LOKSHIN, Aleksandr Zinov'yevich; SAMSONOVA, M.K., kand. tekhn. nauk, retsenzent; YEKIMOV, V.V., prof., doktor tekhn. nauk, retsenzent; TSYNDRYA, I.I., kand. tekhn. nauk, retsenzent; SIVERS, N.L., nauchn. red.; KLIORINA, T.A., red.

[Strength of ship plates and span coverings made of glass-reinforced plastics] Ustoichivost' sudovykh plastin i perekrytii iz stekloplastikov. Leningrad, Sudostroenie, 1964. 90 p. (MIRA 17:11)

AL'TGAUTS, Isaak Moiseyevich; SMIRNOVA, M.K., retsenzent; SOKOLOV, B.P., retsenzent; ARKHANGEL'SKIY, B.A., nauchn. red.

[Polyester glass-reinforced plastics for shipbuilding] Poliefirnye stekloplastiki dlia sudostroeniia. Leningrad, Izd-vo "Sudostroenie," 1964. 286 p. (MIRA 17:8)

SMIRNOV, Vasiliy Ivanovich; MESHCHERYAKOV, Vasiliy Vasil'yevich; SMIRNOVA, M.K., kand. tekhn. nauk, retsenzent; AL'SHITS, I.M., nauchn. red.; SHAKHNOVA, V.M., red.

[Testing and inspecting glass reinforced plastics used in shipbuilding] Ispytanie i kontrol' sudostroitel'nykh stekloplastikov. Leningrad, Sudostroenie, 1965. 186 p. (MIRA 18:6)

SMIRNOVA, Muza Konstantinovna; SOKOLOV, Boris Pavlovich; SHIORIN, Yakov Sergeyevich; IVANOV, Aleksey Pavlovich; VILUNAS, V.P., inzh., retsenzent; KUSKOVA, A.I., red.

[Hull strength of a fiberglass boat] Prochnost' korpusa sudna iz stekloplastika. Pod obshchei red. M.K.Smirnova. Leningrad, Sudostroenie, 1965. 331 p. (MIRA 19:1)

ACC NR: AM6032827 (N) Monograph UR/

(Candidate of Technical Sciences)

Smirnova, Muza Konstantinovna; Sokolov, Boris Pavlovich; Sidorin, Yakov Sergeyevich; Ivanov, Aleksey Pavlovich

Strength of fiberglass reinforced plastic ship hulls (Prochnost' korpusa sudna iz stekloplastika) Leningrad, Izd-vo "Sudostroyeniye", 1965. 331 p. illus., biblio. 2700 copies printed.

TOPIC TAGS: shipbuilding engineering, plastic, laminated plastic, reinforced plastic, plastic strength

PURPOSE AND COVERAGE: This book is intended for workers of design and planning organizations, enterprises, and scientific-research institutes; it can also be used by students attending shipbuilding institutes of higher education and technical schools. The book describes the peculiarities of fiberglass-reinforced plastic as a new construction material, and presents data on its physicomechanical properties and methods for determining them. In addition, the basic principles for designing and calculating the strength of fiberglass-reinforced-plastic ship hulls is presented. Chapters I, IV, V, and VI were written by M. K. Smirnova on the basis of experiments carried out by her together with B. P. Sokolov, L. N. Vinogradova, M. V. Mikhaylov, I. A. Yelsukov, V. M. Tsyganenko, N. N. Makarova, G. P. Gur'yanov, N. A. Shadrinova, and L. O. Vinogradova. Chapter II

UDC: 629.12.011.678.5

Card 1/2

ACC NR: AM6032827

was written by Ya. S. Sidorin and A. P. Ivanov with the assistance of S. F. Glasov. Chapter III was written by B. P. Sokolov. There are 76 references, 34 of which are Soviet.

TABLE OF CONTENTS (Abridged):

SUB CODE: 11, 13/ SUBM DATE: 10Jul65/ ORIG REF: 033/ OTH REF: 044/

Card 2/2

GULIYEV, M.A.; KOLOMAKIN, G.A.; IVANOVA, K.V., veter.vrach; KOZINA, M.S., veter. vrach; SMIRNOVA, M.M., laborant

Diagnosis of rabies. Veterinariia 41 no.10:89-91 O '64. (MIRA 18:11)

1. Zaveduyushchiy otdelom virusologii Gruzinskoy respublikanskoy veterinarnoy laboratorii. (for Guliyev). 2. Direktor Alma-Atinskoy oblastnoy veterinarnoy laboratorii (for Kolomakin). 3. Alma-Atinskaya oblastnaya veterinarnaya laboratoriya (for Ivanova, Kozina, Smirnova).

