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Reel # 500

Shakhova, O.V.

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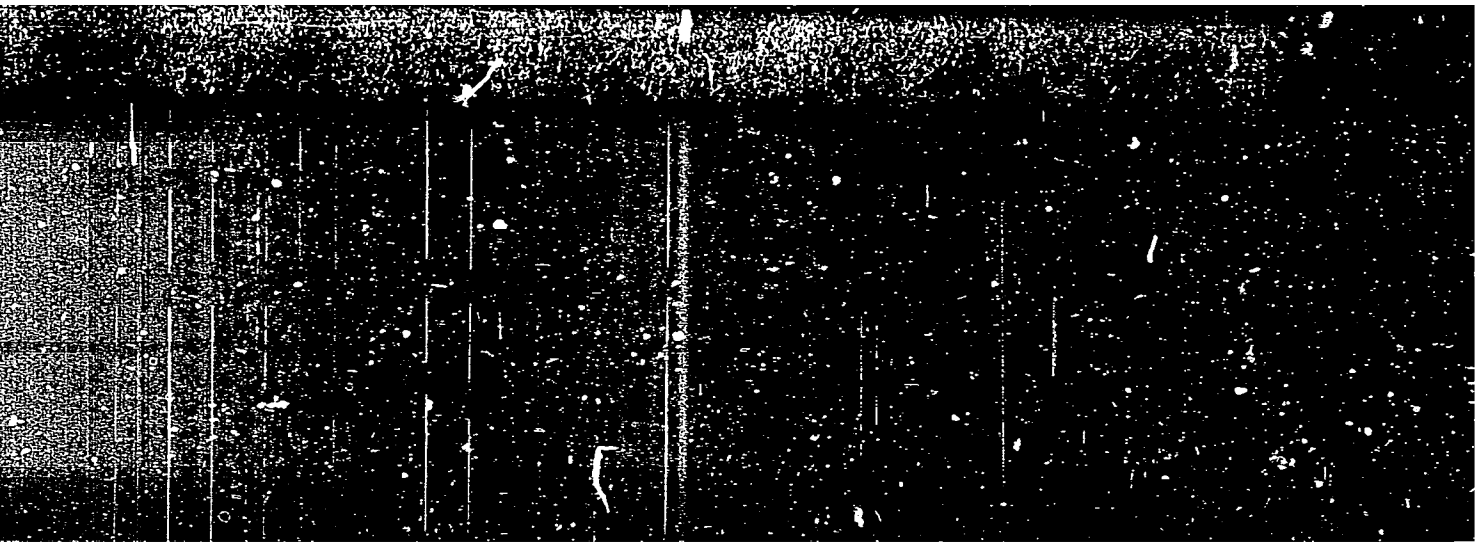

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

DOKHMAN, G.I.; YAKSHINA, A.M.; SHAKHOVA, O.V.

One of the methods of studying the structure of phytocenosis. Biul.MOIP. Otd.biol. 59 no.2:79-88 Mr-Ap '54. (MLRA 7:6)
(Botany--Ecology)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

AUTHORS: Semenov, L.V. (Cand. Econ. Sc.) and Shakhova, O.V.

TITLE: Coke from brown coal, its production and uses. (Koks iz burogo uglya, yego proizvodstvo i primenenie). 68-5-14/14

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry), 1957, No.5, pp.62-64 (U.S.S.R.)

ABSTRACT: A review of literature on the subject of the production and utilisation of coke from brown coal is given.

There are 7 references, including one Slavic.

ASSOCIATION: Council of the Academy of Science of the USSR for Studies of Productive Resources. (Sovet po izucheniyu proizvoditel'nykh sil AN SSSR).

AVAILABLE:

Card 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, O. V.: Master Biol Sci (diss) -- "Natural reforestation of the common pine of the sands near the Don River". Moscow, 1959. 17 pp (Inst of Forestry of the Acad Sci USSR), 150 copies (KL, No 11, 1959, 118)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, O.V.

Habitats of Scotch pine in the north of the Yakut A.S.S.R.
Bot. zhur. 49 no.4:581-585 Ap'64. (MIRA 17:5)

1. Laboratoriya lesovedeniya Gosudarstvennogo komiteta Soveta Mininistrov SSSR po lesnoy, bumazhnoy, derevoobrabatyvayushchey promyshlennosti i lesnomu khozyaystvu, Moskva.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

Shakhova, P.G.

2

Determination of Boric Acid in Nickel-Plating Electrolytes. I. M. Yurist and P. G. Shakhova. (*Zavodskaya Laboratoriya*, 1955, 21, (5), 532). [In Russian]. An improved procedure for finding the end point in the determination of boric acid in nickel-plating baths by titration in the presence of precipitated nickel is described.—S. K.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

YURIST, I.M.; SHAKHOVA, P.G.

Trilonometric determination of nickel and magnesium in electrolytes for nickel plating. Zav.lab. no.11:1298-1299 '59. (MIRA 13:4)
(Nickel-- Analysis) (Magnesium --Analysis)
(Nickel plating)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

5(2)

AUTHORS: Yurist, I. M., Shakhova, P. G. SOV/32-25-7-10/50

TITLE: Trilonometric Determination of Copper and Manganese in Their Simultaneous Presence (Trilonometricheskoye opredeleniye medi i margantsa pri sovmestnom prisutstvii)

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 7, pp 799-801 (USSR)

ABSTRACT: In the production of thermo-sensitive resistances for the production of semi-conductors, it is frequently necessary to determine the content of copper and manganese in the hydration mixture and in the salts of these metals. A method was required for the determination of copper and manganese in their simultaneous presence, without using potassium cyanide. It was found that copper can be determined in the presence of manganese by means of trilon B beside murexide in the acetate (pH $\approx$ 4), as well as borate buffer (pH $\approx$ 8,5), with a color change occurring from orange to red. Manganese can only be titrated from an acetate buffer with trilon B and murexide after the addition of a borate-ammoniacal buffer mixture. The method described consists of a titration of copper and trilon B from the acetate buffer solution and a titration of manganese with trilon B

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Trilonometric Determination of Copper and Manganese in Their Simultaneous Presence SOV/32-25-7-10/50

beside murexide as indicator after an addition of a borate-ammoniacal buffer mixture. The results of analyzing solutions which contain known amounts of copper and manganese are given (Table), as well as the course of the analysis. The described method was tested by means of standard samples with 32.5 - 6.5 % of Cu and 42.0 - 67.5 % of Mn. There are 1 table and 5 references, 2 of which are Soviet.

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

YURIST, I.M.; SHAKHOVA, P.G.

Trilonometric determination of lead in fluoboric acid electrolyte.
Zav.lab. 26 no.12:1354-1355 '60. (MIRA 13:12)
(Lead--Analysis) (Complexons)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

YURIST, I.M.; SHAKHOVA, P.G.

Complexometric determination of copper, cobalt, and manganese.
Zav.lab. 28 no.10:1183-1184 '62. (MIRA 15:10)
(Copper—Analysis) (Cobalt—Analysis) (Maganese—Analysis)
(Complex compounds)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

[illegible], Frantsiya Grigor'yevna; [illegible], E. [illegible], red.

[Experience in the application of complexometric analysis methods; Opyt primeneniia kompleksonometricheskikh metodov analiza. Leningrad, 1964. 18 p. (MIRA 17:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, P.G. ; KOROTKOVA, O.I.

Rapid complexometric determination of lead in lead-tin alloys. Zav.lab. 31 no.3:295-296 '65.

(MIRA 18:12)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, P.G.

Complexometric determination of bismuth, lead, and tin in the Bi-Pb-Sn alloy and of indium in the In - Pb - Sn - Ag alloy. Zav.lab. 31 no.4:408-410 '65.

