7(3), 5(4), 24(7) SOV/48-23-10-19/39

AUTHORS: Stepanov, B. I., Zhbankov, R. G., Yermolenko, I. N.

TITLE: Infrared Spectra of Cellulose and of Its Derivatives

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959 Vol 23, Nr 10, pp 1222-1223 (USSR)

ABSTRACT: It is pointed out in the introduction that cellulose as a fiber could be investigated only inadequately, because light dispersion presents a considerable obstacle in infrared spectroscopic investigations. Attempts made to avoid this obstacle by dissolving the fiber, or by embedding it in an immersion medium, or even by regenerating cellulose to cellophane gave entirely unsatisfactory results which did not show the true cellulose spectrum. Thus, the authors endeavored to press cellulose fibers without any addition, and they investigated the spectrum of these pressed cellulose samples within the range of from 2.5 to 15μ. In the spectra of native celluloses bands were found in the following ranges: 3330, 2940, 1650, 1428, 1360, 1340, 1325, 1290, 1225, 1190, 1150÷910 and 705 cm^{-1}. The former is to be attributed to the OH-valence vibrations. In the spectra of oxidized celluloses an intense

Card 1/2

Infrared Spectra of Cellulose and of Its Derivatives

band was found at 1740 cm^{-1} (C=O). An increase of the degree of oxidation attenuated the intensity of the bands 1430, 1360, 1340, and 1325 cm^{-1} and increased the intensity of the band in the range of 1280-1160 cm^{-1}. Further details are discussed in this connection. A nitration resulted in the occurrence of the bands 1290, 1390, and 1200 cm^{-1}. The spectrum of dialdehyde cellulose was characterized by absorption in the range of 900 cm^{-1}. A cellulose with many carboxyl groups showed a weak band at 955 cm^{-1}, mercerized cellulose showed increased absorption in the range of 910 cm^{-1}, etc. In conclusion, the great importance of cellulose infrared spectroscopy is pointed out.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk BSSR (Institute of Physics and Mathematics of the Academy of Sciences of the Belorussian SSR)

Card 2/2

5(4)

AUTHORS: Yermolenko, I. N., Zhbankov, R. G. SOV/76-33-6-5/44

TITLE: Investigation of the Cation Exchange on Oxidized Cellulose by the Method of Infrared Spectroscopy (Issledovaniye kationoobmena na okislennykh tsellyulozakh metodom infrakrasnoy spektroskopii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1191-1197 (USSR)

ABSTRACT: The exchange of hydrogen of the carboxyl group of oxidized cellulose with the cations Li, Be, Na, Mg, Al, Ca, Cr, Mn, Fe, Co, Ni, Cu, Ag, Cd, Cs, Ba, Pb, UO_2, NH_4, is investigated by the aid of infrared spectroscopy. Cellulose samples, prepared at the Institut organicheskoy khimii AN SSSR (Institute of Organic Chemistry of the AS USSR) by Professor V. I. Ivanov, were utilized among other materials. The absorption spectra of the products were obtained with an IKS-11 spectrometer. It was found that the displacement of the C=O absorption band of the carboxyl groups in the case of sorption of the cations on the oxidized cellulose (in consequence of the above mentioned exchange and of the formation of corresponding salts of the oxidized cellulose) does not depend on the carboxyl group content; however, it increases proportionally with the cation mass. The presence of carbonyl groups does not exercise any influence on

Card 1/2

this effect. In the course of ion exchange an increase is observed in the intensity of the displaced C=O band of the carboxyl group, in which connection the band of wavelength 5.75μ becomes weaker. The share of cations in the exchange equilibrium in the polymer phase depends on the character of the cation, the composition of the altered cellulose, the concentration, and the pH of the solution. A quantitative determination of the carboxyl groups in oxidized cellulose, based only on the magnitude of absorption in the wavelength range of 5.8μ, is found to be unreliable. Finally, gratitude is expressed to Professor B. I. Stepanov and Professor V. I. Ivanov. There are 8 figures and 26 references, 11 of which are Soviet.

ASSOCIATION: Akademiya nauk BSSR Institut fiziki i matematiki. Belorusskiy gosudarstvennyy universitet (Academy of Sciences Belorussiya, Institute of Physics and Mathematics. Belorussian State University)

SUBMITTED: April 12, 1957

PHASE I BOOK EXPLOITATION SOV/4973

Soveshchaniye po lyuminestsentsii, 8th, 1959

Metody lyuminestsentnogo analiza; materialy soveshchaniya (Methods for Luminescence Analysis; Materials of the 8th Conference) Minsk, Izd-vo AN BSSR, 1960. 147 p. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Belorusskoy SSR. Institut fiziki.

General Ed.: B. A. Borisevich; Ed.: L. Timofeyev; Tech. Ed.: N. Sidorko.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular luminescence, and for scientific personnel concerned with applications of this and related phenomena in research in the life sciences.

COVERAGE: The collection contains [illegible] papers read at the Eighth Conference on Luminescence, which took place 19-24 October, 1959 [place of conference not given]. These studies are concerned principally with the development of new luminescence methods for quantitative and qualitative chemical analysis, and with the applications of luminescence in medical and biological research. They discuss luminescence methods for the determination of uranium, mercury, magnesium, aluminum, boron, and other elements, as well as luminescence methods for the diagnosis of skin cancer and the detection of grippe virus, pathogenic microorganisms, etc. The structural design of new instruments for luminescence analysis is described. The conference was not concerned with studies on the phosphorescence of crystal phosphores. There is a discussion of the contributions of Soviet specialists in molecular luminescence in the course of the year and a half preceding the conference. The articles of V. K. Matveyev (p. 75) and of V. V. Patrikeyev (p. 79) have been annotated because of their importance. No personalities are mentioned. References accompany most of the articles.

Card 6/10

S/058/61/000/009/015/050
A001/A101

AUTHORS: Yermolenko, I.N., Gavrilov, M.Z., Gladchenko, L.F.

TITLE: Effect of adsorbed water on luminescence of cellulose materials

PERIODICAL: Referativnyy zhurnal. Fizika, no. 9, 1961, 101, abstract 9V204 (V sb. "Metody lyuminestsentn. analiza", Minsk, AN BSSR, 1960, 83-86)

TEXT: It was discovered that adsorption of water, especially at low vapor pressure, reduces the intensity of fluorescence of rhodamine 6 Zh (6Zh) adsorbed on cellulose. At transition to capillary condensation of water the further intensity drop is insignificant. The authors propose to utilize the phenomenon discovered for developing a method of checking the content of adsorbed water in cellulose during its drying. Besides rhodamine other luminescent dyestuffs (auramine, trypaflavine) can be used for this purpose.

A. Shablya

[Abstracter's note: Complete translation]

Card 1/1

KUTAKOV, I.P. [Kutanau, I.P.]; YERMOLENKO, I.N. [IArmolenka, I.M.]

Comparative study of the adsorption of activated carbons. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.3:41-44 '60. (MIRA 13:9)
(Carbon, Activated)

YERMOLENKO, I.N.; KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.

Effect of the moisture content and the composition of the oxidant on the oxidation of cellulose by nitrogen oxides. Dokl.AN BSSR 4 no.10: 417-420 '60. (MIRA 13:9)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Nitrogen oxides) (Oxidation)

S/190/60/002/012/008/019
B017/B055

AUTHORS: Katibnikov, M. A., Yermolenko, I. N., Somova, A. I., Yefremova, O. G., Glikman, S. A.

TITLE: Spectroscopic Study of Cellulose Ethers. I. On the Applicability of Spectroscopic Methods for Characterizing the Photochemical Reactions of Ethyl Cellulose

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, pp. 1805-1810

TEXT: The ultraviolet, infrared and luminescence spectra of ethyl cellulose preparations with varying carboxyl content were investigated. Ultraviolet irradiation of ethyl cellulose was found to change the luminescence spectra and intensities. These changes are particularly marked at the beginning of irradiation, thus permitting the first stages of degradation of the ethyl cellulose chains to be determined. It is shown that the sensitivity to light increases with the carboxyl content of ethyl cellulose. Neutralization of the carboxyl groups by Pb- and Na ions increases the light stability of the compounds. It is assumed that the presence

Spectroscopic Study of Cellulose Ethers. I. On the Applicability of Spectroscopic Methods for Characterizing the Photochemical Reactions of Ethyl Cellulose

S/190/60/002/012/008/019
B017/B055

of carboxyl groups in ethyl cellulose compounds accelerates the photochemical reactions initiated by ultraviolet light. This is in agreement with a previously expressed assumption that the carboxyl groups play an essential role in the thermooxidative degradation of ethyl cellulose. The ultraviolet absorption spectra of ethyl cellulose preparations in the 210 - 400 mμ region are given in Fig. 1. Fig. 2 shows the infrared absorption spectra of ethyl cellulose preparations, run on the ИКС-14 (IKS-14) spectrometer. The luminescence spectra of these preparations are given in Fig. 3. The intensity of the luminescence of ethyl cellulose preparations after ultraviolet irradiation at 420 and 470 mμ is represented in Fig. 4. The luminescence spectra of preparations treated with $Pb(NO_3)_2$ and NaOH are shown in Figs. 5 and 6. Luminescence was excited by a Hg quartz lamp type СВДШ-250 (SVDSh-250), spectra being taken by means of a УМ-2 (UM-2) monochromator and ФЭУ-17 (FEU-17) photomultiplier, and recorded by an ЭПП-09 (EPP-09) potentiometer. There are 6 figures and 17 references: 10 Soviet, 5 US, 1 German, and 1 French.

Card 2/3

Spectroscopic Study of Cellulose Ethers. S/190/60/002/012/008/019
I. On the Applicability of Spectroscopic B017/B055
Methods for Characterizing the Photochemical Reactions of Ethyl Cellulose

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im. N. G. Chernyshevskogo (Saratov State University imeni N. G. Chernyshevskiy). Institut obshchey i neorganicheskoy khimii AN BSSR (Institute of General and Inorganic Chemistry of the Academy of Sciences BSSR)

SUBMITTED: May 19, 1960

Card 3/3

YERMOLENKO, I.N. [IArmolenka, I.M.]; ZHBANKOV, R.G. [Zhbankou, R.H.]; ROZENBERG, A.Ya.

Effect of pH on the sorption of iron from solutions by cellulose preparations which replace the carboxyl groups. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.3:25-28 '60. (MIRA 13:9)
(Iron) (Cellulose) (Sorption)

YERMOLENKO, I.N.

PHASE I BOOK EXPLOITATION SOV/4984

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchange resins, semiconductor materials, etc., methods of catalyzing polymerization reactions, properties and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

33

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001962820004-9"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001962820004-9

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R001962820004-9"

YEFIMOLENKO, I.N.; KAPUTSKIY, F.N.

Use of nitrogen oxides in the synthesis of modified cellulose.
Vysokom. soed. 2 no.4:626 Ap '60. (MIRA 13:11)
(Cellulose) (Nitrogen oxide)

PAVLYUCHENKO, M.M.; YEMOLENKO, I.N.; KAPUTSKIY, F.N.

Mechanism of the oxidation of cellulose by nitrogen dioxide. Zhur. prikl. khim. 33 no.6:1385-1391 Je '60. (MIRA 13:8)
(Nitrogen oxide) (Cellulose)
(Oxidation)

IVANOV, V.I.; YERMOLENKO, I.N.; GUSEV, S.S.; LENSHINA, N.Ya.; IVANOVA, V.S.

Study of dialdehyde celluloses by means of infrared spectra. Izv. AN SSSR.Otd. khim. nauk no.12:2249-2252 D '60. (MIRA 13:12)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
(Cellulose--Spectra)

KATIBNIKOV, M.A.; YERMOLENKO, I.N.; SOKOVA, A.I.; YEFREMOVA, O.G.; GLIKMAN, S.A.

Spectroscopic study of cellulose ethers. Part 1: Applicability of spectral methods to the characterization of photochemical conversions in ethylcellulose. Vysokom. soed. 2 no. 12:1805-1810 D '60. (MIRA 14:1)

1. Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo; Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose--Spectra)

YERMOLENKO, I.N.; GAVRILOV, M.Z.; GLADCHENKO, L.F.

Applying the luminescent method of studying the sorption of water by celluloses to characterize their structure. Trudy LTA no.91:83-87 '60. (MIRA 15:12)

1. Institut fiziki AN BSSR.
(Cellulose) (Sorption) (Fluorescence)

YERMOLENKO, I.N.; KATIBNIKOV, M.A; SOMOVA, A.I.

Spectroscopic study of cellulose ethers. Part 2: Thermal and light stability of carboxyethylcellulose. Vysokom. soed. 3 no.1:30-32 Ja '61.

1. Saratovskiy gosudarstvennyy universitet im.N.G.Chernyshevskogo i Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose)

KATIBNIKOV, M.A.; YERMOLENKO, I.N.

Absorption and luminescence spectra of the interaction of polyelectrolytes with dyes in solutions. Part 1: Study of aqueous solutions of rhodamine 6G in the presence of polymethacrylic acid. Vysokom. soed. 3 no.1:105-112 Ja '61. (MIRA 14:2)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.
(Rhodamine) (Methacrylic acid)

GUSEV, S.S.; SUN' TUN [Sun T'ung]; YERMOLENKO, I.N.; ROGOVIN, Z.A.

Infrared spectroscopy study of the structure of cellulose esters of aliphatic amino acids and of cellulose-polyamide graft copolymers. Vysokom.soed. 3 no.11:1684-1687 N '61. (MIRA 14:11)

1. Moskovskiy tekstil'nyy institut i Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose esters--Spectra)
(Amino acids)
(Polymers)

SUN' TUN [Sun T'ung]; GUSEV, S.S.; YERMOLENKO, I.N.; ROGOVIN, Z.A.

Infrared spectroscopy study of the structure of cellulose esters of aromatic amino acids and cellulose-acrylonitrile graft copolymers. Vysokom.soed. 3 no.11:1688-1691 N '61. (MIRA 14:11)

1. Moskovskiy tekstil'nyy institut i Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose esters--Spectra)
(Amino acids)
(Acrylonitrile polymers)

KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.; YERMOLENKO, I.N.

Effect of nitrogen trioxide, moisture, and phosphoric acid on the reaction of cellulose with nitrogen peroxide. Vysokom. soed. 4 no.4:503-509 Ap '62. (MIRA 15:5)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose) (Nitrogen oxides) (Phosphoric acid)

L 12358-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD
S/081/63/000/005/016/075

AUTHOR: Yermolenko, I. N., Gavrilov, M. Z. and Longin, M. L.

TITLE: A new analytical method for traces of metals

PERIODICAL: Referativnyy zhurnal, Khimdya, no. 5, 1963, 13, abstract 5G30 (Prom-st' Belorussii, 1962, no. 8 (51), 5-7)

TEXT: A submicroanalytical methodology has been developed for determining metals on the basis of combinations of advantages which are achieved by application

[redacted]

[Abstractor's note: Complete translation]

Card 1/1

REZNIKOV, M.Ya. [Reznikau, M.IA.]; KAPUTSKIY, F.N. [Kaputski, F.M.]; YERMOLENKO, I.N. [IArmolenka, I.M.]