Abs Jour : Ref Zhur - Biol., No 5, 1958, 18961

of M. The author suggests that as an effect of nucleoprotein and RNA obtained from the above-mentioned bacteria the activity of proteolytic enzymes of bacteria is increased in favor of their synthetic function, while I exerts an opposite effect by increasing the hydrolytic function of bacterial proteolytic enzymes. As proof of this supposition the author considers the chromatographic data, which indicate disappearance of some aminoacids and appearance of new non-identified spots.

GAMALEYA, O.P.; BELETSKAYA, L.V.; SMIRNOVA, M.N.

Antibodies against homologous heart tissue in the serums of animals immunized by streptococcus. Vop.revm. 3 no.1:3-10 Ja-Mr '63. (MIRA 16:4)

1. Iz Instituta imeni N.F.Gamaleia (dir. - prof. P.A.Vershilova) AMN SSSR.

(STREPTOCOCCUS) (ANTIGENS AND ANTIBODIES)
(HEART--MUSCLE)

USSR/Inorganic Chemistry - Complex Compounds, C

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 655

Author: Eil'berman, Ye. N., and Smirnova, M. M.

Institution: None

Title: New Method for the Synthesis of Imidodisulfonates

Original Pericdical: Zh. obshch. khimii, 1956, Vol 26, No 3, 672-675

Abstract: A method is described for the synthesis of the diammonium salt of imidodisulfonic acid by the reaction of NH_4HSO_3 with a neutral solution of the ammonium salt of hydroxlamine monosulfonic acid. A method described earlier (Neorganich. sintezy, 1951, Vol 2, 170, 173, 175) for the synthesis of amidosulfonic acid from NH_2OH and SO_2 has been simplified. In order to speed up the reaction at ordinary pressures, SO_2 has been replaced with NH_4HSO_3. The amidosulfonic acid is separated from the product mixture with concentrated H_2SO_4.