(MIRA 18:12)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

VIKULOVA, M.F.; ZVYAGIN, B.B.; MIKHAYLOV, B.M.; BERLIN. T.S.; ORESHNIKOVA, Ye.I.; SHAKHOVA, R.A.; IVANOVA, I.I.; TATARINOV, P.M., prof., red.; GEYSLER, A.N., prof.red.; DOMINIKOVSKIY, V.N., kand.geologo-mineralogicheskikh nauk, red.; KNIPOVICH, Yu.N., kand. geologo-mineralogicheskikh nauk; SMUROV, A.A., kand. geologo-mineralogicheskikh nauk; FRANK-KAMENETSKIY, V.A., kand. geologo-mineralogicheskikh nauk; BABINTSEV, N.I., red.izd-va; KRYNOCHKINA, K.V., tekhn.red.

[A methods manual on the petrographic and mineralogical study of clays] Metodicheskoe rukovodstvo po petrografo-mineralogicheskomu izucheniiu glin; trudy Instituta. Sost. kollektivom avtorov pod rukovodstvom M.F. Vikulovoi. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1957. 447 p. (MIRA 11:2)

1. Leningrad. Vsesoyuznyy geologicheskiy institut. 2. Chlen-korrespondent AN SSSR (for Tatarinov)
(Clay)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZVAGIN, B.B.; SHAKHOVA, R.A.

Reflection method used in electron diffraction examination of powdered celadonite. Kristallografiia 2 no.1:181-183 '57. (MIRA 10:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Electron diffraction examination) (Celadonite)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZVYAGIN, B.B.; SHAKHOVA, R.A.; SHITOV, V.A.

Some characteristics of the distribution of clay formations based on structural and mineralogical indicators as revealed by electronographic data. Trudy VSEGEI 72:57-73 '62. (MIRA 15:9)

(Clay--Analysis)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, R.A.

Electronographic study of artificial mixtures of clay minerals.
Zap.Vses.min.ob-va 91 no.5:550-555 '62. (MIRA 15:11)
(Electron diffraction examination), (Clay--Analysis)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, R.A.

Practice in the use of an electronographic attachment for the EM-3 electron microscope in the study of clay minerals. Min. sbor. 18 no.1:107-109 '64. (MIRA 18:5)

1. Vsesoyuznyy ordena Lenina proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut imeni S.Ya.Zhuka.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZEL'VENSKIY, Ya.D., kand.khim.nauk; SHAKHOVA, S.F.; DEDOVA, I.V.

Removal of mercaptans from gas with the aid of aqueous sodium hydroxide solutions. Trudy GIAP no.7:188-194 '57. (MIRA 12:9)

(Gas purification) (Thiols)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZEL'VENSKIY, Ya.D., kand. khim.nauk; SHAKHOVA, S.F.; DEDOVA, I.V.

Removal of mercapstans from gas with the aid of an aqueous sodium hydroxide solution. Part 3. Trudy GIAP no.8:145-163 '57.
(MIRA 12:9)

(Gas purification) (Thiols)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZEL'VENSKIY, Ya.D.; SHAKHOVA, S.F.

Investigating porous structure of activated coals in connection with their sulfur-adsorbing capacity. Gaz. prom. 4 no.2:13-17 F '59. (MIRA 12:3)
(Gas purification) (Carbon, Activated)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

S/064/61/000/003/005/009
B101/B203

AUTHORS: Braude, G. Ye., Shakhova, S. F.

TITLE: Solubility of acetylene and some higher acetylene hydrocarbons in methanol

PERIODICAL: Khimicheskaya promyshlennost', no. 3, 1961, 29-34

TEXT: Proceeding from the fact that the purification and separation of gases by absorption under pressure at low temperature are widely used in the industry, the authors studied the absorption of acetylene, diacetylene, methyl acetylene, and vinyl acetylene in methanol by means of the apparatus shown in Fig. 1. Absorption vessel 1 is a graduated pipette (0.02 ml graduation) with magnetic mixer 7 moved by coil 8. 1 is placed in a cryostat 6 which is cooled by a copper plate 9 and a Dewar vessel 10. Temperature was controlled ($\pm 0.2^{o}C$) by a resistance thermometer 12 and a heating element 14 which were connected with the electronic measuring bridge 13. The temperature was measured by a calibrated pentane thermometer 11. 2 and 3 are manometers. Industrial acetylene was dissolved in acetone at low temperature, desorbed, and the middle fraction was used

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

S/064/61/000/003/005/009
B101/B203

Solubility of acetylene and ...

for the experiments. The acetylene homologs were synthesized. Before the experiment, the apparatus was evacuated to 10^{-2} mm Hg. 0.5-1.2 ml of methanol were cooled to -78°C, and degassed in vacuo. Volume and vapor pressure of the methanol were determined, and a measured amount of gas was added. When the equilibrium was established, pressure and volume were measured again. The density of methanol with different water contents was determined pycnometrically. Table 1 gives these values and published data. Fig. 3 shows the solubility of acetylene in anhydrous methanol as a function of the partial pressure of C_2H_2 at different temperatures. Only at low concentrations, acetylene follows Henry's law. The Henry constant K was calculated from $K = P/N$ (P = partial pressure of C_2H_2; N = molar part of acetylene in solution). Further, the equation of I. R. Krichevskiy and Il'inskaya (Ref. 12: Fazovyye ravnovesiya v rastvorakh pri vysokikh davleniyakh (phase equilibrium in solutions at high pressure), Gos-khimizdat 1952) was applied:

$RT \ln(f_2'/N_2) = RT \ln K - A(1 - N_1^2)$ (2), where f_2' is the volatility of the substance dissolved, N_2 the molar part of the substance dissolved, N_1 the

... The molar

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

BRAUDE, G. Ye.; SHAKHOVA, S.F.

Solubility of acetylene and some higher acetylene hydrocarbons in methanol. Khim.prom. no.3:177-182 Mr '61. (MIRA 14:3)
(Acetylene) (Hydrocarbons) (Methanol)

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SHAKHOVA, S.F.; BRAUDE, G.Ye.

Solubility in the systems liquid ammonia - acetylenic hydrocarbons at low temperatures. Khim.prom. no.7:510-513 Jl '63. (MIRA 16:11)

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L 17675-63 EPR/EWP(j)/EWT(d)/EPF(c)/EWT(m)/FCC(w)/BDS AFFTC/ASD
IJP(c) Ps-4/Pc-4/Pr-4/Pi-4 RM/WW/JW

ACCESSION NR: AP3006039 S/0064/63/000/006/0036/0040

80
79

AUTHOR: Shakova, S. F.; Braude, G. Ye.

TITLE: Phase equilibrium and volume ratios in acetone-acetylene hydrocarbon systems

SOURCE: Khimicheskaya promyshlennost', no. 6, 1963, 36-40

TOPIC TAGS: acetone, methylacetylene, vinylacetylene, diacetylene, solution

ABSTRACT: Using methods described earlier, the authors studied the solubility of methyl-, vinyl-, and diacetylene in acetone at low temperatures, and the phase and volume behavior of the systems at various temperatures: acetone-methylacetylene at +20 to -70C; acetone-vinylacetylene at +20 to -40C; and acetone-diacetylene at +15 to -40C. At -40, -55, and -70C, the partial gas pressures were approximately equal to the difference between the overall pressure above the solution and the tension of the saturated acetone vapor. At higher temperatures, the partial pressure of the gases was dependent on the difference between the overall pressure and the pressure of the solvent, on the assumption that the solvent pressure conforms to Raoult's law. The data obtained showed that these solutions do not conform to Henry's law. Tested with the Krichevskiy-

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ACCESSION NR: AP3006039

IL'inskiy equation for dilute solutions of non-electrolytes, they proved to be true solutions. Calculation of the heat of solution over the temperature range employed gave 6000, 6200, and 10,300 cal/mol for methyl-, vinyl-, and diacetylene, respectively. Solubility was determined from the volumes of acetylene hydrocarbons in acetone, using Biron's equation for true solutions, and the volume ratios proved to be adequately expressed by the equation for ideal solutions. The relationship between the molar volume of the solutions and their molar ratio in solutions at -40C is shown in Figure 6 of the Enclosure, the density of the 3 hydrocarbons in the liquid state in Table 3. Orig. art. has: 4 equations, 6 figures, 3 tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 11Sep63 ENCL: 02

SUB CODE: CH NO REF SOV: 007 OTHER: 005

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, S.F.; BRAUDE, G.Ye.

