PESHKOVA, V.M.

PESHKOVA, V.M

5(4)

AUTHORS: Vasil'yev, V. P., Korableva, V. D., Yatsimirskiy, K. B. SOV/153-58-3-30/30

TITLE: Conference Discussion on the Methods of Investigating the Complex Formation in Solutions (Soveshchaniye-diskussiya po metodam izucheniya kompleksoobrazovaniya v rastvorakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp 173 - 174 (USSR)

ABSTRACT: From February 18 to 21, 1958 a conference discussion took place at the town of Ivanovo; it dealt with the subjects mentioned in the title. It was called on a decision of the VIIth All-Union Conference on the Chemistry of Complex Formations. More than 200 persons attended the conference, among them 103 delegates from various towns of the USSR. At the conference methods of determining the composition of the complexes in solutions were discussed, as well as the methods of calculating the instability constants according to experimental data and problems concerning the influence of the solvent upon the processes of complex formation.

. . . . 1. In the lecture by A. K. Babko and M. M. Tananayko, "Physical and Chemical Analysis of the Systems With 3 Colored Complexes in the Solution", the results of a systematic investigation in copper-quinoline-salicylate, as well as in copper-pyridine-salicylate systems by means of the optical method were dealt with. In the lecture by Ya. A. Fialkov the idea of a further investigation of the complex formation processes in solutions was developed. Besides the determination of the composition and stability of the complexes also the physical and chemical properties, the chemical nature and the structure of the complex compounds must be investigated.......

Card 2/16

I. I. Alekseyeva and K. B. Yatsimirskiy in their lecture "Investigation of the Polymerization of Iso-Poly Acids in Solutions" mentioned experimental results of the investigation of the polymerization in solutions of molybdic acid. The authors proved that especially the molybdic acid within a certain range of the pH values and the concentrations exists as a number of compounds that can be expressed by an overall formula $MoO_4(HMoO_4)^{n-2}$. In the lecture by E. V. Aksel'rud and V. B. Spivakovskiy investigation results on basic salts taking into account the complex formation in solutions by means of the potentiometric method were mentioned for systems with zinc, cadmium and indium. In the evaluation of their results the authors employed the method of the table difference. The calculation of the consecutive constants was carried out according to the interpolation formula by Newton. M. A. Chepelevetskiy held a lecture on "pH Measurement Method of the Solutions in Combination With the System Analysis of the Solubility Diagram of the System Cu^{2+}-HCl - H_2O in Investigating Complex Copper Compounds in Saturated Solutions". It was found that the substance at the bottom of the liquid is more basic than the solution; furthermore, the increased acidity of the solution from the viewpoint of the formation of hydroxy-chloro complexes in the solution was explained. V. I. Kuznetsov opened the discussion with his lecture; he pointed out the necessity of utilizing the concepts worked out in the investigations of the polymerization in organic chemistry in the chemistry of polynuclear complexes. A. A. Grinberg thinks that the new approach of the hydrolysis

Card 4/16

Card 5/16

Conference Discussion on the Methods of Investigating the Complex Formation in Solutions SOV/153-58-3-30/30

investigation as developed by the Scandinavian school is of
high value. He also pointed to the necessity of studying
the kinetics of the polymerization process and a quantitative
determination of the strength of the polymers. A. K. Babko
pointed out that the study of the polymer structure was
necessary. N. P. Komar' mentioned in his lecture that the
rather widely spread polymerization type according to the
scheme "nucleus + chain members" is not obtained in all cases.
The following scientists took part in the discussion: V. N.
Tolmachev, A. V. Ablov, I. S. Mustafin, I. V. Tananayev and
K. B. Yatsimirskiy. A. K. Babko then discussed in his lecture
"Methods of Determining the Dissociation Constant of the
Complex Groups in Solutions" the main principles of determining
the instability constants. N. P. Komar' discussed in his
lecture "Calculation Methods of the Instability Constants of
the Complex Compounds According to Experimental Data" the
possibilities of using the known calculation methods of the
instability constants for various cases of the complex forma-
tion in solution. If several mononuclear complexes are formed
Card 6/16 the displacement method by Abegg and Bodlender (completed by
A. K. Babko) cannot be recommended for the calculation of
the instability constant. The lecturer discussed the dis-
solution methods of the polynomials proposed by B'yerrum,
Leden, Rossoti, Skotchard, Edsolloy and other authors. The
constants calculated in this way are not very accurate. It
was proved that the method of successive approximations can
lead to wrong conclusions as to the chemical processes taking
place in the system investigated. The most probable value
of the physical constants can be obtained by the method of
the least squares. B. V. Ptitsyn, Ye. N. Tekster and L. I.
Vinogradova described the determination methods of the
instability constants of the oxalate complexes of niobium,
uranium and iron which are based on the investigation of the
equilibrium displacement of the complex formation by silver
ions. N. K. Bol'shakova, I. V. Tananayev and G. S. Savchenko
held a lecture on "The Role of the Time Factor in the Investiga-
tion of the Complex Formation". In the discussion on the
lectures A. A. Grinberg mentioned that due to the slow
adjustment of the equilibria the methods discussed of
Card 7/16 determining the instability constants (palladium and cobalt
complexes) can often not be employed. A. V. Ablov pointed
out the necessity of devising direct methods of proving the
existence of intermediate forms in a step-wise complex forma-
tion. K. B. Yatsimirskiy mentioned that the instability
constants of slowly dissociating complexes can be calculated
from thermochemical data. L. P. Adamovich, A. M. Golub
among others took part in the discussion on the lectures.
A. K. Babko requested inclusion in the next conference on the
chemistry of complex compounds a lecture in which various
calculation methods of the instability constants should be
discussed by the example of actual cases. This should clarify
to which divergencies of the values of the constants dif-
ferent methods of evaluating the experimental data can lead.
N. P. Komar' stressed that in the determination of the
instability constants all chemical equilibria should be taken
into account that render complex the complex formation process
in the solution, especially the hydrolysis processes of the
central ion and the addendum. In the lecture delivered by
Card 8/16 V. M. Peshkova and A. P. Zosulya "Application of the Distribu-
tion Method to the Investigation of the Stability Constants

of Some Thorium Complex Compounds" results obtained from the experimental investigation of the distribution of thorium compounds in the systems: acetylacetone - benzene - water, and 2-oxy-1,4,-naphthoquinone - chloroform - water were given. From these data the instability constants of the thorium complexes with acetyl-acetone and 2-oxy-1,4-naphthoquinone were calculated. I. V. Tananayev, G. S. Savchenko and Ye. V. Goncharov held a lecture on the application of the solubility method in the determination of the stability of complex compounds in solutions. In this lecture also other methods of investigating complex formation processes in the solution were discussed (pH measurement, measurement of the optical density, as well as of the heat of mixing). B. D. Berezin held a lecture on the "Application of the Solubility Method in Studying the Phthalocyanine Complexes of Metals". He used the determined quantitative characteristics of the reaction of the transition of the phthalocyanides of cobalt, nickel, copper and zinc, as well as of the free phthalocyanine into the sulfuric acid solution for the theoretical reasoning, and as an experimental proof of the existence of π-bonds in the complexes investigated. These characteristics also served him as a proof of new electronic formulae of phthalocyanine and its complex derivatives. In the lecture delivered by I. L. Krupatkin on "The Method of the Two Solvents as a Method of Investigating the Formation and Properties of Organic Complexes" it was proved that this method makes it possible to determine the number of complexes formed in the system, their composition and relative stability. V. I. Kuznetsov, A. K. Babko, N. P. Komar', I. S. Mustafin and Ya. I. Tur'yan took part in this discussion. In the lecture delivered by A. A. Grinberg and S. P. Kiseleva on the complex palladium compounds (II) with a coordination number above four it was proved that in the case of a large chlorine and bromine ion excess complexes with the coordination number 5 are formed. The instability constants of these complexes were estimated. L. P. Adamovich mentioned a new manipulation in the spectrophotometric investigation of the complex compounds that can be used in systems with the formation (or predomination) of one single complex. This method makes it possible to determine the composition and instability constant of the complex. In the lecture delivered by K. B. Yatsimirskiy and V. D. Korableva the application of the theory of crystalline fields for the determination of the composition and structure of the chloride complexes of cobalt, nickel and copper according to the absorption spectra of these complexes was discussed. It was proved that in a hydrochloric acid concentration above 5 mole/liter in the solution there exists an equilibrium between the tetrahedric and octahedric form of the cobalt chloro complexes. Yu. P. Nazarenko proved in his lecture "The Application of Radioactive Isotopes in the Investigation of the Solvation Equilibrium in Solutions of Complex Compounds" the possibility of using data on the isotope exchange to clarify the structure of the complex and mechanism of the hydration processes. V. Klimov mentioned in his lecture the use of radioactive isotopes in the study of tin and antimony complexes in non-aqueous solutions. A. V. Ablov, V. N. Tolmachev, V. I. Kuznetsov and A. M. Golub took part in the discussion of the lectures. The usefulness of employing the theory of the crystalline fields in explaining the results obtained from the absorption spectra of the com-

plex compounds was stressed. In the lecture delivered by I. A. Shek on "The Investigation of the Complex Formation by the Method of the Dielectric Permeability and the Polarisation" the principles of the methods mentioned were presented. This method was employed for investigating the compounds of the type of the "affiliation" products. The lecture delivered by I. A. Shek and Ye. Ya. Kriss "Employing the Method of the Dielectric Constant for Investigating Complex Compounds of the Type of Crystal Solvates in Solutions" dealt with the investigation of the solvates of lanthanum and cerium chlorides with ketones, as well as with the study of the compounds formed in heterogeneous systems with tributyl phosphate and nitric acid. V. F. Toropova gave in her lecture "The Polarographic Method of Investigating the Complex Formation in Solutions" a survey of the applications of the polarographic method in the study of the complex compounds, and illustrated several fine characteristic features of this method. In the lecture delivered by T. N. Sumarokova "The Cryoscopic Method of Investigating the Complex Formation Reactions" a survey of
Card 12/16 the possibilities of the cryoscopic method was given, and its applicability in the study of several complex compounds of stannic chloride with organic substances was proved. A. M. Golub described the results of his investigations of thiocyanate complexes of several metals. A vivid discussion took place on the lectures held. Ya. A. Fialkov and Yu. Ya. Fialkov considered the cryoscopic method of investigating complex compounds to be of considerable value. K. B. Yatsimirskiy pointed out that the publication of the surveys on individual methods of investigating the complex formation reactions would be desired; this concerns especially the polarographic method. The cryoscopic method should be brought to a level that makes the calculation of the equilibrium constants of the processes to be investigated possible. The problem of the method of evaluating the experimental results becomes more and more important. Many scientists use the instability constants without taking into account the way in which they had been obtained. The calculation methods employed by A. M. Golub are one step back, as compared to those employed at present. In his lecture N. P. Komar'
Card 13/16 pointed out the extremely great importance of the mathematical