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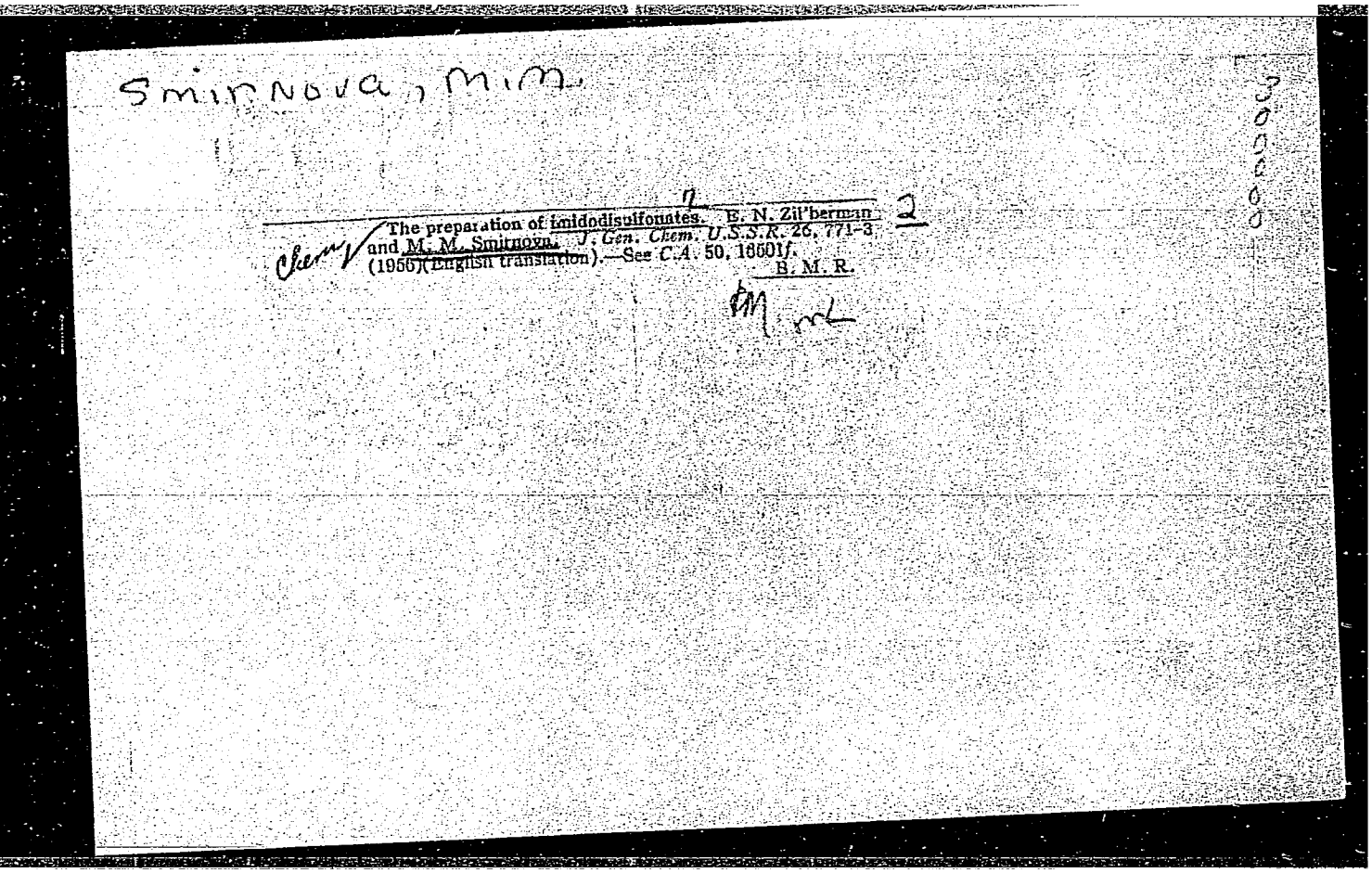
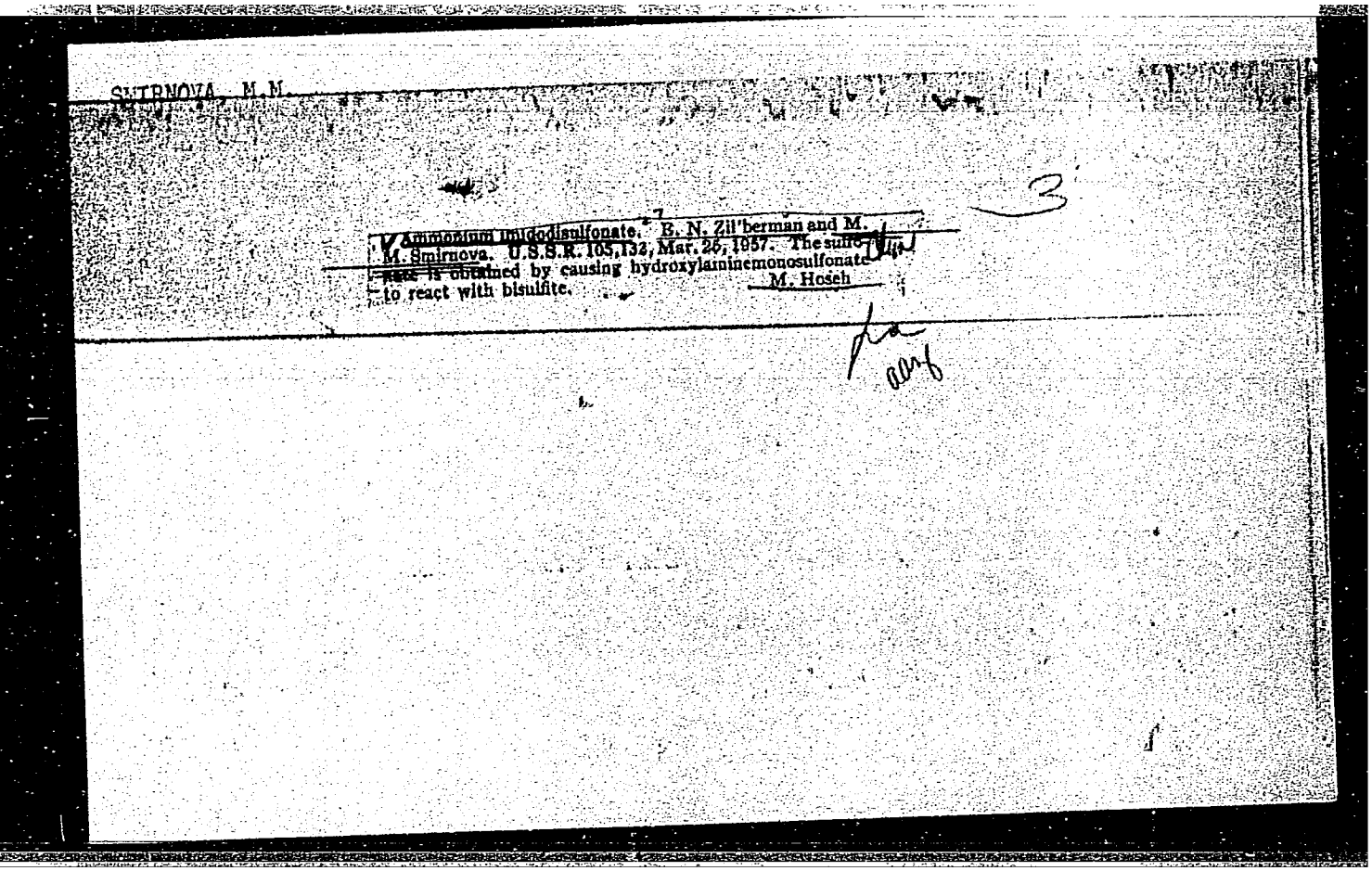


Smirnova, M.M.

