85234

Luminescence of Systems With Hydrogen Bonds

S/048/60/024/006/C27/030/XX
B013/B067

molecular hydrogen bonds, Stokes' excitation always increases. The increase depends on particular values of ω_0 and ω_1 and may widely vary. As a consequence, the increase in Stokes' shift directly indicates the formation of a hydrogen bond in the system. This assumption was experimentally verified in several papers (Refs. 5-8). A table gives characteristic examples. Fig. 2 shows that the hydrogen bond in the electron spectrum appears only when its energy in the excited state W_1 differs from its energy in the ground state W_0; when $W_1 = W_0$, no change takes place. With a sufficiently large difference between W_1 and W_0, a rupture of the hydrogen bond is possible during absorption and emission. As a result, the values of ω_0 and ω_1 which determine the increase of Stokes' shift during the formation of a hydrogen bond, are strongly increased. Although always two bands would be bound to be present in the luminescence spectra of substances with hydrogen bonds, there are cases in which one of the bands is only weakly marked (Ref. 9) or even absent (Ref. 6). In experimental studies of the luminescent properties of a system with hydrogen bonds, the fact that the relatively weak appearance of the hydrogen bond is superposed by stronger effects must be taken into account. These effects may be due to

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Luminescence of Systems With Hydrogen Bonds

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completely different reasons, e.g., ionization. The absorption and luminescence spectra of substances with hydrogen bonds showed no mirror symmetry. This problem will be further studied. V. L. Levshin is mentioned. The present paper was read at the Eighth Conference on Luminescence (Molecular Luminescence and Luminescence Analysis) which took place in Minsk from October 19 to 24, 1959. There are 2 figures, 1 table, and 9 references: 4 Soviet, 2 US, 2 Japanese, and 1 German.

Card 3/3

LUTSKIY, A.Ye.; KOCHERGINA, L.A.; ZADOROZHNYY, B.A.

Intramolecular hydrogen bonding and dipole moments in organic compounds. Part 7: Phenylazo-, carboxyl-, and carbomethoxy-substituted naphthols. Zhur. ob. khim. 30 no.12:4080-4085 D '60.
(MIRA 13:12)

1. Khar'kovskiy politekhnicheskiy institut.
(Naphthol—dipole moments) (Hydrogen bonding)

ZADOROZHNYY, B.A.

2

35782

S/120/62/000/001/012/061
E039/E520

21.6000

AUTHORS: Naboykin, Yu.V., Dobrokhotova, V.K., Uglanova, V.V., Zadorozhnyy, B.A. and Malkes, L.Ya.

TITLE: New organic single crystal scintillators

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 57-59

TEXT: Anthracene is one of the most widely used scintillation crystals because of its high light output. However, there are difficulties associated with the preparation of single crystals of anthracene and it is chemically unstable, hence with long usage the single crystals deteriorate. Stilbene only has about half the light output of anthracene but it is cheap and is therefore widely used. Other crystals such as tolane have a low light yield so that efforts were made to discover new scintillator materials. The effect of small admixtures on the luminescent properties of crystals has been investigated by a number of authors and in this paper is given a summary of all the data on the scintillation efficiency of the single crystals investigated. The light yield compared with stilbene is given and also the optimum concentration of admixture and the maximum in the radiated spectrum. It is shown

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X

New organic single crystal scintillators S/120/62/000/001/012/061
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that single crystals of naphthalene with 1,2 - di(β-napthyl) ethylene and n-phenyl-stilbene admixtures not only have a high light yield (150% of stilbene) but have a luminescence time no greater than stilbene. They are also cheap and hence should be widely used. Single crystals of diphenyl and diphenylene oxide have the advantage over naphthalene of being stable in air but have a lower light output. The dependence of light output on concentration of admixture is shown graphically. The addition of about 0.1% of 1,2 - di(β-napthyl)-ethylene or 1-(β-napthyl)-2-(n-biphenyl)-ethylene to napthalene produces the maximum increase in sctillation efficiency. The luminescent spectra of these new materials is also presented and it is apparent that the maxima in the spectra coincide with the region of maximum sensitivity of antimony-cesium photocathodes. There are 3 figures and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov, stsintillyatsionnykh materialov i osobo chistykh khimicheskikh veshchestv (All Union Scientific Research Institute on Single Crystals, Scintillating Materials and Specially Pure Chemical Materials)

SUBMITTED: June 19, 1961

Card 2/2

[illegible]

1,4-dihydronaphthaline were [illegible]

S/058/62/000/004/111/160
A061/A101

AUTHORS: Nadzhakov, G., Antonov, A., Zadorozhnyy, G.

TITLE: Conditions for dark conservation of photoelectret photopolarization

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 41, abstract 4E357
(Dokl. Bolg. AN, 1961, 14, no. 4, 329-332, English summary)

TEXT: The conditions for dark conservation of photopolarization in photoelectrets consisting of single crystals or polycrystals of S, of polycrystalline anthracene, of powdery S - CdS mixtures, and of a pressed anthracene - CdS mixture were investigated. The initial depolarization current on illumination of the polarized photoelectret was taken as the measure of photopolarization. The initial decrease of polarization is slowed down when the polarizing voltage is increased. The drop of photopolarization of the polycrystalline anthracene electret subjected to high pressure is slowed down when pressure is increased to 2 t/cm^2. The degree of photopolarization drops at the same time. With electrets subjected to a pressure > 1 t/cm^2, where the density of the photoelectret mass does not change any more, the characteristics of conservation and

Card 1/2

Conditions for dark conservation ...

S/058/62/000/004/111/160
A061/A101

the degree of photopolarization do not change any longer. This is explained by the decrease of the number of electrons localized in shallow traps connected with the surface of individual crystalline particles of the electret.

V. Lyubin

[Abstracter's note: Complete translation]

Card 2/2

S/058/62/000/004/113/160
A061/A101

AUTHORS: Kashukeyev, N., Antonov, A., Zadorozhnyy, G.

TITLE: On stationary distribution of the electric charge in photoelectrets

PERIODICAL: Referativnyy zhurnal. Fizika. no. 4, 1962, 41, abstract 4E359
(Dokl. Bolg. AN, 1961, 14, no. 4, 333-336, English summary)

TEXT: An expression is derived for the heterocharge density distribution along the photoelectret with a single type of electron traps. It is found that the resulting charge is located in narrow zones $\sim 10^{-5}$ cm thick, near the electrode. The dependence of the constant photoelectret charge on both the intensity of polarizing light and the strength of polarizing electric field is examined. The expression for the photoelectret charge is the same as the one obtained by E. I. Adirovich (RZhFiz, 1961, 11E129).

V. Lyubin

[Abstracter's note: Complete translation]

Card 1/1

S/194/62/000/006/089/232
D413/D308

24,7700

AUTHORS: Kashukeyev, N., Antonov, A., and Zadorozhnyy, G.

TITLE: On the theory of the thermal depolarization of photo-electrets

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-3-59 p (Dokl. Bolg. AN, v.14, no. 5, 1961, 447-450)

TEXT: A general equation is derived for the depolarization that occurs in darkness. The assumption is made that the electrons freed from traps and migrating into the conductive zone recombine with stationary holes. The paper investigates the concentration of free electrons during depolarization in the dark, starting with a notion of the mechanism of the processes taking place when the electrodes are short-circuited. It is assumed that the trapping of electrons predominates over the recombination of electrons with holes, and that the concentration of trapped electrons is considerably lower than the concentration of traps. The results of the calculation permit a graphical determination of the depth of the local trapping

Card 1/2

On the theory of the thermal ... S/194/62/000/006/089/232
D413/D308

level. 2 references. [Abstracter's note: Complete translation.]

Card 2/2

NADZHAKOV, G., akad.; ANTONOV, A.; ZADOROZHNYY, G. [Zadoroshni, G.]

Influence of excitation on the photoelectret polarization of monocrystal sulfur in dark. Doklady BAN 15 no.8:805-808 '62.

1. Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy Akademii nauk" (for Nadzhakov).

ZADOROZHNYY, Georgiy Petrovich

[Disarmament is the most urgent and important problem of our time]
Razoruzhenie - neotlozhnaia i vazhneishaia problema sovremennosti.
Moskva, Znanie, 1956. 47 p. (MIRA 10:1)
(Disarmament)

29(C); 30(0) PHASE I BOOK EXPLOITATION SOV/2837

Zadorozhnyy, Georgiy Petrovich

Atom, kosmos, mirovaya politika (The Atom, the Cosmos, and World Politics) Moscow, Izd-vo In-ta mezhdunarodnykh otnosheniy, 1958. 79 p. 55,000 copies printed.

