L 19797-65 EPA(s)-2/EWT(m)/EPF(c)/EWG(v)/EPR/EWP(j)/T/EWP(b)/EWP(e) Pc-4/Pe-5/
Pq-4/Pr-4/Ps-4 RM/WH/WW
ACCESSION NR: AT5001012 S/2850/64/011/000/0108/0111

AUTHOR: Serikbayeva, S. M.; Shostak, F. T.; Kulumbetova, K. Zh.

TITLE: The effect of reinforcement on the properties of membranes

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sintez i issledovaniye vysokomolekulyarnykh soyedineniy (Synthesis and research of high-molecular compounds), 108-111

TOPIC TAGS: ion exchange membrane, reinforced membrane, polymer reinforcement, polymer mechanical property, polymer adhesion

ABSTRACT: Reinforcing of ion exchange membranes with materials woven from Kapron (polycaprolactam), rayon, glass fiber, or cotton improved the mechanical strength but had unfavorable effects on the electrochemical properties. Ankalit A-7 membranes are based on the anion-exchange resin AT-1 and prepared by mixing 1:0.8 parts resin and high pressure polyethylene, reinforced single- or double-sided with materials of various structure. Adhesion was better to synthetic and loosely woven materials than to natural fibers and tightly woven material. Adhesion to woven glass fiber was poor. The high tensile strength of Kapron increased the strength of double-sided reinforced membranes approximately three times and bending strength about 85 times, but the exchange capacity of reinforced membranes was

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L 19797-65
ACCESSION NR: AT5001012

decreased, and the electrical resistance increased from the 150 measured for non-reinforced membranes to 196-253 ohm/cm depending on the application and structure of the woven material. Orig. art. has: 4 tables.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakhskoy SSR (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, OC

NO REF SOV: 002 OTHER: 003

Card 2/2

SHOSTAK, F.T.; SEREDIN, B.I.; LYUBMAN, N.Ya.; TOKHAY, A.A.

Ion-osmosis method of demineralization. Trudy Inst. khim. nauk AN Kazakh. SSR 11:164-169 '64. (MIRA 17:11)

SHOSTAK, F.T.; BESMAN, V.L.; SHISHLYANNIKOV, L.A.; TSKHAY, A.A.; LYUBMAN N. Ya.; KATSOVICH, F.A.

Study of critical velocities for the labrynth-type electrodializers in the process of water demineralization. Trudy Inst. khim. nauk AN Kazakh. SSR 11:170-175 '64.

L 21336-65 EWT(m)/EWP(j)/T Pc-4 RWH/RM

ACCESSION NR: AT5001017 S/2850/64/011/000/0176/0178

AUTHOR: Vaganov, V.D., Lyubman, N.Ya., Shostak, F.T., Kulumbetova, K. Zh.

TITLE: Determination of the water permeability of ion exchange membranes

SOURCE: AN KazSSR. Institut khimicheskikh nauk. Trudy, v. 11, 1964. Sintez i issledovaniye vysokomolekulyarnykh sovedineniy (Synthesis and research of high-molecular compounds), 176-178

TOPIC TAGS: ion exchange membrane, membrane permeability, water permeability

ABSTRACT: The authors describe an apparatus for determining the water permeability of ion exchange membranes, consisting of a movable and a fixed cell, separated by the 5 x 5 cm membrane, which is deaerated in 40C water in a vacuum to the total removal of its air content; units for the generation of pressure and adjustment to zero point position, a manometer, and a micropipette for measuring permeability are described. Immersion of the sealed unit in water eliminates losses of liquid which are shown to cause relative errors of approximately 50%. Permeability is determined for distilled water and under 1 kg/cm^2 pressure, and formulas are presented for calculating both the coefficient of permeability

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L 21336-65

ACCESSION NR: AT5001017

D and the specific permeability K. The latter term includes the effect of the thickness of the membrane and its magnitude for membranes of good quality is 10^{-14} $cm^3 \cdot sec/g$. Orig. art. has: 1 table, 2 figures and 2 formulas.

ASSOCIATION: Institut khimicheskikh nauk, Akademiya nauk Kazakhskoy SSR (Institute of Chemical Sciences, Academy of Sciences of the Kazakh SSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT, GC

NO REF SOV: 004 OTHER: 000

Card 2/2

L 53766-65 EWT(m)/EWG(m)/EWP(j) Pc-4 RWH/RM

ACCESSION NR: AP5012829 UR/0360/65/000/001/0094/0096

18
17
B

AUTHOR: Savenko, O. D.; Gudkova, L. P.; Shostak, F. T.

TITLE: Structure of ion-exchange membranes based on a polyvinylchloride film

SOURCE: AN KazSSR. Izvestiya. Seriya khimicheskikh nauk, no. 1, 1965, 94-96

TOPIC TAGS: ion exchange membrane, polyvinylchloride membrane

ABSTRACT: The article reports some preliminary results of a study of the crystallinity of "Ankalit K-5" ion exchange membranes and describes changes in the crystallinity of intermediate products during synthesis. A URS-70 instrument was used for x-ray structural analysis. Debye powder patterns were taken of the initial polyvinylchloride film, of the film after the polymerization of sorbed styrene, and of the sulfonated air-dried cation-exchange membrane in the H^+ form. Contrary to expectations, an increase in crystallinity was observed during impregnation of the initial film with styrene and its subsequent conversion into polystyrene in the presence of benzoyl peroxide. When the polymer is sulfonated in the presence of the catalyst (Ag_2SO_4), its crystallinity increases. The crystallinity of the finished membrane may be due either to the introduction of a sulfo group into the benzene

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L 53766-65

ACCESSION NR: AP5012829

ring, which occupies the ortho or para position, or to the presence of traces of the catalyst. Thus, the structure of the "Ankalit-5" membrane consists of two phases, one amorphous, the other crystalline. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: none

SUBMITTED: 27Jun64 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 005 OTHER: 001

BAB

Card 2/2

L 43074-66 EWT(m)/EWP(j)/T IJP(c) RM/WW/JWD

ACC NR: AP6014705 (A) SOURCE CODE: UR/0360/65/000/004/0082/0094

AUTHOR: Yergozhin, Ye. Ye.; Rafikov, S. R.; Shostak, F. T.

ORG: none

TITLE: Chemical transformations of polymers. Communication 28. Synthesis and analysis of cross-linked polynitro(styrene-co-divinylbenzene)

SOURCE: AN KazSSR. Izvestiya. Seriya khimicheskikh nauk, no. 4, 1965, 82-94

TOPIC TAGS: polystyrene, copolymer, thermal stability, polyvinyl, nitration, organic nitro compound, vinyl polymer, polymer structure

ABSTRACT: In order to clarify the structure of cross-linked polynitro(styrene-co-DVB), the authors investigated the nitration of this copolymer under various conditions and some of the properties of the mononitro derivatives produced. The copolymer was synthesized by adding 0.68 g of PVA in 120 ml distilled water to a mixture of 20 g styrene, 6 g DVB, and 0.4 g benzoyl peroxide and heating to 80C for 5 hr with constant stirring. Nitration of the copolymer was carried out at -5C with mixtures of nitric and sulfuric acid varying in composition from pure HNO_3 to 229 g H_2SO_4 + 101 g HNO_3, and the effect of the proportions of nitric and sulfuric acid on nitration kinetics and the final degree of nitration was investigated; the best results

Card 1/2

EWP(j)/EWT(m)/ETC(f)/T IJP(c) RM/DS/JWD

ACC NR: AP6019353 SOURCE CODE: UR/0074/65/034/012/2220/2250

AUTHOR: Yergozhin, Ye. Ye.; Shostak, F. T.

ORG: Institute of Chemical Sciences, AN KazSSR, Alma-Ata (Institut khimicheskikh nauk AN KazSSR)

TITLE: Oxidation-reduction polymers

SOURCE: Uspekhi khimii, v. 34, no. 12, 1965, 2220-2250

TOPIC TAGS: polymerization, polycondensation, oxidation reduction reaction

ABSTRACT: A review on oxidation-reduction polymers covers three methods of synthesis: 1) polycondensation 2) polymerization, and 3) introduction of active groups into an inert polymer. The various chemical reactions, types of polymers prepared, and their physicochemical properties are discussed. A separate section is devoted to oxidation-reduction exchangers, where methods of preparation, reactions, and physicochemical properties are reviewed. Advantages of inorganic electron exchangers, (e.g., nantronite, sodium polyvanadate, etc.) over oxidation-reduction polymers include the absence of irreversible oxidation reactions, a relatively high oxidation rate, and a high resistance to high temperatures and radiation. Disadvantages are a low capacity and instability in strong acids and strong bases. The various applications of oxidation-reduction polymers are listed. A problem to be solved

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UDC: 541.61

L 29237-66

ACC NR: AP6019353

in the near future is the development of methods of synthesis of these polymers which would insure a fast rate of reaction and chemical stability of the polymers. The latter characteristic can be improved by using vinyl monomers of high purity and creating polymers of more regular structure. Orig. art. has: 5 figures, 36 formulas and 7 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 097 / OTH REF: 178

Card 2/2 CC

PINSKIY, A.Ye., inzhener; SHOSTAK, G.F.

Increasing the weight of packages. Tekst.prom. 16 no.11:56 N '56.
(MIRA 9:12)

1. Zaveduyushchiy laboratoriyey Kiyevskoy khlopkopryadil'noy fabriki (for Shostak).

(Cotton spinning)

SHOSTAK, G.M., inzh.

Heat transfer coefficients in marine fuel heaters. Sudostroenie 24 no.11:34-37 N '58. (MIRA 12:1)
(Marine engines--Fuel consumption) (Heat--Transmission)

GELEVERI, V.I.; POLUYEKTOVA, I.A.; SHOSTAK, I.P.

Investigating drawing conditions and properties of wire made of oxygen-blasted converter steel. Biul. TSNIICHM no. 10:46-48 '58.

1. Nizhnedneprovskiy zavod metallicheskikh izdeliy.
(Wire drawing)

AUTHOR: Shostak, K. 25-8-13/42

TITLE: School of Peoples' Experience (Shkola narodnogo opyta)

PERIODICAL: Nauka i Zhizn', 1957, # 8, pp 24-25 (USSR)

ABSTRACT: The All-Union Agricultural Exhibition (VSKhV) in 1957 was visited by more than 400 thousand people, and illustrated recent improvements successfully achieved in the agricultural field.

The Kolkhoz imeni Komintern, Minchurinskiy Rayon, Tambovskaya Oblast', a pavilion of which was one of the centers of interest at the exhibition, initiated socialist competition to produce 100 centners of meat and 400 centners of milk from every 100 ha. The cultivation of forage, especially of corn, is of vital importance in cattle-raising. The cultivation of corn was increased 7-fold in comparison with 1953. Farms cultivating virgin soil and waste land contributed to a large extent in achieving these results and the cultivated soil of the country was increased by almost 38 million ha during the last three years, and the total harvest of grain was increased by 20% in the course of one year. The exhibition also showed new methods of farm field cultivation and operation of new machines, for instance the chemical method of weed control,

Card 1/2

SHOSTAK, K.

AUTHOR: Shostak, K. 25-11-27/28

TITLE: The Works of a Revolutionary Scientist (Trudy uchenogo-revolyutsionera)

PERIODICAL: Nauka i Zhizn', 1957, # 11, pp 62-63 (USSR)

ABSTRACT: The article deals with a book "Izbrannoye" (Selections) which was compiled from works by academician G.M.Krzhizhanovskiy. It gives a picture of the most important historical events of the October Revolution. The first part of the book mainly deals with the electrification of the country - the famous GOELRO program.

The second part is devoted to Lenin's personality. Further, Krzhizhanovskiy described the work done by young scientists, such as D.N.Pryanishnikov, B.A.Keller, V.R.Williams and S.G.Strumilin and others who helped to develop Soviet science.

The third part is devoted to prominent members of the Communist Party, such as F.Dzerzhinskiy, A.Tsyurupa, L.Krasin, K.Tsetkin and N.K.Krupskaya.

There is a photograph of a letter written by Lenin to Krzhizhanovskiy.

AVAILABLE: Library of Congress

Card 1/1

SHOSTAK, L.D., agronom

Ensiling corn together with straw. Mekh. sil'.hosp. 12 no.7:8 '61.
(MIRA 14:6)

1. Kolkhoz im. XX s"yezda Kommunisticheskoy partii Sovetskogo Soyuza, Novo-Ukrainskogo rayona, Kirovogradskoy oblasti.
(Ensilage) (Corn (Maize))

SHOSTAK, L.I., assistent

Characteristics of allergic tests in patients with epidermophtosis of the feet. Vest.derm.i ven. no.9:47-51 '61. (MIRA 15:5)

1. Iz kliniki kozhnykh i venericheskikh bolezney (zav. - dotsent F.I. Stekhun) Blagoveshchenskogo meditsinskogo instituta (dir. - kand.med.nauk M.K. Nadgeriyev, nauchnyy rukovoditel' - prof. A.N. Araviyckiy).
(FOOT--DISEASES) (DERMATOMYCOSIS) (ALLERGY)

SHOSTAK, L. Ya., Physician Dr. Med. Sci.

Dissertation: "Decortication of the Lung in the Case of Armored Empyema of Chest Caused by Traumatic Injury." Second Moscow State Medical Inst. imeni I. V. Stalin 22 Sep 47.

SO: Vechernyaya Moskva, Sep, 1947 (Project #17836)

SHOSTAK, L. YA.

35137. Dekortikatsiya Legkogo Pri Pantsyrnoy Empiyeme Grudnoy Kletki. V SB: Voprosy Grudnoy Khirurgii. T. III. M., 1949, c. 136-40.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

Shostak, L. Ya.

"Osteosynthesis in medial fractures of the neck of the femur."
Novye khirurgicheskie apparaty i instrumenty i opyt ikh primeneniya,
No. 2, 1958, p. 33

Ministry od Health ESSR

SHOSTAK, M., polkovnik.

Experience repairing the PLS-79 drive. Voen.-inzh. zhur. 101 no.11: 38 N '57. (MLRA 10:11)
(Electric driving)

SHOSTAK, M. G.

