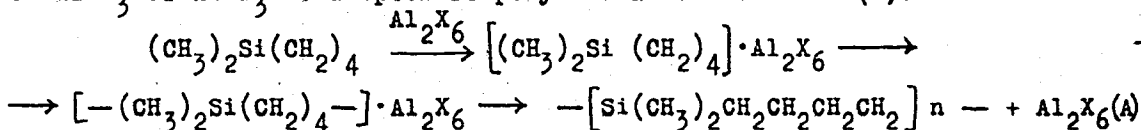


Derivatives of Silanes With Hydrocarbon Bridges Between the Si Atoms. The Polymerization of 1,1-Dimethyl Silicocyclopentane

88571

S/020/61/136/001/019/037
B016/B055

of AlCl_3 or AlBr_3 to a specific polymerization reaction (A):



This reaction is very rapid if the silane and the catalyst are heated for a short time. The authors verified the structure of this product by synthesizing it from corresponding fragments (B). Infrared spectroscopy proved these two products to be identical. Differences between the spectra of these two polymers and that of the monomer are explained by the spacial position of the carbon chains (isomerism). The authors thank Yu. P. Yegorov and Ye. D. Lubush for performing the spectroscopic analyses. Finally the authors discuss the polycondensation of 1,4-ditrimethyl disilyl butane. The reaction product was a colorless, rubbery insoluble polymer similar to the polymerization product obtained in reaction (A). There are 1 figure and 6 Soviet references.

Card 2/3

88571

Derivatives of Silanes With Hydrocarbon Bridges S/020/61/136/001/019/037
Between the Si Atoms. The Polymerization of B016/B055
1,1-Dimethyl Silicocyclopentane

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: October 1, 1960

Card 3/3

BELIKOVA, N.A.; KARGIN, V.A.; PLATE, A.F.; PLATE, N.A.; TAYTS, G.S.;
LYAMINA, I.N.

Synthesis and polymerization of 2-vinylbicyclo-(2,2,1)-heptane.
Neftekhimiia 1 no.2:218-223 Mr-Ap '61. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova i
Institut organicheskoy khimii AN SSSR im. N.D. Zelinskogo.
(Norbornane) (Polymerization)

SEREGIN, E.A.; KOLESOV, V.P.; BELIKOVA, N.A.; SKURATOV, S.M.; PLATE, A.F.

Heat capacity at low temperatures and thermodynamic functions
of endo- and exo-2-cyano-bicyclo-(2,2,1)-heptane. Dokl.AN SSSR
145 no.3:580-583 JI '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
Predstavleno akademikom B.A.Kazanskim.
(Bicycloheptane) (Heat capacity)

BELIKOVA, N.A.; BEREZKIN, V.G.; PLATE, A.F.

Synthesis of endo- and exo-2-methylbicyclo [2,2,1] heptanes.
Steric directivity of the reaction of cyclopentadiene with
propylene. Zhur.ob.khim. 32 no.9:2942-2951 S '62. (MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova
i Institut neftekhimicheskogo sinteza AN SSSR.
(Cyclopentadiene) (Propene) (Bicycloheptane)

ALEKSANYAN, V.T.; BARINOVA, Z.B.; ZHIZHIN, G.N.; STERIN, Kh.Ye.;
BELIKOVA, N.A.; PLATE, A.E.

Vibrational spectra of some endo- and exoderivatives of the
series bicyclo(2,2,1)heptane and bicyclo(2,2,1)-2-heptene.
Zhur.strukt.khim. 4 no.1:28-36 Ja-F '63. (MIRA 16:2)

1. Komissiya po spektroskopii AN SSSR i Moskovskiy gosudarstvennyy
universitet imeni M.M. Lomonosova.

(Bicycloheptane--Absorption spectra)

(Norbornene--Absorption spectra)

L 15702-65 SPA/SPA(e)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Paa-4/Pr-4/
Fs-4/Pt-10/P1-4 AEDC/ASD-3/AFFTC/SSD/AFGC/RPL/AEDC(a)/AFNL/ASD(p)-3
BW/WW/JW/JWD/WE/RM

ACCESSION NR: AP4044076

S/0189/64/000/004/0003/0006

AUTHORS: Goroshko, N.N.
M.P.; Skurstov, S.M.; Belikova, N.A.; Plate, A.F.

Kosina, B

TITLE: Heats of combustion of exo- and endo-isomers-- 2-cyano-
bicyclo-(2,2,1)heptane

SOURCE: Moscow, Universitet. Vestnik. Seriya. Khimiya, no. 4, 1964,
3-6

TOPIC TAGS: bicycloheptane derivative, cyano bicyclo
heptane, endo isomer, exo isomer, heat of combustion, heat of iso-
merization, enthalpy, plastic crystal

ABSTRACT: The heats of combustion of the exo and endo isomers and
the heat of isomerization ($\Delta H_{\text{exo} \rightarrow \text{endo}}$) of 2-cyano-bicyclo-(2,2,1)-

heptane were determined in the Moscow State University Thermochemi-
cal Laboratory (v termokhimicheskoy laboratorii MGU) study of the
thermodynamic properties of bicyclo-(2,2,1)heptane derivatives, of
interest because of their high symmetry suitable for forming "plastic
Card 1/2

L 15702-65

ACCESSION NR: AP4044076

crystals". The enthalpy for the exo-isomer, calculated at initial bomb pressure of 1 atm, $-\Delta H_{\text{c}}^{300} = 1132.44 \pm 0.31$ Kcal/mol, and for the endo-isomer, $-\Delta H_{\text{c}}^{250} = 1132.98 \pm 0.35$ kcal/mol. The heat of isomerization was calculated at 76.80, at which temperature both isomers were liquid. $\Delta H_{\text{c}_{\text{exo}}}^{76.80} = 1130.09 \pm 0.31$ and $\Delta H_{\text{c}_{\text{endo}}}^{76.80} = 1131.05 \pm 0.35$ kcal/mol; exo \rightarrow endo heat of isomerization = -0.96 ± 0.44 kcal/mol. Orig. art. has: 3 tables.

ASSOCIATION: MGU Kafedra fizicheskoy khimii (Moscow State University Department of Physical Chemistry)

SUBMITTED: 03Mar64

DATE ACQ:

ENCL: 00

SUB CODE: TD, GC

NR REF SOV: 004

OTHER: 004

Card 2/2

BELIKOVA, N.A.; PLATE, A.F.; STERIN, Kh.Ye.

Isomerization of endo- and exo-2-methylbicyclo[2,2,1]heptanes in the presence of concentrated sulfuric acid. Zhur.ob.khim. 34 no.1:126-132 Ja '64. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet i Komissiya po spektroskopii AN SSSR.

BEREZKIN, V.G.; KRUGLIKOVA, V.S.; BELIKOVA, N.A.

Kinetics of bimolecular chemical reactions as studied by
a pulse chromatographic technique. Dokl. AN SSSR 158
no.1:182-185 S-0 '64 (MIRA 17:8)

1. Institut neftekhimicheskogo sinteza AN SSSR i Moskovskiy
gosudarstvennyy universitet . Predstavleno akademikom V.N.
Kondrat'yevym.

FREYDLIN, L.Kh.; PLATE, A.F.; ZHUKOVA, I.F.; BELIKOVA, N.A.

Order of the addition of hydrogen to double bonds of
4-vinylcyclohexane-1 on Pt- and Ni-catalysts. Neftekhimia
4 no.3:382-385 My-Je '64. (MIRA 18:2)

1. Institut organicheskoy khimii AN SSSR im. N.D.Zelinskogo i
Moskovskiy gosudarstvennyy universitet.

SEREGIN, E.A.; GOROSHKO, N.N.; KOLESOV, V.P.; BELIKOVA, N.A.; SKURATOV,
S.M.; PLATE, A.F.

Heat capacity at low temperatures and the thermodynamic functions
of endo- and exo-2-methyl-bicyclo-(2,2,1)-heptanes. Dokl. AN
SSSR 159 no.6:1381-1384 D '64 (MIRA 18:1)

BELIKOVA, N.A.; PLATE, A.F.; TABRINA, G.M.; STERIN, Kh.Ye.; LUKASHINA, V.M.;
PAKHOMOV, V.P.; BEREZKIN, V.G.

Isomeric transformations of unsaturated hydrocarbons of the bicyclo (2,2,1) heptane series in the presence of calcium amide and an aluminochromium catalyst. Zhur.org.khim. 1 no.3:506-513 Mr '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet, Institut neftekhimicheskogo sinteza AN SSSR i Komissiya po spektroskopii AN SSSR.

