Z P K 4 J

34 **Analysis of sulphonamides.** J. [illegible] and J. [illegible] ([illegible] Chem. [illegible]) 1954 46 [illegible] 1096 1098. In strongly alkaline [illegible] per cent KOH) sulphonamides with [illegible] amino group give an orange to red [illegible] treatment with 0.1 M $K_3Fe(CN)_6$. The reaction [illegible] although [illegible] than the [illegible] titration and [illegible] methods can be used for [illegible] and determination [illegible] extinction is obtained after [illegible] max. at 420 mμ.

(1)

ZYKA, J.

Hydrazinium sulfate as a volumetric reagent (hydrazinometry) 1V.
Potentiometric microdetermination of gold. p. 1768

Vol. 48, no. 12, Dec. 1954
CHEMICKE LISTY
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, 1956

ADAMOVA, Eva; ZYKA, Jaroslav

Complex titration in pharmaceutic analysis. IX. Determination of codeine phosphate. Cesk. farm. 4 no.1:9-10 Jan 55.

1. Z katedry analyticke chemie Karlovy university v Praze.
(CODEINE,
phosphate, determ., complex titration technic)

SOUCKOYA, Milena; ZYKA, Jaroslav

Polarimetric titration of organic bases. I.; titration by silicotungstic acid. Cesk. farm. 4 no.4:181-185 May 55.

1. Z katedry analyticke chemie Karlovy university.
(TUNGSTEN, derivatives
silicotungstic acid, titration of organic bases, polarimetric)
(ALKALOIDS, determination
in pharmaceutic prep., polarimetric titration by silicotungstic acid.)

Zyka, J.

449 New volumetric methods in the analysis of organic substances. I. Determination of allyl isothiocyanate. A Beran and J Zyka (Karlovy Univ, Prague, Czechoslovakia) Casopis Farmac, 1955, 4 [5], 242-245; —The present methods of analysis and their drawbacks are discussed. A more convenient and rapid method was developed, based on the conversion of allyl isothiocyanate into allylthiourea by boiling with aq NH_4. The allylthiourea is then titrated with a standard solution of an oxidising agent, a potentiometric method being used for end-point determination. Details of the titration with KIO_3 and $KBrO_3$ are given. The iodate titration is carried out in *N* HCl; the end-point is taken as the first inflection (occurring at ≃ 120 mV) of the initially steady value of the potential. The same applies to the bromate titration, but here the medium is 7 *N* HCl at 80° C, to which a small amount of KBr is added. The inflection occurs at ≃ 90 mV. In both cases an electronic voltmeter is used, the indicating electrodes being platinum wires and the comparing electrode the S C E. The procedures for determining allyl isothiocyanate in the oil, seed and alcoholic extract of mustard are also given. The method can also be applied to the determination of thioureas.

A O Jaklovic

Z

321 Coupling reactions of p-diazobenzenesulphonic acid. I. Photometric determination of some drugs. [illegible] *Farm.* [illegible]

[illegible]

[illegible] temperature and pH must be carefully controlled [illegible] If a large excess of I is used the coupling is rapid, but even a slight excess allows the reaction to be completed in an hour and the colour does not change in intensity even after 24 hr. Maximum absorption is at ≃ 450 mμ in all cases.

A. O. Jakubovic

SOUCKOVA, Milena; ZYKA, Jaroslav

Polarometric titration of organic bases. II. Titration with phosphotungstic and phosphomolybdenic acids. Cesk. farm. 4 no.5:227-230 June 55.

1. Z Katedry analyticke chemie Karlovy university v Praze.
(TUNGSTEN
phosphotungstic acid, use in polarimetric titration of organic bases.)
(MOLYBDENUM
phosphomolybdic acid, use in polarimetric titration of organic bases)

ZYKA, Jaroslav

Polarometric study of the cadmium salts of citric and tartaric acids. Cesk. farm. 4 no.5:230-231 June 55.

1. Katedra analyticke chemie Karlovy university v Praze.

(CITRATES
citric acid, precipitation reaction with cadmium salts, polarometry)
(ACIDS
tartaric, precipitation reaction with cadmium salts, polarometry)
(CADMIUM
salts, precipitation reaction of citric & tartaric acids, polarometry)

ZYKA, Jaroslav

Polarometric titration of organic bases. III. Titration of picric picrolonic, styphnic, flavianic acids, and of sodium alizarine sulfonate. Cesk.farm. 4 no.6:301-305 Jl '55.

1. Z katedry analyticke chemie Karlovy university v Praze.
(CHEMICAL ANALYSIS,
polarometric titration of organic bases)
(ACIDS, determination,
organic acids, polarometric titration)

ZYKA, J.

BEHKA, Antonin; ZYKA, Jaroslav

Coupling reaction with p-diazobenzosulfonic acid. II. Colorimetric and oscillographic studies. Cesk.farm. 4 no.6:305-308 Jl '55.

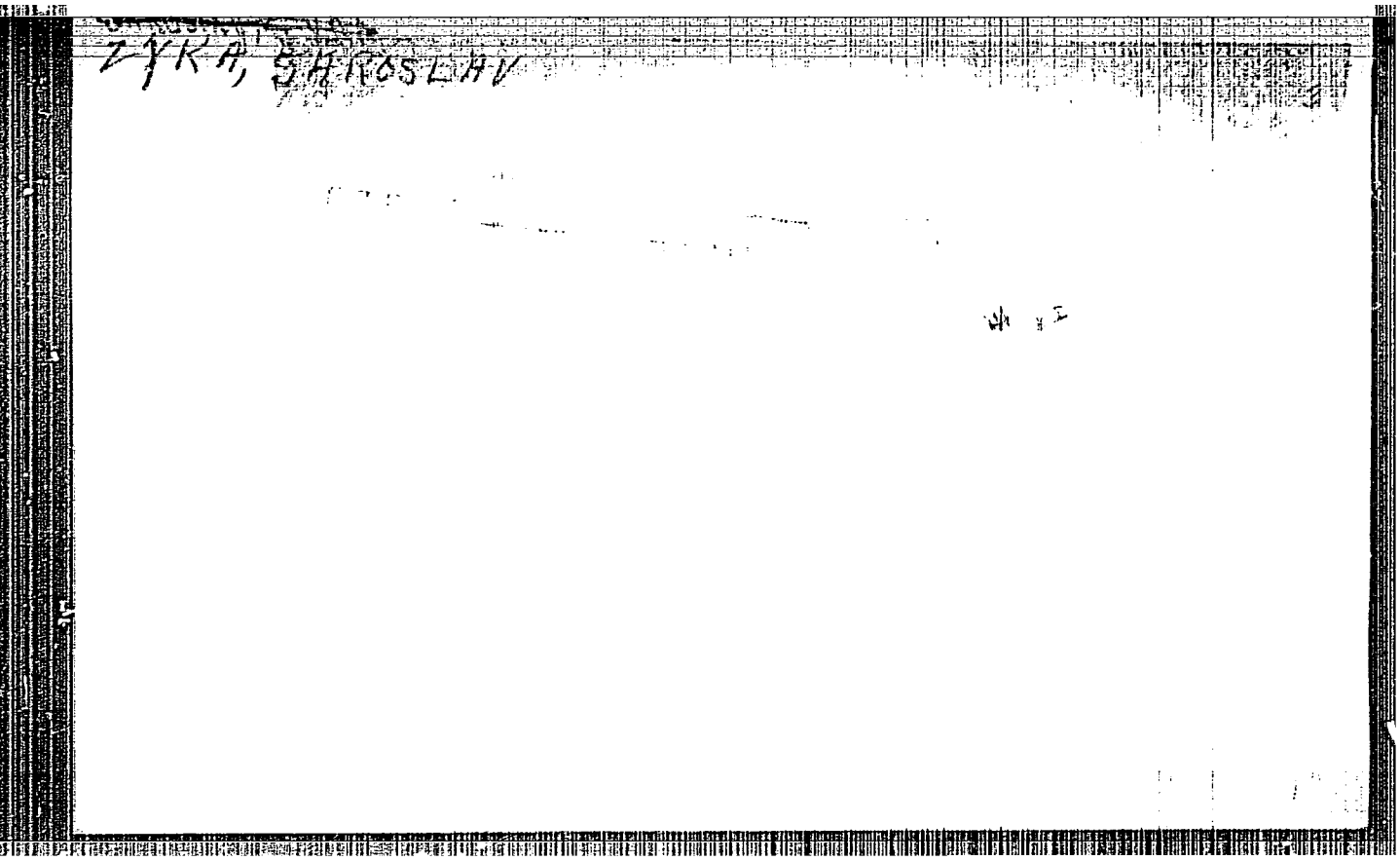
1. Z Ustavu pro chemii analytickou Karlovy university v Praze.

