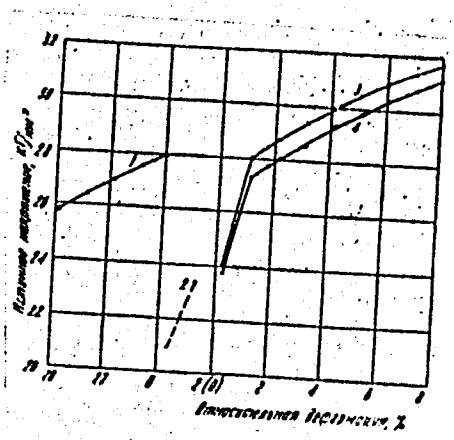
On the stimulating effect of ... 32215 S/139/61/000/004/004/023 E073/E535

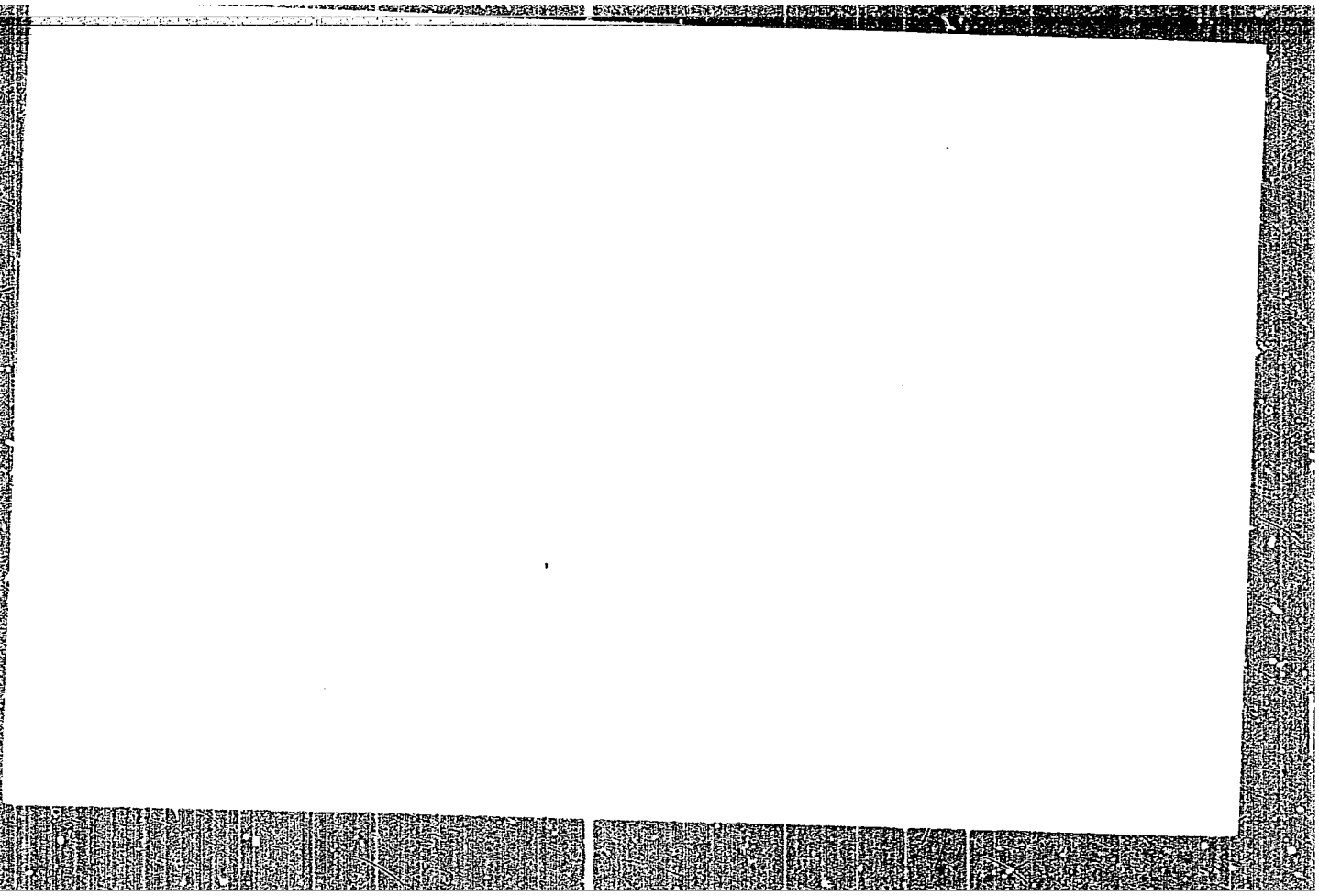
(Siberian Physico-technical Institute of the Tomsk State University imeni V. V. Kuybyshev)

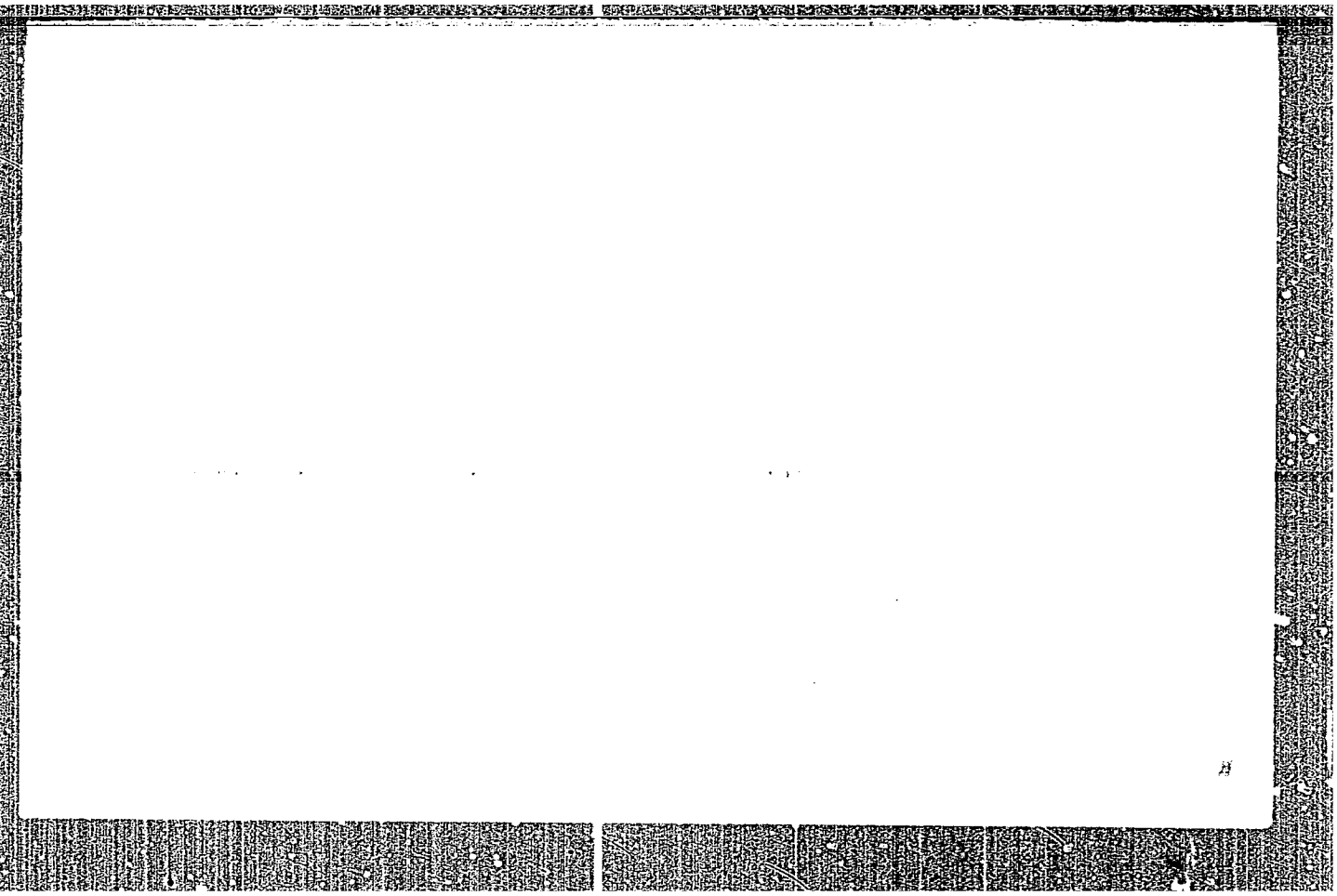
SUBMITTED: August 1, 1960



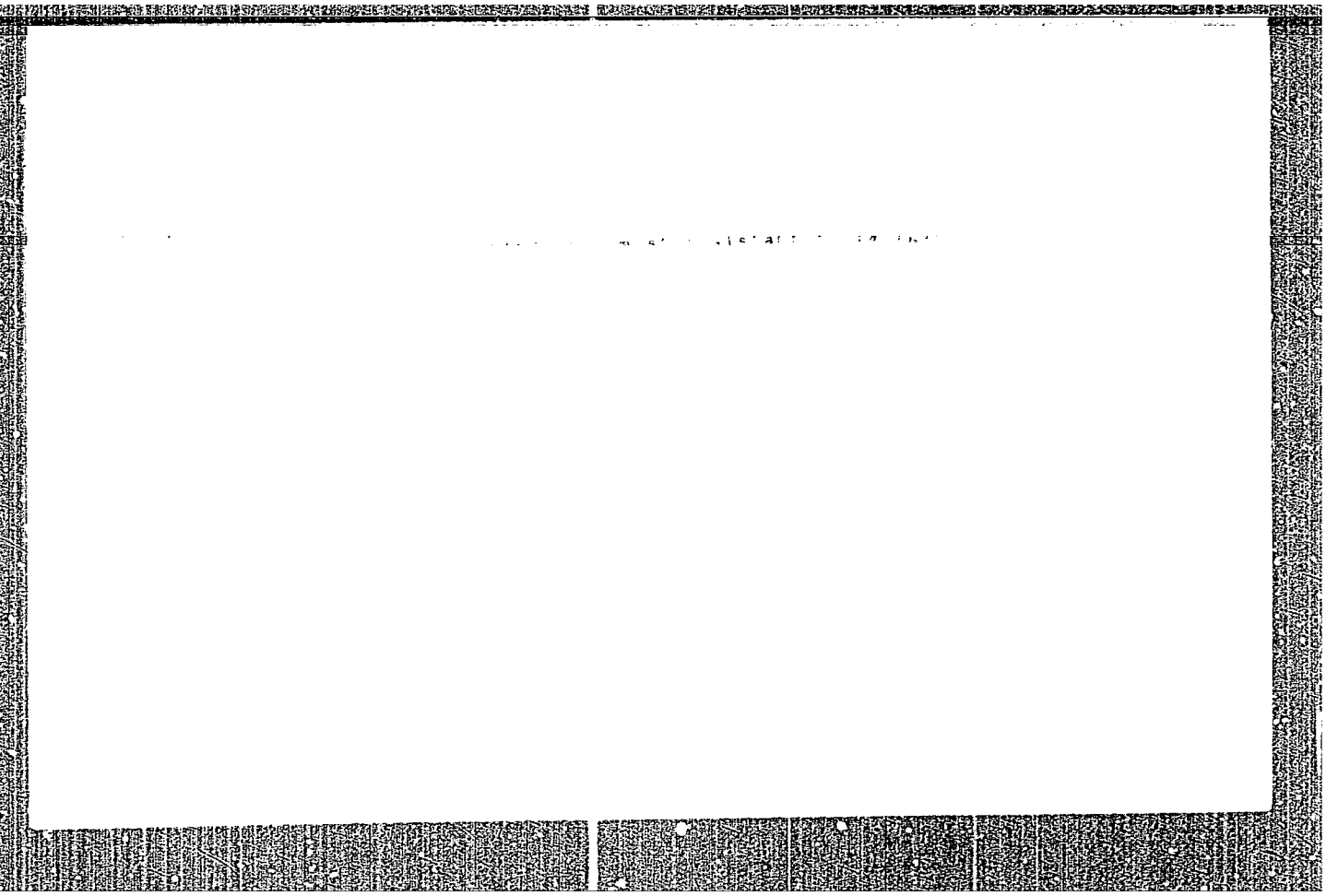
Card 4/4

Fig.1





APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001962620002-3"



APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R001962620002-3"

3419²
S/139/61/000/006/011/023
E021/E406

M.1220

AUTHORS: Yelsukova, T.F., Panin, V.Ye.

TITLE: The equivalence of the influence of temperature and the deformation rate on the resistance to deformation in the straining of copper

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika. no.6, 1961, 81-86

TEXT: The aim of the work was to determine the energy of activation of deformation U of copper under tensile conditions. Wire samples of 0.5 mm diameter and 50 mm working length, made from electrolytic copper M1, were used. Strain rates used were 0.135%/min, 1.65%/min and 23.2%/min and the temperature range was 130 to 230°C. Special experiments were carried out to prove that the cold-worked samples showed no recovery up to 230°C. Specimens were tested in the annealed state and after cold working at room temperature to 24%. Curves of true stress against strain were drawn for the different conditions. From the results, the energy of activation was calculated and found to be 29.9 kcal/mol compared with 27.7 kcal/mol found under conditions of

Card 1/2

The equivalence of the influence ...

compression (Ref.8: V.F.Sukhovarov. Izv. vyzov. MVO SSSR, Fizika, v.5, 1959). The value of the energy of activation was found not to depend on whether the tests conditions allowed the removal of the preliminary cold work in the course of the secondary deformation or not. The values of the energy of activation for both tensile and compression conditions are close to the value for the energy of activation for migration of vacancies in copper. There are 3 figures and 30 references: 9 Soviet-bloc and 21 non-Soviet-bloc. The four most recent references to English language publications read as follows: Ref.16: T. Broom, R. Ham. Vacancies and other point defects in metals and alloys, L. 1958; Ref.25: G.B.Craig, B. Chalmers. Canad. J. Phys. v.35, no.1, 1957, 38-47; Ref.28: O.D.Sherby, J.L.Lytton, J.E.Dorn. Acta met., v.5, no.4, 1957; Ref.29: P.R.Landon, J.L.Lytton, L.A.Sheppard and J.E.Dorn. Trans. ASM, v.51, 1959, 900.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V.Kuybysheva
(The Siberian Physicotechnical Institute of Tomsk University imeni V.V.Kuybyshev)

SUBMITTED: September 17, 1960

Card 2/2

BOL'SHANINA, M.A.; YELSUKOVA, T.F.

Temperature and velocity dependence of creep strains in lead. Izv. vys.ucheb.zav.;fiz.no.2:157-166 '63.

(MIRA 16:5)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V. Kuybysheva.

(Creep of lead)

BOL'SHANINA, M.A.; YELSUKOVA, T.F.

Preparation of lead alloy samples for the metallographic analysis. Zav.lab. 30 no.3:315 '64. (MIRA 17:4)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete.

MORGUNOV, N.I., kand.sel'skokhozyaystvennykh nauk; Prinimali uchastiye: PAVLOV, V.N.; YELSUKOVA, Z.M.

Establishing artificial hayfields and permanent pastures in the repeatedly water-logged polders of Kaliningrad Province. Nauch. trudy KOMS no.1:165-174 '59. (MIRA 15:1)
(Kaliningrad Province--Pastures and meadows)

YELSUKOV, V.A.

Modernization of the oil system of the diesel train motor.
Elek.i tepl.tiaga 3 no.11:28-29 N '59. (MIRA 13:3)

1. Starshiy inzhener sluzhby lokomotivnogo khozyaystva Oktyabr'skoy dorogi.
(Diesel locomotives--Lubrication)

SARIN, V.I., insh.; YELSUKOV, V.A., insh.

VME1 shunting diesel locomotive. Elek.i tepl.tiaga 4 no.2:29-35 F '60. (MIRA 13:6)

(Diesel locomotives)

YELSUKOVA, T. F.

SOV/137-58-10-21687

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 176 (USSR)

AUTHORS: Bol'shanina, M.A., Yelsukova, T.F., Kondrat'yev, P.A.

TITLE: Employment of Tellurium in the Manufacture of Electrical Cable Sheathing (Primeneniye tellura v kabel'noy promyshlennosti)

PERIODICAL: Dokl. 7-y Nauchn. konferentsii posvyashch. 40-letiyu Velikoy Oktyabr'sk. sots. revolyutsii, Nr 2. Tomsk, Tomskiy un-t, 1957, pp 67-68

ABSTRACT: The effect of adding Te to Pb alloys employed in manufacture of sheathing for electrical cables was studied. An addition of 0.02-0.05% Te to the alloy Pb+0.5 Sb improves the technological properties of the latter and increases its σ_W value. The addition of Te favors the progress of structural changes which occur in the alloy and improves its heat-resistant properties (up to 200°C). Mechanical properties of the alloy, particularly the σ_W, are improved as the Te content is increased. It is recommended that the Te be introduced in the form of an Sb-Te alloy. 1. Tellurium---Applications 2. Electric cables ---Shielding 3. Lead-tellurium alloys---Properties

Card 1/1 P.N.

Yelsukova, T. F.

VASIL'YEV, L. I.; YELSUKOVA, T. F.; BOL'SHANINA, M. A., and KONDRAT'YEV, P. A.

"Vibrational Stability of Certain Lead Alloys Used for Cable Sheathing" Part 1. p. 234-241, in the book Research in the Physics of Solids, Moscow, Izd-vo AN SSSR, 1957. 277 p. Ed. Bol'shanina, M. A.; Tomsk Universitet, Siberskiy t fiziko-tekhnicheskiy institut.

Personalities: Samoylov, V. N.; Obolentsev, A. V.; and Vasil'yev, L. I., Materials studied: a total of 13 lead alloys: binary alloys of lead with antimony, tin, cadmium, bismuth, and tellurium; ternary alloys of lead-antimony-tin, lead-antimony-tellurium, lead-antimony-arsenic, lead-antimony-sodium, and lead-antimony-selenium; quaternary alloys of lead-antimony-tin-copper and lead-tin-bismuth-arsenic. Research was done from specifications of the Tomkabel' plant with the participation of engineers of this plant. There are 4 figures, 3 tables, and 4 Soviet references.

This collection of articles is meant for metallurgicall physicists and for engineers of the metal-working industry. This book contains results of research in the field of failure and plastic deformation of materials, mainly of metals. Problems of cutting, abrasion, friction, and wear of solid materials (metals) are discussed.

BOL'SHANINA, M. A.; YELSUKOVA, T. F.; KONDRAT'YEV, P. A., and FOMINA, M. A.

"Vibrational Stability of Certain Lead Alloys USed for Cable Sheathing, Part 2. p. 242-261, in the book Research in the Physics of Solids, Moscow, Izd-vo AN SSSR, 1957. 277 p. Ed. Bol'shanina, M. A.; Tomsk Universitet, Siberskiy fiziko-tekhnicheskiy institut.

Personalities: Zakharov, P. A.; Pereslegin, V. A.; Dnestrovkskiy, N. Z., and Shpagin, A. I. Materials studied included 19 differenct lead alloys: Binary alloys of lead-antimony, lead-cadmium, lead-tin, lead-bismuth, and lead-tellurium; ternary alloys of lead-antimony-tin, lead-antimony-sodium, lead-antimony-arsenic, lead-antimony-tellurium, and lead-antimony selenium; quaternary alloys of lead-antimony-tin-copper and lead-antimony-bismuth-arsenic. There are 17 figures, 4 tables, and 12 references, 3 of which are Soviet, 1 German, and 8 in English.

This collection of articles is meant for metallurgical physicists and for engineers of the metal-working industry. This book contains results of research in the field of failure and plastic deformations of materials, mainly of metals. Problems of cutting, abrasion, friction, and wear of solid materials (metals) are discussed.

YELSUKOVA, T.P.

PHASE I BOOK EXPLOITATION SOV/4164

Vsesoyuznoye soveshchaniye po splavam redkikh metallov. 1st, Moscow, 1957

Redkiye metally i splavy; trudy... (Rare Metals and Alloys; Transactions of the First All-Union Conference on Rare-Metal Alloys) Moscow, Metallurgizdat, 1960. 436 p. 3,150 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut metallurgii; USSR Komissiya po redkim metallam pri nauchno-tekhnicheskom komitete.

Ed.: I.K. Shapovalov; Ed. of Publishing House: O.M. Kamayeva; Tech. Ed.: P.G. Islent'yeva.

PURPOSE: This collection of articles is intended for metallurgical engineers, physicists, and workers in the machine-building and radio-engineering industries. It may also be used by students of schools of higher education.

COVERAGE: The collection contains technical papers which were presented and discussed at the First All-Union Conference on Rare-Metal Alloys, held in the Institute of Metallurgy, Academy of Sciences USSR in November 1957. Results of investigations of rare-metal alloys, titanium, and copper-base alloys with additions of rare metals are presented and discussed along with investigations of rhenium, vanadium, niobium, and their alloys. The effect of rare-earth metals on properties of magnesium alloys and steels is analyzed. The uses of rhenium as a dehydrating catalyst, electroplating material, and material suitable for making plugs for automobile electrical systems are discussed. Also, the effect of the addition of certain elements on the properties of heat-resistant steel is examined and alloys with special physical properties (particularly semiconductive alloys) are discussed. No personalities are mentioned. Soviet and non-Soviet references accompany some of the articles.

PART II. TITANIUM AND COPPER-BASE ALLOYS WITH RARE-METAL ADDITIONS

Rare Metals (Cont.) SOV/4164

PART VI. ALLOYS WITH SPECIAL PHYSICAL PROPERTIES

PART VII. RESOLUTION

AVAILABLE: Library of Congress
Card 8/8

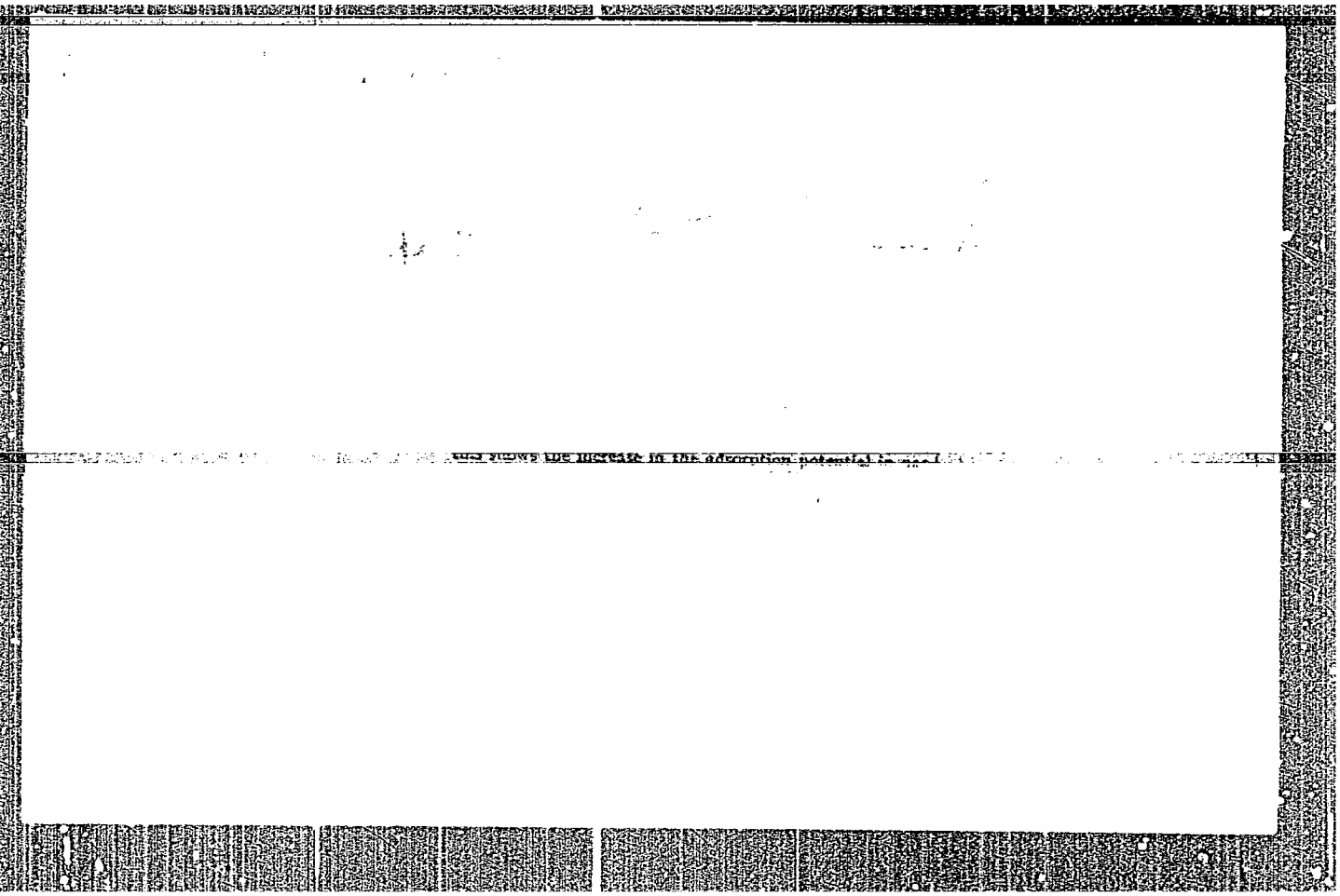
VK/wrc/sfm
10/14/60

YELTANSKIY, N.N., starshiy inzh.

Measures which helped to increase the reliability of the armature bearings of ChS1 electric locomotive. Elek.i tepl. tiaga 6 no.2:10-12 F '62. (MIRA 15:2)

1. Lokomotivnyy otdel Moskovsko-Kurskogo otdeleniya Moskovskoy dorogi.

(Electric locomotives—Safety devices)



SHEVCHENKO, F.I.; AKHTAMOV, M.A.; ISHCHENKO, G.N.; YEL'TEKOA, N.I.

Some results of the study of Escherichia coli with relation to problems in the etiology of diarrhea in infants. Pediatriia 38 no.1:17-23 '60. (MIRA 13:10)
(DIARRHEA) (ESCHERICHIA COLI)

AUTHOR: Elterman, E.M., Candidate of Technical Sciences. 400

TITLE: The rational use of ovens for enamelling wire. (Ratsionalnoye ispolzovaniye pechey dlya emalirovaniya provoloki.)

PERIODICAL: "Vestnik Elektropromyshlennosti" (Journal of the Electrical Industry) 1957, Vol. 28, No. 4, pp. 68 - 69 (U.S.S.R.)

ABSTRACT: The most common type of enamelling ovens in Soviet factories are vertical ovens designed by the All-Union Scientific Research Institute for the Protection of Labour of the All-Union Central Council of Trades Unions in Leningrad. This article gives information about the design of these ovens.

The oven consists of a vertical closed shaft from 0.7 to 3.5 metres high containing electric heaters. The upper and lower ends of the furnace contain long slots 0.5 to 30.0 mm wide, depending on the diameter of the wire being enamelled. The area of the slot is usually 6 - 7 percent of the cross-sectional area of the shaft. There is a continuous flow of air through the shaft caused by convection which removes a considerable quantity of heat. This air contains solvent vapours and so has to be removed from the shop by a local extraction fan. A formula is given for the rate of flow of air into the slot at the bottom of the furnace. The quantity of air passing, other things being equal, is a function of the height of the furnace and the mean temperature in it. A graph is given of the relationship between the rate of flow of air and the height of the furnace for a mean temperature of 300 °C. A further graph is given of relationships between

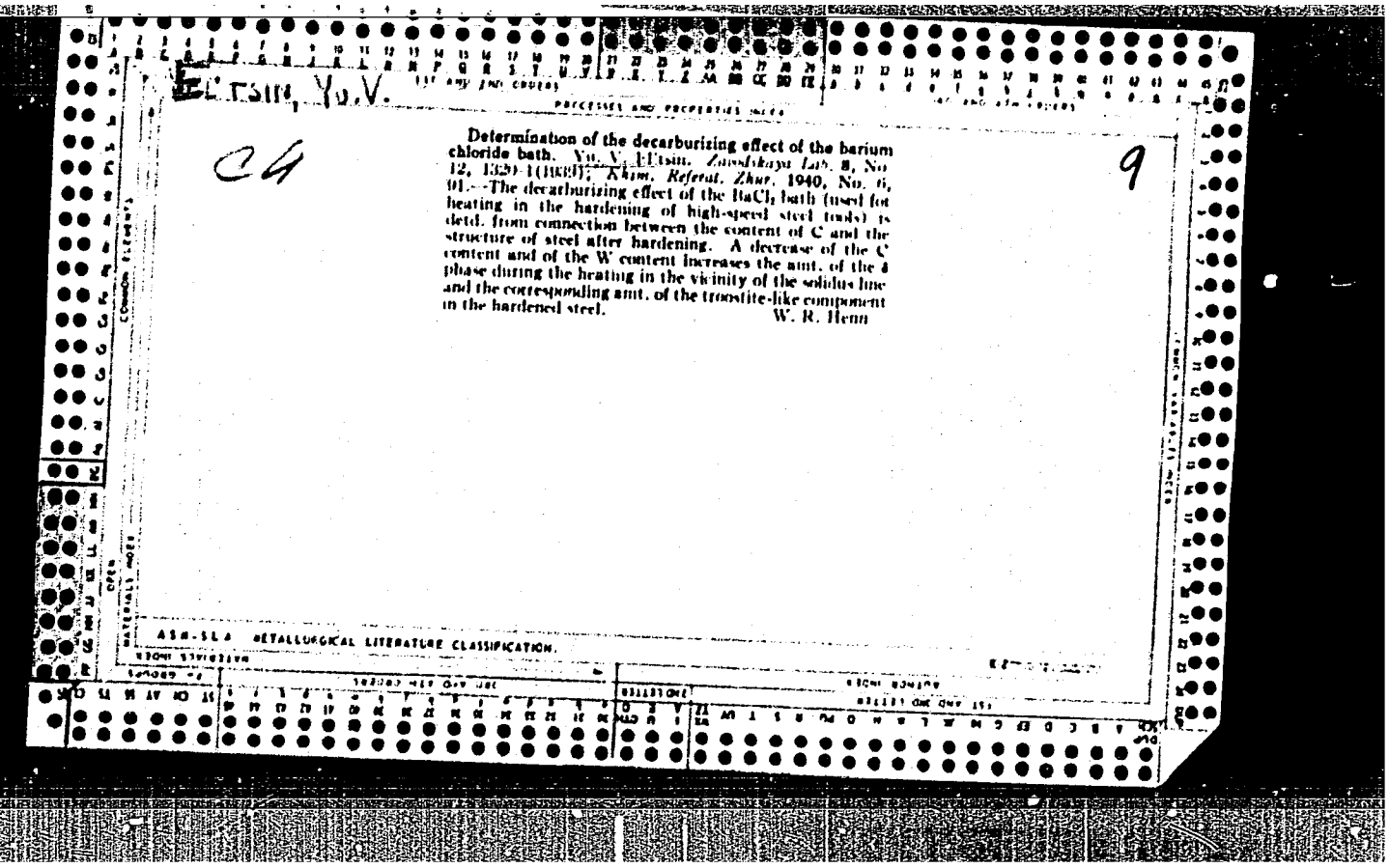
The rational use of ovens for enamelling wire. (Cont.) 400

the rate of flow of air through the lower slot and the mean temperature for furnaces of different height. In order to check the accuracy of the formula determinations were made of the actual quantities of air passing through the furnaces at a particular factory. The results of over 100 tests are plotted on the same graph as the theoretical curve and show a good agreement. It is advisable to reduce the amount of air passing through the ovens, both to reduce the amount of air that has to be handled by the extraction fan and to reduce the loss of heat into the shop. This can be done by the provision of dampers.

2 figures, no literature references.

YEL'TSEV, F.

Hardening with gas-oxygen flame. Mashinostroitel' no.7:13-14 Jl '62.
(Steel--Hardening)



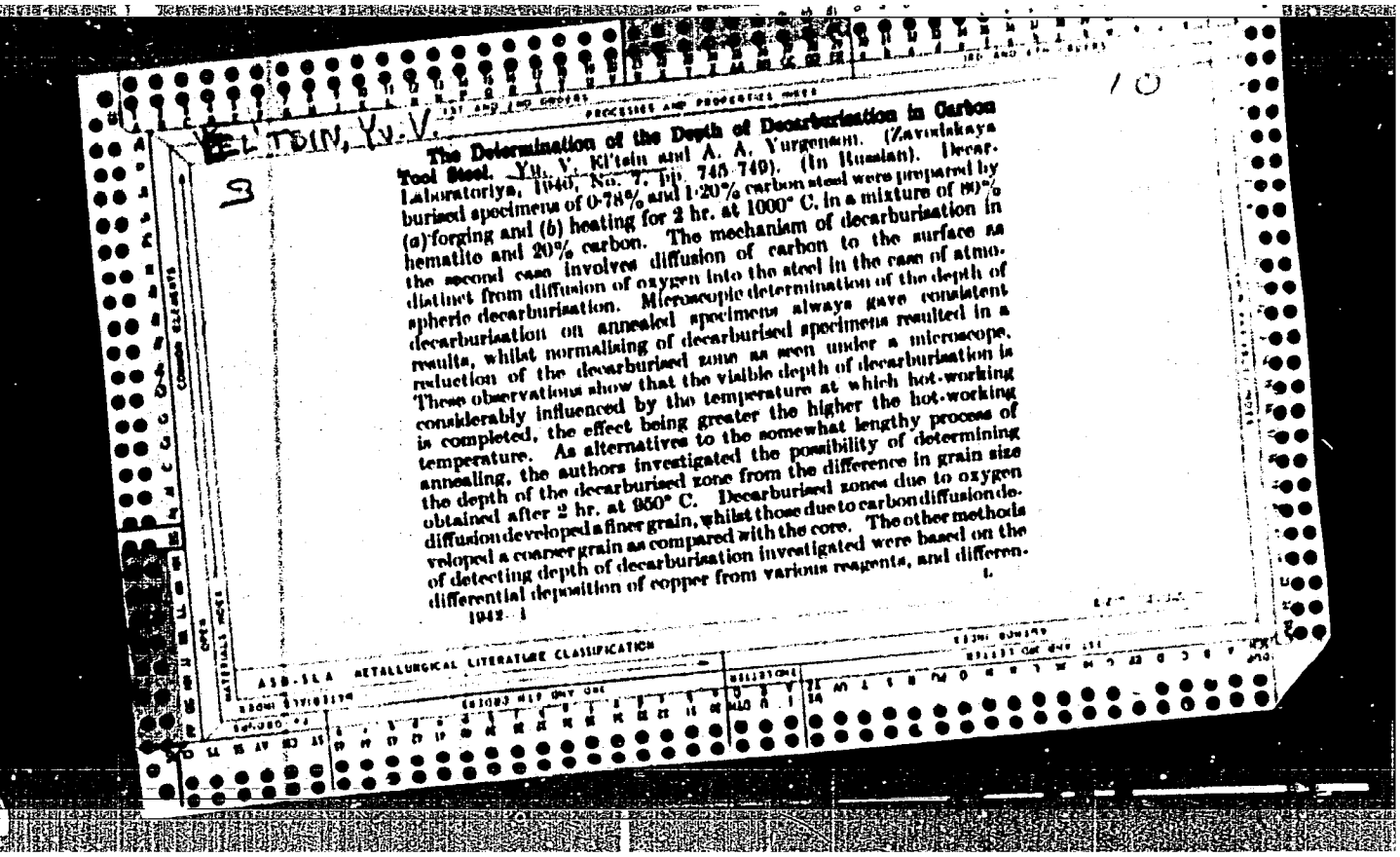
ELTSIN, Yu.V.

C4

9

Determination of the decarburizing effect of the barium chloride bath. Yu. V. Eltsin. *Zavodskaya Lab.* 8, No 12, 1359-1(1939); *Khim. Referat. Zhur.* 1940, No. 6, 91.--The decarburizing effect of the $BaCl_2$ bath (used for heating in the hardening of high-speed steel tools) is detd. from connection between the content of C and the structure of steel after hardening. A decrease of the C content and of the W content increases the amt. of the δ phase during the heating in the vicinity of the solidus line and the corresponding amt. of the troostite-like component in the hardened steel.
W. R. Henn

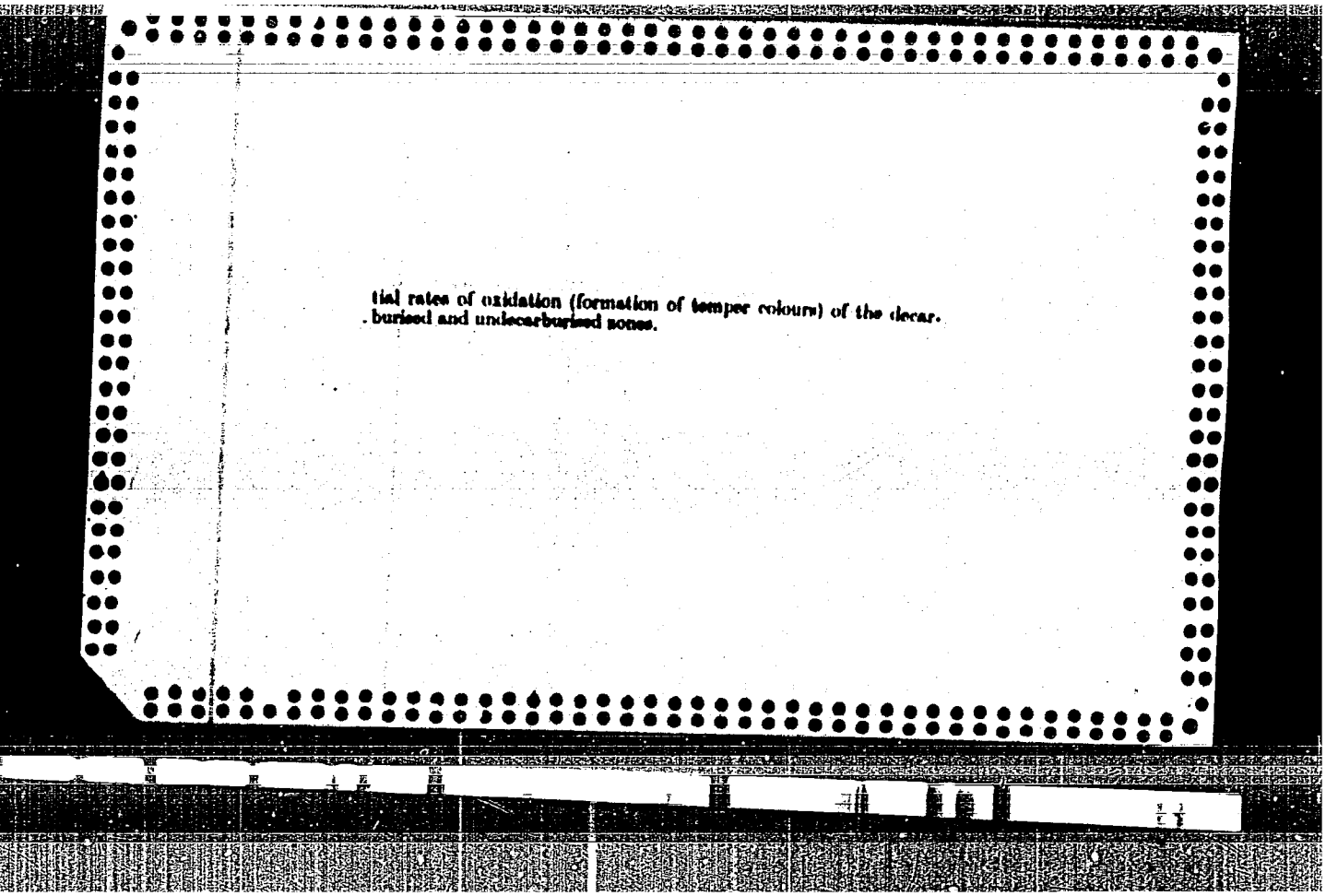
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



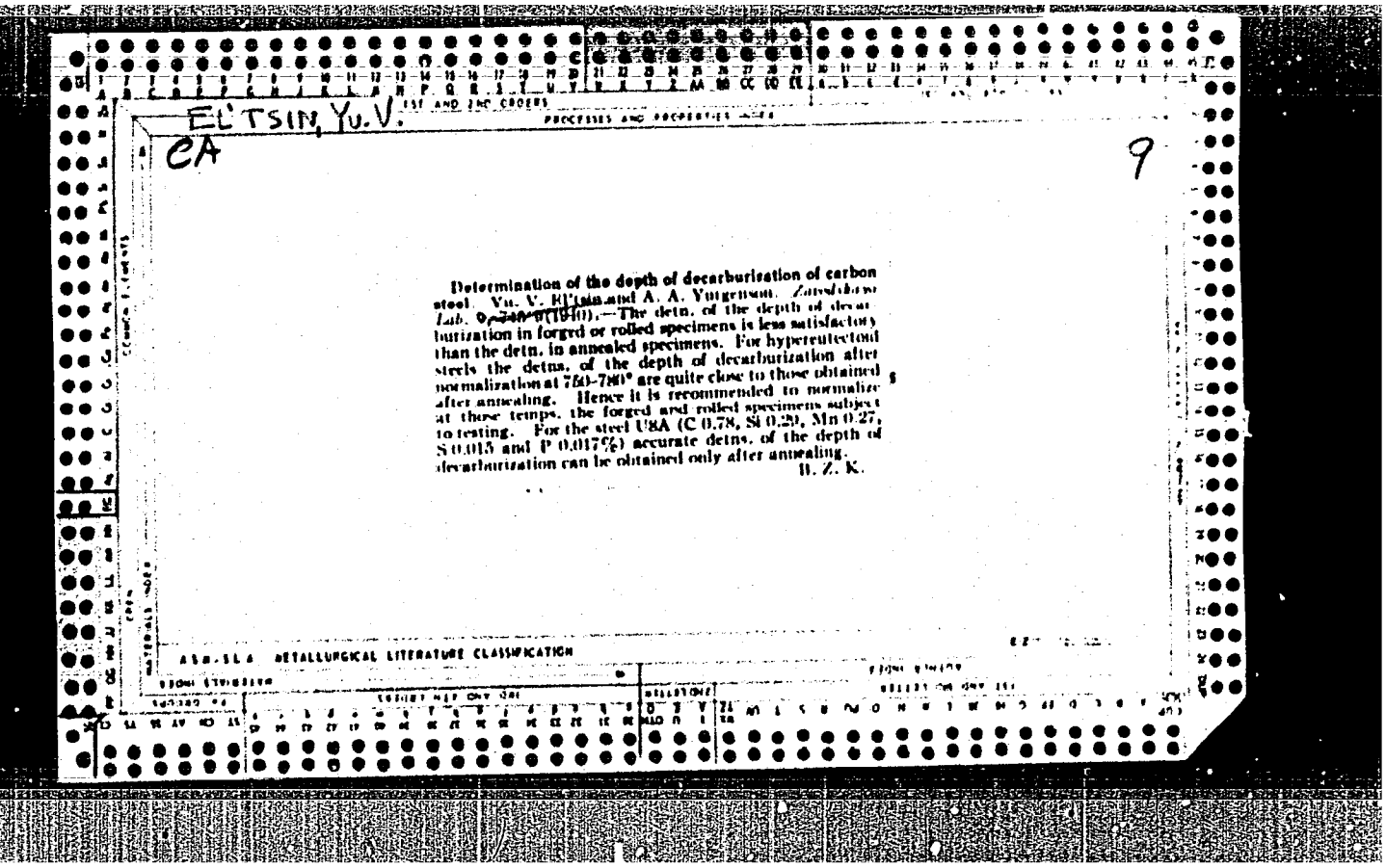
KL'TSIN, Yu. V.

The Determination of the Depth of Decarburization in Carbon Tool Steel. Yu. V. Kl'tsin and A. A. Yurgenami. (Zavodskaya Laboratoriya, 1940, No. 7, pp. 745-749). (In Russian). Decarburised specimens of 0·78% and 1·20% carbon steel were prepared by (a) forging and (b) heating for 2 hr. at 1000° C. in a mixture of 80% hematite and 20% carbon. The mechanism of decarburisation in the second case involves diffusion of carbon to the surface as distinct from diffusion of oxygen into the steel in the case of atmospheric decarburisation. Microscopic determination of the depth of decarburisation on annealed specimens always gave consistent results, whilst normalising of decarburised specimens resulted in a reduction of the decarburised zone as seen under a microscope. These observations show that the visible depth of decarburisation is considerably influenced by the temperature at which hot-working is completed, the effect being greater the higher the hot-working temperature. As alternatives to the somewhat lengthy process of annealing, the authors investigated the possibility of determining the depth of the decarburised zone from the difference in grain size obtained after 2 hr. at 950° C. Decarburised zones due to oxygen diffusion developed a finer grain, whilst those due to carbon diffusion developed a coarser grain as compared with the core. The other methods of detecting depth of decarburisation investigated were based on the differential deposition of copper from various reagents, and differen-

1942. I



tial rates of oxidation (formation of temper colours) of the decar-
. burised and undecarburised zones.



ELTSIN, Yu. V.

CA

9

Determination of the depth of decarburization of carbon steel. Yu. V. El'tsin and A. A. Yurgenson. *Zavodskaya Lab.* 9, 740-1(1940).—The detn. of the depth of decarburization in forged or rolled specimens is less satisfactory than the detn. in annealed specimens. For hypereutectoid steels the detns. of the depth of decarburization after normalization at 760-780° are quite close to those obtained after annealing. Hence it is recommended to normalize at these temps. the forged and rolled specimens subject to testing. For the steel U8A (C 0.78, Si 0.29, Mn 0.27, S 0.015 and P 0.017%) accurate detns. of the depth of decarburization can be obtained only after annealing.

H. Z. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOZHEUROV, P. I.; KEL'TSIN, Yu. V.; GAVRILOV, V. N.

"Cast Cutter Holders," (From experience at the Kirov Plant), 16, No. 3, 1945.

BR-52059019

USSR/Miscellaneous - Temperature Measurement

Card : 1/1

Authors : Eltsin, Yu. V. and Antonova, V. F.

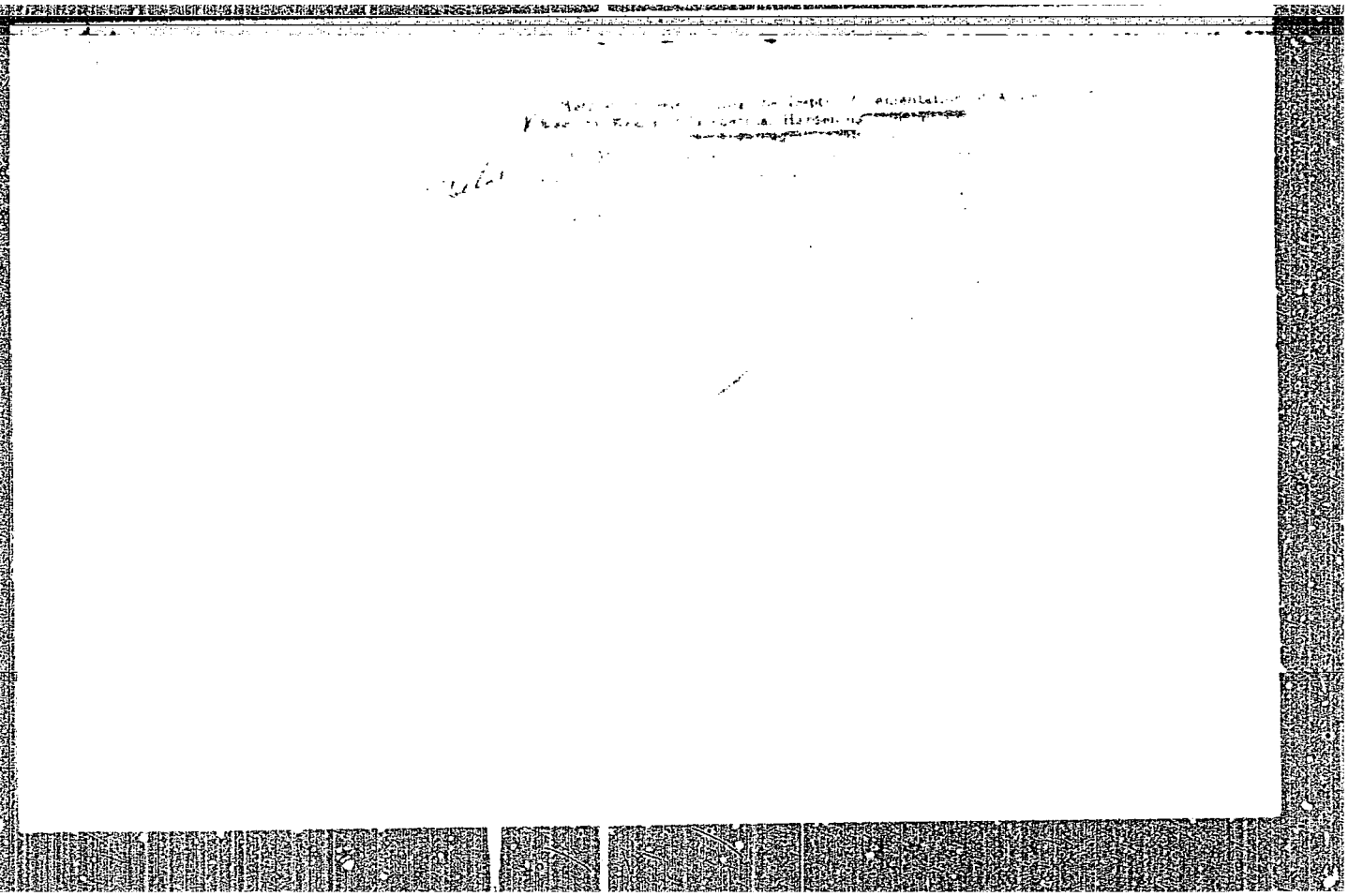
Title : About temperature correction of ardometer readings.

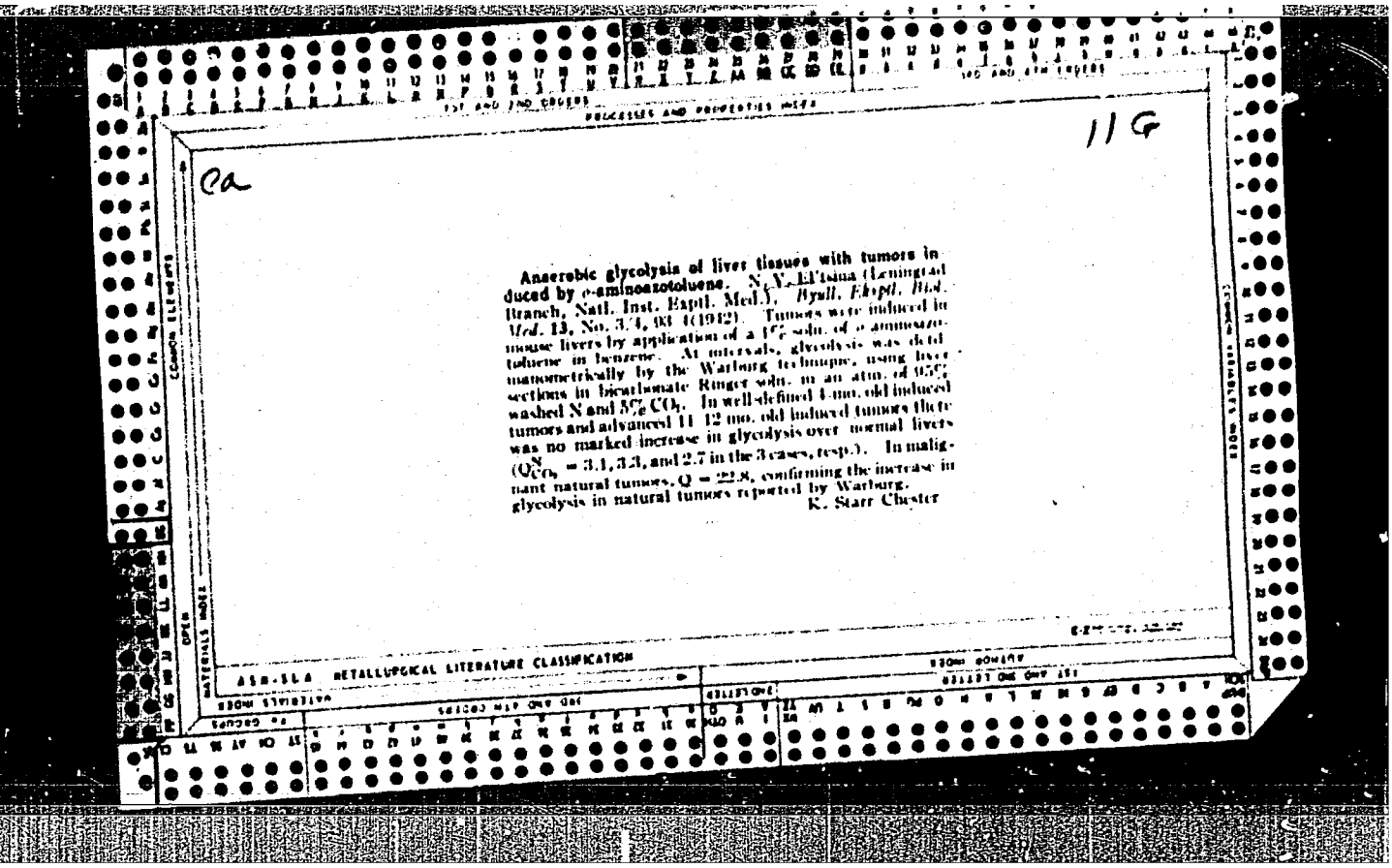
Periodical : Stan i instr, 3, 36 - 37, Mar 1954

Abstract : A new method of temperature correction of ardometer readings, which permits evaluation of temperature corrections within 5°C. is described. This method consists of the visual observation of noticeably changing granularity in cross sections of steel rods of small diameter and comparing their appearance with that of a machined article. A table of characteristics of the cross sections of the steel rods of "R18 steel" is given.

Institution : .....

Submitted : .....



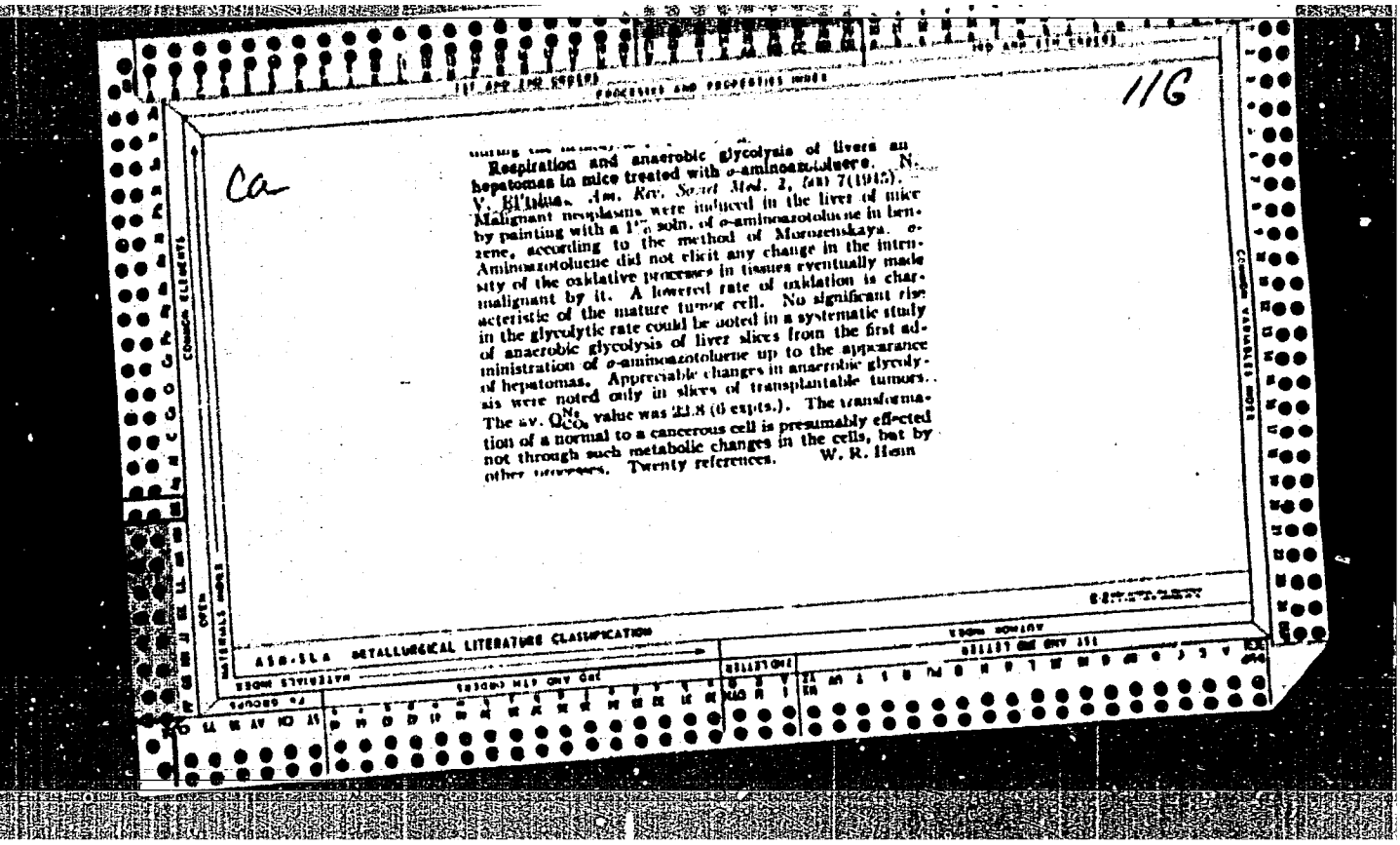


11 G

Qa

Anaerobic glycolysis of liver tissues with tumors induced by o-aminoazotoluene. N. V. Il'ina (Leningrad Branch, Natl. Inst. Exptl. Med.). *Byull. Eksptl. Biol. Med.* 13, No. 3/4, 91 (1942). Tumors were induced in mouse livers by application of a 1% soln. of o-aminoazotoluene in benzene. At intervals, glycolysis was detd. manometrically by the Warburg technique, using liver sections in bicarbonate Ringer soln. in an atm. of 95% washed N and 5% CO_2. In well-defined 4-mo.-old induced tumors and advanced 11-12-mo.-old induced tumors there was no marked increase in glycolysis over normal livers ($Q^{N}_{CO_2}$ = 3.1, 3.3, and 2.7 in the 3 cases, respt.). In malignant natural tumors, Q = 22.8, confirming the increase in glycolysis in natural tumors reported by Warburg.

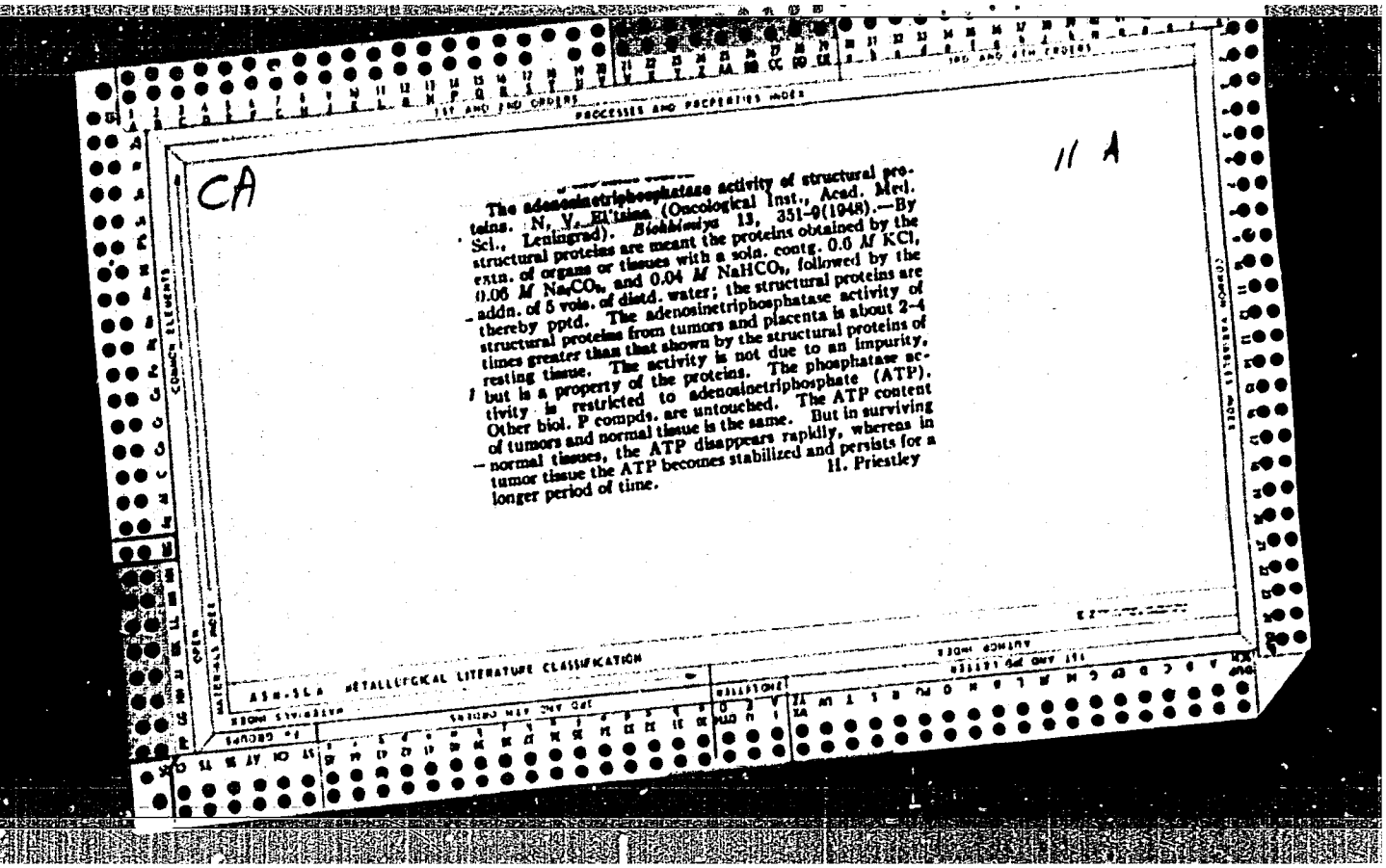
K. Starr Chester



Ca

11G

Respiration and anaerobic glycolysis of livers an hepatomas in mice treated with *o*-aminoazotoluene. N. V. El'kina. *Am. Rev. Soviet Med.* 2, (a) 7(1945). Malignant neoplasms were induced in the liver of mice by painting with a 1% soln. of *o*-aminoazotoluene in benzene, according to the method of Morozenskaya. *o*-Aminoazotoluene did not elicit any change in the intensity of the oxidative processes in tissues eventually made malignant by it. A lowered rate of oxidation is characteristic of the mature tumor cell. No significant rise in the glycolytic rate could be noted in a systematic study of anaerobic glycolysis of liver slices from the first administration of *o*-aminoazotoluene up to the appearance of hepatomas. Appreciable changes in anaerobic glycolysis were noted only in slices of transplantable tumors. The av. $Q_{CO_2}^{N_2}$ value was 21.8 (6 expts.). The transformation of a normal to a cancerous cell is presumably effected not through such metabolic changes in the cells, but by other processes. Twenty references. W. R. Hesin



CA

11 A

The adenosinetriphosphatase activity of structural proteins. N. V. Il'ina (Oncological Inst., Acad. Med. Sci., Leningrad). *Biokhimiya* 13, 351-9(1948).—By structural proteins are meant the proteins obtained by the extn. of organs or tissues with a soln. contg. 0.6 *M* KCl, 0.06 *M* Na_2CO_3, and 0.04 *M* $NaHCO_3$, followed by the addn. of 5 vols. of distd. water; the structural proteins are thereby pptd. The adenosinetriphosphatase activity of structural proteins from tumors and placenta is about 2–4 times greater than that shown by the structural proteins of resting tissue. The activity is not due to an impurity, but is a property of the proteins. The phosphatase activity is restricted to adenosinetriphosphate (ATP). Other biol. P compds. are untouched. The ATP content of tumors and normal tissue is the same. But in surviving normal tissues, the ATP disappears rapidly, whereas in tumor tissue the ATP becomes stabilized and persists for a longer period of time.

H. Priestley

YEL'TSINA, N. V.

Yel'tsina, N. V. "The adenosine triphosphate activity of tumors and normal tissues," Trudy Akad. med. nauk SSSR, Vol. 1, 1949, p. 284-91--Bibliog: ? items.

SO: U-411, 17 July 1953, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949)

CH 11A

Endogenous anti-Pasteur factor. N. V. El'tsina and I. F. Selts. *Doklady Akad. Nauk S.S.S.R.* 70, 457–60 (1950).—A search for the factor that causes disruption of the Pasteur effect in cells with predominantly aerobic metabolism (baker's yeast and avian erythrocytes) was conducted. Treatment of the healthy and malignant tissues with 0.5 *N* acid or alkali at 100° (10–60 min.) and centrifuging gave prepns. from rat liver, kidney, placenta, muscle and cancerous tissues, as well as from pigeon erythrocytes, human breast carcinoma, and baker's yeast, which contained the active anti-Pasteur effect factor, as shown by respirometric studies. Such prepns. cause in pigeon erythrocytes intense aerobic glycolysis and sharply reduce respiratory phosphorylation. The factor is stable to 100° in acid or alk. media, and either autolysis or alk. hydrolysis actually increases its potency; removal of protein with trichloroacetic acid does not affect it; it is insol. in Et_2O or $CHCl_3$ and can be dialyzed.

G. M. Kosolapoff

CA

11A

Effect of endogenous tissue factors on the Pasteur reaction and attendant phosphorylation. I. P. Seits and N. V. Il'yina (Acad. Med. Sci., Leningrad). *Biokhimiya* 16, 702-7(1951); cf. *C.A.* 44, 3841c. The Pasteur effect (aerobic inhibition of fermentation) can be nullified (appearance of aerobic glycolysis) by substances present in normal and cancerous tissue. Thus, a suspension of yeast, when properly aerated, shows a complete absence of fermentation. But in the presence of rat sarcoma exts. (especially hydrolyzed ones), aerobic fermentation of the yeast equals or surpasses the fermentation expts. with cyanide. Respiratory phosphorylation in cell erythrocytes is inhibited to the extent of 90–95% by the anti-Pasteur factor from bakers' yeast and rat sarcoma (tests with P^{32}). The active ingredient is found in the unsaponifiable fraction of tissues and is extd. by org. solvents. The anti-Pasteur factor is probably a sterol. The appearance of intense aerobic glycolysis and the (uncompensated) decompn. of P esters in tissues and cells during injury can be explained by the liberation of the endogenous anti-Pasteur factor. H. P.

1951

CA

116

Respiratory and glycolytic phosphorylation in a cancer cell. N. V. Lit'vina and I. F. Scits. *Doklady Akad. Nauk S.S.S.R.* 77, 653-6(1951).—The study of Ehrlich carcinoma cells with the aid of labeled P showed that the reduced rate of respiration is not connected with any particular step of the respiratory process but relates to the process as a whole. Along with the weak Pasteur reaction, the cancer cells show a distinct reverse Pasteur reaction as evidenced by a sharp repression of oxidative processes by glycolysis. In the presence of glucose in a N atm. entry of P^{32} into org. fractions at the expense of a glycolytic split of sugar is considerable, and while the latter is rather high in the presence of O the extent of esterification of P is almost 50% lower. Under nearly physiol. conditions the phosphorylation rate is nearly equal in both instances, as long as glycolysis proceeds. An increase of lactic acid concn. immediately lowers the phosphorylation rate; the glycolytic mechanism accounts for some 70% of phosphorylation.

G. M. Kosolapoff

1951

EL'TSINA, N. V.

Chem Abs V48
1-25-54
Pathology

The role of glycolytic and oxidative processes in renewal of proteins of tumor cells. N. V. El'tsina. *Doklady Akad. Nauk S.S.S.R.* 91, 391-4(1953).—The cells of Ehrlich carcinoma were exam'd. in Ringer-$NaHCO_3$ suspension by the manometric method. Oxidative processes were blocked when desired by KCN or NaN_3, while glycolytic processes were blocked by elimination of the glucose supply. The renewal rate of proteins was detd. by the use of radioactive methionine whose rate of assimilation into the cells was used as the index. Assimilation of the labeled acid into protein took place only when either glycolytic or respiratory processes were proceeding. When the latter process alone was possible the rate of assimilation was but 60% of the control, in which glycolysis only was possible. In the presence of glucose the aerobic and the anaerobic specimens gave similar results, the former being only about 9% above the latter in the rate of protein renewal. Animal protein factor (from bakers' yeast) sharply reduced the assimilation of labeled methionine into the cancerous cells without blocking respiration, whether or not glycolysis was possible, indicating the importance of the normal energy-rich phosphates in the protein-renewal process. G. M. Kosolapoff

2646. ELTSINA N. V. • Metabolism of tumour cells (Russian text) DOKLADY AKAD. NAUK SSSR 1955, 104/3 (436-439) Graphs 2

Tumour cells have an aerobic as well as an anaerobic metabolism, as shown by a marked reversed and a weak direct Pasteur reaction. The biological significance of respiration and glycolysis lies not only in energy spending but also in the 'plastic tissue metabolism' which is involved in the building up of living substance (a fact emphasized lately by Engelhardt). The metabolic activity of the cancer cell is characterized by the fact that the amount of lactic acid produced in a few hours of aerobic glycolysis is the same as the dry weight of the neoplasm. Experiments with ascites cells from an Ehrlich carcinoma in Ringer's bicarbonate solution showed that two energetic processes are involved in carbohydrate assimilation by cancer cells for the production of protein, lipids and nucleic acids. Experiments in the Warburg apparatus excluded glycolysis by bromacetate, and oxidation by cyanide alternately. The glucose was photosynthetically marked with the aid of $BaC^{14}O_3$. The radioactivity of proteins, nucleic acids and lipids secreted by ascites cells was determined with the aid of special apparatus after mounting and drying on filter paper. Under normal conditions the radioactivity of the protein fraction, the nucleic acids and the lipids reaches its maximum; in the case of inhibition of glycolysis by monobromacetate the radioactivity of all fractions shows a marked decrease; after exposure to cyanide it is but slightly increased. These observations suggest that pentose synthesis is based on condensation of 3C or 2C-bearing compounds rather than on direct oxidation of glucose-6-phosphate. 'The

Inst. Oncology AMS USSR

2646 CONT.

aerobic glycolysis of neoplastic cells has a biological meaning because not only does it ensure a higher phosphorylization level but also it provides the required building material." The experimental material so far studied is not yet sufficient to afford a solution of this difficult problem. Experiments are now being made with local marking of glucose in 1-C^{14}. An attempt to inhibit tumour growth by using so-called assimilatory toxins (dinitrophenol, Asid) seems rather useless because under these conditions the carbohydrate assimilation in the plastic metabolism even increases.

Brandt - Berlin (V, 16)

YEL'TSINA, N. V.

USSR / General Problems of Pathology. Tumors. U

Abs Jour: Ref Zhur-Biol., No 9, 1958, 41987.

Author : Yel'tsina, N. V.
Inst : Not given.
Title : Restitution of Phosphorus Compounds in Tumor Tissue Under the Effect of X-rays.

Orig Pub: Vopr. onkologii, 1956, 2, No 3, 312-315.

Abstract: As a result of irradiation of mice with Erlich's carcinoma, with 1000 r, a decrease of inclusion in vivo of 60% of P^{32} into Desoxyribonucleic acid of the tumor occurred within the first 24 hours. Inclusion into ribonucleic acid and phospholipids is inhibited to a lesser degree. -- G. P. Georgiyev.

Engel'gart's group, + Roengens.-Radiology Dept. Inst Oncology - Acad Medical Sci USSR

Card 1/1

23

YELTSINA, N.V.

EXCERPTA MEDICA Sec 16 Vol 7/9 Cancer Sept 59

3593. **The correlation of energetic and synthetic processes in different cell types (Russian text)** ELZINA N. V. Inst. of Oncol. AMS, Leningrad *Vopr. Onkol.* 1958, 4/5 (515-520) Graphs 2 Tables 1

The anaerobic metabolism of tumour cells is a compensatory mechanism resulting from an insufficiency of the energetic respiratory exchange. The tumour cell intensively utilizes carbohydrates for the synthesis of proteins, nucleic acids, and lipids, but this takes place only in the presence of glycolysis and respiration. The arrest of these latter 2 mechanisms results in a sharp decrease of the carbohydrate utilization during constructive metabolism. The aerobe Saccharomyces cerevisiae is characterized by a more effective energetic respiratory exchange than the anaerobic type, and by the possibility of the active utilization of carbohydrates as a constructive material by means of a simple respiratory exchange.

*V. A. Engelgardt's Group

YEL'TSINA, N.V., ENGEL'GARDT, V.A.

Pathways of cabohydrate introduction in plastic metabolism of cancer cells [with summary in English] Biokhimiia 23 no.3:468-492 My-Je '58 (MIRA 11:8)

1. Institut eksperimental'noy terapii raka AMN SSSR, Moskva.
(CARBON metabolism,
cancer cell (Rus))
(NEOPLASMS, metabolism,
carbon (Rus))

YEL'TSINA, N.V.

Energy metabolism of cancer cells. Biokhimiia 25 no.1:135-142 Ja-F '60. (MIRA 13:6)

1. Institute of Experimental and Clinical Oncology, Academy of Medical Sciences of the U.S.S.R., Moscow.
(NEOPLASMS metab.)

YELTSINA, N. V., and VERESOTSKAYA, N. A. (USSR)

"Mechanisms for Maintenance of the ATP Level in the Cancer Cell."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

39232
S/218/62/027/003/004/005
I018/I218

27 1100

AUTHOR: Yel'tsina, N. V. and Veresotskaya, N. A.

TITLE: The effect of deoxyglucose on tumor cells

PERIODICAL: Biokhimiya, v. 27, no. 3, 1962, 452–457

TEXT: The product Deoxyglucose + ATP + hexokinase ± APP + 2-deoxyglucos-6-phosphate does not undergo any further metabolism which may result in a gain of ATP. Thus, glycolytic phosphorylation is arrested. Under these conditions, only oxidative phosphorylations is feasible. However, the ATP formed by mitochondria can also be trapped by the hexokinase which in tumor cells is located on the surface of mitochondria. In the presence of deoxyglucose the two types of phosphorylation may be eliminated. The addition of 2-deoxyglucose to tumor cells of various strains (Saidel hepatoma, cancer of rat ovary, Ehrlich carcinoma) resulted in a disappearance of ATP, decrease in ADP and accumulation of AMP. The sharp decrease in the ATP/ADP ratio was due to a marked decrease in the concentration of inorganic phosphorus in the mitochondria, and depletion in ATP used up in the phosphorylation of 2-deoxyglucose. This led to a complete cessation of oxidative phosphorylation in tumor cells. On the other hand, deoxyglucose was almost without any effect on oxidative phosphorylation in normal liver and kidney sections. It was assumed that the difference in action of deoxyglucose on tumor and normal tissue was due to the different activity and location of hexokinase in both kinds of cells. Treatment of tumors with deoxyglucose could be attempted

Card 1/2

The effects of...

only after elimination of the competetive action of glucose. Treatment of tumors with deoxyglucose should be attmepted by regional perfusion of the antimetabolite, with the exclusion of glucose from the tumor tissue.

ASSOCIATION: Institut e'ksperimental'noi i klinicheskoi onkologii Akademii meditsinskikh nauk SSSR. (Institute of Experimental and Clinical Cancer Research Academy of Medical Science USSR, Moscow)

SUBMITTED: October 9, 1961

Card 2/2

YEL'TSOV, A.I. (Vologda)

Lebesgue squarability of a certain type of parametrized ruled surfaces. Izv.vys.ucheb.zav.; mat. no.6:85-92 '65. (MIRA 19:1)

1. Submitted May 13, 1964.

YEL'TSOV, A.I.

Some data on the treatment of peptic ulcer in children in the children's sanatorium at "Ozero Shira." Vop.okh.mat. i det. 4 no.6: 22-25 N-D '59. (MIRA 13:4)

1. Iz detskogo sanatoriya "Ozero Shira" (glavnyy vrach A.I. Yel'tsov) i iz kafedry fakul'tetskoy pediatrii Tomskogo meditsinskogo instituta (zaveduyushchiy - prof. A.F. Smyshlyayeva).
(PEPTIC ULCER) (SHIRA, LAKE--CHILDREN--HISPITALS)

YEL'TSOV, A.I.; NEYLAND, E.A.; KOLESNIKOVA, Ye.N.

Treatment of children with diabetes mellitus at the Yessentuki "Lunost'" sanatorium. Vop. okh. mat. i det. 6 no.8:26-28 Ag '61. (MIRA 15:1)

1. Iz Yessentukskogo detskogo sanatoriya "Yunost'" (glavnyy vrach A.I.Yel'tsov) Severo-Kavkazskogo zonal'nogo upravleniya spetsiali - zirovannykh sanatoriyev Ministerstva zdravookhraneniya RSFSR (nach. G.I.Kazachok).

(YESSENTUKI--DIABETES)

YEL'TSOV, A.I. (Vologda)

Squarability of a Lebesgue type ruled surface. Izv.vys.ucheb. zav.; mat. no. 1:40-45 '64. (MIRA 17:5)

Yel'tsov, A.V.

USSR/Inorganic Chemistry - Complex Compounds. C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30330

Author : Alekseyevskaya, N.V., Grigor'yev, V.B., Yel'tsov, A.V.
Inst : Leningrad of Chromium Hydroxide with Hydrogen Peroxide.
Title : Interaction of Chromium Hydroxide With Hydrogen Peroxide.
Orig Pub : Sb. stud. rabot Leningr. tekhnol. in-t im. Lensoveta. L., 1956, 18-21

Abst : Study of changes in properties of chromogel (I) on thermal treatment and catalytic decomposition of H_2O_2 by specimens of I, prepared under different conditions. It was found that evolution of hygroscopic moisture ceases at 170°, and at 320° I changes from amorphous to crystalline state. Specific surface of I, determined by the BET method, increases with temperature of the thermal treatment, reaches a maximum at 200° and decreases thereafter. At beginning of interaction of I with H_2O_2 the solution acquires a violet coloration due to formation of H_3CrO_8. When little H_2O_2 is left a vigorous reaction sets in, O_2

Card 1/2

USSR/Inorganic Chemistry - Complex Compounds. C.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30330

is emitted together with water vapor and color of the solution changes to yellow. Rate of catalytic decomposition of H_2O_2 is lowered with increasing temperature of the thermal treatment of I. The samples of I treated at 300° constitute an exception and show the highest activity, which is apparently associated with the state of transition from amorphous to a crystalline structure.

Card 2/2

Yel'tsov, A V

463

AUTHORS: Efros, L. S., and Yel'tsov, A. V.

TITLE: Investigation of Imidazole Derivatives. Part 15. Nitration of Benzimidazolone and 1,3-dimethylbenzimidazolone (Issledovaniye v oblasti proizvodnykh imidazola. XV. Nitrovaniya benzimidazolona i 1,3-dimetilbenzimidazolona)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, No. 1, pp. 127-135 (U.S.S.R.)

ABSTRACT: Because of the absence of systematic investigations on imidazole derivatives the authors began with the study of the nitration reaction of benzimidazolone and found that at very soft conditions (at 0° and with equimolecular amount of nitric acid) benzimidazolone dissolved in concentrated sulfuric acid easily forms good yields of 5-nitrobenzimidazolone. This product was identified with the one obtained by the Kym-Rattner (2) prescription from 1,2-diamino-4-nitrobenzene and urea. The product (4-nitrobenzimidazolone) derived from urea and 1,2-diamino-3-nitrobenzene could not be separated from the reaction products. It is evident that direct nitration of benzimidazolone does not yield great amounts of this product which is in good conformity with the general properties of benzimidazolones. Trinitro- and tetranitro derivatives of benzimidazolone and 1,3-dimethylbenzimidazolones in cold state

Card 1/2

substitute their mobile nitro groups with aniline radicals. The analogy in the nitration reaction tendency of benzimidazolone and 1,3-dimethylbenzimidazolone on one hand and other benzimidazole derivatives on the other hand confirms a previous hypothesis by L. S. Efros (4) regarding the formation by the benzimidazolones and their analogues in a strong acid medium of cations as result of addition of the proton from the medium to the oxygen atom and it shows the incompetence of the statement that the benzimidazolone enters into reaction in tautomeric form of 2-oxybenzimidazole. One list of chemical formulas. There are 5 references, of which 1 is Slavic.

ASSOCIATION: The Leningrad Technological Institute im. Lensovet (Leningradskiy Tekhnologicheskiy Institut im. Lensoveta).

PRESENTED BY:

SUBMITTED: January 30, 1956

AVAILABLE:

Card 2/2

: YEL'TSOV, A.V.

AUTHORS: Venus-Danilova, E. D.; Serkova, V. I.; Yel'tsov, A . V. 79-2-13/58

TITLE: Study of Pinacol Conversions with Substituted Acetylene Radicals, Part 14. Synthesis and Conversions of Nonsymm. Methyl-Diphenyl-Tertiary-Butylacetylenyl-Ethylene Glycol (1,1-Diphenyl-2,5,5-Trimethylhexine-3-diol-1,2) (Issledovaniye prevrashcheniy pinakonov s zameshchennymi atsetilenovymi radikalami. XIV. Sintez i prevrashcheniye nesimm.metil-difenil-tretichnobutilatsetilenil-etilenglikolya (1,1-difenil-2,5,5-trimetil-geksin-3-diol-1,2).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No. 2, pp. 334-339 (U.S.S.R.)

ABSTRACT: The authors synthesized a new representative of acetylene series pinacols of nonsymmetrical methyl-diphenyl-tertiary-butylacetylenyl-ethyleneglycol and showed that this pinacol when heated with a 41.5% aqueous solution of sulfuric acid converts into enin alcohol - 1,1-diphenyl-2-methylene-5.5 dimethylhexine-3-01-1. The effects of different sulfuric acid concentrations on nonsymmetrical ethylene glycols are described. The structure of the enin alcohol - 1.1-diphenyl-2-methylene-5,5-dimethylhexine-3-01-1 was

Card 1/2

79-2-13/58

Study of Pinacol Conversions with Substituted Acetylene Radicals. Part 14.

proven during its oxidation and derivation of benzophenone, benzilic, formic and trimethylacetic acids. It was revealed that the reaction of the alcohol solution of nonsymmetrical methyl-diphenyl-tertiary-butylacetylenyl-ethylene glycol with 2,4-dinitrophenylhydrazine in the presence of sulfuric acid leads to the formation of 2,4-dinitro-phenylhydrazone, corresponding to isomeric ethylene gamma-katoalcohol - 1,1-diphenyl-2,5,5-trimethylhexene-2-01-1-on-4.
There are 19 references, of which 17 are Slavic

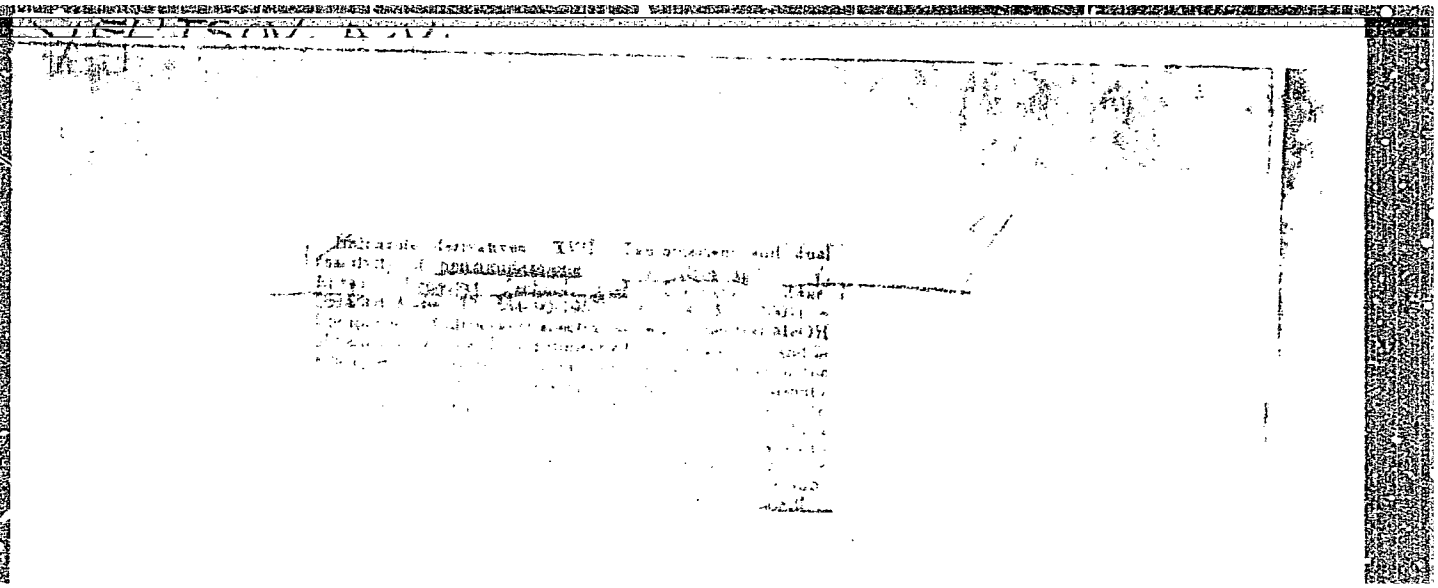
ASSOCIATION: Leningrad Technological Institute imeni Leningrad Soviet

PRESENTED BY:

SUBMITTED: March 24, 1956

AVAILABLE: Library of Congress

Card 2/2



YEL'TSOV, A.V.

79-1-14/63

AUTHORS: Efros, L. S. ; Yel'tsov, A. V.

TITLE: Investigations in the Field of Imidazole Derivatives (Issledovaniye v oblasti proizvodnykh imidazola) XVIII. On the Problem of the Nitration of 5-Methylbenzimidazole (XVIII. K voprosu o nitrovanii 5-metilbenzimidazola)

PERIODICAL: Zhurnal Obshchey Khimii, 1958,Vol. 28, Nr 1, pp. 62-69(USSR)

ABSTRACT: In the investigation of the chemical properties of the benzimidazole derivatives the authors absolutely needed 5-methyl-6-nitrobenzimidazole (formula IV) with the exactly determined position of the substituents. Their attempts to start from [illegible]-4-dinitro-5-methylbenzimidazole [illegible]. For this reason a detour was made. By the treatment of an amine mixture with hydrogen sulfide in potassium alcoholate they obtained a 5-methyl-6-nitro-2-mercaptobenzimidazole (formula II) which could with permanganate in an alkaline medium very easily be oxidized to sulfo acid (III) which was then with hydrochloric acid converted to the expected benzimida-

Card 1/3

Investigations in the Field of Imidazole Derivatives. XVIII. On the Problem of the Nitration of 5-Methylbenzimidazole

zole derivative (IV). On boiling of the mixture, obtained with formic acid, of the reaction products of 2,4-dinitro-5-methylaniline the authors with a 65 % yield obtained a compound which had a melting point of 197°C and which according to the elementary analysis is identical with methylnitrobenzimidazole, and which accordingly had to possess the structure of 5-methyl-6-nitrobenzimidazole (X). The latter was also synthesized by Fischer and Heß by nitration of 5-methylbenzimidazole (V) with a melting point of 241°C, which contradicted the finding of the authors. After a repetition and closer examination of Fischer's and Heß' experiments the authors succeeded in proving that in their nitration with 5-methylbenzimidazole not 5-methyl-6-nitrobenzimidazole, but 4- and 6-mononitro derivatives in the ratio 5,7 : 4,3 were obtained. It was found that the product with a melting point of 240°C synthesized by Fischer and Heß was a 5-methyl-4-nitrobenzimidazole, but no 6-nitro derivative, as they had stated. There are 2 figures, and 7 references, 2 of which are Slavic.

79-1-14/63

Investigations in the Field of Imidazole Derivatives. XVIII. On the Problem of the Nitration of 5-Methylbenzimidazole

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

SUBMITTED: December 18, 1956

AVAILABLE: Library of Congress

Card 3/3 1. Chemistry 2. Nitro compounds 3. Chemical analysis

YEL'TSOV A.V.

79-2-36/54

AUTHORS: Efros, L. S., Yel'tsov, A. V.

TITLE: Research in the Field of Imidazol Derivatives (Issledovaniye v oblasti proizvodnykh imidazola)
XIX. Aminoderivatives of the Benzimidazolon and 1,3-Dimethylbenzimidazolon (XIX. Aminoproizvodnyye benzimidazolona i 1,3-dimetilbenzimidazolona)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 441 - 447 (USSR)

ABSTRACT: It was shown already earlier that benzimidazolon (I) and its N,N'-dimethylderivatives in highly acid medium differ neither according to their reactivity nor in their absorption spectrum from benzimidazolonderivatives. Hence is concluded that in salt formation the proton is added to the carbonyl oxygen and forms a cation. In the neutral medium (I) is in the o-phenylcarbamide form, and its heteroring differs from that of imidazol. In connection with this the influence of the imidazolring on the condensation with a benzenering was investigated in the present paper, and the detection of the deformation character of the cloud of electrons in the latter was attempted. For this purpose the isomers of the 4- and 5-aminoderivatives of the benzimidazolon were investigated as well as of its 1,3-dimethylderivative. From the investigation is assumed

Card 1/2

Research in the Field of Imidazol Derivatives. XIX. Aminoderivatives of the Benzimidazolon and 1,3-Dimethylbenzimidazolon

that the double binding between the 5th and 6th carbon atom is to a great extent enlarged in the 5-aminobenzimidazolon as well as in its 1,3-dimethylanalogous. This leads to the nitrogenization at the 6th carbon atom (as was found experimentally). If this assumption is right, an analogous deformation of the cloud of electrons is bound to occur in the benzene core of the unsubstituted benzimidazolon nucleus, or the different reaction properties of the 5-aminobenzimidazol and 5-aminobenzimidazolon would be difficult to explain. The configuration disturbance of this kind is worth mentioning since it has not yet been observed, except the data on the hydrides which were found to be wrong of late. Preparative details as well as specific data of the compounds are given. There are 1 figure, 1 table, and 8 references, 4 of which are Slavic.

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

SUBMITTED: March 11, 1957

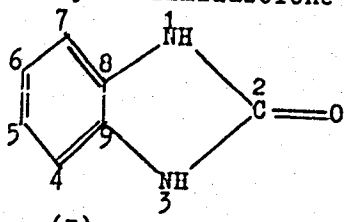
AVAILABLE: Library of Congress

AUTHORS: Efros, L. S., Yel'tsov, A. V. 79-28-4-21/60

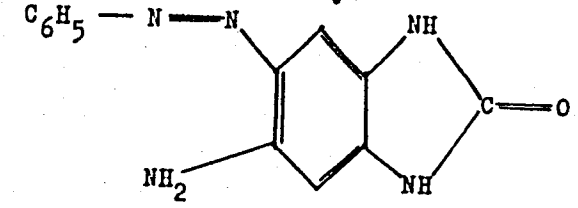
TITLE: Investigations in the Field of Imidazol Derivatives (Issledovaniye v oblasti proizvodnykh imidazola). XX. Some Amino Derivatives of Benzimidazolone (XX. Nekotoryye amino-proizvodnyye benzimidazolona)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 4, pp. 941-945 (USSR)

ABSTRACT: In investigating the chemical properties of amino derivatives of benzimidazolone (I) the authors found, that the azo--binding of 5-aminobenzimidazolone with diazized aniline takes place at the 6th carbon atom. (II). 5-amino-1,3-dimethylbenzimidazolone behaves in a similar way:



(I)

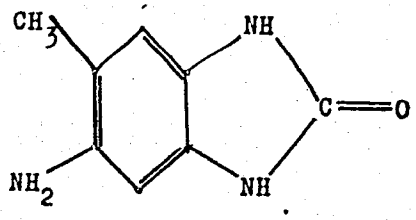


(II)

Card 1/3

Investigations in the Field of Imidazol Derivatives. XX. Some Amino Derivatives of Benzimidazolone

79-28-4-21/60



(III)

On the basis of these facts the authors supposed that the electron shell of the benzene nucleus is deformed in such a way under the action of the imidazolone nucleus, as to markedly strengthen the double binding between the 5th and the 6th carbon atom. In order to determine the degree of this deformation, two aminobenzimidazolones were synthesized and the interaction of this substances with diazonium salts was observed, whereby in one of these position 6 and in the other position 4 was blocked by methylgroups. It was found, that the 5-amino-6-methylbenzimidazolono cannot enter into the reaction of the azo-binding. The 5-amino-4,7-dimethylbenzimidazolone, however, reacts with diazo compounds and forms azo dyes. These observations prove the earlier drawn con-

Card 2/3

Investigations in the Field of Imidazol Derivatives . XX. Some Amino Derivatives of Benzimidazolone

79-28-4-21/60

clusion, that in the molecule of benzimidazolone the double bond of positions 5 and 6 is strengthened and the double bond of positions 4 - 5 and 6 - 7 is weakened under the influence of the nonaromatic imidazolone nucleus. There are 8 references, 3 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut imeni Lensoveta (Leningrad Institute for Technology imeni Lensovet)

SUBMITTED: March 11, 1957

Card 3/3

AUTHORS: Efros, L. S., Yel'tsov, A. V. SOV/79-28-8-37/66

TITLE: Some Aminoderivatives of the Piaselenole (Nekotoryye aminoproizvodnyye piazselenola)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp. 2172 - 2174 (USSR)

ABSTRACT: Recently, L.S.Efros (Ref 2) found that the 5-aminopiaselenole (Formula II) is capable of entering into an azo developing. For the resulting azo compound the structure (III) had been suggested, derived from structure (I). In order to substantiate this suggested azo developing of the 5-amino piaselenole the authors synthesized the amines (IV) and (V), in one of which the positions 4 and 7, in the other the position 6 are blocked by methyl groups. Both amines were obtained by the combination of the aqueous solutions of the hydrochlorides of the corresponding substituted triaminobenzenes and of sodiumselenite. Besides, the nitro compounds (VI) and (VII) were characterized which are easily formed from the corresponding ortho-diamines and selenium dioxide. The 1,2,4-triamine-3,6-dimethylbenzene, hitherto unknown and

Card 1/3

necessary for the synthesis of compound (IV), was obtained by reduction of the trinitro-p-xylene with tin in hydrochloric acid. It was proved that the 5-amino-6-methylpiaselenole (V) easily enters into an azo developing reaction with the salts of the aryldiazonium. The dye (VIII), gained from (V) and diazotized 2,5-dichloro aniline, was described. With 5-amino-4,7-dimethylpiaselenole (IV) an azo developing was failing, as expected. The results hardly allow to doubt the suggested structure of the azo dye (IV) and suggest a quinoidine structure of the piaselenole (I), a piaselenole with a double-bond between the 5-4 and the 6-7 carbon atoms. The incapability of the compound (IV) to form an azo developing points to the accuracy of the assumption that the entrance of the azo group into the 5-aminopiaselenole occurs at the fourth carbon atom. There are 7 references, 4 of which are Soviet.

Some Aminoderivatives of the Piaselenole SOV/79-28-8-37/66

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

SUBMITTED: July 4, 1957

Card 3/3

AUTHORS: Efros, L. S., Yel'tsov, A. V. SOV/79-28-8-38/66

TITLE: Investigations in the Field of Imidazole Derivatives (Issledovaniye v oblasti proizvodnykh imidazola)XXI.Synthesis and Properties of the Imidazolone Imidazolobenzenes (XXI. Sintez i svoystva imidazolonoimidazolobenzolov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp. 2174 - 2178 (USSR)

ABSTRACT: The previously investigated diimidazole benzenes (Formula I) approached, as far as their chemical properties are concerned, the anthracene derivatives (Ref 1): on oxidation they formed quinones, on halogenation dihalogen derivatives; their nitration yielded mononitro compounds. In the case of compound (I) the influence of aromatic imidazole rings on the central benzene nucleus the meso-positions of which become unsaturated, plays an important role. The authors assume (Refs 2,3) that the electron cloud of the benzimidazolone, as contrasted with benzimidazole (II), is so deformed that the double-bond character between the 5 and 6 carbon atoms increases (III). It was interesting to investigate the properties of compounds in which the benzene ring

could be condensed both with imidazole and imidazolone hetero-rings. On the treatment of the 5,6-diamino-benzimidazolone and its 1,3-dimethyl analogs with formic and acetic acid the compounds (IV), (V) and, correspondingly, (VI),(VII) were synthesized (Refs 4,5). The ortho-diamines readily offer themselves as initial products on fusion with urea, yielding the compounds (VIII) and (IX), hitherto unknown, the properties of which shall be subjected to further studies. The oxidation-, bromination- and nitration reactions of the derivatives of the 1,2-imidazolone-4,5-imidazole benzene were investigated. Their higher reactivity as compared with the derivatives of 1,2,4,5-diimidazole-benzene became evident. There are 5 references, 3 of which are Soviet.

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

Investigations in the Field of Imidazole Derivatives. SOV/79-28-8-38/66
XXI.Synthesis and Properties of the Imidazolone Imidazolobenzenes

SUBMITTED: July 4, 1957

Card 3/3

YEL'TSOV, A. V. Cand Chem Sci -- "Structure of cubosols and their affinity with cotton."
Len, 1960 (Len State Ped Inst im A. I. Gertsen. Chair of Organic Chemistry)
(KL, 1-61, 182)

YEL'TSOV, A.V.; EFROS, L.S.; GLIBIN, Ye.N.

Imidazole derivatives. Part 25: 4, 5-dimethoxy derivatives of benzimidazolinone. Zhur.ob.khim. 31 no.5:1581-1585 My '61. (MIRA 14:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Benz imidazolinone)

YEL'TSOV, A.V.; ABOZIN, V.G.

Study of the substantive properties of vat sols. Report No. 1: Dyeing of cotton with indigosol 04B and indigosol Grey C. Trudy LTI no.60:159-166 '60. (MIRA 14:6)

1. Kafedra tekhnologii organicheskikh krasiteley Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.
(Dyes and dyeing--Cotton) (Indigo)

YEL'TSOV, A.V.; ABOZIN, V.G.

Study of the substantive properties of vat sols. Report No.2: Equilibrium sorption by cotton of some indigosols, of anthrasol Yellow V, and of the vat sol Gold-Yellow ZhKh. Trudy LTI no.60: 167-182 '60. (MIRA 14:6)

1. Kafedra tekhnologii organicheskikh krasiteley Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.
(Dyes and dyeing--Cotton)

YEL'TSOV, A.V.; ABOZIN, V.G.

Study of the substantive properties of vat sols. Report No. 3: Equilibrium dyeing of cotton with N-methyl derivatives of the indigosols 04B and Grey C. Trudy LTI no.60:183-189 '60.
(MIRA 14:6)

1. Kafedra tekhnologii krasyashchikh veshchestv Leningradskogo tekhnologicheskogo instituta imeni Lensoveta.
(Dyes and dyeing--Cotton)

EL'TSOV, A.V.; EFROS, L.S.

Imidazole derivatives. Part 23: 5,6-Dioxo derivatives of benzimidazolone. Zhur.ob.khim. 30 no.10:3319-3324 O '61. (MIRA 14:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Benzimidazole)

YEL'TSOV, A.V.; EFROS, L.S.

Imidazole derivatives. Part 24: Synthesis and oxidation of 5-chloro-6-methoxybenzimidazolone. Zhur. ob. khim. 31 no.4:1215-1218 Ap '61. (MIRA 14:4)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Benzimidazolinone)

YEL'TSOV, A.V.; EFROS, L.S.

Derivatives of imidazole. Part 26. Zhur.ob.khim. 31 no.12:3994-4001 D '61. (MIRA 15:2)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Imidazole)

YEL'TSOV, A.V.; EFROS, L.S.

Derivatives of imidazole. Part 27. Zhur. ob. khim. 32 no.1:196-199 Ja '62. (MIRA 15:2)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Imidazole)

KUZNETSOV, S.G.; YEL'TSOV, A.V.

Some new aminoalkyl esters of benzilic acid. Zhur.ob.khim. 32 no.2:511-515 F '62. (MIRA 15:2)

1. Institut toksikologii AMN SSSR, Leningrad.
(Benzilic acid)

YEL'TSOV, A.V.

Derivatives of imidazole. Part 29. Zhur.ob.khim. 33 no.4:1327-1334 Ap '63. (MIRA 16:5)
(Imidazole)

YEL'TSOV, A.V.

Oxa compounds. Part 1. Zhur.ob.khim. 33 no.6:2006-2011 Je '63. (MIRA 16:7)
(Benzodioxan) (Oxidation)

YEL'TSOV, A.V.; KUZNETSOV, V.S.; EFROS, L.S.

Derivatives of imidazole. Part 31. Zhur.ob.khim. 34 no.1:197-201 Ja '64. (MIRA 17:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YEL'TSOV, A.V.; KUZNETSOV, V.S.; EFROS, L.S.

Derivatives of imidazole. Part 3. Zhur.ob.khim. 33 no.12:3965-3972 D '63. (MIRA 17:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YEL'TSOV, A.V.

Oxa compounds. Part 3. Zhur. ob.khim. 34 no. 5:1622-1624 My '64. (MIRA 17:7)

YEL'TSOV, A.V.; ZAKHS, E.R.; EFROS, L.S.

Derivatives of imidazole. Part 36. Zhur. ob. khim. 34 no.11: 3738-3741 N '64 (MIRA 18:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

YEL'TSOV, A.V.

Oxa compounds. Part 5. Zhur. org. khim. 1 no.6:1112-1117 Je '65.
(MIRA 18:7)

1. Institut onkologii AMN SSSR, Leningrad.

YEL'TSOV, A.V.; KUZNETSOV, V.S.; KOLESOVA, M.B.

Formation of a condensed imidazolone ring. Zhur. org. khim. 1 no.6: 1117-1121 Je '65. (MIRA 18:7)

1. Institut onkologii AMN SSSR, Leningrad.

L 1871-66 EWT(m)/EPF(c)/EWP(j)/EWA(c) RPL RM/JN
ACCESSION NR: AP5022535 UR/0366/65/001/009/1673/1677
547.785.5

22
B

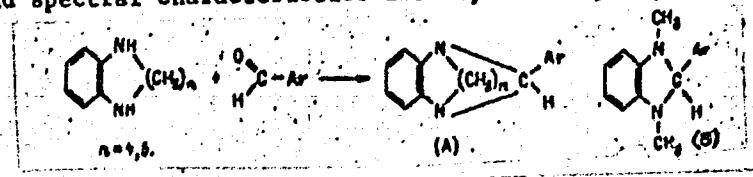
AUTHOR: Yel'tsov, A. V.; Muravich-Aleksandr, Kh. L.

TITLE: 1,2-Dihydro derivatives of benzimidazole. Part 2.

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 9, 1965, 1673-1677

TOPIC TAGS: amine, aldehyde, condensation reaction, UV spectrum, IR spectrum, hydrogen ion

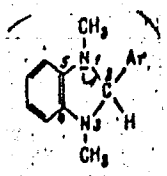
ABSTRACT: The authors found that both N,N'-tetramethylene- and N,N'-pentamethylene-o-phenylenediamines condense very readily with aldehydes, whereas di- and trimethylene-o-phenylenediamines do not condense with aldehydes. The 1,3-polymethylene-1,2-dihydro derivatives (A) obtained differ markedly in chemical properties and spectral characteristics from 1,3-dimethyl-1,2-dihydro derivatives (B).



Card 1/3

L 1871-66
ACCESSION NR: AP5022535

These differences are due to three factors: (1) Because of polarization according to the formula



(C)

a partial negative charge should be concentrated on the carbon atom in the 2-position; the hydride mobility depends on the magnitude of this charge. (2) The hydride exchange reaction occurs in the reaction complex; because of steric hindrance, solvation and the approach of the reagent to the 2-position of the molecule may be difficult. This is indicated by the greater ease of acid hydrolysis in the case of type (B) compounds. (3) The detachment of the hydride ion from type (A) compounds should be accompanied by the formation of 1,3-penta- or tetramethylenimidazolinium salts. It is postulated that the first and third factors cease to be valid when the carbon chain joining the nitrogen atoms in type (A) compounds is long enough. UV and IR spectra of the derivatives obtained are illustrated. Orig. art. has: 3 figures and 1 table.

Card 2/3

L 1871-66

ACCESSION NR: AP5022535

ASSOCIATION: None

SUBMITTED: 14Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 003

Card 3/3

YEL'TSOV, A.V.; MURAVICH-ALEKSANDR, Kh.I.

1,2-Dihydro-1-benzimidazole derivatives. Part 1. Zhur. org. khim. 1 no.7:1307-1314 Jl '65. (MIRA 18:11)

1. Leningradskiy khimiko-farmatsevticheskiy institut i Institut onkologii AMN SSSR, Leningrad.

PAVLOVA, L.A.; VENUS-DANILOVA, E.D.; YEL'TSOV, A.V.; ORLOVA, A.N.

5,5-Dimethyl-2,4-diphenyl 2,5-dihydrofuran. Zhur. ob. khim. 35 no.9:1690-1691 S '65. (MIRA 18:10)

YEL'TSOV, A.V.; MURAVICH-ALEKSANDR, Kh.L.

1,2-Dihydro derivatives of benzimidazole. Part 2. Zhur. org. khim. 1 no.9:1673-1677 S '65. (MIRA 18:12)

1. Submitted July 14, 1964.

YEL'TSOV, A.V.

Derivatives of imidazole. Part 28: Formylation of 1,3-dimethylbenzimidazolinone. Zhur.ob.khim. 32 no.5:1525-1528 My '62. (MIRA 15:5)

1. Institut toksikologii Akademii meditsinskikh nauk SSSR, Leningrad.

(Benzimidazolinone) (Formylation)

YEL'TSOV, A.V.; CHIGAREV, A.G.; STARYKH, N.T.

N-aralkyl derivatives of phenylpyrrolidines. Zhur. ob. khim. 34 no.10:3344-3351 O '64. (MIRA 17:11)

1. Institut toksikologii Ministerstva zdravookhraneniya SSSR, Leningrad.

SACHKO, N.S., kand.ekonom.nauk; YEL'TSOV, B.P., inzh.; KATS, L.Ya., inzh.

Developing work schedules for rolling mills with the help of mathematical methods. Stal' 24 no.7:650-655 Jl '64. (MIRA 18:1)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat.

YEL'TSOV, B.V.; KOMAROV, S.M.

Using ZAUS regulators at the Novosibirsk Heat and Electric Power Plant no.4. Priborostroenie no.5:22-23 My '64. (MIRA 17:6)

KHARITONOV, A., inzhener-polkovnik; YEL'TSOV, G., podpolkovnik

Loading of motor trucks on gondola cars. Tyl i snab. Sov. Voor. Sil. 21 no.8:75-78 Ag '61. (MIRA 14:12)
(Automobiles, Military--Transportation) (Loading and unloading)

ACCESSION NR: AP4041869 S/0133/64/000/007/0640/0642

AUTHOR: Gabuyev, G. Kh.; Yel'tsov, K. S.; Shul'te, Yu. A.; Mikhaylov, P. A.; Garevskikh, I. A.; Leybenzon, S. A.; Tsivirko, E. I.; Medovar, B. I.; Latash, Yu. V.; Frantsov, V. P.; Pakhomov, A. I.; Kaganovskiy, G. P.; Voinov, S. G.; Shalimov, A. G.; Kalinnikov, Ye. S.; Smolyakov, V. P.; Kosoy, L. F.

TITLE: Improvement of the quality of electroslag-melted ball-bearing steel

SOURCE: Stal', no. 7, 1964, 640-642

TOPIC TAGS: ball bearing steel, electroslag melted steel, high purity steel, steel electroslag melting

ABSTRACT: Several variants of electroslag melting have been tested in an attempt to improve the quality of ball-bearing steel. The analysis of electroslag-melted steel showed that nitrides and carbonitrides constitute the greatest part (up to 75%) of the nonmetallic inclusions present in the steel. These nitrides derive from the initial material. The electroslag process eliminates large nitrides over 20μ in diameter, but does not eliminate the smaller ones.

Card 1/3