L 51812-65 EWP(m)/EPF(c)/EPR/EMP(j)/T/ Pc-l/Pr-l/Ps-l WW/RM

ACCESSION NR: AF5017011

UR/0204/64/004/006/0819/0825

AUTHOR: Plata, A. F.; Gussar', N. I.; Belikova, N. A.; Sterin, Kh. Ye.TITLE: Hydrogenolysis and pyrolysis of bicyclo-(3,2,0)-heptane

SOURCE: Neftekhimiya, v. 4, no. 6, 1964, 819-823

TOPIC TAGS: heptane, hydrogenation, pyrolysis, catalysis, cyclic group

ABSTRACT: Hydrogenolysis of bicyclo-(3,2,0)-heptane on platinized charcoal begins at 100° and goes almost to completion at 150°, forming ethylcyclopentane (49%), cycloheptane (44%), and trans-1,2-dimethylcyclopentane (7%). In the presence of nickel-on-kieselguhr, complete hydrogenolysis of bicyclo-(3,2,0)-heptane takes place at 110°, resulting in the formation of ethylcyclopentane (50%), cyclopentane (20%), and trans-1,2-dimethylcyclopentane (28%). The carrier, kieselguhr, does not catalyze the conversion of bicyclo-(3,2,0)-heptane. Formation of the trans-isomer of 1,2-dimethylcyclopentane was explained by conversion of the cis-isomer originally formed, at the reaction temperature. In a study of the behavior of bicyclo-(3,2,0)-heptane under conditions of catalytic isomerization on platinized charcoal (in the absence of hydrogen), the hydrocarbon remained stable up to 250°, and cleavage of the cyclobutane

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L 51812-65

ACCESSION NR: AP5017011

ring occurred to an extent of only 14% at 350°. In the absence of a catalyst, pyrolysis does not begin at temperatures below 450°; at 500°, bicyclo-(3,2,0)-heptane is 18% decomposed, while at 550° the decomposition goes to completion. The pyrolysis products at 500°, after hydrogenation, contained the initial hydrocarbon, 6-7% cyclopentane, and 7-8% n-heptane. The pyrolyzate obtained at 550° represented a complex mixture: after hydrogenation, n-pentane, isopentane, cyclopentane, n-heptane, trans-1,2-dimethylcycloheptane, ethylcyclopentane, a few aromatic compounds, and the initial bicyclo-(3,2,0)-heptane were found; the gas formed in the decomposition contained 80% ethylene and an admixture of methane and hydrogen. Orig. art. has: 2 formulas, 3 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University); Komissiya po spektroskopii AN SSSR (Spectroscopy Commission, AN SSSR)

SUBMITTED: 12Jun64

ENCL: 00

SUB CODE: 00, 00

NO REF SOV: 006

OTHER: 002

JPES

2/2
Card

PLATE, A.F.; BELIKOVA, N.A.; BOBYLEVA, A.A.; GUSAR', N.I.; VITT, S.V.

Isomerization of bicyclic $C_{10}H_{16}$ hydrocarbons in the presence of $AlCl_3$. Dokl. AN SSSR 163 no.4:902-905 Ag '65.

(MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet i Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted January 16, 1965.

1. BELIKOVA, N. I.
2. USSR (600)
4. Beans
7. Polyembryony in kidney beans. Biul. MOIP, Otd. biol. 57, no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

BEILKOVA, N. K.

4

19

3051. Effect of radiation of erythema lamps on the agglutinin content in the blood of immunised animals. N. K. Beilkova, I. M. [unclear] [unclear] [unclear] 1955 No. 7 8-9

28. 008. 2011. 1950. April. No. 102101 - Rabbits immunised by Flouke dysentery vaccine were irradiated with u.v. light for 20 days, simultaneous with immunisation or before immunisation; a third group of rabbits were irradiated for 20 days before, as well as 20 days during immunisation. In unirradiated rabbits the titre of agglutinins on the 21st day was 1 : 800 and then decreased rapidly. In the irradiated animals the titre increased considerably faster and more on the third group 1 : 1800 by the 7 - 15th days and decreased [unclear] (Russian). L. I. [unclear]

BITP

ALL
BITP

BITP
MT

AUTHORS: Shilov, V. N., Belikova, N. N., Yershova, 20-119-2-38/60
Z. P.

TITLE: On the Applicability of the Melting Method for
Determination of the Approximate Chemical
Composition of the Cenozoic Volcanic Rocks of South
Sakhalin (O primenimosti metoda plavleniya dlya
opredeleniya priblizitel'nogo khimicheskogo sostava
kaynozoykskikh vulkanicheskikh porod Sakhalina)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, No. 1
(USSR)

ABSTRACT: Only the most recent Cenozoic volcanic rocks which are
rather wide spread in South Sakhalin form independent
bodies; most of them, however, are disintegrated and form
inclusions of different shape in normally deposited masses.
Here they help to determine the stratigraphic problems
correctly of the individual zones. However, a correct analysis
of the volcanic rocks in the case of mass work, is
rendered difficult by several reasons. Among others the
high calcium content (Labrador disseminations also in the
most acid rocks) lead to great errors, e.g. to the

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On the Applicability of the Melting Method for
Determination of the Approximate Chemical
Composition of the Cenozoic Volcanic Rocks of South
Sakhalin

20-119-2-38/60

determination of dacites as plagioclase basalts. Therefore, the authors suggest a quick but at the same time sufficiently precise method based on the interdependence of the composition of the rocks and the index of refraction of the glass molten from it (refs 3,2) for petrographic mass investigations. In order to be able to examine the applicability of this method 83 complete silicate analyses of volcanic rocks and 4 artificial mixtures were processed. The melting method is described. In order to obtain results which can be compared the spectrographic method (arc of alternating current, 20 a, 220 V, for 30 sec) was used. The results of measurements are represented on fig. 1 and 2. It can be seen distinctly from fig.1 that with the increasing silica content in the rocks the refraction index of the glass molten from it decreases and vice versa. The rocks of the alkaline series as well as the altered volcanic and cenotypal representatives of the calc-alkaline series form 3 distinct parallel series in the diagram. The position of

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Reliability of the Melting Method
Determination of the Approximate Chemical Composition
of Volcanic Rocks of South Sakhalin

several rocks of the dacite spilitic formation which are genetically connected with the calc-alkaline rocks, forming a 4th independent series. The 4 curves support the general dependence between the silica content and the refractive index of the glass molten from it. The curves of a relatively low accuracy (5%) were shown by comparison with earlier work (ref 2). The accuracy of the determination of MgO, CaO and $F_2O_3 + FeO$ (fig. 2) is somewhat lower. Besides, the resulting possibility to determine the content of oxides, alkalis, alumina and iron oxides in volcanic rocks can be determined separately by another method. The curves of variation diagrams also other oxides can be determined from the known SiO_2 content. Accuracy of the determination of single oxides. In the case of the determination of iron oxides increases up to 1.5 % for MnO and FeO (fig. 3). The results of the determination of iron oxides according to the refractive index may differ. In the case of greater accuracy the melting method should be applied. The results of the determination

On the applicability of the Melting Method for
Determination of the Approximate Chemical Composition
of the Cenozoic **Volcanic** Rocks of the Sakhalin

to be changed under its consideration, when the
proportion of their ratios from the crystallization
be maintained. Finally, the small content of iron
and manganous protoxide is described (ref. 1).
formation is described (ref. 1). The ratio of
is given of the alleged and actual crystallization
rocks from which slight differences are noted. In
the melting method can be recommended for the
purpose. There are 3 figures, 1 table and 1 reference,
1 of which is Soviet.

ASSOCIATION: Sakhalinskiy kompleksnyy nauchno-issledovatel'skiy
Akademii nauk SSSR (Sakhalin Complex Scientific
Institute, AS USSR)

PRESENTED: July 10, 1957, by D. S. Korovin, Mem. Academy
Sciences AS USSR

CHANGING: July 17, 1957

DATE: 1957

USSR/General and Specialized Zoology - Insects.

P.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 40119

Author : Belikova, N.P.

Inst :

Title :

The Effect of the Conditions of Larvae Development on the Length of Development of Wintering Pupae of the Turnip Butterfly in diapause (*Pieris rapae* L. *orientalis* Obrth.) in the Primorskoy Region.

Orig Pub : Vopr. sel'sk. i lesn. kh-va Dal'n. Vostoka, Vyp. 1, 1956, 95-97.

Abstract : The larvae of the turnip butterfly, which pupate not later than the end of August, develop under the conditions of the Primorskoy region without a diapause. But pupation later was accompanied with a diapause. When the butterfly was kept in breeding places outside of the room (under natural conditions) the first butterflies emerged in the second half of May from those pupae, which pupated the latest

Card 1/2

USSR/General and Specialized Zoology - Insects.

