SETINA, Rudolf, MUDr.; VESELY, Emil, MUDr.

Experience in the protection of the perineum with hyaluronidase.
Cesk. gyn. 21 no.5:304-306 Sept 56.

1. Gyn. por. odd. OUNZ Piestany, prednosta primar MUDr. Emil Vesely.
(PERINEUM, wounds and injuries
laceration in labor, prev. with hyaluronidase (Cz))
(LABOR, complications
perineal lacerations, prev. with hyaluronidase (Cz))
(HYALURONIDASE, therapeutic use
prev. of perineal laceration in labor (Cz))

SETINA, Z.

Safety of train traffic without regular signals on the tracks. p. 177.

ZELEZNICNI DOPRAVA A TECHNIKA. (Ministerstvo dopravy)
Praha, Czechoslovakia
Vol. 7, no. 6, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11.
Nov. 1959
Uncl.

SETINEK, K.

Silicon organic compounds. XIV. Inhibition of the direct synthesis of methylchlorosilanes by nitric oxide.

p. 639 (CHEMICKE LISTY) Vol. 51, no. 4, Apr. 1957,
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3, March 1958

Setinek, K

Dry-gas holder. K. Setínek (Czech. Acad. Sci., Prague). *Chem. Listy* 50, 1660(1956).—Construction is described of app. for pressures between 5 mm. Hg and 2 atm. The stored gases are sucked in and expelled by means of a rubber ball placed in a glass container. L. J. Urbánek

SETINEK, KAREL

5
3 1 Em 2 May

Organosilicon compounds. XI. Material balance of the direct synthesis of methylchlorosilanes. Karel Setínek, Vladimír Bažant, and František Šorm (Czech. Acad. Sci., Prague). *Chem. Listy* 50, 1954-9(1956); cf. *C.A.* 51, 4298*f*.—The app. is described and the amts. and ratios are given of the products obtained by treatment of an alloy contg. Si 88.50, Cu 9.78, Fe 1.84, Al 0.13, and Mg 0.15% (size of granules 0.1-0.3 mm.) with dry MeCl. This reaction yields Me_2SiCl_2, $MeSiCl_3$, Me_3SiCl, Me_4Si, $SiCl_4$, $MeSiHCl_2$, $SiHCl_3$, H, CH_4, C_2H_4, and C_2H_6 besides a small fraction, b. 8°, contg. SiH_2Cl_2 and $MeSiH_2Cl$. A table and 16 graphs show the degree of methylation of Si in dependence on 2 variables, temp. (I) and flow rate (II) of MeCl, other conditions being const. Lowest I approaching 300° favor formation of highly methylated chlorosilanes. Formation of hydrocarbons is enhanced with raised I and diminished with increased II. The influence of raised I on the yield of methylchlorosilanes is compensated by increasing II, whereas formation of hydrocarbons and of H is effected solely by I. L. J. Urbánek

Em

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11362.

Author : Beranek, L. and Bazant, V.; Bazant, V. and Vavruska, M. and Setinek, K., Bazant, V., and Sor. F.

Inst :

Title : Organosilicon Compounds. IX. The Gas Phase Methylation of Chlorosilanes. X. The Hydrolysis of Phenylchlorosilanes Over Aluminum Oxide. XI. Mass Balance in theDirect Synthesis of Methylchlorosilanes.

Orig Pub: Sbornik Chekhoslov Khim Rabot, 22, No 4, 1192-1198, 1293-1305, 1306-1309 (1957) (in German with an English summary)

Abstract: See RZhKhim, 1957, 44606, 60627, 68912.

Card : 1/1

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28643

later becomes very marked. In the opinion of the authors methyl radicals are present in the reaction space both in the gas phase and on the furface of the Si or at the surface of the contact mass (CM). The radicals in the gas phase combine to form silicon-free reaction products while the radicals localized on the surface of the Si or on the CM form the methylchlorosilanes proper. The gradual decrease in the yield of methylchlorosilanes continues until the radicals present in the gas phase are exhausted. The sharp decrease in yield begins when the NO which is added begins to react also with the radicals localized on the surface of the CM. The reactions of the methyl radicals in the gas phase are discussed, in particular, the reactions with $CHCl_3$ and H_2, thermal decomposition,

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Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28643

and disproportionation reactions. The theoretical conclusions are compared with the experimental data on the composition of the reaction products (see RZhKhim, 1957, 68912).

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SETINEK, KAREL

7

7 4E2c

Organosilicon compounds. XV. Inhibition of the direct synthesis of methylchlorosilanes by nitric oxide. Karel Setínek, Vladimír Bažant, and František Šorm (Czech. Acad. Sci., Prague). *Chem. Listy* 51, 639–42(1957); cf. *C.A.* 51, 8877b.—Addn. of NO to the reaction mixt. produces inhibition of the synthesis of methylchlorosilanes (I) from Si and MeCl which increases with rising temp. The app. and procedure were the same as already described (*C.A.* 51, 4936[illegible]). The authors suggest that NO reacts preferentially with the free Me radicals present in the gaseous phase which are not in direct contact with the surface of Si. Only when in higher concn. NO reacts with the Me radicals which participate directly in the synthesis of I, thus causing inhibition. These assumptions are in conformity with the previous findings that the nonsiliceous side-products of a normal noninhibited synthesis of I arise from the free radicals present in the gaseous phase. Mechanism of formation of the individual side-products is discussed. L. J. Urbánek

Z/009/62/000/008/001/002
E112/E435

AUTHORS: Setínek, Karel, Černyšev, J.A.

TITLE: Thermal decomposition of trichlorosilane

PERIODICAL: Chemický průmysl, no.8, 1962, 419-422

TEXT: The pyrolysis of $SiHCl_3$ was studied in a silica tube packed with crushed silicate glass at 525, 550, 600 and 750°C, partial $SiHCl_3$ pressures of 0.1 to 0.5 atm and flow rates of 10 to 70 mole/hour per 1 litre of reaction space. The products of thermal decomposition were identified by gas chromatography, using nitrogen as carrier gas and thermal conductivity as method of detection. Trichlorosilane was found to be stable at 525°C. Decomposition began at 550°C, giving rise to tetrachlorosilane and hydrogen. A solid decomposition product was also detected in minute quantities, collecting on the walls of the silica tube and over the silicate packing. A quantitative analysis of the solid substance was not undertaken because the collected quantities were insufficient. Analyses of the gaseous decomposition product under varying experimental conditions are presented in the form of graphs. The rate of decomposition of $SiHCl_3$ increases

Card 1/3

Z/009/62/000/008/001/002
E112/E435

Thermal decomposition of ...

with temperature. However, during the initial stages of decomposition, pyrolysis proceeded at a considerably diminished rate. Therefore, it is postulated that the solid pyrolytic decomposition products may catalyse the thermal decomposition, and that the smooth non-contaminated walls of the silica tube may inhibit it. To clarify the effects of surface characteristics on the course of $SiHCl_3$-decomposition, a series of experiments were carried out in which the surface areas within the silica tube were varied by varying the granular diameters of the silicate packing. Although the effect of the clean non-contaminated wall surface was again clearly discernible, influences of surface areas or characteristics were not detected. It was confirmed that smooth and clean wall-surfaces inhibit the decomposition of trichlorosilane. However, as soon as the walls of the silica tube are coated with a thin film of the solid decomposition product, the cause of inhibition is removed and pyrolysis proceeds entirely in the gaseous phase. Stoichiometrically, the pyrolysis of $SiHCl_3$ was assumed to proceed according to equation:

$4SiHCl_3 = Si + 3SiCl_4 + 2H_2$. Although analyses of the decomposition products showed agreement with the above equation in

Card 2/3

KRAUS, Milos; KOCHLOEFL, Karel; SETINEK, Karel; BERANEK, Ludvik;
HOUDA, Miloslav; BAZANT, Vladimir

The course of potassium phthalate rearrangement to potassium terephthalate. Chem prum 12 no.10:529-534 O '62.

1. Ustav teoretickych zakladu chemicke techniky, Ceskoslovenska akademie ved, Praha.

KRAUS, Milos; SETINEK, Karel; JOST, Frantisek; BAZANT, Vladimir

Some properties of catalysts for rearrangement of potassium phthalate into potassium terephthalate. Chem prum 13 no.2:67-70 F '63.

1. Ustav teoretickych zakladu chemicke techniky, Ceskoslovenska akademie ved, Praha.

SETÍNEK, K; RATHOUSKÝ, B.

Czechoslovakia

Institute of Theoretical Bases of Chemical Technique, Czechoslovak Academy of Science -- Prague - (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 4, 1963, pp 991-996

"Apparatus for the Differential Thermoanalysis under Pressure and Pouring Gas through the Investigated Matter."

2

RATHOUSKY, Jiri; SETINEK, Karel; KRUCHNA, Oldrich; BAZANT, Vladimir

Basic principles of terephthalic acid isolation from potassium terephthalate. Chem prum 13 no.4:170-173 Ap '63.

1. Ustav teoretickych zakladu chemicke techniky, Ceskoslovenska akademie ved, Praha.

SETINEK, K.; BAZANT, V.

Preparation of dienes by pyrolysis of cyclic compounds. V. Preparation of butadiene by pyrolysis of cyclohexane. Coll Cz chem 26 no.2: F '61. (EEAI 10:9)

1. Institut fur theoretische Grundlagen der chemischen Technik, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Olefins) (Pyrolysis) (Cyclic compounds)
(Butadiene) (Cyclohexane)

RATHOUSKY, Jiri; KRUCHNA, Oldrich; SETINEK, Karel; BAZANT, Vladimir;
SILADI, J.

Practical problems of terephthalic acid isolation from the rearrangement product of potassium phthalate to potassium terephthalate. Chem prum 13 no.6:295-299 Je '63.

1. Ustav teoretickych zakladu chemicke techniky, Ceskoslovenska akademie ved, Praha (for all, except Siladi).
2. Spolek pro chemickou a hutni vyrobu, Usti nad Labem (for Siladi).

SETINEK, K.; RATHOUSKY, B.

Apparatus for differential thermal analysis under pressure with gas passage through the examined substances. Coll Cz Chem 28 no.4:991-996 Ap '63.

1. Institut fur theoretische Grundlagen der chemischen Technik, Tschechoslowakische Akademie der Wissenschaften, Prag.

SETINEK, Karel; BAZANT, Vladimir

Study of potassium terephthalate preparation. Chem prum 13 no.10: 509-512 0 '63.

1. Ustav teoretickych zakladu chemicke techniky, Ceskoslovenska akademie ved, Praha.

RATHOUSKY, Jiri; SETINEK, Karel; KRUCHNA, Oldrich; BAZANT, Vladimir

Kinetics of the formation of terephthalic acid by the reaction of potassium hydrogen terephthalate with phthalic anhydride in aqueous medium. Chem prum 14 no.5:225-229 My '64.

1. Institute of Theoretical Principles of Chemical Technology, Czechoslovak Academy of Sciences, Prague.

CZECHOSLOVAKIA/Electronics - Photocells and Semiconductor Devices H-8

Abs Jour : Ref Zhur - Fizika, No 4, 1958, No 8882

Author : Sieber Bohumil Kulrnac Jaromir, Setinek Otakar
Inst : Not Given
Title : Effect of Decelerating Lens on Properties of Radiation Pattern of Rectangular Horn with Phase Correction.