evaluation of the results obtained, as well as of the plotting of curves. A. K. Babko suggested selecting one or two systems that are experimentally well investigated, and to evaluate the results obtained according to different methods so that it is possible to check and evaluate them. Ya. I. Tur'yan took part in the discussion. Ya. A. Fialkov discussed in his lecture "The Effect of the Solvent on the Complex Formation Process as Well as on the State of Equilibrium in the Solutions of Complex Compounds" the influence exerted by the solvents upon the molecular state, upon the solvation of the system components, upon the stabilization of the complexes formed in the system, upon the step-wise dissociation of the complexes and upon a number of other processes. The influence exercised by the dielectric constant upon the complex formation process was discussed. It was concluded that a direct relation does not exist, and that the chemical nature of the solvent must be taken into account. A. V. Ablov and L. V. Nazarova held a lecture on "The Spectroscopic Investigation of Nickel Cobalt 'Pyridinates' in Various Solvents". The instability constants
Card 14/16 of the complexes were determined and it was proved that the

Conference Discussion on the Methods of Investigating the Complex Formation in Solutions SOV/153-58-3-30/30

stability of the 'pyridinates' is changed in dependence on the solvent. Ya. I. Tur'yan in his lecture "The Influence of the Solvent Upon the Composition and Stability of Complex Ions" discussed the polarographic investigation method of the chloride and thiocyanate complexes of lead in aqueous ethanol solutions at different content of the non-aqueous solvent and at a constant ionic strength. A step-wise character of the complex formation was found as well as the instability constants of the complexes. The influence of the dielectric constant of the solution on the stability of the investigated complexes was proved. In the lecture by V. P. Vasil'yev on the "Investigation of Aquo Complexes in Mixed Solvents" the main attention was devoted to the necessity of the qualitative recording of the solvation effects in the complex formation. The applicability of the polarographic method in the determination of the composition and stability of the aquo complexes in mixed solvents was proved and experimental material on the thermodynamics of the dissociation of the cadmium-aquo complexes in aqueous ethanol solutions was mentioned. V. E. Tolmachev, V. I. Kuznetsov

Card 15/16

and I. V. Tananayev stressed in their lectures the necessity of a more complete and general investigation of the solvation processes. A. K. Babko and A. M. Golub pointed out the great importance of the investigations of the complex formation equilibria in non-aqueous solutions, and made several critical comments on the lecture by Ya. I. Tur'yan. The following scientists took part in this discussion: L. P. Adamovich, O. I. Khotsyanovskiy, A. P. Moskvin and A. G. Mustakhev. At the final meeting of the conference A. A. Grinberg, Corresponding Member, AS USSR, said in his speech that such a conference was very urgent. A detailed discussion of the determination methods of the composition of the complexes, as well as of the method used in the study of the quantitative characteristics of the stepwise complex formation was extremely useful for all who attended this conference.

Card 16/16
USCOMM-DC-60976

SOV/156-58-3-16

AUTHORS: Peshkova, V. M., Zozulya, A. P.

TITLE: The Investigation of the Complex Formation in the System Th^{4+}-Acetylacetone-H_2O-C_6H_6 by Means of the Distribution Method (Issledovaniye kompleksoobrazovaniya v sisteme Th^{4+}-atsetilatseton-H_2O-C_6H_6 metodom raspredeleniya)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 470-474 (USSR)

ABSTRACT: The low solubility of many internal complex salts complicate and even prevents the determination of their constants of formation by the usual methods (optic and potentiometric). It is, however, easy to determine these constants by means of the distribution and extraction method, as these compounds may be extracted by organic solvents. The results of the radiochemical, spectrophotometric and extraction methods agree well. The distribution of Th^{4+} in the system C_6H_6-H_2O-acetylacetone at 25 ± 0,1° was investigated; the ionic strength in the aqueous phase amounted to 0,1. A certain amount of $Th(ClO_4)_4$ solution was mixed with the calculated amount of NaOH- and $NaClO_4$ solution and diluted with water to 15,0 ml. 15,0 ml solution of acetylacetone in benzene were added to this. The

Card 1/3

SOV/156-58-3-16/52

The Investigation of the Complex Formation in the System Th^{4+}-Acetylacetone - $H_2O-C_6H_6$ by Means of the Distribution Method

sample was stored in a thermostat for usually 20 hours to establish equilibrium. The phases were separated by centrifuge. The authors determined thorium in both phases by means of morin; the pH of the aqueous phase was determined using a glass electrode. The concentration of the free acetylacetone (A) in the aqueous phase was calculated according to the equation of Rydberg (Ref 5). The dependence of the ratio of the distribution of Th^{4+} on the concentration of the free acetylacetone ions is shown graphically in diagram 1. The numerical results are given in 4 tables. The coefficients of the distribution of ThA_4 and the constants of the formation of the various thorium-acetylacetonate complexes are given in table 5. There are 1 figures, 5 tables, and 29 references, 2 of which are Soviet.

Card 2/3

SOV/156-58-3-16/52

The Investigation of the Complex Formation in the System Th^{4+}-Acetylacetone-H_2O-C_6H_6 by Means of the Distribution Method

ASSOCIATION: **Kafedra** analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Analytical Chemistry of Moscow State University imeni M. V. Lomonosov)

SUBMITTED: November 10, 1957

Card 3/3

SOV/55-58-6-21/31

AUTHORS: Tsyurupa, M. G., Peshkova, V. M.

TITLE: Origin and Evolution of the Photometrical Methods of Analysis. Communication I. Origin and Evolution of Colorimetry and Nephelometry as Methods for the Analysis of Inorganic Substances (Beginning of the 19th Century) (Vozniknoveniye i razvitiye fotometricheskikh metodov analiza. Soobshcheniye I. Vozniknoveniye i razvitiye kolorimetrii i nefelometrii kak metodov analiza neorganicheskikh veshchestv (nachalo XIX v.))

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 165 - 170 (USSR)

ABSTRACT: This is an historical survey on the evolution of colorimetry and nephelometry, beginning at the origins (Plinius Secundus 23-79, Ar-Razi 865-925) and gathering the statements of various chemists of the past centuries, which are in one way or another connected with the methods under consideration (Refs 1-16). From among the Russian scientists G. Shober, G. Remus, and L. Blyumentrost are mentioned, who at the beginning of the 18th century had specialized in the analysis of mineral waters, and also M. V. Lomonosov, who lived from 1711-1765. Even towards the end of the 18th century many reactions were employed

Card 1/2

Origin and Evolution of the Photometrical Methods of Analysis. Communication I. Origin and Evolution of Colorimetry and Nephelometry as Methods for the Analysis of Inorganic Substances (Beginning of the 19th Century)

SOV/55-58-6-21/31

in gravimetry which lend themselves adventageously also to the colorimetric and the nephelometric methods. Summarizing the work done until the beginning of the 19th century in the field of colorimetry, it is stated that colorimetric investigations were then used for the solution of qualitative problems only. Also the physical work done in the field of light and of the coloring substances is briefly outlined from the historical viewpoint. In this connection the discovery of the absorption law was ascribed to P. Buger in the year 1729, 31 years before Lambert. Concerning physical work the following statements are made: All the theoretical work done in the field of optics and photometry, up to the beginning of the 19th century, cannot be considered as a foundation of the methods of colorimetric analysis. The theoretical foundation was not laid before the 19th century. There are 20 references, 11 of which are Soviet.

Card 2/2

ASSOCIATION: Kafedra analiticheskoy khimii (Chair for Analytical Chemistry)

SUBMITTED: April 2, 1958

5 (2,3)
AUTHORS: Gromova, M. I., Varaksina, I. F., SOV/55-58-6-22/31
Peshkova, V. M.

TITLE: Spectrophotometric Investigations of the Complex Compounds of Samarium With Citric Acid, Lactic Acid and Trioxyglutaric Acid (Spektrofotometricheskoye issledovaniye kompleksnykh soyedineniy samariya s limonnoy, molochnoy i trioksiglutarovoy kislotami)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 171 - 179 (USSR)

ABSTRACT: Various scientific treatises have permitted the statement (Refs 2,6,11-13) that the absorption spectra of the rare earth elements change in the course of the formation of the complexes. The absorption maxima are displaced in dependence of the concentration of the complex forming addition and of the change of the pH-value of the solution. This displacement permits conclusions to be drawn on the stability of the various complex compounds of the rare earth elements as well as on the pH range in which they exist. From this point of view the investigations mentioned in the title were carried out. The SF-4 spectro-photometer was employed for the measurement of the absorption spectra whilst the pH-value of the solutions was ascertained

Card 1/3

Spectrophotometric Investigations of the Complex Compounds of Samarium With Citric Acid, Lactic Acid and Trioxyglutaric Acid

SOV/55-58-6-22/31

by means of the potentiometer LP-5, provided with a glass electrode. The initial solution was a samarium-perchlorate solution. In order to determine the exact position of the maxima of the samarium ion the initial solution was taken spectro-photometrically (The respective data are found in table 1 and in Fig 1) and the data obtained were then compared with those of Prandtl, Ref 10. The molar absorption coefficients of the principal maxima agreed with data from publications (Refs 3,7,8,9). The further modifications of the samarium spectrum in the presence of the complex forming addition were observed on the wave length of the absorption maximum $\lambda=401 m\mu$. The spectra of solutions having different pH values and different ratios of samarium and complex-forming additions were taken (Figs 3 and 4). The limits of the pH values within which the various complex compounds are capable of existing, are compiled in the tables 3,4,5. In the pH-value field 1-12 2 complex compounds of samarium with the citric acid and also trioxyglutaric acid were ascertained, as well as one compound with the lactic acid in an acid medium. In basic media only hydroxide precipitates are

Card 2/3

Spectrophotometric Investigations of the Complex Compounds of Samarium With Citric Acid, Lactic Acid and Trioxyglutaric Acid SOV/55-58-6-22/31

formed. The stability of these complex compounds was investigated with respect to hydroxyl ions, oxalate ions and fluoride ions. Photometrical data permitted the conclusion to be drawn that the compounds with citric acid and trioxyglutaric acid exhibit about the same degree of resistance, and that they are by far more resistant than the compound with the lactic acid. The authors thank G. K. Yeremin and L. I. Martynenko for placing the spectrally pure samarium salt at their disposal. There are 4 figures, 6 tables, and 17 references, 3 of which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii (Chair for Analytical Chemistry)

SUBMITTED: April 15, 1958

Card 3/3

PESHKOVA, V.M.