(BENZENE, derivatives,
p-diazobenzosulfonic acid, colorimetry & oscillography)
(COLORIMETRY,
of p-diazobenzosulfonic acid)

Z y r [illegible]

CZECH

Polarometric titrations of organic bases containing nitrogen heteropoly acids and nitro compounds. J. Zýka. (Charles Univ., Prague). Pharmazie 10, 170 [illegible] ... solns. of several heteropoly acids (silico-tungstic and phosphotungstic acid, phosphomolybdic acid), and nitro compounds (picric acid, picrolonic acid, styphnic acid and Na alizarin sulfonate) were used [illegible] reagent [illegible] metric pptn. titration of [illegible] the alkaloids. In these detns. the dropping Hg electrode was used as cathode, and the satd. calomel electrode as anode. Changes in current voltage were always caused with excess of the polarographically reducible titration reagent. The conditions governing pptn. quantitatively and [illegible] molar ratios were detd. Procaine-HCl, antipyrine, aminopyrine, [illegible] phosphate, [illegible]-HCl, atropine sulfate, narceine, cinchonine, quinine-HCl, and narcotine-HCl were successfully detd. with silico-tungstic acid. Antipyrine, aminopyrine, codeine phosphate, [illegible]ne-HCl, strychnine nitrate, [illegible]-HCl [illegible] acid, [illegible]-HCl [illegible] [illegible] [illegible] [illegible] papaverine-HCl [illegible] were Na alizarin sulfonate soln. Phosphomolybdic acid, styphnic acid, and picrolonic acid [illegible] for quant. detns. J. M. Hocking



ZYKA, J

834 Hydrazinometry, a new type of reductimetric titration. J. Zýka and J. Vulterin (Charles Univ., Prague). Chem. Listy, 1955, 49 (4), 504-505. A 0·1 N soln. of hydrazine sulphate can be prepared directly from the pure solid. The soln. is stable and gives good results for the titration of BrO_3^-, IO_3^-, IO_4^-, I, $[Fe(CN)_6]^{3-}$, MnO_4^-, Au^{III} and active chlorine. The end-points of the titrations can be detected visually or potentiometrically. J. H. WATON

ZYKA JAROSLAV

5

Identification and rapid specific determination of copper in ores. Jan Michal and Jaroslav Zýka (Karlový Univ., Prague). *Vědecký Časopis* [illegible] 30, [illegible] (English summary); cf. C.A. 48, 13522 [illegible]. — *Tetraethylthiuram disulfide* (I) is a specific reagent for Cu with which it forms a brown complex. Only [illegible] interfere; colored ions can be [illegible] by [illegible]. To 5 ml. of a slightly acidic soln. [illegible] contg. [illegible] γ Cu add 30 ml. 96% EtOH and 3 ml. of a 0.01M soln. of I in 96% EtOH. Make up to 50 ml. and measure the intensity of the color developed after 15 min. in a [illegible] photometer with a blue filter 426 B. If used as a spot test, the [illegible] of I is [illegible] γ Cu [illegible]

CL

2

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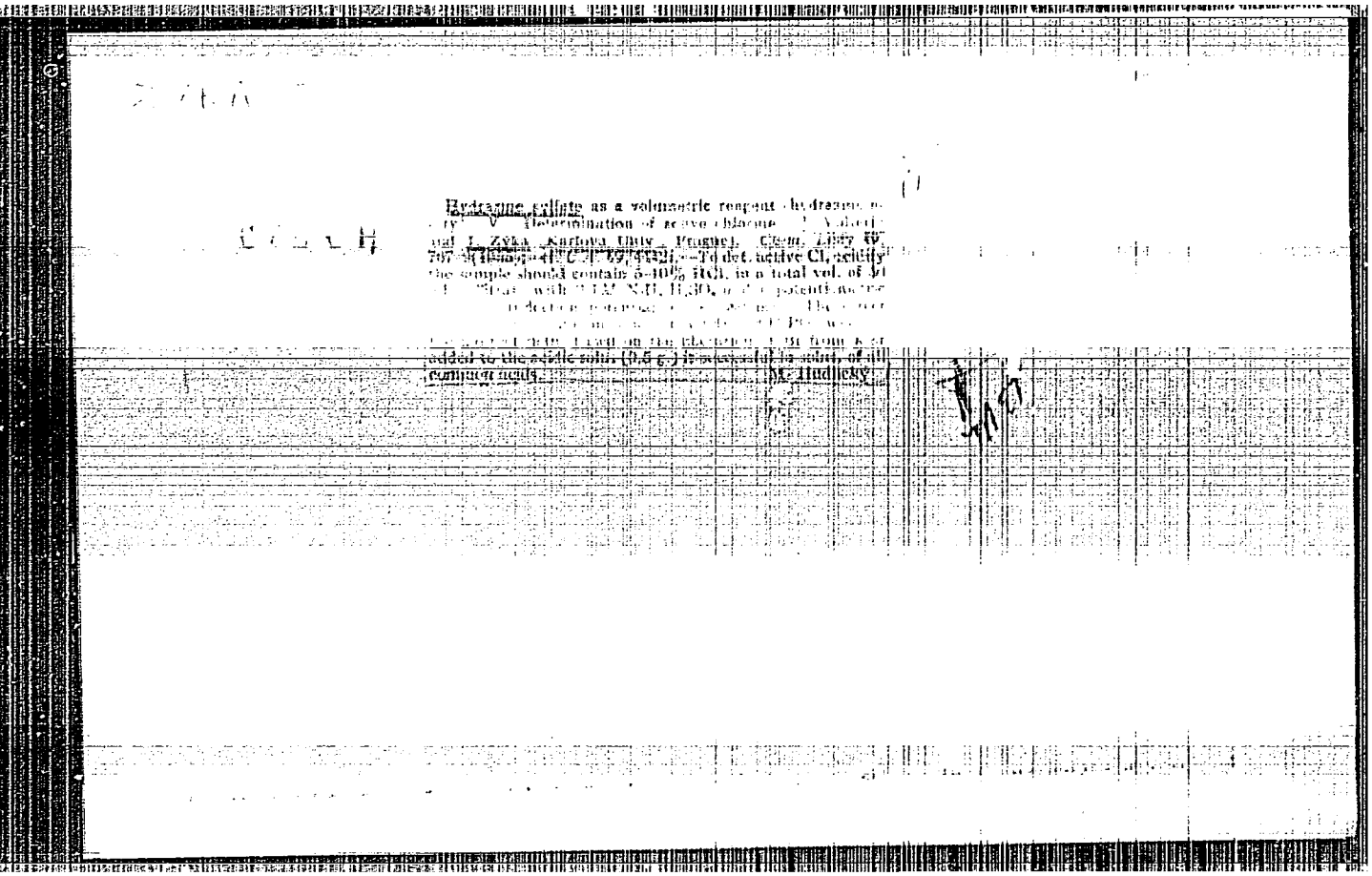

2 Y K N 2.

Czechoslovakia/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1249

Author: Marxova, I., and Zyka

Institution: None Anal. Chem., Charles Univ.

Title: Hydrazine Sulfate as a Reagent in Volumetric Analysis (Hydrazinometry). VI. A New Volumetric Determination of Nitrites Applicable to the Control of Medicinal Compounds

Original Periodical: Ceskosl. farnac., 1956, Vol 5, No 4, 218-221 (published in Czech with summaries in German, English, and Russian)

Abstract: The determination of nitrites is based on the reaction $N_2H_4 + 2HNO_3 \rightleftharpoons N_2 + N_2O + 3H_2O$ which proceeds quantitatively in acid solution (5-10% HCl). Three to 5 ml of 0.005 M hydrazine sulfate solution are diluted to ~30 ml with ~10% hydrochloric acid and titrated potentiometrically with ~0.01 M solution of the nitrite to be determined. At the equivalent point a considerable variation in potential is observed (~200 mv). It is thus possible to make a quick determination

Card 2/ Card 1/2

Czechoslovakia/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1249

Abstract: of $NaNO_2$ in the presence of KBr, theophylline, theobromine, caffeine, barbital, phenobarbital, sodium salicylate, sodium benzoate, papaverine hydrochloride, and belladonna extract. For Communication V see Referat Zhur - Khimiya, 1956, 19585.

Card 2/2

Zyka, Jaroslav

CZECHOSLOVAKIA/ Analytical Chemistry. Analysis of Organic G-3
Substances.

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27280

Author : Karel Habersberger, Jaroslav Zyka.

Title : Oscillo-Polarographic Study of [redacted] Alkaloids.

Orig Pub: Ceskosl. farmac., 1956, 5, No. 5, 264 - 271

Abstract: Alkaloids (I) containing tropan or piperidine rings (hydrochlorides - cocaine, tropacocaine, pseudopelletierine, lobeline; sulfates - atropine, apoatropine, pelletierine, and bromides - homotropine and coniine) were studied oscillopolarographically. The measurements were carried out in acid, neutral, alkaline and buffer solutions. All the studied I showed characteristic oscillo-polarographical teeth, the shape of which changed at the transition from an

Card 1/2

ZYKA JAROSLAV

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Inorganic Substances C-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4781

Author : Dolezal Jan, Simon Vladimir, Zyka Jaroslav
Title : Micro-Determination of Cyanides in Bitter Almonds Water by Visual Titration.

Orig Pub : Ceskosl. farmac., 1956, 5, No 6, 339-340

Abstract : The method is based on the formation of a relatively stable cyanide complex in ammoniacal medium. 1-5 ml bitter almond water are diluted with water to 25 ml. 1 ml of ammonia and murexide are added and the red-violet solution is titrated with 0.01 M solution of $NiSO_4$. Just before reaching the end point the solution is orange-red and on addition of one more drop of the titrating solution the color changes to yellow. The method yields accurate results.

Inst. Anal. Chem., Charles Univ.

Card 1/1 - 33 -

ZYKA, J.

CZECHOSLOVAKIA/Analytical Chemistry - General Questions G-1

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4652

Author : Simon, V., Zyka, J.
Inst :
Title : Hydroquinone as a New Reductometric Reagent

Orig Pub : Sb. chekhosl. khim. rabot, 1956, 21, No 2, 327-338

Abstract : See RZhKhim, 1956, 58338.

Card 1/1 - 6 -

Zyka, J.

Titration of tin(II) salts with hydrogen peroxide. [illegible] Vulterin and J. Zýka (Charles Univ., Prague). Chem. Listy 50, 311-12(1956).—Sn salts are detd. in a strongly acid HCl soln. by potentiometric titration with 0.1 M soln. of H_2O_2 in a N_2 atm. Excessive diln. of the soln. and lowering the HCl concn. must be avoided. Sb^{+++} does not interfere, but even small amts. of As^{+++} do interfere. As^{+++} and Sb^{+++} compds. cannot be detd. in this way.
I. J. Urbánek

PM

HORAK,P.; ZYKA,J.

Indirect photometric determination of alkaloids after prior chromatographic separation. IV. Chromatographic separation of tropane alkaloids. Cesk.farm. 12 no.8:394-398 0'63.

1. Vyzkumny ustav prirodnich leciv, Praha, Katedra analyticke chemie Karlovy university, Praha.

ZHKh, 57.

CZECHOSLOVAKIA/Analysis of Inorganic Substances G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19600

Author : A. Berka, J. Zyka.
Inst : -
Title : Potentiometric Microtitration of Iridium with Hydroquinone and Other Reducing Compounds.

