EPR/EWP(j)/EPF(c)/EPF(n)-2/EWT(m)/FCS/T-2/BDS/ES(s)-2/ES(v)--AEDC/AFFTC/ASD/SSD--
Ps-4/Pc-4/Pr-4/Pu-4/Pt-4/Pe-4--RM/WW
L 10774-63
ACCESSION NR: AP3003304 S/0191/63/000/007/0020/0021

92
91

AUTHOR: Kirilovich, V. I.; Rubtsova, I. K.; Gefter, Ye. L.

TITLE: Preparation of phosphorus-containing polyesters by the transesterification of dialkyl phosphonates by hydroxy compounds

SOURCE: Plasticheskiye massy, no. 7, 1963, 20-21

TOPIC TAGS: polyesters, phosphorus-containing polyesters, thermosetting polyesters, polytransesterification, transesterification, dimethyl phosphonate, diethyl phosphonate, diols, polyols, hexanediol, pentaerythritol, hydroquinone, sodium, catalyst, fire retardant, fire-retardant additives

ABSTRACT: With a view toward the development of thermosetting phosphorus-containing polyesters, a study has been made of polytransesterification between a dialkyl phosphonate and a di- or polyol to form a polyester which can subsequently be cross-linked. Dimethyl or diethyl phosphonate and hexanediol,

Card 1/3

pentaerythritol, 2,2-bis(chloromethyl)-1,3-propanediol, hydroquinone, or 4,4'-isopropylidenediphenol were used as starting materials. Transesterification was conducted by heating a mixture of the phosphonate, di- or polyol, and sodium metal catalyst (1/1/0.017 molar ratio) under an inert gas, with simultaneous stripping of the liberated alcohol. Transesterification rate and polyester yield were to a great extent determined by the structure of the di- or polyol. For example, the rate was higher and initial reaction temperature lower with hexanediol and pentarerythritol than with the diphenols. The polyester yield varied from 64.6% for hydroquinone and diethyl phosphonate to 97.1% for pentaerythritol and dimethyl phosphonate. Study of the effect of such catalysts as sodium metal and potassium acetate on transesterification between dimethyl phosphonate and hexanediol transesterification showed that the initial reaction temperature was 30C lower with sodium than it was with no catalyst; the yield was 92.4% with the catalyst, as against 86.4% without it. The polyesters are resins ranging from viscous to solid, with Ubbelhohde drop points of 40 to 140C and molecular weight up to 18,000. The polyesters are suitable as fire-retardant additives to various polymers. They can be chlorinated to form polyesters

L 10774-63
ACCESSION NR: AP3003304

containing acid chloride groups, which can be converted by ethylene oxide treatment to β-chloroethyl groups. Orig. art. has: 4 formulas and 3 tables.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 30Jul63	ENCL: 00
SUB CODE: 00	NO REF SOV: 007	OTHER: 003

Card 3/3

ACCESSION NR: AT4017407 S/0000/63/000/000/0037/0039

AUTHOR: Wu, Mei-yen; Tyuganova, M. A.; Gefter, Ye. L.; Rogovin, Z. A.

TITLE: Synthesis of new derivatives of cellulose and other polysaccharides. XXXII. Synthesis of phosphorylated cellulose derivatives by transesterification

SOURCE: Tsellyuloza i yeye proizvodny*ye, sbornik statey (Cellulose and its derivatives). Moscow, 1963, 37-39

TOPIC TAGS: polysaccharide, cellulose, phosphorylated polysaccharide, cellulose phosphate, phosphorylation, transesterification, fire resistance, synthetic fiber, nonflammable material

ABSTRACT: The preparation of nonflammable cellulose materials was attempted by means of transesterification using tri(β,β',β''-chloroethyl) phosphite. By heating cellulose at 80, 110 and 130C for 5 and 8 hours in a 35-70% benzene solution of the phosphite, a series of cellulose esters was obtained with an average P-content of about 3% and a fire resistance of 90-130 by the American standard (W. Reeves, O. McMillan, J. Guthrie, Text. Res. J., 8, 527, 1957). Using 0.35% HCl and 2% CH_3COOH as catalysts, a P-content of 4% was obtained under less rigorous conditions. The esterification rate in air was about equal to that in argon. Prolonged exposure to air causes the trivalent phosphorus of the products to change to

Card 1/2

ACCESSION NR: AT4017407

pentavalent. In addition to the P-content in the product, fire resistance depends on the nature of the prevailing bonds, the C-P bond tending to increase resistance. Orig. art. has: 2 tables.

ASSOCIATION: Moskovskiy tekstil'ny*y ihstitut (Moscow Textile Institute)

SUBMITTED: 25Jan62 DATE ACQ: 06Jan64 ENCL: 00

SUB CODE: CH, MA NO REF SOV: 005 OTHER: 001

Card 2/2

ACCESSION NR: AP4010563 S/0291/63/000/006/0071/0075

AUTHORS: Yuldashev, A.; Gefter, Ye.L.

TITLE: Process of hardening the homocondensation product of di-beta, beta'-chloroethyl ester of vinylphosphonic acid.

SOURCE: Uzbekskiy khimicheskiy zhurnal, no.6, 1963, 71-75

TOPIC TAGS: vinylphosphonate condensate, curing, hardening, vinylphosphonic acid ester, heat stability, hardness, swelling, water absorption, monomer, linear polymer, cured polymer, IR spectrum

ABSTRACT: The degree of hardening and the thermal stability and hardness of the products formed by curing the di-beta, beta'-chloroethyl ester of vinylphosphonic acid at different temperatures (at 50-100°) with different amounts of catalyst (0.2-5% benzoyl peroxide) up to 30 hours were studied. Increasing the peroxide from 0.2-0.5% increases hardness; more peroxide is deleterious to the physical-mechanical properties. If no peroxide is used, heating from 50-100° for 30 hours produces no hardening. With the optimum 0.5% initiator, curing is

Card 1/2

ACCESSION NR: AP4010563

very rapid at first, reaching completion in about 10 hours. The product is stable to about 230C. The extent of water absorption and swelling in organic solvents and in acid and alkali was determined. Comparison of the IR spectra of the monomer, the linear polymer, and the cured polymers shows that the absorption in the cured polymer at 1620Cm^{-1} (characteristic of the vinyl group bond with a P atom) fades out, indicating the disappearance of the double bond. Orig. art. has: 3 tables and 4 figures.

ASSOCIATION: Institut khimii polimerov AN UzSSR (Institute of Polymer Chemistry, AN UzSSR); Moskovskiy nauchno-issledovatel'skiy institut plastmass (Moscow Plastics Scientific Research Institute)

SUBMITTED: 01Sep62 DATE ACQ: 11Feb64 ENCL: 00

SUB CODE: OH NR REF SOV: 004 OTHER: 000

Card 2/2

ROGOVIN, Z.A.; U MEY-YAN' [Wu Mei-yen]; TYUGANOVA, M.A.; ZHAROVA, T.Ya.; GEFTER, Ye.L.

Synthesis of new derivatives of cellulose and other polysaccharides. Part 25: Effect of the structure of organophosphorus derivatives of cellulose on the fireproofness of cellulosic materials. Vysokom.-soed. 5 no.4:506-511 Ap '63. (MIRA 16:5)

1. Moskovskiy tekstil'nyy institut.
(Cellulose) (Fireproofing) (Phosphorus organic compounds)

GEFTER, Ye.L.

Determination of chlorine in β-chloroethyl derivatives of organophosphorus acids. Zav.lab. 29 no.4:419 '63. (MIRA 16:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut plasticheskikh mass.
(Chlorine--Analysis) (Phosphorus organic compounds)

L 10667-63 EWP(j)/EPF(c)/EWT(m)/BDS--Pr-4/Pc-4--RM/WW
S/079/63/033/004/004/010 63 62

AUTHOR: Gefter, Ye.L., Rogacheva, I.A.

TITLE: Interaction of aryldichlorophosphines with cyclic oxides. VI. The Arbuzov regrouping of di-β,β'-chloroethyl esters of phenyl- and chlorophenylphosphinic acids

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 4, 1963, 1177-1180

TEXT: The Arbuzov regrouping of tri-β,β',β"-chloroethylphosphite can be complicated by the competing process of its thermal isomerization. In order to minimize this possibility the authors employed sufficiently active halogen-bearing compounds as the agents for the Arbuzov regrouping. These were methyl iodide, ethyl and allyl bromide, and acetyl chloride. All the reactions proceeded easily; the mixing of di-β,β'-chloroethyl esters of phenyl- and (to a lesser degree)

Card 1/2

L 10667-63

S/079/63/033/004/004/010

Interaction of aryldichlorophosphines with...

chlorophenylphosphinic acids with methyl iodide and acetyl chloride was even accompanied by the release of heat. The products obtained were the β-chloroethyl esters of the corresponding arylalkyl-(alkenyl-, acyl-) phosphinic acids. There is 1 table which contains constants and other data for the esters.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastics)

SUBMITTED: February 28, 1962

kes
Card 2/2

L 22660-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM/WLK
ACCESSION NR: AT5002113 S/0000/64/000/000/0075/0079

AUTHOR: Sokolovskiy, M.A.; Zavlin, P.M.; Medenikova, N.Ye.; Bogolyubov, G.M.; Gefter, Ye. L.; Moshkin, P.A.

TITLE: Phosphorus-containing monomers with different functional groups

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov (The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 75-79

TOPIC TAGS: organophosphorus compound, polycondensation, vinylphosphinic acid, polyster, polyamide

ABSTRACT: The purpose of this investigation was the preparation of phosphorus-containing monomers with functional groups capable of combining the reactions of polycondensation and polymerization. The investigation dealt with certain derivatives of vinylphosphinic acid, which, because of their availability could become of practical interest. From the point of view of the synthesis of phosphorus-containing polymeric compounds (polyesters, compounds of the polyamide type), new phosphorus-containing analogs of terephthalic acid with a P-C bond were synthesized. By reacting the di-(β-chloroethyl) ester of vinylphosphinic acid with amino-alcohols and amino-carboxylic acids, new phosphorus-containing monomers were obtained which contain different functional groups. These functional groups

Card 1/2

L 22660-65
ACCESSION NR: AT5002113

were secondary amine, hydroxyl, and carboxyl groups, which are capable of condensation, as well as the vinyl group which facilitates polymerization. Orig. art. has: 10 formulas.

ASSOCIATION: None

SUBMITTED: 30Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 000

Card 2/2

GEFTER, Ye.L.; ROGACHEVA, I.A.

Interaction of aryldichlorophosphines with cyclic oxides. Part 8: Interaction of tolyldichlorophosphine with etylene oxide. Zhur.ob. khim. 34 no.1:88-91 Ja '64.

[illegible] of aryldichlorophosphines with cyclic oxides. Part 9: [illegible] chloroethyl ester of phenylphosphinic acid. Ibid.:92-94 (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut plasticheskikh mass.

L 35556-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5008146 S/0286/65/000/005/0023/0023

AUTHORS: Orlov, N. F.; Mileshkevich, V. P.; Gefter, Ye. L. 20 B

TITLE: A method for obtaining triorganosilanol esters of oximethylphosphinic acid. Class 12, No. 168695 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 23

TOPIC TAGS: ester, triorganosilanol, hydroxymethylphosphinic acid, triorganoalkoxysilane

ABSTRACT: This Author Certificate presents a method for obtaining triorganosilanol esters of hydroximethylphosphinic acid. The latter is heated to 100-230C and is subjected to interaction with triorganoalkoxysilanes.

ASSOCIATION: none

SUBMITTED: 13Jan64 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 000

Card 1/1

L 35523-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP5008202 S/0286/65/000/005/0071/0071

AUTHORS: Valgin, V. D.; Vasil'yeva, E. A.; Sergeyeva, V. A.; Gefter, Ye. L.; Yuldashev, A.

TITLE: A method for producing foam plastic. Class 39, No. 168881

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 71

TOPIC TAGS: foam plastic, epoxy resin, surface active substance, polycondensation

ABSTRACT: This Author Certificate presents a method for producing foam plastic from epoxy resins, hardener, porophor, and surface-active substance. In order to obtain a fireproof, self-quenching product, the homopolycondensation product of β, β'-dichlordiethyl ester of vinyl phosphonic acid in the amount of 25-28% of the quantity of epoxy resin is introduced into the mixture.

ASSOCIATION: none

SUBMITTED: 10Apr62 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 000 OTHER: 000

Card 1/1

L 8868-66 EWT(m)/EWP(j) WW/RM

ACC NR: AP5025955 SOURCE CODE: UR/0190/65/007/010/1684/1688

AUTHOR: Shner, S. M.; Rubtsova, I. K.; Gefter, Ye. L.

ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Investigation of conversions of di-(beta-chloroethyl) phosphite and its derivatives. Report No. 1. Homopolycondensation of di-(beta-chloroethyl) phosphite and di-(beta-chloroethyl) chlorophosphate

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 10, 1965, 1684-1688

TOPIC TAGS: organic phosphorus compound, polycondensation, chlorination, polyester plastic, CHLORINATED ORGANIC COMPOUND

ABSTRACT: The homopolycondensation, heretofore not described in the literature, of di-(beta-chloroethyl) phosphite (A) and of di-(beta-chloroethyl chlorophosphate (B) was studied. Phosphorus-containing polyesters were synthesized from A and from B by thermal homopolycondensation upon elimination of dichloroethane. Reaction of A proceeded most smoothly at 205-207° to give a polyester yield of 99.4% in 6-7 hours. B is best reacted at 186-188° for 2.5 hours. Chlorina-

Card 1/2 UDC: 678.674

ACC NR: AP5025955

tion of a polyester based on A gave the polymeric chloroanhydride of A. L. P. Bocharova participated in the experimental work. Orig. art. has: 4 tables and 4 equations.