Electric conductivity and the degree of swelling of oxidized cellulose salts. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.3:39-45 '62. (MIRA 18:3)

YERMOLENKO, I.N.; LONGIN, M.L.; GAVRILOV, M.Z.

Quantitative determination of nickel and manganese traces by the diffusion reflection spectra with a preliminary concentration on a cellulose ion exchanger. Zhur.anal.khim. 17 no.9:1035-1039 D '62. (MIRA 16:2)

1. Institute of General and Inorganic Chemistry and Sect. of Gerontology, Academy of Sciences, B.S.S.R., Minsk.
(Nickel—Analysis) (Manganese—Analysis)
(Spectrum analysis)

S/069/62/024/003/003/006
B110/B138

AUTHORS: Gusev, S. S., Yermolenko, I. N.

TITLE: Application of infrared spectroscopy to the study of UO_2^{2+} sorption of cellulose materials

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 3, 1962, 278 - 282

TEXT: The IR absortpion spectra of the UO_2^{2+} ion sorption products were studied with cellulose material containing carboxyl. Dialdehyde, dicarboxyl, monocarboxyl, and carboxyl methyl celluloses (γ = 78%) treated for 25 min with 0.1 N solutions of uranyl acetate and uranyl nitrate were examined. Results: (1) Absorption bands at 2500 - 3500 cm^{-1} corresponding to CH and OH groups. (2) Changes at 1700 - 1500 cm^{-1} in connection with carboxyl group ionization (shift of the CO stretching vibrations from 1730 cm^{-1} into the low frequency region). (3) Antisymmetric vibrations of carboxylate at 1575 cm^{-1} for uranyl salts of oxidized celluloses and at 1610 cm^{-1} for Na

Card 1/3

Application of infrared ...

salts of carboxy-methyl celluloses. (4) Typical polysaccharide absorption bands at 1200 - 1000 cm^{-1}. (5) Intensive absorption bands of the uranyl ion at 940 cm^{-1}. This band, which corresponds to the structure of the multivalent ion, is applied to determine: (1) the total content of sorbed ion; (2) the nature of the reaction with polymer structure. Changes at 1570 - 1610 and 940 cm^{-1} occurring in the spectrum of Na-carboxy-methyl cellulose (Na-CMC) treated with uranyl nitrate prove the transition from Na-CMC to UO_2-CMC. Bridge bonds of the multivalent cation with carboxyl groups impede cation diffusion into the polymer and reduce the originally high rate of exchange. A similar situation occurs with dicarboxyl cellulose. The equilibrium sorption depends on the initial carboxyl groups and on the pH of the solutions. The ion exchange character of UO_2 sorption is proven by the change of the absorption of carboxylate groups and of the UO_2 ion being proportional to the degree of oxidation. In uranyl salts, the molar absorption coefficient of antisymmetric vibrations and vibrations of the CO of carboxylate groups depend not on the cellulose type, but on

Application of infrared ...

carboxylated celluloses. There are 4 figures.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk
(Institute of General and Inorganic Chemsitry AS BSSR, Minsk)

SUBMITTED: May 24, 1961

Card 3/3

ZOBIM, Z. L.; YERMOLENKO, I. N.; GAVRILOV, M. Z.

Spectroscopic methods of investigating the thermal degradation of woodpulp materials. Ukr. khim. zhur. 28 no.6:729-731 '62. (MIRA 15:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut tsellyuloznoy i bumazhnoy promyshlennosti i Institut obshchey i neorganicheskoy khimii AN BSSR.

(Paper—Spectra)

YERMOLENKO, I. M.[Armolenka, I. M.]; POTAPOVICH, A. K.[Patapovich, A. K.]; MAKATUN, V. N.[Makatun, V. N.]

Use of spectroscopic methods in studying electron paramagnetic resonance and gamma-irradiated cellulose materials. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.1:65-71 '63. (MIRA 16:4)

(Paramagnetic resonance and relaxation)
(Cellulose) (Spectrum analysis)

KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.; YERMOLENKO, I.N.

Effect of the nature of solvent on the reaction of cellulose with nitrogen dioxide. Vysokom.soed. 5 no.1:75-78 Ja '63. (MIRA 16:1)

1. Belorusskiy gosudarstvennyy universitet im. V.I.Lenina i Institut obshchey i neorganicheskoy khimii AN Belorusskoy SSR.
(Cellulose) (Nitrogen oxide) (Solvents)

MAKATUN, V.N.; POTAPOVICH, A.K.; YERMOLENKO, I.N.

Long-lived radicals formed in the γ-irradiation of cellulose. (MIRA 16:3)
Vysokom.soed. 5 no.3:467-468 Mr '63.
(Radicals (Chemistry)) (Cellulose) (Radiation)

GAVRILOV, M.Z.; YERMOLENKO, I.N.

Diffuse reflection spectra of the products of thermal aging of modified cellulose determining their yellowing. Dokl. AN BSSR 7 no.9:606-609 S '63. (MIRA 17:1)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavleno akademikom AN BSSR M.M. Pavlyuchenko.

YERMOLENKO, I.N.; CHIRKOVA, G.N.

Quantitative microdetermination of carboxyl groups in cellulosic materials by the luminescent method. Zhur.anal.khim. 18 no.8: 994-998 Ag '63. (MIRA 16:12)

1. Institute of General and Inorganic Chemistry, Academy of Sciences, Byelorussian S.S.R., Minsk.

GAVRILOV, M.Z.; YERMOLENKO, I.N. (Minsk)

Diffuse reflection spectrophotometry used for investigating the sorption of dyes by fibrous cellulose materials. Zhur. fiz. khim. 37 no.11:2491-2495 N'63. (MIRA 17:2)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

BUGLOV, Ye.D. [Buhlou, IA.D.]; CHIRKOVA, G.N. [Chyrkova, H.M.]; YERMOLENKO, I.N. [IArmolenka, I.M.]; STAKHOVSKIY, Ye.V. [Stakhouski, E.V.].

Biological properties of preparations obtained on the basis of oxycellulose. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.1:55-60 '64 (MIRA 17:7)

KLIAVZUNIK, R.G.; PRISTUPA, Ch.V.; KAPUTSKIY, F.N.; YERMOLENKO, I.N.
[Ermolenko, I.N.]

Experimental study of carboxymethylcellulose. Vestsi AN BSSR. Ser. biial. nav. no.1:133-134 '54. (MLRA 17:6)

YELINA, G.L.; GUSEV, S.S.; YERMOLENKO, I.N.

Preparation and spectral study of partially acetylated carboxyl-containing cellulose. Dokl. AN BSSR 8 no.2:104-107 F '64. (MIRA 17:8)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavlono akademikom AN BSSR M.M. Pavlyuchenko.

LONGIN, M.L.; KLIMENKO, A.B.; YERMOLENKO, I.N.

Electrochromatographic separation of amino acids using ion exchange analytic paper made of oxidized cellulose. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:136-137 '64. (MIRA 18:1)

YERMOLENKO, I.N. [IArmolenka, I.M.]

Interpretation of the infrared spectra of cellulose and its derivatives. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.3:63-74 '64. (MIRA 18:2)

GUSEV, S.S.; YERMOLENKO, I.N.

Nitrogen-containing functional groups of monocarboxylcellulose according to infrared spectrum data. Dokl. AN BSSR 8 no.8:516-518 Ag '64. (MIRA 17:11)

1. Institut obshchey i neorganicheskoy khimii AN BSSR. Predstavlena akademikom AN BSSR M.M. Pavlyuchenko.

ACCESSION NR: AP4020969 S/0051/64/016/003/0530/0531

AUTHOR: Yermolenko, I.N.; Gavrilov, M.Z.

TITLE: Influence of light scattered by an SF-4 spectrophotometer on the results of optical density measurements in the short wavelength ultraviolet

SOURCE: Optika i spektroskopiya, v.16, no.3, 1964, 530-531

TOPIC TAGS: SF-4 spectrophotometer, scattering in spectrophotometer, ultraviolet absorption measurement

ABSTRACT: For accurate spectrophotometric measurements it is essential to allow for scattering and there have been many studies devoted to evaluation of scattering. The present paper gives the results of investigation of the effect of scattering on the optical density as measured by an SF-4 spectrophotometer in the 200-220 mμ region with different sources (a German D_2-0.3 deuterium tube and a VSFU-3 hydogen discharge tube) and different radiation detectors (FEU-39 photomultiplier with quartz windows, an STsV-6 photocell, and an FEU-18 photomultiplier with Uviol windows. The absorber was a water solution of ethyl alcohol, taken in sufficient thickness to absorb completely the radiation in the chosen narrow line. The results are

Card 1/2

ACCESSION NR: AP4020969

presented in the form of a number of curves. It is emphasized that the reported data apply only to the given spectrometer, and sources and detectors; in fact, for results of highest accuracy analogous measurements should be performed with the specific substance being investigated. Orig.art.has: 1 figure.

ASSOCIATION: none

SUBMITTED: 13May63 DATE ACQ: 02Apr64 ENCL: 00

SUB CODE: PH,SD NR REF SOV: 001 OTHER: 002

Card 2/2

GUSEV, S.S.; YERMOLENKO, I.N.

Absorption spectra of celluloses containing acetyl and carboxyl groups in the regions 1500-1800 cm^{-1} and 3000-3600 cm^{-1}. Zhur. prikl. spektr. 2 no.5:429-433 My '65. (MIRA 18:7)

GAVRILOV, M.Z.; YERMOLENKO, I.N.; YELINA, G.L.

Ultraviolet absorption spectra of acetyl cellulose. Opt. i spektr. 18 no.3:515-517 Mr '65. (MIRA 18:5)

YERMOLENKO, I.N.; LONGIN, M.L.; GAVRILOV, M.Z.

Concentration of metal traces on a ion-exchange paper with their subsequent determination. Trudy Kom. anal. khim. 15:353-357 '65.
(MIRA 18:7)

YERMOLENKO, I.N.; SAVASTENKO, G.N.

Microgram determination of carbonyl groups in cellulosic materials by means of p-nitrophenylhydrazine from diffuse reflection spectra. Zhur. anal. khim. 21 no. 1:98-102 '66 (MIRA 19:1)

1. Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk.

L 40006-66 EWP(j)/EWT(m)/T RM/WW/JWD

ACC NR: AP6008277 SOURCE CODE: UR/0080/66/039/002/0458/0460

AUTHOR: Yarmolenko, I. N.; Gusev, S. S.; Kaputskiy, F. N.; Vasilenko, Z. I. 53 51 B

ORG: none

TITLE: Infrared spectra of partially substituted nitroesters of polyanhydrouranic acid

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 2, 1966, 458-460

TOPIC TAGS: IR spectroscopy, cellulose, esterification, absorption spectrum

ABSTRACT: The use of spectral methods to determine the position of substitutes in cellulose derivatives was studied. For the experiments, purified cotton cellulose and monocarboxyl cellulose containing 4.7 and 7% COOH groups were used. The nitro groups were introduced at 20° with concentrated H_2SO_4 and HNO_3 in the ratio 3:1, and with $H_2SO_4+HNO_3$ diluted with H_2O in the ratio 38:32:30. Spectra were taken in the 400-3600 cm^{-1} region. Infrared spectra of cellulose after esterification with diluted nitration mixture have weak bands at 900, 1630 (NO_2) and 1725 (CO)cm^{-1}; this indicates slight accumulation of nitro groups in cellulose. Accumulation of NO_2 groups in monocarboxylic cellulose containing 4.7 and 7% COOH groups is less than in nitrated cellulose, which indicates that in the reaction with HNO_3, cellulose is more active than monocarboxylic cellulose. Esterification of cellulose with concentrated nitration

UDC: 543.422+661.728.

Card 1/2

L 40006-66

ACC NR: AP6008277 2

mixture changes the character of the absorption spectrum: characteristic bands for the high substituted esters of cellulose appear in the 685, 782, 860 cm^{-1} regions. This change signals the transformation of cellulose into nitrocellulose. Orig. art. has: 2 figures.

SUB CODE: 07/ SUBM DATE: 22Apr64/ ORIG REF: 007

Card 2/2

YERMOLENKO, I.N.; KHODYKO, V.V.

Infrared spectra of diffusion reflection of cellulose materials. Dokl. AN BSSR 8 no.10:647-649 O '64. (MIRA 18:3)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.

YERMOLENKO, I.N. [IArmolenka, I.M.]; MAKATUN, V.N.; GUSEV, S.S. [Huseu, S.S.]

Study of the conditions of the synthesis of monocarboxylcellulose with the purpose of selecting an efficient flowsheet for its production. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:52-60 '62. (MIRA 15:4)

YEMOLENKO, I.V., machinist.

Methods of working with the SE-3 excavator. Mats. i izobr. prodl. v strel. no.112:3-5 '55. (MLRA 9:6)
(Excavating machinery)

YEFIMOLENKO, I.V., mashinist.

Methods of working with the ESh-1 walking excavator. Rats. i izobr. predl. v strei. no. 112:6-7 '55. (MIRA 9:6)
(Excavating machinery)

KUPRIYANOVA, A.I.; OMEL'CHENKO, A.D., i.o. Glavnogo metodista; YERMOLENKO, I.V.; POSPELOVA, L.P.; ZHURAVLEV, N.N.; GRIGOR'YEV, V.V., otvetstvennyy redaktor; BEDNARSKAYA, G.A., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor

[The "Volga Valley" pavilion; a guidebook] Pavil'on "Povolzh'e; putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 29 p. (MIRA 9:12)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954-
2. Direktor pavil'ona (for Zhuravlev)
(Volga Valley--Agriculture)
(Moscow--Agricultural exhibitions)

USSR / General Biology. Cytology. General Cytology. B

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14289

Author : Yermolenko, L. M.
Inst : Not given
Title : The Nucleic and Carbohydrate Metabolism in the Process of Cell Division

Orig Pub : Byul. eksperim. biol. i med., 1957, 44, No 12, 102-107

Abstract : The object of investigation is the corneal epithelium of mice. The introduction of dinitrophenol in drops into the right eye 1-1½ hours before the animals were killed, decreased the mitosis activity by 31 percent and increased the amount of prophases in the epithelium of the eye as compared to the

Card 1/4 Chair of Histology, Khabarovsk Med Inst.

6

USSR / General Biology. Cytology. General Cytology. B

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14289

control left eye. When adeninesulfate (in 7-8 mg doses) was intraperitoneally introduced 12 hours before the animals were killed, MA decreased by 18 times. A hypodermic injection of tripoflavin 3 hours before the animals were killed, decreased MA and increased the amount of prophases in the epithelium of the cornea, the intestine and the tongue. The same effect was observed in the cornea when tripoflavin was administered locally. The author arrives at the conclusion that a disturbance of the nucleic metabolism leads to the inhibition of MA or the delay of mitosis at the prophase stage. MA in the epithelium of the skin, tongue

Card 2/4

and the cornea was not affected by a hypodermic administration of glucose, starch, insulin, or triprotamine zinc insulin. Analogous results were obtained in experiments with rats, in whom alloxane diabetes was produced. A parallel relationship between the daily rhythm of mitoses in the indicated organs and the content of sugar in the blood was not found to exist in the rats. Also, an introduction of NaF and malonates into the conjunctival sac 1½ hours before the animals were killed, did not reflect upon the tempo of the cell division in the epithelium of the cornea. The author concludes that the carbohydrate metabolism is of a secondary

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14289

significance in the preparation of the cell for division. -- I. M. Shapiro

YeRMOLENKO, L. M. Cand Med Sci — (diss) "The Role of Carbohydrate and Nucleic Metabolism in the Process of the Mitotic Division of Cells," Khabarovsk, 1958, 16 pp, 200 copies (Khabarovsk State Medical Institute) (KL, 46/60, 127)

USSR / Cultivated Plants. Grains. Legumes. Tropical Cereals. M-1

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6257

Author : Sin'kovskiy, L. P.; Voznesenskiy, K. N.; Yermolenko, M. A.