"Comparative Evaluation of Accuracy and the Relative Advantage of Various Methods of Time and Latitude Determination (by means of the Transit Instrument)", Uch. Zap. Vyssh. Arkt. Mor. Uchilishcha, No 4, 1953, pp 69-90
Abs

W-31146, 1 Feb 55

SPITSYN, V.I.; SHOSTAK, N.Z. [deceased]

Study of the chlorination of a carbon-beryllium oxide mixture.
Khim.redk.elem. no.2:93-101 '55. (MLRA 9:4)

1.Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Beryllium chlorides)

USSR/Cultivated Plants - Grains. II.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44051

Author : Belash, T.I., Tishchenko, A.N., Shostak, O.F.

Inst : Moscow Selection Station.

Title : Peculiarities of Grain Corn Agrotechny the Southern Rayons of Moscow Oblast.

Orig Pub : Zemledeliye, 1957, No 5, 40-44.

Abstract : This study was made at the Moscow selection station. In cultivating corn in heavy structureless soils it is particularly important to provide for the good soil aeration. Good predecessors of corn are clover and winter wheat. It is recommended that one sow when the soil is ready either at the end of April or in the middle of the end of May, but not later than June 1. The best depth for seedling is 6 cm. The highest percentage of ripened seedlings

Card 1/2

BAKHMUTSKAYA, E.Ya. (Khar'kov); PRUDNIKOV, V.Ye. (Moscow); ROSSINSKIY, S.D. (Moscow); DEPMAN, I.Ya. (Leningrad); SHOSTAK, R.Ya. (Moscow); FIKHTENGOL'TS, G.M. (Leningrad); SPASSKIY, I.G. (Leningrad); SUSSOV, V.V. (Vladivostok); RYBKIN, G.F., redaktor; YUSHKEVICH, A.P., redaktor.

[Historical studies in mathematics. Vol. 5] Istoriko-matematicheskie issledovaniia. Moskva, Gos. izd-vo tekhniko-teoreticheskoi lit-ry, 1952. 472 p. Vol. 5. (MLRA 6:5)

1. Moscow. Universitet. Seminar po istorii matematiki. (Mathematics) (Osipovskii, Timofei Fedorovich, 1765-1832) (Peterson, Karl Mikhailovich, 1828-1881) (Letnikov, Aleksei Vasil'evich, 1837-1888)

SHOSTAK, R. Ya.

USSR. I-F/W

Šostak, R. Ya. Aleksei Vasil'evič Letnikov. Istor.-Mat. Issled. 5, 167–238 (1 plate) (1952). (Russian)

USSR/Mathematics - Quadratic Forms

Card 1/1

Author : Shostak, R. Ya.

Title : Criterion for the conditional definiteness of a form of n variables subject to linear connections, and the sufficient criterion for the conditional extremum of a function n variables

Periodical : Usp. mat. nauk, 9, No 2, 199-206, 1954

Abstract : Poses and solves the problem of finding the necessary and sufficient criterion for the positive definiteness of a given quadratic $U(x_1 \ldots, x_n)$ $(a_{ij} = a_{ji})$ under the condition that the variables $x_1 \ldots, x_n$ satisfy a given system of k linear homogeneous equations $P_i(x_1, \ldots, x_n) = 0$. No references.

Submitted : January 30, 1953

SHOSTAK, R. Ya., kandidat fiziko-matematicheskikh nauk, dotsent.

Derivatives with arbitrary caracteristics of the order of differentiation of analytic functions of complex variables. [Trudy] MVTU no.50:335-362 '56. (MLRA 9:8)
(Calculus, Differential)

SHOSTAK, R.Ya., kandidat fiziko-matematicheskikh nauk, dotsent.

Main component of the remainder in Taylor's formula. [Trudy] MVTU no.50:363-366 '56. (MLRA 9:8)
(Series, Taylor's)

GUREVICH, Viktor Borisovich; MINORSKIY, Vasiliy Pavlovich; SHOSTAK, R.Ya., red.; SOLODKOV, V.A., red.; AKHLAMOV, S.N., tekhn.red.

[Textbook of analytical geometry for institutions of higher learning] Uchebnik analiticheskoi geometrii dlia vtuzov. Moskva, Gos. izd-vo fiziko-matematicheskoi lit-ry, 1958. 163 p. (Geometry, Analytical--Textbooks) (MIRA 12:1)

16(1) PHASE I BOOK EXPLOITATION SOV/2061

Baranenkov, G. S., Boris Pavlovich Demidovich, M. A. Yefimenko, S. M. Kogan, G. L. Lunts, Ye. F. Porshneva, Ye. P. Sycheva, S. V. Frolov, R. Ya. Shostak, and A. R. Yanpol'skiy

Zadachi i uprazhneniya po matematicheskomu analizu dlya vtuzov (Problems and Exercises in Mathematical Analysis for Vtuzes) Moscow, Fizmatgiz, 1959. 472 p. 40,000 copies printed.

Ed. (Title page): Boris Pavlovich Demidovich; Tech. Ed.: K. F. Brudno
Ed. (inside book): M. A. Ugarova.

PURPOSE: This book is approved by the USSR Ministry of Higher Education as a textbook for students of vtuzes, especially correspondence students and evening students specializing in mechanical engineering. It may also be used for independent study.

COVERAGE: The book is a collection of 3193 problems on higher mathematics (excluding analytic geometry) arranged in systematic order for vtuzes. At the beginning of each chapter a short theoretical introduction, necessary formulas, and solutions of more important typical problems are given. Answers are given for all problems, and for the more complicated ones hints and drawings are provided, making the book more useful to correspondence students. The authors give special attention to the more important parts of the subject, such as, calculation of limits, differentiation and integration technique, construction of graphs, application of differential and integral calculus, series, and solution of differential equations. Chapters covering these subjects, therefore contain more problems than the others. The authors thank Docent S. M. Lazrain, Docent Ye. A. Lubnyetskiy, Instructors M. V. Sakharov, G. V. Tolstova, and L. Z. Rudelevich, Professor A. P. Yushkevich, Docent I. N. Bronshtevn, Ye. A. Sobolova, the Moskovskiy energeticheskiy institut (Moscow Institute of Energetics) Vesesoyuznyy zaochnyy inzhenerno-stroitel'nyy institut (All-Union Civil Engineering Correspondence Institute), Docent R. S. Guter, and M. A. Ugarova, editor of Fizmatgiz, for help in preparing the book. There are no references.

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SMOLITSKIY, Kh.L., prof., retsenzent; FROLOV, S.V., dotsent, retsenzent; SHOSTAK, R.Ya., retsenzent; YUSHKEVICH, A.A., retsenzent; BIRYUK, G.I., red.; AKHLAMOV, S.N., tekhn.red.

[Principles of computer mathematics] Osnovy vychislitel'noi matematiki. Pod obshchei red. B.P.Demidovicha. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1960. 659 p. (MIRA 14:4)
(Mathematics)

BARANENKOV, G.S.; DEMIDOVICH, B.P.; YEFIMENKO, V.A.; KOGAN, S.M.; LUNTS, G.L.; PORSHNEVA, Ye.F.; SYCHEVA, Ye.P.; FROLOV, S.V.; SHOSTAK, R.Ya.; YANPOL'SKIY, A.R.; UGAROVA, N.A., red.; SMOLYANSKIY, M.L., red.; BRUDNO, K.F., tekhn. red.

[Problems and exercises in mathematical analysis for shools of higher education] Zadachi i uprachneniia po matematicheskomu analizu dlia vtuzov. Izd.2., ispr. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 472 p. (MIRA 14:8)
(Mathematical analysis—Problems, exercises, etc.)

SHOSTAK,SI.; GURCVICH,V.I.

Introducing progressive practices in industry. Leg.prom. 15 no.6:50-51 Je '55. (MLRA 8:8)
(Ukraine--Manufactures)

SHOSTAK, S.I.; GUROVICH, V.I.

The exchange of progressive technical practices should get wider development. Leg. prom. 15:no.11:41-43 N '55. (MLRA 9:2)
(Russia--Manufactures)

SHOSTAK, S.L.; GUSAK, M.I.; MULKIDZHANYAN, N.P., glavnyy khudozhnik.

Designing models for the entire range of clothing. Leg.prom.16 no.12:13-14 D '56. (MLRA 10:2)

1. Nachal'nik tekhnicheskogo upravleniya Ministerstva legkoy promyshlennosti USSR (for Shostak). 2. Direktor assortimentnogo kabineta (for Gusak).
(Clothing industry)

AFANAS'YEV, O.O. [Afanas'iev, O.O.]; GORVITS, S.M. [Horvits, S.M.]; IGNATOVA, L.P. [Ihnatova, L.P.]; KOTOV, M.P.; NOVIK, G.B. [Novyk, H.B.]; ORLOV, I.V.; PEYSAKHZON, L.B.; ROZENMAN, G.S. [Rozenman, H.S.]; SKATERNOY, V.A.; TSITRIN, L.I.; CHECHENEV, M.I. [Checheniev, M.I.]; SHOSTAK, S.I.; NAZARENKO, N., red.; GORKAVENKO, L. [Horkavenko, L.], tekhn.red.

[Light industry of the Ukraine] Lehka promyslovist' Ukrainy. Kyiv, Derzh.vyd-vo tekhn.lit-ry URSR, 1960. 197 p. (MIRA 14:4)

(Ukraine--Industries)

MATIASHVILI, A[illegible], kand. sel'skokhoz. nauk (Tbilisi); SNOSTAK, S.[illegible].

Notes and observations. Priroda 54 no.9:69, 74 S '65. (MIRA 18:9)

1. Muzey prirody "Belovezhskaya pushcha", Brestskaya obl., Belorusskaya SSR (for Snostak).

CHUKMASOV, S.F., prof.; SHOSTAK, T.I., inzh.; BRIZHAN', Ya.S., inzh.; IVANOV, V.A., inzh.

Determining the friction coefficient for the combination "concrete-wood." Bet. i zhel.-bet. 8 no.7:322-324 Jl '62. (MIRA 15:7)

1. Dnepropetrovskiy metallurgicheskiy institut (for Chukmasov, Shostak). 2. Trest Dneprostroydetal' (for Brizhan', Ivanov).
(Concrete--Transportation)
(Friction)

PINUS, Ya.S., inzh.; SHOSTAK, V.A., inzh.

Automatic shifting of gas and air valves in coke ovens. Mekh.i avtom. proizv. 14 no.12:5-6 D '60. (MIRA 13:12)
(Coke ovens)

KOCHO, V.[illegible], doktor tekhn. nauk; METROKHIN, A.K.; CHIGIRKO, V.M.; SHOSTAK, V.I.; BELOKOPYTOV, V.A.; VAZILEVSKIY, A.B.; ZOLOTSKIY, A.A.

Temperature conditions of a converter bath with air and steam-oxygen bottom blowing. Met. i gornorud. prom. no.1:21-24 Ja-F '65. (MIRA 18:3)

L 24868-66 EWT(m)/EWP(f)/EPF(n)-2/EWP(j)/T/ETC(m)-6 WW/WE/RM

ACC NR: AP6006399 (N) SOURCE CODE: UR/0413/66/000/002/0142/0143

64
B

AUTHORS: Savvin, V. N.; Komm, P. S.; Shostak, V. F.

ORG: none

TITLE: Fuel cut-off device for gas turbine installations. Class 46, No. 178246

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 142-143

TOPIC TAGS: engine fuel system, gas turbine fuel, gas turbine control, polymer

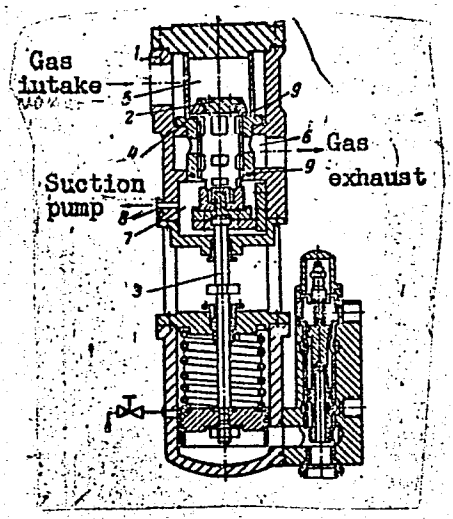
ABSTRACT: This Author Certificate presents a fuel cut-off device for gas turbine installations, consisting of a body which contains a valve with a valve rod, the valve seat, and fuel inlet and outlet chambers. To make it more explosion-proof, the body has an intermediate low-pressure chamber connected to the gas suction line. The valve is two-sided, in the form of a slider valve with ports and a chamber connected with the low-pressure chamber when the valve is closed (see Fig. 1). A second feature provides polycaprolactam inserts between the valve seat and plunger. A third feature has the connection between valve and valve rod located in the low-pressure chamber.

Card 1/2 UDC: 621.438-333.1

L 24868-66

ACC NR: AP6006399

Fig. 1. 1 - body; 2 - valve; 3 - rod; 4 - seat; 5 - inlet chamber; 6 - outlet chamber; 7 - low-pressure chamber; 8 - leakage suction; 9 - inserts.



