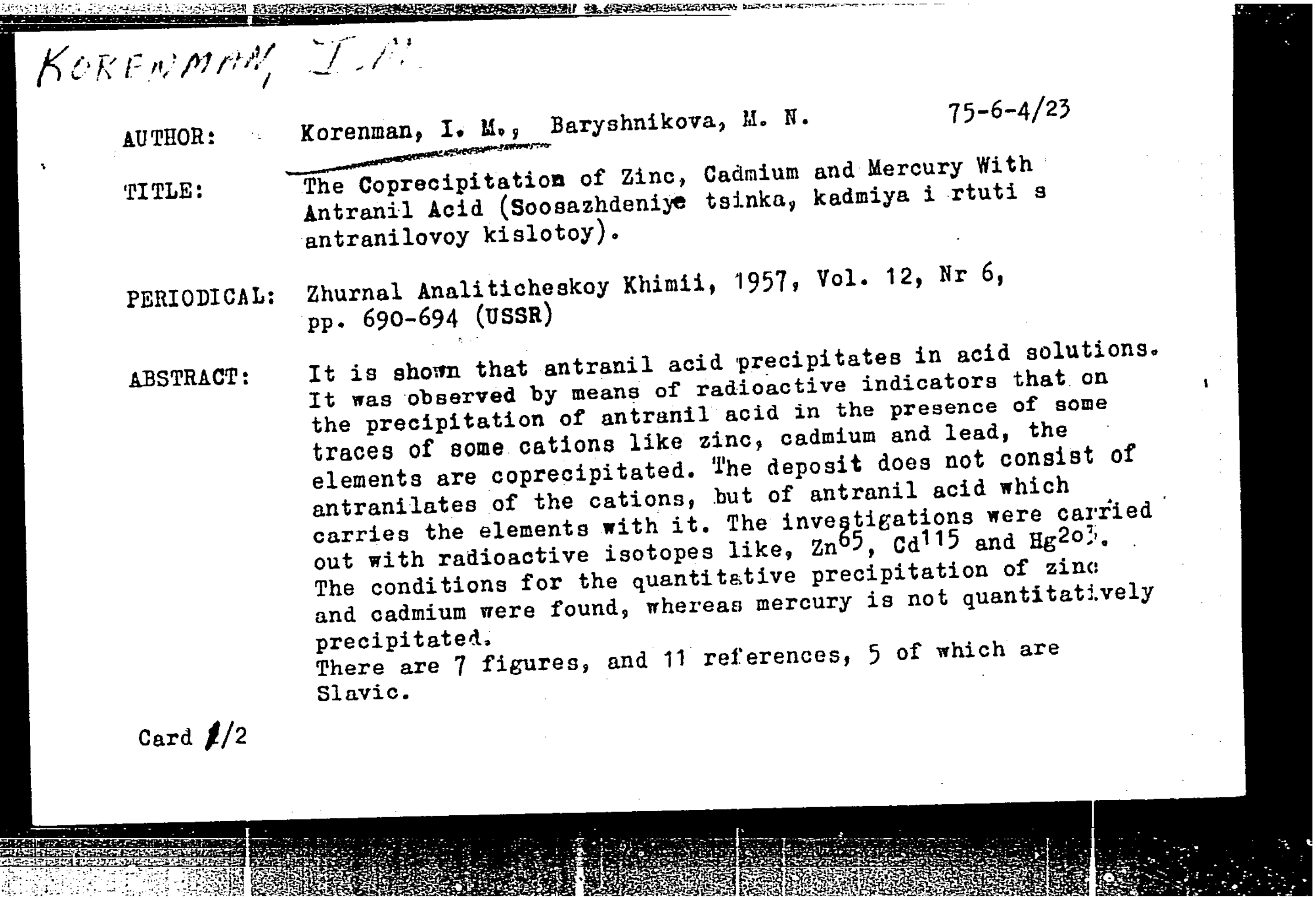

KORENMAN, I. M.

AUTHOR: Korenman, I. M., Baryshnikova, M. N. 75-6-4/23

TITLE: The Coprecipitation of Zinc, Cadmium and Mercury With Antranil Acid (Soosazhdeniye tsinka, kadmiya i rtuti s antranilovoy kislotoy).

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1957, Vol. 12, Nr 6, pp. 690-694 (USSR)

ABSTRACT: It is shown that antranil acid precipitates in acid solutions. It was observed by means of radioactive indicators that on the precipitation of antranil acid in the presence of some traces of some cations like zinc, cadmium and lead, the elements are coprecipitated. The deposit does not consist of antranilates of the cations, but of antranil acid which carries the elements with it. The investigations were carried out with radioactive isotopes like, Zn^{65}, Cd^{115} and Hg^{203}. The conditions for the quantitative precipitation of zinc and cadmium were found, whereas mercury is not quantitatively precipitated.
There are 7 figures, and 11 references, 5 of which are Slavic.

Card 1/2

The Coprecipitation of Zinc, Cadmium and Mercury With Antranil Acid 75-6-4/23

ASSOCIATION: **Gor'kiy State University imeni N.I. Lobachevskiy** (Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo).

SUBMITTED: November 30, 1955

AVAILABLE: Library of Congress

1. Cadmium-Caprecipatation 2. Lead-Caprecipatation 3. Zinc-Caprecipatation 4. Antracil acid-Applications

Card 2/2

KORENMAN, I.M.,

AUTHOR KORENMAN, I.M., Professor 32-15-54/54

TITLE (On the Edition of the Book):
D.N.Baskevich.Luminescence Analysis in Sanitary Works Cehmistry.
(D.N.Baskevich.Lyuminestsentnyy analiz v promyshlenno-sanitarnoy khimii - Russian)

PERIODICAL Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 767 (U.S.S.R.)

ABSTRACT (Edited by "Profizdat", 1957, pp 1-80, edition: 3000 vol., price 1,90)
The luminescence method is as yet rarely used for the analysis of the air in factories. The work of Baskyevich can therefore be regarded as being up to date, as it deals with the principles, the technique, the apparatus, as well as the manners of application of this method in analytical chemistry in general and the analysis of the air in particular. The work deals with the basic laws of luminescence, data on ultra-violet radiation, its sources and wiring diagrams. Here special importance is attached to data concerning measures taken against failure of apparatus, production of liquid air filters, security measures etc. The book deals mainly with the application of the luminescence method for the analysis of the air, and it would be desireable to extend the application of this method also to analysis of sewage, dust a.o.in future.

It is to be regretted that the book is not free from errors e.g. the author by mistake classes the methods which are based on the application of visual photometers among the objective methods. Thus, he speaks of the relation between the optimum density and the concentration of aluminum, but he fails

Card 1/2

32-6-54/54

(On the Edition of the Book):
D.N.Baskevich. Luminescence Analysis in Sanitary Works Chemistry.

to give the length of the light beam, etc. The author calls an apparatus, where ultraviolet rays develop vertically an analytical tube. We believe that this does not matter and that they might ust as well be horizontal.. etc. Inspite of some other deficiencies and misprints the book must be considered as a valuable supplementary work for the employment of luminescence analysis, and it can be recommended for use in all analytical laboratories.

ASSOCIATION Not Given.
PRESENTED BY
SUBMITTED
AVAILABLE Library of Congress.
Card 2/2

KORENMAN, I.M.

5(2); 21(5) PHASE I BOOK EXPLOITATION SOV/1900

Akademiya nauk SSSR. Komissiya po analiticheskoy khimii

Primeneniye radioaktivnykh izotopov v analiticheskoy khimii (Use of Radioactive Isotopes in Analytical Chemistry) Moscow Izd-vo AN SSSR, 1958. 366 p. [Series: Its: Trudy, t. 9 (12)] Errata slip inserted. 3,000 copies printed.

Resp. Ed.: I.P. Alimarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.N. Yermakov; Tech. Ed.: T.V. Polyakova.

PURPOSE: The book is intended for chemists and chemical engineers concerned with work in analytical chemistry.

COVERAGE: The book is a collection of the principal papers presented in Moscow at the Second Conference on the Use of Radioactive Isotopes. The problems discussed at the Conference included coprecipitation, aging, and solubility of precipitates, determination of the instability constants

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of complex compounds, separation of rare earth metals, and ion-exchange chromatography. No personalities are mentioned. There are 351 references, 175 of which are Soviet, 33 German, 19 French, 8 Swedish, 2 Hungarian, and 2 Czech.

TABLE OF CONTENTS:

Use of Radioactive Isotopes (Cont.) SOV/1900

Card 6/10

Korenman, I.M., A.A. Tumanov, and Z.V. Kraynova. Precipitation of Zirconium Dihalooxinates (Analytic [illegible]) [illegible]

SOV/137-59-2-4767

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 343 (USSR)

AUTHORS: Korenman, I. M., Kurina, N. V., Yemelin, Ye. A.

