SOV/129-58-9-11/16

AUTHOR: Sazonova, N. D., Candidate of Technical Science

TITLE: Influence of Cold Hardening on the Creep Characteristics of Austenitic Steels (Vliyaniye naklepa na kharakteristiki polzuchesti austenitnykh staley)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 9, pp 46-49 (USSR)

ABSTRACT: A description is given of the investigations of the influence of the degree of preliminary deformation at room temperature on the creep characteristics. Three austenitic steels were tested; two of these (EI 69 and EI 257) were quenched in oil from 1180°C, the third, EI 395, was quenched from a temperature of 1200°C. The investigations were effected on standard specimens used in creep tests on the IP2 TsNIITMASh test machine with an active length of 200 mm and a diameter of 10 mm. In the finished state the specimens were deformed by static tension on the test machine TsNIITMASh IM12 with a speed of 2 mm/min. The investigated range of deformations reached 25 to 30%. The length and the diameter of the specimens was measured before and after the tensile tests. In Fig.1

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Influence of Cold Hardening on the Creep Characteristics of Austenitic Steels

the real stresses (kg/mm^2) of the investigated steels are graphed versus the relative extension; in Fig.2 the dependence of the hardness of the investigated steels on the relative extension is graphed. Fig.3 represents the primary creep curves of the steel EI257 at 625°C and a stress of 12 kg/mm^2; the same relations for the steel EI395 are graphed in Fig.4. In Fig.5 the dependence is graphed of the creep speed on the stress. In Fig.6 the dependence of the creep speed on the degree of preliminary deformation is graphed. The following conclusions are arrived at:

1) With increasing work hardening the elastic deformation during loading is reduced as well as the section of the non-steady state creep.

2) The steady state creep speed is reduced most intensively for lower preliminary deformation values. With increasing work hardening the creep speed decreases to a certain limit; a further increase in the degree of work hardening does not influence the creep speed for the investigated range of preliminary deformations in the studied interval of time.

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Influence of Cold Hardening on the Creep Characteristics of Austenitic Steels

3) The ability of a metal to increase its creep resistance as a result of preliminary deformation cannot be characterized as a critical hardening brought about at room temperature.
4) Preliminary deformation leads to an increase in the creep resistance of the investigated grades of steel. Thereby, a decrease in the speeds of the uniform creep is observed as well as a reduction of the section of the non-steady state creep. Both these factors ensure a considerable reduction of the total deformations for the given interval of time.
There are six figures.

1. Steel--Creep 2. Steel--Test results 3. Steel--Testing equipment
4. Steel--Hardening

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L 51477-65 EPR/EWP(k)/EWP(z)/EWT(m)/T-2/EWP(b)/EWA(d)/EWP(w)/EWP(t)/EWP(v)
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Sa:onova, Natal'ya Dmitriyevna

Testing heat-resistant materials for creep and rupture strength
(Ispytaniye zharoprochnykh materialov na polzuchest' i dlitel'nuyu prochnost'). Moscow. Izd-vo "Mashinostroyeniye", 1965. 264 p.

PURPOSE AND COVERAGE: This book is intended for workers of plant laboratories and Scientific Research Institutes of the aircraft, metallurgical, instrument manufacturing, and pipe manufacturing industries, and other branches of machine-building. It may also be useful to teachers and students of respective specialization. The book deals with methods of testing creep and strength of metals under various loads (stretching, compression, bend, torque) and under conditions of complex stress. Specific features of dynamic creep tests, creep tests at nonstationary temperatures and stresses, and

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also under conditions of aerodynamic heating are discussed. Test units and instruments are described. Suggestions on procedure of carrying out experiments, evaluation of their results and their practical application are made. The author thanks I. P. Bulygin, Candidate of Technical Sciences, for his valuable comments.

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2. Methods of carrying out tests -- 230
3. Processing of test results -- 245

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1. Conversion of metric system units into international system units -- 250
2. Form of recording results of creep and rupture strength tests of metals -- 250

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SUB CODE: MM SUBMITTED: 24Dec64 NO REF SOV: 195

OTHER: 204

Card 6/6

PALISHKIN, D.A.; IVANOV, V.I.; MAKARENKO, L.N.; GALAOV, K.K.; TROSHCHIN, S.I.; KPTSYUK, V.I.; STEPANOV, A.D.; SAZONOVA, N.I.; KUZNETSOVA, M.P.; PISARENKO, G.N.; LOBKOV, M., red.

[Mechanization in animal husbandry] Mekhanizatsiia v zhivotnovodstve. Stavropol', Stavropol'skoe knizhnoe izd-vo, 1963. 287 p. (MIRA 17:8)

SAZONOVA, N.K., PLESHKO, G.S.

Investigating some types of raw ceramic materials from the Korean People's Democratic Republic. Trudy LTI no.57:30-49 '59.
(MIRA 13:8)
(Korea, North—Ceramic materials)

AVGUSTINIK, A.I.; SAZONOVA, N.K.; ROZHKOVA, R.A.

Effect of some technological factors on the manufacturing process of "keramzit" from Cambrian clay. Trudy LTI no.59:47-53 '61. (MIRA 17:9)

Arbuzov, A.Ye. Sazonova, N.N.

AUTHORS: Arbuzov, A. Ye., Academician, [illegible], 20-6-18/48
and Sazonova, N. N.

TITLE: The Interaction of the Intermediate Products of Arbuzov's Rearrangement with Amines (Vzaimodeystviye promezhutochnykh produktov arbuzovskoy peregruppirovki s aminami).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1119-1121 (USSR).

ABSTRACT: In 1905 the first author discovered a rearrangement which later on was given the name "Arbuzov's rearrangement". Its general scheme is given. The intermediate complexes of phosphites behave differently according to the fact whether they contain an aliphatic or an aromatic radical. In the case of aliphatic radicals the complex is unstable; in the case of aromatic radicals, however, the complex can be isolated in an analytically pure form. The above-mentioned intermediate products are substances capable of reaction. They show an energetic interaction with water and various alcohols. A reaction scheme of the intermediate complexes with alcohols (according to Landauer and Ridon) is give. As far as the first phase of this reaction, according to all probability, takes place at the expense of the active hydrogen of the alcohol, a similar reaction might be expected with other substances containing active hydrogen. Instead of alcohol the

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The Interaction of the Intermediate Products of Arbuzov's Rearrangement with Amines.

authors chose secondary amines. Table 1 shows the complexes, obtained by the authors, which they used for the reaction with diethyl- and dimethyl-amine. At first some intermediate complexes were decomposed by ethanol and ethers of the alkylphosphinic acids were obtained (table 2, no.1-4). It is known that this latter reaction takes place under giving off much heat. The same holds for the reaction with amines. Phenol or its analogue, accordingly, were always quantitavely separated as a consequence of the interaction reaction of the products no. 1-5 (table 1). Most of the products represented viscous, slightly brown liquids (with the exception of no. 2 that could be crystallized). When left standing in the air, they saponified under separation of a iodine-hydrogen-salt of dialkylamine. In the attempt to isomerize the ether of the diethylamido-diphenyl-phosphorous acid by iodine methyl, a product was obtained which is identical with the interaction product of methyltriphenoxyphosphonium with diethylamine. The production method of amidophosphite is also explained. For the purpose of confirming the supposed structure of the substances no. 1-4 (table 3), a number of chemical reactions was performed. From that it could be concluded that the methyl group in product no. 1 is connected with phosphorus. Iodine is here pre-

The Interaction of the Intermediate Products of Arbuzov's Rearrangement with Amines.

sent as ion. Only ba this structure the non-occurring reaction according to schemes (1) and (2) can be explained. The scheme of the formation of the products no. 1-4, suggested here, is confirmed by a number of works by other authors concerning the isomerization of amidophosphites by haloidalkyls in contrast to the isomerization of diamidophosphites. In this latter case a normally isomerized product, a non-distillable mass and a dialkylamine salt develop. There are 3 tables and 6 Slavic references.

SUBMITTED: April 29, 1957.

AVAILABLE: Library of Congress.

Card 3/3

SAZONOVA, N. N.

Cand Chem Sci - (diss) "Production and study of properties of phenyl esters of phosphorus acid with different substituents in the ring /yadra/." Kazan', 1961. 11 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Kazan' Order of Labor Red Banner State Univ imeni V. I. Ul'yanov-Lenin); 120 copies; price not given; (KL, 6-61 sup, 199)

SAZONOVA, N.S.

Functional disorders of the maternal hypophysis during pregnancy as an injurious factor in the development of children and particularly of their brain. Nauch. inform. Otd. nauch. med. inform. AMN SSSR no.1:41-43 '61 (MIRA 16:11)

1. Institut pediatrii (direktor - dotsent M.Ya. Studenikin) AMN SSSR, Moskva.

SAZONOVA, N.S.