Ed.: B. L. Tsybulevskiy; Tech. Ed.: N. A. Belyayev.

PURPOSE: The pamphlet is intended for the general reader.

COVERAGE: This propaganda pamphlet on the use of nuclear power and nuclear weapons by what the author calls the Anglo-American power bloc is a popular presentation of the subject of cosmic research. Special emphasis is laid upon the encirclement of the USSR by the United States. The author concludes with a plea for a constructive use of nuclear power.

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IS/lsb
3-2-60

ZADOROZHNYY, I.A.

Over-all utilizarion of the various types of transportation in Kazakhstan. Zhel.dor.transp. 43 no.2:15-17 F '61. (MIRA 14:4)

1. Nachal'nik Kazakhskoy dorogi, g. Alma-Ata.
(Kazakhstan—Transportation)

ZADOROZHNYY, I.A. (Alma-Ata)

Large-unit continuous production line method for the repair of diesel locomotives. Zhel. dor. transp. 46 no.8:8-14 Ag '64.
(MIRA 17:11)

1. Nachal'nik Kazakhskoy dorogi.

VINOGRADOV, A.P., akademik; KUTYURIN, V.M.; ULUBEKOVA, M.V.; ZAKHAROVA, N.I.;
ZADOROZHNYY, I.K.

Oxygen of photosynthesis and phosphates. Dokl. AN SSSR 150 no.2
411-413 My '63. (MIRA 16:5)

1. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR.

(Photosynthesis) (Oxygen) (Phosphates)

ZADOROZHNYY, I.K.

PROCESSES AND PROPERTIES INDEX

1

Electronographic investigation of the recrystallization of thin films of alkali halides. M. A. Rumsh and I. K. Zadorozhnyi. *Uchenye Zapiski Leningrad. Gosudarst. Univ.* 1940, Pt. 6, No. 67, 37-81; *Khim. Referat. Zhur.* 4, No. 9, 7(1941).—Alkali halides were distd. *in vacuo* onto a thin celluloid film, forming prepns. with a heterogeneous distribution of the crystals. An orientation of the crystals was observed on bringing these crystals into contact with moist air for 1-2 min. The orientation process is attributed to interaction forces between the crystals and the celluloid film, which originate during the adsorption of water on the crystals and in the pores of the prepn. Besides the orientation, there is also an increase in the size of the crystals. In thicker prepns. the increase in the size of the crystals predominates and in the thinner prepns. the orientation predominates. The behavior of various salts toward these processes is not identical. Water vapor does not increase the size of KBr crystals, but causes a complete orientation of the crystals, whereas NaCl crystals exhibit almost no orientation, but their size increases considerably. The remaining salts investigated possess intermediate properties. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ACCESSION NR: AP3000527 S/0020/63/150/002/0411/0413

In conclusion, we express thanks to A. M. Nazarov and A. I. Semeny[illegible]

ZADOROZHNYY, I. K. PA 239T31

USSR/Chemistry - Lead Isotopes **Aug 52**

"Isotopic Composition of Lead and the Age of the Earth," A. P. Vinogradov, Corr Mem Acad Sci USSR; I. K. Zadorozhnyy and S. I. Zykov, Inst of Geochem and Analyt Chem imeni V. I. Vernadskiy, Acad Sci USSR

"DAN SSSR" Vol 85, No 5, pp 1107-1110

Thirty-two samples of galena were studied with a mass spectrograph for the compn with respect to Pb^{204}, Pb^{206}, Pb^{207}, and Pb^{208}. On the basis of this and other data, the age of the earth is estimated to be between $2.1.10^9$ and $(5.0 \pm 0.5).10^9$ years.

239T31

ZADOROZHNYY, I.K.; ZYKOV, S.I..

[illegible]

Constant decay of radioactive elements used for determining geological age. Biul.Kom.po opr.abs.vozr.geol.form.no.1:67-76 '55. (MIRA 9:10)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR.

(Geological time) (Radioactivity)

VINOGRADOV, A.P.; ZADOROZHNYY, I.K.; FLORENSKIY, K.P.

Inert gases content in the Sikhote-Alin' meteorite. Geokhimiia AN SSSR no.6:443-448 '57. (MIRA 11:2)

1. Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva.
(Sikhote-Alin'--Meteorites) (Gases, Rare)

ACCESSION NR: AP4042628 S/0007/64/000/007/0587/0600

AUTHORS: Vinogradov, A. P.; Zadorozhny*y, I. K.

TITLE: Inert gases in stony meteorites

SOURCE: Geokhimiya, no. 7, 1964, 587-600

TOPIC TAGS: meteorite, inert gas, age determination/ MV 23 02 mass spectrometer

ABSTRACT: Twenty-one chondrites, three carbon-bearing chondrites, and one achondrite were examined for their contents of He, Ne, and A. The gases were extracted by heating the samples in a molybdenum crucible at 1700C for 30 min. Samples were crushed and given preliminary degassing treatment at 150C for three hours. Isotopic analysis was made on an MV 23-02 180° mass spectrometer. The resolving power of the setup was greater than 2000. Measuring errors were computed to be 2-3% for He^4 and 7% for Ne and A. Most of the stony meteorites contain inert gases that may be attributed to three different origins: primary, cosmogenic, and radiogenic. It is possible that some A may be of atmospheric origin as well (adsorption). Most of the investigated meteorites contain A and heavier inert gases, but less commonly contain He or Ne. The content and isotopic composition of inert gases from radioactive decay depend on the intensity and energy spectrum of cosmic

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ACCESSION NR: AP4042628

radiation, on the duration of irradiation, on the shielding effect, and on the chemical composition of the meteorite. The average isotopic ratios among decay products are 0.92 ± 0.02 for Ne^{21}/Ne^{22}, 5.4 ± 1 for He^{3}/Ne^{21}, and 8 ± 1 for Ne^{21}/Ar^{38}. Variation in the second ratio is due chiefly to cosmic radiation. No grouping of radiation ages was observed, but about 73% of the determinations gave values less than $10 \cdot 10^{6}$ years. Determinations of radiogenic age from He are generally smaller than those from K-A, probably because of relative losses through heating of the meteorites, but some are larger. The values range from 0.5 to $4.5 \cdot 10^{9}$ years. "We express our sincere thanks to L. G. Kvash and Ye. L. Krinov for supplying meteorite samples and making possible the completion of this work." Orig. art. has: 7 figures and 3 tables.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moscow (Institute of Geochemistry and Analytical Chemistry, AN SSSR)

SUBMITTED: 04May64 ENCL: 00

SUB CODE: AA, NP NO REF SOV: 007 OTHER: 034

Card 2/2

KUTYURIN, V.M.; VOSKRESENSKAYA, N.P.; ULUBEKOVA, M.V.; GRISHINA, G.S.;
ZADOROZHNYY, I.K.

Effect of the spectral composition of light on the fractionation of oxygen isotopes during its absorption by water plants. Fiziol. rast. 11 no.1:7-12 Ja-F '64.
(MIRA 17:2)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR i Institut fiziologii rasteniy imeni K.A. Timiryazeva Akademii nauk SSSR, Moskva.

84662

S/020/60/134/006/031/032
B016/B067

17.1156

AUTHORS: Vinogradov, A. P., Academician, Kutyurin, V. M., Ulubekova, M. V., and Zadorozhnyy, I. K.