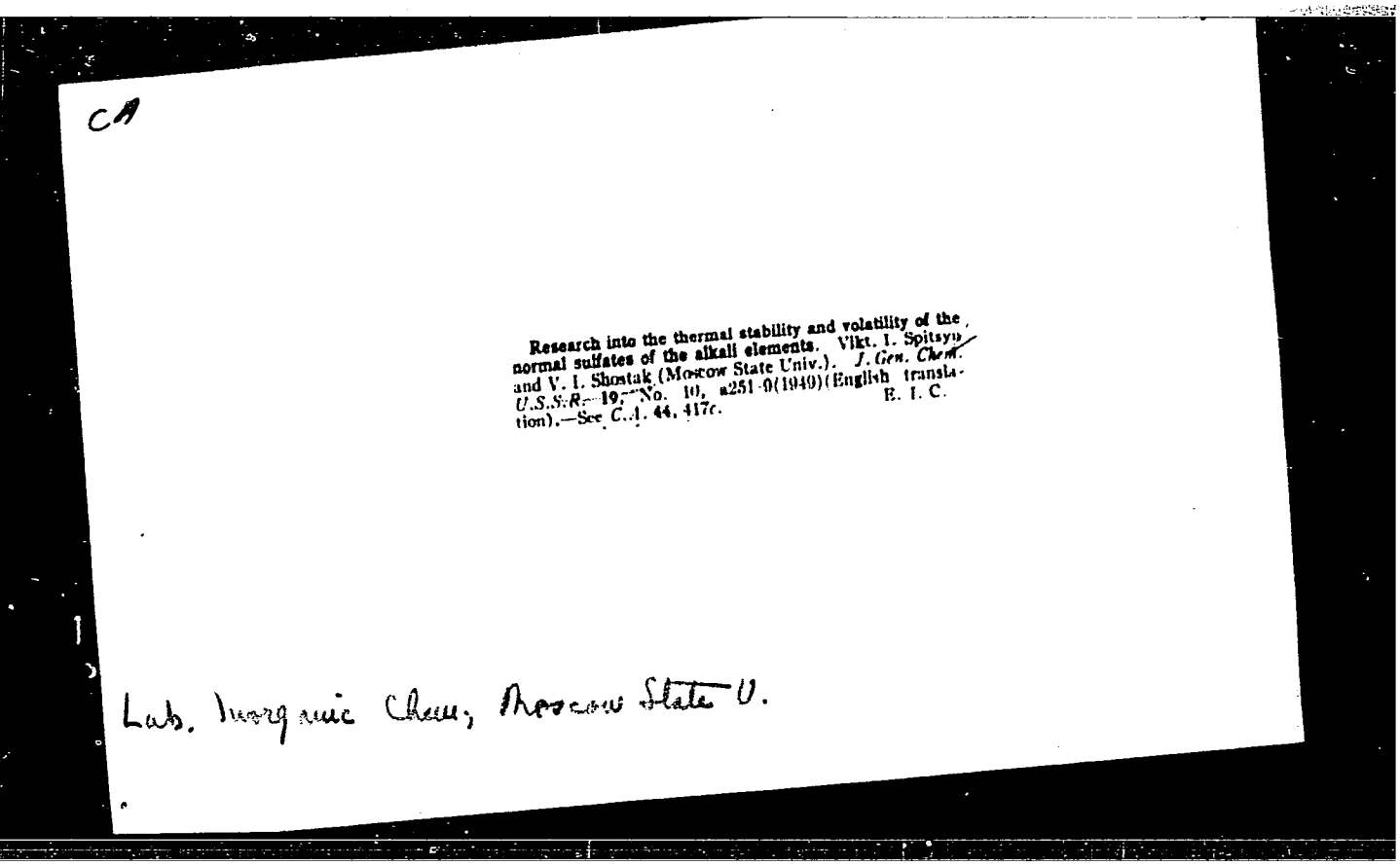
Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 15Aug64

Card 2/2 dda

SHOSTAK, V. I.

Mbr., Lab. Inorganic Chemistry, Moscow State Pedagogical Inst. im. K. Libknekht, -1942-. "On Normal Beryllium Tungstate," Zhur. Obshch. Khim., 13, Nos. 4-5, 1943.



CA

Research into the thermal stability and volatility of the normal sulfates of the alkali elements. Vikt. I. Spitsyn and V. I. Shostak (Moscow State Univ.). *J. Gen. Chem. U.S.S.R.* 19, No. 10, 1251-9(1949)(English translation).—See *C.A.* 44, 417c. B. I. C.

Lab. Inorganic Chem., Moscow State U.

CM

2

Thermal stability and volatility of normal alkali metal sulfates. Vikt. I. Spitsyn and V. I. Shvetsk Zhur. (Mikhail Khim. (J. Gen. Chem.) 10, 1901-8(1940). No loss of wt. was found on heating at 800°. Two hrs.' heating at 900 and 1000° resulted in the following losses (in %): Li_2SO_4 0.12 and 0.51, Na_2SO_4 0 and 0.04, K_2SO_4 0 and 0.12, Rb_2SO_4 0.08 and 0.27, Cs_2SO_4 0.20 and 0.87. In the same order, the corresponding wt. losses (samples 0.25-0.30 g.) on 2 hrs.' heating at 1200°, were 1.76, 0.52, 1.82, 0.14, 0.04%/hr.; under the same conditions, in an air stream (0.2 l./min.), 2.56, 0.62, 3.70, , 0.20%/hr. Increase of the air stream velocity to 0.4 l./min. reduces the loss, possibly as a result of cooling. Decompn. on (2-12 hrs.') heating at 1200°, detd. by analysis of the residue, amounted to 0.60, 0.21, 0, 0, 0%/hr., resp.; hence losses by simple volatilization, detd. in the same expts., 0.88, 0.77, 1.70, 2.70, 0.04%. At the same temp., in a stream of H_2O vapor, 18 g./hr., in a tube of 20 mm. diam., the loss of wt. was 17.52, 3.09, 11.76, 40.44, 90.85%/hr., the decompn. 4.78, 0.31, 0, 0, 0%/hr., hence the loss due to simple volatilization, 10.84, 3.34, 11.76, 40.44, 90.85%/hr. The 3 sulfates, K_2SO_4, Rb_2SO_4, and Cs_2SO_4, which have the highest melting temps., also have the highest volatilities; the mol. volatilities at 1200° are in the ratio 1:1.4:2.1, i.e. markedly different, despite the great closeness of the melting temps. (1074, 1074, and 1019°). Consequently, volatility is detd. not so much by the ionic bonding in the solid crystal, but by the changes of bonding that take place after fusion; stronger bonding in the solid state seems to give rise to weaker bonding in the liquid state. The increase of volatility from Na to Rb is attributed to polarization of the cation by the O atoms of the SO_4^{--} anion and corresponding shift from ionic to polar bond, which effect increases from Na to Rb, but plays no role in the case of the very small Li. The high volatility, and low melting temp., of Li_2SO_4 is due to the polarizing action of Li on the SO_4^{--} anion, resulting in a decrease of the ionic character of the bond. Of the 5 sulfates, Na_2SO_4 has evidently the strongest ionic-bond character in the fused state. N. Thon

SHOSTAK, V. I.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
General and Physical Chemistry

(4)

Volatility of alkali metal chlorides at high temperatures. Vikt. I. Spitsyn, V. I. Shostak, and M. A. Mcerovi (Moscow State Univ.). *J. Gen. Chem. U.S.S.R.* 22, 821-6(1952). (Engl. translation).—See *C.A.* 47, 3067h. H. L. H.

MF 11-5-54

SHOSTAK, V.I.

(3)

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
General and Physical Chemistry

Effect of gaseous media on the evaporation rate of alkali chlorides. Vikt. I. Spitsyn and V. I. Shostak (M. V. Lomonosov State Univ., Moscow). *Zhur. Obshchei Khim.* 22, 1063-71; *J. Gen. Chem. U.S.S.R.* 22, 1109-15(1952).— Expts. were made in an elec. furnace at const. temp. of 800°. Controlled vols. of air, water vapor, and gaseous NH_3 were passed over Pt boats filled with alkali chlorides. Gaseous CO_2 and HCl were used on CsCl only. The rate of evapn. was detd. by difference in wts. at standard time intervals. The results show: (1) At const. temp. of 800 and gas flow (0.4 l. per min. N.T.P.) the rate of evapn. increases in the order Li, K, Rb, Cs, and Na. (2) At const. flow rate of the gases the rate of evapn. increases in proportion to the polarity of the gas used. (3) The effect of the gas polarity is greatest on LiCl and Cs, the smallest on NaCl. Evapn. of LiCl in water vapor is twice that in the air. (4) At low gas flow rates (0.2 l. per min. and less) the rates of evapn. remain identical for all gases. M. O. Holowaty

11-5-54

BOCHKAREV, V.V., red.; LEVIN, V.I., kand.khim.nauk, nauchnyy red.; SHISHKOV, V.P., kand.tekhn.nauk, nauchnyy red.; BUKHAROV, I.N., kand.biolog. nauk, nauchnyy red.; SHOSTAK, V.I., kand.khim.nauk, nauchnyy red.; SAGURO, M.A., red.; VLASOVA, N.A., tekhn.red.

[Methods of producing and measuring radioactive substances] Metody polucheniia i izmereniia radioaktivnykh preparatov; sbornik statei. Moskva, Izd-vo glav.upr.po ispol'zovaniiu atomnoi energii pri Sovete Ministrov SSSR, 1960. 307 p. (MIRA 13:7)
(Radioactive substances)

L 00034-67 EWT(l) SCTB DD/GD

ACC NR: AT6036687 SOURCE CODE: UR/0000/66/000/000/0390/0391

AUTHOR: Shostak, V. I.

18
B-11

ORG: none

TITLE: Interrelation between the center and periphery of the retina exposed to brief intense colored light flashes while fully dark adapted [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 390-391

TOPIC TAGS: vision, dark adaptation, visual acuity, central nervous system, flash blindness

ABSTRACT:
The purpose of this investigation was to study the interaction of the center and periphery of the retina during the recovery of light sensitivity following exposure to brief, intense light flashes after complete adaptation to darkness. The recovery of light sensitivity was monitored on an ADM adaptometer using the uaual method. Four interconnected, sequentially pulsed IFK quartz lamps with a flash energy of about 60,000 lm-sec and duration of 2.3 sec were used to produce

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light flashes. The retina was illuminated through 120 degrees. After 30 min of preliminary dark adaptation, a flash was administered when 10° of the center of the retina was shielded. After full recovery of light sensitivity (60 min), the second flash was administered with no shielding. The effect of shielding was studied by comparing dark adaptation curves after both flashes. In all, 35 tests were conducted on 7 subjects.

When the center of the retina was shielded, light sensitivity developed more rapidly. A statistically reliable difference between the dark adaptation curves was noted from the 30th sec to the 20th min, the greatest values obtained (0.36--0.42 logarithmic units of sensitivity) during 6th to 12th minute. Starting with the 25th min of dark adaptation, there was no essential difference between the continued slope of the curves. It is noteworthy that there was a difference between the form of adaptation curves between the 6th and the 12th minute. The curve obtained when the center of the retina was shielded was far less pronounced, which indicated accelerated recovery of rod function compared to conditions with shielding.

L 08834-67

ACC NR: AT6036687

It was concluded that after exposure to brief, intense light flashes, the center of the retina has an inhibitory effect on the recovery of light sensitivity in its periphery. If Lebedinskiy's concept concerning the influence of the CNS on afferent systems of the eye is correct, it can be assumed that processes which originate in the visual centers of the CNS participate in the mechanisms of de-adaptation induced by light flashes. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

ACC NR: AT6036655 SOURCE CODE: UR/0000/66/000/000/0282/0283

AUTHOR: Mozzhukhin, A. S.; Kuznetsov, V. I.; Kushakovskaya, M. S.; Makhalova, O.K; Goryachev, I. A.; Solntsev, S. A.; Shostak, V. I.; Kudrin, I. D.

ORG: none

TITLE: Effect of radioprotective drugs on the functional condition of the human organism [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 282-283

TOPIC TAGS: radiation protection, space pharmacology, cosmic radiation biologic effect, human physiology, space medicine, motion sickness

ABSTRACT:

The effect of cystamine on the functional condition of the human organism was studied (on the the basis of the hypothesis of A. V. Lebedinskiy). Five hundred heathy volunteers were used. The maximum permissible dose of cystamine was established as a dose of 1.2 [units not given] per single application, or 0.8 units every 6 hr for 24 hr, or 0.6—0.8 units once a day for a month. Administration of cystamine in the doses indicated did not cause any significant changes in work capacity, hematopoiesis, or in cardiovascu-

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ACC NR: AT6036655

lar, respiratory, digestive, excretory, or nervous system function. However, administration of cystamine did lead to complaints of lethargy and brief unpleasant sensations in the epigastrium in 10% of the cases. After administration of the drug some increase in sensitivity to motion sickness and to the effect of high temperatures was noted among subjects.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

SOURCE CODE: UR/3245/66/000/002/0111/0119

ACC NR: AT7004479

AUTHORS: Volkov, A. A.; Shostak, V. F.

ORG: Kharkov Institute of Mining Machinery Construction, Automatic Control, and Computer Technology (Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki)

TITLE: Extremum control method of burning processes (air-fuel ratio) in heating large boiler-turbine installations

SOURCE: Kharkov. Institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki. Pribory i sistemy avtomatiki, no. 2, 1966. Promyshlennaya telemekhanika (Industrial telemechanics), 111-119

TOPIC TAGS: combustion control, automatic control theory, power generating station, photoelectric pyrometer / FS-Al photoelectric pyrometer

ABSTRACT: The control of fuel-air ratios for optimum combustion efficiency of large boiler-turbine installations requires a reliable and instantaneous indication of the combustion efficiency. The extremum method of fuel-air ratio control proposed here uses the flame temperature (radiation sensors) as a combustion efficiency indicator (since it has been found that the highest flame temperature corresponds to the optimum fuel-air ratio). The proposed method employs a synchronous detection technique which uses the average values and standard deviations of the combustion parameters as inputs

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ACC NR: AT7004479

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001549910016-5

and which determines the gradients $\frac{\partial E}{\partial \alpha}$ (where E is energy released, α is the fuel-air ratio) for each burner. This is then used to calculate appropriate changes in fuel-air ratio. Schematic block diagrams of the control functions are presented, and the mathematics of the synchronous detection technique are discussed. It is concluded that the proposed control method can be mechanized with existing technology, since radiation temperature sensors (FS-Al for example), interference filters, and calculation elements required for the synchronous detection technique (multipliers and filters) are well developed at the present time. Orig. art. has: 5 figures and 6 formulas.

SUB CODE: 21, 13/ SUBM DATE: none / ORIG REF: 010/ OTH REF: 001

Card 2/2

SHOSTAKOVICH, B. V.

"Method of Centering Steam-Driven Turbines," Moscow, 1950.
bk.,

SHOSTAKOVICH, B. V. AND P. M. RAFALOVICH.

Tekhnologiia proizvodstva turbomashin. Moskva, Mashgiz, 1950. 162 p. illus.

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Technology of turbine production.

DLC:

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953

PAVLOV, B.I.; SHUVALOV, G.I.; SHOSTAKOVICH, B.V., redaktor; PERMINOV, S.V., ved. redaktor; SOKOLOVA, Ye.V., tekhnicheskiy redaktor.

