The dipole moment [illegible]
D. [illegible]

[illegible] the [illegible] smaller dipole moments which [illegible] of [illegible] parts of the [illegible] whose [illegible] shell is unfilled [illegible]. However, the [illegible] in the molecules of the [illegible] hydro[illegible] that in the molecules [illegible] hydro[illegible] tables and [illegible] references: [illegible] Soviet [illegible] references to the English language publications [illegible] Carothers, G. J. Berchet [illegible] as follows: W. [illegible] Salvesen [illegible]

ASSOCIATION: L[illegible]
[illegible]

SUBMITTED: November [illegible]

Card [illegible]

PETROV, A.A.; PORFIR'YEVA, Yu.I.; SVETLOVA, N.I.

Conjugated systems. Part 149: Synthesis and properties of homologs of allylvinylacetylene. Zhur. ob. khim. 31 no. 11 3525-3531 N '61.
(MIRA 14:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Acetylene)

27260

[illegible]

AUTHORS [illegible]

TITLE [illegible]

PERIODICAL [illegible] SSSR [illegible]

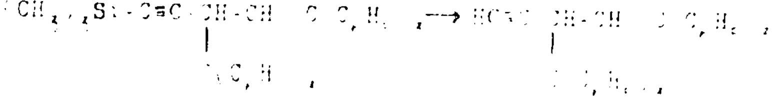
TEXT [illegible]

[illegible]

27260
S/[illegible]

Addition [illegible]

[illegible] acetylene (II) [illegible] the separated [illegible]. Its infrared spectrum is given in Fig. [illegible]. Triphenyl methyl radicals are added to [illegible] conjugated systems in different order according to their structure. In contrast to vinyl acetylene hydrocarbons, this vinyl trimethyl silyl acetylene (trimethyl silyl [illegible]) (III) mainly adds to the double bond. An intensive band [illegible] of the triple bond exists in the infrared spectrum of the adduct and a weak band in the range of [illegible] cm$^{-1}$ where the absorption of allene [illegible] takes place (Fig. [illegible]). The adduct structure was also chemically confirmed. A hydrocarbon with an acetylene end group was obtained [illegible] according to the scheme



$$(CH_3)_3Si-C\equiv C-\underset{\displaystyle C(C_6H_5)_3}{\underset{|}{CH}}-CH_2-C(C_6H_5)_3 \longrightarrow HC\equiv C-\underset{\displaystyle C(C_6H_5)_3}{\underset{|}{CH}}-CH_2-C(C_6H_5)_3$$

due to hydrolytic cleavage of this substance. The structure of the hydrocarbon was proved by means of argentometric titration and by the infrared spectrum; the intensive frequency [illegible] cm$^{-1}$ of the acetylene end group (Fig. [illegible]) was detected. This hydrocarbon is, according to its structure, an isomer of the 1,4 adduct of the triphenyl methyl radicals to vinyl acetylene, and differs from this isomer only by a higher melting point

Card [illegible]/7

[illegible] 726

[illegible]

[illegible] same [illegible] as [illegible]

the allene gr[illegible] exists [illegible]

bands [illegible]

described in the literature [illegible] allene [illegible]

structure [illegible] allene [illegible]

been [illegible]

neither an allene [illegible] since

The auth[illegible] explain [illegible]

method [illegible]

[illegible]

Card 1/2

[illegible]

shaken [illegible]

[illegible]

ASSOCIATION: [illegible]

Card [illegible]/7

MARETINA, I.A.; PETROV, A.A.

Conjugated systems. Part 151: Synthesis and properties of vinyl-tert-butylacetylene. Zhur. ob. khim. 32 no.1:127-132 Ja '62. (MIRA 15:2)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Hexyne)

S/051/62/012/[illegible]
E202/E192

AUTHORS: Yakovleva, T.V., Petrov, A.A., and Zav[illegible]

TITLE: Vibrational spectra and structure of [illegible] tin-hydrocarbons

PERIODICAL: Optika i spektroskopiya, v.12, no. [illegible]

ABSTRACT: Raman and infrared spectra of trimeth[illegible] vinylethynyl tin, triethyl (vinylethynyl) tin and tri[illegible] isopropenylethynyl) tin, were studied in order to [illegible] effect of the increased atomic weight of the heteroatom. [illegible] the characteristic groups and bonds were identified in terms of their frequencies. On the basis of the present and [illegible] work in which similar chain silicon hydrocarbons were [illegible] (Ref.1: T.V. Yakovleva, A.A. Petrov, Opt. i spektr. v.11, [illegible] 1961. Ref.2: T.V. Yakovleva, A.A. Petrov, M.D. Stadnichuk, Opt. i spektr. v.11, 566, 1961) it was concluded that on exchanging the C- atom with Si, and Sn, in turn, the triple bond frequency of the tin-hydrocarbons is reduced by [illegible] $cm^{-1}$ in comparison with silicon hydrocarbons, and by 90 $cm^{-1}$ when

Card 1/2

Vibrational Spectra and ....

[illegible]
[illegible]/B102

Compared with the pure hydrocarbons. The frequency of the bond C [illegible] bond was also slightly lowered. On the [illegible] the intensity of the triple bond was increased which was [illegible] the change in polarity, coefficient of bond elasticity, [illegible] particles of the electron cloud of this bond. It was [illegible] that electrons of the triple bond may be partially [illegible] occupying the unfilled levels of tin atom. No experimental details were given as these were the same as in the previous papers. The measurement of dipole moments was carried out by K.S. Mingaleva.

There are 2 figures and 3 tables.

SUBMITTED: January 21, 1961

Card 2/2

PETROV, A.A.

Inapplicability of the weighing method for calculating average contents
Razved.i okh.nedr 28 no.3:11-15 Mr '62. (MIRA 15:[illegible]

1. Severo-Zapadnoye geologicheskoye upravleniye.
(Ores—Sampling and estimation)

ZAYDEL', A.N.; PETROV, A.A.

