I (X = OEt) with styrene or methyl methacrylate, I (X = OEt) was less reactive than the monomer that did not contain P, so that tridimensional and soluble polymers formed which contained less P in relation to styrene or methyl methacrylate than the initial monomer mixture.

1/1

1/2 037 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DIETHYLPHOSPHONACETALS OF POLY VINYL ALCOHOL -U-
AUTHOR--(05)-LEVIN, YA.A., GAZIZOVA, L.KH., YAGFAROVA, T.A., KOVALENKO,
V.I., TEYTELBAUM, B.YA.
COUNTRY OF INFO--USSR
SOURCE--VVSOKOMOL. SOEDIN., SER. A 1970, 12(3), 574-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--ACETAL, ORGANIC PHOSPHORUS COMPOUND, POLYVINYL ALCOHOL,
POLYMER, ELASTIC DEFORMATION, POLYMER CROSSLINKING, ESTERIFICATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1208 STEP NO--UR/0459/70/012/003/0574/0579
CIRC ACCESSION NO--AP0116673
UNCLASSIFIED

2/2 037

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116673
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. POLY(VINYL ALC.) (I) WAS ACETALATED WITH (ETO) SUB2 P (O)CH SUB2 CHO IN THE PRESENCE OF CF SUB3 CO SUB2 H AND H SUB2 O AT 60DEGREES TO GIVE A WHITE, RUBBERLIKE POLYMER (CONTG. LESS THAN OR EQUAL TO 8PERCENT P) IN 85-100PERCENT YIELD. IR SPECTRA AND THERMOMECH. TESTS SHOWED THAT THE POLYACETALS (II) (CONTG. 10PERCENT ACETALS GROUPS) WERE MORE SUSCEPTIBLE TO ELASTIC DEFORMATIONS THAN I, PRESUMABLY DUE TO DECREASED MOL. INTERACTION. INCREASED RIGIDITY, OBSD. IN II (CONTG. GREATER THAN 20PERCENT ACETAL GROUPS) HEATED TO 150-200DEGREES, WAS ATTRIBUTED TO CROSSLINKING OCCURRING DURING TRANSESTERIFICATION OF P(OET) SUB2 GROUPS WITH ADJACENT OH GROUPS.
FACILITY: INST. ORG. FIZ. KHIM. IM. ARBUZOVA, KAZAN, USSR.

UNCLASSIFIED

Acc. Nr:

AT0045129

Abstracting Service: 5/70
INTERNAT. AEROSPACE ABST.

Ref. Code:
UR0020

IAGLOM A.M.

A70-23169 * A universe: law of turbulent heat and mass transfer from the wall at large Reynolds and Peclet numbers (Universal'nyi zakon turbulentnogo teplo- i massoprezenosa ot stenki pri bol'shikh chislakh Reinal'dsa i Pekle). B. A. Kader and A. M. Iaglom (Akademiiia Nauk SSSR, Institut Fiziki Atmosfery, Moscow, USSR). *Akademiia Nauk SSSR, Doklady*, vol. 190, Jan. 1, 1970, p. 65-68. 17 refs. In Russian.

Development of a universal law characterizing turbulent heat and mass transfer from a flat wall to a plane-parallel fluid flow at large Reynolds and Peclet numbers. A comparison is made between empirical data concerning heat and mass transfer at various Reynolds and Prandtl numbers and the results of calculations according to a formula giving the Nusseit number in terms of the Reynolds and Prandtl numbers.

A.B.K.]

A-5

1/1

REEL/FRA
19780029

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Information Theory & Pattern Recognition

USSR

YAGLOM, A. M., YAGLOM, I. M.

UDC: 51:621.391

"Probability and Information"

Moscow, Veroyatnost' i informatsiya. Izd. 3-ye, pererab. i dop. (cf. English above. Third Edition, Revised and Enlarged), "Nauka", 1973, 511 pp, ill. 1 r. 11 k. (from RZh-Matematika, No 10, Oct 73, abstract No 10V425 K from the annotation)

Translation: The third revised and enlarged edition of the authors' book (RZhMat, 1959, 9303K, 1961, 2V61K). In the third edition the entire text was subjected to careful scrutiny, and numerous improvements were made in the exposition. Data on the information theory characteristics of specific types of messages (written and spoken, phototelegrams, television, etc.) are supplemented by results found in various countries during the 1960's. As one of the examples illustrating the general concept of a "communications line (or channel)" the authors examine a "genetic communications line" and its corresponding "genetic code." The book is augmented by two new sections, one of them giving a presentation of coding theory. The regular school course is sufficient mathematical preparation for reading the book. The

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USSR

YAGLOM, A. M., YAGLOM, I. M., Veroyatnost' i informatsiya, "Nauka", 1973,
511 pp, ill. 1 r. 11 k.

book is intended for students of colleges and engineering schools (and partly even for students of senior classes in high schools); secondary school teachers; college teachers; communications engineers; and specialists in the fields of physics, biology, and linguistics.

2/2

- 32 -

USSR

YAGLOM, A. M. and YAGLOM, I. M.

"Probability and Information, Third Edition, Revised and Supplemented"

Veroyatnost' i Informatsiya. Izd. 3-ye, Pererab. i Dop. [English version above], Moscow, Nauka Press, 1973, 511 pp (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V425K)

Translation: The third, revised and supplemented edition of the book by the authors (RZHMAT, 1959, 9303K; 1961, 2V61K). This third edition has been carefully revised and many improvements introduced in the presentation. Data on the information theory characteristics of specific types of messages (written and oral speech, facsimile, television, etc.) have been supplemented with results produced in various countries throughout the 1960's, as one example, illustrating the general concept of the "line (or channel) of communications," the "genetic communications link" and its corresponding "genetic code" is studied. The book is supplemented with two new sections, one of which gives an idea of coding theory. Mathematical training received in school is sufficient to read the book. The book is designed for university and technical school students (and partially also for senior students in secondary schools), secondary and higher school teachers, communications engineers, and specialists in the areas of physics, biology and linguistics.

From the annotation

1/1

Information Theory & Pattern Recognition

USSR

UDC: 51:621.391

YAGLOM, A. M., YAGLOM, I. M.

"Probability and Information"

Moscow, Veroyatnost' i informatsiya. Izd. 3-ye, pererab. i dop. (cf. English above. Third Edition, Revised and Enlarged), "Nauka", 1973, 511 pp, ill. 1 r. 11 k. (from RZh-Matematika, No 10, Oct 73, abstract No 10V425 K from the annotation).

Translation: The third revised and enlarged edition of the authors' book (RZhMat, 1959, 9303K, 1961, 2V61K). In the third edition the entire text was subjected to careful scrutiny, and numerous improvements were made in the exposition. Data on the information theory characteristics of specific types of messages (written and spoken, phototelegrams, television, etc.) are supplemented by results found in various countries during the 1960's. As one of the examples illustrating the general concept of a "communications line (or channel)" the authors examine a "genetic communications line" and its corresponding "genetic code." The book is augmented by two new sections, one of them giving a presentation of coding theory. The regular school course is sufficient mathematical preparation for reading the book. The

1/2

USSR

YAGLOM, A. M., YAGLOM, I. M., Veroyatnost' i informatsiya, "Nauka", 1973,
511 pp, ill. 1 r. 11 k.

book is intended for students of colleges and engineering schools (and partly even for students of senior classes in high schools); secondary school teachers; college teachers; communications engineers; and specialists in the fields of physics, biology, and linguistics.

2/2

- 32 -

USSR

YAGLOM, A. M. and YAGLOM, I. M.

"Probability and Information, Third Edition, Revised and Supplemented"

Veroyatnost' i Informatsiya. Izd. 3-ye, Pererab. i Dop. [English version above], Moscow, Nauka Press, 1973, 511 pp (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V425K)

Translation: The third, revised and supplemented edition of the book by the authors (RZHMat, 1959, 9303K; 1961, 2V61K). This third edition has been carefully revised and many improvements introduced in the presentation. Data on the information theory characteristics of specific types of messages (written and oral speech, facsimile, television, etc.) have been supplemented with results produced in various countries throughout the 1960's, as one example, illustrating the general concept of the "line (or channel) of communications," the "genetic communications link" and its corresponding "genetic code" is studied. The book is supplemented with two new sections, one of which gives an idea of coding theory. Mathematical training received in school is sufficient to read the book. The book is designed for university and technical school students (and partially also for senior students in secondary schools), secondary and higher school teachers, communications engineers, and specialists in the areas of physics, biology and linguistics.