Phase equilibria and volume ratios in the systems acetone-acetylenic hydrocarbons. Khim. prom. no.6:436-440 Je '63. (MIRA 16:8)

(Acetone) (Hydrocarbons)
(Phase rule and equilibrium)

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[illegible], [illegible]; [illegible], G.[illegible].

Liquid-gas equilibrium in the systems liquid ammonia - acetylenic hydrocarbons. Khim. prom. 40 no.12:906-909 D '64.

(MIRA 18:2)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, S.F.; IVANOVSKIY, F.P. [deceased]

Vapor-liquid equilibrium in the system acetone acetylene hydrocarbons. Khim. prom. 41 no.2:26-30 F '65. (MIRA 18:4)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

BRAUDE, G.Ye.; BEDOVA, L.V.; SHAKHOVA, S.F.

Solubility of acetylenic hydrocarbons in N-methyl-2-pyrrolidone and its aqueous solutions. Khim. prom. 41 no.3:186-188 Mr '65. (MIRA 18:7)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

76-32-3-24/43

AUTHORS: Zvorykin, A. Ya., Perel'man, F. M., Shakhova, S. K.

TITLE: On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide I (O kataliticheskoy aktivnosti redkikh elementov v reaktsii razlozheniya perekisi vodoroda. I.)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol 32, Nr 3, pp 654 - 658 (USSR)

ABSTRACT: Mixed catalysts of salts of rare elements are investigated in the present paper, the attention being focused on the influence of the ratio of catalyst components, as well as that of the temperature and the pH, upon the catalytic activity. In order to bring about a simultaneous mixture of both catalyst components with the hydrogen peroxide solution, a glass container was constructed in which two little dishes with the catalysts on a glass holder are located, from where they fall into the liquid upon mechanical agitation of the system. The velocity of decomposition of hydrogen peroxide was measured at 25°C and a pH of 8.0. The experiments performed with niobium oxalate

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide

showed a negative catalytic action of niobium upon other catalysts, especially cobalt chloride. Sodium molybdate in combination with copper chloride(Na_2MoO_4-$CuCl_2$) showed an increase of the catalytic action, which exceeded that of the individual components several times. Investigations with zirconium sulfate showed that in the system zirconium-sulfate/manganese-dioxide, the curve of the catalytic activity contains a maximum from which a complicated change of the catalytic activity may be deduced. A table of the changes of velocity and of the values of the reaction constant of the last-mentioned system is given from which it may be seen that the activity of zirconium sulfate at the beginning of the examination is higher, that it then drops to a lower value and remains constant. There are 4 figures, 1 table, and 9 references, 6 of which are Soviet.

Card 2/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

76-32-3-24/43

On the Catalytic Activity of Rare Elements in the Reaction of the Decomposition of Hydrogen Peroxide

ASSOCIATION: Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova (AS USSR, Institute of General and Inorganic Chemistry imeni N. S. Kurnakov)

SUBMITTED: November 30, 1956

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

5(4) SOV/76-33-2-34/45

AUTHORS: Perel'man, F. L., Zvorykin, A. Ya, Shakhova, S. K.

TITLE: The Catalytic Activity of the Rare Elements in the Decomposition of Hydrogen Peroxide II (O katalificheskoy aktivnosti redkikh elementov v reaktsii razlozheniya perekisi vodoroda II)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2, pp 452 - 456 (USSR)

ABSTRACT: The method of the work reported here was the same as was used in the previous paper, i.e., a simultaneous addition of both catalysts at the beginning of the reaction. Investigated were sodium gallate (I), thorium nitrate (II), titanium sulfate (III), and germanium chloride (IV), alone and together with the chlorides of cobalt, copper, and iron also of MnO_2 at 25°C and pH = 8.0. It was observed that a combination of (I) with $CuCl_2$ increased the catalytic activity and that this was greater than the additive values of the single components. All the catalysts of this system are unstable and lose their activity quickly (Fig 1). The system (II) - $CuCl_2$

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and (II) - MnO_2 (Figs 2,3) show also in increased catalytic effect upon the decomposition of H_2O_2. With the first system the activity is doubled and with the second system the activity is 4.6 times the additive value of the components using a content of 30% (II). The system (II) - MnO_2 is more stable in its catalytic activity than the above mentioned combinations of (I). An increase of 5 to 2.5 times in activity above the additive values of the components was observed for the (III)-$CuCl_2$ and (III) - $CoCl_2$ systems, and the maximum activity was found to occur with a content of 50% (III) (Figs 4,5). The (III)-$CoCl_2$ systems are high in activity but very unstable, while (III)-$CuCl_2$ are stabler combinations. In the (IV)-$CuCl_2$ system a smaller increase in activity was observed (Fig 6). The experimental results show that the maximum activity occurs with the compositions of a 1:1 molar ratio of the components. There are 6 figures and 3 references, 2 of which are Soviet.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

The Catalytic Activity of the Rare Elements in the Decomposition of Hydrogen Peroxide II SOV/76-33-2-34/45

ASSOCIATION: Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova (Academy of Sciences, USSR, Institute for General and Inorganic Chemistry imeni N. S. Kurnakov)

SUBMITTED: July 30, 1957

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

PATRIKEYEV, V.V.; SHAKHOVA, S.K.

Application of the refractometric method of analysis for the study of catalytic reaction equilibrium. Izv.AN SSSR.Ser.khim. no.8:1365-1367 Ag '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Catalysis) (Refractometry)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

BALANDIN, A.A.; PATRIKEYEV, V.V.; CHAKROVA, S.K.; RUDENKO, A.P. (Moscow)

Determination of chemical equilibrium by the differential thermocouple method. Zhur. fiz. khim. 36 no.9:1952-1957 S '62. (MIRA 17:6)

1. Institut organicheskoy khimii AN SSSR.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

24(0)

AUTHORS: Sam'ko, L. A., Takibayev, Zh. S., Shakhova, Ts. I. SOV/56-35-3-3/

TITLE: Angular Distribution of Secondary Particles in Showers Produced by High Energy Nucleons (Issledovaniye uglovogo raspredeleniya vtorichnykh chastits v livnyakh, obrazovannykh nukleonami bol'shoy energii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 574 - 583 (USSR)

ABSTRACT: In the present paper a formula is given - theoretically for the time being - for the integral and differential angular distributions of shower particles in stars at primary energies of from 5.10^{10} to 10^{12} eV. Whereas in the c.m.s. $N(\theta^*)$=const.$d\Omega$, the formulae for $N(\theta)= g(N,\gamma_c,\alpha,\theta,m)$ for $m \gg 1$ and $m \leq 1$ respectively are considerably more complicated. (θ^* = solid angle in the center of mass system, θ = in the laboratory system)

$\alpha= \gamma_c tg\theta = \sin\theta^*/(m+\cos\theta^*)$; $m = \beta_c/\beta^*_\pi$.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

Angular Distribution of Secondary Particles in Showers SOV/56-35-3-3/[illegible]
Produced by High Energy Nucleons