Causes of congenital insufficiency of the hypophysial system in children. Vop.okh.mat.i det. 7 no.12:3-8 D'62. (MIRA 16:7)

1. Iz laboratorii po izucheniyu razvitiya mozga i psikhonevrologicheskoy kliniki (zav.-chlen-korrespondent AMN SSSR prof. B.N. Klosovskiy) Instituta pediatrii (dir.-dotsent M.Ya. Studenikin) AMN SSSR.
(PITUITARY GLAND--DISEASES) (PREGNANCY, COMPLICATIONS OF)
(CHILDREN--DISEASES)

SAZONOVA, N.S. (Moskva)

Effect of a disturbed hypophyseal function (acromegaly) during pregnancy on the development of the brain in the fetus and child. Probl. endok. i gorm. 9 no.3:87-92 My-Je '63. (MIRA 17:1)

1. Iz psikhonevrologicheskoy kliniki i laboratorii po izucheniyu razvitiya mozga (rukovoditel' - chlen-korrespondent AMN SSSR prof. B.N. Klosovskiy) Instituta pediatrii (dir. - dotsent M.Ya. Studenikin).

SAZONOVA, O. N.

Mbr., Khanty-Mansiysk Tularemia Sta., -1946-. Mbr., Inst. Normal & Pathological Morphology Dept. Medico-Biol. Sci, Acad. Med. Sci., -c1949-. "Regularities in Transmitted Outbreaks of Tularemia in Western Siberia," Med. Parazitol. i Parazitar. Bol., No. 1, 1946; "The Possibility of Transmitting by Bloodsucking Insects, the Agent that Causes Cancer of the Mammary Glands in Mice," Dok. AN, 69, No. 1, 1949.

VYSOTSKAYA, S.O.; SAZONOVA, O.N.

Flea parasitic on fauna of Leningrad Province. Paraz.sbor. 15:386-409 '53. (MLRA 7:5)

1. Zoologicheskiy institut Akademii nauk SSSR.
(Leningrad Province--Fleas) (Fleas--Leningrad Province)

SAZONOVA, O.N.

Description of a new genus of bloodsucking mosquitoes Aedes (Ochlerotatus) grandilarva sp. nova. Biul.MOIP. Otd.biol.60 no.4:99-102 Jl-Ag'55. (MLRA 8:12)

(MOSQUITOES)

SAZONOVA, O.N.

New species of a bloodsucking mosquito of the genus Aëdes Arr. (Diptera, Culicidae) from the European U.S.S.R. Parazit.sbor.16: 145-151 '56. (MIRA 9:7)

1.Darvinskiy gosudarstvennyy zapovednik.
(Mosquitoes)

SAZONOVA, O.K.

Table for the determination of female mosquitoes of the genus Aëdes Mg. (Diptera, Culicidae)from the forest zone of the U.S.S.R. (MIRA 11:10)
Ent. oboz. 37 no. 3:741-752 '58.
(Mosquitoes)

SAZONOVA, O. N.

"Biotic Forms of Mosquitoes - Vectors of Infectious Diseases and Their Distribution by Geographic Zones."

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

Institute of Epidemiology and Microbiology, Academy of Medical Sciences USSR (Moscow)

SAZONOVA, O. N., Doc Biol Sci -- (diss) "Mosquitos of the Genus Aedes of the Forest Zone of the European Part of the RSFSR and Biological Principles for Combating Them." Leningrad, 1960, 23 pp, (Zoological Inst Academy of Sciences USSR. Scientific Council) 250 copies, no price given, list of the author's works, pp 23-24 (13 entries)
(KL, 21-60, 120)

SAZONOVA, D. N.

"Zonal Regularities of Distribution and Biology Mosquitos (Gen. Aedes) in the European Part of the USSR

report submitted for the Intl. Congress of Entomology, Vienna, Austria, 17-25 Aug 1960

SAZONOVA, O.N., kand.biol.nauk

Control of blood-sucking midges. Nauka i zhizn' 27 no.3:78 Mr '60. (MIRA 13:6)

(DIPTERA)

SAZONOVA, O.N.

Blood-sucking mosquitoes in Moscow. Med.paraz.i paraz.bol 29 no.5:541-544 S-O '60. (MIRA 13:12)

1. Iz otdela infektsiy s pri odnoy ochagovost'yu Instituta epidemiologii i mikrobiologii AMN SSSR imeni N.F. Gamaleya (dir. instituta - prof. S.N. Muromtsev, zav. otdelom - prof. P.A. Petrishcheva).
(MOSCOW--MOSQUITOES)

SAZONOVA, O.N.

Fleas living on small mammals and birds in the area of the Rybinsk Reservoir. Zool.zhur. 39 no.4:546-552 Ap '60. (MIRA 13:11)

1. Department of Infections of Natural Nidality, Intitute of Epidemiology and Microbiology of the U.S.S.R. Academy of Medical Sciences, Moscow.
(Rybinsk Reservoir region--Fleas)

SAZONOVA, P.A.

USSR

Fighting Acroptilon picrea with chemical means. G. A. Martirosyan and P. A. Sazonova. *Zemledelie* 2, No. 6, 110-14(1954).—The most effective herbicide was Bu 2,4-dichlorophenoxyacetate at 0.5 kg./ha. J. S. J.

S/072/60/000/009/008/009/XX
B021/B058

AUTHORS: Dubova, O. A., Begel'fer, K. I., Sazonova, P. A., Funtikova, K. M.

TITLE: Complexometric Determination of Aluminum in High-alumina Materials

PERIODICAL: Steklo i keramika, 1960, No. 9, pp. 43-44

TEXT: The content of aluminum oxide in aluminous raw materials has so far been gravimetrically determined in the laboratory. This method is, however, time-consuming and does not permit a quick sorting of the incoming raw material. In order to speed up analysis, the works laboratory used the method of accelerated complexometric titration Al_2O_3 in aluminous raw materials and refractories. In order to prove the suitability of this method, a series of comparative analyses of Al_2O_3 were made by the gravimetric and complexometric method, and are tabulated. These data show the sufficient accuracy of the complexometric method. The method proposed here is described next in detail. Trilon was used as a reagent. There are

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Complexometric Determination of Aluminum in High-alumina Materials

S/072/60/000/009/008/009/XX
B021/B058

1 table and 1 Soviet reference.

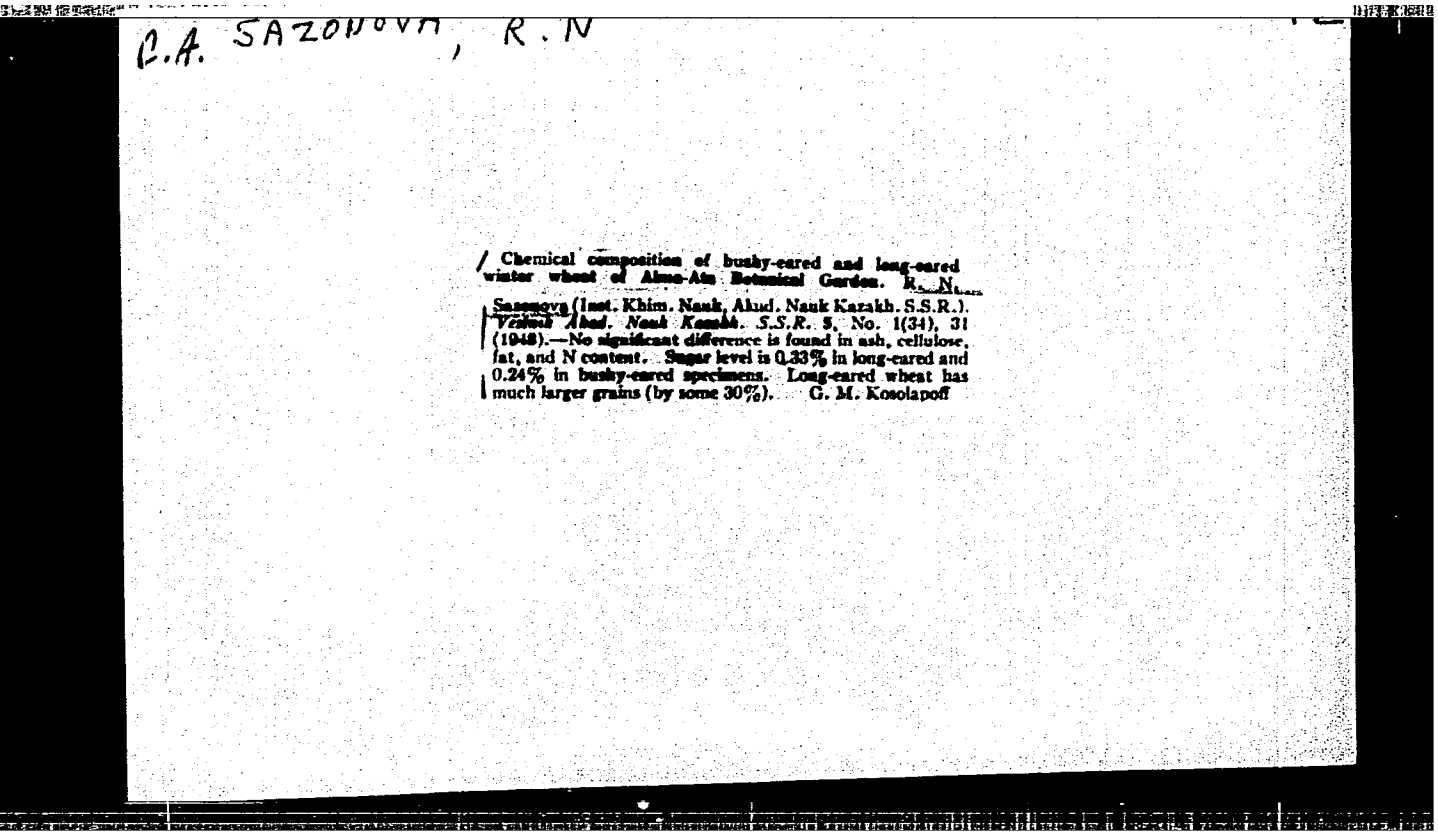
ASSOCIATION: Lisichanskiy stekol'nyy zavod (Lisichansk Glass Works)

Card 2/2

BEGEL'FER, K.I.; SAZONOVA, P.A.; FUNTIKOVA, K.M.