Spectral-isotope method of determining nitrogen in metals. Opt.i spektr. [illegible] '58 [illegible] (MIRA [illegible])

1. Leningradskiy gosudarstvennyy universitet.
(Gases in metals) (Nitrogen--Isotopes) (Spectrum analysis)

[illegible]

AUTHORS Kremer, [illegible] A., Petr[illegible], A. A., [illegible]
P[illegible]porin, [illegible]

TITLE [illegible]

PERIODICAL Zh[illegible]

TEXT L. B. was reacted with [illegible] ... with [illegible] constants K [illegible] K [illegible] and with an energy [illegible] K [illegible] position of a complex which forms as an intermediate [illegible] also observed that I decomposes faster than II is formed [illegible] at the higher temperature and when [illegible] was in excess. Th[illegible]
Card [illegible]

The Kinetics and Mechanism of [illegible] [illegible]

[illegible] Three [illegible]

ASSOCIATION: Leningradskiy [illegible]
[illegible] Institut [illegible]

SUBMITTED: September [illegible]

Card [illegible]

PETROV, A.A.; LEBEDEV, V.B.; SAVICH, I.G.

Hydrogen bond between molecules of acetylenic aldehydes and ketones. Zhur.ob.khim. 32 no.2:658-659 F '62. (MIRA [illegible]

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

(Acetylene compounds--Spectra)
(Hydrogen bonding)

PETROV, A.A., doktor khim.nauk

Butlerov Symposium in Leningrad. Vest. AN SSSR 32 no.3:34-40
Mr '62. (MIRA 15:2)
(Chemistry, Organic—Congresses)

KOLYASKINA, Z.N.; PETROV, A.A.

Reactions of chlorine-containing telomers of diene hydrocarbons. Part 8: Synthesis of diene hydrocarbons with quaternary carbon atoms from products of addition of tertiary alkyl chlorides to bivinyl. Zhur.ob.khim. 32 no.4:1089-1095 Ap '62. (MIRA 15:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Butadiene) (Alkyl chlorides)

RALL', K.B.; PETROV, A.A.

Conjugated systems. Part 154: Vinylacetylene derivatives of mercury. Zhur.ob.khim. 32 no.4:1095-1097 Ap '62. (MIRA 15:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Mercury) (Butenyne)

[illegible]

S/079/62/032/004/007/010
D287/D301

AUTHORS: Petrov, A.A., Zavgorodniy, V.S., and [illegible]

TITLE: Dialkylboron and dialkylaluminum vinylacetylenes

SOURCE: Zhurnal obshchey khimii, v. [illegible], no. 4, [illegible]

TEXT: The present work is a continuation of earlier [illegible] on the [illegible] on the character of bonds with acetylene and vinylacetylene groups and on the position of these bonds. Dibutylboron 1-propenylacetylene, prepared in a current of nitrogen in ether, had after high-vacuum distillation a boiling point of [illegible] - [illegible]°C at [illegible] mm pressure, $n_D^{20}$ = 1.[illegible]; the substance was instantaneously inflammable in air. The 2145 cm$^{-1}$ band in the IR spectrum was assigned to treble bond substances, the 1609 cm$^{-1}$ band to double bond substances, the 960 cm$^{-1}$ band to the deformation vibrations of the 1-propenyl group. The boron atom, therefore, lowers the frequency of the valency vibrations of the treble bond to the same extent as the Si atom, but has only a negligible effect on the frequency of the double bond valency vibrations. The dialkylaluminum vinylacetylenes

Card 1/2

Dialkylboron and [illegible] [illegible]

were synthesized in [illegible]. Both com[illegible], sub-
ject [illegible] air, with a [illegible]
cm-1 IR absorption band. The [illegible] polymerize [illegible] or
heating, forming allene adducts by 1,4-addition; [illegible]
[illegible] absorption [illegible] at [illegible] cm-1. Tri-iso-buty[illegible]
[illegible]-butyl [illegible]
[illegible] a treble [illegible]
[illegible] characteristic [illegible]
[illegible]. Frequency [illegible] is shifted [illegible]
[illegible] are treated with [illegible]
[illegible] in the intensity [illegible]
[illegible]. There [illegible].

ASSOCIATION: [illegible]
([illegible] Institute for Technology im. [illegible])

SUBMITTED: [illegible]

Card [illegible]

FEDOROVA, A.V.; PETROV, A.A.

Chemistry of allene compounds. Part 5: Hydration of disubstituted allene hydrocarbons. Zhur.ob.khim. 32 no.6:1755-1758 Je '62. (MIRA 15:6)

1. Leningradskiy tekhnologicheskiy institut im. Leningradskogo Soveta.

(Propadiene) (Hydration)

KUPIN, P.[illegible]; PETROV, A.A.; KO[illegible] A.

Conjugated systems. Part 1[illegible] Hydration of some enynes [illegible] with allyl radicals. Zhur.ob.khim. 32 no.6:1758-1762 Je '62.

([illegible])

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.

(Hydrocarbons) (Unsaturated compounds) (Hydration)

CHIS[illegible] [illegible] V. N., [illegible] V. A.

Addition of [illegible] to ethane hydrocarbons. Zhur. [illegible]
[illegible] '59. [illegible]

[illegible] [illegible] [illegible]

IONIN, B.I.; PETROV, A.A.

Arbuzov rearrangement with acetylenic halides having a halogen atom at the triple bond. Zhur.ob.khim. 32 no.7:2387-2388 Jl '62. (MIRA 15:7)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. (Rearrangements (Chemistry)) (Phosphorous acid) (Acetylene)

CHELPANOVA, L.F.; PETROV, A.A.; BONDAREV, G.P.; NEMIROVSKIY, V.D.

Conjugated systems. Part 157: Synthesis and hydrobromination of 4-penten-2-ynal. Zhur.ob.khim. 32 no.8:2487-2489 Ag '62.
(MIRA 15:9)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Pentenynal) (Hydrobromic acid)

STADNICHUK, M.D.; PETROV, A.A.

Conjugated systems. Part 158: Addition of lithium alkyls to trimethylsilylpropenyl- and trimethylsilylisopropenylacetylenes. Zhur.ob.khim. 32 no.8:2490-2494 Ag '62. (MIRA 15:9)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Acetylene compounds) (Silicon organic compounds)
(Lithium compounds)

KUPIN, B.S.; PETROV, A.A.

Conjugated systems. Part 159: Hydration of 2-hexen-4-yne and 3-methyl-2-hexen-4-yne. Zhur.ob.khim. 32 no.8:2494-2498 Ag '62. (MIRA 15:9)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Hexenyne) (Hydration)

GENUSOV, M.L.; RAZUMOVA, N.A.; PETROV, A.A.

