35807
S/120/62/000/001/053/061
E032/E314

11.3120
11.0950

AUTHOR: Isayeva, R.V.

TITLE: Device for measuring the position of a liquid-helium surface

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1962, 198

TEXT: The device is in the form of a Ta spiral wound on a constantan wire which is used as a heater. The power supplied to the heater is chosen so that it is sufficient to heat the part of the Ta spiral above the liquid to a temperature above the critical point but is insufficient to reduce the superconductivity of the part lying in the liquid helium. The Ta wire employed was 0.2 mm in diameter and was wound with a pitch of 0.4 mm on a lacquered constantan wire, 0.5 mm in diameter. Current and voltage leads are taken out separately. The required power is less than 0.02 W, the working heater current is 50 mA and the working current in the spiral is about 50 - 100 mA. The position of the surface can be determined

Card 1/2

S/120/62/000/001/053/061
E052/E314

Device for ....

to within 1 - 2 mm. A.I. Shal'nikov is thank for advice and assistance.

ASSOCIATION: Fizicheskiy fakul'tet MGU (Physics Division of MGU)

SUBMITTED: May 23, 1961

Card 2/2

L 04403-67 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JD/AT
ACC NR: AP6034424 SOURCE CODE: UR/0386/66/004/008/0311/0315

AUTHOR: Isayeva, R. V.

ORG: Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut); Institute of Physics Problems, Academy of Sciences SSSR (Institut fizicheskikh problem Akademii nauk SSSR)

TITLE: Character of conduction-electron reflection from the surface of copper whiskers

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 8, 1966, 311-315

TOPIC TAGS: copper whisker, fiber crystal, conduction electron, electron reflection

ABSTRACT: It has been assumed until recently, on the basis of experimental data on both the conductivity of thin polycrystalline samples (foils, wires, films) and the anomalous skin effect, that practically all the electrons that participate in charge transport in real samples are scattered diffusely by the surface. To check on the relative roles of diffuse and specular reflection of the electrons from the surface of a thin conductor, the author studied the character of reflection of conduction electrons from the faces of filamentary single crystals of copper having small dimensions and a natural crystallographic faceting. The single-crystal whiskers were obtained by reducing spectrally pure copper iodide in a hydrogen stream at 610 - 620C. They were produced with three crystallographic orientations ([100] with square cross section [110] with rectangular section, and [111] with hexagonal section). A microscope was

Card 1/2

L 04403-67

ACC NR: AP6034424 4

used to select for the investigations straight, elastic whiskers of uniform thickness, having different diameters and optically smooth surfaces with cross sections that were either hexagonal or differed little from square. Each investigated sample was placed between four single-crystal whiskers which acted like springs and served as current and voltage leads. The electric contacts were produced by dielectric breakdown. The sample resistance was measured at room and helium temperatures with a potentiometer circuit. Plots of the ratio of the resistance at room temperature and at 4.2K against the reciprocal of the whisker diameter are presented and are interpreted on the basis of the simplest theory of conductivity of thin samples of metals having a spherical Fermi surface. Linear extrapolation of the obtained data to infinite thickness (bulk sample) shows that the investigated samples had dimensions ($d = 3.85 - 20\ \mu$) smaller than or of the order of the mean free path of the conduction electrons, from which it is deduced that 60% of the conduction electrons are reflected from the surface specularly. The presence of partial specular reflection can be demonstrated without assuming uniform purity of the investigated whiskers. It is possible that when the experimental conditions are improved the specular reflection of the electrons from the surface of single-crystal whiskers can be made complete. In particular, it would be advantageous to eliminate the possibility of oxidation of the sample surface in air. The author thanks Academician P. L. Kapitsa for the opportunity of working at the Institute of Physics Problems, AN SSSR, to Yu. V. Sharvin for guidance, and Yu. A. Osip'yan for interest in the work. Orig. art. has: 1 figure and 2 formulas.

SUB CODE: 20/ SUBM DATE: 18Jul66/ ORIG REF: 002/ OTH REF: 010

Card 2/2 vmb

V-8

USSR / Pharmacology and Toxicology. Medicinal Plants.

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 80641

Author : Guseynov, D. Ya.; Damirov, I. A.; Isayeva, S. A.

Inst : Not given

Title : Phytochemical and Pharmacological Investigations of the Ephedra Procera That Grows in Azerbaydzhan

Orig Pub : Izv. AN AzerbSSR, 1957, No 3, 111-120

Abstract : During a test on mice of an aqueous extract (I) and a tincture (II) from the Ephedra procera herb, it was established that I does not possess a toxic effect, but II in a dose of 1 ml causes the death of the majority of the mice. In experiments on isolated heart of frogs, a 1% solution of II decreases the amplitude of heart contractions, while a 3% solution causes stoppage of the heart. An analogous result was obtained during the use of I in significantly greater concentrations. In isolated vessels of warmblooded

Card 1/2

ISAYEVA, S.A.

Yarn skein dyeing with vat dyes in the Osner apparatus. Tekst.prom. no.2: 64 F '63. (MIRA 16:4)

1. Nachal'nik krasil'no-appreturnogo tsekha fabriki imeni F.E.Dzerzhinskogo Ivanovskogo soveta narodnogo khozyaystva.
(Dyes and dyeing—Textile fibers)

ACCESSION NR: AT4010228 S/3056/63/000/000/0076/0084

AUTHOR: Borovenko, E. V.; Volkovitskiy, O. A.; Zolotarev, L. M.; Isayeva, S. A.

TITLE: Effect of the construction of a 300-meter meteorological tower on measurements of wind velocity

SOURCE: Issledovaniye nizhnego 300-metrovogo sloya atmosfery*. Moscow, 1963, 76-84

TOPIC TAGS: meteorology, wind, wind velocity measurement, meteorological tower, meteorological tower construction, anemograph, anemometer, rhumbograph

ABSTRACT: Since the main disturbances in wind velocity recording are caused by the cylindrical body of the tower, all the calculations in this paper concern flow determination of an ideal fluid around a stationary cylinder (mathematical formulations are given for flow around a cylinder, the rate of flow, the relationship of the rate of flow to the rate at infinity, and their dependence on tower radius and angle of the monitor). In September and October of 1961 a series of special measurements was carried out using a remote photoimpact anemograph and unidimensional rhumbographs. The examples, tables, and conclusions are based on the results of these observations. It was found that the effect of the tower on readings of wind velocity was in the range of ± 3%. No significant effects on

Card 1/2

ACCESSION NR: AT4010228

wind velocity readings were produced by other types of tower appurtenances (i.e. balcony, railing, etc.). In an arrangement where the anemometers were placed at a distance r > 12 meters, the effect of the tower on their readings was expressed by a deviation of approximately 1%, which is not significant in practice. The smallest effect on wind velocity readings was observed when the anemometers were turned into the wind at an angle of ± 45°, and for monitors turned with the wind the effect of the tower (r = 7.5 meters) did not exceed 1.5°. Orig. art. has: 8 figures, 1 table, and 9 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 20Feb64 ENCL: 00

SUB CODE: AS NO REF SOV: 002 OTHER: 000

Card 2/2

ISAYEVA, S.G. Asst Professor (Belaya Tserkov')

"On the New Surgical Approach of Ovariectomy in Cows"

Report given at 13th Inter-VUZ(Higher Educational Insts.) Scientific-Industrial Conference, held February, 1956 at Kiev Vet Inst.

RUBAN, N.N.; VINOGRADOVA, K.A.; ISAYEVA, S.M.; AVETISYAN, Yu.A.

Determining small quantities of aluminum in systems containing aluminum and vanadium chlorides. Trudy Inst. met. i obog. AN Kazakh. SSR 12:120-124 '65. (MIRA 18:10)

SENDBEKOVA, O.G.; ISEYEVA, Sh.A.; ALMAMEDOV, G.G.; DADASHEV, B.A.

Alkyl urethanes and the synthesis of methylene-bis-alkyl urethane.
Azerb. khim.zhur. no.4:89-92 '64. (MIRA 18:3)

ISAYEVA, T. F., Jr. Sci. Coworker
Uzbek Sci. Res. Vet. Exptl. Sta.
"Testing of suiliuk-affected fodder on laboratory animals."
SO: Vet 24(5), 1947, p 41

ISAYEVA, T.M.

USSR/Human and Animal Physiology - Lipoid Metabolism. R-3

Abs Jour : Referat Zhur - Biologii, No 16, 1957, 70483D

Author : Isayeva, T.M.
Inst :
Title : Dynamics of Several Representatives of Lipoid Metabolism in Botkin's Disease

Orig Pub : Avtoref. Diss. Kand. med. n. Khabarov, med. in-t Blagoveshchensk, 1957,

Abstract : No abstract.

Card 1/1 - 97 -

ISAYEVA, T.M.; LEVOSHIN, V.V.

Dynamics of lipid metabolism indices in experimental arteriosclerosis. Vop. pit. 23 no.5:55-58 S-O '64. (MIRA 18:5)

1. Kafedra farmakologii (zav. - dotsent V.V.Levoshin) Chitinskogo meditsinskogo instituta.

ISAYEVA, T.S.

In the scientific societies. Zdrav.Tadsh. 7 no.1:49 Ja-F '60.
(MIRA 13:5)

(TAJIKISTAN--OPHTHALMOLOGICAL SOCIETIES)

IS A> EVA, V.

ISAYEVA, V.; MERENKOVA, R.

Using whale flesh in the meat industry. Mias. ind. SSSR 26 no.4:18 '55. (MLRA 8:10)

1. Kaliningradskiy myasokombinat (Kaliningrad--Sausages) (Whales)

AVER'YANOV, A.; ISAYEVA, V.

Pilot plant of the All-Union Scientific Research Institute of Synthetic Fibers for the manufacturing of polyolefin fibers. (MIRA 18:2)
Khim. volok. no.1:78 '65.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo volokna, g. Kalinin.

L 1350-66 EWT(m)/EPF(c)/EWP(j)/T/EWA(c) RPL WW/RM

ACCESSION NR: AP5024391 UR/0286/65/000/015/0072/0072
677.499.108

AUTHOR: Fil'bert, D. V.; Isayeva, V. I.

TITLE: A method for producing modified polypropylene fiber. Class 29, No. 173379

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 72

TOPIC TAGS: synthetic fiber, polypropylene plastic

ABSTRACT: This Author's Certificate introduces a method for producing modified polypropylene fiber from a mixture of polypropylene and another component. The capacity of the fiber to take up the color of dispersed dyes is improved by using a styrene-acrylonitrile copolymer as the second component in quantities from 1 to 10% of the weight of the mixture.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskikh volokon (All-Union Scientific Research Institute of Synthetic Fibers)

SUBMITTED: 16May63 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 1/1

ISAYEVA, V.P., inzh.