Rapid EDTA method of separate determination of the oxides Fe_2O_3 and Al_2O_3 in materials containing aluminum. Stek.i ker. 19 no.4:30-31 Ap '62. (MIRA 15:8)

1. Lisichanskiy stekol'nyy zavod.
(Acetic acid) (Iron oxides) (Aluminum oxides)



C.A. SAZONOVA, R.N

/ Chemical composition of bushy-eared and long-eared winter wheat of Alma-Ata Botanical Garden. R. N. Sazonova (Inst. Khim. Nauk, Akad. Nauk Kazakh. S.S.R.). *Vestnik Akad. Nauk Kazakh. S.S.R.* 5, No. 1(34), 31 (1948).—No significant difference is found in ash, cellulose, fat, and N content. Sugar level is 0.33% in long-eared and 0.24% in bushy-eared specimens. Long-eared wheat has much larger grains (by some 30%). G. M. Kosolapoff

SAZONOVA, R.N.

POLYAKOV, P.P.; SAZONOVA, R.N.; SHABADOV, I.M.

Mikhail Ivanovich Goriaev; on the 50th anniversary of his birth and 25th anniversary of his scientific activities. Vest. AN Kazakh.SSR 11 no.12:39-41 D '54. (MIRA 8:3)
(Goriaev, Mikhail Ivanovich, 1904-)

SAZONOVA, R. N.

Quantitative methods for the determination of alkaloids. 7
II. Determination of alkaloids in Ephedra. M. I. Goryaev, R. N. Sazonova, and I. M. Shabanov. Vestnik Akad. Nauk

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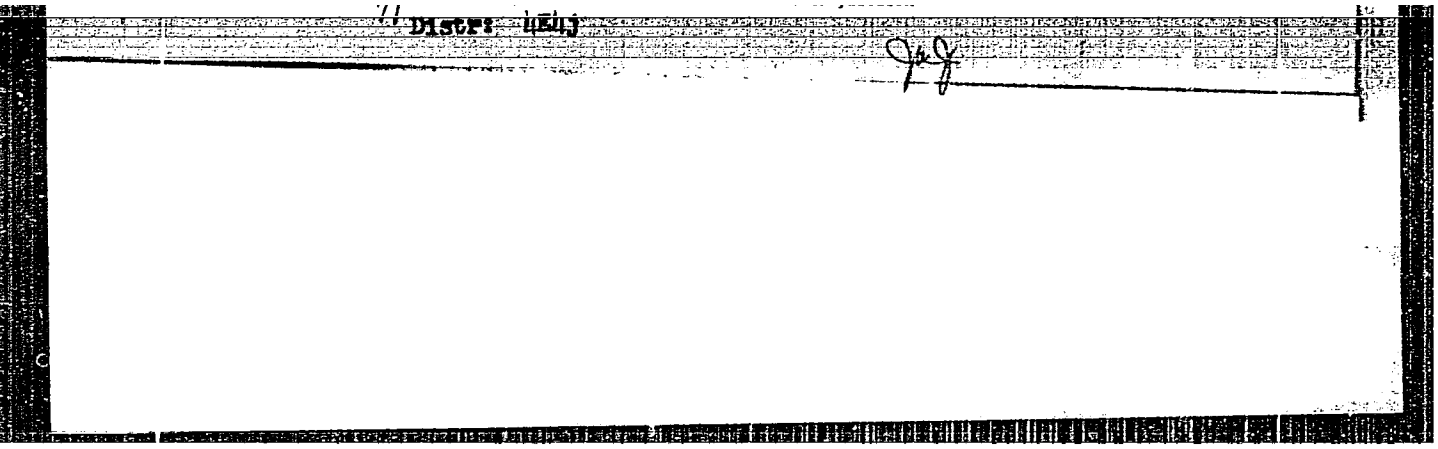

SAZONOVA, R. N.

GORYAYEV, M.I.; SAZONOVA, R.N.; CHABANOV, I.M.

Alkaloid determination in Ephedra by distilling with superheated steam. Zhur. prikl. khim. 31 no.2:289-298 F '58. (MIRA 11:5)
(Ephedra) (Distillation)

GORYAYEV, M.I.; SAZONOVA, R.N.; POLYAKOV, P.P.

Work results of the expedition for the study of wild aromatic plants in southern Kazakhstan, organized by the Academy of Sciences of the Kazakh S.S.R. in 1951. Report No.2. Trudy Inst. khim. nauk AN Kazakh. SSR 4:17-23 '59. (MIRA 13:3)
(Kazakhstan--Wormwood)

GORYAYEV, M.I.; SAZONOVA, R.N.; POLYAKOV, P.P.

Work results of the expedition of 1952 for the study of aromatic plants in Kazakhstan and Central Asia. Trudy Inst. khim. nauk AN Kazakh. SSR 4:24-29 '59. (MIRA 13:3)
(Kazakhstan--Wormwood) (Soviet Central Asia--Wormwood)

GORYAYEV, M.I.; SAZONOVA, R.N.; POLYAKOV, P.P.; BELOVA, Ye.A.

Santonin-bearing wormwood species of the subgenus Seriphidium (Bess.) Rouy from Kazakhstan and Central Asia. Trudy Inst. khim. nauk AN Kazakh. SSR 4:68-96 '59. (MIRA 13:3)

(Santonin) (Kazakhstan--Wormwood) (Soviet Central Asia--Wormwood)

GORYAYEV, M.I.; SAZONOVA, R.N.

Effect of light on santonin solutions. Trudy Inst. khim. nauk AN Kazakh. SSR 4:100-111 '59. (MIRA 13:3)
(Santonin) (Photochemistry)

GORYAYEV, M.I.; SAZONOVA, R.N.; SATDAROVA, E.I.; SHABANOV, I.M.

Constancy of amide and ammonia nitrogen concentration in the ephedra in connection with alkaloid synthesis in plants. Trudy Inst. khim. nauk AN Kazakh. SSR 4:123-126 '59. (MIRA 13:3)
(Ephedra) (Alkaloids)

GORYAYEV, M.I.; SAZONOVA, R.N.

Extraction and study of the composition of fatty oil from seeds of wild Angelica brevicaulis (Rupr.) B. Fedtsch. plants. Trudy Inst. khim. nauk AN Kazakh. SSR 4:138-141 '59. (MIRA 13:3)
(Angelica) (Oils and fats)

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SOV/80-32-10-32/51

AUTHORS: Goryayev, M. I., Moshkevich, S. A., Sazonova, R. N., Shabanov, I. M.

TITLE: Determination of the Ephedra Alkaloids by the Oxalate Method

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2313-2320 (USSR)

ABSTRACT: This is the third paper on the quantitative determination of alkaloids and deals with the determination of alkaloids of ephedra. The method is based on the solubility of alkaloids of ephedra, using oxalic acid. The oxalate of pseudoephedrine is readily soluble in cold water, but the oxalate of ephedrine is almost insoluble in water. For this purpose the alkaloid of ephedra is titrated with 2% oxalic acid until neutral to litmus. Determination of ephedrine and pseudoephedrine can be carried out by two methods: (1) alkaloids were isolated by the usual standard method, by infusion with 1% H_2SO_4 and extraction with ether; (2) alkaloids were isolated from the plant by steam distillation. Besides

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ephedrine and pseudoephedrine in the mixture of the ephedra alkaloids, insignificant amounts of l-norephedrine and l-N-methylephedrine were found. The basic ephedrine was isolated from the ephedrine oxalate. Ephedrine hydrochloride has mp 215-216°. A mixed mp determination of the obtained sample with ephedrine hydrochloride showed no depression. Khorenko, E. A., took part in the development of the above methods. There are 5 tables; and 14 references, 5 Soviet, 2 U.S., 3 German, 1 Chinese, 1 Japanese, 1 French, 1 British. The 3 U.S. and British references are: Shou, T. Q., J. Biol. Chem., 70, 109 (1926); Black, O. F., and Kelly, J. W., Am. J. Pharm., 99, 12, 748 (1927); Smith, S., J. Chem. Soc., 2056 (1927).

SUBMITTED: May 23, 1958

5.5200,5.3610,5.3900

78245
SOV/80-33-3-46/47

AUTHORS: Goyayev, M. I., Sazonova, R. N., Moshkevich, S. A., Shabanov, I. M.