P.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 40119

(15-20 October of the previous year). The author explained the differences in the length of development of the pupae by differences in the conditions (especially temperature) of the development of the larvae. The obtained data permitted first to explain the continuous emergence of the spring generation of butterflies by the various periods of development of the wintering pupae and, secondly to make an assumption about the existence of the butterflies in the Primorsky region in two varieties: one - that likes the cold weather, appears in the second half of May and pupates later, and the other that likes the warm weather more, emerges in June and pupates earlier. The assumption is confirmed by morphological differences in butterflies of early and late periods of emergence from the pupae. -- G.A. Mazokhin.

Card 2/2

- 44 -

USSR/Zooparasitology. Ticks and Insects as Disease Vectors.
Mites. G

Abs Jour: Ref Zhur-Diol., No 17, 1958, 77025.

Author : Delikova, N. P.

Inst :

Title : Materials on the Hibernation of Exodid Ticks in
Animals.

Orig Pub: Tr. Dal'nevost. fil. AN SSSR, Ser. zool., 1956, 3(6),
265-268.

Abstract: To study the hibernation of ticks in animals in the
environs of the Gornotayezh station of the AS USSR
and the Suptin game preserve, 78 wild animals and
15 head of cattle were examined in the winter period.
It was established that only a small part of the
population of female and male *Dermacentor silvarum*

Card : 1/2

TATARINOVA, L.G.; BELIKOVA, N.P.; KARNAUKHOVA, N.G.

In scientific institutions of Vladivostok. Vop.virus, 4 no.4:511 JI-
Ag '59. (MIRA 12:12)

(MARITIME TERRITORY--TICKS AS CARRIERS OF DISEASES)
(ENCEPHALITIS)

BELIKOVA, N. P.

"Materials on the Biology and Ecology of Ticks of the Genera
Haemaphysalis Japonica Douglast and H. Concinna in Primorskiy
Kray."

Tenth Conference on Parasitological Problems and Diseases with Natural
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of
Sciences, USSR, Moscow-Leningrad, 1959.

Vladivostok Scientific-Research Institute of Epidemiology, Microbiology,
and Hygiene

BELIKOVA, N.P.; TATARIONOVA, L.G.

Problem of the role of the tick *Haemophysalis japonica douglasi*
in circulating the tick encephalitis virus in nature. *Med. paras.*
i paras. bol. 29 no.3:287-288 '60. (MIRA 13:12)
(TICKS AS CARRIERS OF DISEASE) (ENCEPHALITIS)

S/020/60/132/06/67/068
B011/B003

AUTHORS: Belikova, N. P., Tatarinova, L. G.

TITLE: Spontaneous Infection of *Haemaphysalis japonica douglasi* N.
With the Virus of Ixodic Encephalitis in Primorskiy kray

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6,
pp. 1462 - 1464

TEXT: It may be seen from publications that the part played by some Ixodidae ticks with respect to focuses of ixodic encephalitis in *Haemaphysalis japonica douglasi* has not been clarified as yet. It was not possible to isolate a virus from nymphae of this kind from a focus (N. V. Ryzhov and A. V. Koslova, Ref. 3). For this reason the authors examined this tick with regard to virus, occurrence, and occurrence period. They used pubescent ticks which were collected in a wood of Swiss pines and deciduous trees in Tudo-Vakskoye, Kalininskiy rayon on May 20, 1958. Mice were infected with a 10% suspension prepared from 50 ticks. One mouse was taken ill on the sixth day. Other mice were taken ill after an infection with its brain. A death-rate of 100% was

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Spontaneous Infection of *Haemaphysalis japonica* S/020/60/132/06/67/068
douglasi N. With the Virus of Ixodic B011/B003
Encephalitis in Primorskiy kray

noted after the fifth experimental repetition. Fig. 1 provides a scheme of the virus isolation. The clinical picture showing convulsions, pareses, and paralyzes was characteristic of encephalitis. In the first place, inflammations of the brain matter and meninges were caused in the central nervous system. This was indicative of a meningoencephalitis. The period of incubation was more and more shortened by further repetition of the experiments (from 16 to 5-6 days). The mice perished 24 hours after their illness. The authors proved the antigenic affinity of the strain No. 949 with the virus of ixodic encephalitis. The authors give a percentage of the individual Ixodidae ticks in woods of Swiss pines and deciduous trees of Primorskiy kray. Hence it proceeds that in addition to the main carrier of encephalitis (*Ixodes persulcatus*) *H. japonica douglasi* has a considerable share in the ticks' fauna of the plant associations mentioned. The greatest activity is developed by grown-up *H. japonica douglasi* during April and May, whereas *Ix. persulcatus* attain a maximum in May - June. The authors did not observe an attack of man by *Haemaphysalis concinna* in April (Fig. 2). There are 2 figures and 3 Soviet references. ✓

Card 2/3

Spontaneous Infection of *Haemaphysalis japonica* S/020/60/132/06/67/068
douglasi N. With the Virus of Ixodic B011/B003
Encephalitis in Primorskiy kray

ASSOCIATION: Vladivostokskiy nauchno-issledovatel'skiy institut
epidemiologii, mikrobiologii i gigeny (Vladivostok
Scientific Research Institute of Epidemiology, Micro-
biology, and Hygiene)

PRESENTED: February 12, 1960, by Ye. N. Pavlovskiy, Academician

SUBMITTED: February 3, 1960

Card 3/3

TATARINOVA, L.G.; BELIKOVA, N.P.

Transmission of the virus of tick-borne encephalitis by *Hemaphysalis*
neumanni D. Dokl. AN SSSR 140 no.3:734-735 S '61. (MIRA 14:9)

1. Vladivostokskiy nauchno-issledovatel'skiy institut epidemiologii,
mikrobiologii i gigiyeny.
(MARITIME TERRITORY--ENCEPHALITIS) (TICKS AS CARRIERS OF DISEASE)

SLONOV, M.N., zooparazitolog; Prinsipalni uchastiyey: BELIKOVA, N.P., parazitolog po ikso-dovym kleshcham; TATARINOVA, L.G., virusolog; KARABANOVA, E.M., laborant; SOTNIKOVA, T.I., laborant

Zooparasitic characteristics of a natural focus of tick-borne encephalitis in the central part of the Maritime Territory.
Trudy VladIEMG no.2:27-32 '62. (MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i giiyeny.

BELIKOVA, N.P.; NATSKIY, K.V.

Test of the effect of DDT on replete females and larvae of the
Ixodes ticks. Trudy VladIEMG no.2:123-126 '62. (MIRA 18:3)

1. Iz Vladivostokskogo nauchno-issledovatel'skogo instituta
epidemiologii, mikrobiologii i gigiyeny i Primorskoy sanitarno-
epidemiologicheskoy stantsii.

BELIKOVA, O. P.

23638.

OSTRYY GEMATOGENNYY OSTEOMIELIT TELA II SHEYNOGO POZVONKA, OSLOZHNNENNY TROMBOZOM
KAVERNOZNYKH SINYSOV. KHIRURGIYA, 1949, N_o. 7, c. 50-53.

SO: LETOPIS' NO. 31, 1949

BELIKOVA, O.P.

GOVOROVA, N.A.; BELIKOVA, O.P.; ROZENBERG, P.A.; ULANOVA, I.P.

Clinical aspects of methylene chloride intoxications. Trudy AMN
SSSR 31:91-98 '54. (MLRA 7:10)
(Methane--Toxicology)

BELIKOVA, T. P.

USSR/Physics - Phosphors

11 Feb 52

"Duration of the Excited State of Certain Phosphors," K. V. Shalimova, T. P. Belikova, Phys Inst Imeni Lebedev, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 82, No 5, pp 713-716

Authors acknowledge use of M. D. Galanin's "phase fluorometer" with which the measurements of tau, duration of excited state, were conducted. List 10 phosphors (KI-Tl, CsCl-Tl, ZnO-Zn, ZNS-Z, CdI₂-Cd, AgCl-Ag, ABr-Ag, Al-Ag, CuCl-Cu, CuI-Cu),

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illuminating light (green, yellow, blue, red), wave length, tau (duration, from 10⁻⁶ to 10⁻⁵).

Z. A. Trepzhenikova prepd the ZNS-Zn phosphor. State that purpose of this work is to verify the assumption concerning the intercombinational transition ($3P_1 - 1S_0$) in the atoms. Submitted by Acad G. S. Landsberg 15 Nov 51.

230196

USSR/Physics - Phosphorescence of ZnS-Cu

FD-3285

Card 1/1 Pub. 146 - 44/44

Author : Belikova, T. P.