Orig Pub: Chem. Listy, 1956, 50, No 5, 829 - 831.

Abstract: On the basis of information obtained during the study of hydroquinone (I) and other reducing agents (n-methyl phenol, n-phenyldiamine, n-aminephenol), a sensitive and selective method of volumetric determination of little amounts of Ir (4+) in presence of a great excess of Pt (4+), Rh (3+) and Pd (2+) salts was developed. This method was

Card 1/3

Zyka, J.

CZECHOSLOVAKIA/ Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12174

Author : Berka A., Zyka J.
Title : Indirect Titrimetric Determination of the Carbonyl Group

Orig Pub : Chem. listy, 1956, 50, No 5, 831-833

Abstract : The method consists in determining the excess of precipitant, 2,4-dinitro-phenylhydrazine (I), by titration with 0.01 M solution of chloramine T (II) in the presence of KBr. The aldehyde or ketone under study (2-10 mg) is dissolved in 96% alcohol and precipitated with 5-10 ml of 0.01 M solution of I. After 12 hours the precipitate is filtered off (paper filter "Blue Band") and washed with 20 ml 2 N HCl. Filtrate is diluted to twice its volume, 1-2 g KBr are added and unreacted I is titrated by the potentiometric procedure with a titrated solution of II. Potential of the inflection point of the titration curve

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CZECHOSLOVAKIA/ Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12174

is at 500 mv; change in potential at the terminal point amounts to ~250 mv with 0.05 ml II. It was ascertained that 1 mole I interacts with 2 moles of II but the reaction mechanism has not been studied. In determination of < 1 mg 0.001 M solutions of both reagents are used. Examples of determinations are described. Errors of the described method do not exceed the usual analytical limits, but with samples < 1 mg the results are usually too high.

Card 2/2

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khimiya, No 2, 1959, 4373

Author : Berka, A., Zyka, J.
Inst : -
Title : Volumetric Methods for the Analysis of Organic Substances. IV. Application of the N-Bromosuccinimide Addition Reaction.

Orig Pub : Ceskoslov Farmac. 6, No 4, 212-215 (1957) (in Czech with summaries in German, English, and Russian)

Abstract : A volumetric method is proposed for the determination of a number of organic compounds containing the allyl group by titration (visually, in the presence of methyl red until the latter is discolored, and potentiometrically) with a ~0.01 M solution of N-bromosuccinimide, leading to the bromination of unsaturated compounds. The titer of the N-bromosuccinimide solution is determined against arsenite.

Card 1/2

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57163.

Author : V. - Krejzova E., Simon V., Zyka J.
VI. - Mras L., Simon V., Zyka J.

Inst : Not given.

Title : Titration with Hydroquinon and Similar Reducing Agents. V. - Determination of Cerium in Pharmaceutical Preparations. VI. - Utilization of the Exchange Reaction of Tetravalent Cerium with the Salts of Divalent Manganese.

Orig Pub: V -Ceskosl. farmac., 1957, 6, No 8, 438-440.
VI-Chem. listy, 1957, 51, No 10, 1828-1831.

Abstract: V. - A new method for determining Ce in the

Card 1/6

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57163.

Abstract: the true Ce content of a sample, whereas the weight determines content of other lanthanides. Presence of La and Y in certain "Khemotser" preparations is established by means of spectographic analyses. The described methods are considered suitable for control purposes.
VI. - A method for the selective determination of Ce^{4+} in the presence of strong oxidizing agents ($Cr_2O_7^{2-}$, in particular), has been developed. It is based on the $2\ Ce^{4+} + Mn^{2+} + 2H_2O = 2\ Ce^{3+} + MnO_2 + 4H^+$. An analysed solution that contains,

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CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57163.

Abstract: residue is conducted either by an indirect or by a direct reductometrical titration with I solution, or by the complexometrical titration method. In the former case, the residue is dissolved in 4 n H_2SO_4 that contains an excess of 0.1 n solution of I. The H_2SO_4 concentration is increased to a level of approx. 2 n, and the excess of I is backtitrated with 0.1 n $Ce(SO_4)_2$ solution, while resorting to either potentiometrical visual observation of an end point obtained with ferrion indicator. The direct potentiometrical titration of Mn(4+) with I

Card 5/6

BERKA,A.; PROCHAZKOVA,V.; ZYKA,J.

New volumetric methods in the analysis of organic substances. Vii. Titration of some phenothiazine derivatives by lead tetraacetate. Cesk. farm. 13 no.3:121-122 Mr. '64.

1. Katedra analyticke chemie KU, Praha.

ZYKA, J.

Czechoslovakia / Analytical Chemistry. E-2
Analysis of Inorganic Substances.

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4276

Author : Michal J., Zyka J.

Title : Tetraethylthiuram Disulfide As An Analytical Reagent. IV. The Photometric Determination of Mercury and Silver.

Orig Pub: Chem. Listy., 1957, 51, No. 1, 56-62

Abstract: An indirect photometric method for the determination of mercury and silver is described. The method is based on a decrease in color intensity of the colored internally complexed compound of Cu^{2+} with tetraethylthiuram disulfide (1) as a result of the exchange reaction with Hg^{2+} and Ag^{+}. The complex of Cu^{2+} with (1) was named mercupral (11) by the authors. It is obtained in a

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Inst. Anal Chem, Charles Univ

Czechoslovakia / Analytical Chemistry. E-2
Analysis of Inorganic Substances.

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4276

only by HNO_3 and Ce^{4+} and large amounts of Sb and Bi. In the presence of Cu^{2+} the solution (11) has to be free from uncombined (1). Silver is determined similarly; discoloration of solution (11) occurs faster than in the Hg determination. See report 3 RzhKhim, 1955, 26 396.

Card 3/3

ZYKA, JAROSLAV

CZECHOSLOVAKIA/Analytic Chemistry - Analysis of Inorganic Substances E-2

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32162

Author : Jan Dolezal, Vladimir Simon, Jaroslav Zyka

Inst : -

Title : Titration with Potassium Cyanide Solution.

Orig Pub : Chem. listy, 1957, 51, No 5, 880-883: Sb. chekhosl. khim. rabot, 1957, 22, No 6, 1805-1808

Abstract : The complexometric titration of Cu^{2+} and Ni^{2+} with 0.1 to 0.01 M KCN solution in NH_4OH medium with the use of murexide as an indicator is described. Ni^{2+}, Hg^{2+}, Ag^{+}, Au^{+} and Pd^{2+} are determined even in very low concentrations by an indirect method - by the titration of the excessive KCN with 0.1 to 0.01 M $NiSO_4$ solution in the presence of the same indicator. This titration method is very accurate and it is suitable also to the determination of cyanides. The direct Ni determination in

Card 1/2

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57214.

Author : Krejzova E., Simon V., Zyka J.
Inst : Not given.
Title : Titration with Hydroquinon and Similar Reducing Agents. IV. Determination of Azides of the Exchange Precipitation Reaction.

Orig Pub: Chem. listy, 1957, 51, No 9, 1764-1766.

Abstract: A method of determining small quantities of azide (A) based on the exchange between A and Ag_2CrO_4 is described. Since AgN_3 is less soluble than Ag_2CrO_4, when a suspension of Ag_2CrO_4 is added to an

Card 1/4

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57214.

Abstract: A solution, the following reaction takes place: 2 NaN_3 + Ag_2CrO_4 = 2AgN_3 + Na_2CrO_4. An equivalent A quantity in the filtrate is determined from CrO_4^-, by titration with the solution of hydroquinon (I). Due to a lower NaN_3 equivalent (1cc of 0.1 n I corresponding to 4.33 mg NaN_3) this method is more sensitive than that involving the direct titration of A with $AgNO_3$ solution (1cc of 0.1 n $AgNO_3$ corresponds to 6.50 mg NaN_3). In determining A, the analyzed samples, containing approx. 3-60 mg NaN_3, are dissolved in a small volume of water followed by the addition of approx. 12 gr of pure Ag_2CrO_4, and of 1 drop of 2% KNO_3 solution, by the dilution with water to 50cc volume and by the filtration. 25cc of the obtained filtrate is

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CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57214.

Abstract: then acidified with 20% H_2SO_4 (20cc) and titrated (with the use of either potentiometric or visual methods) with 0.1 n I solution and using diphenylamine as indicator. The above method is also suitable for the determining of Cl^-, Br^-, and I^-. Principle of this method is also applicable to the SO_4^{2-} determination. In this instance suspension of $BaCrO_4$ is being employed (Ref Zhur-Khimiya, 1957, 8534). In order to obtain quantitative exchange involved in the latter reaction, the reactants are acidified with hydrochloric acid up to approx. 0.1 M concentration, heated for about 10 minutes on a steam bath, neutralized with NH_3 while hot, kept

Card 3/4

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57214.

Abstract: for 8-10 hours and then subjected to the analysis steps similar to those used in the determination of A. For Part III refer to Ref Zhur.-Khimiya, 1957, 19600.

Card 4/4

CZECHOSLOVAKIA/Chemical Technology. Pharmaceuticals. Vitamins. Antibiotics. H

Abs Jour: Ref Zhur-Khim., No 24, 1958, 82711.

Author : Krejzova E., Simon V., Zyka J.
Inst :
Title : The Oxidimetric Determination of Tartaric Acid and its Salts.

Orig Pub: Ceskosl. farmac., 1958, 7, No 2, 82-83.

Abstract: The indirect oxidimetric determination of tartaric acid and some of its salts with $K_2Cr_2O_7$ and with salts of Ce^{4+} was investigated. The best results were obtained with $K_2Cr_2O_7$. The conditions were found under which the method can be used for volumetric determination. The excess of the reagent

Card : 1/2

ZYKA, J.

E

CZECHSOLAVAKIA/Analytical Chemistry - Organic Analysis.