SUB CODE: OC/ SUBM DATE: 30Oct64/ ORIG REF: 006/ OTH REF: 003

Card 2/2

L 42422-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5008842 S/0079/65/035/003/0590/0591

AUTHOR: Orlov, N. F.; Mileshkevich, V. P.; Gefter, Ye. L.

TITLE: The reaction of hydroxymethylphosphinic acid with triorganoalkoxysilanes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 3, 1965, 590-591

TOPIC TAGS: silicon organic compound, organic synthesis, methylol group, phosphinic acid

ABSTRACT: The reaction of organoalkoxysilanes with hydroxymethylphosphinic acid, $HOCH_2P(O)(OH)_2$ is studied. It was found experimentally that alcohol and acid group reactions with triorganoalkoxysilanes take place at comparable rates and the main reaction product is a triorganosilyl ester of hydroxymethylphosphinic acid, which is formed with 45-55% yield as follows:

$$3R_3SiOR' + HOCH_2P(O)(OH)_2 \rightarrow R_3SiOCH_2P(O)(OSiR_3) + 3R'OH$$

The reaction is carried out by heating a mixture of triorganoalkoxysilane with hydroxymethylphosphinic acid in a molar ratio of 3:1. The alcohol formed during the reaction is distilled off and the reaction product is then isolated. The

Card 1/2

L 42422-65
ACCESSION NR: AP5008042

alcohol yield is 75-100% of the theoretical yield. The reaction takes 6-8 hours. The authors give the properties and analytical data for the synthesized compounds.

ASSOCIATION: Leningradskiy institut tekstil'noy promyshlennosti im. S. M. Kirova (Leningrad Institute of the Textile Industry)

SUBMITTED: 09Oct64 ENCL: 00 SUB CODE: OC

NO REF SOV: 002 OTHER: 000

Card 2/2

ORLOV, N.F.; MELESHKEVICH, V.P.; GEFTER, Ye.I.

Synthesis of bis-(triorganosilyl)-triorganosilyloxymethyl phosphinates by the reaction of organosilane hydrides with hydroxymethylphosphinic acid. Zhur. obs. khim. 35 no.7: 1312-1313 Jl '65. (MIRA 18:8)

1. Leningradskiy institut tekstil'noy i legkoy promyshlennosti im. S.M. Kirova.

L 00891-66 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AP5020085 UR/0079/65/035/008/1463/1467
547.26'118 : 547.361

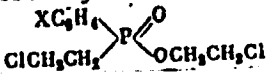
AUTHOR: Gefter, Ye. L.; Rogacheva, I. A.

TITLE: Interaction of aryldichlorophosphines with cyclic oxides. X. Contribution to the problem of thermal isomerization of di-β-chloroethyl esters of arylphosphonous acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 8, 1965, 1463-1467

TOPIC TAGS: chlorinated aromatic compound, isomerization, cyclic group, aromatic hydrocarbon

ABSTRACT: Several β-chloroethyl esters of aryl-β-chloroethylphosphonic acids of a general formula



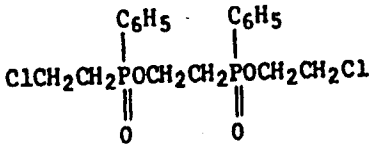
(where X is H, Cl, CH_3O, and CH_3) were prepared in order to study the mechanism of thermal isomerization of di-β-chloroethyl esters of arylphosphonous acids. For each synthesized compound were determined: specific gravity, refractive index, and chemical formula (on the basis of elemental analysis). It was found that the secondary

Card 1/3

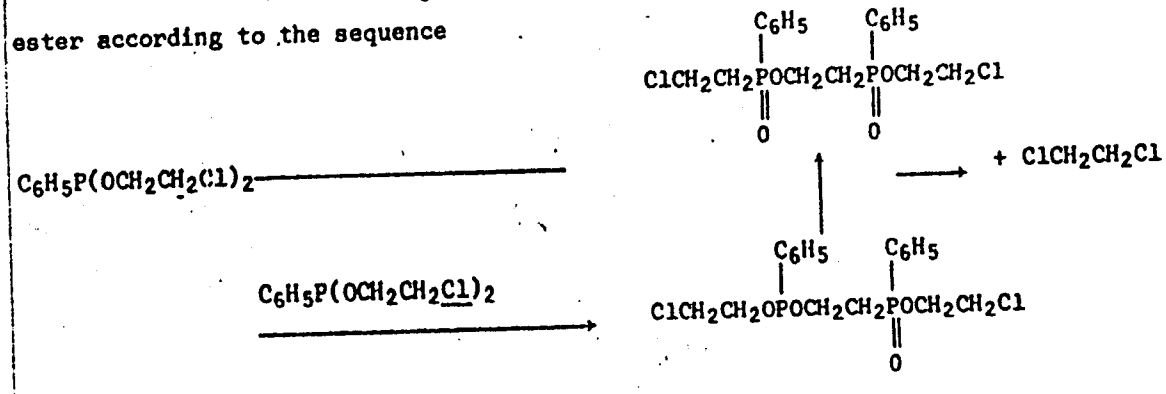
L 00891-66

ACCESSION NR: AP5020085

products of isomerization have structure



ester according to the sequence

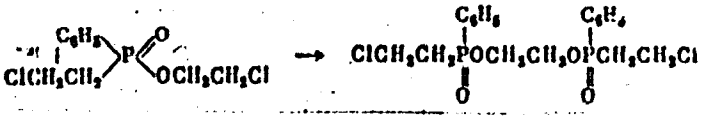


Card 2/3

L 00891-66

ACCESSION NR: AP5020085

Apparently, at first, an unstable cyclic intermediate is formed. Then, most of this intermediate transforms into β-chloroethyl ester of phenyl-β-chloroethylphosphonic acid and a smaller portion of it reacts with another molecule of the starting ester to form



Orig. art. has: 2 tables and 1 formula.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute for Plastics)

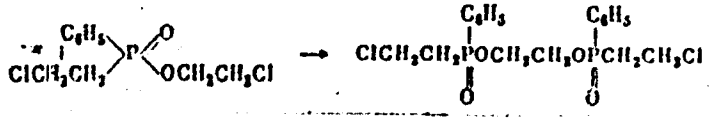
SUBMITTED: 30Apr64 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 008 OTHER: 000

Card 3/3

L 00891-66
ACCESSION NR: AP5020085

Apparently, at first, an unstable cyclic intermediate is formed. Then, most of this intermediate transforms into β-chloroethyl ester of phenyl-β-chloroethylphosphonic acid and a smaller portion of it reacts with another molecule of the starting ester to form



Orig. art. has: 2 tables and 1 formula.

ASSOCIATION: Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute for Plastics)

SUBMITTED: 30Apr64 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 008 OTHER: 000

Card 3/3

A L 11518-66 · EWT(m)/EWP(j) WW/RM

ACC NR: AP6001869 SOURCE CODE: UR/0190/65/007/012/2142/2145

AUTHORS: Shner, S. M.; Rubtsova, I. K.; Gefter, Ye. L.

ORG: Scientific Research Institute for Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Synthesis and homopolycondensation of di-β, β'-chloroethyl ester of oxymethylphosphonic acid. 2nd communication in the series, Investigation of transformation of di-β, β' - chloroethylphosphine acid and its derivatives

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 12, 1965, 2142-2145

TOPIC TAGS: polymer, ~~polymerization, polymerization rate, polymerization kinetics, polymerization degree~~, polyester, ether, phosphinic acid, phosphonic acid, ester, polycondensation, organic synthetic process

ABSTRACT: Further work is reported on the properties and transformations of di-β - β'-chloromethylphosphinic acid, previously reported by S. M. Shner, I. K. Rubtsova, and Ye. L. Gefter (Vysokomolek. soyed., 7, 1684, 1965). The synthesis of di-β - β'-chloroethyl ester of oxymethyl phosphinic acid was carried out according to the general method of V. S. Abramov (Dokl. AN SSSR, 73, 487, 1950) by the reaction of the acid with formaldehyde. The thermal homopolycondensation of the synthesized ester was studied. The homopolycondensation yielded a phosphorus-containing polyester and a low-molecular fraction consisting of dichloroethane, ethylenechlorohydrine, and di-β, β' -chloroethyl ether. The effect of temperature on the yield of polyester

Card 1/2 UDC: 541.64+678.86

ACC NR: AP6001869

was determined (see Fig. 1). The effects of temperature and of the heating on

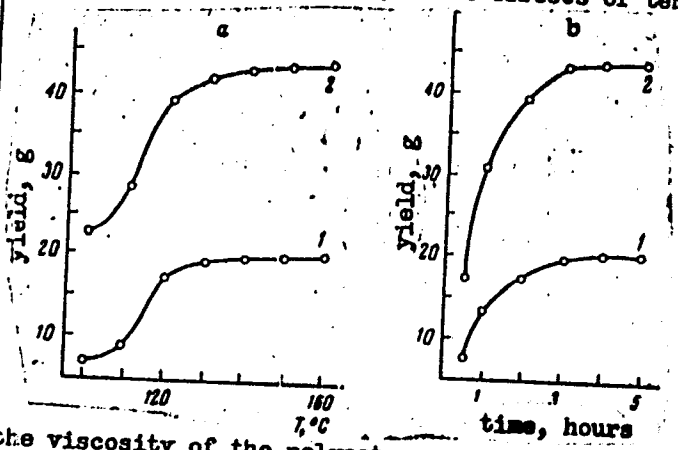


Fig. 1. Dependence of the yield of the low-molecular fraction (1) and polyester (2): a - on the temperature during homopolycondensation of 65 g of ester for 3 hours at 20 mm Hg; b - on the duration of reaction during homopolycondensation of 65 g of ester at 140C and 20 mm Hg.

the viscosity of the polyester were studied, and the results tabulated. A reaction mechanism for the homopolycondensation of the ester is proposed. L. P. Bocharova participated in the experimental work. Orig. art. has: 1 table, 1 graph, and 3 44,55 equations.

SUB CODE: 07,11/ SUBM DATE: 27Jan65/ ORIG REF: 006/ OTH REF: 003

Card 2/2 C

L 21425-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6010113 (A) SOURCE CODE: UR/0190/66/008/003/0486/0489

AUTHOR: Stefanovskaya, N. N.; Gefter, Ye. L.

ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Study of the polymerization ability of esters of phenylvinylphosphinic acid

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 3, 1966, 486-489

TOPIC TAGS: phenylvinylphosphinic acid, alkyl phenylvinylphosphinate, flame resistant polymer, phosphorus containing polymer, styrene, styrene copolymer, polymerization, copolymerization

ABSTRACT: The polymerization and copolymerization ability of some esters of phenylvinylphosphinic acid (PVPA) $C_6H_5(CH_2{=}CH)P(O)OH$ was investigated to widen the list of phosphonates and phosphinates usable as flame retardant monomer components of plastics. The following esters were studied: ethyl-, ethylene glycol- and allyl phenylvinylphosphinates. It was found that the ethyl ester polymerizes slowly, forming only low-molecular products. Both double bonds in the symmetrically estrified ethylene glycol ester have about the same activity and three-dimensional copolymers with styrene are formed. The allyl ester polymerizes at a somewhat higher rate then the ethyl ester; it forms low molecular linear polymers. Two different double bonds in the allyl ester differ sharply: the vinyl group forms the backbone of the

Card 1/2 UDC: 66.095.26+678.86

L 21475-66

ACC NR: AP6010113

polymer and participates in the copolymerization with styrene; the allyl group does not react and remains as a side chain. It was found that copolymers of PVPA esters with styrene, which contain more than 1% phosphorus, burn only in an open flame, while those containing more than 2% phosphorus become only charred. The temperature dependences of the mechanical deformation of copolymers of PVPA esters with styrene were determined and the results presented graphically in the original. Orig. art. has: 1 figure and 1 table. [BN]

SUB CODE: 07, 11/ SUBM DATE: 05Apr65/ ORIG REF: 004/ ATD PRESS: 4221

Card 2/2 UDC

L 34022-66 EWT(m)/EWP(j) IJP(c) RM
ACC NR: AP6025533 SOURCE CODE: UR/0079/66/036/001/0079/0081

AUTHOR: Geftor, Ye. L.; Rogacheva, I. A.

56
B

ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plasticheskikh mass)

TITLE: Reaction of aryldichlorophosphines with cyclic oxides. XI. Syntheses of esters of phosphorus acids and ethylene glycol by thermal selfcondensation

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 79-81

TOPIC TAGS: ester, phosphorus compound, ethylene glycol, condensation reaction, chemical synthesis, UV irradiation, chemical bonding

ABSTRACT: A simple method was developed for synthesizing esters of phosphorus acids and ethylene glycol by thermal self-condensation of mono-beta-chloroethyl esters of the corresponding acids at 200-240°. The structures of some of these compounds were confirmed by converting them to the corresponding acid chlorides (with PCl_5), as well as by countersyntheses. The invariance of the rate of the self-condensation reaction in the presence of initiators and inhibitors of radical processes, as well as under the influence of ultraviolet irradiation, makes a free radical mechanism of this process improbable. The authors consider a heterolytic course of the thermal self-condensation (in the polar media of the esters themselves),

Card 1/2

L 34022-66

ACC NR: AP6025533

accomplished as a sequential or simultaneous cleavage of the C-O and C-Cl bonds, to be the most probable mechanism. Five previously unknown esters of phosphorus acids and ethylene glycol were synthesized and characterized. Orig. art. has: 1 table. [JPRS: 35,998]

SUB CODE: 07, 17 / SUBM DATE: 22Feb65 / ORIG REF: 007 / OTH REF: 002

Card 2/2

ACC NR: AP6023431 SOURCE CODE: UR/0190/66/008/007/1279/1282

AUTHOR: Shnor, S. M.; Rubtsova, I. K.; Gefter, Ye. L.