Experience in balancing cables. Avtom., telem.i sviaz' 7 no.3:42-43 Mr '63. (MIRA 16:2)

1. Moskovsko-Yaroslavskaya distantsiya signalizatsii i svyazi Moskovskoy dorogi.

(Electric cables)

ISAYEVA, V.P., inzh.

A safe lightning arrester. Avtom., telem. i sviaz' 7 no.6:43 Je '63. (MIRA 17:3)

1. Moskovsko-Yaroslavskaya distantsiya signalizatsii i svyazi Moskovskoy dorogi.

ZHVIRBLYANSKAYA, A.Yu.; ISAYEVA, V.S.

Effect of biomycin and terramycin on Achromobacter genus bacteria. Trudy TSentr.nauch.-issl.inst.piv., bezalk. i vin.prom. no.11:3-16 '63. (MIRA 17:9)

SHAPOSHNIKOVA, V.N.; NOVIKOVA, G.A.; ISAYEVA, V.S.

Development of Proteus vulgaris on synthetic media. Vest. Mosk. un. Ser. 6: Biol., pochv. 20 no.6:29-32 N-D '65.
(MIRA 19:1)

1. Kafedra mikrobiologii Moskovskogo gosudarstvennogo universiteta.
Submitted December 17, 1964.

KOTLYAR, Mikhail Davydovich; ALEKSANDROV, Mark Aleksandrovich; ISAYEVA, V.V., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Drilling practices of the progressive Al'met'yevsk Oil Well Drilling Trust] Opyt raboty peredovogo treata Al'met'evburneft', Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 52 p. (MIRA 13:11)
(Al'met'yevsk region--Oil well drilling)

TIMOFEYEV, Nikolay Stepanovich; BELORUSSOV, Vladimir Olegovich; ISAYEVA, V.V., ved. red.; BASHMAKOV, G.M., tekhn. red.

[Drilling vertical wells under geological conditions facilitating well curvature]Burenie vertikal'nykh skvazhin v geologicheskikh usloviiakh, sposobstvuiushchikh iskrivleniiu skvazhin. Moskva, Gostoptekhizdat, 1962. 124 p. (MIRA 15:10)

(Oil well drilling)

KACHLISHVILI, Nikolay Zakharovich; BASKAKOV, Nikolay Prokhorovich; OZERENKO, Anatoliy Fedorovich; ISAYEVA, V.V., ved. red.; POLOSINA, A.S., tekhn. red.

[Drilling deep wells; practice of oil-field workers of the Chechen-Ingush A.S.S.R.] Burenie glubokikh skvazhin; opyt neftianikov Checheno-Ingushskoi ASSR. Moskva, Gostoptekhizdat, 1963. 189 p. (MIRA 16:7)
(Chechen-Ingush A.S.S.R.--Oil well drilling)

KHAMIDULLIN, Nazin Khayrullovich; KHABIBULLIN, Rashid Akhmadullovich; GORKIN, S.F., red.; ISAYEVA, V.V., ved. red.; STAROSTINA, L.D., tekhn. red.

[Work organization in the construction of oil wells; practices of petroleum workers in the Tatar A.S.S.R.] Organizatsiia proizvodstva pri sooruzhenii neftianykh skvazhin; opyt neftianikov Tatarskoi ASSR. Moskva, Gostoptekhizdat, 1963. 75 p. (MIRA 17:1)
(Tatar A.S.S.R.--Oil well drilling--Management)

STESHENKO, Nikolay Nikitich; TARASOV, D.A., red.; ISAYEVA, V.V., ved. red.; VORONOVA, V.V., tekhn. red.

[Manual on the installation and repair of electrical systems on premises subject to explosion hazards in the petroleum and gas industry] Spravochnik po montazhu i remontu elektroustanovok vo vzryvoopasnykh sooruzheniiakh neftianoi i gazovoi promyshlennosti. Moskva, Izd-vo "Nedra," 1964. 419 p. (MIRA 17:3)

BERKOVICH, Mikhail Yakovlevich; SINOPLIS, Leonid Aleksandrovich; KHLEBNIKOV, Nikolay Vasil'yevich; ROSHCHIN, P.F., red.; ISAYEVA, V.V., ved. red.

[Preventing and eliminating accidents in structural drilling] Preduprezhdenie i likvidatsiia avarii v strukturno-poiskovom burenii. Moskva, Izd-vo "Nedra," 1964. 178 p. (MIRA 17:7)

OVNATANOV, Gurgen Tomasovich; PRITULA, Yu.A., red.; ISAYEVA, V.V., ved. red.

[Drilling in and treating strata; theoretical and experimental investigations of the drilling in and treatment of the bottom zone of a stratum which is an oil and gas reservoir of the fractured type] Vskrytie i obrabotka plasta; teoreticheskie i eksperimental'nye issledovaniia vskrytiia i obrabotki prizaboinoi zony plasta, predstavlennogo kollektorami nefti i gaza treshchinnogo tipa. Moskva, Izd-vo Nedra, 1964. 265 p. (MIRA 17:8)

FILATOV, Boris Semenovich; MAKURIN, Nikolay Stepanovich; ABRAMSON, Mikhail Grigor'yevich; KIRSANOV, Arkadiy Ivanovich; ISAYEVA, V.V., ved. red.

[Air drilling of exploratory holes] Burenie geologorazvedochnykh skvazhin s produvkoi vozdukhom. [By] B.S.Filatov i dr. Moskva, Nedra, 1964. 247 p. (MIRA 17:9)

SHEVALDIN, Ivan Yegorovich; ISAYEVA, V.V., ved. red.

[Natural drilling muds for well drilling] Estestvennye promyvochnye zhidkosti dlia bureniia skvazhin. Moskva, Nedra, 1964. 170 p. (MIRA 18:1)

BRONZOV, Anatoliy Samsonovich; VASIL'YEV, Yuriy Sergeyevich; SHETLER, Georgiy Arvidovich; GRIGOR'YEV, V.I., red.; ISAYEVA, V.V., ved. red.

[Turbodrilling of inclined wells] Turbinnoe burenie naklonnykh skvazhin. 2. dop. i perer. izd. Moskva, Nedra, 1965. 247 p. (MIRA 18:4)

YEREMENKO, Terentiy Yefimovich; BULATOV, A.I., red.; ISAYEVA, V.V., ved. red.

[Bracing oil and gas wells] Kreplenie neftianykh i gazovykh skvazhin. Moskva, Nedra, 1965. 213 p.
(MIRA 18:5)

ISAYEVA, V.V.

Regeneration and somatic embryogeny of Convoluta convoluta (Turbellaria, Acoela). Nauch.dokl.vys.shkoly; biol.nauki no.3:12-14 '65.
(MIRA 18:8)

1. Rekomendovana kafedroy embriologii Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova.

ISAYEVA, V.V.

Reaction of Amoeba proteus (Pall.) of different age to some injurious actions. Nauch.dokl. vys. shkoly; biol. nauki no. 2: 11-14 '64. (MIRA 17:5)