From the annotation

1/1

USSR

UDC 541.1.13

GORODETSKIY, A. Ye., TESNER, P. A., LUK'YANOVICH, V. M., POLYAKOVA, M. M., ZAKHAROV, A. P., and YASIN, A. G., Institute of Physical Chemistry, Acad. Sc. USSR, All Union Scientific Research Institute of Natural Gasses, Moscow

"The Structure of Thin Pyrocarbon Films Obtained From Methane"

Moscow, Doklady Akademii Nauk SSSR, Vol 203, No 6, Apr 72, pp 1336-1338

Abstract: Structure of pyrocarbon films obtained from methane under known growth kinetics has been studied. Platinum and polished quartz were used as bases, yielding two types of films. Films on quartz consist of relatively homogeneous finely crystalline pyrocarbon with low degree of tridimensional ordering. The films on platinum are heterogeneous with two distinct structures: finely crystalline and crystalline. The first resembles the films on the graphite - the second is a well ordered tridimensional graphite. The structure of the film depends on the pressure of methane: lowering the pressure favors formation of graphite crystals. The observed difference in the type of film, depending on the base, is due to the competition between the seeding and propagation processes: on quartz they are about equal, on platinum the seeding rate changes from sample to sample and is a function of pressure. It is proposed that pyrocarbon film formation is due to a direct decomposition of methane molecules on the surface of the base.

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1/2 016 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EXTRACTION AND SPECTROPHOTOMETRIC DETERMINATION OF A NIOBIUM TRACE
IMPURITY IN VANADIUM PENTOXIDE AND METALLIC VANADIUM -U-
AUTHOR--YAGNYATINSKAYA, G.YA.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB. 1970, 36(2), 158-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NIOBIUM, TRACE ANALYSIS, SPECTROPHOTOMETRIC ANALYSIS, VANADIUM
PENTOXIDE
CENTREL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0533 STEP NO--UR/0032/70/036/002/0158/0159
CIRC ACCESSION NO--AP0126280
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126280

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. SPECTROPHOTOMETRIC DETN. OF NB
 TRACE IMPURITIES IN V SUB2 0 SUB5 AND METALLIC V BY EXTN. OF
 NB-PYROCATECHOL-(PHCH SUB2) SUB3 N COMPLEX IN CHCL SUB3 IS DESCRIBED.
 DISSOLVE 2 G V SUB2 0 SUB5 SAMPLE IN 40 ML 10PERCENT NAOH, ADD 40 ML
 WARM H SUB2 0 AND FECL SUB3 SOLN. (50 MG), BOIL 2-3 MIN, FILTER, WASH 4
 TIMES WITH 1PERCENT NAOH. WASH DOWN THE RESIDUE FROM THE FILTER WITH H
 SUB2 0 AND DISSOLVE IT IN HCL CONTG. SEVERAL DROPS OF H SUB2 0 SUB2 AND
 EVAP. TO 20 ML. COOL, ADD 5 ML 10PERCENT THIOGLYCOLIC ACID, 1 ML
 2PERCENT TARTARIC ACID, 1 ML 0.44PERCENT NAF, 10 ML 10PERCENT
 PYROCATECHOL AND DIL. TO 50 ML. EXT. 5 MIN WITH 25 ML 0.2M (PHCH SUB2)
 SUB3 N IN CHCL SUB3, SEP. THE CHCL SUB3 EXT., AND MEASURE ITS ABSORBANCE
 AT 370 NM. THE MAX. AMT. OF NB IS 20 MUG. TO ANALYZE METALLIC V,
 DISSOLVE 1 G OF SAMPLE IN 30 ML HNO SUB3 (1:3), EVAP. ON A WATER BATH,
 DRY THE RESIDUE, AND MELT IN 3 MIN AT 400DEGREES, THEN DISSOLVE IN 40 ML
 20PERCENT NAOH AND CONTINUE AS IN THE V SUB2 9 SUB5 METHOD. SENSITIVITY
 IS 5 TIMES 10 PRIME NEGATIVESPERCENT NB IN V SUB2 0 SUB5 AND 1 TIMES 10
 PRIME NEGATIVE4PERCENT NB IN V. THE MAX. RELATIVE ERROR IS 20PERCENT.
 FACILITY: INST. UBSHCH. NEORG. KHIM., KIEV, USSR.

UNCLASSIFIED

USSR

UDC 541.124/128

MANAKOV, M. N., MAKAROV, M. G., KOVALENKO, L. V., ~~YAGNYUKOVA, Z. I.~~, and SHVETS, N. A., Moscow Chemical-Technological Institute Lugal D. I. Mendeleev

"Kinetics of the Reaction of Aromatic Aldehydes With Dialkylphosphinic Acids (Utilization of the Experiment Planning Method)"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 3, Mar 72, p 804

Abstract: Reaction of dioctylphosphinic acid with benzaldehyde in presence of sodium ethoxide has the following kinetics:

$$W = A_0 \exp(-E/RT) c_k^\alpha c_d^\beta c_b^\delta$$

where c_k^α , c_d^β , c_b^δ are the concentrations of the catalyst, the dioctylphosphinic acid and benzaldehyde respectively. The orthogonal Box Plan was used in studying the kinetics of this reaction; the following results were obtained: $\lg A_0 = 5.520 \pm 0.050$; $\alpha = 0.969 \pm 0.010$; $\beta = 0.884 \pm 0.009$; $\delta = 1.006 \pm 0.011$; and $E = 9.66 \pm 0.11$ Kcal/mole.

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USSR

UDC 547.241+615.777/779

YAGNYUKOVA, Z. I., SHVETSOVA-SHILOVSKAYA, K. D., and MEL'NIKOV, N. N., All-Union Scientific Research Institute of Chemical Plant Protectants

"Ester-amides of Acylated Arylthiophosphoric Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 1, Jan 71, pp 84-88

Abstract: Twelve ester-amides of acylated aryl thiophosphates of the type $\text{CH}_3\text{COC}_6\text{H}_4\text{OP(S)(OR')NHR''}$, where R' is CH_3 through C_3H_7 , and R'' is either H or CH_3 , were obtained from the corresponding dichloroaryl thiophosphates by treatment with alcohol and subsequent amidation. The resulting ester-amides possess pesticidal activity comparable to the activity of the dialkyl derivatives, but are considerably more toxic warm-blooded animals.

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YAGODIN, B.A.

BIOLOGY

DR. YAGODIN
B. A. YAGODIN

INTERNATIONAL SYMPOSIUM ON BIOLOGICAL HERITAGE PROTECTION

(Article by Doctor of Biological Sciences B. A. Yagodin and Doctor of Biological Sciences B. A. Yagodin, Institute of Zoology, Academy of Sciences of the USSR, Moscow, U.S.S.R., 1970, pp. 92-97)

An International Symposium on the Biological Heritage Protection was held in Moscow, U.S.S.R., from 21 August to 5 September 1970. The symposium was held in the city of Moscow, U.S.S.R., and was attended by 100 participants from 17 countries of the world.

The symposium was held in the city of Moscow, U.S.S.R., and was attended by 100 participants from 17 countries of the world. The symposium was held in the city of Moscow, U.S.S.R., and was attended by 100 participants from 17 countries of the world.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF COBALT ON NITRATE REDUCTASE ACTIVITY IN LEGUMES -U-
AUTHOR--(04)-YAGODIN, B.A., OVCHARENKO, G.A., VASILYEVA, YU.V., IVANOVA,
M.A.
COUNTRY OF INFO--USSR
SOURCE--SEL SKOKHOZ. BIOL. 1970, 6(1), 134-6
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEGUME CROP, NITRATE, ENZYME ACTIVITY, COBALT COMPOUND, PLANT
PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/2012

STEP NO--UR/9062/70/005/001/0134/0136

CIRC ACCESSION NO--AP0137187

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137187

ABSTRACT/EXTRACT--(U) GP-G- ABSTRACT. COBALT STIMULATES THE NITRATE REDUCTASE ACTIVITY IN THE LEAVES AND NODULES OF LEGUMES. APPLICATION OF TOXIC AMTS. CAUSES CHLOROSIS AND A DECREASE IN ENZYMIC ACTIVITY. CO APPEARS TO ACT AS AN ACTIVATOR FOR NITRATE REDUCTASE. FACILITY: INST. FIZIOL. RAST. IM. TIMIRYAZEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 581.192.08

PEYVE, YA. V., YAGODIN, B. A., and BAKYEVA, N. M.