Orig Pub : Slaboproudy obzor, 1957, 18, No 5, 320-323

Abstract : The authors consider the well-known theory of electromagnetic lenses and give certain little known relationships which are of great importance in the calculation of antenna lenses, and which are not usually found in the literature. A quantitative determination is made of the influence of the decelerating lens on the radiation amplitude from a rectangular horm with phase correction. By a suitable construction it is possible to obtain a sharp reduction in side lobes at the cost of a small broadening of the principal lobe.

Card : 1/1

JELINEK, M., Dr.; SETKA, J., Dr.; VOSTA, J., Ph., Mr.

Lambliasis with febrile course. Cas. lek. cesk. 93 no.7:
166-171 12 Feb 54.

1. Z interniho oddeleni nemocnice v Tabore--primar MUDr.
Marian Jelinek.
(GIARDIASIS,
febrile course.)

MARATKA, Z., Doc., Dr.; SETKA, J., Dr.

Therapy of taeniasis with atebrin; experience in 66 cases.
Vnitr. lek., Brno 1 no.10:765-767 Oct 55.

1. II. vnitrni klinika KU v Praze a vnitrni oddeleni nemocnice v Tabore II. vnitrni klinika. Praha 2, U nemocnice 2.
(TAPEWORM INFECTION, therapy
quinacrine.)
(QUINACRINE, ther. use
tapeworm infect.)

SETKA, J.

Relation of bacillary dysentery and ulcerative colitis in rectoscopy.
Cas. lek. cesk. 96 no.38:1193-1197 20 Sept 57.

1. III interni klinika, prednosta akademik J. Charvat, Praha.
(DYSENTERY, BACILLARY, differ. diag.
ulcerative colitis, value of rectoscopy (Cz))
(COLITIS, ULCERATIVE, differ. diag.
bacillary dysentery, value of rectoscopy (Cz))

SETKA, Jaroslav; PILUCHA, JIRI

Gastritis chronica, Gastritis in alcoholics. Cas.lek.cesk. 99 no.2: 50-53 8 Ja '60.

1. II. interni klinika, prednosta prof.dr. F. Herles. Vyzkumny ustav pro sdelovaci techniku A.S. Popova v Praze.
(GASTRITIS etiol.)
(ALCOHOLISM compl.)

BEDNAR, B.; MARATKA, Z; SETKA, J.

Histology of ulcerative colitis. Cas.lek.cesk. 99 no.5:147-152
29 Ja '60.

1. I. patologickoanatomicky ustav KU, II. interni oddeleni nemocnice na Bulovce, II. interni klinika KU v Praze.
(COLITIS ULCERATIVE pathol.)

GREGOR, O.; SETKA, J.; BEDNAR, B.; JIRASEK, A.

Gastric biopsy in pernicious anemia. Cas. lek. cesk. 99 no. 17: 528-531 22 Ap '60.

1. I. interni klinika KU, prednosta prof. dr. M. Netousek, II. interni klinika KU, prednosta prof. dr. Fr. Heries, I. patologicko-anatomicky ustav, prednosta doc. dr. B. Bednar.
(ANEMIA PERNICIOUS pathol.)
(STOMACH pathol.)

MARATKA, Z.; SETKA, J.

Role of the small intestine in chronic intestinal disorders. I. Screening by the determination of fecal fats with the aid of a chemical method. Cesk. gastroent. 16 no.2:130-133 Mr '62.

1. II. vnitrni oddeleni nemocnice v Praze-Bulovce, prednosta doc. dr. Z. Maratka II. vnitrni klinika Karlovy university v Praze, prednosta prof. dr. F. Herles.

(INTESTINAL DISEASES) (FECES) (FATS) (SPRUE)

SETKA, J.; MARATKA, Z.; ANDRYSEK, O.; KOCANDERLE, K.

Role of the small intestine in chronic intestinal disorders.
II. Screening with the aid of the determination of labeled fats
in feces. Cesk. gastroent. 16 no.2:134-138 Mr '62.

1. II. vnitrni klinika Karlovy university v Praze, prednosta prof.
dr. F. Herles II. vnitrni oddeleni nemocnice v Praze-Bulovce, prednosta doc.
dr. Z. Maratka Biofyzikalni ustav lekarske fakulty KU v Praze, prednosta
doc. dr. Z. Dienstbier.

(INTESTINAL DISEASES) (FATS) (FECES)
(TRIOLEIN) (OLEIC ACID) (SPRUE)

DVORAKOVA, Hana; SETKA, Jaroslav; STYCHOVA, Bohumila; TRESNAKOVA, Milena

Tetracycline in the diagnosis of gastric cancer. Preliminary communication. Cas. lek. cesk. 101 no.41:1244 12 0 '62.

1. II. interni klinika fakulty vseobecneho lekarstvi KU v Praze, prednosta, prof. dr. F. Herles, DrSc.

(TETRACYCLINE) (STOMACH NEOPLASMS)

3

CZECHOSLOVAKIA

SETKA, J; MARATKA, Z; [illegible], B.

1. Second Internal Medicine Clinic of Charles University (II vnitrni klinika KU), Prague; 2. Second Internal Medicine Ward of the Hospital (II. vnitrni oddeleni nemocnice), Prague-Bulovka; 3. First Pathological Anatomical Institute (I. patologicko anatomicky ustav KU), Prague

Brno, Vnitrni lekarstvi, No 6, 1963, pp 561-562

"The Significance of Biopsy of Gastric Mucosa."

CZECHOSLOVAKIA

DONNER, L; SETKA, J; HOUSKOVA, J; SETKOVA, O.

Second Internal Medicine Clinic (II. vnitrni klinika),
Prague

Brno, Vnitrni lekarstvi, No 9, 1963, pp 886-890

"The Significance of the Investigation of Blood Coagulation in Cirrhosis of the Liver."

ANDRYSEK, O.; ANDRYSKOVA, J.; DIENSTBIER, Z.; JEKLER, J.; JEKLEROVA, J.;
SETKA, J.

Isotope examination of the portal circulation. Acta univ. Carol. [med] (Praha): Suppl. 18: 45-48 '64.

1. Biofysikalni ustav fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: doc. dr. Z. Dienstbier); II. chirurgicka klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. J. Lhotka); III. detska klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. O. Vychytil); a II. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. F. Herles).

ANDRYSEK, O.; SETKA, J.; MARATKA, Z.; KRONDL, A.; SKALA, I.; KOCANDRLE, K.

Examination of resorption disorders of the small intestine with radioisotopes. Acta univ. Carol. [med] (Praha): Suppl. 18: 59-62 '64.

1. Biofysikalni ustav fakulty vseobecneho lekarstvi Univeristy Karlovy v Praze (prednosta: doc. dr. Z. Dienstbier); II. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. F. Herles) a II. vnitrni oddeleni nemocnice na Bulovce (primar doc. dr. Z. Maratka); Ustav pro vyzkum vyzivy lidu (reditel: prof. dr. J. Masek).

ANDRYSEK,O.; SETKA,J.; PITHA,J.; SUP,M.; ANDRYSKOVA,J.

The value of gammagraphy in diffuse lesions of the liver.
Rev. czech. med. 10 no.1:8-16 '64

1. Biophysical Institute, Medical Faculty, Charles University, Prague (director: doc. Z Dienstbier, M.D., C.Sc.); Second Medical Clinic, Charles University, Prague (director: prof. F.Herles, M.D., Dr.Sc.) and First Institute of Pathology, Charles University, Prague (director: prof. B.Bednar, M.D., Dr.Sc.).

*

ANDRYSEK, O.; SETKA, J.

Diagnosis of liver tumors with gammagraphy. Cesk. radiol. 18 no.5:289-294 S '64.

1. Biofyzikalni ustav (prednosta doc. dr. Z. Dientsbier, DrSc) a II Interni klinika (prednosta prof. dr. F. Herles, DrSc.) fakulty vseobecneho lekarstvi Karlovy University v Praze.

JEKLER,J.;VINCENCOVA,B.; SETKA, J.

Contribution to the treatment of ascites in liver cirrhosis with entectropy of an ileal loop. Rozh. chir. 43 no.1: 47-50 Ja'64.

1. II. chirurgicka klinika fakulty vseobecneho lekarstvi KU v Praze (prednosta: prof.dr.J.Lhotka) a II.interni klinika fakulty vseobecneho lekarstvi KU v Praze (prednosta: prof.dr. F.Herles).

DVORAKOVA, H. (Praha 6, Na Stahlavce 9); SETKA J.; JEKLER, J.

Our experiences with the treatment of hiatus hernias and irritation and inflammation of the esophagus. Cas. lek. cesk. 104 no.24:645-650 18 Je'65.

1. II. interni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta : prof. dr. F. Herles, DrSc). a II. chirurgicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: prof. dr. J. Lhotka, DrSc.).

SETKA, J.; ANDRYSEK, O.; PITHA, J.; SUP.M.

Functional examination of diffuse liver lesions with gammagraphy. Acta univ. Carol. [med] (Praha): Suppl. 18: 53-57 '64.

1. II. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. F. Herles); Biofysikalni ustav fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: doc. dr. Z. Dienstbier); I. patologicko-anatomicky ustav fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. B. Bednar).

ANDRYSEK, O.; ANDRYSKOVA,J.; DIENSTBIER,Z.doc. dr.; JEKLER,[illegible].; JEKLEROVA,J.;
SETKA, J.

Isotope methods in the examination of the portal circulation.
Cas. lek. cesk. 104 no.10:257-262 12 Mr '65.

1. Biofyzikalni ustav fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: doc. dr. Z. Dienstbier); II. chirugicka klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: prof. dr. J. Lhotka); III. detska klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prednosta: prof. dr. O. Vychytil) a II. interni klinika fakulty vseobecneho lekarstvi Karlovy University v Praze (prenosta: prof. dr. F. Herles).

erences. (Ms. received Apr 66).

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CZECHOSLOVAKIA / GERMANY UDC 612.332.7(:546.59.02)

ANDRYSEK, O.; SETKA, J.; GEORGI, P.; GUTZ, H.J.; ALTENBRUNN, H.J.; BERNDT, H.; Biophysical Institute, Faculty of Gen. Med. Charles University (Biofysikalni Ustav Fak. Vseob. Lek. KU), Prague, Chief (Prednosta) Prof Dr Z. DIENSTBIER; 2nd Internal Clinic Fac. Gen. Med. Charles University (II. Interni Klin. Fak. Vseob. Lek. KU), Prague, Chief (Prednosta) Prof Dr F. HERLES; Robert Rossle's Clinic, German Academy of Sciences /Orig. version not given_7, Berlin, Chief Prof Dr H. GUMMEL

"Passage of Au^{198} Through the Small Intestine."

Prague, Casopis Lekaru Ceskych, Vol 106, No 8, 24 Feb 67, pp 210 - 213

Abstract /Authors' English summary modified_7: Au^{198} is not absorbed in the intestinal tract, it is inert, and when only 0.1 mg is used, it does not irritate the intestinal wall during examination; the passage is checked by repeated scintillography. When administered while fasting per os it takes 2 hrs to reach Bauhin's valve; Ba meal influences the transit time. 2 Figures, 1 Table, 1 Western reference.

1/1

SETKERESTY, B.; SHNITZLER, I.

Synovectomy in tuberculous gonitis. Probl. tub. no.7:59-61 '64.
(MIRA 18:10)

1. Tuberkuleznaya klinika Debretsenskogo meditsinskogo instituta.

SETKEVICH, S. I.

Textile Schools

New system of teaching in technical high schools. Tekst. prom. 12, no. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.
2

VERESHCHAGIN, A.P.; SETKINA, G.A., studentka VI kursa

Effect of exteroceptive painful irritation on the action of camphor in hypothuroid animals. Trudy Izhev.gos.med.inst. 21: 40-43 '64.

