RUSIN, L.I.; SAMARSKIY, G.I.; GINZBURG, K.Ya.; VAYNSHTEYN, Yu.I.

Stationary mercury dropping electrode. Metod. anal. khim. reak. i prepar. no.5/6:42-46 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

VAYNSHTEYN, Yu.I.; GINZBURG, K.Ya.

Determination of lead and copper impurities in oxalic acid. Metod. anal. khim. reak. i prepar. no.5/6:67-69 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

PA 75T5

VAYNSHTEYN, YU. I.

May 1948

USSR/Chemistry - Polarography
Chemistry - Dyes

"Polarographic Method of the Determination of Alpha-Nitronaphthalin in the Presence of Alpha-Naphthylamine," Yu. I. Vaynshteyn, Inst Org Intermediate Products and Dyestuffs, 2 pp

"Zavod Lab" Vol XIV, No 5

Subject mixture is an important intermediate product in analin dye industry. Describes in detail polarographic method of analysis. Tabulates relation between wave height and alpha-naphthalin concentration. Results have been checked by chemical analysis.

75T5

[redacted]

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Dyes and Textile Chemistry

1/2

Polarographic method of analysis in control of production in the aniline dye industry. Yu. I. Vainshtein. *Trudy Komissii Anal. Khim., Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 4(7), 85-95(1952).—The topic was discussed briefly and 3 analytical methods were described: detn. of *2,4-disulfobenzaldehyde* (I), detn. of *p-aminobenzaldehyde* (II) and *p-nitrotoluene* (III) in a mixt., and detn. of *p-methoxybenzoylacetic acid* (IV). For I in 0.1*N* H_2SO_4 $E_{1/2}$ is −0.92 v. referred to the satd. calomel electrode. A 10-12 g. tech. sample (already acid) was dissolved in water in a 250-ml. volumetric flask. A 5-ml. aliquot was transferred to a 50-ml. volumetric flask and dild. to 50-ml. with water. The soln. was polarographed after 2 drops of 5% gelatin soln. were added for each 10 ml. of soln. used, and after H was blown through for 15-20 min. The synthesis of II by reduction of III with alkali bisulfite in aq. alc. media was followed by polarographic analysis of the reaction mixt. The wave heights for II and III were proportional to the content of each and independent of sample compn. within limits. Any amt. of III could be detd. in large amts. of II, but II could not be detd. if more than 5 times as much III was present. In a mixt. contg. 40 mg./l. of II and 160 mg./l. of III the max. error in the detn. of II was within 4%. By pipet 0.5 ml. of clear soln. of the alc. layer of the reaction mixt. was transferred to a dry 100-ml. volumetric flask. Glacial AcOH, 20-30 ml., and 20 ml. of abs. alc. were added. The mixt. was heated until clear, then cooled, and dild. to 100 ml. with glacial AcOH. Five ml. of aliquot was placed in a 50-ml. volumetric flask. Five ml. of EtOH was added and the soln. was dild. to 50 ml. with water. Gelatin was added (3 drops of 0.5% soln. for each 10 ml. of soln. used), the O was removed by blowing through N for 30 min., and the soln. was polarographed.

Natl
(2)

16-11-54

VAYNSHTEYN, Yu.I.

New complexons. P. P. Lastovskii, Yu. I. Vainshtein, N. M. Dyatlova, T. Ya. Temkina, and I. D. Kolenkova (All-Union Sci. Research Inst. Chem. Reagents, Moscow). *Zhur. Anal. Khim.* 10, 128–31; *J. Anal. Chem. U.S.S.R.* 10, 117–20(1955)(Engl. translation).—Two new complexons hexamethylenediaminetetraacetic acid, $C_{14}H_{22}N_2O_8$ (I) and dl-Na benzohydrylaminediacetate, $C_{17}H_{16}O_4NNa$ (II) were synthesized. I is a white cryst. powder sol. in hot H_2O, alkalies, sparingly sol. in cold H_2O, insol. in EtOH, Me_2CO, C_6H_6, and $CHCl_3$. II is a white cryst. powder sol. in H_2O, sparingly sol. in EtOH, insol. in Me_2CO, $CHCl_3$, $C_2H_4Cl_2$, and C_6H_6. The suitability of I and II for analytical work was tested polarographically with 17 cations at various pH and the results are tabulated. Under certain conditions I and II formed stable complexes with certain cations which indicated their applicability to analytical work. The study is being continued.

M. Hosch

VAYNSHTEYN, Yu. I., DYATLOVA, N. M., TEMKINA, V. Ya., and LASTOVSKIY, R. P.

"New Complexons; Communication 2--Parafuchsinhexaacetic Acid," by R. P. Lastovskiy, Yu I. Vaynshteyn, N. M. Dyatlova, and V. Ya. Temkina, All-Union Scientific Research Institute of Chemical Reagents, Zhurnal Analiticheskoy Khimii, Vol 11, No 4, Jul/Aug 56, pp 405-409

The synthesis of 2-parafuchsinhexaacetic acid, a compound not previously described in the literature, is reported. This compound was obtained by condensation of parafuchsin with the sodium salt of monochloroacetic acid. Its behavior toward a great number of metal cations, including those of Pb, Bi, Cd, Ti, La, Th, and Be, was investigated. The complex-forming and indicator properties of the new compound were investigated. It was established that it forms complexes with some ions which do not react under formation of complex compounds with other sequestering agents. It was futhermore established that parafuchsinhexaacetic acid can be used in polarography.

Sum 1239

VAYNSHTEYN, Yu. I.

5(3) PHASE I BOOK EXPLOITATION SOV/1956

Lastovskiy, Rostislav Petrovich, and Yudif' Isaakovna Vaynshteyn

Technicheskiy analiz v proizvodstve promezhutochnykh produktov i krasiteley (Technical Analysis in the Manufacture of Dyes and Intermediate Products) 3rd ed. Moscow, Goskhimizdat, 1958. 495 p. Errata slip inserted. 4,000 copies printed.

Ed.: A. A. Cherkasskiy; Tech. Ed.: V. F. Zazul'skaya.

PURPOSE: The book is intended to serve as a manual for the personnel of analytical laboratories in the aniline dye industry. It may also be used by personnel employed in related industries (chemical, pharmaceutical, fine chemical technology, etc.) concerned with the analysis of organic compounds.

COVERAGE: The book describes the principal methods of analysis used in the production of intermediate products and dyes. The polarographic method of analysis is discussed in a separate chapter. The methods of analyzing the raw materials and the manufactured products are reported in detail. A description of the apparatus used in the analysis is given. The Introduction and Chapters

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I-XVII were written by R. P. Lastovskiy; Chapter XVIII was written by L. A. Shchetinina and L. D. Komissarenko; Chapters XIX and XX were written by Yu. I. Vaynshteyn. A. A. Cherkasskiy took part in the revision of Chapters IX, X, XII, and XVII. The article, Methods of Calculating Analytical Results, was written by G. L. Abkin. There are 172 references 165 of which are Soviet, 4 English, 2 German, and 1 Czech.

TABLE OF CONTENTS:

VAYNSHTEYN Yu. I.

AUTHORS: Lastovskiy, R. P., Vaynshteyn, ~~Yu. I.,~~ Dyatlova, N. M., Kolpakova, I. D. 75-1-4/26

TITLE: New Complexons. (Novyye kompleksony), Information 3. Benzylaminodiacetic Acid and α,α',α"-Triaminotribenzyldiphenylmethanehexaacetic Acid (Soobshcheniye 3. Benzilamindiuksusnaya kislota i α,α',α"-Triaminodibenzildifenilmetangeksauksusnaya kislota)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 1, pp. 31-35 (USSR)

ABSTRACT: With the examples of methylaminediacetic acid (1), benzylaminediacetic acid (2) and benzhydrilaminediacetic acid (3) the influence exerted by the modification of the molecular weight upon the complex-forming properties of some complexones was determined.

$CH_3N(CH_2COOH)_2$ $\bigcirc$-$CH_2N(CH_2COOH)_2$ $\bigcirc$-CH-$\bigcirc$ $N(CH_2COOH)_2$

(1) (2) (3)

The investigation of the properties of these new compounds

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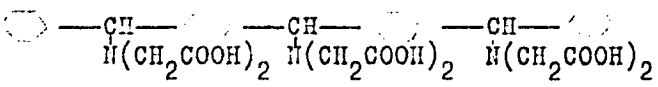
was carried out polarographically. The displacement of the half-wave potentials for a number of cations at different P_H were also determined. In this connection it was found that benzylaminediacetic acid at P_H 2,5 forms complex compounds with the ions Cu^{2+}, Bi^{3+}, Ni^{2+} and Sb^{3+}, at p_H 4,4 with the ions Cu^{2+}, Co^{2+} and Mo(V), at p_H 9,35 with the ions Pb^{2+}, La(III) and at p_H 12,4 with the ions Cu^{2+}, La(III) and Sb^{3+}.