Effect of the molecular structure of organic reagents on the absorption spectra of metal oximes. Trudy kom. anal. khim. 8:75-81 '58. (MIRA 11:8)

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

PESHKOVA, V.M.; BOCHKOVA, V.M.

Study of the properties of cobalt complexes using nitroso and isonitroso compounds. Trudy kom. anal. khim. 8:125-134 '58.
(MIRA 11:8)

1.Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova.
(Cobalt organic compounds) (Complex compounds)

Peshk[illegible]

AUTHORS: Bochkova, [illegible] Peshkova, [illegible]

TITLE: Aliphatic Oxime Compounds of C[illegible], Ni and Co (Soy[illegible]
Cu, Ni i Co s oksimami alifaticheskogo ryada)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, [illegible]
-1138 [illegible]

ABSTRACT: The stabilization of the complexes of [illegible] cobalt was determined, as well as the effect of the [illegible] ture of the organic reagent. The follo[illegible] oximes w[illegible] used: dimethyldioxime, monooxime - diace[illegible] -dioxime-ether, dimethyl-dioxime, [illegible] dioxane-solution. The constants of stabili[illegible] oximes in 50 per cent dioxane are the fo[illegible] : for dimethyl-dioxime ($p.K_D$ = 12,85), for dimethyl-dioxi[illegible] = 12,77), for monooxime-diacetyl ($p.K_D$ = 11,1[illegible]), for [illegible] dioxime ($p.K_D$ = 12,1), for ethyl-methyl-dioxi[illegible] = 12,86).
All the enumerated reagents are weak acids. A[illegible] their stability, all complex compounds of copper, [illegible] and cobalt in a 50% dioxane-solution [illegible] classified [illegible]

Card 1/2

Aliphatic Oxime Compounds of [illegible]

follows: methyl-ethyl-dioxime, dimethyl-[illegible] dioxime, monochloro-[illegible] dimethyl-dioxime [illegible] and dimethyl-[illegible] for a very unstable compound unextractable from chloroform. There are 1 figure, 5 tables, and 15 references, 3 of which are Soviet.

SUBMITTED: April 24, 1957

AVAILABLE: Library of Congress

1. Metalorganic [illegible] reagents--[illegible] 2. [illegible]
4. Aliphatic compounds--[illegible]

Card 2/2

SOV 137-59-1-2143

Translation from: Referativnyy zhurnal Metallurgiya, 1959, Nr 1, p [illegible] (USSR)

AUTHORS: Peshkova, V. M., Bochkova, V. M.

TITLE: Investigation of the Properties of Complex Compounds of Cobalt With Nitroso- and Isonitroso Compounds (Issledovaniye svoystv kompleksnykh soyedineniy kobal'ta s nitrozo- i izonitrozosoyedineniyami)

PERIODICAL: Tr. Komis. po analit. khimii AN SSSR, 1958, Vol 8(11), pp 125-134

ABSTRACT: The authors studied the process of the reaction of α-nitroso-β-napthol (I) and β-nitroso-α-napthol (II) with Co in the presence of Fe and Ni. It was established that Co with II has greater sensitivity and that it can be determined in the presence of 60 parts Ni and 3000 parts Fe. To a solution containing Ni, Fe, and Co are added 0.2 cc of 30% H_2O_2 solution and 2-3 drops of 5% NaOH solution. The precipitate is dissolved in 2 cc CH_3COOH with slight heating. 3-5 cc of 1% acetic acid solution of I or II are added, the mixture is diluted to 25 cc with water, and the colored complex is extracted with benzol. The benzol layer is washed with 10-12 cc of 6N HCl, which completely decomposes Ni and Fe complexes. Then the solution is washed with water, excess reagent is removed by washing once with

Card 1/2

SOV/137-59-[illegible]-2143

Investigation of the Properties of Complex Compounds of Cobalt (cont.)

2N NaOH and twice with water, and the solution is read photometrically at 416 mμ 0.10 g of steel are dissolved by heating in a mixture of HCl and HNO_3, taken almost to dryness, and transferred into a 250-cc flask. Co is determined in an aliquot portion. The completeness of the extraction was verified with Co^{60}

K. K.

Card 2/2

GALLAY, Z.A.; TIPTSOVA, V.G.; PESHKOVA, V.M.

Use of ascorbic acid in amperometric titrations. Report No.2: Determination of iodine in hypochlorites and iodates. Vest.Mosk. un.Ser.mat.,mekh.,astron.,fiz.,khim. 13 no.1:209-213 '58. (MIRA 11:11)

1. Kafedra analiticheskoy khimii Moskovskogo gos. universiteta. (Iodine--Analysis) (Conductometric analysis) (Ascorbic acid)

PESHKOVA, V.M.; KIM KHEN HAK

Determination of titanium (III) in the presence of iron and other elements by means of sulfosalicylic acid. Vest.Mosk.un. Ser.mat.,mekh.,astron.,fiz.,khim. 13 no.2:187-195 '58.
(MIRA 12:2)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Titanium--Analysis) (Salicylic acid) (Colorimetry)

L 29946-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACCESSION NR: AP4044080 S/0189/64/000/004/0057/0061

AUTHORS: Gromova, M.I.; Romantseva, T. I.; Peshkova, V. M.

28
27
B

TITLE: Using the absorption spectra of the dichloroxinates of praseodymium, neodymium and samarium for the determination of these elements

SOURCE: Moscow. Universitet. Vestnik. Seriya 2. Khimiya, no. 4, 1964, 57-61

TOPIC TAGS: praseodymium, neodymium, samarium, spectrophotometric determination, dichlorohydroxyquinoline, rare earth dichloroxinate, extraction, coefficient of extinction, absorption spectrum

ABSTRACT: The spectrophotometric determination of praseodymium, neodymium and samarium, or mixtures of these, complexed with 5,7-dichlorohydroxyquinoline was investigated. Optimum extraction of these complexes from aqueous solutions with chloroform is in the pH 6.5 -7 to 8.5-10 range; below pH 6.5 complex formation is in progress. The rare earth salts were dissolved in dilute $HClO_4$, the reagent was

Card 1/3

L 29946-65
ACCESSION NR: AP4044080

used as a 0.1% solution in 3N HCl. The absorption spectra of the rare earth dichloroxinates were obtained. All three complexes absorb strongly in the 395-400 millimicron region; Nd has several peaks, while Pr and Sm show no peaks in the 500-850 millimicron region; the Nd maximum at 581 millimicrons is most pronounced; Sm has a maximum at 1085 millimicrons. Concentrations of the elements in Nd-Pr and Nd-Sm mixtures were determined by solution of the equation $D = l \sum_{a=1}^{n} \varepsilon_{\lambda_a} \cdot c_a$, where $n = 2$, $\lambda_1 = 581$ and $\lambda_2 = 640$ millimicrons for Nd-Pr, and $\lambda_1 = 581$ and $\lambda_2 = 1085$ millimicrons for Nd-Sm mixtures. The coefficients of extinction ε for the selected wave lengths (in millimicrons) for the various complexes: Pr, at $\lambda = 581$, $\varepsilon = 10.34$ and at $\lambda = 640$, $\varepsilon = 7.85$; Sm, at $\lambda = 1085$, $\varepsilon = 5.0$ and at $\lambda = 581$, $\varepsilon = 3.6$; Nd, at $\lambda = 581$, $\varepsilon = 63.0$ and at $\lambda = 640$, $\varepsilon = 7.8$. Because of the limited solubility of these rare earth complexes in chloroform, the determinable concentration of Nd in Pr and Sm is in the 1×10^{-4} to 5×10^{-4} M range (0.014-0.072 mg/ml of Nd in the presence of 0.12-0.07 mg/ml of Pr or 0.13-0.075 mg/ml of Sm). Pr and Sm cannot be determined in the presence of relatively large amounts of Nd. Orig. art. has: 2 tables and 3 figures.

Card 2/3

L 29946-65

ACCESSION NR: AP4044080

ASSOCIATION: MGU, Kafedra analiticheskoy khimii (Moscow State University, Department of Analytical Chemistry)

SUBMITTED: 24Mar64 ENCL: 00

SUB CODE: fc, op NR REF SOV: 001 OTHER: 009

Card 3/3

DOLMANOVA, I.F.; PESHKOVA, V.M.

Determination of microamounts of copper using the catalytic reaction of hydroquinone oxidation by hydrogen peroxide in the presence of pyridine. Zhur. anal. khim. 19 no.3:297-302 '64. (MIRA 17:9

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

SOV/78-4-2-22/40

5(4), 5(2)

AUTHORS: Zozulya, A. P., Peshkova, V. M.