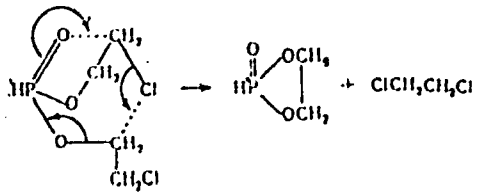
ORG: Scientific Research Institute of Plastics (Nauchno-issledovatel'skiy institut plastichoskikh mass)

TITLE: Kinetics and mechanism of homopolycondensation of di-β, β'-chloroethylphosphorous acid

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1279-1282

TOPIC TAGS: polycondensation, phosphorous acid, organic phosphorus compound

ABSTRACT: The kinetics of homopolycondensation of di-β, β'-chloroethylphosphorous acid were studied at 195, 200, 205, and 210°C without a solvent in a stream of dry nitrogen, and the 1,2-dichloroethane evolved (from which the extent of the reaction was calculated) was driven off continuously. The reaction was shown to be first order. Its initial stage consists of an intramolecular conversion, which proceeds via cyclic intermediates and involves a circular electron transfer in accordance with the following hypothetical mechanism:



Card 1/2 UDC: 541.64+678.86

L 41225-66

ACC NR: AP6023433

The rate constants of the reaction were calculated, and its activation energy was found to be 15.4 ± 2.0 kcal/mole. The products, in addition to 1,2-dichloroethane, were polyester chains formed by the opening of the unstable cyclic intermediates. Orig. art. has: 3 figures.

SUB CODE: 07/ SUBM DATE: 29Jun65/ ORIG REF: 006/ OTH REF: 002

Card 2/2

L 11607-67 EWT(m)/EWP(j) RM

ACC NR: AP7003664 SOURCE CODE: UR/0079/66/036/008/1473/1474

AUTHOR: Talyanker, Yo. G.; Libina, S. L.; Goftor, Yo. L.

ORG: none

TITLE: Production of the dioxide of the di(o-allylphenyl) ester of methylphosphinic acid

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1473-1474

TOPIC TAGS: organic oxide, ester, phosphinic acid, pyridine

ABSTRACT: A new dioxide of the di(o-allylphenyl) ester of methylphosphinic acid was synthesized according by reaction of o-allylphenol with the dichloride of methylphosphinic acid and pyridine, followed by epoxidation of the di(o-allyl-phenyl) ester of methylphosphinic acid produced with excess peracetic acid. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 06Jul65 / ORIG REF: 004 / OTH REF: 001

Card 1/1 JB

UDC: 547.26'118

0926 0287

ACC NR: AP6031394 SOURCE CODE: UR/0079/66/036/009/1712/1713

AUTHOR: Gefter, Ye. L.; Rogacheva, I. A.

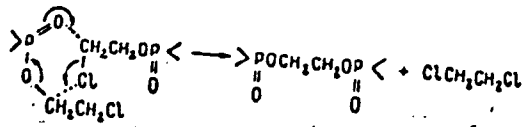
ORG: none

TITLE: Mechanism of thermal self condensation of mono-β-chloroethyl phosphonate

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1712-1713

TOPIC TAGS: chloroethyl phosphonate, thermal self condensation, condensation reaction, ester, phosphonic acid

ABSTRACT: Analysis of recent experimental data on the thermal condensation of 3-chloroethyl esters of arylphosphonous acids leads to the conclusion that the thermal condensation of β-chloroethyl phosphonate proceeds not by the previously proposed ionic mechanism (E. L. Gefter, I. A. Rogacheva, ZhOKh, 36, 79, 1966) but by the following mechanism:



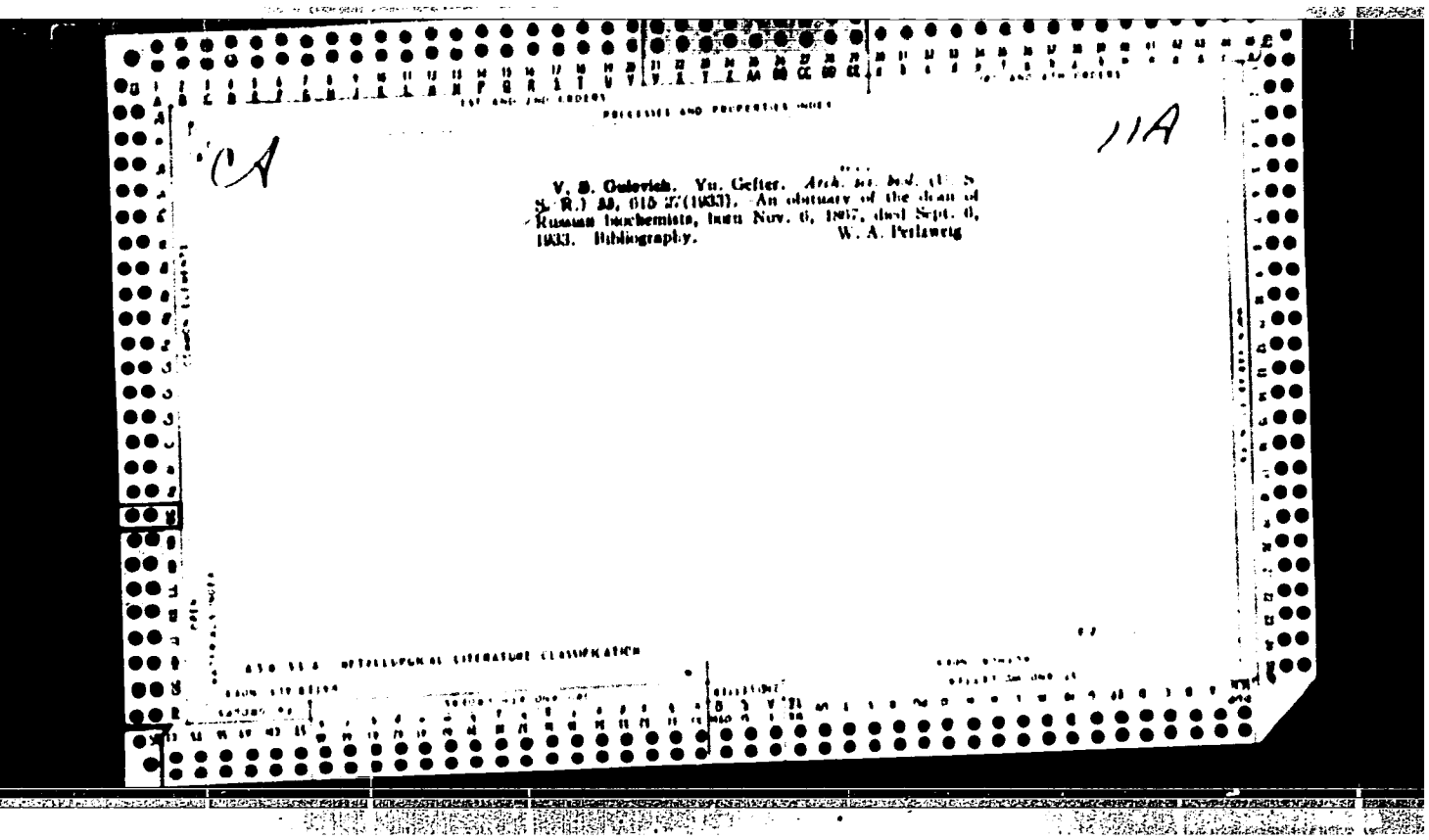
[WA-50; CBE No. 12]

SUB CODE: 07/ SUBM DATE: 20Dec65/ ORIG REF: 003/

Card 1/1 UDC: 547.26'118

GEFTER, Yu.M.

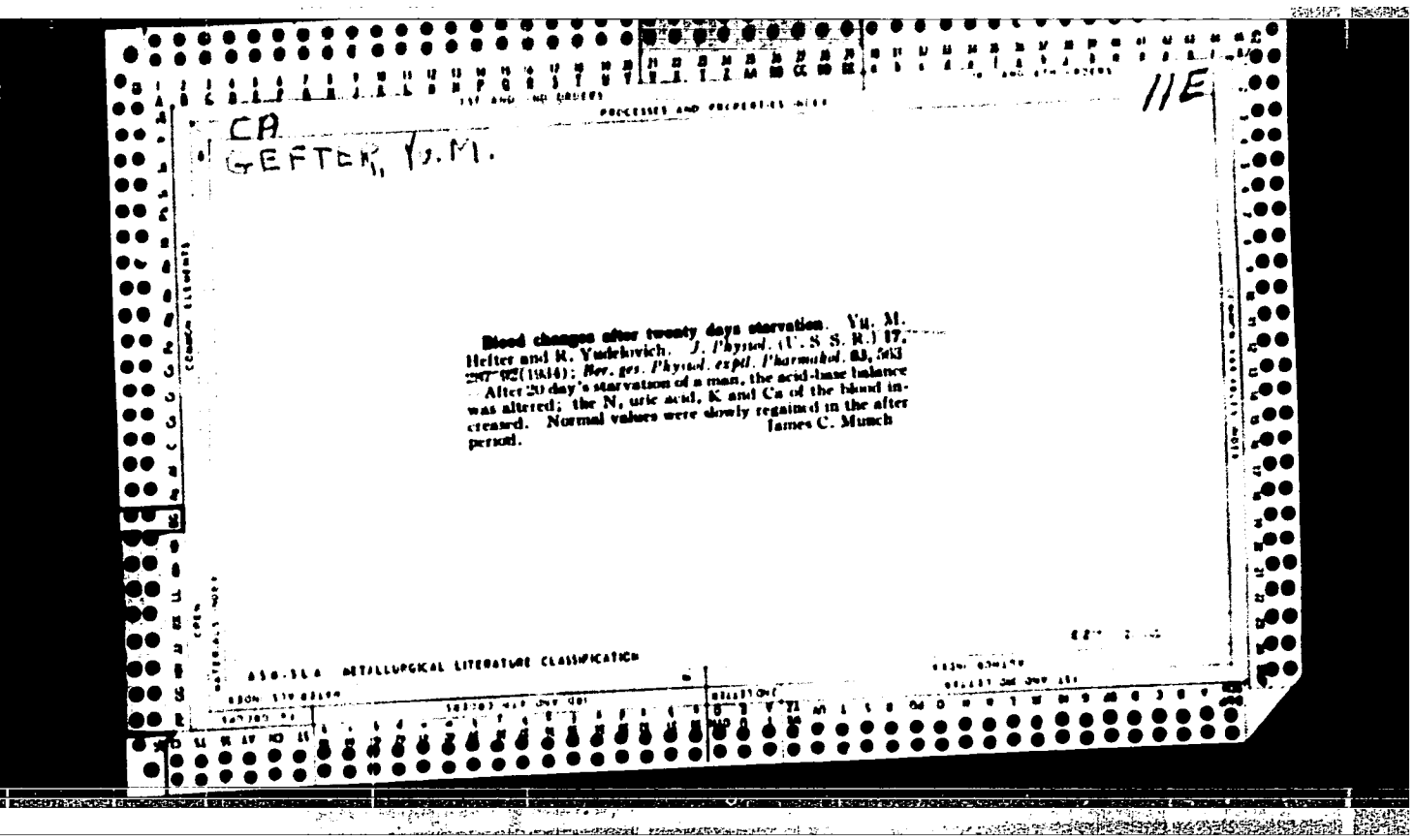
In memory of Professor Vladimir Sergeevich Sadikov, 1874-1942; on the 20th anniversary of his death. Vop.med. khim. 9 no.4: 441-442 Jl-Ag'63 (MIRA 17:4)