TITLE: Isotopic Composition of the Oxygen of Photosynthesis and Respiration

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 6, pp. 1486-1489

TEXT: In an earlier paper (Ref. 1) the authors had arrived at the conclusion that the difference between the isotopic composition of the oxygen of photosynthesis and of water oxygen can be explained. This is due to the fractionation of the oxygen isotopes during respiration, which enriches the oxygen remaining after respiration with O^{18} thus making it heavier. Since photosynthesis and respiration take place simultaneously, the oxygen analyzed is that which was not consumed in respiration. Its isotopic composition depends on the ratio of the intensities of these two processes, furthermore on the fractionation coefficient of the oxygen isotopes during respiration. The authors are of the opinion that the mean

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Isotopic Composition of the Oxygen of Photosynthesis and Respiration

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value of this coefficient α = 1.018 assumed in publications (Ref. 5) can hardly be used for the calculations in the individual case. To determine the quantitative influence of respiration on the isotopic composition of the oxygen of photosynthesis they tried to determine simultaneously the α of respiration and the isotopic composition. For this purpose they used cultures of Scenedesmus obliquus and the water plant Elodea canadensis which were investigated in an apparatus (Fig. 1). Fig. 2 shows the apparatus used for the purification of the gas. The experiments with both types of plants were made with an exposure of 5500 lux and at pH 7. The remaining conditions are given in Tables 1 and 2. The data obtained (Table 1) show that the fractionation coefficient of the oxygen isotopes during the respiration of both plants depends on the physiological state of the plants. In endurance tests (18-20 h), when plants are starving, the respiration intensity is reduced to 1/5 to 1/10, while the coefficient α, however, rises, i.e., the degree of fractionation increases under unfavorable conditions. This recalls the metabolism of sulfur bacteria (Ref. 7). The difference between the fractionation coefficient of Scenedesmus and Elodea indicates the specifity of the oxygen metabolism in different types of plants. This confirms the above mentioned doubts

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Isotopic Composition of the Oxygen of Photosynthesis and Respiration

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as to the usability of a mean coefficient α for all plants. As to the use of this coefficient for each type of plant the authors hold the opinion that the influence exerted by respiration on the isotopic composition (on the example of Scenedesmus and Elodea) can be determined by determining α under the conditions of photosynthesis. The authors arrive at the conclusion that the opinion expressed in the beginning concerning the "rendering heavier" of photosynthesis oxygen by respiration is correct, and they derive equations (1) and (2) for the isotopic composition of the oxygen remaining after respiration as well as for the respiration intensity. K. P. Florenskiy is mentioned (Ref. 4). There are 2 figures, 2 tables, and 10 references: 4 Soviet and 3 US.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences, USSR)

SUBMITTED: July 29, 1960

Card 3/3

Zadorozhnyy, I.K.

PHASE I BOOK EXPLOITATION SOV/4290
SOV/37-S-38

Akademiya nauk SSSR. Komitet po meteoritam

Meteoritika; sbornik statey, vyp. 18 (Meteoritics; Collection of Articles, No. 18) Moscow, AN SSSR, 1960. 1,200 copies printed.

Ed.: V.G. Fesenkov, Academician; Deputy Resp. Ed.: Ye.L. Krinov; Ed. of Publishing House: I.Ya. Rakhlin; Tech. Ed.: A.P. Guseva.

PURPOSE: This publication is intended for astrophysicists, astronomers, and geologists, particularly those interested in the study of meteorites.

COVERAGE: This collection of 26 articles on problems in meteoritics includes the Transactions of the Eighth Meteoritic Conference which took place in Moscow, June 3 - 5, [illegible]. An introductory article reviews recent progress in the field, particularly in the matter of determining the age of meteorites. Individual articles discuss the fall, physical and chemical properties, and age of meteorites. The danger presented by meteors to artificial earth satellites is discussed. V.G. Fesenkov describes the theory and adduces computations for determining the distribution of ozone in the atmosphere during lunar eclipses. References accompany individual articles.

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Zadorozhnyy, I.K.

PHASE I BOOK EXPLOITATION SOV/4291
SOV/37-8-38

Akademiya nauk SSSR. Komitet po meteoritam

Meteoritika; sbornik statey, vyp. 18 (Meteoritics; Collection of Articles, No. 18) Moscow, AN SSSR, 1960. 1,800 copies printed.

Ed.: V.G. Fesenkov, Academician; Deputy Resp. Ed.: Ye.L. Krinov; Ed. of Publishing House: [illegible], Tech. Ed.: [illegible]

PURPOSE: This publication is intended for astrophysicists, astronomers, and geologists, particularly those interested in the study of meteorites.

COVERAGE: This collection of 26 articles on problems in meteoritics includes the
Transactions of the Eighth Meteoritic Conference which took place in Moscow,
June 3 - 5, 1958. An introductory article reviews recent progress in the field,
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ites. The danger presented by meteors to artificial earth satellites is dis-
cussed. V.G. Fesenkov describes the theory and adduces computations for
determining the distribution of ozone in the atmosphere during lunar eclipses.
References accompany individual articles.

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AVAILABLE: Library of Congress

JA/dwm/gmp

Card 5/5

KHITROV, L.M.; ZADOROZHNYY, I.K.

Fractionation of oxygen isotopes in soil. Pochvovedenie no.1:5-14 Ja '60. (MIRA 13:5)

1. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR.
(Gases in soils) (Oxygen--Isotopes)

VINOGRADOV, A.P., akademik; ZADOROZHNYY, I.K.; KNORRE, K.G.

Argon in meteorites. Meteoritika no.18:92-99 '60.
(MIRA 13:5)

(Meteorites--Analysis) (Argon)

ZADOROZHNYY, I.K.

Mass-spectrometric determination of rare-gas content in iron.
Meteoritika no.18:141-143 '60. (MIRA 13:5)
(Iron--Analysis) (Gases, Rare)

17(1)

AUTHORS: Vinogradov, A. P., Academician, Kutyurin, V. M., SOV/20-125-5-54/61
Ulubekova, M. V., Zadorozhnyy, I. K.

TITLE: The Isotopic Composition of Photosynthetic Oxygen (Izotopnyy sostav kisloroda fotosinteza)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 1151-1153 (USSR)

ABSTRACT: The oxygen mentioned in the title occurs in water and is the result of dehydrogenation (Refs 1,2). The attempt was made to interprete the difference between the isotopic composition of oxygen occurring in water and obtained from the photosynthesis (1 - 2.5γ) as a methodical mistake or by an exchange between oxygen separated in the photosynthesis and cellular water (Ref 3). Without knowledge of the mechanism of oxygen separation in the photosynthesis the probability of such an exchange could not be denied (Ref 3). This exchange was, however, soon refuted: in the electrolysis (Ref 4) as well as in the case of the catalase effect (Ref 5) no exchange takes place between O_2 and H_2O, OH, HOOH as well as -O-O-. Since it was therefore necessary to define precisely the composition mentioned in the title, especially for marine organisms, the authors

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The Isotopic Composition of Photosynthetic Oxygen SOV/20-125-5-54/61

investigated the topic mentioned with the water weed (Elodea canadensis) (fresh water), on the one hand, and with phytoplankton (mainly Diatomaceae algae, sea water), on the other hand. The photosynthesis took place in water treated with argon free from oxygen (O_2-content 0.3-1 ml/liter) at sunny weather and under optimum conditions. Table 1 shows the results. The disturbing effect of the residual respiration oxygen, which was heavier in consequence of preferred absorption of O^{16}, was eliminated as far as possible by repeated extraction of the oxygen produced by photosynthesis. The method used for fresh water and the water weed had to be replaced by that of Winkler for marine plenkton since the extraction of oxygen weakened the intensity of the photosynthesis. The average value of the isotope content of the photosynthetic oxygen of marine phytoplankton (0.2002) (O^{18} related to O^{17}; the small content of O^{17} was neglected) is higher only by 0.0009%, i. e. higher by 1.0 γ than that of sea water (mass-spectrum determination in Table 2). This means that 90% of the photosynthetic oxygen occurs in water. In the case of the water weed a similar calculation yields 82%. In the experiments with the

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The Isotopic Composition of Photosynthetic Oxygen SOV/20-125-5-54/61

water weed the respiration intensity was not determined. By eliminating the respiration the isotopic composition of photosynthetic oxygen approaches in all cases that of water so far that undoubtedly the total photosynthetic oxygen occurs in water. Inconsiderable deviations of the isotope content in photosynthetic oxygen from the isotopic composition of water in the experiments with the water weed and in the experiment Nr 2 with marine phytoplankton resulted from the deviation of the fractionating coefficients of the oxygen isotopes in the respiration from the assumed average value. There are 2 tables and 8 references, 2 of which are Soviet.