Chem

The preparation of imidodisulfonates. E. N. Zil'berman and M. M. Smirnova. *J. Gen. Chem. U.S.S.R.* 26, 771-3 (1956)(English translation).—See *C.A.* 50, 16601f.

B. M. R.



SMIRNOVA, M.M.

Ammonium imidodisulfonate. B. N. Zil'berman and M. M. Smirnova. U.S.S.R. 105,132, Mar. 26, 1957. The sulfo- is obtained by causing hydroxylaminemonosulfonate to react with bisulfite. M. Hoseh

Smirnova, M.M.

20-5-21/54

AUTHORS: Zil'berman, Ye.N., Smirnova M.M.,

TITLE: The Mechanism Underlying the Oximation of Cyclohexanone by Sodium Hydroxylaminmonosulphonates (Abbrev. HAS) (O mekhanizme oksimirovaniya tsiklogeksanona gidroksilaminmonosul'fonatom natriya)

PERIODICAL: Doklady Akad. Nauk SSSR, 1957, Vol.115, Nr 5, pp.927-930,(USSR)

ABSTRACT: For the oximation of aldehydes and ketons usually salts of hydrosylamin are used. The industry, however, uses sometimes for the purpose described in the title the salt named last in the title. It is and intermediate product of the synthesis of hydroxylaminsulphate(according to Raschig). The mechanism dealt with here has not been described inscientific periodicals. The following characteristics were found in the reciprocal action of the 2 substances, named in the title: 1) Unlike the hydroxylamin the substance HAS, named last, does not react to the alcaline milieu. 2) This substance HAS does not hydrolize at room temperature, which is at the same time the temperature prevailing at the experiment. 3) With the presence of cyclohexanon and an acid HAS reacts easily, forming cyclohesanonoxim and hydroxylamin. For better understanding the reaction should be written down. Here carboniumion is the primary reaction product. In the further course it establishes a binding of coordinations on account of the unsepe-
rated electron pair of the nitrogen atom within the nucleophil

Card 1/3

The Mechanism Underlying the Oximation of Cyclohexanone by Sodium Hydroxylaminmonosulphonates (Abbrev. HAS)

stant. Description of experiments with the usual information follow. There are 2 figures, 1 table and 1 Slavic reference.

PRESENTED By Kazanskiy, B.A., Academician, May 15, 1957

SUBMITTED July 19, 1956

AVAILABLE Library of Congress.

CARD 3/3

On Some Chloro Allyl-Nitryl. SOV/80-59-1-40/41

There are 4 graphs and 15 references, 4 of which are Soviet, 5 American, 3 German, 2 French and 1 English.

[illegible] Mar 15, 1957

5.3200
5.3610

69672
S/153/60/003/01/027/058
B011/B005

AUTHORS: Lebedev, N. N., Smirnova, M. M.

TITLE: On the Kinetics of the Reaction of Ethylene Oxide With Aniline

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol 3, Nr 1, pp 104-108 (USSR)

TEXT: The authors ascertained in their paper that the reaction of ethylene oxide with aniline is of 1st order with respect to ethylene oxide. The catalytic effect of water is proportional to its concentration. The reaction was carried out in aniline medium which was one of the reagents at the same time. The reaction process was observed by a diaphragm pressure gage (Ref 4). The velocity constant of the reaction was graphically calculated from the tangens of the angle of inclination of the straight line $\log \Delta p$, time where Δp is the difference between the pressure at a given moment and the pressure after the end of reaction. The difference Δp proved to be proportional to the ethylene-oxide concentration. The first reaction order with respect to ethylene oxide was ascertained by experiments with various initial concentrations of ethylene oxide at 70° (Table 1). The influence of water on the reaction rate was studied at 100° and an initial ethylene-oxide concentration of 0.5 mol/l (Fig 1). Acids, particularly picric acid, have also a catalytic effect on the reaction (Fig 2).