"Preparative Electrophoresis of Proteins on Polyacrylamide Gel"

Moscow, *Biofizicheskiye Metody v Fiziologii Rasteniy*, Nauka, 1971, pp 5-13

Translation of Russian Abstract: A method of preparative electrophoresis of proteins on polyacrylamide gel is described. The method makes it possible to separate proteins according to their molecular weight, structure, and magnitude of charge. The work was done with equipment made entirely of plexiglas. It was built according to the type B apparatus designed by D. Rakusen and N. Kal'vaniko. The equipment was modified as follows. A cooling jacket was mounted around the upper electrophoretic column; instead of the bolts affixing the column to the elution chamber, a slip mantle and a screw-on lower column were used. To reduce resistance, the lower gel was eliminated, and contact is established by filling the lower electrophoretic column with the electrode buffer solution. The method is demonstrated by using hemoglobin obtained from the tubers of bean plants: fodder beans, soy beans, and lupine. The formulas for the buffer solutions and the gel polymerization solutions were taken from the recommendations on the analytical disc electrophoresis of hemoglobin. The isolated protein fractions contain the various hemoglobin components in the unchanged state and in a sufficiently highly purified condition.

1/1

USSR

UDC 542.61:546.831

YAGODIN, G. A., and TARASOV, V. V.

"Rate of Di-2-Ethylhexylphosphoric Acid Extraction of Zirconium from Nitrate Solutions"

Leningrad, Radiokhimiya, Vol 12, No 4, 1970, pp 664-665

Abstract: The authors investigated extraction of zirconium with solutions of di-2-ethylhexylphosphoric acid in various diluents (decane, carbon tetrachloride, chloroform, benzene, octane and decanol). The size of the phase contact surface was determined from the light scattering of emulsions, and the concentration of zirconium in the water phase was determined by analyzing samples at definite time intervals during mass exchange. The water phase (90 cc) without zirconium was poured into the reaction vessel and the organic phase was then added, after which the mixer was switched on. When steady-state conditions were reached in the reaction vessel, a nitrate solution of ^{95}Zr tracer isotope was added. The volume of solution was insignificantly small in comparison with the volume of emulsion and the change in specific surface of contact was disregarded. The water phase was sampled after
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USSR

YAGODIN, G. A., and TARASOV, V. V. , Radiokhimiya, Vol 12, No 4, 1970, pp 664-666

definite time intervals, and the zirconium concentration was radiometrically determined. The results showed that interaction of zirconium with di-2-ethylhexylphosphoric acid takes place in the water phase, the overall rate of extraction being determined by the stage of transfer of the extractant into the reaction phase. The rate of extraction may be calculated from data on the coefficients of mass transfer of di-2-ethylhexylphosphoric acid in the limiting (water) phase.

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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--METHOD AND APPARATUS FOR STUDYING EXTRACTION KINETICS IN
ELECTROLYTE NONELECTROLYTE SYSTEMS -U-
AUTHOR--(02)-YAGODIN, G.A., TARASOV, V.V.
COUNTRY OF INFO--USSR
SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970, 4(3), 426-9 (RUSS)
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRIC CONDUCTIVITY, PHOTOMETRY, MASS TRANSFER, SOLVENT
EXTRACTION, CHEMICAL LABORATORY APPARATUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0901 STEP NO--UR/0455/70/004/003/0426/0429
CIRC ACCESSION NO--AP0137929
UNCLASSIFIED

272 020 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0137929
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A COMBINED ELEC. COND. AND
PHOTOMETRY TECHNIQUE AND AN APP. WITH ITS ELECTRONIC EQUIPMENT ARE
DESCRIBED AND WERE USED TO STUDY RAPID MASS TRANSFER IN AN EMULSIFIED
(MAGNETICALLY STIRRED AT 1200 RPM) DIETHYLHEXYLPHOSPHORIC ACID (I), C
SUB10 H SUB14 (II), H SUB2 O SYSTEM. FORM MEASUREMENTS OF CHANGING ELEC.
COND. AND PHOTOCURRENT CHANGES, WHICH ARE INDICATIVE OF THE SURFACE
AREAS OF THE PHASES IN CONTACT (PFK), MASS TRANSFER COEFFS. (K SUBC) OF
I IN H SUB2 O (CONTINUOUS PHASE) WERE CALCD. AT DIFFERENT INJECTION
RATES (ADDNS.) OF II. A NEARLY CONST. VALUE OF K SUBC EQUALS 1.27 M-HR
WAS DETD. AT ALL CONDITIONS EVEN THOUGH THE PFK VARIED.
FACILITY: MOSK. KHIM. TEKHNO. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STABILITY OF POLYMERIC COMPOUNDS OF ZIRCONIUM IN NITRIC ACID
SOLUTIONS -U-
AUTHOR-(03)-YAGODIN, G.A., CHEKHAREV, A.M., KAZAK, V.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1284-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--NITRIC ACID, ZIRCONIUM, POLYMER CHEMICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1218 STEP NO--UR/0078/70/015/005/1284/1289
CIRC ACCESSION NO--AP0136629
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO KINDS OF POLYNUCLEAR SPECIES OF UNDET. FORM OF ZR EXIST IN HNO SUB3 SOLN. IN EQUIL. WITH MONOMERIC AND STABLE "NON EQUIL." SPECIES. ONE FORM IS IN THERMODYNAMIC EQUIL. (DECOMP. ON ACIDIFICATION) AND ONE DOES NOT TEND TO REVERSIBLE DECOMP. AND TO EXTN. BY NEUTRAL EXTN. AGENTS. THE LATTER SPECIES FORM IN THE PRESENCE OF SMALL CONCNS. OF IMPURITIES. THE CONDITIONS AT WHICH HYDROLYTIC FORMS OF ZR, HAVING OH BRIDGES, EXIST IN 2 N HNO SUB3 ARE GIVEN. EFFECT OF SO SUB4 PRIME2NEGATIVE ON DETN. OF ZR ION IN THE PRESENCE OF PYROCATECHOL VIOLET IS DISCUSSED.

UNCLASSIFIED

1/2 . 010

UNCLASSIFIED

PROCESSING DATE--13NOV70

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

AUTHOR--(04)-BUNINAKRIVORUKOVA, L.I., YAGODIN, V.G., MARTYNOVA, V.P.,
BALYAN, KH.V.

COUNTRY OF INFO--USSR

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

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

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

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3006/1342

STEP NO--UR/0366/70/006/005/0991/0995

CIRC ACCESSION NO--AP0135016

UNCLASSIFIED

2/2 010

CIRC ACCESSION NO--AP0135016
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--13NOV70

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

UNCLASSIFIED

USSR

UDC 629.78.017.2

KOLPAKOVA, N. P., SALIKOV, L. M., and YAGODIN, V. M.

"Investigation of the Parametric Invariancy of up to 8 Pulsed Systems of Automatic Control"

Tr. Mosk. Aviats. In-ta (Works of the Moscow Aviation Institute), No 240, 1972, pp 134-139 (from Referativnyy Zhurnal--Raketostroyeniye, No 5, May 73, Abstract No 5.41.142 by the authors)

Abstract: Pulsed systems of automatic control (ISAC) are being more widely used in different fields of engineering. Parameters of the control object and system of control, owing to structural, technological and other conditions, may deviate from calculated values which leads to a change in the dynamic properties of the system. The problem of parametric invariancy is involved in the independence of the motion of ISAC and their dynamic properties to variations of control object and control system parameters. The theory of invariancy in linear systems was developed in the works of B. N. Petrov, G. V. SHIPANOV, And N. N. LUZIN. An algorithm is proposed in this work for plotting the region of parametric invariancy in the amplitude of the parameters of pulse-width modulation modulators of ISAC. 9 figures, 3 bibliographic references.

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USSR

UDC 541.49:546.841

SERGEYEV, G. M., ASTRASHKOVA, L. G., and YAGODINSKAYA, N. N.

"Complexation of Th(IV) With Acetic Acid by pH-Potentiometric Titration"

Moscow, Radiokhimiya, Vol 12, No 2, 1970, pp 392-393

Abstract: A study was made of complexation of Th(IV) with acetate ions by pH potentiometry. To prevent hydrolysis of the metal, thorium nitrate is dissolved in $5 \cdot 10^{-3}$ M HNO_3 . Total concentration of thorium ions in all experiments was $5 \cdot 10^{-3}$ M, and the concentration of acetate ions varied from $5 \cdot 10^{-3}$ to $7.5 \cdot 10^{-2}$ M. Titration was conducted with carbonate-free potassium hydroxide in a thermostated cell at $t = 25 \pm 0.05^\circ$. Preliminary experiments showed that in the ligand concentration range $5 \cdot 10^{-3}$ to $2 \cdot 10^{-2}$ M, formation constants of complex thorium ion did not remain constant, evidently owing to competing hydrolysis. However, at acetate ion concentrations higher than $4 \cdot 10^{-2}$ M, stability constants of complexes were constant within limits of experimental error.