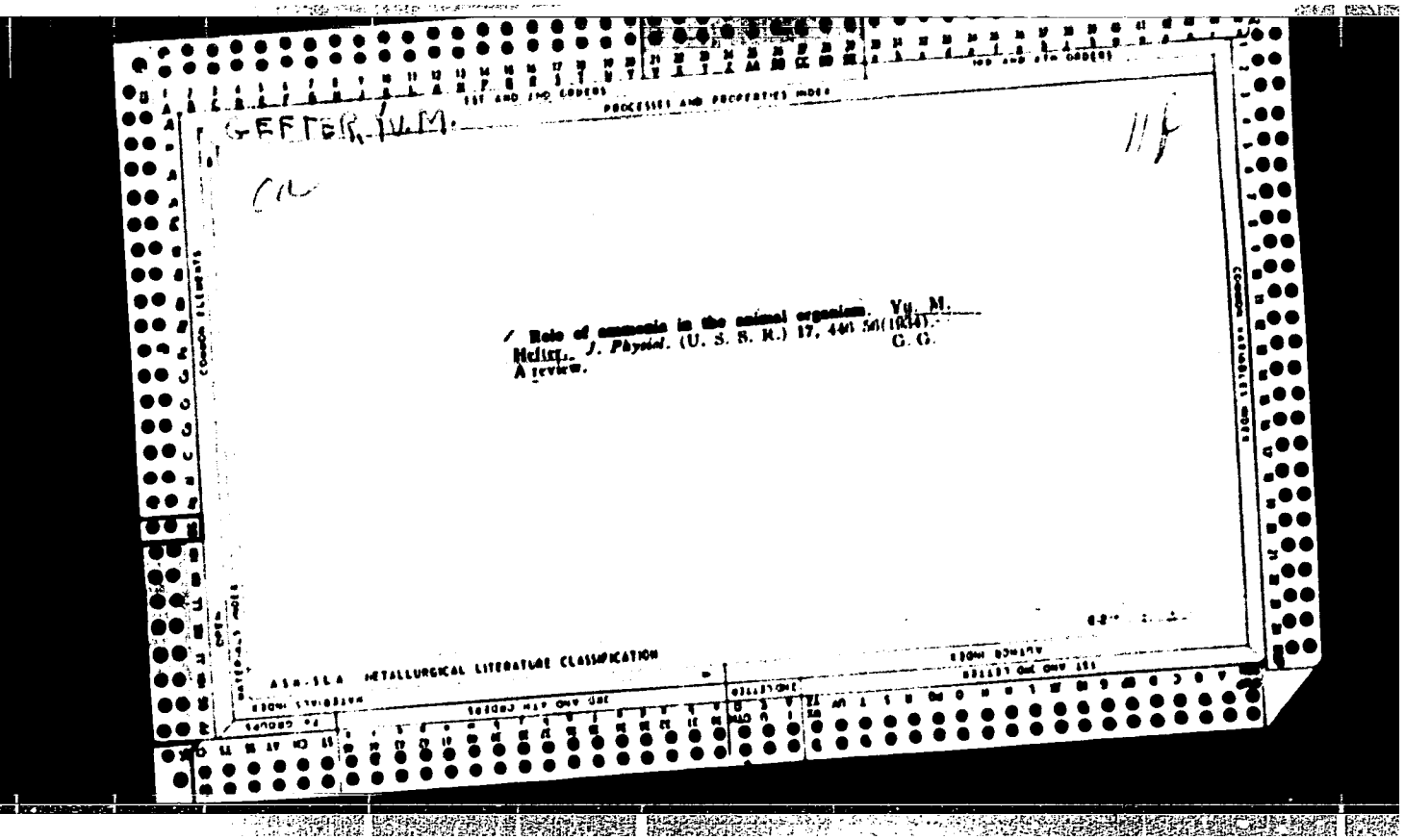


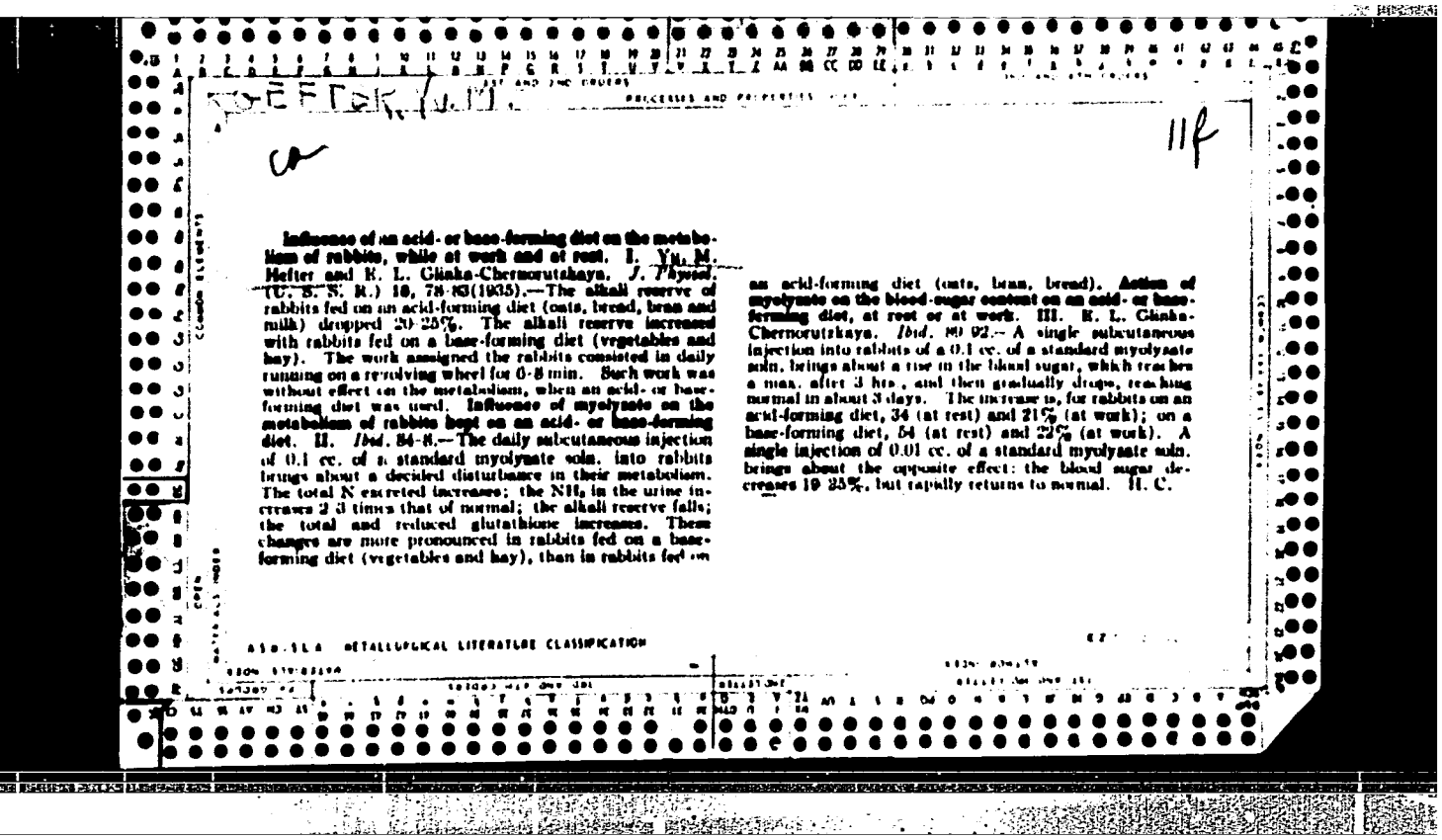
'CA

11A

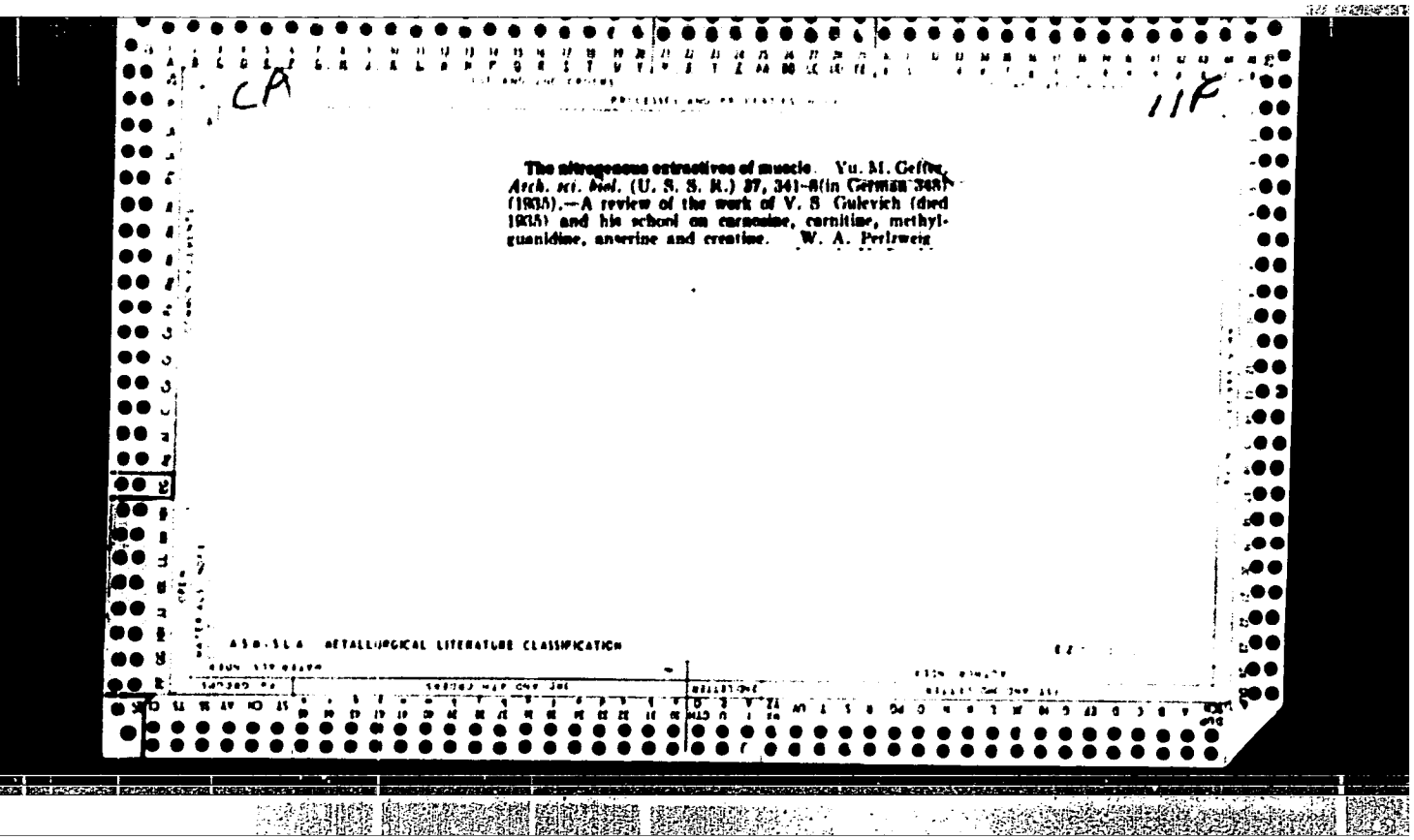
V. S. Gulievich, Yu. Gefter. *Arch. sci. biol.* (U. S. S. R.) **33**, 615 27 (1933). An obituary of the dean of Russian biochemists, born Nov. 6, 1867, died Sept. 6, 1933. Bibliography. W. A. Perlzweig







Influence of an acid- or base-forming diet on the metabolism of rabbits, while at work and at rest. I. Yu. M. Hefter and E. L. Glaska-Chernorutskaya. *J. Physiol. (U. S. S. R.)* **18**, 78-83(1935).—The alkali reserve of rabbits fed on an acid-forming diet (oats, bread, bran and milk) dropped 20-25%. The alkali reserve increased with rabbits fed on a base-forming diet (vegetables and hay). The work assigned the rabbits consisted in daily running on a revolving wheel for 6-8 min. Such work was without effect on the metabolism, when an acid- or base-forming diet was used. **Influence of myolysate on the metabolism of rabbits kept on an acid- or base-forming diet.** II. *Ibid.* 84-8.—The daily subcutaneous injection of 0.1 cc. of a standard myolysate soln. into rabbits brings about a decided disturbance in their metabolism. The total N excreted increases; the NH_3 in the urine increases 2-3 times that of normal; the alkali reserve falls; the total and reduced glutathione increases. These changes are more pronounced in rabbits fed on a base-forming diet (vegetables and hay), than in rabbits fed on an acid-forming diet (oats, bran, bread). **Action of myolysate on the blood-sugar content on an acid- or base-forming diet, at rest or at work.** III. E. L. Glaska-Chernorutzkaya. *Ibid.* 89-92.—A single subcutaneous injection into rabbits of a 0.1 cc. of a standard myolysate soln. brings about a rise in the blood sugar, which reaches a max. after 3 hrs., and then gradually drops, reaching normal in about 3 days. The increase is, for rabbits on an acid-forming diet, 34 (at rest) and 21% (at work); on a base-forming diet, 54 (at rest) and 22% (at work). A single injection of 0.01 cc. of a standard myolysate soln. brings about the opposite effect: the blood sugar decreases 19-25%, but rapidly returns to normal. H. C.

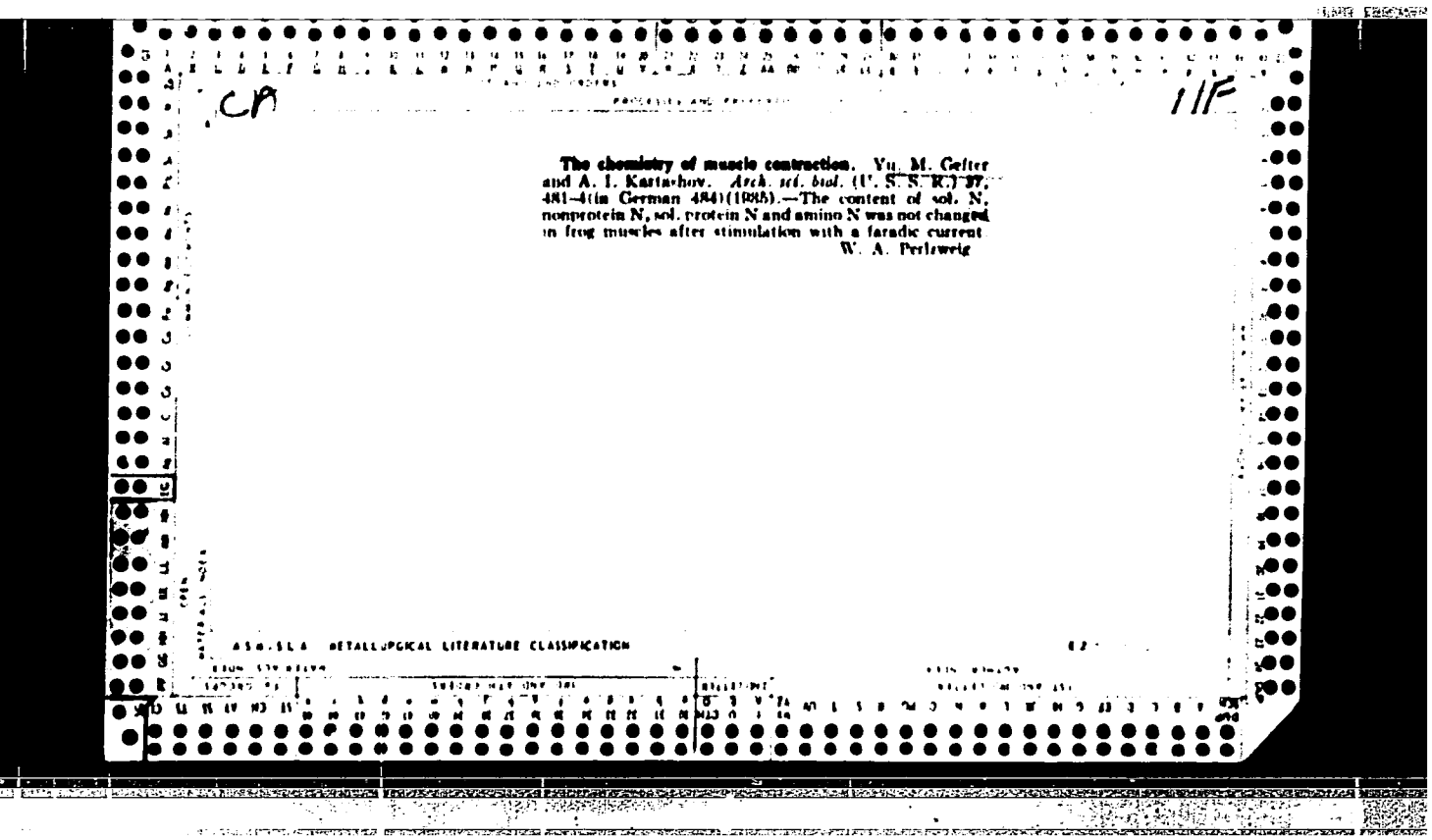


CA

11F

The nitrogenous extractives of muscle. Yu. M. Geffen. *Arch. sci. biol.* (U. S. S. R.) 37, 341–8(in German 348) (1935).—A review of the work of V. S. Gulevich (died 1935) and his school on carnosine, carnitine, methylguanidine, anserine and creatine. W. A. Perlzweig