Card 1/3

On the Kinetics of the Reaction of Ethylene Oxide With Aniline

This catalytic action was - as in the case of water - proportional to the acid concentration but the catalytic constant was 170 times higher than that of water. The authors' experiments proved the catalytic action of 2,4-dinitrophenol, p-nitrophenol, acetic acid, formic acid, p-toluene-sulfonic acid, and perchloric acid (Table 2). In this case, however, due to the low concentration, the catalytic influence of phenol and o-nitrophenol was not observed, while at other occasions it was very distinct. Figure 3 shows that the catalytic constant is the higher, the stronger is the acid. Figure 4 shows the temperature influence on the rate of a noncatalyzed reaction, and of a reaction catalyzed with picric acid of ethylene oxide with aniline. The activation energies were calculated from these data. From the data obtained, the authors draw conclusions concerning the reaction mechanism. Figure 3 shows that the catalytic action of acids is not proportional to their dissociation degree or the concentration of hydrogen ions. This is obviously a case of general acid catalysis. A nondissociated molecule of the acid itself and an acidic ion $C_6H_5NH_3^+$ are taking part in it. The formation of the latter explains the catalytic effect of water (see Scheme). The authors indicate a general kinetic equation for the process. The first stage of the reaction is based on the activation of the ethylene-oxide molecule. The re-

LEBEDEV, N.N.; SMIRNOVA, M.M.

Reactions of α-oxides. Part 1: Kinetics of the reaction of ethylene oxide with cyclohexylamine in various solvents. Kin.i kat. 2 no.4:519-524 Jl-Ag '61. (MIRA 14:10)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.Mendeleyeva.
(Ethylene oxide) (Cyclohexylamine)

PAVLOVA, I.P.; SMIRNOVA, M.M.

Utilization of exit gases from paraffin oxidation. Trudy BONMZ no.1:25-31 '63. (MIRA 16:6)

(Gases) (Paraffins) (Oxidation)

LEBEDEV, N.N.; SMIRNOVA, M.M.

Reactions of ∝-oxides. Part 7: Acid catalysis and autocatalysis in the reaction of ethylene oxide with amines. Kin.i kat. 6 no.3:457-465 My-Je '65. (MIRA 18:10)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

SMIRNOVA, Mariya Nikolayevna; BOGDANOV A.A., prof., red.; FEDOSEYEV, I.A., red.

[Principles of the geology of the U.S.S.R.] Osnovy geologii SSSR. Moskva, Vysshaia shkola, 1964. 433 p. (MIRA 16:8)

S. [illegible] V., I.N.

25299 S[illegible] V., I.N. Pedagogicheskaya Rabota V Sanatornom Detskom Otdelenii (S Pogroshkami V Reaktivnom Sostoyanii). Sbornik Nauch. Rabot Psikhiatr. Bol'nitsy Im. Kashchenko, M., S. 1949. S. 186-91

SO: Letopis' No. 33, 1949

SHIROVA, I.M.

25298 SHIROVA, I.M. Pedagogicheskaya Rabota V Sanatornom Detskom Otdelenii (S Podrostkami V Reaktivnom Sostoyanii) Sbornik Nauch. Rabot Psikhiatr Bolbnitsy im. Kashchenko No. 6, 1949. S. 211-16

SO: Letopis' No. 33, 1949

SOV/16-60-4-5/47

17 (3, 12)

AUTHOR: Lyampert, I.M., Smirnova, M.N. and Gryzlova, O.P.

TITLE: Quantitative Determination of Streptococcus Allergen in the Complement-Fixation Reaction With the Sera of Animals Immunized With This Fraction

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1960, Nr 4, pp 20 - 27 (USSR)

ABSTRACT: After reviewing the specialized medical literature on the subject, the authors describe the results of their experiments to determine the thermostable fraction of streptococcus allergen by using the complement-fixation reaction (cold) with the serum of rabbits immunized with purified thermostable fraction of this toxin. Immunization with the allergen induced the formation of antibodies which could be determined by the complement-fixation reaction. The reaction proved strictly specific, since the sera reacted neither with the purified toxin, nor with living or killed strains of Streptococcus. When using the antithermostable serum, the thermostable fraction of the Streptococcus fraction can be titrated either in a form prepared by N.V.Vershikovskiy's method, or in a decantate of streptococcus broth cultures. The

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SMIRNOVA, M.N., yurist (Moskva)

Pensions for prolonged meritorious service for public health workers. Fel'd. i akush. 26 no.12:52-56 D '61. (MIRA 14:12)
(PUBLIC HEALTH PERSONNEL—PENSIONS)

TRUBCHANNIKOV, M.M., yurist; SMIRNOVA, M.N., yurist (Moskva)

Juridical question-and-answer column. Fel'd. i akush. 27 no.3:51-55 Mr '62. (MIRA 15:4)

(LABOR LAWS AND LEGISLATION)

L 26950-65 EWG(j)/EWA(k)/FBD/EWT(l)/EWP(e)/EWT(m)/EEC(k)-2/EEC(t)/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h). Pn-4/Po-4/Pf-4/Peb/Pi-4/Pl-4 IJP(c) WH/WG

ACCESSION NR: AP5004377 S/0056/65/048/001/0078/0086

59 46 B

AUTHOR: Korobkin, V. V.; Leontovich, A. M.; Smirnova, M. N.