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1/2 008
UNCLASSIFIED
PROCESSING DATE--13NOV70
TITLE--COMPLEXING OF THORIUM IV WITH ACETIC ACID STUDIED BY POTENTIOMETRIC
TITRATION -U-
AUTHOR--(03)-SERGEYEV, G.M., ASTRASHKOVA, L.G., YAGDINSKAYA, N.N.
COUNTRY OF INFO--USSR
SOURCE--RADIOKHIMIYA 1970, 12(2), 392-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--THORIUM COMPOUND COMPLEX COMPOUND, ACETIC ACID, POTENTIOMETRIC
TITRATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1229
CIRC ACCESSION NO--AP0128645
STEP NO--UR/0186/70/012/002/0392/0393
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128645

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FORMATION OF TH, ACETATE
 COMPLEXES TH,ACO PRIME3 POSITIVE (LOG K SUB1 EQUALS 3.1) AND TH(ACO)
 SUB2 PRIME2 POSITIVE (LOG K SUB2 EQUALS 3.2) (K IS STABILITY CONST.) IS
 STUDIED BY POTENTIOMETRIC TITRN. WITH KOH OF A C SUBTH PRIME4 POSITIVE
 SLIGHTLY ACID SOLN. HAVING PH IS LESS THAN OR EQUAL TO 3, TH
 PRIME4 POSITIVE CONC. 0.005M, ACETATE ION CONC. 0.005-0.075M, TEMP.
 25.0 DEGREES, IONIC STRENGTH 0.5 (KNO SUB3), AND HOAC DISSOCN. CONST.
 (3.04 PLUS OR MINUS 0.03) TIMES 10 PRIME NEGATIVES. THE K SUB1 AND K
 SUB2 WERE DETD. FOR ACETATE CONCNS. OF 0.04, 0.05, AND 0.075M.

UNCLASSIFIED

USSR

YAGODINSKIY, V., Candidate of Medical Sciences

"The Magnetic Memory of Viruses"

Riga, Sovetskaya Latvija, 14 Jul 71, p 4

Abstract: In Saransk, the capital of the Mordvinian Autonomous Soviet Socialist Republic, Professor Aleksey Sosunov, for the first time under laboratory conditions, discovered the effect of solar activity on bacteriophage production. These results were confirmed at the Second Moscow and Simferopol' Medical Institutes. It was known earlier that the curve of change in solar activity was related to the curve of influenza epidemics in an amazing way. How can this apparently mystifying relationship be explained?

Deviations in solar activity cause magnetic storms on earth which even influence microorganisms, for bacteria and viruses are sensitive living instruments which discern the slightest divergence of the earth's magnetic pole from its mean value.

But the mechanism of the influence of the magnetic pole on the plant and animal world has not as yet been explained conclusively. In present-day magnetobiology there are several hypotheses explaining the unusual relationship between the activity of microorganisms and disturbances in the earth's magneto-

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USSR

YAGODINSKIY, V., Sovetskaya Latviya, 14 Jul 71, p 4

sphere. One of these hypotheses is based on the fact that in the process of evolution viruses and bacteria adapted to the magnetic pole of the earth and reacted sensitively to its changes. Magnetic storms serve as a source of information about future disturbances of the upper atmosphere and the necessity to adapt to them. In the genetic code of microorganisms, information is probably recorded about the need to adapt to changes in the magnetosphere in order to survive.

Analysis of the effect of the magnetic pole on certain characteristics of microbes performed at the Second Moscow Medical Institute demonstrated that following magnetic irradiation, *Escherichia coli* increase their progeny several times in comparison to controlled experiments, and other bacteria begin to grow in such concentrations of antibiotics as would be absolutely destructive for their "unmagnetized" brothers. For example, the immunity of "magnetized" strains of *Staphylococci* to tetracycline is quadrupled, while with respect to penicillin, it increases by a factor of 300 to 400. Bacteriophages serve as a convenient and efficient object for an analysis of the active life of viruses. That is why research is being conducted with bacteriophages in the Saransk laboratory on the effect of solar activity and the magnetic poles on the very smallest inhabitants of the microcosm. Research has shown

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YAGODINSKIY, V., Sovetskaya Latviya, 14 Jul 71, p 4

that the magnetic pole increases bacteriophage production corresponding to the effect of x-ray and ultraviolet-ray radiation. This is indeed experimental confirmation of the fact that both viruses and bacteria remember the evolution of the microcosm and adapt to the changing conditions of the upper atmosphere. This is why pandemic and epidemic flu has a cyclic correspondence to periods of solar activity.

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YAGODINSKIY, V. N.

JPRS-53880

23 August 1971

UDC 616.988-002.151-036.2(470.61)
EPIDEMIOLOGY OF CRIMEAN HEMORRHAGIC FEVER. REPORT 1. EPIDEMIOLOGICAL CHARACTERISTICS OF CRIMEAN HEMORRHAGIC FEVER IN ROSTOVSKAYA OBLAST

Article by V.D. Perelato¹v, K.K. Vostokova, V.N. Yagodinskiy and V.I. Durov-Korot¹ov. Scientific Research Institute of Medical Parasitology, RSPSR Ministry of Public Health, Moscow, Meditsinskaya P. ¹ Parazitologiya i Parazitologicheskiye Splezni, Kuznitsan, No 3, 1971, pp 324-327

A number of works have already treated the epidemiological problems of Crimean hemorrhagic fever (CHF) in Rostovskaya Oblast (Perelato¹v, 1964, 1965; Perelato¹v et al, 1966; Birulya et al, 1966, and others).

The materials at our disposal and our own observations over the period 1963-1969 provide a possibility for dynamically describing the natural focus of CHF in Rostovskaya Oblast, pointing out population groups in a potentially dangerous position with regard to CHF infection, justifying a number of nonspecific prophylactic measures, and defining the immediate tasks.

For the oblast as a whole the total number of CHF infections did not exceed 61 cases per year from 1963 through 1969, with the exception of 1968 when 131 victims of CHF were recorded. Even though the infections were of a sporadic nature, the number of CHF patients as well as the number of population centers undesirable with respect to CHF and of infected rayons increased through 1968 (Figure 1).

A tendency of "expansion" of the borders of the focus of CHF infection were noted toward the northwest and southeast. Cases of CHF were recorded in 1968 and 1969 in Killevskiy, Tarasovskiy, Korozovskiy, and Taimlyenskiy rayons, where there were none before 1968. Even though there were charges in the

MEDICINE

USSR

UDC 543.422

NEKRASOV, L. I., and YAGODOVSKAYA, T. V., Moscow State University Ineni M. V. Lomonosov

"Some General Properties of the Infrared Spectra of Liquid Ozone and of the Product of Its Reaction With Atomic Hydrogen -- the Peroxide-Radical Condensate"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 11, Nov 72, pp 2702-2705

Abstract: Ozone obtained by direct condensation of oxygen plasma in a glowing discharge contains an additional component with a more complex structure than O_3 . The IR spectrum of this material contains the usual O_3 absorption bands and in addition the following bands: 1200-1300, 940, 890-900 and 769 cm^{-1} . It is proposed that the new component is O_4 . To obtain O_4 three conditions must be fulfilled: necessary concentration of atomic oxygen and ozone must be available in the reaction zone; the temperature must be very low [-196°C] to assure formation of a film of liquid ozone; and presence of a liquid ozone film leading to the occlusion of the O_4 molecules formed.

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USSR

UDC 541.183:546.59+541.128.1

YAGODOVSKIY, V. D., STEPANOV, V. M., and ZUBAREV, Yu. A., Patrice Lumumba Friendship University, Moscow

"Effect Which the Adsorption and Catalytic Dissociation of Formic Acid Have on the Absorption Spectrum of Thin Gold Films"

Moscow, Kinetika i Kataliz, Vol 12, No 4, Jul/Aug 71, pp 942-947

Abstract: A film of gold was produced by vapor deposition of gold wire onto the window of a sealed quartz cell at a residual pressure of $1 \cdot 10^{-6}$ - $5 \cdot 10^{-7}$ mm Hg. The resultant films were thermally aged for 30 minutes at temperatures from 125 to 200°C in a krypton atmosphere. The absorption spectrum was recorded on a ZMR-2 monochromator and the adsorption isotherms were determined by leakage through a capillary. The rate of dissociation of formic acid was measured from the change in hydrogen pressure (with periodic freezing of the reaction mixture with liquid nitrogen) in the interval from $1 \cdot 10^{-4}$ - $2 \cdot 10^{-2}$ mm Hg. The hydrogen pressure was recorded by an LT-2 tube calibrated with respect to a McLeod gage. In five films which were made, a broad peak was observed in the 5500-6700 Å range, which is evidence of the granular structure of the films. A change in the absorption spectra of the metal was observed in the case of strong adsorption
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USSR

YAGODOVSKIY, V. D., et al., Kinetika i Kataliz, Vol 12, No 4, Jul/Aug 71, pp 942-947

of formic acid on granular gold films, indicating an increase in the concentration of the conduction electrons of the metal. A study is made of the kinetics of dissociation of formic acid on these films with simultaneous registration of the absorption spectrum of the metal. The observed changes in the spectrum are interpreted with the aid of the theory of plasma vibrations of electrons. The reaction rate is compared with the rate of change in the number of conduction electrons during the reaction.