TITLE: Brief Communication. Oxalic Method of Alkaloids Determination in Ephedra Using Permanganate Titration

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 748-750 (USSR)

ABSTRACT: This is Communication IV of a series of studies on quantitative analytical methods for the determination of alkaloids. The authors developed a separative determination of ephedrine and pseudoephedrine in ephedra plants by titration of the alkaloid oxalates with $KMnO_4$ in acid medium. A 2% aqueous solution of oxalic acid was added from a microburette to the mixture of alkaloids extracted from the plants with the standard method, until a neutral litmus reaction was obtained. The mixture was then heated slowly until complete

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Brief Communication. Oxalic Method of Alkaloids Determination in Ephedra Using Permanganate Titration

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dissolution of the alkaloids. Cooling the solution to room temperature precipitated ephedrine oxalate in crystal form. The precipitate was dissolved with diluted sulfuric acid (1:100), heated to 80-90° C, and titrated while warm with 0.1N solution of $KMnO_4$.

Pseudoephedrine oxalate in the filtrate was titrated in the same manner. The new method takes only 2 days as compared with 3-4 days required by the old method prescribed by GOST and based on different solubilities of the two alkaloids in petroleum ether. There are 2 tables; and 9 references, 2 Chinese, 7 Soviet.

ASSOCIATION: Alkaloid Laboratory of the Institute of Chemical Sciences, Academy of Sciences, Kazakh SSR (Laboratoriya alkaloidov Instituta khimicheskikh nauk AN Kazakhskoy SSR)

SUBMITTED: August 27, 1959

Card 2/2

DZHALILOV, D.R.; SAZONOVA, R.N.; GORYAYEV, M.I.

Separation of alkaloids on cellulose powder. Aptech. delo 12 no.3: 34-36 My-Je'63 (MIRA 17:2)

SYSOYEV, L. A.; KRAYNYUKOV, N. I.; SKOROBOGATOV, B. S.; SAZONOVA, S. A.

Luminescence of zinc sulfide single crystals grown from a melt. Opt. i spektr. 13 no.6:859-861 D '62. (MIRA 16:1)

(Zinc sulfide crystals—Growth)
(Zinc sulfide—Spectra)

ACCESSION NR: AP4020973 S/0051/64/016/003/0538/0539

AUTHOR: Skorobogatov,B.S.; Sazonova,S.A.; Dolgopolova,A.V.; Kovaleva,L.V.

TITLE: Luminescence of trivalent samarium in NaCl and KCl crystals

SOURCE: Optika i spektroskopiya, v.16, no.3, 1964, 538-539

TOPIC TAGS: sodium chloride host, potassium chloride host, rare earth activator, laser material, samarium ion, samarium 3+

ABSTRACT: The study is one of a series devoted to investigation of the luminescence of trivalent rare earth ions in NaCl and KCl single crystals, grown by the authors. This paper describes the results obtained for trivalent samrium in NaCl and KCl. The luminescence spectra of Sm^{3+} in NaCl were recorded at 77, 300 and 450°K (the spectrograms are reproduced). Three characteristic line groups are observed at all three temperatures; the most intense lines are probably associated with transitions from the lowest radiative level to the levels of the ground state multiplet. Fine structure is evinced at all the above temperatures, but at 77°K the spectrum is simplified and the lines become much narrower. The above mentioned spectra are compared with the spectrum of Sm^{3+} in CaF_2. The spectra are similar, but some of the

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ACCESSION NR: AP4020973

lines evinced in the spectrum of Sm^{3+} in CaF_2 at 300°K appear in the spectrum in NaCl only at 450°. In the spectrum of Sm^{3+} in KCl at 300°K (the only one shown) only three lines are observed; these agree in frequency with the principal lines in the spectrum of Sm^{3+} in NaCl; this would indicate that in view of the difference in ionic radii the Sm^{3+} ion is less readily incorporated into the KCl lattice as compared with the NaCl lattice. The reproduced luminescence spectra were recorded by means of an ISP-51 spectrograph with an f = 270 mm camera on Agfa-640 film. The luminescence was excited by filtered radiation from a mercury discharge tube. "The authors are grateful to P.P.Feofilov for his interest in the work and for making available the CaF_2-Sm^{3+} crystal." Orig.art.has: 2 figures.

ASSOCIATION: none

SUBMITTED: 24Jun63 DATE ACQ: 02Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 000 OTHER: 003

Card 2/2

ACCESSION NR: AP4042993 S/0051/64/017/001/0141/0143

AUTHORS: Dolgopolova, A. V.; Kovaleva, L. V.; Sazonova, S. A.; Skorobogatov, B. S.

TITLE: On the luminescence of rare earth ions in NaCl crystals

SOURCE: Optika i spektroskopiya, v. 17, no. 1, 1964, 141-143

TOPIC TAGS: luminescence, sodium chloride, rare earth element, praseodymium, terbium, ytterbium, gadolinium, neodymium

ABSTRACT: Continuing earlier research on NaCl crystals activated with trivalent samarium ions (Opt. i spektr. No. 3, 538, 1964), the authors report the luminescence of Pr^{3+}, Tb^{3+}, Gd^{3+}, Nd^{3+}, and Yb^{2+} in NaCl crystals, and present the luminescence spectra for Pr^{3+} and Tb^{3+} at room and low temperatures, and the absorption spectra of Yb^{2+} in NaCl, KCl, and KBr. Some of the possible level transitions responsible for the most pronounced lines are indicated.

ACCESSION NR: AP4042993

Comparisons are made with results by others. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 16Aug63 ENCL: 00

SUB CODE: OP, IC NR REF SOV: 005 OTHER: 002

2/2

L 43910-65 EPF(c)/EPF(n)-2/EPA(s)-2/EWT(1)/EWT(m)/EWP(b)/EWP(t) ... Pi-4/Pr-4/Pu-4 IJP(c) JD/JG

ACCESSION NR: AP5009513 S/0048/65/029/003/0406/0408 52 49 B

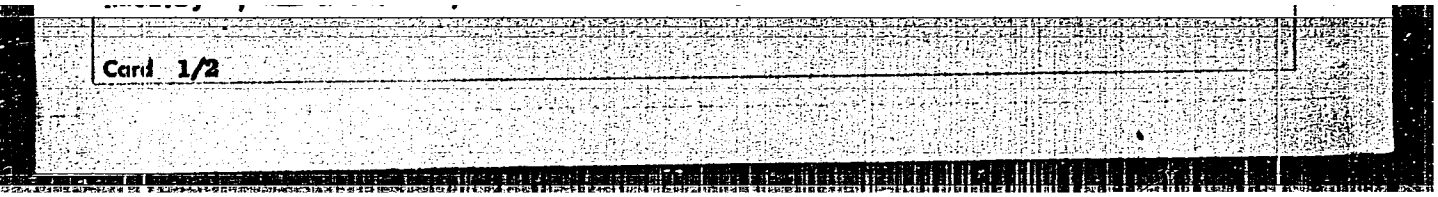
AUTHOR: Skorobogatov, B.S.; Sazonova, S.A.; Dolgopolova, A.V.; Kovaleva, L.V.

TITLE: Luminescence of trivalent rare earth ions in NaCl crystals /Report, 12th Conference on Luminescence held in L'vov, 30 Jan-5 Feb 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 3, 1965, 406-408

TOPIC TAGS: luminescence, luminescence spectrum, luminescent crystal, sodium chloride, rare earth element

ABSTRACT: The authors have investigated the luminescence of trivalent Nd, Pr, Sm, Gd, Tb, Dy, and Er ions in NaCl crystals. Two types of luminescence center were found; which type was realized in a given crystal depended on undisclosed conditions under which the crystal was grown. The luminescence spectrum of one type consists essentially of a line spectrum of the rare earth; the luminescence spectrum of the other type contains, in addition to the line spectrum, a broad band in the blue, the origin of which is not understood. Photographs are presented of the lumin-



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447520002-6"

spectrum of NaCl:Tb^{3+} are presented graphically. These spectra are discussed and the transitions responsible for many of the lines are identified. In NaCl:Sm^{3+} the

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: GP, GS

NR REF SOV: 000 OTHER: 003

Card 2/2 MB

L 15562-66 EWT(1)/T IJP(o) GG

ACC NR: AP6004410 SOURCE CODE: UR/0051/66/020/001/0096/0100

AUTHOR: Ageyeva, N. K.; Dubovik, M. F.; Rybkin, Yu. F.; Sazonova, S. A.; Skoroboga-tov, B. S.; Smirnova, O. M.