(MIRA 19:1)

1. Kafedra normal'noy fiziologii (zaveduyushchiy - dotsent A.P. Vereshchagin) Izhevskogo meditsinskogo instituta.

PROCESSES AND PROPERTIES INDEX

CN

3

Raman spectrum of aqueous potassium selenocyanate. V. Kondrat'ev and O. Setkina. *Physik. Z. Sowjetunion* 9, 379-86(1936).—The ion $NCSe^-$ has frequencies of 2051.5 and 575 cm^{-1}. The force constants for CN and OH do not change much when another electron is added to form CN^- and OH^-. Further, the consts. for CN, CN^-, CNCl, CNBr and CNI are the same within 2%. Thus we should expect no change in the CN force const. in $NCSe^-$ and NCS^- either from adding the extra electron or from the change in mass. The constant can only be evaluated by neglecting end atom interactions, and gives values 14% too low; hence this interaction cannot be entirely neglected.

G. W. King

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

5

Sensitization of photographic plates to ultraviolet rays. O. N. Setkina. *Zavodskaya Lab.* 9, No. 2, 232-3(1940); *Khim. Referat. Zhur.* 1940, No. 8, 126.—Lantern-slide plates (2 H. & D.) can be utilized without sensitization for expts. with ultraviolet light down to 2000 A. Sensitization with refined machine oil increases slightly the degree of darkening without shifting the limit in the direction of short waves. Lantern-slide plates (regardless of the kind of sensitizer used) are not suitable for radiation of wave lengths shorter than 2000 A. Unsensitized plates of 500 H. & D. and orthochromatic plates of 500 and 200 H. & D. can be used for radiation down to 1854 A. if sensitized with 12-14% $NaC_7H_5O_3$ soln. in alc. or with refined machine oil. Methods for sensitizing with these sensitizers are described.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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[redacted]

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3RD AND 4TH ORDERS

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1ST AND 2ND LETTER

1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

BC

C-4

1767. Quantitative analysis from absorption spectra by the method of photometric interpolation. V. K. Prokofiev and O. N. [illegible] (*Compt. rend. Acad. Sci. U.R.S.S.*, 1944, 18, 7—9).—The use of photometric interpolation (cf. B., 1937, 667) in conjunction with the method of displaced spectra proposed by Müller (A., 1936, 1078) is described.

J. F. H.

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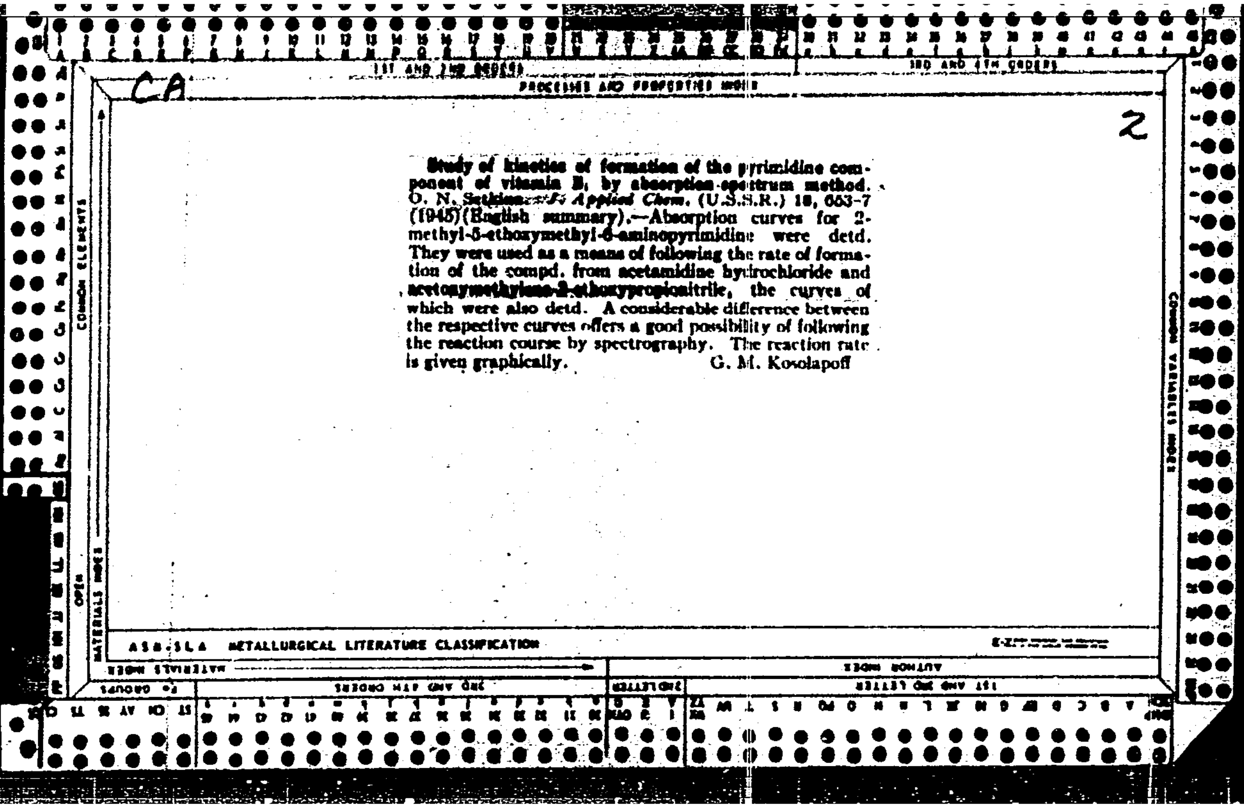
7

Quantitative analysis from absorption spectra by the method of photometric interpolation. V. K. Prokof'ev and O. N. Setkina. *Compt. rend. acad. sci. U.R.S.S.* 42, 7-9; *Doklady Akad. Nauk S.S.S.R.* 42, 7-10(1944).—Absorption analysis can be accurately carried out by the method given in C. A. 40, 4005. H. G. McCann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

2

Study of kinetics of formation of the pyrimidine component of vitamin B_1 by absorption-spectrum method. O. N. Setkina. *J. Applied Chem.* (U.S.S.R.) 18, 663-7 (1945)(English summary).—Absorption curves for 2-methyl-5-ethoxymethyl-6-aminopyrimidine were detd. They were used as a means of following the rate of formation of the compd. from acetamidine hydrochloride and acetoxymethylene-2-ethoxypropionitrile, the curves of which were also detd. A considerable difference between the respective curves offers a good possibility of following the reaction course by spectrography. The reaction rate is given graphically. G. M. Kosolapoff

CA

11 A

Ultraviolet absorption spectrum of the structural proteins of the muscle. Kh. M. Ravikovich, O. S. Setkina, and K. D. Leont'eva. *Doklady Akad. Nauk S.S.S.R.* 58, 401-4(1947); cf. C.A. 44, 4520*f*.--Myosin from rabbit muscle in 0.6*M* KCl was examd. The spectrum is complex showing maxima which *in toto* correspond to absorption bands of tryptophan, tyrosine, and phenylalanine: 2930, 2780, 2880, 2710, 2650, 2590, 2535, 2470 A. Spectrum of actin activated by salt solns. (unspecified) shows max. at 2710, 2810, and 2900 A.; actomyosin (so-called actomyosin B or artificial mixt. of activated actin and myosin in 1:2 proportion) showed max. at 2520, 2590, 2640, 2730, 2830, 2910 A. In each case the spectrum corresponds to the composite of amino acid bands, in addn. to absorption by the protein itself. G. M. Kosolapoff

Lab. Phys. Chem., Inst. Biol. & Med. Chem., AS USSR

SETKINS, O. N.

"Research in the Field of Anthracene Derivatives. Report 8. Structures and Adsorption Spectra of Rubicene and Isorubicene", Iz. Ak. Nauk SSSR Nauk 5, 1949; Inst. Org Chem, Acad Sci. -1948-.

SETKINS, O. N.

Mbr., Inst. Organic Chemistry, Dept. Chem. Sci., Acad. Sci., -1948-.
Mbr., Lab. Spectrum Analysis, State Optical Inst., -1943-;
Inst. Biol. & Med. Chem., Dept. Medico-Biol. Sci., Acad. Med. Sci. (Mbr., Lab. Phys. Chem., -1947-; Mbr., -c1948-);
Mbr., Cancer Res. Dept., Central Roentgenological Radiologicaly, Inst., Leningrad, -1948-.
"Quantitative Analysis from Adsorption Spectra by the Method of Photometric Interpolation," Dok. AN, 42, No. 1, 1943;
"Adsorption Spectrum of Structural Albumin of Muscles in the Ultraviolet Range," ibid., 58, No. 3, 1947;
"Variations in the Spectral Properties of the Structural Albumins of the Muscles in the Presence of Adenosin-Triphosphoric Acid," ibid., 60, No. 6, 1948;
"Compounded Extraction, Fractioning and Spectroscopic Studies of Nucleo-Proteins from Rat Sarcomas," Biokhim., 13, No. 4, 1948;
VIII "Adsorption Spectrum in Ultraviolet of Some Derivatives of Pyridine and Nicotine: II," Zhur. Obshch. Khim., 18, No. 1, 1948; (1900955).

SETKINA, O.N.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CA

112

Ultraviolet absorption spectra of some derivatives of pyridine and nicotine. I. Ya. L. Gol'dfarb, O. N. Setkina, and Ya. L. Danyushevskii. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 18, 124-31(1948).—The spectrum of 1-methyl-2-pyridonimine (I) in C_6H_{14} soln. shows max. at 3400 and at 2550 A.; these are preserved in concd. (2 mg./l.) soln. in EtOH, but in dil. soln. (0.01 mg./l.) the max. are shifted to 3000 and 2300 A.; the cause of this deviation from Beer's law in alc. soln. is not clear. In dil. soln. in EtOH, 2-aminopyridine (II) shows a band with max. at 2930 A., log *E* = 3.6, i.e. the same band as in C_6H_{14} (Spiers and Wibaut, *C.A.* 31, 5272[9]); relative to C_5H_5N the band is shifted to longer waves by about 400 A. The shift is not to be attributed to tautomerism, because α-dimethylaminopyridine (III), which is not capable of tautomerism, shows, in alc. soln., a further shift to max. 3120 A., log *E* 3.8, the spectrum drawing closer to that of I. The shifts are interpreted by an increased wt. of polar structures in the 1st excited state of II, as a result of which the double-bond character of C:N is enhanced; this effect is increased by substitution on the NH_2 group with Me_2. Substitution with the electrophilic groups Ph or Ac, gives rise to a shift in the opposite direction; 2-diphenylaminopyridine (IV) has a max. at 2470 A., log *E* 3.4, and 2-acetamidopyridine (V) has max. 2470 A., log *E* 3.8. In 2-dimethylaminopyridine methiodide (VI), in which the N atom of the NMe_2 group cannot participate in resonance with the ring, there are 3 close max. at 2600, 2550, and 2480 A., log *E* 3.8, 3.75, and 3.65, resp., i.e. close to the spectrum of C_5H_5N (max. at 2520 A.), as expected. In I.HI (VII), where the NH_2 group is free to take part in resonance with the ring, the max. lies at 3080 A., log *E* 3.9, i.e. only slightly shifted relative to II. 2-Benzylaminopyridine (VIII) and 1-benzyl-2-pyridonimine (IX), resp., have max. at 3010 and 3030 A., log *E* 3.7 and 3.8. I carbonate at 3000 A., log *E* 3.8, the carbonate of IX at 3030 A., log *E* 3.8, its hydrochloride at 3000 A., log *E* 3.8, almost identical with the corresponding bases. II. O. N. Setkina, Ya. L. Danyushevskii, and Ya. L. Gol'dfarb. *Ibid.* 132-41.—Absorption spectra of the following compds. are given in graphs and in a table giving the wave length of the max. in A. (log *E*): α-Aminonicotine (I') 2930 (3.3); α'-aminonicotine (II') 2960 (3.8); *N*-methylnicotone (III') 3025 (3.8); 1-methyl-2-imino-1,2-dihydronicotine (IV') 3010 (4.26); 1-methyl-6-imino-1,6-dihydronicotine (V') 2980 (3.98); 1-propyl-6-imino-1,6-dihydronicotine (VI') 3020 (3.48); 1-benzyl-6-benzyl-α'-aminonicotine (VII') 3045 (4.00); 1-benzyl-imino-1,6-dihydronicotine (VIII') 3020 (3.74); 1-benzyl-2-imino-1,2-dihydronicotine (IX') 3010 (3.7); α-aminonicotine methiodide (X') 3080 (3.75); α'-aminonicotine methiodide (XI') 2920 (3.75); α'-aminonicotine propiodide (XII') 2970 (3.4); α'-aminonicotine benziodide (XIII') 2930 (3.25); carbonate of IV' (XIV') 3050 (3.9); carbonate of V' (XV') 3020 (3.9); carbonate of VI' (XVI') 3050 (3.6); dihydrochloride of II' (XVII') 3050 (3.9); nicotine isomethiodide (XVIII') 2630 (3.83). The shifts in I' and II' relative to nicotine are the same as the shifts in aminopyridines relative to pyridine. By analogy, these shifts are detd. by resonance forms. That alkylation of I' and II' results in substitution at the ring N atom is evident from the fact that, in IV', V', and VI', the max. is shifted to the visible. VII', VIII', and IX' have absorption curves of the same type. Absorption curves of the carbonates XIV', XV', and XVI' (more stable than the free bases) are very nearly identical with those of the corresponding bases. Spectra of X', XI', XII', and XIII' are very close to those of I' and II'. The exceptional 150-A. shift in X' (relative to I') seems to be linked to the spatial closeness of the pyrryl and NH_2 groups. N. Thon