TITLE: Investigation of Complex Formation in the System 2-Oxy-1,4-Naphthoquinone-Th^{4+}-$CHCl_3$-H_2O by the Distribution Method (Issledovaniye kompleksoobrazovaniya v sisteme 2-oksi-1,4-naftokhinon-Th^{4+}-$CHCl_3$-H_2O metodom raspredeleniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 2, pp 379-392 (USSR)

ABSTRACT: In the system 2-oxy-1,4-naphthoquinone-Th^{4+}-$CHCl_3$-H_2O the complex-forming processes were investigated by the distribution liquid-liquid at 25°C. For determining the distribution coefficient of Th^{4+} in the systems $CHCl_3$-H_2O and C_6H_6-H_2O the radioactive indicator Th^{234} was used. The dissociation constant of 2-oxy-1,4-naphthoquinone and the distribution coefficient of this compound in the systems mentioned were determined at 25°±0.1° and the ionic strength of $\mu = 0.1$. The following values were found:

Card 1/3

SOV/78-4-2-22/40

Investigation of Complex Formation in the System 2-Oxy-1,4-Naphthoquinone-Th^{4+}-$CHCl_3$-H_2O by the Distribution Method

$pK_{diss} = 2.38 \pm 0.1$; $K_{distr.\ CHCl_3-H_2O} = 183.3 \pm 4.6$;

$K_{distr.\ C_6H_6-H_2O} = 102.8 \pm 1.5$.

The absorption spectra of the aqueous solutions of 2-oxy-1,4-naphthoquinone were recorded at various pH values and it was found that at pH < 2 the compound is undissociated and at pH > 5 completely dissociated. The complex formation of thorium with 2-oxy-1,4-naphthoquinone in an aqueous solution and in organic solvents was investigated. The complex formation proceeds gradually in the aqueous phase without the formation of polynuclear complexes, hydrolysis products, or other polymers. The consecutive complex-forming constants of thorium with 2-oxy-1,4-naphthoquinone ions were determined:

$K_1 = (5.83 \pm 0.9).10^4$; $K_2 = (1.65 \pm 0.1).10^4$; $K_3 = (1.30 \pm 0.1).10^4$;

$K_4 = (1.33 \pm 0.1).10^3$; $\varkappa_1 = 5.83.10^4$; $\varkappa_2 = 9.62.10^8$; $\varkappa_3 = 1.25.10^{13}$;

Card 2/3

SOV/78-4-2-22/40

Investigation of Complex Formation in the System 2-Oxy-1,4-Naphthoquinone-Th^{4+}-$CHCl_3$-H_2O by the Distribution Method

λ_4 = 1.56.10^{16}.(25°±0.1°; μ = 0.1). A comparison of the complex-forming processes in the system acetyl acetone-Th^{4+}-$CHCl_3$-H_2O to those of 2-oxy-1,4-naphthoquinone-Th^{4+} $CHCl_3$-H_2O shows that the second complex is less stable. The distribution constant of this complex was determined in the system $CHCl_3$-H_2O (at 25° and μ = 0.1); λ'_4 = 13.16±0.7.

There are 11 figures, 9 tables, and 28 references, 4 of which are Soviet.

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

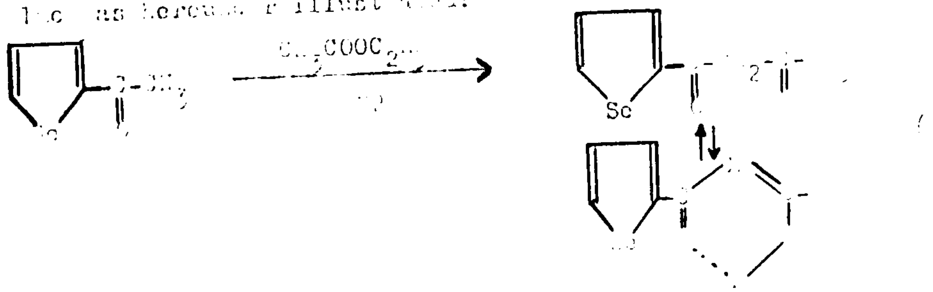
SUBMITTED: January 11, 1958

Card 3/3

[illegible], [illegible]

[illegible] ov, [illegible]

[illegible] oy [illegible] ([illegible]) [illegible] the first time by [illegible] of the present paper, [illegible] as hereunder illustrated:



Card 1.

Some Characteristics of
Selenenoyl-2-Acetone and Benzoyl Acetone

[illegible]

The synthesis is very accurately described. [illegible] obtained as a viscous [illegible] yellow oil with [illegible] 1[illegible] - 1[illegible]6.[illegible]°/7 mm, that could be crystallized [illegible] 3[illegible] - [illegible]°C (from alcohol). Benzoyl acetone [illegible] according to data found in publication ([illegible]) melting point of [illegible] - [illegible]° after repeated [illegible] from ethanol. The absorption spectra of the [illegible] of both compounds were investigated with [illegible]

between 2 and 11. [illegible] curves [illegible] The dissociation constants of both compounds [illegible] ways: by computations from the absorption curves [illegible] graphically from the dependence of the optical [illegible] solutions on the pH value [illegible] different [illegible] results are [illegible]

pK_{diss} = 8.[illegible] ± 0.[illegible] was found for benzoyl [illegible],

selenenoyl-2-acetone [illegible] = [illegible] ± [illegible]

being μ = 0.1 in [illegible] solution. [illegible]

Some Characteristics of
Selenenoyl-2-Acetone and Benzoyl Acetone

SOV/75-14-1-[illegible]

constants of both compounds in different systems at 25 ± 0.1° and μ = 0.1 were found:

Selenenoyl-2-acetone: lg K_{distr} = 2.922±0.006 (System $CHCl_3-H_2O$)

lg K_{distr} = 3.004±0.010 (System $C_6H_6-H_2O$)

Benzoyl acetone: lg K_{distr} = 3.439±0.009 (System $CHCl_3-H_2O$)

lg K_{distr} = 3.145±0.010 (System $C_6H_6-H_2O$)

The distribution constants of both compounds are independent of their concentration in the organic phase (benzene, chloroform resp.). This is indicative of the fact that neither of the two compounds is associated in the aqueous nor in the organic phase. There are 5 figures, 6 tables, and 14 references, 3 of which are Soviet.

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

SUBMITTED: April 24, 1958

Card 3/3

SOV/75-14-4-4/30

5(2), 5(3)

AUTHORS: Peshkova, V. M., Zozulya, A. P.

TITLE: Investigation of Complex Formation in Solutions by the Distribution Method. The System Selenenoyl-2-acetone - Th(IV) - $CHCl_3$ - H_2O

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 411 - 416 (USSR)

ABSTRACT: All experiments on the distribution of thorium between an organic phase (chloroform) and an aqueous phase took place at an initial concentration of thorium in the aqueous phase equal to $1.0.10^{-6}$ g-ion/l and an ionic strength of 0.1. The temperature was 25 ± 0.1°. For the determination of the composition of the complexes which form in the aqueous phase between selenenoyl-2-acetone and thorium, the distribution curves of thorium selenenoyl-2-acetonate were plotted at three different reagent concentrations in the chloroform layer. The measuring results are shown in table 1. In figures 1 and 2 the distribution of Th^{4+} in the system $CHCl_3$ - H_2O is graphically shown in dependence on the pH-value and in dependence of the log $[HA]/[H^+]$ at various concentrations of selenenoyl-2-acetone (HA - molecule of the

Card 1/4

Investigation of Complex Formation in Solutions by the Distribution Method. The System Selenenoyl-2-acetone - Th(IV) - $CHCl_3$ - H_2O SOV/75-14-4-4/30

organic reagent). The results agree very well with the theoretical expectations for complexes of the type $M A_n^{(N-n)+}$ (M - metal, A - addendum, N - charge of the metal ion). In order to determine whether complexes are also formed which contain molecules of the organic solvent, the dependence of the distribution coefficient of thorium-selenenoyl-2-acetonate on the pH-value in the systems $CHCl_3$ - H_2O and C_6H_6 - H_2O, at constant reagent concentration in the aqueous phase. The results are shown in table 2 and figure 3. The course of the curves obtained indicates that the complex does not contain molecules of the organic solvent. Under the above conditions, only complexes of the form $Th A_n^{(4-n)+}$ are therefore formed. The authors also investigated the dependence of the distribution coefficient q on the concentration of selenenoyl-2-acetone in the aqueous phase. The results are shown in table 3. Table 4 shows a compilation of

Card 2/4

Investigation of Complex Formation in Solutions by the Distribution Method. The System Selenenoyl-2-acetone - Th(IV) - $CHCl_3$ - H_2O

SOV/75-14-4-4/30

the main characteristic features of the complex-forming processes in the system selenenoyl-2-acetone - Th(IV) - $CHCl_3$ - H_2O at 25 ± 0.1°, and of the ionic strength $\mu = 0.1$. The results obtained were used for a determination of the percentage distribution of thorium between complexes of various composition as a function of pA (pA - negative logarithm of the concentration of free reagent). The corresponding curves are shown in figure 6. Thorium-selenenoyl-2-acetonates differ considerably, on the basis of their physico-chemical characteristics, from the complex compounds of thorium with other reagents which contain the same reactive grouping. The former possess considerably higher stability constants and distribution coefficients than, for example, the corresponding acetylacetone complexes of thorium. Selenenoyl-2-acetone is, therefore far better suited as a reagent for the extraction of thorium from aqueous solutions than acetylacetone, which is frequently used for this process. There are 6 figures, 4 tables, and 15 references, 5 of which are Soviet.

Card 3/4

Investigation of Complex Formation in Solutionsby the SOV/75-14-4-4/30
Distribution Method. The System Selenenoyl-2-acetone - Th(IV) - $CHCl_3$ - H_2O

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

SUBMITTED: September 10, 1958

Card 4/4

5 (2), 24 (7) SOV/32-25-6-14/53

AUTHORS: Peshkova, V. M., Yefimov, I. P.