TITLE: Oxyanthraquinones as Reagents for Germanium (Oksiantrakhinony kak reaktivy na germaniy)

PERIODICAL: Tr. po khimii i khim. tekhnol., 1958, Nr 1, pp 134-137

ABSTRACT: The authors investigated the color reactions of GeO_2 to the following
polyoxyanthraquinone dyeing agents: Anthracene blue (I), purpurin,
anthrarufin, quinizarin, and quinalizarin. The most sensitive reac-
tion is with I, minimum concentration 1:70,000, detectable minimum
1.4 γ in 0.1 cc. The most specific reactions are with I, purpurin,
and quinalizarin. H_3BO_3, Al, and Tl impede the determination. I and
quinizarin cause fluorescence in ultraviolet rays. On the basis of
the reaction with I GeO_2 is determined photometrically in a 5-cc cell
on a FEKN-54 photocolorimeter with a Nr-7 light filter at 610 mμ.
1.5 cc of 0.01% reagent solution in concentrated H_2SO_4 are added to
1 cc of GeO_2 solution, and the optical density of the solution is
measured after 15 min. The mean error is ~2% (relative).

P. K.

Card 1/1

SOV/81-59-14-49211

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, pp 121 - 122 (USSR)

AUTHORS: Korenman, I.M., Grishin, I.A.

TITLE: Fluorescent Reactions for Beryllium and Aluminum

PERIODICAL: Tr. po khimii i khim. tekhnol., 1958, Nr 2, pp 383 - 388

ABSTRACT: About 150 oxyanthraquinone dyestuffs and azo dyes (mainly of Soviet production) were studied, of which about 50 show positive fluorescent reactions with Be and Al. 0.1 ml of an aqueous or ethanol solution of the dyestuff of interest (1 mg/ml) was added to 1 ml of a neutral solution of a Be or Al salt, the solution was heated to boiling, and the appearance of color and fluorescence was observed. In the cold, fluorescence develops slowly. It was established that, of the dyes studied, those containing groupings (I), (II) and (III) show the most sensitive reactions with Al salts; the dyes containing grouping (IV) show considerably less sensitive reactions. Be salts show the same reactions as Al salts, but the sensitivity of these reactions is 100 - 2,000 times less. Among the dyes with grouping (V) no satisfactory reagents for Al were found. Dyes with grouping IV containing a NO_2 group in o- or n-

Card 1/2

5(2,3)

AUTHORS: Korenman, I. M., Ganina, V. G. SOV/153-58-6-6/22

TITLE: Colored Reactions on Salts of Mercurous Oxide (Tsvetnyye reaktsii na soli zakisi rtuti)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 6, pp 34-38 (USSR)

ABSTRACT: The authors recall the best-known organic reagents to the salts mentioned in the title (Refs 1-5). With regard to the mercurous oxide cation, however, they are, in the majority of cases, neither sufficiently sensitive nor specific. Consequently, the search for new reagents is of practical interest. Many organic compounds (dyes) yield colored soluble reaction products with the salts mentioned in the title, whereas some of them form white or colored precipitations. In order to find new adsorption indicators for mercurimetry, the authors carried out a more detailed investigation of 2 azo-dyes in aqueous solutions (N. I. Zharkova and L. V. Zuykova participating in the work): 1.1-oxy-2-nitrobenzene-4-sulfo-acid-6-azo-2'-naphthalene-1'-oxy-5'-sulfo-acid (in the following referred to as I), and diamond-red-PV (II). From the experiments it was obvious that the reaction products most characteristic

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with respect to coloring are formed in a practically neutral medium. The interactions of dyes I and II with cations of various analytical groups were investigated. I does not react with Tl^{+}; a raspberry-colored soluble product is formed by Hg^{2+}, Zn^{2+}, Ni^{2+}, Co^{2+}, Pb^{2+}, Mn^{2+}, Be^{2+}, Al^{3+}, Bi^{3+}, Th^{4+}, Ti^{4+}; the reaction product of I with UO_2^{2+} is orange-yellow, that with F^{2+} and F^{3+} yellow.. In addition to reacting with mercurous oxide, dye II also reacts with Hg_2^{2+} to form a non-characteristic brown precipitation; with UO_2^{2+} a brown soluble product is obtained, and with Fe^{2+} and Fe^{3+} yellow solutions are formed. Thus none of the cations here investigated yielded a result analogous to the reaction products of I and II with mercurous oxide. Table 1 shows the limiting conditions found to exist in this connection. From this it will be seen that most of the cations do not prevent the discovery of the mercurous oxide salts. The reaction products of the mercurous oxide salts with a chloride or bromide in the presence of I and II, form, with low concentrations of the two halogenides, a light blue, and in the case of a surplus, a pink precipitation. This fact leads to the assumption that the two dyes might be used as adsorption indicators in mercurimetry. This application was attempted with sodium and potassium halides: the results are presented in tables 2-5. They clearly reveal the applicability of this method. There are 5 tables and 6 references, 1 of which is Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii; Gor'kovskiy gosudarstvennyy universitet imeni N. I. Lobachevskogo (Chair of Analytical Chemistry; Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: January 27, 1958

Card 3/3

Korenman, I.M

AUTHORS: Korenman, I. M., Sheyanova, F. R., Vishnevskaya, T. N., Bratanov, B. I. 78-3-5-22/39

TITLE: The Solubility of Thallium and Cesium Cobalti-Nitrite (Rastvorimost' nitrokobal'tiatov talliya i tseziya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii 1958, Vol 3, Nr 5, pp 1188-1191 (USSR)

ABSTRACT: The solubility of thallium cobalti-nitrite in water at 10 to 30°C and in solutions of chlorides, nitrates and sulfates of sodium at 20°C was ietermined. The solubility product of thallium cobalti-nitrite at 20°C amounts to $1{,}4 \cdot 10^{-15}$, at 10°C to $8{,}5 \cdot 10^{-16}$, at 30°C to $6{,}6 \cdot 10^{-5}$. The solubility of thallium cobalti-nitrite substantially decreases according to the increase of the concentration of thallium nitrate (0,0-0,06mol/l). In the presence of NaCl, $NaNO_3$ and $NaSO_4$, the solubility of thallium cobalti-nitrite increases,

Card 1/2

The Solubility of Thallium and Cesium Cobalti-Nitrite 78-3-5-22/39

especially in the presence of sodium sulfate. The solubility of cesium cobalti-nitrite in water at 20°C and in solutions of nitrates and sulfates of sodium, as well as in magnesium nitrate, was investigated. The solubility product of cesium cobalti-nitrite in water at 20°C amounts to $3.5 \cdot 10^{-16}$. The solubility of cesium cobalti-nitrite increases according to the concentration of sodium nitrate, sodium sulfate and magnesium nitrate. There are 1 figure, 5 tables, and 3 references, 2 of which are Slavic.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im.N.I. Lobachevskogo (Gor'kiy State University imeni N.I.Lobachevskiy)

SUBMITTED: May 22, 1957

AVAILABLE: Library of Congress

1. **Thallium cobalti nitrite--Solubility--Determination**
2. **Cesium cobalti nitrite--Solubility--Determination**

Card 2/2

KORENMAN, I.M.

78-3-5-36/39

AUTHORS: Korenman, I. M., Ganina, V. G., Lebedeva, N. P.

TITLE: Solubility of Thallium Chromate (Rastvorimost' khromata talliya)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3,Nr 5, pp. 1265-1267 (USSR)

ABSTRACT: The solubility of thallium chromate in acqueous solutions of some binary and trinary electrolytes in ammoniacal buffer solution as well as in trilon-B-solution was determined.
The solubility of thallium chromate at 20°C in water is 0,042 ± 0,001 g/1. The solubility product amounts to $2,0.10^{-12}$. The solubility of thallium chromate in 0,1 - - 1 n - solutions of sulfates and nitrates of potassium and ammonium was determined, and it thence results that the solubility of thallium chromate increases according to the increasing concentration of the electrolyte. The solubility of thallium chromate is, in solutions of ammonium salts, higher than in solutions of potassium salts. The solubility of thallium chromate is especially high in acqueous solutions of trilon-B, in which case a complex

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Solubility of Thallium Chromate 78-3-5-36/39

compound of thallium with trilon-B is formed. There are 4 tables and 5 references, 1 of which is Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo (Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: July 8, 1957

AVAILABLE: Library of Congress

1. Thallium chromate--Solubility

Card 2/2

AUTHORS: Korenman, I.M., Shatalina, G.A.

75-13-3-7/27

TITLE: Hardly Soluble
Co-Precipitation of Cesium With/Dipicrylamines Difficult to Solve (Soosazhdeniye tseziya s malorastvorimymi dipikrilaminatami)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 3, pp 299-303 (USSR)

ABSTRACT: Dipicrylamine has for a long time been known as a sensitive reagent to potassium and is frequently used for the qualitative and quantitative determination of potassium, rubidium and cesium (references 1-6). In publications, however, there are no indications concerning the co-precipitation of cesium with the dipicrylamines of potassium, rubidium, thallium and ammonium difficult to solve. The authors investigated the possibility of such a co-precipitation and used the radioactive isotope Cs^{134} as an indicator. It became evident that cesium is practically quantitatively precipitated with the dipicrylaminates of potassium, rubidium and thallium. At temperatures of 0 - 30°C the co-precipitation of cesium with potassium dipicrylaminate is practically complete.

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Co-Precipitation of Cesium With Hardly Soluble Dipicrylamines 75-13-3-7/27
Difficult to Solve

On a further rise in temperature the amount of co-precipitated cesium decreases due to the higher solubility of the precipitation, but the content of cesium in a certain amount of the main precipitation remains constant at different temperatures. From this follows that changes of temperature exert no influence upon the co-precipitation of cesium. Furthermore the adsorption of cesium in previously prepared precipitations of potassium and thallium dipicrylaminate was investigated. It became evident that the co-precipitation of cesium with these dipicrylaminates is not based on adsorption, but is of isomorphous nature. Further experiments showed that third components (e.g., Rb or Tl in the case of potassium dipicrylaminate) exert no influence upon the co-precipitation of cesium. The order of the addition of reagents does not exert any influence upon the amount of co-precipitated cesium either, which also speaks against a co-precipitation by adsorption. On an increase in the amount of the macrocomponent or a decrease in the amount of the micro-component the content of cesium decreases in 1 mg of the precipitation; the amount of co-precipitated cesium is

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Co-Precipitation of Cesium With/Dipicrylamines Hardly Soluble Difficult to Solve

75-13-3-7/27

therefore independent of the absolute amount of the precipitation. Cesium is in all these cases practically quantitatively co-precipitated. All these results lead to the conclusion that the co-precipitation of cesium is of an isomorphous nature. On a decrease in the amount of the precipitant the amount of co-precipitated cesium decreases, but it increases in proportion to the decrease in the amount of main precipitation. The strongest effect of this type is shown by co-precipitation with ammonium dipicrylaminate, with rubidium dipicrylaminate this effect does almost not occur at all. The fact of the practically complete co-precipitation of cesium with precipitations of dipicrylaminates permitted the elaboration of an accumulation method for cesium which is described. Based on the investigations it was found that dipicrylaminates difficult to solve and especially ammonium salt can be used as carriers of the separation of cesium traces from very diluted solutions. There are 2 figures, 7 tables, and 6 references, 4 of which are Soviet.

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Co-Precipitation of Cesium With/Dipicrylamines Hardly Soluble Difficult to Solve 75-13-3-7/27

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N.I. Lobachevskogo (Gor'kiy State University imeni N.I. Lobachevskiy)

SUBMITTED: May 11, 1956

1. Cesium--Precipitation

Card 4/4

AUTHORS: Korenman, I. M., Kut'in, V. P. SOV/75-13-4-7/29

TITLE: Microcrystalline Reactions in Melts (Mikrokristallicheskiye reaktsii v rasplavakh)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 423-425 (USSR)

ABSTRACT: The authors of the present paper investigated several reagents, which were dissolved in organic compounds melting at low temperature, as to their applicability in microcrystalloscopic analysis. Some substances, among them 8-hydroxy quinoline, which can be used as media for micro-reactions turned out to be of poor qualification as they can only be used at temperatures far above their melting point. At lower temperatures the medium rapidly crystallizes and this prevents an observation of the crystals of the reaction product. The authors used reagents that were dissolved in molten benzophenone or salol. Salol and benzophenone turned out to be suitable as they can be undercooled. A molten drop of these compounds containing the reagent and the reaction product, when cooled down to room temperature remains liquid for a long time. The authors succeeded in keeping preparations in benzophenone in a molten con-

Card 1/3.

dition for from 5 to 6 days, in single cases even considerably longer. Preparations in molten salol remain liquid for 24 hours. By this means nickel was detected by dimethyl glyoxime and also by α-benzil dioxime. Well-grown large crystals developed. In the same way several microcrystalloscopic reactions with bismuth were investigated which are based on the formation of the complex $BH[BiJ_4]$ (B...base) and are distinguished by an intense color of the reaction product (Ref 4). The application of different bases and of ammonium iodide in molten organic compounds was not successful. Only when quinoline-iodine ethylate in molten diphenyl amine were used, bismuth could distinctly be proved. Dark-red crystals developed, which reached a length up to 200-300μ. These crystals are well distinguishable even if the diphenyl amine itself crystallizes during the cooling down. In aqueous media on the other hand only crystals can be obtained, the length of which does not exceed 50-60μ. When using benzophenone or salol instead of diphenyl amine small crystals were obtained. Lead salts together with quinoline-iodine ethylate dissolved in molten diphenyl amine produce colorless needles that reach a length of up to 150μ. Hence in many cases considerably larger crystals are ob-

Microcrystalline Reactions in Melts SOV/75-13-4-7/29

tained in molten indifferent organic solvents than in other media. There are 4 figures, 1 table, and 5 references, 1 of which is Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo (Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: October 26, 1956

1. Reagents--Properties 2. Reagents--Performance 3. Organic compounds--Crystal structure 4. Benzophenone--Properties 5. Crystals--Growth 6. Metals--Determination

Card 3/3

AUTHORS: Korenman, I. M., Glazunova, Z. I. SOV/75-13-5-4/24

TITLE: Co-Precipitation of Zinc With Complex Compounds Containing Pyridine (K voprosu o soosazhdenii tsinka s piridinsoderzhashchimi kompleksnymi soyedineniyami)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 5, pp 528-532 (USSR)

ABSTRACT: In a previous paper the authors had discovered that zinc can be co-precipitated from precipitates of the form $[MePy_2]X_2$ (Me...Cu^{2+}, Cd^{2+}, Ni^{2+}; X...SCN^-, Br^-) (Ref 1). In this an interrelationship was observed between the quantities of the macro- and micro-components in the solution before precipitation and the quantity of the co-precipitated micro-component in the precipitate. This interrelationship and a number of other problems were examined more closely in the paper under review. An analysis of the co-precipitation of zinc with $[CuPy_2](SCN)_2$ at a temperature of 15-17° showed that the ratio of the quantities of Cu^{2+} : Zn^{2+} in the precipitate only amounted to one sixth to one eighth of the corresponding ratio in the solution before precipitation. This relation remained

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rather constant in tests with varying contents of Cu^{2+} and Zn^{2+}. If the copper content in the initial solution is increased, also the content of zinc in the precipitate will increase, while it will decrease if the concentration of zinc in the initial solution is smaller. In both cases, however, the amount of co-precipitated zinc will decrease in comparison with the entire precipitate. This decrease depends on the ratio of Cu^{2+} : Zn^{2+} in the solution before precipitation. In a logarithmic diagram the relationship between the zinc content in the precipitate and the ratio of Cu^{2+} : Zn^{2+} in the initial solution is a straight line. This fact makes it possible to predict the extent of co-precipitation of zinc in the precipitation of $[CuPy_2](SCN)_2$ if the content of the components in the initial solution is known. Very analogous conditions were discovered in the co-precipitation of zinc with $[CdPy_2](SCN)_2$ and $[NiPy_2](SCN)_2$. Co-precipitation of zinc with $[CdPy_2]Br_2$ takes place to a small extent only; here the relationship between the components in the initial solution and in the precipitate is no longer constant since the accuracy in the determination of the co-precipitated zinc is low. As to quality, however, the same interrelationship as in the co-precipitation of zinc with the above-mentioned complex thiocyanates could be established. As zinc is co-precipitated both by $[CuPy_2](SCN)_2$ and by $[CdPy_2]Br_2$ only to a small extent, this method can be used for the separation of zinc from copper and cadmium. The results of these separations were satisfactory in micro-determination. Copper and zinc may even be better separated by precipitation of copper as $[CuPy_2](SCN)_2$ at higher temperatures. By this way, 200 γ of zinc can still be well separated from 1 000 γ of copper. The quantitative micro-determination of copper by precipitation by means of the above mentioned compounds (Ref 3) furnishes good results also with small amounts of zinc being present. It was discovered that for the quantitative determination of very small quantities of copper the titration of precipitated $[CuPy_2](SCN)_2$ with a solution of

SOV/75-13-5-4/24

Co-Precipitation of Zinc With Complex Compounds Containing Pyridine

silver nitrate can be used. This method is considerably simpler and faster than the gravimetric determination. There is a detailed description in this paper of all experiments, as well as of the results achieved. There are 2 figures, 7 tables, and 3 references, 2 of which are Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo (Gor'kiy State University imeni N. I. Lobachevskiy)

SUBMITTED: January 22, 1957

Card 4/4

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SOV/81-59-5-15065

5.5140

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 5, p 125 (USSR)

AUTHORS: Korenman, I.M., Belyakov, A.A.

TITLE: The Microcrystalloscopic Reactions for Sulfides and Sulfites

PERIODICAL: Uch. zap. Gor'kovsk. un-ta, 1958, Nr 32, pp 93 - 96

ABSTRACT: A description is given of the new microcrystalloscopic reactions for the detection of S^{2-} using 3-nitro-1,4- aminophenylmercuracetate (I), and SO_3^{2-}, using quinolinemercuracetate (II), 2-aminopyridine-5-mercuracetate (III) and 1-methyl-4,2-aminophenylmercuracetate (IV). The reactions can be carried out on a microscopic slide as well as in the fume hood (in the latter case the sensitivity and the specificity of the reactions increase). I and IV are used in the form of saturated solutions in 20 - 30% CH_3COOH, and II and III in the form of saturated aqueous solutions. The microcrystalloscopic reactions are conducted in the usual way (1 drop of the solution to be analyzed on a slide is combined by means of a stick with a drop of the reagent); while working in a fume hood, one drop of 2 - 3% H_2SO_4 is added to one drop of the solution to be analyzed, which is

Card 1/2

SOV/137-59-2-4854

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 355 (USSR)

AUTHORS: Korenman, I. M., Frum, F. S., Ryzhkova, L. V.

TITLE: Derivatives of Chromotropic Acid as Reagents for Titanium (Proizvodnyye khromotropovoy kisloty kak reaktivy na titan)

PERIODICAL: Uch. zap. Gor'kovsk. un-ta, 1958, Nr 32, pp 113-117

ABSTRACT: Bibliographic entry

Card 1/1

USCOMM-DC-60,889

5(2,3)

AUTHORS: Korenman, I. M., Kurina, N. V. SOV/153-2-1-3/25
Ganina, V. G.

TITLE: Color Reactions of Zirconium (Tsvetnyye reaktsii na tsirkoniy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 1, pp 15-19 (USSR)

ABSTRACT: The groups $-N=N-$ and $-AsO_3H_2$ are to be considered functional-analytical in the case of zirconium (Refs 1,2). The authors investigated organic compounds as reagents on zirconium which contain this and several other groups. These are: acid blue, acid brown, gallein-phthalein as well as some azo dyes (derivatives of chromotropic acid). Gallein-phthalein turned out to be a very sensitive and specific reagent. In order to explain the problem whether zirconium can be detected in the presence of foreign cations, the authors determined the admissible limit ratios of zirconium to several other cations (Table 1). It results therefrom that most cations practically do not exercise any inhibitory effect in this case, with the exception of trivalent iron the concentration of which must not exceed that of zirconium by five times. In a strongly acid

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medium all investigated azo dyes yield reaction products with zirconium, some of them even in a weakly acid medium. The best results were obtained from 4-sulphobenzene-2-azo chromotropic acid in weakly and strongly acid media. Table 2 shows the limit ratios of the last-mentioned acid in the HCl medium. Thus, zirconium can be detected in a mixture of several cations if its concentration is not lower than 1mg/ml (blue coloring in HCl solution). At lower concentrations a violet coloring is produced which is similar to that of cerium, lanthanum, and calcium. Due to its pink coloring cobalt exerts an inhibitory effect. The reactions under discussion were utilized for a colorimetric determination of zirconium (Tables 3-7). Figures 1 and 2 show calibration diagrams for the reaction with gallein-phthalein and 4-sulphobenzene-2-azo chromotropic acid. There are 2 figures, 7 tables, and 4 Soviet references.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo; Kafedra analiticheskoy khimii (Gor'kiy State University imeni N. I. Lobachevskiy; Chair of Analytical Chemistry)

SUBMITTED: January 23, 1958

24444

S/081/61/000/006/005/015
B101/B201

5 2300

AUTHORS: Korenman, I. M., Sokolov, D. N.

TITLE: Solubility products of oxalates of rare earth elements and instability constants of their complex oxalates

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1961, 106, abstract 6B44 (6V44). ("Tr. po khimii i khim. tekhnol. (Gor'kiy)". 1959, vyp. 3, 530 - 537)

TEXT: A study has been made of the solubility of oxalates of rare earth elements (REE) and of Y in HCl of different concentrations for $\mu = 0.5$ and 25°C. Complex ions of composition $MC_2O_4^+$ have been found to be present in solutions of oxalates of REE and Y. The authors have calculated the solubility products of oxalates of REE and Y as well as the instability constants of $MC_2O_4^+$ complexes for $\mu = 0.5$ and 25°C. A periodic dependence of the solubility product of oxalates of REE and of the instability

X

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SOV/153-2-2-1/31

5(0)

AUTHORS: Korenman, I. M., Sheyanova, F. R.

TITLE: Some Problems of the Theory of Extraction (Nekotoryye voprosy teorii ekstragirovaniya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 2, pp 151-156 (USSR)

ABSTRACT: The theory mentioned in the title is poorly worked out (Ref 6). In the present paper, the authors discuss, in a general form, the dependence between some factors and the quantity of the extracted product obtained by the effect of the reagent HR (weak acid). Figure 1 shows this quantity of the MeR percent of the initial quantity of the Me^+. It also shows that the character of the curves is equal at any value of K (constant depending on the character of the organic solvent applied, and on the temperature). The position of these curves, however, depends on the value of K. The extraction begins at pH = pK + 2, a full extraction takes place at pH = pK + 6. Thus, the range of extraction comprises 4 pH-units (under the condition of equal initial concentrations of Me^+ and HR). By use of equation 14 (derived above) the authors calculate the range of extraction at a change of the relative quantities

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of Me^+ and HR (Fig 2). An increase in the reagent excess shifts the range of extraction in the direction of smaller pH-values. The upper limit of extraction will undergo a greater change than the lower one. The effect of the relative volumes of both phases on the degree of extraction is also discussed. The equations (5), (6) and (7) derived above are used for the calculation. Figure 3 shows that the volume ratio of the two phases is an important factor influencing the range of extraction. At an increase in volume of the non-aqueous phase, the range of extraction is shifted in the direction of smaller pH-values. At the same pH-value, the degree of extraction changes rapidly, when the relative volumes of both phases are changed. The character of the change also depends on the pH (Fig 4). The calculations indicated can only give approximate values. For the experimental checking of their conclusions, the authors chose a) the extraction of cadmium dithizonate at different dithizone excesses (Table 1, Fig 5), and b) the extraction of zinc dithizonate at different ion concentrations of the solution (Table 2, Fig 6). (Dithizone = diphenyl thiocarbozone). The results of the tests under a) were in full agreement with equation (11) as well as with

Some Problems of the Theory of Extraction SOV/153-2-2-1/31

the conclusions on the reagent excess (Fig 2). In the tests according to b), radioactive zinc isotope Zn^{65} was used. The results obtained confirm the assumption of the authors that the influence of the ion concentration on the extraction is small. F. P. Khabarova and Z. P. Moseyeva took part in the experimental work. There are 6 figures, 2 tables, and 9 Soviet references.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet imeni N. I. Lobachevskogo, Kafedra analiticheskoy khimii
(Gor'kiy State University imeni N. I. Lobachevskiy; Chair of Analytical Chemistry)

SUBMITTED: January 23, 1958

Card 3/3

5(2, 3) SOV/153-2-2-3/31

AUTHORS: Korenman, I. M., Kraynova, Z. V., Milushkova, L. A.

TITLE: Coprecipitation of Cobalt With Copper Hydroxyquinolinate (Soosazhdeniye kobal'ta s oksikhinolinatom medi)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 2, pp 161-164 (USSR)

ABSTRACT: Hydroxyquinoline is used in many fields of analytical chemistry, especially in the quantitative analysis. The problem mentioned in the title has not yet been sufficiently investigated. In the present paper, the authors discuss the influence of various factors on the process mentioned in the title. A cobalt-salt preparation marked with Co^{60} was used for this purpose. The precipitation conditions of cobalt were first investigated. It should be mentioned that the publication references on the pH-values, at which cobalt hydroxyquinolinate is precipitated, do not quite agree with each other (Ref 1 versus Ref 2). To evaluate the pH-influence on the said precipitation, the authors put forward equation (1). By the derivation of further equations (2) and (3), the authors

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come to the conclusion that at pH 3 - 4 a complete cobalt-hydroxyquinolinate precipitation is brought about, whereas at pH 1 - 2 a considerable quantity of cobalt remains in the solution. This rule was confirmed by observations of the authors. Analogous computations for the precipitation of copper quinolinate show that this compound is completely precipitated, even from very acid solutions (pH around 1). Consequently, it may be asserted that copper and cobalt can be separated by precipitation by means of hydroxyquinolinate if the cobalt is not coprecipitated. The data shown in the figure (on p 162) demonstrate that the cobalt coprecipitation rises with an increase in the pH-value. Table 1 shows the results of several experiments concerning the influence of the cobalt quantity on its coprecipitation. The figure, and table 1, show that at the pH-value mentioned the absolute quantity of coprecipitated cobalt rises with a rising Co^{2+}-concentration, whereas its relative quantity decreases. Table 2 shows the temperature influence on the coprecipitation mentioned in the title. By a rise in temperature, the mentioned

SOV/153-2-2-3/31

Coprecipitation of Cobalt With Copper Hydroxyquinolinate

coprecipitation is practically not changed. The influence of a 3rd component, the lanthanum sulphate, was also investigated; further, starch and gelatin. All these substances were able to reduce the cobalt coprecipitation to a small extent (by 4 - 5%). The cobalt separation on a previously prepared pure copper quinolinate sediment can also decide the problem of the character of coprecipitation. It was ascertained that the cobalt main quantity is isomorphically coprecipitated, and only 4 - 6% of cobalt are absorbed by the sediment. The hydroxyquinoline method is recommended for the separation of copper from several cations including cobalt (Refs 5, 6). Table 3 shows that in the separation of copper from small cobalt quantities, up to 20% of the cobalt quantity present in the solution may be contained in the hydroxyquinolinate sediment. There are 1 figure, 3 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet imeni N. I. Lobachevskogo; Kafedra analiticheskoy khimii

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SOV/153-2-2-3/31

Coprecipitation of Cobalt With Copper Hydroxyquinolinate

(Gor'kiy State University imeni N. I. Lobachevskiy; Chair of Analytical Chemistry)

SUBMITTED: January 23, 1958

Card 4/4

5 (4)

AUTHOR: Korenman, I. M. SOV/74-28-6-5/5

TITLE: Quantitative Determination of Microimpurities (Kolichestvennoye opredeleniye mikroprimesey)

PERIODICAL: Uspekhi khimii, 1959, Vol 28, Nr 6, pp 772 - 782 (USSR)

ABSTRACT: The present paper tries to show - on the basis of the papers published in the last 10-15 years - the methods of attaining a maximum sensitiveness of the quantitative analysis. This is of great importance, particularly because modern technology puts very high requirements to the purity of some materials. The former term "traces" is outdated (Refs 2,13,14) as already concentrations of an order of magnitude of under 10^{-3}% or 10^{-4}% (Refs 15,16) are of importance. The methods based on reactions of the precipitation are submitted to closer investigation. The gravimetric method (Refs 17-20, 23-27) is completely unsuitable, even in its micro- and ultramicromodifications, as the sensibility of ultramicrobalances attains $2 \cdot 10^{-8} \div 4 \cdot 10^{-8}$g at the most which is, however, not sufficient for weighing small quantities of precipitation. Methods which are suited for the determination of smallest concentrations are: the volumetric

Card 1/3

method (Refs 28-44), kinetic methods (Refs 25,45-55), colorimetric methods (Refs 56-70). It can be said of the colorimetric method that it seems very promising in some of its modifications for the determination of microimpurities. Other suitable methods are the very sensitive fluorometric methods (Refs 71-86). The spectrum analysis (Refs 2,5,87-98) has not the advantages of the kinetic, colorimetric, or fluorometric methods. The application of radioactive indicators (Refs 99-110) finds a growing use in analytic chemistry. Of the radiochemical methods, the activation analysis is the most sensitive (Refs 111-124) but at present it is hardly accessible to application under works conditions. Many authors have compared the sensitiveness of quantitative analysis methods (Refs 15,81,124-127). But there is no agreement as to which of the methods should be preferred. The supporters of one or the other method introduce the method applied by them as the most suitable. But it would be more correct to state that the choice of the method depends on the character of the impurity to be determined, on the properties of the object to be investigated, and on other factors. It should be pointed out that analytic chemistry disposes of a great number of methods suitable for the detection and determination of

Quantitative Determination of Microimpurities SOV/74-28-6-5/5

very small quantities of various ions which are contained in smallest solution volumes (Table). Very small quantities can be determined by precipitating them at first, and then concentrating them in small solution volumes. In the concentrate it is comparatively easy to detect and determine the impurity by means of the methods indicated in the table. From such concentration it is possible to determine colorimetrically up to 10^{-10}% of impurity (Ref 15). Among the methods used for concentrating only the coprecipitation (Refs 146-168) and the extraction (Refs 169-185) are mentioned here. There are 1 table and 185 references, 117 of which are Soviet.

Card 3/3

5 (2)

AUTHOR: ~~Korenman, I. M.~~ SOV/79-29-4-73/77

TITLE: **Laws** Governing the Properties of Thallium (Zakonomernosti talliya)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1390 - 1393 (USSR)

ABSTRACT: Thallium has hitherto been considered as a "mysterious" element (Ref 3). On the one hand it is according to its properties similar to heavy metals (lead, silver, gold), on the other hand to the alkali metals (Ref 1). This was already pointed out by A. I. Mendeleyev (Ref 2) and V. I. Vernadskiy (Ref 3). The accumulation of such abruptly different properties in one element has hitherto been regarded as a contradiction even by many research workers (Refs 4-6). The present paper deals with the problem whether thallium is an exceptional case in the general rule related to the position of this element in the periodic law. The author occupied himself in the first place with the following points: 1) The properties which are immediately connected with the position of thallium in the IIIrd group of elements. 2) The analogy to the alkali metals.

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3) The analogy to the heavy metals of the I^{st} group. 4) The analogy with the adjacent group in the 6^{th} period. On the strength of the chemical experimental material collected since many years and especially carefully investigated by the author (Refs 1-7) he arrived at the conclusion that the univalent thallium is according to several properties similar to the elements of the main subgroup of the I^{st} group, according to other properties similar to the elements of the side subgroup of the same group (as well as to Hg, Pb, and Bi). Furthermore, Tl is with respect to many properties similar to $Au^{\cdot}$, has, however, several properties similar to those of $Au^{\cdot\cdot\cdot}$ (and $Bi^{\cdot\cdot\cdot}$), as e. g. the capacity of being extracted by organic solvents from halogen hydracid solutions as well as the capacity of forming compounds of the type $[RX_4]$ several of which are scarcely soluble in water. Thus the manifold properties of thallium depend on its position in Mendeleyev's system of elements. This assumption is confirmed by Mendeleyev himself: "All knowledge concerning the chemical and physical properties of thallium, its oxidation stages and the corresponding salts are expressed by the position this element has according to its atom size (Tl=204) between mercury (Hg=200) and lead (Pb=207)". Other

Laws Governing the Properties of Thallium SOV/79-29-4-73/77

elements of the 6th period the cations of which have 18+2 electrons on the exterior shell show the same manifold properties which are, however, not so distinctly marked. There is 1 table and 12 references, 10 of which are Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet (Gor'kiy State University)

SUBMITTED: January 16, 1958

Card 3/3

PHASE I BOOK EXPLOITATION SOV/5247

Korenman, Izrail' Mironovich

Analiticheskaya khimiya talliya, $_{81}Tl^{204}$ (Analytical Chemistry of Thallium $_{81}Tl^{204}$) Moscow, Izd-vo AN SSSR, 1960. 170 p. Errata slip inserted. (Series: Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii. Seriya Analiticheskaya khimiya elementov) 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo.

Chief Ed.: A.P. Vinogradov, Academician; Editorial Board: I.P. Alimarin, A.K. Babko, A.I. Busev, E.Ye. Vaynshteyn, A.P. Vinogradov, A.N. Yermakov, V.I. Kuznetsov, P.N. Paley, D.I. Ryabchikov, I.V. Tananayev, and Yu.A. Chernikhov; Ed. of Publishing House: M.P. Volynets; Tech. Ed.: P.S. Kashina.

PURPOSE: This book is intended for chemical analysts in plant laboratories, scientific research institutes, and educational institutions.

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SOV/5247

Analytical Chemistry (Cont.)

COVERAGE: The book deals with the analytical chemistry of thallium. It contains general data on the properties of thallium and its compounds, and explanations of the chemical reactions on which the analytical methods are based. Physical, physicochemical, and chemical methods applicable to quantitative determinations of crude thallium, typical semifinished products, and end products, such as metals, or alloys, oxides, and salts are described. Principles of determination are given and in certain cases the entire determination process is described. Rapid analysis methods are stressed, and precise sensitive methods for the determination of admixture traces in pure thallium materials are discussed. The appendixes contain tabular data on the properties of thallium and its compounds, thallium isotopes, solubility of thallium compounds, density of thallium salt solutions, mobility of singly-charged thallium ions in aqueous solutions at 18°, activity coefficients of the singly-charged thallium ion, hydrolysis constants of trivalent thallium, normal oxidation potentials, and microcrystalloscopic detection of monovalent thallium. The book is one in the series entitled "Analiticheskaya khimiya elementov" (Analytical Chemistry of the Elements) which is to be published by the Institut geokhimii i analiticheskoy khimii imeni V.I. Vernadskogo AN SSSR (Institute of Geochemistry and Analytical Chemistry imeni V.I. Vernadskiy, AS USSR) in 50 volumes during the next five years. The author thanks Academician

Card ~~2/4~~

5 5110

24443
S/081/61/000/006/004/015
B101/B201

AUTHORS: Korenman, I. M., Tumanov, A. A., Yanayeva, V. Ya.

TITLE: Composition and solubility of some complex compounds of indium

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1961, 106, abstract 6B43 (6V43). ("Tr. po khimii i khim. tekhnol. (Gor'kiy)", 1960, vyp. 1, 86 - 90)

TEXT: Complex compounds of In and SCN with antipyrine pyramidon, and diantipyryl methane have been synthesized. Their composition may be expressed by formulas: $[In(C_{11}H_{12}ON_2)_3](SCN)_3$; $[In_2(C_{13}H_{17}ON_3)_3](SCN)_6$; $[In_2(C_{23}H_{24}O_2N_4)_3](SCN)_6$. The solubility of the complex compounds concerned has been determined in water, sulfuric acid, and acetic acid of different concentrations, and also in some organic solvents. The formation of $[In_2(C_{23}H_{24}O_2N_4)_3](SCN)_6$ has served to determine small amounts of In. [Abstracter's note: Complete translation.]

Card 1/1

KORENMAN, I.M.; TUMANOV, A.A.; KRAYNOVA, Z.V.

Study of the precipitation and coprecipitation of some hydroxyquinolinates by means of radioactive tracers. Trudy kom. anal. khim. 11:198-208 '60. (MIRA 13:10)

1. Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo.
(Quinolinol) (Cobalt--Isotopes) (Zirconium--Isotopes)
(Precipitation (Chemistry))

KORENMAN, I.M.; TUMANOV, A.A.; SOROKINA, V.M.

Composition and solubility of cerium oxinates. Izv.vys.ucheb.zav.; khim.i khim.tekh. 3 no.4:580 '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo, kafedra analiticheskoy khimii.

(Cerium compounds) (Quinolinol)

5.5300

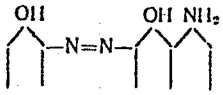
77746
SOV/75-15-1-8/29

AUTHORS: Korenman, I. M., Sheyanova, F. R., Kunshin, S. D.