1. Rekomendovana kafedroy embriologii Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova.

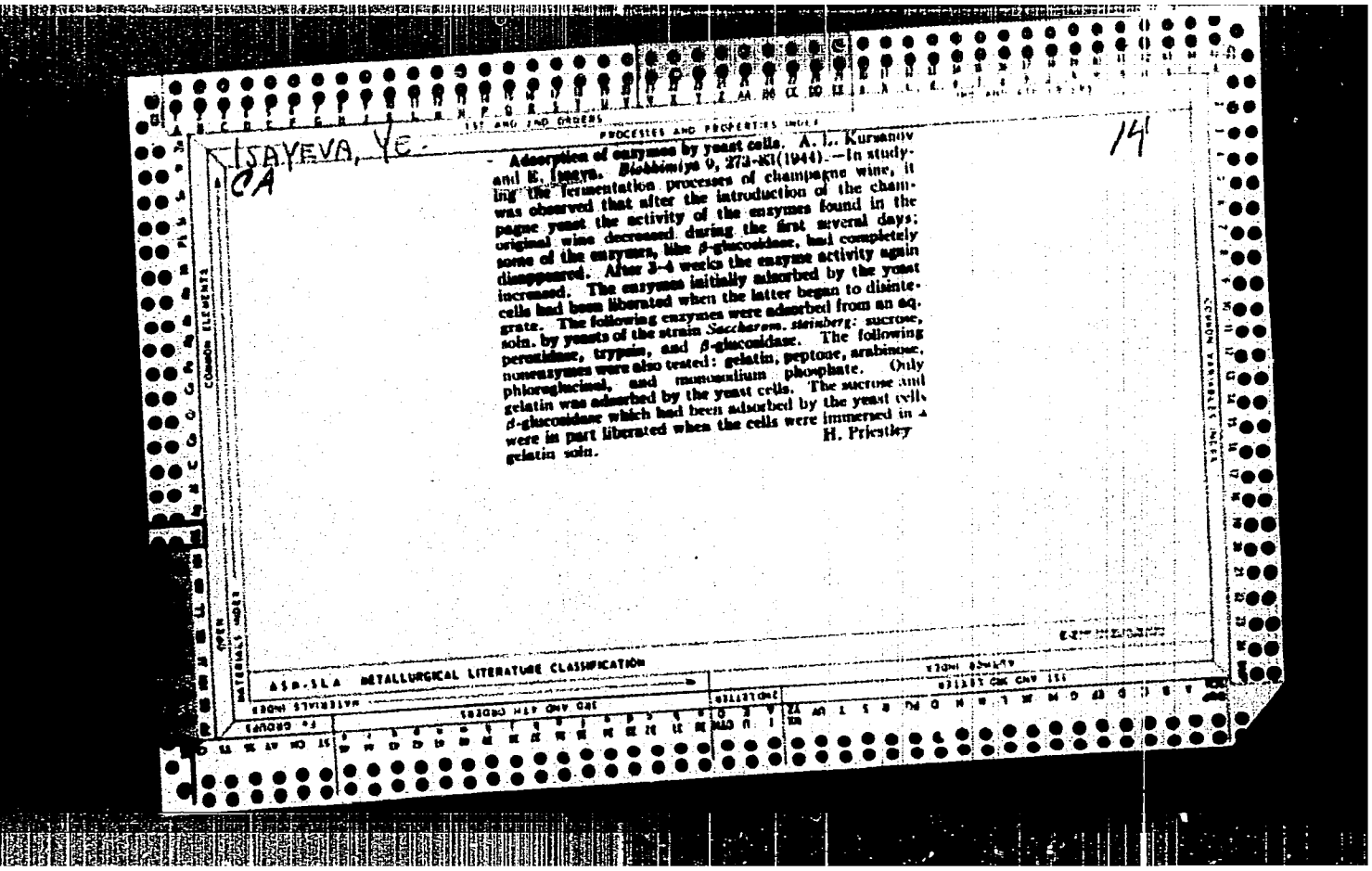
1. ISAYEVA, Ya

2. USSR (600)

4. Beetles

7. Onion snout beetle and ways to control it. Sad i og. no. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified

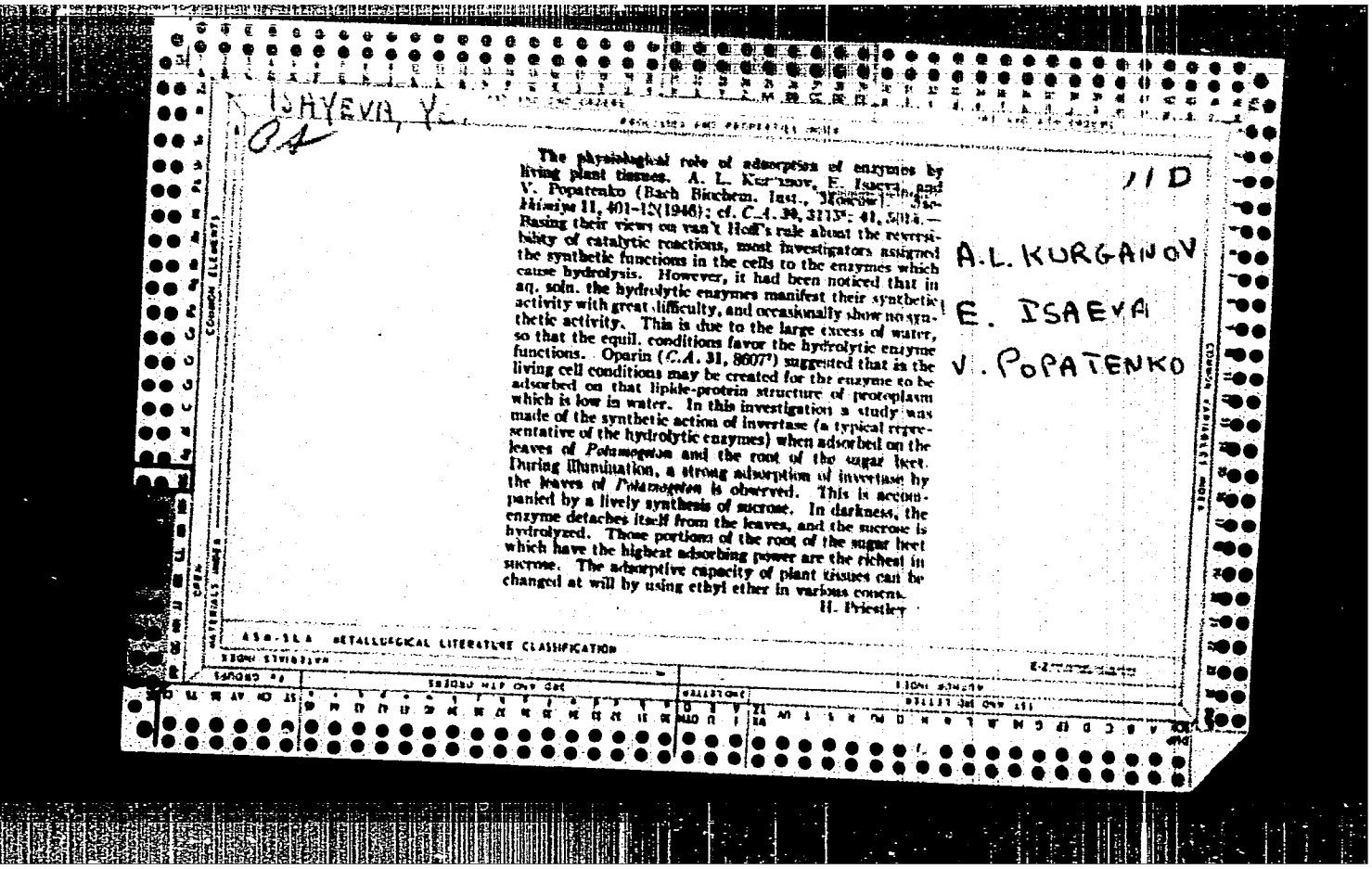


ISAYEVA, YE.
CA

14

Adsorption of enzymes by yeast cells. A. I. Kursanov and E. Isayeva. *Biokhimiya* 9, 273-81(1944).—In studying the fermentation processes of champagne wine, it was observed that after the introduction of the champagne yeast the activity of the enzymes found in the original wine decreased during the first several days; some of the enzymes, like β-glucosidase, had completely disappeared. After 3-4 weeks the enzyme activity again increased. The enzymes initially adsorbed by the yeast cells had been liberated when the latter began to disintegrate. The following enzymes were adsorbed from an aq. soln. by yeasts of the strain *Saccharom. steinberg*: sucrose, peroxidase, trypsin, and β-glucosidase. The following nonenzymes were also tested: gelatin, peptone, arabinose, phloroglucinol, and monoammonium phosphate. Only gelatin was adsorbed by the yeast cells. The sucrose and β-glucosidase which had been adsorbed by the yeast cells were in part liberated when the cells were immersed in a gelatin soln.

H. Priestley



ISAYEVA, Ye.

04

The physiological role of adsorption of enzymes by living plant tissues. A. L. Kurssanov, E. Isaeva, and V. Popatenko (Bach Biochem. Inst., Moscow). *Biokhimiya* 11, 401–12(1946); cf. *C.A.* 39, 3113⁵, 41, 5014. — Basing their views on van't Hoff's rule about the reversibility of catalytic reactions, most investigators assigned the synthetic functions in the cells to the enzymes which cause hydrolysis. However, it had been noticed that in aq. soln. the hydrolytic enzymes manifest their synthetic activity with great difficulty, and occasionally show no synthetic activity. This is due to the large excess of water, so that the equil. conditions favor the hydrolytic enzyme functions. Oparin (*C.A.* 31, 8607⁷) suggested that in the living cell conditions may be created for the enzyme to be adsorbed on that lipide-protein structure of protoplasm which is low in water. In this investigation a study was made of the synthetic action of invertase (a typical representative of the hydrolytic enzymes) when adsorbed on the leaves of *Potamogeton* and the root of the sugar beet. During illumination, a strong adsorption of invertase by the leaves of *Potamogeton* is observed. This is accompanied by a lively synthesis of sucrose. In darkness, the enzyme detaches itself from the leaves, and the sucrose is hydrolyzed. Those portions of the root of the sugar beet which have the highest adsorbing power are the richest in sucrose. The adsorptive capacity of plant tissues can be changed at will by using ethyl ether in various concns.

H. Priestley

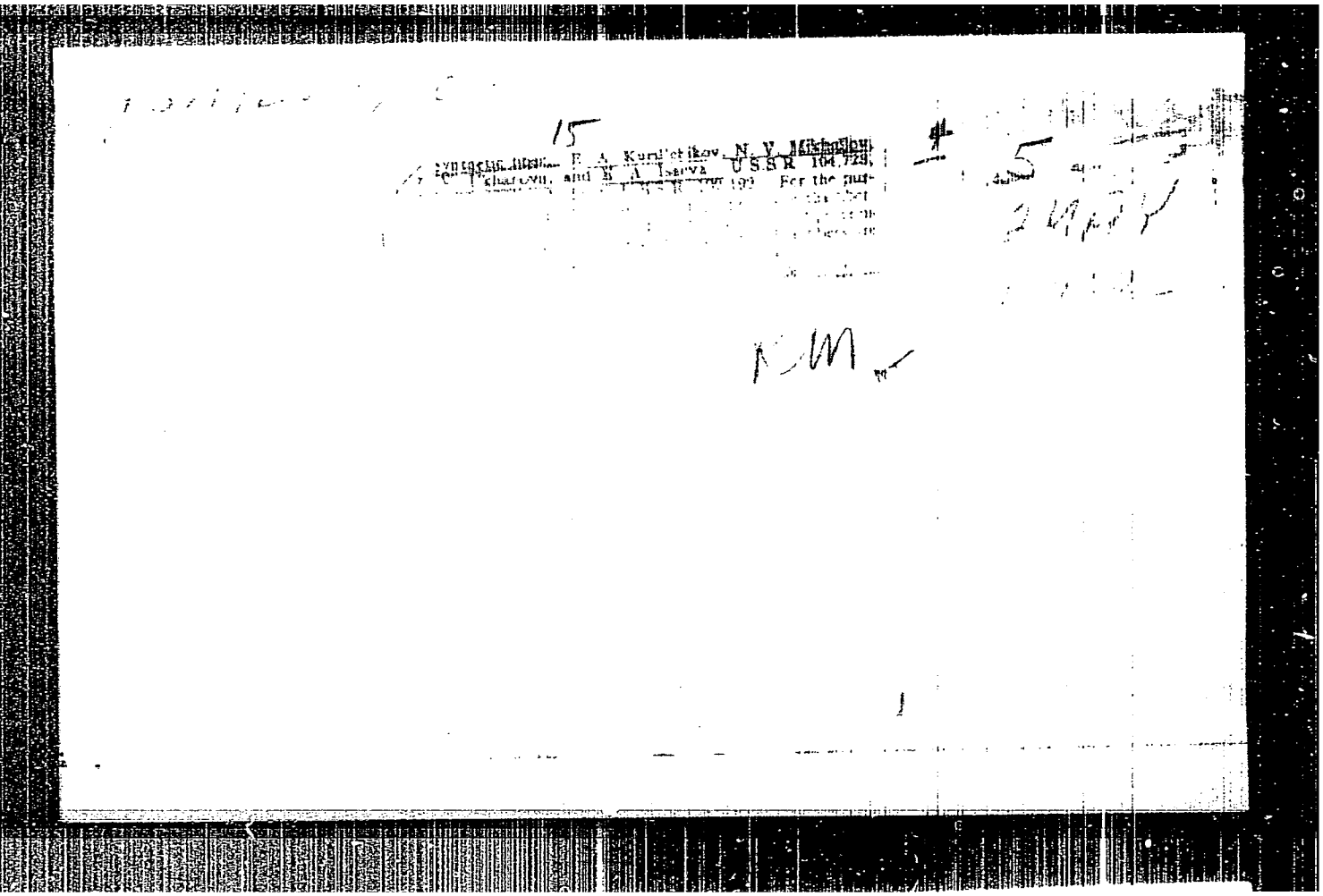
11D

A.L. KURGANOV

E. ISAEVA

V. POPATENKO

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



S/186/62/004/003/015/022
E071/E433

AUTHORS: Isayeva, Ye.A., Makasheva, I.Ye., Maslov, I.A., Obukhov, A.P.