AUTHOR INDEX

½ Ya. L. Goldfarb,
O. N. Setkina, B
Ya. L. Danyushevskii

MF

USSR/Chemistry - Spectra, Absorption May 1948
Chemistry - Albumins

67T26

"Variations in the Spectral Properties of the Structural Albumins of the Muscles in the Presence of Adenosin-Triphosphoric Acid," Kh.M. Ravikovich, O.N. Setkina, K.D. Leont'yeva, Inst of Biol and Med Chem, Acad Med Sci USSR, 4 pp

"Dok Ak Nauk SSSR, Nov Ser" Vol LX, No 6

Describe results of studies conducted on the absorption spectra of albumin and adenosin-triphosphoric acid (ATP) in the ultraviolet band of the spectrum to determine the physical and chemical properties of

67T26

USSR/Chemistry - Spectra, Absorption May 1948
(Contd)

myosin and actomyosin, and their variations in the presence of ATP. Submitted by Academician Ya.O. Parnas 25 Mar 1948.

67T26

SETKINA, O. N.

3

CA

Anthracene derivatives. VIII. Structure and absorption spectra of rubicene and isorubicene. O. N. Setkina and B. P. Fedorov. *Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk* 1949, 545-50; cf. C.A. 42, 1585b.—Ultraviolet absorption spectra of rubicene (I) and isorubicene (II), prepd. from the corresponding diols, gave the following max.: I—530, 495, 375, 357, 343, 315, 305, 293, 278, 267, and 257 mμ; II—448, 415, 380, 360, 345, 315, 295, 276, and 265 mμ. The substance taken for II by Clar (C.A. 26, 440) is not II, and has the following abs. max.: 513, 481, 446, 420, 380, 363, 324, 312, 294, 260 mμ. I and II show a bathochromic shift in comparison with anthracene (the bands grouped at 300-380 mμ). Comparison curves of 1,4-dichloro-9,10-dihydroxy-9,10-diphenyldihydroanthracene and the anhydride of 9,10-dichloroanthracene-9,10-endosuccinic acid are given; these show considerable similarity (no exact frequencies given). G. M. Kosolapoff

SETKINA, O. N.

USSR.

The practical application of ultraviolet spectral absorption to organic chemistry. O. N. Setkina. *Vestnik Leningrad. Univ.* 5, No. 3, 1262-33(1950).—The uses of ultraviolet spectroscopy in solving org. chem. problems, listing concn., path length, temp. and wave length ranges are reviewed, and illustrative spectra are given. R. D. Kross

CA

3

Metal cell for absorption spectrum analysis. O. N. Setkina and B. M. Grikalov (Leningrad Technol. Inst.). *Zavodskaya Lab.* 16, 495-6(1950).—Absorption spectra can be taken with a metal cell, consisting of 2 threaded cylindrical sections provided with circular quartz window ends. The metal can be stainless steel or Au-plated brass. The threading permits easy adjustment of cell thickness, when a calibrated micrometer thread is used. A filling device (funnel) is readily threaded into the cylinder.

G. M. Kosolapoff

SETKINA, O. N.

USSR/Chemistry - Spectral Analysis

Card 1/1

Authors : Avgustinik, A. I., Setkina, O. N., and Fedorova, E. N.

Title : Analysis of the Thin Structure of a Porcelain Glass by Studying its Reflection and Absorption Spectra in Spectral Infrared Medium.

Periodical : Zhur. Fiz. Khim. Vol. 28, Ed. 4, 637-642, Apr 1954

Abstract : An analysis of hardness and the thin structure of porcelain glass by studying its infrared spectrum, is described. It was found that by adding certain chemical compounds to the glass, one can either increase or decrease the various physical characteristics of the glass. Six references; tables; graphs.

Institution : Lensovet's Technological Institute, Leningrad.

Submitted : June 6, 1953

SETKINA, O. N., Cand of Tech Sci -- (diss) "Infrared spectrum of minerals and their practical application." Leningrad, 1957, 16 pp (Leningrad Technological Institute im Lensovet) 100 copies (KL, 32-57, 94)

KHLEBNIKOVA, L.Ya.; SETKINA, O.N.

Spectrum determination of mineral components in rubber. Sbor. st. LITMO no.24:140-145 '57. (MIRA 11:5)
(Rubber--Spectra)

SETKINA, O. N.

✓**Transformation of saturated carbon-chain polymers. IV. Spectroscopic investigations in the infrared region of polymethylene and the products of its transformation into tridimensional polymers.** A. Ya. Drinberg, N. S. Demchenko, O. N. Setkina, and N. M. Gopshtein (Lensovet Technol. Inst., Leningrad). *Zhur. Priklad. Khim.* 30, 120-4(1957); cf. *C.A.* 46, 6884c.—The infrared spectra of linear polymethylene (I) and its product of transformation, the tridimensional polymer (II) were obtained. The spectrum of I showed an intense band at 1450 cm.⁻¹ characteristic of CH_2 or CH_3 groups; an intense band at [illegible]20 cm.⁻¹ characteristic of long chains; and very weak bands at 1370, 1600-1750, and 1100-1200 cm.⁻¹. These facts indicated that I consisted of long chains with very little side branching or oxidation products. The spectrum of II showed intense bands at 1700 and 1740 cm.⁻¹ and a few bands in the region 1000-1400 cm.⁻¹ of which bands 1175-1200 cm.⁻¹ were rather intense. These bands were attributed to vibrational skeletons COC or, in some special cases, to C:COC (cf. Thompson, *et al.*, *CA* 39, 4800⁴). A comparison of these spectra with those of poly(butyl methacrylate) and of ethylene oxide supports the assumption that in the process of transformation of I O-ether bridges are formed which link the long-chain mols. This is further supported by the fact that treatment of II with HI destroyed these links, giving a product with a spectrum similar to that of I. L. B.

SETKINA, O.N.

USSR / Chemistry of High Molecular Compounds. L.

Abs Jour : Ref. Zhur. - Khimiya, No.2, 1958, 6782,

Author : Setkina, O.N., Okhrimenko, I.S.

Inst : Lensoviet Leningrad Technological Institute.

Title : Determination of Unsaturation in Three-dimensional Polymers of Caoutchouc by means of the Infra-Red Spectrum.

Orig Pub : Leningrad tekhnol. in-ta im. Lensoviet 1957, Vol.37, 91-97.

Abstract : The relationship of double bond content in positions 1,2 and 1,4 in caoutchouc (SKB) subjected to thermal treatment was investigated by means of absorption bands at 910 and 970 cm^{-1}. During the treatment of SKB at 10,000 kg/cm^2 pressure and 160°C. the relative concentration of $-CH=CH-$ groups gradually decreased from 100 to 28% within a period of 8

Card : 1/2

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SOV/81-59-12-42059

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Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 12, p 118 (USSR)

AUTHORS: Aleskovskiy, V.B., Setkina, O.N., Kochneva, V.A., Lyadov, V.S.

TITLE: Spectral Determination of Lithium and Cesium in the Flame of Thermite Blasting Cartridge

PERIODICAL: Tr. Leningr. tekhnol. in-ta im. Lensoveta, 1958, Nr 48, pp 90-93

ABSTRACT: In order to excite Li and Cs spectra a thermite mixture of 65% MnO_2 and 35% Mg metal has been used, the radiation of which is free of background. The mixture is easy to ignite and has a sufficient duration of burning. The substance is pressed into tablets under a pressure of 5,000 kg/cm^2; the weight of a tablet is 2 g, the diameter 10 mm. Within the tablet a hole of 2 mm in diameter and 6 mm deep is made, into which the sample is placed in the form of a powder prepared on NaCl base. For preparing the sample 1 ml of an aqueous solution of Li and Cs is mixed with 70 mg NaCl, the water is evaporated and the salt is placed into the tablet covering it from above with a mixture of 65% CuO and 35% Mg. The tablet is placed into a chamber on the optical axis of a 3-prism glass spectrograph. The substance is kindled by a match, the spectra are

Card 1/2

SETKINA, O.N.

Infrared absorption spectra of aluminosilicate adsorbents. Trudy LTI no.48:191-196 '58. (MIRA 15:4)

(Aluminosilicates--Spectra)

SOV/138-59-3-3/16

AUTHORS: Setkina, O.N. and Ur'yan, R.S.

TITLE: Spectral Analysis of Mineral Components in Rubber Mixtures (Spektral'nyy analiz mineral'nykh komponentov v rezinovykh smesyakh)

PERIODICAL: Kauchuk i rezina, 1959, Nr 3, pp10 - 12 (USSR)

ABSTRACT: Quality of rubber articles is strongly affected by the amount and distribution of mineral components in the original rubber. Such mineral components (chalk, sulphur, metal oxides, etc.) are present in amounts varying from 0.1 to 40%, depending on the type of rubber. The present paper describes a spectro-chemical method of determination of the amount of magnesium, zinc, calcium and barium in rubber mixtures and the results obtained with this method at the "Krasnyy treugol'nik" factory. This method was developed by O.N.Setkina and L.Ya.Khlebnikova at the Spectral Analysis Laboratory of the Leningrad Technological Instute imeni Lensovet (see Jubilee Collection of Research Work done at the Leningrad Optico-Mechanical Institute, Gostekhizdat, 1957). Rubber was burnt in an alternating-current arc (220 V, 4.5A, 2 mm gap) and the spectrum was examined with an SL 10 steeloscope. A small

Card 1/3

SOV/138-59-3-3/16

Spectral Analysis of Mineral Components in Rubber Mixtures

piece of rubber (12 mm^3) was placed in a hollowed-out copper electrode and its spectrum was observed after burning (first 10 sec). Observation of the spectrum and determination of the amount of one element took 3-4 min (including placing of the rubber sample in the hollowed-out electrode); analysis of 4 - 5 elements took 20 min. Qualitative values for the amounts of various elements were obtained using a dispersion curve for the instrument and spectral-line tables. Quantitative results were obtained by determining the intensities of the lines of a particular element with respect to the copper lines and comparing these intensities with those obtained previously using samples of rubber with known amounts of the element in question. Figures 1 - 4 show the spectra of zinc,

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SOV/138-59-3-3/16

Spectral Analysis of Mineral Components in Rubber Mixtures

magnesium, calcium barium and copper (calibration lines) as observed by means of the steeloscope SL-10. There are 4 figures.