Title : Phosphorescence of crystallophosphor ZnS-Cu during excitation by an electron beam

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 905-906

Abstract : There have been many studies on cathodo-luminescence, but the literature contains practically no works comparing in one and the same specimens the kinetics governing the post-illumination of phosphors during excitation by light and electrons. For the initial stages of post-illumination (about $1/10^3$ second) such a study was carried out (V. A. Arkhangel'skaya, A. M. Bonch-Bruyevich, N. A. Tolstoy, and P. P. Feofilov, *ibid.*, 21 1951), in which work it was shown that the extinguishing occurs nonspecifically relative to the form of excitation and the difference in the observed curves of damping can be explained by the difference in the density of excitation for various forms of excitation (light 365 or 313 m μ , or electron beam). In the present communication the writer gives the results of measurements of the protracted damping of luminescence of ZnS-Cu phosphor ($1/10^4$ g/g³) during excitation by an electron beam (energy 2000 volts, current density up to 3 μ A/cm²) and also for the case of excitation by light of wavelength 365 m μ for sake of comparison. He thanks V. L. Levshin, who proposed this subject for study.

Institution: Physical Institute im. P. N. Lebedev, Acad. Sci. USSR

Submitted : July 26, 1955

BELIKOVA, T.P.

USSR/Photochemistry - Radiation Chemistry. Theory of
Photographic Process.

B-10

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18653

Author : T.P. Belikova, M.D. Galanin.

Title : Photoluminescence Sensibilization by Solvent.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 2, 168-174

Abstract : The transfer of excitation energy to the dissolved luminescent substance is observed at the photoluminescence excitation of terphenyl solution in xylene and of anthracene in toluene by the light absorbed in the solvent. The measurement of the absorption indices and luminescence yield confirms that the energy transfer cannot be explained by the reabsorption of solvent luminescence by the dissolved substances. The transfer probability computed from experimental data exceeds the probability expected in accordance with the resonance transfer theory. It is surmised that this is explained by the molecule diffusion during the excited state.

Card 1/1

- 287 -

AUTHORS: ~~Belikova, T. P.~~, Galanin, M. D.

48-1-11/20

TITLE: On the Process in the Transfer of Energy in Scintillation-Plastics
(O mekhanizme perenosa energii v stsintillyatsionnykh plastmassakh).

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1958, Vol. 22, Nr 1,
pp. 48-49 (USSR).

ABSTRACT: Two kinds of plastics with different activator-concentration were investigated here, polystyrene with anthracene and polystyrene with p-terphenyl. The luminescence was in the plastics excited by the ultraviolet light in the absorption range of polystyrene. The methods from reference 1 were employed for the determination of the probability of a resonance-transfer and the probability of a transfer by way of radiation (in the case of reabsorption of the luminescence of polystyrene). It became evident that the absolute quantum yield of luminescence in pure polystyrene amounts to $\eta_p \approx 0,09$. This is in agreement with that of reference 2. It is shown that in the range of the investigated concentrations in the case of anthracene the probability of the transfer by radiation is commensurable with that without it, whereas, in the case of p-terphenyl, the transfer without radiation (radiationless transfer) prevails. The probability of transfer to be expected according to theory (references 5 and 6) was calculated

Card 1/2

On the Process in the Transfer of Energy in Scintillation-Plastics. 48-L-11/20

from the overlap of the absorption-spectra of luminophores and the luminescence-spectrum of polystyrene. The values are in agreement with those of theory, which confirms the induction-resonance character of the radiationless transfer of energy in the plastics. This conclusion does not apply to the case investigated here of a photoexcitation as well as to an excitation with high energy, as the concentration-dependence of the intensity is completely equal in both cases. M. M. Koton placed the plastic-samples investigated at the author's disposal. There are 2 figures, 1 table, and 8 references, 5 of which are Slavic.

ASSOCIATION: Institute for Physics imeni P.N. Lebedev AS USSR (Fizicheskiy institut imeni P. N. Lebedeva AN SSSR).

AVAILABLE: Library of Congress.

1. Crystals 2. Polystyrene-Luminescence

Card 2/2

AUTHOR: Balikova, T.P.

SOV/51-6-1-25/30

TITLE: Luminescence of Long Duration in Crystals of Dibenzyl and Diphenylamine During Photo and β -Ray Excitation (Dlitel'naya lyuminestsentsiya kristallov dibenzila i difenilamina pri foto- i β -vozbuzhdenii)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 1, pp 117-118 (USSR)

ABSTRACT: Dibenzyl and diphenylamine, which have sufficiently long afterglow at room temperature, were used to study emission of organic crystals excited with photons or fast electrons. The photoluminescence spectra were recorded by means of a spectrograph ISP-51. The phosphorescence spectrum of dibenzyl possesses clear structure and is displaced towards long wavelengths with respect to the total luminescence spectrum. The phosphorescence spectrum of diphenylamine showed no structure but it was also displaced towards longer wavelengths compared with the total luminescence spectrum. Decay of phosphorescence was measured by means of a photomultiplier FEU-19. The photomultiplier signal was fed via a cathode follower to the vertical plates of a special oscillograph by means of which decay could be measured between 0.02 and 50 sec. A mercury lamp ~~SPS~~-250 was used as the source of photo-excitation.

Card 1/3

SOV/51-6-1-25/30

Luminescence of Long Duration in Crystals of Dibenzyl and Diphenylamine During
Photo and β -Ray Excitation

Beta-excitation was produced by the use of fast electrons from Tl^{204} . In each case a filter OS-11 was placed between a sample and the photomultiplier in order to separate out emission in the yellow-green region. The decay curves recorded by means of the oscillograph were photographed and are shown in Figs 1 and 2. Fig 1 gives the oscillograms of dibenzyl and Fig 2 the oscillograms for diphenylamine. In both figures curves a were obtained after photo-excitation and curves b were obtained after excitation with electrons. For both crystals curves a and b are identical, i.e. photophosphorescence and cathodophosphorescence decay in the same way. In both crystals the decay law is exponential and the mean excited lifetime τ is 0.85 ± 0.02 sec for dibenzyl and 0.35 ± 0.02 sec for diphenylamine. The experiments indicate that recombination processes which occur on excitation with electrons do not affect phosphorescence in the range of

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SOV/51-6-1-25/30

Luminescence of Long Duration in Crystals of Dibenzyl and Diphenylamine ~~Crystals~~
Photo and β -Ray Excitation

time intervals used by the author. The results suggest also that on β -excitation and on photo-excitation there is a transition from an excited singlet level to a metastable level and no noticeable direct excitation of the metastable level. Acknowledgments are made to M.D. Galanin who directed this work. There are 2 figures and 5 references, 2 of which are Soviet, 2 English and 1 Swiss.

SUBMITTED: June 18, 1958

Card 3/3

20832

9,4160 (3201, 2804 INLY)
9,6150
24,3500 (1137, 1138, 1395)

S/048/61/025/003/020/047
B104/B214

AUTHORS: Belikova, T. P. and Galanin, M. D.

TITLE: Kinetics of the luminescence of ZnS-Cu on excitation with alpha particles and short light pulses

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 3, 1961, 364-366

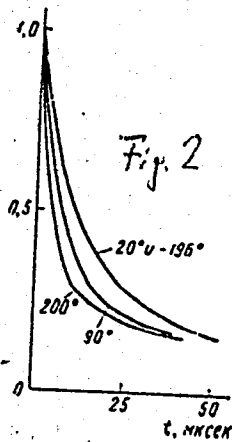
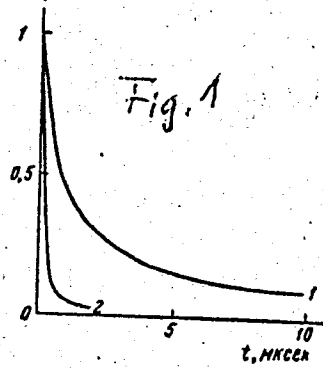
TEXT: This paper was read at the Ninth Conference on Luminescence (Crystal Phosphors) held in Kiyev from June 20 to June 25, 1960. The object of the paper is a comparison between the kinetics of alpha scintillations and that of photoluminescence. The duration of the light pulses was 0.5 microsecond, and they were repeated 10 times in a second. A filter for the range between 300 and 400 $m\mu$ in the spectrum was used in the case of excitation of the phosphors. The energy amounted to 3 ergs approximately on an area of 0.025 cm^2 . Only the green luminescence band is considered. It is first established that in the case of alpha scintillations the damping curve in the range between $-150^{\circ}C$ and $+200^{\circ}C$ depends only slightly on temperature. Further, the observed short

Card 1/4

Kinetics of the luminescence...