Reactions of chlorine-containing telomers of dienic hydrocarbons. Part 9: Synthesis of homologs and analogs of geraniol and their ethers and esters. Zhur.ob.khim. 32 no.10:3265-3277 O '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

(Geraniol) (Terpenes)

SHVARTS, Ye.Yu.; PETROV, A.A.

Reaction of chlorine-containing telomers of dienic hydrocarbons. Part 10: Preparation of farnesol from the sesquiterpene fraction of isoprene telomers with its hydrochlorides. Zhur.ob.khim. 32 no.10:3278-3280 O '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

(Farnesol) (Sesquiterpenes)

PETROV, A.A.; MOLODOVA, K.A.

Conjugated systems. Part 160: Direction of the reaction of propargyl bromide with magnesium bromovinyl-, propenyl-, and phenylacetylenes. Zhur.ob.khim. 32 no.11:3510-3514 N '62. (MIRA 15.11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Propyne)
(Acetylene compounds)

STADNICHUK, M.D.; PETROV, A.A.

Conjugated systems. Part 161: Addition of silicon hydrides to 1-trimethylsilyl-3-buten-1-yne. Zhur.ob.khim. 32 no.11:3514-3521 N '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Silicon hydrides)
(Silicon organic compounds)

STADNICHUK, M.D.; PETROV, A.A.

Conjugated systems. Part 162: Direction of the addition of bromine and hydrogen in vinyl- and allyldimethylvinylacetylenylsilanes. Zhur. ob.khim. 32 no.11:3522-3527 N '62. MIRA 15:11

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Silane) (Bromination) (Hydrogenation

ZAVGORODNIY, V.S.; PETROV, A.A.

Conjugated systems. Part [illegible] Synthesis and properties
of 1,3-enyne tin hydrocarbons. Zhur.ob.khim.
32 no.11:3527-3532 N '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta

(Hydrocarbons)
(Tin organic compounds)

PETROV, A.A.; LEBEDEV, V.B.

Conjugated systems. Part 164: Spectra of the nuclear magnetic resonance of 1,3-enyne hydrocarbons. Zhur.ob.khim. 32 no.11:3532-3537 N '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Hydrocarbons--Spectra)

FEDOROVA, A.V.; PETROV, A.A.

Conjugated systems. Part 165: Condensation of alkenyl allenes with maleic anhydride. Zhur.ob.khim. 32 no.11:3537-3540 N '62.
(MIRA 15:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Propadiene)
(Maleic anhydride)

MARETINA, I. A.; PETROV, A. A.

Synthesis and properties of crystalline dodecane-2,2,7,7-tetramethyloctane. Zhur. ob. khim. 32 no.12:3898 D '62.
(MIRA 16:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

(Octane) (Dodecane)

5.3700
11.1340

S/020/62/143/004/017/027
B106/B138

AUTHORS: Zavgorodniy, V. S., and Petrov, A. A.

TITLE: Tin and lead hydrocarbons containing 1,3-enin radicals

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 4, 1962, 855-858

TEXT: This is the first time these hydrocarbons have been synthesized. They form in good yields (70-85%) on reaction of trialkyl tin sodium or trialkyl lead sodium with alkenyl bromo-acetylene according to:

$R_3Me-Na + Br-C\equiv C-CR'=CH-R'' \longrightarrow R_3Me-C\equiv C-CR'=CH-R'' + NaBr$, (Me = Sn, Pb; R = $CH_3$, $C_2H_5$; R' and R'' = H, $CH_3$). The reaction is also of note since the halogen alkines mentioned do not usually exchange their halogen for negatively polarized radicals. Reaction conditions: A [illegible]% sodium excess was gradually added over 1 hr to a suspension of triethyl tin chloride or triethyl lead bromide in anhydrous liquid ammonia. To the resulting solution of triethyl tin sodium or triethyl lead sodium a 25% excess of the corresponding alkenyl bromo-acetylene was added drop by drop with thorough mixing. The reaction was at first violent. After 1 hr stirring,

X

Card 1/3

ether was added. On the following day the pulpy mass was heated in a water bath to remove the ammonia, and then centrifuged. The liquid part was distilled in vacuo. All operations were carried out in nitrogen atmosphere. The tin and lead hydrocarbons synthesized (Table 1) are colorless liquids of unpleasant odor. In pure form and with exclusion of air, they are stable for a long time; but in air they hydrolyze quickly. The lead compounds explode on overheating. On passing from analogously built hydrocarbons to silicon, tin, and lead compounds, the absorption band of the C≡C bond in the infrared spectrum shifts steadily toward lower frequencies (ν [illegible]: for hydrocarbons [illegible] $cm^{-1}$, for Si hydrocarbons 2150 $cm^{-1}$, for Sn hydrocarbons [illegible] $cm^{-1}$, for Pb hydrocarbons [illegible] $cm^{-1}$), due not only to increase of atomic weights in the carbon → lead series, but also to changes in the nature of the bond between the acetyl carbon and the heteroatom. The bands of the ethylene bonds do not shift. The nuclear magnetic resonance spectra of the tin and lead hydrocarbons differ from those of the analogously built Si hydrocarbons in the lower $\tau$-values for the alkyl radicals bound to heteroatoms. Experimental additions to the enin system of the compounds synthesized failed. The metal - carbon bond was split under the action of halogens, lithium alkyls, or lithium

Card 2/4

S/020/62/143/004/017/027
B106/B138

Tin and lead hydrocarbons containing ...

aluminum hydride. Nor was catalytic hydrogenation possible, due apparently to poisoning of the catalyst. There are 2 figures and 1 table. The three English-language references are: R. K. Ingham, S. D. Rosenberg, H. Gilman, Chem. Revs, 60, 459 (1960); H. Gilman, J. C. Bailie, J. Am. Chem. Soc., 61, 731 (1939); H. A. Jacobson, W. H. Carothers, J. Am. Chem. Soc., 55, 4667 (1933).

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

PRESENTED: November 13, 1961, by A. N. Nesmeyanov, Academician

SUBMITTED: October 27, 1961

Table 1. Constants of enin tin and lead hydrocarbons. Legend: (1) Substance, (2) boiling point, °C, (3) pressure, mm, (4) exp., (5) calculated.

Card 3/4

KORMER, V.A.; PETROV, A.A.