ASSOCIATION: Zavod "Krasnyy treugol'nik";Leningradskiy tekhnologicheskiy institut imeni Lensoveta ("Krasnyy treugol'nik" factory; Leningrad Technological Institute imeni Lensovet)

Card 3/3

24 (7)

AUTHORS:	Setkina, O. N., Libina, R. I.	SOV/32-25-6-24/53
TITLE:	News in Brief (Korotkiye soobshcheniya)	
PERIODICAL:	Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, p 714 (USSR)	

ABSTRACT:

The authors report here that they have obtained an increased sensitivity in the spectral determinations of Li, Rb, Cs by causing scattering coronas of alkaline trace·elements. Two drops of a saturated NaCl solution and one drop of a 10 % KCl solution are added to the liquid sample concentrates and standard samples (volume 1 ml) and one drop of the mixture is applied to the carbon electrode. The absolute sensitivity of the determination then amounts to $5 \cdot 10^{-10}$ g for Li, $5 \cdot 10^{-9}$ g for Rb and $5 \cdot 10^{-7}$ g for Cs. An increased sensitivity in spectral analyses may be attained also with other elements in a similar way, and a few examples are given in this connection. There is 1 Soviet reference.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

Card 1/1

KOKURIN, A.D.; SETKINA, O.N., GRUZDEVA, V.V.

Decomposition of organic matter in an electric arc discharge.
Trudy LTI no.51:102-112 '59. (MIRA 13:8)
(Hydrocarbons) (Electric arc)

SETKINA, O.N.

Infrared spectra of minerals and their practical use. Zap. Vses. min. ob-va 88 no.1:39-47 '59. (MIRA 12:3)
(Spectrum, Infrared) (Mineralogy)

SMORODINA, T.P.; SETKINA, O.N.

Spectral determination of selenium in tellurium. Izv.vys.ucheb.zav.;-khim.i khim.tekh. 4 no.4:565-568 '61. (MIRA 15:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra analiticheskoy khimii.

(Selenium--Spectra) (Tellurium--Analysis)

SOKOLOV, I.Yu.; AYDIN'YAN, N.Kh.; BELEKHOVA, V.N.; BRODSKIY, A.A., starshiy nauchnyy sotrudnik; GLEBOVICH, T.A.; DALMATOVA, T.V.; KOMAROVA, A.I.; KOMAROVA, Z.V.; KOPYLOVA, M.M.; KUDRYAVTSEVA, M.M.; LIBINA, R.I.; LOGINOVA, L.G.; MARGOLIN, L.S.; MARKOVA, A.I.; MEDVEDEV, Yu.L.; MILLER, A.D.; MULIKOVSKAYA, Ye.P.; NECHAYEVA, A.A.; OZEROVA, N.V.; PALKINA, I.M.; PETROPAVLOVSKAYA, L.A.; POPOVA, T.P.; REZNIKOV, A.A.; SERGEYEV, Ye.A.; SETKINA, O.N.; STEPANOV, P.A.; SUVOROVA, Ye.G. [deceased]; SHERGINA, Yu.P.; PANOVA, A.I., red.izd-va; IVANOVA, A.G., tekhn.red.

[Methodological handbook on the determination of microcomponents in natural waters during prospecting for ore deposits] Metodicheskoe rukovodstvo po opredeleniiu mikrokomponentov v prirodnykh vodakh pri poiskakh rudnykh mestorozhdenii. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr, 1961. 287 p. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii (for Sokolov, Brodskiy, Glebovich, Ozerova, Kudryavtseva, Loginova, Markova, Medvedev, Belekhova, Palkina,

(Continued on next card)

SOKOLOV, I.Yu.----(continued) Card 2.

Popova, Petropavlovskaya). 2. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (for Aydin'yan). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut metodiki i tekhniki razvedki (for Miller, Sergeyev, Margolin). 4. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (for Mulikovskaya, Reznikov). 5. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (for Komarova, A.).

(Prospecting--Geophysical methods)
(Water, Underground--Analysis)

S/138/62/000/011/008/008
A051/A126

AUTHORS: Setkina, O.N., Popova, A.M., (deceased), Galanov, O.P.

TITLE: Determination of organic ingredients in rubber mixes and their vulcanizates by the method of ultraviolet spectra absorption

PERIODICAL: Kauchuk i rezina, no. 11, 1962, 53 - 56

TEXT: Ultraviolet spectra absorption curves of certain organic ingredients (diazoaminebenzene, Neozone D, peroxide, benzoyl, diphenylguanidine, quinodioxime, chloranil, altax, captax, thiuram), are submitted. A description is given of their extraction conditions from rubber mixes and vulcanizates based on natural sodium-butadiene, butadiene-styrene, butadiene-nitrile, chloroprene rubbers and butyl rubber. The ИСП-22 (ISP-22) spectrograph was used to photograph the spectra in a metal cuvette of varying thickness. The M.K. Ivanova hydrogen lamp system served as the ultraviolet beam source. The quantitative ingredient content was determined by comparing the extracts spectra of the raw rubber mixes and their vulcanizates. The qualitative changes of the investigated ingredients, noted in the vulcanization of butadiene-styrene rubber with diazoaminebenzene,

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are explained by the presence of Neozone D and benzoyl peroxide in the rubber. The interaction of these ingredients with diazoaminobenzene was studied: the spectrum of mix, diazoaminobenzene and Neozone D, after being heated to 143°C, acquires a "new" strip of absorption in the range of 5,000 Å, similar to that noted in the vulcanization of butadiene-styrene rubber and diazoaminobenzene. The results also showed that the appearance of the "new" strip is caused by the interaction of the diazoaminobenzene with the Neozone D, at elevated temperatures in vulcanization. An analysis of the addition spectrum, obtained from the reaction of the latter, indicated the constancy of the Neozone D structure. Conclusions: 1) By means of the ultraviolet absorption spectra, the qualitative and quantitative changes of organic ingredients in rubber mixes and vulcanizates can be determined through an analysis of the spectra of alcohol extracts from raw and vulcanized mixes; 2) the quanity of unbound ingredients introduced into the raw mixes decreases with an increase in temperature and vulcanization duration; 3) during the vulcanization of butadiene-styrene rubber and diazoaminobenzene, the reaction of the former takes place with Neozone D, included in the composition of the rubber, resulting in the formation of phenylbetadiazobenzene; 4) the ultraviolet spectra absorption method can be used in studying the vulcan-

CHZHAN LIN'-NA; BOYCHIKOVA, Ye.S.; SETKINA, O.N.

Products of interaction of silica with phosphoric acid.
Zhur. neorg. khim. 9 no.6:1472-1481 Je '63 (MIRA 17:8)

L 13569-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pq-4 WH
ACCESSION NR: AP3000181 S/0080/63/036/004/0712/0717 59
57

AUTHOR: Shteynberg, Yu. G.; Setkina, O. N. 15

TITLE: Structure of strontium-silicate glasses studied by their infrared absorption spectra. Report 1. Glasses of the SrO-SiO sub 2--CaO-SiO sub 2 system

SOURCE: Zhurnal prikladnoy khimii, v. 36, no. 4, 1963, 712-717

TOPIC TAGS: structure of strontium-silicate glasses, SrO-SiO sub 2--CaO-SiO sub 2 system, crystalline and vitreous metasilicates, crystallite

ABSTRACT: The IR absorption spectra of crystalline and vitreous metasilicates of the binary system SrO--SiO sub 2--CaO--SiO sub 2 were measured; presence of pre-seeding group (crystallite) was proved. A direct relationship was established between lowered crystallizing ability and weakening of the Si-O-Si and SiO sup - and Me sup + chemical bond in pre-seeded glasses, and changes in the relative percentages of Sr and Ca. This confirmed the existence of such a relationship in alumo-silicate Sr-Ca glasses, where separation of crystalline phases occurred similar to that observed in the presently investigated glasses (continuous series of solid solutions of Sr and Ca metasilicates). "The glasses were mixed by

Association: none
Card 1/2

ALESKOVSKIY, V.B., prof.; BARDIN, V.V.; BOYCHINOVA, Ye.S.; BULATOV, M.I.; VASIL'YEV, V.P.; DOBYCHIN, S.L.; DUSHINA, A.P.; KALINKIN, I.P.; KEDRINSKIY, I.A.; LIBINA, R.I.; PRIK, K.Ye.; SETKINA, O.N.; KHEYFETS, Z.I.; YATSIMIRSKIY K.B., prof.; VASKEVICH, D.N., red.

[Physicochemical methods of analysis ; a laboratory manual] Fiziko-khimicheskie metody analiza; prakticheskoe rukovodstvo. Moskva, Khimiia, 1964. 451 p. (MIRA 17:12)

SETKINA, O.N.; DOBKINA, Ye.I.; DERYUZHKINA, V.I.

Study of a wear resistant vanadium catalyst by the infrared spectroscopy method. Izv.vys.ucheb.zav.; khim.i khim.tekh. 7 no.6:1019-1021 '64. (MIRA 18:5)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

L 63042-65 EWT(m)/EWP(i)/EWP(b)/EWP(e) Pq-4 JAJ/WH
ACCESSION NR: AP5017776
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AUTHOR: Shteynberg, Yu. G.; Setkina, O. N. 15

TITLE: Study of the structure of strontium silicate glasses by means of their infrared absorption spectra

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 7, 1965, 1478-1482

TOPIC TAGS: strontium silicate glass, glass crystallization, glass structure

ABSTRACT: Measurement of the infrared absorption spectra of crystallized and vitreous silicates of the same composition in the binary systen $SrO \cdot SiO_2$ - $MgO \cdot SiO_2$ showed that the spectroscopic method confirms the sequence of separation of the phases and the nature of the change in their crystallizability established earlier in a study of the phase diagram of this system. It was shown that, during the precrystallization period in the vitreous silicates, nucleation centers of the crystalline phase are formed, i.e., aggregates of structural groups similar in chemical composition to crystalline silicates of the same composition as the vitreous silicates. It was found that when the crystallizability

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ACCESSION NR: AP5017776

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of silicate glass decreases under the influence of a pair of divalent cations (Sr^{2+} and Mg^{2+}) and under the influence of increased founding temperature, the nuclei of the crystalline phases are dispersed and break down completely (primarily because of the rupture of ionic bonds between the cations and the oxygen of silicate chains). These properties of the glasses confirm their similarity to colloidal systems. An earlier hypothesis concerning a direct relationship between the difference in the forces of electrostatic fields of two alkaline earth cations and their influence on the crystallizability of glass was confirmed (examples: Sr^{2+}-Ca^{2+} and Sr^{2+}-Mg^{2+}). The spectroscopic investigation of the fine structure of crystalline and vitreous silicates having identical compositions within the range of the phase diagram of their equilibrium system was shown to be a fruitful method. Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 11Apr64 ENCL: 00 SUB CODE: MT

NO REF SOV: 008 OTHER: 001

Card 2/2

GALANOV, O.P.; SETKINA, O.N.; UR'YAN, R.S.; PAVLOVA, A.Yu.

