

Investigations in the Field of Conjugated Systems.
XCV. Reactions of Piperylene With Its Hydrochloride,
and the 1,4-Hydrochloride of Isoprene

SOV/79-28-12-12/41

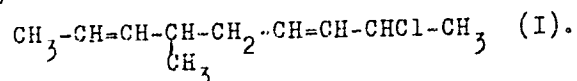
the transition formation of the compound $C_5H_9-C_5H_8Cl$, whereas in the reaction of the same diene with the isomeric chloride, the 1,4-hydrochloride of isoprene (1-chloro-3-methyl butene-2) considerably more higher telomers are formed under equal conditions. In both cases the ratio between 1:1 adducts and higher telomers depends on the depth of telomerization. Thus, it was found that with primary halogen derivatives of the allyl type a deeper telomerization takes place than in the secondary ones. The result of the affiliation of 2-chloro pentene-3 to piperylene at telomerization depths of 35-70% is mainly a product which in vacuum distills over within limits of 1° . The content of higher telomers amounts to 15-35%. The empirical formula of this product corresponds to the formula $C_{10}H_{17}Cl$ and contains about 90% diene compound. Further investigations pointed to a comparatively uniform product. The infrared spectrum points to the presence of a binding group $-CH=CH-$ as well as to the absence of a vinyl group. The structure of the initial products in the affiliation (at a ratio of 1:1) was

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Investigations in the Field of Conjugated Systems.
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proved by their ozonization, hydrogenation and with Urotropin according to Somme, and finally by the infrared spectra. All data obtained permit to assume that the main product of affiliation (more than 80%) of 2-chloro pentene-3 to piperylene is the 2-chloro-6-methyl nonadiene-3,7:



There are 1 figure and 4 Soviet references.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: December 31, 1957

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SOV/156-59-1-31/54

5(3)
AUTHORS:

Petrov, A. A.; Razumova, N. A.; Genusov, M. L.

TITLE:

The Telomerization of α -Chlorobutadiene-1,3 With Piperylene Hydrochloride (2-Chloropentene-3) (Telomerizatsiya α -khlorbutediyena-1,3 s gidrokhloridom piperilena (2-khlorpentenom-3))

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 123-126 (USSR)

ABSTRACT:

The present article shows that the 3,4 addition takes place, above all, between 2-chloropentene-3 and α -chlorobutadiene. The six compounds possible are listed. In view of the hydrogenation (4-methyloctane), the low yield of Somme's reaction, the bromination according to Kaufman (only one double bond reacts), the ozonization (above all acetic acid and some α -methylsuccinic acid, almost no chlorine-substituted acids), and on the basis of the (illustrated) infrared spectrum it is stated that the compound

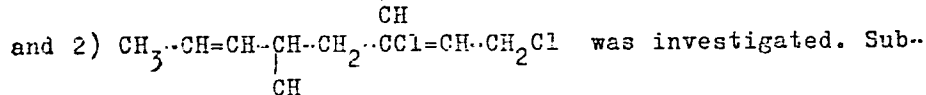
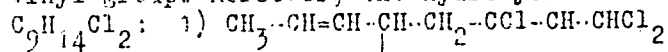
is formed with a small admixture of $\text{CH}_3-\text{CH}=\underset{\text{CH}_3}{\text{CH}}-\text{CH}_2-\text{CH}=\text{CH}-\text{CHCl}_2$

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SOV/156-59-1-31/54

The Telomerization of α -Chlorobutadiene-1,3 With Piperylene Hydrochloride
(2-Chloropentene-3)

Thus, α -chlorobutadiene reacts mainly with its unsubstituted vinyl group. Moreover, the hydrolysis of the two isomers



stance 1 gave the corresponding alcohol with 30% aldehyde whereas substance 2 formed alcohols with only few carbonyl compounds. Thus, the hydrolysis of the telomers is accompanied by a partial allyl rearrangement particularly in the terminal group $-CHCl-CH=CHCl$. The laboratory-technological data for the operations are stated. There are 1 figure and 8 Soviet references.

ASSOCIATION: Kafedra organicheskoy khimii Leningradskogo tekhnologicheskogo instituta im. Lenseveta
(Chair of Organic Chemistry of Leningrad Technological Institute imeni Lenseveta)

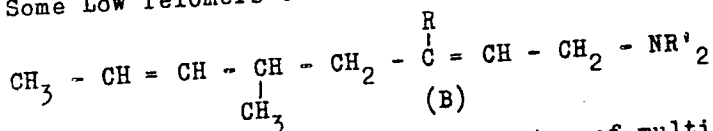
SUBMITTED: July 17, 1958

Card 2/2

AC716

Exchange Reactions of Telomers of Diene Hydrocarbons Containing Chlorine. I. Reactions Between Some Low Telomers of Diene Hydrocarbons and Amines

S/079/60/030/04/22/080
B001/B016



In order to investigate the character of multiple bonds in the molecules of telomers, the infrared spectra were used, as previously. Thus, the vinyl group (isomer A) and the double bond in the compounds of the second type - CH = CH - (isomer B) were detected by the spectrometric method. Diethyl amine, dibutyl amine, butyl amine, and 4 telomers of 2-chloro pentene-3 with divinyl, isoprene, piperylene, and chloroprene were used. On telomerization of 2-chloro pentene-3 with divinyl, two possible isomers (I and II) resulted in nearly equal yield. The investigations showed that these allyl isomers form the same reaction products of the B type with secondary amines. It could be seen from the infrared spectra that the reaction with the isomer (I) takes place with rearrangement, that with isomer (II) without. The addition of 2-chloro pentene-3 to isoprene, piperylene, and chloroprene takes place mainly in the 1,4-position under formation of geranyl chloride analogs (Formula III). All these telomers gave, with secondary amines, only products of the B type (constants and formulas are

Card 2/3

RAZUKOVA, N.A.; PETROV, A.A.

Addition of P-Cl bond-containing trivalent phosphorus compounds
to diene hydrocarbons. Zhur.ob.khim. 31 no.9:3144 S '61.
(MIRA 14:9)

1. Leningradskiy tekhnologicheskii institut imeni Lensovet.
(Phosphorus compounds) (Hydrocarbons)

PETROV, A.A.; RAZUMOVA, N.A.; VOZNESENSKAYA, A.Kh.

Condensation of acid chlorides of trivalent phosphorus with
heteroatomic conjugated systems. Zhur. ob. khim. 34 no.10:
3512-3513 0 '64. (MIRA 17:11)

1. Leningradskiy tekhnologicheskii institut im. Iansoveta.

KULIKOV, A.G., red.; LEBEDEV, V.G., red.; RAZUMOVA, N.A., red.;
CHEREDNICHENKO, A.P., red.

[Economic problems of accelerating technological progress
in industry] Ekonomicheskie problemy uskoreniia tekhnicheskogo
progressa v promyshlennosti. Moskva, Mysl', 1964.
277 p. (MIRA 18:4)

1. Akademiya obshchestvennykh nauk (for Lebedev, Cherednichenko).
2. Nachal'nik tekhnicheskogo upravleniya Soveta narodnogo khozyaystva Moskovskogo gorodskogo ekonomicheskogo rayona (for Razumov).

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. 57
B

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

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, acetaldehyde, 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 PCl₅ yielded the dichloride of beta-chloroethylphosphinic

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UDC: 546.183 + 547.38 + 547.39 + 547.288.3
094 8770

L 31214-66

ACC NR: AP6022792

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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

Card 2/2 BLG

ACC NR: AP6031385

SOURCE CODE: UR/0079/66/036/009/1649/1655

AUTHOR: Novitskiy, K. I.; Razumova, N. A.; Petrov, A. A.