Inst : Animal Husbandry Institute, Tadzh SSR

Title : Sorghum on the Tadzhikistan Non-Irrigated Land

Orig Pub : S.-kh. Tadzhikistana, 1957, No 7, 24-28

Abstract : The Institute of Animal Husbandry, TadzhSSR, carried out experiments in 1952 and 1953 on the sowing of sorghum on unirrigated land in the driest regions of the republic. Early Gaolyan 178 variety produced 34.3 and 26.5 cwt/ha of hay. The vegetation period before ripening lasted only 66 days. Sowing was done on March 20th, sprouts appeared on April 2nd;

Card 1/3

34

USSR / Cultivated Plants. Grains. Legumes. Tropical Cereals. M-1

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6257

seeds ripened on June 7th. Experiments conducted in subsequent years showed that in the case of fall plowing, when the sowing takes place at the end of March - beginning of April with a distance between rows of 60 cm, and when the norm of sowing is 6 - 7 kg/ha, the early sorghum varieties produce good crops of green mass and hay on these unirrigated plots. Late ripening varieties are not suitable there, because their racemes dry up and do not produce seeds. Corn cannot grow under these conditions (absence of moisture). Sorghum gives high yields of green mass and of silage, if the soil is watered. It gives an aftermath which is equal in productivity to the first mowing, it is mowed for

Card 2/3

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6257

the first time in the period when panicles appear. The first mowing (August 9th) on watered soil produced 406.7 cwt/ha of green mass in 1956 in the Gissar Valley, kolkhoz im. Stalin. After the second mowing October 9th the yield was 424.3 cwt/ha. When the soil is watered, it is possible to have two harvests during the vegetation period. A high sugar content in the stalks of sorghum makes it an excellent raw material for silo. It can be utilized as a component for ensilage for crops, which do not lend themselves readily to ensilage. -- N. N. Kuleshov

YERMOLENKO, M.F. [IArmolenka, M.F.]; NOVIKOVA, Ye. [Novikava, E.]

Outstanding chemist; on the 60th birthday of M.F.IArmolenka. Vestsi AN BSSR, Ser.fiz.-tekh.nav. no.1:177-141 '60. (MIRA 13:6)
(IArmolenko, Mikalai Fiodaravich, 1900-)

YERMOLENKO, M. I.

Provetrivaniye Rudnikov. (Mine Ventilation) Moskva, Metallurgizdat, 1950.
239 P. Illus.; Diagrs., Tables. "Literatura": P. (240).

Calculation and designing of Artificial Ventilation. Directives on the Selection of Rational Systems of Ventilation and its Equipment, Ventilation Control in Mines, etc. A reference Book for Students, Engineers and Technicians, in the Mining Industry.

OSTHOUSHKO, Ivan Antonovich; YERMOLENKO, M.I., red.; PARFENEVSKIY, V.N., red.izd-va; KLEYNMAN, N.R., tekhn.red.

[Charging bore and blast holes by means of compressed air] Pnevmaticheskoe zariazhanie shpurov i skvazhin. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1958. 43 p. (MIRA 11:12)
(Blasting--Equipment and supplies)

SMOLDYREV, Anatoliy Yevtikheyevich; YEREMOLENKO, M.I., red.; AVSEYENOK, A.F., red.izd-va; VAYNSHTEYN, Ye.B., tekhn.red.

[Haulage by pipelines in mining] Truboprovodnyi transport v gornoi promyshlennosti. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 503 p. (MIRA 12:8)

(Mine haulage) (Pneumatic tube transportation) (Hydraulic mining)

BORISENKO, Sergey Grigor'yevich; KOPITSA, Fedor Andreyevich. Prinimali uchastiye: KULIKOV, V.V.; YARMOLENKO, D.M., BUNIN, A.I., inzh., retsenzent; POLISHCHUK, A.D., kand.tekhn.nauk, retsenzent; YERMOLENKO, M.I., otv.red.; SIPYAGINA, Z.A., red.izd-va; SABITOV, A., tekhn.red.

[Chamber and pillar system of ore mining] Kamernaia sistema razrabotki v gornorudnoi promyshlennosti. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 399 p. (MIRA 13:5)
(Mining engineering)

YERMOLENKO, M.I.; SUKHANOV, A.F.; KUTUZOV, B.M.; REMENNIK, L.M.

The most important problems facing the roller bit drilling of boreholes in strip mining. Gor. zhur. no.9:50 S '65. (MIRA 18:9)

YERMOLENKO, M.N.

SOV/180-59-1-27/29

AUTHOR: Salemenov, N.

TITLE: Conference at the Leading Ore-Mining Combine in Tyrny-Auz (Kabardino-Balkariya) (Soveshchaniye na peredovom kombinate gornorudnoy promyshlennosti v Tyrny-Auze (Kabardino-Balkariya))

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 1, p 123 (USSR)

ABSTRACT: A conference was convened on 15-18th September 1958 at the Tyrny-Auz Combine by the Institut gornogo dela Akademii nauk SSSR (Mining Institute of the Academy of Sciences of the USSR), Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers of the USSR), the Kabardino-Balkarskiy sovnarkhoz (Kabardino-Balkariya Economic Council) and the Nauchno-tekhnicheskoye obshchestvo tsvetnoy metallurgii (Scientific and Technical Society for non-ferrous Metallurgy). The following reports were presented: M.N. Yermolenko, GITK (probably a mistake for GNTK (State Scientific and Technical Committee) - Abstractor) of the Council of Ministers of the USSR, "Main Lines for Technical Development in the Underground Mining of Ores

Card 1/3

of Non-Ferrous and Rare Metals in 1959-1965";
N.I. Agoshkov, IGD AN SSSR (AS USSR), "Improvement in the Methods of the Underground Working of Large Deposits of Hard Ores"; V.G. Druzhkov, TsNIGRI, "Experience in the Use of the Single-Stage Method of Working Deposits Under Conditions Preserving the Surface from Caving"; A.A.Popov, Institut Unipromed (Unipromed Institute), "Experience in the Working and Safety Precautions of Inflammable Ural Ores"; A.G. Kapital'nikov, Institut Giprotsvetmet (Giprotsvetmet Institute), "Economic Effectiveness of Using Powerful Equipment in Working Large Deposits"; B.P. Bakrov, "Work of the VNIIBT Institute on the Production of Modern Boring Equipment"; D.M. Bronnikov (Mining Institute AS USSR), "Comparative Evaluation of Methods of Charge Drilling in Hard Ores"; N.A. Chinakal, Sibirskoye otdeleniye AN SSSR (Siberian Department of the AS USSR), "Shield Propping in Working Large Lashass Seams and the Possibility of Using this Propping System in Working Ore Deposits"; A.V. Kuz'min and L.I. Barbanov (Mining Institute AS USSR), "Systems of Working Large

Card 2/3

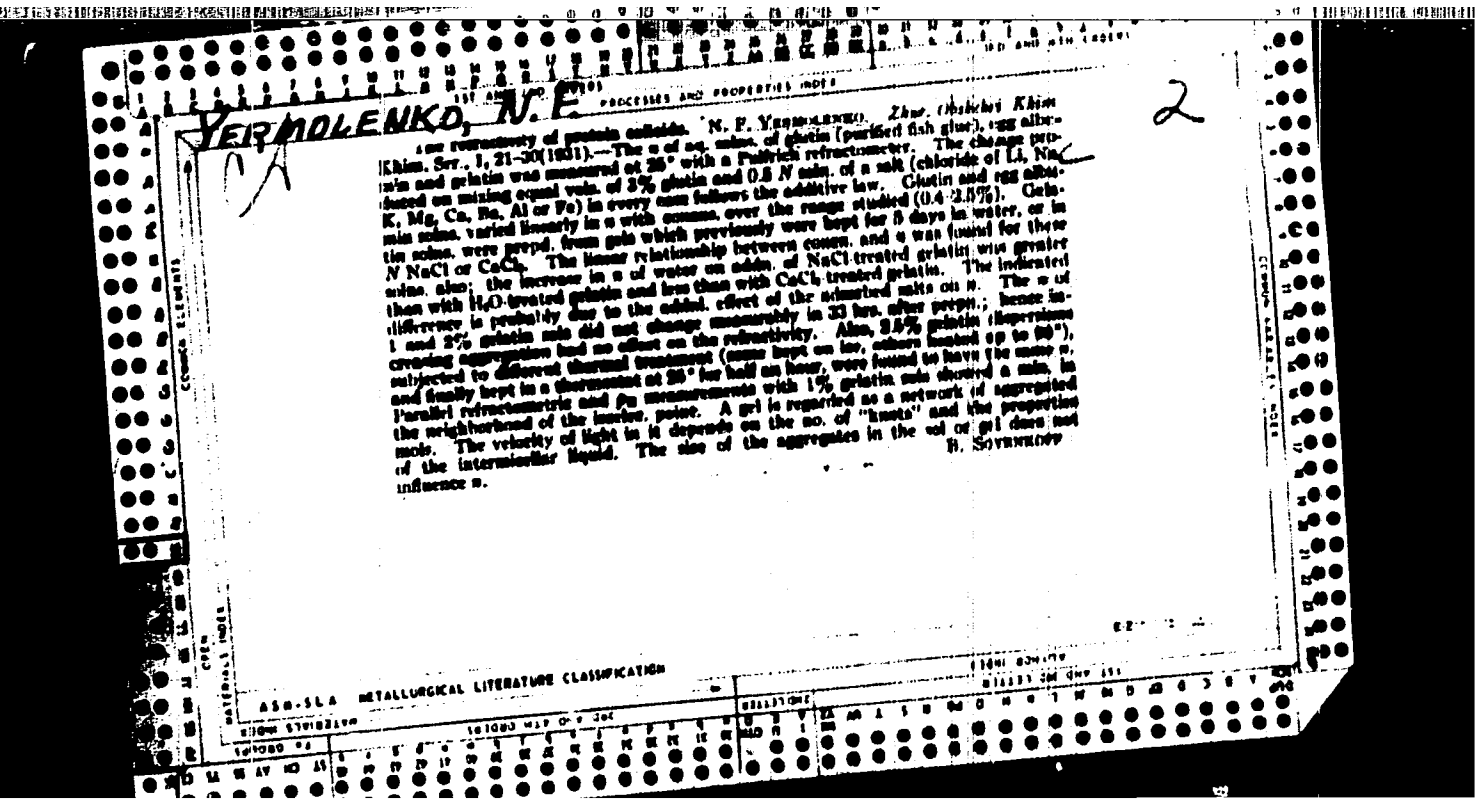
Hard-Ore Deposits in Foreign Quarries";
V.V. Kudin, IGD Ukr SSR (Mining Institute Ukr SSR), "Ways of Combating Dust in Mining Operations". After this the conference heard reports on work at the Noril'skiy kombinat (Norilsk combine), the Nikitovskiy rtutnyy kombinat [illegible] combine, the "Verkhniy" rudnik ("Upper" quarry) of the kombinat Sikhali (Sikhote-Alin deposits) of the Bogtarskoye mestorozhdeniye (Bogtarskoye deposit), Leninogorskiy kombinat (Leninogorsk combine), Tyrny-Auzskiy kombinat (Tyrny-Auz combine), Salairskiy rudnik (Salair quarry) and the Dzhezkazganskoye mestorozhdeniye (Dzhezkazgan deposit). The conference decided on measures for improving mining.

Card 3/3

YERMOLENKO, Maryia Nikitichna [IArmolenka, M.M.]; TARKAYLA, I., red.; ZUYKOVA, V., tekhn. red.

[Ways for reducing costs in the production of meat and milk] Shliakhi znizhennia zatrat na vytvorchasts' miasa i malaka. Minsk, Dziarzh.vyd-va sel'skahaspadar. lit-ry BSSR, 1961. 62 p. (MIRA 15:1)

(Meat--Costs) (Milk--Costs)



YERMOLENKO, N. F.

CA

2

PROCESSES AND PROPERTIES INDEX

...ne refractivity of protein colloids. N. F. YERMOLENKO. *Zhur. Obshchei Khim* (Khim. Sry., 1, 21-30(1931).—The n of aq. solns. of gelatin (purified fish glue), egg albumin and gelatin was measured at 25° with a Pulfrich refractometer. The change produced on mixing equal vols. of 3% gelatin and 0.5 *N* solns. of a salt (chloride of Li, Na, K, Mg, Ca, Ba, Al or Fe) in every case follows the additive law. Gelatin and egg albumin solns. varied linearly in n with concns. over the range studied (0.4-2.5%). Gelatin solns. were prepd. from gels which previously were kept for 3 days in water, or in *N* NaCl or $CaCl_2$. The linear relationship between concn. and n was found for these solns. also; the increase in n of water on addn. of NaCl-treated gelatin was greater than with H_2O-treated gelatin and less than with $CaCl_2$-treated gelatin. The indicated difference is probably due to the addnl. effect of the orientated salts on n. The n of 1 and 2% gelatin sols did not change measurably in 33 hrs. after prepn.; hence increasing aggregation had no effect on the refractivity. Also, 2.5% gelatin (hyperimes subjected to different thermal treatment (some kept on ice, others heated up to 50°), and finally kept in a thermostat at 20° for half an hour, were found to have the same n. Parallel refractometric and Pu measurements with 1% gelatin sols showed a min. in the neighborhood of the isoelec. point. A gel is regarded as a network of aggregated mols. The velocity of light in it depends on the no. of "knots" and the properties of the intermicellar liquid. The size of the aggregates in the sol or gel does not influence n.