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- 7 -

USSR

SAFARALIBEKOV, M. G., (Deceased), ~~YAGODZINSKAYA, YE. M.~~, MIRZOYEVA, N. M.,
LEYBZON, M. M. and USTINOVICH, V. N.

"Characteristics of the Clinical Course of Ornithosis"

Azerbaydzhanskiy Meditsinskiy Zhurnal, No 2, 1970, pp 71-74.

Translation: The clinical picture of ornithosis, incorrectly diagnosed as pneumonia or neurasthenia, was described for the first time in Azerbaydzhan (Agdzhabedinskiy rayon). Semi-wild pigeons were the source of infection. Serological and virological studies were conducted in the arbovirus laboratory of the VMIG Institute. Three of the 15 pigeons were serologically positive, and ornithosis virus was isolated from one of them, with characteristic intracellular inclusions in liver and spleen smears. Sera from the blood of a number of adult and child patients was positive with respect to ornithosis antigen. Three associates of the arbovirus laboratory became infected with ornithosis during the work and were subjected to thorough clinical, serological and biochemical study, after which catamnestic observations were conducted for two years.

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1/2 027

UNCLASSIFIED

PROCESSING DATE--09OCT70

TITLE--STUDY OF THE DIFFUSION OF IONS IN PROPER GAS TRANVERSELY TO THE
MAGNETIC FIELD -U-

AUTHOR--YAGOLA, V.V.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL TEKHNICHESKOI FIZIKI, VOL. 40, JAN. 1970, P. 108-112

DATE PUBLISHED--JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS DIFFUSION, DIFFUSION COEFFICIENT, HELIUM, ION
CONDUCTIVITY, TRANSVERSE MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1221

STEP NO--UR/0057/70/040/000/0108/0112

CIRC ACCESSION NO--AP0046144

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0045144

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL INVESTIGATION OF THE DIFFUSION OF HELIUM IONS INTO THE HELIUM GAS IN A PERPENDICULAR DIRECTION TO THE MAGNETIC FIELD. THE TIME IN WHICH THE IONS MOVED FROM THE AXIS TO THE WALL OF A CYLINDRICAL CHAMBER WAS MEASURED BY MEANS OF PHASE TECHNIQUE. DIFFUSION COEFFICIENTS FOR THE TRANSVERSE MAGNETIC FIELD WERE MEASURED AS A FUNCTION OF THE MAGNETIC FIELD STRENGTH AND FOR DIFFERENT GAS PRESSURES. THE RESULTS OBTAINED ARE IN A GOOD AGREEMENT WITH TOWNSEND'S FORMULA FOR DIFFUSION COEFFICIENTS OF CHARGES IN A MAGNETIC FIELD. THE FREQUENCY OF THE EFFECTIVE COLLISIONS BETWEEN IONS AND ATOMS OF HELIUM IS ESTABLISHED FOR DIFFERENT PRESSURES.
FACILITY: AKADEMIIA NAUK UKRAINSKOI SSR, INSTITUT FIZIKI, KIEV
UKRAINIAN SSR.

UNCLASSIFIED

USSR

BEKKER, A. V., YAGOL'NITSER, M. A.

UDC: 519.2

"Algorithm for Distinguishing Homogeneous Sets of Objects"

Novosibirsk, Raspoznavaniye obrazov i regressivn. analiz v ekon. issled.--sbornik (Pattern Recognition and Regressive Analysis in Economic Research--collection of works), 1972, pp 95-105 (from RZh-Kibernetika, No 5, May 73, abstract No 5V215 by V. Konakov)

Translation: An algorithm for grouping multidimensional objects is considered which is based on nonparametric evaluation of probability density from an available sample. An iteration of the algorithm is presented which consists of seven stages, and the reasoning on which the procedure is based is given. Problems relating to convergence of the parameter $h(N)$ and non-parametric estimate of density are given. A numerical example is presented of investigation of arrangement of 30 points on a plane.

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USSR

UDC: 519.2

YAGOL'NITSER, M. A.

"On Nonparametric Estimates of Probability Density and Regression"

V sb. Vopr. postroyeniya i primeneniya stat. modeley ekon. pokazatelev preduriyatiy (Problems in the Construction and Use of Statistical Models of the Economic Indices of Enterprises), part 1, Novosibirsk, 1971, pp 55-67 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V272)

[No abstract]

1/1

USSR

UDC 536.246:536.423.1

YAGOV, V. V., LABUNTSOV, D. A., Moscow Power Engineering Institute

"Intensification of Heat Exchange and Stabilization of the Boiling Process in a Regime of Very Low Pressures"

Minsk, Inzhenerno-Fizicheskiy Zhurnal, No. 6, 1971, pp 973-981

Abstract: On the basis of an analysis of generation of the vapor phase in the evaporation of liquid on a solid heating surface, which affects the liquid surface tension σ , the microgeometry of the heating surface, and the contact angle, the origination of vapor bubbles on a heat transfer surface may be facilitated. It is shown experimentally that with sufficiently low pressures, the roughness of the heating surface has very little effect upon the boiling behavior of water and the values of the heat transfer coefficients. The superposition of hydrophobic coatings upon the heating surface in the form of individual spots, and particularly the placement of punched hydrophobic films, causes a considerable improvement in the conditions of vapor generation and brings about an intensification of heat transfer to the boiling liquid. 3 figures, 17 bibliographic entries.

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1/2 035

TITLE--HEAT TRANSFER IN BOILING LIQUIDS AT REDUCED PRESSURES AND AT FREE FLOW CONDITIONS -U- UNCLASSIFIED PROCESSING DATE--04DEC70

AUTHOR--(03)--YAGOV, V.V., GORODOV, A.K., LABUNTSOV, D.A.

COUNTRY OF INFO--USSR

SOURCE--INZH.-FIZ. ZH. 1970, 18(4), 624-30

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, BOILING, WATER, ETHANOL, SODIUM CHLORIDE, NICKLE, METAL ROD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1140

STEP NO--UR/0170/70/018/004/0624/0630

CIRC ACCESSION NO--AP0136560

UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136560
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEAT TRANSFER IN FREE CONVECTION
WAS STUDIED IN BOILING WATER, ETOH, AND NAOL SOLNS. ON A FLAT SURFACE
(TOP OF A 56 MM DIAM. NI ROD) AT REDUCED PRESSURES OF 0.036-1.0 BAR AND
AT HEATING RATES (Q) EQUALS 10-200 KW-M PRIME2. THE MECHANISMS OF HEAT
TRANSFER OPERATING AT THE DIFFERENT Q ARE DISCUSSED. IN THE TRANSIENT
(FREE CONVECTION TO STABLE BOILING) REGIME, THE TEMP. DRIVING FORCE
DELTA T REMAINED CONST. WITH INCREASING Q, I.E. THE CURVE OF Q VS. DELTA
T WAS VERTICAL IN THIS REGION. THE DEPENDENCE OF Q EQUALS F(DELTA T) IN
THE TRANSITION REGION IS EXPLAINED ON THE BASIS OF OSCILLATIONS IN THE
HEATING SURFACE TEMP.

FACILITY: ENER. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 576.851.315.098.345.5

YAGOVKIN, E. A., DOMARADSKIY, I. V., KISELEVA, V. I., and LOBANOV, V. V.,
Rostov-on-Don Antiplague Institute

"Isolation of a Cholera Vibrio Lipopolysaccharide and Some of Its Biological Properties"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1972,
pp 47-52

Abstract: A purified lipopolysaccharide extracted from strain 2913 of the El Tor vibrio, Ogawa serotype, was examined as a possible component of a chemical vaccine against cholera. A modification of Westphal's method was used to obtain the lipopolysaccharide. The yield of the purified preparation was 2% of the dry bacterial mass. It contained 2.67% nitrogen, 1.3% phosphorus, 1.3% protein, 51.7% carbohydrates, and 0.4% nucleic acids. The lipid component was determined qualitatively by staining the electrophoregrams with Sudan black. Ouchterlony's gel precipitation reaction and immunoelectrophoresis in agar gel revealed two precipitation bands of thermostable antigens. The preparation had low toxicity for mice and moderate pyrogenicity for rabbits. It exhibited preventive properties in a test of active protection of mice. Parenteral immunization of rabbits with lipopolysaccharide resulted in the formation of vibriocidal antibodies in high titers.