TITLE: Method of Spectrophotometric Titration (Metod spektrofotometricheskogo titrovaniya). Survey (Obzor)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 678-683 (USSR)

ABSTRACT: A survey is given here of the methods of spectrophotometric titration. After an introductory explanation of the theoretical principles governing the method dealt with here, the various forms of the titration curves (Fig 1), subdivided into 8 groups, are discussed. Concerning the applicability of the method it is mentioned that a large part of the papers contained in publications regarding the subject deal with spectrophotometric redox titrations, and reactions under formation of complex compounds are applied to a specially great extent, the complex former being mostly ethylene diamine tetraacetic acid or its sodium salt. A few papers (mainly from foreign publications) are referred to, and the respective absorption spectra (Figs 2, 3, 5) are depicted. Finally, a

Card 1/2

Method of Spectrophotometric Titration. Survey SOV/32-25-6-14/53

description is given of the equipment required for the method as well as of the working technique, and the scheme of a system for the spectrophotometric titration is shown (Fig 7). There are 7 figures and 44 references, 4 of which are Soviet.

Card 2/2

PESHKOVA, V.M.; MEL'CHAKOVA, N.V.; SINITSYNA, Ye.D.

Investigating the color reaction of zirconium with sulfophenylazchromotropic acid. Izv.vys.ucheb.zav.; khim.i khim tekh. 3 no.1:72-74 '60. (MIRA 13:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova. Kafedra analiticheskoy khimii.
(Zirconium--Analysis)
(Naphthalenedisulfonic acid)

PESHKOVA, V.M.; BOCHKOVA, V.M.; LAZAREVA, L.I.

Spectrophotometric determination of trace amounts of nickel in pure indium and aluminum. Zhur. anal. khim. 15 no.5:610-613 S-O '60. (MIRA 13:10)

1. M.V. Lomonosov Moscow State University.
(Nickel--Analysis) (Indium--Analysis)
(Aluminum--Analysis)

PESHKOVA, V.M.; TSYURUPA, M.G.

Development and improvement of photometric analytical methods. Report No. 4: A. Beer's work leading to the establishment of the relationship between the intensity of the light absorbed by solutions of colored salts and the concentration of these solutions. Vest. Mosk. un. Ser. 2: Khim. 15 no.6:58-61 N-D '60. (MIRA 14:2)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Absorption of light)

5(2)

AUTHORS: Zozulya, A. P., Peshkova, V. M. S/074/60/029/02/005/007
B008/B001

TITLE: Investigation of Complex Formation in Solutions by the Distribution Method

PERIODICAL: Uspekhi khimii, 1960, Vol 29, Nr 2, pp 234-268 (USSR)

ABSTRACT: The possibility of using the distribution method for the investigation of complex compounds in solutions is considered in this paper. The foundations for the distribution method (or extraction) were laid down by Nernst in 1891. But it was not until 1941 that the first experiments were made to find a quantitative relation between the distribution ratio of the metal in the system and the parameters of the latter. As may be seen from existing publications, informations on the composition and physicochemical characteristics of complex compounds in every system can be obtained by the treatment of experimental data with corresponding mathematical methods. Theoretical principles of the distribution method and the corresponding equations are quoted in this paper. On investigating systems with chelate compounds, the investigation of the complex-forming

Card 1/4

Investigation of Complex Formation in Solutions by the Distribution Method

S/074/60/029/02/005/007
B008/B001

process, proceeds in stages, and no stage must be omitted. The investigation consists of the following stages: 1) Determination of the dissociation constants of the organic reagent HA with selected constant ionic strength and solution temperature; 2) Investigation of the distribution of the reagent between the aqueous phase and at least two organic solvents in a sufficiently wide range of HA concentrations in the solvent layer 3) Determination of the concentration range of metallic ions in the aqueous phase in which the formation of multinuclear complexes and hydrolysis products may be neglected; 4) Solution of the problem as to whether complexes can be formed which contain molecules of the used organic solvents; 5) Determination of the composition of complexes which are formed in the aqueous phase; 6) Drawing of the distribution curve with rational selection of the factors determined and their mathematical treatment by one or more computation methods (Refs 48-52, 260) etc. In some cases, one experimental result can be treated by mathematical as well as graphical methods. With regard to the latter, it is referred to references 260-264. On considering various special cases (complex formation

Card 2/4

Investigation of Complex Formation in Solutions by the Distribution Method

S/074/60/029/02/005/007
B008/B001

with organic and inorganic addenda, use of polar and non-polar solvents, etc), sometimes a corresponding modification of the respective equations may be necessary, the peculiarities of the system to be investigated being taken into consideration. Mathematical methods, which are used in the investigation of complex formation by the method of metal distribution between two immiscible solvents, may be considered well developed at present. All complex types, which can be formed in aqueous solutions, were theoretically investigated. Many of these complexes were investigated experimentally, at least in solutions with low and constant ionic strength. It may be concluded from the theoretical principles and the consideration of the great number of systems investigated by the distribution method that this method is one of the most reliable, fastest, and relatively simplest methods for the investigation of complex formation in solutions. A. K. Babko, A. T. Pilipenko, I. P. Alimarin, V. N. Polyanskiy, F. G. Zharovskiy, V. V. Fomin, Ye.P.Mayorova, N. S. Povitskiy, A. S. Solovkin, I. M. Korenman, F.R.Sheyanova,

Card 3/4

Investigation of Complex Formation in Solutions by the Distribution Method

S/074/60/029/02/005/007
B008/B001

K. V. Chmutov are mentioned. Figure 1 shows curves log q = f(pH), figure 2 distribution curves of metal between the phases. Table 1 shows constants of stability and distribution of acetyl acetonates of some actinides, table 2 the composition of chelate compounds of some actinides which were determined by the distribution method. There are 2 figures, 2 tables, and 264 references, 47 of which are Soviet

ASSOCIATION: Leningradskiy gos. un-t im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

Card 4/4

PESHKOVA, Valentina Moiseyevna; GROMOVA, Margarita Ivanovna;
ALIMARIN, I.P., prof., otv. red.; GOL'DENBERG, G.S., red.;
LAZAREVA, L.V., tekhn. red.

[Practical manual on spectrophotometry and colorimetry] Prakticheskoe rukovodstvo po spektrofotometrii i kolorimetrii. Moskva, Izd-vo Mosk.univ., 1961. 172 p. (MIRA 15:3)
(Spectrophotometry) (Colorimetry)

PESHKOVA, V.M.; ZOZULYA, A.P.

Physicochemical characteristics of dimethyldioxime and benzoylmethyldioxime and of their compounds with nickel.
Trudy kom. anal. khim. 11:69-81 '61. (MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Oximes) (Nickel compounds)

PESHKOVA, V.M.; MEL'CHAKOVA, N.V.; ZHEMCHUZHIN, S.G.

Complex formation in the system benzoylacetone - zirconium - benzene - water, and hydrolysis of zirconium ions. Zhur.neorg. khim. 6 no.5:1233-1239 My '61. (MIRA 14:4)

(Butanedione) (Zirconium compounds)

PESHKOVA, V.M.; PEN AN

Extraction method of investigating the complexing of hafnium with
acetylacetone in solutions. Zhur.neorg.khim. 6 no.9:2082-2085
S '61. (MIRA 14:9)
(Hafnium compounds) (Pentandione)

2[illegible]283

Spectroscopic determination of nickel . . . S/075/61/016/[illegible]
B101/B110

added up to pH 8 - 11. 2 ml of a 0.02% ethanolic solution of α-benzyl dioxime is then added, as well as ethanol up to a concentration ⩾ [illegible]%, which ensures a constant optical density of the $CHCl_3$ extract. After mixing for 10 - 15 sec, extraction is carried out for 2 min with 5 ml of $CHCl_3$. The $CHCl_3$ solution is washed twice with 5 ml of 1 N NaOH each time. The optical density is then measured at 275 mμ. The Co and Cu compounds of α-benzyl dioxime, which likewise absorb in this spectrum region, are not stable to NaOH. The $CHCl_3$ solution of Ni-α-benzyl dioximate obeys the Lambert - Beer law in the concentration range of 0.5 - 5 μ in 5 ml. This method permits the determination of nickel traces down to 5·1[illegible]% with a reproducibility of ± 25%. There are 2 figures, 2 tables, and 4 references: 2 Soviet and 2 non-Soviet. The 2 references to English-language publications read as follows: Banks, C., Barnum, D. J. Amer. Chem. Soc. [illegible], 4767 (1958); Usumasa, Y., Waschizuko, S., Bull. Chem. Soc. Japan [illegible], [illegible] (1956).

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

Card 2/3

GROMOVA, M.I.; KHIL'MAN, Ya.I.; PESHKOVA, V.M.

Complex compounds of erbium with trihydroxygluataric acid. Vest. Mosk.Un.Ser.2: khim. 16 no.6:41-46 N-D '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet. Kafedra analiticheskoy khimii.

(Erbium compounds) (Glutaric acid)

S/075/62/017/002/002/004
B107/B138

AUTHORS: Peshkova, V. M., Gromova, M. I., and Aleksandrova, N. M.