[Experience in the use of gas turbines in petroleum refineries] Opyt ekspluatatsii gazoturbinnykh ustanovok na neftepererabatyvaiyshchikh zavodakh. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1952. 207 p. [Microfilm](MLRA 7:8)
(Gas turbines) (Petroleum--Refining)

EL'TSUFIN, Mikhail Abramovich; PILITSYN, Aleksey Pavlovich; STEPANOV, I.M., inzh., retsenzent; SHOSTAKOVICH, B.V., kand.tekhn.nauk, red.; VASIL'YEVA, V.P., red.izd-va; SHCHETININA, L.V., tekhn.red.

[Installation, adjustment, and repair of turbocompressor and turbogenerator systems] Montazh, naladka i remont turbokompressornykh i turbogeneratornykh ustanovok. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 407 p. (MIRA 14:3)

(Turbogenerators) (Compressors)

SHOSTAKOVICH, B.V., kand.tekhn.nauk; YAROVSKIY, A.Ye., inzh.;
KANTOR, Z.I., inzh.; GOLIKOV, V.S., inzh.

Certain results of the modernization of the VK-50-1LMZ turbine.
Energomashinostroenie 7 no.7:9-12 Jl '61. (MIRA 14:8)
(Turbines)

SHOSTAKOVICH, B.V.; MUDRYKH, G.Ya.

Types and basic parameters of steam turbines. Standartizatsiia 25 no.12:20-23 D '61. (MIRA 14:11)
(Steam turbines--Standards)

SHOSTAKOVICH, B.V.

Difficulties in the forensic psychiatric evaluation of the affective reactions of psychopaths. Prak.sudebnopsikh.ekspert. no.4:25-31 '61. (MIRA 16:2)

(FORENSIC PSYCHIATRY) (PSYCHOLOGY, PATHOLOGICAL)

SHOSTAKOVICH, B.V.

Forensic-psychiatric evaluation of some variants of grandiose ideas. Prak.sudebnopsikh.ekspert. no.6:30-35 '62.
(MIRA 16:2)

(FORENSIC PSYCHIATRY) (PERSONALITY, DISORDERS OF)

SHOSTAKOVICH, B.V.

Relation of some characteristics of the dynamics of psychopathies of the irritable type to the situation. Probl. obshchei i sud. psikh. no.14:149-158 '63. (MIRA 18:9)

PALEY, V.A., inch.; BHOSTAKOVICH, B.V., kand. tekhn. nauk

Study of the heat buckling of a high-temperature cylinder.
Energomashinostroenie 11 no.4:44 Ap '65. (MIRA 18:6)

SVIRINOVSKIY, Ya.Ye.; SHOSTAKOVICH, B.V.

Compulsory treatment as one of the methods of preventin the actions of socially dangerous insane persons. Sud.-med.ekspert. 2 no.3:47-49 Jl-S '59. (MIRA 13:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut sudebnoy psikhiatrii imeni prof. Serbskogo (dir. - dotsent G.V. Morozov).
(MENTALLY ILL--CARE AND TREATMENT)

KISELEV, A.S.; MELIK-MKRTYCHYAN, V.A.; SVIRINOVSKIY, Ya.Ye.; SHOSTAKOVICH, B.V.

Analysis of the repeated actions of mental patients which are dangerous to society. Trudy Gos.nauch.-issl.inst.psikh. 27:383-388 '61. (MIRA 15:10)

1. TSentral'nyy nauchno-issledovatel'skiy institut sudebnoy psikhiatrii imeni V.P.Serbskogo. Dir. - dotsent G.V.Morozov. Nauchnyy rukovoditel' - dotsent G.V.Morozov.
(MENTALLY ILL) (FORENSIC PSYCHIATRY)

SHOSTAKOVICH, D.; CHULAKI, M.; PEYKO, N.; BOGOSLOVSKIY, Nikita; VOLKONSKIY, A.; ANDREYEV, N., akademik; SKRYABINA, A.N.; SHABORKINA, A.

More discussion on the photoelectronic music synthesizer. Znan.sila 35 no. 11:28 N '60. (MIRA 13:12)
(Electroacoustics)

SHOSTAKOVICH, S. V.

Dissertation defended for the degree of Doctor of Historical Sciences in the Institute of History 1962.

"Diplomatic Activity of A. S. Griboyedov."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

SHOSTAKOVICH, V.V.

Elimination of schizophrenia [with summary in French]. Zhur.nevr.i psikh. 57 no.9:1106-1111 '57. (MIRA 10:11)

1. Psikhiatricheskiy otdel (zav. - prof. V.V.Shostakovich) Ukrainskogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta, Khar'kov.
(SCHIZOPHRENIA, prevention and control, (Rus))

SHOSTAKOVICH, V.V.

Letter to the editor. Zhur. nevr. i psikh 58 no.12:1522-1523 '58.
(SCHIZOPHRENIA) (MIRA 12:1)

SHOSTAKOVICH, V.V.

"Textbook of psychiatry" by O.V. Kerbikov and others. Reviewed by V.V. Shostakovich. Zhur. nevr. i psikh 59 no.3:364-369 '59. (MIRA 12:4)
(PSYCHIATRY) (KERBIKOV, O.V.)

SHOSTAKOVSKAYA, I.V. [Shostakovs'ka, I.V.]

Effect of the "transformation" of conditioned stimuli on the external secretion of the pancreas. Fiziol.zhur.Ukr. 6 no.4: 519-525 Jl-Ag '60. (MIRA 13:7)

1. Kafedra normal'noy fiziologii L'vovskogo meditsinskogo instituta.
(PANCREAS--SECRETIONS) (CONDITIONED RESPONSE)

S/858/62/000/001/005/013
D296/D307

AUTHOR: Shostakovskaya, I. V.

TITLE: The excretion of radioactive phosphorus in the pancreatic juice, after varying degrees of stimulation by ingestion of carbohydrates

SOURCE: L'vov. Universytet. Problemna lyaboratoriya radiobiolohiyi. Biologicheskoye deystviye radiatsii, no. 1, 1962, 35-42

TEXT: Earlier investigations had shown that various glands of the alimentary tract excrete P^{32} according to a characteristic pattern. 15 - 20 secs after intravenous injection, P^{32} appears almost simultaneously in the salivary glands, the gastric juice and the pancreatic juice. It is present, however, for much longer in the secretion of the parotid gland than in that of the submaxillary gland. P^{32} can still be found in the bile a long time after it has

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D296/D307

The excretion of ...

disappeared from the blood. Earlier findings concerning the pancreatic juice, however, were based on acute experiments only, i.e. the pattern of secretion could not be correlated to the differing functional states of the pancreas. The author used 2 dogs, each with chronic pancreatic fistulae. 5 minutes before the actual experiment, a solution of P^{32} was administered by subcutaneous injection, in doses of 5, 10, 15 and 25 μc per kg weight respectively. In the control experiment the dogs received a single 200 g portion of white bread, and in the actual experiments the pancreas was brought into a state of functional stress, by feeding the dogs with 60 g white bread at hourly intervals for 10 hours on 3 consecutive days, giving an additional portion of 200 g on the morning after the experiment. The pancreatic juice was desiccated and its radioactivity, and that of blood, were estimated. P^{32} appeared in the pancreatic juice within 5 minutes after subcutaneous injection. In the control series the activity increased for 3 - 4 hrs, and remained at the maximum level reached. In case of larger doses of P^{32} (10 μc per kg and over) the level continued to increase in

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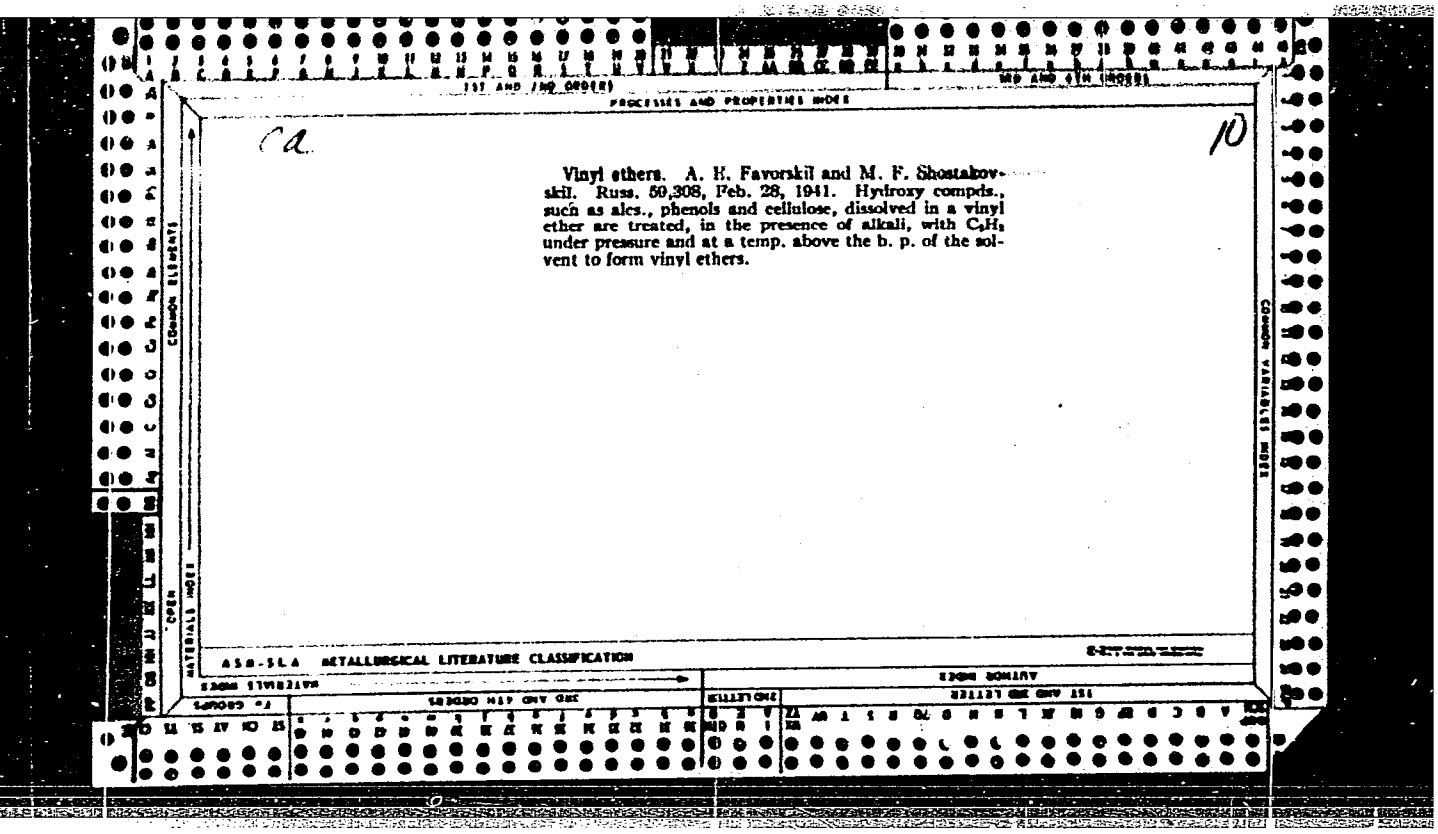
The excretion of ...

an irregular manner. In this group, the activity was higher on the morning after the experiment than on the evening of the experimental day, a fact which in the author's opinion shows that physiological rest increases the secretory capacity of the gland. In the actual experiments the exhaustion of the gland led to a gradual decrease in the radioactivity of the juice. In the case of very large doses (25 μc per kg) the pancreatic juice had, 75 hours after the beginning of the experiment, a higher activity than the blood, indicating that the gland is capable of removing P^{32} from the blood and of storing it. There is 1 table and 2 figures.

ASSOCIATION: Kafedra fiziologii cheloveka i zhivotnykh L'vovskogo universiteta (Department of Human and Animal Physiology, L'vov University)

Card 3/3



Ca 10

Vinyl ethers. A. E. Favorskiĭ and M. F. Shostakovskiĭ. Russ. 59,308, Feb. 28, 1941. Hydroxy compds., such as alcs., phenols and cellulose, dissolved in a vinyl ether are treated, in the presence of alkali, with C_2H_2 under pressure and at a temp. above the b. p. of the solvent to form vinyl ethers.

SHOSTAKOVSKY, M. F.

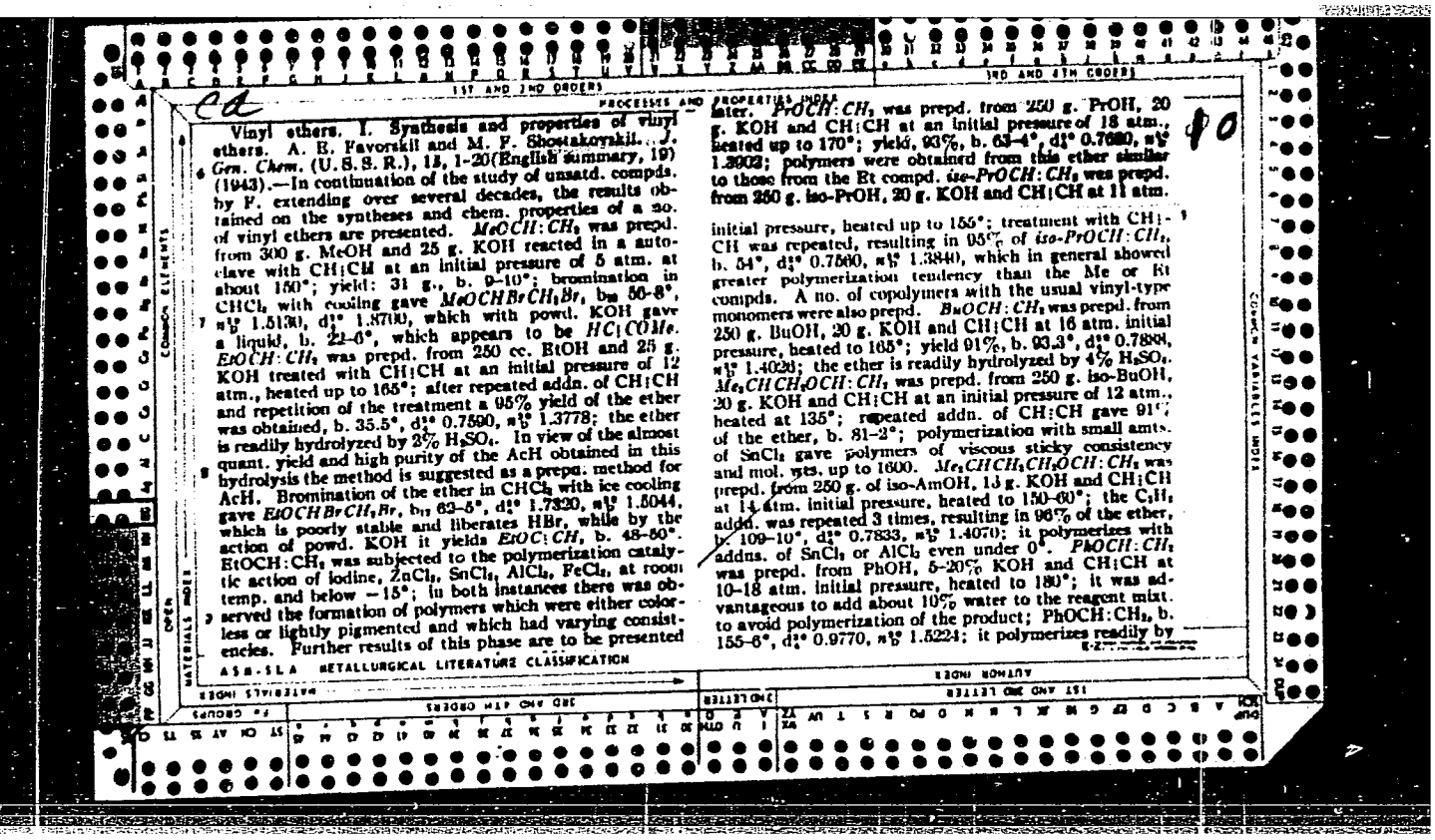
"Solubility of Ethylene Bromide at Various Temperatures. I." Shostakovsky, M. F., and Druzhinin, I. G. (p. 46)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 1-2.