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

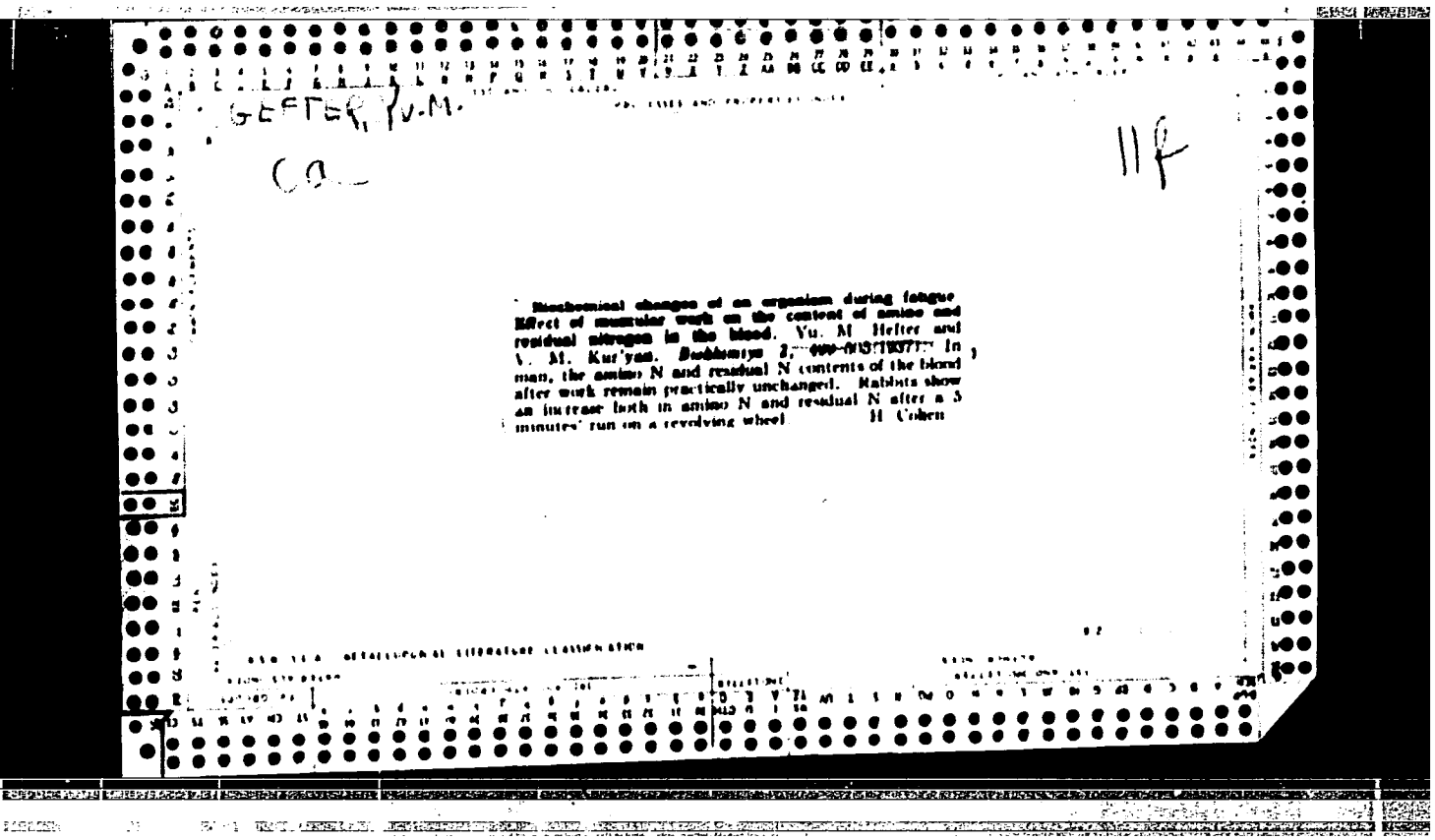


CA

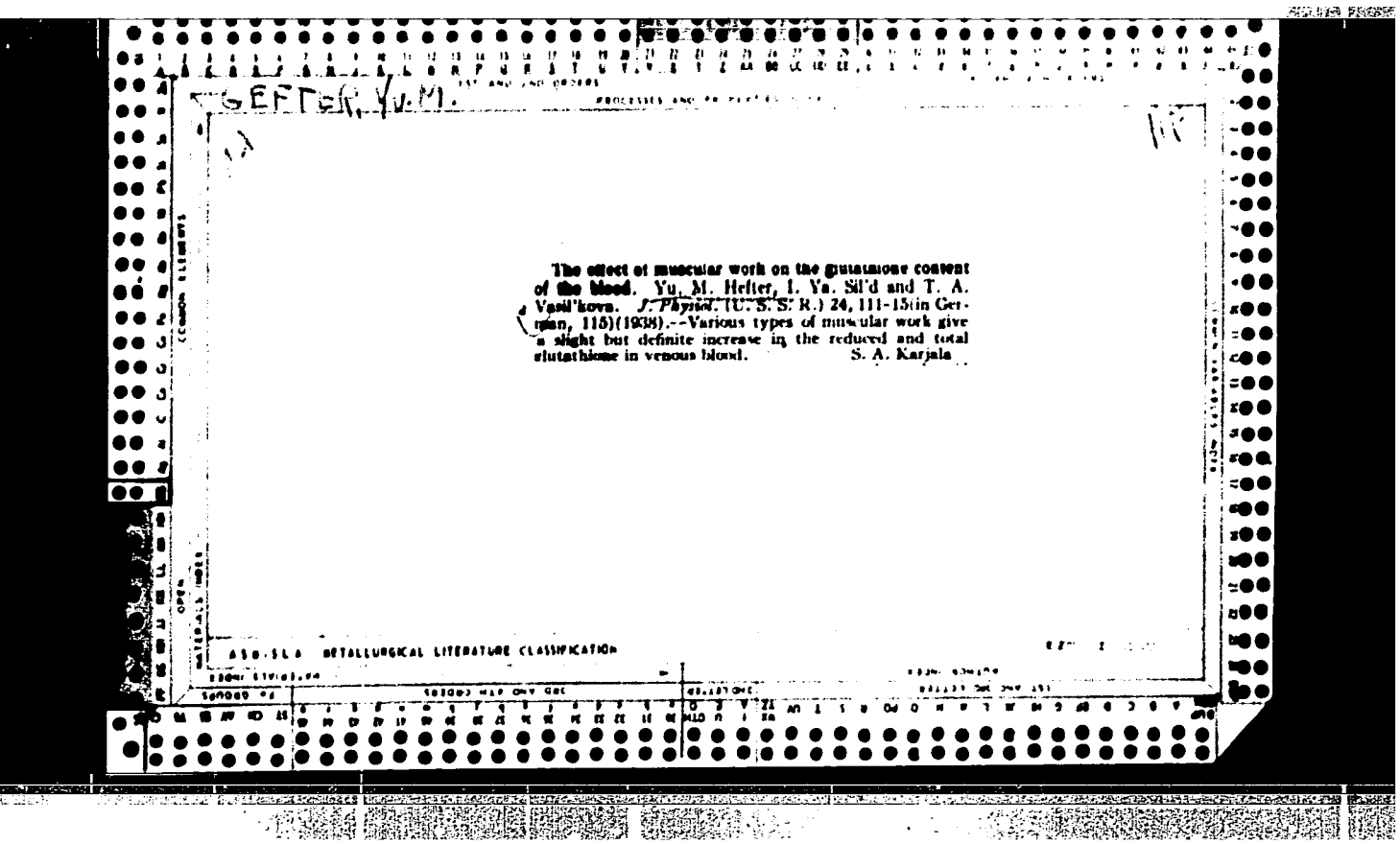
11F

The chemistry of muscle contraction. Yu. M. Gelfer and A. I. Kartashov. *Arch. sci. biol.* (U. S. S. R.) 37, 481–4 (in German 484) (1935).—The content of sol. N, nonprotein N, sol. protein N and amino N was not changed in frog muscles after stimulation with a faradic current.
W. A. Perlzweig

METALLURGICAL LITERATURE CLASSIFICATION



Biochemical changes of an organism during fatigue. Effect of muscular work on the content of amino and residual nitrogen in the blood. Yu. M. Heifer and V. M. Kur'yan. *Problemy* 2, [illegible] In man, the amino N and residual N contents of the blood after work remain practically unchanged. Rabbits show an increase both in amino N and residual N after a 5 minutes' run on a revolving wheel. H. Cohen



The effect of muscular work on the glutathione content of the blood. Yu. M. Heller, I. Ya. Sil'd and T. A. Vasil'kova. *J. Physiol.* (U. S. S. R.) 24, 111-15(in German, 115)(1938).--Various types of muscular work give a slight but definite increase in the reduced and total glutathione in venous blood. S. A. Karjala

GEFTER, Yu. M.

32408. Gefter, Yu. M. Vladimir Sergeyevich Gulevich. (Biokhimik). Soobsch. o nauch. rabotakh chlenov Vsesoyuz. khim. o-va im. Mendeleyeva, 1949, vyp. 3, s. 60-61.

SO: Letopis' Zhurnal'nykh Statey, Vol. 44

CEFTER, M. YR. Prof

USSR/Medicine - Biochemistry Apr 49
Medicine - Burns, Complications and Sequels

"Biochemical Changes Brought About by Severe Burns," Prof Yu. M. Gefter, G. F. Milyushkevich, Leningrad Sci Res Inst of First Aid, 7½ pp

"Khirurgiya" No 4

Includes following changes brought about by burns: change in albumin content, hyperproteinemia, increase in residual nitrogen, hyperpolypeptidemia, change in carbohydrate and mineral contents, disturbance of acid-alkali balance, changes in oxidizing and reduction processes, fluctuation in [redacted] 45/49785

USSR/Medicine - Biochemistry (Contd) Apr 49

catalase index, and loss of ascorbic acid and vitamins.

45/49785

GEFTER, Yu.M.

Disturbances in protein metabolism in various pathological states.
Uspekhi Biol.Khim. 1, 242-60 '50. (MLRA 5:8)
(CA 47 no.14:7085 '53)

GEFTER, Yu. M.

USSR

Metabolic changes in tissues of rats on inadequate protein diet. O. N. Abbakumova-Zepalova, Yu. M. Gefter, B. L. Glinka-Chernorutskaya, M. G. Melik-Bagdasarova, B. I. Turchenko, and E. K. Tydman-Chetverikova (1st Leningrad Med. Inst.). *Ukrain. Biokhim. Zhur.* 22, 258-65(1950); cf. *Byull. Eksptl. Biol. i Med.* 27, 294(1949).—Quantitatively and qualitatively inadequate protein diet causes various metabolic disturbances affecting neuro-humoral regulation. Adequate quantity and quality of protein must be fed both healthy and sick people with protein deficiency. With 82 rats, it was found that in both liver and muscle acetone bodies increase considerably, 11-fold in liver as against the norm (35 rats), i.e. 29.2 mg % as against 2.6d mg.%; in muscle a 9-fold increase (3.5 mg.% in norm and 30.9 mg.% in expti.). During protein-deficient diet the content of acetone bodies was considerably higher than during starvation, despite complete absence of carbohydrate supply, and even more strikingly shown was the decrease in glycogen during starvation. The coeff. expressing ratio of lipide P/cholesterol was 0.88 (29 rats) in the norm, which increased to 1.11 (05 rats) on a low-protein diet, i.e., is detd. by quantity of phospholipides and by simultaneous decrease in cholesterol content. The reverse phenomenon was noted during complete starvation, the ratio decreasing to 0.70, depending primarily upon phospholipides. Cholesterol fluctuations were normal. Total blood glutathione remained in the normal range, but the ratio between its various forms varied, the oxidized form increasing and the reduced form decreasing (80 expti. rats, 17 of them controls). No

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1/2

ABBAKUMOVA - ZEPALOVA, O.N.

such changes were observed during starvation. Oxidation-reduction processes did not show quant. or qual. disturbances during complete starvation. A study of various metabolic indicators in humans suffering from protein deficiency and showing hypoproteinemia (extensive burns, inflammatory osteomyelitis, and others) has shown various disturbances, (protein, carbohydrate, and other indexes of metabolic disturbances) which have an effect upon the nervous system and upon neuro-humoral regulation, by acting on nerve receptors and centers which control physiol. processes.

Clayton F. Holoway

2/2

GEFTER, Yu. M.; MILYUSHKEVICH, G.F.; POSTNIKOV, B.N.; SHIT, A.Ya.