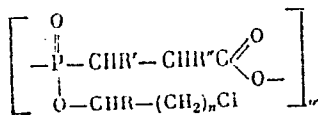
ORG: Leningrad Technological Institute imeni Lensovet (Leningradskiy tekhnologicheskoy institut)

TITLE: Phosphorus-containing heterocycles. Part 8: Condensations of glycolphosphorous acid chlorides with α, β -unsaturated acids

SOURCE: Zhurnal obshchey khimii, v. 36, no. 9, 1966, 1649-1655

TOPIC TAGS: chloride, condensation reaction, organic phosphorus compound, phosphorous acid

ABSTRACT: The condensation of chlorides of ethylene glycol-, propylene glycol- and 1,3-butylene glycolphosphorous acids with acrylic, methacrylic and crotonic acids was studied in order to apply this reaction to the preparation of chlorides of various dichlorophosphonocarboxylic acids. It was found that the chlorides of glycolphosphorous acids reacting with α, β -unsaturated acids yield primarily oligomers of the structure

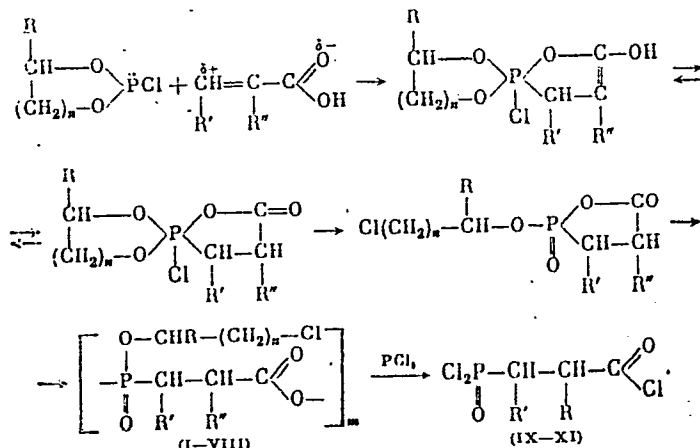


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UDC: 547.26*118

ACC NR: AP6031385

in the form of a viscous mass light-yellow to light-brown in color. The overall process of oligomer formation is represented as follows:



- | | |
|--|---|
| (I) n=1, R=R'=H, R''=CH ₃ ; | (VII) n=2, R=R''=CH ₃ , R'=H; |
| (II) n=1, R=R''=H, R'=CH ₃ ; | (VIII) n=2, R=R''=CH ₃ , R'=H; |
| (III) n=1, R=CH ₃ , R'=R''=H; | (IX) R, R'=H; |
| (IV) n=1, R=R''=CH ₃ , R'=H; | (X) R=CH ₃ , R'=H; |
| (V) n=1, R=R''=CH ₃ , R'=H; | (XI) R=H, R'=CH ₃ ; |
| (VI) n=2, R=CH ₃ , R'=R''=H; | |

ACC NR: AP6031385

Chlorides (IX), (X) and (XI) of dichlorophosphonocarboxylic acids were obtained by treating the oligomers with PCl_5 . Dichlorophosphono- α -methylpropionyl chloride (X) and dichlorophosphono- α -methylpropionyl chloride (XI) were obtained for the first time. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 07/ SUBM DATE: 10Jun65/ ORIG REF: 001/ OTH REF: 003

Card 3/3

L 56065-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM UR/0020/64/158/004/0907/0910
ACCESSION NR: AP5018557

AUTHOR: Razumova, N. A.; Petrov, A. A.

TITLE: Condensation of glycolphosphorous acids chlorides with alpha, beta-unsaturated ketones 20
B

SOURCE: AN SSSR. Doklady, v. 158, no. 4, 1964, 907-910

TOPIC TAGS: condensation reaction, chloride, ketone

Abstract: Chlorides of glycolphosphorous acids were found to be capable of 1,4-addition with alpha, beta-unsaturated ketones, forming cyclic systems with two heteroatoms: isoxaphospholines. The condensation of the chlorides of ethylene-, propylene-, and 1,3-butylene glycolphosphorous acids with methyl vinyl ketone and mesityl oxide produced products containing pentavalent phosphorus, which did not add oxygen and sulfur. The structure of the condensation products, as derivatives of isoxaphospholine, was confirmed by a study of the infrared and proton magnetic resonance spectra, and by the conversion of one of them (obtained from mesityl oxide) to 1-chloroisoxaphospholine oxide through the action of PCl_5 . Orig. art. has 3 graph and 2 tables.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad Technological Institute)

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L 56065-65

ACCESSION NR: AP5018557

SUBMITTED: 08Apr64

NO REF SOV: 005

ENCL: 00

OTHER: 004

SUB CODE: OC, GC

JPRS

Card ^{DL} 2/2

KAZIMOVA, N. A.; PETROV, A. A.

Phosphorus-containing heterocycles. Part 3: Condensation of
 β -glycologphosphoryl chloride with diene hydrocarbons. Zhur.
ob. Khim. 34 no.6:1886-1891 Je '64. (MIRA 17:7)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.

RAZUMOVA, N.A.; PETROV, A.A.

Phosphorus-containing heterocycles. Part 2: Interaction of pyro-
catecholphosphorous acid chloride with diene hydrocarbons. Zhur.
ob.khim. 33 no.12:3858-3860 D '63. (MIRA 17:3)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.

RAZIMOVA, N.A.; PETROV, A.A.

Addition of the chlorides of mono- and dithioethylene glycolphosphorous acids to isoprene. Zhur.ob.khim. 34 no.1:356 Ja '64.
(MIRA 17:3)

1. Leningradskiy tekhnologicheskij institut imeni Lensoveta.

BOGOLYUBOV, G.M.; RAZUMOVA, N.A.; PETROV, A.A.

Synthesis of phospholine and phospholidine, phosphorus-containing heterocycles. Zhur.ob.khim. 33 no.7:2419-2420 J1 '63.
(MIRA 16:8)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.
(Phospholine)

RAZUMOVA, N.A.

S/079/63/033/003/002/005
A066/A126

AUTHORS: Razumova, N.A., Petrov, A.A.

TITLE: Investigations in the field of conjugate systems. CLXIX.
Addition of dialkyl phosphorous acid and chlorides to diene hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 3, 1963, 783 - 789

TEXT: The authors investigated the addition of chlorides of ethylene glycol phosphorous acid and propylene glycol phosphorous acid to divinyl, isoprene, piperylene, and chloroprene. The reactions were carried out by heating in sealed tubes. The resultant addition compounds could be sublimated at 1 - 2°C. A new kind of regrouping was obtained by the formation of five-membered phosphorous-containing heterocycles with a structure similar to that of the heterocycles formed by the reaction of diene hydrocarbons with alkyl dichlorophosphines. A number of derivatives of 3-phospholine-1-oxide is described for the first time. There are 2 figures and 2 tables.

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Investigations in the field of conjugate...

S/079/63/033/003/002/005
A066/A126

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

SUBMITTED: February 26, 1962

Card 2/2

L 18273-65 EWT(m)/EPF(c)/EWP(j) Pa-4/Pc14/Pr-4 RM
ACCESSION NR: AP5002988

S/0079/64/034/009/2949/2953

AUTHOR: Razumova, N. A.; Treskunova, I. M.

TITLE: Phosphorus-containing heterocycles. IV. Production of esters of 2-hydroxy-
phospholine oxide and its homologs.