TITLE: Chemical identification of phosphorus and thallium in the quantitative neutron activation analysis

PERIODICAL: Radiokhimiya, v.4, no.3, 1962, 345-350

TEXT: The determination of admixtures by the activation analysis is usually associated with their radiometric identification for which the separation and purification to "radiometric purity" is necessary. The authors attempted to improve the method of chemical separation of phosphorus and thallium (the knowledge of the content of which in some materials such as semiconductor silicon and germanium, luminophors, etc is necessary) so as to exclude the necessity for radiometric identification. The method of separation of P^{32} and Tl^{204} in the form of $Tl_2Cr_2O_4$ and ammonium phosphormolybdate was developed and checked on artificial mixtures containing Fe^{59}, Zn^{65}, Ag^{110m}, In^{114m}, Sb^{124}, Ta^{182} and Bi^{210} and by imitating the separation of phosphorus and thallium from irradiated specimens in which the amount of individual

L 18280-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG
ACCESSION NR: AP3004945 S/0075/63/018/008/0979/0983

AUTHOR: Isayeva, Ye. A.; Makasheva, I. Ye.; Obukhov, A. P.

TITLE: Analysis of pure silicon carbide by neutron activation

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 8, 1963, 979-983

TOPIC TAGS: silicon carbide, trace analysis, neutron activation, activation analysis, neutron activation analysis, zinc, copper, arsenic, antimony, phosphorus, impurity, copper 64, zinc 69m, arsenic 76, antimony 122, phosphorus 32, thermal neutron, Gamma-activity, Beta-activity, nuclear reactor, Gamma-spectrometer, end-window Beta-counter, radiochemical separation, chlorination, neutron cross section, Gamma-radiation energy

ABSTRACT: Trace amounts of impurities — zinc, copper, arsenic, antimony, and phosphorus — have been determined in silicon carbide crystals by measuring the γ-activity of Zn^{69m}, Cu^{64}, As^{76}, and Sb^{122} isotopes with a multichannel γ-spectrometer and the β-activity of the P^{32} isotope with an end-window β-counter. The isotopes were produced by irradiating encapsulated SiC samples for 1—3 days with $n \cdot 10^{13}$ thermal neutrons/$cm^2 \cdot sec$ in a nuclear reactor. To the irradiated sample were added 5—10 mg of Zn, Cu, As, Sb, and P, as carriers for the

Card 1/3

5(3)

AUTHORS: Berlin, A. A., Popova, G. L., Isayeva, Ye. F.

SOV/20-123-2-20/50

TITLE: Condensation Telomerization and a New Type of Unsaturated Polyesters (Polyester Acrylates) (O kondensatsionnoy telomerizatsii i novom tipe nepredel'nykh poliefirov (poliefirakrilaty))

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 282 - 284 (USSR)

ABSTRACT: The di- and polyfunctional acrylates differ from the corresponding simple di-esters of allyl and vinyl alcohol by the fact that the velocity of their polymerization increases with the increase of the distances between the double bonds (Refs 1, 2). The possibility of producing highly active di- and polyfunctional monomers with a considerable length of the cross connections is theoretically as well as practically of interest. It is possible: 1.-That the elasticity of the cross connection is varied. 2.-The contraction in the transition from the monomer to the polymer is controlled. 3.-Heat-resistant polymers with a wide range of physical and mechanical properties are produced. For the

synthesis of such substances the authors used the principle of the control of the growth of the chain in the polyesterification of dibasic acids by glycols and glycerin by means of the addition of methacrylic- (or acrylic) acid. This method of producing relatively low-molecular compounds with a predetermined type of functional end groups can be regarded as an example of telomerization taking place according to a condensation mechanism ("condensation telomerization"). The mechanism of this type of reaction is still unknown. There is reason to believe that acidolysis processes take place in the polyesterification. A probable formation scheme of the polyesters in question (the authors call it "polyester acrylates"(poliefirakrilaty)) is given. The mentioned telomerization was carried out in the medium of inert solvents (benzene, toluene) with an azeotropic distilling off of the reaction water. Phosphoric, sulfuric, ethyl-sulfuric and p-toluene-sulfonic acids were used as catalysts. The highest velocity (8 - 12 hours) and the best yields (85 - 95%) were obtained when using a 2 - 3% sulfuric or p-toluene-sulfonic acid in the presence of 0.5 - 0.8% hydroquinone.

Condensation Telomerization and a New Type of Unsaturated Polyesters (Polyester Acrylates) SOV/20-123-2-20/50

The degree of polymerization mainly depends on the dosing of the methacrylic (or acrylic) acid. The fractional distillation of the polyester acrylates failed due to their low volatility and their great tendency to polymerize. The substances mentioned above are more and more used for the production of various polymeric materials. There are 2 tables and 5 references, 4 of which are Soviet.

PRESENTED: June 25, 1958 by A. V. Topchiyev, Academician

SUBMITTED: June 23, 1958

Card 3/3

BERLIN, A.A.; POPOVA, G.L.; ISAYEVA, Ye.F.

Polymerization and properties of polymers of mixed polysters of the acrylic series. Vysoko.soed. 1 no.7 Jl '59. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov.

(Acrylic acid)

BERLIN, A.A.; POPOVA, G.L.; ISAYEVA, Ye.F.

Condensation telemerization and synthesis of a new type of unsaturated polyesters. Vysokom.soed. 1 no.7:951-956 Jl '59. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov.

(Esters) (Polymerization)

5(3)

AUTHORS: Berlin, A. A., Popova, G. L., Isayeva, Ye. F. SOV/20-126-1-22/62

TITLE: Investigation of the Polymerization and Properties of Mixed Polyethers of the Acryl Series (Issledovaniye polimerizatsii i svoystv smeshannykh poliefirov akrilovogo ryada)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 83-85 (USSR)

ABSTRACT: The authors reported in a previous paper (Ref 1) on the synthesis of a new group of derivatives of the acryl series - the polyester acrylates. In the present paper the relation between the structure of these substances, their capacity of a tridimensional polymerization, and the physical-mechanical properties of the polymers were investigated. The following compounds served for this purpose: 1) dimethacrylate-(bis-ethylene-glycol)-phthalate, 2) dimethacrylate-(bis-diethylene-glycol)-phthalate, 3) dimethacrylate-(bis-triethylene-glycol)-phthalate, 4) dimethacrylate-(bis-triethylene-glycol)-sebacinate, 5) tetramethacrylate-(bis-glycerin)-phthalate, and 6) tetramethacrylate-(bis-glycerin)-sebacinate. The substances enumerated differed from one another by the dimensions and flexibility of the groups which form the cross connections of the spatial structure of the polymer as well as by

Card 1/4

the number of reactive double bonds. The polymerization was carried out at 65° and 20-25° in the presence of benzoyl peroxide. The investigation of the polymerization kinetics showed that the polymerization of the tetra- and octo-functional polyester acrylates is in all cases preceded by an induction period. During this period neither the viscosity nor the refractive index change. In the subsequent period the whole mass of the monomer is instantaneously gelatinized. The fluidity vanished completely and insoluble tridimensional polymers were produced. The rates of polymerization of an octo-functional substance (above-mentioned Nr 5, Figs 1:1) and of a tetra-functional (Nr 2, Figs 1:2) were compared in order to clarify the effect of the molecular functional capacity of the polyester acrylates on their capacity of a tridimensional polymerization. This shows that the rate of polymerization rises rapidly with the increase of the number of double bonds. The octo-functional Nr 5 and 6 are in contrast to the tetra-functional ones able to produce glasslike polymers (Fig 2). The comparison of the curves 1 and 2 (Fig 2 cursive) shows that the rate of polymerization of different esters of the

Investigation of the Polymerization and Properties of Mixed Polyethers of the Acryl Series

SOV/20-126-1-22/62

same functional capacity depends on the distance of the reactive groups from one another. Atmospheric oxygen inhibits the polymerization reaction. The introduction of a siccative eliminates the last mentioned phenomenon. Table 1 shows the toughness and the strength of the non-meltable glasslike polymers with the reduction of the density of packing of the cross-linked (sshityy) chain macromolecules (Experiments Nr 1-4) and with the increase of the flexibility of the cross-linking (sshivayushchiy) groups (Experiments 4 and 5). Thus the polyester acrylates open production possibilities of polymers with a minimum change in volume as well as with a combination of a high thermal stability, strength, and toughness. They can find a wide range of application. There are 2 figures, 1 table, and 2 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov (All-Union Scientific Research Institute of Airplane Material)

PRESENTED: March 2, 1959 by A. V. Topchiyev, Academician

Card 3/4

Investigation of the Polymerization and Properties of Mixed Polyethers of the Acryl Series

SOV/20-126-1-22/62

SUBMITTED: June 23, 1958

Card 4/4

ISAYEVA, Ye.N.

PHASE I BOOK EXPLOITATION 360

Moscow. Tsentral'nyy institut prognozov

Voprosy sinopticheskoy meteorologii (Problems in Sinoptic Meteorology) Leningrad, Gidrometeoizdat, 1957. 129 p (Series: Its Trudy, vyp. 52) 1,100 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR

Ed. (Title page): Tomashevich, L. V.; Ed. (inside book): Pisarevskaya, V. D.; Tech. Ed.: Soloveychik, A. A.

PURPOSE: The collection of articles is intended for employees of the meteorological service as well as for those interested in the activities of the Central Institute of Forecasting.

COVERAGE: The collection of articles analyzes the causes of incorrect short-term weather predictions and explains the nature of the errors.

Card 1/8

The forecast for this particular date was rain at night and cool during the day. The prediction was based on the observed cyclogenesis by night (and early in the morning) on May 30. The enclosed maps show: 1) weather conditions at 3 o'clock a.m. on May 30 2) thermal and baric conditions at 6 o'clock a.m. on May 30 3) forecast for 3 o'clock a.m. for May 31 4) actual weather situation at 3 o'clock a.m. on May 31. The prediction failed: there was no rain by night and the temperature on May 31 was 22° C. The error was due to incorrect forecasting of baric pressure; this is illustrated by two additional maps. There are 5 maps and no references.

Mertsalov, A. N. Two Cases of Convective Rain 15

The article discusses two cases of erroneous weather preduction in Moskovskaya oblast' for July 29 and 30, 1954 due to convective rain. On July 28 in the evening, the prediction for the following day was no rain. This prediction was repeated the next morning. Nevertheless, it rained heavily with precipitation

mounting to 35.2 mm. The prognostics for July 30 read: scattered showers. In fact, it rained throughout the entire Moskovskaya oblast' with precipitation ranging from 8 to 18.9 mm. As a cyclone was moving westward covering the whole oblast, the rainfall was caused by convective instability. Because of an incorrect diagnosis of the baric field on the eve of the rainfall, the movement of the cyclone was not predicted in the forecast. There are 12 synoptic maps illustrating the above two cases and 3 Soviet references.