SHOSTAKOVSKY, M. F.

"Solubility of Ethylene Bromide at 35° in the Presence of Sodium and Magnesium Chlorides and Sulphates. II." Druzhinin, I. G., and Shostakovsky, M. F. (54)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1942, Vol 12, No 1-2.



Vinyl ethers. I. Synthesis and properties of vinyl ethers. A. E. Favorskiĭ and M. F. Shostakovskiĭ. *J. Gen. Chem.* (U. S. S. R.), 13, 1-20(English summary, 19) (1943).—In continuation of the study of unsatd. compds. by F. extending over several decades, the results obtained on the syntheses and chem. properties of a no. of vinyl ethers are presented. *MeOCH:CH₂* was prepd. from 300 g. MeOH and 25 g. KOH reacted in a autoclave with CH:CH at an initial pressure of 5 atm. at about 150°; yield: 31 g., b. 9–10°; bromination in $CHCl_3$ with cooling gave *MeOCHBrCH₂Br*, b_{20} 56–8°, n_D^{20} 1.5130, d_4^{20} 1.8700, which with powd. KOH gave a liquid, b. 22–6°, which appears to be *HC:COMe*. *EtOCH:CH₂* was prepd. from 250 cc. EtOH and 25 g. KOH treated with CH:CH at an initial pressure of 12 atm., heated up to 165°; after repeated addn. of CH:CH and repetition of the treatment a 95% yield of the ether was obtained, b. 35.5°, d_4^{20} 0.7590, n_D^{20} 1.3778; the ether is readily hydrolyzed by 2% H_2SO_4. In view of the almost quant. yield and high purity of the AcH obtained in this hydrolysis the method is suggested as a prepn. method for AcH. Bromination of the ether in $CHCl_3$ with ice cooling gave *EtOCHBrCH₂Br*, b_{11} 62–5°, d_4^{20} 1.7320, n_D^{20} 1.5044, which is poorly stable and liberates HBr, while by the action of powd. KOH it yields *EtOC:CH*, b. 48–50°. EtOCH:CH_2 was subjected to the polymerization catalytic action of iodine, $ZnCl_2$, $SnCl_4$, $AlCl_3$, $FeCl_3$, at room temp. and below −15°; in both instances there was observed the formation of polymers which were either colorless or lightly pigmented and which had varying consistencies. Further results of this phase are to be presented later. *PrOCH:CH₂* was prepd. from 250 g. PrOH, 20 g. KOH and CH:CH at an initial pressure of 18 atm., heated up to 170°; yield, 93%, b. 63–4°, d_4^{20} 0.7680, n_D^{20} 1.3902; polymers were obtained from this ether similar to those from the Et compd. *iso-PrOCH:CH₂* was prepd. from 250 g. iso-PrOH, 20 g. KOH and CH:CH at 11 atm. initial pressure, heated up to 155°; treatment with CH:CH was repeated, resulting in 95% of *iso-PrOCH:CH₂*, b. 54°, d_4^{20} 0.7660, n_D^{20} 1.3840, which in general showed greater polymerization tendency than the Me or Et compds. A no. of copolymers with the usual vinyl-type monomers were also prepd. *BuOCH:CH₂* was prepd. from 250 g. BuOH, 20 g. KOH and CH:CH at 16 atm. initial pressure, heated to 165°; yield 91%, b. 93.3°, d_4^{20} 0.7898, n_D^{20} 1.4020; the ether is readily hydrolyzed by 4% H_2SO_4. *Me₂CHCH₂OCH:CH₂* was prepd. from 250 g. iso-BuOH, 20 g. KOH and CH:CH at an initial pressure of 12 atm., heated at 135°; repeated addn. of CH:CH gave 91% of the ether, b. 81–2°; polymerization with small amts. of $SnCl_4$ gave polymers of viscous sticky consistency and mol. wts. up to 1600. *Me₂CHCH₂CH₂OCH:CH₂* was prepd. from 250 g. of iso-AmOH, 13 g. KOH and CH:CH at 14 atm. initial pressure, heated to 150–60°; the C_5H_{11} addn. was repeated 3 times, resulting in 96% of the ether, b. 109–10°, d_4^{20} 0.7833, n_D^{20} 1.4070; it polymerizes with addns. of $SnCl_4$ or $AlCl_3$ even under 0°. *PhOCH:CH₂* was prepd. from PhOH, 5–20% KOH and CH:CH at 10–18 atm. initial pressure, heated to 180°; it was advantageous to add about 10% water to the reagent mixt. to avoid polymerization of the product; PhOCH:CH_2, b. 155–6°, d_4^{20} 0.9770, n_D^{20} 1.5224; it polymerizes readily by

SHOSTAKOVSKII, M. F.

POLIMERIZATION OF VINYL ETHERS. VINYL ISOBUTYL ETHER

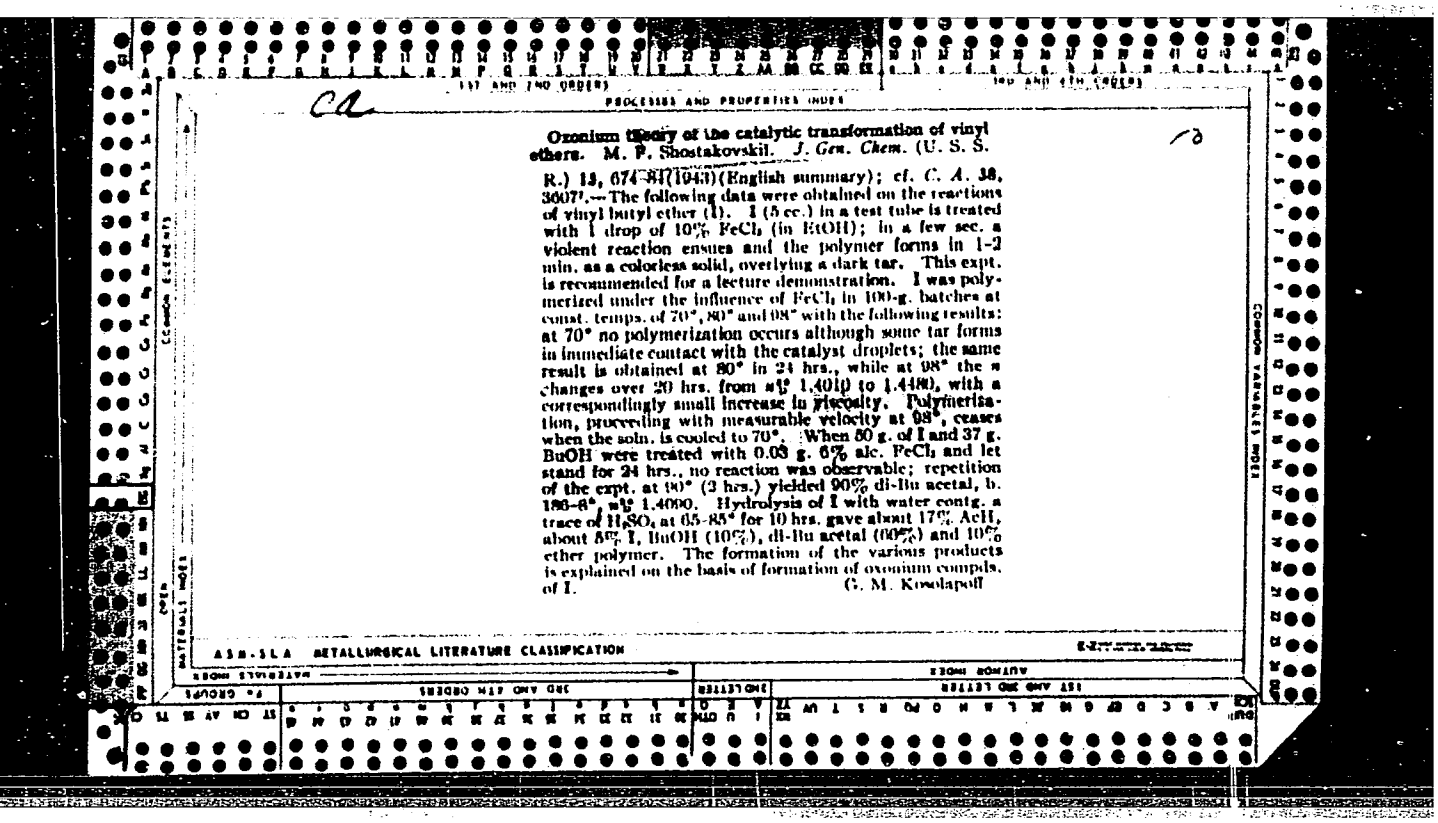
M. F. Shostakovskiĭ and E. P. Sidel'kovskaya. *J. Gen. Chem.* (U. S. S. R.) 13, 428–35(1943)(English summary); cf. *C. A.* 37, 2486[1].—Pure vinyl isobutyl ether, *b* 82–2.5°, d_4^{20} 0.7693, n_D^{20} 1.3060, was polymerized with BF_3Et_2O, $SnCl_4$, $SnCl_2$, $FeCl_3$, $ZnCl_2$, $AlCl_3$ and I as catalysts. $SnCl_2$ appeared to be the only substance tried which gave controllable polymerization. The ether (100 g.) was treated with 0.2% $SnCl_2$, cooled to −17° for 3–4 hrs., then allowed to warm up; polymerization became apparent with observable heat evolution; the products were freed of starting material by heating to 120–5° at 14–20 mm., or drying *in vacuo* over $CaCl_2$ and H_2SO_4. The av. polymer yield was 95%, n_D 1.4520, Br no. 5.28. The polymer is sol. in benzene, CCl_4, Me_2CO; insol. in MeOH, EtOH and water; av. mol. wt. = 2000. By means of fractional pptn. from benzene soln. by MeOH, the crude polymer was sepd. into some 6 fractions, with mol. wt. range of 4710 to 1181; i. e., the highest polymer averaged 47 monomer units. Oxidation of the polymer by HNO$_3$ yielded $(CO_2H)_2$; hydrolysis by Na in iso-BuOH yielded polyvinyl alc. Attempted hydrolyses by HCl or H_2SO_4 failed.

G. M. Kosolapoff

SHOSTAKOVSKY, M. F.

"Studies in the Field of Polymerisation of Vinyl Ethers. Vinyl-iso-Butyl Ether." Shostakovsky, M. F. and Sidelkovskaya, F. P. (p. 435)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1943, Volume 13, no. 6.