Addition of diisobutyl aluminum hydride and triisobutylaluminum to vinylacetylene. Dokl. AN SSSR 146 no.6:1343-1346 O '6.
(MIRA 15:10)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta. Predstavleno akademikom B.A. Arbuzovym.
(Aluminum compounds) (Butenyne)

L 27765-66 EWT(m)/EWP(j) RM/WW

ACC NR: AP6018496 SOURCE CODE: UR/0079/65/035/011/1917/1921

28

27

B

AUTHOR: Ionin, B. I.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Arbuzov rearrangement with the participation of fluor-, chloro-, bromo-, and iodacetylenes

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 1917-1921

TOPIC TAGS: halogenated organic compound, fluorinated hydrocarbon, acetylene ester, organic synthetic process

ABSTRACT: The Arbuzov rearrangement of triethyl phosphite with haloacetylenes containing various halogens and different substituents at the triple bond was studied. Chloro, bromo, and iodoalkylacetylenes that do not contain a conjugated system of multiple bonds (methylhaloacetylenes, ethylchloroacetylene, and isopropyl- and butylbromoacetylenes) do not enter into the reaction. Haloacetylenes do take part in this reaction and are arranged in the activity series F > Cl > Br > I. Replacement of the hydrogen at the triple bond of the haloacetylene by electronegative atoms or groups leads to an increase in the mobility of the halogen: dichloroacetylene reacts with triethyl phosphite readily in cold ether solution to produce primarily the ester of chloroacetylenylphosphinic

Card 1/2 UDC: 547.314.0/547.26'18

L 27765-66

ACC NR: AP6018496

acid. The ester also undergoes an Arbuzov rearrangement, forming bis(diethylphosphone)acetylene. The ester also reacts with ethyl magnesium bromide to yield the diethyl ester of ethylacetylenylphosphinic acid and with ammonia to give diethylphosphoneacetonitrile. These reactions indicate broad potentialities for the synthesis of previously inaccessible esters of alkylacetylenylphosphinic acids and other compounds. Experiments with phenylhaloacetylenes (phenylchloro and phenylbromoacetylenes react readily with triethyl phosphite; phenyliodoacetylene does not react) indicate that the presence of an excess positive charge on the alpha-carbon atom is necessary for a successful Arbuzov rearrangement with the participation of haloacetylenes. Orig. art. has: 2 figures and 1 formula. [JPRS]

SUB CODE: 07/ SUBM DATE: 30Nov64/ ORIG REF: 006 / OTH REF: 007

Card 2/2 Do

L 31214-66 EWT(m)/EWP(j) RM
ACC NR: AP6022792 SOURCE CODE: UR/0079/66/036/002/0244/0254

AUTHOR: Razumova, N. A.; Petrov, A. A.; Voznesenskaya, A. Kh.; Novitskii, K. I.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

1

TITLE: Phosphorus-containing heterocycles. VII. Study of the condensation of chlorides of glycolphosphorous acids with alpha,beta-unsaturated aldehydes, ketones, acids, and azines

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 244-254

TOPIC TAGS: heterocyclic base compound, organic phosphorous compound, condensation reaction, organic azine compound, glycol, chlorinated organic compound, aldehyde, ketone, acrylic acid, substituent, oligomer, polymerization, IR spectrum, spectrum analysis, chemical synthesis

ABSTRACT: The reactions of certain chlorides of glycolphosphorous acids with benzalacetone, acrolein, crotonaldehyde, acrylic acid, acetaldazine, and acetonazine were investigated. The condensation of chlorides of ethyleneglycol-, propyleneglycol-, and 1,3-butanediolphosphorous acids with benzalacetone results in the formation of the corresponding substituted 3-isoxaphospholine-1-oxides. In the condensation of the chloride of ethyleneglycolphosphorous acid with acrolein and crotonaldehyde, oligomers were obtained, formed by the original addition of the chloride to the carboxyl group. Treatment of these oligomers with $PCl_5$ yielded the dichloride of beta-chloroethylphosphinic

UDC: 546.183 + 547.38 + 547.39 + 547.288.3

392 0770

Card 1/2

L 31214-66
ACC NR: AP602[illegible]792

acid. Condensation of the same acid chloride with acrylic acid yielded an oligomer formed with original closing of the five-membered ring, followed by polymerization. Treatment of the oligomer with $PCl_5$ led to the chloride of dichlorophosphonepropionic acid. The reaction of chlorides of ethyleneglycol-, propyleneglycol-, and 1,3-butanediolphosphorous acids with acetaldazine and acetonazine yielded the corresponding substituted 1-phosphodiazoline-4-oxides, which, under the action of $PCl_5$, form acid chlorides, which are converted to crystalline anilides under the action of aniline. The infrared and nuclear magnetic resonance spectra of the reaction products are discussed. Orig. art. has: 3 figures and 5 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 23Mar64 / ORIG REF: 007 / OTH REF: 002

[illegible]

Dipole moment [illegible]
Zhur. [illegible] khim. [illegible]

[illegible]

[illegible], M. [illegible]

[illegible] and some [illegible] and chemical properties [illegible] germanium hydrocarbons. [illegible]

[illegible]

[illegible]

[illegible]

L 04848-67

ACC NR: AP7000241 SOURCE CODE: UR/0079/66/036/004/0724/0727

22
B

AUTHOR: Bogolyubov, G. M.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

"Sulfides of Tertiary Styrylphosphines"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 4, 1966, pp 724-727

Abstract: The reaction of thiophosphoryl halides with organomagnesium compounds in ether or tetrahydrofuran yielded sulfides of tertiary phosphines, as well as diphosphine disulfide, containing styryl substituents at the phosphorus atom. The reactions of styryl magnesium bromide both with thiophosphoryl trichloride and with styrylthiophosphoryl dichloride yielded only tristyrylphosphine sulfide. The corresponding tertiary phosphinesulfides were also obtained by reaction of styryl magnesium bromide with phenylthiophosphoryl dichloride [distyrylphenylphosphine sulfide] and with dimethylthiophosphoryl chloride [dimethylstyrylphosphine sulfide], and of styrylthiophosphoryl dichloride with phenylethynyl magnesium bromide [styryldi(phenylethynyl)phosphine sulfide] and with phenyl magnesium bromide [styryldiphenylphosphine sulfide]. Two products were obtained in

Card 1/2 UDC: 547.341+541.67 0123 0780

04848

ACC NR: AP7000241

the reaction of styrylthiophosphoryl dichloride with methyl magnesium bromide in ether: 1,2-dimethyl-1,2-distyryldiphosphine disulfide, and dimethylstyrylphosphine sulfide. The physical constants, nuclear magnetic resonance, infrared, and ultraviolet spectra of the products were studied. Orig. art. has: 2 figures and 2 tables. [JPRS: 37,177]

TOPIC TAGS: organomagnesium compound, phosphinic acid, styrene

SUB CODE: 07 / SUBM DATE: 03 Feb 65 / ORIG REF: 002 / OTH REF: 003

Card 2/2

Petrov, A.A.