Quantitative spectral determination of titanium dioxide in rubber compounds. Kauch. i rez. 24 no.5:53 My '65. (MIRA 18:9)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta i zavod "Krasnyy treugol'nik."

ACC NR: AP6030781 (A) SOURCE CODE: UR/0363/66/002/009/1712/1715

AUTHOR: Zorina, M. L.; Setkina, O. N.; Ushakov, L. F.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Infrared spectroscopic study of the course of crystallization 15 in vitreous-crystalline enamels 15

SOURCE: AN SSSR, Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966, 1712-1715

TOPIC TAGS: catalyzed crystallization, silicate glass, lithium glass, IR SPECTROSCOPY

ABSTRACT: The course of directed crystallization of an acid-resistant vitreous-crystalline enamel and coating obtained from this enamel was studied by analyzing IR absorption spectra of the multicomponent system Li_2O-MgO-Al_2O_3-SiO_2. The spectra showed that the main crystalline phase in enamel whose crystallization occurred at 700° in the presence of TiO_2 is β-eucryptite, β-spodumene 15 or their solid solutions and the solid solution β-eucryptite-quartz. In addition, 15 a certain amount of forsterite and rutile also crystallizes. The study of IR spectra made it possible to draw certain conclusion with regard to the phase composition as compared to x-ray structural analysis. However, even though the necessary data were obtained on the crystallization of the enamel, the IR spectra could not be fully interpreted because of their complexity. It is possible that some intermediate compounds responsible for the appearance of the

Card 1/2 UDC: 666.29:542.65

ACC NR: AP6030781

unidentified bands are formed during the crystallization. Authors thank O. M. Rimskaya-Korsakova and V. V. Gordiyenko for providing the samples of the mineral studied. Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: 19Dec65/ ORIG REF: 007/ OTH REF: 002

Card 2/2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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Investigation of the application of a layer of chlorovinyl resin on cotton fibers. Chlorovinyl resins. P. P. Viktorov and V. N. Setkina. *Nauch.-Issledovatel. Trudy Moskov. Tekstil. Inst.* 8, No. 1, 3-35(1939); *Khim. Referat. Zhur.* 1940, No. 4, 95.—Cotton textiles treated with NaOH (38° Bé.) or 50% $ZnCl_2$ were satd. with a boiling 5-8% soln. of chlorovinyl resin and dibutyl phthalate (1: in $C_2H_4Cl_2$ and dried. The satd. fabric was tested strength and elongation to the breaking point, for swelling, for dyeing properties, for stability toward chemical agents and for crease-resistance. The strength of the fabric does not decrease and the elongation to the breaking point increases by several percent. The swelling ability of the fabric after satn. with resin is considerably smaller; however, the subsequent treatment (saponification, etc.) increases the swelling ability of the fabric. The dyeing-absorbing power decreases, owing to the poorer capillarity and wetting of the fabric. Satn. of the fabric with resin after dyeing intensifies the color and increases slightly the resistance to water, to saponification and, sometimes, to light. By combining mercerization without tension with treatment with a soln. of resin + plasticizer (1:1) it is possible to increase the elasticity of the fabric to double its original value.

W. R. Henn

COMMON ELEMENTS

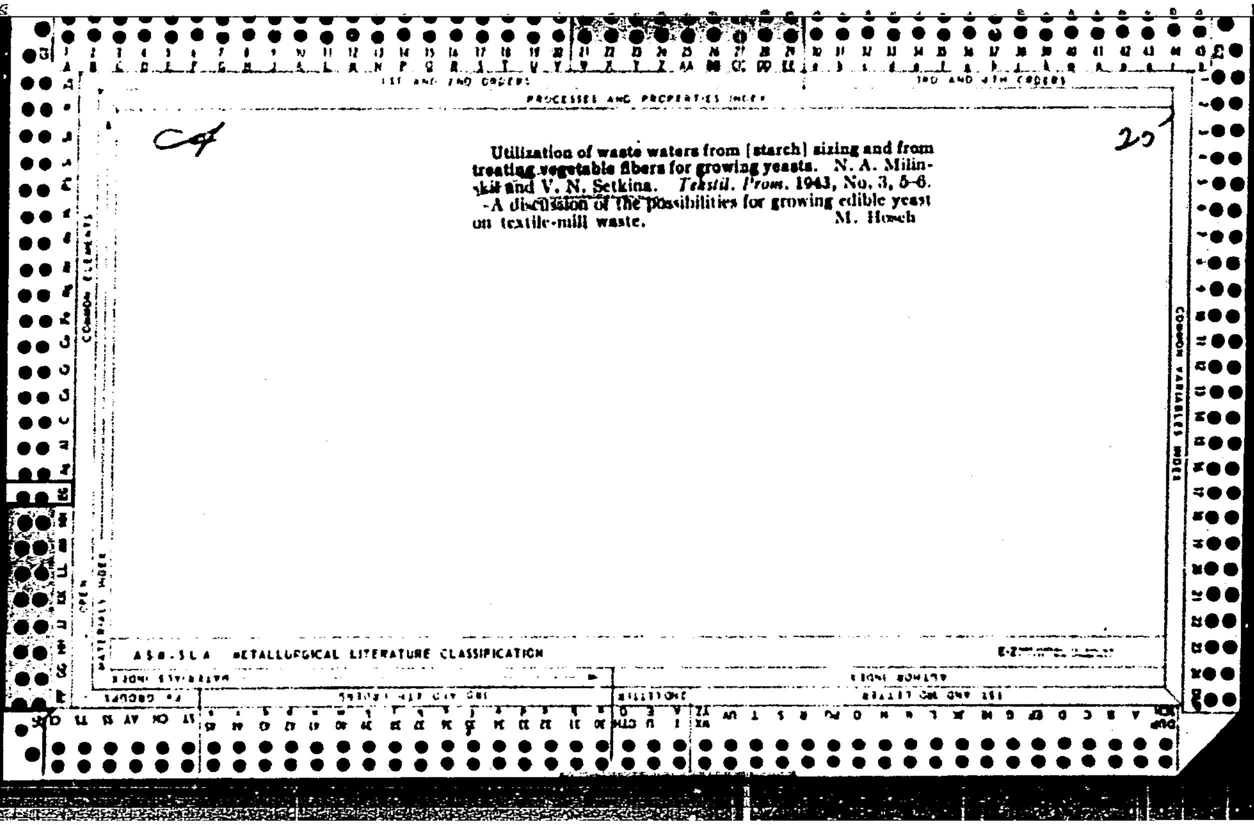
MATERIALS INDEX

OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

1ST AND 2ND LETTER



C4

20

Utilization of waste waters from [starch] sizing and from treating vegetable fibers for growing yeasts. N. A. Milinskii and V. N. Setkina. *Tekstil. Prom.* 1943, No. 3, 5-6. -A discussion of the possibilities for growing edible yeast on textile-mill waste. M. Hosch

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Hydrophobic cellulose. I. Preparation and properties of chloromethyl ethers of the aliphatic series. D. N. Kursanov and V. N. Setkina. *J. Applied Chem.* (U. S. S. R.) **16,** 36-40(1943)(English summary).—In the course of the study of the interaction of compds. of the Velan type for water-repellent treatment of cellulose the authors studied the prepn. and properties of various chloromethyl ethers. By means of polyoxymethylene, HCl gas and the corresponding alcs., the following ethers were prepd.: $BuOCH_2Cl$ (80.6%), b. 134°, $C_8H_{17}OCH_2Cl$ (30%), b. 217-18°; for higher alcs. benzene soln. satd. with HCl was used and the following ethers prepd.: $C_{10}H_{21}OCH_2Cl$ (90.2%) b_{10} 124-5°, $C_{12}H_{25}OCH_2Cl$ (85%), b_2 119-21.5°, $C_{14}H_{29}OCH_2Cl$ (90.4%) b_6 171-2°, $C_{16}H_{33}OCH_2Cl$ $b_{1.5}$ 158°, m. 29-30°; $C_{18}H_{37}OCH_2Cl$, $b_{0.6}$ 197-211°; *mixed alcs. from sperm oil* yielded an ether b_1 160-80°, *alcohols from hydrogenated linseed oil* gave an ether $b_{0.3}$ 157-87°. All of these ethers readily condensed with pyridine by mixing the reactants with cooling; the products, being poorly sol. in Et_2O, are readily purified by washing with Et_2O. They are all sol. in water, the higher members forming opalescent solns. The octadecyl ether was also condensed with Me_3N in benzene soln. the product being insol. in benzene, sol. in water. $PhNMe_2$ was used in a condensation with the tetradecyl ether; only 50% yield of product was obtained even after 24 hrs. Samples of cloth were treated with aq. solns. of these ethers contg. NaOAc, dried, heated at 105° for 30 min., laundered and washed with benzene and water. Compds. of C_{14} or higher alcs. imparted definite water repellence to cloth. Similar treatment in benzene-pyridine soln. showed that compds. based on Me_3N required a temp. of 140° for chemical binding to cellulose, the degree of water repellence being essentially unaffected by the nature of the nitrogenous base used.

G. M. Kosolapoff

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

SETKINS, V. N.

Mbr., Inst. Organic Chemistry, Dept. Chem. Sci., Acad. Sci., -1948-.
"Reactions of Exchange and Separation in the Group of Quaternary Ammonium Salts:I"
Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 2, 1948;
"Salts: II. Interaction of Quaternary Ammonium Salts (rch_2-N-) X with Carbonous
Acids and with Their Salts," Ix. ibid., No. 2, 1949;
"Exchange Reactions and Decomposition in the Group of the Quaternary Salts of
Ammonia. III Reaction of the Quaternary Salts of Ammonia with Complex Ethers,"
ibid., No. 3, 1949;
"Compounds. IV. The Problem of the Mechanism of the Reaction of Quaternary Ammonium
Salts with Alcohols," ibid.;
"The Interaction of Quaternary Salts of Ammonium with Simple Ethers," Dok. AN, 65,
No. 6, 1949.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Exchange and cleavage reactions in quaternary ammonium salts. Reaction of alcohols with quaternary onium salts of the type ROCH$_2$NX. D. N. Kursanov, V. N. Setkina, and V. M. Rodionov. *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1948, 228-35.—Heating (alkoxymethyl)pyridinium chlorides or (alkoxymethyl)quinolinium chlorides with alcs. results in an exchange reaction which yields ROCH$_2$OR' and pyridine (or quinoline)-HCl. If the resulting formals are not symmetric, the reaction is complicated by symmetrization of the formals. (Butoxymethyl)pyridinium chloride (30.3 g.) and 11.1 g. BuOH heated 4 hrs. to 130°, cooled, and treated with 100 ml. H$_2$O gave 85.3% *dibutylformal*, b. 181°; the reaction does not proceed at 50°. Heating 9.4 g. tetradecyl alc. and 16 g. (tetradecyloxymethyl)pyridinium chloride 4 hrs. to 155° gave 95.3% *ditetradecylformal*, b$_{14}$ 270-80°, m. 42.2° (from Me$_2$CO). A similar reaction using AmOH gave 27.8% *diamylformal*, b$_{1-3}$ 99°, 47.2% *amyltetradecylformal*, b$_7$ 208°, and 25% *ditetradecylformal*. Heating 20 g. (octyloxymethyl)pyridinium chloride and 5.7 g. BuOH gave 27.3% dibutylformal, b$_{12}$ 179°, 48.5% *butyloctylformal*, b$_1$ 119-20°, and 24.2% *dioctylformal*, b 176°. Heating 10.7 g. (isoamyloxymethyl)pyridinium chloride and 4.4 g. iso-AmOH 2 hrs. at 140° gave 80% *diisoamylformal*, b$_{11}$ 205°. Heating 9.6 g. (nonyloxymethyl)quinolinium chloride and 4.3 g. nonyl alc. 4.5 hrs. at 150-60° gave 84% *dinonylformal*, b$_4$ 150-60°. Heating 15 g. C$_{10}$H$_{21}$OH and 15 g. dibutylformal 8 hrs. to 140-60° gave 2.7 g. BuOH, 6.8 g. dibutylformal, 6.3 g. C$_{10}$H$_{21}$OH, 6.9 g. *butyldecylformal*, b$_{11-12}$ 164-6°, and 2.6 g. *didecylformal*, b$_{14-15}$ 210-16°. Similarly, 9 g. dibutylformal and 14.8 g. MeOH heated 10 hrs. in a sealed tube to 160-80° gave 2 g. dimethylformal, 4.5 g. MeOH, 6 g. methylbutylformal, b. 76-7°, 5.7 g. BuOH, and 3.2 g. dibutylformal. Heating 9.4 g. dibutylformal and 16.1 g. EtOH 10 hrs. to 150° gave no disproportionation; use of PrOH gave the same result. Diisoamylformal undergoes exchange with octyl, decyl and tetradecyl alcs., but not with EtOH or PrOH, although MeOH does react, as an exception.