ORG: none

TITLE: A method for producing lanthanon-activated cadmium fluoride crystals and an investigation of their luminescence

SOURCE: Optika i spektroskopiya, v. 20, no. 1, 1966, 96-100

TOPIC TAGS: calcium fluoride, cadmium compound, fluoride, phosphor crystal, rare earth element, luminescence, absorption spectrum

ABSTRACT: The authors report on a method for producing cadmium fluoride phosphor crystals activated by rare earth ions. The general nature of luminescence in these crystals is studied. The crystals were grown from anhydrous cadmium fluoride produced by sintering a mixture of cadmium oxide with ammonium fluoride. The hydrogen fluoride released during thermal decomposition converts the cadmium oxide into cadmium fluoride. Litmus paper may be used for determining the degree of conversion. The vapors released during the process are alkaline, changing to neutral or weakly

Card 1/2

UDC: 535.37 : 548.0

acid at the end. This indicates decomposition of excess ammonium fluoride. The purity of the initial reagents has a strong effect on the quality of the product. Absorption spectra were used for checking the degree of purity of the final crystal. Crystals were produced with a transmission factor of 30% for a thickness of approximately 5 mm at a wave length of 200 mμ. Activator concentrations were 0.2, 1, 5 and 10 mol.% for CdF_2 crystals with NdF_3 and 0.2 mol.% for crystals with the other lanthanides. The following trivalent activating ions were studied: Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tu and Yb. A comparison of the luminescence spectra for these ions in cadmium fluoride and calcium fluoride crystals shows that in spite of the identical types of lattice and the close parameters, the behavior of rare earth ions in these crystals has very little in common. This is emphasized particularly in the luminescence spectra for trivalent Pr, Dy and Tb and in the absence of luminescence for thulium. The difference between these two matrices shows up in the valence of the impurity ions. For instance europium is usually bivalent in calcium fluoride, while it is always trivalent in cadmium fluoride. This may be explained by the difference in oxidation potentials for bivalent calcium and cadmium. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 30Jul64/ ORIG REF: 002/ OTH REF: 008

SAZONOVA, S.V.; ~~PITIRIMOVA, Ye.D., glavnyy vrach; KLEMPARSKAYA, N.N., profes-~~ sor, zaveduyushchaya.

Analysis of the concentration dysentery bacteria from the material of the bacteriological laboratory of the municipal station of hygiene and epidemiology; author's abstract. Zhur.mikrobiol.epid.i immun. no.4:54-55 Ap '53. (MLRA 6:6)

1. Gorodskaya sanitarno-epidemiologicheskaya stantsiya (for Pitirimova, Sazonova). 2. Kafedra mikrobiologii Chelyabinskogo meditsinskogo instituta (for Klemparskaya, Sazonova). (Dysentery)

During 1950-51, the prevalent species of dysentery bacteria were Flexner bacilli of Type W. ~~Sonne~~ Sonne bacilli were isolated much less frequently. The degree of seeding out of Flexner bacilli as compared with Sonne bacilli differed with the typr of the stool.

EBERT, L.Ye.; SAZONOVA, S.V.; VEGIS, Z.S.

Phage sensitivity of dysentery bacteria isolated in Chelyabinsk in 1962. Zhur. mikrobiol., epid. i immun. 42 no.11:137 N '65. (MIRA 18:12)

1. Chelyabinskiy meditsinskiy institut i Gorodskaya sanitarno-epidemiologicheskaya stantsiya, Chelyabinsk. Submitted Nov.20, 1964.

SAZONOVA, T. N., and KLEYMENOV, V. Ya.,

"Plasticity of VT-2 Alloy Under Manufacturing Conditions," Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and Its Alloys; Metallurgy and Physical Metallurgy), Moscow, Izd-vo AN SSSR, 1958. p 145.

(Ministry of the Aircraft Industry of the USSR).

SAZONOVA, T. N.

PHASE II - ABSTRACTS

18(2)

Akademiya nauk SSSR. Institut metallurgii

Titan i yego splavy; metallurgiya i metallovedeniye (Titanium and Its Alloys; Metallurgy and Physical Metallurgy) Moscow, Izd-vo AN SSSR, 1958. 209 p. 4,000 copies printed.

Resp. Ed.: N.V. Ageyev, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Mahesnikov; Tech. Ed.: A.A. Kiseleva.

INTRODUCTION: This book, of which a Phase I Exploitation (SOV/1200) has been prepared, is a collection of scientific papers devoted to the study of titanium and its alloys from three main points of view: physical metallurgy, forming, and welding. Special problems investigated include structural changes occurring during welding, determination of the content of harmful gases, development of industrial methods of rolling, and oxidation at various temperatures.

PART I. PHYSICAL METALLURGY

Card 1/43

Titanium and Its Alloys (Cont.)

out the entire temperature range than those for IMP-1. If it is borne in mind that titanium begins to oxidize markedly at temperatures above 800°, it is easily seen that the 600-800° range is the most advantageous for hot forming, since the energy required for deformation in this range is comparatively small while the ductility is sufficiently high. There are 8 figures (all graphs) and 8 references (all Soviet).

Kleymenov, V.Ya. and T.N. Sazonova (Ministry of the Aircraft Industry of the USSR) Ductility of VT-2 Alloy Under Manufacturing Conditions 145

This investigation was carried out by the following methods: (1) determination of impact toughness at various temperatures; (2) upsetting with a drop hammer on a hydraulic press at various temperatures with various degrees of deformation; (3) short-time fracture and torsion tests at various temperatures; (4) determination of specific pressures in drop-hammer upsetting at various temperatures and various degrees of deformation; (5) study of the effect of carbon content on ductility; (6) metallographic and x-ray analysis of variously deformed specimens; (7) experimental rolling at various temperatures and with various reductions;

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...tion furnaces. For

ease of operating the forming equipment, the optimum temperature for forming VT-2 alloy is 1200°, but for minimum absorption of gases the initial temperature should be 1000-1050° with a final temperature of 900°, or 850° if absolutely necessary. In order to obtain good mechanical properties, the alloy should be formed in stages so that each heating may be followed by a deformation of not less than 30 percent. To prevent anisotropy of properties, associated with columnar structure and nonuniform deformation, it is desirable to carry out the forming with large deformations, changing the axis of deformation. Strengthening of the alloy in the process of forming may be accomplished by reducing the temperature and increasing the degree of deformation. Considering the rather narrow temperature range for hot working and the high resistance to deformation at lower temperatures, and in order to assume more uniform deformation and to maintain the plasticity of the alloy under manufacturing conditions, the forming tools should be preheated to 250-400° C. There are 8 figures, but no references.

KLEYMENOV, V.Ya.; SAZONOVA, T.N.

Industrial plasticity of the BT2 alloy. Titan i ege splavy no. 1:145-151 '58. (MIRA 14:5)

1. Ministerstvo aviatsionnoy promyshlennosti SSSR.
(Titanium alloys—Testing)
(Plasticity)

PHASE I BOOK EXPLOITATION SOV/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [abornik dokladov,...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference), Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Mikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Druzgul'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Balance of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: heating, forming, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature melts, dies, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

KORNEYEV, Nikolay Ivanovich, prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauki i tekhniki; SKUGAREV, Ivan Grigor'yevich, dotsent, kand.tekhn.nauk. Prinimali uchastiye: KLSYMENOV, V.Ya.; SAZONOVA, T.N., inzh. OSIPOVA, L.A., red.izd-va; CHERNOVA, Z.I., tekhn.red.

[Principles of the physical and chemical theory of press forging; thermomechanical factors in the working of metals and alloys] Osnovy fiziko-khimicheskoi teorii obrabotki metallov davleniem; termomekhanicheskie faktory obrabotki metallov i splavov. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 315 p. (MIRA 13:9)

(Forging) (Physical metallurgy)

SAZONOVA, T.N.

PHASE I BOOK EXPLOITATION SOV/4262

Akademiya nauk SSSR. Komissiya po tekhnologii mashinostroyeniya

Obrabotka zharoprochnykh splavov (Treatment of Heat-Resistant Alloys) Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: V.V. Brizgul'.

PURPOSE: This collection of papers is intended to summarize current information on the treatment of heat-resistant alloys with a view toward coordination further research.

COVERAGE: The book is a collection of papers presented at the Conference on Heat-Resistant Alloys, held 18-21 December 1957 by the Commission on Machine-Construction Technology of the Institut mashinovedeniya AN SSSR (Institute of Machine Science, Academy of Sciences USSR). The thirty papers in the collection deal with the casting, pressure working, welding, and cutting of heat-resistant alloys. No personalities are mentioned. References accompany several of the articles.

Card 4/6

BOKSHTEYN, S.Z.; KISHKIN, S.T.; NIKISHOV, A.S.; POLYAK, E.V.; SOLOV'YEVA, G.G.; Prinimali uchastiye: ARZHAKOV, V.M.; BULANOV, A.V.; VERTYUKOVA, L.G.; KORABLEVA; MIRSKIY, L.M.; PODVOYSKAYA, O.N.; SAZONOVA, T.N.; SOLONINA, O.P.; TITARENKO, I.I.; RINK, L.P.; KOZLOVA, M.N.; YERMOLOVA, M.I.; MOROZ, L.M.

Aging of plastically deformed alloys. Metalloved. i term. obr. met. no.5:40-44 My '63. (MIRA 16:5)
(Heat-resistant alloys--Hardening) (Deformations (Mechanics))

L 04631-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6010099 (N) SOURCE CODE: UR/0129/66/000/003/0060/0062

AUTHORS: Arkovenko, G. I.; Grekov, N. A.; Lyapicheva, N. F.; Sazonova, T. N.

ORG: none

TITLE: Relaxation of tensions in titanium alloys, as a function of hot deformation conditions

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1966, 60-62

TOPIC TAGS: titanium alloy, metal grain structure, metal deformation / VT3-1 titanium alloy, VT-14 titanium alloy

ABSTRACT: The influence of temperature and degree of deformation on the relaxation of tensions in the titanium alloys VT14 and VT3-1 was studied. The chemical composition, the usual mechanical properties, the grain size and grain structure, and the microstructure of the alloys were investigated. The experimental results are presented in graphs and tables (see Fig. 1). It was found that the deformation of alloys VT3-1 and VT-14 specimens in the β-region leads to a formation of coarse grains and to a decrease in the relaxation stability. Lowering the deformation temperature to the $(\alpha+\beta)$-region yields, upon deformation, a more homogeneous structure and leads to an increase in the relaxational stability. The alloy VT14 is more sensitive to hot deformations than is alloy VT3-1.

UDC: 669.245:539.371

Card 1/2

L 04631-67

ACC NR: AP6010099

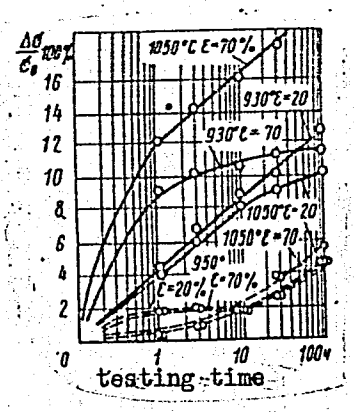

Fig. 1. Relaxation of tensions (for cylindrical specimens) at 100C and $\sigma_0 = 0.65\sigma_{0.2}$ for VT3-1 and $\sigma_0 = 0.70\sigma_{0.2}$ for VT14 as a function of the testing time, heating temperature during forging, and degree of deformation during final heating stage: dashed curve alloy VT3-1; solid curve - alloy VT-14.

Orig. art. has: 2 tables and 3 graphs.

SUB CODE: 11/ 13/ SUBM DATE: none

awm

Card 2/2

KONSTANTINOV, A.A.; SAZONOVA, T.Ye.; PEREPELKIN, V.V.

Determining the coefficients of X-rays L-fluorescence of Ga^{71}, Cu^{65} and V^{51}. Izv. AN SSSR Ser. fiz. 24 no.12:1480-1483 D '60. (MIRA 13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva.

(Gallium—Isotopes) (Copper—Isotopes)
(Vanadium—Isotopes) (Fluorescence)

S/048/61/025/002/006/016
B117/B212

AUTHORS: Konstantinov, A. A., Sokolova, I. A., Sazonova, T. Ye.

TITLE: Determining the fluorescence coefficient of KX-rays of V^{51}, Mn^{55}, Cu^{65}, and Ga^{71}

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25, no. 2, 1961, 228-232

TEXT: The present paper has been read at the 10th All-Union Conference on Nuclear Spectroscopy and at the 11th Annual Conference on Nuclear Spectroscopy (Riga, January 25 to February 2, 1961). The data on the fluorescence coefficient of KX-rays of Mn^{55}(Fe^{55}) have been obtained after the 10th All-Union Conference. To determine the fluorescence coefficient of KX-rays the authors have applied the method of absolute counting of Auger K-electrons and KX-quanta of the radiation source in question. Counting was made by means of a 4π proportional counter. The thin foil to which the radiation source was applied, was made of perchlorovinyl coated with aluminum. Foil and coating had a thickness of together 0.07-0.09 μ. The emitters

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Determining the fluorescence ...

have been applied to the foil by vacuum evaporation of radioactive Cr^{51}, Fe^{55}, Zn^{65}, and Ge^{71} isotopes. The perchlorovinyl foil had been inserted in the 4π counter (Fig. 1) which consisted of two 2π counters. The 4π counter had been filled with methane (20 mm Hg). At such a pressure, practically only Auger electrons are recorded by the counter. The energy distribution of the Ga^{71} Auger-electron spectra which has been obtained from the side facing the radiation source and from both sides combined, exhibit two peaks of the Auger L-K-electrons. A certain number of K-electrons are preserved between those two peaks. These electrons have lost part of their energy inside the source and during reflections of the foil and of the gas filling the counter. The energy distribution of the Auger electrons in the second part of the 4π counter has one peak, only for the K-electrons since the L-electrons are completely absorbed by the foil. The actual absorption factor of Auger K-electrons for the isotopes examined is 4-15% for a 0.07÷0.09 μ (8÷10 μg cm^{-2}) thick perchlorovinyl foil. The self-absorption factor of Auger K-electrons can be calculated from the actual absorption factor. If a 0.07-0.09 μ thick foil is absorbing 4÷15% then the active

Card 2/4

Determining the fluorescence ...

layer with a surface density of 10^{-8} g cm^{-2} will absorb less than 1%. The fluorescence coefficient of KX-rays is determined by the formula $\omega_K = N_o^x/N_o^x + N_o$ (19). Here, N_o^x is the total number of KX-quanta, N_o is the total number of Auger electrons. By using this formula the fluorescence coefficients have been calculated for $V^{51}(Cr^{51})$, $Mn^{55}(Fe^{55})$, $Cu^{65}(Zn^{65})$, and $Ga^{71}(Ge^{71})$.(Table). There are 4 figures, 1 table, and 5 references: 1 Soviet-bloc.

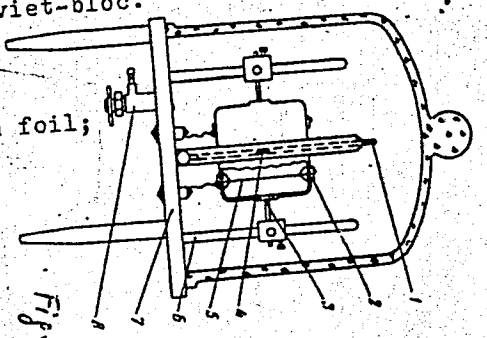


Fig. 1

Legend to Figure 1: 1) Frame with aluminum foil; 2) polystyrene pipes; 3) counter housing; 4) source; 5) filament of the counter; 6) holder; 7) brass table; 8) cock.

Card 3/4

Коэффициенты флуоресценции $K\alpha$-лучей V^{51}, Mn^{55}, Cu^{65}, Ga^{71}

Элемент	ω_K		
	Наши результаты	По полуэмпирическим формулам	
		[4]	[5]
V^{51}	0,23±0,02	0,22	0,20
Mn^{55}	0,27±0,02	0,26	0,24
Cu^{65}	0,42±0,02	0,41	0,39
Ga^{71}	0,47±0,02	0,47	0,46

SAZONOVA, T.Ye.

Effect of a low-frequency electromagnetic field on the work capacity of the motor apparatus. Vest. LGU 19 no.3:109-116 '64.
(MIRA 17:3)

SAZONOVA, T.Ye.

Effect of a high-gradient low-frequency electromagnetic field on the efficiency of the altered motor apparatus. Vest. LGU 19 no.15: 82-86 '64. (MIRA 17:11)

S/0048/64/028/001/0107/0114

ACCESSION NR: AP4010303

AUTHOR: Konstantinov,A.A.; Perepelkin,V.V.; Sazonova,T.Ye.

TITLE: Determination of the K fluorescence yields and K x-ray self-absorption coefficients for magnesium and aluminum /Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev 25 Jan to 2 Feb 1963/

SOURCE: AN SSSR, Izvestiya Seriya fizicheskaya, v.28, no.1, 1964, 107-114

TOPIC TAGS: K fluorescence, x ray absorption, magnesium, aluminum

ABSTRACT: The results of measurements of the K fluorescence yield of different elements are used for constructing empirical yield curves; the curves plotted by different authors generally agree in the Z = 23 to 57 region, but in the regions of lower and higher atomic numbers the disparity between the curves based on different sets of data is appreciable. In the present work the K fluorescence yields from Mg and Al were determined with the aid of a 4π counter by a method similar to that proposed by A.Compton (Phil.Mag.7,8,961, 1929) and by the method of absolute counting of K x-rays (A.A.Konstantinov, Pribory* i tekhnika eksperimenta, No.1,67,1959). The Mg and Al were in the form of 1 to 3 mg/cm^2 thick foils with an area greater

Card 1/2

ACC.NR: AP4010303

than 5 cm^2. The primary (excitation) x-ray sources were the electron-capture isotopes Cr^{51} (V^{51}) and Mn^{54} (Cr^{54}). In addition to the K yields, there were determined the self-absorption coefficients for the K x-rays. The results obtained for the K fluorescence yields are 2.80 ± 0.11% for Mg and 3.81 ± 0.15% for Al, which are at variance with the data of earlier investigators and in rather poor agreement with the values found by empirical formulas: the empirical values given by J.Laberrique-Frolow and P.Radvanyi(J.phys.et radium,7, 944, 1956), which are the closest, are 2.0 and 2.8%, respectively. It is estimated that the error in determining the fluorescence yields in the present experiments does not exceed 4%. Orig.art.has: 13 formulas, 5 tables,and 4 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: 00

SUB CODEP PH, NS NR SOV REF: 005 OTHER: 013

Card2/2

29986-65 EWT(1)/EWT(m) DIAAP/IJP(c) S/0048/65/029/002/0302/0303

ACCESSION NR: AP5003957

AUTHOR: Konstantinov, A. A.; Sazonova, T. Ye.

TITLE: Determination of the L-fluorescence yield of manganese 55 by radioactive decay of iron 55

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 2, 1965, 302-303

TOPIC TAGS: manganese, radioactive decay, L fluorescence yield, electron capture, x ray, fluorescence yield

ABSTRACT: A proportional 4π counter was used in determining the L-fluorescence yield of Mn^{55} by a method described in an earlier paper by the authors (Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 24, 1960, 1480). Column 2 of Table 1 of the Enclosure lists the L-fluorescence yields for Mn^{55} determined in the present paper, and those of Ga^{71}, $Cu^{[illegible]}$, and V^{51} determined in the aforementioned earlier article. Since the fluorescence yields were determined during radioactive decay (electron capture), the values of the yields are the average values for the whole L-shell. Column 3 of the table shows the average values of fluorescence yields calculated from the semi-empirical relationship developed by H. Lay

Card 1/3

L 29986-65

ACCESSION NR: AP5005957

0

$$\left(\frac{\bar{\omega}_L}{1-\bar{\omega}_L}\right)^{1/4} = A + BZ$$

with the constants A and B set equal to 0.065 and 0.007, respectively. Orig. art. has: 1 formula and 1 table. [CS]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: NP, OP

NO REF SOV: 003 OTHER: 002 ATD PRESS: 3197

Card 2/3

L 29986-65

ACCESSION NR: AP5005957

ENCLOSURE: 01

Table 1. Fluorescence yields for Mn^{55}, Ga^{71}, Cu^{65}, and V^{51}

Z	ω_L exp,%	ω_L theo,%
23	0.25 0.22	0.26
25	0.31 0.28	0.33
29	0.56	0.52
31	0.60 0.68	0.63

Card 3/3

SAZONOVA, V. A.

"Transformations catalytiques des composes heterocycliques. Memoire XII." Jouriev, J. K.; Pervova, K. J.; Sazonova, V. A. (p. 590)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1939, Volume 9, #7

SAZONOVA, V. A.

USSR/Chemistry - Magnesium Halide Dec 48
Chemistry - Ketones

"Structure and Reaction Capacity of the Magnesium Halide Enolates of Ketones," Acad A. N. Nesmeyanov, V. A. Sazonova, Ye. B. Landor, Moscow State U imeni N. V. Lomonovov, 4 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 4

Comprehensive study of bromomagnesium derivatives of beta, beta-diphenylpropiomesitylene. Gives chemical properties of two bromomagnesium enolates of beta, beta-diphenylpropiomesitylene and their reactions with benzoyl chloride. Submitted 6 Oct 48

45/49T12

PA 63/4917

USSR/Chemistry - Bonds Jul/Aug 49
Chemistry - Tautomerism

"Quasi-Complex Compounds, Hyperconjugation and Tautomerism," A. N. Nesmeyanov, V. A. Sazonova, Moscow State U imeni M. V. Lomonosov, Chair of Org Chem, 16½ pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 4

Shows that bromomagnesium and lithium derivatives of oxo compounds, e.g., B,B diphenylpropiomesitylene, have the fixed structure of enolates because it is natural for them to appear as cis- and trans-isomers. Refutes previous opinion on their

63/49T7

USSR/Chemistry - Bonds (Contd) Jul/Aug 49

tendency for reversible isomerization (tautomerism) and the mesomeric ion in their ionic structure. Explains dual reactibility of such compounds (to give C- and O- alkylated or acylated oxo and enol derivatives) by the union of O-, M-, and C-C- bonds. Submitted 22 Apr 49.

63/49T7

SAZONOVA, V. A.

SAZONOVA, V. A.

Nov/Dec 51

USSR/Chemistry - Halogenated Ethers

"Beta, Beta Prime-Dibromosubstituted Ethers," A. N. Nesmeyanov, V. A. Sazonova, Ye. I. Vasil'yeva, Moscow State U imeni M. V. Lomonosov

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 6, pp 708-713

Investigated the reaction of ethylene oxide and bromine with unsatd hydrocarbons (ethylene, propene, isobutene, cyclohexene) leading to beta, beta prime-disubstituted ethers. Vinyl-beta-bromoethyl ether reacts with activated magnesium of Na metal under evolution of ethylene andacetylene.

PA 197T4

NESMEYANOV, A.N.; SAZONOVA, V.A.; VASIL'YEVA, Ye.I.

Stereoisomeric sodium enolates. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52, 87-95 [Engl. translation].
(CA 47 no.19:9912 '53)

Sazonova, V. A.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 40 - 7/27

Authors : Nesmayanov, A. N.; Sazonova, V. A.; Liberman, G. S.; and Yemel'yanova, L. I.

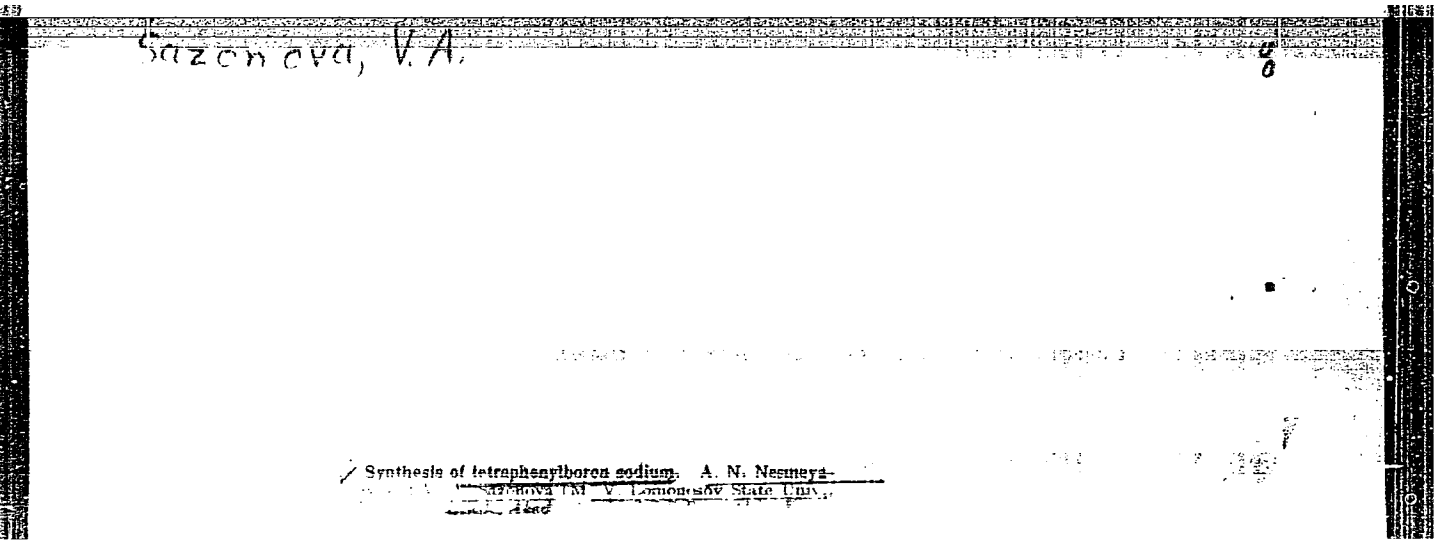
Title : Reactions of organic-magnesium compounds with potassium and triethyloxonium borofluorides

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 48-53, Jan-Feb 1955

Abstract : A convenient and simple method of synthesizing trimethyl boron and some tetraryl boric salts through the reaction of organo-magnesium compounds with potassium and triethyloxonium borofluroides is described. The reaction products obtained and their chemical properties are listed. Eight references: 1 USSR, 5 USA and 2 German (1862-1952).

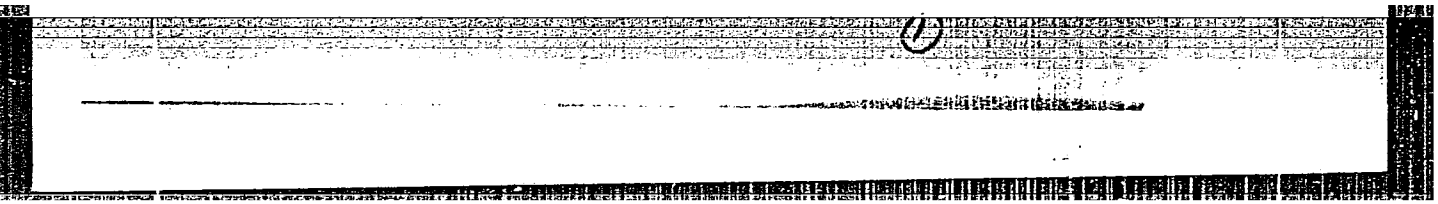
Institution : The M. V. Lomonosov State University, Moscow

Submitted : February 1, 1954



Sazonova, V. A.