2

Phys

**Determination of Hydrogen in Some Metals by the Method of Isotopic Balancing.** A. N. Zaidel' and A. A. Petrov (*Zhur. Tekh. Fiz.*, 1955, 25, (14), 2571–2573).—[In Russian]. A letter. A sample of the metal is placed in a flask of vol. $V$ contg. D. Exchange takes place between the H in the metal and the D in the flask, reaching equilibrium in a time which is less the higher the temp. Then, provided the solubilities of D and H are the same in the metal (as is nearly so, especially at high temp.), the concentration of H can be found by mass-spectrometric analysis of the gas in the flask. The vol. of H in c.c. ($V_0$) is given by the formula: $V_0 = \left(\frac{I_H}{I_D}\right)_1 \frac{p_D}{p_0} \frac{T_0}{T} V$, where $\left(\frac{I_H}{I_D}\right)_1$ is the ratio of intensities of the lines $H_2$ and $D_2$ in the mass spectrum, $p_D$ is the initial pressure of D in the flask measured at temp. $T$, and $p_0$ and $T_0$ are the normal pressure and temp. If the D in the flask is contaminated initially with H so that $\left(\frac{I_H}{I_D}\right)_0$, the ratio of the strengths of the mass-spectral lines in a dummy run, is not zero, then the formula is modified to be:

$$V_0 = \left[\left(\frac{I_H}{I_D}\right)_1 - \left(\frac{I_H}{I_D}\right)_0\right] \frac{1}{1 + \left(\frac{I_H}{I_D}\right)_0} \frac{p}{p_0} \frac{T_0}{T} V,$$

1/2

Zaidel A.N, Petrov A.A.

where $p$ is the sum of the partial initial pressures of H and D. As examples the H content of an Fe and an 80 : 20 Ni-Cr alloy are quoted. Using a 5-g. Fe cylinder equilibrium was established at 1000° C. in 30 min. In the Ni-Cr alloy full isotopic exchange at 1000° C. (m.p. ~1400° C.) took 3-5 hr. Results agreed well with chem. analysis.—A. F. B.

2/

Petrov, A.A.

7 7

34E4j-7

Chem

Spectral analysis of hydrogen-deuterium mixtures. G. V. Veinberg, A. N. Zaidel, and A. A. Petrov (State Univ., Leningrad). *Optika i Spektroskopiya* 1, 972-82 (1956).—A spectral method was developed for the analysis of D in H in the range from 10 to 90% H. The method was such that the intensity ratio of the isotopes was equal to the ratio of their concns.; therefore, it required no graphic graduation. The av. error of the mean at the lower concns. was <3%. Diagrams of equipment and detailed description of the method are given. 17 references. A. P. K.

RM mt

PETROV, A. A. Cand Phys-Math Sci - (diss) "The Spectral-Isotope Method of Determining Hydrogen in Metals." Len, 1957. 10 pp 20 cm. (Len Order of Lenin State Univ im A. A. Zhdanov), 100 copies (KL, 27-57, 104)

ZAYDEL', Aleksandr Natanovich; PETROV, Arkadiy Anatol'yevich; VEYNBERG,
Galina Vsevolodovna; MOISEYEVA, L.V., redaktor; IVANOVA, A.V.,
tekhnicheskiy redaktor

[Spectral-isotope method of determining hydrogen in metals]
Spektral'no-izotopnyi metod opredeleniia vodoroda v metallakh.
[Leningrad] Izd-vo Leningr.univ., 1957. 104 p. (MLRA 10:9)
(Metals--Analysis) (Hydrogen--Analysis)
(Spectrum analysis)

Petrov, A.A.

Distr: 4E4j

7

3/1

✓ Spectral-isotopic determination of hydrogen in metals. A. N. Zaĭdel and A. A. Petrov. *Vestnik Leningrad. Univ.* 12, No. 10, *Ser.* ~~*Fiz. i Khim.*~~ No. 2, 40-51(1957).—The method is founded upon equilibrating the H of the sample with a certain quantity of D. The metal is heated to a temp. at which the H diffusion completes the equilibration in 10-60 min. The analysis of the equilibrated gas is conducted by photoelec. measurements of the intensity ratios of the isotopic structure of $H_\alpha$ or $H_\beta$ lines. The standard deviation of a single measurement ranges from 4% to 8%, and the sensitivity of the method permits detection of 0.5 cc. of H in 100 g. of metal. One analysis takes 15 min. to 1 hr. Al, Fe, Ti, Zn, C steel, and Cr steel have been investigated. 21 references. A. Kremheller

FTM

ACCESSION NR: AP4024460 S/0054/64/000/001/0069/0074

AUTHORS: Orlova, N. M.; Petrov, A. A.

TITLE: Determination of hydrogen in aluminum alloys by the isotopic equilibrium method

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 1, 1964, 69-74

TOPIC TAGS: spectral isotopic method, hydrogen in aluminum, isotopic equilibrium, isotopic exchange, residual hydrogen content, surface layer, sorption, desorption

ABSTRACT: A spectral isotopic method for the determination of hydrogen in aluminum and in some of its alloys has been developed. Both cast aluminum alloys and pressure-worked specimens were studied. The isotopic equilibrium was carried out on cylindrical specimens 5-6 mm in diameter, weighing 10-20 grams at 500C temperatures (much lower than melting point of aluminium), with experimental errors in hydrogen volume determination of the order of 0.05 ± 0.01 cm$^3$. The isotopic equilibrium duration in Mg, Mn, and Cu alloys was 25-30 min. The type of treatment previously used on the specimen showed no observable effect on the isotopic

Card 1/2

ACCESSION NR: AP4024460

exchange. The residual hydrogen content measured for the various aluminium alloys was 0.1-0.2 $cm^3$/100 gm. This method enables one to determine separately the gas content in the surface layer as well as in the bulk of the aluminum specimen. Because of hygroscopic films observed on the aluminum and the absorption of water vapor, some of the aspects of the sorption and desorption of hydrogen in the surface oxide layer were also studied. "The authors wish to thank Professor A. N. Zaydel' for the advice given." Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: none

SUBMITTED: 20May63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 012 OTHER: 005

Card 2/2

[illegible]

Ма [illegible]
Ма [illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]

ACCESSION NR: AP4037061 S/0079/64/034/005/1685/1685

AUTHOR: Maretina, I. A.; Petrov, A. A.