Abs Jour : Ref Zhur Khimiya, No 20, 1959, 71274

Author : Berka, Antonin; Zyka, Jaroslav

Inst :

Title : Volumetric Methods of Analysis of Organic Substances. V. Oxidation of Tarteric Acid with Potassium Periodate and Lead Tetraacetate

Orig Pub : Ceskosl. farma., 1958, 7, No 3, 141-143

Abstract : The method of quantitative determination of tartaric acid (I) based on its oxidation by KIO_4 (II) in the acetate buffer solution at pH of 4.8 according to the equation $C_4H_6O_6 + 3KIO_4 = 2HCOOH + 2CO_2 + 3KIO_3 + 2H_2O$ has been worked out. To 5 ml of solution (~ 3 mg I) 1 ml glacial CH_3COOH, 2 ml 30% KOH solution, and 10 ml 0.01 M solution of II are added. After 4 hours 4 ml concentrated H_2SO_4 is added while cooling and excess of II is titrated potentiometrically with

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...ysis.

...iya, No 20, 1959, 71274

E

0.01 M $FeSO_4$ solution. 1 ml 0.01 M solution of II corresponds to 0.3003 mg of I. Average relative error is 0.32%. The reaction with Pb tetracetate (III) at pH of 4.8 takes place in an analogous way ($C_4H_6O_6 + 3(CH_3COO)_4Pb + 2H_2O = 2CO_2 + 2HCOOH + 3(CH_3COO)_2Pb + 6CH_3COOH$); however, III is capable of oxidizing the HCOOH formed and cannot be used for the quantitative determination of I.

Communication IV see RZKhim, No 2, 1959, 4373. --

N. Turkevich

Card 2/2

Country : CZECHOSLOVAKIA
Category : Analytical Chemistry. Analysis of Organic Substances
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15144

Author : Kracmar, J.; Zyka, J.
Institut. : -
Title : Polarimetric Titration of Organic Bases. VI. The Use of a Nitranilic Acid Solution as a Volumetric Reagent

Orig Pub. : Ceskosl. farmac., 1958, 7, No 5, 246-249

Abstract : Polarimteric and gravimetric methods were developed for the determination of salts of organic bases by means of their precipitation with nitranilic acid (NA) (3,6-dinitro-2,5-dioxybenzoquinone-1,4) (Ref Zhur-Khim, 1957, 71577). 100-200 mg. of a solution are dissolved in 10-20 ml. of 0.01 n. KCl solution and titrated with a 0.1 M solution of NA with an applied voltage of 0.5 v., using a type V 301 Geiger polarograph with a 4-volt accumu-

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I - 37

Country : CZECHOSLOVAKIA
Category : Analytical Chemistry. Analysis of Organic Substances
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15144

Author :
Institut. :
Title :

Orig Pub. :

Abstract Cont'd : -10%. In gravimteric determination, 10 ml. of 3.5% solution of NA, and then 5 ml. of alcohol are added drop by drop during mixing to a solution of 100-200 mg. of substance in 10 ml. of water. During three hours of standing in a refrigerator, the precipitate is filtered off in a G3 or G4 crucible and washed three times in 5 ml. of alcohol (temperature 10°) and 10 ml. of ether. It is dried at 100-110° for two hours and weighed. One mole of NA binds two

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ZYKA, J

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Direct oxidimetric estimations of manganese. Jan Doležal and Jaroslav Zýka (Karlova Univ., Prague). *Chemie* (Prague) 10, 369-75(1958).—Direct titration methods for bivalent Mn are compared. They can be classified according to whether Mn is oxidized to the trivalent or quadrivalent stage. From the former group, the common Volhard and Wolff method ($KMnO_4$ titration in the presence of ZnO in a slightly acid medium) lacks reproducibility even under rigidly standardized conditions. Tomíček's ferricyanide method in the modification of Dickens and Maassen (*C.A.* 30, 4110[8]) has the advantage of rapidity and accuracy, but Co must be absent. Lingane's and Karplus' (*C.A.* 40, 2411[1]) permanganate titration in neutral pyrophosphate soln. can be recommended. The following modification is given for the estn. in concentrates contg. 5–20% Mn: Weigh a sample (about 0.5 g.), boil with 30 ml. concd. HNO_3 and 10 ml. concd. HCl, evap. with 5 ml. concd. H_2SO_4, and make the residue to 100 ml. with H_2O. To a 25-ml. aliquot is added several drops of 30% H_2O_2, the soln. boiled, satd. with Na pyrophosphate, made to pH 7 with HCl and KOH, and titrated potentiometrically (Pt–W electrodes) with 0.025*M* $KMnO_4$. I. M. Hais

E-2

GDR / Analytical Chemistry. Analysis of Inorganic Substances.

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 932.

Author : Uraz, L., Simon, V., ~~Zyka, J.~~
Inst : Not given.
Title : Titration With Hydroquinone and With a Similar Reducer. VI. The Utilization of the Reaction of Four Valent Cerium With the Salts of Di-valent Manganese.

Orig Pub: Collect, Czechosl. chem. commun., 1958, 23, No 6, 1061-1065.

Abstract: See R. Zh. Khim., 1958, 57163.

Card 1/1

ZYKA, J.; BERKA, A.

"Oxidation of some ox-hydroxy acids and mannitol with lead (IV) acetate and potassium periodate." (In German)

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS., Praha, Czechoslovakia, Vol. 23, no. 11, Nov. 1958.

MONTHLY LIST of EAST EUROPEAN ACCESSIONS (EEAI), LC, Vol. 8, No. 7, July 1959, Unclas.

Zyka, Jaroslav

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31105.

Author : Berka, Antonín, Zýka, Jaroslav.
Inst :
Title : Titration with Lead Tetra-Acetate.

Orig Pub: Chem. listy, 1958, 52, No 5, 926-929.

Abstract: The oxidizing titration with $Pb(CH_3COO)_4$ solution (I) in glacial CH_3COOH (II) for which a waterless II medium is recommended and which is hindered by the slow rate of oxidation of the substance being determined, can in many cases be carried out quicker in the presence of water in a diluted II medium or in aqueous solutions acidified with mineral acids by

Card : 1/3

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31105.

using potentiometric titration. The 0.05 N solution of I in the glacial II is prepared by dissolving about 50 g of powdered Pb_3O_4 in one liter of glacial II at 55-65° and by filtering the hot solution. The titer of the solution is determined by potentiometric titration of hydroquinone. The presence of Pb^{2+} salt does not hinder the process. The titer of the solution is stable for 2 months. Quantitative determination of hydrazine (III) and of its derivatives (phenylhydrazine, semicarbazide, n-nitrophenylhydrazine and others) and determination of ascorbic acid (IV) was carried out by means of the described method. The titration of IV is carried out in 50% II adding for each 20 ml of the solution about 2 g of solid CH_3COOK in the presence of

Zyka, Jaroslav

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31101.

Author : Berka, Antonín, Zyka, Jaroslav
Inst :
Title : Oxidation of Certain α-Oxyacids and of Mannite with Lead Acetate and with Potassium Periodate.

Orig Pub: Chem. listy, 1958, 52, No 5, 930-935.

Abstract: In the study of the oxidation processes of tartaric acid (I), amygdalic acid (II), of mannite (III) and of Ca glucomate (IV) with $Pb(CH_3COO)_4$ (V) or with KJO_4 (VI), direct potentiometric titration of I-IV with 0.05 M V solution in glacial CH_3COOH (VII), and the indirect determination of excess V or VI were utilized. Surplus V was titrated potentiometri-

Card : 1/3

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. II

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31101.

cally with 0.05 M hydroquinone solution. The determination of excess VI is based on its reduction to KJO_3 with 0.02 normal $FeSO_4$ solution and titration of the evolved Fe^{2+} with 0.05 M solution of VI in the presence of a diphenylamine indicator. The optimum pH value of the solutions undergoing titration is 4.8. Therefore titration was carried out in the acetate buffer medium. Under these conditions V proved to be a stronger oxidizing agent than VI. Only V can be used for the oxidation of II. However, in most cases V is too strong an oxidizing agent, producing secondary oxidation of the primary products of the reaction (HCHO, HCOOH), which leads to irreproducible results. For the analysis of K, III and IV

Card : 2/3

109

Country : Czechoslovakia
Category : Analytical Chemistry - Analysis of Inorganic Substances
Abs. Jour. : Ref Zhur-Khimiya, No 6, 1959

E-2

19105

Author : Krejzova, E.; Simon, V.; Zyka, J.
Institut. :
Title : Titration with Hydroquinone and Similar Reducing Agents. VIII. Potentiometric Determination of 3-Valent Thallium Salt.
Orig Pub. : Chem. listy, 1958, 52, No 5, 936-938

Abstract : Hydroquinone is used as a reducing agent in potentiometric determination of Tl^{3+}. Oxidation of Tl^{+} prior to analysis can be effected with $(NH_4)_2S_2O_8$ in acid medium; Br-water usually utilized for this purpose, is not suitable. The solution to be titrated must contain 5-20% by weight of H_2SO_4 and 3-30 mg Tl, and its maximum volume should be 30 ml. On determination of Tl, approximately 20% solution of H_2SO_4 is added to the solution being analyzed, in a 50 ml beaker, diluted to about 20 ml, added about 0.5 g solid $(NH_4)_2S_2O_8$, heated gently for 15-20 minutes (final volume of the solution should be about 15 ml), and after cooling it is potentiometrically titrated with 0.01 N solution of hydroquinone.
Card: 1/3

Country	: Czechoslovakia	E-2
Category=	: Analytical Chemistry - Analysis of Inorganic Substances	
Abs. Jour.	: Ref Zhur-Khimiya, No 6, 1959	19105
Author	:	
Institut.	:	
Title	:	
Orig. Pub.	:	

Abstract : The inflection point is at about 500 mv (relative to saturated calomel electrode); change in potential at equivalence point is well defined (angle coefficient about 1500). Determination of Tl is not interfered with by the presence of Cu^{2+}, Pb^{2+}, Ag^{+}, Bi^{3+}, Co^{2+}, Zn^{2+}, Al^{3+}, Mg^{2+}, As^{5+}, MoO_4^{2-} and WO_4^{2-}, even when they are present in 10-fold excess; also no interference results from the presence of considerable amounts of PO_4^{3-}, NO_3^{-}, SO_4^{2-}, and Cl^{-} (up to a concentration of about 0.01 N). The presence of Fe^{3+}, Sn^{4+}, $Sb(5+)$, Hg^{2+}, Ce^{4+}, $Cr_2O_7^{2-}$, MnO_4^{-}, interferes, as does the presence of even small amounts of Br- and I-. For reasons