Synthesis of tetraphenylboron sodium. A. N. Nesmeya-
nov and V. A. Sazonova (M. V. Lomonosov State Univ.,
Moscow). Zhur. Obshchei Khim. 28, 1207-8 (1958).—
Tetraphenylboron Na was prepared in 90% yield by the
reaction of $NaBF_4$ with C_6H_5MgBr in Et_2O and subsequent
decomposition of the reaction product with water. The
$NaBF_4$ was prepared by the reaction of NaF with BF_3 in
Et_2O. Tetraphenylboron Na is a white crystalline
powder, soluble in water, alcohol, and acetone, and
insoluble in Et_2O, C_6H_6, and CCl_4. It forms insoluble
salts with K, Rb, Cs, Ag, Tl, and NH_4. Tetraphenylboron
Na is a reagent for the detection and determination of
these elements. Tetraphenylboron Na is also a reagent
for the detection of Hg, Cu, Pb, Ni, Co, Zn, Cd, Mn, Fe,
Sn, Sb, Bi, Pt, Pd, Au, Ti, Th, Zr, Ce, Mo, W, U, and
V. Tetraphenylboron Na is a reagent for the detection
of alkaloids, quaternary ammonium salts, and organic
bases. Tetraphenylboron Na is a reagent for the detection
of unsaturated hydrocarbons. Tetraphenylboron Na
is a reagent for the detection of aldehydes, ketones,
and sugars. Tetraphenylboron Na is a reagent for the
detection of organic acids. Tetraphenylboron Na is a
reagent for the detection of organic halogen compounds.
Tetraphenylboron Na is a reagent for the detection of
organic sulfur compounds. Tetraphenylboron Na is a
reagent for the detection of organic nitrogen compounds.
Tetraphenylboron Na is a reagent for the detection of
organic oxygen compounds. Tetraphenylboron Na is a
reagent for the detection of organic phosphorus compounds.
Tetraphenylboron Na is a reagent for the detection
of organic arsenic compounds. Tetraphenylboron Na is a
reagent for the detection of organic antimony compounds.
Tetraphenylboron Na is a reagent for the detection
of organic bismuth compounds. Tetraphenylboron Na is a
reagent for the detection of organic platinum compounds.
Tetraphenylboron Na is a reagent for the detection
of organic palladium compounds. Tetraphenylboron Na is a
reagent for the detection of organic gold compounds.
Tetraphenylboron Na is a reagent for the detection
of organic titanium compounds. Tetraphenylboron Na is a
reagent for the detection of organic thorium compounds.
Tetraphenylboron Na is a reagent for the detection
of organic zirconium compounds. Tetraphenylboron Na is a
reagent for the detection of organic cerium compounds.
Tetraphenylboron Na is a reagent for the detection
of organic molybdenum compounds. Tetraphenylboron Na is a
reagent for the detection of organic tungsten compounds.
Tetraphenylboron Na is a reagent for the detection
of organic uranium compounds. Tetraphenylboron Na is a
reagent for the detection of organic vanadium compounds.



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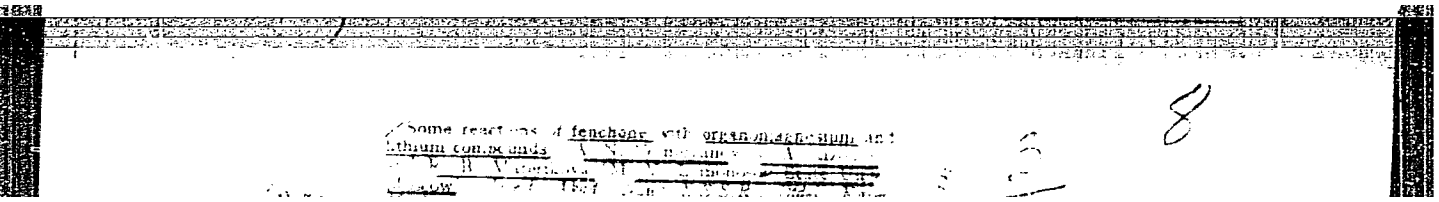

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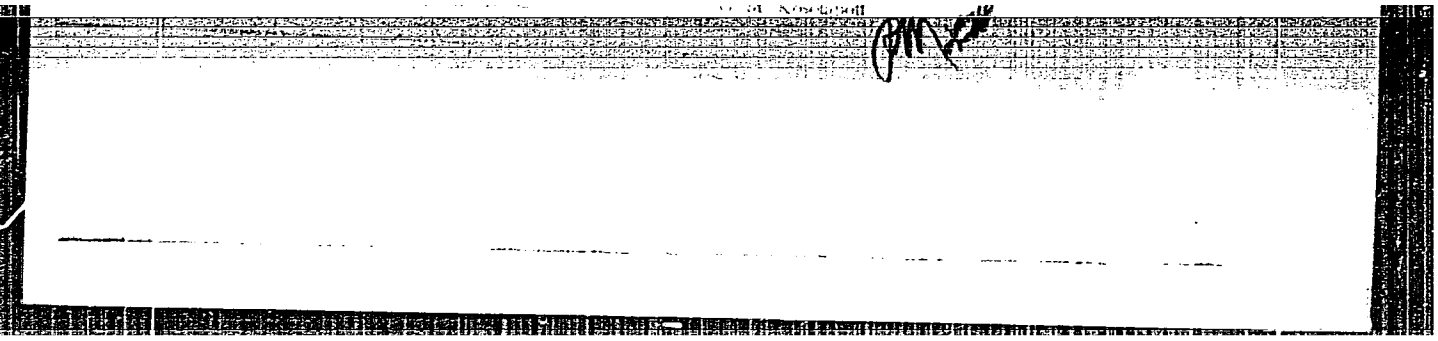


Sazanova, V. A.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 40 - 26/27

Authors : Nesmeyanov, A. N., and Sazanova, V. A.

Title : Synthesis of tetraphenylsodium bromide

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, page 187, Jan-Feb 1955

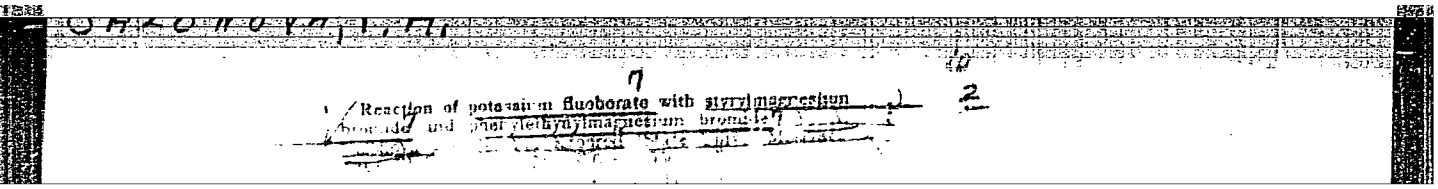
Abstract : Brief report is presented describing on easier and more suitable method for the synthesis of tetraphenylsodium bromide. Two references: 1 USSR and 1 German (1951-1954).

Institution : The M. V. Lomonosov State University, Moscow

Submitted : November 3, 1954

SAZONOVA, V. A.

Tetra-1-pyrryl borate salts. V. A. Sazonova and L. S. Sorokina (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 105, 993–6(1955).—To EtMgBr (from 1.80 g. Mg) was added dropwise 4 g. pyrrole in Et_2O and after 0.5 hr. on a steam bath the soln. was treated with 7.7 g. KBF_4; upon completion of the reaction the mixt. was poured into aq. NH_4Cl yielding at the interface a ppt. of 0.9 g. product, which was rapidly sepd. yielding 14% *tetra-1-pyrrylboropotassium*, $C_{16}H_{16}BN_4K$, colorless solid, decomp. 200° (from Me_2CO-Et_2O). The substance does not have active H reactive with MeMgI, proving the 1-bonding of B. This in aq. KOH treated with KI-I_2 gave a black ppt. which after decolorizing in EtOH gave tetraiodopyrrole, decomp. 140–50°. To $(C_4H_4N)_4BK$ (0.1 g.) in 9 ml. pyridine was added 0.06 g. $EtO_2CCH_2COCH_3$ in the form of the Cu complex; careful heating changed the color from green to brown when H_2O was added pptg. 40% *tetra-1-pyrrylborocopper*, isolated as the *pyridinate*, $C_{36}H_{36}BN_8Cu$, yellow, decomp. 80°, which is quite unstable, losing pyridine in several hrs. $(C_4H_4N)_4BK$ with aq. $AgNO_3$ gave $(C_4H_4N)_4BAg$, colorless, unstable solid, decomp. 135°. $(C_4H_4N)_4BK$ with aq. pyridinium chloride gave 80% *tetra-1-pyrrylboropyridinium salt*, $C_{21}H_{22}N_5B$, unstable solid. The use of *N*-ethylpyridinium bromide in the above reaction gave 83% *tetra-1-pyrrylboro-N-ethylpyridinium salt*, $C_{23}H_{24}N_5B$, decomp. 184–5° (from $C_6H_5MeNO_2$). G. M. Kosolapoff



Reaction of potassium fluoborate with arylmagnesium bromide and phenylethynylmagnesium bromide