TITLE: Dialkyl(vinylacetylenyl)phosphines

SOURCE: Zhurnal obshchey khimii, v. 34, no. 5, 1964, 1685

TOPIC TAGS: dialkyl(vinylacetylenyl)phosphine, dibutyl(3-buten-1-ynyl)phosphine

ABSTRACT: Previously unknown enyne-substituted phosphines have been prepared at the Leningrad Technological Institute imeni Lensovet. The new phosphines are readily obtained by treating an enynylmagnesium bromide with a dialkylbromophosphine in ethyl ether under nitrogen. Dibutyl(3-buten-1-ynyl)phosphine thus prepared had the following constants: $b_3$, 92C; $d_{20}$, 0.8602; $n_D^{20}$, 1.5110. The presence in this phosphine of the conjugated vinylethynyl group was confirmed by IR spectroscopy.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Technological Institute)

Card 1/2

ACCESSION NR: AP4042862 S/0114/64/000/007/0019/0022

AUTHOR: Moiseyev, A. A. (Doctor of technical sciences, Professor); Petrov, A. A. (Engineer); Mikhaylov, O. I. (Engineer)

TITLE: Wave-method investigation of impulse deformations of turbomachine blades

SOURCE: Energomashinostroyeniye, no. 7, 1964, 19-22

TOPIC TAGS: turbine, turbine blade, turbine blade test, turbine blade vibration, turbine blade stress

ABSTRACT: A theoretical and experimental investigation of turbine-blade impulse stress is reported. By solving the well-known Timoshenko beam equations by the operational method, the shearing force in a blade, which vibrates as the result of an impact, is found. Also, a formula for the frequency of vibration is developed. The theory was verified on an experimental outfit (see

Card 1/3

ACCESSION NR: AP4042862

Fig 2, Enclosure 1) which included bar 1 striking against the tip of the blade whose hub end was fixed in vise 3. Tensometers and associated electronic equipment permitted recording the blade vibration (see Fig 3, Enclosure 1); oscillograms 1, 2, 3 represent blade deformations at 23, 74, and 125 mm from the tip. From this data, stresses due to propagating bending and shearing waves and max shearing force can be determined. Orig. art. has: 3 figures and 50 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01

SUB CODE: PR NO REF SOV: 006 OTHER: 001

ACCESSION NR: AP4042862

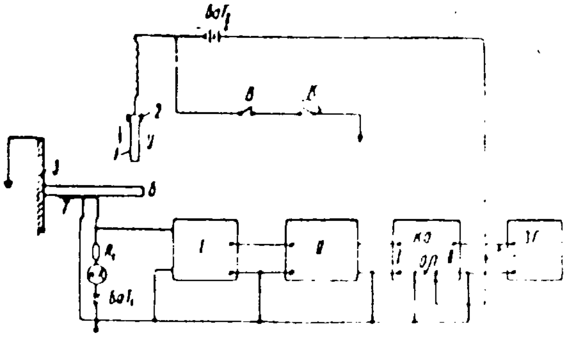


Fig 2. An outfit for testing stress in turbine blades under impact conditions

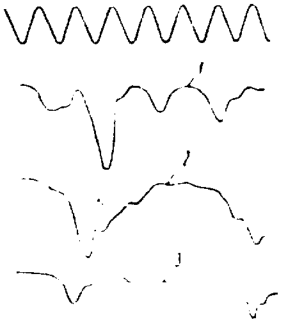


Fig 3. Oscillograms of stress in the blade

Card 3/3

ACCESSION NR: AT4035466 S/2789/64/000/052/0067/0074

AUTHOR: Petrov, A. A.; Ryazanova, L. A.

TITLE: Three cases of sudden warming of the Arctic stratosphere

[illegible] Tsentral'naya aerologicheskaya observatoriya. Trudy*, [illegible] [illegible] (Issledovaniya [illegible])* [illegible] MGG [illegible] [illegible] [illegible] [illegible] that [illegible] inte[illegible] [illegible]

[illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] ar. [illegible] [illegible] ly [illegible] and [illegible] [illegible] January [illegible] [illegible] [illegible] [illegible] region at [illegible] [illegible] extend [illegible] lower lying [illegible] [illegible] warmings of the stratosphere are not associated with processes occurring in the troposphere, with the active layer in

Card 1/3

ACCESSION NR: AT4035466

certain cases to about 40 km and in other cases still higher. These cases of stratospheric warming were associated directly with horizontal movements of stratospheric air masses, but presumably other factors are involved (vertical movements, ozone and solar activity). In 1958 the warming extended over an immense area, more than half the northern hemisphere, which for the most part became considerably warmer than usual and this persisted over a long period. [illegible] dynamic processes alone cannot explain all these phenomena. The warming of [illegible] differs from the other two in its time and space characteristics and may be exceptional. Exceptionally strong stratospheric warmings in different years [illegible] fall in the second half of January or in February, although sudden warmings may occur at any season of the year. Presumably strong sudden warmings must be considered a climatic peculiarity of the stratosphere. It is not excluded that the warming of 1958 is somehow associated with the turbulent solar activity of that period, manifested in strong magnetic storms and auroras. Study of such warmings requires regular rocket launchings in the polar regions, with particularly frequent observations in the second half of January and in February. Orig. art. has: 3 figures.

Card 2/3

ACCESSION NR: AT4035466

ASSOCIATION: Tsentral'naya aerologicheskaya observatoriya (Central Aerological Observatory)

SUBMITTED: 00 DATE ACQ: 21May64

SUB CODE: ES NO REF SOV: 005

Card 3/3

PETR[illegible], A. A.

[illegible]

ZAYDEL', A.N.; PETROV, A.A.; PETROV, K.I.