TITLE: Successive spectrophotometric titration of thorium and of the sum of rare-earth elements

PERIODICAL: Zhurnal analiticheskoy khimii, v. 17, no. 2, 1962, 218 - 221

TEXT: A method was developed for determining about 10^{-5}M solutions of rare earths and of thorium with Komplexon III in the presence of arsenazo I as indicator. Thorium and the rare earths were successively determined in a sample. Compared with visual titration, sensitivity was improved by 3 to 4 orders. For the rare-earth determination, the following was added to solutions containing the rare earths in quantities between 10 μg and 1.0 mg: 10 ml solution of arsenazo I ($1 \cdot 10^{-5}$M), 1.0 ml of 0.1 N hydrochloric acid, 3 ml of 25 % urotropine solution (to obtain pH 6.6) and 5 ml of 1 % ascorbic acid (to reduce Ce^{4+}). The product was then topped up to 100 ml and mixed. 20 ml of the mixture was titrated in a cuvette. After adding 0.1 ml of Komplexon III solution at a time the optical density was measured at 575 mμ. The end point was determined graphically.
Card 1/3

Checks revealed an error of less then 1 %. Thorium was determined at pH 2. It is important that the indicator concentration be at least as high as that of thorium. The following was added to a solution with 20 μg to 0.5 mg of thorium; a 20-ml solution of arsenazo I ($1 \cdot 10^{-4}$M) and 10 ml of 0.1 N hydrochloric acid. The further course is as above. Checks revealed an error of 0.3 %. The successive determination of thorium and the rare earths is possible for a Th:RE ratio between 1:1 and 1:100, but is not if Th:RE = 100:1. For determination purposes, 10 ml of 0.1 N hydrochloric acid and 20-ml solution of arsenazo I (10^{-5}M) were added to 0.02 - 0.05 mg of Th and 0.1 - 1.0 mg of RE, and topped up to 100 ml. 20 ml was titrated as above; 1 ml of 25 % urotropine solution was then added in the cuvette, and the rare earths were titrated. Checks revealed the same error limits as above. For comparison a monazite sample was analyzed by spectrophotometric titration and by the oxalate method. Yu. A. Chernikhov and F. V. Zaykovskiy are mentioned. There are 2 figures, 4 tables, and 7 references: 5 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Bril K., Holzer S., Rethy B., Analyt. Chem. 31. 1353 (1959); Wylie A., J. Chem. Soc. 1687 (1947).

Successive spectrophotometric ... S/075/62/017/002/002/004
B107/B138

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

SUBMITTED: May 18, 1961

Card 3/3

√

MEL'CHAKOVA, N.V.; MEZENTSOVA, N.N.; PEN AN [P'êng Ang]; PESHKOVA, V.M.;
YUR'YEV, Yu.K.

Characteristics of some β-diketones of the selenophene series.
Vest.Mosk. un. Ser.2:khim. 17 no.1:63-67 Ja-F '62. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet, kafedra analiticheskoy khimii.

(Selenophene)

ASTAKHOVA, Ye.K.; SAVOSTINA, V.M., PESHKOVA, V.M.

Distribution of iron (III) in the systems 1,2-cyclohexanedione-dioxime - organic solvent - water. Zhur. fiz. khim. 38 no.9: 2299-2301 S '64. (MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 07162-67 EWP(j)/EWT(m) RM

ACC NR: AP6028198 SOURCE CODE: UR/0189/66/000/002/0080/0082

AUTHOR: Romantseva, T. I.; Gromova, M. I.; Peshkova, V. M.

20

18

ORG: Analytical Chemistry Department (Kafredra analiticheskoy khimii)

TITLE: Study of complexing in the system neodymium - 5,7-dichlorooxine - amyl acetate - water

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 2, 1966, 80-82

TOPIC TAGS: neodymium compound, stability constant, chelate compound

ABSTRACT: Complexing between Nd and 5,7-dichlorooxine (Cl_2OX) was studied in the system Nd - Cl_2OX - amyl acetate - H_2O. The overall and successive stability constants of the complex formed were calculated by the methods of (1) Bjerrum (graphically and by computation) and (2) Dyrssen and Sillen. The complex was found to have the composition $Nd(Cl_2OX)_3$. The overall stability constant is -4.37, whereas the corresponding constant for the Nd - Cl_2OX - chloroform - H_2O system is -4.58. This indicates that the advantage of amyl acetate over chloroform in extracting dichlorooxine complexes of rare earths lies in the fact that the extraction with amyl acetate begins in a more acidic medium, i. e., under conditions where the rare earth ion cannot hydrolyze. Orig. art. has: 3 figures, 1 table and 1 formula.

SUB CODE: 07/ SUBM DATE: 21Jul65/ ORIG REF: 002/ OTH REF: 004

Card 1/1 UDC: 543.7 546

L 24374-66 EWT(m) [illegible]

ACC NR: AP6010716 SOURCE CODE: UR/0189/66/000/001/0073/0078

AUTHOR: Romantseva, T. I.; Gromova, M. I.; Peshkova, V. M.

ORG: Analytic Chemistry Department, Moscow State University (kafedra analiticheskoy khimii, Moskovskiy gosudarstvennyy universitet)

TITLE: Use of different variants of spectophotometric measurements in the determination of erbium in holmium and thulium and of ytterbium in lutetium

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1966, 73-78

TOPIC TAGS: spectrophotometric analysis, erbium, holmium, thulium, ytterbium, lutetium

ABSTRACT: Continuing a study of the spectrophotometric analysis of rare earth mixtures for their individual components, the authors have compared different variants of the spectrophotometric method and attempted to show their applicability to the analysis of separate pairs of rare earth elements, taking as an example complex compounds of a series of elements of the yttrium subgroup with 7-iodo-8-hydroxyquinoline-5-sulfonic acid. Absorption spectra of water-alcohol solutions of complexes of erbium, holmium, thulium, ytterbium, and lutetium were studied. Erbium was determined in Er-Ho and Er-Tm pairs, and a statistical treatment of the results showed that the errors had a random character in the case of the Er-Tm pair, whereas in the case of Er-Ho the results were systematically high. However, Er was reliably determined in Ho by also

Card 1/2 UDC: 543.7

L 34374-66

ACC NR: AP6010716

making use of a differential method. Ytterbium was determined in the Yb-Lu pair; mathematical treatment of the results showed the errors to be random in character, but the standard deviation was fairly appreciable. The methods employed permitted the determination of Er in amounts from 3 to 10% (9×10^{-5} M - 3×10^{-4} M) in Tm and from 5 to 10% (1.5×10^{-4} M - 3.0×10^{-4} M) in Ho, and the determination of Yb in amounts from 15 to 30% (4.5×10^{-4} M - 9.0×10^{-4} M) in Lu. Orig. art. has: 6 figures and 4 tables.

SUB CODE: 07/ SUBM DATE: 02Apr65/ ORIG REF: 006

Card 2/2

L 34040-66 EWT(m)/EWP(j) RM

ACC NR: AP6012907 SOURCE CODE: UR/0075/66/021/004/0499/0501

AUTHOR: Peshkova, V. M.; Yefimov, I. P.; Magdesiyeva, N. N.

31
B

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Study of the complexing of neodymium with selenoylacetone and selenoyl trifluoroacetate by the partition method

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 4, 1966, 499-501

TOPIC TAGS: neodymium compound, selenium compound, complex molecule, partition coefficient, STABILITY CONSTANT

ABSTRACT: Complexing of neodymium with selenoylacetone (SA) and selenoyl trifluoroacetate (STA) was studied during extraction with chloroform from aqueous solutions at 25 ± 0.1C. The partition of the element was checked by using the radioisotope Nd^{147}. To obtain the physicochemical characteristics of the complexing reactions of SA and STA with neodymium, partition curves log q = f(pA) were obtained (Fig. 1). The ligand concentration was calculated from the formula

$$pA = pK_{diss} - pH - \log [HA]\,tot + \log (K_{art} + 1).$$

The partition curves and a formula relating the partition coefficient q and the concentration of the free ligand were used to calculate the values of the successive K_n and over-all β_n stability

UDC 543.70

Card 1/3

L 34040-66

ACC NR: AP6012907

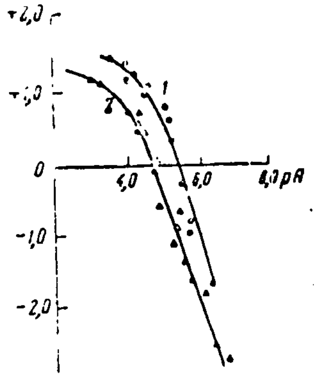


Figure 1. Curves for the partition of neodymium in the systems 1 - $CHCl_3 - H_2O$ - SA; 2 - $CHCl_3 - H_2O$ - STA.

constants of the complex compounds. From these data, curves were plotted for the partition of neodymium between complexes of various compositions as a function of the concentration of free ligand ions. The conditions of extraction of neodymium with selenophene β-diketones were studied in relation to the pH of the aqueous phase. The compound between Nd and SA was

L 30227-66 EWP(j)/EWT(m)/EWP(t)/ETI IJP(c) RM/JD/JG

ACC NR: AP6013827 SOURCE CODE: UR/0189/65/000/006/0074/0078

56
B

AUTHOR: Romantseva, T. I.; Gromova, M. I.; Peshkova, V. M.

ORG: Chair of Analytical Chemistry, Moscow State University (Kafedra analiticheskoy khimii, Moskovskiy gosudarstvennyy universitet)

21

TITLE: Spectrophotometric determination of neodymium in the presence of praseodymium and samarium

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 6, 1965, 74-78

TOPIC TAGS: spectrophotometric analysis, neodymium, praseodymium, samarium, absorption spectrum, organometallic compound

ABSTRACT: Absorption spectra of complex compounds formed by neodymium, samarium and praseodymium with 7-iodo-8-hydroxyquinoline-5-sulfonic acid were studied. A strong hypsochromic shift of the absorption band of this reagent in alkaline media, combined with the bathochromic shift of the characteristic absorption maximum of the complex formed by this reagent with neodymium, creates favorable conditions for determining neodymium at λ_{max} 581 mμ. Neodymium was determined in Nd-Pr and Nd-Sm pairs in water-alcohol solutions at pH 8.0-11.0, using two wavelengths: λ_1 581 mμ and λ_2 590 mμ. The data show that the method used permits a sufficiently accurate determination of neodymium in praseodymium and samarium in amounts of 0.0043-0.043 mg/ml (or $3\cdot10^{-5}$ -

UDC: 543.7

Card 1/2

L 30227-66

ACC NR: AP6013827

0

- $1 \cdot 10^{-4}$ M) at Nd:Pr(Sm) ratios of 1:99 to 1:8. Orig. art. has: 4 figures, 2 tables, 3 formulas.

SUB CODE: 07/ SUBM DATE: 22Mar65/ ORIG REF: 009/ OTH REF: 005

Card 2/2

ROMANTSEVA, T.I.; GROMOVA, M.I.; PESHKOVA, V.M.