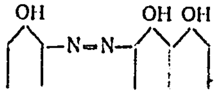
TITLE: Color and Fluorescent Reactions for Gallium

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1, pp 36-42 (USSR)

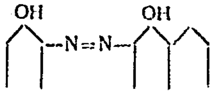
ABSTRACT: Color and fluorescent reactions of gallium with organic dyes were studied in order to select a suitable reagent for gallium. The investigated dyes containing the following groups:



(I)



(II)



(III)

Card 1/8

Color and Fluorescent Reactions for Gallium 77746
SOV/75-15-1-8/29

Procedure: to 0.1 ml of gallium nitrate solution (0.1 mg Ga^{3+}) 1-2 drops of a 0.1% aqueous dye solution and 0.1 ml of a buffer solution was added; the mixture was then heated to 60-70°; appearance of color or fluorescence (if any) is noted. Control tests were also made. From the 68 dyes investigated, only 22 gave positive reactions for gallium. Some of the most sensitive reagents are shown in Table 1. The dyes, Nrs 1-5, containing group (I) produce gallium compounds of bright color. Dyes Nrs 6-9, containing (II) and (III) groups, form with gallium not only colored but also fluorescent compounds. Concentration limits at which the dyes (Nrs 6-9) produce fluorescent products are given in Table 1. Reaction of the above dyes with other cations (In^{3+}, Y^{3+}, Th^{4+}, Zn^{2+}, Ce^{3+}, Al^{3+}, Sc^{3+}, La^{3+}, Fe^{3+}) also were studied. It was found that In^{3+}, Sc^{3+}, Th^{4+}, and Fe^{3+} also give color reactions under the same condition as gallium; they interfere in gallium

Card 2/8

S/081/62/000/012/010/063
B168/B101

AUTHORS: Korenman, I. M., Sokolov, D. N.

TITLE: Solubility of compounds of lanthanum, samarium and erbium with certain dicarboxylic acids

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 78, abstract 12B543 (Tr. po khimii i khim. tekhnol. (Gor'kiy), no. 2, 1961, 311 - 317)

TEXT: The solubility of glutarates, adipinates, pimelinates, azelainates and sebacinates of lanthanum, samarium and erbium in aqueous solutions of HCl (0.0025 - 0.025 mole/l) was determined at 25 ± 0.10°C; a constant ion concentration ($\mu = 0.5$) of the solutions investigated was brought about by the addition of the necessary quantity of NaCl. The following values were obtained for the solubility products of lanthanum, samarium and erbium salts respectively: glutarates $7.0\cdot10^{-15}$; $2.2\cdot10^{-16}$; $5.1\cdot10^{-16}$; adipinates $3.8\cdot10^{-18}$; $3.7\cdot10^{-18}$; $1.1\cdot10^{-17}$; pimelinates $1.4\cdot10^{-19}$; $1.1\cdot10^{-15}$; $4.8\cdot10^{-16}$; azelainates $7.8\cdot10^{-24}$; $1.6\cdot10^{-22}$; sebacinates

Card 1/2

S/081/62/000/012/010/063
B168/B101

Solubility of compounds of...

$9.3\cdot10^{-23}$; $2.5\cdot10^{-23}$; $7.2\cdot10^{-25}$. The instability constants of complex glutarates and adipinates of lanthanum, samarium and erbium were determined and are given in tabular form. The question of the dependence of the solubility of compounds of rare-earth elements with dicarboxylic acids on the number of carbon atoms in the acid molecule was examined. [Abstracter's note: Complete translation.]

Card 2/2

KORENMAN, I.M.

Dissociation constant of lead sulfate. Izv.vys.ucheb.zav.;khim.i khim.tekh. 4 no.4:554-557 '61. (MIRA 15:1)

1. Gor'kovskiy gosudarstvennyy universitet imeni N.I. Lobachevskogo, kafedra analiticheskoy khimii.
(Lead sulfate) (Dissociation)

KORENMAN, I.M.; STAROSTIN, G.P.

Fluorescence reactions for scandium. Izv.vys.ucheb.zav.;khim.i khim.tekh. 4 no.4:561-564 '61. (MIRA 15:1)

1. Gor'kovskiy gosudarstvennyy universitet imeni N.I.Lobachevskogo, kafedra analiticheskoy khimii.
(Scandium--Analysis)

KORENMAN, I.M., dokt.khimich.nauk

"Inorganic ultramicroanalysis" by I.P. Alimarin, M.N. Petrikova. Reviewed by I.M. Korenman. Zav. lab. 27 no.3:363 '61. (MIRA 14:3)
(Microchemistry)
(Alimarin, I.P.) (Petrikova, M.N.)

PEREGUD, Yeva Abramovna; BYKHOVSKAYA, Mariya Solomonovna; GERNET, Yelena Vladimirovna; KORENMAN, I.M., doktor khim. nauk, prof., red.; ODERBERG, L.N., red.; KOGAN, V.V., tekhn. red.

[Rapid methods for the determination of noxious substances in the air] Bystrye metody opredeleniia vrednykh veshchestv v vozdukhe. Pod red. I.M.Korenmana. Moskva, Goskhimizdat, 1962. 272 p. (MIRA 15:7)

(Air--Analysis) (Gases, Asphyxiating and poisonous)

S/075/62/017/004/001/006
I017/I217

AUTHORS: Korenman, I.M. and Yefimychev, V.S.

TITLE: Fluorimetric determination of scandium

PERIODICAL: Zhurnal analiticheskoy khimi, v.17, no.4, 1962, 425-428

TEXT: Salicylalsemicarbazide is used as a luminescent reagent for scandium. A home-made fluorimeter was used. The measurements were carried out with a light filter transmitting in the range 400-510 $m\mu$. Acetate buffers and ammonia/ammonium chloride buffers were used for pH regulation. The reagent was a 0.1% solution of the salicylsemicarbazide in acetone. The intensity of the luminescence of solutions containing mixtures of

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S/075/62/017/004/001/006
I017/I217

Fluorimetric determination...

salicylalsemicarbazide water solution (8γ/ml) and an excess (12γ/ml) of scandium is studied and tabulated. The results show that in the pH range 2,5-7, the intensity is sufficient and that in the range pH = 2,5-4 and pH = 5,3-6,8 the intensity of luminescence is pratically contant. All the experiments are carried out at pH = 5,6±0,2. It was shown by the Yob method that at these pH's only the compound Sc_1anion_1 exists. The study of the dependence between the luminescence and the molar ratio of the reagent and Sc content, carried out at pH = 5,6 with a constant Sc^{3+} concentration shows also that the molar ratio for maximum luminescence is 1:1. The determination of scandiumin mixtures was studied. The influence of 44 ions on the formation of the luminescent scandium-salicylalsemicarbazide was tested at pH = 5,6 in a ratio

Card 2/3

SUBMITTED: June 20, 1961

Card 3/3

S/081/62/000/023/023/120
B158/B180

AUTHORS: Korenman, I. M., Ganina, V. G., Kurina, N. V.

TITLE: Examination of some hydroxy anthraquinones used as reagents for rare earth elements

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 176, abstract 23D106 (Tr. po khimii i khim. tekhnol. (Gor'kiy), no. 4, 1961, 76-766)

TEXT: It is shown that rare earth elements (REE) in a hexamethylene tetramineborate buffer medium of pH 7 react with both quinalizarin and Na alizarin sulfonate to form colored products of 1:1 composition with maximum light absorption at 560-590 and 520-540 mμ respectively. The spectral characteristics of the reaction products are similar for the different REE. For both reagents the mol. absorption coefficient is of the order of 13,000-17,000. The sensitivity of the reaction increases with the atomic number of the REE. The colored products of the REE reaction were used for photometric determination of Lu, Gd and Er in solutions of their salts. These reagents cannot be used for separate determination of the REE where occur together. [Abstracter's note: Complete translation.]

Card 1/1

KORENMAN, I.M.; YEFIMYCHEV, V.S.

Fluorimetric determination of scandium. Zhur.anal.khim. 17 no.4:425-428 Jl '62. (MIRA 15:8)

1. Gor'kovskiy gosudarstvennyy universitet imeni N.I.Lobachevskogo.
(Scandium—Analysis) (Fluorimetry)

KORENMAN, I.M.; SHEYANOVA, F.R.; NIKOLAYEV, B.A.

"Radioactive isotopes in analytical chemistry" by L.M.Mikheeva, N.B.Mikheev. Reviewed by I.M.Korenman, F.R.Sheianova, B.A. Nikolaev. Zav.lab. 28 no.11:1402-1403 '62. (MIRA 15:11)
(Radioisotopes) (Chemistry, Analytical) (Mikheev, N.B.)
(Mikheev, N.B.)

KORENMAN, I.M.; NOVIKOVA, A.M.

Reaction of yttrium salts with disodium phosphate. Trudy po khim.i khim.tekh. no.1:87-89 '63. (MIRA 17:12)

KORENMAN, I.M.; SHEYANOVA, F.R.; POMERANTSEVA, E.G.

Metal-containing reagents as fluorescent indicators in the neutralization method. Trudy po khim.i khim.tekh. no.1:125-129 '63. (MIRA 17:12)

KORENMAN, I.M.; RODIONOVA, Z.M.

Reactions of methylfurfurole and hydroxymethylfurfurole with some aromatic amines. Trudy po khim.i khim.tekh. no.1:130-134 '63.
(MIRA 17:12)

ACCESSION NR: AR4025719 S/0081/64/000/002/B013/B013

SOURCE: RZh. Khimiya, Abs. 2B80

AUTHOR: Korenman, I. M.; Yefimy*chev, V. S.

TITLE: Some fluorescent compounds of salicylal-2-aminophenol

CITED SOURCE: Tr. po khimii i khim. tekhnol. (Gor'kiy), vy*p. 1, 1962, 114-119

TOPIC TAGS: fluorescence, aminophenol derivative, salicylal-2-aminophenol, salicylaldehyde

TRANSLATION: The authors studied the relationship between the intensity of fluorescence of solutions and the relative contents of salicylal-2-aminophenol (RH) and the salts of Al, Ga, Sc, In, and Zn with a constant sum of their molar concentrations. Using the method of isomolar series, the composition of the fluorescent compounds was determined. For Ga, Sc, and In the ratio $(M^{3+})::(RH)$ turned out to be 1:1, compared to 1:2 for Al. The 1:1 ratio determined for $[Zn^{2+}]::[HR]$ excludes the existence of a molecule composed only of a cation of Zn and the anions of the reagent. The authors admit that in the formation of a fluorescent compound, in addition to the metal and anion, hydroxyl groups play

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ACCESSION NR: AR4025719

a role in strengthening the valence bonds of the metal. It is also important to take into account the nature of hydrogen bonding in the molecule. R. Nurmukhametov.

DATE ACQ: 03Mar64 SUB CODE: OC ENCL: 00

Card 2/2

KORENMAN, I.M.; CHELYSHEVA, S.F.

Interaction of hexamethylenediamine with aluminum salts. Zhur. anal.khim. 18 no.12:1457-1463 D '63. (MIRA 17:4)

1. Gor'kovskiy gosudarstvennyy universitet imeni Lobachevskogo.

KORENMAN, Izrail' Mironovich; BUSEV, A.I., red.; KORCHEMNAYA, Ye.K., red.; KASHINA, P.S., tekhn. red.; GUSEVA, A.P., tekhn. red.

[Analytical chemistry of potassium] Analiticheskaia khimiia kaliia. Moskva, Izd-vo "Nauka," 1964. 253 p. (MIRA 17:3)

KORENMAN, Izrail' Mironovich; FRIDMAN, R.S., red.; PANTELEYEVA, L.A., tekhn. red.

[Introduction to quantitative ultramicroanalysis] Vvedenie v kolichestvennyi ul'tramikroanaliz. Moskva, Goskhimizdat, 1963. 191 p. (MIRA 17:2)

NAZARENKO, V. A.; KORENMAN, I. M.

Basic problems of development of analytical chemistry. Zav. lab. 28 no.12:1411-1413 '62. (MIRA 16:1)

(Chemistry, Analytical)

S/081/63/000/004/008/051
B193/B180

AUTHORS: Korenman, I. M., Sheyanova, F. R., Nikolayev, B. A., Abramov, O. B.

TITLE: Thermometric titration of some organic compounds

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 154, abstract 4G147 (Tr. po khimii i khim. tekhnol. (Gor'kiy), no. 4, 1961, 753 - 760)

TEXT: The thermometric titration of aqueous solutions of furfural and acetone solutions of salicyl aldehyde by solutions of tetramethylenediamine and hexamethylenediamine has been investigated and found possible. The equivalence point was found from the salient point on the titration curve obtained by plotting temperature versus titrant consumption in ml. The optimum ratio of titrated solution concentration to titrant was found. The normality of the titrant must be about 10 times that of the titrated solution, so that there is only a slight volume change of the reacting mixture during the titration, thus avoiding any big variation in the specific heat of the mixture. The order of the titration is shown to have no effect on the accuracy of the analysis. The temperature pick-up consisted of a

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Thermometric titration of some organic... S/081/63/000/004/008/051
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battery of 10 copper-constantan thermocouples made of 0.1 mm diam. wire. The junctions were mounted in the titration flask, the "cold" junctions in a thermostat. After each portion of titrant was added from the microburette the mixture was mixed for 8 - 10 sec. and then the change in the galvanometer reading taken. [Abstracter's note: Complete translation.]

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L 15179-63 EPF(c)/EWT(m)/BDS Pr-4 RM/WW

ACCESSION NR: AR3003331

S/0058/63/000/005/D053/D053

SOURCE: RZh. Fizika, Abs. 5D372

56

AUTHOR: Korenman, I.M.; Yefimy'chev, V. S.

TITLE: Concerning some luminescent compounds of salycilal-2-aminophenol

CITED SOURCE: Tr. po khimii i khim. tekhnol. (Gor'kiy), vyp. 1, 1962, 114-119

TOPIC TAGS: luminescence, salycilal-2-aminophenol compound, aluminum, gallium, indium, zinc, scandium, Al, Ga, In, Zn, Sc

TRANSLATION: The intensities of luminescence of the compounds of salycilal-2-aminophenol (HR) with Al^{3+}, Ga^{3+}, Sc^{3+}, In^{3+}, and Zn^{2+} were investigated. The compositions of these compounds were determined from the character of the dependence of the intensities on the ratio of the weights of HR and the metallic salts and on the time. Strong luminescence of the first four compounds (particularly with Al^{3+}) is attributed to two circumstances: 1) hydroxyls, which saturate the valence bonds of the metals and participate in the formation of the luminescent compound in addition to the metal and the anion of the reagent; 2) an important role is played by the formation of hydrogen bonds in the production of the rigid structure of the molecules and in the elimination of the possibility of nonradiative scattering of the

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excitation energy. These compounds are ascribed the ability of acid dissociation, which increases the regidity of the structure of the luminescent anion: $R_2AlOH \rightleftarrows (R_2AlO)^- + H^+$ and $RMeOHOH = (RMeOHO)^- + H^+$, where Me = Ga, In, Sc. Bibliography, 30 titles. V. Kolobkov

DATE ACQ: 17Jun63 SUB CODE: CH,PH ENCL: 00

Card 2/2

PEREGUD, Ye.A.; GERNET, Ye.V.; KORENMAN, I.M., zasl. deyat. nauki
prof., red.; PIASTRO, V.D., red.

[Chemical analysis of the air in industrial enterprises; recommended methods for determining the permissible toxic substances concentration in the air] Khimicheskii analiz vozdukha promyshlennykh predpriiatii; rekomenduemye metody opredeleniia predel'no dopustimykh kontsentratsii vrednykh veshchestv v vozdukhe. Moskva, Khimiia, 1965. 363 p.
(MIRA 18:7)

KORENMAN, I.M.; VERBITSKAYA, T.D.

Coprecipitation of bivalent tin with cadmium hydroxide.
Trudy po khim.i khim.tekh. no.1:113-117 '64.

(MIRA 18:12)

1. Submitted June 28, 1963.

SOURCE CODE:

ACC NR: AR6027499

AUTHOR: Korenman, I. M.; Nazarova, G. V.

TITLE: Alkaline method of separating beryllium from lanthanum

SOURCE: Ref. zh. Metallurgiya, Abs. 4G137

REF SOURCE: Tr. Po khimii i khim. tekhnol. (Gor'kiy), vyp. 3(11), 1964, 454-458

TOPIC TAGS: lanthanum, beryllium, gravimetric analysis

TRANSLATION: By gravimetrically determining Be^{2+} in the filtrate and precipitate, it was shown that during La^{3+} precipitation with an excess of NaOH in the presence of Be^{2+}, the adsorptive coprecipitation of Be^{2+} occurs with the $La(OH)_3$. The $La(OH)_3$ precipitate obtained was nearly free of Be^{2+} after its two short reprecipitations from a hot solution. Calculations were made of the coefficients in the Freundlich and Langmuir equations of the adsorption isotherm. 3 figures, 2 tables, 7 references. (From *RZh. Khim.*).

SUB CODE: 07,11 UDC: 669.854.09

Card 1/1

ROZENGAUZ, V., inzh.; KORENMAN, R., inzh.

New type of apparatus for removing skins from sheep and goats. (MIRA 11:5)
Mias. ind. SSSR 29 no.2:6-7 '58.

1. Leningradskiy myasokombinat.
(Slaughtering and slaughterhouses--Equipment and supplies)
(Hides and skins)

KORENMAN, Ya.I.

Coprecipitation of aluminum with magnesium hydroxide. Zhur.anal. khim. 18 no.6:721-725 Je '63. (MIRA 16:9)

1. Scientific-Research Institute of Chemistry of N.I.Lobachevsky Gorky State University.
(Aluminum) (Magnesium hydroxide)

KORENMAN, Ya. I.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

A. A. Tumanov, A. N. Sidorenko, and Ya. I. Korenman. Determination of iodine (up to 10^{-5} micrograms in 5 ml) in Si or Ge semiconductor thin films by means of a catalytic method.

(Zhur. Anal. Khim 19 No. 6, 1964 p. 777-79)

KORENMAN, Ya.I.

Coprecipitation of lead with magnesium hydroxide. Trudy po khim.i khim.tekh. no.1:140-145 '63.

Coprecipitation of tin with magnesium hydroxide. Trudy po khim.i khim.tekh. no.1:146-151

Coprecipitation of antimony with magnesium hydroxide. Ibid.:152-154 (MIRA 17:12)

ACCESSION NR: AP4044894 S/0032/64/030/009/1058/1060

AUTHORS: Tumanov, A. A.; Sidorenko, A. N.; Korenman, Ya. I.

TITLE: Kinetic method for determining the microadmixture of iodine in metallic silicon and germanium

SOURCE: Zavodskaya laboratoriya, v. 30, no. 9, 1964, 1058-1060

TOPIC TAGS: iodine, cerium reduction, arsenic acid/ FEK N 57 photoelectric colorimeter

ABSTRACT: The method for determining small iodine admixtures is based on the reaction of tetravalent cerium salts with arsenious acid. This reaction is catalyzed by traces of iodine contained in silicon and germanium. In this process the yellow tetravalent cerium is reduced to the colorless trivalent state, while the arsenious acid is oxidized to arsenic acid. The rate of color fading is recorded with a FEK-N-57 photoelectric colorimeter. The analysis should be performed at 20C, using beakers of P-1 glass (glass types 49-2, 23-1, and Ergon were found unsuitable). A standard calibration curve was charted for the optical density of tetravalent cerium in the presence of metallic silicon and various known concentrations of iodine. The procedure consisted of adding 5 ml of a 10% KOH solution and 0.2 ml of a 30% H_2O_2 to 10 mg of powdered silicon. This was heated until

ACCESSION NR: AP4044894

dissolved, after which measured amounts of KI were added. The solution was next neutralized with sulfuric acid, diluted to 25 ml, and transferred in 5-ml aliquots into test tubes where it was acidified with sulfuric acid and mixed with 0.2 ml of 0.1 normal solution of $Ce(SO_4)$ and with 0.2 normal solution of Na_3AsO_3. A maximum fading of the solution was observed within 60 minutes. A similar procedure was used in plotting a calibration curve in the presence of germanium, the determination of optical density being conducted after 30 minutes. By such a technique it was possible to determine $5 \cdot 10^{-5}\%$ iodine in 10 mg of silicon, and $5 \cdot 10^{-4}\%$ iodine in 1 mg of cerium. The cations of mercury, silver, lead, and tellurium inhibited the reaction. The determination was not possible in the presence of over 50 micrograms of chlorine or 20 micrograms bromine. Orig. art. has: 1 formula and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete (Scientific Research Institute of Chemistry, Gorkiy State University)

SUBMITTED: 00 ENCL: 00

SUB CODE: IC NO REF SOV: 003 OTHER: 003

Card 2/2

TUMANOV, A.A.; SIDORENKO, A.N.; KORENMAN, Ya.I.

Kinetic method of determining iodine impurities in metallic silicon and germanium. Zav. lab. 30 no.9:1058-1060 '64. (MIRA 18:3)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete imeni Lobachevskogo.

KORENMAN, Ya.I.

Precipitation of magnesium hydroxide in the presence of a zinc salt. Trudy po khim.i khim.tekh. no.1:124-130 '64. (MIRA 18:12)

1. Submitted June 29, 1963.

KORENNOV, B., inzh.; SAVINOV, V.

Automatic temperature regulator with increased sensitivity.
Radio no.11:26-27 N '65. (MIRA 18:12)

KORENNOV, B., inzh.

Radio wave methods. Radio no.5:23-25 My '62. (MIRA 15:5)
(Radio in prospecting)

S/169/61/000/012/004/089
D228/D305

AUTHOR: Korennov, B. I.

TITLE: Electric properties of rocks and methods of measuring them in an electromagnetic field (critical review)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 8, abstract 12A62 (V sb. Teplo- i massoobmen v merzlykh pochvakh i gorn. porodakh. M., AN SSSR, 1961, 128-143)

TEXT: The main factors determining the magnitude of the specific electroresistance ρ and the dielectric permeability ε of rocks are considered. In the laboratory, the values of the parameters of ρ and ε are determined by different methods: the bridge method; pulses; the technique with the application of quality gages--cumeters; the resonance method; and the method of impulses. In field investigations, it is most

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KORENNOV, B.I.

PHASE I BOOK EXPLOITATION SOV/6481

Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut merzlotovedeniya.

Teplo- i massoobmen v merzlykh tolshchakh zemnoy kory (Heat and Mass Transfer in the Frozen Strata of the Earth's Crust) Moscow, Izd-vo AN SSSR, 1963. 213 p. Errata slip inserted. 1200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Sibirskoye otdeleniye Institut merzlotovedeniya.

Resp. Ed.: N.I. Saltykov, Professor, Doctor of Technical Sciences; Ed.: A.L. Bankvitser; Tech. Ed.: V.G. Laut.

PURPOSE: This book is intended for research workers in permafrost and geocryology.

COVERAGE: This collection of papers deals with the results of theoretical, laboratory, and field research on heat transfer in frozen

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SOV/6481

Heat and Mass Transfer (Cont.)

ground and in ice carried out by the staff of the Heat- and Mass-Transfer Division of the Institute of Permafrost Study, Siberian Branch, AN SSSR. The theory of heat- and mass-transfer in ice, frozen and thawed ground, and rocks is discussed. The problem of heat transfer between engineering structures and frozen ground is investigated. Methods used in these investigations and the instrumentation and equipment designed by the authors are described.

TABLE OF CONTENTS:

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KORENNOV, B.I.; CHERNYY, G.M.

Laboratory investigations of the dispersion of dielectric permeability of rock samples. Geol. i geofiz. no.11:108-114 '62. (MIRA 16:3)

1. Institut merzlotovedeniya Sibirskogo otdeleniya AN SSSR, Yakutsk.
(Rocks—Electric properties)

KORENNOV, P.

Flight saftey rest with the Line Maintenance and Repair Shop. Grazhd.av. 17 no.4:24-25 Ap '60. (MIRA 13:9)

1. Nachal'nik lineynykh ekspluatatsionno-remontnykh masterskikh g. Tbilisi.
(Airplanes--Maintenance and repair)

KORENNOV, P.

Reorganization is needed. Grazhd.av 17 no.9:23 S '60.(MIRA 13:9)

1. Nachal'nik Lineyno-ekspluatatsionnykh i remontnykh masterskikh, Tbilisi.

(Airplanes—Maintenance and repair)

KORENNOY, A.[Koriennoi, O.]; MATIYKO, N.[Matiiko, M.]; SOLODKIY, V.V.[Solodkyi, V.V.], red.; GURVICH, O.G.[Hurvych, O.H.], tekhn. red.

[Technological progress in electrical welding] Elektrozvariuvannia i progres tekhniky. Kyiv, Kyivs'ke oblasne knyzhkovogazetne vyd-vo, 1960. 37 p. (MIRA 15:7)
(Electric welding)

KORENNOY, A. I.

Korennoy, A. I. "The experience of the production use of automatic tools of the Electrical Welding Institute", Trudy Vsesoyuz. konf-tsii po avtomat. svarke pod flyusom, 3-6 October 1947, Kiev, 1948, p. 195-98.

SO: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 11, 1949).

A'

MATIYKO, M.M.; KORENNOY, G.I.

Development of high-speed electric welding at Donets Basin industrial enterprises. Nar. z ist.tekh. no.1:80-98 '54. (MLRA 9:4)
(Donets Basin--Electric welding)

ASNIS, A.Ye.; KORENNOY, A.I.

Restoring worn-out crankshaft journals in tractor engines by mechanised hard facing under flux. Avtom.svar. 8 no.5:63-73 S-O '55. (MLRA 9:1)

1.Ordena Trudovogo krasnogo znameni institut elektrosvarki imeni Ye. O. Patona AN USSR.
(Crankshafts--Welding) (Hard facing)

KORENNOY, A. I. and VAL 'CHUK, G. I (Engineer)

Structural Stress Concentration and Ways to Extend the Service Life of Tractor-Motor Crankshafts.

Povysheniye iznososotoykosti i sroka sluzhby mashin. t. 2 (Increasing the Ware Resistance and Extending the Service Life of Machines. v. 2) Kiyev, Izd-voAN UkrSSR, 1960. 290 p. 3,000 copies printed. (Series: Its: Trudy, t. 2)

Sponsoring Agency: Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo mashinostroitel 'noy promyshlennosti. Tsentral 'noy i Kiyevskoye oblastnoye pravleniya. Institut mekhaniki AN UkrSSR.

Editorial Board: Resp. Ed.: B. S. Grozin; Deputy Resp. ED.; D. A. Draygor; M. P. Braun, I. D. Faynerman, I. V. Kragel 'skiy: Scientific Secretary: M. L. Barabash; Ed. of v. 2: Ya. A. Samokhalov; Tech, Ed.: N. P. Rakhlina.

COVERAGE: The collection contains papers presented at the Third Scientific Technical Conference held in Kiyev in September 1957 on problems of increasing the wear resistance and extending the service life of machines. The conference was sponsored by the Institut stroitel 'noy mekhaniki AN UkrSSR (Institute of Structural Mechanics of the Academy of Sciences Ukrainian SSR), and by the Kiyevskaye oblastnaya organizatsiya nauchno-tekhnicheskogo obshchestva mashinostroitel 'noy promyshlennosti (Kiyev Regional Organization of the Scientific Technical Society of the Machine-Building Industry).