20832

S/048/61/025/003/020/047
B104/B214

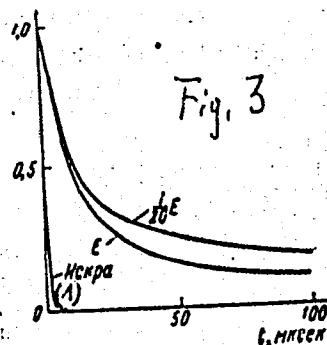


Legend to Fig. 1: Damping curve of the green (1) and the blue (2) ZnS-Cu band in the case of excitation by alpha particles.
Legend to Fig. 2: Damping curve of the green band of ZnS-Cu in the case of photoexcitation for different temperatures (in °C).
Card 3/4

Kinetics of the luminescence...

20832
S/048/61/025/003/020/047
B104/B214

Legend to Fig. 3: Damping curve of the green band of ZnS-Cu at different densities of photoexcitation and on excitation by a light pulse from a spark (1)



Card 4/4

43410

S/051/62/013/005/016/017
E039/E420

AUTHORS: Belikova, T.P., Galanin, M.D., Sviridenkov, E.A.

TITLE: Kinetic photoconductivity and luminescence of ZnS-Cu crystal phosphor with pulsed excitation

PERIODICAL: Optika i spektroskopiya, v.13, no.5, 1962, 752-753

TEXT: It is known that a well defined connection exists between kinetic photoconductivity and kinetic luminescence. This work is extended to cover the case of pulsed excitation from a spark. A single crystal of ZnS-Cu, Cl, was grown from the gaseous phase (dimensions $\sim 2 \times 0.3 \times 0.01$ mm) fixed onto a mica sheet and metallized aluminium electrodes applied. The interelectrode region was chosen to be free from cracks and with a width of 0.3 mm. The dark resistance between the electrodes was $> 10^8 \Omega$ and the applied voltage could be varied from 0 to 250 V. On one beam of a RЭСО-1 (DESO-1) oscillograph was shown the photocurrent and on the other the output from a photomultiplier measuring the luminescence of the crystal. These curves have a very similar form with a fast initial decay tailing off after about 50 μ sec. With the aid of the following expression derived in a previous Card 1/3

S/051/62/013/005/016/017
E039/E420

Kinetic photoconductivity ...

paper

$$I = - \frac{dn}{dt} = \beta nN$$

where n and N are the concentration of ionisation centres and electrons in the conduction band, β is the probability of recombination and I is intensity of luminescence; neglecting the effect of the hole processes it is shown that the conductivity $\sigma(t)$ must be proportional to $N(t)$. In addition the change in concentration of the ionisation centres can be obtained by integrating the luminescence decay curves (neglecting quenching): $n(t) + c = \int I dt$.

Hence it follows that there must be a linear dependence between I/σ and $\int I dt$. This is verified experimentally. The photoconductivity during pulsed excitation is nearly 5 orders higher than the dark conductivity and does not depend on the field strength (up to 7500 V/cm). In contrast the average conductivity under the action of pulsed excitation and also the dark conductivity increases exponentially with voltage beginning at
Card 2/3

Kinetic photoconductivity ...

S/051/62/013/005/016/017
E039/E420

2500 to 3000 V/cm. This is due to an increase in the number of carriers. The dark conductivity up to this voltage remains constant and is equal to $1.3 \times 10^{-7} \Omega^{-1} \text{cm}^{-1}$. There are 2 figures. X

[Abstractor's note. Abridged translation.]

SUBMITTED: February 24, 1962

Card 3/3

ACCESSION NR: AP4035476

S/0051/64/016/005/0862/0865

AUTHOR: Belikova, T.P.

TITLE: Kinetics of the luminescence of ZnS:Tm crystal phosphor under spark excitation.

SOURCE: Optika i spektroskopiya, v.16, no.5, 1964, 862-865

TOPIC TAGS: luminescence, luminescence research, phosphor, zinc compound, thulium

ABSTRACT: The time variation of the luminescence of rare earth activated crystal phosphors may exhibit certain anomalies connected with the relatively long excited lifetime of the activator. Thus, M.V.Fok (Opt.i spektr.2,129,1957) in experiments with Eu^{3+} activated ThO_2 and $\text{ThO}_2\text{Th}(\text{SO}_4)$ crystal phosphors observed build-up of the luminescence even after cessation of excitation. In the present work there was investigated the afterglow of ZnS:Tm phosphor with 5×10^{-5} g/g Tm (the phosphor was synthesized by heating at 1150°C in an NH_3 atmosphere). The phosphor was excited by the ultraviolet radiation (300 to 400 $\text{m}\mu$) from a thyratron stabilized spark between platinum electrodes ($V = 6$ kV; $C = 1500$ pf); the light pulses had a duration of about 0.5 microsec; the pulse repetition rate could be varied from 0.1 to 10 flashes

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ACCESSION NR: AP4035476

per sec. The emission was analyzed by a UM-2 monochromator coupled to an FEU-19m photomultiplier. The photomultiplier signal was displayed on the screen of a DESO-1 oscillograph. The emission of ZnS:Tm consists of a group of blue lines (467 to 484 m μ) and a few red lines (645-650 m μ), but present observations were concerned only with the blue group. The luminescence of the phosphor dies down rather rapidly; about 80% of the light sum is emitted within about 150 microsec. The decay is exponential with $\tau = 5 \times 10^{-5}$ sec. The noteworthy feature is that the decay does not begin immediately upon cessation of excitation; instead the luminescence intensity continues to increase for about 10 microsec. The experimental results are presented in the form of curves. The present case, however, differs from that of Fok, cited above, for in this case (in contrast to Fok's) the growth time decreases with increasing excitation density; at the same time the decay time does not change noticeably. Measurements at different temperatures showed parallel variation of τ and the average intensity. Some additional measurements were made with the phosphor excited by α -particles. Here it was impossible to observe build-up with the given experimental procedure, but the decay proved to be the same as for the phosphor heated to 100°C. It is inferred that the luminescence build-up is due to recombination luminescence of sensitized ZnS "blue centers", and that the decay is determined by the lifetime of the excited state of Tm³⁺. "In conclusion, I express my deep grati-

Card 2/3

ACCESSION NR: AP4035476

tude to M.D.Galanin for guidance in the work and V.V.Antonov-Romanovskiy and M.V.
Fok for valuable suggestions in discussing the results of the work." Orig.art.has:
6 figures.

ASSOCIATION: none

SUBMITTED: 20Jul63

DATE ACQ: 22May64

ENCL: 00

SUB CODE: OP

NR REF SOV: 006

OTHER: 000

Card 3/3

L 60981-65 EWP(m)/EWP(i)/EWP(e) WH

ACCESSION NR: AP5019595

UR/0386/65/001/006/0037/0040

AUTHOR: Belikova, T. P.; Sviridenkov, E. A.

44 44 30 28 B

TITLE: The effect of a focused ruby laser beam on ruby

25,41

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 6, 1965, 37-40

TOPIC TAGS: ruby, ruby laser, solid state laser, stimulated emission

ABSTRACT: An investigation was made of the effect of a ruby laser beam on cube-shaped ruby crystals with 0.8-cm-long edges placed at the focus of the beam. A chain of annular microfractures with local formations in the center was observed in the ruby cubes along the axis of the laser beam at a power output of 10^7 w in the Q-spoiled mode of operation. The formation of the microfractures was accompanied by an intense flash of light having a continuous spectrum. Although emission consisting of two bands peaking at about 630 and 450 mμ was observed at 10^6 w, no damage occurred. At a power of 10^5 w (without Q-switching) the blue band disappeared, leaving only the orange band. The formation of microfractures was attributed to ionization of Cr^{3+} ions owing to multiphoton absorption at the 2E level and the subsequent breakdown due to acceleration of electrons in the conduction band of corundum by the

Card 1/2

L 60981-65

ACCESSION NR: AP5019595

2

field. At lower generation power, the excitation was attributed to two-photon absorption resulting in excitation from the 2E level to the 2T_2 level, subsequent relaxation to the 2E_0 and the 2A_0 levels, and radiative transition to the 2E level. Neither damage nor emission was observed when the ruby sample was cooled to 77K. This was attributed to the fact that since the R_1 line at this temperature narrows to 1 cm^{-1} and is shifted by 19 cm^{-1} the oscillation wavelength does not coincide with the wavelength of the R_1 line. Orig. art. has: 3 figures. [CS]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 13May65

44 ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 002

ATD PRESS: 4062

Card ^{7/12} 2/2

BELIKOVA, T.P.; SVIRIDENKOV, E.A.

Effect of a focused beam from a ruby laser on ruby. Fiz. v 1964.
Zhur. eksper. i teor. fiz. 1 no.6:37-40 Je '65.