γ_c is the primary energy of the particles and β_c the velocity of the c.m.s. For the percentage of shower particles f within Θ_f it holds that

$$f = \frac{1}{N}\int_0^{\Theta_f} N(\Theta)d\Theta$$, where N denotes the total number of particles. The differential angular distribution in the laboratory system for the case of isotropy in the c.m.s. and m= 1 the formula

$$\frac{df}{dy} = \frac{df}{d\alpha}\frac{d\alpha}{dy} = \frac{2.10^{2y}}{(10^{2y}+1)^2}\ln 10 \quad y = \lg\alpha$$ applies

in the anisotropic case, e.g. for $N(\Theta^*) \sim \cos^2\Theta^*$ it holds that $df/dy = 4.10^{2y}(10^{2y}-1)(10^{2y}+1)^{-3}\ln 10$.
A formula is further given also for the total number of the particles N. The authors then describe the analysis of the distribution of a shower on the basis

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

Angular Distribution of Secondary Particles in Showers Produced by High Energy Nucleons SOV/56-35-3-37

of the theory of multiple production of mesons in nucleon-nucleon collisions and discuss the connection between $\theta_{\frac{1}{2}}$ and n_s (Figs 4,5,8). For the theory of multiple productions it differs considerably from that observed by experiment. The experimental n_s and $\theta_{\frac{1}{2}}$ - values can be brought into line with theory by assuming a meson production in secondary process (40%) in altitudes of from 30-33 km. There are 9 figures and 8 references, 3 of which are Soviet.

SUBMITTED: March 15, 1958

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, TS. I.

AN ANALYSIS OF THE ANGULAR DISTRIBUTION OF THIN TRACKS OF SHOWERS PRODUCED BY $\geq 10^{11}$ ev PARTICLES

Zh. S. Takibayev, A. A. Loktioniv, L. A. Sanko, Ts. I. Shakhova

An analysis is made of the angular distribution of thin tracks of showers produced by cosmic-ray particles with energy exceeding 10^{11} ev. To determine the energy dependence of the angular distribution of the shower-producing particles, all analyzed showers are divided into two energy intervals. The first interval includes all showers produced by particles (protons, neutrons, pi-mesons) with energy of the order of 10^{11} ev (at least $>10^{10}$ ev); the second interval includes particles with energy exceeding 10^{12} ev. For comparison a study is made of showers taken from published material.

The experimental data obtained are compared with the model of "two Centres" that independently emit mesons (Takagi, Feinberg, and Chernavsky, Kokkoni et al.). The comparison reveals the limitations of this model. The observed angular distribution of thin tracks of a number of showers may be explained on the assumption that:

a) there is a power energy spectrum in the centre-of-mass system ($\sim A^{dE}/E^{d+1}$) which agrees with the Heisenberg theory:

b) there is a sharply anisotropic angular distribution in the centre-of-mass system ($\sim \cos^n \Theta$), although such a high degree of anisotropy of generated particles does not follow from the Heisenberg theory.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

21(7) SOV/56-37-1-1/64

AUTHORS: Tan'ko, L. A., Takibayev, Zh. S., Shakhova, Ts. I., Balats, L. Ya.

TITLE: On the Angular Distribution of Shower Particles in Stars Formed by Particles of High Energy (Ob uglovom raspredelenii livnevykh chastits v zvezdakh, obrazovannykh chastitsami bol'shoy energii)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 1, pp 3-10 (USSR)

ABSTRACT: In the course of the evaluation of emulsion piles exposed in the geographical latitude of Moscow at a height of 30 km, a star (20 + 15 + 59p) was recorded, which had been produced by an interaction between a cosmic radiation proton and an emulsion nucleus (Fig 1). In the present paper the authors report about an analysis of the angular distribution of charged particles in this star. The energy of the primary particle was determined as amounting to

$E = (19^{+50.7}_{-14.0}) \cdot 10^3$ Bev. According to Heitler and Terreaux (Ref 4) the star ought, at such high energies, to consist only of 3-4 highly ionizing particles; the star investigated by

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the authors (N_h = 35) cannot be explained by the Heitler-Terreaux theory. Figure 2 shows the differential angular distribution of the shower particles in this star. The histogram has two different maxima. For comparison, the curves for isotropic distribution (in the cms), for Heisenberg distribution, and for distribution according to Landau are plotted. It was found that, if it is assumed that in a nucleon-nucleus collision the angular distribution does not deviate considerably from that of the mesons formed in a nucleon-nucleon collision, the angular distribution observed can be explained neither by Heisenberg's (Ref 6) nor by Landau's theory (Ref 7). Figure 3 again shows a histogram of the angular distribution of shower particles in the laboratory system. The curves 1,2,3,4 (in the cms) successively show Gaussian, isotropic, and anisotropic distribution for each of the two maxima separately (in consideration of the energy spectrum of the produced particles and on the assumption that they are monoenergetic). It may be assumed that the two maxima observed in the differential angular distribution originate from a meson

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emission of two unconnected centers, which move in different directions in the cms: 30 particles in the narrow and 29 in the diffuse cone. Figure 4 shows the integral angular distribution of such a star. The authors then give a report on an investigation of further 11 stars with $E_{prim} > 100$ Bev, which have the same characteristic anisotropy. Figure 5 shows the total histogram of these 11 showers with the two maxima. Table 2 shows the results of an analysis of all investigated showers (Nr 10 gives the data of the first star described in detail). In conclusion, the angular distribution of the gray and black traces of the (35 + 59p) star is discussed on the basis of figure 6. There are 6 figures, 2 tables, and 12 references, 8 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Institute of Nuclear Physics of the Academy of Sciences, Kazakhskaya SSR)

SUBMITTED: November 14, 1958

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

S/058/61/000/010/009/100
A001/A101

3,2410

AUTHORS: Takibayev, Zh. S., Loktionov, A. A., San'ko, Shakhova, Ts. I.

TITLE: Analysis of angular distribution of thin tracks of showers produced by particles with energies of $> 10^{11}$ ev

PERIODICAL: Referativnyy zhurnal. Fizika, no. 10, 1961, 95, abstract 10B490 ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 1", Moscow, AN SSSR, 1960, 51-60)

TEXT: The authors investigated the angular distribution of thin tracks of showers produced by cosmic ray particles with energies exceeding 10^{11} ev. in the stratosphere. Characteristics of showers in the energy ranges 10^{11} ev $< E \leq 10^{12}$ ev and $E > 10^{12}$ev are compared with various theoretical concepts. To explain a number of peculiarities in angular distribution (e.g., occurrence in some showers of distribution with two peaks), it is proposed to take into consideration the role of produced particles (antinucleons, π-mesons) in generation of additional particles at secondary collisions inside the target-nucleus. The angular distribution of shower particles produced by multi-charged particles is also analyzed.

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S/058/61/000/010/009/100
A001/A101

Analysis of angular distribution ...

A case is described, 15 + 515 Z, produced by a silicon nucleus with energy of ~ 600 Bev/nucleon.

L. Dorman

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

TAKIBAYEV, Zh.S.; CHASNIKOV, I.Ya.; SHAKHOVA, TS.I.; ANZON, Z.V.

Two-prong stars formed in inelastic pp-interactions at 9 Bev.
Trudy Inst. iad. fiz. AN Kazakh. SSR 6:94-100 '63.
(MIRA 16:10)

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L 22175-65 EWT(1)/EWT(m)/T/EED(b)-3 Pae-2 SSD(a)/SSD(c)/AEDC(a)/AS(mp)-2/
DIAAP/IJP(c)
ACCESSION NR: AP5001824 S/0056/64/047/006/2051/2054

AUTHORS: Anzon, Z. V.; Vinitskiy, A. Kh.; Takibayev, Zh. S.; Chasnikov, I. Ya.; Shakhova, Ts. I.

TITLE: Investigation of ionization losses of relativistic particles in nuclear photoemulsions 19

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 6, 1964, 2051-2054

TOPIC TAGS: nuclear emulsion, ionization, relativistic particle, proton interaction, relativistic particle

ABSTRACT: The purpose of the work was to study the dependence of the ionization characteristic (blob density) on the particle energy (in rest-mass units). To this end, the authors carried out special measurements of the relative ionization in tracks of protons of energy 2, 3, 4 and 5 BeV and pions of 3.8 BeV energy, in stacks of

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ACCESSION NR: AP5001824

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NIKFI-R emulsions irradiated at the Joint Institute of Nuclear Research. The stacks were irradiated practically simultaneously in a 9 BeV proton beam, in a direction perpendicular to the emulsion plane. Results obtained from tracks of electron-positron pairs and delta rays in a stack of 600 μ Ilford G-5 emulsion irradiated by 17-BeV pions in the CERN accelerator are also presented. The ratio of the ionization on the plateau of the ionization curve to the value at the minimum coincides for the different emulsions within the limits of experimental error. The average value of this ratio is 1.104 ± 0.010. The observed ionization-momentum dependence agrees with the curve calculated on the basis of the Sternheimer equation (Phys. Rev. v. 88, 851, 1952; 89, 1148, 1953; 91, 256, 1953; 103, 511, 1956), with parameters I = 270 eV and T_0 + 2 keV (I -- ionization potential, T_0 -- cutoff energy). "The authors thank Professor V. I. Veksler and S. I. Lyubomilov for collaboration in the irradiation of the emulsions at OIYaI, and Professor W. O. Lock for supplying the emulsions irradiated at CERN, as well

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ACCESSION NR: AP5001824

as G. B. Zhdanov and M. I. Tret'yakova of FIAN for a discussion on this question." Orig. art. has: 2 figures.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Institute of Nuclear Physics, Academy of Sciences Kazakh SSR)

SUBMITTED: 12May64 ENCL: 00

SUB CODE: NP NR REF SOV: 006 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ANZDIN, Z.V.; VINITSKIY, A.Kh.; TAKIBAYEV, Zh.S.; CHASNIKOV, I.Ya.; SHAKHOVA, TS.I.

Ionization losses of relativistic particles in nuclear photographic emulsions. Zhur.eksp. i teor.fiz. 47 no.6:2051-2054 D '64. (MIRA 18:2)

1. Institut yadernoy fiziki AN Kazakhskoy SSR.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

[illegible], T. [illegible] "Disturbance to metric secretion in experimental cystitis, and measures of restoring it." Moscow Veterinary Academy, Ministry of Education USSR. Moscow, 1956. (Dissertations for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya Letopis' No. [illegible], 1956

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHARIOVA, I. V.

"Composition of urine in healthy highly productive cows and that of during wrong metabolism of the alimentary toxaemia type."

Veterinariya, Vol. 37, No. 7, 1960, p. 61

Cand. Biol. Sci., Moscow Vet. Acad.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

KAGANOVA, E.M.; SHAKHOVA, T.Ye.; PANITKOVA, A.Ye.

Formation of a porous structure of aluminasilica gel. Part 1: Part played by syneresis in the formation of a porous structure of aluminosilicates. Koll.zhur. 23 no.5:568-573 S-O '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov, Leningrad.
(Aluminosilicates)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHARKOVA, V.

Republic conference of oculists. Zdrav. Turk. 4 no. 2:43-44 Mr-Ap '60. (MIRA 13:10)

(TURKMENISTAN--EYE--DISEASES AND DEFECTS)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

MURACHEV, A.; SHAKHOVA, V.; KUZNETSOV, V.

Aeronautical kaleidoscope, Grazhd. av. 21 no.5:16-17 My '64.
(MIRA 18:4)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ZABRODSKIY, A.G.; SMIRNOV, N.K.; Prinimali uchastiye: RUDENKO, O.A.; FILIPENKO, I.S.; SEMENCHENKO, A.D.; KORCHEVSKIY, M.I.; TEMASHNYUK, D.S.; SHVARTS, S.P.; BRITSKAYA, Z.A.; RESHETOVA, L.N.; SHAKHOVA, V.A.; DANILENKO, P.L.

More about the effect of the amount of water and of its automatic proportioning in the boiling to pulp of raw materials. Trudy UkrNIISP no.5:13-20 '59. (MIRA 16:11)

1. Vashkovskiy zavod (for Rudenko, Filipenko, Semenchenko, Korchevskiy, Temashnyuk, Shvarts, Britskaya). 2. Chernovitskiy spirtovyy trest (for Reshetova, Shakhova). 3. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti (for Danilenko).

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

L 38260-66 EWT(1)/FCC SCTB DD/GD/GS

ACC NR: AT6022297 SOURCE CODE: UR/0000/66/000/000/0091/0097

AUTHOR: Podshibyakin, A. K.; Smirnov, R. V.; Uzhva, R. G.; Adamenko, N. P.; Shakhova, V. I.

ORG: none

TITLE: Time-advanced bioelectric effect of geomagnetic disturbances

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya bioniki. Doklady. Moscow, 1966. 91-97 and page 133

TOPIC TAGS: bioelectric phenomenon, geomagnetic disturbance

ABSTRACT: Desultory observations, remarks, and ideas are presented regarding the effects of geomagnetic disturbances on living organisms. Some Soviet and Western published data is briefly reviewed. This information is added: Resuscitation of electrocuted test dogs was far less successful during the periods of magnetic storms than under normal no-magnetic-disturbance conditions. Voluntary appearance of human test subjects for electrostatic measurements (in a Moscow laboratory) was lower during magnetic disturbance periods. The majority of 150 tested persons had a lower electrostatic skin potential during magnetic storms: roughly, 20% of the subjects responded weakly; 60% responded distinctly; and 20% were highly responsive to magnetic disturbances. The above bioelectric phenomena were observed before (one or more days) the actual occurrence of the magnetic disturbance. Two explanations are offered:

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

L 38269-66

ACC NR: AT6022297

1) Selective sensitivity of living organisms to small energy influences, and 2) Time lag (about 2 days) in the arrival of the solar corpuscular stream behind the solar radiation. Orig. art. has: 1 table. [03]

SUB CODE: 06, 08 / SUBM DATE: 08Apr66 / ORIG REF: 010 / OTH REF: 008/ ATD PRESS: 5046

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

VAGANOV, Anatoliy Maksimovich; KARPOV, Andrey Borisovich; VINOGRADOV, I.V., dots., retsenzent; MIKHEYKV, V.V., nauchn. red.; SHAKHMOVA, V.M., red.

[General construction of ships] Obshchee ustroistvo sudov. Leningrad, Sudostroenie, 1965. 267 p. (MIRA 18:7)

1. Leningradskiy korablestroitel'nyy institut (for Vinogradov).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

PERESINA, [illegible], starshiy nauchnyy sotrudnik, SHAKHOVA, [illegible] inzh.
[illegible], N.P., inzh.

Studying the causes of the formation of periodical unevenness of the product on spinning machines. Tekst. prom. 24 no.10: 40-43 O '64. (MIRA 1[illegible]-1[illegible])

1. Tsentral'nyy nauchno-issledovatel'skiy institut khlopchatobu-mazhnoy promyshlennosti (for Berezina). 2. Zaveduyushchiy proizvodstvennoy laboratoriyey pryadil'no-tkatskoy fabriki imeni Frunze (for Shakhova). 3. Nachal'nik prigotovitel'no pryadil'nogo tsekha pryadil'no-tkatskoy fabriki imeni Frunze (for Gushchina).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.D.

Ecology and phenology of axseed. Nauch.zap.Vor.otd.VBO za:101-107 '64. (MIRA 18:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.D.