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 2949-2953

TOPIC TAGS: ester, esterification, organic phosphorus compound, alcohol

Abstract: The production of alkoxy-3-phospholine-1-oxides by transesterification was investigated. Chloroalkoxy derivatives of 3-phospholine-1-oxide: 1-(beta-chloroethoxy)-3-phospholine-1-oxide, 3-methyl-1-(beta-chloroethoxy)-3-phospholine-1-oxide, 3-methyl-1-(alpha-methyl-beta-chloroethoxy)-3-phospholine-1-oxide, and 1-(alpha-methyl-beta-chloroethoxy)-3-phospholine-1-oxide were subjected to transesterification in ethanol or methanol medium in the presence of potassium hydroxide, producing 1-methoxy-3-phospholine-1-oxide, 3-methyl-1-methoxy-3-phospholine-1-oxide, 1-ethoxy-3-phospholine-1-oxide, and 3-methyl-1-ethoxy-3-phospholine-1-oxide. Esters of allyl and propargyl alcohols, containing a double or triple bond in the radical, were produced by the reaction of 3-methyl-1-chloro-3-phospholine-1-oxide and

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L 18273-65
ACCESSION NR: AP500288

1-chloro-3-phospholine-1-oxide with the alcoholates of the unsaturated alcohols. The structures of the reaction products were confirmed by infrared and nuclear (proton) magnetic resonance spectra. Orig. art. has 2 graphs and 1 table.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad Technological Institute)

SUBMITTED: 06Jul63

ENCL: 00

SUB CODE: CC, GC

NO REF SOV: 009

OTHER: 001

JPRS

Card 2/2

RAZUMOVA, N.A.; PETROV, A.A.

Conjugated systems. Part 169: Addition of dialkyl phosphoryl chlorides to diene hydrocarbons. Zhur.ob.khim. 33 no.3:783-789
Mr '63. (MIRA 16;3)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.
(Phosphoryl chloride)
(Hydrocarbons)

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
0 '62. (MIRA 15:11)

1. Leningradskiy tekhnologicheskij institut imeni
Lensovetu.

(Geraniol)

(Terpenes)

MOSHKIN, P.A.; LUTKOVA, V.I.; RAZUMOVA, N.N.; PERTSOV, L.D.; KALINKIN, S.F.

Production of the disodium 3,6-endoxohexahydrophthalate (endothal).
Khim.prom. no.4:237-238 Ap '61. (MIRA 14:4)

(Oxabicycloheptanedicarboxylic acid)

ZLOCHINSKIY, L.M.; BARBER, I.I.; RAZIMOVA, P.I.; MANUYEV, N.V.;
LIBERMAN, S.S., red. izd-va; GILZBURG, R.Ya., tekhn. red.

[Principles of safety engineering; laboratory work] Osnovy
tekhniki bezopasnosti; laboratornye raboty. Izd.2., perer.
i dop. Moskva, Metallurgizdat, 1963. 92 p.

(MIRA 16:12)

(Industrial safety)

ZLOBINSKIY, B.M., BARBER, I.I., RAZUMOVA, P.I., POZDNYSHV, V.M., KHUTORSKAYA,
Ye.S., red.izd-va., ISLENT'YEVA, P.G., tekhn.red.

[Laboratory work for the course "Fundamentals of safety engineering."]
Laboratornye raboty po kursu "Osnovy tekhniki bezopasnosti." Moskva,
Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1958. 57 p. (MIRA 11:9)
(Industrial safety)

RAZUMOVA, T.I.

Practice in specialization in the metalworking industry in East
Germany. Mashinostroitel' no.8:39 Ag '61. (MIRA 14:7)
(Germany, East—Metalworking)

DUBENSKIY, K.K.; MAKSAKOV, B.I.; RAZUMOVA, T.K.

Zinc sulfide single crystals activated with samarium. Opt. i
spektr. 15 no.4:555-558 0 '63. (MIRA 16:11)

ACC NR: AP6018444 SOURCE CODE: UR/0051/66/020/006/1040/1044

AUTHOR: Bonch-Bruyevich, A. M.; Razumova, T. K.; Imas, Ya. A.

ORG: none

TITLE: Spectrum of excited absorption in ruby

57
B

SOURCE: Optika i spektroskopiya, v. 20, no. 6, 1966, 1040-1044

TOPIC TAGS: ruby laser, absorption band, xenon lamp, laser pumping, RUBY

ABSTRACT: In connection with a study of certain features of the decay kinetics of excited absorption bands in ruby, the transverse absorption cross section σ_v was measured as the ratio of the variation in the absorption coefficient Δk_v to the population n_2 of the metastable level. Samples tested were polished cylinders 6 mm in diameter and 50 mm long, cut from ruby single crystals containing 0.02 and 0.04% Cr^{+3} by weight. The rod ends were masked leaving rectangular 1 x 3 mm windows. The 400 μ pumping light was provided by a pulsed xenon lamp excited by a 500 mf bank of condensers. The test radiation was generated by a lamp that has a continuous spectrum in the near UV, visible, and near IR regions. The dispersion element was a double monochromator, and the light modulator was an ultrasonic device operating at 10 Mc with standing waves in orthoxylene. The recording portion of the test instrumentation consisted of a photomultiplier and a two-gun oscilloscope which showed the time dependence of the inten-

UDC: 535.343:553.824

Card 1/2

L 19487-63 EWT(1)/EWP(q)/EWT(m)/EWP(B)/BDS AFETC/ASD/IJP(C)/SSD JD
ACCESSION NR: AT3002238 S/2941/63/001/000/0229/0305

AUTHORS: Arkhangel'skaya, V. A.; Razumova, T. K.

TITLE: Quantum yield of thermal luminescence of $\text{CaSO}_4\text{-Mn}$ phosphor

SOURCE: Optika i spektroskopiya; sbornik statey. v. 1: Lyuminestsentsiya. Moscow, Izd-vo AN SSSR, 1963, 299-305

TOPIC TAGS: quantum yield, gamma radiation, photomultiplier, luminescence

ABSTRACT: The photometric method has been used to determine the absolute quantum yield of thermal luminescence of the phosphor $\text{CaSO}_4\text{-Mn}$, in the region 113 to 0.0048\AA , under the excitation radiation of x-rays and gamma-rays. The relative yield was determined in three steps: soft and ultra-soft x-rays (113-1.54 \AA), hard x-rays (0.473 to 0.085 \AA), and gamma radiation (0.045-0.0048 \AA). The absolute values were then obtained by comparing the relative results to excitation radiation with known wave lengths and given quantum yield and with a standard screen. It is shown that $\text{CaSO}_4\text{-Mn}$ in conjunction with a photomultiplier can serve as an effective radiation criterion in the soft x-ray spectra. Some data are also presented on the thermal luminescence spectra of $\text{CaSO}_4\text{-Mn}$. "The authors are grateful to M. A. Rumsh and

Card 1/2

L 19487-63

ACCESSION NR: AT3002238

A. P. Lukirskiy for their evaluation of the work." Orig. art. has: 6 formulas, 4 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 09Jan62

DATE ACQ: 19May63

ENCL: 00

SUB CODE: PH

NO REF SOV: 007

OTHER: 003

Card 2/2

L 15594-63 EWT(1)/EPF(n)-2/BDS AFPTC/ASD/ESD-3/SSD Pu-4 68
ACCESSION NR: AT3006861 8/2560/63/000/015/0071/0080 66

AUTHOR: Kazachevskaya, T. V.; Arkhangel'skaya, V. A.; Ivanov-Kholodnyy, G. S.;
Medvedev, V. S.; Razumova, T. K.; Chudaykin, A. V.