Significance of extensive protein diet in the treatment of severe burns. Khirurgiia, Moskva no. 2:25-30 Feb 1953. (CLML 24:2)

1. Of Leningrad Scientific-Research Institute of First Aid.

Daily observations of patients with severe burns of large areas of their bodies leaves no doubt that recovery is largely due to the high-calorie protein diet. Loss of protein of the blood is very marked in patients with severe burns. Biochemical examination reveals that between 4% and 5% of the contents of blisters is protein. Normally, protein contitutes 6% to 7% of the whole blood. A single blood transfusion of one liter of blood per day is not suffiecent to replenish the daily loss of blood protein; the deficit must be supplemented by proper diet rich in protein.

255T21

Translation M-675, 27 Jul 55

GULEVICH, V.S.; GEFTER, Yu.M., redaktor; KOSHTOYANTS, Kh.S., redaktor; SEVERIN, S.Ye., redaktor; TOLKACHEVSKAYA, N.F., redaktor; ENGEL'GARDT, V.A., otvetstvennyy redaktor; DEMIN, N.N., redaktor; SIMKINA, Ye.N., tekhnicheskiy redaktor.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akademii nauk SSSR, 1954. 335 p. (MLRA 7:11)
(Biochemistry)

GEFTER, Yu.M. prof.

Biochemical trend in the works of I.P. Pavlov and its continuation.
Trudy LMI 2:77-84 '55 (MIRA 11:8)

1. Kafedra biokhimii (zav. - prof. Yu.M. Gefter) Pervogo Leningradskogo meditsinskogo instituta imeni I.P. Pavlova.
(PHYSIOLOGICAL CHEMISTRY)
(PAVLOV, IVAN PETROVICH, 1849-1936)

GEFTER, Yu.M. (Leningrad)

Basic trends in the scientific activities of B.I.Slovtsov, 1874-1924. Vop.pit. 14 no.2:43-48 Mr-Ap '55. (MLRA 8:6)

(BIOGRAPHIES,
Slovtsov, B.I.)
(BIOGRAPHIES,
Slovtsov, B.I., bibliog.)
(NUTRITION,
contribution of B.I.Slovtsov)

Geftter, Yu M

GEFTER, Yu.M. (Leningrad)

Achievements of clinical biochemistry during the past 40 years.
Lab.delo 3 no.5:4-6 S-O '57. (MIRA 11:2)
(BIOCHEMISTRY)

GEFTER, Yu. M.

USSR / Human and Animal Physiology. Excretion. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 101951.

Author : Gefter, Yu. M.
Inst : Not given.
Title : Functional Tests of Kidneys and Their Evaluation.

Orig Pub: Labor. delo, 1957, No 4, 7-11.

Abstract: No abstract.

Card 1/1

GEFTER, YU. M., DOBRINSKAYA, M. A., ZAKHAROVA, A. V., ROMANCHUK, L. A., and RUBINA, KH. M. (USSR)

"The Changes in Tissue Metabolism during Hypoxia and Therapeutic Effects."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

Cat II Nov, M.A.

ZUBRILOV, S.P., inzh.; GEFTEROV, M.A., inzh.

Manufacturing wall panels for large-panel construction in construction yards. Biul. tekh. inform. 4 no.1:4-6 Ja '58. (MIRA 11:2)
(Leningrad--Concrete blocks) (Concrete construction--Formwork)

ABDULLAYEV, A.A.; GINZBURG, M.Ya.; VLADIMIRSKIY, A.I.; GEFTLER, L.M.

Expedient changes in the system of technological flow in gas-condensate wells. Gaz.prom. 5 no.3:10-13 Mr '60. (MIRA 13:6)

(Condensate oil wells)

ABDULLAYEV, Asker Alekperovich; VLADIMIRSKIY, Abram Iosifovich; GEFTLER, Leonid Mikhaylovich; GINZBURG, Mark Yakovlevich; GUSEYNOV, Chingis Saibovich; ZUBAREVA, Ye.I., ved. red.; POLOSINA, A.S., tekhn. red.

[Automation of gas pipelines in foreign countries]Avtomatizatsiia magistral'nykh gazoprovodov za rubezhom. Moskva, Gostoptekhizdat, 1962. 109 p. (MIRA 16:3)
(Gas, Natural—Pipelines) (Automation)

VLADIMIRSKIY, A.I.; GEFTLER, L.M.

Remote control of sections of a gas pipeline. Gaz. prom. 9 no.2: 34-37 '64. (MIRA 17:12)

GEGA, T.G. [Heha, T.H.]

Compound treatment of infectious nonspecific polyarthritis. Ped., akush. i gin. 22 no.6:16-19 '60. (MIRA 14:10)

1. Klinika detskikh bolezney (zaveduyushchiy - doktor med.nauk V.P.Chernyuk) Odesskogo meditsinskogo instituta im. M.I.Pirogova (direktor - zasluzh.deyatel' nauki USSR prof. I.Ya.Deyneka).
(ARTHRITIS)

GEGAMYAN, A. Ye.

GEGAMYAN, A. Ye.: "A study of the effect of bile and alcohol extracts of garlic in treating certain purulent processes of domestic animals." Min Higher Education USSR. Yerevan Zooveterinary Inst. Yerevan, 1956. (Dissertation for the Degree of Candidate in Veterinary Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

OMOICHKORI, O.K. (g. Novocherkassk)

Portable regulating instrument. Put' i put. khoz. no.2:27 F '57.
(Railroads--Tools and implements) (MLRA 10:4)

GEOMCHKORI, M.F.

Early and high yields of tomatoes due to mixtures of organic, mineral, and microfertilizers. Soob. AN Gruz. SSR 19 no.2:165-172 Ag '57. (MIRA 11:3)

1. Nauchno-issledovatel'skiy institut zemledeliya Gruzinskoy SSR. Predstavleno chlenom-korrespondentom AN Sh.F. Chanishvili.
(Georgia--Tomatoes) (Fertilizers and manures)

MINDADZE, A.A.; GEGECHKORI, M.R.

Neurological complications of influenza. Soob. An Gruz. SSR 25 no. 4:489-494 O '60. (MIRA 14:1)

1. Tbilisskiy gosudarstvennyy meditsinskiy institut. Predstavleno chlenom-korrespondentom Akademii K.P. Chikovani.
(INFLUENZA) (NERVOUS SYSTEM—DISEASES)

MINDADZE, A.A.; GABISONIA, G.T.; GEGECHKORI, M.R.

Loss of consciousness in brain concussion. Soob. AN Gruz. SSR 28 no.6:757-762 Je '62. (MIRA 15:7)

1. Tbilisskiy gosudarstvennyy meditsinskiy institut. Predstavleno akademikom P.P.Kavtaradze.
(BRAIN—CONCUSSION) (LOSS OF CONSCIOUSNESS)

GEGECHKORI, M.T.

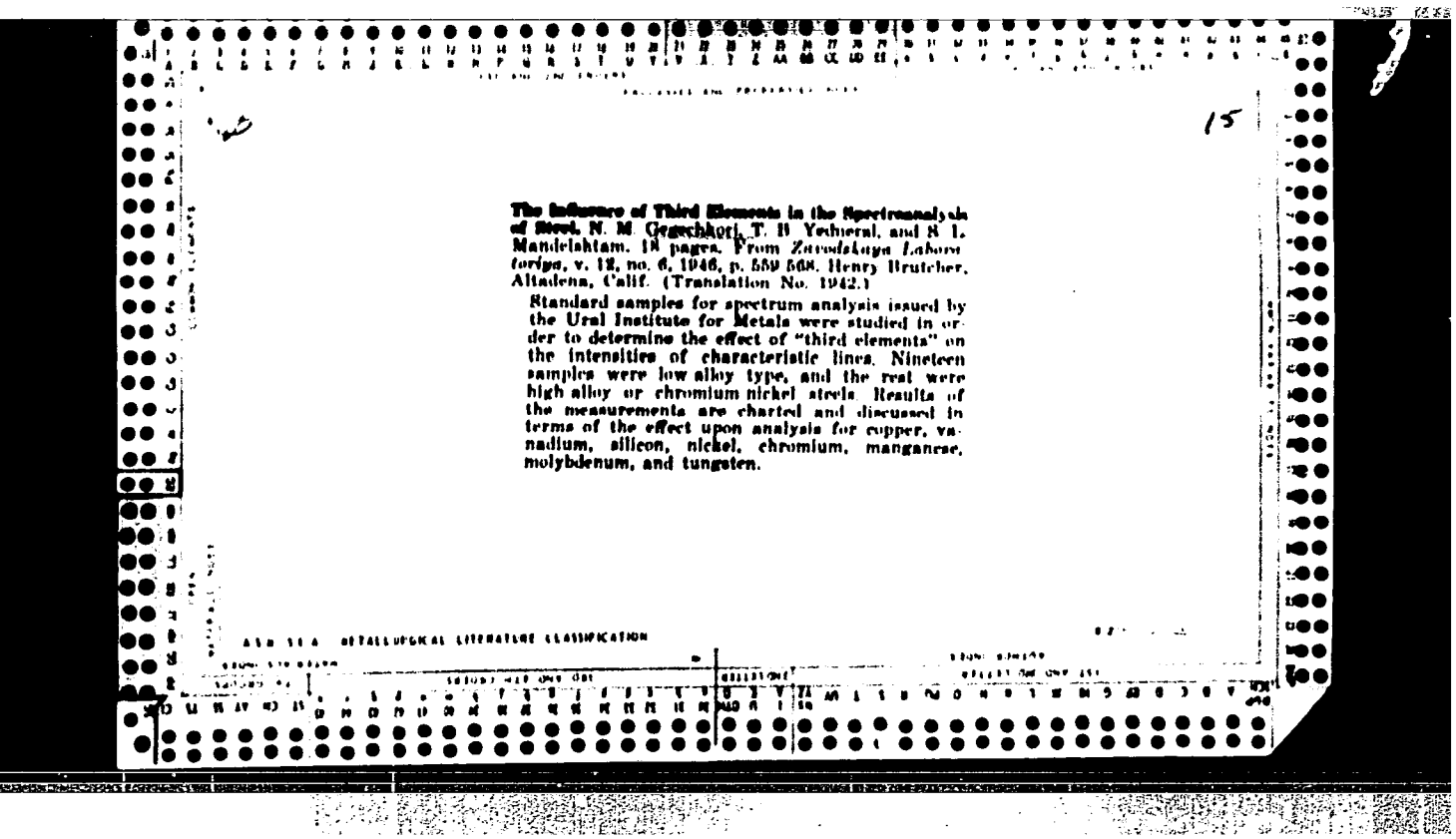
Manganese superphosphate as a row fertilizer for winter wheat.
Soob. AN Gruz. SSR 34 no.2:351-358 My '64. (MIRA 18:2)

CA

7

Spectroanalytical determination of boron in steel. N. M. Serebrikov(?) and O. B. Pal'kova. *Zavodskaya Lab.* 11, No. 1, 71-4(1945). A photographic method was developed for detg. B in steel in concns. of from [illegible] the A spark, of which the anode was the sample and the cathode was Armco iron, was used as the source of the excitation of the spectrum. The lines B [illegible] = 2089.7 A and FeA = 2010.8 A. were used. Standard solns. were prepd. by dissolving 3 g. of C steel in 100 cc. of 50% HCl to which a little concd. HNO3 had been added, the soln. was heated, filtered, and sufficient H3BO3 added to make solns. whose B concns. were 0.1, 0.2, 0.5, and 0.8%. The standard solns. were analyzed by placing a drop of the soln. on the flat surface of a graphite electrode, and the electrode dried in vacuo for 7-8 min. A graphite cone in a hemispheric form was used as the 2nd electrode. Two sparks each of the standard and the sample soln. were photographed on the same plate. The spectrograms obtained were measured in a microphotometer. Spectra of 3 standard solns. were photographed on each plate with the sample solns. The spectrograms were treated by the method of 3 standards. The detns. were accurate to within approx. 3.5% of the concn. detd. The lower limit of the detns. by this method is approx. 0.05%. The sensitivity of the method can be increased to det. 0.1 to 0.001% of B in the sample by using filings of the sample for the analysis. The accuracy was approx. 15%. The filings were placed in the lower (Al) electrode and Armco iron was used for the 2nd electrode. An activated a.c. arc was used as source for the excitation of the spectrum. The standard solns. for this detn. were prepd. by [illegible] steel with a high B content (approx. 0.1%) with Armco iron filings. Two references. W. R. Henn

METALLURGICAL LITERATURE



15

The Influence of Third Elements in the Spectroanalysis of Steel. N. M. Gegechkori, T. B. Yechiera, and S. L. Mandelshtam. 18 pages. From *Zavodskaya Laboratoriya*, v. 12, no. 6, 1946, p. 559-568. Henry Brutcher, Altadena, Calif. (Translation No. 1942.)

Standard samples for spectrum analysis issued by the Ural Institute for Metals were studied in order to determine the effect of "third elements" on the intensities of characteristic lines. Nineteen samples were low alloy type, and the rest were high alloy or chromium nickel steels. Results of the measurements are charted and discussed in terms of the effect upon analysis for copper, vanadium, silicon, nickel, chromium, manganese, molybdenum, and tungsten.

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2

The passage of spark discharge. I. S. Abramson, N. M. Gegechkori, S. I. Lashkina, and S. L. Mandel'shtam. *Zhur. Eksptl. Teoret. Fiz.* 17, 803-7(1947).—The observed velocity of development of the path of a spark discharge is of the order of 1-5 km./sec. which, when considered in conjunction with well-known emitted audible shock wave, makes it probable that the passage of the spark is of an explosive character. Expts. conducted in various gases and in different geometric contours with Toepler's method and the method of reflection development confirms the shock mechanism of the development of the path of the discharge. Toepler photography shows the presence of a sharp boundary "skin" for the passage of the discharge. H. K. L.