Spectral determination of hydrogen in metals employing an isotopic equilibrium. Fiz.sbor. no.4:206 '58. (MIRA 12:5)

1. Fizicheskiy institut Leningradskogo ordena Lenina gosudarstvennogo universiteta imeni A.A.Zhdanova.
(Hydrogen--Spectra) (Metals--Hydrogen content)

BORGEST, V.A.; VEYNBERG, G.V.; ZAYDEL', A.N.; PETROV, A.A.

Spectrum analysis of isotopes of a hydrogen-deuterium mixture.
Fiz.sbor. no.4:207-209 '58. (MIRA 12:5)

1. Fizicheskiy institut Leningradskogo ordena Lenina gosudarstvennogo universiteta imeni A.A.Zhdanova.
(Hydrogen--Spectra)

MAL'TSEV, A.A., kand.fiz.-matem.nauk; PETROV, A.A., kand.fiz.-matem.nauk

Conferences of mathematicians at Tashkent and Tbilisi. Vest. AN SSSR 34 no. 2:114-116 F '64. (MIRA 17:5)

B[illegible], V.[illegible].; ZAYDEL', A.N.; PETROV, A.A.

Unit for the spectral-isotopic determination of hydrogen in metals. Trudy kom.anal.khim. 10:270-277 '60. (MIRA 13:8)

1. Leningradskiy gosudarstvennyy universitet.
(Hydrogen--Analysis)
(Chemical apparatus)
(Metals--Hydrogen content)
(Deuterium)

24.3400 (1163, 1227, 1315)

AUTHORS: [illegible]

TITLE: S[illegible]

PERIODICAL: [illegible]

TEXT: [illegible]

Card 1/[illegible]

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coefficient and [illegible]
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coefficient of the [illegible]
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operate with [illegible]
generator [illegible]

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ASSOCIATION: Leningrad [illegible] A A [illegible]
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Fig. [illegible] Dependence [illegible]
with changing feeding [illegible]
Legend. [illegible]
generator with [illegible]
Card 4/5

PETROV, A.A.

Using mathematical statistics for the solution of basic problems in prospecting for deposits. Sov. geol. 6 no.9: 132-141 S '63. (MIRA 17:10)

1. Severo-Zapadnoye geologicheskoye upravleniye.

ZHDANOV, M.M.; KOSTRYUKOV, G.V.; ASFANDIYAROV, Kh.A.; MAKSUTOV, R.A.;
KONDAKOV, A.N.; TURILOV, V.M.; SILIN, V.A.; FILYUTSKIY, O.V.;
SHALDYBAYEV, B.F.; PETROV, A.A.; SMIRNOV, Yu.S.; KOLESNIKOV,
A.Ye.; DROZDOV, I.F.; IVANTSOV, O.M.; TSYGANOV, B.Ya.;
KORNONOGOV, A.P.; VDOVIN, K.I.; ALEKSEYEV, L.A.; GAYDUKOV, I.I.;
**LIPOVETSKIY**, A.Ya.; LANYUSHEVSKIY, V.S.; [illegible], I.A.;
ALEKSEYEV, L.V.; KRASYUK, A.L.; IVANOV, G.A.

Author's communications. Neft. i gaz. prom. no.2:67-8
Ap-Je '64. (MIRA 17:9)

STADNICHUK, M.D.; [illegible], [illegible]

Study of unsaturated [illegible] germanium compounds [illegible] of the bromination of [illegible] germanium [illegible]
[illegible] khim. [illegible]

1. Leningradskiy [illegible] institut [illegible]

[illegible], A.M.; [illegible]

Synthesis of sulfides of tertiary [illegible]
ob. khim. [illegible]

1. Leningradskiy [illegible]

[illegible]

[illegible]

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[illegible]

L 11411-67 EWT(m)/EWP(j) RM

ACC NR: AP7003668 SOURCE CODE: UR/0079/66/036/008/1505/1505

31

AUTHOR: Bogolyubov, G. M.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Synthesis of compounds with a P-P bond from elementary phosphorus

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1505

TOPIC TAGS: alkylphosphine, phosphorus, sodium, ammonia

ABSTRACT: Compounds with a P-P bond were produced by the reaction of red phosphorus with sodium and hydrocarbon halides in liquid ammonia. Tetramethyl- and tetraethyldiphosphines, ethyl- and diethylphosphines, and also tetramethyldiphosphine disulfide, tetraethyldiphosphine disulfide, 1,2-dimethyl-1,2-diethyldiphosphine disulfide, triethylphosphine sulfide, diethylbenzylphosphine sulfide, methylethylbenzylphosphine sulfide, and other compounds were prepared by this method. Orig. art. has: 3 formulas. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 20Apr66 / ORIG REF: 002 / OTH REF: 001

Card 1/1 jb UDC: 547.241

0926 0213

L 11414-67 EWT(m)/EWP(j) RM

ACC NR: AP7003672 SOURCE CODE: UR/0079/66/036/008/1505/1506

AUTHOR: Ignat'ev, V. M.; Ionin, B. I.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Acetylene-allene isomerization of propargyl dichlorophosphites

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1505-1506

TOPIC TAGS: organic phosphorus compound, isomerization

ABSTRACT: An acetylene-allene isomerization was found to proceed readily in the case of propargyl-type halophosphites. The isomerization of dimethylethynyl dichlorophosphite proceeded especially readily. Propargyl dichlorophosphite and alpha-methylpropargyl dichlorophosphite are isomerized more slowly. Nonisomerized compounds could also be isolated in all cases. The reaction is interesting as a variation of the Arbuzov rearrangement with the participation of halophosphites, and provides possibilities for synthesizing various organophosphorus compounds. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 14Mar66 / ORIG REF: 001 / OTH REF: 001

Card 1/1 jb UDC: 547.341

0926 0297

ACC NR: AP6028905 SOURCE CODE: UR/0079/66/036/008/1505/1506

AUTHOR: Ignat'yev, V. M.; Petrov, A. A.; Ionin, B. I.