Card: 2/3

E-2

Country : Czechoslovakia
Category : Analytical Chemistry - Analysis of Inorganic Substances
Abs, Jour. : Ref Zhur-Khimiya, No 6, 1959 19077

Author : Krejzova, E.; Simon, V.; Zyka, J.
Institut. :
Title : Titration with Hydroquinone and Similar Reducing Agents.VII. Determination of Higher Oxides of Manganese and Lead.
Orig. Pub. : Chem. listy, 1958, 52, No 5, 976-978

Abstract : A titrimetric method was developed for determination of MnO_2, Mn_2O_3 and PbO_2, which is based on their reduction with hydroquinone (I) and subsequent titration of excess I with $Ce(SO_4)_2$, usinf ferroin as indicator. To the finely comminuted sample (about 60 mg PbO_2, or 45 mg MnO_2, or 40 mg Mn_2O_3)are added, in a titration flask with a ground glass stopper, 10-20 ml 0.1 N solution of I and about 10 ml 2 N H_2SO_4(10 ml of 5% CH_3COOH in the case of PbO_2), the mixture is shaken with glass beads (5 to 10) for 5-10 minutes until the sample is completely dissolved, ferroin is added and titration with 0.1 N solution $Ce(SO_4)_2$ is carried out

Card:1/3

E-9

Country : Czechoslovakia E-2
Category : Analytical Chemistry - Analysis of Inorganic Substances
Abs. Jour. : Ref Zhur-Khimiya, No 6, 1959 19077

Author :
Institut. :
Title :

Orig Pub. :

Abstract : until the color of the solution changes from red to brilliant-blue or green. In determinations of oxides of Mn the back-titration of I can be effected with $K_2Cr_2O_7$ using diphenylamine as indicator, however the titration with $Ce(SO_4)_2$ is more sensitive. Fe^{3+} and Cu^{2+} need not be removed or masked, since they do not react with I. By the described procedure active O is determined in the sample; the total metal content can be determined by complexometry after reduction of the higher oxides. To do this, there are added to the sample in the titration flask, an excess of $NH_2OH.H_2SO_4$ solution and 0.1 M solution of Complexon III,

Card: 2/3

Zyka, Jaroslav

CZECHOSLOVAKIA/Analytical Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 30926.

Author : Mráz, Ladislav, Simon, Vladimir, Zýka, Jaroslav.
Inst :
Title : Titration with Hydroquinone and Similar Reducing Agents. IX. On the Stability of Hydroquinone Solutions.

Orig Pub: Chem. listy, 1958, 52, No 6, 1083-1088.

Abstract: The effect of various factors on the stability of hydroquinone solutions (I) was studied by means of systematic control of the titer of 0.1-0.001 normal solutions of I by visual, photometric or potentiometric titration with $K_2Cr_2O_7$ solution or with $Ce(SO_4)_2$ solution (in the case of highly di-

Card : 1/4

Abs Jour: Ref Zhur-Khim., No 9, 1959, 30926.

luted solutions of I), and also by means of photometric measurement of the intensity of the brownish-red color which formed in the presence of the disassociation of I. It was established that the I solutions acidified with 1-3% H_2SO_4 are the most stable ones. The titer of these solutions does not begin to change until 3-4 months after their preparation. When boiled these solutions retain their stability for at least 1 hour. Neutral solutions of I have a somewhat lesser stability, but even in this case changes were observed only after 2-3 months. The concentration of I has practially no effect either on the acid or on the neutral solutions of I. The I solutions alkalized with the addition

CZECHOSLOVAKIA/Analytical Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 30926.

of $KHCO_3$ (0.1 normal) quickly become dark brown (close to black) in color and become turbid. Along with this the titer of these solutions diminishes rapidly especially when greatly diluted. When acidified these solutions precipitate an amorphous brownish red sediment which is expressed by the general formula $C_6H_4O_3$. The stability of the acidified I solutions is somewhat lowered by the effect of light but does not at all change through the action of the O_2 in the air. No effect was detected of metal traces, the presence of which is possible in I preparations. With the exception of the purest I preparations, the titer of I solutions (even of the acidified ones) fluctuates somewhat for 1-2 days after their prepa-

Card : 3/4

CZECHOSLOVAKIA/Analytical Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khim., No 9, 1959,30926.

ration, but at the end of this time the titer becomes completely stabilized. The degree of titer deviation depends on the purity of the utilized I and in the ordinary I preparations fluctuates within 0.5-1.5%. For report VIII, see: Ref Zhur-Khimiya, 1959, 19105. -- Karel Kamen.

Card : 4/4

68

Zyka, Jaroslav

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Inorganic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 30966.

Author : Mráz, Ladislav, Šimon Vladimír, Zýka, Jaroslav.
Inst :
Title : Titration with Hydroquinone and Similar Reducing Agents. X. Titration of Cerium, Chromium and Vanadium and the Feasibility of Their Determination When Present Simultaneously.

Orig Pub: Chem. listy, 1958, 52, No 6, 1089-1092.

Abstract: A method of accurately determining small quantities of Ce, V and of Cr has been developed. This method is based on the potentiometric titration of Ce^{4+}, $Cr_2O_7^{2-}$ and VO_3^- with hydroquinone solution (I)

Card : 1/4

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Inorganic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 30966.

(in the process of titration the enumerated ions are reduced to Ce^{3+}, Cr^{3+} and VO^{2+} respectively). Ce^{4+} and $Cr_2O_7^{-}$ are very accurately determined close to concentrations $5 \cdot 10^{-4}$ M and $2 \cdot 10^{-4}$ M respectively by titration in the 2-15% H_2SO_4 medium. With greater dilution negative errors are observed. 0.1-0.05 normal solutions of VO_3^{-} can be titrated in the 15-30% H_2SO_4 medium and 0.05-0.005 normal solutions can be titrated in the 25-30% H_2SO_4 medium. For the solutions of 0.005 normal VO the results obtained are too high. Instead of H_2SO_4 HNO_3 (0.2-15 normal) can also be used. The determination of Ce is hindered by the presence of HCl and of large

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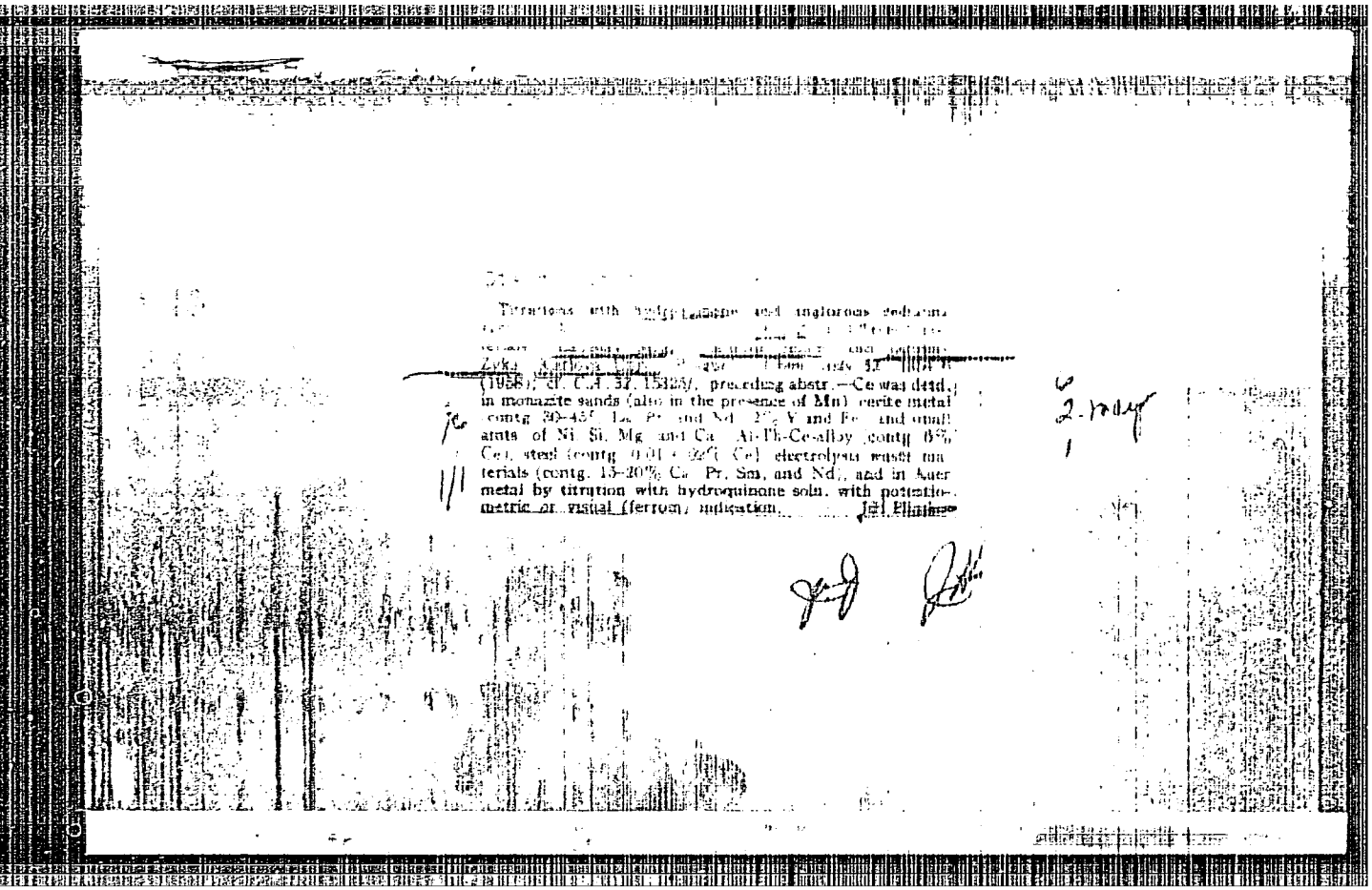
CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Inorganic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959,30966.

