"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

29655
S/169/61/000/005/008/049
The applicability of exponential law to zones ... A005/A130

The dependence on W of the value inverse to the logarithm of the residual intensity $I_{0.94}/I^{o}_{0.94}$ in the ρ belt for W = 0-2 cm is represented by the straight line: $W = 6.67 \lg I^{o}_{0.94}/I_{0.94}$ (Eq. 1). Therefore, for low water vapor content (no more than 2 cm of precipitated water) the exponential law may be used with sufficient accuracy. If W > 2, exponential law, generally speaking, is not satisfied. Nevertheless, the author shows that the dependence of W on $I^{o}_{0.94}/I_{0.94}$ even up to W = 6 may be presented in a first approximation in the linear formulation $W = 11 \lg I^{o}_{0.94} - 1.1$ (Eq. 2). The author shows that Eq. (1) and (2) can be applied incident to spectroscopic determination of water vapor content by means of equipment with a resolving power no higher than that indicated by the author. The discrepancies between W determined from Eq. (2) and W determined by instrumental means did not exceed 4%.

V. Golikov

[Abstractor's note: Complete translation.]

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T. P. (Alma-Ata)

"The Measurement of the Indicatrices of Light Scattering and Polarization of Light in the Bottom Layer of the Atmosphere

report submitted in connection with the Symposium on Radiation Vienna Austria, 14-19 Aug 1961

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T.P.

Relationship between the degree of the polarization of light scattered by the troposphere and the wave length. Izv.Astrofiz. inst.AN Kazakh.SSR 11:105-110 '61. (MIRA 14:3)
(Atmosphere)
(Polarization(Light))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

L 17697-65
Pa-4 SSD(a)/SSD/AFWL/RAEM(a)/APGC(c)/ESD(gs)/ESD(t)

AUTHOR: Toropova, T. P.

TITLE: Asymmetry of scattering indicatrices of transparent particles

SOURCE: AN Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, 1964, 111-116

TOPIC TAGS: atmospheric dispersion, aerosol, refractive index, scattering indicatrix, asymmetry

ABSTRACT: Although theory provides an exact solution to the prob- [illegible] scattering of light by Mie particles, the results of this [illegible] coefficients of Mie particles for two values of the refractive index 1.50 and 1.33. The former value is chosen close to the refractive

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L 17697-65
ACCESSION NR: AP4049404

index of aerosol particles in the atmosphere, which are usually water droplets containing salt. The latter value was chosen to ascertain the effect of the variation of the refractive index on the form of the scattering indicatrix. The results confirm the fact that the asymmetry coefficient is an oscillating function of the ratio of the particle size to the wavelength. It is also found that a change in the refractive index strongly affects the results, except when the particles are quite small and in some cases the asymmetry coefficient may more than double following a change of 25% in the refractive index. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: ES, OP NR REF SOV: 003 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

AUTHOR: Torchova, T. P.

properties of the atmos-

measurements of

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

L [illegible]

ACCESSION NR: AT[illegible]

taneous measurements of the [illegible] in two sections of the spectrum (430 and 560 mμ); on the average, the indicatrix showed little dependence on wavelength, except in isolated cases. [illegible] total and [illegible] indicatrix [illegible] depend [illegible] were checked for agree- [illegible]

[illegible] rements of the [illegible] information on

NO REF SOV: [illegible]

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T.P.; TEYFEL', Ya.A.

Measurement of solar aureoles at various elevations above sea level. Izv AN Kazakh. SSR. Ser. fiz.-mat.nauk no.1:93-102 '63. (MIRA 17:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T.P.

Calibration curves for determining the overall water vapor content of the atmosphere by the spectroscopic method. Trudy Astrofiz. inst. AN Kazakh.SSR 4:68-79 '63. (MIRA 16:11)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

S/913/62/003/000/004/033
D405/D301

AUTHOR: Toropova, T.P.

TITLE: Investigation of solar halos

SOURCE: Akademiya nauk Kazakhskoy SSR. Astrofizicheskiy institut. Trudy. v. 3, 1962. Rasseyaniye i polyarizatsiya sveta v zemnoy atmosfere; materialy Soveshchaniya po rasseyaniyu i polyarizatsii sveta v atmosfere. 31 - 44

TEXT: The study of solar halos is important in view of obtaining data on the scattering function at small scattering angles. For this purpose investigations of the sky brightness in the vicinity of the Sun were conducted by the Astrophysical Institute of the AS KazakhSSR in 1961. The solar halos were studied by means of a photoelectric photometer (described in detail in the references). The light flux from the Sun was measured through a neutral filter, at a reduced photomultiplier supply-voltage. The random measurement errors did not exceed 1 - 2 %. The measurement

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technique was as follows: the photometer tube was trained accurately on the Sun and the solar radiation was measured (first at the reduced photomultiplier voltage and then at a normal voltage without the neutral filter). 115 measurement-series of halos were conducted in the summer-autumn period of 1961 in days with large halos. The scattering angle varied between 1 and 8°. The majority of the observations were conducted with two interference filters at wavelength of 447 and 546 mμ repectively. Van-de-Hulst's formula, expressing the halo brightness as a function of the scattering angle, was used. It was found that this formula fitted the empirical data. The observations showed that the asymmetry of the atmospheric scattering function increases with the wavelength. The brightness of the solar halo decreases, when the scattering angle varies from 1 to 8°, on the average by a factor of 22 for the blue filter, and 24 for the green filter. The obtained data permitted to estimate the order of magnitude of the error committed in the determination of the optical thickness of the atmosphere from the scattering function, due to the neglect of small scattering angles; this error was found to be 4.5% for $\lambda = 447$ mμ and 6.6% for $\lambda = 546$ mμ. Finally, the stability

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

S/913/62/003/000/004/033
D405/D301

Investigation of solar halos

criteria of the optical properties of the atmosphere are discussed. There are 9 figures and 3 tables.

Card 3/3

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T. P.
AID Nr. 976-10 24 May

SEARCHLIGHT SOUNDING OF THE ATMOSPHERE (USSR)

Toropova, T. P. IN: Akademiya nauk Kazakhskoy SSR, Astrofizicheskiy institut. Trudy, v. 3, 1962, 144-148. S/913/62/003/000/022/033

Investigations of the optical characteristics of fog and the degree of light polarization at different angles of scattering have been successfully conducted at the Institute of Astrophysics of the Kazakh Academy of Sciences through the use of specially designed searchlight equipment. The photoelectric installation consists of a compact searchlight creating a parallel light beam, a photoelectric photometer with automatic continuous recording of the intensity of light scattered at angles from 10 to 170°, and a spectrophotometer with automatic recording of the spectrum of direct light in the 4000-7000 Å wavelength region. [DM]

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, T.P.; BOYKO, P.N.; KHARITONOVA, G.A.

Spectrophotometry of solar aureoles. Izv.Astrofiz.inst.AN Kazakh.SSR 14:113-118 '62. (MIRA 15:8)
(Sun)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

6

Polarographic study of stability of the complexes of iron with tartaric acid. V. F. Toropova (Kazan State Univ.). *J. Gen. Chem.* (U.S.S.R.) 15, 603-7(1945)(English summary). Fe(III) forms two complexes with tartaric acid, depending on pH; at pH 3.4-7.0 the complex ion is $[Fe(C_4H_4O_6)_2]^{-}$, in alk. solns. (pH not stated) the ion is $[Fe(C_4H_4O_6)_3]^{-3}$; the dissocn. consts. are 0.9×10^{-6} and 4.5×10^{-16}, resp. The dissocn. const. of the Fe(II) complex, $[Fe(C_4H_4O_6)_2]^{-2}$, is 1.4×10^{-5}. G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

11

Polarographic Determination of Lead in Lead Bronzes. V. E. Turopova (*Zhur. Prikład. Khim.*, 1945, 18, (3), 177–180).—[In Russian] T. points out the possibility of determining Pb in bronze in alkaline solution. The accuracy is about 2%, and the time required 8 min.—N. A.