1/1

- 16 -

USSR

UDC:621.793

FILATOV, V. I., YAGUBETS, A. N., CHELYSHEV, A. A., KOVALEV, A. V.,
Kishinev

"Programming of Certain Conditions of Electrodeposition of Composite
Coatings Hardened by Dispersed Particles"

Kishinev, Elektronnaya Obrabotka Materialov, No 5, 1973, pp 37-40

Abstract: The purpose of this article was the development of a mathematical model of the formation of composite electrochemical coatings with various contents of inclusions through the thickness of the coating and experimental testing of the model. The mathematical model of the mechanism of coating formation produced, including hardening of the coatings by dispersed hard particles, demonstrates the possibility of production of wear-resistant coatings with predetermined physical and mechanical properties.

1/1

- 7 -

USSR

YAGUBETS, A. N., KARYAKIN, V. V., KOVALEV, V. V., BUZINOVA, V. P., and BOBANOVA, ZH. I., Kishinev

"Electrodeposition of Nickel and Iron Coatings Alloyed with Boron"

Kishinev, Elektronnaya Obrabotka Materialov, Vol 38, No 2, 1971, pp 24-28

Abstract: A study was carried out to explore the possibility of preparing boron-containing alloys by an electrolytic method. The nickel electrolyte used had a composition (in g/l) of nickel sulfate (80), nickel nitrate (15), ammonium chloride (30), potassium bisulfite (3), sodium citrate (60), triethanolamine (35), trilon B (35), mercaptophthalic anhydride (0.4), and sodium borohydride (0.4). The acidity of the nickel electrolyte varied from a pH of 10.5 to 14, the temperature from 20 to 70°C, the cathodic current density from 3 to 10 amp/decimeters². The composition of the iron electrolyte used was (g/l) ferric sulfate (80), Trilon B (132), triethanolamine (154), sodium borohydride (0.5). The electrolyte temperature was 80°C, the pH 11-12, the cathodic current density varied between 5-15 amps/decimeters². The boron content in the powder, microstructure, microhardness, and phase composition of the powder in relation to variation of electrolysis conditions were investigated.

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USSR

YAGUBETS, A. N., et al., Elektronnaya Obrabotka Materialov, Vol 38, No 2, 1971, pp 24-28

The addition of stabilizers displaced the polarization curve of nickel, the area and degree of displacement depending on the stabilizer. The iron electrolyte was not affected by the addition of sodium borohydride. The boron uptake by the nickel and iron powders was found to be dependent on the electrolysis conditions and in the nickel amounted to 1-3% by wt. and in the iron up to 7% by wt. Microhardness was also dependent on the electrolytic conditions.

2/2

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ELECTRODEPOSITION OF IRON ALLOYS -U-
AUTHOR--(04)-SIDELNIKOV, V.K., YAGUBETS, A.N., BONDAR, V.V., MELNIKOVA,
M.M.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,099
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--10FEB70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, ELECTROLYTE, METAL DEPOSITION, IRON ALLOY,
COBALT IRON ALLOY, PHOSPHORUS ALLOY, ELECTRODEPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1826 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AAC132093
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0132093

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN FE,CO,P ALLOY IS DEPOSITED AT
20-5 A-DM PRIME2, PH 0.4-0.6, AND 50-60DEGREES FROM AN ELECTROLYTE
CONTG. FECL SUB2 450-600, NA HYPOPHOSPHITE 10-15, AND COCL SUB2 5-15
G-L. FACILITY: INSTITUT PRIKLADNOY FIZIKI AN MOLDAVSKOY SSR.

UNCLASSIFIED

Acc. Nr.

AP0055925

Abstracting Service:
CHEMICAL ABST.

6-70

Ref. Code
UR0078

115226g Thermal decomposition of nitrosyl chloride studied by an ir spectroscopic method. Kefer, R. G.; Amirova, S. A.; Yagud, B. Ya. (USSR). Zh. Neorg. Khim. 1970, 15(2), 362-5 (Russ). Decompn. of NOCl at 400-600° K was accelerated in the presence of N or Cl. Temp. dependence of dissoen. consts. of the reactions, $\text{NOCl} + \text{N}_2 = \text{NO} + \text{Cl} + \text{N}_2$ and $\text{NOCl} + \text{Cl}_2 = \text{NO} + \text{Cl} + \text{Cl}_2$, (K_1 and K_2 , resp.) are: $\log K_1 = 15.2 - 7510/T$ and $\log K_2 = 13.03 - 6003/T$, resp. The decompn. rates were detd. by measuring the decreasing intensity of $\nu(\text{NOCl})$ at 1801 cm^{-1} .
HMJR, J

C.F.

11

REEL/FRAME
19841254

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USSR

4
VERSHIGORA, A. Ye., DYACHENKO, S. S., LISUNKINA, I. K., MORGUNOV, I. N.,
NOGACHEVSKIY, I. I., TEREKHOV, S. N., CHERNUSHENKO, Ye. F., and YAGUD, S. L.,
Editors, Ministry of Health, Ukrainian SSR

Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology.
Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

Translation: Annotation: Articles included in the collection deal with the most pressing problems of theoretical and practical immunology, viz., mechanism of the formation of antibodies and immunological reactivity, allergy and clinical and experimental immunopathology, specific prophylaxis, and reactogenicity of vaccines and postvaccinal complications. Works aimed at devising methods of immunological investigations help to solve problems of modern immunology.

The previous four issues of this collection were published under the title of "Voprosy Immunologii" (Problems of Immunology).

The collection is of interest to scientific workers, practitioners of various specialties, and to senior students of medical institutes.

191 pages. 52 Russian articles with Russian abstracts.
1/10

USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

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USSR

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USSR

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USSR

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USSR

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USSR

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USSR

VERSHIGORA, A. Ye., et al., Immunologiya. Respublikanskiy mezhvedomstvennyy sbornik (Immunology. Republic Interdepartmental Collection), No 5, "Zdorov'ya," Kiev, 1972

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10/10

USSR

UDC 576.851.49.097.088

YAGUD, S. L., and BARSHTEYN, Yu. A., Kiev Scientific Research Institute of Epidemiology, Microbiology, and Parasitology, Kiev

"Study by the Fluorescent Antibody Method of Localization of Typhoid Antigen During Experimental Infection"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 5, Sep/Oct 71, pp 641-646

Abstract: The dynamics of distribution of typhoid antigen and its localization in organs and tissues were studied upon experimental enteral and subconjunctival infection of rabbits and guinea pigs, using the direct fluorescent antibody method and in some cases the indirect method. The results were checked by microbiological assay. The antigen was detected in the earliest period after infection in all lymphoid organs and formations. The highest intensities and duration of fluorescence were observed in lymph nodes closest to the site of introduction of the infectious agent and in the spleen. The antigen was first present outside of cells and was then concentrated mainly in reticuloendothelial cells. The results obtained have a bearing on the development of immunity to typhoid and the typhoid carrier state.

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- 10 -

USSR

YACID, S. L., and BARSHEYN, Yu. A., Kiev Scientific Research Institute of Epidemiology, Microbiology, and Parasitology, Kiev

"Interaction of the Pathogen With the Organism and Its Separate Structures in Experimental Typhoid Infection"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 6, Nov/Dec 71, pp 771-772

Abstract: Using the immunofluorescence method, the resorption of the antigen in reticular and lymphoid cells of various organs was studied upon experimental infection of rabbits with typhoid. Results obtained by the fluorescent antibody method indicated that typhoid bacteria function as intracellular parasites. This was confirmed by experiments in vitro with cell cultures of macrophages. After diffusion chambers containing a definite amount of live typhoid bacteria had been implanted into the abdominal cavity of rabbits, the animals exhibited all symptoms of a typhoid infection, although the bacteria did not diffuse outside the chambers. Immunological shifts were observed both in the organism of the rabbits and in the culture liquid within the chambers. As indicated by the antibodies that formed, O, H, and Vi antigens diffused out of the chambers. After the chambers had been implanted into immunized rabbits, 19-S and 7-S antibodies penetrated readily into the chambers. Humoral factors diffusing
1/2

USSR *

YAGUD, S. L., and BARSHTEYN, Yu. A., Mikrobiologicheskii Zhurnal, Vol 33,
No 6, Nov/Dec 71, pp 771-772

into the chambers did not inactivate the bacteria; inactivation took place only when lymphoid and macrophage cells were introduced into the chambers. In the experiments conducted, the bacteria multiplied freely in the culture liquid of the implanted chambers.