quantities of H_3PO_4, and the determination of V is hindered by the presence of HCl. The titration of all 3 of the above-mentioned ions can be carried out in the presence of MnO_4^- since the jump in potential corresponding to MnO_4^- is clearly distinct from the jump in the potentials of the ions being determined. In comparison with the method of titration with Fe^{2+} solution the hydroquinone method is much more sensitive. From the combinations of Ce, Cr and V it is possible to reliably determine VO_3^- together with Ce^{4+} and somewhat less clearly $Cr_2O_7^{2-}$ with Ce^{4+}. Simultaneous determination of $Cr_2O_7^{2-}$ and VO_3^- is difficult or

Card : 3/4



Titrations with [illegible] and anglorous reductants
[illegible]
[illegible] (1958), cf. C.A. 52, 15128f, preceding abstr.—Ce was detd. in monazite sands (also in the presence of Mn) cerite metal (contg. 30-45% La, Pr, and Nd, 2% Y and Fe, and small amts. of Ni, Si, Mg, and Ca), Al-Th-Ce-alloy (contg. 6% Ce), steel (contg. 0.01-0.2% Ce), electrolyte mastt materials (contg. 15-20% Ce, Pr, Sm, and Nd), and in Auer metal by titration with hydroquinone soln. with potentiometric or visual (ferroin) indication. Jiří Plášek

5 (2), 5 (3)

AUTHORS: Michal, Jan, Zýka, Jaroslav

SOV/75-14-4-6/30

TITLE: The Determination of Small Amounts of Copper in Metals With the Help of Tetraethylthiuram Disulfide

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 422-426 (USSR)

ABSTRACT: Tetraethylthiuram disulfide $(C_2H_5)_2NC(S)\cdot S\cdot S\cdot(S)CN(C_2H_5)_2$ is a very easily accessible compound, which is used as a pharmaceutical preparation and in the rubber industry. It is difficultly soluble in water and better soluble in organic solvents (e.g. in alcohol). Tetraethylthiuram disulfide forms almost colorless crystals with a melting point of 70°. Its alcoholic solution reacts with copper(II) salts in weakly acid solutions to form an intensely yellow-brown compound. The authors propose the name "Dikupral'" for tetraethylthiuram disulfide. The proof of copper with the help of Dikupral' is only upset by salts of univalent mercury and by selenites, which are reduced to the element by the reagent. The sensitivity of the proof of copper is as follows: pD = 5.70 on a drop plate; pD = 5.0 in a microscopical test-tube; pD = 7.18 in an extraction with ether; pD = 6.48 on filter paper. Excess amounts of nitric acid and other strong oxidizing agents

are upsetting. Silver- and mercury(II) ions form colorless compounds with Dikupral', which are more stable than the corresponding copper complex. In the presence of mercury- and silver ions a surplus of the reagent must be added, therefore, for the proof of copper so that the yellow-brown coloring occurs. On the other hand, Dikupral' can be used for the sensitive selective determination of silver or mercury (Refs 5-7). The absorption maximum of the solutions of the copper complex with Dikupral' appears at 435 mμ. The authors worked out the optimum conditions of a quantitative photometric determination of copper with the help of Dikupral'. At the same time, the influence exercised by a great excess of various metal ions on the photometric determination was investigated. It turned out that in many cases the determination of copper in pure metals with contents of only 0.01 % of Cu is possible without separation. The elaboration of optimum conditions for the determination of copper is described in detail. Specifications for the quantitative determination of small amounts of copper in the metals zinc, aluminum, mercury, tungsten, tin, manganese and antimony and also arsenic are given in the paper. The constancy of the coloring of the

compound of copper with Dikupral' in the following media is shown in a table: 0.01 N - 8 N H_2SO_4; 0.001 N - 4 N HCl; 0.01 N - 4 N $HClO_4$; 1 N - 6 N H_3PO_4; 0.05 N, and 0.08 N HNO_3; 5% oxalic acid; 5% tartaric acid. There are 4 figures, 1 table, and 12 references.

ASSOCIATION: Scientific Research Institute of Ores; Charles University, Prague (ČSR)

SUBMITTED: September 20, 1958

ZYKA, J.; BERKA, A.

"Titration with lead (IV) acetates" In German. p. 105.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech., Vol. 24, No. 1, Jan. 1959.

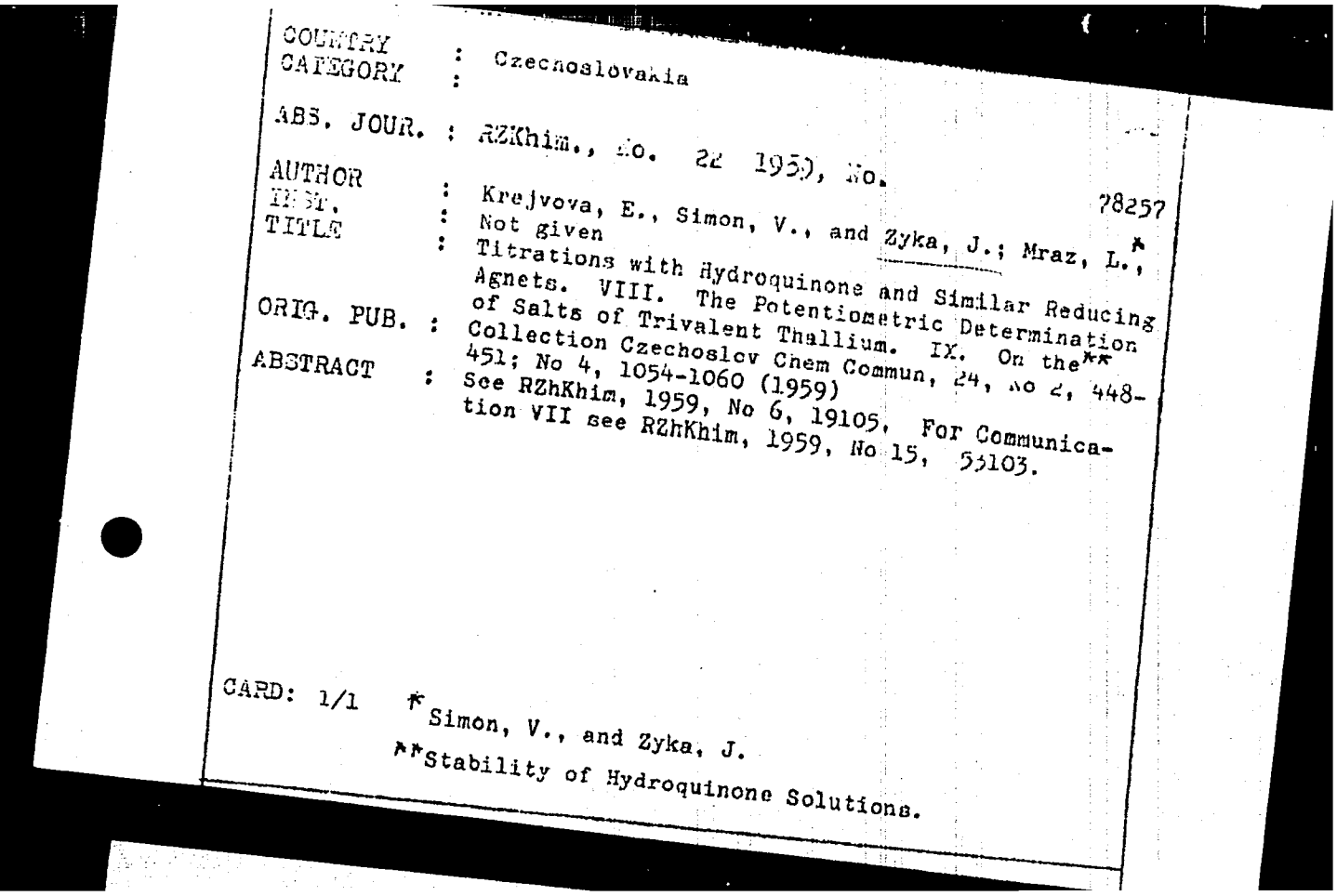
Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified.

ZYKA, J.; KREJZOVA, E.; SIMON, V.:

"Titration with hydroquinone and analogous reducing agents." VII. Determination of the higher oxides of manganese and lead. In German. p. 293.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech., Vol 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified



COUNTRY : Czechoslovakia
CATEGORY :

ABS. JOUR. : RZKhim., No. 22 1959, No. 78257

AUTHOR : Krejvova, E., Simon, V., and Zyka, J.; Mraz, L.,*
INST. : Not given
TITLE : Titrations with Hydroquinone and Similar Reducing Agnets. VIII. The Potentiometric Determination of Salts of Trivalent Thallium. IX. On the**

ORIG. PUB. : Collection Czechoslov Chem Commun, 24, No 2, 448-451; No 4, 1054-1060 (1959)

ABSTRACT : See RZhKhim, 1959, No 6, 19105. For Communication VII see RZhKhim, 1959, No 15, 53103.

CARD: 1/1

*Simon, V., and Zyka, J.

**Stability of Hydroquinone Solutions.

DOLEZAL, J.; DRAHONOVSKY, J.; ZYKA, J.