TITLE: Excitation of modes and the kinetics of generation in a ruby laser with a confocal resonator

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 78-86

TOPIC TAGS: ruby laser, laser generation, generation kinetics, mode excitation

ABSTRACT: An investigation is made of mode excitation in a ruby laser with a confocal resonator (filled with external spherical dielectric coated mirrors) under various generating conditions. The mirrors had radii of curvature of 30 or 50 cm; the distance between them was 60 or 100 cm. The polished ruby rod (0.015% Cr) was 75 mm long, 10 mm in diameter, and had plane-parallel ends. The rod was pumped by an IFK-1500 xenon lamp supplied from a 900 uf bank of condensers; the pumping energy was from 1.3 kj (threshold) to 4 kj. The field distribution pattern in the resonator was obtained by means of

Card 1/2

L 26950-65

ACCESSION NR: AP5004317

an SFR-2M photorecorder; an IT-51-30 Fabry-Perot interferometer with dielectric mirrors was used in obtaining the emission spectrum. Coherence was studied from the Fraunhofer diffraction through two openings 0.3 mm in diameter and 11.5 mm apart on a diaphragm placed behind the resonator mirror. The emitted radiation was found coherent throughout the entire resonator, i.e., in a confocal resonator modes are excited simultaneously in the entire resonator. A great number of transverse modes are excited under regular conditions with damping. Fewer modes indicate a less regular generation. In order to achieve regular damped generation, conditions for the excitation of a great number of low-Q modes must be provided, and the higher-Q modes must have a lower volume of excitation. Irregular generation is achieved essentially when modes with different Q are excited. Orig. art. has: 3 formulas and 5 figures. [YK]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 08Jul64 ENCL: 00 SUB CODE: EC

NO REF SOV: 008 OTHER: 009 ATD PRESS: 3189

Card 2/2

SOKOLOVA, E.N., SMIRNOVA, M.N.

Simultaneous spectral determination of zirconium, hafnium, thorium, and titanium in ores. Zhur. anal. khim. 19 no.3: 328-332 '64. (MIRA 17:9)

1. Leningradskiy gosudarstvennyy universitet imeni Zhdanova.

NOROSHKINA, T.M.; SMIRNOVA, M.N.

Spectrochemical determination of traces of titanium, zirconium, hafnium, and thorium in solutions. Zhur. anal. khim. 19 no.12: 1519-1521 '64. (MIRA 18:1)

1. A.A. Zhdanov Leningrad State University.

ITENBERG,S.S.; SMIRNOVA,M.N.

Geophysical study of Maikop deposits in wells. Trudy Groz. neft. inst. no.11:3-11 '53. (MLRA 8:6)
(Oil well logging) (Geology, Stratigraphic)

Smirnova, M.N.

AUTHORS: Moroshkina, T.M., Prokof'yev, V.K., Smirnova, M.N. 32-11-22/60

TITLE: The Spectrometric Determination of Low Uranium Content in Natural Samples (Spektrokhimicheskoye opredeleniye malykh kolichestv urana v prirodnykh obraztsakh)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1324-1327 (USSR)

ABSTRACT: An uranium content of 10^{-3}-10^{-4}% is concerned here. As may be seen from published works available it has hitherto not yet been possible to attain the necessary sensibility of determination, especially because the spectral determination of uranium presents difficulties. It is suggested in this paper to prepare standard samples ("etalons") from the samples to be analyzed by the method of admixtures (4). It was found that uranium, which does not vaporize easily, could be vaporized more easily from the melt crust than otherwise, which may be explained by the fact that the crust possesses greater electric conductivity. Besides, it may be assumed that at temperatures of 1300-1500°, at which the crusts are formed, uranium is regenerated to the metal state or oxygen compounds which have a low valence. In this way the vaporisation of uranium is made easier. There follows a description of spectral analysis. The spectrograph produced by the firm of Hilger was used,

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SMIRNOVA, M.N.; KIDALOV, I.V., student

Some new data on Karpinskii's "initial ridge" belt. Trudy GNI no.21:64-71 '59. (MIRA 14:5)
(Russian Platform --Geology, Structural)

SMIRNOVA, M.N.; YAKOVLEVA, T.V.