Isayeva, Ye. N. Analysis of the Erroneous Weather Forecast for July 28, 1954 31

The forecast for Moskovskaya oblast' for this date was rain. The error was caused by incorrect prediction of the movement of a cyclone approaching Moscow from the Baltic area. Two maps show the baric pressure near the surface and the thermal and baric situations on the morning of July 27. The author explains the mistake made in the analysis of this situation and shows how and why the expected cyclone by-passed Moscow. There are two synoptic maps, 1 table and no references.
Card 4/8

Problems in Sinoptic Meteorology 360

Tomashevich, L. V. Analysis of the Erroneous Weather Forecast for May 2, 1954 35

The Moscow forecast for this date, confirmed on the morning of May 2nd read: partially cloudy, no rain, with daily temperature of 20 to 22°C. The error was caused by an unexpected retardation in the movement of two warm fronts from the South, which produced rain and with it a drop in temperature to 10°C. There are 3 synoptic maps and 2 Soviet references.

Bachurina, A. A. Analysis of the Incorrect Weather Forecast for June 26, 1954 40

The Moscow forecast for this date read: some cloudiness, no rain, daily temperature from 22 to 27°C. This was confirmed on the morning of June 26th. The error was due to incorrect evaluation of the factors causing precipitation. The capital was hit by torrential rains and the rain was persistent. Evolution of the zone of rain progressed from the direction of

Card 5/8

Smolensk but this had not been foreseen by the forecast service. There are 6 figures, 2 tables and no references.

Gorodova, M. I. Storm on July 4, 1954 47

The storm was not predicted in the morning forecast for Moscow. The synoptic map for this day was made at 3 o'clock in the morning. Although a slowly moving anticyclone was expected to reach the area of Moscow some time in the afternoon, no immediate rain was predicted. Nevertheless, the storm came at 5:30 a.m. and lasted until 11 a.m. The storm resulted from instability produced by the advection of saturated air, while the adiabatic gradient created conditions for convective rain. There are 7 drawings, 2 tables and 3 Soviet references.

Card 6/8

Cherkasskaya, V. M. Torrential Rains in the Ridge of High Pressure on August 12 and 13, 1954 57

For August 13th the Moscow forecast read: no precipitation. However, the whole oblast was hit in the evening by torrential rains amounting to 30 mm in the capital. The prediction was based on the position of isallohypsal lines and on the calculation of the movement of a depression, the axis of which expected to be east of Moscow towards evening. The convective instability was created by adiabatic decrease in temperature at 500 millibar level and by the advection of colder air at a 700-850 millibar level. There are 8 figures and 1 Soviet reference.

Neronova, L. M. Distribution of Summer Precipitation in Moskovskaya Oblast' 67

Since the majority of incorrect weather predictions in 1954 in Moskovskaya oblast' concerned precipitation, the author

analyzes the total distribution of rainfall throughout the entire oblast from the point of view of both intensity and occurrence. The author refers to previous attempts by I.I. Kasatkin to sum up the distribution of rainfall in the area of Moscow. The article includes a map of all meteorological stations in the oblast and draws general conclusions as to the amount of rainfall from both frontal zones and air masses. In the appendix there are tables showing maxima of precipitation under various synoptic situations (ridge, cold front, anticyclone, depression, etc.) and a listing of average monthly rainfall observed at each station. There are 9 maps, 16 tables, and 6 Soviet references in the text and 5 tables in the appendix.

AVAILABLE: Library of Congress (QC851.M64V.52)

Card 8/8

MM/vm
June 26, 1958

KORNETOV, N.I.; ATROSHENKO, F.M.; ISAYEVA, Ye.P.; MIRONOV, T.V., red.; LUKINA, L.Ye., tekhn.red.

[The Tatar Soviet Republic] Sovetskaia Tatariia. Moskva, Izd-vo "Sovetskaia Rossia," 1958. 74 p. (MIRA 13:8)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1958.
2. Rabotniki pavil'ona Tatarskoy ASSR na Vsesoyuznoy sel'skokhozyaystvennoy vystavke (for Kornetov, Atroshenko, Isayeva).
(Tatar A.S.S.R.--Agriculture)

ACC NR: AP6014663 SOURCE CODE: UR/0031/65/000/002/0054/0058

AUTHOR: Zhumatov, Kh. Zh.; Sayatov, M. Kh.; Isayeva, Ye. S.

ORG: none

TITLE: Investigations of the infectious activity of RNA of influenza A virus in susceptible animals

SOURCE: AN KazSSR. Vestnik, no. 2, 1965, 54-58

TOPIC TAGS: virology, virus disease, RNA, mouse, antigen

ABSTRACT: Intranasal injection of RNA of influenza A virus (Pr-8 strain) diluted 1:8 in 0.15 M NaCl in 0.007 M phosphate buffer causes influenza which kills white mice in the first passage. Undiluted RNA generally does not have this effect. When RNA solution is injected into white mice and chick embryos, virus is reproduced with the antigenic properties characteristic of the original virus. Mouse strains of influenza virus resynthesized from RNA had a lower hemagglutination and infection titer than did a strain obtained from RNA after inoculation of chick embryos. Orig. art. has: 3 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 010 / OTH REF: 007

Card 1/1 vmb

ZHUMATOV, Kh.Zh.; ISAYEVA, Ye.S.

Infective ribonucleic acids of viruses from animals and man. Vest. AN Kazakh. SSR 20 no.6:39-46 Je '64 (MIRA 18:1)

1. Chlen-korrespondent AN KazSSR and AMN SSSR (for Zhumatov).

ZHUMATOV, Kh.Zh.; SAYATOV, M.Kh.; ISAYEVA, Ye.S.

Studying the infective activity of RNA of the type A influenza virus in susceptible animals. Vest. AN Kazakh.SSR 21 no.2:54-58 F '65. (MIRA 18:3)

SAVKOVSKIY, P.P., nauchn. sotr.; ISAYEVA, Ye.V., nauchn. sotr.; OLIFER, A.V., nauchn. sotr.; SHCHERBAKOV, V.V., nauchn. sotr.; POVZUN, I.D., nauchn. sotr.; MASLO, Ye.M., nauchn. sotr.; KRYLOVA, A.S., nauchn. sotr.; MATVIYEVSKIY, A.S., nauchn. sotr.; VASIL'KOVA, A.K., nauchn. sotr.; VOVCHENKO, D.P., nauchn. sotr.; BOGDAN, L.I., nauchn. sotr.; GROTTE M.G., nauchn. sotr.; CHEPUR, N.D., red.

[Pests and diseases of fruit and berry plants; a manual] Vrediteli i bolezni plodovo-iagodnykh kul'tur; spravochnik. Kiev, Naukova dumka, 1965. 287 p. (MIRA 18:9)

ISAYEVA, Ye.V., kand. biolog. nauk

Crown gall as a dangerous disease in nurseries. Zashch. rast. ot vred. i bol. 6 no.11:12 N '61. (MIRA 16:4)

(Ukraine—Crown-gall disease)
(Ukraine—Nursery stock—Diseases and pests)

SAVKOVSKIY, P.P., nauchn. sotr.; ISAYEVA, Ye.V., nauchn. sotr.; OLIFER, A.V., nauchn. sotr.; SHCHERBAKOV, V.V., nauchn. sotr.; POVZUN, I.D., nauchn. sotr.; MASLO, Ye.M., nauchn. sotr.; KRYLOVA, A.S., nauchn. sotr.; MATVIYEVSKIY, A.S., nauchn. sotr.; VASIL'KOVA, A.K., nauchn. sotr.; VOVCHENKO, D.P., nauchn. sotr.; BOGDAN, L.I., nauchn. sotr.; GROTTE, G.M., nauchn. sotr.; SKUTSKAYA, N.P., red.; DAKHNO, Yu.B., tekhn. red.

[Pests and diseases of fruit and berry crops] Vrediteli i bolezni plodovo-iagodnykh kul'tur; spravochnik. Kiev, Izd-vo AN Ukr.SSR, 1962. 275 p. (MIRA 16:7)
(Fruit—Diseases and pests)

ISAYEVA, Z.A.; MARUKHNENKO, M.V.

Complications in psoriasin therapy for patients with psoriasis.
Vest. derm. i ven. 34 no. 5:62-63 '60. (MIRA 14:1)
(PSORIASIS) (MUSTARD GAS)

ISAYEVA, Z.A.

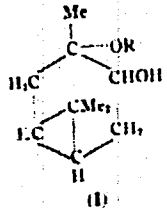
Fungal flora in patients with mycoses in Transbaikalia. Vest. derm.i ven. 34 no.8:44-45 '60. (MIRA 13:11)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - dotsent L.A. Abramovich) Chitinskogo meditsinskogo instituta (dir. - dotsent Yu.D. Ryzhkov).
(TRANSBAIKALIA--MEDICAL MYCOLOGY)

CA

Action of alcohols on α-oxides of bicyclic terpenes. I. Action of alcohols on α-pinene oxide. Z. G. Isaeva and B. A. Arbuzov. *Zhur. Obshchei Khim.* (J. Gen. Chem.)

19, 884–92(1949).—Addn. of MeOH or EtOH to α-pinene oxide in the presence of H_2SO_4 is accompanied by isomerization of the oxide, yielding Et or Me acetals of α-campholenaldehyde as the main products. The isomerization process is believed to proceed through the formation of oxonium type complexes of the oxide with the proton. α-Pinene oxide (from the oxidation of the hydrocarbon by AcO_2H) b_{16} 61–2°, n_D^{20} 1.4687, d_4^{20} 0.9356, $[\alpha]_D$ 67.58°, (58 g.) was added to 50 g. dry MeOH contg. 0.3 g. H_2SO_4 (spontaneous heating to 46°), let stand 3 hrs., neutralized with MeONa, and distd., giving a mixt. which could not be resolved completely; the entire mixt. had the range b_5 90–140°, from which was obtained about 13 g. product, b_{11} 96–101° (b_{16} 100–2° after distn. over Na), $C_{11}H_{20}O_2$, contg. 1 double bond and which on heating with 8% HCl 0.5 hr. at 60–8° gave the *semicarbazone*, m. 137–8° (from EtOAc), of *α-campholenaldehyde*. Treatment of the higher-boiling fractions with H_3BO_3 to remove OH-derivs. gave an unstated amt. of the *campholenaldehyde di-Me acetal*, b_{11} 101–4°, n_D^{20} 1.4500, d_4^{20} 0.9302. In addn. the higher fractions gave about 17 g. product, b_{11} 126–31°, n_D^{20} 1.4850, d_4^{20} 1.0000, $C_{11}H_{22}O_2$, contg. 10% OH groups (Zerewitinoff) and 1 double bond, which was provisionally given the structure of a *mono-Me ether* of an unsatd. glycol, probably *sobrerol*, at the tertiary C atom. Sobrerol is believed to form by HO ion addn. to the carbonium ion formed after protonic cleavage of the oxide ring. A similar reaction of 12 g. pinene oxide with 13 g. EtOH contg. 0.3 g. H_2SO_4 gave 9.4 g. of a mixt., b_{16} 90–114°, which on fractionation gave 4.1 g. $C_{12}H_{24}O_2$ (I), b_{16} 89–9°, n_D^{20} 1.4646, d_4^{20} 0.9234, contg. 1 double bond, and giving *campholenaldehyde* on heating with 8% HCl, I thus being its *di-Et acetal*. II. **Action of alcohols on oxides of Δ³-carene and camphene.** *Ibid.* 893–903.—Δ³-Carene, b_{760} 167–8°, n_D^{20} 1.4720, d_4^{20} 0.8647, with AcO_2H gave the corresponding oxide, b_4 54–6°, n_D^{20} 1.4653, d_4^{20} 0.9516, $[\alpha]_D^{20}$ 14.03°; 31 g. added to 20 g. MeOH contg. 0.3 g. H_2SO_4 under 40°, followed by neutralization by NaOMe gave $C_{11}H_{20}O_2$, $b_{11.5}$ 112°, d_4^{20} 1.0065, n_D^{20} 1.4794, identified as the *carene glycol mono-Me ether* (I, R = Me); it could