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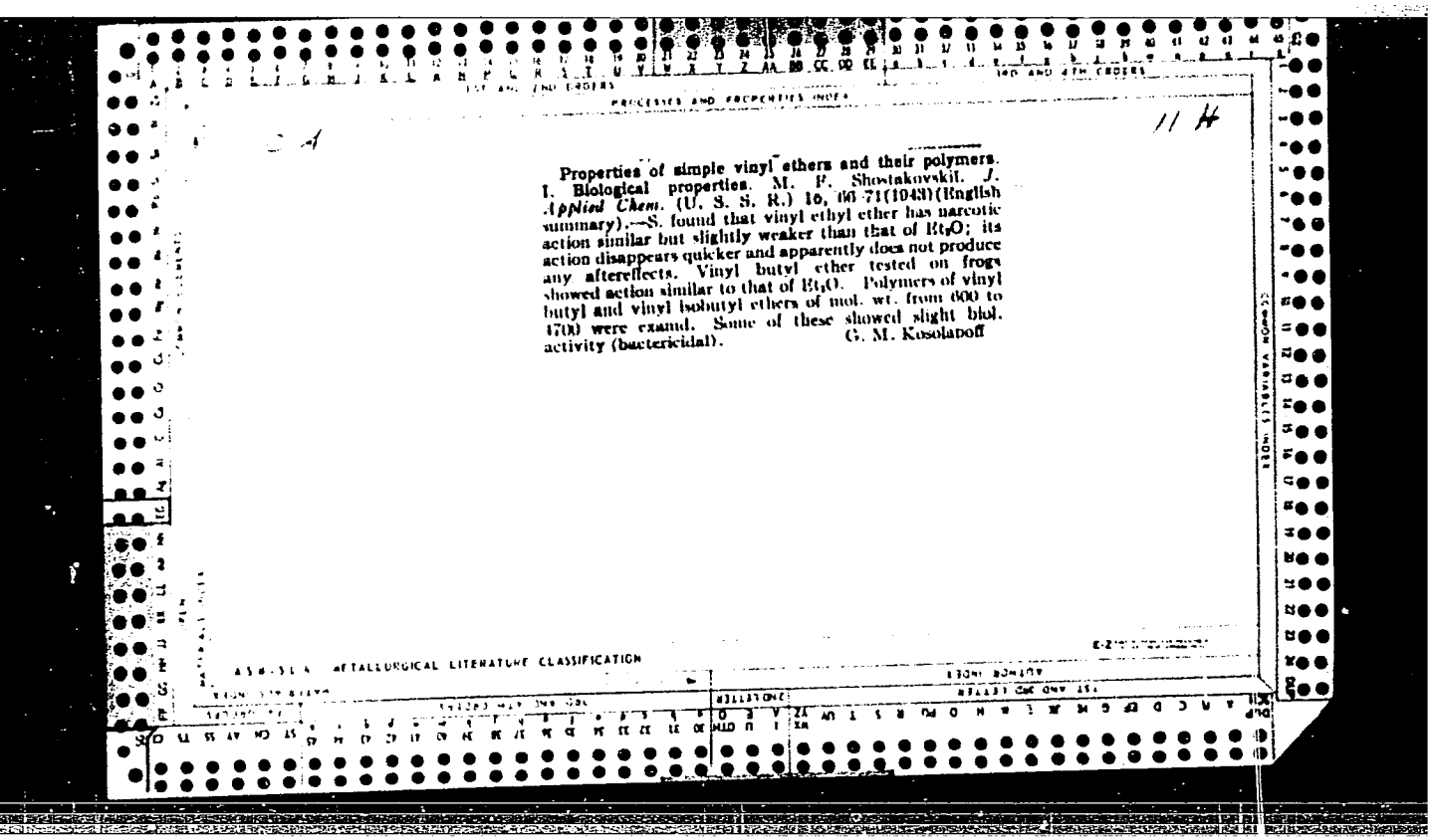
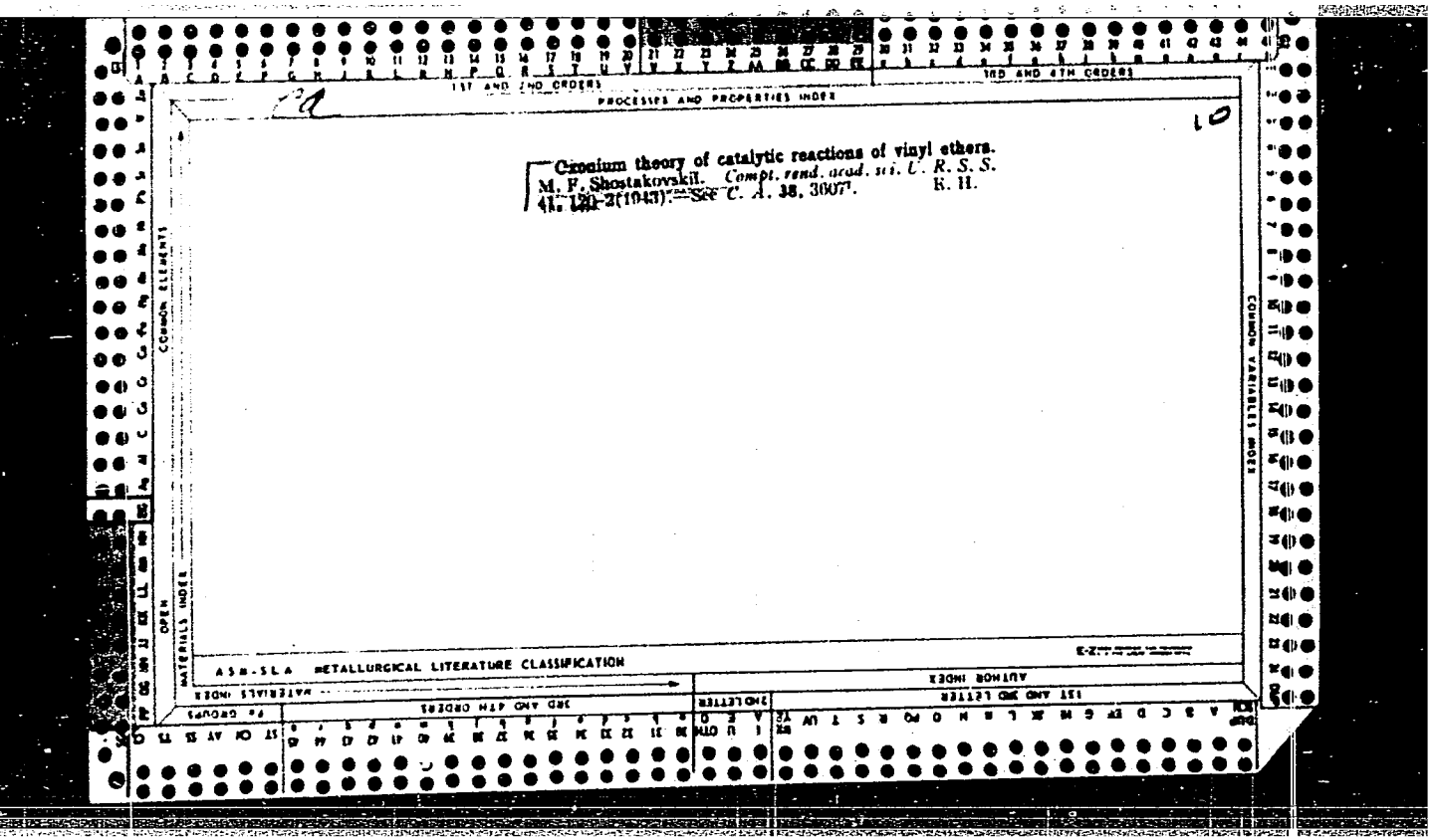
PROCESSES AND PROPERTIES INDEX

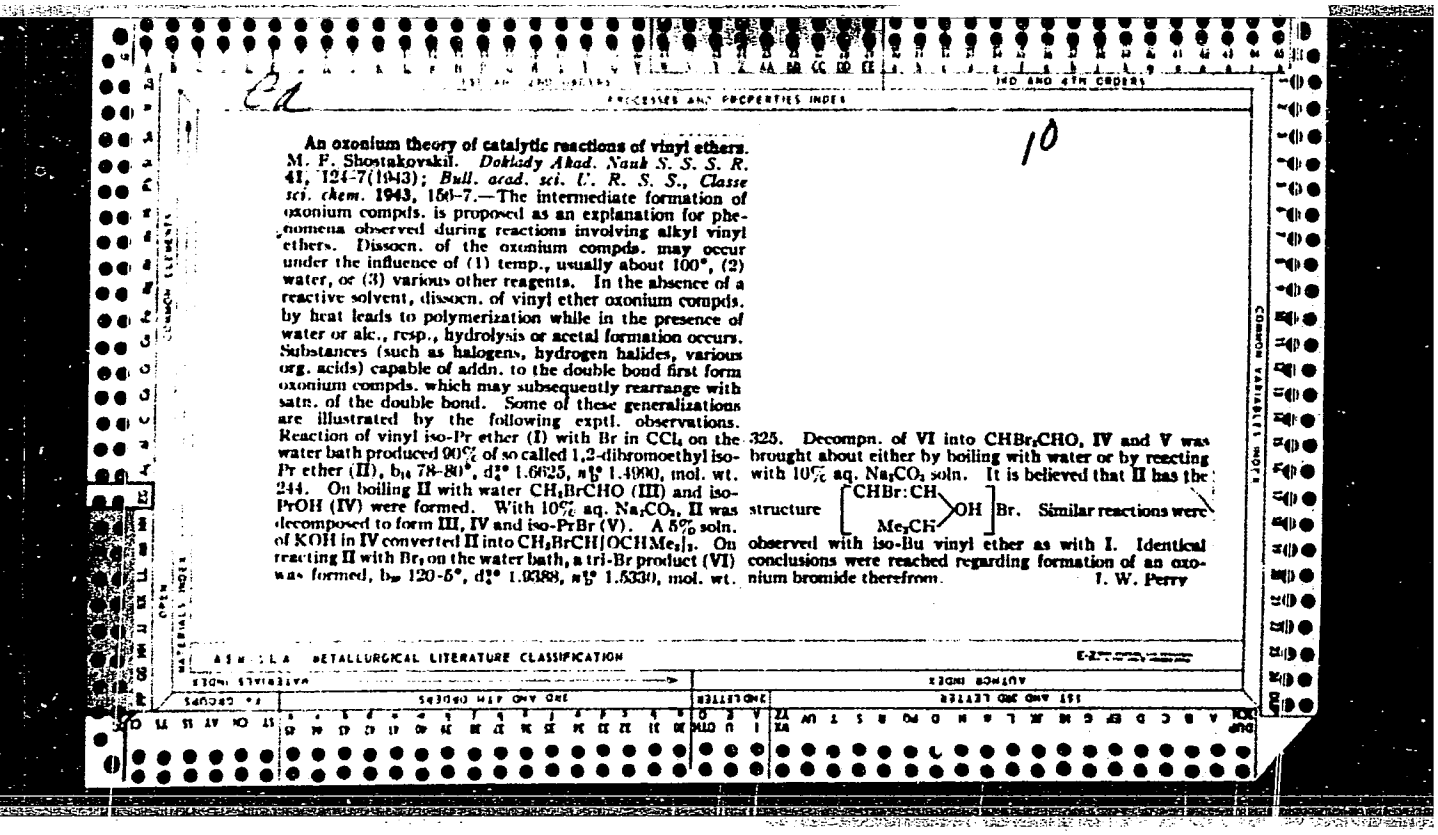
Oxonium theory of the catalytic transformation of vinyl ethers. M. F. Shostakovskii. *J. Gen. Chem.* (U. S. S. R.) **13**, 674–81(1943)(English summary); *cf. C. A.* **38**, 3607⁷.—The following data were obtained on the reactions of vinyl butyl ether (I). I (5 cc.) in a test tube is treated with 1 drop of 10% $FeCl_3$ (in EtOH); in a few sec. a violent reaction ensues and the polymer forms in 1–2 min. as a colorless solid, overlying a dark tar. This expt. is recommended for a lecture demonstration. I was polymerized under the influence of $FeCl_3$ in 100-g. batches at const. temps. of 70°, 80° and 98° with the following results: at 70° no polymerization occurs although some tar forms in immediate contact with the catalyst droplets; the same result is obtained at 80° in 24 hrs., while at 98° the n_D^{20} changes over 20 hrs. from 1.4010 to 1.4480, with a correspondingly small increase in viscosity. Polymerization, proceeding with measurable velocity at 98°, ceases when the soln. is cooled to 70°. When 50 g. of I and 37 g. BuOH were treated with 0.03 g. 6% alc. $FeCl_3$ and let stand for 24 hrs., no reaction was observable; repetition of the expt. at 80° (3 hrs.) yielded 90% di-Bu acetal, b. 186–8°, n_D^{20} 1.4090. Hydrolysis of I with water contg. a trace of H_2SO_4 at 65–85° for 10 hrs. gave about 17% AcH, about 8% I, BuOH (10%), di-Bu acetal (60%) and 10% ether polymer. The formation of the various products is explained on the basis of formation of oxonium compds. of I. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

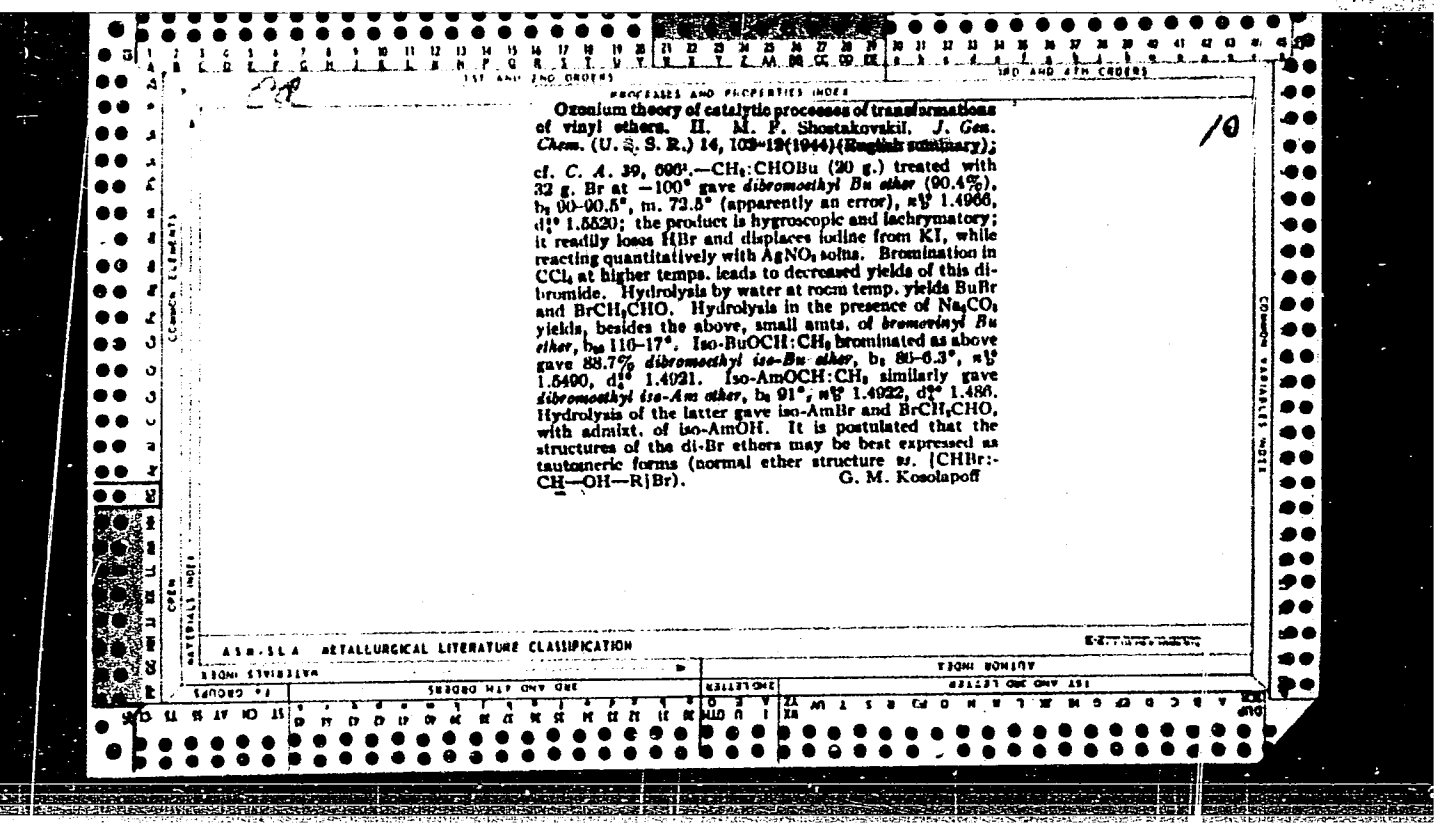


Properties of simple vinyl ethers and their polymers. I. Biological properties. M. F. Shostakovskii. *J. Applied Chem.* (U. S. S. R.) 16, 66-71(1943)(English summary).—S. found that vinyl ethyl ether has narcotic action similar but slightly weaker than that of Et_2O; its action disappears quicker and apparently does not produce any aftereffects. Vinyl butyl ether tested on frogs showed action similar to that of Et_2O. Polymers of vinyl butyl and vinyl isobutyl ethers of mol. wt. from 600 to 4700 were exaind. Some of these showed slight biol. activity (bactericidal). G. M. Kosolapoff