TITLE: Measurement of x- and ultraviolet radiation with thermoluminescent phosphorus CaSO₄ (Mn)

SOURCE: AN SSSR. Iskusst. sputniki Zemli, no. 15, 1963, 71-80

TOPIC TAGS: rocket investigation, solar ultraviolet radiation, solar radiation, thermoluminescent phosphorus, solar eclipse investigation, ionospheric penetrating radiation

ABSTRACT: A device based on the principle of recording short-wave radiation with CaSO₄ (Mn) thermoluminescent phosphorus has been developed by the Institut prikladnoy geofiziki (Institute of Applied Geophysics) to measure solar ultraviolet and x-radiation. The phosphorus stores up energy during irradiation and then reemits it in the visible region of the spectrum when heated. The brightness of the emission, as well as the total energy (light total), is proportional within broad limits to the energy of irradiation. It has been established that CaSO₄ (Mn) phosphorus is sensitive only to emission with wavelengths from 1 to 1300 Å and

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L 15594-63

ACCESSION NR: AT3006861

2

does not become saturated during irradiation intensity changes of even five orders. The phosphorus was used on a rocket to measure the intensity of penetrating radiation in the lower part of the ionosphere during the solar eclipse of 15 February 1961. Unlike the use of thermoluminescent phosphorus in rocket measurements in the U. S. A., where the phosphorus is reemitted in the laboratory after retrieval of the container, the phosphorus used in the test of 15 February 1961 was reemitted during the flight, thus reducing the error. Calibration measurement was performed in flight with the use of a constant-action etalon sample. The measurement error in determining the energy of UV radiation was 55%; for x-radiation it was 30%. The intensity of radiation at a height of 95 km was about 7×10^7 quanta $\text{cm}^{-2} \text{sec}^{-1}$, while at a height of 67 km it was 500 times lower. This radiation exceeds the theoretically computed maximal solar x-radiation by 50 to 100 times. "The authors thank S. V. Repolovskiy for help in developing the device and carrying out tests and also T. A. Krasnovaya for preparing calibrated luminescent substances." Orig. ext. has: 4 tables, 3 figures, and 8 formulas.

ASSOCIATION: none

SUBMITTED: 10May62

DATE ACQ: 29Jul63

ENCL: 00

SUB CODE: AS
Card 2/2

NO REF SOV: 014

OTHER: 007

ACC NR: AF7000035

SOURCE CODE: UR/0051/66/021/005/0647/0649

AUTHOR: Razumova, T. K.

ORG: none

TITLE: Concerning the measurement of the duration of the excited state at high excitation levels

SOURCE: Optika i spektroskopiya, v. 21, no. 5, 1966, 647-649

TOPIC TAGS: excited state, light excitation, laser emission, light polarization, spectral line, absorption edge, absorption coefficient

ABSTRACT: This is a continuation of earlier work (Opt. i spektr. v. 19, 643, 1965), where the rate of attenuation of radiation was found to depend on the wavelength within the limits of the line contours and emission bands, and on the polarization in the case of emission from the butt surface of a cylindrical sample, such as a laser rod. It is shown here that in the case of high excitation levels, for investigations of the duration of the excited state by measuring the emission kinetics, it is necessary, to avoid errors, to choose an observation direction, a wavelength, and a polarization such that the density of the stimulating radiation is low. In the case when the emission comes from the butt end of an extended object (rod), the estimate of the duration of the excited state can be carried out only in a narrow spectral interval on the edge of the emission line or band. The errors can be particularly large in study of resonant emission, if a large sample is excited non-

Card 1/2

UDC: 535.375.3

ACC NR: AP7000035

uniformly in volume. The effect of the presence of regions with uneven excitation in such a volume are discussed. A table is presented showing the effect of errors that result if the duration of the excited state is estimated over the entire line as a whole. In the case of lateral emission from prolonged samples, the emission intensity depends relatively little on the wavelength and on the polarization, but to estimate correctly the duration of the excited state from the emission kinetics it is also necessary to have uniform excitation or to record the emission from the entire lateral surface, something difficult to do in practice. An exact estimate of the excited state can be obtained in this case by investigating the dependence of the absorption coefficient in the presence of transitions with absorption from the investigated excited state, on the time, using a procedure described elsewhere (Opt. i spektr. v. 20, 1040, 1966). In the case of ruby, it is possible to use high pressure mercury lamps with wavelength 365 and 334 nm. Orig. art. has: 2 figures, 4 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 20Jan66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

KAZACHEVSKAYA, T.V.; ARKHANGEL'SKAYA, V.A.; IVANOV-KHOLODNYI, G.S.;
MEDVEDEV, V.S.; RAZUMOVA, T.K.; CHUDAYKIN, A.V.

Measurements of X-ray and ultraviolet radiations by means of
thermoluminescent phosphor $\text{CaSO}_4(\text{Mn})$. Isk.sput.Zem. no.15;
71-80 '63. (MIRA 16:4)

(Atmosphere, Upper--Rocket observations)
(Radiation--Measurement)

ARKHAGEL'SKAYA, V.A.; VAYNBERG, B.I.; RAZUMOVA, T.K.

Thermoluminescent $\text{CaSO}_4\text{-Mn}$ single crystals. Opt. i spektr. 4 no.5:
681-687 My '58. (MIRA 11:6)

1. Gosudarstvennyy opticheskiy institut im. S.I. Vavilova.
(Phosphors)

ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; RAZUMOVA, T.K.

Determination of the permeability of the Schumann spectrum region
by optical materials. Fiz. sbor. no.3:363 '57. (MIRA 11:8)

1. Gosudarstvennyy ordena Lenina opticheskiy institut im. S.I.
Vavilova.
(Phosphors--Optical properties) (Spectrum, Ultraviolet)

ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; KODYUKOV, V.M.; RAZUMOVA, T.K.

Luminescence dosimeters for γ -radiation, β -particles, and
neutrons, based on the phosphor $\text{CaSO}_4 \cdot \text{Mn}$. Atom.energ. 8
no.6:559-561 Je '60. (MIRA 13:6)
(Radiation--Dosage) (Calcium sulfate) (Phosphors)

L 14627-66 EWT(1)

ACC NR: AP5025309

SOURCE CODE: UR/0051/65/019/004/0643/0645

AUTHOR: Bonch-Bruyevich, A.M.; Razumova, T.K.

ORG: none

TITLE: Dependence of duration of radiation on wavelength within the contour of the luminescence line at a high excitation level

SOURCE: Optika i spektroskopiya, v. 19, no. 4, 1965, 643-645

TOPIC TAGS: luminescence quenching, ruby, chromium, neodymium, glass

ABSTRACT: Luminescence kinetics associated with a considerable population of the upper excited metastable states, when the role of induced radiation is substantial, were studied on ruby single crystals with Cr³⁺ ion concentrations of 0.02 and 0.04 wt. % and on silica-barium oxide glasses containing Nd³⁺ ions in the amount of 6 mole %. The results are interpreted by taking into consideration the change in the ratio of spontaneous to induced radiation as the excitation level is varied, and also during luminescence quenching. The change in the number of excited states at the end of the excitation is described in a general form by the expression

$$\frac{dn_M}{dt} = -AMF n_M + BFM \rho (n_F - \frac{EF}{EM} n_M),$$

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L 14627-66

ACC NR: AP5025309

where n_M and g_F are the population and statistical weight of the final level, and n_M and g_M are those of the metastable level; ρ is the radiation density in the spectral region studied in the volume of the sample; A_{MF} and B_{FM} are the Einstein coefficients. In the case of Nd^{3+} for the line with $\lambda_{max} = 1.06\mu$, this expression is simplified:

$$\frac{dn_M}{dt} = -A_{MF}n_M - B_{MF}\rho n_M.$$

When the value of n_M and hence ρ is large, induced radiation plays an important part. From this it is shown that during quenching, owing to the change in the contour of the line, its central part should quench faster than the lateral parts, i. e., the rate of luminescence quenching within the bounds of the radiation line should depend on λ ; this is confirmed by the experiment. Authors thank B. A. Kiselev, who kindly supplied the monochromator. Orig. art. has: 2 figures and 2 formulas.