Propagation of ground almond (chufa) by leafy cuttings. Trudy VGU 56. no.1:109-112 '59. (MIRA 13:8)
(Chufa)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

TOPCHIYEVA, K.V.; PESHKOVA, V.M.; SHAKHOVA, Z.F.; ALIMARIN, I.P.; NOVOSELOVA, A.V.; SPITSYN, V.I.; LUTSENKO, I.F.; GERASIMOV, Ya.I.; NESMEYANOV, A.N.; TERENT'YEV, A.P.; POTAPOV, V.M.; GIBALO, I.M.

E.S. Przheval'skii; obituary. Vest. Mosk. un. Ser. mat. mekh., astron., fiz., khim. 11 no.2:205-207 '56. (MIRA 10:12)
(Przheval'skii, Evgenii Stepanovich, 1879-1956)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.

7

Photometric detection of germanium as germanovanadimolybdic acid. Z. F. Shakhova and R. K. Motorzina (State Univ., Moscow). *Zhur. Anal. Khim.* 11, 698-703 (1956).—Two procedures for colorimetric detn. of Ge with the aid of $(NH_4)_2MoO_4$ and $NaVO_3$ are described. By one of these the reagents are added consecutively to the soln. contg. Ge and by the other Na_2MoO_4 and $NaVO_3$ are first combined and then added to the analyzed soln. The first of the procedures is carried out in 0.2N H_2SO_4 and the 2nd preferably in 0.2–0.28N HCl. Extn. of the colored complex with an org. solvent had no advantage. M. Hoseh

Chem

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z. F.

Thermogravimetric methods and their application to analytical chemistry. Z. F. Shakhova and B. N. Semenovskaya. *Zavodskaya Lab.* 22, 1430-5(1956).—A review with 55 references. W. M. Aernberg

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

USSR/Inorganic Chemistry. Complex Compounds. C

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26469.

Author : Shakhova, Z.F., Motorkina, R.K.
Inst :
Title : Study of Oxidation-Reduction Properties of Heteropolyacids of Germanium.

Orig Pub : Zh. obshch. khimii, 1956, 26, No. 10, 2663 - 2673.

Abstract : The oxidation-reduction potentials E_o of heteropolyacids of germanium in mixtures of equal amounts of forms oxidized and reduced by the action of $CrSO_4$ were determined potentiometrically (Chernikhov Yu.A., Goryushina V.G., Zavod. laboratoriya, 1945, 11, 137). It was established that in the presence of an inorganic acid, E_o of the

Card 1/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

USSR/Inorganic Chemistry. Complex Compounds. C

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26469.

system germanium-molybdenum heteropolyacid (I)-germanium-molybdenum blue (II) considerably surpassed E_o of the system Mo (6^+) / Mo (5^+) in regard of Mo that was not bound in the complex. At the reduction of I to II to Mo(5^+), only about $\frac{1}{4}$ of Mo contained in the complex is reduced; further reduction of the blue destroys the heteropolycomplex. W (6^+) in germanium-tungsten polyacids is considerably more strongly bound into the complex than W (5^+). The introduction of W into the heteropolyacids of Ge and Mo or Ge and W increases their E_o considerably.

Card 2/2

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

Card 2/2 Pub. 22 - 16/43

Periodical : Dok. AN SSSR 106/1, 61-64, Jan 1, 1956

Abstract : was established that the heteropoly-complex exists only with the blue. It decomposes during further reduction. The introduction of V into the hetero-poly-anion has considerably increased the oxidation reduction of the latter. Fourteen references: 3 USSR, 4 Germ., 1 Ital., 5 USA and 1 French (1934-1955). Table; graph.

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137-58-2-4379

Translation from Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 301 (USSR)

AUTHORS: Shakhova, Z. F., Motorkina, R. K.

TITLE: Using Heteropoly Compounds in the Gravimetric and Volumetric Determination of Germanium (Primeneniye geteropolisoyedineniy dlya vesovogo i ob"yemnogo opredeleniya germaniya)

PERIODICAL: Vestn. Mosk. un-ta, ser. matem., mekhan., astron., fiz., khimii, 1957, Nr 2, pp 183-193

ABSTRACT: An investigation was made of the use of heteropoly compounds in the determination of Ge. Experiments were made with solutions of GeO_2 (1 mg/cc) in H_2O or in 0.5N H_2SO_4. A procedure is described for precipitating germanomolybdic acid (I) with pyridine, also a means of acidimetric determination of Ge in the form of pyridine-germanomolybdate. A method is given for precipitating (I) with guanidine. To determine small amounts of GeO_2 (2-20 mg), (I) can be precipitated with quinoline. Results are given of tests made to determine the possibility of precipitating (I) with other organic bases [hexamethylentetramine, amidopyrine ("pyramidon"), and others]. An account is given of attempts made to precipitate other Ge heteropoly acids (such as germanovanadomolybdic acid) with organic bases. P.K.

Card 1/1

1. Germanium--Gravimetric--Determination 2. Germanium--Volumetric --Determination 3. Heteropoly compounds--Applications

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA Z.F.

429. Determination of germanium as molybdogermanic acid after separation from certain elements by the method of extraction. Z. F. Shakhova, R. K. Motorkina and N. N. Mal'tseva (M. V. Lomonosov Moscow State Univ.). *Zhur. Anal. Khim.*, 1957, 12 (1), 95-99.—After extraction of $GeCl_4$ with CCl_4 (Schneider *et al.*, *Anal. Abstr.*, 1954, 1, 1480), the extract is shaken with water and the soln. is mixed with 10 ml of 5% ammonium molybdate soln. and 5 ml of 2 *N* H_2SO_4, and then diluted to 50 ml with water. The extinction at 428 mμ is measured after 10 min.

G. S. Smith

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z. F.

Electronographic study of the molybdenum heteropoly acids of germanium. Z. F. Shakhova, G. N. Tishchenko, and R. K. Motorkina (Moscow State Univ.). *Zhur. Obshchei Khim.* 27, 1118-24(1957).—In the formation of germanium vanadomolybdenum heteropolyacids the V replaces the Mo isomorphically in the heteropoly anion. These heteropoly acids can be expressed by the formulas $H_8[GeMo_{10}V_2O_{40}]$ rather than $H_4[GeMo_{10}V_2O_{38}]$. Germanomolybdenum blue was shown to be a heteropoly compd. which is isostructural with the unreduced yellow form. It contains several Mo atoms in the lowest valence state. Methods are discussed for the quant. analysis of different elements in the form of heteropoly acids.

J. Rovtar Leach

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PHASE I BOOK EXPLOITATION SOV/3850

SOV/9-41-8(11)

Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii imeni V. I. Vernadskogo. Komissiya po analiticheskoy khimii

Spektrofotometricheskiye i kolorimetricheskiye metody analiza ([illegible] metric and Colorimetric Methods of Analysis) [illegible] Its: Trudy, tom. 8 (11) Errata slip inserted. 3,[illegible]

Resp. Ed.: I. P. Alimarin, Corresponding Member, [illegible] Ed. of Publishing House: V. M. Bochkova; Tech. Ed.: [illegible]

PURPOSE: The publication is intended for chemists, particularly [illegible] chemists and geochemists.

COVERAGE: This collection of 29 articles is published as [illegible] Transactions of the Committee on Analytical Chemistry [illegible] Geochemistry and Analytical Chemistry imeni V. I. [illegible] Sciences USSR. The general subject of the volume is [illegible] spectrophotometric and colorimetric analysis. [illegible] following topics may deserve special attention: [illegible] absorption analysis, the sensitivity of the [illegible] organic analysis, the basic variations of the [illegible] spectrophotometric investigation of heteropolyacids of [illegible] colorimetric method of determining small quantities of [illegible] metric method of determining uranium, spectrophotometric [illegible] the behavior of oxidation-reduction indicators, a phase [illegible] acoustical method of gas analysis, and a description of an [illegible] spectrophotometric gas analyzer. No personalities are mentioned. References are given at the end of each article.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

78-3-6-13/30

AUTHORS: Shakhova, Z. F., Gavrilova, S. A.