2/2

- 8 -

USSR

UDC 547.944/945

YAGUDAYEV, M. R., MATKHALIKOVA, S. F., ANLIKOV, V. M., YUNUSOV, S. YU., Order of the Red Banner of Labor Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences

"Study of the Stereochemistry of the Alkaloids of Codonopsis and Codonopsinin by the Method of Nuclear Magnetic Resonance Spectroscopy"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 4, 1972, pp 495-498

Abstract: A structure was proposed previously for the new alkaloids -- codonopsin (I) and codonopsinin (III) isolated from *Codonopsis clematidea* on the basis of chemical transformations and spectral data (S. F. Matkhalikova, et al., KhPS, 30, 1969; S. F. Matkhalikova, et al., KhPS, 210, 1971). A study has now been made of the nuclear magnetic resonance spectra of the bases and their acetyl derivatives in order to establish the spatial structure of these alkaloids. The N-methylpyrrolidine ring A has a semicruciformation with relative reciprocal arrangement and orientation of the protons and H₁ and H₃- α groups pseudoequatorial, H₂ and Ph- β equatorial, and C-CH₃- β pseudoaxial, OR₁- α pseudoaxial, OR₂- β pseudoaxial and H₄- α pseudoaxial.

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- 6 -

Alkaloids

USSR

UDC 547.94+543.42

ISKANDAROV, S., KAMALITDINOV, D. Dzh., YAGUDAYEV, M. R., and YUNUSOV, S. Yu.,
Order of the Red Banner Institute of Natural Products Chemistry, Acad. Sc.
UzSSR

"Derivatives and Stereochemistry of Matrin Alkaloids"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 2, 1971, pp 174-179

Abstract: α -Substituted derivatives of isomeric matrins were synthesized and studied by IR, NMR, mass spectroscopy and ORD. Soforidin dissolved in a mixture of SOCl_2 and SO_2Cl_2 was refluxed for 1 hr. The solvent was removed, the residue treated with a 5% ammonia solution, and extracted with ether and chloroform. Chromatography over silica gel gave dichlorosoforidin, m.p. 128-130°, $[\alpha]_D = +19^\circ$. Analogously the dichloroleontin, m.p. 158-159° and dichloromatrin were obtained. To prepare dichloroisosoforidin, m.p. 152°, $[\alpha]_D = -114.8^\circ$ the above reaction had to be extended to 3 hrs. Shaking the dichloroalkaloids dissolved in alcohol with PtO_2 produced monochloro derivatives: monochlorosoforidins: A- an oil, $[\alpha]_D = +17^\circ$ and B- a solid, m.p. 140-141°, $[\alpha]_D = +30^\circ$; monochloroleontin, m.p. 139-140°, $[\alpha]_D = -17^\circ$, α -monochloromatrin, m.p. 106-107°, $[\alpha]_D = +29^\circ$ and monochloroisosoforidin chlorohydrate, m.p. 273-275°. Monochloroisosoforidin itself is an oil

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USSR

ISKANDAROV, S., et al., Khimiya Prirodnikh Soyedineniy, No 2, 1971, pp 174-179

$[\alpha]_D = -75^\circ$, which could be converted to dehydroisosoforidin by a reaction with sodium iodide and lithium carbonate in dimethylformamide; the product had a m.p. 97-98°, $[\alpha]_D = +50^\circ$.

2/2

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--NMR SPECTROSCOPIC STUDY OF THE STEREOCHEMISTRY OF GALANTHAMINE TYPE
ALKALOIDS. I -U-
AUTHOR--(03)--YAGUDAYEV, M.R., ABDUSAMATOV, A., YUNUSOV, S.YU.
COUNTRY OF INFO--USSR
SOURCE--KHM. PRIR. SOEDIN. 1970, 6(2) 235-9
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NMR SPECTRUM, ALKALOID, STEREOCHEMISTRY, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1890 STEP NO--UR/0393/70/006/002/0235/0239
CIRC ACCESSION NO--AP0123678
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0123678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PMR SPECTRA OF GALANTHAMINE (I),
EPIGALANTHAMINE AND ITS ACETYL DERIV. INDICATED THE OH GROUP IN I IS
QUASIAXIAL BUT IN EPIGALANTHAMINE IS QUASIEQUATORIAL AND THE RING B
POSSESS HALF CHAIR CONFORMATION IN CIS LINKAGE, WITH RING C. IN SOLN.,
THE OH IN I IS INTERMOL. H BONDED. FACILITY: INST. KHIM. RAST.
VESHCHISTV, TASHKENT, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DIFFERENCE IN N-H PROTON SIGNALS IN NMR SPECTRA OF INDOLE,
INDOLINE, AND HYDROXYINDOLE ALKALOIDS -U-
AUTHOR-(03)-YAGUDAYEV, M.R., MALIKOV, V.M., YUNUSOV, S.YU.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 89-90

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, INDOLE, INDOLE DERIVATIVE,
NUCLEAR MAGNETIC RESONANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0174

STEP NO--UR/0393/70/006/001/0089/0090

CIRC ACCESSION NO--AR0130933

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--A0130933

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CONSIDERABLE DIFFERENCE WAS FOUND IN THE N-H PROTON SIGNALS IN THE NMR SPECTRA OF VINCANINE, 2, 16, 19, 20, TETRAHYDROVINCANINE, VINERVINE, AKUAMMICINE, 2, 16, DIHYDROAKUAMMICINE, ERVAMINE, ERVINIDINE, DIHYDROERVINIDINE, COPSININE, PSEUDOCOPSININE, PICRININE, VINCARICINE, RESERPINE, ERVINE, D, ACETYLTOMBOSINE, D, ACETYLINQUIMBINE, VINERVINE, MAIDINE, ISOMAIDINE, AND CARAPANAUINE. THE POSITION OF THE N-H PROTON SIGNAL VARIES FROM TAU 6.50 WITH PICRIDINE UP TO TAU MINUS 0.69 WITH VINCANINE. FACILITY: INST. KHIM. RAST. VESHCHSTV, TASHKENT, USSR.

UNCLASSIFIED

I/2 030 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--IR-SPECTROSCOPICAL STUDY OF SUBSTITUTED, TRIFLUOROMETHYL,
BENZIMIDAZOLES -U-
AUTHOR--(03)-MOISEYEVA, G.P., KADYROV, CH-SH., YAGUDAYEV, M.R.
COUNTRY OF INFO--USSR
SOURCE--UZBEKSKIY KHIMICHESKIY ZHURNAL, 1970, NR 2, PP 41-43
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HERBICIDE, FLUORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE,
ORGANIC AZOLE COMPOUND, PLANT PHYSIOLOGY, PHOSPHORYLATION, IR SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1695 STEP NO--UR/0291/70/000/002/0041/0043
CIRC ACCESSION NO--AT0136937
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0136937

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SINCE THE HERBICIDE (TRIFLUOROMETHYL) BENZIMIDAZOLE, WHICH DISRUPTS THE OXIDATIVE PHOSPHORYLATION IN PLANTS, SHARPLY DECREASES ITS BIOLOGIC ACTIVITY ON SUBSTITUTION OF H IN THE NH GROUP FOR AN ALKYL, THE AUTHORS ASSUMED THAT THE HERBICIDAL ACTIVITY IS CONNECTED WITH THE H BONDS IN THE MOLECULE AND IS CORRELATED WITH THE BASICITY AND THE IR SPECTRUM OF THE DERIVATIVES. AN IR SPECTRA INVESTIGATION WAS MADE TO OBTAIN MORE ACCURATE DATA ON THE POTENTIAL BIOLOGIC ACTIVITY WHICH COULD BE TAKEN INTO ACCOUNT IN THE SYNTHESIS OF BIOLOGICALLY ACTIVE COMPOUNDS. THE FOLLOWING INTERMOLECULAR H BOND TYPES ARE MOST PROBABLE FOR (TRIFLUOROMETHYL) BENZIMIDAZOLE (TFB): SHOWN ON MICROFICHE. THE SPECTROSCOPIC STUDY INDICATED THAT THERE IS NO INTRAMOLECULAR BOND BETWEEN NH AND CF SUB3 GROUPS. IN THE DERIVATIVES STUDIED THE HERBICIDAL ACTIVITY INCREASED WITH THE INCREASE OF ELECTROPOSITIVENESS OF NITROGEN IN THE NH GROUP. FACILITY: INSTITUT KHIMII RASTITEL'NYKH VESHCHESTV, AN UZSSR.