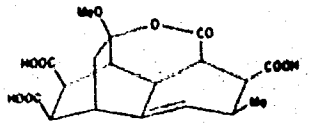
(I)

be obtained in the pure state only after heating with H_3BO_3, followed by cleavage of the borate with hot water, and was obtained in but 8.6-g. yield. Similarly EtOH gave from 20 g. oxide 16.3 g. *Et ether* (I, R = Et), b_{11} 93.5–4°, n_D^{20} 1.4758, d_4^{20} 0.9852, while PrOH gave 12.5 g. *Pr ether*, b_4 96–8°, n_D^{20} 1.4728, d_4^{20} 0.9502, and BuOH gave

12, 604) that in general sulfinic acids add to certain qui-
nones. p-AcNHC$_6$H$_4$SO$_2$H (19.9 g.) in 300 g. boiling
H$_2$O was treated with 10.8 g. p-benzoquinone in 150 cc.
warm H$_2$O in portions, set aside 20 min., cooled in ice,
filtered, washed with H$_2$O (hot, then cold), and dried at
50°, giving 28 g. (91%) *2-(p-acetamidophenylsulfonyl)-*
hydroquinone (I), m. 275-6° (decompn.) (from EtOH).
I (26.7 g.) was refluxed 1 hr. in 117 cc. of 17% HCl, char-
coaled, cooled in ice, and the HCl salt (m. 228°) dis-
solved in 150 cc. hot H$_2$O plus 10 cc. concd. HCl, cooled
in ice, and treated with solid Na$_2$CO$_3$ (phenolphthalein) to
give 12.3 g. (50%) of the *amino compd.* (II), m. 178-9°.
I (50 g.) in 70 cc. of 5 *N* NaOH dild. with 100 cc. H$_2$O was
treated with 45 g. Me$_2$SO$_4$ (in 2 portions) with agitation,
the mixt. warmed after 5 min. for 15 min. at 60° (steam
bath), cooled, filtered, and the product washed with
H$_2$O and dil. NaOH, giving 32.5 g. (60%) *2-(p-acetamido-*
phenylsulfonyl)-1,4-dimethoxybenzene (III), m. 214-15°
(from MeOH). III (3.4 g.) in 5 cc. concd. HCl and 10 cc.
EtOH was refluxed 1 hr., cooled, the HCl salt (IIIa)
filtered, dissolved in 80 cc. hot H$_2$O and 10 cc. concd.
HCl, and neutralized with concd. Na$_2$CO$_3$ soln. (litmus)
to give 2.55 g. (85%) of the *amine compd.* (IV), m. 194-
5°. IV (2.93 g.), 1.8 g. D-galactose, and 0.01 g. salicylic
acid in anhyd. 30 cc. MeOH were refluxed 18 hrs., 15 cc.
of the MeOH distd. off, and the mixt. set aside for 8 hrs.,
yielding 3.53 g. (77.5%) *2-(p-aminophenylsulfonyl)-1,4-*
dimethoxybenzene N-D-galactoside (V) (dried over KOH),
m. 198-9° (from EtOH). p-BzNHC$_6$H$_4$SO$_2$H (1.31 g.)
in 50 cc. boiling 95% EtOH was treated with 0.55 g. p-
benzoquinone in 19 cc. hot H$_2$O with stirring, and the mixt.
poured after 15 min. in a thin stream with stirring into
1200 cc. cold H$_2$O, giving 1.8 g. (97%) *2-(p-benzamido-*
phenylsulfonyl)hydroquinone (VI), silky needles, m. 245-
6°. II (6 g.) was added to 4.8 g. freshly distd. BzH in
10 cc. 95% EtOH, refluxed 40 min., most of the solvent
evapd., the residue set aside, and the crystals filtered and
purified with anhyd. ether, giving 5 g. (80%) *2-(p-*
benzylideneaminophenylsulfonyl)hydroquinone (VII), m.
217-18° (decompn.), analyzed as IX. VII (1 g.) was
treated with 0.285 g. NaHSO$_3$ in 4 cc. H$_2$O, heated on a
steam bath 25 min., filtered, evapd. to a sirup on a steam
bath, treated with 5 cc. of 100% EtOH, and set aside,

giving after 2 hrs., 0.7 g. (54%) *Na 2-(p-benzylaminophen-*
ylsulfonyl)hydroquinone-α-sulfonate, p-[2,5-(HO)$_2$C$_6$H$_3$-
SO$_2$]C$_6$H$_4$NHCH... (IX), which was filtered and
washed with anhyd. EtOH. *2-(p-Anisylideneamino-*
phenylsulfonyl)hydroquinone (VIII) (64% yield), m. 208-
9° (decompn.), was prepd. in the same manner as VII from
II. *Na 2-[p-(4-methoxybenzylamino)phenylsulfonyl]hy-*
droquinone-α-sulfonate (X) was prepd. in the same manner
as IX (80%). p-Toluquinone (9 g.) in 30 cc. 95% EtOH
was poured with stirring into 17.9 g. p-AcNHC$_6$H$_4$SO$_2$Cl in
280 cc. hot H$_2$O, the ppt. filtered, washed with hot H$_2$O,
dried at 45°, and the product (XIIIA) (22 g., 98%) extd.
with 50 cc. EtOH and filtered hot. The residue, after
fractional crystn., yielded 1.9 g. *6(?)-(p-acetamidophenyl-*
sulfonyl)-p-toluquinone (XIII), m. 272-3°. The hot al.
filtrate yielded, after fractional crystn., 1 g. *5(?)-(p-*
acetamidophenylsulfonyl)-p-toluquinone (XI), m. 225-6°
(*C.A.* 40, 1807[8]). XI and XIII (4.5 g. XIIIA) in 20 cc. of
18% HCl-EtOH were refluxed 1 hr., the crystals filtered
off after cooling, washed twice with 2.5 cc. of 15% HCl-
EtOH, and the filtrate concd. to give a 2nd crop, yielding
2.3 g. XII.HCl, m. 218-19°. XII.HCl in cold dil. HCl
(50 cc. H$_2$O plus some concd. HCl), carefully treated
with Na$_2$CO$_3$, gave 1.3 g. *5(?)-(p-aminophenylsulfonyl)-p-*
toluquinone (XII), m. 187-8° (from EtOH). The mother
liquors of XII.HCl dild. with 10 vols. H$_2$O gave 1 g. *6(?)-*
(p-aminophenylsulfonyl)-p-toluquinone (XIV), m. 247-8°
(decompn.) (from EtOH). A sample obtained by the
hydrolysis of XIII showed no m.-p. depression with XIV.
XI was hydrolyzed to a product identical with XII. p-
AcNHC$_6$H$_4$SO$_2$H (19.9 g.) in 200 cc. hot dil. (1:1) EtOH
was treated with 16.4 g. thymoquinone in 80 cc. hot
80% EtOH with stirring; filtration, after chilling, and
washing with dil. EtOH, gave 30 g. (83%) *3(?)-(p-*
acetamidophenylsulfonyl)thymohydroquinone, 2,5,3,1,4-Me-

(no OMe group), m. 265–70° (decompn. began at 250°). VI, boiled a few hrs. with H_2O, gave IV in quant. yield; recrystn. from H_2O afforded the *tetrahydrate* (3 CO_2H and 1 lactone group) which again dried to IV. The colorless *dianhydride* (VIII), m. 288° (decompn. began at 275°)



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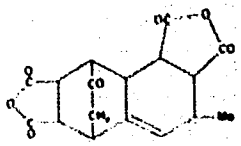
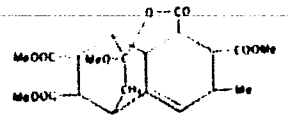


(VIII)

(from $PhNO_2$), was prepd. by refluxing 2 g. IV a few min. in Ac_2O and washing the filtered product with Et_2O, or by heating IV near its m.p. Also, 2 g. VI, briefly boiled with 20 ml. HCO_2H, gave 1.1 g. VIII (no OMe group). All samples of VIII were identical (mixed m.p.) and that from IV gave back IV on hydrolysis. Treating 0.8 g. VII in 50 ml. MeOH with CH_2N_2 in Et_2O, concg. the soln. to 5 ml., and recrystg. the product twice from MeOH gave IX, m. 178–9° (distills undecompd. at 14 mm.), 0.3 g. of which, boiled a few min. in 1 ml. 98% HCO_2H, produced X, m. 230–2° (from MeOH), instantly sol. in aq. alkali. Treating 3 g. IV in 20 ml. MeOH with CH_2N_2 gave 2.5 g. (crude wt.) XI, which distills (14 mm.) undecompd. VI (20 g.), boiled 4 hrs. in 340 ml. MeOH and 40 ml. H_2SO_4, gave 20.5 g. (crude wt.) XI. With CH_2N_2, X also