SUB CODE: 20 / SUBM DATE: 18Feb65 / ORIG REF: 005/OTH REF: 006

TS
Card 2/2

RAZUMOVA, T. K

ПРИКОТ'КО, А Ф
2*(7) p 3 PHASE I BOOK EXPLOITATION SOV/1365
L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: ita: Fizichnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavberg, G.S., Academician (Resp. Ed., Deceased), Reporant, B.S., Doctor of Physical and Mathematical Sciences, Pabelinaki, I.L., Doctor of Physical and Mathematical Sciences, Pabzikant, V.A., Doctor of Physical and Mathematical Sciences, Komitakiy, V.G., Candidate of Technical Sciences, Hayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Babushkin, A.A., B.A. Gvozdev, and P. Ya. Glazunov. Spectrophotometric Equipment for the Continuous Absorption Analysis and Registration of Gas	360
Arkhangel'skaya, V.A., B.I. Vajnsberg, and T.K. Razumova. Simple Method of Determining the Passing of Some Optical Materials in Schumann's Spectrum Region	363
Grudinkina, N.P. Spectrophotometric Determination of Water Purity	364
Ovechkin, G.V. Condensed Discharge Through a Capillary as a Powerful Source of Continuous Spectrum in Spectral Studies	365
Yakovlev, S. Ya. A Wedge-shaped Black Body as a Source of Radiation for Spectrophotometric Measurements	368

Card 23/30

ARKHANGEL'SKAYA, V. A.; VAYNBERG, B. I.; RAZUMOVA, T. K.

Reflesometer based on the CaSO_4, Mn phosphor for use in the vacuum
ultraviolet region. Opt. i spektr. 8 no.2:279-280 P '60.

(Spectrum, Ultraviolet)

(MIRA 13:10)

RAZUMOVA T. K.

AUTHORS: Arkhangel'skaya, V.A., Vaynberg, B.I. and Razumova, T.K. 51-4-5-19/29

TITLE: Thermoluminescent Monocrystals of $\text{CaSO}_4\text{-Mn}$ (Termolyuminestsiruyushchiye monokristally $\text{CaSO}_4\text{-Mn}$)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp. 681-683 (USSR)

ABSTRACT: The authors prepared large crystals (1 x 10 x 10 mm plates) of $\text{CaSO}_4\text{-Mn}$ by slow cooling of a melt consisting of 45% NaCl, 45% CaSO_4 and 10% MnSO_4 . The melt was cooled from 1000°C to room temperature. The amount of Mn varied from about 0.01% to 0.1%. These crystals exhibited bright green thermoluminescence when excited by short-wavelength ultraviolet, X-rays, β -rays or γ -rays. Thermoluminescent intensity of powders prepared from monocrystals grown as described in the present paper was 2-3 times higher than the emission of powders prepared from monocrystals grown from a solution in H_2SO_4 (Ref 6). The main maximum of the thermal stimulation curves (83°C) was the same for monocrystals prepared by growing from melt and those grown from solution (Fig 1a, 1b). Thermoluminescence curves of monocrystals and powders differ considerably in the half-width of the main maximum and the position of the maximum is slightly displaced towards low temperatures in

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Thermoluminescent Monocrystals of $\text{CaSO}_4\text{-Mn}$

51-4-5-19/29

the case of monocrystals (compare Fig 1a, 1b with Fig 1v). It is found that $\text{CaSO}_4\text{-Mn}$ may be used as a sensitive dosimeter for γ -rays, β -rays and X-rays (Fig 2 shows thermoluminescent intensity as a function of γ -ray dose). The use of monocrystalline samples, instead of powders, of $\text{CaSO}_4\text{-Mn}$ makes it possible to increase the dosimeter sensitivity. There are 2 figures and 7 references, 3 of which are American, 2 German and 2 Soviet.

ASSOCIATION: Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova
(State Optical Institute imeni S.I. Vavilov)

SUBMITTED: August 12, 1957

1. Crystals - Thermoluminescence 2. Crystals -
Excitation 3. Crystals - Growth

3rd 2/2

S/089/60/008/06/13/021
B006/B063 82314

21.5200

AUTHORS: Arkhangel'skaya, V. A., Vaynberg, B. I., Kodyukov, V. M.,
Razumova, T. K.

TITLE: Dosimetry¹⁹ of γ -Radiation, β -Particles, and Neutrons by
Means of the Luminescence²¹ of the Phosphor $\text{CaSO}_4\cdot\text{Mn}$

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 6, pp. 559-561

TEXT: In the present article, the authors report on their investigations of the luminescence of the phosphor $\text{CaSO}_4\cdot\text{Mn}$. The energy, L , stored by this phosphor during its irradiation (called light sum) can be regained as light when heating this phosphor. The maximum in the spectrum of this thermoluminescence is near 500 $\text{m}\mu$, as may be seen from Fig. 1. The brightness of this luminescence is a function of the temperature to which the phosphor was heated (Fig. 2). This curve has a peak within the range 80-100°C, which does not depend on the kind of excitation of the phosphor. The phosphor is much more sensitive to X-rays and soft gamma radiation than to harder gamma rays (Curve 1 in

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X

Dosimetry of γ -Radiation, β -Particles,
and Neutrons by Means of the Luminescence
of the Phosphor $\text{CaSO}_4\cdot\text{Mn}$

S/089/60/008/06/13/021
B006/B063 82314

Fig. 3). When using a lead filter it is possible to extend the sensitivity of a $\text{CaSO}_4\cdot\text{Mn}$ dosimeter to the range 0.1-2.6 Mev (Curve 2 in Fig. 3). With a luminescent area of 2 cm^2 , the lower limit is 0.001 r, and the upper limit is about 400 r. Above this dose the L(D) curve is no longer straight (Fig. 4a). At $D \approx 1000$ r, this deviation is only 30% approximately. A dose of beta rays (e.g., of Sr^{90} , Y^{90}) can be recorded by this apparatus within a range of $1.10^5 - 1.10^8$ particles/ cm^2 without the occurrence of non-linearity in the L(D) curve (Fig. 4b). The sensitivity of this phosphor at ~ 15 -keV X-radiation amounts to some microroentgens. The L(D) curve for this range is shown in Fig. 4v. When the phosphor is stored at room or higher temperatures, its light sum decreases the quicker the higher is the temperature. Fig. 5 shows L(t) for a phosphor stored at 22°C, 37°C, and 57°C. L drops exponentially with t; at 57°C (Curve 3) it drops so rapidly that L drops to one-tenth of its initial value within 40 hours. This phosphor has some advantages over $\text{SrSEu}\cdot\text{Sm}$, such as its insensitiveness to moisture, light, and ultraviolet radiation up to 1500 Å. High-density

Card 2/3

X

Dosimetry of γ -Radiation, β -Particles,
and Neutrons by Means of the Luminescence
of the Phosphor $\text{CaSO}_4\cdot\text{Mn}$

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irradiation of 2600-1800 Å for some time leads to a partial loss of the light sum without radiation (which, however, cannot be brought about with a lamp or direct sunlight). $\text{CaSO}_4\cdot\text{Mn}$ may also be used to record thermal and fast neutrons. In the first case, the lead filter is replaced by a thin cadmium layer, and in the second case, polymethyl methacrylate is introduced into the phosphor after its preparation. There are 5 figures and 3 references: 1 German and 1 US.

SUBMITTED: September 11, 1959

Card 3/3

RAZUMOVA, T.K.

A simple method for determining the transmission of some
 optical materials in the Schumann region of the spectrum.
 V. A. Arkhangel'skaya, B. L. Valberg, and T. K. Razumova.
~~Optika i Spektroskopiya~~, 1, 1018-20 (1953). The
 transmission of monocrystals of LiF and CaF₂ was measured
 by using the CaSO₄Mn phosphors with auxiliary filters of
 LiF and LiF + CaF₂. The transmission of LiF was measured
 in the regions 121, 128, and 147 mμ and CaF₂ at 128 and
 147 mμ. The method used was found to give a rapid evaluation
 of the transparency with a satisfactory degree of accuracy.
 J. Rovtar Leach

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any

ARKHANGEL'SKAYA, V.A.; VAYNBERG, B.I.; RAZUMOVA, T.K.

A simple method for the determination of the transmission of
a few optical materials in the Schuman spectral range. Opt.
i spektr. 1 no.8:1018-1020 D '56. (MLRA 10:2)

(Spectrum, Ultraviolet)

RAZUMOVA, Tat'yana Zotovna; BACHILO, I., red.; ZAKHAROVA, G., mlad. red.; ULANOVA, L.,
tekh. red.