TITLE: Synthesis of Cerium Molybdenum Heteropolyacids (K sintezu tserimolibdenovoy geteropolikisloty)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 6, pp. 1370-1373 (USSR)

ABSTRACT: The heteropolyacids of the rare earths have been investigated relatively little. In the present paper the heteropolyacid of cerium with molybdic acid was isolated in pure form and investigated.
The cerium molybdenum heteropolyacid was isolated in pure form by the chromatographic method using cationites. It was found that the greatest yield of cerium molybdenum heteropolyacid can be obtained by means of the cationite KU-2. The analysis of the cerium molybdenum heteropolyacid shows that the ratio of Ce : Mo is = 1 : 12 in the solution. The cerium molybdenum heteropolyacid was isolated in form of a yellow vitreous mass. The solution of cerium molybdenum heteropolyacid was investigated spectrophotometrically and it was found on this occasion that the absorption maximum is at λ = 380 mμ. An analytical method for the analysis of

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Synthesis of Cerium Molybdenum Heteropolyacids 78-3-6-13/30

the cerium molybdenum heteropolyacid was elaborated. An ammonia salt of the cerium molybdenum heterpolyacid was produced and analyzed. This salt has the followinf composition: $(NH_4)_8[Ce(Mo_2O_7)_6] \times H_2O$.
There are 6 tables and 6 references, 2 of which are Soviet.

SUBMITTED: March 11, 1957

AVAILABLE: Library of Congress

1. Cerium molybdenum heteropolyacids--Synthesis 2. Chromatographics --Applications

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; MOTORKINA, R.K.

Spectrophotometric analysis of germanium heteropoly acids. Trudy kom. anal. khim. 8:100-109 '58. (MIRA 11:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Germanic acids--Spectra)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

75-13-2-10/27

AUTHORS: Shashova, E. F., Savritova, S. A.

TITLE: Photometric Determination of Cerium as Cerium-Molybdenum Heteropolyacid (Fotometricheskoye opredeleniye tseriya v vide tserimolibdenovoy geteropolikisloty)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2, pp. 211-214 (USSR)

ABSTRACT: Of the photometric determination methods for small quantities of cerium, described in publications, this method is most sensitive and widely spread, being based upon the formation of a colored complex by hydrogen per= oxide in the presence of citrates (References 1,2) or carbonates (References 3,4). Other methods (References 5-12) are either less sensitive or more complicated as to their produce. The main deficiency of the method with H_2O_2 is that the previous separation of cerium from the heavy metals and from molybdenum is absolutely necessary. Therefore the authors worked out a new photometric method which is based upon the formation of a cerium-molybdenum heteropolyacid. The optimum conditions for the formation

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75-13-2-16/27

Photometric Determination of Cerium and Cerium-Molybdenum Heteropolyacid

of this complex were sought. It appeared that the complete=ness of the formation of the cerium-molybdenum complex de=pends on the excess of the molybdate in the solution. The investigations were performed in 0,2 n sulfuric acid solu=tion. The influence of the concentration of the molybdate in the solution and the influence of the hydrogen-ion concen=tration on the completeness of the formation of the complex was investigated. A 60-fold surplus of sodium molybdate and a 0,2 sulfuric acid solution were found as optimum condi=tions for the determination of cerium as cerium-molybdenum heteropolyacid.

The authors also investigated the stability of the formed complex. The cerium-molybdenum heteropolyacid shows a good time stability, the stability, however, being temperature dependent. A temperature rise reduces the intensity of the color. Besides, the stability of the already formed cerium-molybdenum complex was examined in the case of a change of the hydrogen-ion concentration. It appeared, that the com=plex is decomposed in case of increase of the hydrogen-ion concentration. In case of addition of hydrochloric acid the

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Photometric Determination of Cerium and Cerium-Molybdenum Heteropolyacid 75-13-2-1o/27

change of the optical density is different, as it is caused by a redox-reaction. A comparison with perchloric acid showed that the complex is decomposed by the increase of the hydrogen-ion concentration and not by the complex-forming action of sulfuric acid. The cerium-molybdenum complex is stable only in a small range of the hydrogen-ion concentration, this in 0,1n - 0,3n sulfuric acid and in up to 0,4n perchloric acid solution. The color intensity of the solutions of the cerium-molybdenum heteropolic acid obeys the Beer law. The sensitivity of the reaction is 1 γ Ce per ml. For the photometric determination that much sulfuric acid is added to a solution, containing 0,025 to 0,4 mg cerium, so that the concentration in the final volume is 0.2n. Then 12 ml of a 5% neutral solution of sodium molybdate or 1o ml of a 5% ammonium molybdate solution is added, diluted with water to 25 ml and then the optical density is measured after 1o minutes on a spectrophotometer of the type SF-4 at 38o mμ

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

Photometric Determination of Cerium-Molybdenum Heteropolyacid 75-13-2-10/27

(gap width 0.4 mm).
There are 7 figures, 1 table and 12 references, 7 of which are Soviet.

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

SUBMITTED: March 12, 1957

1. Cerium--Determination 2. Cerium-molybdenum compounds--Analysis
3. Photometry--Applications

Card 4/4

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.;GAVRILOVA, S.A.

Products of the addition of some organic bases to cerimolybdemum heteropoly acids. Vest Mosk. un. Ser. mat., mekh., astron., fiz., khim. 14 no.2:179-183 '59 (MIRA 13:3)

1. Kafreda analiticheskoy khimii Moskovskogo gosuniversiteta.
(Cerium compounds) (Molybdates)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z. F.

AUTHOR: Bilimovich, G. N. SOV/75-14-4-30/30

TITLE: Section of Analytical Chemistry of the VIII Mendeleyev Congress on General and Applied Chemistry

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 511-512 (USSR)