Spectrophotometric determination of neodymium in the presence of praseodymium and samarium. Vest. Mosk. un. Ser. 2: Khim. 20 no.6:74-78 N-D '65. (MIRA 19:1)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta. Submitted March 22, 1965.

PESHKOVA, Valentina Moiseyevna; GROMOVA, Margarita Ivanovna;
ALIMARIN, I.P., prof., otv. red.; DERGACHEVA, Ye.G., red.

[Laboratory manual on spectrophotometry and colorimetry]
Prakticheskoe rukovodstvo po spektrofotometrii i kolorimetrii. Izd.2., perer. i dop. Moskva, Mosk. univ., 1965.
227 p. (MIRA 18:12)

1. Chlen-korrespondent AN SSSR (for Alimarin).

PESHKOVA, V.M.

"Analytical chemistry of zirconium and hafnium" by S.V. Elinson, K.I. Petrov. Zhur. anal. khim. 20 no.9:1035 '65.

(MIRA 18:9)

[illegible], N.V.; STANISLAVSKAYA, M.N.; PESHKOVA, V.M.

Spectrophotometric titration of zirconium with a solution of arsenazo III. Zhur. anal. khim. 19 no.6:701-704 '64.
(MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 52289-65 EWT(m)/EWP(t)/EWP(z)/EWP(b) Pad IJP(c) JD/HW.

ACCESSION NR: AT5012672 UR/2513/65/015/000/0104/0110

19
B+1

AUTHOR: Peshkova, V.M.; Savostina, V.M.; Astakhova, Ye. K.; Minayeva, N.A.

21

TITLE: Extractive concentration of trace amounts of nickel with the aid of alpha dioximes

SOURCE: AN SSSR. Komissiya po analiticheskoy khimii. Trudy, v. 15, 1965. Metody kontsentrirovaniya veshchestv v analiticheskoy khimii (Methods of concentrating substances in analytical chemistry), 104-110

TOPIC TAGS: nickel concentration, nickel determination, dioxime, colorimetric analysis, dimethylglyoxime

ABSTRACT: The extent of the extraction of nickel dioximates by chloroform from the aqueous phase depends on their stability constant, the dissociation constants of the reagents in the aqueous phase, the distribution constants of nickel dioximates and of the oxime itself between water and the organic phase, and the presence in the aqueous phase of a ligand forming nonextractable complexes with nickel (tartrate, citrate, etc.). The influence of these factors was studied for five widely used dioximes: α-furyldioxime, dimethylglyoxime, dioximes of cyclohexanedione (nioxime) and cycloheptanedione

Card 1/2

L 52289-65

ACCESSION NR: AT5012672 0

(heptoxime), and α-benzyldioxime. On the basis of the study, a technique was proposed and checked for concentrating nickel impurities in metallic titanium by means of dimethylglyoxime: a complete extraction of nickel in the presence of tartrate was achieved at pH 6 to 10, chloroform was used to break down the copper complex, and nickel was determined spectrophotometrically at 232 mμ. Orig. art. has: 3 figures, 3 tables and 3 formulas.

ASSOCIATION: Komissiya po analiticheskoy khimii, AN SSSR (Commission on Analytical Chemistry, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: IC, MM

NO REF SOV: 003 OTHER: 004

Goh
Card 2/2

PESHKOVA, V.M.; IGNAT'YEVA, N.G.

Complex formation of molybdenum with some dioximes. Zhur.anal.khim. 19 no.10:1269-1270 '64. (MIRA 17:12)

1. M.V.Lomonosov Moscow State University.

YAN TOUL; IGNAT'YEVA, N.G.; PESHKOVA, V.M.

Valency of rhenium during its reduction. Zhur. anal. khim. 19 no.2:224-228 '64. (MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

TSYURUPA, M.G.; PESHKOVA, V.M.

Origin and development of photometric methods of analysis.
Vest. Mosk. un. Ser. 2:Khim. 19 no.1:60-64 Ja-F '64.
(MIRA 17:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

DOLMANOVA, I.F.; ZOLOTOVA, G.A.; PESHKOVA, V.M.

Determination of nickel in the presence of cobalt by a catalytic reaction tiron - diphenylcarbazone - hydrogen peroxide. Vest. Mosk. un. Ser. 2 Khim. 19 no.2:50-53 Mr-Ap'64 (MIRA 17:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

MEL'CHAKOVA, N.V.; TRUBETSKAYA, [illegible]; PESHKOVA, V.M.

Determination of zirconium in the presence of hafnium by the differential spectrophotometric method with arsenazo III.
Vest. Mosk. un. Ser. 2 Khim. 19 no.2:45-49 Mr-Ap'64

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.

PESHKOVA, V. M.

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:

V. M. Peshkova and co-workers; F. P. Gorbenko and others; V. N. Podchaynova and others. Methods for determining microquantities of Ni in P, Ca in Be compounds, and small quantities of Tl in Sb based materials.

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

SAVOSTINA, V.M.; ASTAKHOVA, Ye.K.; PESHKOVA, V.M.

Complex formation of nickel with some α-dioximes in the system chloroform - water. Zhur.neorg.khim. 9 no.1:80-84 Ja '64. (MIRA 17:2)

PESHKOVA, V.M.; DOLMANOVA, I.F.; SEMENOVA, N.M.

Determination of ultramicroquantities of cobalt in phosphorus by a kinetic method. Zhur.anal.khim. 18 no.10:1228-1232 O '63. (MIRA 16:12)

1. Lomonosov Moscow State University.

MEL'CHAKOVA, N.V.; PESHKOVA, V.M.

Investigation of the complex formation of zirconium with selenoyltrifluoroacetone by the distribution method. Zhur.neorg.khim. 8 no.5:1280-1281 My '63. (MIRA 16:5)

(Zirconium compounds) (Acetone)

PEN AN; MAGDESIYEVA, N.N.; TITOV, V.V.; YUR'YEV, Yu.K.; PESHKOVA, V.M.

Study of the dissociation of some selenophene-containing β-diketones using the potentiometric method. Vest. Mosk. un. Ser. 2: Khim. 18 no.3:70-74 My-Je '63. (MIRA 16:6)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Ketone) (Potentiometric analysis)

S/153/62/005/005/002/011
E071/E133

AUTHORS: Peshkova, V.M., and P'eng Ang

TITLE: Investigation of the formation of complexes in the system hafnium - selenoylacetone - benzene - H_2O by the distribution method

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, v.5, no.5, 1962, 694-697

TEXT: The object of this work was to study the formation of hafnium complexes with the new reagent selenoylacetone and the determination of their stability constants. The results obtained indicated that hafnium forms a more stable complex compound with selenoylacetone than with acetylacetone, but less stable than with dibenzoylmethane. It is possible that phenyl and selenienyl groups in molecules of β-diketones have a similar influence on the stability of complex compounds. There are 3 figures and 3 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova, Kafedra analiticheskoy khimii (Moscow State University imeni M.V. Lomonosov, Department of Analytical Chemistry)

SUBMITTED: April 26, 1961

Card 1/1

S/189/62/000/006/005/006
D214/D307

AUTHORS: Mel'chakova, N.V. and Peshkova, V.M.

TITLE: Study of complex formation by way of distribution in the system zirconium-selenenoylacetone-benzene-water

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 6, 1962, 61-63

TEXT: From the distribution curve the stability constants of all $ZrA_n^{(4-n)+}$ (where A - selenenoylacetone ligand; n - 1 = 4) were obtained by three methods (Rydberg's, Dyrssen's and Bjerrum's methods). The percentage distribution of Zr between the complexes $ZrA_n^{(4-n)+}$ for any value of pA is given. The distribution coefficient of ZrA_4 is 8.20 (Rydberg's method) and 8.32 (Dyrssen's method). There are 2 figures and 2 tables.

ASSOCIATION: Kafedra analiticheskoy khimii (Department of Analytical Chemistry)

Card 1/2

PESHKOVA, V.M.; PEN AN

Investigation of the complex formation of hafnium with fluorine-containing β-diketones by the distribution method. Zhur.-neorg.khim. 7 no.6:1484-1485 Je '62. (MIRA 15:6)
(Hafnium compounds) (Ketones)

PESHKOVA, V.M.; PEN AN [P'êng Ang]

Hydrolysis and polymerization of hafnium ion in perchloric acid.
Zhur.neorg.khim. 7 no.9:2110-2114 S '62. (MIRA 15:9)
(Hafnium compounds) (Polymerization) (Hydrolysis)

S/189/63/000/001/006/008
D204/D307

AUTHORS: Peshkova, V. M. and P'eng Ang

TITLE: A study of complex formation of hafnium with chloride, nitrate and sulfate ions by the distribution method

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1963, 40-42

TEXT: The above was studied by the method described earlier (ZhNKh, 6, 2082 (1961)), measuring the distribution coefficient of Hf (q) between immiscible solvents with the aid of radioactive Hf^{181}. The extracting reagent was thenoyltrifluoroacetone (TFA), whilst benzene served as the organic solvent. 2M acids were used and $HClO_4$ was added in a quantity such that the acidity of the solution remained equal to 2M; the extraction of Hf into 2M $HClO_4$ occurred by the reaction

Card 1/2

A study of complex ... S/189/63/000/001/006/008
D204/D307

$$Hf^{4+}_{aq} + 4HA_{org} \rightleftarrows HfA_{4\,org} + 4H^{+}_{aq} ,$$

complexes $HfL_i^{(4-1)}$ formed in the aqueous phase in the presence of complex-forming ions L (Cl^-, NO_3^-, $SO_4^=$). It was shown that log q decreased with increasing log L, the rate of decrease being $SO_4^= > Cl^- > NO_3$. The mean number of anions per atom of Hf may be determined, for any concentration of [L] by the slope of the log q/log L plot. Calculation of the stability constants showed that, at 25 ± 0.1°C, the stability of these complexes decreased in the order: OH^- (determined earlier) $> SO_4^=$ $Cl^- > NO_3^-$. There are 2 figures and 1 table.