SUBMITTED: January 16, 1959

Card 3/3

3(7),3(9)

AUTHORS: Vinogradov, A. P.; Kutyurin, V. M., Zadorozhnyy, I. K. SOV/7-59-3-1/13

TITLE: Fractionation of the Isotopes of Atmospheric Oxygen (Fraktsionirovaniye izotopov atmosfernogo kisloroda)

PERIODICAL: Geokhimiya, 1959, Nr 3, pp 195-205 (USSR)

ABSTRACT: Compared with the oxygen of the hydrosphere and of photosynthesis, atmospheric oxygen has a higher content of the isotope O^{18} (Table 1). The present paper was written for the purpose of explaining this difference. The two-beam mass spectrometer MS-2 was used for measurements, and atmospheric oxygen was used as standard. Investigations were carried out of the oxygen of the photosynthesis of diatom algae carried out at the Sevastopol'skaya biologicheskaya stantsiya (Chernoye more) (Sevastopol' Biological Station (Black Sea)) and of the fresh-water plant Elodea canadensis (Table 2). Herefrom results a coefficient of O^{18} enrichment in the atmosphere of 1.018. Moreover, fractionation in the soil was investigated. A minimum effect (α=0.997) occurred only in the case of considerable humidity. A thorough investigation was carried out of

Card 1/3

Fractionation of the Isotopes of Atmospheric Oxygen SOV/7-59-3-1/13

fractionation in the ocean. The samples were collected during the second voyage of the Morskaya Antarkticheskaya ekspeditsiya na d/e "Ob'" (Antarctic Sea Expedition of the Diesel-electric vessel "Ob'"). The points where samples were taken are shown on a chart. Samples were taken from various depths at each place (Table 3); for 5 places the variation of the total oxygen- and O^{18} content with depth is graphically represented (Figs 2-6). The fractionation coefficient is 1.010; this is not sufficient in order to be able to explain the high O^{18}-content of the atmosphere. According to the authors this content is a function of the CO_2-content of the atmosphere. The reason for this is the dissociation of CO_2 in the stratosphere. This would provide the possibility of drawing conclusions from the isotope-ratio in fossils with respect to the concentration of CO_2 in the previous atmosphere. There are 7 figures, 3 tables, and 13 references, 5 of which are Soviet.

Card 2/3

Fractionation of the Isotopes of Atmospheric Oxygen SOV/7-59-3-1/13

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, AS USSR Moscow)

SUBMITTED: January 14, 1959

Card 3/3

ZADOROZHNYY, K.A., inzh.

Ten to twelve tons of emulsion per hour. Avt. dor. 24 no.8:30 Ag '61. (MIRA 14:9)
(Bituminous materials) (Mixing machinery)

18.0000,28.1000

75965
SOV/133-59-10-26/39

AUTHORS: Gorodetskiy, L. N., Zadorozhnyy, L. S., Engineers

TITLE: Automation of Ingot Buggy Control

PERIODICAL: Stal', 1959, Nr 10, p [illegible] (USSR)

ABSTRACT: Ingot buggies were completely automated by the introduction of a trolley network, double terminal switches, rapid-action brakes, and photoelectric cells to enable stripper and tong crane operators to control ingot buggies. A special circuit was developed which works reliably as long as crane operations proceed in a certain order. Manual control is also provided in case of failure of one of the photorelays.

ASSOCIATION: Plant imeni Petrovskiy (Zavod imeni Petrovskogo)

Card 1/1

25.1000

75582
SOV/130-59-10-14/20

AUTHORS: Gorodetskiy, L. N. (Assistant Chief of Rail-Beam Shop), Zadorozhnyy, L. S. (Shop Foreman), Shereshevskaya, R. M. (Senior Engineer of Central Plant Laboratory)

TITLE: Increased Life of Cutters for Cutting Hot Metal

PERIODICAL: Metallurg, 1959, Nr 10, pp 27-28 (USSR)

ABSTRACT: In the railbeam shop of Plant imeni Petrovskiy (zavod imeni Petrovskogo) cutting edges of cutters are built up with 3Kh2V8 alloy steel. After forging and machining 45-steel cutters are annealed from 810 C. An automatic ABS-type welding head is used and work is done submerged in AN-20 flux of the following composition (%): SiO_2: 19-24, Al_2O_3: 27-32, CaF_2: 25-33, MgO: 9-13, CaO: 3.0-9.0, K_2O: 2.4-3.0, FeO and MnO: maximum 1.0 and 0.5, respectively, S: 0.08, P: 0.05. Maximum flux moisture:

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Increased Life of Cutters for Cutting Hot Metal 75582
SOV/130-59-10-14/20

0.1%. Electrode wire PP3Kh2V8 made of powdered material and direct reverse polarity current of 420 to 450 amp are used. Arc voltage: 32 to 34 v, speed of arc motion: 22 m/h, speed of wire feed: 56 m/h. The latter can varied by interchangeable gears within the range of 28.5 to 255 m/h. The built-up cutter is placed in a furnace heated to 400 C. The furnace is turned off and slowly cooled with the cutter. Tempering for 2 hrs at 300 C follows. Hardness: 45 to 49 R_c. Chemical composition of built-up metal (%): C: 0.29, Mn: 0.89, Si: 0.92, Cr: 2.5, W: 9.37, V: 0.33, S: 0.030. Average cutter life: 498 hours. The use of built-up cutters reduced their consumption by thirty times. There are 2 figures.

Card 2/3

Increased Life of Cutters for Cutting Hot Metal

75532
SOV/130-59-10-14/20

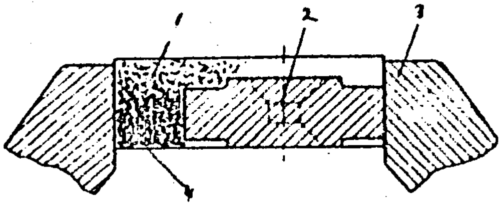

Fig. 2. Diagram of cutter setting before building up: (1) cutter; (2) flux; (3) vise; (4) box.

ASSOCIATION: Plant imeni Petrovskiy (Zavod imeni Petrovskogo)

Card 3/3

GORODETSKIY, L.N.; ZADOROZHNYY, L.S.

Nondriven marking device on rail and girder mills. Metallurg 6 no.7:25-26 Jl '61. (MIRA 14:6)

1. Rel'sobalochnyy tsekh zavoda im. Petrovskogo. 2. Pomoshchink nachal'nika rel'sobalochnogo tsekha po oborudovaniyu, zavod im. Petrovskogo (for Gorodetskiy). 3. Master rel'sobalochnogo tsekha zavoda im. Petrovskogo (for Zadorozhnyy).
(Rolling mills--Attachments)

SOLOD'KO, D., prokhodchik; ZAKHAROV, A., rabochiy ochistnogo zaboya; ZADOROZHNYY, M., vzryvnik; NOVIKOV, V., rabochiy ochistnogo zaboya; MASLIKOV, D., buril'shchik; YURCHENKO, I., gornyy master; ZARETSKIY, P., brigadir elektrikov; RASSKAZOV, L., litsotrudnik shakhtnoy gazety; VIZEN, I.; DOKUCHAYEV, A.

Our inspection raid. Mast.ugl. no.10:11-13 O '59. (MIRA 13:3)

1. Reydovaya brigada zhurnala "Master uglya." 2. Literaturnyy sotrudnik zhurnala "Master uglya." (for Vizen, Dokuchayev).
(Donets Basin--Coal mines and mining)
(Mine management)

S/020/60/132/03/36/066
B011/B008

5.3700(B)

AUTHORS: Ponomarenko, V. A., Zakharov, Ye. P., Zadorozhnyy, N. A., Petrov, A. D., Corresponding Member AS USSR

TITLE: On the Peculiarities of the Effect of the Silyl-groups. The Chlorination of the Alkyl-chloro-silicon-hydrides

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 3, pp. 619-622

TEXT: In the paper under review the authors continued their investigations on the induction influence of the silyl- and germyl-groups on the properties of the bond neighboring the Si, as well as of that further away from it. In the further development of these investigations they studied the photochemical chlorination of the alkyl-silane-chlorides of the following series: $(C_2H_5)_2SiH_2$, $(C_2H_5)_3SiH$, $(CH_3)(C_2H_5)_2SiH$, $(CH_3)(C_2H_5)(Cl)SiH$, $(C_2H_5)\cdot(Cl_2)SiH$, $(CH_3)(Cl)_2SiH$ and Cl_3SiH. SO_2Cl_2 served for the chlorination under conditions worked out lately by M. G. Voronkov and V. P. Davydova (Ref. 11). Furthermore, the