ABSTRACT: Approximately 500 persons participated in the work of the Department of Analytical Chemistry, among them representatives of various scientific research institutes, higher schools and industrial enterprises in Russia, scientists from China, Bulgaria, the ČSR, Poland, Hungary, and Italy. Approximately 70 reports were heard. In his opening speech I. P. Alimarin reported on the achieved results and on modern problems of analytical chemistry. I. V. Tananayev reported on the application of physico-chemical analysis in heterogeneous systems for the solution of a series of problems of analytical chemistry. V. I. Kuznetsov reported on modern aims in the use of organic reagents; A. K. Babko showed at the example of halide and thiocyanate complexes the correlation between the stability of complexes and the position of the corresponding central atoms in the periodic system. V. M. Peshkova and V. M. Rochkova lectured on the stability of oximates of Cu, Co, and Ni as depending on the structure of the oxime molecule. V. P. Toropova lectured on the double character of reaction of some compounds in the formation of complexes. The problem of the application of heteropolyacids in analytical chemistry was dealt with in the lectures of Z. F. Shakhova and co-workers, and A. I. Kokorin and N. A. Polotebnova. A large number of lectures dealt with the use of new organic reagents in analysis: A. I. Busev and M. I. Ivanyutin reported on the application of dialkyl and diaryl dithiophosphoric acid for the separation of elements, A. I. Portnov used aryl arsonic acid and aryl phosphinic acid. R. P. Lastovskiy and his co-workers treated some properties of new complexons. The lectures of V. A. Nazarenko, G. G. Shitareva and A. I. Kononenko dealt with the photometric determination of a series of elements using fluorine derivates. A. I. Cherkesov lectured on the use of halochromation in analytical chemistry. B. M. Dobkina and T. M. Malyutina lectured on the determination of tantalum using differential spectrophotometry. Yu. V. Morachevskiy and I. A. Stolyarova reported on new highly sensitive analysis methods using an ultraviolet microscope. Several lectures dealt with methodical and theoretical problems of spectrum analysis (N. F. Zakharin and G. A. Shevnin; E. Ye. Veynshteyn and co-workers). N. S. Poluektov and M. K. Nikonova treated the perfection of flame photometry. Several lectures dealt with the determination of elements by polarography (S. I. Sinyakova; Z. B. Roshdestvenskaya and I. A. Yarovoy; Ya. P. Gokhshteyn). New results in using fixed electrodes were reported by I. D. Panchenko and Yu. S. Lyalikov and co-workers. The lecture of N. I. Udal'tsova and P. S. Paley treated the use of amperometric titration with two electrodes in the chemistry of uranium and thorium. M. M. Senyavin showed possibilities of predicting the conditions of chromatographic separation of elements based on their position in the periodic system. T. A. Belyavskaya reported on the use of ion exchange in the investigation of the state of substances in solutions. A. S. Vernidub and V. I. Petrashen' lectured on the chromatographic separation of a series of elements, N. G. Polyanskiy reported on adapting the properties of ion exchanger resins, F. M. Shemyakin and associates reported on the chromatographic proof of sulfanilamide preparations in liquids of the organism. G. L. Starobinets and associates treated the application of high polymers in chromatographic analysis. The lecture of A. A. Zhukhovitskiy and N. M. Turkel'taub, G. Shay dealt with gas chromatography. Several lectures treated the use of radioactive isotopes for the chromatographic investigation of complex formation (D. I. Ryabchikov and associates), for the investigation of the co-precipitation mechanism of ions of rare metals with sulfides (N. A. Rudnev) and for determining rare elements by means of isotope dilution (I. P. Alimarin, G. N. Bilimovich). In the field of elementary organic microanalysis the lectures of N. G. Korshun, N. E. Gel'man and V. A. Klimova with associates have to be mentioned, who treated the elaboration of rapid micromethods for the simultaneous determination of several elements from one weighed portion of boron, fluorine and silicium-organic compounds.

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SHAKHOVA, Z.F.; SEMENOVSKAYA, Ye.N.

Synthesis of titanomolybdic heteropolyacid. Zhur.neorg.khim. 7 no.5:1084-1086 My '62. (MIRA 15:7)
(Molybdic acids) (Titanic acids)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; GAVRILOVA, S.A.; ZAHKAROVA, V.F.

Synthesis of molybdothoric heteropoly acid. Zhur.neorg.khim. 7 no.7:1752-1753 Jl '62. (MIRA 16:3)

(Molybdothoric acid)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; SEMENOVSKAYA, Ye.N.; TIMOFEYEVA, Ye.N.

Addition products of some organic bases to zirconomolybdic heteropolyacid. Vest.Mosk. un. Ser.2:khim. 17 no.1:55-59 Ja-F '62. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet, kafedra analiticheskoy khimii.

(Zirconomolybdates)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; KU TKHAN' LONG

Synthesis of tellurito-6-molybdenic acid. Zhur. neorg. khim. 9 no,8:1848-1852 Ag '64. (MIRA 17:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

GAVRILOVA, S.A.; SHAKHOVA, Z.F.; PETRACHKOVA, G.M.

Products of addition of some organic bases to thorium molybdenic heteropolyacid. Vest. Mosk. un. Ser. 2 Khim. 19 no.2: 54-58 Mr-Ap'64 (MIRA 17:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; KU TKHAN' LONG

Determination of molybdenum and tellurium in polyhetero compounds. Vest. Mosk. un. Ser. 2:Khim. 19 no.1:72-76 Ja-F '64. (MIRA 17:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

SHAKHOVA, Z.F.; DOROKHOVA, Ye.N.

Photometric determination of chromium based on the fading-out of silicomolybdenic acid coloration. Vest. Mosk. un. Ser. 2: Khim. 19 no.5:77-80 S-O '64. (MIRA 17:11)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

ACCESSION NR: AP4040671 S/0075/64/019/006/0734/0741

AUTHOR: Ku Tkhan' Long; Sudakov, F. P.; Shakhova, Z. F.

TITLE: Photometric determination of tellurium by weakening the color of a solution of silicomolybdic acid.

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 6, 1964, 734-741

TOPIC TAGS: tellurium, photometric analysis, telluromolybdic acid, silicomolybdic acid, alpha silicomolybdic acid, indirect photometric determination

ABSTRACT: A method was worked out for photometrically determining tellurium by the weakening of the color of a silicomolybdic acid solution. It was determined that Te (IV) weakens the yellow color of an aqueous solution of silicomolybdic acid due to the displacement of the Si from the silicomolybdate with the Te(IV). The more stable colorless compound telluromolybdic acid having the stoichiometric ratio of Te:Mo = 1:6 is formed. This color weakening was used for the indirect determination of stoichiometric ratios during the formation of telluromolybdic acid ions in the solution and for the indirect photometric determination of small amounts of Te. Since all forms of silicomolybdic acid tend to convert irreversibly

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ACCESSION NR: AP4040671

to the most stable alpha-form which does not decolorize in the presence of Te (IV), the reagents for analysis should be added in the following order: tellurium, molybdenum, acid, silicon. Since the color weakening is the same for the Mo:Si ratio range of 18:1 to 4:1, initial Mo:Si concentration should be about 18:1. The Te(IV)-containing solution to be analysed is mixed in a flask, ammonium molybdate is added, then 2N H_2SO_4 and finally Na_2SiO_3. The mixture is held for an hour and the optical density measured at 360 millimicrons on a spectrophotometer or on a photocolorimeter with a blue filter. Tellurium content is read from calibrated charts. Orig. art. has: 8 figures.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 08Oct63 ENCL: 00

SUB CODE: IC NO REF SOV: 002 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

L 14521-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/BSD/ASD(a)-5/AFMD(t)/ESD(gs)/ESD(t)
RDW/JD
ACCESSION NR: AP5001426 S/0075/64/019/008/0968/0974

B

AUTHOR: Ku Tkhan' Long; Sudakov, F. P.; Shakhova, Z. F.

TITLE: Photometric determination of tellurium in the form of phosphotelluromolybdic acid

27

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 8, 1964, 968-974

TOPIC TAGS: tellurium, inorganic acid, photometry

Abstract: The formation of phosphotelluromolybdic acid in solution and the possibilities of its use for the determination of tellurium were studied. It was found when tellurium (IV) is added to an acidified solution of phosphomolybdic acid, under definite conditions of acidity and concentration of the components, a yellow-colored ternary phosphotelluromolybdic acid is formed, with a molar ratio P:T:Mo = 1:1:11. The formation of this new compound was confirmed by the increase in the light absorption of pure phosphomolybdic acid in the presence of tellurium and the shift of the absorption spectrum into the long-wave region, by the different behavior of this system in comparison with phosphomolybdic acid under the influence of such

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548410001-7

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ACCESSION NR: AP5001426

factors as acidity, temperature and time, and the presence of the isochromes typical of a ternary compound on the triangular phase diagram of this system. Phosphotelluromolybdic acid is stable in the pH interval 1.5-3.0. This heteropoly acid was used for the photometric determination of small quantities of tellurium in the presence of selenium, measuring the optical density of the complex formed at 360 millimicrons. Orig. art. has: 1 figure and 7 graphs.

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

SUBMITTED: 08Oct63 ENCL: 00 SUB CODE: GC, OP

NO REF SOV: 005 OTHER: 001 JPRS

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SHAKHOVA, Z.F.; DOROKHOVA, Ye.N.

Rapid method of photometric determination of silicon in cast iron and steels. Vest. Mosk. un. Ser. 2; Khim. 20 no.2:77-78 Mr-Ap '65. (MIRA 18:7)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

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[illegible] F.[illegible] [illegible]

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