B. Sovenkov

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Adsorption and characteristics of natural adsorbents (clays and earths). N. F. Ermolenko. *Belorusskaya Akad. Nauk, Inst. Khim. Sbornik Trudy* 1, 5-20(1934).—The effects of chem. compn., acidity, plasticity and sp. gr. upon adsorption are discussed. The speed of filtration of suspensions was detd. according to Wo. Ostwald. The speed of filtration, when used in conjunction with the plasticity and sp. gr., may serve to indicate the suitability of clays as adsorbents. R. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Catalytic decomposition of hydrogen peroxide by clay suspensions. N. F. Ermolenko, E. N. Novikova and V. Ya. Geterman. Belorusskaya Akad. Navuk. Inst. Khim. Sbornik Prats. 1, 113-30(1934); cf. C. A. 30, 2080[4].—The adsorption and catalytic activities of air-dried, calcined (at 120-700°), and water- and acid-activated clay suspensions of 0.25-0.5 mm. were studied. No strict relation between adsorption and catalytic effect was observed. Clays having a high adsorption value are very weak catalysts, while those of medium adsorption are good catalysts. Clays contg. Fe_2O_3 act least upon H_2O_2. The catalytic activity falls with rise in temp. of calcination, especially above 400°. B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

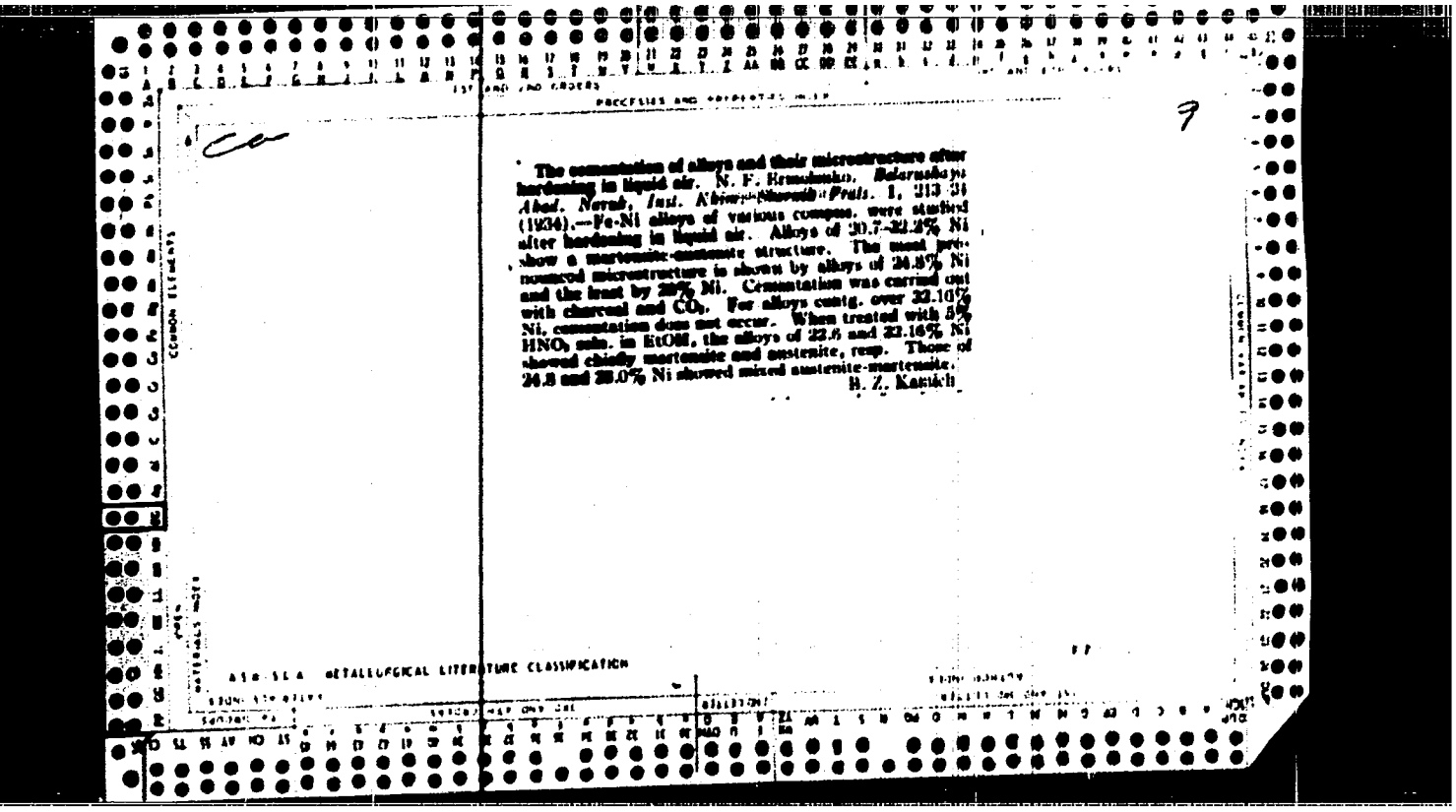
PROCESSES AND PROPERTIES INDEX

ca

21

Adsorption activity of peat and coals. N. F. Ermolenko and D. Z. Ginzburg. *Belorusskaya Akad. Nauk, Inst. Khim. Sbornik Nauch. Trudov* 1, 142-44(1954).—The adsorption activity of peat, brown and anthracite coals, and coke of 0.25-0.5 mm. was detd. with solns. of I_2 in KI and with acetic acid. The sample (1 g.) was shaken in a closed 250-cc. round flask with 25 cc. of the soln., allowed to stand for 1 hr. and 15 min., shaken again and filtered. The first portions of filtrate were discarded, but the remainder was used for titration. Adsorption follows $x/m = KC^n$. K decreases in the following order: peat: brown coal: anthracite. Differences between actual and theoretical results fall within the exptl. errors. B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The cementation of alloys and their microstructure after hardening in liquid air. N. F. Kremlenko. *Belorusskaya Abad. Navuk, Inst. Abiem. Sbornik Prats.* 1, 313-31 (1934).—Fe-Ni alloys of various compns. were studied after hardening in liquid air. Alloys of 20.7–22.2% Ni show a martensite-austenite structure. The most pronounced microstructure is shown by alloys of 24.8% Ni and the least by 20% Ni. Cementation was carried out with charcoal and CO_2. For alloys contg. over 22.16% Ni, cementation does not occur. When treated with 5% HNO_3 soln. in EtOH, the alloys of 22.6 and 22.16% Ni showed chiefly martensite and austenite, resp. Those of 24.8 and 28.0% Ni showed mixed austenite-martensite.

B. Z. Kanich

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

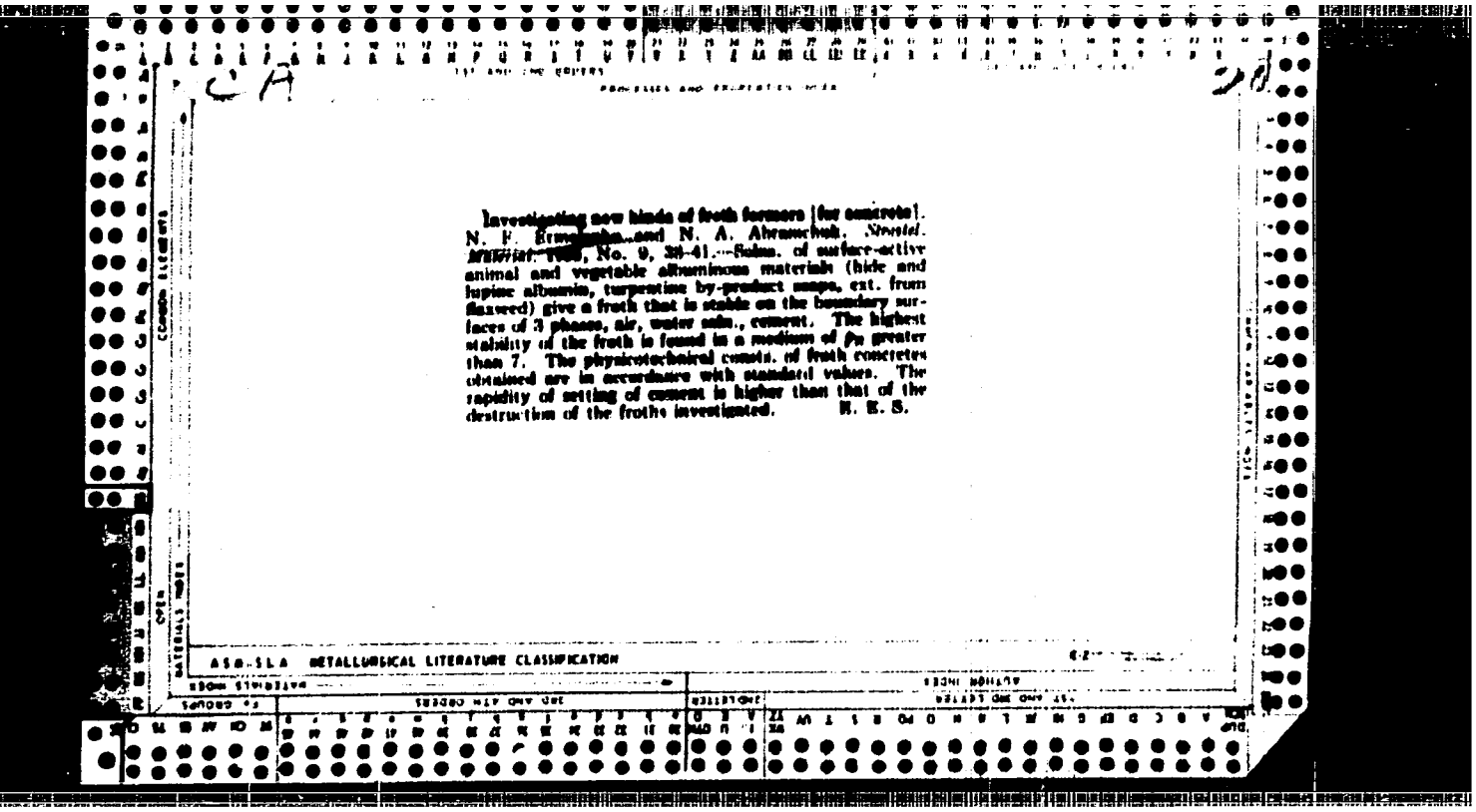
PROCESSES AND PROPERTIES INDEX

CA

2

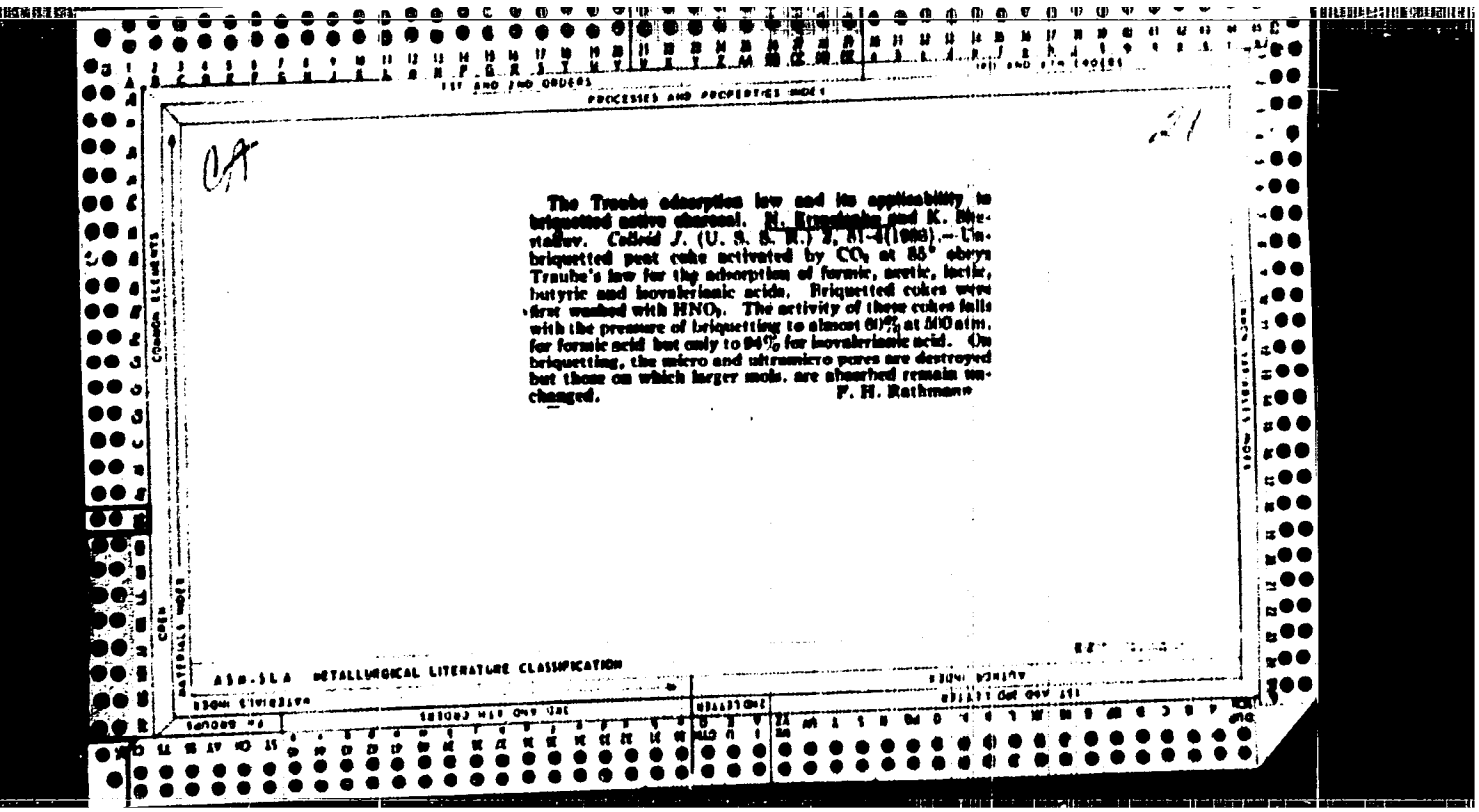
The law of precipitation in the peptization of metal oxides. N. N. [illegible].—*Colloid J.* (U. S. S. R.) 1, 315-27(1936).—Data are given on the peptization of CuO by NH_3 and of Ni_2O_3, Fe_2O_3 and PbO by HCl and HNO_3. During the succeeding process thixotropism of the metal oxides was observed. Fe_2O_3 is more strongly peptized after preliminary treatment of the oxide by acid to remove traces of electrolytes. All the oxides obey the Ostwald solid-phase rule. V. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Investigating new kinds of froth formers [for concrete]. N. F. Ermolenko...and N. A. Abramochuk. *Stroitel. Materialy*, 1955, No. 9, 38-41.—Subm. of surface-active animal and vegetable albuminous materials (hide and lupine albumin, turpentine by-product soaps, ext. from flaxseed) give a froth that is stable on the boundary surfaces of 3 phases, air, water soln., cement. The highest stability of the froth is found in a medium of *p*H greater than 7. The physicotechnical constn. of froth concretes obtained are in accordance with standard values. The rapidity of setting of cement is higher than that of the destruction of the froths investigated. B. E. S.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