An oxonium theory of catalytic reactions of vinyl ethers. M. F. Shostakovskiĭ. *Doklady Akad. Nauk S. S. S. R.* 41, 124-7(1943); *Bull. acad. sci. U. R. S. S., Classe sci. chem.* 1943, 150-7.—The intermediate formation of oxonium compds. is proposed as an explanation for phenomena observed during reactions involving alkyl vinyl ethers. Dissocn. of the oxonium compds. may occur under the influence of (1) temp., usually about 100°, (2) water, or (3) various other reagents. In the absence of a reactive solvent, dissocn. of vinyl ether oxonium compds. by heat leads to polymerization while in the presence of water or alc., resp., hydrolysis or acetal formation occurs. Substances (such as halogens, hydrogen halides, various org. acids) capable of addn. to the double bond first form oxonium compds. which may subsequently rearrange with satn. of the double bond. Some of these generalizations are illustrated by the following exptl. observations. Reaction of vinyl iso-Pr ether (I) with Br in CCl_4 on the water bath produced 90% of so called 1,2-dibromoethyl iso-Pr ether (II), b_{16} 78-80°, d_4^{20} 1.6625, n_D^{20} 1.4900, mol. wt. 244. On boiling II with water CH_2BrCHO (III) and iso-PrOH (IV) were formed. With 10% aq. Na_2CO_3, II was decomposed to form III, IV and iso-PrBr (V). A 5% soln. of KOH in IV converted II into $CH_2BrCH(OCHMe_2)_2$. On reacting II with Br_2 on the water bath, a tri-Br product (VI) was formed, b_{20} 120-5°, d_4^{20} 1.9388, n_D^{20} 1.5330, mol. wt. 325. Decompn. of VI into $CHBr_2CHO$, IV and V was brought about either by boiling with water or by reacting with 10% aq. Na_2CO_3 soln. It is believed that II has the structure $\left[\begin{matrix}CHBr{:}CH\\ \diagdown\\ Me_2CH\end{matrix}\!\!>\!\!OH\right]Br$. Similar reactions were observed with iso-Bu vinyl ether as with I. Identical conclusions were reached regarding formation of an oxonium bromide therefrom. I. W. Perry



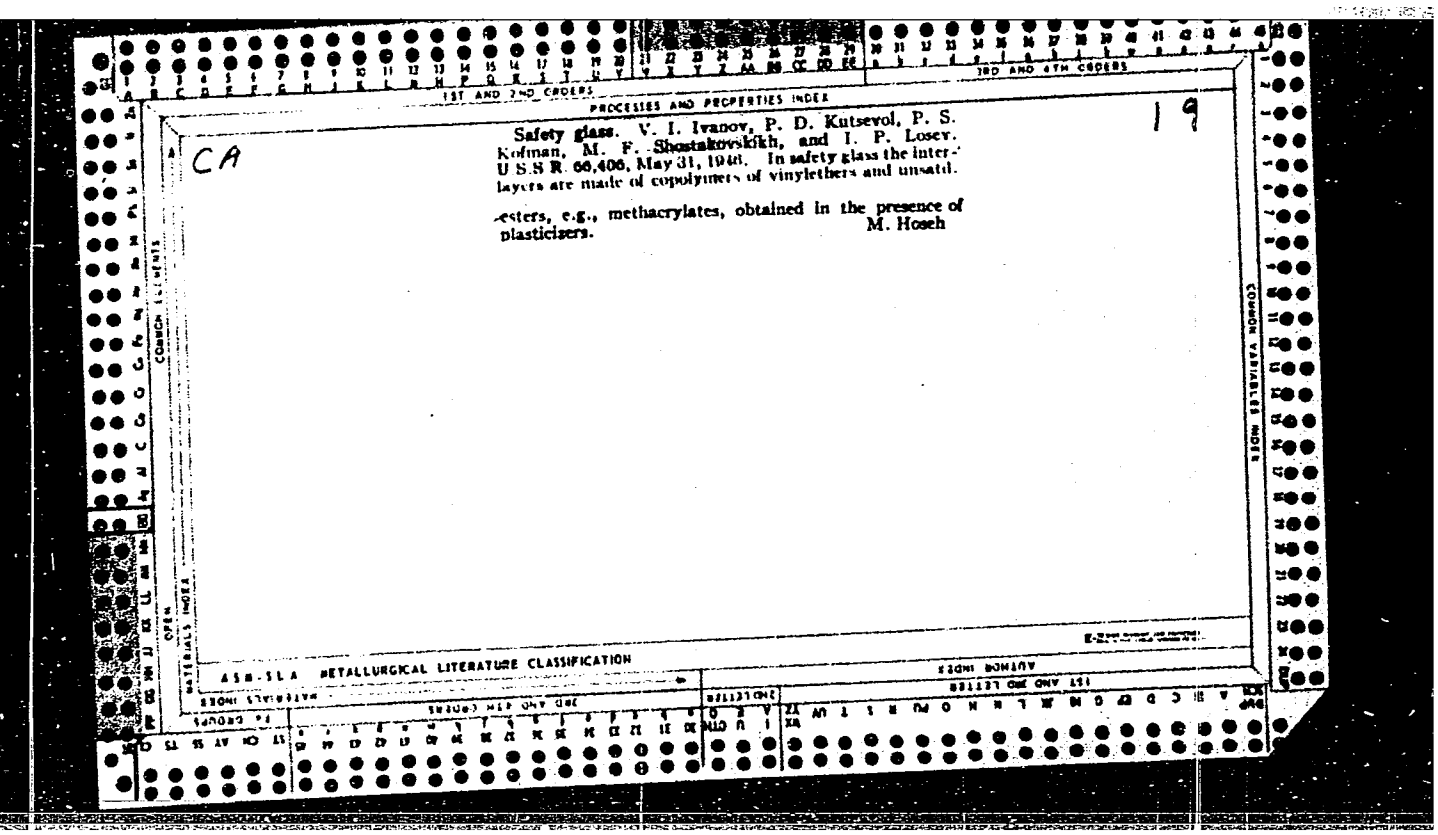
Oxonium theory of catalytic processes of transformations of vinyl ethers. II. M. F. Shostakovskii. *J. Gen. Chem.* (U. S. S. R.) 14, 103-12(1944)(English summary); cf. *C. A.* 39, 696⁴.—CH_2:CHOBu (20 g.) treated with 32 g. Br at −100° gave *dibromoethyl Bu ether* (90.4%), b_5 90–90.5°, m. 73.5° (apparently an error), n_D^{20} 1.4966, d_4^{20} 1.5520; the product is hygroscopic and lachrymatory; it readily loses HBr and displaces iodine from KI, while reacting quantitatively with $AgNO_3$ soln. Bromination in CCl_4 at higher temps. leads to decreased yields of this dibromide. Hydrolysis by water at room temp. yields BuBr and $BrCH_2CHO$. Hydrolysis in the presence of Na_2CO_3 yields, besides the above, small amts. of *bromovinyl Bu ether*, b_{20} 110–17°. Iso-BuOCH:CH_2 brominated as above gave 88.7% *dibromoethyl iso-Bu ether*, b_5 80–6.3°, n_D^{20} 1.5490, d_4^{20} 1.4921. Iso-AmOCH:CH_2 similarly gave *dibromoethyl iso-Am ether*, b_5 91°, n_D^{20} 1.4922, d_4^{20} 1.486. Hydrolysis of the latter gave iso-AmBr and $BrCH_2CHO$, with admixt. of iso-AmOH. It is postulated that the structures of the di-Br ethers may be best expressed as tautomeric forms (normal ether structure as. [CHBr:-CH—OH—R]Br).

G. M. Kosolapoff

SHOSTAKOVSKY, M. F.

"Polymerization of Monoalkyl- Vinyl ethers: of the Isobutyl and the Isoamyle Ethers." Lossev, I. P., Fedotova, O. J. and Shostakovsky, M. F. (p. 889)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 7-8.



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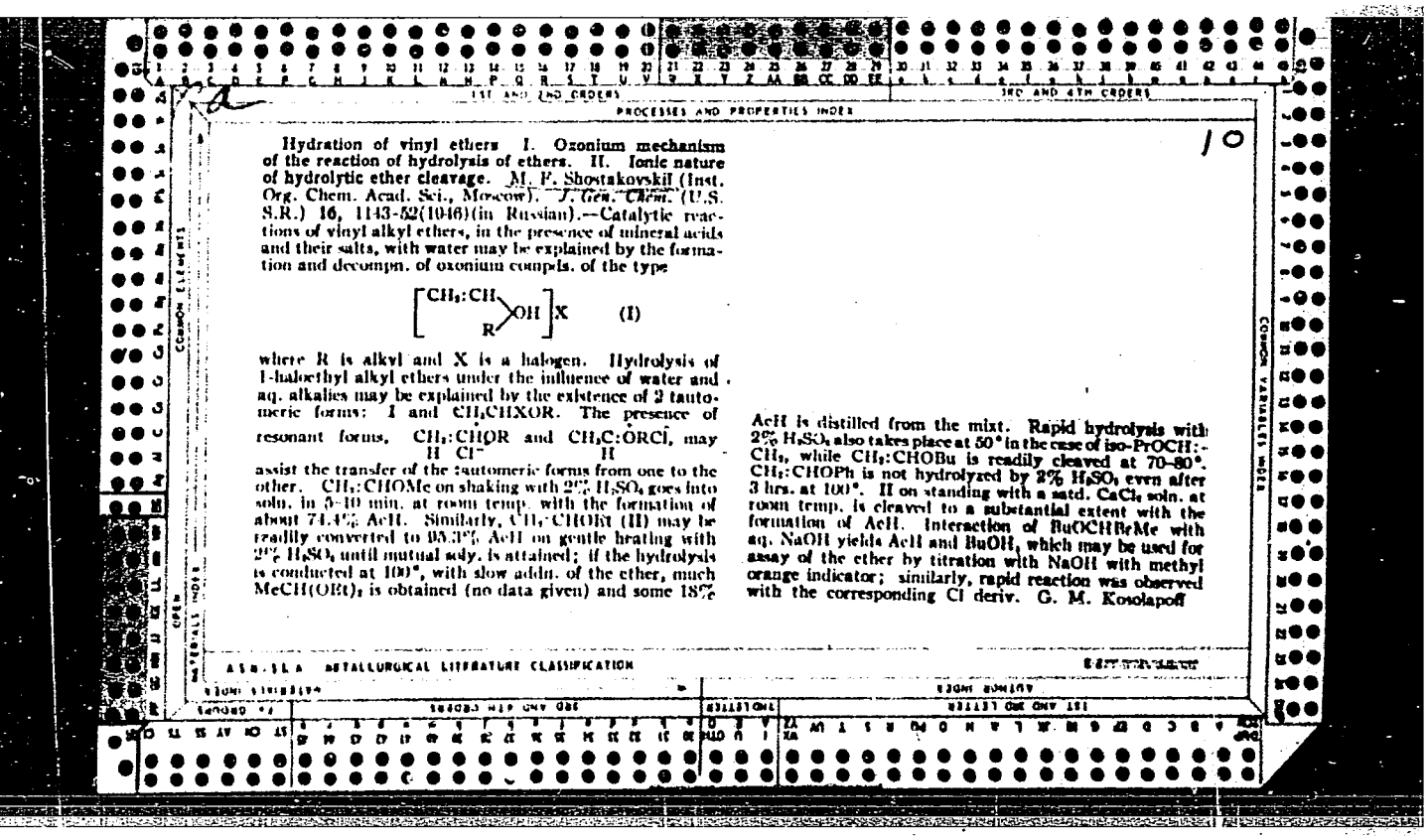
Safety glass. V. I. Ivanov, P. D. Kutsevol, P. S. Kofman, M. F. Shostakovskikh, and I. P. Losev. U.S.S.R. 66,406, May 31, 1946. In safety glass the interlayers are made of copolymers of vinylethers and unsatd. esters, e.g., methacrylates, obtained in the presence of plasticisers. M. Hoseh

[illegible], F.