G. M. Kosolapoff

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Exchange reactions and cleavages of the quaternary ammonium salts. II. Reaction of quaternary ammonium salts of the type ROCH$_2$N—X with carboxylic acids and their salts. V. N. Setkina and D. N. Kursanov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1949, 190-7; cf. C.A. 42, 4922. Quaternary ammonium salts contg. the ROCH$_2$ radical react with salts of carboxylic acids, yielding alkoxymethyl esters, while the free acids yield esters without the alkoxymethyl group, the CH$_2$O residue being eliminated as polyoxymethylene. Heating 25.2 g. 1-(butoxymethyl)quinolinium chloride and 8.2 g. dry NaOAc 3 hrs. at 150-70° gave 72% *BuOCH$_2$OAc*, b$_{3-4}$ 118-19°, b. 167-8°, d$_4^{20}$ 0.9328, n$_D^{20}$ 1.4040, and quinoline. Similarly, 1-(decyloxymethyl)pyridinium chloride at 180-200° gave 60% *decyloxymethyl acetate*, b$_{10}$ 167.5°, d$_4^{20}$ 0.9072, n$_D^{20}$ 1.4301. 1-(Tetradecyloxymethyl)pyridinium chloride similarly (150-60°) gave 76% *tetradecyloxymethyl acetate*, b$_{20}$ 211°, d$_4^{20}$ 0.8960, n$_D^{20}$ 1.4390. Heating 13.8 g. 1-(butoxymethyl)quinolinium chloride with 6.2 g. PrCO$_2$Na 2 hrs. to 140-50° at a water-pump vacuum gave 75% *PrCO$_2$CH$_2$OBu*, b$_4$ 81°, d$_4^{20}$ 0.9299, n$_D^{20}$ 1.4147, while AmCO$_2$Na at 190-200° gave 69% *AmCO$_2$CH$_2$OBu*, b$_{14}$ 132.5°, d$_4^{20}$ 0.9121, n$_D^{20}$ 1.4210, from 1-(butoxymethyl)pyridinium chloride; the latter and NaOBz at 180-200° at a water-pump vacuum gave *BzOCH$_2$OBu*, b$_{11}$ 158°, d$_4^{20}$ 1.0440, n$_D^{20}$ 1.4930. Substitution of 1-(decyloxymethyl)pyridinium chloride (200-30°) in the above gave 54% *decyloxymethyl benzoate*, b$_{11}$ 223-5°, d$_4^{20}$ 0.9511, n$_D^{20}$ 1.4778. 1-(Butoxymethyl)pyridinium chloride (14.2 g.) and 6.1 g. PhCH$_2$CO$_2$Na after 3 hrs. at 130-40° gave 57% *PhCH$_2$CO$_2$CH$_2$OBu*, b$_{3-4}$ 133°, b$_{16}$ 167.5-8.5°, d$_4^{20}$ 1.0500, n$_D^{20}$ 1.4981. Hydrolysis of the products by dil. HCl gave ROH, CH$_2$O, and the corresponding acids. Heating 22.5 g. 1-(butoxymethyl)quinolinium chloride and 5 g. AcOH to 130-50° 7 hrs. gave 57% BuOAc, while PrCO$_2$H at 150-60° gave PrCO$_2$Bu. 1-(Decyloxymethyl)pyridinium chloride and AmCO$_2$H at 150-60° gave 28% *AmCO$_2$C$_{10}$H$_{21}$*, b$_{3-4}$ 183-4°, n$_D^{20}$ 1.4353, d$_4^{20}$ 0.8610, 22% *C$_{10}$H$_{21}$OCH$_2$O$_2$CAm*, b$_{12}$ 213-14°, d$_4^{20.7}$ 0.8908, n$_D^{20.7}$ 1.4365, and 2.5 g. *(C$_{10}$H$_{21}$O)$_2$CH$_2$*, b$_{3-4}$ 202-5°, d$_4^{20.2}$ 0.8451, n$_D^{20.2}$ 1.4400 (the previous derivs. gave CH$_2$O polymers on distn.). 1-(Butoxymethyl)quinolinium chloride and PhCH$_2$CO$_2$H in 6 hrs. at 160-80° gave *PhCH$_2$CO$_2$Bu*, b$_{14}$ 138-40°, d$_4^{20}$ 0.9980, n$_D^{20}$ 1.4908 (65%). Heating 1-(butoxymethyl)quinolinium chloride with AcOH in Ac$_2$O (to insure anhyd. conditions) 5 hrs. at 150-60° and 8 hrs. at 160-80° gave 61% BuOAc. BuOCH$_2$OAc (17 g.) and 18 g. AcOH heated 3.5 hrs. at 195-200°, with recovery of the volatiles, gave CH$_2$O (detected as the dimedon deriv., m. 189°), 30% BuOAc, and 11 g. starting ester.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Exchange and cleavage reactions of quaternary ammonium salts. III. Reaction of quaternary ammonium salts with esters. D. N. Kursanov and V. N. Setkina. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* **1949**, 274-8; cf. C. A. **43**, 6104h. 1-(Butoxymethyl)quinolinium chloride (10 g.) and 25 g. EtOAc in 5 hrs. at 170-5° give 10 g. EtOAc and 3.6 g. BuOAc (65%), as well as some quinoline. *1-(Decyloxymethyl)pyridinium chloride* (10 g.) and 126 g. EtOAc in 10 hrs. at 195-205° gave 100 g. EtOAc and 82.5% *decyl acetate*, b_4 118-19°, n_D^{20} 1.4272. EtOBz (32.3 g.) and 28.4 g. 1-benzylpyridinium chloride in 8 hrs. at 195-205° give 4 g. pyridine, 1.5 g. BzOH, and 60% BzOCH$_2$Ph. The reaction probably proceeds by formation of an oxonium deriv. at the O of the ester after cleavage of the R group from the quaternary compound.

IV. Mechanism of the reactions of quaternary ammonium salts with alcohols. V. N. Setkina and D. N. Kursanov. *Ibid.* 311-16. Pyridine-MeI (37 g.) and 21.8 g. decanol in 12 hrs. at 190-220° gave 38% decene, b_{760} 167°, 18% *Me decyl ether*, b_{11} 93-5°, d_4^{20} 0.8022, n_D^{20} 1.4210, and 32% *didecyl ether*, b_2 186-7°, d_4^{20} 0.8188, n_D^{20} 1.4411. Octanol similarly gave in 6 hrs. at 210-30° 17% octene, b. 122°, 10% *Me octyl ether*, b. 170-2°, d_4^{20} 0.7916, n_D^{20} 1.4100, and *dioctyl ether*, 51%, b_{10} 117.5-8.5°, d_4^{20} 0.7906, n_D^{20} 1.4327. Heating 62.0 g. 1-(butoxymethyl)pyridinium chloride and 18.3 g. PhCH$_2$OH 4 hrs. to 180-200° gave 30% HCH(OBu)$_2$, 11% BuOCH$_2$Ph, 6.2% *BuO(PhCH$_2$O)CH$_2$*, b_3 118-19°, d_4^{20} 0.9851, n_D^{20} 1.4830, and 4.4 g. (PhCH$_2$)$_2$O; the residue contained benzylpyridinium ion, shown by the *picrate*, m. 117-18°. The results are discussed in terms of formation of the products through oxonium derivs. formed from radical cleavage of the quaternary salts. G. M. K.

PROCESSES AND PROPERTIES INDEX

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Reaction of quaternary ammonium salts with ethers. D. N. Kursanov and V. N. Setkina. *Doklady Akad. Nauk S.S.S.R.* 65, 847-50(1949).—EtOCH$_2$Ph (13.6 g.) and 20.5 g. 1-benzylpyridinium chloride after 6 hrs. at 180-90° gave 8.7 g. unreacted ether and 18.5% (PhCH$_2$)$_2$O, b_{16} 172°, and the acidic ext. gave *4-benzylpyridine*, isolated as the *picrate*, m. 137-8°. Bu$_2$O (15.5 g.) and 1-(decyloxymethyl)pyridinium chloride (16 g.) in 5 hrs. at 190-200° gave 11.8 g. unreacted Bu$_2$O, 10% decyl chloride, b_{15} 105-5.5°, 0.4% *$C_{10}H_{21}O(BuO)CH_2$*, b_4 148-50°, d_4^{20} 0.8472, n_D^{20} 1.4320, and 55.5% *$(C_{10}H_{21}O)_2CH_2$*, b_4 208°, d_4^{20} 0.8454, n_D^{20} 1.4410. Similarly PhCH$_2$NPhMe$_2$Cl and Bu$_2$O gave under the above conditions 11% (PhCH$_2$)$_2$O and 25% *p-benzyl-N,N-dimethylaniline*, b_{15} 180-1°, d_4^{20} 1.0129, n_D^{20} 1.6004. PhOMe and 1-benzylpyridinium chloride in 8 hrs. at 190-200° gave 13.6% PhOCH$_2$Ph, b_{14} 167°, and 8% of mixed *4-hydroxydiphenylmethane*, m. 82-2.5°, and *4-methoxydiphenylmethane*, m. 81°; the acid ext. contained 4-benzylpyridine, identified as the picrate, m. 138°. The use of PhOEt in the above gave 8.2% PhOCH$_2$Ph, and 10% mixed 4-hydroxydiphenylmethane and the 4-EtO deriv., as well as a little PhOH.

G. M. Kosolapoff

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

SETKINA, V.N.

"Concerning the Reactions of Exchange and Decomposition in the Group of Quaternary Ammonium Compounds." Thesis for degree of Dr. Chemical Sci. Sub 31 Oct 50, Inst of Organic Chemistry, Acad Sci USSR

Summary 71, 4 Sep 52, *Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950*. From *Vechernyaya Moskva*, Jan-Dec 1950.