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authors wanted to study the influence of the electric negativity of the chlorine atoms, and of the alkyl- and aryl-groups on the oscillation frequencies of the Si-H bonds in some silicon mono- and dihydrides. The data in Table 1 concerning the "competing" chlorination of the Si-bonds of the hydrides mentioned above proved the expectations of the authors. They expected that the transition from $(C_2H_5)_3SiH$ to Cl_3SiH must retard the chlorination of the Si-bonds rapidly. The series of the relative activity thus corresponds completely to the increasing electric negativity of the silyl-groups (Table 2). It is surprising that only the Si-H-bonds are chlorinated here, but never the C-H-bonds of the alkyl-chloro-silicon—hydrides, although they can, as a rule, also be chlorinated, as known. This differing behavior of both bonds is connected with the specificity of the Si-H-bond and the Si-atom itself. The Si-atom distinguishes itself, contrary to carbon, by an increased electrophily. On the basis of these data, the formation of mainly $(C_2H_5)_2SiHCl$ could be expected at the photochemical radical-

On the Peculiarities of the Effect of the Silyl-groups. The Chlorination of the Alkyl-chloro-silicon-hydrides

S/020/60/132/03/36/066
B011/B008

chlorination of the diethyl-silane with SO_2Cl_2. At the chlorination of the $(C_2H_5)_2SiH_2$ the authors obtained actually only diethyl-chlorine-silane. An analogous result was obtained at the "competing" chlorination of a mixture from $(C_2H_5)_2SiH_2$ and $(C_2H_5)_3SiH$. The separation of the induction-, the steric- and other effects of the group R_nX_{-3n} on the basis of the data of the reactivity is difficult. The data on the oscillation frequencies of the Si-H-bond may to some degree be helpful for the solution of this difficult problem (Refs. 7,8). According to the opinion of the authors it would be best to utilize the group-electric negativities of the silyl-groups for the transition from the oscillation frequencies to the electric negativities. They refer to their previous papers (Refs. 13,14) and state in conclusion that the effective electric negativity of the silyl-group is considered to be the sum of the influences of the 3 substituents connected with Si. The effective electric negativity of other silyl-groups is determined by the summation of the values of the 3 substituents which form the

Card 3/4

On the Peculiarities of the Effect of the Silyl-groups. The Chlorination of the Alkyl-chloro-silicon-hydrides

S/020/60/132/03/36/066
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corresponding silyl-group. The values of the oscillation frequencies of the Si-H- and Si-D-formations are easily determined on the basis of the equation mentioned. Table 2 shows a good agreement of the computed and the experimentally determined values. The substances produced by the authors are: di-(m-trifluoro-methyl-phenyl)-silane(I), di-p-tolyl-silane (II), bis(γ,γ,γ,-trifluoro-propyl)-silane (III), methyl-(m-trifluoro-methyl)-phenyl-silane (IV), methyl-p-tolyl-silane (V), methyl-γ,γ,γ-trifluoro-propyl-silane (VI), methyl-vinyl-silane (VII). There are 2 tables and 14 references, 10 of which are Soviet.

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: February 17, 1960

Card 4/4

KHIDEKEL', M.L.; YEGOROCHKIN, A.N.; PONOMARENKO, V.A.; ZADOROZHNYY, N.A.;
RAZUVAYEV, G.A.; PETROV, A.D.

Nuclear magnetic resonance of silicon hydrides. Izv. AN SSSR.
Otd.khim.nauk no.6:1130-1132 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
(Silicon hydrides--Spectra)

YEGOROCHKIN, A.N.; KHIDEKEL', M.L.; PONOMARENKO, V.A.; ZADOROZHNYY, N.A.

Certain regularities in proton magnetic resonance spectra of trisubstituted silanes. Izv. AN SSSR Ser.khim. no.10:1868-1871 O '63. (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitet, Institut khimicheskoy fiziki AN SSSR i Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

KHIDEKEL', M. L.; SHUB, B. R.; RAZUVAYEV, G. A.; ZADOROZHNYY, N. A.; PONOMARENKO, V. A.

2,4,6-tris (trimethylsilyl)-1-phenoxyl, a monomer radical relatively resistant to oxygen. Izv AN SSSR Ser Khim no. 4:776 Ap '64. (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR, Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo i Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

ZADOROZHNYY, N.A.

4

S/661/61/000/006/019/081
D205/D302

AUTHORS: Tarasova, A. S., Petrov, A. D., Andrianov, K. A., Golubtsov, S. A., Ponomarenko, V. A., Cherkayev, V. G., Zadorozhnyy, N. A. and Vavilov, V. V.

TITLE: Continuous addition of hydrochlorosilanes to unsaturated compounds

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedineniye; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. Soyed., Len. 1958. Leningrad, Izd-vo AN SSSR. 1961, 99-100

TEXT: For practical application of the addition reactions of methyl dichlorosilane, ethyl dichlorosilane and trichlorosilane to liquid and gaseous unsaturated compounds an apparatus was designed and optimum conditions of synthesis were established. The chlorosilane and the gas are fed into a reactor. The products are discharged via a cooler into a receiver equipped with a reflux. Dur-

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D205/D302

Continuous addition of ...

ing the reaction the reactor and cooler are cooled by water, the receiver and the reflux by brine. The arrangement was tested on the reaction of ethylene with methyl dichlorosilane and ethyl dichlorosilane. The experiments have shown that in the 35 - 200°C temperature range the reaction is unchanged giving a 65 - 75% yield. No by-products are formed and the output is high (> 6 kg of methyl ethyl dichlorosilane/hr/l of reactor volume). The process is amenable to automation owing to its insensitivity to temperature changes. There are 1 figure and 1 table.

✓

Card 2/2

PETROV, A.D.; ZAKHAROV, Ye.P.; ZADOROZHNYY, N.A.; PONOMARENKO, V.A.

Synthesis of organosilicon monomers with nitrile groups. Zhur. prikl.khim. 35 no.2:385-389 F '62. (MIRA 15:2)
(Silicon organic compounds) (Nitriles)

20360

S/020/61/136/005/021/032
B004/B058

53700 2208, 1273, 1274

AUTHORS: Afanas'yev, V. A., Ponomarenko, V. A., and Zadorozhnyy, N. A.

TITLE: Adsorbability and catalytic activity of platinized carbon with regard to the addition of some silanes to unsaturated compounds

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 5, 1961, 1123-1126

TEXT: In previous publications (Refs. 1 to 3) on the addition of alkyl- and chloro-alkyl silanes on halogenated allyl ether it was found that the adsorption interaction of the reacting molecules with the catalyst surface has a great effect on the addition reaction. This effect was checked in the present study by investigating the capacity of platinized carbon (1% Pt) to adsorb $(C_2H_5)_3SiH$ (I), $CH_3(C_2H_5)_2SiH$ (II), $C_2H_5(C_3H_7)_2SiH$ (III), Cl_3SiH (IV), $C_2H_5SiHCl_2$ (V), and $CH_3(C_2H_5)SiHCl$ (VI). The experiments were conducted in a continuous apparatus at atmospheric pressure and 20°C. The relative partial pressure of the vapors was varied between 0 and 0.5. Nitrogen served as carrier gas. Before the experiment, the catalyst was

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S/020/61/136/005/021/032
B004/B058

Adsorbability and catalytic ...

heated to 300°C in a vacuum (approximately 10^{-4} mm Hg). The pressure P_s of the saturated vapor of I - VI was determined in the same apparatus. P_s was determined from the equation $P_s/P = v/V$. P is the total pressure (atmospheric pressure) in the system, v the volume of the substance vaporized per unit time, and V is the rheometrically measured total volume of the mixture. A linear increase of adsorption with increasing length of experiment was found for all alkyl silanes. P_s was calculated at $v_1 = 1$ ml/min (velocity of silane vapor) and $v_2 = 20$ ml/min (velocity of the carrier gas). The experimental data for the compounds I - VI are compared in Table 1 with the values calculated according to Haas and Newton and Antoine. Fig. 2 shows the adsorption isotherms at 20°C for P/P_s from 0 to 0.5. A different adsorbability of the substances was found. Chloroalkyl silanes are adsorbed more intensively than alkyl silanes. A quantitative estimate of adsorbability was made by a comparison of the various areas ω_0 occupied by the molecules. ω_0 was calculated from the BET equation by using ω_0 for benzene (40 A^2). These data were compared with the reactivity of the compounds in the case of simultaneous addition to 1,1,2-trifluoro-2-chloro-ethyl allyl ether (Table 2). With increasing

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S/020/61/136/005/021/032
B004/B058

ω_0 (decreasing adsorbability) of the silane, and increasing yield of its addition products resulted. For substances with equal ω_0, the yield of addition products is equal, too. The following interpretation is given for concurrent reactions: Owing to the increased adsorbability of chloro-alkyl silanes, highly active chloro-silyl radicals (Cl_3Si and $Cl_2SiC_2H_5$) form on the catalyst surface. They seize upon the hydrogen of the trialkyl silane under the formation of a less active trialkyl-silyl radical. Only the latter reacts with the unsaturated bond of the ether. Apart from this, however, also a direct addition of the chloro-silyl radical to the unsaturated compound takes place. With the concurrent addition reaction of $(CH_3)(C_2H_5)(Cl)SiH$ with Cl_3SiH or $C_2H_5SiHCl_2$, the higher adsorbability of $(CH_3)(C_2H_5)(Cl)SiH$ and its weak Si-H bond, as compared with the other two compounds, causes the predominant formation of the radicals $(CH_3)(C_2H_5)(Cl)\dot{S}i$ on the catalyst surface. These radicals are, however, unable to seize upon the more strongly bound hydrogen of Cl_3SiH or

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Adsorbability and catalytic ...

$C_2H_5SiHCl_2$. Inspite of the stronger adsorbability of $CH_3C_2H_5ClSiH$, a predominant addition of this compound to the unsaturated ether sets in in this case. This interpretation may also be valid for the forming radicals X_3SiCH_2-CH-R (X = Cl, R = CH_2OCF_2CFClH). There are 2 figures, 2 tables, and 5 Soviet-bloc references.

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

PRESENTED: September 17, 1960, by A. A. Balandin, Academician

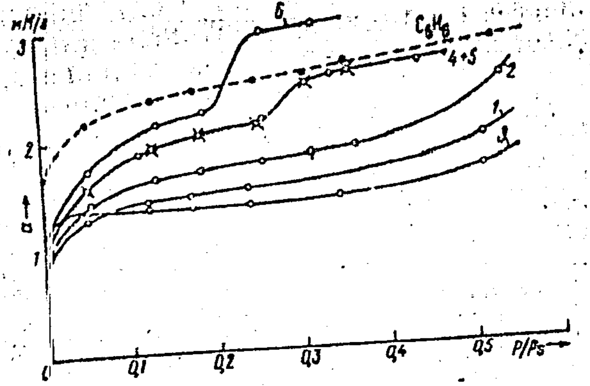
SUBMITTED: September 14, 1960

Card 4/7

20360

S/020/61/136/005/021/032
B004/B058

Adsorbability and catalytic ...



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S/02 /61/136/005/021/032
B004/B058

Adsorbability and catalytic ...

Таблица 1

№№ соединений 1	Кремнийгидрид 2	Мол. вес 3	Т. кип. °C 4	P, мм	5 P_s (при 20°) опытн. 6	вычисл. по методу Хеаса и Ньютона 7	вычисл. по уравн. Антуана 8
I	$(C_2H_5)_3SiH$	116,28	107,0	745	27,0	28,1	29,1
II	$CH_3(C_2H_5)_2SiH$	102,25	78,0	748,5	83,4	80,3	84,0
III	$C_3H_5(C_2H_5)_2SiH$	128,19	152,5	754	33,0	33,4	36,4
IV	Cl_3SiH	135,47	31,8	768	467,8	498,5	495,0
V	$C_2H_5SiHCl_2$	129,07	76,0	770	86,9	91,8	91,1
VI	$CH_3(C_2H_5)SiHCl$	108,65	69,0	769	114,0	121,2	120

Table 1

Legend to Table 1. 1) no. of compound; 2) silane; 3) molecular weight; 4) boiling point; 5) P_s at 20°C; 6) found experimentally; 7) calculated according to Haas and Newton; 8) calculated according to Antoine.

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B004/B058

Adsorbability and catalytic ...

Таблица 2

№№ п. п. 1	Компоненты 2	№№ соединений по табл. 1 3	Выход, % 4	Относит. активность 5	ω_0 (Å^2)
1	Cl_3SiH $C_6H_5SiHCl_2$	IV V	42 42	1	60 60
2	Cl_3SiH $(CH_3)(C_6H_5)_2SiH$	IV II	20 30	1,7	50 58
3	Cl_3SiH $(C_2H_5)_3SiH$	IV I	31 51	1,7	60 64
4	Cl_3SiH • $(C_6H_5)(C_2H_5)_2SiH$ •	IV III	29 63	2,2	50 70
5	Cl_3SiH $(CH_3)(C_6H_5)SiHCl$	IV VI	33 35	1,1	50 40
6	$C_6H_5SiHCl_2$ $(CH_3)(C_6H_5)SiHCl$	V VI	27 33	1,2	50 40
7	$C_6H_5SiHCl_2$ $(CH_3)(C_6H_5)_2SiH$	V II	25 47	1,9	50 58

Table 2

Legend to Table 2. 1) running no.; 2) components; 3) designation of compound according to Table 1; 4) yield; 5) relative activity.

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87123
S/062/60/000/009/010/021
B023/B064

5.3700 2209, 1273, 1236

AUTHORS: Ponomarenko, V. A., Cherkayev, V. G., and Zadorozhnyy, N. A.

TITLE: Characteristics of the Addition of Alkyl Chloro Silicon Hydrides to Unsaturated Compounds in the Presence of Platinum Hydrochloric Acid

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1960, No. 9, pp. 1610-1618

TEXT: The authors studied the course of the addition reaction with platinum hydrochloric acid being the catalyst. In the competitive addition of hydride silanes to ethylene in the presence of H_2PtCl_6, the silane activity was determined both by the induction effect and the steric effect of the silyl groups. In this connection, the role of the steric factor is of special importance in contrast to the addition in the presence of platinum on carriers. It was found that the substituents exert a deactivating effect upon the capability of the double bond of the unsaturated compound to add silicon hydride in the presence of H_2PtCl_6

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Characteristics of the Addition of Alkyl Chloro Silicon Hydrides to Unsaturated Compounds in the Presence of Platinum Hydrochloric Acid

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and Pt on carriers. This is said to be due to the steric and induction effect of those substituents. The data known at present on the behavior of the silicon hydrides toward unsaturated compounds both in the presence of H_2PtCl_6 and also of Pt on carriers, are in a better agreement with the assumption of a radical than of an ionic mechanism. This process is characteristic because of the particular role of the catalyst surface or the forces of complex formation. A convenient and highly productive method of synthesizing a number of organosilicon compounds of practical importance was worked out on the basis of the addition reaction of silicon hydrides to unsaturated compounds in the presence of H_2PtCl_6 and Pt on carriers. This includes: addition of methyl chloro silane to vinylidene fluoride; addition of methyl dichloro silane to trifluoro chloro ethylene; addition of methyl chloro silane to tetrafluoroethylene. Table 5 shows the conditions and results of the most characteristic experiments. The addition of silicon hydrides to olefines and acetylene in the presence of platinum hydrochloric acid is given in Table 6. N. S. Andreyev has taken the spectra of silicon hydrides for which the authors thank him. There are

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Characteristics of the Addition of Alkyl Chloro Silicon Hydrides to Unsaturated Compounds in the Presence of Platinum Hydrochloric Acid

S/062/60/000/009/010/021
B023/B064

4 figures, 6 tables, and 19 references: 12 Soviet, 6 US, and 1 British.

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: April 20, 1959

Card 3/3

34974
S/080/62/035/002/014/022
D204/D302

11.9200

AUTHORS: Petrov, A. D., Zakharov, Ye. P., Zadorozhnyy, N. A. and Ponomarenko, V. A.

TITLE: Synthesis of organosilicon monomers containing nitrile groups

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 2, 1962, 385-389

TEXT: The authors studied the catalytic effects of bis(ß-cyanoethyl)-cyanamide (I), dimethylaminoacetonitrile (II) and dimethylaminoproionizrile (III) on the addition of unsaturated nitriles to trichlorosilane. Compounds II and III were found to be most effective, giving 60% yields of the substituted products (cyanoalcyl trichlorosilanes). Identification of the latter by infrared spectroscopy proved unsuccessful owing to the great similarity of the spectra. Addition reactions of Cl_3SiH to -CN and acrylonitrile with the above catalysts, as well as in the presence of H_2PtCl_6 and benzoyl or tert.-butyl peroxides were studied. The

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Synthesis of organosilicon ...

S/080/62/035/002/014/022
D204/D302

last 3 catalysts proved less effective. The additions of Cl_3SiH, CH_3SiHCl_2, $C_2H_5SiHCl_2$, $(CH_3)(C_2H_5)$ SiHCl and $(C_2H_5)_3$ SiH to $CH_2 = CHCH_2CH_2CN$ were also investigated in the presence of H_2PtCl_6. 50 - 80% yields were obtained. Physical characteristics of the products which are considered to be of interest for the production of silicone oils, are given together with a summary of the experimental procedure. There are 3 tables and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: J. V. Jex and J. E. McMahon, U.S. Patents 2,908,699, 2,908,700 and 2,908,701, Ch.A. 2169e (1960); J. C. Saam and J. L. Speier, J. Org. Chem., 24, 427, (1959); T. C. Williams, R. A. Pike and F. Fekete, Ind. Eng. Chem., 51, 939, (1959); C. E. Reed, Plast. World, 16, 8, (1958).

SUBMITTED: April 24, 1961

Card 2/2

SNEGUR, N. (pos.Novogornyy, Chelyabinskaya obl.); MAYTAMA, I. (Komsomol'sk-na-Amure); ZADOROZHNYY, N. (Kurgan); LUK'YANOV, N.; TISHKIN, V. (Orlovskaya obl.); STEPIN, A.; KHANDOGIN, A.; LAPAYEV, Ye. (Volzhsk); OKULOVSKIY, A.; MAKEROV, V.

Readers' letters. Pozh.delo 9 no.3:30 Mr '63. (MIRA 16:4)
(Fire prevention)

ZADOROZHNYY, N. A.

V. A. Ponomarenko, V. G. Cherkayev, G. V. Odabashyan, N. A. Zadorozhnyy and A. D. Petrov, "The Catalytic Adding of Hydrosilanes to Unsaturated Compounds."

Report presented at the Second All-Union Conference on the Chemistry and Practical Application of Silicon-Organic Compounds held in Leningrad from 25-27 September 1958.
Zhurnal prikladnoy khimii, 1959, Nr 1, pp 238-240 (USSR)

PETROV, A.D.; ANDRIANOV, K.A.; GOLUBTSOV, S.A.; PONOMARENKO, V.A.;
CHERKAYEV, V.G.; TARASOVA, A.S.; VAVILOV, V.V.; ZADOROZHNYY, N.A.;
POPELEVA, G.S.

Continuous method of catalytic addition of hydrosilanes to unsaturated compounds. Khim.nauk i prom. 3 no.5:679-681 '58.

1. Institut organicheskoy khimii im. V.D. Zelinskogo.
(Silane) (Unsaturated compounds)

Zadorozhnyy, N.A.

AUTHORS: Ponomarenko, V. A., Cherkayev, V. G., Petrov, A. D., Zadorozhnyy, N. A.,

62-2-26/28

TITLE: H_2PtCl_6 as Catalyst in the Addition Compound Reaction of Silane Hydrides With Unsaturated Compounds (Platinokhloristovodorodnaya kislota kak katalizator v reaktsii prisoyedineniya gidridsilanov k nepredel'nym soyedineniyam)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 247-248 (USSR)

ABSTRACT: In earlier reports (references 1-4) the authors already dealt with the problems of the selection of catalysts for the addition compound reaction of silane hydrides with olefines as well as with the investigation of the reaction itself. A paper (reference 5) already touches upon these problems and some of the conclusions are in agreement with those obtained by the authors in this work. One of the most important observations in the above-mentioned paper consists of the disconvery of the increased catalytic activity of the investigated reaction of H_2PtCl_6 in comparison with other catalysts of a metal basis (eighth group). In the present paper the authors describe the performed addi-

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H_2PtCl_6 as Catalyst in the Addition Compound Reaction of Silane Hydrides With Unsaturated Compounds 62-2-26/28

tion CH_3SiHCl_2 with ethylene, propylene and acetylene in the presence of chloroplatinic acid (at room temperature) and that with $CH_2=CF_2$ and $CF_2=CF_2$ at 160°C. It was further found that in comparison with platinum on the carriers the chloroplatinic acid (in the case of $CH_2=CF_2$) increases the yield of the products of the addition by the 3-4 fold amount. In the case of $CH_2=CH_2$, $CH_2=CH-CH_3$ and $CH\equiv CH$ an almost quantitative yield is obtained. There are 2 tables, and 7 references, 6 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D. Zelinskiy AN USSR (Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: October 12, 1957

AVAILABLE: Library of Congress

1. Silane hydrides-Chemical reactions 2. Olefines-Chemical reactions 3. Chloroplatinic acid catalyst-Applications

Card 2/2

AFANAS'YEV, V.A.; PONOMARENKO, V.A.; ZADOROZHNYY, N.A.

Adsorptive ability and catalytic activity of platinized charcoal in relation to certain silicon hydrides added to unsaturated compounds. Dokl.AN SSSR 136 no.5:1123-1126 F '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akad. A.A.Balandinym.
(Silane) (Adsorption) (Carbon, Activated)

SHEKHTER, S.Ya.; ZADOROZHNYY, N.K.; AKHRUNDZHE, V.M.

An 18 electrode unit for molten-slag arcless electric welding.
Biul.tekh.-ekon.inform. no.9:25-27 '61. (MIRA 14:9)
(Electric welding)

ZADOROZHNYY, P.V.; SABODAZH, Ya.P.

Changes in the casing design of a selective switch. Razved.
i prom.geofiz. no.10:52 '54. (MIRA 13:2)
(Prospecting--Equipment and supplies)

ZADOROZHNYY, P. G.

25780. ZADOROZHNYY, P. G. Ratsionalizatsiya i izobretatel' stov na predpriyatiyakh sakharnoy promyshlennosti. Sakhar. Prom-st. 1949, No. 7, s. 6-9.

SO: Letopis' Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

ZADOROZHNYY, P.G.

Again on the assortment, quality and external appearance of liquor and vodka products. Spirt.prom. 20 no.2:15-16 '54. (MLRA 7:6)
(Liquor industry)

SOBETSKAYA, S.[Sobecka, Z.], red.; BERNATSKIY, V.[Biernacki,V.], red.; KRYT, D., red.; ZADROZHNYY, T.[Zadrozny,T.], red.

[Chemical dictionary in 4 languages: English-German-Polish-Russian] Khimicheskii slovar' na 4 iazykakh: angliisko-nemetsko-pol'sko-russkom. Warsaw, Vydawnictwa naukovo-techniczne, 1962. 724 p. (MIRA 18:6)

BOGOMOL'NYY R. inzh.; ZADOROZHNYY, V., tekhnik

Drying ear corn in the granaries of the Nikolayevskaya Grain Milling Combine. Mukelev.prom. 27 no.5:23-24 My '61. (MIRA 14:6)

1. Nikolayevskiy mel'kombinat.
(Corn (Maize)--Drying)

YENIKOLOPOV, M. (g. Dusheti, Gruzinskaya SSR); MAZMANOV, V. (g.Dusheti, Gruzinskaya SSR); ZADOROZHNYY, V. (Dnepropetrovsk); PUSHKAREV, A.; TABAKOV, V.

Prepairing for summer. Za rul. 20 no.4:23 Ap '62. (MIRA 15:5)
(Motorcycles—Maintenance and repair)
(Automboiles—Maintenance and repair)

ZADOROZHNYY, V., kand.ekonomicheskikh nauk (Kiyev)

In cooperation with practice. Sov. torg. 34 no.8:9-12 Ag '61. (MIRA 14:8)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya.

(Kiev--Distributive education)

ZADOROZHNYY, V., kand. ekonom. nauk

Current problems. Sov. torg. 36 no.7:4-8 Jl '63.
(MIRA 16:8)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya, Kiyev.
(Retail trade)

ZADOROZHNYY, V.