Possibility of establishing causes of ablation of rock from magnetic susceptibility as in the case of the Maikop series in the northeastern portion of Ciscaucasia. Trudy GNI no.21:120-126 '59. (MIRA 14:5)
(Caucasus, Northern—Geology, Structural)
(Rocks—Magnetic properties)

SMIRNOVA, M.N.

Upper boundary of the Maikop series in the western part of the trans-Terek Plain. Trudy GNI no.21:173-177 '59. (MIRA 14:5)
(Terek Valley--Geology, Stratigraphic)

LOTIYEV, B.K.; SMIRNOVA, M.N.

Studying the Khadum horizon of the Stavropol Plateau; geotectonic conditions, lithofacies, and oil and gas potentials. Izv. vys. ucheb. zav.; neft' i gaz 4 no.3:9-12 '61. (MIRA 16:10)

1. Groznenskiy neftyanoy institut.

YEGOROV, A.M.; SMIRNOVA, M.N.

Preparation of nickel orthosilicate. Zhur. neorg. khim. 8 no.8: 1987-1988 Ag '63. (MIRA 16:8)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

(Nickel silicates)

OTLIV, [illegible]

Studying the Malkop series of Stavropol Territory. Izv. vys. ucheb. zav., neft' i gaz 5 no.11/9-12 '62. (MIRA 17:6)

1. Grozenskiy neftyanoy institut.

SMIRNOVA, M.N.; YAKOVLEVA, T.V.

Volcanic breccia in the region of Groznyy. Izv. vys. ucheb. zav.; geol i razv. 7 no.10:158-159 O '64. (MIRA 18:7)

1. Groznenskiy neftyanoy institut.

GORIN, G.I., [illegible], M.A.

Scientific session in the Grozny Petroleum Institute. (news).
Neft. i gaza 8 no.3:85-86 Mr '65. (MIRA 17:6)

SMIRNOVA, M.N.; YAKOVLEVA, T.V.

Paleogeographic interpretation of the Khadumskiy horizon of northeastern and central Ciscaucasia. Izv. AN SSSR. Fiz. zem. no.3:94-96 '65. (MIRA 18:7)

1. Groznenskiy ordena Trudovogo Krasnogo Znameni neftyanoy institut.

LYAMPERT, I.M.; GALACH'YANTS, O.P.; AGABABOVA, E.R.; RAL'F, N.M.; SMIRNOVA, M.N.; YARESHKO, N.T.; BOLOTINA, A.Yu.; SOSHKINA, N.M.

Diagnostic significance of certain immune reactions in rheumatic fever. Zhur.mikrobiol.epid.i immun. 32 no.3:35-43 Mr '61. (MIRA 14:6)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, fakul'tetskoy terapevticheskoy kliniki I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova i revmatologicheskogo kabineta Leningradskogo rayona Moskvy.

(RHEUMATIC FEVER) (ANTIHEMOLYSINS)
(HYALURONIDASE)

SMIRNOVA, M.N.

Use of the passive hemagglutination method for the determination of antibodies to the streptococcal allergen in the sera of rheumatic fever patients. Zhur. mikrobiol., epid. i immun. 41 no.9: 50-55 S '64. (MIRA 18:4)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.

LYAMPERT, I.M.; BELETSKAYA, L.V.; BORODIYUK, N.A.; SMIRNOVA, M.N.

Antibodies reacting with human heart tissue in antistreptococcic rabbit serum. Zhur. mikrobiol., epid. i immun. 33 no.2:62-68 F '62. (MIRA 15:3)

1. Iz Instituta epidemiologii i mikrobiologii imeni N.F. Gamalei AMN SSSR.

(RHEUMATIC HEART DISEASE)
(SERUM) (STREPTOCOCCUS)
(ANTIGENS AND ANTIBODIES)

BORODIYUK, N.A.; [illegible] O.I.; SHIRNOVA, N.I.; BOLOTINA, A.Yu.

Determination of streptococcal antigens in the blood of patients with rheumatic fever during the interparoxysmal period by the complement fixation reaction with rabbit antistreptococcal serum. Vop. revm. [illegible] 3:0 '63. (MIRA 17:2)

1. Iz otdela streptokokkovykh infektsiy (za. - doktor med. nauk I.M. Lyumpert) instituta epidemiologii i mikrobiologii imeni N. F. Gamalei (dir. - prof. A.F. Vershilova) AMN SSSR i revmaticheskogo kabineta Leningradskogo rayona Moskvy (nauchnyy rukovoditel' - prof. M.S. Vovsi [deceased]).

SMIRNOVA, M.M.