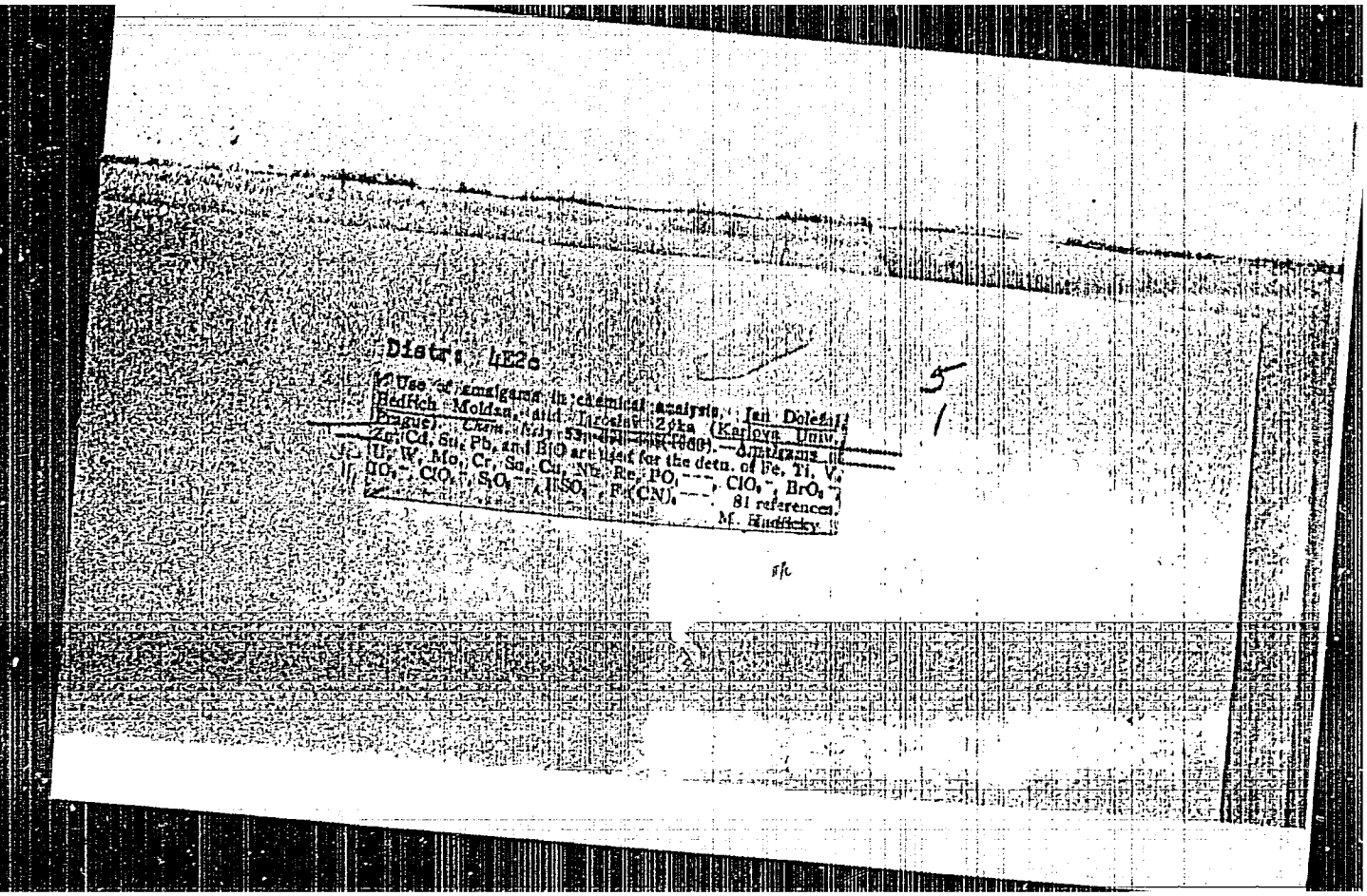
Use of metal reducers and amalgams in chemical analysis. I. Silver reducer. In German. Coll.Cz.Chem. 24 no.11:3649-3653 N '59.

1. Institut fur analytische Chemie, Karluniversitat, Prag. (MEAI 9:5)
(Reduction) (Analysis (Chemistry)) (Silver) (Amalgams)

DOLEZAL, J.; MOLDAN, B.; ZYKA, J.

Use of metal reducers and amalgams in chemical analysis. II. Redox effect of molybdenum. In German. Coll.Cz.Chem. 24 no.11:3769-3776 N '59. (EEAI 9:5)

1. Institut fur analytische Chemie, Karlsuniversitat, Prag. (Molybdenum) (Chemistry, Analytic) (Amalgams) (Reduction)



Distr: 4E2c

Use of amalgams in chemical analysis. Jan Doležal, Hedrich Moldan, and Tatoslav Zýka (Karlova Univ., Prague). *Chem. Listy* 53:401–11(1959). —Amalgams of Zn, Cd, Sn, Pb, and Bi are used for the detn. of Fe, Ti, V, U, W, Mo, Cr, Se, Cu, Nb, Re, PO_4^{---}, ClO_3^-, BrO_3^-, NO_3^-, ClO_4^-, $S_2O_8^{--}$, HSO_3^-, $Fe(CN)_6^{---}$. 81 references. M. Hudlický

5
1

ZYKA, J.

S/081/60/000/07/003/046
B112/B453

AUTHORS: Jarmila Prachenská and Jaroslav Zýka

TITLE: Identification and Spectrophotometric Determination of Hydrazine and its Derivatives by Means of Vanillin

PERIODICAL: Chemický Průmysl, 1960, Nr 7, pp 343-346

ABSTRACT: Many of the spectrophotometric methods for the determination of small quantities of hydrazine are based on its reaction with aromatic aldehydes, forming aldazines of intense yellowish or yellowish-orange colouration. The preferred aldehydes were: p-dimethylaminobenzaldehyde or salicylic aldehyde. The authors describe the use of vanillin as an analytical reagent for the determination of hydrazine and its derivatives, in spot tests and in spectrophotometric analyses. They claim that the reaction with vanillin is more sensitive than that with p-dimethylaminobenzaldehyde. It is also claimed that great excesses of hydroxylamine, nitrates, ammonium salts or urea do not interfere with the analytical method. The spectrophotometric determination of hydrazine or its derivatives is carried out in a Kletl spectrophotometer

Card 1/3

Z/039/60/000/07/003/...
E112/E453

Identification and Spectrophotometric Determination of Hydrazine and its Derivatives by Means of Vanillin

using blue violet filter, Nr 42, with a wavelength of 420 mμ. The reaction of hydrazine or its derivatives with vanillin proceeds in an acid medium and the authors have studied the effects of different acids on the course of the reaction. It is shown that the absorption curves of hydrazine and semicarbazide with vanillin in a medium of sulphuric, perchloric or phosphoric acid is characterized by a sharp maximum in a range of 400 to 410 mμ. In an acetic acid medium, a maximum with a sharp notch appears at about 365 mμ. In order to establish whether hydroxylamine can interfere with the reaction its absorption in the same reaction medium was measured. Hydroxylamine showed a maximum absorption at 370 mμ and will, therefore, not interfere with the hydrazine or semicarbazide determination if filter Nr 42 of wavelength m is used. Analytical methods similar to that for hydrazine can also be used for phenyl hydrazine, p-nitrophenylhydrazine and vanillin gives an orange coloration in the spot test, with

Card 2/3

2/009/60/000/07/005/015
E112/E453

Identification and Spectrophotometric Determination of Hydrazine and its Derivatives by Means of Vanillin

characteristic fluorescence under ultra violet light. 2,4-dinitrophenylhydrazine gives a black colouration under the same conditions. Both reactions are, however, not very sensitive. The authors have also studied the effects of the concentrations of the acids on the spectrophotometric determinations and have established that results are unaffected by increased concentration. Large excesses of vanillin had also no effect upon the determination of either hydrazine or semicarbazide. There are 4 figures, 2 tables and 9 references, 3 of which are English, 1 Czech, 2 German, 1 Soviet and 2 French.

ASSOCIATION: Katedra analytické chemi, Karlova universita, Praha
(Chair of Analytical Chemistry, Charles University, Prague)

SUBMITTED: June 15, 1959

Card 3/3

VULTERIN, J.; ZYKA, J.

Hydrazine sulfate as a volumetric agent (hydrozinometry). VI. Coll Cz Chem 25 no.1:206-209 Ja '60. (EEAI 9:12)

1. Kafedra khimicheskoy promyshlennosti inzhenerno-ekonomicheskogo fakul'teta i Kafedra analiticheskoy khimii Karlova universiteta, Praga.

(Volumetric analysis) (Hydrazine sulfate)

ZYKA, Jaroslav, prof. dr. PhMr.CSc.

Survey of the newest oxidation-reduction measuring methods.
Rudy 12 no. 6:177-180 Je '64.

1. Chair of Analytical Chemistry, Charles University, Prague.

ZAKHAROV, V.A. [Zakharov, V.A.]; DOLEZAL, J.; ZYKA, J.

Application of oscillographic polarography in quantitative analysis. Pt.20. Coll Cz Chem 29 no.9:2240-2241 S '64.

1. Kasachische Staatsuniversitat, Alma-Ata, UdSSR (for Zakharov). 2. Institut fur analytische Chemie, Karlsuniversitat, Prague (for Dolezal and Zyka). 3. Member, Advisory Board, "Collection of Czechoslovak Chemical Communications" (for Zyka).

BERKA, A.; JANATA, J.; ZYKA, J.

Contribution to the factor determination of lead (IV)-acetate mass solutions. Coll Cz Chem 29 no.9:2242-2244 S '64.

1. Institut fur analytische Chemie, Karlsuniversitat, Prague.

NOVOZAMSKA, Helena; ZYKA, Jaroslav

Colorimetric determination of copper in some food products by tetraethylthiuram disulfide. Prum potravin 15 no.10:520-522 O '64.

1. Chair of Analytical Chemistry, Charles University, Prague.

DOLEZAL, J.; LUKSYTE, E.; RYBACEK, V.; ZYKA, J.

Reductometric titration with iron (II) sulphate in triethanolamine medium. Chem Cz Chem 29 no.11:2597-2606 N '64.

1. Institut fur analytische Chemie, Karlsuniversitat, Prague.
2. Present address: Chemische Fakultat, Universitat, Vilnius, Lithuania (for Luksyte).

L 3043-66 EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5026312 CZ/0008/65/059/001/0091/0094

AUTHOR: Bilikova, Anna; Zyka, Jaroslav

TITLE: Determination of microgram quantities of copper in water using tetraethylthiuramdisulphide (dicupral)

SOURCE: Chemicke listy, v. 59, no. 1, 1965, 91-94

TOPIC TAGS: copper, microchemical analysis, organic sulfur compound, spectrophometric analysis

ABSTRACT: The method described is a spectrophotometric method. Cu ions form a yellow colored complex with the reagent; the complex remains stable for several days. Direct determination of Cu is possible in the presence of up to 2 mg/l of Ca, Mg, Al, Mn, Zn, Pb, Cd, Hg, Co, Ni, and up to 0.5 mg/l of Fe, and Cr. Details of the analytical method are given. "The authors thank A. Konradova for technical assistance." Orig. art. has 1 figure and 1 table.