Phys. Inst. im. Lebedev, AS USSR

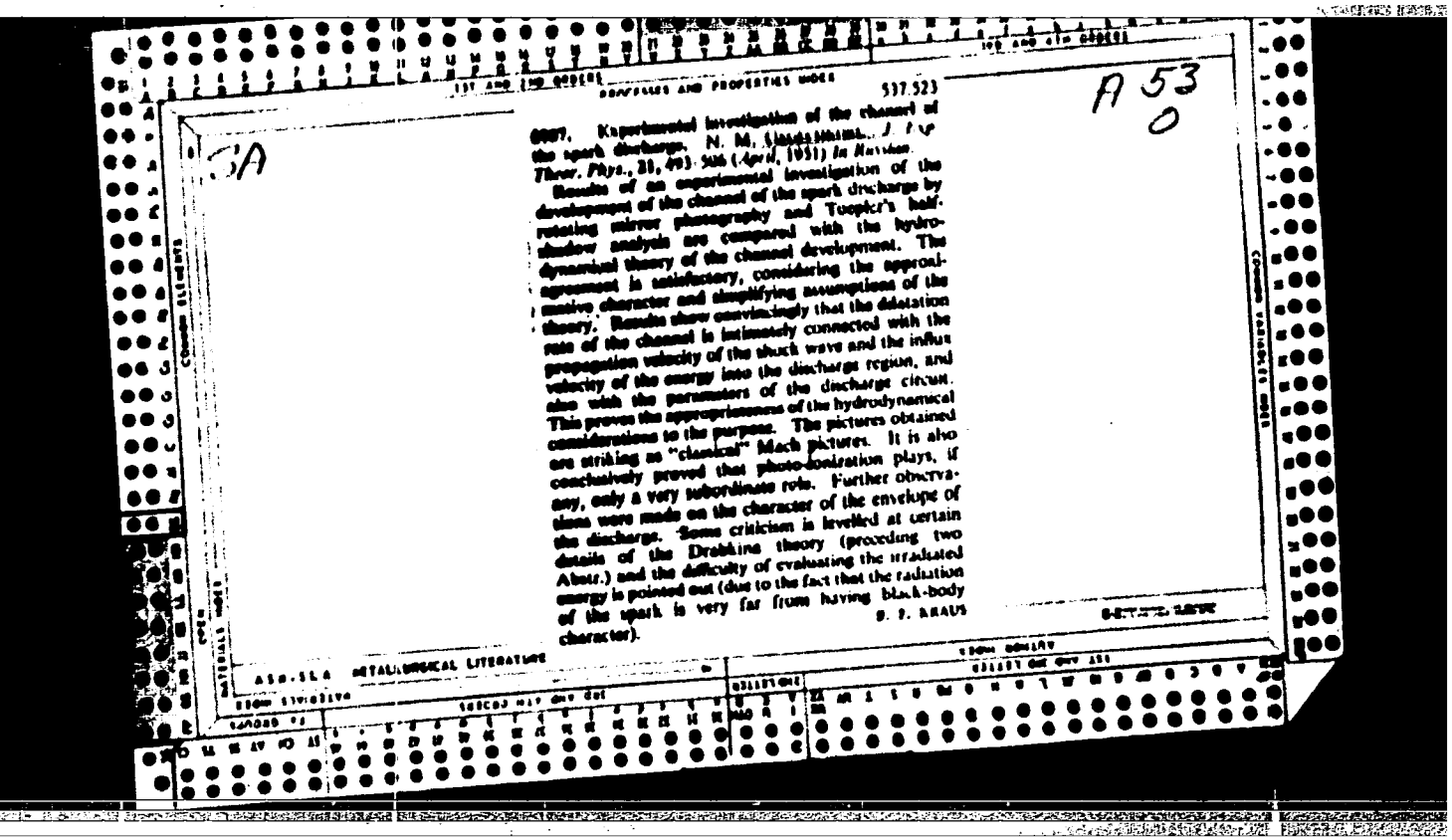
USSR/Electricity - Discharge, Spark Apr 51

"Oscillographic Investigation of Spark Discharge," I. S. Abramson, N. M. Gegechkori, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 4, pp 484-492

Results of oscillographic recording of voltage and current of spark discharge during intermediate state. Based on these data, ratio of energy inflow velocity to circuit parameters: self-induction, capacity and potential, is detd.

LC 180T40



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0007. Experimental investigation of the channel of the spark discharge. N. M. [illegible]. *J. Tech. Phys.*, 21, 493–508 (April, 1951) *In Russian.*

Results of an experimental investigation of the development of the channel of the spark discharge by rotating mirror photography and Toepler's half-shadow analysis are compared with the hydrodynamical theory of the channel development. The agreement is satisfactory, considering the approximative character and simplifying assumptions of the theory. Results show convincingly that the dilatation rate of the channel is intimately connected with the propagation velocity of the shock wave and the influx velocity of the energy into the discharge region, and also with the parameters of the discharge circuit. This proves the appropriateness of the hydrodynamical considerations to the purpose. The pictures obtained are striking as "classical" Mach pictures. It is also conclusively proved that photo-ionization plays, if any, only a very subordinate role. Further observations were made on the character of the envelope of the discharge. Some criticism is levelled at certain details of the Drabkina theory (preceding two Abstr.) and the difficulty of evaluating the irradiated energy is pointed out (due to the fact that the radiation of the spark is very far from having black-body character).

S. P. KRAUS

USSR/Chemistry - Analytical chemistry

Card 1/1 Pub. 43 - 54/97

Authors : Gegechkori, N. M.

Title : Spectroscopic method of determining the composition of glass

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 276, Mar-Apr 1954

Abstract : Experimental data are presented regarding spectroscopic determination of the composition of various types of glass. The error of the spectroscopic method varied between ± 5 and 7%.

Institution : .....

Submitted : .....

Category : USSR/Optics - Optical methods of analysis. Instruments K-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2519

Author : Gegechkori, N.M.
Title : Determination of Certain Impurities in Tungsten by Spectral Methods

Orig Pub : Zavod, laboratoriya, 1955, 21, No 9, 1075-1079

Abstract : Examination of a method for spectral analysis of raw material, intermediate products, and finished articles made of tungsten containing impurities of Si, Al, Fe, Ca, and Mg in amounts from 0.001% and above; the relative error of the method is 6--8% for a single determination. The method is based on the suppression of the tungsten spectrum by creating in the excitation source conditions that contribute to difficulty-volatile compounds of this element. For this purpose, all the above materials were converted by roasting in air at 700--800° into tungsten trioxide, the powder of which was mixed with carbon powder at a ratio 1:1 and with 1% (of the weight of the carbon) of CuO. A briquette made of 50 mg of the mixture was placed in the deep crater of a carbon electrode of a dc arc. By choosing the depth of the crater, the size of the batch, and the ratio of the tungsten trioxide and carbon in the mixture, it became possible to obtain for the sample a spectrum without tungsten lines.

Card : 1/1

AGAFONOVA, V.A.; BEDNAYA, L.D.; BOCHKAREVA, I.I.; VITES, V.G.; CHECHKORI, N.M.; DYATLOVA, O.A.; YEFIMOVA, Z.A.

Spectrum analysis of high-melting metals: tungsten and molybdenum. Fiz.sbor. no.4:44-51 '58. (MIRA 12:5)
(Tungsten--Spectra) (Molybdenum--Spectra)

28 (5)

AUTHORS: Gegechkori, N. M., Perminova, V. M., SOV/32-25-8-28/44
Veselovskaya, I. M., Gusarskiy, V. V., Kozovlev, I. A., Dem'yanchuk, A. S., Galishnikova, Z. P., Pedan, G. A., Mamot, Zh. A., Stukovenkova, K. N., Sukhenko, K. A., Barasheva, T. V., Tishin, I. G., Amirkhanov, Sh. Kh.

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 981-983 (USSR)

ABSTRACT: 1) The authors determined the impurities of Si, Fe, Al, Mn, Mg, Cu, Ca, Bi, Pb, Sb, and Na in thorium dioxide with a sensitivity of 10^{-2}-10^{-4}% by burning a briquette from the sample mixed with carbon powder (3:1) in the crater of a carbon electrode type "ryumka". The spectograph ISP-22 was used. The analytical doublets are listed. 2) The author reports on the application of a photoelectric device FES-1 for the rapid analysis of open-hearth furnace slag for silicon dioxide (15-30%), calcium oxide (25-55%) and complete iron (5-15%). There is a description of the operational method. 3) The laboratoriya zavoda (Plant laboratory) applies a spectrum method for the determination of titanium impurities (of an approximately 0.01% concentration) in aluminum

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alloys according to a series of standard samples. A spectrograph ISP-22 and an ac arc generator PS-39 were used. 4) The author reports on a method for localized spectrum analysis of steels and welded seams for the determination of phosphorus. The distribution of P was investigated in thin layers (up to 0.02 mm) of metals and welding seams by the use of a DG-1 generator and a quartz spectrograph and the phosphorus contents of microscopic inclusions and thin coatings were investigated. 5) The author determines calcium oxide and ferrous oxide in slags of electric furnaces in which the slag sample (0.2 g) was wetted with a saturated aqueous copper sulfate solution (2 ml) subsequently dried and put in the craters of two arc carbon electrodes. Spectrograph ISP-22 and genorator DG-1 were used. 6) The author analyzed magnesite and magnesitic refractory substances by mixing the sample with carbon and barium nitrate (1:2:1) and evaporating it in the crater of a carbon electrode in an ac arc. A spectrograph ISP-22 was used. The use of this method was introduced at the Plant "Magnezit", Kuznetskiy metallurgicheskiy kombinat(Kuznetsk Metallurgical Kombinat) and Zaporozhskiy zavod ogneuporov (Zaporozh'ye Plant of Refractory Materials). 7) The authors apply a spectrum method for the determination of phosphorus

pentoxide in zirconium dioxide. The determination takes only 2 hours. 20 mg of the sample mixed with carbon (1:1) is put into the carbon electrode and the spectrum lines are measured with a spectrograph ISP-28. 8) The authors, working in the laboratoriya instituta (Institute Laboratory) report the preparation of standard samples from technical Ti for the determination of hydrogen by the spectrum method. The article contains a description of the preparation method and the determination results according to different methods of the hydrogen in standard samples (Table). The difference is maximum relative ± 13.5%. 9) The author reports on a simple spectrum method for the determination of small quantities of Ba and Mn in calcium chloride water of high mineral contents. He used a spectrograph ISP-22, microphotometer MF-2 and standard samples. There are 1 figure and 1 table.

ASSOCIATION: 1) Laboratoriya nauchno-issledovatel'skogo instituta (Laboratory of the Scientific Research Institute), 2) Zavod "Serp i molot" (Plant "Serp i molot"), 4) Institut elektrosvarki im. Ye. O. Patona Akademii nauk USSR (Electric Welding Institute imeni Ye. O. Paton of the Academy of Sciences of the UkrSSR), 5) Stalingradskiy metallurgicheskiy zavod "Krasnyy Oktyabr'" (Stalingrad Metallurgical Plant "Krasnyy Oktyabr'"), 6) Vsesoyuznyy nauchno-issledovatel'skiy institut ogneuporov, Khar'kov (All-Union Scientific Research Institute of Refractory Materials, Khar'kov), 7) Zhdanovskoye rudoupravleniye, g. Volnovakha (Zhdanov Mining Administration, City Volnovakha), 9) Ufimskiy neftyanoy nauchno-issledovatel'skiy institut (Ufa Petroleum Scientific Research Institute)

L 15170-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m)/T LJP(c) AT
ACC NR: AP6002420 SOURCE CODE: UR/0020/65/165/005/1045/1047

AUTHOR: Gegechkori, N. M.

ORG: none

TITLE: Effect which the drift of ions from a discharge has on the state of impurity ionization 21,44,55

SOURCE: AN SSSR. Doklady, v. 165, no. 5, 1965, 1045-1047

TOPIC TAGS: hydrogen plasma, plasma physics, spectral line, electric discharge ionization, ion density

ABSTRACT: The author considers the total number of atoms or ions contributing to the formation of a given line for calculating energy losses from a hot hydrogen 21,44,55 plasma and also for evaluating electron temperatures from the intensity of individual spectral lines. Drift and diffusion processes are considered as well as recombination of ions on the walls of the discharge chamber. It is assumed that the number of impurity ions and atoms in the discharge remains constant and that the rate of the drift for the ions is independent of their charge. Helium, which is weakly

Card 1/2 UDC: 533.9.07

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ACC NR: AP6002420

adsorbed by the walls of the chamber was considered as an impurity. A system of equations is given which describes ionization of the helium with respect to ion drifts from the chamber for a uniform plasma with a given electron temperature and density. The problem is solved for the density of neutral atoms, singly charged and doubly charged ions. Curves are given showing the steady-state values of these densities as a function of ion lifetime as well as the time dependence of the various densities at different ion lifetimes. The results show that care should be taken in interpreting the data of spectral measurements for each specific experimental case. They also indicate that there is a theoretical possibility of determining the average lifetime of ions in terms of their drift from a discharge. In conclusion I am sincerely grateful to Ye. I. Dobrokhotov for discussion of this work. Orig. art. has: 3 figures, 1 table, 2 formulas.

SUB CODE: 20/ SUBM DATE: 24Mar65/ ORIG REF: 000/ OTH REF: 004

Card 2/2

GEGEL', G. G.

Gegel', G. G. and Tsybina, M. G. - "On the toxicity of tetralin," In Symposium: Issledovaniya v oblasti prom. toksikologii, Leningrad, 1949, p. 229-35 - Biblio: 7 items

SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

GEGELASHVILI, K. V.

USSR / General Biology. General Histology.

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 85557

Author : Gegelashvili, K. V.
Inst : Not Given
Title : Some Data on Histochemical Investigation of Embryonic Nerve Tissue. Report 1. Deoxyribonucleic Acid.

Orig Pub : Sabchota meditsina, 1957, No. 5, 18-20.

Abstract : A study was conducted by the Feulgen reaction of DNA content in cells of the anterior brain in chick embryos on the 5th, 10th, 15th, and 20th day of incubation. On the 5-10th day, DNA changes to a granular state. The granules are arranged around the nucleolus. The histochemical changes correspond evidently to the morphological and functional specialization of cell elements of the anterior brain. -- Author's abstract.