(NTRA 18:10)

L 26065-66 EWT(l)/EWT(m)/EWP(e) LJP(c) AI/WH

ACC NR: AP6015801

SOURCE CODE: UR/0386/66/003/010/0394/0398

AUTHOR: Belikova, T. P.; Sviridenkov, E. A.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Photoconductivity of ruby when strongly irradiated by a ruby laser

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 10, 1966, 394-398

TOPIC TAGS: ruby optic material, ruby laser, photoconductivity, light absorption, photon

ABSTRACT: The authors have observed photoconductivity in ruby exposed to strong light ($\sim 10^{10}$ w/cm²) from a Q-switched ruby laser. The photoconductivity was produced by drilling holes in a ruby sample for electrodes of 2 mm diameter spaced 2 mm apart, to which a voltage of 4 kv was applied. The quantity actually measured was not the photoconductivity directly, but the recharging of the ruby capacitance between the electrodes, resulting from the appearance and motion of carriers in the interelectrode space. The difference between this effect and lasing action is explained. Expressions are given for the density of the electrons produced per second in the conduction band and for the lifetime of the electron in the conduction band. The appearance of the electrons in the conduction band is attributed to the many-photon absorption in the chromium ion and their ionization. It is shown in particular, from an analysis of the dependence of the absorption coefficient on the light intensity, that

Card 1/2

L 26065-66

ACC NR: AP6015001

two-photon absorption from the excited level is present in this case and increases with increasing light intensity. The authors thank M. D. Galanin for continuous interest. Orig. art. has: 2 figures and 6 formulas. [02]

SUB CODE: 20/ SUBM DATE: 14Mar66/ ORIG REF: 002/ OTH REF: 001/
ATD PRESS: 4252

Card 2/2 CC

L 26255-66 EWT(1)/EWT(m)/EWP(s)/EWP(t) IJP(c) AT/WH/JD

ACC NR: AP6013054

SOURCE CODE: UR/0048/66/030/004/0570/0572

AUTHOR: Belikova, T.P.; Sviridenkov, E.A.

ORG: none

TITLE: Luminescence and photoconductivity of ZnS:Cu and ZnS:Tu crystals under the influence of ruby laser light [Report, Fourteenth Conference on Luminescence held in Riga-16-23 September 1965]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 4, 1966, 570-572

TOPIC TAGS: luminescence, recombination luminescence, crystal phosphor, zinc sulfide, light absorption, photoconductivity

ABSTRACT: Distinctive blue or green luminescence and photoconductivity associated with two-photon excitation have been observed for several phosphors under stimulation by red ruby laser light flashes. The present work was a continuation of earlier studies of the processes of decay of the luminescence and photoconductivity of ZnS:Cu phosphors. In the earlier work the stimulation was by UV; in the present work the stimulation was by the light flashes from a ruby laser. To minimize surface effects in the photoconductivity measurements the phosphor crystals were held in vacuum, the ruby laser beam was defocused, and the entire crystal except for the interelectrode region was covered with a reflecting non-conducting coating. The experimental data

Card 1/2

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L 26255-66

ACC NR: AP6013054

27 27 5
for the studied ZnS:Cu and ZnS:Tl crystals are presented in the form of graphics: plots of the initial luminescence amplitude versus the flash intensity photoconductivity versus flash intensity and decay of the photoconductivity with time. For both phosphors the emission increases approximately linearly with the flash intensity; the same thing is true of the conductivity. The rectilinear plots for the two phosphors are not quite parallel and are offset along the flash intensity axis; ZnS:Tl is characterized by higher values of the luminescence amplitude and photoconductivity at equal values of the flash intensity. The photoconductivity decay curves indicate that the conductivity falls off with the time of the short luminescence decay process, which indicates that the photoconductivity is also due to a recombination mechanism. The experimental data are discussed briefly and it is concluded that a ruby laser is a good source for excitation of luminescence by two-phonon absorption. The authors thank L.A.Sysoev and S.A.Fridman for making available the crystals. The authors are grateful to M.D.Galanin for discussions of the results and constant interest in the work. Orig. art. has: 3 figures. [15]

SUB CODE: 20/

SUBM DATE: 00/

ORIG REF: 007/

OTH REF: 003/

ATD PRESS: 4244

Card 2/2 CC

ACC NR: AP7003539

SOURCE CODE: UR/0336/67/005/001/0029/0032

AUTHOR: Belikova, T. P.; Sviridenkov, E. A.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Frequency doubling of light in ruby

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 5, no. 1, 1967, 29-32

TOPIC TAGS: ruby optic material, nonlinear effect, frequency doubling, dipole interaction

ABSTRACT: The authors report observation of emission of wavelength $\lambda = 347$ nm from the region of the focus of a ruby laser in a sample of ruby (which has an inversion center). The observed spectrum consists of two broad bands and a narrow line at double the ruby laser frequency. The radiation was observed both with and without damage to the ruby. The order of magnitude of this emission was estimated from the blackening of the film. 10^{-11} J of light energy is necessary to produce such a blackening in a spot measuring 0.1 mm^2 , and $\sim 10^{-9}$ J is converted into emission with $\lambda = 347$ nm when the incident energy is ~ 1 J. The results are interpreted by estimating the intensities and polarizations for the optical frequency doubling produced by electric dipole and quadrupole and magnetic dipole interaction between the light and the crystal. It is shown that in crystals with an inversion center such as ruby

Card 1/2

UDC: none

ACC NR: AP7003539

double-frequency radiation cannot be produced by electric dipole interaction only. One possible cause of the double-frequency radiation observed in ruby may therefore be magnetic-dipole and electric-quadrupole interaction between the laser light and the corundum lattice. Another cause may be the distortion of the corundum lattice by chromium ions, which may lead to linear polarization proportional to the degree of lattice distortion and to the chromium concentration. Still another possible cause may be the anti-Stokes Raman scattering of the laser light by the chromium ions. In this case account must also be taken of the magnetic-dipole and electric-quadrupole interactions. The lack of data on the values of the matrix elements does not make it possible as yet to estimate the contribution of each of these mechanisms to the production of the double-frequency emission in ruby at the intensity observed in the experiment. The disparity between the observed intensity and the estimates of the possible intensity may be due to the anisotropy of the double-frequency emission resulting from interference effects. The authors thank M. D. Galanin for interest in the work. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20/ SUBM DATE: 30Oct66/ ORIG REF: 003/ OTH REF: 003
ATD PRESS: 5112

Card 2/2

KOMAROV, V.S., inzh.; NAZLUKHANYAN, V.M., inzh.; BELIKOVA, T.V., inzh.

VIRS-2 nonsparking relay with induction pickups. Bezop.truda v prom.
6 no.8:30 Ag '62. (MIRA 16:4)

(Electric relays)

GHISTOV, A.D.; BAZARNOVA, G.V.; BEK, N.D.; BELIKOVA, V.I.; BLINOVA, M.Ia.;
KABANOVA, P.G.; MAKARGYA, M.D.; PRIPISTSOVA, K.D.; SIMONOVA, L.F.;
TOLKACHEVA, Ye.M.; TYUNYAYEVA, V.V.; ZINCHENKO, V.S., red.izd-va;
PAVLOVSKIY, A.A., tekhn.red.

[Foreign trade of the U.S.S.R. for 1918-1940; statistical survey]
Vneshniaia torgovlia SSSR za 1918-1940 gg.; statisticheskii obzor.
Moskva, Vneshtorgizdat, 1960. 1134 p. (MIRA 13:10)

1. Russia (1923- U.S.S.R.) Glavnoye tamozhennoye upravleniye.
2. Otdel statistiki Glavnogo tamozhennogo upravleniya Ministerstva
vneshney torgovli SSSR (for all, except Zinchenko, Pavlovskiy).
(Commercial statistics)

BELIKOVA, V. K.

33435. Nekotoryye Gigiyenicheskiye Voprosy Pri Lyuminestsentnom Osveshchenii.
Sootshch. 1. Gigiyena I Sanziariya, 1948, NO. 10, c. 28-30.

SO. Letopis' Zhurnal'nykh Statey, Vol. 45, Moskva, 1949

BELIKOVA, V.K.

DANTSIG, N. M.; HELIKOVA, V. K.

Certain hygienic problems in relation to fluorescent
lighting. Gig. Sanit., Moskva no.8:17-20 Aug. 1950.(GIML 20:1)

1. Of the Institute of General and Communal Hygiene of the
Academy of Medical Sciences USSR.

BELIKOVA, V.K.