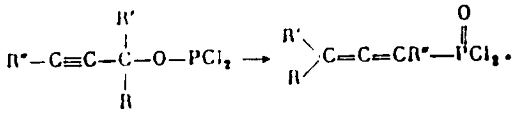
ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Acetylene-allene isomerization of propargyl dichlorophosphites

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1505-1506

TOPIC TAGS: dichloride, propargyl compound, acetylene, allene, isomerization, organic phosphorus compound

ABSTRACT: Alkylpropargyl dichlorophosphites are readily isomerized to form the corresponding dialkylpropadienephosphonyl dichlorides:



$$R''-C\equiv C-\underset{R}{\overset{R'}{C}}-O-PCl_2 \rightarrow \frac{R'}{R}\!>\!C=C=CR''-\overset{O}{\overset{\|}{P}}Cl_2.$$

(I) (II)

As an example of this type of isomerization, preparation is reported of

Card 1/2 UDC: 547.241

ACC NR: AP6028905

3-methyl-1,2-butadienyephosphonyl dichloride, bp 79°C, $d_4^{20}$ 1.2553, $n_D^{20}$ 1.5140. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 14Mar66/ ORIG REF: 007/ OTH REF: 001

Card 2/2

L 26361-66 EWT(1)/EWT(m)/EPF(n)-2/EWA(d)/EWP(j)/EWP(k)/EWA(h)/EWA(1)

ACC NR: AP6012503 IJP(c) WW/GG/RM SOURCE CODE: UR/0181/66/008/004/1277/1279

AUTHOR: Aneli, D. N.; Petrov, A. A.

ORG: Institute of Organoelemental Compounds AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR); Institute of Organic Chemistry im. N. D. Zelinskiy AN SSSR, Moscow (Institut organicheskoy khimii AN SSSR)

21 1

TITLE: Effect of high pressure on the concentration of free radicals in irradiated molecular crystals 19

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1277-1279

TOPIC TAGS: molecular crystal, radiochemistry, free radical, IR spectrum

ABSTRACT: The authors study the behavior of free radicals in irradiated molecular crystals of various organic acids during compression and under the combined action of pressure up to 50 kbar and shearing force. The shear force was also determined as a function of the pressure applied to the specimens. The specimens were molecular crystals of adipic and glutaric acids and glycine irradiated at room temperature by x-ray with an approximate dose of $\sim 10^7$ r. The radical concentration in the specimens was $10^{17}$-$10^{18}$ per gram before the high pressure experiments. Controlled tests were conducted on non-irradiated specimens. The experimental data show that compression and deformation of compressed irradiated specimens of the three acids reduce concentration

Card 1/2 2

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ACC NR: AP6012503

2

of free radicals. The combined action of pressure and shearing force destroys a greater number of radicals in adipic and glutaric acids than pressure alone. This difference is also observed for glycine, but only at pressures below 40 kbar. It is also noted that plastic deformation of glycine specimens at pressures of 50 kbar is accompanied by faint red coloration both with and without irradiation. The IR-spectra show no chemical changes for any of the three salts subjected to shearing at these pressures. No polymorphic transformation takes place in any of these specimens at pressures above 6 kbar. It is possible that a sharp drop in radical concentration for glutaric acid at pressures of 3-6 kbar is due to polymorphic transformation under pressure. A theoretical explanation is proposed for radical destruction based on the assumption that there are a large number of defects in the irradiated deformed crystal. We are deeply grateful to A. I. Kitaygorodskiy and M. G. Gonikbert for interest in the work. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 01Nov65/ ORIG REF: 001/ OTH REF: 004

Card 2/2

L 27724-66

ACC NR: AP6008085 SOURCE CODE: UR/0020/66/166/005/1226/1229

23
B

AUTHOR: Petrov, A. A.; Sragovich, V. G.; Sushkov, B. G.

ORG: Computer Center, Academy of Sciences SSSR (Vychislitel'nyy tsentr Akademii nauk SSSR)

TITLE: Possible mechanics governing the oculomotor apparatus 2

SOURCE: AN SSSR. Doklady, v. 166, no. 5, 1966, 1226-1229

TOPIC TAGS: physiologic model, optic model

ABSTRACT: The authors propose a theoretical model of the oculomotor apparatus, based on the work of D. P. Matyushkin on rabbits and cats. The authors propose a binary motor system for the human eye motor apparatus and suggest that control of the eye motor apparatus is a multilevel process, the lower level effecting realization of the eyeball movement but not synchronizing it. The authors propose that the motor complex is activated and coordinated by the action of a second level. A schematic for the model is given, followed by theoretical discussion of its applicability. The authors express their deep gratitude to V. S. Gurfinkel' for numerous discussions on physiology which gave impetus to the formulation of the problem and to A. L. Byzov, A. V. Lebedinskiy, D. P. Matyushkin, M. L. Tsetlin and A. L. Yabrus for their discussion of the model. Orig. art. has: 1 figure. [14]

SUB CODE: 06/ SUBM DATE: 31Dec64/ ORIG REF: 004/ OTH REF: 007/ ATD PRESS: 5001 2

UDC: 591.182

Card 1/1 BHG

[illegible] .A.; [illegible], N.V.; ZAVGORODNIY, [illegible]

[illegible] of [illegible] formed by acetylene [illegible]
nuclear magnetic resonance spectroscopy. Part [illegible]
r with solvents of acetylenic, diacetylenic, and [illegible]
[illegible] hydrocarbons and tin hydrocarbons. [illegible]
[illegible] S-0 [illegible]

[illegible] Leningradskiy tekhnologicheskiy [illegible]
Submitted January 25, 1965.

TEMNIKOVA, T.I.; KARAVAN, V.[illegible]; SEMENOVA, [illegible].N.; ATAVIN, A.S.; MIRSKOVA,
A.N.; CHIPANINA, N.N.; PRELOVSKAYA, R.A.; AKIMOVA, G.S.;
CHISTOKLETOV, V.N.; PETROV, A.A.; MINGALEVA, K.S.; SOLOGOVA,
K.G.

Letters to the editors. Zhur. org. khim. 1 no.11:2076-2078 N '65. (MIRA 18:12)

1. Leningradskiy gosudarstvennyy universitet (for Temnikova, Karavan, Semenova). 2. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR (for Atavin, Mirskova, Chipanina, Prelovskaya). 3. Leningradskiy tekhnologicheskiy institut imeni Lensoveta (for Akimova, Chistokletov, Petrov).

GENUSOV, M.L.; PETROV, A.A.

Ionic telomerization of some unsaturated compounds with allyl chlorides. Zhur. org. khim. 1 no. 12:2105-2115 D '65
(MIRA 19:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. Submitted December 28, 1964.