Efficiency promotion month. Muk.-elev. prom. 22 no.8:30-31 Ag '56.
(MLRA 10:8)

1. Nikolayevskiy mel'nichnyy kombinat No.6.
(Grain milling)

ZADOROZHNYY, Vasiliy Kirillovich [Zadorozhnyi, V.K.], kand.ekon.nauk;
KHMEL'NITSKIY, D.G. [Khmel'nyts'kyi, D.H.], kand.ekon.nauk,
glavnyy red.; DAN'KO, I.V., otv. za vypusk

[Socialist reforms and the rising standard of living of West
Ukrainian workers] Sotsialistychni peretvorennia i zrostannia
dobrobutu trudiashchykh zakhidnykh oblastei URSR. Kyiv, 1959.
27 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh
znan' Ukrains'koi RSR. Ser.1, no.34) (MIRA 13:1)

1. Referent pravlinnya Tovaristva dlya poshirennya politichnikh
i naukovikh znan' Ukrains'koi RSR (for Dan'ko).
(Ukraine, Western--Economic conditions)

ZADOROZHNYY, Vasiliy Kirillovich [Zadorozhnyi, V.]; PALAMARCHUK,
Maksim Martynovich; DUBOVENKO, Ye. [Dubovenko, IE.], red.;
LYASHKIN, V., tekhn.red.

[Achievements in the economic development of the western provinces of the Ukrainian S.S.R.] Uspikhy ekonomichnoho rozvytku zakhidnykh oblastey Ukrains'koi RSR. Kyiv, Derzh. vyd-vo polit.lit-ry URSR, 1960. 171 p. (MIRA 13:5)

(Ukraine, Western--Economic conditions)

L 16790-66 EWP(e)/EWT(m) WH

ACC NR: AP6002541 (A) SOURCE CODE: UR/0286/65/000/023/0041/0042

AUTHORS: Rogozhin, Yu. V.; Syritskaya, Z. M.; Ushanova, A. V.; Mazurov, M. K.; [illegible] Ignat'yev, [illegible] [illegible] Ya. [illegible]

ORG: none

TITLE: A method for preparing titanium-containing enamels and glassy crystalline materials. Class 32, No. 176663

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 41-42

TOPIC TAGS: titanium, enamel, sphene, perovskite, crystalline matter, specialized coating, ceramic coating

ABSTRACT: This Author Certificate presents a method for preparing titanium-containing enamels and glassy crystalline materials. To broaden the base of raw [illegible] properties of enamels and glassy [illegible]

[illegible] ge.

SUB CODE: 0', 13/ SUBM DATE: 09Aug62

Card 1/1 UDC: 666.293.5

TERESHCHENKO, I.P.; MOSKVIN, O.I.; DARAGAN, M.V.[Darahan, M.V.];
ANISIMOV, V.P.; YARMOLINSKIY, M.R.[IArmolyns'kyi, M.R.];
BULGAKOV, P.S.[Bulhakov, P.S.]; KUTS, V.K.; KASHFUR, A.V.;
VASILENKO, G.K.[Vasylenko, H.K.]; KUKOLEV, V.D.[Kukoliev,
V.D.]; SIGOV, S.G.[Sihov, S.H.,deceased]; NAGIRNYAK, P.A.
[Nahirniak, P.A.]; VETCHINOV, I.A.[Vietchynov, I.A.];
ZADOROZHNYY, V.K.; DROSOVSKAYA, L.I.[Drosovs'ka, L.I.];
SHKITINA, M.I.; PROSHCHAKOV, O.M.; MOKIYENKO, B.F.
[Mokiienko, B.F.]; GOLOVACH, A.V.[Holovach, A.V.];
IVANITSKIY, I.V.[Ivanyts'kyi, I.V.]; KOZAK, V.Ye.;
BORYAKIN, V.M., red.izd-va; NESTERENKO, O.O., glav. red.;
DAKHNO, Yu.B., tekhn. red.

[National income of the Ukrainian S.S.R. during the period of the large-scale building of communism] Natsional'nyi dokhod Ukrains'koi RSR v period rozhornutoho budivnytstva kommunizmu. Red.kol.: O.O.Nesterenko ta inshi. Kyiv, Vyd-vo AN URSR, 1963. 333 p. (MIRA 16:12)

1. Akademiya nauk URSR, Kiev. Instytut ekonomiky.
(Ukraine--Income)

ZADOROZHNYY, V.

Alliance of science and practice. Obshchestv.pit. no.9:24-26 S '63. (MIRA 16:12)

1. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya.

ZADOROZHNYY, V.G.; KASHKAROV, I.F.; KOPAYEV, A.A.; TISHCHENKO, A.G.

Industrial adoption of the flotation of titanium-zirconium placer sands. TSvet. met. 38 no.8:7-12 Ag '65.

(MIRA 18:9)

SAFRONOV, A.F.; SKRODSKIY, V.Ye.; ZADOROZHNYY, V.G.; DEGTYARENKO, A.V.

Experimental industrial use of electromagnetic shaft separators for the dry separation of titanium-zirconium products. TSvet. met. 37 no.9:92-93 S '64. (MIRA 18:7)

ZADOROZHNYY, V.K., kand. ekon . nauk, otv. red.; KASEVINA, A.I., kand. ekon. nauk, red.; MUZYKANSKAYA, L.Ye., otv. za vypusk; KAMASHEVICH, O.A., tekhn. red.

[Determining the population's demand for goods] Opredelenie potrebnosti naseleniia v tovarakh; materialy. Kiev, Izd-vo Akad.nauk USSR, 1962. 279 p. (MIRA 16:3)

1. Nauchnaya konferentsiya po voprosam opredeleniya potrebnosti naseleniya v tovarakh, Kiev, 1961. 2. Direktor Ukrainskogo nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya (for Zadorozhnyy).
(Supply and demand)

ZADOROZHNYY, V.K.

Building materials trade in the village. Uch. zap. Akad. obshchestv. nauk no.26:168-181 '57. (MIRA 11:3)
(Building materials)

KHITROV, V.A.; ZADOROZHNYY, V.P.; DUGIN, N.A.

Corrosive and electrochemical behavior of low-carbon steel in solutions of sulfuric and hydrochloric acids of various concentrations at temperatures of from 0 to 80°. Izv.Vor. gos.ped.inst. 47:5-17 '64. (MIRA 18:11)

ZADOROZHNYY, V.P.; KHITROV, V.A.

Improved automatic hydrogen corrosion meter. Izv.Vor.gos.ped.inst. 47:105-108 '64. (MIRA 18:11)

ZADOROZHNYY, V.P.

Effect of temperature on the corrosion resistance and the electrochemical behavior of low-carbon steel in hydrochloric acid solutions containing the PB-1/9 additive. Izv.Vor.gos.ped.inst. 47:123-128 '64.

Effect of temperature on the corrosion resistance and the electrochemical behavior of 08 steel in hydrochloric acid solutions with potassium arsenite. Ibid.:129-134

(MIRA 18:11)

S/137/62/000/001/179/237
A006/A101

AUTHORS: Khitrov, V. A., Zadorozhnyy, V. P.

TITLE: Corrosion kinetics of steel in sulfuric and hydrochloric acids at various temperatures

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 80, abstract 1I568 ("Izv. Voronezhsk. gos. ped. in-ta", 1960, v. 29, 131 - 140)

TEXT: The authors studied kinetics of self-diffusion processes of low carbon steel in 1 and 7 n. H_2SO_4 and HCl solutions at 0, 20, 40, 60 and 80°C. At low temperatures the corrosion process is retarded in time. At higher temperatures it is accelerated. The same effect is exerted by a higher concentration of the acid. Factors are mentioned which predetermine acceleration or inhibition in time of the corrosion of steel in H_2SO_4 and HCl solution. There are 15 references.

Author's summary

[Abstracter's note: Complete translation]

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S/137/62/000/001/192/237
A006/A101

AUTHORS: Zadorozhnyy, V. P., Khitrov, V. A.

TITLE: On the corrosion rate of steel in acid media containing inhibitors

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 85, abstract 1I598 ("Izv. Voronezhsk. gos. ped. in-ta", 1960, v. 29, 141 - 149)

TEXT: The authors studied kinetics of corrosion processes of low carbon steel at 20 and 60°C in 1 and 7 n. H_2SO_4 and HCl solutions, containing corrosion inhibitors. The curves obtained, describing the corrosion and corrosion rate of steel as functions of time under the experimental conditions, are classified into 3 groups which are characteristic of the processes: 1) curves retarded in time 2) curves whose course is initially retarded and then accelerated; 3) curves whose course is only accelerated. When the inhibitors investigated are added into H_2SO_4 and HCl solutions, the kinetic regularities of steel diffusion in the acids are practically not changed. The authors describe the effect of temperature and of the composition and concentration of the acids on the form of the relations, corrosion and corrosion rate of steel as functions of time.

[Abstracter's note: Complete translation] Authors' summary

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