[Supplying man with material goods; growth of the prosperity of
the Soviet people] Zemnye blaga - cheloveku; rost blagosostoiania
sovetskogo naroda. Moskva, Izd-vo sotsial'no-ekon. lit-ry, 1961. 185 p.
(MIRA 14:12)

(Cost and standard of living)

RAZUMOVA, Tat'yana Zotovna; POTEKIN, V., red.; PAVLOV, A., tekhn.red.

[Growth of the prosperity of workers in the Kuznetak Basin]
Rost blagosostoiianiia trudiashchikhsia Kuzbassa. Kemerovo,
1958. 18 p. (MIRA 12:7)
(Kuznetsk Basin--Economic conditions)

RAZUMOVA, V.F.

Effect of injuries produced by the flat bug *Aradus cinnamomeus*
Panz. on the pine. Zool.zhur. 39 no.6:848-857 Je '60.

(MIRA 13:7)

1. Moscow Wood Processing Institute.
(Flat bugs)
(Pine--Diseases and pests)

NAZARENKO, M.F.; RAZUMOVA, V.L.

Interaction between kaolin and feldspar melts in the presence of
quartz. Izv. AN Kazakh. SSR. Ser. gor. dela, met., stroi. i stroimat.
no.3:78-85 '57. (MIRA 10:11)
(Diffusion) (Kaolin) (Feldspar)

RH20P10V11, 1-1

USSR/Solid State Physics - Phase Transformation in Solid Bodies E-5

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 993

Author : Nazarenko, M.F., Razumova, V.L.

Inst : -

Title : Influence of Certain Additives on the Modification Changes of Quartz in the Temperature Range from 1400 to 1600° C.

Orig Pub : Ogneupory, 1957, No 7, 318-324

Abstract : No abstract.

Card 1/1

Razumova, V. L.
USSR/Chemical Technology - Chemical Products and Their Application. Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62295

Author: Nazarenko, M. F., Razumova, V. L.

Institution: None

Title: Casting Characteristics of Porcelain Body of Akmolinsk Plant.

Original
Periodical: Vestn. AN Kaz. SSR, ¹⁹⁵⁶~~1956~~, No 3, 71-74

Abstract: Ayzintomar clay which is a component of the porcelain body of Akmolinsk plant contains a considerable amount of soluble Ca and Mg salts as a result of which casting bodies with conventional electrolytes (liquid glass and soda) are readily coagulated while on combined use of electrolyte and oak extract thinning occurs normally since tannides prevent sticking together of elemental particles. In connection therewith there is noted increased strength of articles in air-dry condition. Use of combined electrolytes has made it possible to undertake at the plant the manufacture of various articles by casting methods which were not previously practiced.

Card 1/1

HAZARENKO, M.F.; RAZUMOVA, V.L.

Kinetics of a quartz solution in a feldspar fusion. Trudy Inst. stroi.
i stroimat. AN Kazakh. SSR 1:91-95 '58. (MIRA 11:6)
(Quartz) (Feldspar) (Porcelain)

NAZARENKO, M.F.; RAZUMOVA, V.L.

Diffusion processes in the body of porcelain. Trudy Inst. stroi.
i stroimat. AN Kazakh SSR 2:183-186 '59. (MIRA 12:10)
(Diffusion) (Porcelain)

NAZARENKO, M.F.; RAZUMOVA, V.L.

Effect of additives on modifications in quartz in the
temperature range of 1200-1650⁰ C. Trudy Inst. stroi. i
stroimat. AN Kazakh. SSR 2:192-202 '59. (MIRA 12:10)
(Quartz)

NAZARENKO, M.F.; RAZUMOVA, V.L.

Effect of the composition of glass on formation processes of
porcelain. Trudy Inst. stroi. i stroimat. AN Kazakh SSR 2:220-224
'59. (MIRA 12:10)

(Porcelain)

NAZARENKO, M.F.; RAZUMOVA, V.L.

Effect of certain additives on modified changes in quartz in the
temperature interval 1400--1600° C. Trudy Inst. stroi. i stroimat.
AN Kazakh SSR 1:96-102 '58. (MIRA 11:6)
(Quartz) (Solution (Chemistry))

RAZUMOVA, V. L.

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Crystallization of mullite during firing of porcelain. M. P. Nazarenko and V. L. Razumova. *Izvest. Akad. Nauk Kazakh. S.S.R., Ser. Gorn. Dela, Met., Stroitel'stvo i Stroimaterial.* 1956, No. 10, 81-72 (in Russian).—The effects of the cryst. lattice of Al silicates on the formation of mullite during firing was studied. Ground local feldspar and quartz were melted for 4 hrs. at 1400°, followed by 4 hrs. at 1600°. This glass was ground after cooling and placed in a crucible around a cylindrical core of Al silicate. The crucible was heated to 1200, 1300, and 1400°, and the formation of mul-

lite on the core surface was detd. The core was kaolin, pyrophyllite, and andalusite, and the rate at which Al_2O_3 was leached out from the core varied with each material. Mullite needles were observed whenever the liquid reached an Al_2O_3 satn. equiv. to the mullite compn. Time to reach satn. depended on the core mineral, temp. of reaction, and wt. ratio of liquid glass to core. V. S. Jubomirski

PM JC MT

RAZUMOVA, V. L.

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The influence of some additions of metallic salts and oxides on the alterations of quartz in the temperature interval between 1400° and 1600°. — M. E. Nozarenko and V. L. Razumova. *Ogneipory* 22, 318-24(1957). — With rise of temp. of quartz from 1400° to 1500° metacristobalite is formed in amts. varying from 40% to 60%. Subsequent rise to 1600° effects a 50% change of this phase to cristobalite along with 5% to 10% of tridymite. Addn. of Fe⁺⁺⁺, Ni⁺⁺, and Cu⁺⁺ exerts a strong influence on the modification of β -quartz. At 1600° in the presence of Fe⁺⁺⁺, Mn⁺⁺, Ni⁺⁺, and Co⁺⁺ the stable phase is principally tridymite; with W⁺⁺, Cr⁺⁺⁺ and Cu⁺⁺ cristobalite. At all temps. of heating the addn. of Cr₂O₃ hinders rather than promotes modification to either the metastable or the stable forms. According to the need for producing one or the other modification at a given temp. the proper addns. must be made to promote its formation. In order to produce mullite readily from a mixt. of 3 Al₂O₃ + 2 SiO₂ the quartz should be in the form of metacristobalite. Prior transition into the more stable phases of tridymite and cristobalite slows down the interaction of the SiO₂ and Al₂O₃ thereby reducing the yield of the required product, mullite. — I. I. Olin.

Instit. Building + Building Material
AS Kazakh SSR
MT 88

RAZUMOV, V.N.

Mechanical counteraction of shrinkage in castings produced by metal molds. Lit. proizv. no. 8:36-40 Ag '60. (MIRA 14:1)
(Shell molding (Founding)) (Metal castings--Defects)

RAZUMOVA, V.N.; CHERNAKHOVSKIY, A.G.

Mesozoic and Tertiary sediments of the Karatau in southern
Kazakhstan. Biul. MOIP. Otd. geol. 39 no.1:88-108 Ja-F '64.
(MIRA 18:4)

RAZUMOVA, V.N.; KHERASKOV, N.P.

Geological types of crusts of weathering. Dokl. AN SSSR 148
no.6:1378-1381 F '63. (MIRA 16:3)

1. Predstavleno akademikom A.L.Yanshinym.
(Weathering)

RAZUMOVA, V.N.; CHERNYAKHOVSKIY, A.G.

Ancient weathering surface of the Or'-Ilek interfluvium and the history of its development. Trudy GIN no.77:81-102 '63.

(MIRA 16:6)

(Or' Valley--Weathering)
(Ilek Valley--Weathering)

RAZUMOVA, V.N.

"Beidellite" Upper Oligocene weathering surface on the ancient
eluvium of serpentinites in the Kempirsay ultrabasic massif
(Southern Urals). Trudy GIN no.77:62-80 '63.

(MIRA 16:6)

(Ilek Valley—Weathering)
(Or' Valley—Weathering)

RAZUMOVA, V.N.; KHERASKOV, N.P.

Geological types of weathering surfaces and characteristics
of their distribution. Trudy GIN no.77:4-34 '63.
(MIRA 16:6)

(Weathering)

RAZUMOVA, Valentina Nikolayevna; RENGARTEN, N.V., otv.red.; MISHINA, R.L.,
red.izd-va; NOVICHKOVA, N.D., tekhn.red.; LAUT, V.G., tekhn.red.

[Cretaceous and Tertiary formations in the western part of central
and southern Kazakhstan] Melovye i tretichnye formatsii zapadnoi
chasti Tsentral'nogo i Iuzhnogo Kazakhstana. Moskva, Izd-vo Akad.
neuk SSSR, 1961 226 p. (Akademiia nauk SSSR. Geologicheskii insti-
tut. Trudy, no.46). (MIRA 14:12)

(Kazakhstan--Geology)

ANDREYEV, A.S., dots.; DENISOV, Ye.I., dots.; GRINZAYD, Ye.L.,
dots.; NADEZHINA, L.S., assist.; RAZUMOVA, V.P., assist.

[Analytical chemistry; principles of quantitative analysis]
Analiticheskaya khimiya; osnovy metodov kolichestvennogo
analiza. Posobie k laboratornym zaniatiyam dlia studentov
vsekh spetsial'nostei fiziko-metallurgicheskogo fakul'teta.
[By] A.S. Andreev i dr. Leningrad, Leningr. politekhnich.
in-t, 1962. 173 p. (MIRA 16:10)

1. Kafedra analiticheskoy khimii Leningradskogo politekh-
nicheskogo instituta im. M.I.Kalinina (for all except
Denisov).

(Chemistry, Analytical--Quantitative)

RAZUMOVA V.P.

Separation of cadmium and zinc in the form of iodide complexes.
Izv. vys. ucheb. zav.; khim. i khim. tekhn. 8 no. 2:192-195 '65. (MIRA 18:8)

Leningradskiy politekhnicheskiy institut imeni Kalinina, kafedra
obshchey khimii.

RAZUMOVA, M.S.

Saturation with organic binders of the cores made by the CO₂
process. Lit. proizv. no. 8:45 Ag '60. (MIRA 14:2)
(Coremaking) (Binding materials)

L 24269-65 EWT(1)/EWP(e)/EWT(m) IJP(c) WH

ACC NR: AP6007019

SOURCE CODE: UR/0051/66/020/002/0360/0362

AUTHOR: Razumova, T. K.

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B

ORG: none

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TITLE: Variation in the degree of polarization and luminescence decay rate of the R lines of ruby under strong excitation

SOURCE: Optika i spektroskopiya, v. 20, no. 2, 1966, 360-362

TOPIC TAGS: ruby, single crystal, light excitation, polarized luminescence, stimulated emission

ABSTRACT: This is a continuation of earlier work (with A. M. Bonch-Bruyevich, Opt. i spektr. v. 19, 643, 1965), where it was shown that when a long single crystal of ruby is intensely excited, the rate of decay of the radiation emitted through its end surfaces shows a wavelength dependence within the profiles of the R_1 and R_2 lines. It is proposed on the basis of the earlier results that the luminescence coming from the end of a long sample, which is strongly excited, should show a dependence of the decay rate on the polarization, and also a dependence of the degree of polarization on the intensity of the exciting light and on its variation within the profiles of the R lines. To check on these assumptions, the author measured the degree of polarization and the decay of luminescence within the R_1 and R_2 lines using a cylindrical sample 5 mm in diameter and 50 mm long cut from a single crystal of ruby containing 0.04% of Cr^{3+} . All measurements were made at room temperature. The sample was ex-

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UDC: 621.375.9: 535

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cited by a helical strobe lamp filled with xenon. The excitation pulse was 200 μ sec. A double monochromator was used to analyze the radiation leaving the end surface of the specimen. The apparatus made it possible to estimate the relative intensities of the radiation with different vector directions as a function of the wavelength of the emitted light and the excitation intensity and to observe the difference in the decay rates as a function of polarization and wavelength. The results confirm the assumptions stated above, apart from a slight tendency towards such saturation, resulting from inaccuracy in the mutual orientation of the optical axes of the sample. It is concluded that variation of the decay rate and degree of polarization can be used as a criterion for the occurrence of stimulated emission under strong pumping. The author thanks A. M. Bonch-Bruyevich and P. P. Feofilov for a discussion of the results and for advice. Orig. art. has: 2 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 08 Jun 65/ ORIG REF: 002/ OTH REF: 001

Card 2/2 *da*

Razumova, Tatyana Zotovna

Zemnyye blaga-cheloveku; rost blagosostoyaniya
Sovetskogo Naroda. Moskva, Scotsekgiz, 1961.
185 P. illus., charts, tables.
Bibliographical footnotes.

NIKIFOROVA, K.V.; RAZUMOVA, V.N.

Cretaceous and Tertiary continental formations of the southern Ural-Siberian epihercynian platform and regularities of the mineral locations in it. Zakonom. razm. polezn. iskop. 2:166-182 '59. (MIRA 15:4)

1. Geologicheskii institut AN SSSR. (Siberia, Western--Ore deposits) (Geology, Stratigraphic)

RAZUMOVA, V.P.; NADEZHINA, L.S.

Determination of cadmium in chromium-nickel alloys. Trudy
LPI no.201:158-162 '59. (MIRA 13:3)
(Cadmium--Analysis) (Chromium-nickel alloys)

RAZUMOVA, V.P.

Determination of small quantities of cadmium. Report No.3:
Possibility of determining cadmium quantitatively by means
of cadion in the presence of other ions. Trudy LPI no.201:
150-157 '59. (MIRA 13:3)
(Cadmium--Analysis)

RAZUMOVA V. P.

AUTHORS: Nadezhina, L. S., Razumova, V. P.

75-6-14/23

TITLE: The Determination of Small Quantities of Lead in Pure Metals and Ferro-Alloys (Opredeleniye malykh kolichestv svintsa chistykh metalakh i ferrosplavakh).

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1957, Vol. 12, Nr 6, pp. 731-735 (USSR).

ABSTRACT: The rapid method for the isolation of small quantities of lead from ferro alloys and pure metals is based on the coprecipitation of $PbSO_4$ with $SrSO_4$ as collector and on the dissolution of the sulphate deposit in hot alkaline complexon/III/-solution. The excess of alkali in the solution is neutralized with hydrochloric acid in the case of indicator methyl orange and the lead is polarographically determined. These determinations were carried out on the polarograph "Geologorazvedka" SGM-8, Nr 18952. The optimum conditions for the determination of lead are pH 3,5 and 0,1 % complexon/III/-solution. The duration of the analysis amounts to 3 to 5 hours. The sensitiveness amounts to 0,001 % lead with a 10 g specimen. Lead in quantities from 0,01 to 0,002 % in steel- and chrome-nickel alloys, metallic copper and chrome, was determined by this method.

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The Determination of Small Quantities of Lead in Pure Metals and 75-6-14/23
Ferro Alloys.

There are 5 figures, 2 tables, and 4 references, 2 of which are Slavic.

ASSOCIATION: Polytechnical Institute imeni M. I. Kalinin-Leningrad (Leningradskiy
politekhicheskiy institut imeni M. I. Kalinina).

SUBMITTED: May 30, 1956.

AVAILABLE: Library of Congress.