"On the Transformation of Vinyl ethers the synthesis of Acetals on the base of Vinyl ethers. Part I. by L. F. Ghostikovsky and [illegible] A. Arshtein (p. 951)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1946, Volume 16, No. 6



PROCESSES AND PROPERTIES INDEX

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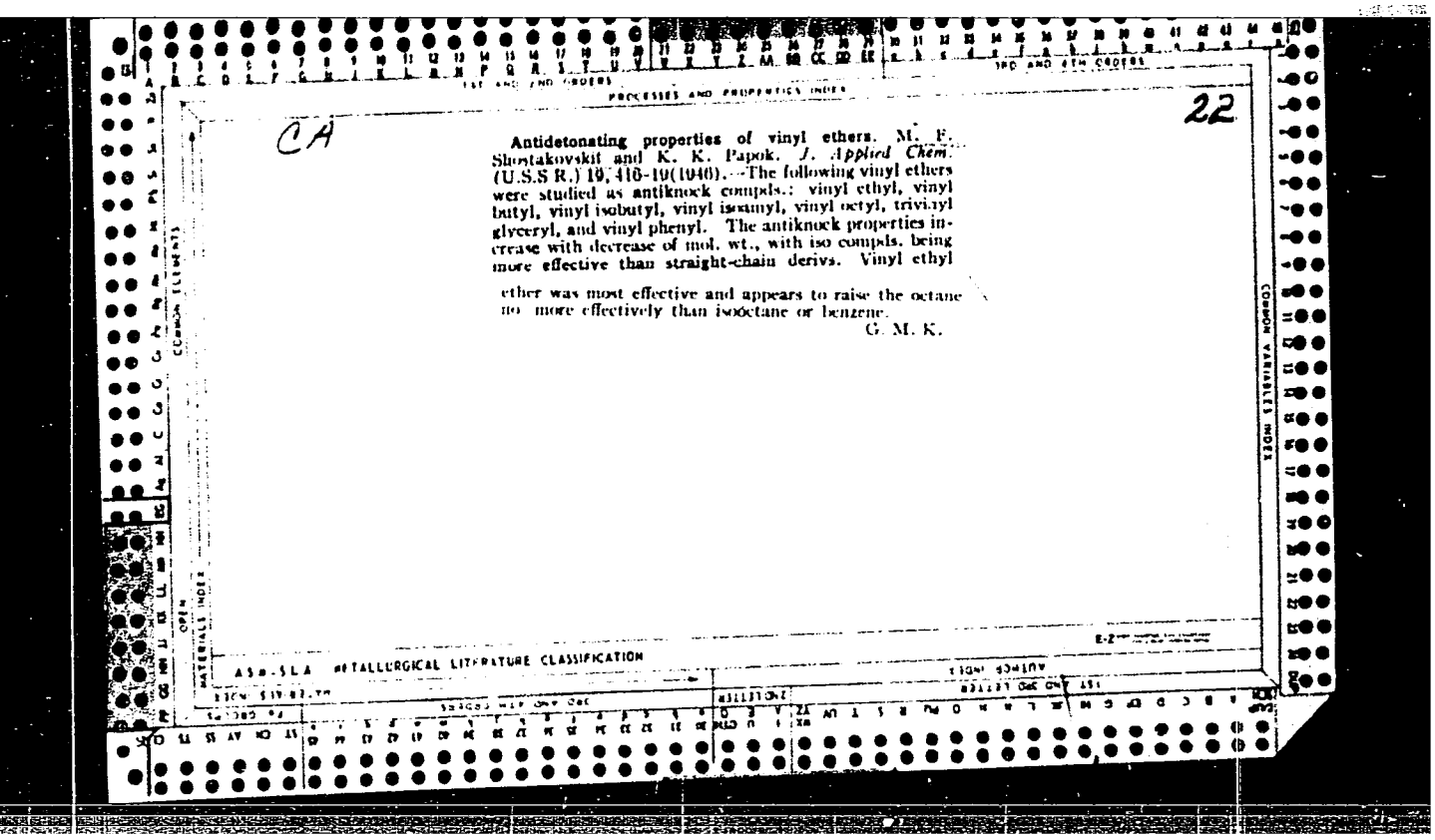
Hydration of vinyl ethers I. Oxonium mechanism of the reaction of hydrolysis of ethers. II. Ionic nature of hydrolytic ether cleavage. M. F. Shostakovskiĭ (Inst. Org. Chem. Acad. Sci., Moscow). *J. Gen. Chem.* (U.S.S.R.) 16, 1143-52(1946)(in Russian).—Catalytic reactions of vinyl alkyl ethers, in the presence of mineral acids and their salts, with water may be explained by the formation and decompn. of oxonium compds. of the type

$$\left[CH_2{:}CH\!\left(\begin{matrix}OH\\R\end{matrix}\right)\right]X \qquad (I)$$

where R is alkyl and X is a halogen. Hydrolysis of 1-haloethyl alkyl ethers under the influence of water and aq. alkalies may be explained by the existence of 2 tautomeric forms: I and CH_3CHXOR. The presence of resonant forms, $CH_2{:}CHOR$ and $CH_2C{:}OR\dot{C}l$, may (H Cl⁻ H) assist the transfer of the tautomeric forms from one to the other. $CH_2{:}CHOMe$ on shaking with 2% H_2SO_4 goes into soln. in 5–10 min. at room temp. with the formation of about 74.4% AcH. Similarly, $CH_2{:}CHOEt$ (II) may be readily converted to 93.3% AcH on gentle heating with 2% H_2SO_4 until mutual sdy. is attained; if the hydrolysis is conducted at 100°, with slow addn. of the ether, much $MeCH(OEt)_2$ is obtained (no data given) and some 18% AcH is distilled from the mixt. Rapid hydrolysis with 2% H_2SO_4 also takes place at 50° in the case of iso-PrOCH:CH_2, while $CH_2{:}CHOBu$ is readily cleaved at 70–80°. $CH_2{:}CHOPh$ is not hydrolyzed by 2% H_2SO_4 even after 3 hrs. at 100°. II on standing with a satd. $CaCl_2$ soln. at room temp. is cleaved to a substantial extent with the formation of AcH. Interaction of $BuOCHBrMe$ with aq. NaOH yields AcH and BuOH, which may be used for assay of the ether by titration with NaOH with methyl orange indicator; similarly, rapid reaction was observed with the corresponding Cl deriv. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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Antidetonating properties of vinyl ethers. M. F. Shostakovskiĭ and K. K. Papok. *J. Applied Chem.* (U.S.S.R.) 19, 416-19(1946).—The following vinyl ethers were studied as antiknock compds.: vinyl ethyl, vinyl butyl, vinyl isobutyl, vinyl isoamyl, vinyl octyl, trivinyl glyceryl, and vinyl phenyl. The antiknock properties increase with decrease of mol. wt., with iso compds. being more effective than straight-chain derivs. Vinyl ethyl ether was most effective and appears to raise the octane no more effectively than isooctane or benzene.

G. M. K.

SHOSTAKOVSKY, M. F. PA 8T9

USSR/Spectra, Vinyl Alkyl Ethers Feb 1947
Chemistry - Ethers

"The Combination Scattering of Light Spectra of Vinyl Alkyl Ethers," M. I. Batuev, E. N. Prilejaeva, M. F. Shostakovsky, 14 pp

"Izv Ak Nauk Khim" No 2

8T9

SHOSTAKOVSKIY, M. F.

PA 15T88

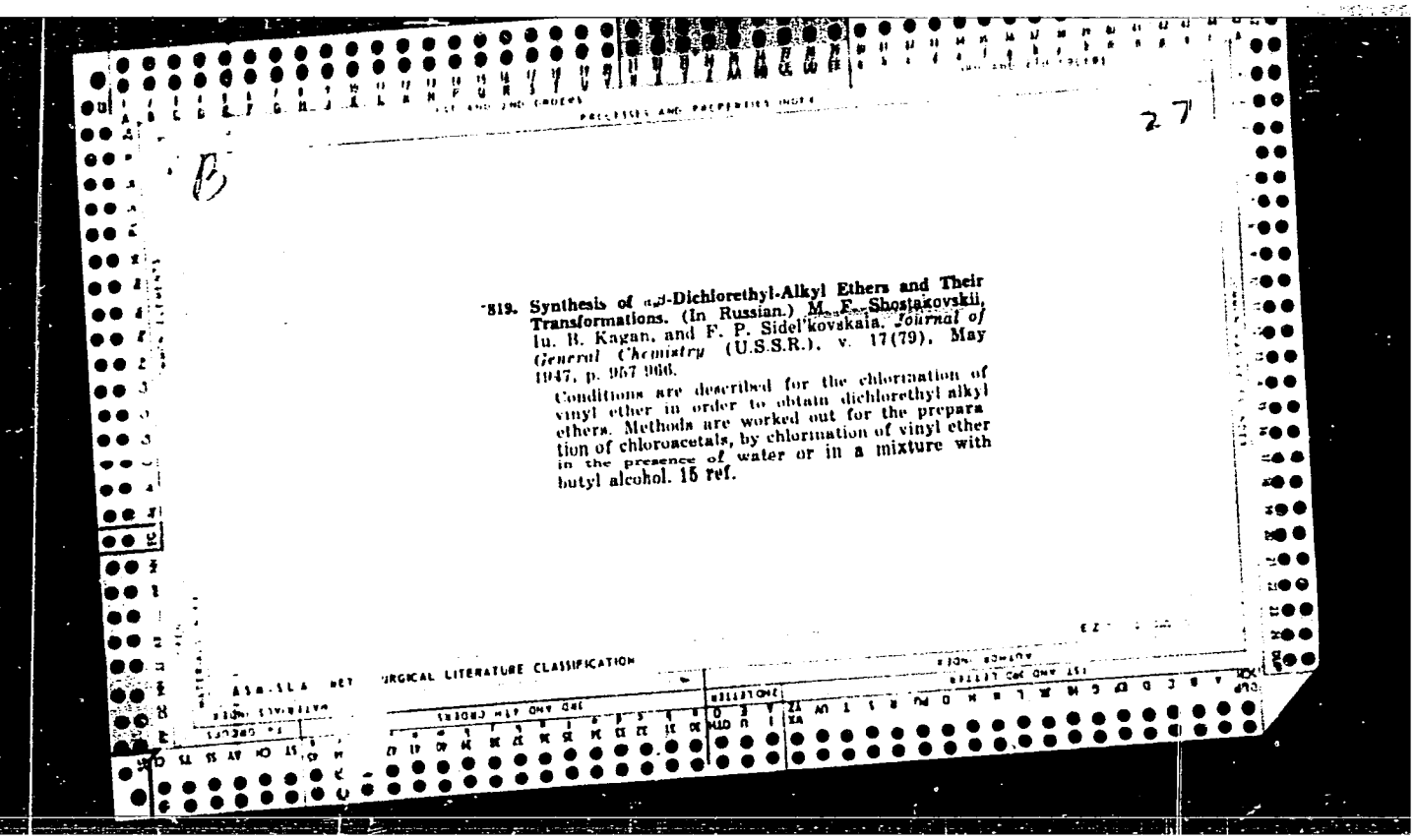
USSR/Chemistry - Ethers Mar 1947
Chemistry - Halogen compounds

"Investigation of the Properties and Conversions of Alpha-Halogen Dialkyl Ethers," M. F. Shostakovskiy, A. V. Bogdanova, 10 pp

"Zhur Obshch Khim" Vol XVII, No 3 - p. 514

Explanation of a series of reactions of alpha-chloro-dialkyl-ethers, as in their association with HBr, organic acids and alcohols.

15T88



819. Synthesis of α,β-Dichlorethyl-Alkyl Ethers and Their Transformations. (In Russian.) M. F. Shostakovskii, Iu. B. Kagan, and F. P. Sidel'kovskaia. *Journal of General Chemistry* (U.S.S.R.), v. 17(79), May 1947, p. 957-966.

Conditions are described for the chlorination of vinyl ether in order to obtain dichlorethyl alkyl ethers. Methods are worked out for the preparation of chloroacetals, by chlorination of vinyl ether in the presence of water or in a mixture with butyl alcohol. 15 ref.

SHOSTAKOVSKIY, M. F.

USSR/Chemistry - Vinyl Alcohol Jun 1947
Chemistry - Alcohols

"Azeotropic Mixtures of Vinyl Alkyl Esters with Alcohols," M. F. Shostakovskiy, Ye. N. Prilezhaeva, 10 pp

"Zhur Obshchey Khimii" Vol XVII, No 6 pp 1129-36

It is proved that vinyl alkyl esters form azeotropic mixtures with alcohols at boiling temperatures not exceeding 24 - 25°. Vinyl ethyl, vinyl butyl, vinyl isobutyl and vinyl isoamyl esters were purified and obtained in a chemically pure form. Comparison and elaboration of various methods of analysis of the vinyl esters in the presence of alcohols was accomplished.

LC 29T9

SHOSTAKOVSKIY, M. F.

B 8/49T21

USSR/Chemistry - Acetals Jul/Aug 48
Chemistry - Synthesis

"Synthesis of Unsaturated Acetals," M. F. Shostakovskiy, N. A. Gershteyn, Inst Org Chem, Acad Sci USSR, 4 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 4

Describes first synthesis of a series of unsaturated acetals. Lists properties of compounds prepared, which are determined by the presence of a conjugate system of double and triple bonds in the molecule. Submitted 16 Apr 1948.

8/49T21

SHOSTAKOVSKIY, M. F.

Mar 1948

USSR/Chemistry - Acetyls
Chemistry - Synthesis

"Conversions of Simple Vinyl Esters. II. Mechanism of the Interaction of Vinyl-Alkyl Esters and Alcohols in the Synthesis of Acetals. The Significance of the Hydrogen Bond in Reactions Forming New Compounds," N. A. Gershteyn, M. F. Shostakovskiy, Inst Org Chem, Acad Sci USSR, Lab of Vinyl Compounds, 7½ pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 3 - pp 451-58

New method for synthesis of acetyls from vinyl esters and alcohols, without aid of catalysts, but due to influence of heat. Formulas for complex hydrogen bonds which occur due to esterification reaction which occurs during synthesis of acetyls. Submitted 21 Feb 1947.

PA 69T13

SHOSTAKOVSKIY, M. F.

PA 19/49T27

USSR/Chemistry - Ethers, Polymerization of Aug 48
Chemistry - Polymerization

"Significance of the Purity of Vinylalkyl Ethers on the Polymerization Process: Polymerization of Vinylbutyl Ether in the Presence of Oxygen-Containing Organic Compounds," M. F. Shostakovskiy, F. P. Sidel'kovskaya, Yu. B. Kagan, Inst Org Chem, Acad Sci USSR, Lab of Vinyl Compounds, 6½ pp

"Zhur Obshch Khimii" Vol XVIII (LXXX), No 8

The degree of polymerization of vinylalkyl esters and, other things equal, the process of [redacted] 19/49T27

USSR/Chemistry - Ethers, Polymerization of (Contd) Aug 48

polymerization depends mainly on purity of original ether. Oxygen-containing compounds -- alcohols, aldehydes, ketones and acetals -- found in commercial vinylalkyl ethers give rise to peroxide effect and reduce degree of polymerization of polyvinylalkyl ether formed. Mechanism of breaking of polymerization chains by alcohols is combination with initial vinylalkyl ethers to form polymers and formation of corresponding acetals. Submitted 20 Dec 45.

[redacted] 19/49T27