ASSOCIATION: Kafedra analiticheskoy khimii (Department of Analytical Chemistry)

SUBMITTED: March 5, 1962

Card 2/2

1

S/078/62/007/009/002/007
B144/B101

AUTHORS: Peshkov, V. M., P'eng Ang

TITLE: Hydrolysis and polymerisation of the hafnium ion in perchloric acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 9, 1962, 2110-2114

TEXT: The equilibrium constant $K_{eq} = [HfA_4][H^+]^4/[Hf^{4+}][HA]^4$ (3)
and the general distribution coefficient $q' = qY_{HfA_4}/[HA]^4 Y_{HA}^4$ (4) are
ot from $Hf^{4+} + nH_2O \rightleftarrows Hf(OH)_n^{4-n} + nH^+$ for the hydrolysis and from
$Hf^{4+} + 4HA \rightleftarrows HfA_4 + 4H^+$ for the extraction of Hf^{4+} from $HClO_4$ in the
presence of tenoyl-trifluoroacetone (I) in benzene, where Y_{HfA_4} and
Y_{HA} are the activity coefficients of the complex HfA_4 and of I. Under
constant conditions, q depends on the pH of the aqueous phase. The

Card 1/3

hydrolysis constants were calculated from data on complex formation in the Hf - acetyl acetone and Hf - benzoyl acetone systems (Zh. neorgan. khimii, 6, 2082 (1961); Vestn. MGU, no. 3 (1962)); $K_{1,hydr} = 1.33 \pm 0.02$; $K_{2,hydr} = 0.59 \pm 0.01$; $K_{3,hydr} = 0.38 \pm 0.02$; $K_{4,hydr} = 0.30 \pm 0.03$. The polymerization of Hf in aqueous medium is expressed by: $nHf + mH_2O \rightleftarrows Hf_n(OH)_m^{4n-m} + mH^+$, the total Hf concentration is: $\sum Hf = \sum\limits_{n,m} nK_{n,m}\left[Hf^{4+}\right]\left[H^+\right]^{-m}$ (8). By combining (8), (3) and (4) and differentiating with respect to $\sum [Hf]$ $\partial \log q' / \partial \log \sum [Hf] = -1 + \sum Hf / \sum\limits_{n,m} \left[Hf_n(OH)_m\right]^{4n-m} = -1 + 1/\sum nf_{n,m}$ is obtained, where $f_{n,m}$ is the molar ratio of polymers containing n Hf atoms and m OH-groups. Polymerization depends on the total Hf and $HClO_4$ contents and begins when the Hf concentration exceeds $1.0 \cdot 10^{-3}$ mole in 1M $HClO_4$ or $2.0 \cdot 10^{-3}$ mole in 2M $HClO_4$. In both cases Hf trimers and tetramers form. The

Card 2/3

PESHKOVAYA, V. M., SHLENSKAYA, V. I.

"Reactions of palladium with potassium thiocyanide applied in analysis and their study by a spectrophotometric method."

paper submitted to the Fifth Conference on the Analysis of Noble Metals, Novosibrisk, 20-23 September 1960

So: Zhurnal analiticheskoy khimii, Vol XVI, No 1, 1961, page 119

L 23622-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG/MLK

ACCESSION NR: AT5002789 S/0000/64/000/000/0239/0241

AUTHOR: Ignat'yeva, N. G.; Peshkova, V. M.

Bf1

TITLE: Determination of rhenium in the presence of molybdenum, tungsten, and vandium

SOURCE: Vsesoyuznoye soveshchaniye po probleme reniya. 2d, Moscow, 1962. Reniy (Rhenium); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1964, 239-241

TOPIC TAGS: rhenium determination, rhenium analysis, spectrophotometry, furyldioxime

ABSTRACT: The authors determined rhenium in the presence of large amounts of molybdenum (Re:Mo ratios were 1:40 and 1:100) by means of a differential spectrophotometric method using α-furyldioxime and tartaric acid, which freezes the valence state of Re (V or IV) and promotes a faster formation of the compound between rhenium and α-furyldioxime. The simplification introduced by the authors consisted in taking as the blank a definite amount of the solution being analyzed, thus eliminating the influence of the relative quantities of molybdenum on the determination of rhenium. Using this simplified method, the authors also determined rhenium in the presence of large amounts of tungsten (Re:W = 1:500 and

Cord 1/2

L 23622-65

ACCESSION NR: AT5002789

1:1000). Finally, rhenium was determined in the presence of a 10,000-fold excess of vanadium, which does not interfere with the determination, by means of a direct spectrophotometric analysis. Orig. art. has: 1 figure, 3 tables and 3 formulas.

ASSOCIATION: None

SUBMITTED: 05Aug64 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 001 OTHER: 002

Card 2/2

PESHKOVSKAYA, Mariya [illegible] [illegible] Mariya [illegible]
KALMYKOVA [illegible]
SA[illegible]HINA [illegible] [illegible]
[illegible]KAYA, [illegible]

[Technical [illegible]
chemical industry [illegible] enterprises of the
pri[illegible] [illegible] na pred-
[illegible] Moskva Vysshaya
[illegible]

CHISTYAKOV, Ye.G spirant; PESHKOVSKAYA, M.M., kand. ekonomicheskikh nauk,
dotse

Evaluating the economic efficiency of specialization. Izv. vys. ucheb. zav.; mashinostr. no.2:181-188 '65. (MIRA 18:5)

1. Moskovskiy institut khimicheskogo mashinostroyeniya.

PESHKOVSKIY, Oleg Ivanovich; **KARPOV**, V.V., kand.tekhn.nauk, nauchnyy red.;
KAPLAN, M.Ya., red.izd-va; **PUL'KINA**, Ye.A., tekhn.red.

[Steel forms used for structural elements and components] Stal'nye formy dlia izgotovleniia stroitel'nykh konstruktsii i detalei. Leningrad, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 126 p.
(Precast concrete)
(MIRA 11:2)

PESHKOVSKAYA, L. S.

"The Changes of the Nuclear Apparatus of Climacostromum Virens during conjugation."
(p. 207) by Peshkovskaja, L. S.

SO: Biological Journal (Biologicheskii Zhurnal) Vol. V, 1936, No. 2

PESHKOVSKAYA, L. S.

Mbr., Inst. Cytology, Histology & Empbryology, Acad. Med. Sci., -1946-C48-.

"On the Achromatic Apparatus in the Blastomeres of the Egg of Ascaris Megalocophala Var. Bivalens at the Initial Stages of Cleavage," Dok. AN, 53, No. 2, 1946;

~~"Achromatic Apparatus in the Spermatogenesis of Some Hemiptera," ibid., 58, No. 2, 1947;~~

"Some Data on the Metamorphosis of the Nuclear Apparatus of Infusoria in Conjugation," ibid., 59, No. 5, 1948;

"Achromatic Apparatus in the Spermatogenesis of Certain Orthoptera," ibid., 59, No. 6, 1948.

PESHKOVSKAYA L. S.

USSR/Medicine - Spermatogenesis Oct 1947
Medicine - Insects

"Achromatic Apparatus in the Spermatogenesis of Some Hemiptera," L. S. Peshkovskaya, Inst Cytology, Histology, and Embryol, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVIII, No 2

Discusses some primary data on construction of achromatic figures in the spermatogenesis of two representatives of the Pentatomidae family; the Palomena-chromosome complex 7 + X(Y), and the Eurydema-6 + X(Y), and one member of the Coreidae-the Syromastes with 10 + X(Y) chromosomes. Submitted by Academician I. I. Shmal'gauzen, 2 Apr 1947.

49T46

PESHKOVSKAYA, Mariya Mikhaylovna

[Economics of socialist industry] Ekonomika sotsialisticheskoi promyshlennosti. Moskva, Vysshaia shkola, 196[illegible]. 28[illegible] p.
(MIRA 18:[illegible])

PESKOVSKIY, B.V. [P'iaskovs'kyi, B.V.]

The theory of relativity disproves the dogmas of religion.
Nauka i zhyttia 9 no.7:46-49 Jl '59. (MIRA 12:11)
(Relativity (Physics)) (Atheism)

DROGICHINA, E.A., doktor med. nauk; KEVORK'YAN, A.A., prof.; LUR'YE, Z.L., prof.; LISITSA, F.M., dotsent; PENTSIK, A.S., prof.; PESHKOVSKIY, G.V., prof.; SHAKHNOVICH, R.A., prof.; DAVIDENKOV, S.N., prof., otv. red.; BOGOLEPOV, N.K., prof., zam. otv. red.;

[Multivolume manual on neurology]Mnogotomnoe rukovodstvo po nevfologii. Moskva, Medgiz. Vol.3. Book 2.[Infectious and topic diseases of the nervous system]Infektsionnye i toksicheskie bolezni nervnoi sistemy. 1962. 524 p. (MIRA 15:11)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Davidenkov).

(NERVOUS SYSTEM--DISEASES)

USSR/Medicine - Cholinesterase Sep/Oct 49
Tuberculosis, Pulmonary

"Chemical Factors Leading to Irritation of Nerves at Various Stages During the Course of Pulmonary Tuberculosis (Acetylcholine, Cholinesterase, and Sympatine)," G. V. Peshkovskiy, M. A. Brusnikin, L'vov Sci Res Inst of Tuberculosis, 4 pp
Chair Pathological Physiol, L'vov Med. Inst.
"Arkh Patol" XI, No 5

Investigated presence of acetylcholine, cholinesterase, and sympatine in 134 cases of various types of tuberculosis at various stages of course of disease. Found acetycholine in blood of cases of pulmonary tuberculosis in exacerbation stage.

157T49

USSR/Medicine - Cholinesterase Sep/Oct 49
(Contd)

Found sympatine together with acetylcholine in some cases. Activity of cholinesterase was more pronounced in those stages where acetylcholine was found, and less in attenuation stages where sympatine was found.

157T49

PESHKOVSKII, G.

RT-1655 (Conference of Ural pathophysiologists) Konferentsiia patofiziologov Urala.
MEDITSINSKII RABOTNIK, 15(64): 3, 8 August 1952