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GEGELASHVILI, K. V.: Master Med Sci (diss) -- "Some cytological aspects of the developing embryonic brain tissue". Tbilisi, 1959. 20 pp (Tbilisi State Med Inst), 200 copies (KL, No 18, 1959, 128)

GEGELASHVILI, Karlo Vladimirovich

[Histochemistry of nucleic acids and nucleoproteins and some problems of functional morphology]Gistokhimiia nukleinovykh kislot i nukleoproteidov i nekotorye voprosy funktsional'noi morfologii. Tbilisi, 1962. 189 p. (MIRA 16:1)
(Nucleic acids) (Nucleoproteins)

GEGELASHVILI, V.K.; SHAPOSHNIKOV, L.D.

Steel bushings and plungers. Stek.i ker. 19 no.9:32-33 S '62.
(MIRA 15:9)

1. Ordzhonikidzevskiy steklotarno-izolyatornyy zavod.
(Glass factories--Equipment and supplies)

GEGELASHVILI, V.K.; GORCHAKOV, M.M.; FEDORYUK, G.M.; SVIDZINSKAYA, I.V.

Tank furnace for continuous operation direct heating in the manufacture of S-87-1 glass products. Stek. i ker. 20 no.12: 27-29 D '63. (MIRA 17:1)

DZHAPARIDZE, P.N., starshiy nauchnyy sotr., kand. tekhn. nauk;
GEGELE, V., red.; AVALIANI, N.M., red. izd-va; BOKERIYA, N.B.,
tekhn. red.

[Physicochemical nature of the strength of condensed substances and methods for its quantitative expression] Fiziko-khimicheskaia sushchnost' prochnostnykh svoistv kondensirovannykh veshchestv i sposoby ikh kolichestvennogo vyrazheniia. Tbilisi, Izd-vo Akad. nauk Gruzinskoi SSR, 1961. 245 p. (MIRA 15:5)

1. Rukovoditel' laboratorii pirogennykh protsessov Instituta prikladnoy khimii i elektrokhimii Akademii nauk Gruzinskoy SSR (for Dzhaparidze).

(Strength of materials)

L 08392-67 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JG/WH
ACC NR: AP6031745 SOURCE CODE: UR/0072/66/000/007/0011/0014

AUTHOR: Shumitskaya, L. F.; Gegelashvili, V. K.; Zhukovskiy, V. V.; Svidzinskaya, I.V.

ORG: Ordzhonikidze Plant of Container Glassware and Glass Insulators (Ordzhonikidzevskiy steklotarno-izolyatornyy zavod)

TITLE: Production of glasses stable to the action of alkali metal vapors

SOURCE: Steklo i keramika, no. 7, 1966, 11-14

TOPIC TAGS: borate glass, aluminophosphate glass, sodium, cesium

ABSTRACT: As a result of studies of aluminoborate and aluminoborophosphate glass systems, carried out at NIIES, S50-1 glasses stable to the action of cesium vapor and S50-2 glasses stable to the action of sodium vapor were developed. The founding and processing technology worked out by NIIES has been used at the Ordzhonikidze Plant since 1963. Physicochemical and other properties of S50-1 and S50-2 glasses are reviewed. The furnaces used for founding the glasses and the schedules employed are described. The adoption of production of glasses resistant to alkali metal vapors has permitted the Moscow Electric Lamp Plant (Moskovskiy elektrolampovyy zavod) to manufacture highly economical sodium vapor illumination lamps and sodium and cesium vapor spectral lamps. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001

Card 1/1 afs UDC: 666.117.4

GEGELE, V.G.

Effect of pyrolysis conditions on the yield and composition of chemical products of the thermal decomposition of Georgian coals. Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 2:109-122 '61. (MIRA 16:8)

(Coal--Carbonization)

GEGELE, V.G.; TSERETELI, Ye.A.

Thermal decomposition of Tkibuli coal in a vacuum. Trudy Inst. prikl.khim.i elektrokhim.AN Gruz.SSR 3:195-205 '62. (MIRA 16:1)

(Coal—Carbonization)

GEGELE, V.G.; LITSINOVA, L.A.

Effect of mineral additions on Tkibuli coal pyrolysis.
Trudy Inst. prikl. khim. i elektrokhim. AN Gruz. SSR 4:
81-89 '63. (MIRA 17:5)

GEGELIYA, T.G.; KUPRADZE, V.D., deystvitel'nyy chlen.

Certain singular integral equations of particular form. Soob.AN Gruz.SSR 13 no. 10:581-586 '52. (MLRA 6:5)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina (for Gegeliya).
2. Akademiya Nauk Gruzinskoy SSR (for Kupradze). (Integral equations)

GEGELIYA, T. G.

715. Бурчуладзе Тенгиз Владимирович. Асимптотическое поведение фундаментальных функций колебания упругого тела. 1955. 114 с.
Защ. 1956, 18.2.

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Защ. 1937, 5. 6.

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Защ. 1953, 26.12.

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Защ. 1957, 14.9.

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Защ. 1954, 27.11.

720. Горгидзе Алексей Яковлевич. Об одном применении метода последовательных приближений в теории упругости. 1937.
Защ. 1937, 9. 10.

721. Гуджа Шота Несторович. О теоремах типа Абеля. Сухуми. 1955. 56 с. (Сухумский пед. инст.).
Защ. 1956, 7.4.

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Защ. 1939, 23.6.

723. Мецхваришвили Ясон Георгиевич. О предельных решениях дифференциального уравнения гиперболического типа с переменными коэффициентами в случае двух независимых переменных (Тр. Тбил. матем. инст., т. 4 1938).
Защ. 1938, 17.5.

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Защ. 1948, 24.4.

725. Симонян Вахтанг Тарасович. Представления полупростых алгебр Ли с двучленным максимальными разрешимыми подалгебрами. 1955. 157 с.
Защ. 1956, 10.3.

726. Тевзадзе Гиви Николаевич. О внутренних римановых геометриях на поверхностях проективного пространства. 1954. 105 с. (Тбилисский пединст.).
Защ. 1954, 27.5.

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Защ. 1938, 17.5.

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Защ. 1940, 22.4.

729. Харадзе Давид Фомич. Некоторые вопросы теории аналитических дифференциальных уравнений. 1942. 59 с.
Защ. 1942, 26.2.

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Защ. 1949, 25.6.

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Защ. 1954, 29.6.

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Dissertation for degree of
Candidate Mathematical Sciences

Def. at
Tbilisi State U.

GEGELI A, T. G.

" Hilbert's Boundary Problem and Singular Integral Equations for the Case of Intersecting Contours," Soobshch. AN Gruz SSR, Vol 15, No 2, pp 69-76, 1954

The author gives the solution of the Hilbert boundary problem in the theory of analytic functions in the case when the plane of the complex variable is cut along a contour which is the finite totality of closed and open lines fulfilling two conditions i posed by the author. This is a generalization of two earlier works (Trjitzinsky, W. J., Trans. Amer. Math. Soc., 1946,60,167-214; and Kveselava, D. A., Tr. Tbilis. matem. in-ta, 1949, 17, 1-27). (RzhMat, No 6, 1955)

Sum. No. 681, 7 Oct. 55

Gegelia, T. G.

3
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Gegeliya, T. G. On boundary values of integrals of ... 1 - F/E
Cauchy type for unsmooth surfaces
Soob. Akad. Nauk GSSR 15 (1954), ... Mat. ...
The author studies in Euclidean three-space ...

(1) $$\Phi(P)=\iint_S M(Q,P)\mu(Q)r^{-\alpha}dS_Q \quad (P\in S)$$

where $r=r(Q,P)$ is the distance between points P, Q, S is a rectifiable surface without self-intersections, $M=(m_{ij})$ $(i,j=1,\dots,n)$ is a matrix, and $\mu=(\mu_1,\dots,\mu_n)$ is a vector on S. Under various conditions formulas of type (1) for the boundary values of integrals are of importance for the theory of singular integral equations (e.g., for surfaces which are not closed (that is, that may have edges) see a paper of the reviewer's Acta Math. 84 (1950), 1–128; MR 12, 505, for closed surfaces or closed manifolds see, e.g., G. Giraud, Ann. Sci. Ecole Norm. Sup. (3) 51 (1934), 251–372; A. V. Bitsadze, Izv. Akad. Nauk SSSR Ser. Mat. 17 (1953), ... MR 15 ...

Tbilisi State University im. Stalin

533. The author establishes a number [illegible] values formulas under conditions which [illegible] directions are more general than those [illegible] works. Thus, for example, S may possess [illegible] mild forms of unsmoothness and may be subject [illegible] conditions lighter than those of Lagrangeoff. In a later paper the author intends to make applications of [illegible] results obtained to a study of singular [illegible]

W. J. Trjitzinsky (Urbana, Ill.)

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/3 PG - 717
AUTHOR GEGELIJA T.G.
TITLE On a generalization of a theorem of G.Giraud.
PERIODICAL Soobščenija Akad.Nauk Gruzinskoj SSR 16, 657-663 (1955)
reviewed 4/1957

The author considers the principal value in the sense of Cauchy of the integral which is defined by

$$(1) \qquad \psi(P) = \iint_S \frac{M(Q,P)[\varphi(Q)-\varphi(P)]}{\rho^2(Q,P)}\, dS_Q ,$$

where S is a surface without multiple lines; P,Q are points of S; $\rho(P,Q)$ the distance between P and Q; $M(P,Q)$ is a function given on S, and $\varphi(Q)$ is a continuous function being defined on S.

1. At first the author introduces the notion of the surface of the class B being defined as follows: For $P \in S$ let $\Pi(P)$ be the plane which passes through the point P, and $\Pi'(P,\nu)$ and $S'(P,\nu)$ respectively are the parts of $\Pi(P)$ and the surface S contained in the inner of the sphere $C(P,\nu)$. It is assumed that there exists a biunique connection between $S'(P,\nu)$ and a certain part $\Pi'(P,\nu)$ such that if $Q \in S'(P,\nu)$, then there exists $Q' \in \Pi'(P,\nu)$ such that for all $Q \in S'(P,\nu)$ we have

$$(2) \qquad c_1\rho(Q',P) \le \rho(P,Q) \le c_2\rho(Q',P), \qquad dS_Q \le Cd\sigma$$

C, C_1, C_2, ν being positive constants and $d\sigma$ the element of area in the point Q' of the plane $\Pi(P)$.

2. Every continuous function $\varphi(Q)$ defined on S is called function of the class T if there exists

$$\lim_{\delta \to 0} \iint_{S(P,\delta)} \frac{|\varphi(Q) - \varphi(P)|}{p^2(P,Q)}\, dS_Q$$

uniformly for $P \in S$, where $S(P,\delta) = S \cdot S'(P,\delta)$. Then the author establishes:

Theorem 1. If $\omega(\delta, \varphi)$ is the modul of continuity of φ on S and if $S \in B$ and $\varphi \in T$, then we have

$$(3) \qquad \omega(\delta, \varphi) \leq C\left\{\omega(\delta, \varphi) + \int_0^{\delta} \frac{\omega(\tau, \varphi)}{\tau}\, d\tau + \delta \int_{\delta}^{\eta} \frac{\omega(\tau, \varphi)}{\tau^2}\, d\tau\right\},$$

where C and η are positive constants.

Theorem 2. If $S \in B$ and $\varphi \in T$, then $\int_0^{\gamma} I(\tau, \psi)\, \mu(\tau)\, d\tau \leq C\left\{\int_0^{\gamma} I(\tau, \varphi)\, \mu(\tau)\, d\tau + \int_0^{\gamma} \frac{\mu(t)}{t}\, dt + \int_0^{\gamma} \frac{I(\tau, \varphi)}{\tau}\, d\tau \int_0^{\pi} \mu(t)\, dt + \int_{\gamma}^{\eta} \frac{I(\tau, \varphi)}{\tau}\, d\tau \int_0^{\gamma} \mu(t)\, dt\right\}$, $\left(\int_0^{\gamma} I(\tau, \varphi)\, d\tau\right.$

where $\mu(t)$ is an arbitrary positive and integrable function, $\tau I(\tau,\psi)=\omega(\tau,\psi)$, and C and $\eta>\gamma$ positive constants.

3. Then the author studies some more special classes of continuous functions, e.g. the classes $H_\alpha\Lambda_r$ and $h'_\alpha\lambda_r$ of the functions φ being defined on S and satisfying the conditions:

$$\omega(\delta,\varphi)=O(\delta^\alpha lg^{-r}\tfrac{1}{\delta}) \quad \text{and} \quad \omega(\delta,\varphi)=o(\delta^\alpha lg^{-r}\tfrac{1}{\delta}).$$

If I_r is the set of the function φ such that

$$\int_0^\gamma I(\tau,\varphi)lg^r\frac{\gamma}{\tau}\,d\tau<\infty, \text{ then } (S\in B \text{ and } \varphi\in I_0)\Rightarrow(\varphi\in T) \quad \text{(theorem 3).}$$

The theorems 1-3 imply

Theorem 4. If $S\in B$, and φ belongs to one of the classes $H_\alpha\Lambda_r$ $(0<\alpha<1)$; $H_1\Lambda_{r+1}$, $h_1\lambda_{r+1}$ $(r<0)$; $H_1\Lambda_{r+1}$, $h_1\lambda_{r+1}$ $(r<0)$; Λ_{r+1}, D_{r+1} $(r>0)$; I_{r+1} $(r\geqslant 0)$, I_∞, where $H_0\Lambda_r=\Lambda_r$, $h_0\lambda_r=D_r$ $(r>0)$, then ψ being defined by (1) belongs to

$H_\alpha\Lambda_r$, $h_\alpha\lambda_r$; $H_1\Lambda_r$, $h_1\lambda_r$; H_1; h_1; $H_0\Lambda_r$, $h_0\lambda_r$, I_r, $I_\infty=\prod_{r>0}I_r$, respectively.