1. Metals-Lead determination 2. Ferro alloys-Lead determination

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RAZUMOVA, U.P.

Distr: 421j

7
 Determination of small quantities of lead in pipe metals and ferroalloys. L. S. Naderzhina and V. P. Razumova (M.I. Kalinin Polytech. Inst., Leningrad). *Zhur. Anal. Khim.* 12, 731-6 (1957).—Dissolve a sample of metal in H₂SO₄, oxidize with HNO₃, evap., and dissolve the residue in hot H₂O. Add Sr(NO₃)₂ to the soln. to ppt. as SrSO₄, and ppt. out PbS. Dissolve the ppt. in a 3% soln. of complexon III in 1 N NaOH, neutralize the soln. with HCl, and analyze an aliquot of it polarographically for Pb. Next, add to the cell a definite vol. of a standard Pb soln. and analyze again. In the presence of Mo, W, and V, Pb and the other metals are pptd. with excess Na₂CO₃. Dissolve the ppt. freed of Mo, W, and V in H₂SO₄, and finish the analysis as before. For best results the analyzed soln. should have a pH 3.5 and the complexon III concn. in it should be about 0.1%.
 M. Hosh

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RAZUMOVA, V. P.

Separation of cadmium from zinc on the EDE-IOP anion
exchanger. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 5
no.5:709-711 '62. (MIRA 16:1)

1. Leningradskiy politekhnicheskoy institut imeni M. I.
Kalinina, kafedra analiticheskoy khimii.

(Cadmium—Analysis) (Zinc—Analysis)
(Ion exchange resins)

RAZUMOVA, V.P.

Determination of small quantities of cadmium. Report No.2: New
photocolorimetric method of determining cadmium with cadion.
Trudy LPI no.201:141-149 '59. (MIRA 13:3)
(Cadmium--Analysis)

RAZUMOVA, V.P.

Determination of small quantities of cadmium. Report No.1:
Separation of cadmium from zinc with hydrogen sulfide. Study
LPI no.201:136-140 '59. (MIRA 13:3)
(Cadmium--Analysis) (Hydrogen sulfide)

RAZUMOVA, V. P.

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Detection of cadmium by 4-(p-nitrophenyl)diazoamino-
 azobenzene (cadion). V. P. Razumova (Politech. Inst.,
 Leningrad). Zhur. Otkrytiy, 27, 1433-8(1957).

4-(p-Nitrophenyl)diazoaminoazobenzene (I), m. 197°, is
 prepd. by Dwyer's method (C.A. 31, 8412) only if the
 crude product is repeatedly boiled with NH₄OH-H₂O in
 presence of charcoal; omission of this step yields a yellow
 nondrying solid, m. about 142°. Passage of alc. KOH
 soln. of the substance through Al₂O₃ column yields 3 bands,
 violet, orange, and yellow, which can be separately eluted
 with alc. KOH; all 3 give pos. test with Cd ions. The color
 change of I is caused by pH changes on the adsorbent; hence
 I acts as a 3-color indicator: yellow under pH 11, orange at
 11-11.65, and violet above 11.65. The reaction between
 I and Cd⁺⁺ is adsorptional in character. The yellow form
 of I exists in all pH levels, while red and blue exist at pH
 above 11.65, thus producing the visible violet color.

G. M. Kosolapoff.

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RAZUMOVA, Y.I.

(On the detection of cyanide by means of diazo-
aminobenzene indicators. Zh. Obshch. Khim. 1957, 31:1433-1437
No. 17.

(U.S. 10:8)

1. Khimicheskii i Tekhnicheskii Institut.
(Address: indicators and test papers)

16(1)

AUTHOR: Razumova, Ye.F.

SOV/20-125-5-6/6

TITLE: The Set of Ramification Points for a One-Sided Non-Uniqueness
(Mnozhestvo tochek vetvleniya pri neyedinственности v odnu storonu)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 976-981 (USSR)

ABSTRACT: In the domain \bar{G} let the dynamic system

$$(1) \quad \frac{dx}{dt} = X(x,y), \quad \frac{dy}{dt} = Y(x,y)$$

determine a vector field. The point of the trajectory with the smallest t -value is called the initial point; that one with the greatest t -value is called the final point of the trajectory towards \bar{G} and from \bar{G} , respectively. Let the ramification of the integral curves in \bar{G} appear only in the direction of the field (one-sided non-uniqueness). The set of trajectories rising from the point C in the direction of the field is called a funnel with the vertex in C . The integral curve ending in C with smaller t -values is called the initial curve of the funnel. A funnel is called maximal if it is contained in \bar{G} and in no other funnel.

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Theorem: In an arbitrary neighborhood of the maximal funnel

The Set of Ramification Points for a One-Sided
Non Uniqueness

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there exists at least one trajectory without ramification points.

Theorem: In an arbitrary neighborhood of the maximal funnel there exists a continuum of regular solutions.

Theorem: If on a smooth curve there lies a continuum of ramification points, then the direction of the curve in every condensation point of the continuum is identical with the field direction in this point.

Theorem: An arbitrary two-dimensional countable point set of $\bar{\sigma}$ can be identical with the set of ramification points of (1) (in the case of one-sided non-uniqueness).

Further six similar theorems are formulated. The author mentions M.A.Lavrent'yev. She thanks Ye.M.Landis for assistance.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

PRESENTED: October 13, 1958, by I.G.Petrovskiy, Academician

SUBMITTED: October 9, 1958

Card 2/2

RAZUMOVA, Ye.M., entomolog.

Control of pests and diseases of young plants in the spring and
summer. Gor.khoz.Mosk. 28 no.4:20-22 Ap '54. (MLBA 7:6)
(Plants, Protection of)

RAZUMOVA, Ye.M., entomolog.

Scientific literature

Controlling pests of green plants in the early spring period.

Gor.khoz.Mosk. 28 no.2:16-18 F '54.

(MLRA 7:5)

(Pests)

RAZUMOVA, Ye.M.

Protecting greenbelts and parks of Moscow. Zashch. rast. ot
vred. i bol. 5 no. 8:15-19 Ag '60. (MIRA 13:12)

1. Nachal'nik Moskovskoy gorodskoy stantsii zashchity
zelenykh nasazhdeniy.

(Moscow--Plants, Protection of)

RAZUMOVA, Ye.P.

Studies on the epidemiology of diphyllbothriasis among water transport workers and their families [with summary in English]. Med.paraz. i paraz.bol. 27 no.3:271-275 My-Je '58 (MIRA 11:7)

1. Iz TSentral'noy nauchno-issledovatel'skoy gigiyeny i sanitarii na vodnom transporte.

(TAPEWORMS INFECTION, epidemiology,

Diphyllbothrium infect. in water transport workers & their families (Rus))

ALMAZOVA, V.V.; RAZUMOVA, Ye.P.; LARINA, M.P.

Methods of malaria eradication in Kazakhstan. Report No.1: Malarial incidence in Kokchetav Province and methods for its eradication. Med.paraz.i paraz.bol. 29 no.4:391-398 JI-Ag '60. (MIRA 13:11)

1. Iz entomologicheskogo (zav. - prof. V.N. Beklemishev) i epidemiologicheskogo (zav. - dotsent M.G. Rashina) otdelov Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I. Martsinovskogo Ministerstva zdravookhraneniya SSSR (dir. - prof. P.G. Sergiyev) i Kokchetavskoy oblastnoy sanitarno-epidemiologicheskoy stantsii (glavnyy vrach A.A. Minkevich).

(KOKCHETAV PROVINCE--MALARIA)

RASTORGUYEV, P.V.; RAZUMOVA, Ye.P.; PLYATER, V.N.

Results of controlling malaria and helminthiasis in water transportation in
1952. Med.paraz.i paraz.bol. no.4:309-313 J1-Ag '53. (MLRA 6:9)
(Malarial fever) (Worms, Intestinal and parasitic)