ASSOCIATION: Vyzkumny ustav vodohospodarsky, Bratislava (Research Institute of Hydrology); Katedra analytickej chemie Karlovej univerzity, Prague (Department of Analytical Chemistry, Charles University)

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CZECHOSLOVAKIA

SANTRUCKK, J; NEMEC, I; ZYKA, J

Institute of Analytical Chemistry (Institut fur analytische Chemie), Karlova University, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 7, July 1966, pp 2679-2688

"Oxidimetric detection of osmium in an acid medium."

TISHCHENKO, G.N.; ZYKALOVA, K.A.; SILANT'YEVA, I.A.

Crystallographic study of iodomercurate gramicidin C.
Kristallografiia 9 no.1:37-43 Ja-F '64. (MIRA 17:3)

1. Institut kristallografii AN SSSR.

ZYKAS, V.

On the problem of postoperative thromboembolism. Sveik. apsaug. 8 no.1:6-11 Ja'63.

1. Kauno Valst. medicinos instituto fakultetines chirurgijos katedra. Vedejas - doc. med. m. kand. J.Jarzemskas.

*

ZYKIN, A., starshiy nauchnyy sotrudnik

Powdery mildew on potatoes. Zashch. rast. ot vred. i bol. 10 no.3: 33 '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut rasteniyevodstva.

ZYKIN, A.I., kand.med.nauk

Observations on correct posture at the school desk. Zdrav. Bel. 7 no.9:54-55 S '61. (MIRA 14:10)

1. Iz kafedry organizatsii zdravookhraneniya L'vovskogo meditsinskogo instituta (zav. kafedroy - dotsent S.Z.Tkachenko).
(POSTURE) (SCHOOLS--FURNITURE, EQUIPMENT, ETC.)

[redacted], A. I.

"The new desk design."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

ZYKIN, A.I.; SHAPIRO, A.D.

Prevention of mercury poisoning while checking water gauging equipment. Gig. i san. 21 no.9:91 S '56. (MLRA 9:10)

1. Iz L'vovskoy gorodskoy sanitarno-epidemilogicheskoy stantsii.
(MERCURY--TOXICOLOGY) (PRESSURE GAUGES)

ZYKIN, A.S.

Cutter for removing casting skin from titanium ingots. Stan. i instr. 36 no.6:42 Je '65. (MIRA 18:8)

LEBEDEV, V.A., inzh. (Sverdlovsk); ZYKIN, B.D., inzh. (Sverdlovsk); KUDRYAVTSEV, A.Ye., inzh. (Sverdlovsk); SVYATETSKAYA, E.L., inzh. (Sverdlovsk); SYROMYATNIKOV, V.N., inzh. (Sverdlovsk)

Conversion of the control system of the AP-25 turbine to hydraulic operation. Energetik 13 no.10:11-14 O '65.

(MIRA 18:10)

ZYKIN, B.N.

Use to greater advantage the potentialities of labor productivity in the industry of Siberia. Izv. Sib. otd. AN SSSR no.9:3-12 '62. (MIRA 17:8)

1. Institut ekonomiki i organizatsii promyshlennogo proizvodstva Sibirskogo otdeleniya AN SSSR, Novosibirsk.

L 10204-67 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AP7003100 SOURCE CODE: UR/0105/66/000/006/0023/0026

AUTHOR: Bayev, A. V.; Zykin, F. A.; Ushakov, I. M.

ORG: none

TITLE: Network simulator for computing the optimum operation of power systems

SOURCE: Elektrichestvo, no. 6, 1966, 23-26

TOPIC TAGS: computer design, electric network, electronic engineering

ABSTRACT: The article describes the principle and operation of a network model-computer designed and built at the Chelyabinsk Polytechnic Institute. This device simulates actually installed power networks and automatically determines the most economical use of equipment under whatever prevailing load conditions. The ultimate aim is to establish the minimum fuel cost and this leads to the solution of four series of equations involving: 1) derivatives of fuel cost with respect to load on the station, 2) derivatives of power losses in the network with respect to terminal station voltages and with respect to increments of regulated transformer voltages. The essential components of this device are: 1) automated electronic models of generator stations, 2) automated electronic models of system loads, 3) model of the electrical

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ACC NR: AP7003100

power network, 4) automated electronic models of regulated transformers, 5) instrumentation for measuring total losses in the power network, 6) automatic scanning to find the most economical mode of system operation, 7) limiter units for voltages in the system network as well as for the load on generators and synchronous compensators, 8) a measurement panel. The process of computing the network and its operation is followed-up step by step and the usefulness of each of the simulator components is thereby precisely defined. The device described here makes it also possible to stabilize the optimum mode of system operation automatically and without interruption. Orig. art. has: 2 figures and 3 formulas. [JPRS: 37,479]

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network planning

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8(3)

AUTHORS: Pinchuk, I.S., Candidate of Technical Sciences, Zykin, F.A., Candidate of Technical Sciences

SOV/105-60-1-16/25

TITLE: Some Methods of Improving the Characteristics of Reactors With Direct Current Magnetization

PERIODICAL: Elektrichestvo, 1960, Nr 1, pp 78-80 (USSR)

ABSTRACT: The so-called characteristics of simultaneous magnetization $B_{\sim} = f(H_{\sim} ; H_{=})$ are often taken as initial date for the computing of reactors with magnetization (Refs 1,2). $B_{\sim}$ is the mean value of the amplitude of the alternating component of the magnetic induction. $H_{\sim}$ is the mean effective value of the alternating component of the core magnetic field. $H_{=}$ is the mean value of the constant field strength component of the magnetic field.- The results of experimental investigations of the influence of some factors on the form of the characteristics are given here. To utilize the power of a motor at its peak speed as completely as possible, it is necessary to make the voltage in the reactor get smallest. This can be achieved

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by reducing $B_{\sim}$, at a chosen number of windings of the working winding and core cross section. From this point of view it is desirable to obtain characteristics of simultaneous magnetization, at which there is a smallest possible inclination in their initial stage, depending not only on the type of steel but also on a number of other factors. The characteristics of a reactor with two magnetic conductors (Fig 1) for example, can thus be altered by varying the gap δ.- By increasing δ, the $B_{\sim}$ value can be reduced by 15-20% for the greatest field intensity of the magnetic field. The explanation for this process is given. Based on these statements, the shape of the sheet proposed in the paper (Ref 1) is unsuitable, the air gap being practically nil for this design. A considerable improvement of the reactor characteristics can be obtained by using split working windings (Fig 3). An explanation for this improvement is given. There are 5 figures and 2 Soviet references.

SUBMITTED: June 13, 1959

112-57-8-16469D

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8, p 65 (USSR)

AUTHOR: Zykin, F. A.

TITLE: A Possible Increase in Carrying Capacity of Electric Half-Wave Tuned Transmission Lines (Vozmozhnosti uvelicheniya propusknoy sposobnosti liniy elektroperedach, nastroyennykh na poluvolnu)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to Tomskiy politekhn. in-t (the Tomsk Polytechnic Institute), Tomsk, 1956.

ASSOCIATION: Tomskiy politekhn. in-t (the Tomsk Polytechnic Institute)

Card 1/1

ZYKIN, F.A., kand.tekhn.nauk

Problem concerning current distribution and losses in half-wave tuned electric power transmission lines. Energ. sbor. no.2:167-171 '59. (MIRA 15:1)

(Electric power distribution)

BYKOV, V.M., kand.tekhn.nauk; ZYKIN, F.A., kand.tekhn.nauk;
USHAKOV, I.M., kand.tekhn.nauk

Device for measuring the total power losses in the model of an a.c. network. Izv. vys. ucheb. zav.; energ. 5 no.1:37-42 Ja '62. (MIRA 15:2)

1. Chelyabinskiy politekhnicheskiy institut. Predstavlena kafedrami elektricheskikh stantsiy, setey i sistem; teoreticheskikh osnov elektrotekhniki; ekonomiki promyshlennosti i organizatsii proizvodstva.

(Electric power distribution)
(Electric network analyzers)

ZYKIN, F.A., kand.tekhn.nauk

Losses and efficiency in an electric transmission line tuned on a half-wave. Izv.vys.ucheb.zav.; energ. 2 no.12:11-14 D '59. (MIRA 13:5)

1. Chelyabinskiy politekhnicheskiy institut. Predstavlena kafedroy teoreticheskikh osnov elektrotekhniki.
(Electric lines)

ZYKIN, F.A., kand. tekhn. nauk (Chelyabinsk); LYSKOV, Yu.I., inzh. (Moskva)

Tuned electric power transmission lines. Elektrichestvo no.12: 81-83 D '63. (MIRA 17:1)

ZYKIN, F.A., kand.tekhn.nauk

Equation of heterogeneous electric transmission lines and wave processes under steady-state conditions. Izv.vys.ucheb.zav.; energ. 3 no.5:46-50 My '60. (MIRA 13:6)

1. Chelyabinskiy politekhnicheskiy institut.
(Electric lines--Overhead)

ZYKIN, F. A.

Zykin, F. A. "The possibility ofincreasing the carrying capacity of electric transmission lines tuned to the half-wave." Tonsk Order of Labor Red Banner Polytechnic Inst imeni S. M. Kirov. Tomsk, 1956. (Dissertations for the Degree of Candidate in Technical Science)

So: Knizhnaya letopis', No. 27, 1956. Moscow. Pages 94-109; 111.

ZYKIN, F.A., kand.tekhn.nauk

Wave processes in the normal operation of electric power transmission lines with series and parallel connected reactances throughtout the line. Energ. sbor. no.2:46-54 '59. (MIRA 15:1)

(Electric power distribution)
(Electric lines)