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

MATERIALS INDEX

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3RD AND 4TH ORDERS

2ND LETTER

1ST AND 3RD LETTER

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

7

CA

Amperometric titration of phosphate ion. V. F. Toropova and G. S. Yakovleva. *Zhur. Anal. Khim.* 1, 290-4(1946).—PO_4 ion was successfully titrated electrometrically with a standard $Pb(OAc)_2$ soln. in an atm. of H. The circuit contained a potentiometer and a galvanometer. The titration was carried out at 0.8 v. In a pH range 6-7.5, the results were satisfactory; the max. relative error was 0.8%. At pH < 5, or > 8, the results are too low. Mixts. of PO_4 ion and SO_4 ion can be titrated with $Pb(OAc)_2$ soln. to get the sum of both and then the former can be pptd. as $MgNH_4PO_4.6H_2O$ and the SO_4 ion alone detd. in an aliquot of the supernatant soln. Satisfactory results were obtained only at pH 3-4. M. Hosch

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

9

B

Determination of Sulphates in Nickel Plating Solutions. V. F. Toropova, F. A. Zimkin, and A. A. Popel. *Electroplating and Metal Finishing*, v. 3, Dec. 1949, p. 132-133.

Previously abstracted under similar title from *Zavodskaya Laboratoriya* (Factory Laboratory), v. 15, Apr. 1949, p. 404-407.

COMMON ELEMENTS

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V. F.

35850 TOROPOVA, V. F. I BATYRSHINA, F. M.

Atsetatnyye komplekay svintsa. Zhurnal analit. Khimi, 1949, VYP. 6, s. 337-40
Bibliogr: 8, Nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

7

Amperometric determination of sulfates in nickel-plating baths. V. F. Torgovova, B. A. Zimkin, and A. A. Popel. *Zavodskaya Lab.* 15, 404-7(1949).--The sulfate in Ni-plating baths can be detd. amperometrically, with the dropping-Hg cathode and satd. calomel electrode anode, with agar-KNO_3 bridge, and 0.8 v. potential impressed on the system from an external source and with a galvanometer to record the current. The soln. is titrated with 0.2 *N* $Pb(NO_3)_2$ which gives curves with sharp breaks at the equiv. points.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Analytical Chemistry

Amperometric determination of phosphorus and arsenic in organic compounds. M. K. Sabkina and V. F. Toropova. *Trudy Komissii Anal. Khim. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 4(7), 141-8(1952).—The amperometric titration of PO_4^{3-} and AsO_4^{3-} by $Fe_2(SO_4)_3(NH_4)_2SO_4$ was studied and applied to the detn. of P and As, separately or together, in org. compds. The usual amperometric titration app. with dropping Hg and satd. calomel electrodes was used. All titrations were at an e.m.f. of 1 v. A 0.05*M* soln. of Na_2HPO_4 was titrated with 0.1*M* $Fe_2(SO_4)_3(NH_4)_2SO_4$ soln. A pH of 3-4 was necessary. The Na_2HPO_4 sample was first neutralized to methyl orange with H_2SO_4. AcOH and NaOAc were added to the Fe soln. to adjust it to pH 3.7-3.8. Exptl. values for the equivalence point were proportional to the PO_4^{3-} content but when the amt. of PO_4 was calcd. (it is assumed that $FePO_4$ was pptd.) the results were high. When the titer of the Fe soln. was detd. by titrating known amts. of Na_2HPO_4 amperometrically, good results for PO_4 were obtained. To det. P in org. compds., a 0.06-0.1-g.

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sample was oxidized by long heating with H_2SO_4 and HNO_3, then evapd. to small vol. After neutralization by alkali hydroxide to methyl orange, the sample was transferred to a 250-ml. volumetric flask and dild. with water. A 50-100-ml. aliquot was titrated. By this method, 12 org. compds. were analyzed and 6 were checked gravimetrically. At P contents of 10-20% the amperometric P was within 0.5% of the gravimetric P. A 0.05M Na_3AsO_4 soln. was titrated exactly as the Na_2HPO_4 soln. The titer of the Fe soln. was calcd. from amperometric titrations of known Na_3AsO_4 soln. To det. As in org. compds. a sample was oxidized by heating with H_2SO_4 and HNO_3 in a Kjeldahl flask. Difficultly oxidized samples were treated in a sealed tube. The soln. was evapd. to fumes of H_2SO_4, neutralized to methyl orange, and transferred to a 250-ml. volumetric flask. A 50-100-ml. aliquot was titrated. Results on 3 compds. contg. approx. 30% As were within 0.6% of theory. From expts. with mixts. of Na_2HPO_4 and Na_3AsO_4 the following method for the detn. of P and As in org. compds. was developed. The sample was prepd. as for As detn. In one aliquot the sum of PO_4 and AsO_4 was titrated amperometrically. In another aliquot As was pptd. by H_2S and the excess H_2S removed by boiling. The PO_4 was detd. amperometrically in the presence of the ppt. Analysis of $MeEtAsP(:O)(OPr)_2$ isopropyl ester of methyl ethyl arsenophosphinic acid gave these results: 11.15% P, 26.03% As found; 10.91% P, 26.38% As theory. Eurilla Mayerle

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which was proportional to the couch. The following was arranged in the order of greater ease of reducibility: II → III → IV. The CH_3 group differed and occupied a place by itself. An increase of the no. of radicals in the [illegible] made the potential [illegible]. The [illegible] of the [illegible] [illegible]

[illegible]

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.

TOROPOVA, V.F.; SAYKINA, M.K.

Polarographic analysis of certain mixed organometallic compounds.
Soob.o nauch.rab.chl.VKHO no.3:6-8 '53. (MIRA 10:10)
(Organometallic compounds) (Polarography) (Reduction, Electrolytic)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; ANDRIANOV, A.A.

Polarographic determination of silver in silver plating baths by means of a rotating platinum electrode. Uch. zap. Kaz. un. 113 no.8:59-64 '53. (MLRA 10:5)

1. Kafedra analiticheskoy khimii.
(Silver plating) (Electrodes) (Polarography)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Торопова, Н. Ф.

Use of ion exchange for separation of copper, cadmium and zinc from thiosulfate solutions. A. M. Vasil'ev, V. F. Toropova, and A. A. Busygina. *Uchenye Zapiski Kazan. Univ.* 113, No. 8, 91–102(1953); *Referat. Zhur., Khim.* 1954, No. 44488.—The sepn. was effected on the basis of the stability of the thiosulfates of these elements. The concn. of solns. was detd. polarographically. Preliminary expts. carried out under static conditions showed an appreciable lowering of sorption of these elements by the cationite Offatit R (Na form) with an increase of thiosulfate ion in the soln. This was most noticeable in the case of Cu, followed by Cd, and finally by Zn. Under dynamic conditions Cu and Zn were sepd. by washing the adsorption column with 0.1*M* $Na_2S_2O_3$ at pH 7.6, and Cu and Cd by passing 0.015*M* $Na_2S_2O_3$.

M. Hosch

(2)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Toropova, V. F.

USSR/Chemistry - Physical chemistry

Card 1/1 : Pub. 151 - 3/37

Authors : Toropova, V. F.

Title : Mercury thiosulfate complexes

Periodical : Zhur. ob. khim. 24/3, 423-427, Mar 1954

Abstract : Potentiometric investigations were conducted to determine the composition and stability of complexes formed by ions of bivalent mercury with ions of thiosulfates. Thiosulfate complexes of bivalent mercury were to be stable in solutions with respect to alkalines; these complexes were also stable when exposed to acid solutions. In aqueous solutions the ions of bivalent mercury together with the thiosulfate-ion form complexes of different group coordination number. The instability constants of such complexes were computed. Mercury thiosulfate complexes demonstrated greater stability than any of the known thiosulfate-metal complexes. Thirteen references: 7-USSR; 3-USA and 3-German (1891-1951). Tables; graphs.

Institution : State University, Kazan

Submitted : July 30, 1953

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; SIROTINA, I.A.; ROTANOVA, V.B.

Copper and silver sulfite complexes. Uch.zap.Kaz.un. 115 no.3:53-60 '55. (MLRA 10:5)

1.Kafedra analiticheskoy khimii.
(Copper sulfite) (Silver sulfite)
(Complex ions)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V. F.

USSR/Inorganic Chemistry - Complex Compounds, C

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61264

Author: Toropova, V. F.

Institution: None

Title: Investigation of Complex Selenocyanate Compounds of Some Metals

Original Periodical: Zh. neorgan. khimii, 1956, 1, No 2, 243-250

Abstract: Utilizing potentiometric and polarographic methods a study has been made of the composition and stability of the complexes of Hg^{2+}, Cd^{2+}, Ag^{+}, Cu^{+} and Co^{2+} with $SeCN^{-}$. It was found that at concentrations of $SeCN^{-} > 3.8 \cdot 10^{-3}$ g-ion/l predominates the complex $[Hg(SeCN)_4]^{2-}$ (instability constant $k = 2.8 \cdot 10^{-30}$, $\Delta F = -40.3$ kcal, $\Delta H = -46.5$ kcal, $\Delta S = -20.8$ entr. unit at 25°), while at lower concentrations there exist also ions $[Hg(SeCN)_3]^{-}$. With Cd^{2+} and Ag^{+} was determined the formation of $[Cd(SeCN)_4]^{2-}$ with $k = 2.5 \cdot 10^{-4}$ and $[Ag(SeCN)_3]^{2-}$ with $\lg k = -13.90$. Copper forms the complex $[CuSeCN]$, and Co^{2+} very weak complexes unstable in aqueous solutions. On the

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

USSR/Inorganic Chemistry - Complex Compounds, C

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61264

Abstract: basis of a comparison of the stability of complexes with $SeCN^-$ and with SCN^- the author reaches the conclusion that on bonding of the central ion with the addendum through atoms of S or Se the selenocyanate complexes are more stable than the thiocyanates (Hg^{2+}, Cd^{2+}, Ag^+), while with bonding through N-atoms less stable are the (Co^{2+}).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.

Study of the stability of mercury thiourea complex compounds. Zhur.neorg.khim. 1 no.5:930-937 My '56. (MLRA 9:10)

1. Kazanskiy gosudarstvennyy universitet, Kafedra analiticheskoy khimii.

(Mercury organic compounds) (Urea)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Category: USSR/Analytical Chemistry - Analysis of inorganic substances. G-2

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 31030

Author : Toropova V. F.
Inst : not given
Title : Polarographic Determination of Selenium

Orig Pub: Zh. analit. khimii, 1956, 11, No 5, 599-601

Abstract: The method is based on electro-reduction of $SeSO_3^{2-}$ at the dropping Hg-electrode. A micropolarograph of Heyrovski-design was used; a saturated calomel electrode served as anode. It was found that half-wave potential of $SeSO_3^{2-}$ ($E_{1/2}$= -1.06 v in 0.005 M Na_2SeSO_3 with 0.3 M $NaNO_3$ background) does not depend on concentration of OH^-; this makes it possible to advance the only possible assumption concerning the mechanism of electrode reaction: $SeSO_3^{2-} + 2e = Se^{2-} + SO_3^{2-}$. The proposed mechanism of the reaction is also confirmed by the fact of accumulation of a black precipitate of HgSe, during the electrolysis, which

Card : 1/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Category: USSR/Analytical Chemistry - Analysis of inorganic substances. G-2

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 31030

is formed as a result of interaction of Se^{2+} with metallic Hg. Polarographic wave of $SeSO_3^{2-}$ is used to determine Se in Na_2SeO_3. The solution being analyzed is acidified with hydrochloric acid, a slight excess of thiourea is added (to cause separation of elemental Se), neutralization is effected with soda, Na_2SO_3 is added until the red precipitate is dissolved, water is used to dilute to 50 ml and the polarographic determination is carried out. The described method can be applied also to other selenium-containing compounds.

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VINOGRADOV,A.P.; ALIMARIN, I.P.; KLYACHKO, Yu.A.; RYABCHIKOV, D.I.; RUDNEV, N.A.; RUDENKO, N.P.; TOROPOVA, V.F.; SHIFRIN, Kh.V.

Aleksei Mikhailovich Vasil'eyv. Zav.lab. 22 no.7:887 '56. (MIRA 9:12)
(Vasil'ev, Aleksei Mikhailovich, 1882-1956)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

BATYRSHINA, F.M.; TOROPOVA, V.F.

Polarographic analysis of complex formate compounds of lead and cadmium. Uch.zap.Kaz.un. 116 no.5:91-94 '56. (MLRA 10:4)

1. Kafedra analiticheskoy khimii.
(Lead) (Cadmium) (Compounds, Complex)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TUKUTOVA, V.K.

USSR/Inorganic Chemistry - Complex Compounds. C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30296

Author : Batyrshina, F.M., Topopova, V.F.
Inst : Kazan' University
Title : Polarographic Study of Complex Compounds of Lead with Salts of Monochloracetic Acid.

Orig Pub : Uch. zap. Kazansk. un-ta, 1956, 116, No 5, 95-96

Abst : By means of the polarographic method a study was made of the composition and stability of complex compounds formed by the ions Pb^{2+} and $ClCH_2COO^-$ (I). It was found that with a concentration of I of, or below, 0.4 g-ion/liter, there is formed mostly $[Pb(OOCCH_2Cl)]^+$ having an instability constant $9 \cdot 10^{-3}$. Comparison of stability of the complexes of Pb^{2+} with the anions CH_3COO^-, $HCOO^-$ and I leads the authors to the conclusion concerning a stability decrease in the series CH_3COO^- $HCOO^-$, I.

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Toropova, V.F.

USSR/Electrochemistry B-12

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26327

Author : V.F. Toropova, R.Sh. Nigmatullin, Yu.M. Kargin
Inst : Kazan University
Title : To the Question of Application of Oscillo-Polarographic Method to Study of Complex Ions.

Orig Pub : Uch. zap, Kazansk. un-ta, 1956, 116, No 5, 108-112

Abstract : The reversibility (RZhKhim, 1957, 3946) of reduction of Cd^{2+} and Zn^{2+} in non-complex ($NaNO_3$) and complex solutions was studied by the oscillo-polarographic method with sinusoidal voltage at 18° and constant ion strength of solution, which was maintained equal to 1 by addition of $NaNO_3$. The degree of irreversibility was judged by the magnitude of the deviation of the experimental value of ΔE_p (potential differences between the peaks of the anode and the cathode waves) from the theoretical corresponding to a reversible process, and ΔE_p was determined at this occasion at various speeds of the potential changes (α) and extrapolated to the value of $\alpha = 0.005$ v per sec, which corresponded to the conditions of usual palarography. It was shown that the reduction of

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USSR/Electrochemistry B-12

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26327

Cd^{2+} from solutions of $NaNO_3$, $Na_2S_2O_3$, KCl (0.05, 0.5 and 1M) and thiourea occurred reversibly, and from the solutions of NH_4OH and $K_2C_2O_4$ (0.052 and 0.36 M) occurred irreversibly. Zn^{2+} is reduced irreversibly from all the studied solutions: $NaNO_3$, NH_4OH (0.08 and 1.2M), $K_2C_2O_4$ (0.05 M) and NaOH. The irreversibility degree rises with the increase of α. The alteration of NH_4OH concentration in ammonium solutions alters the shape of the anode peak of Cd^{2+} and Zn^{2+}, and the alteration of $C_2O_4^{2+}$ in oxalate solutions influences the cathode peak. The concentration of $C_2O_4^{2-}$ ions also strongly influences the degree of irreversibility of Cd^{2+} and Zn^{2+}. The authors suppose that the retarded stage is connected with the anode process in ammonium solutions and with the catode process in oxalate solutions.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V. F.

AUTHOR: Toropova, V. F. 78-3-5/35

TITLE: Investigation of the Stability of Complex Compounds with Selenium-containing Addends. (Issledovaniye Ustoychivosti Kompleksnykh Soyedineniy s Addendami, Soderzhashchimi Selen).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, pp. 515-522. (USSR)

ABSTRACT: This investigation represents a continuation of previous work on the study of selenium-containing complex compounds. An attempt has been made to provide an explanation for the different character of the reaction of certain complex forming substances with addends containing sulphur or selenium. The reaction of the ions of some metals with selenosulphate-ions was examined and the stability of the selenosulphate complex of mercury was evaluated; analysis of polarographic curves was used for this. The stability of the selenite complex of mercury was studied by determining the solubility of mercury selenite. The instability constants of the selenite and sulphite complexes of cadmium have been determined, and the

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Investigation of the Stability of Complex Compounds with Selenium-containing Addends. 78-3-5/35

stability of certain selenium-containing complexes has been compared with that of the analagous compounds of sulphur and oxygen. Views are put forward on the nature of the reaction of ions of various metals with addends containing selenium or sulphur in relation to the structure of these compounds. There are 3 figures, 5 tables and 23 references, of which 9 are Slavic.

ASSOCIATION: The Kazan State University imeni V. I. Ulyanov-Lenin. (Kazanskiy Gosudarstvennyy Universitet im. V. I. Ul'yanova-Lenina.)

SUBMITTED: December 4, 1956.

AVAILABLE: Library of Congress.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.

TOROPOVA, V.F.

5(4) SOV/153-58-3-30/30

AUTHORS: Vasil'yev, V. P., Korableva, V. D., Yatsimirskiy, K. B.

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. [illegible]. In the lecture by A. K. Babko and N. 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 .....

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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 M. 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. Chernlevskiy 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. Kusnetsov 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

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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. Telnachev, 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 formation in solution. If several mononuclear complexes are formed 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 dissolution methods of the polynomials proposed by B'yerrum, Leden, Rossoti, Sketchard, 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 Investigation 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 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 formation. 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 different 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 V. M. Peshkova and A. P. Zozulya "Application of the Distribution Method to the Investigation of the Stability Constants

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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

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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

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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

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the results obtained from the absorption spectra of the com-

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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 Polarization" 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. Ye. 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 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' 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 of the complexes were determined and it was proved that the

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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. N. Tolmachev, V. I. Kuznetsov

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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.

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TOROPOVA V.F.

AUTHORS: Toropova, V. F., Strekalova, O. S. 32-2-5/6o

TITLE: The Amperometric Determination of Cobalt in Magnetic Alloys (Amperometricheskoye opredeleniye kobal'ta v magnitnykh splavakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 14o-141 (USSR)

ABSTRACT: As basis of the above mentioned method the oxidation of bivalent cobalt with potassium-ferric-cyanide, in ammoniacal medium, was taken. The apparatus is arranged as usual (rotating Pt-cathode, calomel-anode, micro-amperemeter etc.) and the titration was carried out at -0,2 V. The authors found that a back-titration of potassium-ferric-cyanide shows better results than the direct titration (i.e. Co-ions with K-ferric-cyanide) and that it is essentially necessary to add a certain amount of K-ferric-cyanide solution to the solution to be investigated before titration (which then is back-titrated). With this method described the presence of nickel, aluminum and iron does not disturb, while copper must earlier be removed with hydrogen sulfide, Na-thiosulfate or by electrolysis. From the course

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of analysis mentioned can be seen that the sample was dissolved in nitric acid and that the copper was precipitated with Na-thiosulfate and then was titrated with 0,1 M potassium-ferric-cyanide solution. The end point was determined graphically. The method described is used in series analyses in the laboratories of the Institute. The duration of analysis is mentioned to be 2o - 3o minutes. From a comparison by means of tables of the results obtained gravimetrically and those obtained according to this described method a satisfactory coincidence is shown. There is 1 table.

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1. Cobalt-Determination 2. Potassium ferric cyanide-Applications
3. Titration

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V. F., Doc Chem Sci (diss) -- "Investigation of complex-formation in solutions by electrochemical methods". Moscow, 1959. 30 pp (Min Higher Educ, Moscow Order of Lenin State U im M. V. Lomonosov, Chem Faculty), 200 copies (KL, No 20, 1959, 109)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

10 Ropova, U.S.

AUTHOR: Bilimovich, G. N. SOV/75-14-4-30/30

TITLE: Section of Analytical Chemistry of the VIII Mendeleyev Congress on General and Applied Chemistry

PERIODICAL: Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 4, pp 511-512 (USSR)

ABSTRACT: Approximately 300 persons participated in the work of the Department of Analytical Chemistry, among them representatives of various scientific research institutes, higher schools and industrial enterprises in Russia, scientists from China, Bulgaria, the ČSR, Poland, Hungary, and Italy. Approximately 70 reports were heard. In his opening speech I. P. Alimarin reported on the achieved results and on modern problems of analytical chemistry. I. V. Tananayev reported on the application of physico-chemical analysis in heterogeneous systems for the solution of a series of problems of analytical chemistry. V. I. Kuznetsov reported on modern aims in the use of organic reagents; A. K. Babko showed at the example of halide and thiocyanate complexes the correlation between the stability of complexes and the position of the corresponding central atoms in the periodic system. V. M. Peshkova and V. M. Bochkova lectured on the stability of oximates of Cu, Co, and Ni as depending on the structure of the oxime molecule. V. F. Toropova lectured on the double character of reaction of some compounds in the formation of complexes. The problem of the application of heteropolyacids in analytical chemistry was dealt with in the lectures of Z. F. Shakhova and co-workers, and A. I. Kokorin and N. A. Polotebnova. A large number of lectures dealt with the use of new organic reagents in analysis: A. I. Busev and M. I. Ivanyutin reported on the application of dialkyl and diaryl dithio-phosphoric acid for the separation of elements, A. I. Portnov used aryl arsonic acid and aryl phosphinic acid. R. P. Lastovskiy and his co-workers treated some properties of new complexons. The lectures of V. A. Nazarenko, G. G. Shitareva and A. I. Kononenko dealt with the photometric determination of a series of elements using fluorine derivates. A. I. Cherkesov lectured on the use of halochromation in analytical chemistry. B. M. Dobkina and T. M. Malyutina lectured on the determination of tantalum using differential spectrophotometry. Yu. V. Morachevskiy and I. A. Stolyarova reported on new highly sensitive analysis methods using an ultraviolet microscope. Several lectures dealt with methodical and theoretical problems of spectrum analysis (N. F. Zakhariy and G. A. Sheynin; E. Ye. Vaynshteyn and co-workers). N. S. Poluektov and M. N. Nikonova treated the perfection of flame photometry. Several lectures dealt with the determination of elements by polarography (S. I. Sinyakova; Z. B. Rozhdestvenskaya and I. A. Yarovoy; Ya. P. Gokhshteyn). New results in using fixed electrodes were reported by I. D. Panchenko and Yu. S. Lyalikov and co-workers. The lecture of N. I. Udal'tsova and P. N. Palay treated the use of amperometric titration with two electrodes in the chemistry of uranium and thorium. M. M. Senyavin showed possibilities of predicting the conditions of chromatographic separation of elements based on their position in the periodic system. T. A. Belyavskaya reported on the use of ion exchange in the investigation of the state of substances in solutions. A. S. Vernidub and V. I. Petrasnen' lectured on the chromatographic separation of a series of elements, N. G. Polyanskiy reported on adapting the properties of ion exchanger resins, F. M. Shemyakin and associates reported on the chromatographic proof of sulfanilamide preparations in liquids of the organism. G. L. Starobinets and associates treated the application of high polymers in chromatographic analysis. The lecture of A. A. Zhukhovitskiy and N. M. Turkel'taub, G. Shay dealt with gas chromatography. Several lectures treated the use of radioactive isotopes for the chromatographic investigation of complex formation (D. I. Ryabchikov and associates), for the investigation of the co-precipitation mechanism of ions of rare metals with sulfides (N. A. Rudnev) and for determining rare elements by means of isotope dilution (I. P. Alimarin, G. N. Bilimovich). In the field of elementary organic microanalysis the lectures of M. O. Korshun, N. E. Gel'man and V. A. Klimova with associates have to be mentioned, who treated the elaboration of rapid micromethods for the simultaneous determination of several elements from one weighed portion of boron, fluorine and silicium-organic compounds.

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69050

AUTHORS: Toropova, V. F., Kirillova, L. S.

S/078/60/005/03/012/048
B004/B002

TITLE: An Investigation of Complex Compounds of Mercury and Silver With Thiosemicarbazide

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 3, pp 575-579 (USSR)

ABSTRACT: It was the purpose of the authors' investigation to determine the stability and thermodynamic data of thiosemicarbazide complexes of Hg and Ag. The investigation was carried out potentiometrically by means of a PPTV-1-potentiometer at different temperatures. Table 1 gives the potentials of the Hg electrode in solutions of thiosemicarbazide complexes of Hg. As is shown by figure 1, there is a linear relation between the potential of the electrode and the logarithm of the concentration, with tg α = 0.120. Under the experimental conditions chosen, the complex ions are of the composition $\left[Hg(TS)_4\right]^{2+}$ (TS = $SC^{NHNH_2}_{NH_2}$). Table 2 gives the instability constants pK_4 of the complexes for 20^0 - 50^0. At 25^0, $pK_4 = 26.25 \pm 0.07$ holds. The heat effect ΔH of the complex development was found to be -41 ± 2 kcal. Tables 2, 3 and figure 2 give the results for the thiosemicarbazide complex of Ag. The complex ions are of the

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69050

An Investigation of Complex Compounds of Mercury and Silver With Thiosemicarbazide

S/078/60/005/03/012/048
B004/B002

composition $\left[Ag(TS)_3\right]^{3+}$, the instability constant pK_3 at 25° is 12.76±0.08, the heat of formation $\Delta H = 18 \pm 2$ kcal. Tables 5, 6 give the results as to the thiourea complex of Ag which is of the composition $\left[AgT_3\right]^{+}$ ($T = SC(NH_2)_2$). The instability constant pK_3 at 25° is 13.10±0.05 which is in good agreement with A. T. Pilipenko's data (Ref 10). The authors' results are given by table 7. It is said that thiosemicarbazide compounds of Hg and Ag hardly differ from the thiourea compounds in their thermodynamic values. Since in the latter, the bond between Hg and Ag respectively, and the addendum is formed by the sulphur atom only, the authors assume a similar structure in the case of thiosemicarbazide complexes as well. The nitrogen of hydrazine thus does not take part in the complex formation. There are 7 figures, 2 tables, and 15 references, 7 of which are Soviet.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina (Kazan' State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: November 5, 1958

Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

5.2620

69022

AUTHORS: Toropova, V. F., Naymushina, K. V.

S/078/60/005/04/017/040
B004/B007

TITLE: Polarographic Investigation of the Complex Compounds of Cadmium With Thiosemicarbazide and Semicarbazide

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 4, pp 874 - 878 (USSR)

ABSTRACT: In this paper the investigations of the thiosemicarbazide complexes of mercury and silver carried out in reference 1 were extended to cadmium. The investigation was carried out by means of the polarograph of the Gintsvetmet (Gosudarstvennyy institut po tsvetnym metallam - State Institute of Nonferrous Metals) on a dropping mercury electrode. For measuring the pH an LP-5 tube-potentiometer was used. Table 1 gives the measured half-wave potentials of Cd^{2+} in the presence of thiosemicarbazide at 25°. Figure 1 shows the linear dependence of the half-wave potential on the logarithm of thiosemicarbazide concentration. The angular coefficient of the straight line is 0.064. The solution therefore contains complex ions with the coordinate number 2: $[Cd(TS)_2]^{2+}$ (TS = $SC(NHNH_2)(NH_2)$). The instability constant was cal-

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

69022

Polarographic Investigation of the Complex Compounds of Cadmium With Thiosemicarbazide and Semicarbazide

S/078/60/005/04/017/040
B004/B007

culated as being 5.5± 0.15. In figure 2 the dependence of the stability of the cadmium-thiosemicarbazide-complex on pH is shown. The complex is stable between pH 5 - 7. With pH $<$ 1.2 hydrazine hydrogen does not seem to participate in the formation of the complex. The authors therefore assume a similarity with the thiourea complex of cadmium in this region, and compare the half-wave potentials of these two compounds in table 2. In table 3 the dissociation constants of thiosemicarbazide at different pH are given. The cadmium semicarbazide complexes were investigated in a similar manner: Table 4: Half-wave potentials of Cd^{2+} in the presence of semicarbazide, figure 3: Dependence of the half-wave potential on the concentration of semicarbazide. Herefrom the existence of the complex $[Cd(Sem)_2]^{2+}$ is proved (Sem = $OC^{NHNH_2}_{NH_2}$), the instability constant of which was calculated to be 3.3±0.15. Figure 4 shows the influence of pH on the half-wave potential. The optimum range for the existence of the semicarbazide complex is between pH 6 - 7. In table 5

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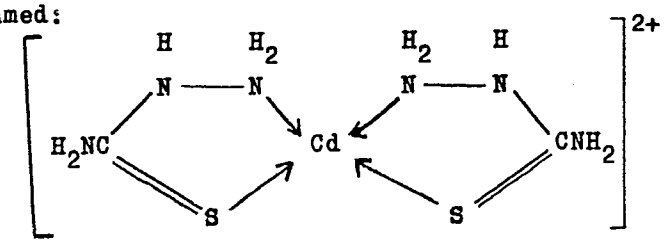
69022

Polarographic Investigation of the Complex Compounds of Cadmium With Thiosemicarbazide and Semicarbazide

S/078/60/005/04/017/040
B004/B007

the authors give the instability constants of the CdX_2^{2+}-complexes for X = thiourea, thiosemicarbazide, and semicarbazide. Thiosemicarbazide is bound to cadmium both by means of hydrazine nitrogen and also by sulfur. This is proved by the complex formation with semicarbazide on the one hand and with thiourea on the other. For the thiosemicarbazide complex of cadmium the following cylindrical structure is therefore assumed:



There are 4 figures, 5 tables, and 4 references, 2 of which are Soviet.

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

69022

Polarographic Investigation of the Complex Compounds of Cadmium With Thiosemicarbazide and Semicarbazide

S/078/60/005/04/017/040
B004/B007

ASSOCIATION: Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina (Kazan' State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: November 5, 1958

Card 4/4

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; KIRILLOVA, L.S.

Complex compounds of mercury and silver with thiosemicarbazide.
Zhur. neorg. khim. 5 no.3:575-579 Mr '60. (MIRA 14:6)

1. Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina.
(Mercury compounds)
(Silver compounds)
(Semicarbazide)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; SAYKINA, M.K.; LUTSKAYA, N.K.

Complex compounds of mercury and silver with diethylthiophosphates. Zhur.neorg.khim. 6 no.9:2086-2090 S '61. (MIRA 14:9)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina i Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova.
(Mercury compounds) (Silver compounds) (Phosphorothioic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; BATYRSHINA, F.M.

Nitro complexes of lead and cadmium. Izv.vys.uchev.zav.; khim.i khim.tekh. 4 no.1:11-15 '61. (MIRA 14:6)

1. Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina kafedra analiticheskoy khimii.
(Nitro compounds) (Lead compounds) (Cadmium compounds)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; KITAYEV, Yu.P.; BUDNIKOV, G.K.

Complex compounds of mercury and silver with acetone thiosemicarbazone. Zhur. neorg. khim. 6 no.3:647-652 Mr '61. (MIRA 14:3)

1. Kazanskiy gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina Kazanskiy filial AN SSSR.
(Mercury compounds)
(Silver compounds)
(Acetone)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

ACCESSION NR: AP4014220 S/0075/64/019/002/0174/0177

AUTHOR: Toropova, V. F.; Yelizarova, G. L.

TITLE: Polarographic catalytic hydrogen currents in solutions of certain complex compounds and the determination of beryllium

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 2, 1964, 174-177

TOPIC TAGS: beryllium, nicrodetermination, polarographic analysis, nickel complex, electroreduction, nickel 8 hydroxyquinoline complex, cobalt 8 hydroxyquinoline complex, oscillographic polarography, nickel organic sulfur complex, nickel organic nitrogen complex

ABSTRACT: An oscillopolarographic study was made of the reduction of nickel complexes of sulfur-containing (cysteine, thiosemicarbazide) and nitrogen-containing compounds (glycine, ethylenediamine, semicarbazide, 8-hydroxyquinoline). The catalytic activity of the complexes was shown to be connected with the nature of their electroreduction which was determined by the formation of intermediate complexes during electroreduction. Divalent Ni, Co and Fe and trivalent

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ACCESSION NR: AP4014220

Cr ions can form these complexes in which the central atom exists in a lower oxidation state and which exist at negative potentials behaving similarly to metals of the transition series. Metal ions which do not form catalytically active complexes lower the catalytic wave if they can displace the transition metal ions from the complex. Thus Be^{2+}, Al^{3+}, Ga^{3+} and In^{3+} added to an 8-hydroxyquinoline-cobalt complex lowered the catalytic current proportionally to the metal ion concentration. The gamma amounts of beryllium were determined within $\pm$ 13% by the decrease of the catalytic wave of this complex. The presence of large amounts of Al, Mg and Fe with the Be did not lower the accuracy of the method. Orig. art. has: 2 tables and 6 figures.

ASSOCIATION: Kazanskiy gosudarstvenny*y universitet im. V. I. Ul'yanova-Lenina (Kazan State University)

SUBMITTED: 27Mar 63 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; YELIZAROVA, G.L.

Polarographic hydrogen catalytic currents in solutions of complex compounds of some metals. Zhur. anal. khim. 18 no.1: 4-8 Ja '63. (MIRA 16:4)

1. V.I. Ulianov-Lenin Kazan State University.
(Complex compounds) (Catalysis)
(Polarography) (Reduction, Electrolytic)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; BELOZERSKAYA, V.V.; CHERNITSYN, A.I.

Use of thiourea for the precipitation of thallium and lead sulfides. Izv.vys.ucheb.zav.; khim.i khim.tekh. 7 no.6:898-903 '64. (MIRA 18:5)

1. Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina, kafedra analiticheskoy khimii.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; SAYKINA, M.K.

Complex compounds of alkylmercury ions. Zhur. neorg. khim. 10 no.5:1166-1171 My '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy institut khimii imeni Butlerova Kazanskogo gosudarstvennogo universiteta imeni Ul'yanova-Lenina.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.F.; YELIZAROVA, G.L.

Polarographic catalytic hydrogen currents in solutions of some complex compounds and the determination of beryllium. Zhur. anal. khim. 19 no.2:174-177 '64. (MIRA 17:9)

1. Kazanskiy gosudarstvennyy universitet imeni Ul'yanova-Lenina.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

POLYANIN, V.A., prof., nauchn. red.; MARKOV, M.V., prof., nauchn. red.; TOROPOVA, V.F., prof., nauchn. red.; KLIMOV, Ye.A., red.

[Collection of papers of graduate students; natural sciences] Sbornik aspirantskikh rabot; estestvennye nauki. Kazan', Izd-vo Kazanskogo univ., 1965. 178 p. (MIRA 18:11)

1. Kazan' Universitet.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, V.P. (Kazan')

Investigation of composition and stability of complex compounds in solutions. Uch.zap.Kaz.un. 115 no.10:50-51 '55. (MLRA 10:5)
(Compounds, Complex)
(Solution (Chemistry))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

IDATT, M.P. [Idatte, M.P.]; ROT, E. [Roth, Ernst]; TOROPOVA, V.S. [translator]; PLUNGYAN, A.M. [translator]; NAUMOV, V.P. [translator]; BOROVIKOV, A.F., red.; KHOMYAKOV, A.D., tekhn.red.

[Antiaircraft fire; effectiveness of antiaircraft fire] Voprosy zenitnoi strel'by: Effektivnost' zenitnoi strel'by [by M.P.Idatte; translated from the French]. [Computing the trajectories of guided missiles] K raschetu traektorii reaktivnykh snariadov, upravliaemykh po luchu [by Ernst Roth; translated from the German]. Moskva, Izd-vo inostr.lit-ry, 1959. 203 p. (MIRA 13:7)
(Antiaircraft guns) (Guided missiles)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

GAUZE, G.F., KUDRINA, Ye.S., TRENINA, G.A., TOROPOVA, Ye.G., VYSHEPAN, Ye.D.

Formation of a new antibiotic actinoidin in cultures of Proactinomyces actinoides [with summary in English]. Antibiotiki 3 no.1:51-55 Ja-F'58 (MIRA 11:5)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS,
actinoidin, prod. by Poractinomyces actinoides (Rus))
(NOCARDIA,
Proactinomyces actinoides, prod. of actinoidin (Rus))

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.G.; GAVRILINA, G.V.; LIROVA, S.A.; IVANOV, K.K.

Formation of antibiotic 6613 in cultures of Actinomyces daghestanicus. Antibiotiki 4 no.5:11-14 S-O '59. (MIRA 13:2)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS)
(ACTINOMYCES)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Toboperet, Ye. G.

MD

3

Requirements of anaerobic bacteria in the oxidation-reduction conditions of mediums. I. L. Rabotnova, E. O. Toropova, and M. Yu. Rabaeva (M. V. Lomonosov State Univ., Moscow). *Mikrobiologiya* 24, 525–31(1955).—The putrefactive anaerobes *Clostridium sporogenes* and *Bacillus putrificus* can develop in broth exposed to air if the tube is filled 5–6 cm. deep and the medium is thickened with 0.2% agar. The initial rH of 20–22 drops to 1–2, and in the stage of rapid decrease (first few hrs.) proliferation stops but the cells grow larger, mainly in length. If rH is held to 5 or higher for *C. sporogenes* or to 3 or higher for *B. putrificus*, proliferation does not begin again after the first-stage stoppage, showing that these are obligate anaerobes. Proliferation is not inhibited by such rH indicators as neutral red, Janus green, phenosafranine, indigo di- or tetrasulfonate, or methylene blue (titrations with $Na_2S_2O_4$ or ascorbic acid). Reducing power is not limited to the medium, but is also exerted by the living cells. Spores can grow at rH 20.8 but are inhibited at rH 21.8; with *C. sporogenes* formation of giant cells occurs at rH 3–5. Julian F. Smith

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.G.

Soil bacteria as a possible source of new antitumor substances. Antibiotiki 6 no.2:105-107 F '61. (MIRA 14:5)

1. Laboratoriya vydeleniya i kul'tivirovaniya produtsentov novykh antibiotikov (zav. - prof. G.F.Gauze) Instituta po izyskaniyu novykh antibiotikov AMN SSSR.
(SOILS--BACTERIOLOGY) (ANTIBIOTICS)
(CYTOTOXIC DRUGS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.G.

Direct and indirect methods in selecting antitumor antibiotics.
Antibiotiki 7 no.1:90-94 Ja '62. (MIRA 15:2)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS) (CYTOTOXIC DRUGS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.G.

Method for cultivating tumor cells in vitro and its use for the primary selection of new antitumor antibiotics. Antibiotiki 7 no.7:598-601 Jl'62. (MIRA 16:10)

1. Laboratoriya izyskaniya i kul'tivirovaniya produtsentov (zav. - prof. G.F.Gauze) Instituta po isyskaniyu novykh antibiotikov AMN SSSR.
(ANTIBIOTICS) (CYTOTOXIC DRUGS)
(TUMORS)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

S/183/62/000/005/002/002
B101/B186

AUTHORS: Kharitonov, V. M., Lebedeva, A. I., Kharitonova, G. N., Toropova, Ye. G., Kiriyenko, I. B.

TITLE: Production of Adimin fiber

PERIODICAL: Khimicheskiye volokna, no. 5, 1962, 47 - 49

TEXT: Experiments made in 1955 - 57 to imitate the Western Trelon fiber had failed. The present paper gives results of experiments started in 1961 to produce a fiber, "Adimin", from hexamethylene diammonium adipate (AH salt) and ε-caprolactam in the ratio of 90 : 10. These experiments were made with an apparatus used for producing caprone fiber. The process consists in: dissolution of the two monomers; filtration of the solution; polyamide formation; extruding of the polyamide into bands and crumbling of the bands; drying of the polyamide and spinning; further processing of the fiber in the textile plant. Since Adimin contains only 1.5-2% low-molecular compounds there was no need to wash out the crumbled polyamide. The molecular weight of polyamide was found to drop with increasing content of stabilizer (adipic acid): the MW was 23,500-24,000 with 0.45% adipic acid, and 18,700-18,800 with 0.85% adipic acid. An MW

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

Production of Adimin fiber

S/183/62/000/005/002/002
B101/B186

of 18,800-20,000 is recommended for producing hosiery. Adimin is more heat-resistant than caprone, its MW remained unchanged when heated to 280°C for 1 hr. Spinning of Adimin was performed with ПП-700-И (PP-700-I) spinning machines, rate of fiber formation 700 m/min, polyamide temperature 270-271°C, drawing 1 : 3.3. The fiber showed 35-37 km breaking length and 36-38% elongation. As compared with caprone, Adimin has higher shrinkage and lower stiffness: data for fixed, twisted fiber with 200 windings per meter: shrinkage in H_2O at 100°C, 5.1% (caprone 6.5%), stiffness measured with Pavlov's pendulum apparatus, 103 (caprone 143). The fiber is easily worked into hosiery. There are 3 tables.

ASSOCIATION: VNIISV (V. M. Kharitonov, A. I. Lebedeva)
Klinskiy kombinat (Klin Combine) (G. N. Kharitonova, Ye. G. Toropova, I. B. Kiriyenko)

SUBMITTED: May 3, 1962

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

KHARITONOV, V.M.; LEBEDEVA, D.I.; KHARITONOVA, G.N.; TOROPOVA, Ye.G.; KIRIYENKO, I.B.

Preparation of "adimine" fibers. Khim.volok. no.5:47-49 '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklyanogo volokna (for Kharitonov, Lebedeva). 2. Klinskiy kombinat iskusstvennogo i sinteticheskogo volokna (for Kharitonova, Toropova, Kiriyenko).
(Textile fibers, Synthetic)
(Polyamides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

KHARITONOV, V.M.; SMIRNOVA, G.L.; KUDRYASHOV, S.A.; BORIK, A.G.; KHARITONOVA, G.N.; TOROPOVA, Ye.G.

Capron fibers with nonround cross section. Khim.volok. no.5:49-51 '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy insitut steklyanogo volokna (for Kharitonov, Smirnova, Kudryashov).
2. Klinskiy kombinat iskusstvennogo i sinteticheskogo volokna (for Borik, Kharitonova, Toropova).
(Nylon)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

YEGOROV, N.S.; TOROPOVA, Ye.G.; USHAKOVA, V.I.; MIKHAYLOVA, T.N.; MIRONOV, V.A.

Formation of novobiocin in the dynamics of the development of Actinomyces spheroides culture on a synthetic medium with various nitrogen sources. Antibiotiki 10 no.8:678-684 Ag '65. (MIRA 18:9)

1. Kafedra mikrobiologii Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.G.; MATVEYEVA, M.K.

Nylon fibers with a non-round cross section. Tekst. prom. no.9:32-33 S '65. (MIRA 18:10)

1. Rabotniki Klinskogo kombinata iskusstvennogo i sinteticheskogo volokna.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

MAKSIMOVA, T.S.; TOROPOVA, Ye.G.; KOVALENKOVA, V.K.; GAUZE, G.F.

Antitumor antibiotics of the enkaline group produced by actinomycetes. Antibiotiki 10 no.3:201-207 Mr '65. (MIRA 18:10)

1. Institut po izyskaniyu novykh antibiotikov AMN SSSR, Moskva.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

MAKSIMOVA, I.V.; TOROPOVA, Ye.G.; PIMENOVA, M.N.

Release of organic substances by green algae, grown on mineral media. Mikrobiologiia 34 no.3:483-490 My-Je '65. (MIRA 18:11)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V.Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

L 30711-66 EWT(m)/EWP(j)/T RM
ACC NR: AP5028990 (A) SOURCE CODE: UR/0342/65/000/009/0032/0033

9
B

AUTHORS: Toropova, Ye. G.; Matveyeva, M. K.

ORG: Klin Combine for Artificial and Synthetic Fibers (Klinskiy kombinat iskusstvennogo i sinteticheskogo volokna)

15,44,55

TITLE: Capron fibers with noncircular cross section

SOURCE: Tekstil'naya promyshlennost', no. 9, 1965, 32-33

TOPIC TAGS: textile, textile engineering, textile industry, textile industry machinery, capron

ABSTRACT: This paper deals with a spinneret invented jointly by the Design Bureau of the Mosgorsovnarkhoz and the Klin Combine for Artificial and Synthetic Fibers. The spinneret is designed for the production of capron fibers of triangular cross section. It was successfully employed for the production of capron monofibers No. 450 (2.22 text.). The new monofiber has found many applications in the textile industry, and the authors hope that many more applications and uses will be found in the future.

SUB CODE: 11/ SUBM DATE: none

Card 1/1 [redacted] S UDC: 677.002.6.4 Z

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

L 27421-66 EWT(1) SCTB DD

ACC NR: AP6017697 SOURCE CODE: UR/0220/65/034/003/0483/0490

AUTHOR: Maksimova, I. V.; Toropova, Ye. G.; Pimenova, M. N.

ORG: Soil Biology Faculty, Moscow State University im. M. V. Lomonosov (Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Release of organic matter by green algae grown in mineral media

SOURCE: AN SSSR. Mikrobiologiya, v. 34, no. 3, 1965, 483-490

TOPIC TAGS: algae, chlorella, plant development, microbiology

ABSTRACT: When Chlorella pyrenoidosa and Chlorella vulgaris are grown in liquid mineral media, a substantial amount of organic matter accumulates in the filtrate, the amount increasing with the yield of algae. The ratio of the amount of organic matter in the medium to the amount of organic matter in the cells changes in the course of algal development. During the first two days, when the yield is small, the organic matter of the filtrate is about 30% of that in the cells. This value then decreases, ranging from 5 to 10% throughout the development of the culture. Light intensity and temperature have no appreciable effect on the accumulation of organic matter in the medium. Different species of chlorella release into the medium approximately the same amount of organic matter per unit of biomass.

Cell autolysis is not the main reason for the accumulation of organic

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L 27421-66

ACC NR: AP6017697

matter in the medium. The increase in content of organic matter in the medium results chiefly from increase in the algal yield and is probably to be ascribed to the entry into the medium of organic matter from the maternal cell that does not take part in the formation of aplanospores and is released at the moment they leave the cell. The authors thank Professor V. N. Shaposhnikov for his attention in this work. Orig. art. has: 2 figures and 3 tables.

[JPRS]

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Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.M.

10

Simple mercuri-organic derivatives of phenol. A. N. Nesmeyanov and E. M. Toropova. *J. Gen. Chem.* (U. S. S. R.) 4, 664-6(1934).—*m*-HOC_6H_4HgCl (I) (*Ac deriv.*, m. 199-200°) is obtained in 43% yield from *m*-$HOC_6H_4N_2Cl$, $HgCl_2$ and Cu in EtOH at room temp. I is converted by $Na_2S_2O_3$ into (m-HOC_6H_4)$_2$Hg (II) (*Ac deriv.*, m. 161°), decompg. at 315°. The *Br*, sintering at 240°, *I*, sintering at 200°, *CN*, m. 186-8° and *CNS*, m. 175-6°, *analogs* of I are prepd. by heating II with the corresponding Hg halide. B. C. A.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Ye.M.

A M

TOROPOVA (Mme E. M.). **Manufacture of germisan.**—*Trans. sci. Inst. Fertil. Insectofungicides U.S.S.R.*, 123, pp. 208–210, 1935. [Abs. in *Chem. Abstr.*, xxx, 10, pp. 3576–3577, 1936.]

One kg. of germisan was prepared from 92 gm. tricresol dissolved in 430 c.c. 10 per cent. sodium hydroxide, the solution being cooled to room temperature and 198 gm. mercury oxycyanide gradually introduced to the accompaniment of vigorous agitation. The suspension forming towards the end of the reaction was filtered off and the resultant product left for two to three days, at the end of which a gelatinous product was obtained, undergoing complete liquefaction on heating. Water was removed by careful heating and the hot, semi-solid mass dried in an oven at 40° to 50° C. The dry germisan was ground and mixed with sodium chloride to a mercury content of 16 per cent. The final product (identical with that manufactured abroad) contained: water 10, mercury 54·23, and the yield was 86·3 per cent.

METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, YE.M.

10

Thiocyanate sulfides and sulfones. A. E. Kretov and E. M. Toropova. *J. Gen. Chem.* (U. S. S. R.) 7, 2009-16(1937).—When EtSNa is treated slowly with $Cl(CH_2)_3Br$ (I) and the mixt. is heated at 50-60°, the product is γ-chloropropyl ethyl sulfide (II) b_{10} 58-72°. Similarly, PhSNa and I give $PhS(CH_2)_3Cl$ (III). Oxidation of $Cl(CH_2)_3SEt$ (IV) by H_2O_2 gives $Cl(CH_2)_3SO_2Et$, $b_{0.4}$ 120-2°, d^{16} 1.2836, n_D^{20} 1.4780. In a similar way is obtained $Cl(CH_2)_3SO_2Ph$, b_7 168-74°, m. 52°. H_2O_2 and II give $Cl(CH_2)_3SO_2Et$, b_7 160-3°, d^{19} 1.2451, n_D^{20} 1.4749, and also $EtSO_2(CH_2)_3SO_2Et$, m. 181-2°. III and H_2O_2 form $Cl(CH_2)_3SO_2Ph$, m. 23-4°. IV and KSCN in EtOH at 60-70° for 1-1.5 hrs. give $EtS(CH_2)_3SCN$, b_8 105-10°. In the same way were prepd. $PhS(CH_2)_3SCN$, b_8 143-6°; $EtS(CH_2)_2SCN$, b_{10} 115-20°, d^{17} 1.088, n_D^{20} 1.5220; and $PhS(CH_2)_2SCN$, b_8 176-8°, d^{19} 1.166, n_D^{20} 1.587. Oxidation of these sulfides with H_2O_2 gives the corresponding sulfones: $EtSO_2(CH_2)_3SCN$, m. 36-7°, $PhSO_2(CH_2)_3SCN$, m. 71.5-2°, $EtSO_2(CH_2)_2SCN$, m. 39.5-41°, and $PhSO_2(CH_2)_2SCN$, m. 91°. The thiocyanate compds. contg. a Ph group are more *toxic* to *insects* than the purely aliphatic compds. and the sulfides are more toxic than the sulfones. However, these compds. are less toxic than ethylene dithiocyanate or aniline thiocyanate. H. M. Leicester

Reaction of *o*-nitrophenylsulfur chloride with potassium hydrosulfide. Gregg Dougherty and Otto Haas. *J. Am. Chem. Soc.* 59, 2469-70(1937).—*o*-$O_2NC_6H_4SCl$ and KSH in abs. EtOH at room temp. give $(2\text{-}O_2NC_6H_4S)_2$ (I) KCl, S and H_2S. It is assumed that $O_2NC_6H_4SH$ is an intermediate product, which decomps. as rapidly as formed to I, S and H_2S. An explanation of the formation of thianthrene from C_6H_6, S and $AlCl_3$, based on this reaction, is given. C. J. West

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOVA, Z. F.
N. B. FEDOROVA, USSR 64,996, Aug. 31, 1945

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

L 02344-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) GG/JW/JD/JG

ACC NR: AR6025733 SOURCE CODE: UR/0058/66/000/004/A068/A068

72
B

AUTHOR: Smirnova, T. P.; Toropovskaya, I. N.; Kuznetsov, F. A.

TITLE: Investigation of the stability of thin metallic films

SOURCE: Ref. zh. Fizika, Abs. 4A576

REF. SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 36

TOPIC TAGS: metal film, silver, thermodynamic characteristic, thermal stability, solid kinetics, annealing, metal aging

ABSTRACT: The question of using the e.m.f. method to the investigation of the thermodynamic properties of thin films is considered. This method makes it possible to estimate quantitatively the aggregative instability of films and afford the opportunity of finding the connection between the quantities determining the instability and the kinetic characteristics of structural relaxation processes. Processes of thermal aging of films are investigated and the dependence of the thermodynamic characteristic of silver films on the annealing temperature is obtained. [Translation of abstract].

SUB CODE: 20, 11

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPOW, N. A., prof., dr.[Toropov, N. A.] BOJKOWA, A. I.[Boykova, A. I.]

Some properties of hydrothermal reactions in the system $CaO-SiO_2-H_2O$. Cement wapno gips 16/26 no.7:203-208 '61.

1. Czlonek Akademii Budownictwa i Architektury ZSSR (for Toropow)
2. Instytut Chemii Krzemianow, Leningrad (for Boykowa)

(Lime)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPTSEV, A.V.

Ways to improve the quality of yarn grades. Tekst. prom. 25 no.5:6-8 My '65. (MIRA 18:5)

1. Glavnyy inzh. kombinata "Krasnoye znamya" Mossovnarkhoza.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TEROPTSEV

11H

Certain data as to the nature of phytoncides. J. Teropt-sev and I. Kamnev. *Compt. rend. acad. sci. URSS* 51, 373-5(1946).—Proteins pptg. from onion and garlic juices on satn. with NH_4Cl did not possess bactericidal powers. Oils obtained on ether extn. were bactericidal. The authors believe that these antibacterial properties are due to a glucoside from which the oil is split off on hydrolysis.

Barbara R. Murray

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPTSEV, I.V.; SOKOLOVA N.V.(Tomsk)

Characteristics of morphological manifestations of modified reactivity in cases of depression and excitation of the central nervous system. Arkh. pat. 17 no.4:14-19 O-D '55. (MLRA 9:2)

1. Iz kafedry patologicheskoy anatomii (zav.-prof. I. V. Toroptsev) Tomskogo meditsinskogo instituta.

(BLOOD VESSELS, physiology,
eff. of anaphylactic shock after irritation & inhib. of CNS)
(ALLERGY, experimental,
anaphylatic shock, eff. on blood vessels after irritation & inhib. of CNS.)
(CENTRAL NERVOUS SYSTEM, physiology,
eff. of irritation & inhib. on vasc. reactions to anaphylatic shock)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPTSEV, I.V., professor; SOKOLOVA, N.V., dotsent

Morphological characteristics of radiation sickness induced by a single irradiation with a 10 MeV betatron. Jl-Ag '56. Med.rad. 1 no.4: 41-47 Jl-Ag '56. (MIRA 9:12)

1. Iz Tomskogo politekhinicheskogo instituta (dir. - prof. A.A. Vorob'yev) i kafedry patologicheskoy akademii (zav. - prof. I.V. Toroptsev) Tomskogo meditsinskogo instituta.

(RADIATIONS, inj. eff.
pathol. of guinea pig tissue after irradiation with betatron)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

TOROPTSEV, I.V.

TOROPTSEV, I.V., professor; LAVROVA, V.S., dotsent

Daniil Isakovich Gol'dberg. Arkh.pat. 19 no.5:75-76 '57. (MIRA 10:8)
(GOL'DBERG, DANIIL ISAKOVICH, 1907-)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001756330009-7

USSR/Human and Animal Physiology (Normal and Pathological). T-13
Effect of Physical Factors. Ionizing Radiation.

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75270

Author : Toroptsev, I.V., Sokolova, N.V.

Inst : Tomsk Polytechnical Institute.

Title : Pathological Anatomy of Acute Radiation Sickness in Experiments (General Effect of Rays Generated by a Betatron).

Orig Pub : Izv. Tomskogo politekhn. in-ta, 1957, 87, 17-27.

Abstract : Tests were conducted on guinea pigs. In cases of their death in the course of 12 hours after radiation there were observed in the blood and lymph vessels necrobiotic changes of the endothelium and an increase permiability of the walls, broadening of vessels; tinctural properties of the blood were changed: hematoxilineosin dyed the plasma a

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