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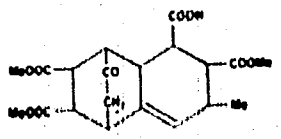
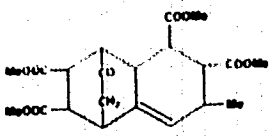
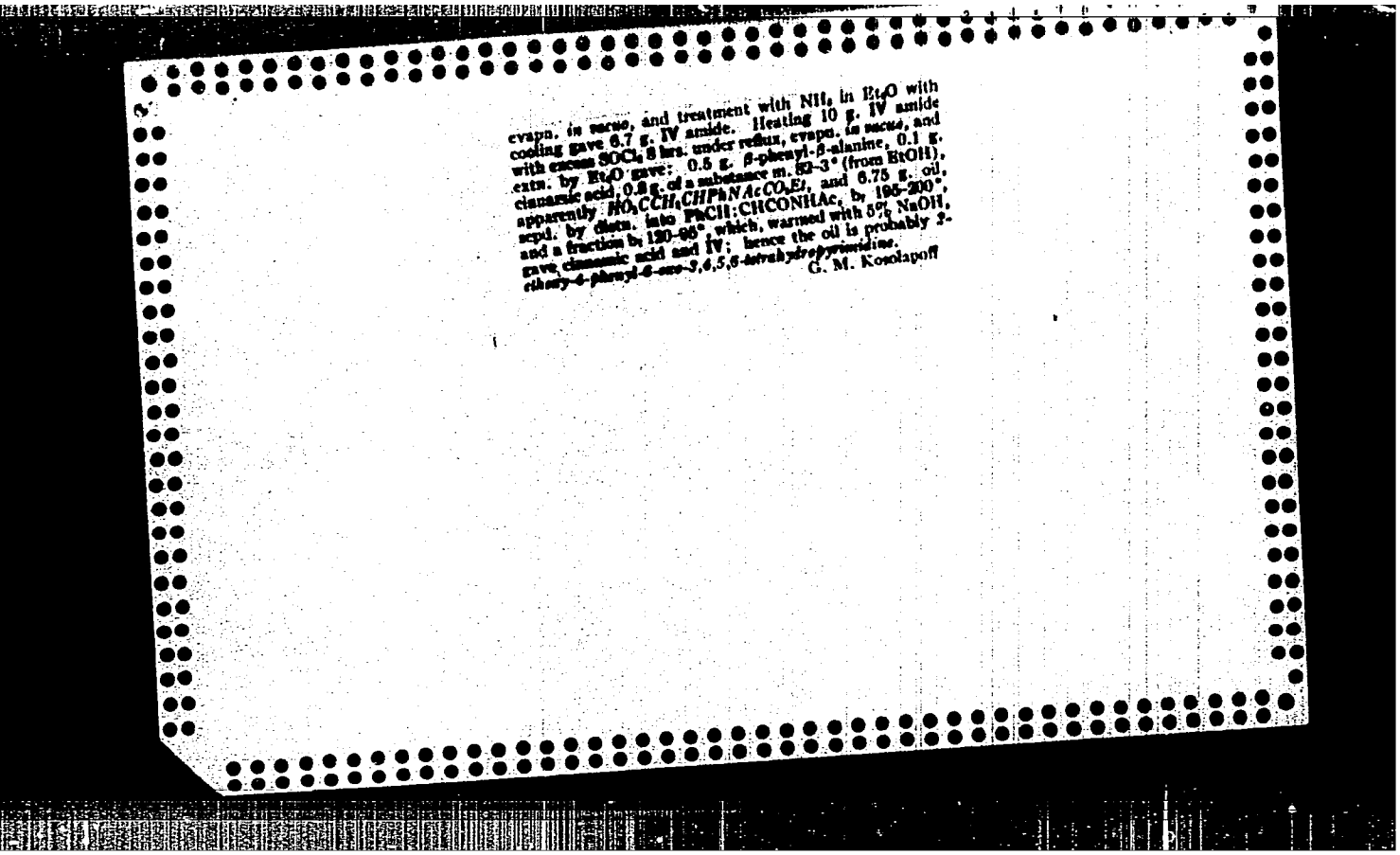


(X)



(XI)

gave XI. The 3 samples of recrystd. (from MeOH) XI were identical, m. and mixed m.p. 208–10°. VI (5 g.) was slowly dissolved in 100 ml. boiling 5 *N* HCl; concn. (reduced pressure) to 20 ml. gave 2.4 g. of the *trans-keto acid* (XII) (4 CO_2H groups), colorless needles, m. 200–2° (decompn.), after crystg. from H_2O and vacuum-drying at 100°; the *tetra-Me ester*, prepd. with CH_2N_2, formed colorless crystals, m. 154–5° (from MeOH). XI (1.7 g.) and IV (5 g.), refluxed 12 hrs. in 60 and 50 ml., resp., 5 *N* HCl, each gave (as did VII) XII, all samples of which were identical (mixed m.p.). Although XII (from IV) gave no large depression of the m.p. of IV, XII crystd. unchanged



evapn. in vacuo, and treatment with NH$_3$ in Et$_2$O with cooling gave 0.7 g. IV amide. Heating 10 g. IV amide with excess SOCl$_2$ 6 hrs. under reflux, evapn. in vacuo, and extn. by Et$_2$O gave: 0.5 g. β-phenyl-β-alanine, 0.1 g. cinnamic acid, 0.8 g. of a substance m. 82–3° (from EtOH), apparently $HO_2CCH_2CHPhNAcCO_2Et$, and 0.75 g. oil, sepd. by distn. into PhCH:CHCONHAc, b. 195–200°, and a fraction b. 120–95° which, warmed with 5% NaOH, gave cinnamic acid and IV; hence the oil is probably 2-ethoxy-4-phenyl-6-oxo-3,4,5,6-tetrahydropyrimidine.

G. M. Kosolapoff

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618820012-3"

ISAYEVA, Z.G.

USSR/Chemistry - Organotitanium Compounds Apr 52

"Preparation of Esters of Orthotitanic Acid by Re-Esterification," B. A. Arbuzov, Z. G. Isayeva, Sci Res Inst imeni A. M. Butlerov, Kazan State U

"Zhur Obshch Khim" Vol XXII, No 4, pp 566, 567

Re-esterification of the ethyl ester of orthotitanic acid produced a high yield of the n-butyl, n-hexyl, n-octyl, and n-nonyl esters of orthotitanic acid.

225T30

ISAYEVA, Z.G.

(3)

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

Preparation of esters of orthotitanic acid by the transesterification method. B. A. Arbuzov and Z. G. Isaeva (Kazan State Univ.). *J. Gen. Chem. U.S.S.R.* 22, 029–30(1952)(Engl. translation).—See *C.A.* 47, 2084*f*.
H. L. H.

ARBUZOV, B.A.; ISAYEVA, Z.G.

Some reactions of products of cyanoehtylation of dihydric phenols by acrylonitrile. Zhur. Obshchey Khim. 22, 1645-7 '52. (MLRA 5:9)
(CA 47 no.17:8681 '53)

1. V.I. Ul'yanov-Lenin State Univ., Kazan.

ISAYEVA, Z. G.

USSR

Isomerization of terpene hydrocarbons by silica gel under conditions of chromatographic adsorption analysis. B. A. Arbuzov and Z. G. Isaeva. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1953, 747–52 (Engl. translation).—See *C.A.* 49, 16541.

H. L. H.

ISAYEVA, Z. G.

USSR/ Chemistry Hydrocarbon isomerization

Card 1/2 : Pub. 40 - 10/22

Authors : Arbuzov, B. A., and Isaeva, Z. G.

Title : Isomerization of terpene hydrocarbons with silica gel in conditions of adsorption analysis

Periodical : Izv. AN SSSR. Otd. khim. nauk 5, 843-849, Sep-Oct 1953

Abstract : The effect of silica gel in conditions of adsorption analysis on the isomerization of terpene hydrocarbons was investigated. It was found that alphapinene isomerizes easily into camphene, dipentene and terpinolene; Δ^3 - carene isomerizes into dipentene and terpinolene; dipentene isomerizes into terpinolene which in turn undergoes further conversions. The isomerization of above compounds with silica gel was found to be analogous to the isomerization of the very same hydrocarbons with

Izv. AN SSSR. Otd. khim. nauk 5, 781-787, Sep-Oct 1954. (Additional card)

Card 2/2 Pub. 40 - 3/22

Abstract : cation is in the lower-valent stages. Approximate intervals at which the thermodynamic values experience certain changes are explained. Eleven references: 5-USSR; 4-German and 2-USA (1926-1953). Tables; graphs.

Institution : East Siberian Branch of Acad. of Sc. USSR, Mining-Metallurgical Institute, Irkutsk

Submitted : November 22, 1952

ISAEVA, Z. G.

USSR/ Chemistry Isomerization processes

Card : 1/1 Pub. 151 - 32/35

Authors : Arbuzov, B. A., and Isaeva, Z. G.

Title : About the isomerization of bicyclic terpene oxides during reaction with acetic anhydride

Periodical : Zhur. ob. khim. 24, Ed. 7, 1250 - 1259, July 1954

Abstract : The reaction of acetic anhydride with oxides of alpha-pinene, Δ^3 -carene and camphene was investigated to determine the behavior (isomerization) of oxides of bicyclic terpene hydrocarbons in catalyst-free reactions. The variety of products formed during the reaction of bicyclic terpene oxides with acetic anhydride, which was found to be very complex, is described. Three USSR, 1 USA and 1 German reference.

Institution : State University, The A. M. Butlerov Scient.-Research Institute, Kazan

Submitted : February 22, 1954

ARBUZOV, B.A. (Kazan'); ISAYEVA, Z.G. (Kazan')

Isomeric conversions in the series of terpene oxides. Uch.zap.Kaz. un. 115 no.10:32-35 '55. (MLRA 10:5)
(Isomerism)
(Terpenes)

SOV/20-121-1-28/55

AUTHORS: Arbuzov, B. A., Member, Academy of Sciences, USSR, Isayeva, Z. G.

TITLE: On the Reduction of the Δ^3-Carene Oxide (O vosstanovlenii okisi Δ^3-karena)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 1, pp. 105-106 (USSR)

ABSTRACT: It is known that the oxide mentioned in the title may be reduced to an alcohol ($C_{10}H_{18}O$). When the authors investigated the hydration of this oxide they found that two further products with the same formula are produced from it. The first alcohol is apparently identical with the 1-caranol of Kuczyuski and Chabudzinski (Kuchinskiy and Khabudzinskiy) (Ref 2). An alcohol which was obtained by the authors from reduction of the l-caranone-3 (purified twice with p-nitrobenzoate and the acid phthalic ether) has constants which are very close to the alcohol produced by the authors (purified by 3,5-dinitrobenzoate). The two alcohols differ only by the melting point of the acid phthalic ether. In consequence of the oxidation of the

Card 1/3

On the Reduction of the Δ^3-Carene Oxide SOV/20-121-1-28/55

Δ^3-oxide-hydration product by chrome anhydride in acetic acid a ketone $C_{10}H_{16}O$ was obtained which yields semicarbazide (melting point 201 - 202°) in a quantitative yield. This ketone is according to its constants and its melting temperature identical with the 1-caranone-3 (Ref 2) which is an isomerization product of the Δ^3-carene-oxide by sodium in benzene. The same ketone was obtained by the authors (in a low yield) from the dehydration reaction of the β-carene-glycol by p-toluene-sulfochloride in pyridine. In order to be able to give a final identification of the initially mentioned product, the authors produced it by the action of sodium upon the Δ^3-carene-oxide in benzene. From the alcohol reactions 3,5-dinitrobenzoate of the 1-caranol-3 (from alcohol) and an acid phthalic ether were obtained. Since these two compounds did not show a temperature depression of mixed samples with corresponding derivatives of the Δ^3-carene-oxide hydration product one of the products of the catalytic hydration of the last mentioned oxide is bound to be 1-caranol-3. A further alcohol existed in the reaction products; it turned out ot be caranol-4, could, however, not be isolated. It might be one of the 4 possible stereoisomers of caranol-3.