Photoelectric determination of ultraviolet rays in sunlight. Gig. sanit.,
Moskva no.6:13-16 June 1952. (GIML 23:2)

1. Of the Institute of General and Communal Hygiene, Academy of Medical
Sciences USSR.

BELIKOVA, V.K.; DANTSIG, N.M.; MATS, L.I.

Experimental data on survival time of infected animals irradiated with erythema-producing ultraviolet lamps. Gig. i san. no.11:7-10 N 154. (MLRA 7:12)

1. Iz Instituta obshchey kommunal'noy gigiyeny AMN SSSR.
(ULTRAVIOLET RAYS, effects
on survival time of experimentally infected mice)
(TYPHUS, MURINE, experimental
in mice, eff. of ultraviolet rays on survival time)

INSTITUTE OF INDUSTRIAL & COMMERCIAL HYGIENE AMN SSSR

BELIKOVA, V. K.

AID P - 2473

Subject : USSR/Medicine
Card 1/1 Pub. 37 - 2/19
Authors : Belikova, V. K., Scientific Worker, Dantsig, N. M.,
Prof., Mats, L. I., Prof.
Title : Effect of the radiation of erythemic lamps on the
agglutinin content of the blood of immunized animals.
Periodical : Gig. i san., 7, 5-7, J1 1955
Abstract : Describes tests with rabbits and discusses the effect
of ultraviolet rays from erythemic luminescent lamps
on the accumulation of agglutinins in the blood of
immunized animals, which increases the immunological
reaction of the organism against infection. Diagrams.
Institution: ^(Communist) Institute of General and Municipal Hygiene, Acad. of
Med. Sci., USSR
Submitted : Dec. 20, 1954

BELIKOVA, V.K.
BELIKOVA, V.K., nauchnyy sotrudnik

Bactericidal property of solar radiation penetrating a room [with summary in English]. Gig. i san. 22 no.11:8-15 N '57. (MIRA 11:1)

1. Iz Instituta obshchey i kommunal'noy gigiyeny AMN SSSR.
(SUNLIGHT, eff.
bactericidal eff. on air microorganisms (Rus))
(AIR, microbiology,
bactericidal eff. of sunlight (Rus))

BELIKOVA, V.P.

KARIMOV, Z.K.; BELIKOVA, V.P.

Incidence of dysentery among children in nurseries and at home. Zhur.
mikrobiol.epid. i immun. 29 no.3:126 Mr '58. (MIRA 11:4)

1. Iz kafedry Tsentral'nogo instituta usovershenstvovaniya Podol'skoy
sanitarno-epidemiologicheskoy stantsii.
(DYSENTERY)

BELIKOVA, V.P.; KOLOSOV, Ye.N.

Epidemiological characteristics of a water-borne outbreak of
dysentery and some data on the immunology of dysentery. Zhur.
mikrobiol.epid.i immun. 31 no.9:125-130 S '60. (MIRA 13:11)

1. Iz Sanitarno-epidemiologicheskoy stantsii, Podol'sk.
(DYSENTERY) (WATER—MICROBIOLOGY)

BELIKOVA, V.P.

Urgent prophylactic problems in epidemic hepatitis (Botkin's disease)
in schools and children's institutions. Zhur. mikrobiol. epid. i
immun. 32 no.6:8-14 Je '61. (MIRA 15:5)

1. Iz Podol'skoy sanitarno-epidemiologicheskoy stantsii.
(HEPATITIS, INFECTIOUS)

GOGOL', L.G.; BELIKOVA, V.P.; SUSHKINA, A.G.; RAYKINA, V.G.; PUGACHEVA, Z.F.

Characteristics of a typhoid fever outbreak at an industrial enterprise. Trudy TSIU 68:35-37 '64. (MIRA 18:5)

RAKHLIN, I.V.; BELIKOVA, Ye.I.

Economic effectiveness of capital investments in the development of
the industry of plastics and plastic goods. Plast.massy no.10:47-52
'61. (MIRA 15:1)

(Plastic industry)

BELIKOVA, Ye.M., aspirant

Rare case of a foreign body in the maxillary sinus. Stomatologiya
41 no. 5:97-98 S-0 '62. (MIRA 16:4)

1. Iz kafedry khirurgicheskoy stomatologii (zav. - prof.
A.A.K'yanskiy) I Leningradskogo meditsinskogo instituta imeni
I.P.Pavlova.

(MAXILLARY SINUS—FOREIGN BODIES)

BELIKOVA, Ye.M.

Therapeutic use of iodinol in chronic periodontitis. Stomatologia 43 no.1:30-33 Ja-F'64 (MIRA 17:4)

1. Klinika chelyustno-litsevoy khirurgii i stomatologii (zav. - prof. A.A. K'yanskiy) I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova.

M

Country : USSR

Category: Cultivated Plants. Grains.

Doc. Jour. Botaniol., No 11, 1958, 48851

Author : Belikova, Ye. M.

Inst : Leningrad Agricultural Inst.

Title : Spring Wheat Against the Background of the Fourth Stage.

Orig Pub: Zap. Leningr. s.-kh. in-ta, 1956, vyp. 11, 43-47

Abstract: The fourth stage (discovered by V.A. Novikov) is characterized by the importance, for the plants, of a high intensity of light during the formation of the pollen tetrads. In the experiments made at Leningrad Agricultural Institute, 13 varieties of spring wheat of different origin were subjected to

Card : 1/2

GUNAR, I.I.; KRASINA, Ye.Ye.; BRYUSHKOVA, K.A.; BHLIKOVA, Ye.M.

Diurnal periodicity in the synthetic activity of roots. [with
summary in English]. Izv. TSKhA no.5:18-34 '60. (MIRA 13:11)
(Roots (Botany))

BELIKOVA, Z.P.

Functional mobility of cold reception of the skin. Vest. vener., Moskva
no.2:6-10 Mar-Apr 1953. (GLML 24:3)

1. Moscow Medical Stomatological Institute (Director -- G. N. Beletskiy;
Head of the Department of Normal Physiology -- Prof. P. G. Snyakin).

BELIKOVA, Z. P.

"Dynamics of the Cold Receptors of the Skin and Mucous Membrane of the Oral Cavity." Cand Biol Sci, Moscow Medical Stomatological Inst, Moscow, 1953. (RZhBiol, No 3, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13)
SO: Sum. No. 556, 24 Jun 55

EXCERPTA MEDICA Ser 2 Vol 12/2 Physiology Feb 59

875. **CONDITIONED REFLEX CHANGES OF MOBILITY OF SKIN COLD RECEPTOR ELEMENTS (Russian text) - Belikova Z. P.** Dept. of Norm. Physiol., Med. Stomatol. Inst., Moscow - BYULL. EKSPER. BIOL. I MED. 1957, 43/1 (3-6)

The application of an inadequate stimulus (metronome 120) in combination with lowering of air temperature by 1.5° rapidly brings about the formation of a conditioned reflex - the increase of the number of active cold points. Consolidation of the conditioned reflex in all 3 tested subjects was observed after 15 to 20 combinations. The verbal warning 'I make it cold' caused the very same increase of the number of cold points as did an immediate lowering of temperature. Full differentiation (metronome 60) was developed from the third application. On repeated applications of the positive conditioned signal without reinforcement, extinction of the conditioned reflex was noted. The author deduces that the process of functional mobility of cold receptors is realized both by unconditioned reflex and by conditioned reflex pathways.

Pronin - Moscow (S)

LEVIN, E.D.; BELIKOVA, Z.P.

Determining phenol content of pyrogenous lignin tar with the method of high-frequency titration. *Gidroliz. i lesokhim.prom.* 16 no.8:16-18 '63, (MIRA 17:1)

1. Sibirskiy tekhnologicheskiy institut.

L 64184-65 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) RPL WW/RH
ACCESSION FR: AP5021553 UR/0285/6E/000/013/0019/0019
547.419.5.07

AUTHOR: Belikova, Z. V.; Golubtsov, S. A.; Pomerantseva, M. G.