UNCLASSIFIED

I/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRUCTURE OF ERVINCEINE, ERVAMYCINE, AND ERVINCINE -U-
AUTHOR--(04)-RAKHIMOV, D.A., MALIKOV, V.M., YAGUDAYEV, M.R., YUNUSOV, S.YU.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 226-31
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED PLANT PRODUCT, IR SPECTRUM, MASS SPECTRUM, NUCLEAR
MAGNETIC RESONANCE, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0466 STEP NO--UR/0393/70/006/002/0226/0231
CIRC ACCESSION NO--AP0132681
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132681

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM VINCA ERRECTA, (MINUS)
EBURNAMONINE AND 3 NEW ALKALOIDS ERVINCEINE (I), ERVAMYCINE (II), AND
ERVINCININE (III) WERE ISOLATED AND STRUCTURES ASSIGNED ON THE BASIS OF
CHEM. TRANSFORMATION AND UV, IR, NMR, AND MASS SPECTRA. II WAS
HYDROGENATED TO I. FACILITY: INST. KHIM. RAST. VESHCHSTV,
TASHKENT, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRUCTURE AND STEROCHEMISTRY OF UNGERNIA ALKALOIDS STUDIED BY NMR
-U-
AUTHOR--(03)-YAGUDAYEV, M.R., ABUAZIMOV, KH.A., YUNUSOV, S.YU.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(1), 94-7
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0464 STEP NO--UR/0393/70/006/001/0094/0097
CIRC ACCESSION NO--AP0132679

UNCLASSIFIED

2/2 009

CIRC ACCESSION NO--AP0132679
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--04DEC79

ABSTRACT. NMR SPECTRA OF UNGERINE, (I), DIHYDROUGERINE, HYPEASTRINE, HYPEASTRINE ACETATE, DIHYDROHYPEASTRINE (II), DIHYDROHYPEASTRINE ACETATE, AND UNSEVINE SHOWED THEIR B AND C RINGS TO BE CIS FUSED. IN II UNLIKE CLIVONINE, THE MEN GROUP IS SITUATED ABOVE THE BENZENE RING AND THE B-C RINGS ARE CIS FUSED. THE ORIENTATIONS OF H SUB5, H SUB5A, H SUB11B, AND THE OR GROUP AT C-5 WAS ESTABLISHED. NMR DATA ARE GIVEN. FACILITY: INST. KNIM. RAST. VECHCHESTV, TASHKENT, USSR.

UNCLASSIFIED

Alkaloids

USSR

UDC: 547.944/945

YAGUDAYEV, M.R., MALIKOV, V.M., YUNUSOV, S.YU., Order of Labor Red Banner Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Difference of N-H Proton Signals in the NMR Spectra of Indole, Indolene and Oxyindole Alkaloids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 1, 1970, pp 89-90

Abstract: Data are given on the chemical shift of the N-H proton signal in the NMR spectra of vinca alkaloids. Twenty-three alkaloids were studied using the JNM-4H-100/100 instrument at room temperature with concentrations of 5-10% in a CDCl_3 solution with hexamethyldisiloxane as an internal standard. Dilution of a reserpine solution by a factor of more than 3 (from 15 to 5%) shifts the N-H signal by only 0.15-0.20 m.d. Thus it may be assumed that a change in concentration in the 5-10% range has little effect on the chemical shift of the N-H proton. It was found that the chemical shift of the N-H proton signal in α -methylenindolines differs appreciably from that in the indole alkaloids. As a rule, the N-H chemical shift in α -methylenindoline alkaloids is observed in a weaker field (-0.69 - 1.20 m.d.) than is the case for indoles (1.75-2.15 m.c.), while the N-H chemical shift for oxyindole alkaloids occupies an intermediate place (0.56-2.18 m. d.). In the 2-16-dihydro derivatives of the α -methylenindoline alkaloids and in copsinine, pseudo-copsinine, picrinine and vincarcine, the N-H proton signal

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USSR

YAGUDAYEV, M.R., et al, Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1970, pp 89-90

shifts sharply toward a stronger field (5.50-6.50 m.d.). This important criterion may be successfully used for recognizing and identifying new vinca alkaloids and for structural analysis.

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USSR

UDC: 547.944/945

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Institute of Chemistry of Plant Substances, Tashkent, Academy of Sciences Uzbek SSR

"Investigation of the Structure and Stereochemistry of Ungernia Alkaloids by the
Method of NMR Spectroscopy"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 1, 1970, pp 94-97

Abstract: NMR spectroscopic data are given on ungerine, dihydroungerine, hippeastrine, dihydrohippeastrine, acetyldihydrohippeastrine and unsevine to explain the stereochemical singularities and structure of their molecules. The spectra of all compounds were taken on the JNM-4H-100 instrument with a working frequency of 100 MHz in a $CDCl_3$ solution. The internal standard was hexamethyldisiloxane. It was found that the B/C rings in these compounds have the cis-arrangement. In contrast to the alkaloid elivonine, in dihydrohippeastrine the B/C rings have the cis-configuration and the $N-CH_3$ group is situated above the plane of the benzene ring. The orientation of the H_5 , H_{5a} and H_{11c} protons and of the OR substituent associated with C5 in the C-ring is established.

1/1

1/2 029 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EXPERIMENTAL AND MORPHOLOGICAL EVALUATION OF COPOLYMER ON THE BASIS
OF METHYLMETACRYLATE AND RUBBER PROPOSED AS BASIS MATERIAL FOR THE
AUTHOR--(04)-PANIKAROVSKIY, V.V., YAGUDIN, A.D., PASHININ, B.P.,
POYUROVSKYAY, I.YA.
COUNTRY OF INFO--USSR
SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 2, PP 57-60
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DENTISTRY, PROSTHESIS, METHYL METHACRYLATE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/0928 STEP NO--UR/0511/70/049/002/0057/0060
CIRC ACCESSION NO--AP0102790
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SUMMARY. THE AUTHORS STUDIED REACTION OF THE ANIMAL TISSUES ON THE IMPLANTED SAMPLES OF COPOLYMER ON THE BASIS OF METHYLMETACRYLATE AND RUBBER. IT WAS ESTABLISHED THE INDIFFERENCE OF THE REFERRED TO COPOLYMER IN RESPECT TO THE TISSUES OF ANIMALS, THIS MAKING IT POSSIBLE TO USE THIS MATERIAL AS A BASIS FOR THE PREPARATION OF REMOVABLE PLATE DENTAL PROSTHESES.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DIAMOND METAL MIXTURE FOR TOOLS -U-
AUTHOR--YAGUJOIN, G.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 262,654
REFERENCE--IZKRYTIYA, IZOBRET., PROM, OBRATZSY, TOVARNYE ZNAKI 1970, 4(16)
DATE PUBLISHED--26JAN70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--METALLURGIC PATENT, HARD ALLOY, DIAMOND TOOLING TECHNOLOGY,
ELECTROCHEMICAL MACHINING, STEEL, CUTTING TOOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/1455 STEP NO--UR/0402/70/000/000/0000/0000
CIRC ACCESSION NO--AA0126986
UNCLASSIFIED

2/2 018

CIRC ACCESSION NO--AA0126986

UNCLASSIFIED

PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METALLIC PART OF THE TITLE
MIXT. FOR ELECTROLYTIC MACHINING HARD ALLOY AND STEELS HAS THE FOLLOWING
COMPN.: CU61.6-3.2, AG 2-3, SN 15.4-15.8, AND A GLASS FILLER 19-20 WT.
PERCENT. FACILITY: VSESOUZNYI NAUCHNO-ISSLEDOVATELSKIY I
KONSTRUKTORSKO-TEKHNOLOGICHESKIY INSTITUT PRIRODNYKH ALMAZOV I
INSTRUMENTA.

UNCLASSIFIED

1/2 012

TITLE--PHYSICAL STATISTICAL INVESTIGATION OF NIGHT THUNDERSTORMS -U- UNCLASSIFIED PROCESSING DATE--23OCT70

AUTHOR--YAGUDIN, R.A.

COUNTRY OF INFO--USSR

SOURCE--METEOROLOGIYA I GIDROLOGIYA, 1970, NR 6, PP 62-68

DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--RADIOSONDE, THUNDERSTORM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1777

STEP NO--UR/0050/70/000/006/0062/0068

CIRC ACCESSION NO--AP0125393

UNCLASSIFIED

2/2 012

CIRC ACCESSION NO--AP0125393

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF RADIOSONDE
 OBSERVATIONAL DATA ANALYSIS A COMPARISON OF THERMODYNAMIC CONDITIONS OF
 THE UNDERSTORM AND NON THUNDERSTORM NIGHTS OVER THE TERRITORY OF
 NOVOSIBIRSK REGION IS BEING CARRIED OUT. THE CALCULATION OF THE
 INFORMATION INDEX ACCORDING THE METHOD OF A. I. BUZ AMDE POSSIBLE TO
 REVEAL A COMPLEX OF CONVECTION PARAMETERS OF THE MOST INFORMATION
 CONTENT, ON THE BASIS OF WHICH A PHYSICAL STATISTICAL METHOD FOR
 DIAGNOSIS AND PREDICTION OF NIGHT THUNDERSTORMS IS ELABORATED. A
 POSSIBLE MECHANISM OF THUNDERSTORM GENERATION IN DARK TIME IS DISCUSSED.
 FACILITY: NOVOSIBIRSKIY FILIAL GIDROMETTSENTRA SSSR.

UNCLASSIFIED