Card 2/3

On the Reduction of the Δ^3-Carene Oxide SOV/20-121-1-28/55

The reduction of the Δ^3-carene-oxide with $LiAlH_4$ yielded caranol-4 (Ref 2). There are 8 references, 1 of which is Soviet.

SUBMITTED: April 17, 1958

1. Terpenes--Chemical properties 2. Organic oxides--Reduction
3. Alcohols--Synthesis

Card 3/3

SOV/2o-122-1-19/44

AUTHORS: Arbuzov, B.A., Member, AS USSR, Ieayeva, Z.G.

TITLE: Reaction Products of α-Pinene Oxide and Δ^3 Carene Oxide With Acetic Anhydride (O produktakh reaktsii okisey α-pinena i Δ^3-karena s uksusnym angidridom)

PERIODICAL: Doklady Adademii nauk SSSR, 1958, Vol.122, Nr 1, pp. 73-76 (USSR)

ABSTRACT: The authors continued their research on this subject as well as on the same reaction of the camphene oxide. It could be proved that the reaction of these bicyclic terpene oxides proceeds on a complicated way. Mixtures of products are formed, and an isomerization of the oxides takes place. The present paper is intended to clear the structure of the acetates which have been produced from the above oxides. As previously reported (Ref 3), the yield of the acetate $C_{12}H_{18}O_2$ with α-pinene oxide does not surpass 3o %, whereas in the case of Δ^3 carene oxide it remains below 22 %. The authors have performed the first reaction in the presence of $NaHCO_3$, in order to conduct the formation of the acetates $C_{12}H_{18}O_2$ mainly in the direction of the suggested scheme. The latter salt binds the acetate ions and reduces the formation of acetate-diols to a minimum.

Card 1/4

By this, it was proved that the α-pinene oxide could be recovered unchanged to 4o %; the isomerization of the oxide to a "campholene" aldehyde occurred to a much lower extent. Instead of the expected acetate, however, an alcohol $C_{1o}H_{16}O$ (yield 28 %) was isolated which is identical with the dl-trans-carveol (Ref 4). By oxidation of this alcohol by means of chromium anhydride in acetic acid, carvone was obtained. According to the statements of reference 3 the boiling point of the acetate from α-pinene oxide is found in a broad temperature range. By repeated fractionation, apart from "campholene" aldehyde and sobrerol acetate 3 further substances with the same empirical formula $C_{12}H_{18}O_2$ with a total yield of 31 % were isolated: 1) A product with lower boiling point (79 - 8o°/3mm) and with a double-bond in the molecule. By its saponification with 7 % NaOH solution in alcohol-water an alcohol with a ring consisting of 4 links was produced, which rather might be identical with a pinocarveol (II) or still more with the trans-pinocarveol (Ref 7). 2) A somewhat higher boiling (87-87,5°/3mm) product $C_{12}H_{18}O_2$ with two double-bonds. By saponification with 1o % NaOH solution in alcohol-water an alcohol similar to the trans-carveol resulted.

Reaction Products of α-Pinene Oxide and Δ^3 Carene Oxide With Acetic Anhydride

SOV/20-122-1-19/44

3) The boiling point of the third product $C_{12}H_{18}O_2$ was still higher (89-89,5°/3 mm). The investigation of the latter is continued. The reaction of the Δ^3 carene with acetic anhydride does not proceed smoothly. The products of reaction consist of: 1) The hydrocarbon fractions (3,5%) and 2) the products containing carbonyl (7%). They will further be investigated. There are 11 references, 4 of which are Soviet.

ASSOCIATION: Khimicheskiy institut im. A. M. Butlerova pri Kazanskom gosudarstvennom universitete im. V. I. Ul'yanova-Lenina (Chemistry Institute imeni A. M. Butlerov of the Kazan' State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: May 7, 1958

Card 3/4

5 (3)

AUTHORS: Isayeva, Z. G., Arbuzov, B. A. SOV/62-59-6-16/36

TITLE: On the Reduction of the Oxides of α-Pinene and of the Oxides of Δ^3-Carene (O vosstanovlenii okisi α-pinena i okisi Δ^3-karena)

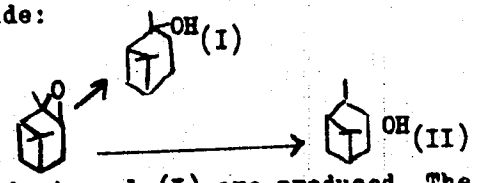
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1049 - 1057 (USSR)

ABSTRACT: The reduction of the oxides mentioned in the title by lithium and aluminum hydride was not possible, what is proved by publications (Refs 1-17). In the present investigation the oxides could be reduced by hydrogen in the presence of Renay-nickel under sharp conditions. α-pinene was reduced at 135-175° and a pressure of from 60-100 atmospheres, Δ^3-carene at 175-200° and a pressure of from 50-80 atmospheres. The reduction of α-pinene leads to the formation of 2 alcohols of the composition $C_{10}H_{16}O$. The hydration reaction was accompanied by an isomerization of the α-pinene under formation of a ketone of the same composition, which is similar to the thermal isomerization and the oxidation products of the alcohol $C_{10}H_{18}O$. The ketone obtained by the thermal isomerization of α-pinene oxide may be

Card 1/3

On the Reduction of the Oxides of α-Pinene and of the SOV/62-59-6-16/36
Oxides of Δ^3-Carene

reduced by lithiumaluminum hydride to $C_{10}H_{18}O$ in 2 isomer alcohols which, however, are not identical with the alcohols obtained by reduction of α-pinene oxide on Renay-nickel. Reduction of α-pinene oxide:



Pinokampheol (II) and pinanol (I) are produced. The reduction of pinokamphon produced from hyssop oil on lithiumaluminum hydride also leads to an alcohol of the composition $C_{10}H_{18}O$, which differs from the aforementioned one. The Δ^3-carene oxide is reduced on Renay-nickel to an alcohol of the composition $C_{10}H_{18}O$, which isomerizes into a ketone $C_{10}H_{16}O$ when being heated. The different reductions are described in detail in the experimental part. A table gives the results of the thermal isomerization

Card 2/3

On the Reduction of the Oxides of α-Pinene and of the Oxides of Δ^3-Carene SOV/62-59-6-16/36

of α-pinene. There are 1 table and 12 references, 1 of which is Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova Kazanskogo gosudarstvennogo universiteta im. V. I. Ul'yanova-Lenina (Scientific Research Institute imeni A. M. Butlerov of the Kazan' State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: August 15, 1957

Card 3/3

ARBUZOV, B.A., akademik; ISAYEVA, Z.G.; RATNER, V.V.

Products of the autoxidation of Δ^3-carene. Dokl. AN SSSR 134 no.3: 583-586 S '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M. Butlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina. (Carene)

ARBUZOV, B.A., akademik; ISAYEVA, Z.G.; SAMITOV, Yu.Yu.

Proton magentic resonance study of bicyclic terpenes and their oxides. Dokl. AN SSSR 137 no.3:589-592 Mr '61. (MIRA 14:2)

1. Nauchno-issledovatel'skiy khimicheskiy institut im.A.M.Butlerova pri Kazanskom gosudarstvennom universitete im. V.I.Ul'yanova-Lenina.
(Terpenes) (Nuclear magnetic resonance and relaxation)

ARBUZOV, B.A.; ISAYEVA, Z.G.; RATNER, V.V.

Action of lead tetraacetate on Δ^3-carene. Izv.AN SSSR Otd.-khim.nauk no.4:644-649 Ap '62. (MIRA 15:4)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo universiteta im. V.I.Ul'yanova-Lenina. (Lead acetates) (Carene)

ARBUZOV, B.A.; ISAYEVA, Z.G.; IBRAGIMOVA, N.D.

Oxidation of Δ^3-carene by oxygen in the presence of chromic anhydride. Izv.AN SSSR Otd.khim.nauk no.4:649-657 Ap 62. (MIRA 15:4)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo universiteta im. V.I.Ul'yanova-Lenina.
(Carene) (Chromium oxides)

ARBUZOV, B.A., akademik; SAMITOV, Yu.Yu.; ISAYEVA, Z.G.

Nuclear magnetic resonance spectra of protons and conformation of Δ^3-carene oxide. Dokl. AN SSSR 150 no.5:1036-1038 Je '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.B. Betlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina.

(Carene--Spectra) (Protons)

ISAYEVA, Z.G.; ANDREYEVA, I.S.

Isomerization of Δ^3-carene oxide in the reaction with alcohols in the presence of acids. Dokl. AN SSSR 152 no.1:106-109 S '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. Ul'yanova-Lenina. Predstavleno akademikom B.A.Arbuzovym.

(Carene) (Alcohols) (Isomerization)

ISAYEVA, Z.G.; ANDREYEVA, I.S.

Interaction of Δ^3-carene oxide with methyl alcohol in the presence of sodium methylate. Dokl. AN SSSR 152 no.2:342-345 S '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy khimicheskiy institut im.A.M.Butlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina. Predstavleno akademikom B.A. Arbuzovym.

ARBUZOV, B.A., akademik; ISAYEVA, Z.G.; POVODYREVA, I.P.

Structure of unsaturated alcohol acetates from the reaction of Δ^3-carene oxide with acetic anhydride. Dokl. AN SSSR 159 no.4:827-830 D '64 (MIRA 18:1)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M. Butlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina.

ISAYEVA, Z.G.; ARBUZOV, B.A.; RATNER, V.V.; POVCDYREVA, I.P.

Oxidation of Δ^3-carene by mercury acetate. Izv. AN SSSR. Ser. khim. no.3:466-475 '65. (MIRA 18:5)

1. Khimicheskiy institut im. A.M.Bu'lerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.

ISAYEVA, Z.G.; ARBUZOV, B.A.; RATNER, V.V.

Oxidation of Δ^3-carene by selenious acid. Izv. AN SSSR. Ser. khim. no.3:475-485 '65. (MIRA 18:5)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.

ARBUZOV, B.A.; ISAYEVA, Z.G.; GUBAYDULLIN, M.G.

Structure of (-) alcohol from the reaction of Δ^3 - carene oxidation in the presence of chromic anhydride. Izv. AN SSSR. Ser. khim. no.4:678-684 '65. (MIRA 18:5)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.

ARBUZOV, B.A.; ISAYEVA, Z.G.; ANDREYEVA, I.S.

Isomerization of α-pinene and Δ^3-carene oxides with lithium diethylamine. Izv. AN SSSR. Ser. khim. no.5:838-843 '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.

ARBUZOV, B.A., akademik; ISAYEVA, Z.G.; RATNER, V.V.

Structure of the oxide obtained in the oxidation of Δ^3-carene by selenium dioxide. Dokl. AN SSSR 164 no.6:1289-1292 O '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M. Butlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina.