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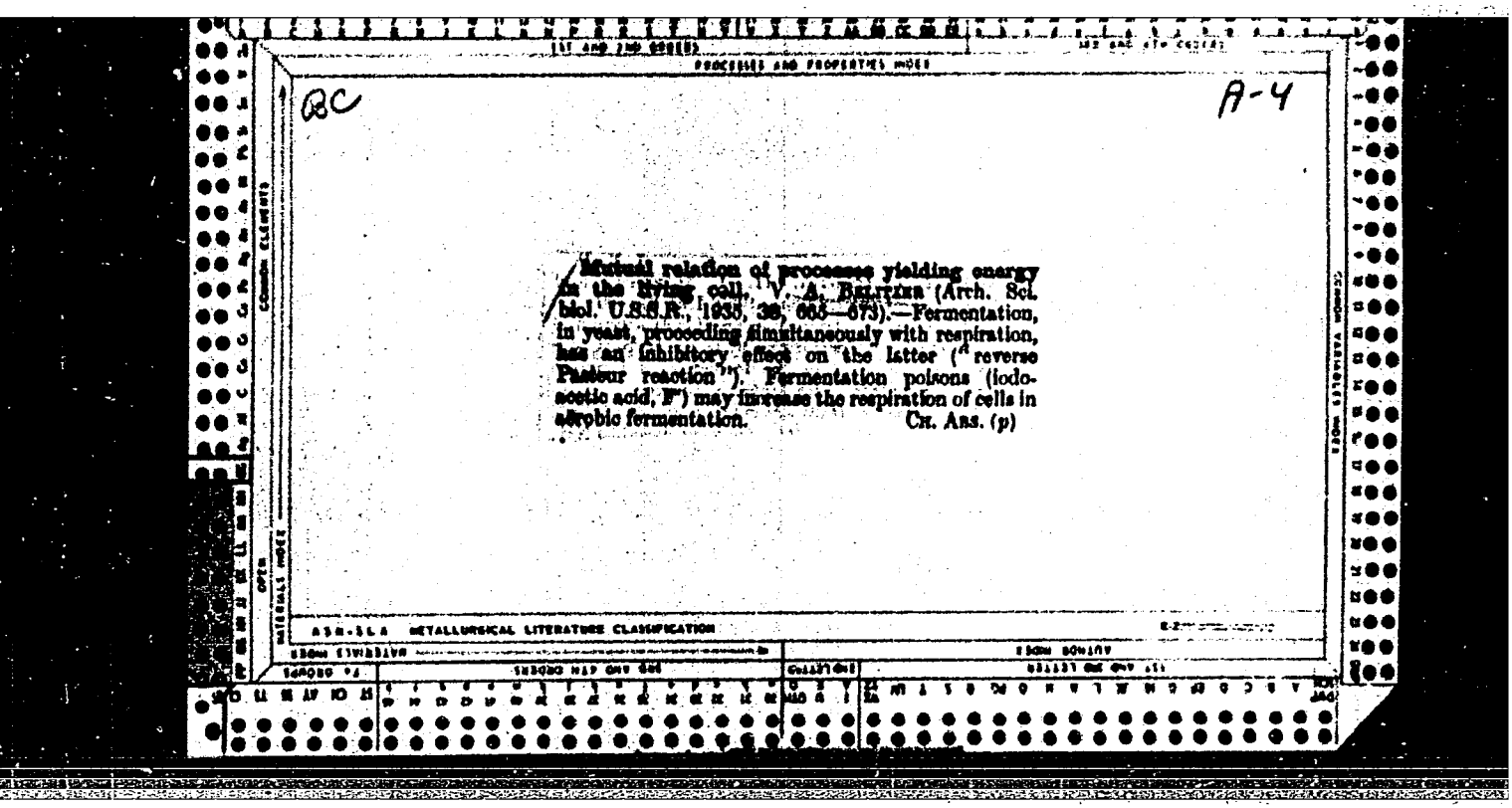

RC

A-4

Mutual relation of processes yielding energy in the living cell. V. A. Belitzina (Arch. Sci. biol. U.S.S.R., 1935, 39, 665—673).—Fermentation, in yeast, proceeding simultaneously with respiration, has an inhibitory effect on the latter ("reverse Pasteur reaction"). Fermentation poisons (iodoacetic acid, F') may increase the respiration of cells in aërobic fermentation. Cr. Abs. (p)

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BELITSEV, V. A.

"Problems of the new scheme of Fermentation", (p. 709) by Belitsev, V. A.

SO: Advances in Contemporary Biology (USPEKHI SOVREMENNOI BIOLOGII) Vol. V, No. 4 1936

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BELITSER, V.

"Recent work of the meyerhof school", (p. 921) by Belitser, V.

SO: Advances in Contemporary Biology (USPEKKI SOVREMENNOI BIOLOGII) Vol. 5, No. 5 1936

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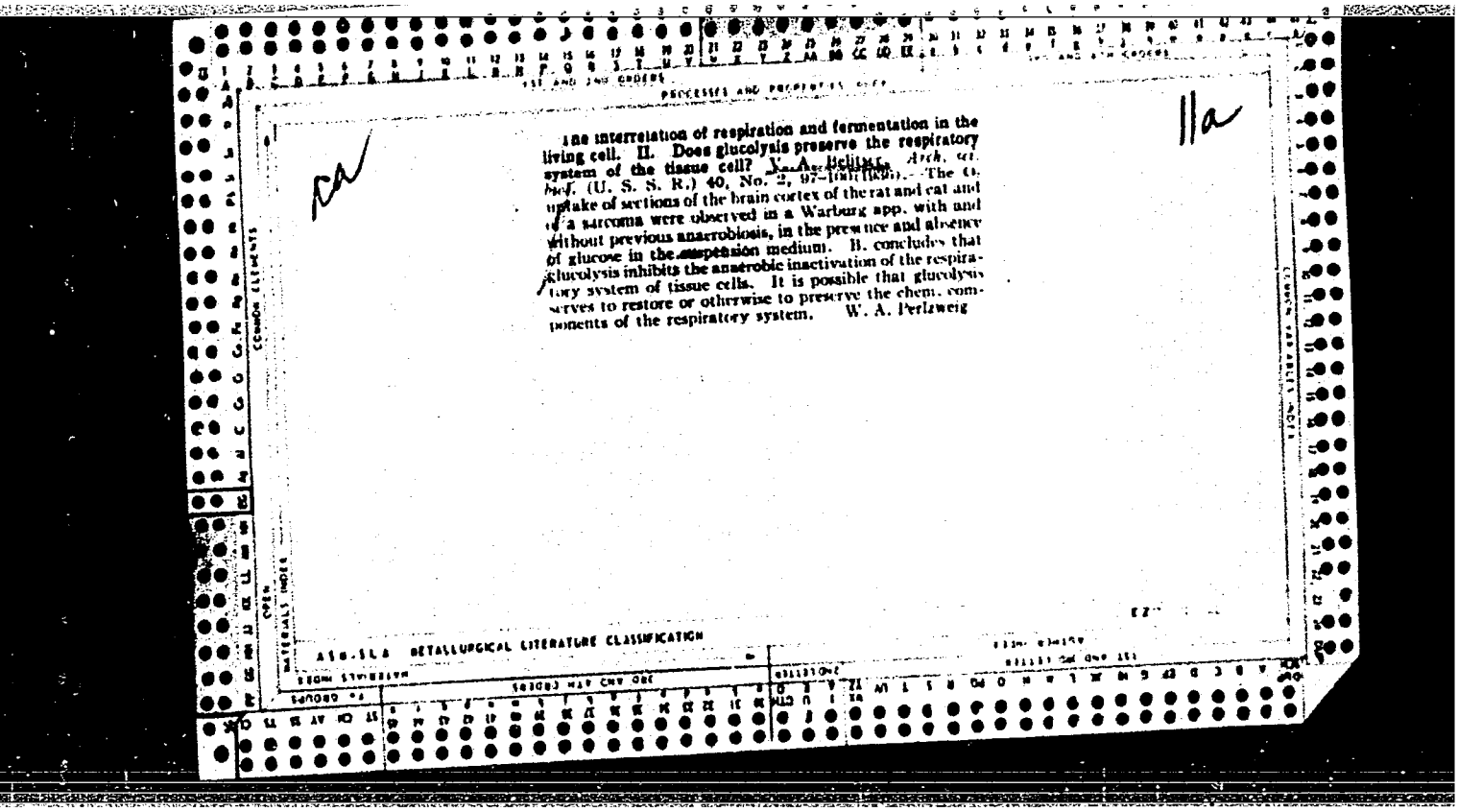

The interrelation of respiration and fermentation in the living cell. II. Does glucolysis preserve the respiratory system of the tissue cell? V. A. Belitzer. *Arch. sci. biol.* (U. S. S. R.) 40, No. 2, 97–101 (1936).—The O uptake of sections of the brain cortex of the rat and cat and of a sarcoma were observed in a Warburg app. with and without previous anaerobiosis, in the presence and absence of glucose in the suspension medium. B. concludes that glucolysis inhibits the anaerobic inactivation of the respiratory system of tissue cells. It is possible that glucolysis serves to restore or otherwise to preserve the chem. components of the respiratory system. W. A. Perlzweig

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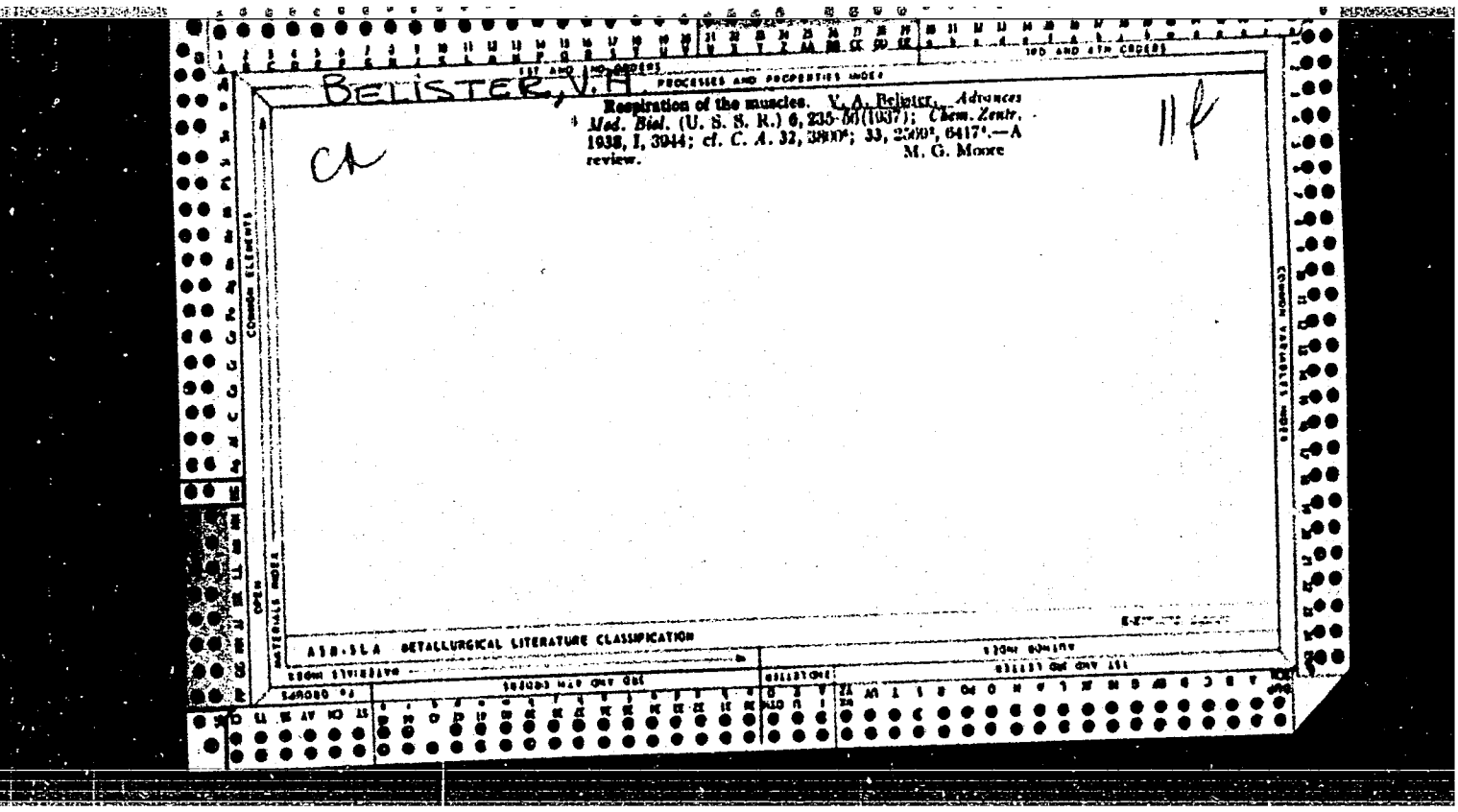

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1ST AND 2ND ORDERS

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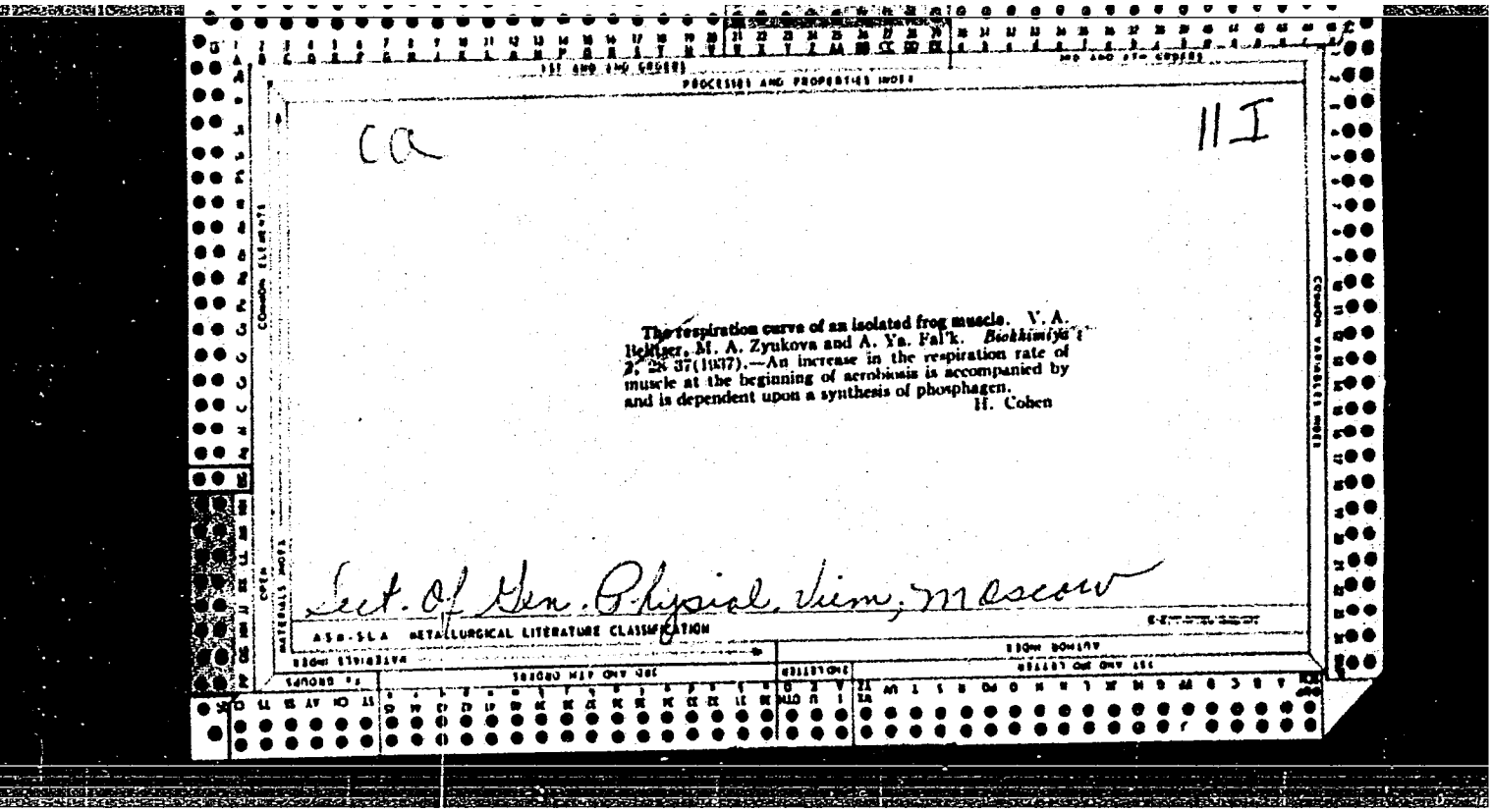

CA

11 I

The respiration curve of an isolated frog muscle. V. A. Belitser, M. A. Zyukova and A. Ya. Fal'k. *Biokhimiya* 2, 28-37(1937).—An increase in the respiration rate of muscle at the beginning of aerobiosis is accompanied by and is dependent upon a synthesis of phosphagen.
H. Cohen

Sect. of Gen. Physiol. Vien, Moscow

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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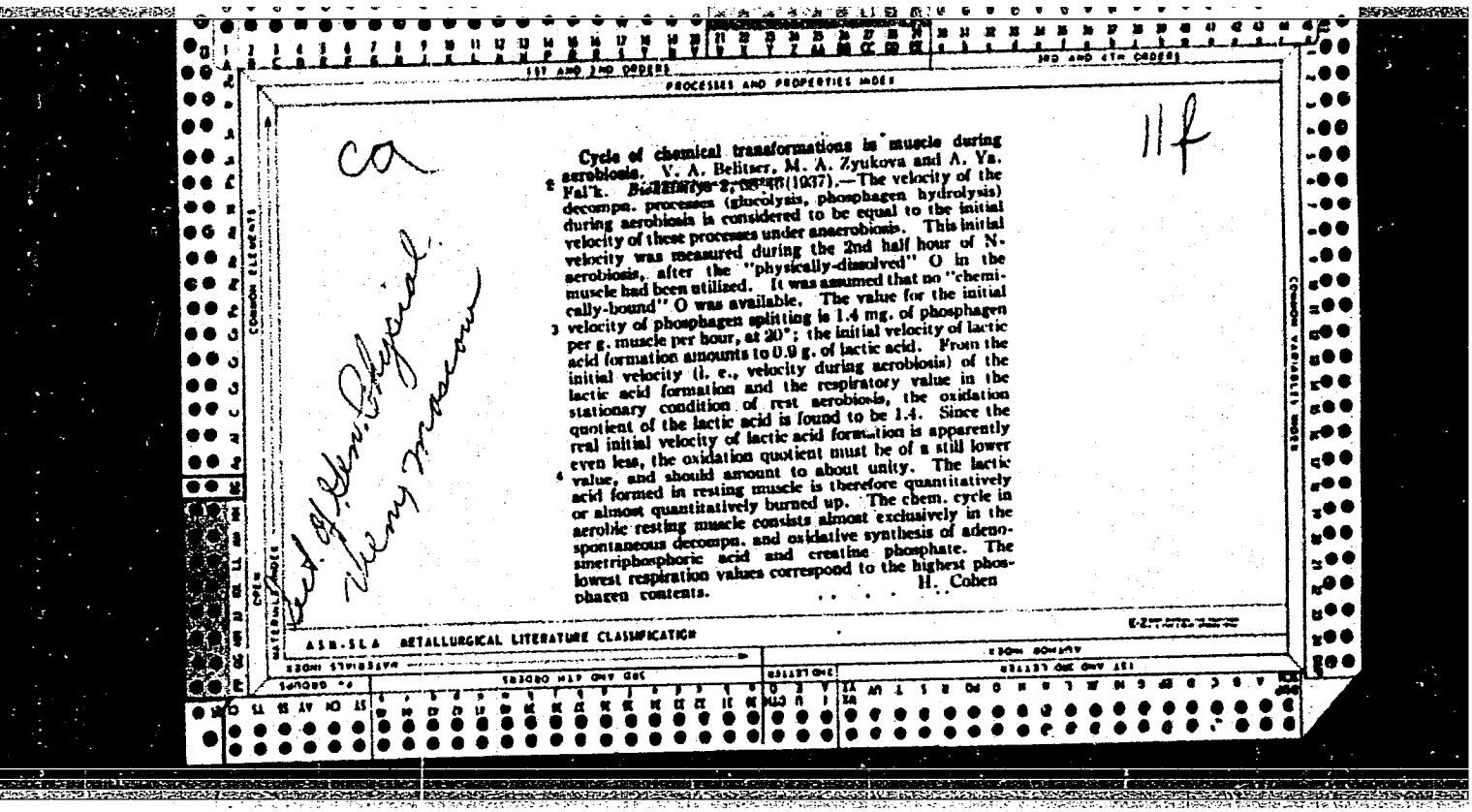

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

ca

11f

Lect. of Gen. Physiol. Univ. Moscow

Cycle of chemical transformations in muscle during aerobiosis. V. A. Belitser, M. A. Zyukova and A. Ya. Fal'k. *Biokhimiya* 2, 58-46 (1937).—The velocity of the decompn. processes (glucolysis, phosphagen hydrolysis) during aerobiosis is considered to be equal to the initial velocity of these processes under anaerobiosis. This initial velocity was measured during the 2nd half hour of N-aerobiosis, after the "physically-dissolved" O in the muscle had been utilized. It was assumed that no "chemically-bound" O was available. The value for the initial velocity of phosphagen splitting is 1.4 mg. of phosphagen per g. muscle per hour, at 20°; the initial velocity of lactic acid formation amounts to 0.9 g. of lactic acid. From the initial velocity (i. e., velocity during aerobiosis) of the lactic acid formation and the respiratory value in the stationary condition of rest aerobiosis, the oxidation quotient of the lactic acid is found to be 1.4. Since the real initial velocity of lactic acid formation is apparently even less, the oxidation quotient must be of a still lower value, and should amount to about unity. The lactic acid formed in resting muscle is therefore quantitatively or almost quantitatively burned up. The chem. cycle in aerobic resting muscle consists almost exclusively in the spontaneous decompn. and oxidative synthesis of adenosmetriphosphoric acid and creatine phosphate. The lowest respiration values correspond to the highest phosphagen contents. H. Cohen

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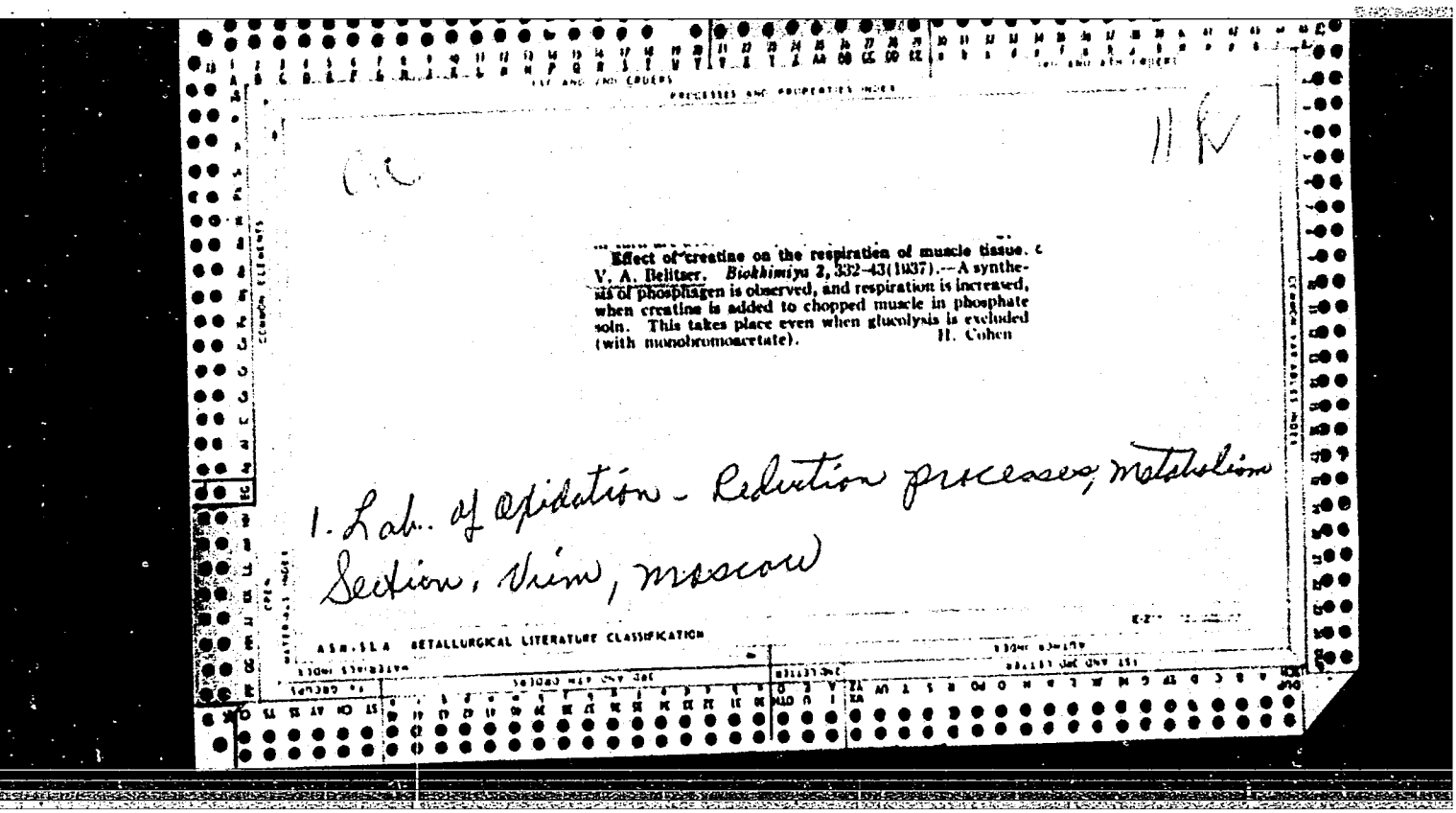

Effect of creatine on the respiration of muscle tissue. V. A. Belitser. *Biokhimiya* 2, 332–43(1937).—A synthesis of phosphagen is observed, and respiration is increased, when creatine is added to chopped muscle in phosphate soln. This takes place even when glucolysis is excluded (with monobromoacetate). H. Cohen

1. Lab. of Oxidation - Reduction processes, Metabolism Section, Inst, Moscow

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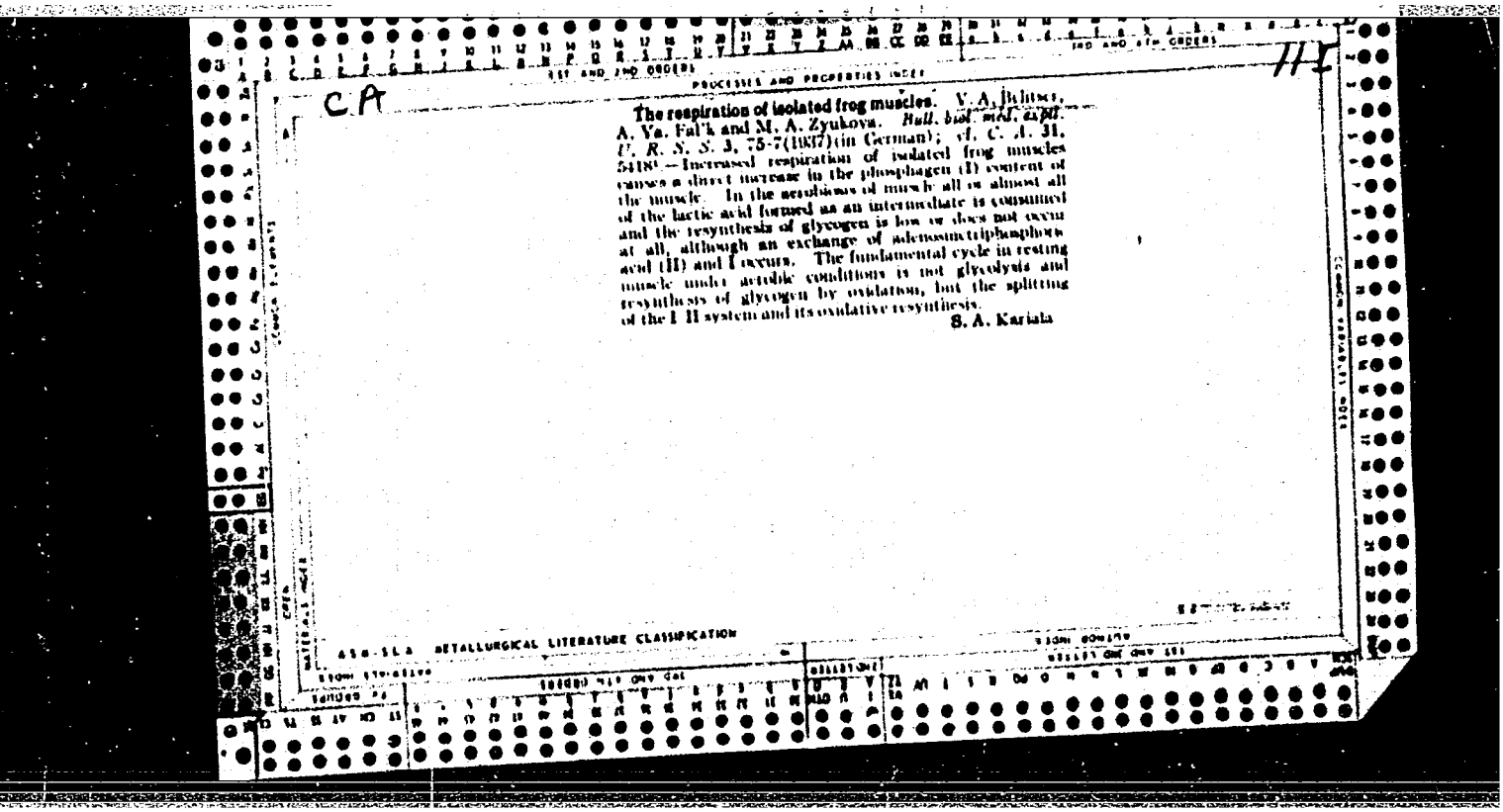

CA

The respiration of isolated frog muscles. V. A. Jakuschev, A. Va. Fal'k and M. A. Zyukova. *Bull. biol. méd. exp. U. R. S. S.* 3, 75-7(1937)(in German); cf. *C. A.* 31, 5418⁹.—Increased respiration of isolated frog muscles causes a direct increase in the phosphagen (I) content of the muscle. In the acidosis of muscle all or almost all of the lactic acid formed as an intermediate is consumed and the resynthesis of glycogen is low or does not occur at all, although an exchange of adenosinetriphosphoric acid (II) and I occurs. The fundamental cycle in resting muscle under aerobic conditions is not glycolysis and resynthesis of glycogen by oxidation, but the splitting of the I II system and its oxidative resynthesis.

S. A. Kariala

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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BELITSER, V. A.

"New data on the mechanism of fermentation." (p. 182) by Belitser, V. A.

SO: Advances in Contemporary Biology (Uspekhi Sovremennoi Biologie) Vol. VI, No. 1 1937

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BELITZER V. A.

"The respiration of muscles" (p. 235) by Belitzer V. A.

SO: Advanced in Contemporary Biology (Uspekhi Sovremennoi Biologie) Vol. VI, No. 2 1937

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1ST AND 2ND ORDERS

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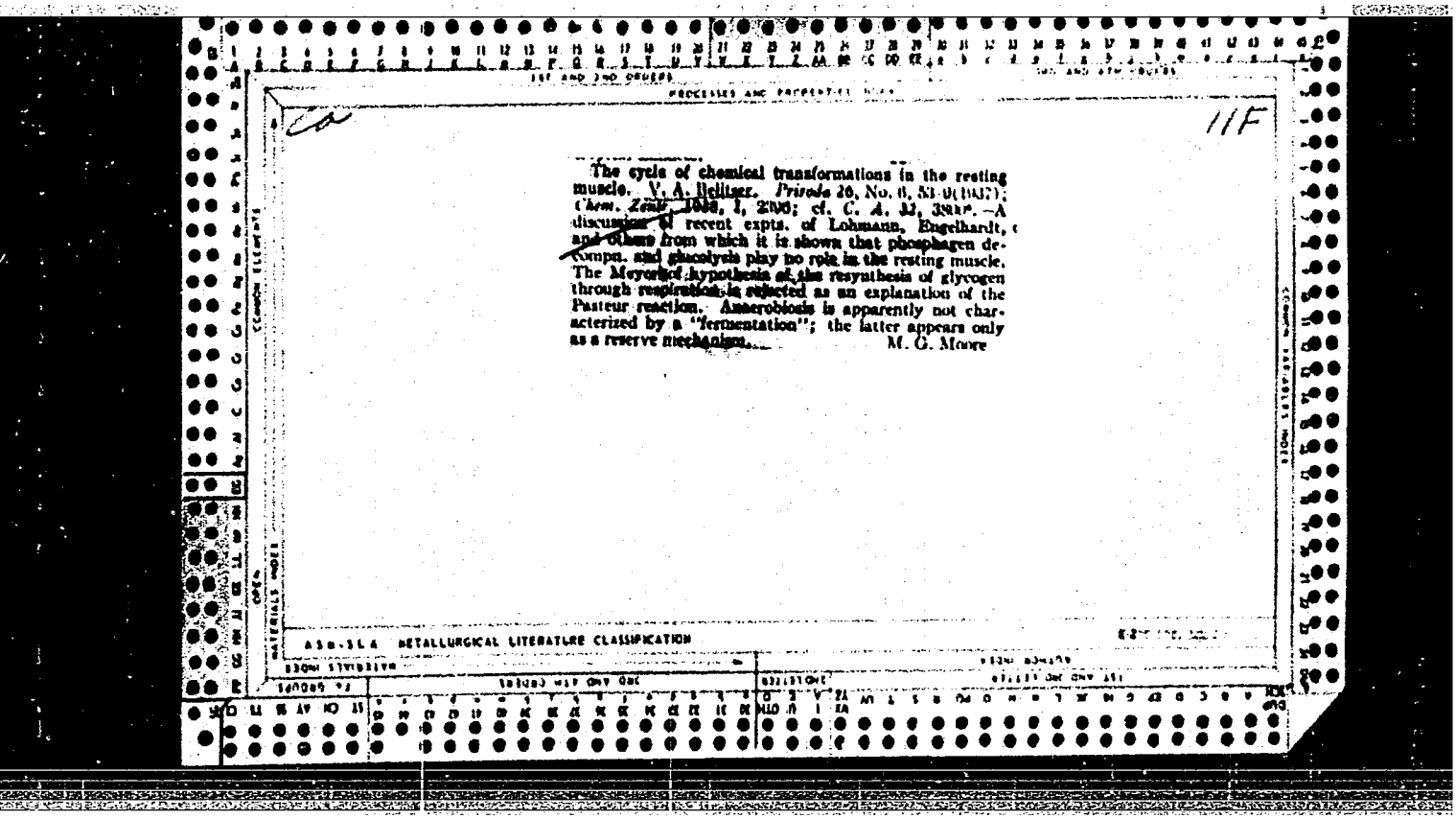

11F

The cycle of chemical transformations in the resting muscle. V. A. Belitser. *Priroda* 26, No. 6, 53-9(1937); *Chem. Zentr.* 1938, I, 2396; cf. *C. A.* 32, 3800[8].—A discussion of recent expts. of Lohmann, Engelhardt, and others from which it is shown that phosphagen decompn. and glucolysis play no role in the resting muscle. The Meyerhof hypothesis of the resynthesis of glycogen through respiration is rejected as an explanation of the Pasteur reaction. Anaerobiosis is apparently not characterized by a "fermentation"; the latter appears only as a reserve mechanism. M. G. Moore

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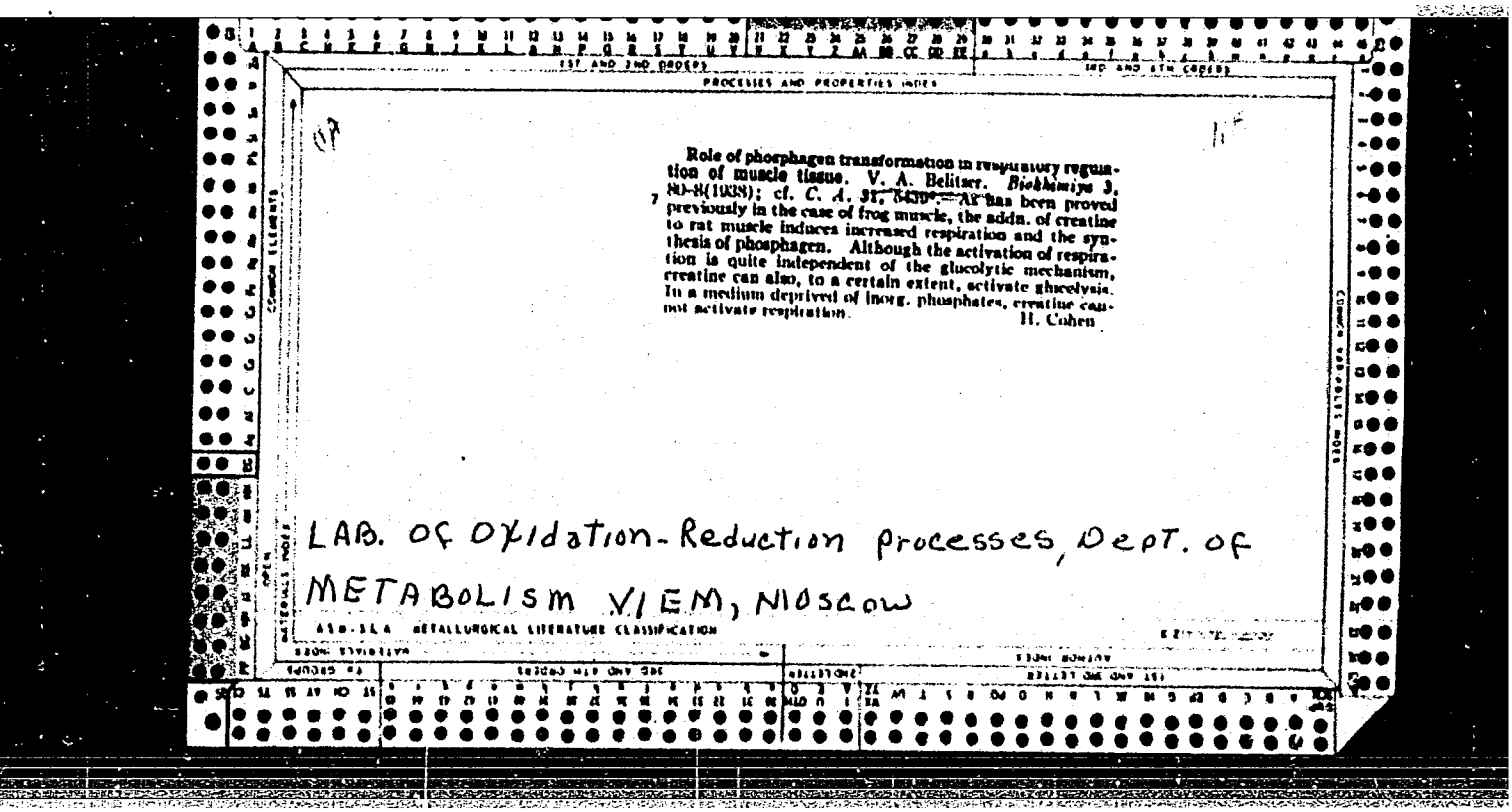

PROCESSES AND PROPERTIES INDEX

Role of phorphagen transformation in respiratory regulation of muscle tissue. V. A. Belitser. *Biokhimiya* 3, 80-8(1938); cf. *C. A.* 31, 6420⁸. As has been proved previously in the case of frog muscle, the addn. of creatine to rat muscle induces increased respiration and the synthesis of phosphagen. Although the activation of respiration is quite independent of the glucolytic mechanism, creatine can also, to a certain extent, activate glucolysis. In a medium deprived of inorg. phosphates, creatine cannot activate respiration.
H. Cohen

LAB. of Oxidation-Reduction processes, Dept. of METABOLISM VIEM, Moscow

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

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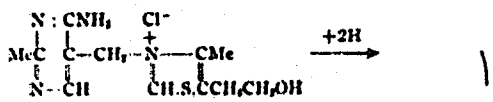
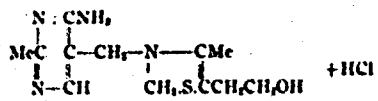
3RD AND 4TH ORDERS

Mechanism of the action of vitamin B_1. V. A. Belitser. *Uspekhi Sovremennoi Biol.* 8, 141-3(1938); *Chem. Zentr.* 1938, II, 713-14.—On the basis of a review of the literature this double function of aneurin is suggested: (1) transition into cocarboxylase (Lohmann), and (2) conversion into a reduction-oxidation catalyst for the oxidative decarboxylation of the pyroracemic acid (Lipmann), in which the hydrogenation of the aneurin, in analogy to the pyridine enzymes, probably takes place at the quaternary N atom of the thiazole ring:





W. A. Moore

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BELITZER, V.

"Pasteur-reaction." (p. 416) by V. Belitzer

SO: Advances in Contemporary Biology (Uspekki Sovremennoi Biologii) Vol. VIII, No. 3, 1938

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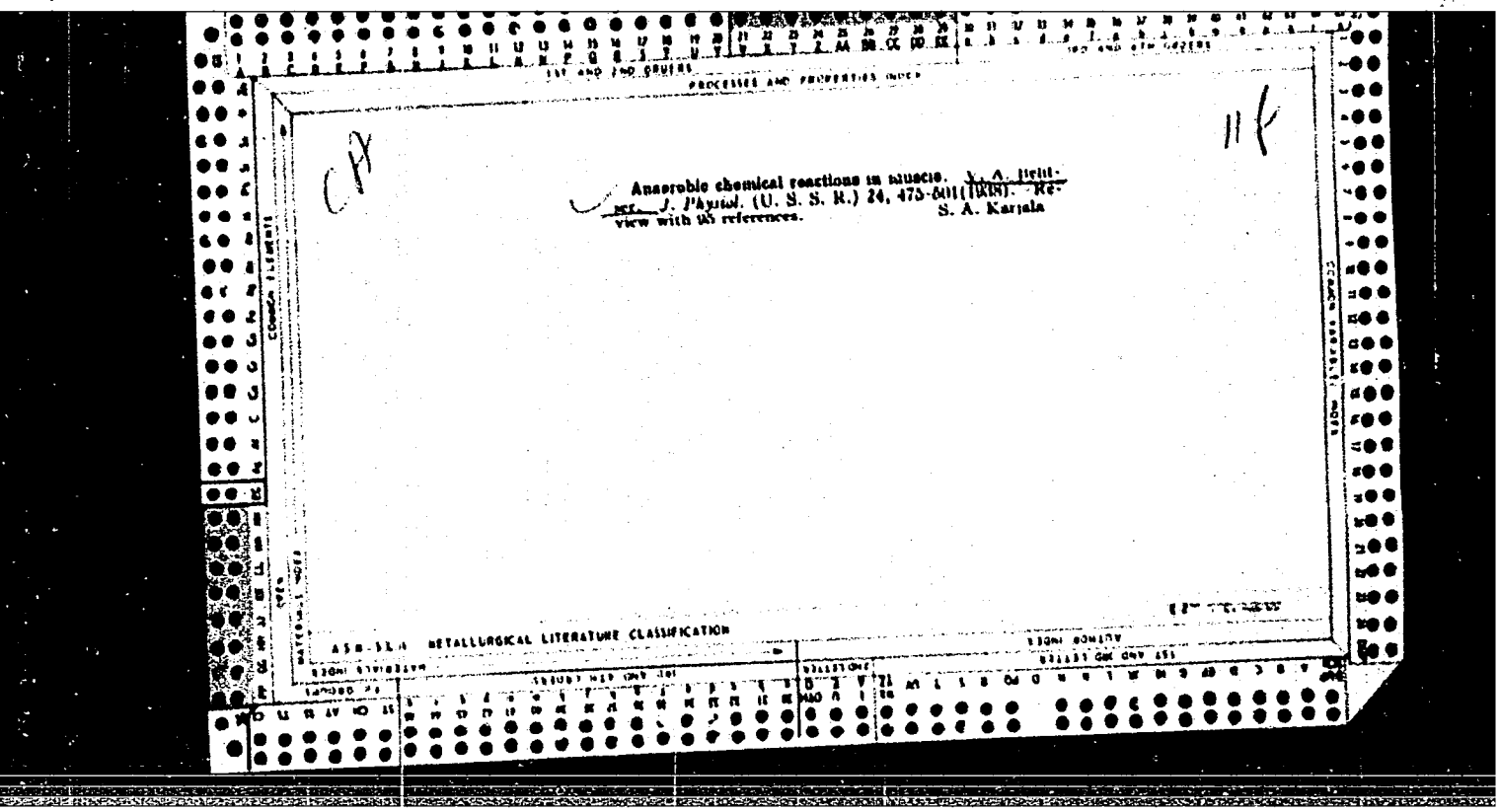

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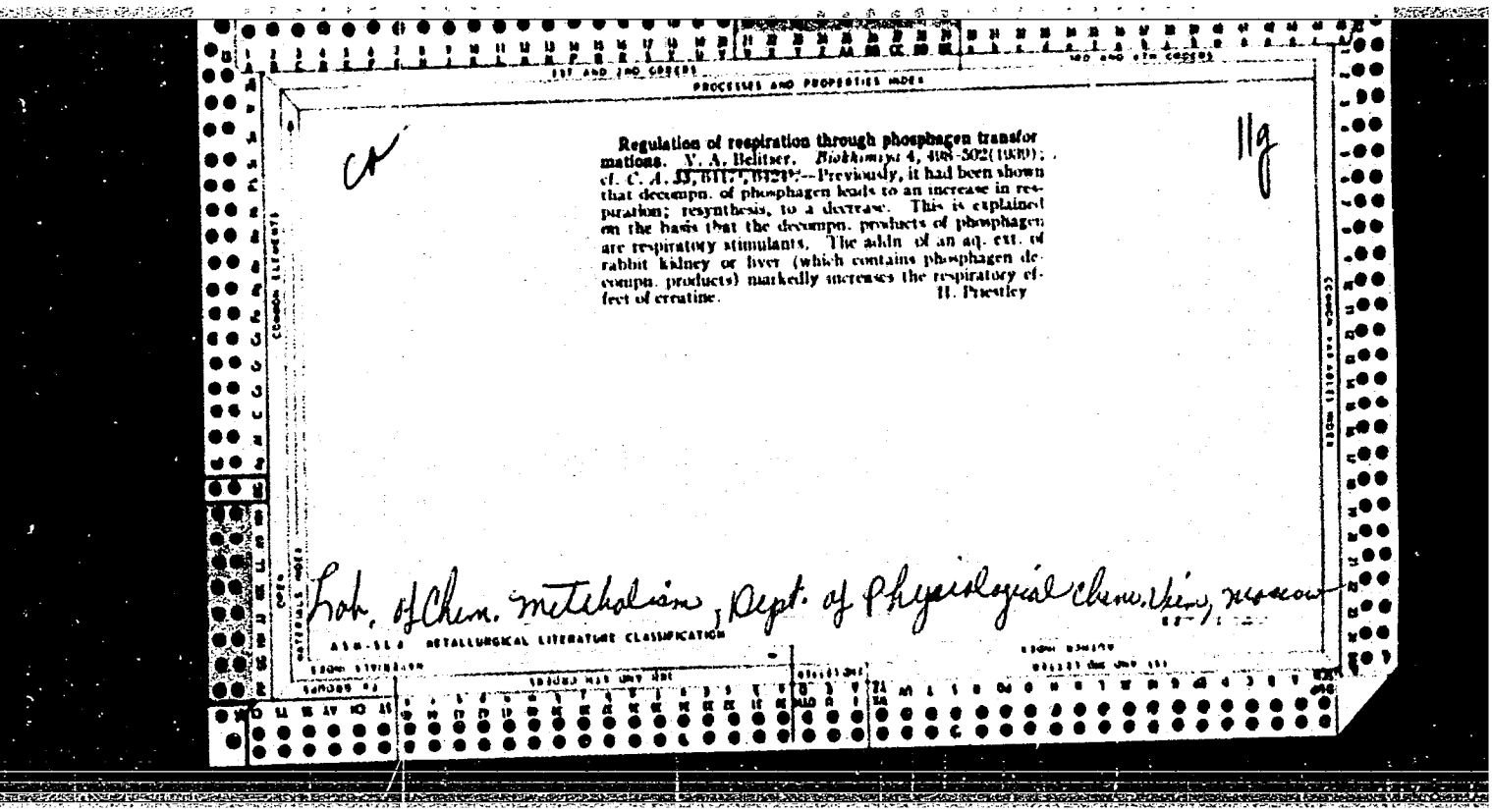
1ST AND 2ND ORDERS



PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

CR

11g

Regulation of respiration through phosphagen transformations. V. A. Belitser. *Biokhimiya* 4, 498-502(1939); cf. *C. A.* 33, 6117[1], 6124[2].—Previously, it had been shown that decompn. of phosphagen leads to an increase in respiration; resynthesis, to a decrease. This is explained on the basis that the decompn. products of phosphagen are respiratory stimulants. The addn. of an aq. ext. of rabbit kidney or liver (which contains phosphagen decompn. products) markedly increases the respiratory effect of creatine. H. Priestley

Lab. of Chem. Metabolism, Dept. of Physiological Chem. Univ., Moscow

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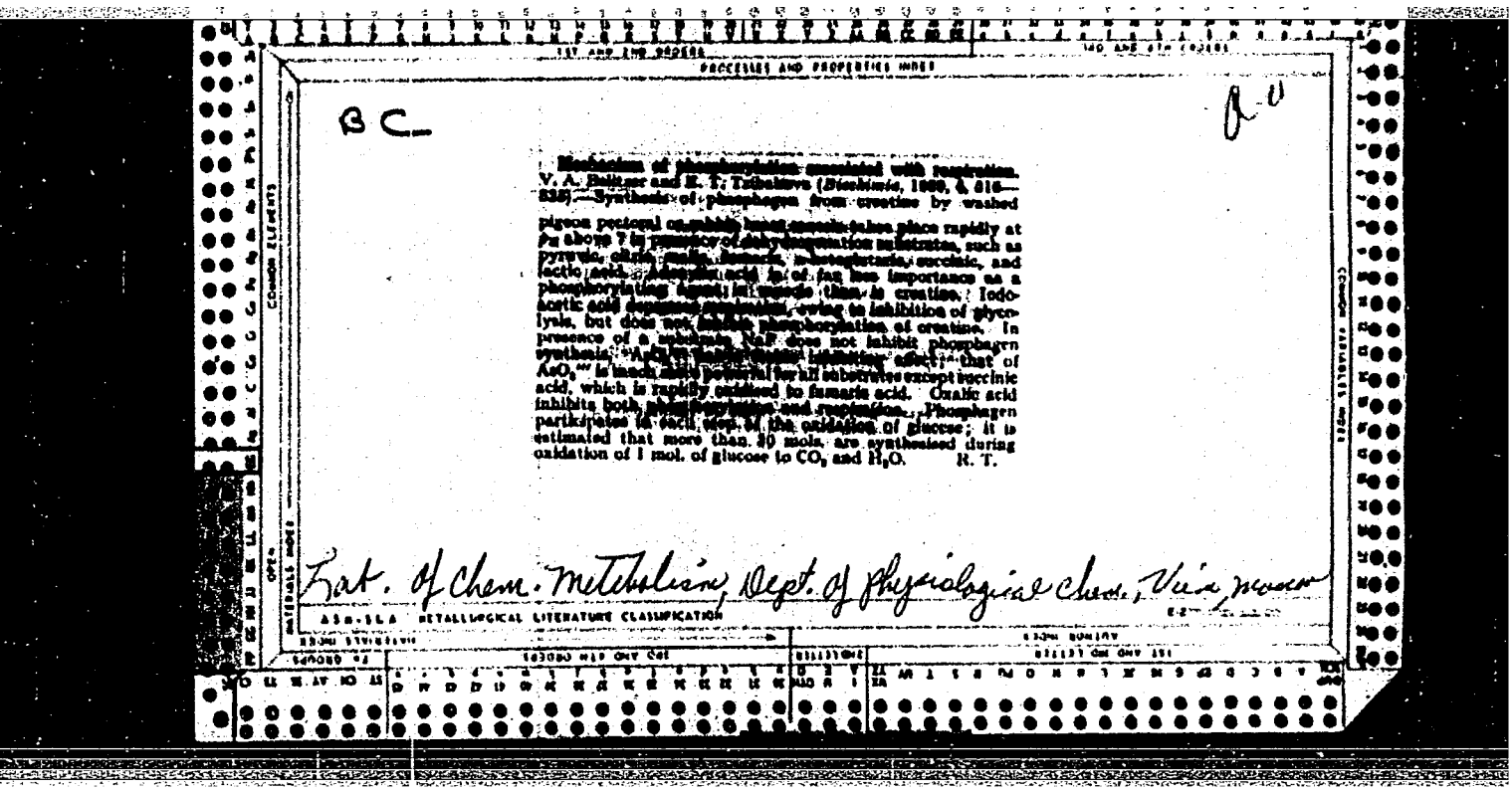

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3RD AND 4TH ORDERS

BC

A-0

Mechanism of phosphorylation associated with respiration. V. A. Belitzer and E. T. Tsibakova (*Biochimia*, 1939, 4, 516—535).—Synthesis of phosphagen from creatine by washed pigeon pectoral or rabbit heart muscle takes place rapidly at p_H above 7 in presence of dehydrogenation substrates, such as pyruvic, citric, malic, fumaric, α-ketoglutaric, succinic, and lactic acid. Adenylic acid is of far less importance as a phosphorylating agent in muscle than is creatine. Iodoacetic acid depresses respiration, owing to inhibition of glycolysis, but does not inhibit phosphorylation of creatine. In presence of a substrate NaF does not inhibit phosphagen synthesis. AsO_4''' [illegible] inhibiting effect; that of AsO_3''' is much more powerful for all substrates except succinic acid, which is rapidly oxidised to fumaric acid. Oxalic acid inhibits both phosphorylation and respiration. Phosphagen participates in each step of the oxidation of glucose; it is estimated that more than 30 mols. are synthesised during oxidation of 1 mol. of glucose to CO_2 and H_2O. R. T.

Lab. of Chem. Metabolism, Dept. of Physiological Chem., Vien, Moscow

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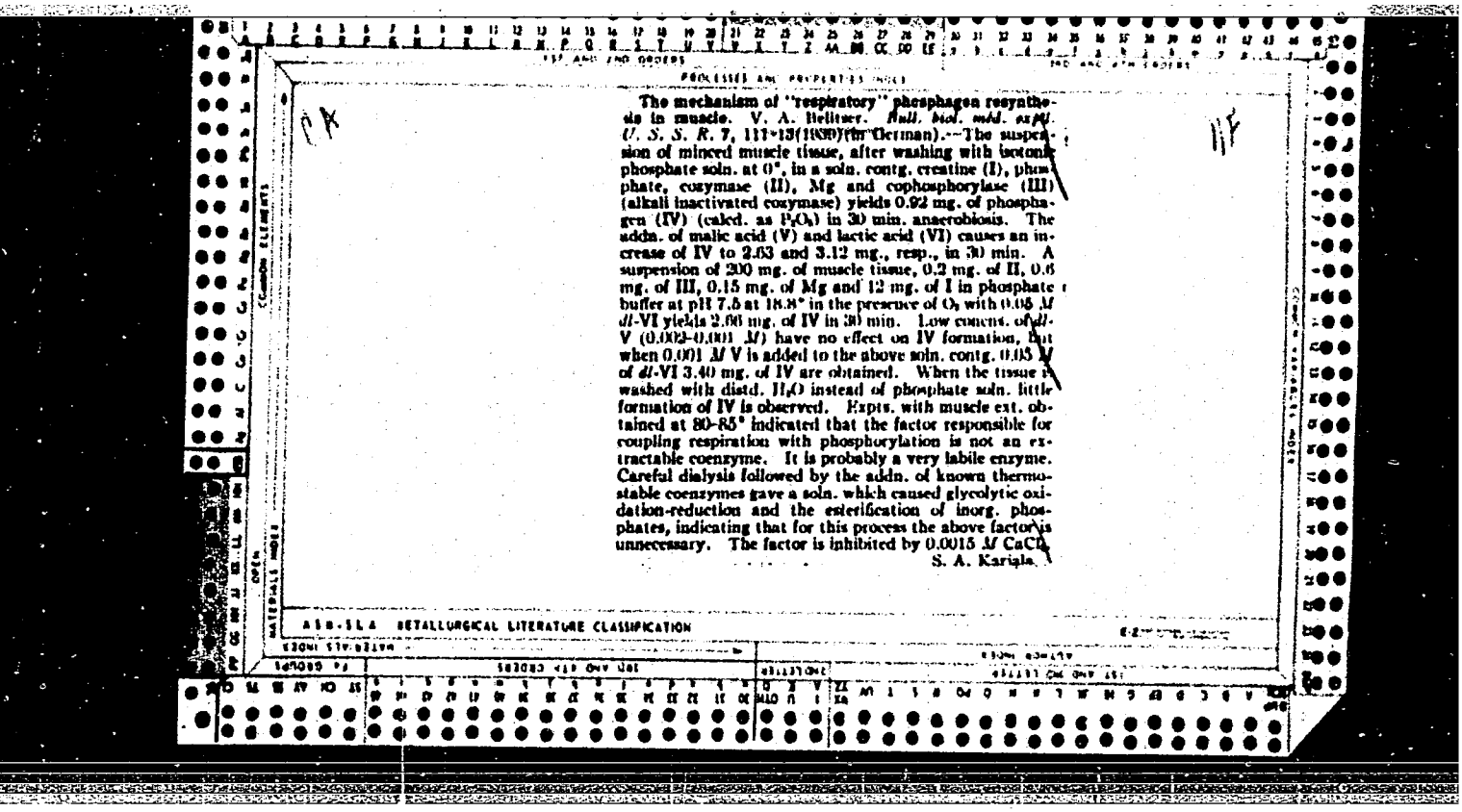

The mechanism of "respiratory" phosphagen resynthesis in muscle. V. A. Beltser. *Bull. biol. med. exptl. U. S. S. R.* 7, 111-13(1939)(in German).--The suspension of minced muscle tissue, after washing with isotonic phosphate soln. at 0°, in a soln. contg. creatine (I), phosphate, cozymase (II), Mg and cophosphorylase (III) (alkali inactivated coxymase) yields 0.92 mg. of phosphagen (IV) (calcd. as P_2O_5) in 30 min. anaerobiosis. The addn. of malic acid (V) and lactic acid (VI) causes an increase of IV to 2.63 and 3.12 mg., resp., in 30 min. A suspension of 200 mg. of muscle tissue, 0.2 mg. of II, 0.6 mg. of III, 0.15 mg. of Mg and 12 mg. of I in phosphate buffer at pH 7.5 at 18.8° in the presence of O_2 with 0.05 *M* *dl*-VI yields 2.00 mg. of IV in 30 min. Low concns. of *dl*-V (0.002-0.001 *M*) have no effect on IV formation, but when 0.001 *M* V is added to the above soln. contg. 0.05 *M* of *dl*-VI 3.40 mg. of IV are obtained. When the tissue is washed with distd. H_2O instead of phosphate soln. little formation of IV is observed. Expts. with muscle ext. obtained at 80-85° indicated that the factor responsible for coupling respiration with phosphorylation is not an extractable coenzyme. It is probably a very labile enzyme. Careful dialysis followed by the addn. of known thermostable coenzymes gave a soln. which caused glycolytic oxidation-reduction and the esterification of inorg. phosphates, indicating that for this process the above factor is unnecessary. The factor is inhibited by 0.0015 *M* $CaCl_2$.

S. A. Kariala

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BELITZER, V. A.

"The Application of the Radio-Active Elements in Biochemistry" (p. 157)by Belitzer,V.A.

SO: Advances in Contemporary Biology, (Uspekhi Sovremennoi Biologii), Vol. X, No. 1, 1939

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BELIZER, V. A.

"Elucidation of the fermentation - process" (p. 372) by Belizer, V. A.

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologie) Vol. XII, No. 2, 1940

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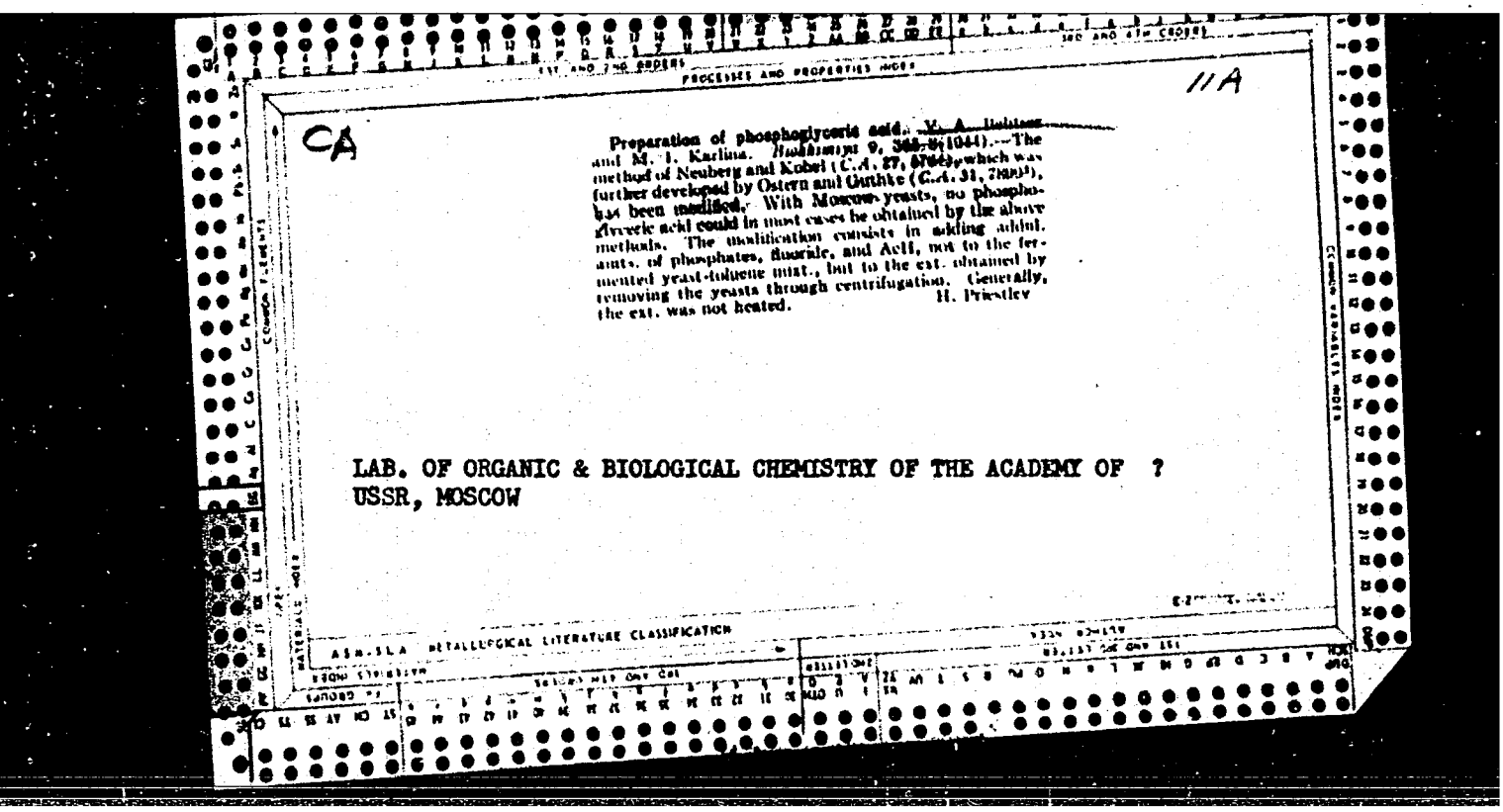
1ST AND 2ND ORDERS



PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

11A

CA

Preparation of phosphoglyceric acid. V. A. Belitser and M. I. Karlina. *Biokhimiya* 9, 365-8(1944).—The method of Neuberg and Kobel (*C.A.* 27, 5764), which was further developed by Ostern and Guthke (*C.A.* 31, 7800[1]), has been modified. With Moscow yeasts, no phosphoglyceric acid could in most cases be obtained by the above methods. The modification consists in adding addnl. amts. of phosphates, fluoride, and AcH, not to the fermented yeast-toluene mixt., but to the ext. obtained by removing the yeasts through centrifugation. Generally, the ext. was not heated. H. Priestley

LAB. OF ORGANIC & BIOLOGICAL CHEMISTRY OF THE ACADEMY OF ?
USSR, MOSCOW

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BELITSER, V.A.

The preparation of phosphopyruvic acid. V. A. Belitser and T. V. Suenko (Inst. Biochem., Acad. Sci. U.S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 18, 211-13 (in Russian 213; in English, 213) (1946).—Ba phosphoglycerate (2.97 g.) and 7 cc. 2*N* HNO_3 are dild. with water to a vol. of 30 cc. and heated to 60°. The soln. is treated with 20% Na_2SO_4 soln. to remove Ba ions, filtered, and neutralized with 2*N* NaOH against bromothymol blue. The resulting soln. of phosphoglyceric acid (60 cc.) is mixed with 6 cc. 1.3% Na_2CO_3 soln. and 18 cc. water, incubated for 5 min. with dried yeast at 60°, the proteins ppted. with 12 cc. 80% AcOH, the filtrate neutralized with 2*N* NaOH against phenolphthalein, and Ba acetate added. The addn. of 43 cc. 0.1*N* $AgNO_3$ at 50° ppts. phosphopyruvic acid as the Ag-Ba salt. Treatment with HCl gives a soln. of the Ba salt (AgCl ppte.), which can be ppted. in 25% yield from the filtered soln. by the addn. of EtOH.

Werner Jacobson

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BELITSER, V. A.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

The role of thermodynamics in biochemical investigations. V. A. Belitser (Inst. Biochem., Acad. Sci. Ukr. R.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 18, 275-87(1946) (in Russian).—Inside the cell reactions occur which are apparently incompatible with each other, thus e.g. glucose may be split by enzymes into lactic acid (I), but also into alc. and CO_2. The reaction, 1 hexose diphosphate $\rightleftarrows$ 2 phosphotriose − 14,000 cal., may proceed in one direction in some cells, and in the opposite direction in the other. Sometimes SH groups are used to synthesize proteins, thus giving an S-S linkage, and somewhere else an S-S linkage is hydrolyzed. Urea has the energy of formation from the elements of 13,800 cal., and the body uses 2 different methods for its synthesis: $2\ NH_3 + H_2CO_3 \rightarrow CO(NH_2)_2 + 2H_2O + 7100$ cal.; $2\ NH_4^+ + 2\ HCO_3^- \rightarrow CO(NH_2)_2 + 2\ H_2O + H_2CO_3 - 11{,}220$ cal. All such apparent discrepancies are easily understood if the laws of thermodynamics are rigorously applied to the cell processes, starting with Berthelot's principle. The reversibility of supposedly irreversible processes is understood, if one visualizes that the final reaction product inside the cell might become activated in a way not possible *in vitro*. Thus e.g. glycogen can furnish I again, if the following *A* and *B* reactions are added: (*A*) $1/n\ (C_6H_{10}O_5)_n + H_2O \rightarrow 2\ I$; (*B*) $3\ H_3PO_4 + 3$ creatine (II) $\rightarrow 3$ phosphocreatine (III) $+ 3\ H_2O$; to give $1/n\ (C_6H_{10}O_5)_n + 3\ H_3PO_4 + 3\ II \rightarrow 2\ I + 3\ III + 2\ H_2O$.
Werner Jacobson

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CA

IIF

Biochemical processes connected with the conservation of blood. V. A. Belitser (Acad. Sci., Kiev). *Ukrain. Biokhim. Zhur.* 20, 239-67(1948)(in Russian).—A review with 40 references.
Boris Gutoff

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BELITSER, V.A.

(3)

Chemical Abstracts
May 25, 1954
Biological Chemistry

The mechanism of protein denaturation. II. The predenaturative changes of the protein molecule. V. A. Belitser and A. S. Tsiperovich (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 20, 322-9 (in Russian, 330-1)(1948); cf. *C.A.* 46, 8173*h*, 10221*b*.—The action of urea (I) on egg albumin (II) is investigated in concns. which are not enough to cause a complete denaturation of the II, like 800-900 mg. of I per ml. After 5-10 min. at room temp. there is no obvious denaturation, as II does not ppt. at the isoelec. point and the amt. of HS groups titratable with $Fe(CN)_6^{3-}$ does not change. But the occurrence of a reaction is shown by the fact that the optical rotation of the II increases about 70% and the specific viscosity increases 3-4-fold. For this reaction, the expression predenaturation (III) is coined. No definite explanation can be given at the present time; it is suspected that this state is caused by a breakdown of the H bonding in the native protein mol. Denaturation is not an "all or nothing" step as was believed until now; this intermediate step definitely does exist, and perhaps there will be others. Certainly no activation energy is needed for the III, as it sets in right away at room temp. Werner Jacobson

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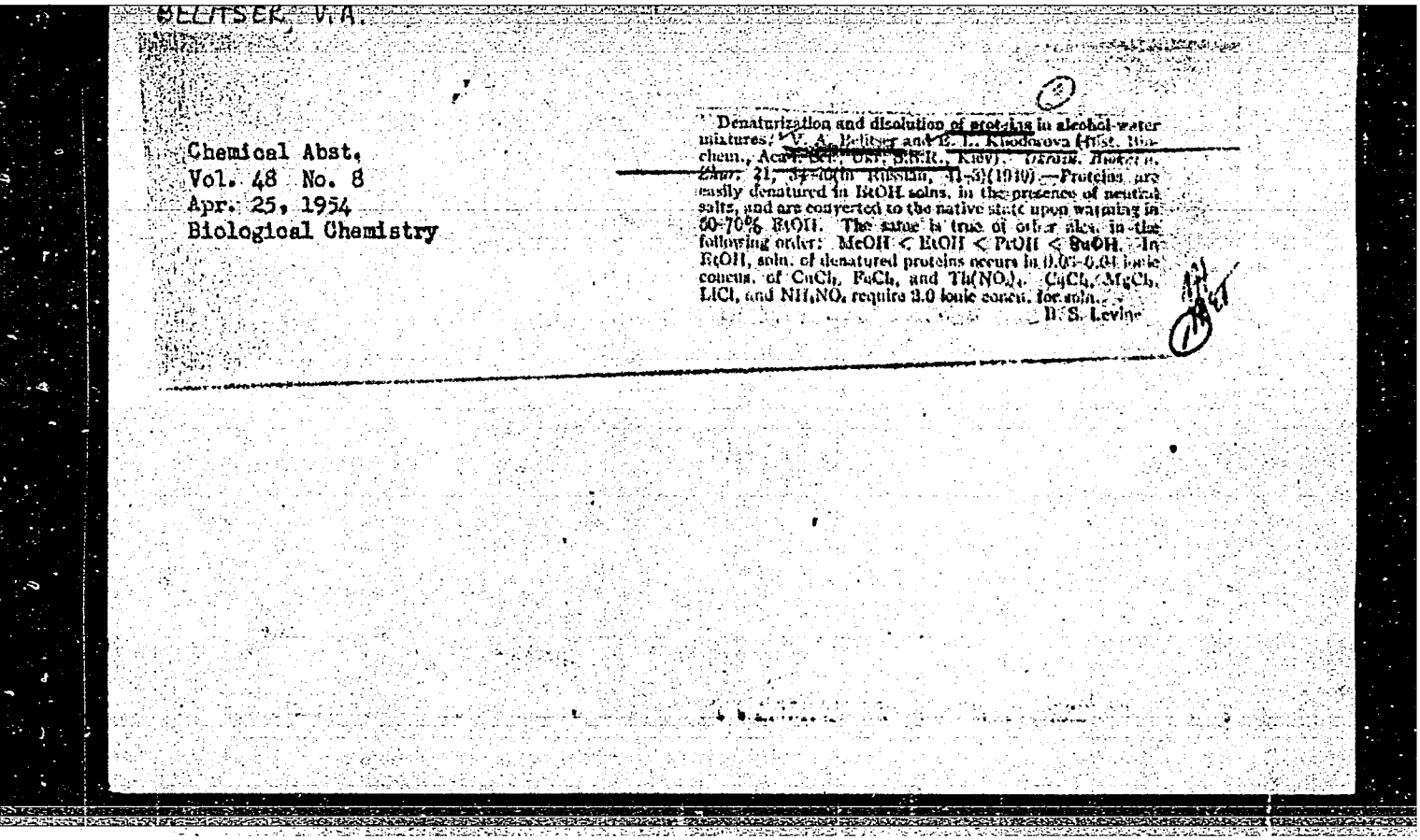

BELITSER, V.A.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Biological Chemistry

Denaturization and dissolution of proteins in alcohol-water mixtures. V. A. Belitser and E. L. Klodnitova (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 21, 34-40 (in Russian, 11-3)(1949).—Proteins are easily denatured in EtOH solns. in the presence of neutral salts, and are converted to the native state upon warming in 50-70% EtOH. The same is true of other alcs. in the following order: MeOH < EtOH < PrOH < BuOH. In EtOH, soln. of denatured proteins occurs in 0.03-0.04 ionic concns. of $CuCl_2$, $FeCl_3$, and $Th(NO_3)_4$. $CaCl_2$, $MgCl_2$, LiCl, and NH_4NO_3 require 3.0 ionic concn. for soln.
B. S. Levine

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BELITSER, V.A.

Denaturation and the accompanying changes in proteins. Uspekhi Biol. Khim. 1, 53-69 '50. (MLRA 5:8)
(CA 47 no.14:7007 '53)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.

The mechanism of enzyme action (A critique of P. V. Afanas'eva's hypothesis). V. A. Belitser and B. L. Khodorova (Inst. Biochem., Acad. Sci. Ukr. S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 22, 101-10(1950)(in Russian); cf. *C.A.* 41, 6004b.—The authors feel that Afanas'eva's hypothesis does not agree with protein and enzymological data. (1) A.'s concept that the catalytic function of enzymes consists of the reaction of 2 enzyme globules with one substrate mol., followed by sepn. again, compares the enzyme mol. to drops of liquid, a concept difficult to reconcile with the fact that native protein globules possess rigidity and that the reverse "melting" process of the globules and return of protein to the globular state proceeds relatively slowly. (2) A.'s hypothesis that the globular state of the protein is the most important aspect of enzymic activity is not in accord with the fact that there exist enzymes which are not globular, and furthermore, freedom of enzyme movement is not a prerequisite for action, since many enzymes exhibit activity in the bound state as a constituent of insol. particles, or adsorbed on surfaces. (3) In contradiction to A.'s work, the present authors found that curves for the inhibiting action of excess Na pyrophosphate concn. upon yeast phosphatase activity showed decreased enzymic activity (with substrate concn. increase), becoming less and less steep as the reaction rate approached 0.

Clayton F. Holoway

1

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RELITSER, V.A.

USSR

Determination of the osmotic pressure of protein solutions. V. A. Relitser and E. L. Khodorova (Biochem. Inst., Acad. Sci. Ukr. S.S.R., Kiev). *Ukrain. Biokhim. Zhur.* 22, 265-72(1950).—Osmotic pressure was measured of a soln. of proteins at the isoelec. point. The external medium was protein soln. equilibrated with protein soln. by compensation dialysis in a collodion casing or in cellophane for 24–48 hrs., which led to equilibration of the concn. of low-mol. substances internally and externally. A modified Krogh and Nukazawa (*C.A.* 22, 600) osmometer, prepd. from a clear plastic was used. The transparency made it possible to fill the app. accurately and air bubbles could be avoided. Toluene is suggested for increasing accuracy of the detn., but the app. must be constructed to avoid direct contact of toluene with the clear plastic by enlarging the capillary to contain a 1–1.5 mm. bulb filled with water. Detailed directions are also given for prepn. of collodion membranes and casings from photographic film. The method is considered better than pre-existing ones because of (1) greater accuracy of detn. and (2) shorter equilibration time because of improved membrane permeability. C. F. Holoway

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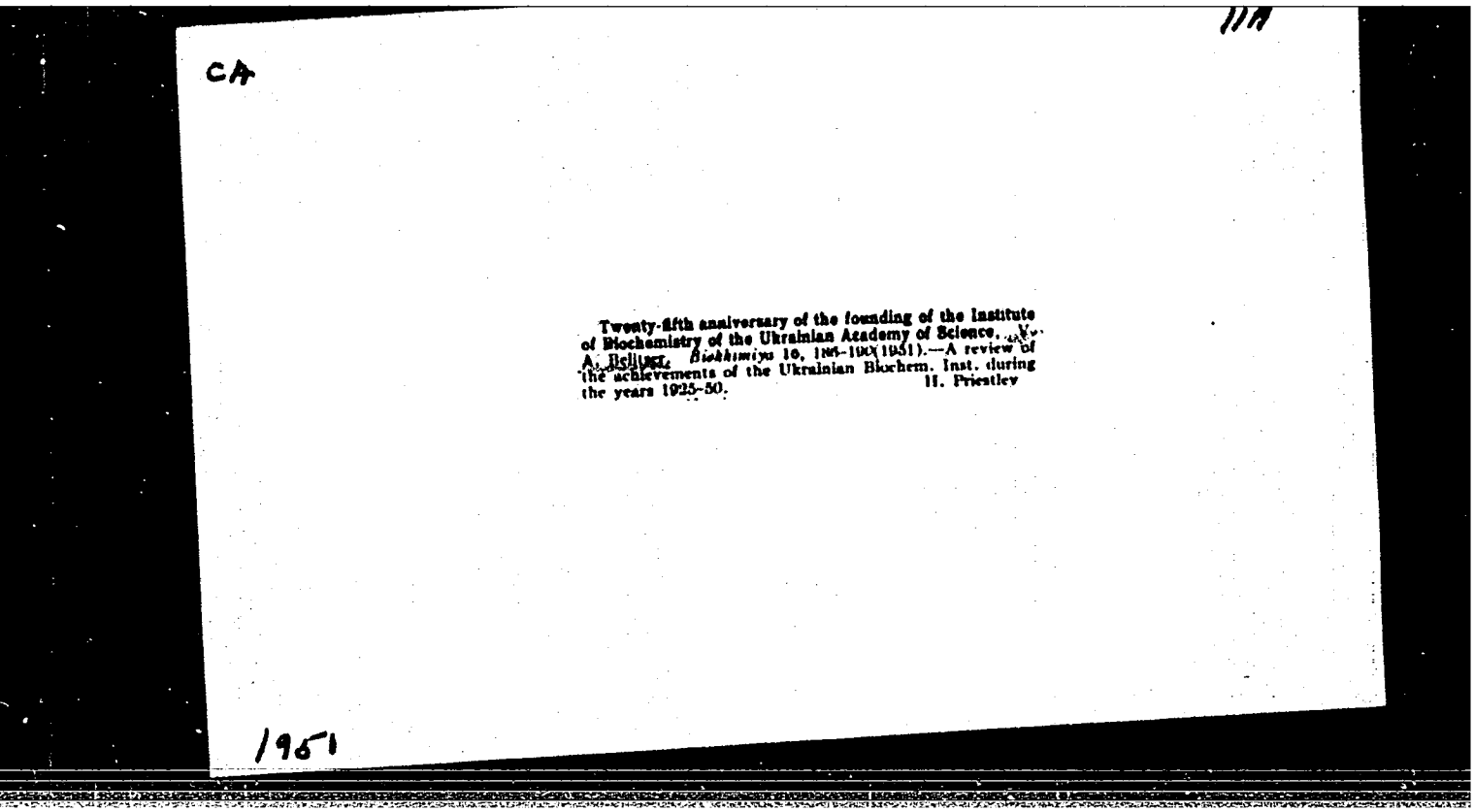

CA

11A

Twenty-fifth anniversary of the founding of the Institute of Biochemistry of the Ukrainian Academy of Science. V. A. Belitser. *Biokhimiya* 16, 195-199(1951).—A review of the achievements of the Ukrainian Biochem. Inst. during the years 1925–50. H. Priestley

1951

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V. A.

"Denaturation of and Related Changes in Proteins," Usp. Biol. Khim., No.1, 1952

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.;KHDOROVA, Ye.L.

Nature of conversion of fibrinogen into fibrin. Biokhimiia, Moskva 17 no.6:676-683 Nov-Dec 1952. (CIML 25:1)

1. Institute of Biochemistry of the Academy of Sciences Ukrainian SSR, Kiev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. (Kiyev).

Amphoteric properties of amino acids and proteins; a review. Ukr.biokhim. zhur. 24 no.2:225-257 '52. (MLRA 6:11)

(Amino acids) (Proteins)

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USSR/Chemistry - Proteins 11 Mar 52

"Completeness of Transformation of the Protein Molecule During Denaturation," V. A. Belitser, A. S. Tsyperovich, Inst of Biochem, Acad Sci Ukrainian SSR

"Dok Ak Nauk SSSR" Vol LXXXIII, No 2, pp 257-260

New data supporting the essential similarity of the denaturation process of protein under all conditions were obtained by immunochem methods at the Inst of Biochem, Acad Sci Ukrainian SSR. In the denaturation of egg albumin by such agents as heat, alc, salicylate rhodanide, and copper ions, protein preps are obtained which by antigenic specificity contrast sharply with natural albumin, but are similar among themselves. A fundamental qual change in the macrostructure of the protein mols during its denaturation takes place, but the intermediate compn (apparently due to unstability of this stage) is not detected by ordinary methods. The ppt nature of the transformation attests to the fact that folding of polypeptide chains in the globule is produced by bonds that are mutually interdependent.

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BELITSER, V. A.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

[redacted] and DENIN V. I.

The tooth phosphatase in the caries picture (Russian text) STOMATOLOGIJA 1953, 5 (11-16)

A comparison between the activity of chloroform extracts of tooth phosphatase and bone phosphatase from rabbits and pigeons is reported. The bone phosphatase appeared to be 4 times as active as the tooth phosphatase. In healthy intact teeth of adult humans the mean activity was found to be 180 (expressed as inorg. P splitt off by 1 g. material in 24 hr. from glycerophosphate) while the average activity of carious teeth from this group only amounted to 48, probably owing to less vitality of the pulps. In teeth from young people andchildren the average value for intact teeth was 115, but that for carious ones 276.

Eggers Lura-Holbaek

SO: EXCERPTA MEDICA, Section II Vol. 7 No. 11

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BIELITSER, V.O.

I.M.Sechenov's work on salting out and solution with neutral salts. B.O. Bielitser. Ukr.biokhim.zhur. 25 no.2:233-236 '53. (MLRA 6:6)
(Salts) (Solubility) (Sechenov, Ivan Mikhailovich, 1829-1905)

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BELITSER, V. A.

Chemical Abst.
Vol. 48
Apr. 10, 1954
Biological Chemistry

Problems in the theory of protein molecular structure. A. G. Pasynskii and V. A. Belitser. *Uspekhi Sovremennoi Biol.* 36, 236-51(1953).—53 references. I. F. S.

Moscow for Pasynskij; Kiev for Belitser

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BELITSER, V. A.

Chem Abs
V. 48 25 Jan 54

Biological Chem

Inst. Biochemistry,
Acad. Sci.

Formation and polymerization of fibrin monomer. V. A. Belitser and Ya. V. Belik. *Doklady Akad. Nauk S.S.S.R.* 91, 805-8(1953).—Data are reported that prove the 2-phase nature of transformation of fibrinogen into fibrin (cf. Boyles, *et al.*, *C.A.* 45, 7217i). The enzymic phase of the transformation was carried out with the aid of thrombin in plasma contg. 20% urea (thus excluding the formation of fibrin) by means of heparin in the form of ox blood plasma freed of prothrombin. Complete blocking of the action of thrombin was produced by heparin in dilns. less than 1:8000. Even long incubation of such mixts. failed to yield monomer fibrin, and on diln. with H_2O or aq. NaCl no fibrin clots were formed. If the heparin was not added immediately but after some time during which fibrin monomer could begin to form, such dilns. immediately gave fibrin clots. The time of such clot formation became const. (substantially) if the initial heparin-free reaction time was 50–60 min.; with shorter preliminary reaction periods the clot formation was progressively slower. The polymerization of monomer fibrin took place only when thrombin action was stopped before diln. of the mixt. Thus, the polymerization phase of clotting is nonenzymic. Treatment of fibrin monomer solns. in the presence of 20% urea at pH 6.5 with I_2 in aq. KCl until the yellow color persisted, gave after diln. of the mixt. a characteristic fibrin clot; iodinated fibrin monomer tends to clot more readily than fibrin itself. The iodinated fibrinogen does not clot by the action of thrombin, apparently since in iodination fibrinogen loses its property of transformability into fibrin monomer. In the enzymic phase of transformation of fibrinogen into fibrin (in presence of 20% urea to inhibit polymerization) the concn. of the fibrinogen in the mixt. is related directly to the rate of the enzymic reaction; this was judged by the time of appearance of clot after diln.

G. M. Kosolapoff

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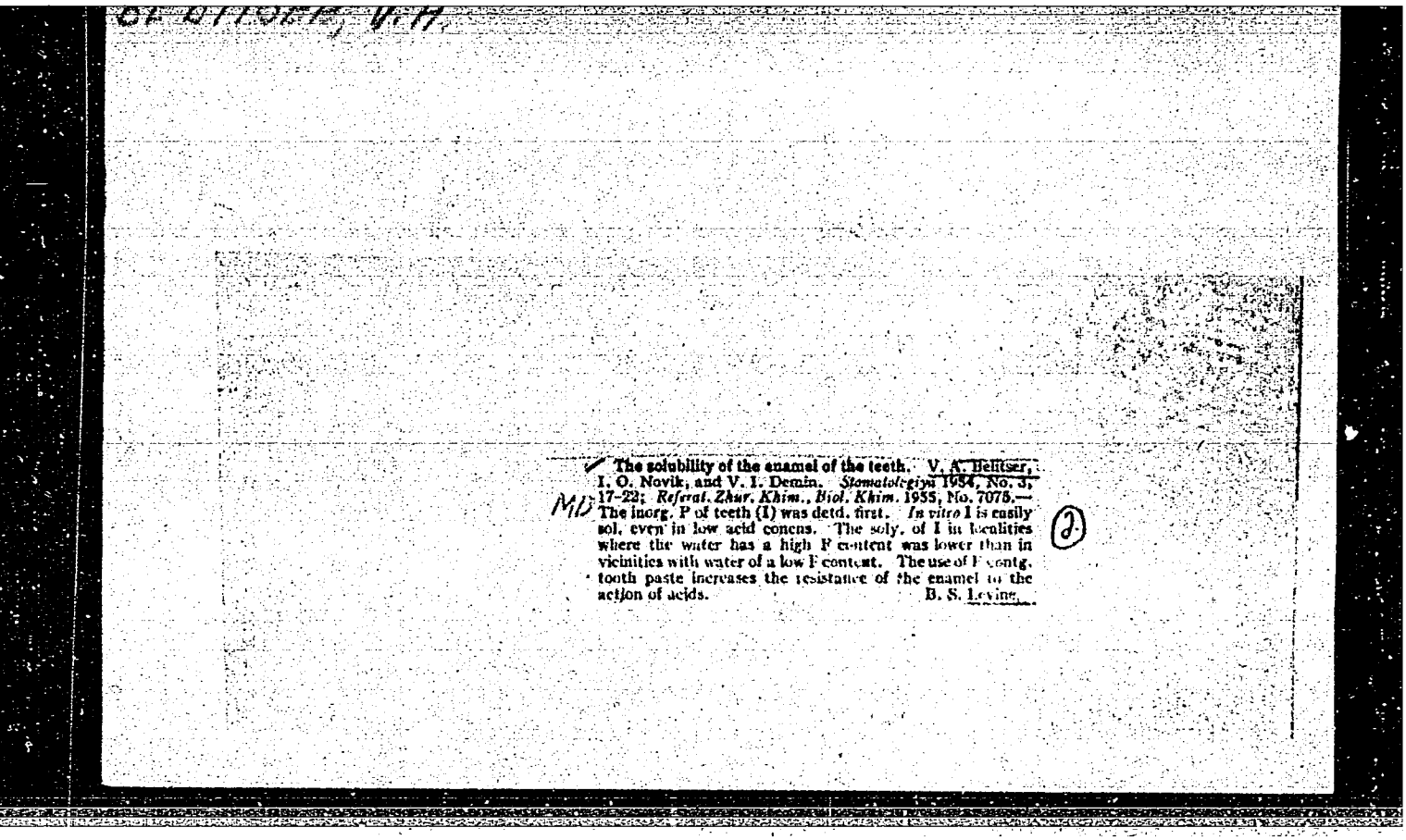

The solubility of the enamel of the teeth. V. A. Belitser, I. O. Novik, and V. I. Demin. *Stomatologiya* 1954, No. 3, 17–22; *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 7078.—The inorg. P of teeth (I) was detd. first. *In vitro* I is easily sol. even in low acid concns. The soly. of I in localities where the water has a high F content was lower than in vicinities with water of a low F content. The use of F-contg. tooth paste increases the resistance of the enamel to the action of acids.

B. S. Levine

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BELITSER, V.A. (Reviewer)

"Chemistry and biochemistry of proteins." F.Gaurovitts. Reviewed by V.A.Belitser. Ukr.biokhim.zhur. 26 no.1:96-103 '54. (MLRA 7:4)
(Proteins) (Gaurovitts, F.)

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BELITSER, V.O.; KHODOROVA, E.L.; TSIPEROVICH, O.S.

Determination of the activity of enzymes causing the curdling of milk. Ukr.biokhim.zhur. 26 no.2:175-185 '54. (MLRA 7:6)

1. Institut biokhimii Akademii nauk USSR. (Enzymes) (Milk)

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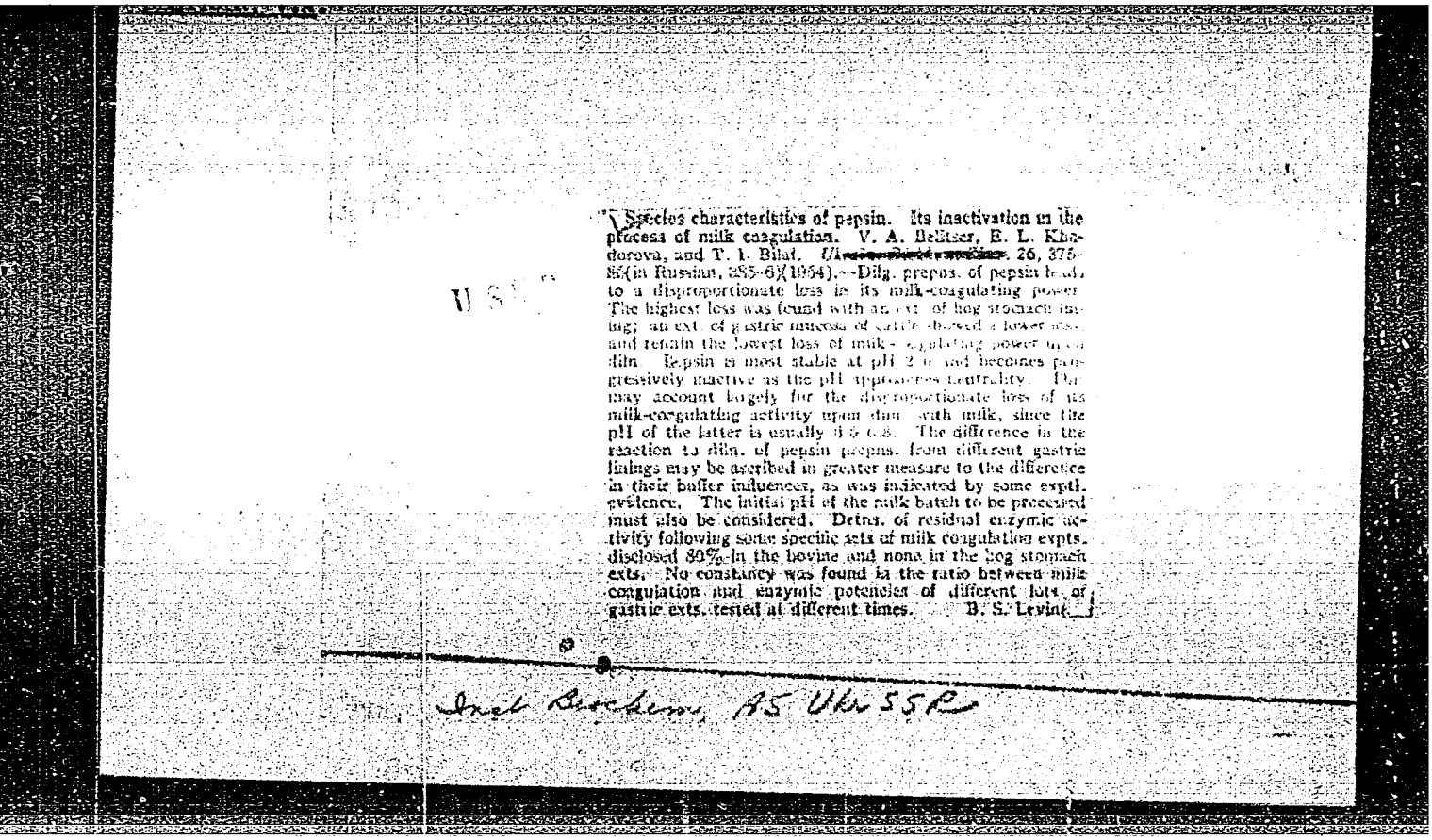

Species characteristics of pepsin. Its inactivation in the process of milk coagulation. V. A. Belitser, E. L. Khodorova, and T. I. Bilai. [redacted], 26, 375-85(in Russian, 385-6)(1954).--Dilg. preps. of pepsin lead to a disproportionate loss in its milk-coagulating power. The highest loss was found with an ext. of hog stomach lining; an ext. of gastric mucosa of cattle showed a lower loss and retain the lowest loss of milk-coagulating power in soln. Pepsin is most stable at pH 2 to 4 and becomes progressively inactive as the pH approaches neutrality. This may account largely for the disproportionate loss of its milk-coagulating activity upon dilg. with milk, since the pH of the latter is usually 6 to 6.8. The difference in the reaction to dilu. of pepsin preps. from different gastric linings may be ascribed in greater measure to the difference in their buffer influences, as was indicated by some exptl. evidence. The initial pH of the milk batch to be processed must also be considered. Detns. of residual enzymic activity following some specific acts of milk coagulation expts. disclosed 80% in the bovine and none in the hog stomach exts. No constancy was found in the ratio between milk coagulation and enzymic potencies of different lots of gastric exts. tested at different times. B. S. Levine

Anat Biochem, AS Ukr SSR

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BELITSER, V. A. and PASYNSKIY, A. G.

"The Sturcture of the Protein Molecule", Uspekhi Sovremennoy Biologii, Vol. 37, No 3, pp 358-360, 1954.

SO: Translation-M-695, 19 Aug 1955.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.

GULYY, M.F., redaktor; BELITSER, V.A., redaktor; SNEZHIN, M.I., redaktor; SIVACHENKO, Ye.A., tekhnicheskiy redaktor.

[Proteins, their special properties] Soveshchaniia po probleme belka, Kiev, 1954. Belki, ikh spetsificheskie svoistva; trudy soveshchaniia. Kiev, Izd-vo Akad.nauk USSR, 1955. 246 p. (MLRA 8:10)

1. Chlen-korrespondent AN USSR (for Gulyy, Belitser).
(Proteins)

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~~BELICER, V A~~ BELITSER, V. A.

Protein denaturation. V. A. Belicer (Inst. Biochem., Kiev, U.S.S.R.). *Congr. intern. biochim., Résumés communs., 3e Congr., Brussels* 1955, 19 (in Russian and English). —The sudden chem. change in protein denaturation has been confirmed. In the partial denaturation of egg albumin by urea in the presence of ferricyanide, all SH groups of the sol. part of the protein remained unchanged. Thus, the protein mol. reacted with ferricyanide only when denatured, all its SH groups being rapidly oxidized. In protein denaturation in dil. solns., the denaturation consisted of an extensive disturbance of weak bonds formed by the side groups of amino acids. The alteration of a large no. of intrachain H bonds in polypeptide helices is not required.

W. C. Tobie

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.O.; BELIK, Ya.V.

Role of sulfhydryl groups in the formation of fibrin. Ukr.biokhim.zhur. 27 no.2:161-167 '55. (MLRA 8:10)

1. Institut biokhimii Akademii nauk Ukrains'koi RSR, Kiev.
(FIBRIN,
form.,role of sulfhydryl cpds)
(SULFHYDRYL COMPOUNDS, metabolism,
in fibrin form)

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BELITSER, V.A.; KOTEL'NIKOVA, A.V.; LYUBIMOVA, M.N.; SEVERIN, S.Ye.; STEPANENKO, B.N.; ENGEL'GARDT, V.A.

Second International Conference on Lipids and the Third International Biochemical Congress. Vop.med.khim. 2 no.1:73-79 Ja-F '56. (MLRA 9:9)
(GHENT--LIPIDS--CONGRESSES)
(BRUSSELS--BIOCHEMISTRY--CONGRESSES)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.

[redacted] The proteins." Vol.2. Reviewed by V.A.Belitser. Vop.med.khim. 3 no.3:238-239 My-Je '57. (MLRA 10:8)
(PROTEINS)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.; SAYENKO, T.V.

Effect of acid and alkali on egg albumin [with summary in English]
Biokhimiia 22 no.1/2:274-282 Ja-F '57. (MLRA 10:7)

1. Institut biokhimii Akademii nauk Ukrainskoy SSR, Kiyev.
(EGG WHITE,
eff. of acids & alkali (Rus))

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BELITSER, V.A.

SAYENKO, T.V.; BELITSER, V.A.

Salting out egg albumin in an acidic medium [with summary in English] Ukr.biokhim.zhur. 29 no.3:347-353 '57. (MLRA 10:9)

1. Institut biokhimii Akademii nauk Ukrainskoy SSR, Kiyev.
(ALBUMINS) (PRECIPITATION (CHEMISTRY))

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V. A.

AUTHORS: Belitser, V. A., Kotkova, K. I., Lobachevskaya, O.V. 20-3-28/46
Tsikalovskaya, G. N.

TITLE: On the Properties and the Rôle Played by the Disulphide Groups in Serum Albumin (O svoystvakh i znachenii disul'fidnykh grupp v syvorotochnom al'bumine)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 3, pp. 451-454 (USSR)

ABSTRACT: The subject of this treatise was the study of the reactivity of disulphide compositions in serum albumin and the dependence of several protein properties on the decomposition and recreation of these compositions. Crystalline albumin from horse blood serum was used for this purpose. Besides the native kind of protein, the one denatured by urea was examined too (10 mol. urea per 1 liter of protein solution of 6 mol. potassium thiocyanate). The reaction of decomposition by sodium bisulphide was carried out in presence of acetate buffers. The tests by the authors have shown that the reaction of decomposition of the disulphide groups of serum albumin by bi-suphide proceeds slowly at the beginning for accelerating substantially thereupon. The reaction is accompanied by a general denaturization of the structure. The disuphide groups react only slowly in the initial protein. Due to the decomposition of several disulphide compositions in the molecule, a destabilization of the macro-structure takes place. Further the molecule suffers

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a denaturization-convertion due to which a great number of its disulphide groups are decomposed by bisulphide. In order to verify this explanation the authors previously denaturized the urea and left it untouched during 3o minutes at room temperature. After the addition of bisulphide the reaction set in immediately at full maximum velocity. The number of disulphide groups capable of reaction is not constant in serum albumin. It increases by adding of urea, as well as by the use of newly prepared sodium bisulphide. Under favorable conditions 1oo% of the groups enter the reaction. The said reaction is partly reversible. By removing the bisulphide by dialysis or by separating the protein from the composition of reaction, a considerable portion of the disulphide groups is newly formed. 2o to 3o % of the sulphydryl-groups, however, are conserved. The reaction with bisulphide remains irreversible for them. The are incapable of a reaction with their partners, viz. the zystein-sulphon groups. This unequal behavior of the disulphide groups is known for the keratin of the wool. It should be explained by the steric factors. After having used NaCN instead of KCNS as denaturized matter, the authors obtained analogous results. The variation of the macro-structure, however remained irreversible. The egg-albumin exceeds serum albumin clearly by the solidity of the macro-structure , inspite of the

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

On the Properties and the Rôle Played by the Disulphide Groups in Serum Albumin. 20-3-28/46

presence of only 1 disulphide-composition compared with 17 in serum albumin. Unexpected results were obtained by a verification of the chemically immune specifity of serum albumin which after decomposition of the disulphide compositions was dialysed. The ring-precipitation-reaction ("reaktsiya kol'tsepretsipitatsii") between this protein and serum of rabbit was positive and is not inferior to that with native protein in respect to intensity. The irreversible conversion did not act on those sections of the macro-structure which determine the antigen properties of serum albumin. Concluding, several statements made by Gorbacheva, Bresler and Frenkel', in a paper which was published short time prior to the impression, of this paper are commented in negative sense. There are 1 figures, 1 table, and 1o references, 5 of which are Slavic.

ASSOCIATION: Institute for Biology of AN Ukrainian SSR (Institut biologii AN USSR) [most probably the offic. ochrily reads Inst Biochem, AS Ukr SSR]

PRESENTED: June 17, 1957, by A. V. Palladin, Academician

SUBMITTED: June 1, 1957

AVAILABLE: Library of Congress

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V. A.

"Distinguish denaturation from some other slight modifications of structure"

report presented at the 10th All-Union Conf. on Highly Molecular Compounds, Biologically Active Polymer Compounds, Moscow, 11-13 June 1958. (Vest. Ak Nauk SSSR, 1958, No. 9, pp. 111-113)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A., prof. (Kiyev); FETISOV, N.V., prof. (Kiyev); DEMIN, V.I., kand.biol.nauk (Kiyev); POKOTILO, Ye.D., kand.med.nauk (Kiyev)

Significance of the complex of B vitamins in the treatment of paradentosis. Probl.stom. 4:237-240 '58. (MIRA 13:6)
(VITAMINS--B, ETC.--THERAPEUTIC USE)
(GUMS--DISEASES)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A., [BIELITSER, V.O.], KHODOROVA, Ye.L. [KHODOROVA, IE,L.]
SERKYSKAYA, A.A. [SERKIS'KA, A.O.]

Method of obtaining pepsinogen [with summary in English].
Ukr.biokhim.zhur. 30 no.2:179-186 '58 (MIRA 11:6)

1. Institut biokhimii AN URSR, Kiiv.
(PEPSINOGEN)
(CHEMISTRY, MEDICAL AND PHARMACEUTICAL)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. [Bielitser, V.O.]

Warsaw symposium on blood-replacing and blood-producing agents.
Ukr.biokhim.zhur. 30 no.3:479-480 '58. (MIRA 13:3)
(BLOOD--CONGRESSES)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A., [Bielitser, V.O.]

Serum preparations with attenuated specificity. Ukr.biokhim.zhur. 30 no.5:776-793 '58 (MIRA 11:12)

1. Institut biokhimii AN USSR, Kiyev.
(SERUM)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, Vladimir Aleksandrovich [Bielitser, V.O.], akademik;
KOROTKORUCHKO, V.P., doktor biolog.nauk, glavnyy red.

[Protein, the basis of life] Bilok - osnova zhyttia.
Kyiv, 1959. 28 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.5, no.21)
(MIRA 13:2)

1. Akademiya nauk USSR (for Belitser).
(PROTEIN METABOLISM)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. [Bielitser, V.O.]; VARETSKAYA, T.V. [Varets'ka, T.V.]

Binding of dyes by proteins in native, denatured and chemically modified states. Ukr.biokhim.zhur. 31 no.2:171-185 '59. (MIRA 12:6)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(PROTEINS) (STAINS AND STAINING (MICROSCOPY))

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.O. [Bielitzer, V.O.]; LOBACHEVSKAYA, O.V. [Lobachevs'ka, O.V.]

Amperometric titration of mercapto groups with silver nitrate. Ukr. biokhim.zhur. 31 no.4:579-588 '59. (MIRA 13:1)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(CONDUCTOMETRIC ANALYSIS) (MERCAPTO GROUP) (SILVER NITRATE)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A., akademik

Symposium on the topic "Structure and biological functions of the protein molecule." Vest.AN SSSR 30 no.12:84-85 D '60.
(MIRA 13:12)

1. AN USSR.

(PROTEINS)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. [Bielitser, V.O.]; KOTKOVA, K.I.

Photooxidation of fibrinogen and fibrin monomer. Ukr.biokhim. zhur. 32 no.1:3-12 '60. (MIRA 13:6)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.
(FIBRIN) (FIBRINOGEN)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. (Kiyev)

Protein structure. Fiziol. zhur. 46 no. 4:13-28 Ap '60.
(MIRA 13:10)

(PROTEINS)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V. A., LOBACHEVSKAYA, O. V. (USSR)

"Reactivity of SH-Groups in Ovalbumin, Suspended in Polar and Non-Polar Media."

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

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.; KHODOROVA, Ye.L.; VARETSKAYA, T.V.

Proteins involved in the coagulation of blood. Ukr. biokhim. zhur. 33 no.5:753-778 '61. (MIRA 14:10)
(BLOOD--COAGULATION)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A., akademik; LOBACHEVSKAYA, O.V.

Partial transformation of sulfhydryl groups of ovalbumin into intramolecular disulfide bonds. Dokl.AN SSSR 137 no.5:1226-1229 Ap '61. (MIRA 14:4)

1. Institut biokhimii AN SSSR. 2. AN USSR (for Beltiser).
(Mercapto group) (Albumin)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. [Bielitser, V.O.]; KHODOROVA, Ye.L. [Khodorova, IE.L.]; LOSEVA, A.L. [Losieva, A.L.]

Simple method for obtaining pure prothrombin from the blood plasma of cattle. Ukr. biokhim. zhur. 33 no.4:499-504 '61. (MIRA 15:6)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

(PROTHROMBIN)
(BLOOD PLASMA)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A. (Kiyev)

Macrostructure and denaturation of proteins. Ukr. biokhim. zhur. 34 no.2:290-320 '62. (MIRA 16:11)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

GULYY, Maksim Fedotovich; BELITSER, V.A., akademik, otv. red.; YANKOVSKAYA, Z.B., red.; KADASHEVICH, O.A., tekhn. red.

[Biosynthesis of protein] Biosintez belka. Kiev, Izd-vo Akad. nauk USSR, 1963. 202 p. (MIRA 16:5)

1. Akademiya nsuk Ukr.SSR (for Belitser).
(Proteins) (Biosynthesis)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

MEL'NICHUK, Yu.P. [Mel'nychuk, IU.P.]; BELITSER, V.A. [Bielitser, V.O.]

Splitting of fibrogen with trypsin. Isolation and characteristics of the products of its hydrolysis. Ukr. biokhim. zhur. 35 no.4:496-506 '63. (MIRA 17:11)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

ORLOVSKAYA, N.N. [Orlovs'ka, N.M.]; LOSEVA, A.L. [Loseva, A.L.]; BELITSER, V.A. [Bielitser, V.O.]

Modification of the Phenylisothiocyanate method for the determination of the N-terminal sequence of amino acids in proteins. Ukr. biokhim. zhur. 35 no.4:593-605 '63. (MIRA 17:11)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

VARETSKAYA, T.V. [Varets'ka, T.V.]; GRYAZNUKHINA, Ye.A. [Hriaznukhina, K.O.]; BELITSER, V.A. [Bielitser, V.O.]

Kinetics of the conversion of fibrinogen to fibrin. Ukr. biokhim. zhur. 36 no.1:3-13 '64. (MIRA 17:12)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSER, V.A.; VEREMEYENKO, K.N.

Interrelations between trypsin and serum inhibitor I and their substrates. Biokhimiia 29 no. 1:126-131 Ja-F '64. (MIRA 18:12)

1. Institut biokhimii AN UkrSSR i laboratoriya biokhimii Instituta otolaringologii Ministerstva zdravookhraneniya UkrSSR, Kiyev. Submitted June 1, 1963.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

ORLOVSKAYA, N.N.; BELITSER, V.A.

Study of the N-terminal amino acid sequence in serum albumins of various animals. Biokhimiia 29 no.4:741-748 Jl-Ag '64. (MIRA 18:6)

1. Institut biokhimii AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

GULYY, M.F., akademik, otv. red.; BELITSER, V.A., red.; GERSHENZON, S.M., red.; GOL'DSHTEYN, B.I., red.; VIZIR, P.Ye., red.; TROITSKIY, G.V., red.; MARTYNENKO, F.P., red.; YANKOVSKAYA, Z.B., red.

[Proteins in medicine and the national economy; blood proteins, glucose oxidase] Belki v meditsine i narodnom khoziaistve; belki krovi, gliukozooksidaza. Kiev, Naukova dumka, 1965. 247 p. (MIRA 18:5)

1. Simpozium po voprosam proizvodstva i primeneniya glyukozooksidazy. Kiev, 1964. 2. Krymskiy meditsinskiy institut, Simferopol' (for Troitskiy). 3. Institut biokhimii AN Ukr.SSR, Kiev (for Gulyy).

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

GRYAZNOKHINA, Ye.A.; BELITSER, V.A.

Kinetic study of the enzymatic clotting of fibrinogen. Biokhimiia 30 no.4:696-704 Jl-Ag '65. (MIRA 18:8)

1. Institut biokhimii AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

KIRSANOVA, G.A.; PURUSOVA, G.A.; BELITSIN, M.N., inzh.; VOLKOVA, N.A., inzh.

Assortment of synthetic fibers. Khim.volok. no.6:78 '59.
(MIRA 13:5)

1. Klinskiy kombinat iskusstvennogo kombinata.
(Textile fibers, Synthetic--Congresses)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.

Effectiveness of the method of doffing yarn on twisters at different times. Khim.volok. no.1:60-61 '60.
(MIRA 13:6)

1. Klinskiy kombinat.
(Klin--Textile machinery) (Rayon)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.

Means for increasing the productivity of labor and equipment in the spinning shops of the viscose silk manufacture. Khim.volok. no.5:65-66 '60. (MIRA 13:12)

1. Klinskiy kombinat.

(Rayon spinning)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N., inzh.

"Konoli" bobbin rewinding machine. Tekst.prom. 20 no.1:89-90 Ja '60. (MIRA 13:5)
(Spinning machinery)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N., inzh.

Using the principle of material self-interest as a means of reducing yarn breakage. Tekst.prom. 20 no.7:73-75 Jl '60. (MIRA 13:7)

(Bonus system)
(Textile industry)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

VLADIMIROV, Boris Mikhaylovich; RYBAKOV, Vladimir Mikhaylovich; SAMOYLOV, Ivan Alekseyevich; BELITSIN, N.M., doktor tekhn.nauk, red.; FAMINSKIY, A.P., inzh., retsenzent; TKRYUSHNOV, A.V., kand.tekhn. nauk, retsenzent; VERBITSKAYA, Ye.M., red.; MEDVEDEV, L.Ya., tekhn.red.

[Manual on cotton spinning] Spravochnik po khlopkopriadeniiu. Pod red. N.M.Belitsina. Izd.3., perer.i sokr. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po legkoi promyshl. 1958. 508 p. (MIRA 12:3)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti.
(Cotton spinning)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M. N.

Cand Tech Sci - (diss) "Change in the properties of viscose threads under the influence of mechanical actions." Moscow-Klin, 1961. 18 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Textile Inst); 150 copies; price not given; (KL, 7-61 sup, 232)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.

Effect of the properties of viscose elementary fibers on the properties of a twisted filament. Khim.volok. no.1:60-67 '61.
(MIRA 14:2)

(Rayon--Testing)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.; OREKHOVA, Z.M.; FREYDLIN, Ya.A.; ZARINA, E.Ya.; BARANOVA, Z.D.; KAMUSHKIN, P.P.

Production of viscose silk with a higher uniformity of its physical and mechanical properties. Khim.volok. no.5:60-62 '61. (MIRA 14:10)

1. Klinskiy kombinat.

(Rayon)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BALYASOV, P.D.; BUDNIKOV, V.I., prof.; VANCHIKOV, A.N.; VLADIMIROV, B.M.; KISELEV, A.K.; KONYUKOV, P.M.; RAKOV, A.P., prof.; SMELOVA, N.A.; EFROS, B.Ye.; ZOTIKOV, V.Ye., retsenzent; BELITSIN, N.M., retsenzent; KOSTIN, B.V., retsenzent; TERYUSHNOV, A.V., prof., red.; SOKOLOVA, V.Ye., red.; BATYREVA, G.G., tekhn. red.

[Cotton spinning] Priadenie khlopka. [By] P.D.Baliasov i dr. Moskva, Rostekhizdat. Pt.1. 1962. 433 p. (MIRA 16:9)

(Cotton spinning)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.; KAPUSTINA, L.

Conference of readers. Khim.volok. no.2:79 '62. (MIRA 15:4)
(Textile fibers, Synthetic—Periodicals)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BALYASOV, P.D.; BUDNIKOV, V.I., prof.; VANCHIKOV, A.N.; VLADIMIROV, B.M.; KISELEV, A.K.; KONYUKOV, P.M.; RAKOV, A.P.; SMELOVA, N.A.; EFROS, B.Ye.; ZOTIKOV, V.Ye., retsenzent; BELITSIN, N.M., retsenzent; KOSTIN, B.V., retsenzent; TERYUSHNOV, A.V., prof., red.; SOKOLOVA, V.Ye., red.; BATYREVA, G.G., tekhn. red.

[Cotton spinning] Priadenie khlopka. [By] P.D.Baliasov i dr. Pod red. V.I.Budnikova, A.P.Rakova, A.V.Teriushnova. Moskva, Rostekhizdat. Pt.2. 1963. 395 p. (MIRA 16:6)
(Cotton spinning)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.

Changes in the strength characteristics of viscose threads dependent upon the conditions of deformation. Khim.volok. no.2:43-48 '63. (MIRA 16:5)

1. Klinskiy kombinat.
(Textile fibers, Synthetic--Testing)

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L 18558-63 EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/
WW/MAY

ACCESSION NR: AP3004254 S/0138/63/000/007/0021/0023

68
67

AUTHOR: Belitsin, M. N.

TITLE: Effect of the frequency of multiple bending distortions on performance of viscose and caprone tire cord

SOURCE: Kauchuk i rezina, no. 7, 1963, 21-23

TOPIC TAGS: tire cord, viscose cord, caprone cord, bending distortions

ABSTRACT: The effect of bending frequency of viscose and caprone tire cord on performance, as measured by the product of endurance and durability, was studied. Tests were conducted on cords 11V and 14C under a constant static load of 1 kg, using a device developed by the Vengerskiy nauchno-issledovatel'skiy institut tekstil'noy promyshlennosti (Hungarian Scientific Research Institute of Textile Industry). The modified procedure used cord lengths of 65 and 75 cm and a bending frequency of 47, 24, and 16 per minute, at a temperature of 100C. The elongation of the cords was recorded every hour, and the duration of the experiment was to the breaking point. It was found that with a trifold increase in the bending frequency the endurance of the viscose and caprone cords increased to 230% and 213% respectively, while their durability decreased to 78% and 73%. The total

Card 1/2

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L 18558-63

ACCESSION NR: AP3004254

net result in terms of "endurance by durability" was an increase in performance with an increase in the bending rate, represented on a chart by a straight line, the viscose cord being slightly superior to the caprone cord. Orig. art. has: 3 charts and 1 table.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut shelka (Central Scientific Research Institute of Silk)

SUBMITTED: 00 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: MA NO REF SOV: 008 OTHER: 001

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, M.N.

Reducing the number of warp breaks on twisters. Khim. volok. no.4:49-52 '63. (MIRA 16:8)

1. Klinskiy kombinat iskusstvennogo volokna.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

BELITSIN, N.N.

Temperature effect on the mechanical properties of synthetic fibers. Khim. volok. no.3:52-54 '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'nyy institut pererabotki khimicheskikh volokon.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

ZYRIN, N.G.; BELITSINA, G.D.; OBUKHOV, A.I.

Possibilities for using absolute blackenings in the quantitative spectral analysis of soils for microelements. Nauch. dokl. vys. shkoly; biol. nauki no.2:185-187 '62. (MIRA 15:5)

1. Rekomendovana kafedroy pochvovedeniya Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(SOILS—ANALYSIS) (TRACE ELEMENTS)
(SPECTRUM ANALYSIS)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

PILIKOVSKIY, Mikhail Yakovlevich; RYBAKOV, Vladimir Mikhaylovich; UKRAINSKIY, E.M., retsenzent; BELITSINA, N.M., prof., doktor tekhn. nauk, red.; SOKOLOVA, V.Ye., red.; SHVETSOV, S.V., tekhn. red.

[Processing of synthetic fibers by cotton-spinning machinery] Pererabotka khimicheskikh volokon na khlopkopriadil'nom oborudovanii. Pod red. N.M.Belitsina. Moskva, Izd-vo nauchno-tekhn. lit-ry RSFSR, 1961. 166 p. (MIRA 15:1)
(Textile fibers, Synthetic)
(Spinning machinery)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000204320013-6

17(4,10)

AUTHORS: Shapiro, N. I., Bocharova, Ye. M., Belitsina, N. V.

SOV/20-126-1-52/62

TITLE: On the "Oxygen-effect" Observed in the Case of Radiation Injuries in Vegetable and Animal Cells (O "kislorodnom effekte", nablyudayemom pri luchevom povrezhdenii rastitel'nykh i zhivotnykh kletok)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 191-194 (USSR)

ABSTRACT: One of the most universal radiobiological laws is the intensification of the ionizing effect in media containing oxygen. The "oxygen-effect" is observed in a relatively small specific ionization. According to numerous statements, it is related to the mechanism of the radiolysis of water (Ref 1). According to the latest investigations, the effect mentioned is much more complicated, since oxygen increases the damage, which has nothing to do with the radiolysis of water (Refs 2-11). Despite the data already known more facts are necessary to explain the "effect". The present article is meant to prove the "effect" in 2 completely different types of cells, where it is in no relation to the radiolysis of water. The objects used were barley seeds of the type "Wiener", and cells of the

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ascitic carcinoma of Ehrlich in mice. The chromosome aberration served as an index of the damage. The total dose of radiation amounted to 10000 r for barley, with an intenstiy of 515 r/min. Variations of the experiment were: I. 10 kr, II. 10 kr, and besides for 30 min O_2 was blown through the water in which afterwards the seeds were soaked. III. - as II, but 4.10^{-3} m sodium metabisulphite solved in water beforehand. IV. - as III, but without O_2. There were also 3 control variants. A summary of the results is given in table 1. Therefrom it may be seen that the frequency of the developing chromosome disturbance increases rapidly in the case of O_2 treatment immediately before the seeds are exposed to ray treatment. The result achieved by the introduction of sodium metabisulphite shows that the generally comprehensible radiation-effect also includes that part of the damage of the object which, although due to the O_2-influence, has nothing to do with the radiolysis

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of water. This participation can be estimated to be about one third. The cells of the ascitic carcinoma were studied in vitro in the following variants: I. radiation in the air, II. the same under the conditions of a vacuum, III. - as in II, followed by 2 hours in the vacuum. The results achieved (Table 2) prove the bibliographical data on the existence of an "oxygen-effect" (Ref 14). Analogous to barley in this case it was not connected with the radiolysis of water. This evidence of the mentioned effect in 2 objects systematically so different from each other, proves its frequency in radiobiological reactions. Its physico-chemical mechanism deserves further investigations. There are 2 tables and 14 references, 1 of which is Soviet.

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