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Reactions of decomposition and substitution among quaternary ammonium compounds. V. Dehydrative action of ammonium derivatives and the rule of oxonium compounds in dehydration reactions of alcohols. V. N. Setkina (Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk. S.S.S.R., Otdel. Khim. Nauk* 1950, 216-22; cf. C.A. 44, 1500a.—The analogy between dehydration of alcs. and the reaction of alcs. with quaternary ammonium compds. is drawn. All dehydration catalysts are cationoid reagents (electrophilic) and the role of halogens (like iodine) in dehydrations is a typical electrophilic reaction. Heating 10 g. $C_{10}H_{21}OH$ with 3 g. 1-methylpyridinium iodide 6 hrs. to 200-20° gave 16% *1-decene*, b_4 53-5°, d_4^{20} 0.7456, n_D^{20} 1.4243, 9.1% *methyl decyl ether*, b_{14} 93-4°, d_4^{20} 0.8102, n_D^{20} 1.4228 (calcd. on pyridinium compd.), and 43% *didecyl ether*, b_4 187-9°, d_4^{20} 0.8188, n_D^{20} 1.4414. Similarly, 15.8 g. $C_{10}H_{21}OH$ and 2.3 g. pyridine-HCl gave in 7 hrs. at 185-220° 4.6 g. decene (33%), 10% decyl chloride, b_4 101°, d_4^{20} 0.8686, n_D^{20} 1.4380, and 19% didecyl ether. Octanol in a similar reaction gave 18% *1-octene*, b_{754} 120.5-2.0°, d_4^{20} 0.7185, n_D^{20} 1.4106, some RCl, and *dioctyl ether*, b_{15} 171°, n_D^{20} 1.4330, d_4^{20} 0.8008. Heating 15.8 g. $C_{10}H_{21}OH$ and 1 g. iodine 6 hrs. to 185-200° gave 1 g. (7%) decene, and 46% didecyl ether, as well as some ROH and tar; octanol similarly gave 2.7% octene and 56% R_2O. Neither alc. is changed by such heating alone (7-8 hrs. at 220-30°). G. M. Kosolapoff

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Exchange reactions and cleavages in the quaternary ammonium salt group. VI. Reaction of salts of alkoxymethylpyridinium with phenols. V. N. Setkina and D. N. Kursanov. *Izvest. Akad. Nauk S.S.S.R., Otdel Khim. Nauk,* 1950, 386-93; cf. C.A. 42, 4922c; 44, 9337e.—*Phenols* and *(alkoxymethyl)pyridinium salts* yield, as primary products, phenyl alkyl formals; secondary reactions yield dialkyl formals, phenolformaldehyde resins, and aliphatic alcs. The dialkyl formals react with ArOH, yielding ROH and the resins. $(PhO)_2CH_2$ appears to react with pyridine-HCl via an ion-chain reaction mechanism, yielding protonated adducts which cleave into PhOH and $PhOCH_2$ ions, the latter carrying the chain reaction that yields the resin by successive addn. of H ion. Heating 43.2 g. 1-(butoxymethyl)pyridinium chloride and 25.2 g. PhOH 70 min. to 100-60° gave 9.4 g. 50% $(BuO)_2CH_2$, 14.6% *$BuOCH_2OPh$*, b_{15} 127-8°, d_4^{20} 0.9752, n_D^{20} 1.4860, 79% resin, and an unstated amt. of pyridine-HCl; 6 hrs. at 180-5° gave 15% BuOH, 57% $(BuO)_2CH_2$, some pyridine, and 89.7% resin; 1-(decyloxymethyl)pyridinium chloride yielded, similarly, in 1 hr. at 130-50° 5% PhOH, 5% decyl chloride, 4.8% decyl alc., 30% *decyl Ph formal*, $b_{0.5}$ 187.5-8.0°, n_D^{20} 1.4780, d_4^{20} 0.9266, 67.5% *didecyl formal*, b_4 208-10°, n_D^{20} 1.4418, d_4^{20} 0.8468, and 62% resin. 1-(Tetradecyloxymethyl) analog gave 92% *ditetradecyl formal*, m. 42-2.5°, and 80% resin. 2-Naphthol (8 g.) and 19.2 g. 1-(tetradecoxymethyl)pyridinium chloride in 10 hrs. at 150-60° gave 98% ditetradecyl formal, pyridine-HCl, and an unstated yield of resin; 1-naphthol gave 90% of the above formal and an alkali-sol. resin. Heating 4.5 g. PhOH and 20 g. $(BuO)_2CH_2$ 3.5 hrs. at 160-90° gave 68% BuOH and 4 g. phenolformaldehyde resin; 2-naphthol reacted similarly. Heating 3.9 g. PhOH and 10 g. didecyl formal 6 hrs. at 180-200° gave 8 g. *decyl alc.* (83%), b_{16} 146°, n_D^{20} 1.4378, d_4^{20} 0.8336, and 2.6 g. NaOH-insol. resin. The absence of $(PhO)_2CH_2$ in the products is explained by the following fact. heating this formal (10 g.) with 2.5 g. pyridine-HCl 10 hrs. at 195-202° gave 1.5 g. NaOH-sol. resin, 36% PhOH, and 4.7 g. resinous residue after distn. of the PhOH.

G. M. K.

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Exchange and cleavage reactions of the quaternary salts f ammonia. VII. Reaction of salts of (alkoxymethyl)-yridinium with alkyl ethers of phenols. D. N. Kursanov and V. N. Setkina (*Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1950, 651-8; cf. C.A. 45, 6201g.—Heating 28.3 g. 1-(decyloxymethyl)pyridinium chloride with 38.8 g. EtOPh 8 hrs. to 180-95° (sealed tube) gave 29 g. EtOPh, 1 g. decyl chloride, 4.0 g. decyl alc., b_{22} 125°, n_D^{20} 1.4373, d_4^{20} 0.8340, 2 g. $PhOCH_2OC_{10}H_{21}$, b_{11} 200-5°, n_D^{20} 1.4708, d_4^{20} 0.9240, and 7 g. $(C_{10}H_{21}O)_2CH_2$, b_{13} 232-4°, n_D^{20} 1.4420, d_4^{20} 0.8462; some 5.2 g. (38%) *phenol-formaldehyde resin* was secured from the residues. (Butoxymethyl)pyridinium chloride (29.1 g.) with 10.8 g. MeOPh 6 hrs. at 190-5° gave 1.4 g. BuOH, 1.1 g. $(BuO)_2CH_2$, b_{740} 178-82°, b_6 62°, n_D^{20} 1.4076, d_4^{20} 0.8380, 1.4 g. *unknown substance*, b_{16} 45-75°, and 7.7 g. (40%) phenol-formaldehyde resin. Heating 10 g. $(C_{10}H_{21}O)_2O$ with 3.9 g. PhOH 6 hrs. to 180-200° gave 8 g. decyl alc. and 2.6 g. solid which was elastic at first, then hardened on attempted distn., i.e. a form of phenol-formaldehyde resin. Hence, the pyridinium salts undergo transetherification with the phenol ethers, yielding formals, which symmetrize and then react with the formation of the polymeric resins. The reaction of phenols and of their ethers with salts of (alkoxymethyl)pyridinium ion are analogous.

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Exchange and cleavage reactions of quaternary ammonium salts. VIII. Reaction with alcohols and phenols of substituted ammonium salts with a benzyl radical. V. N. Setkina and D. N. Kursanov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1951, 81-5; cf. C.A. 45, 6201g, 8520i.—Quaternary ammonium salts contg. benzyl radicals form with alcs. or phenols benzyl ethers of the corresponding alcs. or products of exchange of the mobile H of the phenols for the $PhCH_2$ group both in the OH group as well as in the ortho and para positions; with naphthols the reaction is predominantly nuclear substitution in the ortho and para positions with respect to OH. Heating 15 g. $PhCH_2NMe_2PhCl$ and 9 g. AmOH 5 hrs. at 140-55° gave 6.4 g. *$PhCH_2OAm$*, b_{12} 116-17°, d_4^{20} 0.9142, n_D^{20} 1.4851. Similarly, 13.4 g. 1-benzylpyridinium chloride (I) and 16 g. $C_{16}H_{33}OH$ 8 hrs. at 160-80° gave 7 g. *$PhCH_2OC_{16}H_{33}$*, $b_{1.5}$ 177-8°, d_4^{20} 0.8884, n_D^{20} 1.4770. 2-$C_{10}H_7OH$ (24.4 g.) and 41.2 g. I in 6 hrs. at 180° gave a wide series of fractions: 12% unreacted naphthol, 60% *1-benzyl-2-hydroxynaphthalene*, m. 111-11.5° (from 80% HCO_2H), b_{15-16} 225-42° (crude), and 1.2 g. *$C_{24}H_{20}O$*, m. 189.5-90.0°, whose structure is unknown. Similarly, 28.8 g. 1-$C_{10}H_7OH$ and 41.2 g. I in 6 hrs. at 180-200° gave 29.5% unreacted naphthol, 31% *1-hydroxy-4-benzylnaphthalene*, b_{15-16} 237°, m. 123.5°, and 9.5 g. viscous oil, b_{16} 240-310°, composed of several products from which an extn. with ligroine gave 1 g. $C_{24}H_{20}O$, m. 72°, identified as *1-hydroxy-2,4-dibenzylnaphthalene*. Heating 18.8 g. PhOH with 41 g. I 6 hrs. at 180-200° gave 25% PhOH, 18% *$PhOCH_2Ph$*, m. 39°, b_9 143-6°, 18% mixed isomeric *benzyl ethers of benzylphenols*, b_9 250-65°, 29% almost pure *p-benzylphenol*, m. 84°, and 17% mixed *dibenzylphenols*, b_9 245-52°. G. M. Kosolapoff

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"Hydrogen Exchange in Saturated Hydrocarbons Resulting From the Action of Sulfuric Acid," V. N. Setkina, D. N. Kirsanov, O. D. Sterlingov and A. L. Liberman, Inst of Org Chem Acad Sci USSR

"DAN SSSR" Vol 85, No 5, pp 1045-1048

The exchange of H in a no of hydrocarbons was studied with the aid of sulfuric acid having an atom of heavy H. It was found that the reaction passes through the following stages. Radicals or carbonium ions are formed by oxidation. They are capable of exchanging their H atoms for deuterium. H exchange

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continues from one radical to the next in a chain reaction. The final stage is breaking off of the chain taking place in the usual manner. Submitted by Acad B. A. Kazanskiy 3 Jun 52.

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USSR.

✓Hydrogen exchange of saturated hydrocarbons in reaction with sulfuric acid. D. N. Kursanov, V. N. Setkina, and D. D. Sterligov. *Bull. Acad. Sci. U.S.S*[redacted]. *Sci.* 1953, 921-6(Engl. translation).—See *C.A.* 49, 2206*h*. H. L. H.

Setkina, V.N.

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Hydrogen exchange of saturated hydrocarbons in reaction with sulfuric acid. D. N. Kursanov, V. N. Setkina, and O. D. Sterligov (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 1035-42.—Exchange of H atoms was studied in n-C_7H_{16}, n-C_8H_{18}, $MeCHEt_2$, $PrCHMeEt$, $BuCMe_3$, Me_2CHCMe_3, and $Me_2CHCH_2CMe_3$ in contact with D-enriched H_2SO_4. H—D exchange takes place only with those hydrocarbons that contain a tertiary C atom and the exchange equil. is attained at 20-5° within a few hrs. H atoms in satd. alicyclic compds. which contain a tertiary-C atom are also readily exchanged for D. G. M. Kosolapoff