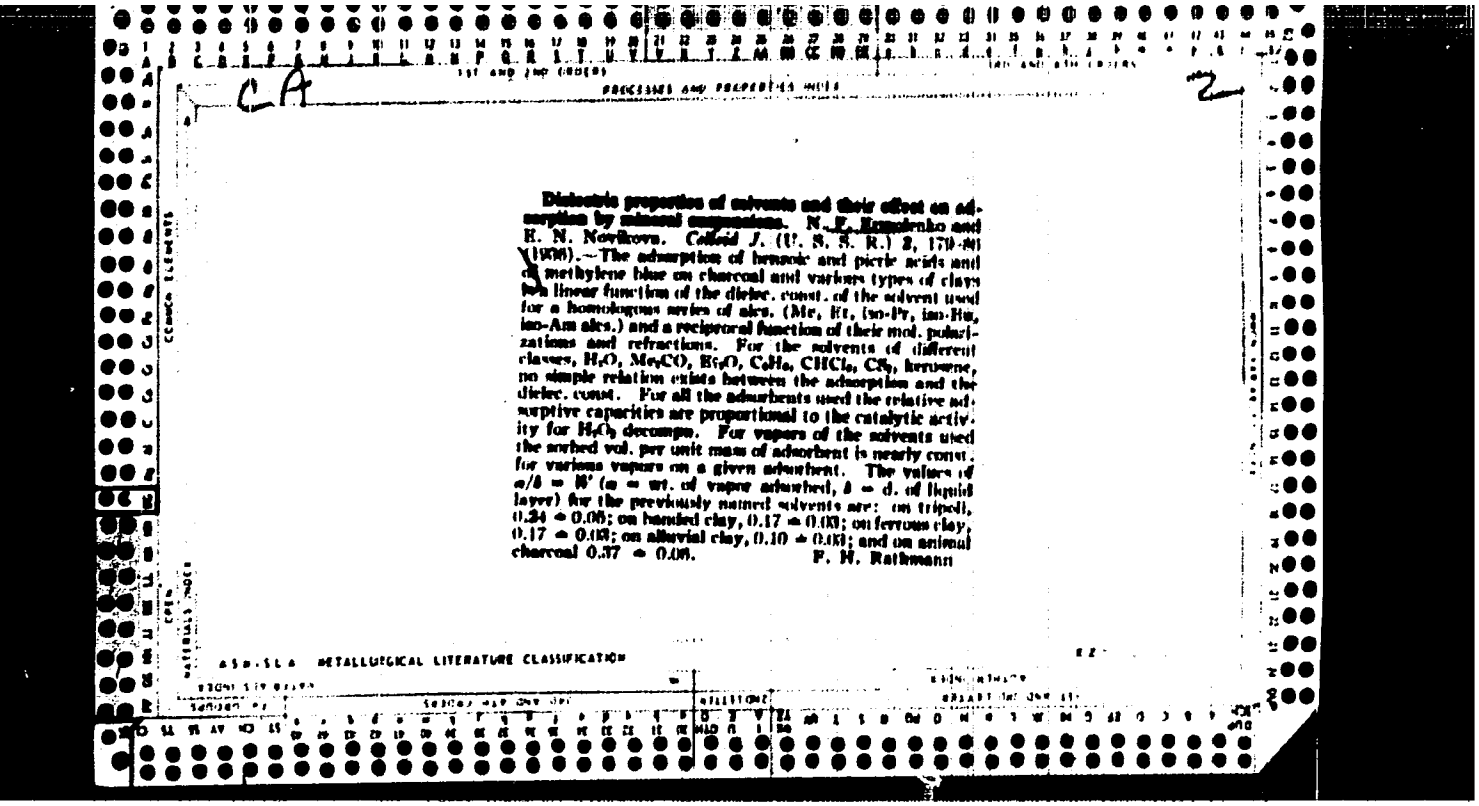
PROCESSES AND PROPERTIES INDEX

CA

21

The Traube adsorption law and its applicability to briquetted active charcoal. N. Kruschin and K. Shestakov. *Colloid J.* (U. S. S. R.) 3, 81-4(1938).—Unbriquetted peat coke activated by CO_2 at 85° obeys Traube's law for the adsorption of formic, acetic, lactic, butyric and isovalerianic acids. Briquetted cokes were first washed with HNO_3. The activity of these cokes falls with the pressure of briquetting to almost 60% at 300 atm. for formic acid but only to 94% for isovalerianic acid. On briquetting, the micro and ultramicro pores are destroyed but those on which larger mols. are absorbed remain unchanged. F. H. Rathmann

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

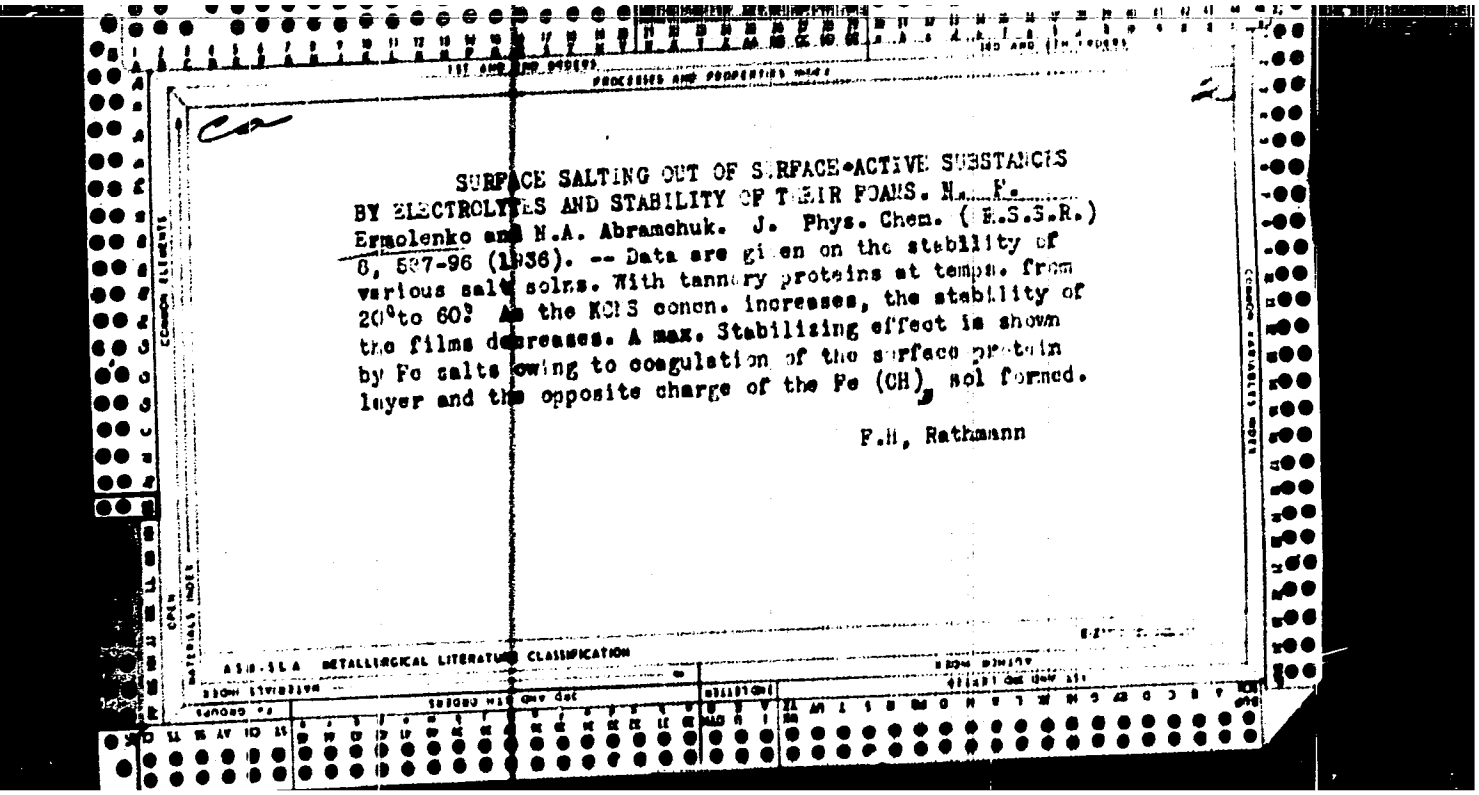


CA

2

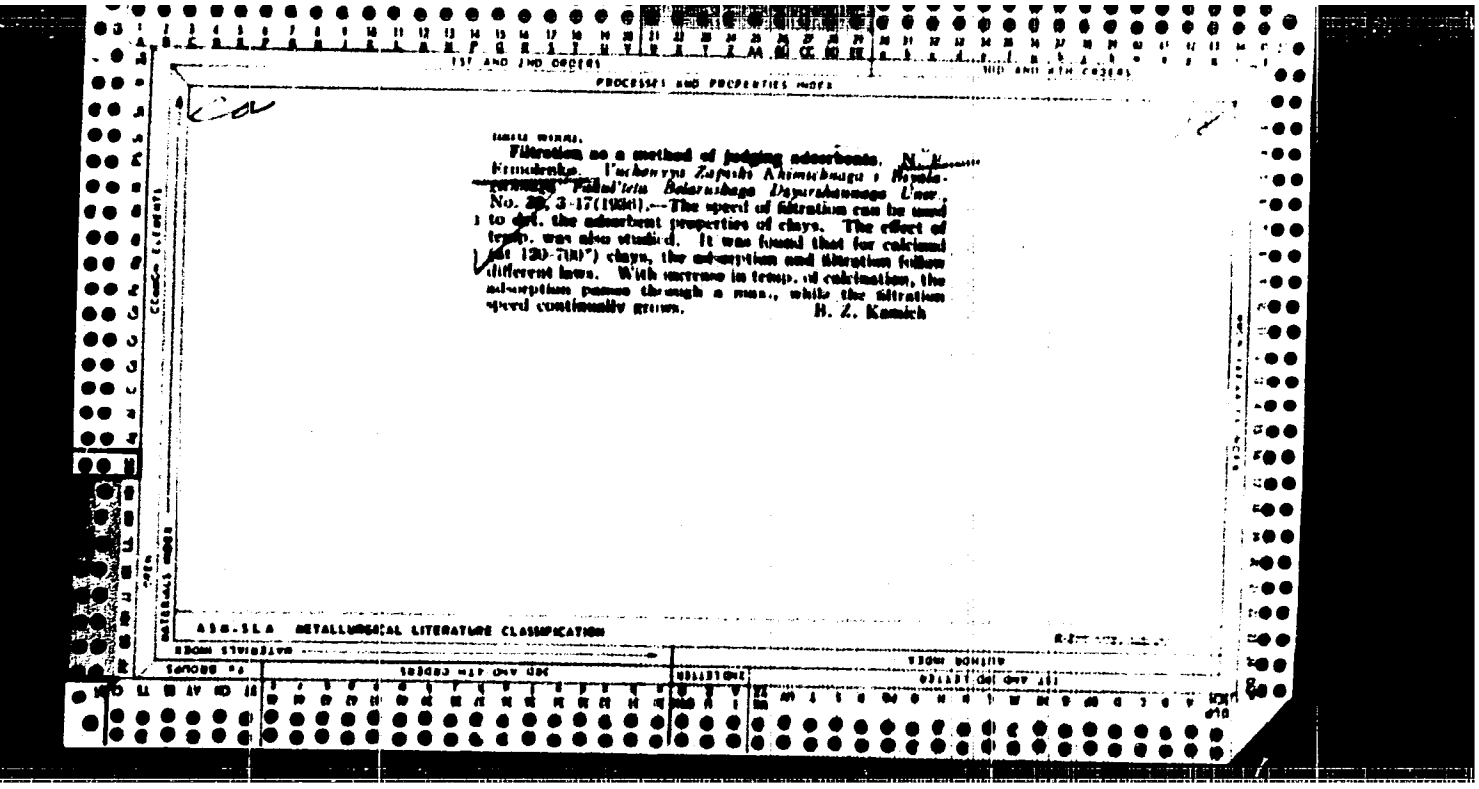
Dielectric properties of solvents and their effect on adsorption by mineral suspensions. N. F. Kremenko and E. N. Novikova. *Colloid J.* (U. S. S. R.) 2, 179-91 (1936).—The adsorption of humic and picric acids and of methylene blue on charcoal and various types of clays is a linear function of the dielec. const. of the solvent used for a homologous series of alcs. (Me, Et, iso-Pr, iso-Bu, iso-Am alcs.) and a reciprocal function of their mol. polarizations and refractions. For the solvents of different classes, H_2O, Me_2CO, Et_2O, C_6H_6, $CHCl_3$, CS_2, kerosene, no simple relation exists between the adsorption and the dielec. const. For all the adsorbents used the relative adsorptive capacities are proportional to the catalytic activity for H_2O_2 decompn. For vapors of the solvents used the sorbed vol. per unit mass of adsorbent is nearly const. for various vapors on a given adsorbent. The values of $a/\delta = B'$ (a = wt. of vapor adsorbed, δ = d. of liquid layer) for the previously named solvents are: on tripoli, 0.34 ± 0.08; on bauxite clay, 0.17 ± 0.03; on ferrous clay, 0.17 ± 0.03; on alluvial clay, 0.10 ± 0.03; and on animal charcoal 0.37 ± 0.08. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



SURFACE SALTING OUT OF SURFACE-ACTIVE SUBSTANCES BY ELECTROLYTES AND STABILITY OF THEIR FOAMS. N. P. Ermolenko and N.A. Abramchuk. J. Phys. Chem. (U.S.S.R.) 8, 587-96 (1936). -- Data are given on the stability of various salt solns. With tannery proteins at temps. from 20° to 60°. As the KCl S concn. increases, the stability of the films decreases. A max. Stabilizing effect is shown by Fe salts owing to coagulation of the surface protein layer and the opposite charge of the Fe $(CH)_3$ sol formed.

F.H. Rathmann



PROCESSES AND PROPERTIES INDEX

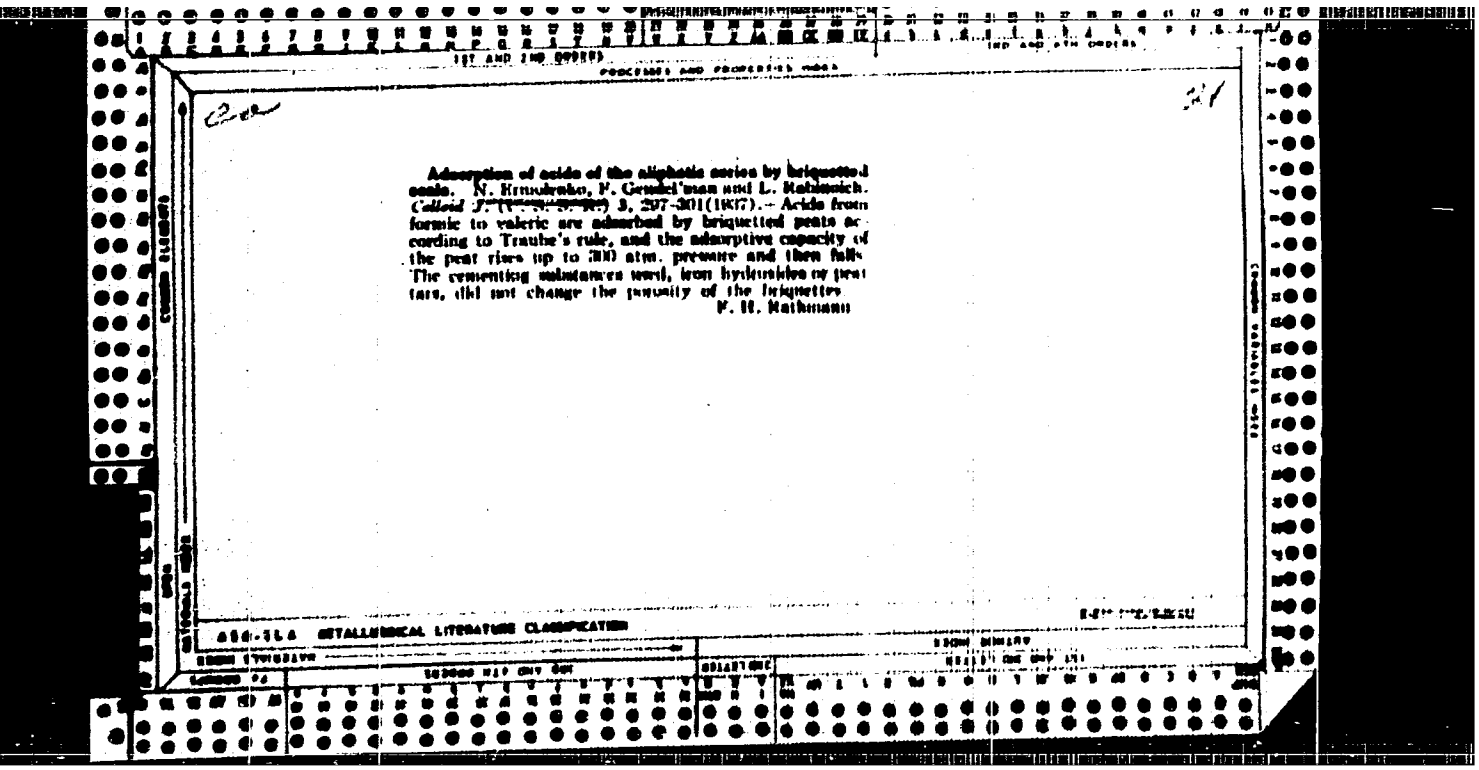
1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

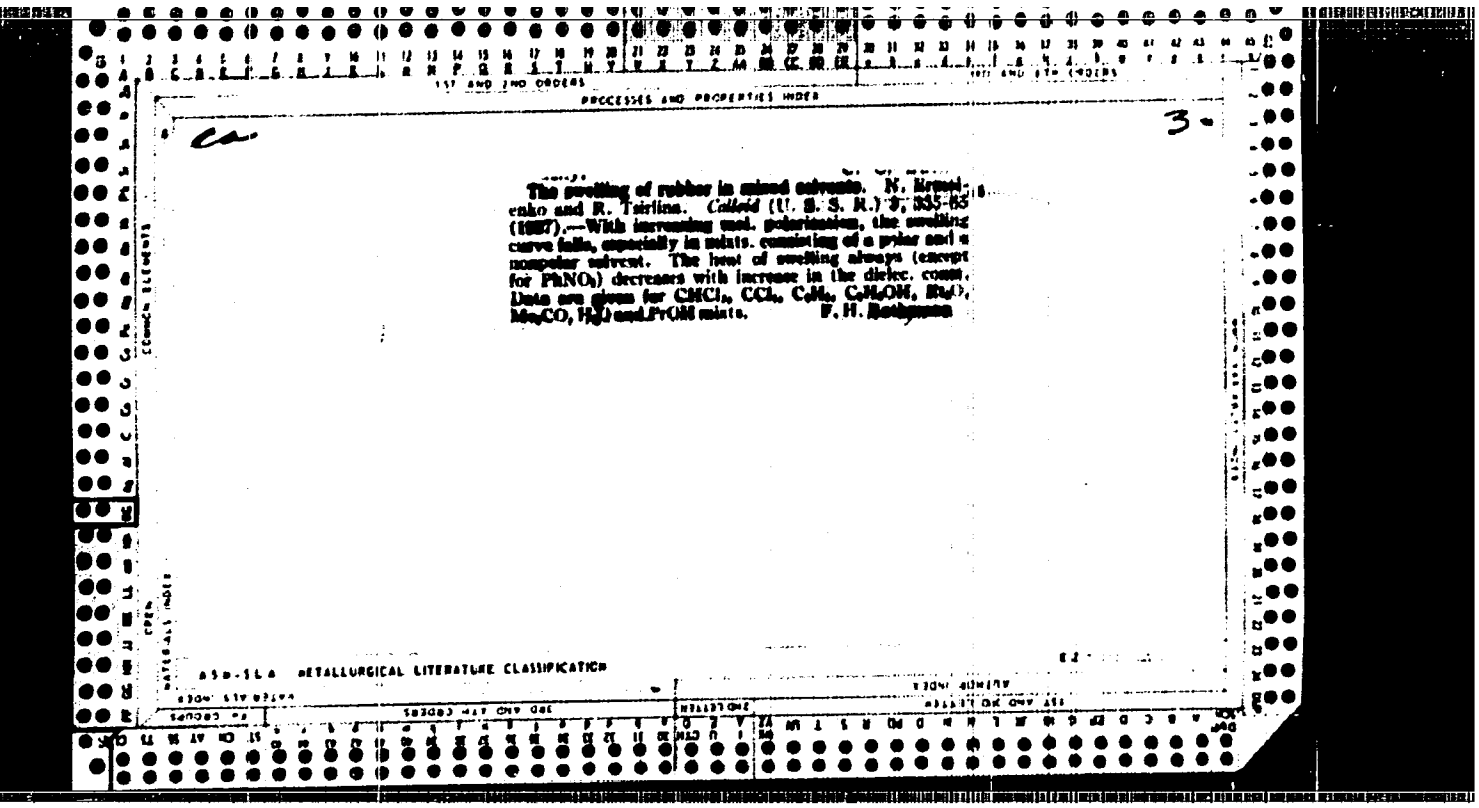
Filtration as a method of judging adsorbents. N. P. Fenchenko. *Uchenyye Zapiski Kazanskogo Gosudarstvennogo Pedagogicheskogo Instituta Belorusskogo Departamentskogo Univ.*, No. 2, 3-17(1936).—The speed of filtration can be used to det. the adsorbent properties of clays. The effect of temp. was also studied. It was found that for calcined (at 120-700°) clays, the adsorption and filtration follow different laws. With increase in temp. of calcination, the adsorption passes through a max., while the filtration speed continuously grows.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Adsorption of acids of the aliphatic series by briquetted peats. N. Krmoubrako, F. Gendel'man and L. Rabinovich. *Colloid J.* (U.S.S.R.) 3, 297-301(1937).—Acids from formic to valeric are adsorbed by briquetted peats according to Traube's rule, and the adsorptive capacity of the peat rises up to 300 atm. pressure and then falls. The cementing substances used, iron hydroxides or peat tars, did not change the porosity of the briquettes.
F. H. Rathmann



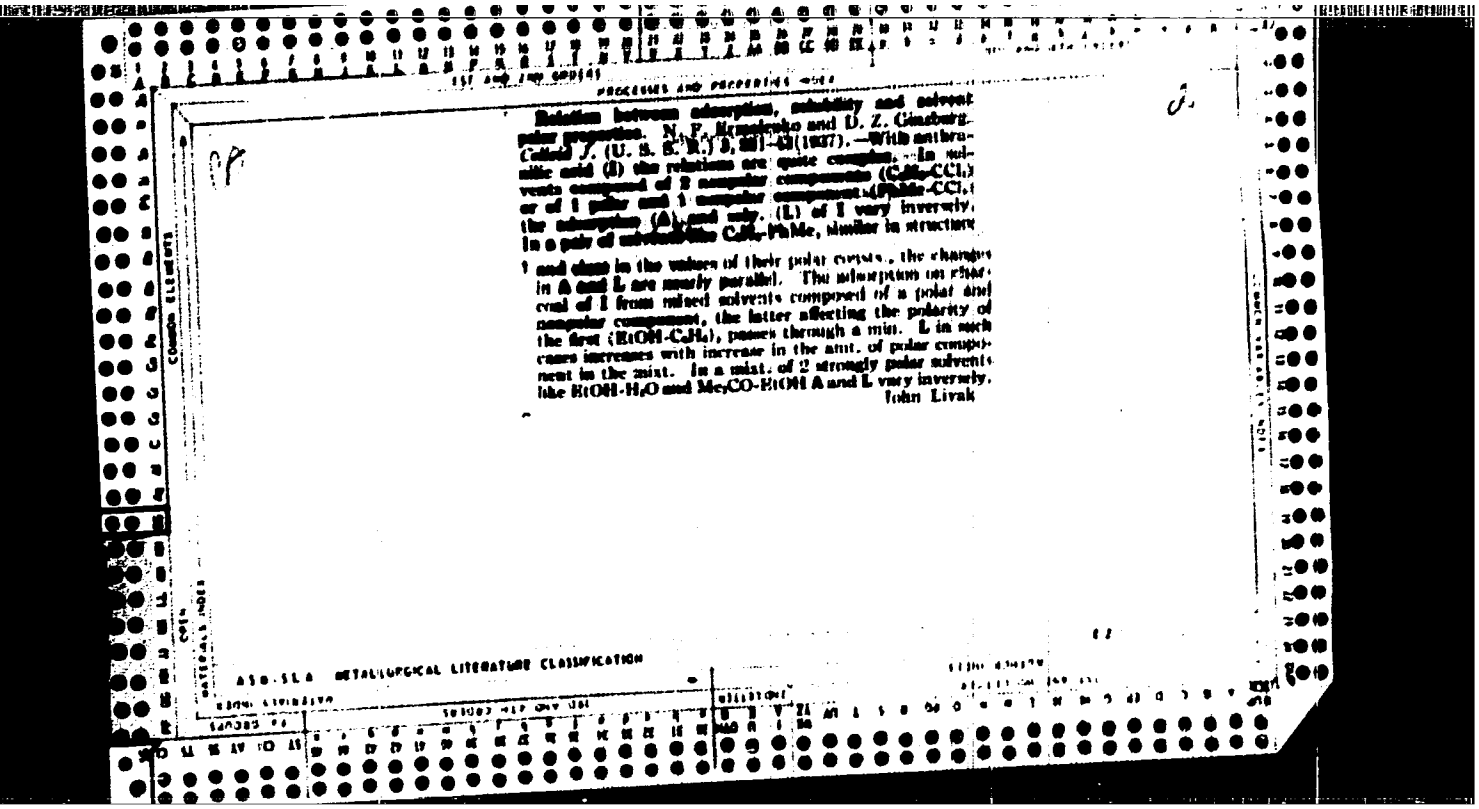
PROCESSES AND PROPERTIES INDEX

Ca

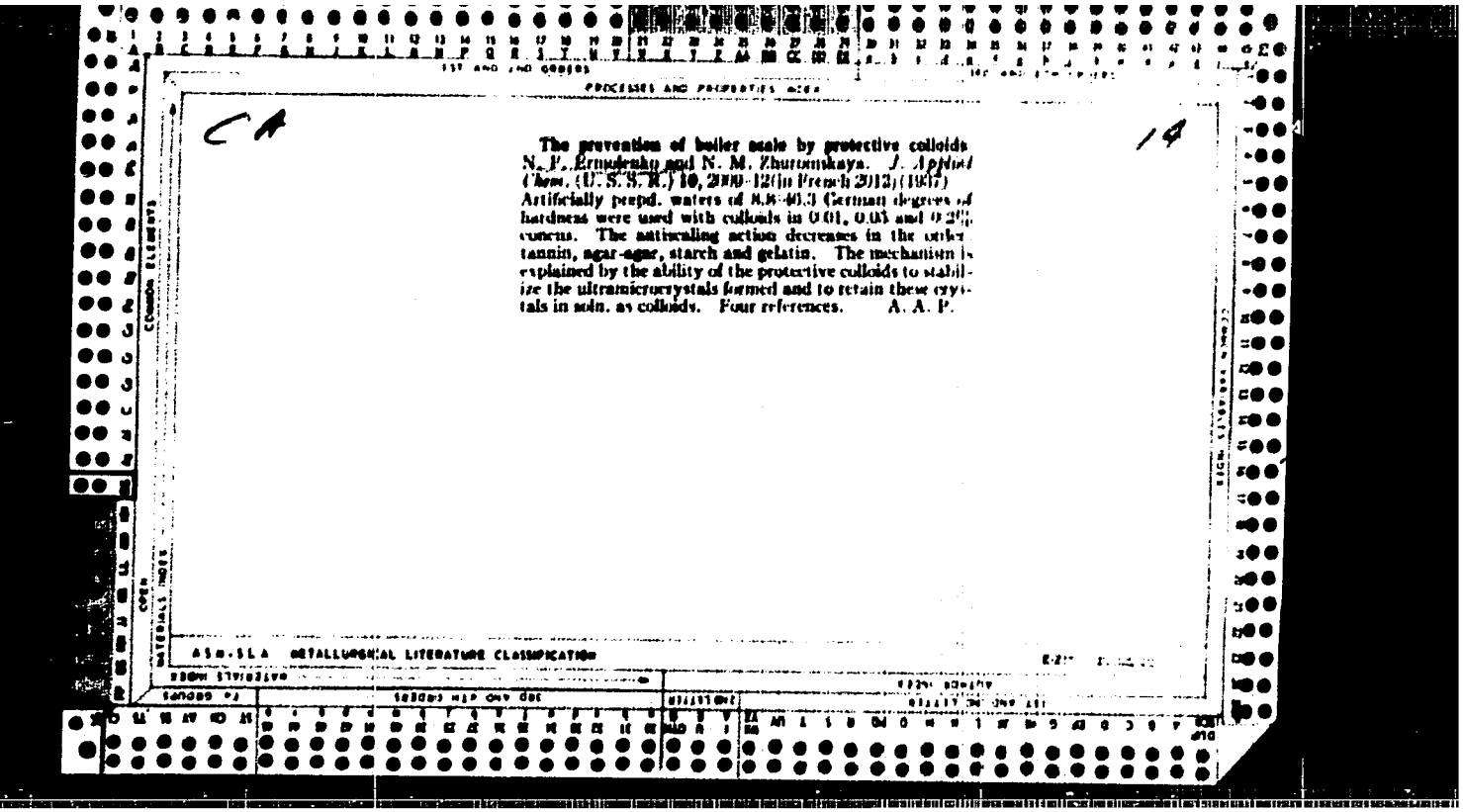
3

The swelling of rubber in mixed solvents. N. Krasnikov and R. Tsirlina. *Colloid* (U. S. S. R.) 3, 335-65 (1937).—With increasing mol. polarization, the swelling curve falls, especially in mixts. consisting of a polar and a nonpolar solvent. The heat of swelling always (except for $PhNO_2$) decreases with increase in the dielec. const. Data are given for $CHCl_3$, CCl_4, C_6H_6, C_6H_5OH, Et_2O, Me_2CO, H_2O and PrOH mixts. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

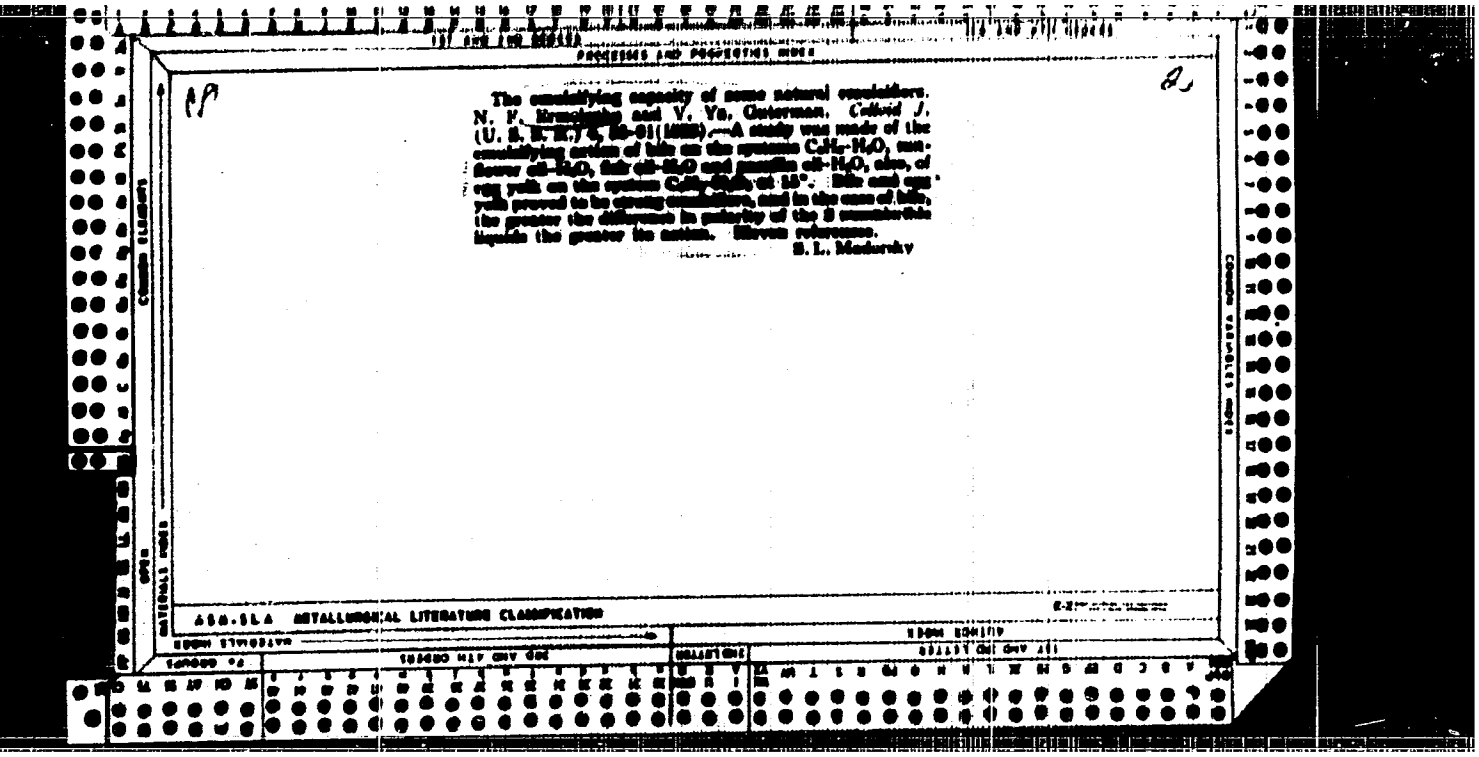


Relation between adsorption, solubility and solvent polar properties. N. P. Krasnenko and D. Z. Ginsburg. Colloid J. (U. S. S. R.) 3, 381-93(1937).—With anthranilic acid (I) the relations are quite complex. In solvents composed of 2 nonpolar components (C_6H_6-CCl_4) or of 1 polar and 1 nonpolar component (C_6H_6-CCl_4) the adsorption (A) and solv. (L) of I vary inversely. In a pair of substances C_6H_6-PhMe, similar in structure and close in the values of their polar consts., the changes in A and L are nearly parallel. The adsorption on charcoal of I from mixed solvents composed of a polar and nonpolar component, the latter affecting the polarity of the first (EtOH-C_6H_6), passes through a min. L in such cases increases with increase in the amt. of polar component in the mixt. In a mixt. of 2 strongly polar solvents like EtOH-H_2O and Me_2CO-EtOH A and L vary inversely.
John Livak



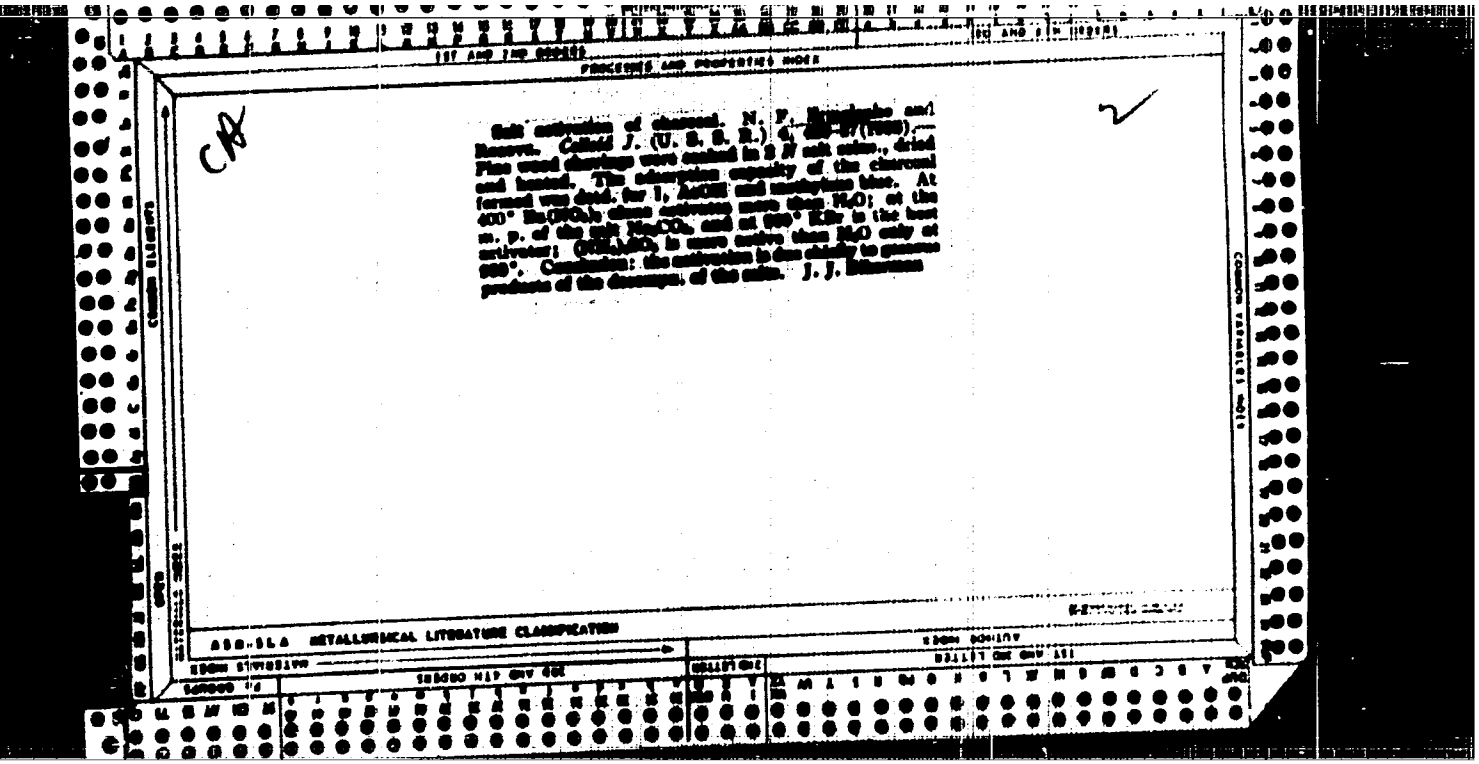
CA 14

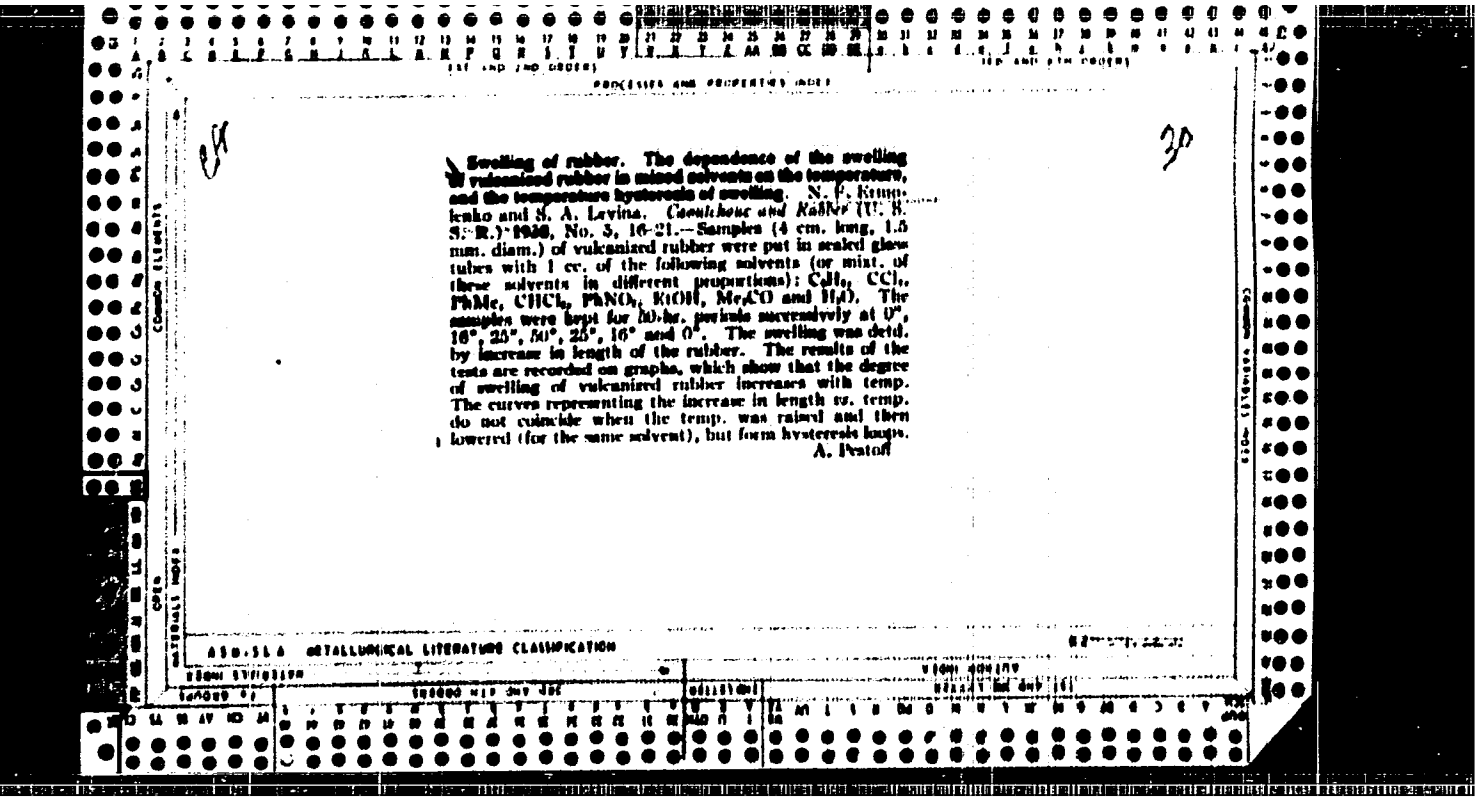
The prevention of boiler scale by protective colloids. N. P. Ermukhin and N. M. Zhuromskaya. *J. Applied Chem. (U. S. S. R.)* 10, 2009-12(in French 2013)(1937). Artificially prepd. waters of 8.8-40.3 German degrees of hardness were used with colloids in 0.01, 0.05 and 0.2% concns. The antiscaling action decreases in the order tannin, agar-agar, starch and gelatin. The mechanism is explained by the ability of the protective colloids to stabilize the ultramicrocrystals formed and to retain these crystals in soln. as colloids. Four references. A. A. P.



The emulsifying capacity of some natural emulsifiers. N. V. Mrazkovskii and V. Ya. Guterman. *Colloid J. (U. S. S. R.)* 7, 55-61 (1945).—A study was made of the emulsifying action of bile on the systems C_6H_6-H_2O, nitrobenzene-H_2O, thin oil-H_2O and paraffin oil-H_2O, also, of egg yolk on the systems C_6H_6-H_2O, etc. Bile acids and salts proved to be strong emulsifiers, and in the case of bile, the greater the difference in polarity of the 2 immiscible liquids the greater the action. Eleven references.

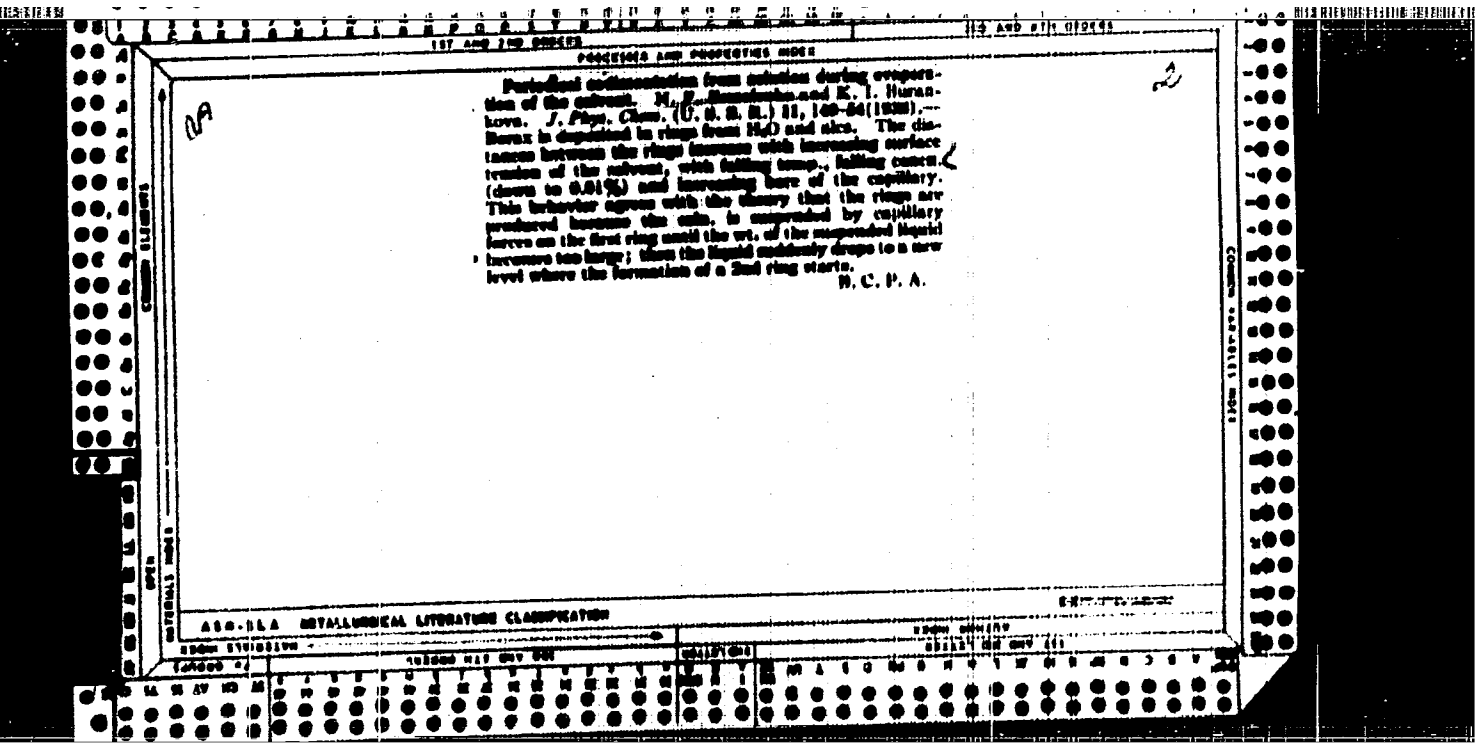
S. L. Madorsky





Swelling of rubber. The dependence of the swelling of vulcanized rubber in mixed solvents on the temperature, and the temperature hysteresis of swelling. N. P. Kuznetsenko and S. A. Levina. *Caoutchouc and Rubber* (U. S. S. R.) 1930, No. 5, 16-21.—Samples (4 cm. long, 1.5 mm. diam.) of vulcanized rubber were put in sealed glass tubes with 1 cc. of the following solvents (or mixt. of these solvents in different proportions): C_6H_6, CCl_4, $PhMe$, $CHCl_3$, $PhNO_2$, KOH, Me_2CO and H_2O. The samples were kept for 30-hr. periods successively at 0°, 16°, 25°, 50°, 25°, 16° and 0°. The swelling was detd. by increase in length of the rubber. The results of the tests are recorded on graphs, which show that the degree of swelling of vulcanized rubber increases with temp. The curves representing the increase in length vs. temp. do not coincide when the temp. was raised and then lowered (for the same solvent), but form hysteresis loops.

A. Peatoff



Periodical sedimentation from solutions during evaporation of the solvent. M. P. Shmakinbin and K. I. Hurankova. *J. Phys. Chem.* (U. S. S. R.) 11, 149-54(1938).—Borax is deposited in rings from H_2O and alcs. The distance between the rings increases with increasing surface tension of the solvent, with falling temp., falling concn. (down to 0.01%) and increasing bore of the capillary. This behavior agrees with the theory that the rings are produced because the salt, in suspended by capillary forces on the first ring until the wt. of the suspended liquid increases too large; then the liquid suddenly drops to a new level where the formation of a 2nd ring starts.
M. C. P. A.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

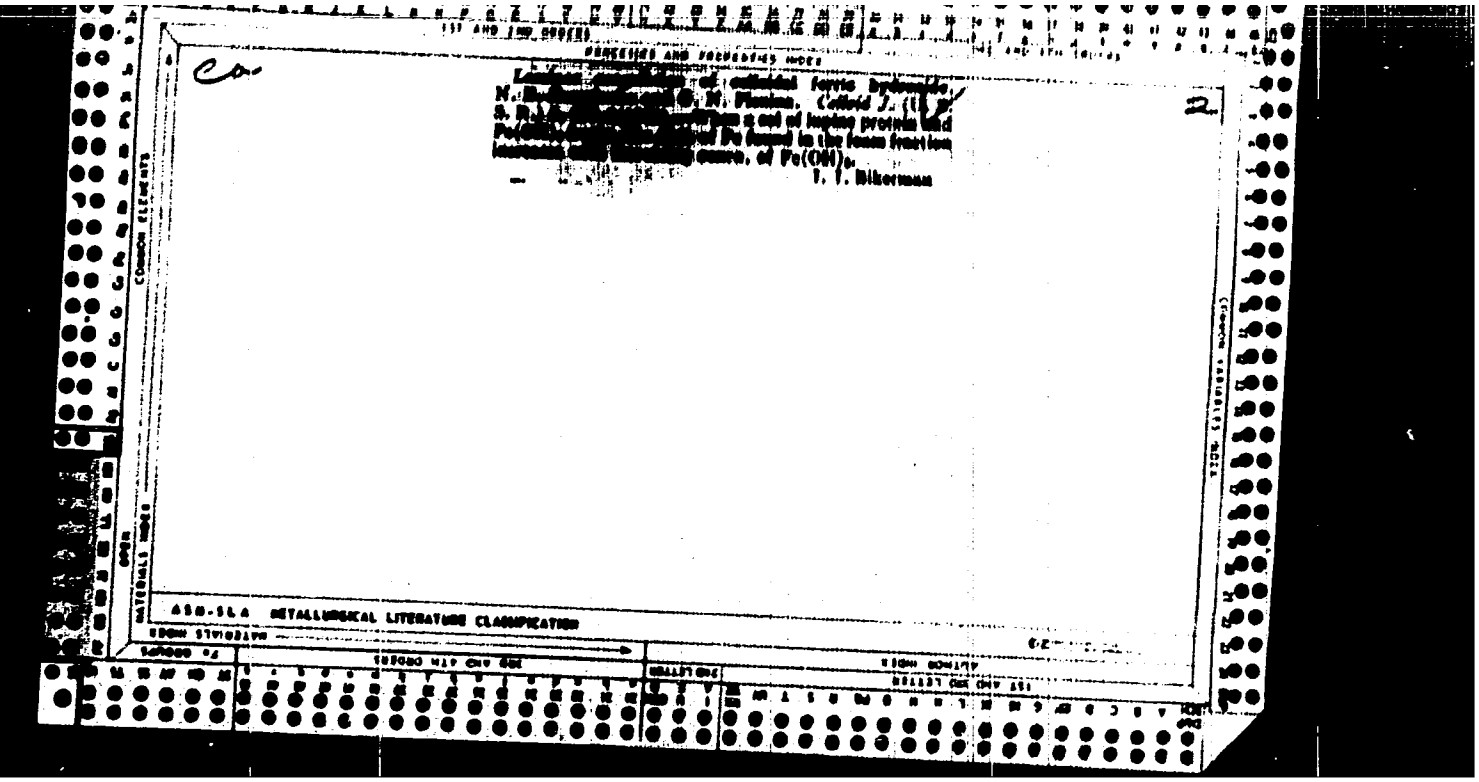
Co

2

Importance of the polarity of the medium for the adsorption of substances by briquetted mixed adsorbents. N. P. [illegible] and L. I. Rabinovich. *Colloid J. (U.S.S.R.)* [illegible]-11(1936); cf. *C. A.* 31, 1070[illegible].—Filter paper mixed with [illegible] was briquetted and charred. The adsorption of picric acid by these briquets decreased when the briquetting pressure increased from 500 to 1500 kg./sq. cm. The adsorption from various solvents increased in the order: [illegible], EtOH, C_6H_6, $CHCl_3$ and H_2O. In the system EtOH + C_6H_6 there was a min. of adsorption at 20% of C_6H_6, whereas there is no min. or max. in other systems.

J. J. Bikerman

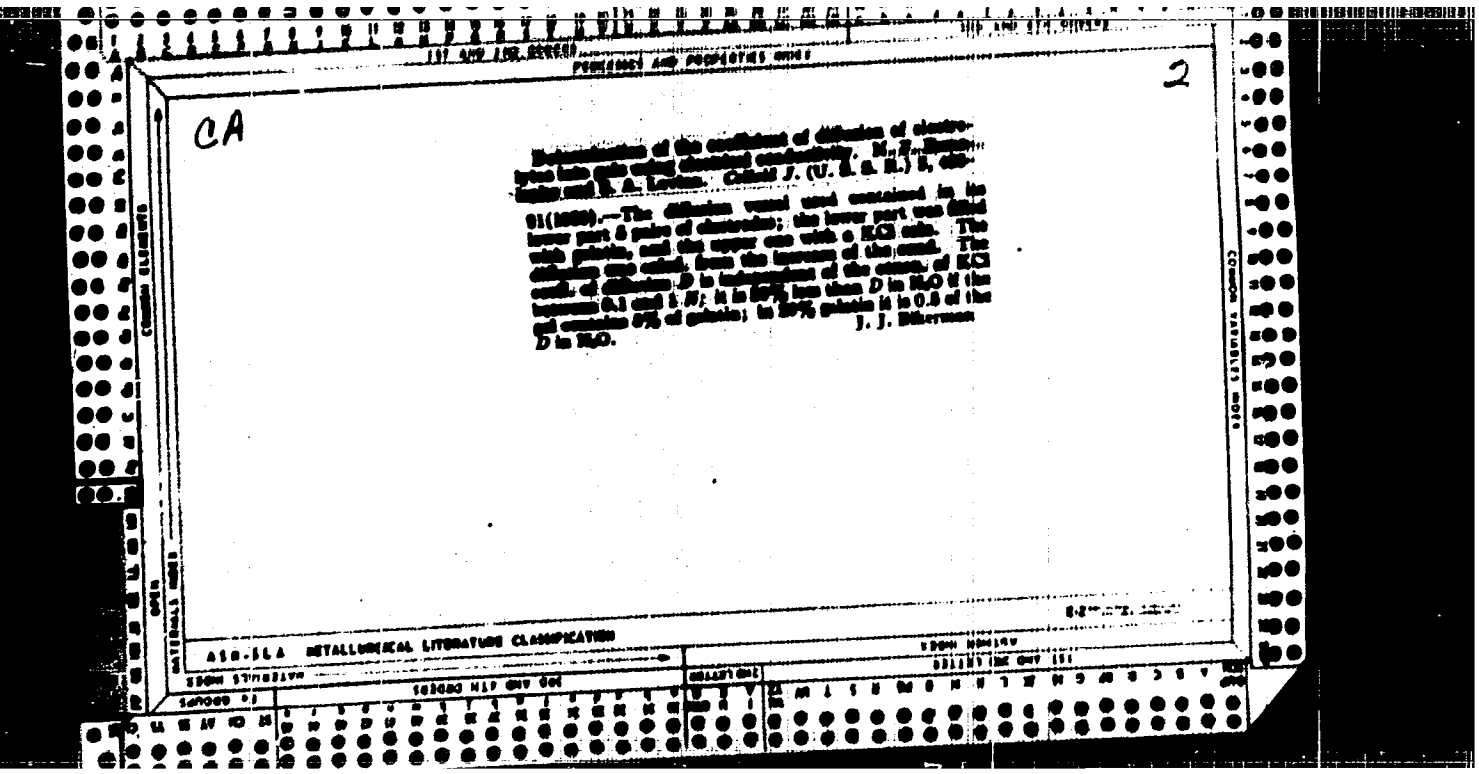
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Importance of the constitution of organic acids for their adsorption from mixed media. N. F. Ermolenko and D. Z. Ginzburg. *Colloid J.* (U. S. S. R.) 5, 263-70(1939); cf. C. A. 33, 6117.—Adsorption by wood charcoal from [illegible] increases in the series AcOH, chloroacetic, dichloroacetic, trichloroacetic and salicylic acid. For a given acid it increases from EtOH to C_6H_6 and CCl_4. The adsorption from mixed solvents EtOH + C_6H_6 shows a min., whereas there is neither max. nor min. in the curve of adsorption from the mixts. CCl_4 + C_6H_6 and H_2O + EtOH. Salicylic acid was also adsorbed from C_6H_6 + $COMe_2$ (a min.), and m-aminobenzoic acid from H_2O + EtOH mixts. I. J. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Periodic precipitation from solutions during evaporation of the solvent. N. [illegible] and N. A. Levina. *J. Gen. Chem.* (U. S. S. R.) [illegible], [illegible]-70(19[illegible]); cf. [illegible] and [illegible], *C. A.* [illegible], [illegible].—Periodic pptn. is [illegible] salts and org. [illegible]. Besides the [illegible] of the soln., the dispersity of the particles [illegible], which affects the capillary properties, has an [illegible] role in periodic pptn. [illegible], the [illegible] between the [illegible] and these factors is not [illegible]. A model consisting of a glass tube [illegible] mm. in diam., the inner surface of which is covered at each end with [illegible], and the central part uncovered, is proposed to [illegible] the occurrence of periodic pptn. by change of the [illegible] during lowering or raising the [illegible] as it passes from the paraffin [illegible] and vice versa.

A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

The adsorption of organic acids from single and mixed solvents. N. F. [illegible] and S. A. Levina. Acta Physicochim. U.R.S.S. [illegible], 441–[illegible]([illegible])(in English).—In the mixed solvent systems: CCl_4–C_6H_6, CCl_4–PhMe (I), C_6H_6–PhMe (II), C_6H_6–$CHCl_3$, C_6H_6–EtOH, CCl_4–EtOH, CCl_4–Me_2CO (III), EtOH–H_2O, Me_2CO–EtOH (IV), $CHCl_3$–Me_2CO, and $CHCl_3$–EtOH, the adsorption isotherms of salicylic and butyric acids on charcoal from their 0.010 N solns. at room temp. are practically the same from solns. of mixts. of the acids as from solns. of the single acids alone. The Mischke rule (Dissertation, Leipzig 1929, 61), stronger adsorption from a mixt. of the acid more strongly adsorbed separately, was confirmed. From mixed solvents of similar polarities as IV or of similar chem. nature as II the total adsorption was practically independent of the relative contents of the solvents. From mixed solvents of the polar-nonpolar types I–III the adsorption of salicylic acid from solns. increases with an increase in the concn. of the nonpolar component while for butyric acid other factors predominate. For pure solvents in a given homologous series, the adsorption of the two acids increases with an increase in the dielec. const. or in the mol. polarization. F. H. Rathmann

AVB-SLA METALLURGICAL LITERATURE CLASSIFICATION

YERMOLENKO, N.F.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

30

Kinetics of supplementary swelling of vulcanized rubber. N. F. Ermolenko. Colloid J. (U. S. S. R.) 6, [illegible] (1940). Several samples of vulcanized rubber were kept in acetone for 4 days, then in C_6H_6 for supplementary swelling. The velocity of supplementary swelling was detd. by methods previously described (C. A. 32, 1013[?]). The observed velocity corresponded to a reaction of the 1st order, i. e., was analogous to the initial swelling. However, this velocity decreased in time. This decrease is explained by the presence of 2 simultaneous processes during supplementary swelling: (1) chem. solvation (high velocity const.) and (2) osmotic "binding" of the liquid (low velocity const.). Each process has its own equil., which is established at different times. Therefore, the av. velocity (observed velocity of supplementary swelling) should decrease in time. The velocity const. depended on the polarity of the liquid which was used for preliminary swelling, on the polarity of the liquid for the supplementary swelling, and to a lesser degree on the compn. of the rubber. A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ERMOLENKO, N. F.

PROCESSES AND PROPERTIES INDEX

Adsorption of picric acid on silica gel from mixed organic media. N. F. Ermolenko and Ts. M. Avlina. *Colloid J (U. S. S. R.)* 6, 561-8(1940); cf. *C. A.* 33, 8400¹.—Adsorption of picric acid with silica gel from CCl_4–C_6H_6 mixt. increased with an increase of CCl_4 concn., that from CCl_4–toluene was increased with a decrease of CCl_4 concn. But adsorption from the mixts. C_6H_6–$CHCl_3$ and C_6H_6–EtOH and C_6H_6–$PhNO_2$ passed through a min. when decreasing the C_6H_6 concn.

A. A. Podgorny