A comparison between methylamine-, benzylamine- and benzhydril amine-diacetic acid showed that an increase in molecular weight under certain conditions causes an increase in the complex-forming properties. The polarographic investigation of α,α',α"-triaminedibenzyldiphenylmethanehexaacetic acid (4) showed that this compound at P_H 2,5 forms complex compounds with the ions Pb^{2+}, Cu^{2+}, As(III), Ni^{2+}, Co^{2+} and Mo(VI), at p_H 4,4 with the ions Co^{2+}, Mo(VI), Fe^{3+}, at p_H 9,35 with the ions Pb^{2+},

Bi^{3+}, Ni^{2+}, Cd^{2+}, Mn^{2+}, Cr^{3+} and La(III) and at p_H 12,4 with the ions Cu^{2+}, Ni^{2+}, Co^{2+} and Al^{3+}.



(4)

The formation of a number of complex compounds with this complexone is dependent on time. Thus, e.g., at p_H 9,35 the half-wave potential of cadmium amounts to from -0,6 to -0,76 V, in this connection the height of the wave decreases from 16 to 11 mm and a second wave forms. The existence of two waves can here not be caused by a stepwise reduction, as cadmium does not show any intermediate stages in the oxidation number. The formation of two waves may be explained by the formation of different complex compounds so slowly passing over into one another that each of them is capable of forming its own wave. After 15 days standing the second wave disappears and the reduction potential of cadmium amounts to -0,7 V. On further standing no change

New Complexons.
Information 3. Benzylaminodiacetic Acid and α,α',α"-
-Triamir odibenzyldiphenyl.. .hanehexaacetic Acid

any more occurs. This phenomenon may be explained by the presence of 3 complex-forming grc ps in α,α',α"-triamine-dibenzyldiphenylmethanehexaacetic acid which form intermediary complexes which one after another enter into the reaction. For a more complete characterization of the investigated new complexones the dissociation constants of the formed complex compounds were determined in a polarogrphic way. For benzylaminediacetic acid the dissociation constants of the complexes with copper and bismuth were determined, for the disodium salt of benzhydrilaminediacetic acid the dissociation constants of the complexes with copper, cobalt, nickel, lanthanum and cadmium, and for α,α',α"--triaminedibenzyldiphenylmethanehexaacetic acid the dissociation constants of the complexes with copper, lanthanum and cadmium. The results of the polarographic investigations of the disodium salt of benzhydrilaminediacetic acid had already been published previously (ref. 1). The synthesis of benzylaminediacetic acid and α,α',α"-triaminedibenzyldi-phenylmethanehexaacetic acid are accurately described. There are 2 tables, and 3 references, all of which are Slavic.

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75-1-4/26

New Complexors.
Information 3. Benzylaminodiacetic Acid and α,α',α"-
-Triaminodibenzyldiphenylmethanehexaacetic Acid

ASSOCIATION: All-Union Scientific Research Institute for Chemical Reagents, Moscow (Vsesoyuznyy nauchno - issledovatel'skiy institut khimicheskikh reaktivov, Moskva)

SUBMITTED: September 18, 1956

AVAILABLE: Library of Congress

1. Complex compounds - Polarographic analysis
2. Benzylaminodiacetic acids - Chemical reactions
3. α,α',α"-triaminodibenzyldiphenylmethanehexaacetic acids - Chemical reactions 4. Complex compounds - Properties

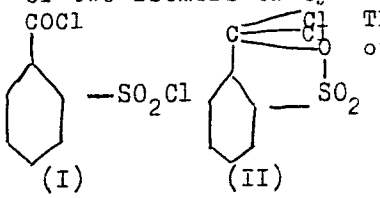
Card 5/5

AUTHORS: Rozina, D. Sh., Nesterenko, L. T., Vaynshteyn, Yu. I. SOV/79-28-10-54/69

TITLE: On the Synthesis and Structure of the Diacid Chlorides of o-Sulfobenzoic Acid (O sinteze i stroyenii dikhlorangidridov o-sul'fobenzoynoy kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2878 - 2883 (USSR)

ABSTRACT: These acid chlorides are generally employed in organic synthesis, and in particular in the synthesis of sulfophthalein indicators (Refs 1-6). The diacid chlorides of o-sulfobenzoic acid were separated out in the form of two isomers of symmetric and lactone structures:



The one, with a m.p. 40°, is split off with the action of ammonia, whereas the other one, with a m.p. 79° remains stable to ammonia. The attempt to convert the one isomer into the other was unavailing. There is no consensus of opinion in the literature as to which

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On the Synthesis and Structure of the Diacid Chlorides of o-Sulfobenzoic Acid SOV/79-29-10-54/[illegible]

of the two diacid chlorides possesses the symmetric, and which the lactone structure. The eutectic mixture of the two isomers melts at 21-21,5°(Ref 8), and could be obtained in a variety of ways(Refs 7,12,11,13). Unlike the diacid chloride with a m.p.40°, that with a m.p.79° could not be directly synthetized. It can be obtained from the isomer mixture after the decomposition of the diacid chloride with a m.p.40° by ammonia. The paper under discussion served the purpose of finding a technically convenient synthesis of the dichloro anhydrides of o-sulfobenzoic acid in the form of the mixture of the two isomers. It was found that the most convenient of all the experiments conducted was the carrying-out of the synthesis in the presence of phosphorus oxychloride, with the addition of the dipotassium salt of o-sulfobenzoic acid to the mixture of phosphorus pentachloride with a small quantity of phosphorus oxychloride. After various manipulations, the resulting solutions were eventually distilled under low pressure. The publications data

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On the Synthesis and Structure of the Diacid Chlorides of o-Sulfobenzoic Acid SOV/79-28-10-54/60

published on the labile thermal behaviour of the isomer with a higher melting point (78°) in the distillation were not confirmed. It was repeatedly separated out intact from the isomer mixture. The comparison of the half-wave potentials of the dichloro anhydrides of o-sulfobenzoic acid and o-phthalic acid suggests that the dichloro anhydride of o-sulfobenzoic acid with a m.p.40° possesses a symmetric, and that with a m.p. 79° possesses a lactone structure.There are 4 figures, 1 table, and 18 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov(All-Union Scientific Research Institute of Chemical Reagents)

SUBMITTED: July 18, 1957

Card 3/4

On the Synthesis and Structure of the Diacid Chlorides of o-Sulfobenzoic Acid SOV/79-28-10-54/66

Card 4/4

VAYNSHTEYN, Yu.I.; DZIOMKO, V.M.; DUNAYEVSKAYA, K.A.; SHIROKOVA, M.D.

Polarographic study of ortho-substituted azoxy compounds. Part 1.
Zhur.ob.khim. 32 no.9:2777-2782 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.
(Azoxy compounds) (Polarography)

DAVYDOVSKAYA, Yu.A.; VAYNSHTEYN, Yu.I.; BILIK, I.M.; SEREBRYANNYY, A.M.

Conductometric analysis of boron fluoride in reaction mixtures in the synthesis of diphenylolpropane. Trudy IREA no.25:232-239 '63. (MIRA 16:6)

BRUDZ', V.G.; VAYNSHTEYN, Yu.I.; DAVYDOVSKAYA, Yu.A.; DRAPKINA, D.A.; MARKOVICH, I.S.

Polarographic method of analysis of solutions obtained in the production of glyoxal. Zav.lab. 27 no.9:1087-1090 '61.(MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.

(Glyoxal) (Polarography)

LUKIN, A.M.; VAYNSHTEYN, Yu.I.; DYATLOVA, N.M.; PETROVA, G.S.

Interaction of sulfarazen with lead ions. Zhur.anal.khim. 17 no.2:212-217 Mr-Ap '62. (MIRA 15:4)
(Lead--Analysis)

VAYNSHTEYN, Yu.I.; DYATLOVA, N.M.

Polarographic study of complex compounds of metals with nitroso-R salt, and their use in polarography. Trudy IREA no.22:33-42 '58. (MIRA 14:6)

(Nickel compounds)
(Coblat compounds)
(Copper compounds)
(Naphtholdisulfonic acid)

VAYNSHTEYN, Yu.I.; DYATLOVA, N.M.

Complex compounds formed by hexamethylenediaminetetraacetic acid and benzhydrylaminodiacetic acid with certain metals. Trudy IREA no.22:43-49 '58. (MIRA 14:6)
(Acetic acid)
(Complex compounds)

GUDLITSKIY, Milosh [HUDLICKY, Milos]; VAYNSHTEYN, Yu.I.[translator]; SERGEYEV, A.P., red.; ZAZUL'SKAYA, V.P., tekhn. red.

[Chemistry of organic fluoro compounds] Khimiia organicheskikh soedinenii ftora. Pod red. A.P.Sergeeva. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1961. 372 p. (MIRA 15:2)
(Fluorine organic compounds)

BAZHANT, V. [Bažant, V.], laureat Gosudarstvennoy premii; KHVALOVSKI, V. [Chvalovský, V.], laureat Gosudarstvennoy premii; RATOUSKI, I. [Rathouský, J.], laureat Gosudarstvennoy premii; VAYNSHTEYN, Yu.I. [translator]; STAHKO, V.I. [translator]; PAKHOMOV, V.I., red.; ZAZUL'SKAYA, V.F., tekhn.red.

[Silicones; organosilicon compounds, their production, properties, and uses] Silikony; kremniiorganicheskie soedineniia, ikh polucheniie, svoistva i primenenie. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1960. 709 p. Translated from the Czech. (MIRA 14:4)
(Silicon organic compounds)

PRSHIBIL, Rudol'f [Pribil, Rudolf], dotsent, doktor khim.nauk; KORYTA, I. [Koryta, Jiri], doktor; VAYNSHTEYN, Yu.I., kand.tekhn.nauk [translator]; LUR'YE, Yu.Yu., doktor khim.nauk, red.; ZAKHAR'YEVSKIY, V.A., red.; PRIDANTSEVA, S.V., tekhn.red.

[Complexons in chemical analysis] Kompleksony v khimicheskom analize. Izd.2., polnost'iu perer. i rasshirennoe. Avtor teoreticheskoi chasti I.Koryta. Pod red. IU.IU.Lur'e. Moskva, Izd-vo inostr.lit-ry, 1960. 580 p. Translated from the Czech. (MIRA 13:9)
(Chemistry, Analytical) (Complexons)

SOV/81-59-16-56637

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 94 (USSR)

AUTHORS: Vaynshteyn, Yu.I., Dyatlova, N.M.

TITLE: The Investigation of Complex Compounds of Hexamethylenediamine Tetraacetic and Benzhydrylamine Diacetic Acids With Some Metals

PERIODICAL: Tr. Vses. n.-i. in-ta khim. reaktivov, 1958, Nr 22 , pp 43-49

ABSTRACT: The complex-formation of the ions Zn^{2+}, Cd^{2+}, Cu^{2+} and La^{3+} with hexamethylenediamine tetraacetic acid (H_4R) and of the ions Cd^{2+}, Co^{2+}, Cu^{2+}, La^{3+} with sodium benzhydrylamine diacetate (Na_2R') has been studied by the polarographic method. It has been shown that at pH 9.35 and a H_4R concentration from $1 \cdot 10^{-5}$ to $2.5 \cdot 10^{-4}$ M the complex Zn_2R is formed, the instability constant of which is equal to $6 \cdot 10^{-13}$; at a concentration of $H_4R > 2.5 \cdot 10^{-4}$ M the complex ion ZnR^{2-} is formed, the instability constant of which is equal to $4.7 \cdot 10^{-5}$. At pH 9.35, Cd^{2+} and La^{3+} form with H_4R the complexes Cd_2R and La_2R^2, the instability constants of which are equal to $7.52 \cdot 10^{-9}$ and $1.35 \cdot 10^{-8}$, respectively. Cu^{2+} at pH 4.4 forms with H_4R the complex Cu_2R, the instability constant of which is equal to $8.5 \cdot 10^{-5}$. At pH 9.35, Cd^{2+} and La^{3+} form with Na_2R' the com-

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The Investigation of Complex Compounds of Hexamethylenediamine Tetraacetic and Benzhydrylamine Diacetic Acids With Some Metals

plexes CdR' and LaR'^{+}, the instability constants of which are equal to $2.76 \cdot 10^{-8}$ and $9.34 \cdot 10^{-3}$, respectively. At pH 4.4, Co^{2+} and Cu^{2+} form the compounds CoR' and CuR', the instability constants of which are equal to $1.26 \cdot 10^{-6}$ and $8.9 \cdot 10^{-4}$, respectively.

V. Shmidt.

WAINSTEIN, Z. I.

WAINSTEIN, Z. I., SHALKOV, N. A.

Rational methods of oxygen therapy in pediatrics. Vopr. pediat. 18:4, 1950. p. 28-33

1. Of the Department of Children's Diseases, Military Medical Academy imeni S. M. Kirov (Head of Department--Prof. M. S. Maslov, Active Member of the Academy of Medical Sciences, Honored Worker in Science).

CLML 19, 5, Nov., 1950

VAYNSHTEYN, Yu. I.

PHASE I BOOK EXPLOITATION SOV/4784

Přibil, Rudolf, Doctor of Chemical Sciences, State Prize Winner, and Jiří Koryta, Doctor

Kompleksony v khimicheskom analize (Complexons In Chemical Analysis) 2d ed., rev. and enl. Moscow, Izd-vo inostr. lit-ry, 1960. 580 p. No. of copies printed not given. [Translated from the Czech]

Translator: Yu. I. Vaynshteyn, Candidate of Technical Sciences

Ed. (Title page): Yu. Yu. Lur'ye, Doctor of Chemical Sciences; Ed. (Inside book): V. A. Zakhar'yevskiy; Tech. Ed.: S. V. Pridantseva.

PURPOSE: This book is intended for chemists and analysts in research institutes and plant laboratories.

COVERAGE: The book discusses the theory and practice of the application of complexons in analytical chemistry, and deals in detail with the theory of complexons, the structure of forming complexes, as well as methods for determining the stability constants of these complexes. The author describes in

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Complexons In Chemical Analysis

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detail applications of complexons in gravimetric and volumetric analysis, colorimetry, polarography, chromatography and ionophoresis, and in qualitative analysis. He also discusses complexometric titration (chelatometry) methods, giving a detailed treatment of the theory of complexons and numerous examples of the practical applications of complexometry in the various branches of chemical analysis compiled from the available literature up to 1955. The majority of the methods described in this book are the results of studies made by the author and his coworkers at the Institute of Analytical Chemistry of Charles University, Prague, published from 1946 to 1952 in Chemické listy. The editor of the Russian edition, Yu. Yu. Lur'ye, states that the second Russian edition of the Czech work has been so enlarged in comparison with the original edition as to constitute a new monograph. Chapters I and II were written by Doctor I. Koryta, Doctor K. Macek wrote the chapter on chromatography, Doctor V. Suk and Doctor M. Malat wrote the section on complexometry in pharmaceutical analysis, and Doctor I. Kössler aided in composing the chapters on theoretical problems. The author thanks Professor Tomíček, Doctor Z. Roubal, L. Rom, M. Mič, I. Kalina, Vlasta Přibilová, Růžena Švandova, and O. Dunka, technical editor of the Publishing House of the Czechoslovak Academy of Sciences. References accompany each chapter.

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86047

S/020/60/135/003/033/039
B004/B060

181215 1521, 1419

AUTHORS: Vaynshteyn, Z. Ye., Zhurakovskiy, Ye. A., and Staryy, I. B.

TITLE: X-Ray Spectrum Analysis of Titanium Beryllides

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 642 - 644

TEXT: The authors refer to the obscure points found in literature concerning atomic interaction in beryllides of transition metals. They wanted to clarify this problem by studying the fine structure of X-ray spectra of titanium beryllides. The specimens were, besides pure titanium metal, TiBe and $TiBe_2$ prepared by the Institut metallokeramiki i spetssplavov AN USSR (Institute of Powder Metallurgy and Special Alloys of the AS UkrSSR) and placed at the authors' disposal by G. V. Samsonov. The apparatus used for the X-ray spectrum analysis had been described in Refs. 8,9. Both the fine structure of the absorption spectrum (exposure 4-6 h at 15 kv, 40 ma) and the fluorescence spectrum (fine structure of the $K\beta_5$ line) (exposure 20-40 h, 15 kv, 70 μa) were photographed. A shift

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X-Ray Spectrum Analysis of Titanium Beryllides

S/020/60/135/003/033/039
B004/B060

of the $K\beta_5$ line, as well as of points m and A of the edge of the absorption band was observed in beryllides, as against the Ti spectrum. Fig.1 illustrates this shift, taking the position of the $K\beta_5$ line in pure titanium as the zero point of graduation. The relative position of these points on the energy scale (ev) is shown in Table 2:

	$K\beta_{5max}$	m	A
Ti	0	6.7 0.2	17.8 0.5
TiBe	3.8 0.2	7.5 0.2	23.0 0.3
$TiBe_2$	3.8 0.2	7.2 0.2	22.6 0.3

The experimental data are indicative of a metallic character of titanium beryllides, the valence electrons being common to both atoms. The donor-acceptor interaction between 3d electrons of Ti and 2s electrons of beryllium is bound to be small. There are 1 figure, 2 tables, and 9 references: 5 Soviet and 4 German.

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86047

X-Ray Spectrum Analysis of Titanium Beryllides

S/020/60/135/003/033/039
B004/B060

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy of the Academy of Sciences USSR). Odesskiy pedagogicheskiy institut im. K. D. Ushinskogo (Odessa Pedagogical Institute imeni K. D. Ushinskiy)

PRESENTED: June 16, 1960, by A. P. Vinogradov, Academician

SUBMITTED: June 8, 1960

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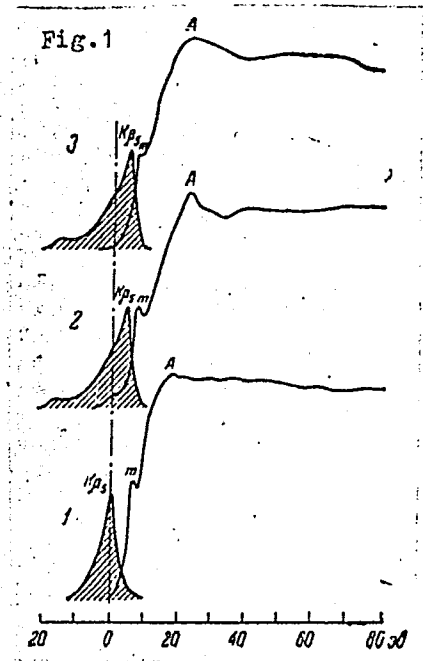
86047

S/020/60/135/003/033/039
B004/B060

Fig.1



Legend to Fig.1:
X-ray K absorption spectra and $K\beta_5$ emission lines of titanium in metal (1), monoberyllide (2) and diberyllide (3).

Fig.1

Card 4/4

L 8787-66 EWT(d)/EEC(k)-2/EWP(k)/EWP(h)/T/EWP(l)/EWP(v) IJP(c) GG/BB
ACC NR: AP5028033 SOURCE CODE: UR/0119/65/000/011/0022/0023

AUTHOR: Vaynshteyn-Kovalevskiy, G. Ye. (Engineer); Gordinskiy, A. A. (Engineer); Liberzon, L. M. (Engineer); Rodov, A. B. (Engineer)

ORG: none

TITLE: Simulating systems controlling high-inertia plants on an "Analog" pneumatic computer

SOURCE: Priborostroyeniye, no. 11, 1965, 22-23

TOPIC TAGS: computer simulation, pneumatic simulation

ABSTRACT: The general features of a new "Analog" pneumatic real-time simulator built by the "Teploavtomat" factory (Khar'kov) are given. The simulator capable of solving third-order differential equations with coefficients within 10—1200 sec is intended for studying automatic-control systems having

Card 1/2

L 8787-66
ACC NR: AP5028033

time constants up to 20 min; it uses a standard signal pressure of 0.2—1 kg/cm . The simulator accuracy is seen from this data: error in solving sixth-order equations with 300 sec time constant is 3—5%; same, with 300—1200 sec, is 6—10%. An example of practical application of the simulator for optimization of a catalytic reactor is cited; deviated by 50% from the desirable point, the system, intended for carrying out an exothermic reaction in a suspended layer of catalyst, found the optimum in 2300—2300 sec (twice as long as the plant's time constant). Orig. art. has: 2 figures.

SUB CODE: 13 / SUBM DATE: 00 / ORIG REF: 003
09

jw
Card 2/2

VAYNSHTEYN-KOVALEVSKIY, G.Ye., inzh.; GORDINSKIY, A.A., inzh.; LIBERZON, L.M., inzh.; RODOV, A.B., inzh.

Using the pneumatic "Analog" computer for modeling the control systems for high-inertia units. Priborostroenie no.11:22-23 N '65. (MIRA 18:12)

L 10202-66 EWT(d)/EEC(k)-2/T/EWP(1) LJP(c) BB/GG

ACC NR: AP5028512 SOURCE CODE: UR/0286/65/000/020/0097/0097

AUTHORS: Vaynshteyn-Kovalevskiy, G. Ye.; Gorokhov, V. M.; Koynash, P. I.; Lanin, N. D. 44 44 44 44 57 B

ORG: none

TITLE: A pneumatic lever multiplication unit. Class 42, No. 175745 [announced by Experimental Construction Bureau "Teploavtomatii" (Opytno-konstruktorskoye byuro "teploavtomat"); Central Scientific Research Institute of Comprehensive Automation (Tsentral'nyy nauchno-issledovatel'skiy institut kompleksnoy avtomatizatsii)] 44 44

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 97

TOPIC TAGS: pneumatic computer, pneumatic device, positive feedback 16, 44

ABSTRACT: This Author Certificate presents a pneumatic lever multiplication unit. The unit consists of two input sylphon bellows, three bars, a balance arm, a movable support, a feedback bellows, a pneumatic amplifier with a controllable nozzle, and three tuning springs. In order to multiply pneumatic signals that vary on both sides of an arbitrary zero, taking into account the sign of the output signal, the upper part of the moving support is made in the form of two bent elbows, so that the moving support can be placed above or below the turning axis of the balance arm. The bars have joints on their ends and can impart forces of both signs.

Card 1/1 UDC: 681.142—525

KAZANSKIY, K. S.; KOROVINA, G. V.; VAYNSHTOK, B. I.; ENTELIS, S. G.

Polymerization of ethylene oxide on strontium carbonate and the effect of water adsorption on catalytic activity. Izv AN SSSR Ser Khim no. 4:759-761 Ap '64. (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR.

VAYNSHTOK, I.B.; POLTAVETS, P.Ye.

Unusual [form of] cranial dysostosis. Zhur. nevr. i psikh. 61 no.7:1017-1019 '61. (MIRA 15:6)

1. Kafedra khirurgii detskogo vozrasta (zav. - prof. A.R. Shurinok) Kiyevskogo meditsinskogo instituta na baze gorodskoy spetsializirovannoy bol'nitsy (glavnyy vrach T.P. Novikova) i kafedra nervnykh bolezney (zav. - prof. B.N. Man'kovskiy) Kiyevskogo meditsinskogo instituta.
(DYSOSTOSIS)
(SKULL--ABNORMITIES AND DEFORMITIES)

VAYNSHTOK, I.B., kand.med.nauk; LARINA, M.B. (Kiyev)

Acute meningomyeloradiculitis following epidural novocaine anesthesia. Vrach. delo no.9:113-114 S '60. (MIRA 13:9)

1. Nervnoye otdeleniye (zav. - deystv. chlen AMN SSSR, prof. B.N. Man'kovskiy) bol'nitsy im. Oktyabr'skoy revolyutsii.
(NERVES, SPINAL—DISEASES) (NOVOCAINE)

VAYNSHTOK, I.B., kand.med.nauk; MEZHIBORSKAYA, V.M., kand.med.nauk

Development of a liking for nembutal and barbamyl. Vrach. delo no.12:132-133 D '60. (MIRA 14:1)

1. Kafedra nervnykh bolezney (zav. - akademik AMN SSSR, prof. B.N.Man'kovskiy) Kiyevskogo meditsinskogo instituta.
(BARBITURATES)

VAYNSHTOK, I.B.

Gunn's synkinetic syndrome. Zhur. nerv. i psikh. 61 no. 1:44-47 '61.
(MIRA 14:4)

1. Klinika nervnykh bolezney (zav. - prof. B.N.Man'kovskiy) Kiyevskogo meditsinskogo instituta.
(EYELIDS—DISEASES) (JAWS—DISEASES)

MAN'KOVSKIY, N.B., dotsent; VAYNSHTOK, I.B., kand.med.nauk

Interrelation of multiple sclerosis and acute disseminated encephalomyelitis. Vrach.delo no.6:561-566 Je '60.
(MIRA 13:7)

1. Klinika nervnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR, prof. B.N. Man'kovskiy) Kiyevskogo meditsinskogo instituta i Institut fiziologii AN USSR.
(MULTIPLE SCLEROSIS) (ENCEPHALOMYELITIS)

VAYNSHTOK, I. S. and PIROZHNIKOV, L. B.

"Determination of Air Moisture by Electronic Method," Stroit, prom-st No 8, pp 41-43, 1954

The electronic hygrometer VP-1 designed by All-Union Scientific Research Institute of Concrete Building uses only 1-2 minutes for moisture reading. Its operation is based on the relation of the dielectric constant of humid sand to moisture content. (RZhFiz, No 6, 1955)

Sum. No. 618, 7 Oct 55

PIROZHNIKOV, L.B.,; VAYNSHTOK. I.S.

Ultrasonic detection of defects of concrete and reinforced concrete products. Zav.lab. 21 no.2:201-203 '55.(MLRA 8:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhelezobetonnykh detaley i konstruktsiy.
(Concrete--Testing)

PIROZHNIKOV, L.B.; VAYNSHTOK, I.S.

Ultrasonic detection of laminations in metal without surface treatment. Zav.lab.21 no.10:1198-1200 '55. (MLRA 9:1)

1.Moskovskoye rayonnoye proizvodstvennoye upravleniye tresta "Soyuzteplokontrol'".
(Metals--Testing)

SOV/112-57-6-13616

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 6, p 287 (USSR)

AUTHOR: Vaynshtok, I. S.

TITLE: Ultrasonic Applications in Hard-Metal Machining and Flaw Detection (Primeneniye ul'trazvuka v obrabotke tverdykh metallov i defektoskopii)

PERIODICAL: V sb.: Primeneniye ul'traakustiki k issled. veshchestva. Nr 3. M., MOPI, 1956, pp 189-197

ABSTRACT: An industrial ultrasonic outfit is described that was developed in the VNII of Reinforced Concrete and that permits drilling, cutting, and grinding brittle metals. An 18-22 kc ultrasonic oscillator circuit is presented, and a magnetostriction vibrator used in the outfit is described. With a specimen thickness of 0.1-8 mm and a hole diameter of 0.2-10 mm, the time required to drill glass or ceramics is 15 sec to 3 minutes. The outfit can also be used for soldering aluminum. Principal data of the UZD-1b, UZD-2b, and UZD-3chm flaw detectors are presented; the detectors were developed by the VNII of Reinforced Concrete and are intended for checking prefabricated concrete and reinforced-concrete items. A simplified circuit of a FM oscillator for ultrasonic-interference suppression is also presented.

Card 1/1

K.B.F.

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

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1699

Author: Soroker, V., Vaynshtok, I., and Kayser, L.

Institution: None

Title: The Utilization of Gamma Rays in Testing the Shrinkage in Hard Concrete

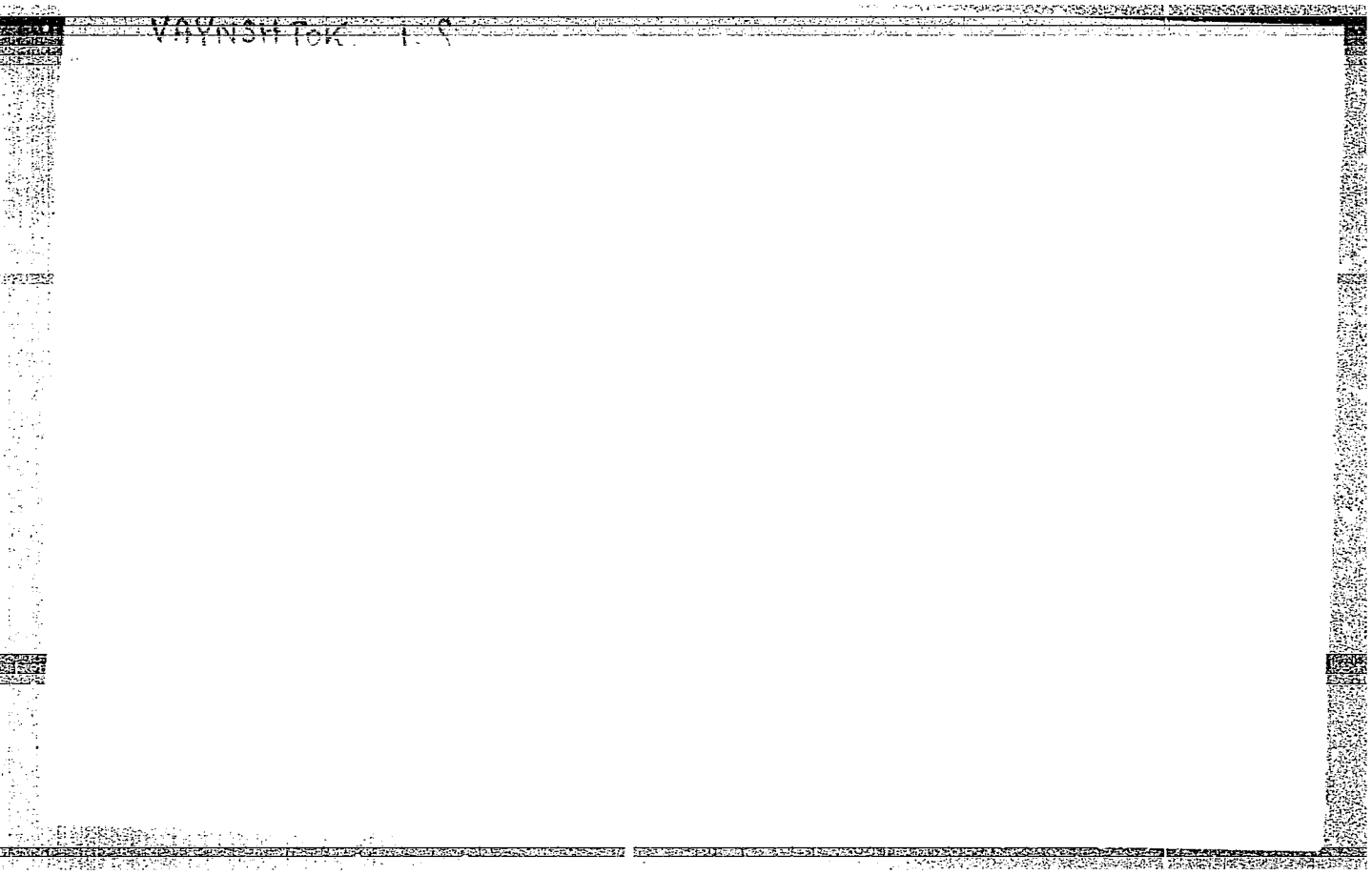
Original Periodical: Stroit. materialy, izdeliya, i konstruktsii, 1956, No 5, 18-20

Abstract: A linear relationship has been established experimentally between the residual intensity of an x-ray beam which has been sent through the concrete mixture under investigation (estimated from the number of pulses registered by a Geiger-Mueller counter) and the degree of shrinkage (bulk density) of the mixture. It is proposed to use Co^{60} in the evaluation of the degree of shrinkage of concrete.

Card 1/1

VAYNSHTOK, I., inzhener.

Ultrasonic machine tools. Tekh.mol.24 no.6:9-10 Ja '56. (MLRA 9:9)
(Ultrasonic waves--Industrial applications) (Machine tools)



AUTHORS: Vaynshtok, I.S., and Dovzhik, V.G., Engineers 28-6-10/40

TITLE: Checking the Compactness of Concrete Mixture by Gamma-Rays (Proverka uplotneniya betonnoy smesi s pomoshch'yu gamma-luchey)

PERIODICAL: Standartizatsiya, 1957, # 6, pp 38 - 40 (USSR)

ABSTRACT: Investigation results and the new experimental devices for observing the compactness of concrete, devised at the Scientific Research Institute for Reinforced Concrete (VNIIZhelezobeton), are described.

A direct dependence was found between the bulk weight of concrete mixture (i.e. its degree of density) and the quantity of gamma-ray impulses counted by Geiger-Mueller counter. Cobalt 60 and iridium 137 were used in investigations. It was found that iridium 137 is more sensitive to the changes in density of concrete and hence gives a more accurate indication.

Tests with the device "Cactus", working with a needle-indicator, confirmed that the Geiger-Mueller counter and the ionization chamber do not possess the necessary high sensitivity for a needle-indicator. The scintillation

Card 1/2 crystal with photo-amplifier, which is much more sensitive,

is considered to be a suitable transforming device for this purpose. It has a dead time of about 0.1 micron/sec and enables registration of nearly 100% of the incoming gamma quanta.

The physical essence of the scintillation transformers consists in scintillation of some crystals in the form of flare-ups under impinging radioactive rays. These flare-ups are registered by the electronic photo-amplifier and conducted to an electronic mechanism with a writing needle-galvanometer. A drawback of this device is that it requires highly-skilled operators. A simpler device is at present under development. Doctor of Technical Sciences V.I. Soroker and Engineer L.A. Kayser participated in the experimental work.

There are 3 diagrams.

ASSOCIATION: VNIIZhelezobeton

AVAILABLE: Library of Congress

Card 2/2 1. Industry-USSR 2. Concrete-Test methods

PHASE I BOOK EXPLOITATION 956

Vaynshtok, Izmail Samuilovich

Ul'trazvuk i yego primeneniye v mashinostroyenii (Ultrasonics and Its Application in Machine Building) Moscow, Mashgiz, 1958. 139 p. 8,000 copies printed.

Reviewer: Mizrokhi, Yu. N., Engineer; Ed.: Kol'tsov, P. Ye., Engineer; Ed. of Publishing House: Morozova, M. N.; Tech. Ed.: Gerasimova, Ye. S.; Managing Ed. for Literature on Metal Working and Tool Making (Mashgiz): Beyzel'man, R. D., Engineer.

PURPOSE: This book is intended for engineers and technicians dealing with industrial application of ultrasonics and may also be useful to technical personnel of scientific research organizations.

COVERAGE: The fundamentals of ultrasonics and its application in

Card 1/6

industry for various purposes including machining, cleaning, and physical investigations of materials are discussed. Various types of foreign and Soviet ultrasonic machine tools, flow detectors, and measuring instruments are described. No personalities are mentioned. There are 109 references, 60 of which are Soviet, 43 English, 3 German, and 3 French.

TABLE OF CONTENTS:

Ultrasonics and Its Application (Cont.) 956

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Ultrasonics and Its Application (Cont.) 956

AVAILABLE: Library of Congress 134

Card 6/6

GO/nah
12-29-58

VAYNSHTOK, I.S.

AUTHOR: Vaynshtok, I.S. 121-4-4/32

TITLE: Certain Problems of the Physical Nature of Ultrasonic Ma ining (Nekotoryye voprosy fizicheskoy sushchnosti ul' trazvukovoy obrabotki)

PERIODICAL: Stanki i Instrument, 1958, No.4, pp. 13 - 14 (USSR).

ABSTRACT: An experimental study carried out by the All-Union Scientific Research Institute for Reinforced Concrete (VNIIzhelezobetona) is reported, designed to clarify the physical nature of ultrasonic machining. Tests were carried out with and without abrasive using a 20-30 kc/s oscillator. The effect of abrasive grain size, its hardness and the working pressure were examined. Tungsten carbide, glass, granite, cast stone and solidified cement were machined. A comparison of effectiveness between different combinations of liquid, abrasive and pressure, have led to the conclusion that the metal removal process is due to the combined effect of cavitation erosion and abrasive cutting. The disintegration of the machined material is due to the action of hydraulic impacts of short duration on the abrasive particles and the machined material. Low pressure is preferable. Boron carbide is the best abrasive. The maximum intensity of cutting occurs when the abrasive grains and the vibration amplitudes are of the same

Card1/2size.

121-4-4/32

Certain Problems of the Physical Nature of Ultrasonic Machining

There are 2 Russian references.

AVAILABLE: Library of Congress

Card 2/2

1. Machining-Study and teaching

VAYNSHTOK, I.S.; NADAREYSHVILI, G.F.; RASTORGUYEV, B.P.

Ultrasonic pulse devices for studying concrete. Sbor. trud. NIIZhelezobetona no.2:68-80 '59. (MIRA 15:1)
(Ultrasonic waves--Industrial applications)
(Concrete--Testing)

MAYANTS, M.M.; VAYNSHTOK, I.S.; KOZLOV, A.I.; RATINOV, V.B.

Using the ultrasonic pulse method to study the kinetics of the hardening of binding substances. Sbor. trud. NIIZHelezobetona no.2:81-90 '59. (MIRA 15:1)
(Ultrasonic waves--Industrial applications)
(Binding materials)

VAYNSHTOK, I.S.; DOVZHIK, O.I.; RATINOV, V.B.

Effect of an acoustical field on reinforcement scouring.
Sbor. trud. NIIZHelezobetona no.2:91-95 '59. (MIRA 15:1)
(Ultrasonic waves--Industrial applications)
(Concrete reinforcement)

VAYNSHTOK, I.

Electric methods for measuring moisture content of sand. Stroitel' no.6:19 Je '59. (MIRA 12:9)

1. Zaveduyushchiy otdelom novykh metodov issledovaniy i elektroniki Nauchno-issledovatel'skogo instituta Zhelezobetona.
(Sand) (Electric apparatus and appliances)

VAYNSHTOK, I.S.; FINKINSHTEYN, B.A., inzh., red.;

[Ultrasonic pulse method of testing concrete strenth at plants producing reinforced concrete articles] Ul'trazvukovoi impul'snyi metod kontrolia prochnosti betona na zavodakh zhelezobetonnykh izdelii; po materialam NIIZHelezobetona Glavmospromstroimaterialov. Moskva, Gos. izd-vo lit-ry po stroit. arkhit. i stroit. materialam, 1961. 29 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Zaveduyushchiy otdelom elektroniki i avtomatiki Nauchno-issledovatel'skogo instituta zhelezobetonnykh izdeliy i nerudnykh materialov Glavnogo upravleniya promyshlennosti stroitel'nykh materialov i stroitel'nykh detaley (for Vaynshtok).
(Ultrasonic waves--Industrial applications)
(Precast concrete--Testing)

VAYNSHTOK, Izmail Samuilovich; BALAT'YEV, P.K., kand. tekhn. nauk, red.; DOVZHIK, V.G., kand. tekhn. nauk, nauchnyy red.; SHPAYER, A.L., red. izd-va; RUDAKOVA, N.I., tekhn.red.

[Electronics in the manufacture of precast concrete] Radioelektronika v proizvodstve sbornogo zhelezobetona. Pod red. P.K.Balat'eva. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 155 p. (MIRA 15:2)

1. Zamestitel' direktora po nauchnoy rabote Nauchno-issledovatel'skogo instituta zhelezobetonnykh izdeliy stroitel'nykh i nerudnykh materialov (for Balat'yev).
(Precast concrete) (Electronics)

VAYNSHTOK, I.S., inzh.

Electrical and physical methods and devices for inspecting the quality of building materials. Trudy NIIZHB no.21:240-257 '61. (MIRA 14:12)

1. Nauchno-issledovatel'skiy institut zhelezobetonnykh izdeliy i nerudnykh materialov Glavnogo upravleniya promyshlennosti stroitel'nykh materialov i stroitel'nykh detaley.
(Concrete--Testing)

RZHEVSKIY, V.V., prof., doktor tekhn.nauk; VAYNSHTOK, I.S., kand.tekhn.nauk; YAMSHCHIKOV, V.S., gornyy inzh.

Ultrasonic impulse device for studying rocks. Gor.zhur. no.1:72-73 Ja '65. (MIRA 18:3)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.

VAYNSHTOK,M.

Carry out new grain shipments in an organized way. Muk.-elev.prom. 21 no.8:4-6 Jl[Ag] '55. (MLRA 8:12)

1. Ministerstvo zagotovok
(Grain--Transportation)

ACC NR: AR6035404 SOURCE CODE: UR/0372/66/000/009/G047/G047

AUTHOR: Vaynshtok, M. D.

TITLE: Use of the Chebyshev method for constructing a computer algorithm for automatically determining correlation equations

SOURCE: Ref. zh. Kibernetika, Abs. 9G303

REF SOURCE: Tr. Mosk. in-t neftekhim. i gaz. prom-sti, vyp. 59, 1966, 193-197

TOPIC TAGS: algorithm, data correlation, data processing, computer control system, computer calculation, correlation function

ABSTRACT: It is noted that experimental-statistical methods of mathematically describing processes have recently gained wide application. Data obtained as a result of an experiment are subsequently processed in accordance with a chosen procedure. This yields equations for the connections between different groups of parameters of an industrial object. With this, the computer used to control the industrial object continuously draws from the object information which it processes. In the case when the received information is processed by correlation-analysis methods, the computer output consists of correlation equations which make it possible to calculate the most probable values of the random output quantity as a function of other random quantities. It is assumed that the correlation equation is in the form of a power polynomial; a procedure for constructing this polynomial by the Chebyshev parabolic interpolation method is considered. It is noted that the use of the Chebyshev method is particularly indispensible in multiple correlation, and all the more in automatic data process-

Card 1/2 UDC: 62-506; 681.142.35

ACC NR: AR6035404

ing, when it is impossible to determine the order of the equation from the empirical graph. It is concluded that Chebyshev's method is the sequential procedure with the optimal rate of approach to constant equilibrium (the equilibrium state corresponds to determination of the approximating function that ensures a specified accuracy). 2 illustrations. Bibliography, 2 titles. G. V. [Translation of abstract]

SUB CODE: 12, 09

Card 2/2

VAYNSHTOK, M.I.; MIKHALICH, V.; ARSENT'YEV, P.P.

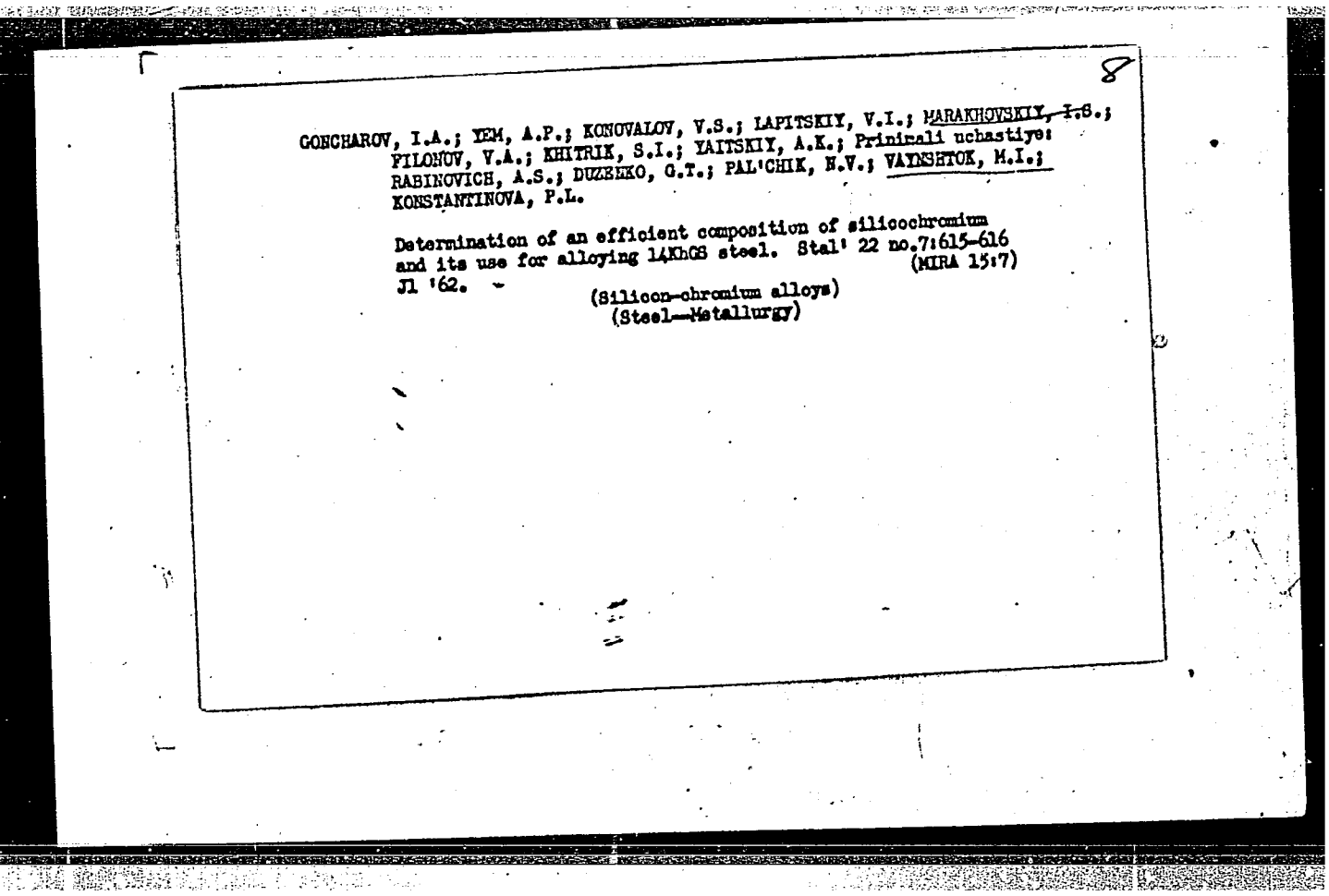
Effect of aluminum and manganese on the plastic properties of basic open-hearth low-carbon steel. Izv. vys. ucheb. zav.; chern. met. 6 no.11:54-59 '63. (MIRA 17:3)

1. Moskovskiy institut stali i splavov.

BARZIY, V.K., inzh.; BORISENKO, V.G., inzh.; VAYNSHTOK, M.I., inzh.; MOSHKEVICH, Ye.I., inzh.

Studying 11.3 ton ingots of transformer steel. Met. i gornorud. prom. no.3:57-61 My-Je '63. (MIRA 17:1)

1. Zavod "Zaporozhstal'" (for Barziy, Borisenko, Vaynshtok). 2. Zavod "Dneprospetsstal'" (for Moshkevich).



8

GONCHAROV, I.A.; YEM, A.P.; KONOVALOV, V.S.; LAPITSKIY, V.I.; MARAKHOVSKIY, I.S.; FILONOV, V.A.; KHITRIK, S.I.; YAITSKIY, A.K.; Prinimali uchastiye: RABINOVICH, A.S.; DUZENKO, G.T.; PAL'CHIK, N.V.; VAYNSHTOK, M.I.; KONSTANTINOVA, P.L.

Determination of an efficient composition of silicochromium and its use for alloying 14KhGS steel. Stal' 22 no.7:615-616 Jl '62. (MIRA 15:7)

(Silicon-chromium alloys)
(Steel—Metallurgy)

VAYNSHTOK, M.I.; ARSENT'YEV, P.P.; FILIPPOV, S.I.

Macrostructure and chemical heterogeneity of 18-ton, low-carbon steel ingots with ar addition of aluminum. Izv. vys. ucheb. zav.; chern. met. 7 no.7:77-83 '64 (MIRA 17:8)

1. Moskovskiy institut stali i splavov.

BORISENKO, V.G.; KOSHELEVSKIY, R.M.; VAYNSHTOK, M.I.

Refining transformer steel during heat treatment. Stal' 23 no.1:81-84 Ja '63. (MIRA 16:2)

1. Zavod "Zaporozhstal'". (Steel--Metallography)
(Annealing of metals)

ACCESSION NR: AP4042546 S/0148/64/000/007/0077/0083

AUTHOR: Vaynshtok, M. I.; Arsent'yev, P. P.; Filippov, S. I.

TITLE: Macrostructure and chemical inhomogeneity of 18-ton ingots of low-carbon steel with additions of aluminum

SOURCE: IVUZ. Chernaya metallurgiya, no. 7, 1964, 77-83

TOPIC TAGS: low carbon steel, 08kp steel, rimmed steel, killed steel, ferrosilicon deoxidized rimmed steel, aluminum deoxidized rimmed steel, steel macrostructure, steel inhomogeneity

ABSTRACT: Partial or complete deoxidation of rimmed steel in molds by aluminum or silicon is one of the means of reducing its chemical inhomogeneity and of increasing the yield of quality metal. The corresponding experiments were carried out with 18-ton ingots of 08kp rimmed steel deoxidized by ferromanganese in a furnace, and additionally by aluminum (130 g/ton) in the ladle. Semikilled and killed steel was produced by adding 0.2 and 0.4 kg/ton, respectively, of aluminum shot during pouring into molds; the metal of two ingots was deoxidized in the mold by an 0.2 kg/ton addition of 45% ferro-

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ACCESSION NR: AP4042546

silicon. All ingots had a dense crust, 20—40 mm thick. A specific feature of the ingots of killed and semikilled steel was the presence of a more or less dense bridge. A partial preservation of this bridge, by limiting the crop to 2%, will ensure welding of shrinkage defects during rolling, thus increasing the yield of quality metal to 93%. The macrostructure of the ingot deoxidized by ferrosilicon was close to that of the rimmed-steel ingot; the semikilled steel macrostructure was close to that of the killed. Ferrosilicon in the amount of 0.2 kg/ton of steel does not ensure a sufficiently uniform distribution of sulfur and carbon in low-carbon rimmed steel. A larger amount of ferrosilicon would increase the silicon content in the steel and impair its plastic properties. The addition of 0.4 kg Al/ton of rimmed steel sharply reduces the inhomogeneity of the ingot with respect to its sulfur and carbon content. A larger addition of aluminum (0.9 kg/ton) has no further effect on ingot inhomogeneity but is needed to neutralize the nitrogen and obtain nonaging steel. However, the ingots of the steel deoxidized by aluminum have a highly nonuniform distribution of aluminum, which in low-carbon steels containing less than 0.02% residual Al can promote strain aging. Orig. art. has: 3 figures and 2 tables.

Card 2/3

ACCESSION NR: AP4042546

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Steel and Alloys Institute)

SUBMITTED: 23Jan64 ATD PRESS: 3070 ENCL: 00

SUB CODE: MM NO REF SOV: 003 OTHER: 000

Card 3/3

SOV/133-59-5-24/31

AUTHORS: Barziy, V.K., Vaynshtok, M.I. and Gamazov, V.P., Engineers

TITLE: The Quality of a 13-ton Ingot of Steel 14KhGS (Kachestvo 13-t slitka stali 14KhGS)

PERIODICAL: Stal', 1959, Nr 5, pp 456 - 459 (USSR)

ABSTRACT: In view of the high-quality requirements for sheets from steel 14KhGS (used for the manufacture of tubes) a thorough investigation of a 13-ton ingot of this steel, particularly regarding its chemical uniformity and distribution of non-metallic inclusions, was carried out. Steel was smelted in a 195-ton open-hearth furnace, whereupon the metal was deoxidised in the bath with ferromanganese (8 kg/t), silicomanganese (12 kg/t) and ferrochromium (10 kg/t) and in the ladle with 75% ferro-silicon (7.5 kg/t), aluminium (0.25 kg/t) and ferro-titanium (2.5 kg/t). The metal was top-poured into moulds 2 200 mm high with a cross-section of the shrinkage head 1 100 x 640 mm. Chemical composition, %: C 0.13, Mn 1.07, Si 0.55, S 0.030, P 0.016, Cr 0.63, Ni 0.04, Cu 0.10. Three ingots, the second, eighth and fifteenth in the sequence of teeming, were selected for the

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The Quality of a 13-ton Ingot of Steel 14KhGS

investigation. The investigation of the macro and microstructure, the degree of chemical uniformity, the character and the distribution of non-metallic inclusions and the degree of saturation of metal by gases was done on a plate 25 mm thick, cut out along the height of the eighth ingot (middle position in the sequence of teeming). Sulphur print of the longitudinal cross-section of the ingot is shown in Figure 2, changes in the content of carbon and sulphur - Table 1 and Figure 3, chemical composition of non-metallic inclusions - Table 2, the distribution of gases at various levels of ingot height - Table 3. It was found that: 13-ton ingots of the above steel possess a satisfactory macrostructure; the shrinkage cavity is situated in the shrinkage head of the ingot. In the top part of the ingot a comparatively small positive segregation of sulphur and phosphorus was observed. In the bottom part of the ingot there is a zone with a negative segregation of sulphur; the segregation of carbon is positive nearly in the whole ingot. The remaining elements (silicon, manganese and chromium) do not

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show any segregation. The largest sulphide inclusions are situated mainly in the axial zone of the ingot and silicate inclusions mainly near to the crust zone - in the head and bottom part of the ingot. Insignificant amounts of alumina and titanium nitrides are distributed uniformly across the cross-section of the ingot. Among non-metallic inclusions, rutile and titanium carbonitrides were found. The content of oxygen in the metal of the ingot investigated varied from 0.0013 to 0.0030% and that of hydrogen from 0.0001 to 0.0002%. The metal was uniform in respect to the nitrogen content (0.004%).
There are 3 tables and 6 figures.

ASSOCIATION: Zavod "Zaporozhstal'" ("Zaporozhstal'" Works)

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VAYNSHTOK, N.

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Investigation of lithium salt lubricants thickened by natural and synthetic acid soaps. Trudy MINKHiGP no.32:11-26 '60. (MIRA 14:9)

(Lubrication and lubricants)

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Effect of lead soap additives on the structure and properties of lithium salt lubricants. Trudy MINKHiGP no.32:27-40 '60. (MIRA 14:9)

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VAYNSHTOK, V.V.; KARTININ, B.N.; AVCHINA, S.A.; LEVENTO, R.A.

Polyfunctional additives to lubricating oils based on natural and synthetic ether acids. Trudy MINKHiGP no.32: 53-67 '60. (MIRA 14:9)
(Lubrication and lubricants--Additives)

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Thixotropic properties of lubricating greases. Trudy MINKHiGP no.32:116-129 '60. (MIRA 14:9)
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(Thixotropy)

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Submicrostructure of solid hydrocarbons in a hydrocarbon medium. Izv. vys. ucheb. zav.; neft' i gaz 4 no.8:83-86 '61. (MIRA 14:12)

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CHERNOZHUKOV, N.I.; VAYNSHTOK, V.V.; KARTININ, B.N.

Crystal submicrostructure of solid hydrocarbon mixtures in a hydrocarbon medium. Izv. vys. ucheb. zav.; neft' i gaz 5 no.11:53-57 '62. (MIRA 17:6)

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Lead soaps as modifiers of the structure of lithium oils. Trudy MINKHiGP no.37:185-199 '62.

Grease on a base of lead and aluminum soaps. Ibid.:200-214 (MIRA 17:3)

ACCESSION NR: AP4037174 S/0069/64/026/003/0290/0295

AUTHOR: Vaynshtok, V. V.; Kartinin, B. N.; Gol'der, G. A.

TITLE: The structure of soaps modified by additions of lead and aluminum stearate

SOURCE: Kolloidny*y zhurnal, v. 26, no. 3, 1964, 290-295, and insert facing p. 296

TOPIC TAGS: soap oil dispersion structure, soap electronmicroscopy, soap x ray, lithium stearate, lead stearate, aluminum stearate, eutectic mixture, lead stearate crystal, crystal, crystal aggregate, aluminum lithium stearate crystal, jointly dispersed particle

ABSTRACT: The authors studied the crystallization of lithium stearate added with other stearates, widely used in the manufacture of lubricating greases (soap-oil dispersions), and conducted electronmicroscopic and x-ray studies of individual soaps, their melts and the soap-oil dispersions prepared on their basis. Experimental specimens were prepared by suspending the soap powder or grease in petroleum ether. The results are photographed, tabulated and figured. While the powdered soaps differed little in their aspect, those of the greases had specific structures depending upon the soap cation, crystallization conditions and

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ACCESSION NR: AP4037174

thickener composition. The lead-stearate based greases showed aggregates of the lead stearate lamellae with a low degree of anisodiametricity, due to poor solubility and thickening ability of such soaps. Aluminum and lithium stearate together formed distinctly shaped combined crystals (to 25% mol.% of aluminum soap). Increase of aluminum soap concentration caused a decrease of colloidal stability and rheologic indicators. No combined crystals were formed by lead and aluminum. X-ray studies of these stearates, their melts and the binary grease specimens gave sharp diffraction, with the exception of aluminum soaps. Data on interplanar distances and line intensity are presented. The lines of the greases were less pronounced than those of the starter soaps. The modifying effect of lead and aluminum stearate on the structure formed in Li stearate-based grease led to the formation of joint dispersed particles at a 10-30% mol.% addition, and the destruction of the structure at 30-50% mol.%. These dispersed particles are eutectic mixtures. Lead and aluminum stearates applied to greases in combination with dispersed particles did not form structures and prevented ordered structures if either was contained in the thickener in more than 10-15 mol.%. Under conditions of crystallization at room temperature stable greases can be obtained only by neutral lead stearate combined with aluminum mono- or distearate in no more than

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ACCESSION NR: AP4037174

20-30 mol.% concentration. Lithium, lead and aluminum stearates crystallize separately from melts as eutectic mixtures. Orig. art. has: 3 tables and 2 figures.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I. M. Gubkina (Moscow Institute of Petrochemical and Gas Industry)

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L 2106-65 EWI(m)/EPF(c)/E/EPR/T/EWP(q)/EWP(b) Pr-4/Ps-4 AS(mp)-2/AFWL/SSD/ESD(ga)/ESD(t) WW/DJ/WH

ACCESSION NR: AP4042329 S/0065/64/000/007/0059/0065

AUTHOR: Fuks, I. G.; Vaynshtok, V. V.; Chernozhukov, N. I.; Kartinin, B. N. 35 33

TITLE: Fillers as components of thickened lubricants.

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 7, 1964, 59-65

TOPIC TAGS: lubricant, lubricant filler, thickened lubricant, lithium lubricant, hermetic property, filler mechanism, yield value, particle size, inert filler, active filler, chemically reactive filler, amorphous lubricant, crystalline lubricant, fibrous lubricant structure, colloidal stability, molecular structure

ABSTRACT: The effect of fillers on the structure and properties of thickened lithium lubricants was investigated in order to obtain data on the mechanism of the action of the fillers and to study the possibility of increasing the hermeticity of the lubricants. Castor oil with 20 weight % lithium ricinoleate, and 5, 10, 15 and 30 wt.% of mica, graphite, chemically pure TiO_2 and oxides of lead, magnesium, zinc, iron and aluminum was used for the investigation. The fillers were added to the lubricant while it was held at 205-210C for 15 minutes. Hermeticity was determined by the maximum pressure that the lubricant could withstand and

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