TITLE: A method for producing organosilicon monomers which contain the β -(carbo-
perfluoro-1,1-dihydrobutoxy)-ethyl group, Class 12, No. 172321

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 19

TOPIC TAGS: organosilicon compound, silicone, fluorinated hydrocarbon, monomer,
silane esterification

ABSTRACT: This Author's Certificate introduces a method for producing organosili-
con monomers which contain the β -(carbo-perfluoro-1,1-dihydrobutoxy)-ethyl group by
using chlorosilanes with heating to 70-160°C. The method is simplified by inter-
acting the chlorosilanes with perfluoro-1,1-dihydrobutyl acrylate in the presence of
a ternary catalyst: tributylamine, tetramethylethylene diamine and copper monochlo-
ride.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po khimii (Organization of
the State Committee for Chemistry)

SUBMITTED: 29Apr64

ENCL: 00

SUB CODE: MT, GC

NO REF SOV: 000

OTHER: 000

Card 1/1

L 18899-63 EMP(j)/EPF(c)/EWT(m)/BDS ASD Pr-l/Pc-l RM/WW/MAY
ACCESSION NR: AP3006593 S/0020/63/151/006/1329/1331

AUTHORS: Golubtsov, S. A.; Andrianov, K. A. (Corr. member AN SSSR); Turetskaya, P. A.; Belikova, Z. V.; Trofimova, I. V.; Morozov, N. G. 69

TITLE: Reaction mechanism in the formation of dialkyldichlorosilanes

SOURCE: AN SSSR. Doklady*, v. 151, no. 6, 1963, 1329-1331 7

TOPIC TAGS: dialkyldichlorosilane, dichlorosilane, silane, silicon chloride, copper chloride, hydration, methyl chloride, alkyl chloride

ABSTRACT: Authors showed that during the interaction of alkyl chloride with silica in the presence of copper, dialkyldichlorosilanes are formed. Copper monochloride, which is formed during the reaction of methyl chloride with copper, plays an important part in the synthesis of dialkyldichlorosilanes. The process consists of the adsorption of alkylchloride and its interaction with copper forming CuCl. Copper monochloride reacts with silica forming an intermediate product SiCl₂. The removal of CuCl from the reaction zone by means of hydration with hydrogen, results in the discontinuation of

Card 1/2

L 18899-63

ACCESSION NR: AP3006593

diethyldichlorosilane formation. Orig. art. has: 1 table, 1 figure
and 6 formulas.

ASSOCIATION: none

SUBMITTED: 09Apr63

DATE ACQ: 27Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 001

Card 2/2

L. 412216 (m)/EWP(j) RM

SOURCE CODE: UR/0062/66/000/005/1009/1016

ACC NR: AP6024019

AUTHOR: Golubtsov, S. A.; Korobov, V. V. (Deceased); Popkov, K. K.; Trofimova, I. V.;
Tymoshkova, R. A.; Andrianov, K. A.; Bolikova, Z. V.; Golosova, R. M.; Oygomblik, A. A.
Aristova, V. G.

ORG: none

TITLE: Reactions of formation of alkyl(aryl)chlorosilanes in a direct interaction between alkyl (aryl) chlorides and silicon. Report No. 6. Role of cuprous chloride in the formation of dialkyldichlorosilanes

SOURCE: AN SSSR. Izv. Ser khim, no. 6, 1966, 1009-1016

TOPIC TAGS: silane, chloride, silicon compound, copper compound, CHEMICAL REACTION

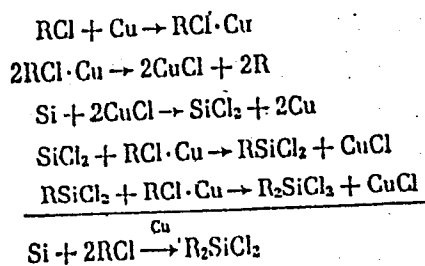
ABSTRACT: A mechanism is proposed for the formation of dimethyl(diethyl)dichlorosilane and methyl(ethyl)trichlorosilane during the reaction of methyl (ethyl) chloride with silicon on cuprous chloride. The proposed mechanism for the formation of dialkyldichlorosilanes is as follows:

Card 1/2

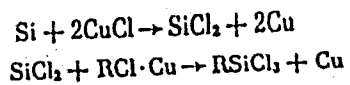
UDC: 546.237+542.91+541.124+543.422

L 41375-66

ACC NR: AP6024019



The formation of alkyltrichlorosilane is represented as follows:



Experimental data obtained confirmed these mechanisms. Thermodynamic calculations of the initial stages of the reactions of methyl and ethyl chloride with silicon were performed. The formation of dichlorosilene is thermodynamically quite probable under the conditions of synthesis of alkylchlorosilanes. UV spectra of the products formed by the reaction of cuprous chloride with silicon showed a group of bands characteristic of the spectrum of SiCl_2 . Orig. art. has: 2 figures and 5 tables.

SUB CODE: 07/ SUBM DATE: 12Feb64/ ORIG REF: 008/ OTH REF: 012

Card

2/2 *bdh*

Cand Med Sci

BELIKOVA-ALDAKOVA, V. D.

Dissertation: "Combined Method for Immunization Against Abdominal Typhus."
11/12/50

First Moscow Order of Lenin Medical Inst

SO Vecheryaya Moskva
Sum 71

BELIKOVA-ALDAKOVA, V.D., kandidat meditsinskikh nauk (Moskva)

Measures for preventing dysentery in the district. Fel'd. i akush.
no.7:22-26 JI '55. (MLRA 8:10)

(DYSENTERY, prev. and control
in Russia)

BELIKOVA, V.D., kandidat meditsinskikh nauk; BLYUMEL', N.F.; MITROPANOVA,
Ye.B.; SOLOV'YEVA, N.A.; DOVZHIK, R.M.

Effect of sanitary conditions on dysenterial reinfection in
special nurseries. Gig. i san. 21 no.6:48-51 Je '56. (MLRA 9:8)

1. Iz kafedry epid. I Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M.Sechenova.

(DYSENTERY, BACILLARY, in infant and child,
reinfect. in nurseries (Rus))

~~BELIKOVA-ALDAKOVA, V.D., kandidat meditsinskikh nauk~~

"Bacillary dysentery in children." A.L.Libov. Reviewed by V.D.
Belikova-Aldakova. Sov.med. 20 no.8:93-94 Ag '56. (MLRA 9:10)
(DYSENTERY) (LIBOV, A.L.)

BELIKOVA-ALDAKOVA, V.D., dotsent; DODONOV, V.N., dotsent

"Course in special epidemiology." V.A.Bashenin. Reviewed by V.D.
Belikova-Aldakova, V.N.Dodonov. Sov.med. 20 no.6:92-95 '56.
(EPIDEMIOLOGY) (MIRA 9:9)
(BASHENIN, V.A.)

ALDAKOVA, V.D.; FLYUMEL', N.F.; MITROFANOVA, Ye.B.; SOLOV'YENVA, N.A.

Epidemiological significance of atypical strains of dysentery
bacteria. Zhur.mikrobiol., epidem. i immn. 27 no.3:23 Nr' 56.

(MLRA 9:7)

1. Is kafedry epidemiologii i Moskovskogo meditsinskogo instituta.
(SHIGELLA,
dysenteriae, atypical strains, epidemiol. significance
(Rus))

BELIKOVA-ALDAKOVA, V.D. (Moskva)

Instruction in epidemiology at medical schools. Zhur.mikrobiol.
epid. i immun. 27 no.5:79-81 My '56. (MLRA 9:8)
(EPIDEMIOLOGY, educ.
in Russia)

BELIKOVA-ALDAKOVA, V.D., kand.med.nauk (Moskva)

Measures for the prevention of diphtheria. Fel'd. i. akush. 22 no.9:
43-46 S'57 (MIRA 11:10)
(DIPHTHERIA)

~~BELIKOVA-ALDAKOVA, V.D., PERFIL'YEVA, Ye.P.~~

Some problems in organizing preventive diphtheria inoculations
in rural areas. Zdrav.Ros.Fed. 2 no.9:21-24 S'58 (MIRA 11:10)

1. Iz kafedry epidemiologii (zav. - prof. I.I. Telkin) i Moskovskogo
ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(DIPHTHERIA)

BELIKOVA-ALDAKOVA, V.D., dots.

"Textbook of infectious children's diseases" by S.D. Nosov. Reviewed
by V.D. Belikova-Aldakova. Sov.med. 22 no.7:136-137 JL-'58
(COMMUNICABLE DISEASES) (MIRA 11:10)
(CHILDREN-DISEASES)
(NOSOV, S.D.)

BELIKOVA-ALDAKOVA, V.D.; BLYUMEL', N.F.; MITROPANOVA, Ye.V.; SOLOV'YENVA, N.A.

Some data on the nature of atypical strains of Shigella.
Zhur.mikrobiol.epid. i immun. 30 no.4:94-97 Ap '59.

(MIRA 12:6)

1. Iz kafedry epidemiologii II Moskovskogo meditsinskogo
instituta imeni Sechenova.

(SHIGELLA

atypical strains (Rus))

BELIKOVA-ALDAKOVA, V.D.; DODONOV, V.N.

"Preventive inoculation" by A.L. Nikol'skii. Reviewed by V.D. Belikova-
Aldakova, V.N. Dodonov. Zhur.mikrobiol.epid. i immun. 30 no.9:150-152
S '59.

(VACCINATION)

(NIKOL'SKII, A.L.)

(MIRA 12:12)