Antigen composition of streptococcal allergen. Zhur. mikrobiol., epid. i immun. 41 no.10:37-43 '64. (MIRA 18:9)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

SMIRNOVA, M.N.

Determination of the thermostable fraction of toxin in cultures of streptococcus of different origin. Zhur. mikrobiol., epid. i imm. 41 no. 2:112-117 F '64. (MIRA 17:9)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

KORDYUM, V.A.; LENOVA, L.I.; VAYSBAND, S.M.; RATUSHNAYA, M.Ya. [Ratushna, M.IA.]; PREOBRAZHENSKAYA, L.N. [Preobrazhens'ka, L.N.]; SMIRNOVA, M.N. [Smyrnova, M.N.]

Effect of the removal of metabolites on the growth of Chlorella vulgaris. Mikrobiol. zhur. 27 no.5:23-26 '65.
(MIRA 18:10)

1. Institut mikrobiologii i virusologii AN UkrSSR.

LYANDRES, L.M.; SMIRNOVA, M.N.; SEMINA, N.A.

Hypersensitivity of the delayed type in laboratory animals sensitized with streptococcal allergen. Zhur.mikrobiol., epid. i immun. 42 no.12:101-107 D '65. (MIRA 19:1)

1. Institut epidemiologii i mikrobiologii imeni Gamaleia AMN SSSR.

S/0054/63/000/004/0172/0173

ACCESSION NR: AP4010239

AUTHORS: Smirnova, M. N.; Moroshkina, T. M.

TITLE: Spectral determination of small amounts of hafnium and thorium in naturally occurring materials

SOURCE: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, vy*p. 4, 1963, 172-173

TOPIC TAGS: rare earth element, hafnium, thorium, quartz, feldspar, iron, spectrograph, spectral determination, hafnium ore, thorium ore, hafnium sulfate, thorium nitrate

ABSTRACT: The determinations were conducted by means of a $\mathrm{a_0}$ISP-51 spectrograph, the selected analytical line for thorium being at 4381.86 A, and the hafnium lines within the 4220-4400 A range, with the iron line serving as a check. To 20-mg aliquots of a feldspar-quartz blend were added 0.1-5.0 micrograms of thorium nitrate and 0.2-5.0 micrograms of hafnium sulfate. The mixture was calcined and placed in a 2 x 5-mm bore of a carbon electrode, where it underwent complete combustion within 1.5-2 minutes in the arc of an a.c. 15 amp current. The error

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ACCESSION NR: AP4010239

of determination amounted to 1-20% for thorium and 2-20% for hafnium. In another series of tests, two samples each of thorium and hafnium ores were analyzed for thorium and hafnium, followed by the addition of known quantities of these elements. The analysis was then repeated in duplicate. For thorium, the deviation from the average amounted to 10.5 and 15.9%, while for hafnium it was 0.07 and 11.60%. Orig. art. has: 1 chart and 3 tables.

ASSOCIATION: none

SUBMITTED: 24Oct62	DATE ACQ: 03Feb64	ENCL: 00
SUB CODE: CH	NO REF SOV: 006	OTHER: 001

Card 2/2

SMIRNOVA, M.N.; MOROSHKINA, T.M.

Spectral determination of small amounts of hafnium and thorium in natural materials. Vest. LGU 18 no.22:172-173 '63. (MIRA 17:1)

L 36256-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) P S/0000/64/000/000/0038/0041 JD/WW/JG/GS

ACCESSION NR: AT5007810

AUTHOR: Smirnova, M. N.; Moroshkina, T. M.

TITLE: Determination of small amounts of zirconium in natural materials by spectral analysis

SOURCE: Leningrad. Universitet. Metody kolichestvennogo opredeleniya elementov (Methods for the quantitative determination of elements). Leningrad, Izd-vo Leningr. univ., 1964, 38-41

TOPIC TAGS: zirconium determination, ore analysis, spectral analysis, zirconium iodide

ABSTRACT: A method was developed for the spectrophotometric determination of microgram and trace quantities of zirconium in ores and other minerals. Zirconium was determined by the analytic line ZrI 4347.89 A, using the line CrI 4344.51 A as an internal standard. In 1:4 ore/copper powder mixtures zirconium was vaporized within 3 min. in 15 amp. alternating current arcs and 5 μg Zr was required for detection of the analytic line at 2 min. exposure. Smaller amounts of zirconium were determined by an addition technique, using extrapolation by a calibrating graph or calculation by a mathematical model based on the least square

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L 36256-65
ACCESSION NR: AT5007810

method. The latter technique permitted determination of 5.0-0.025 μg Zr with 20% maximum relative error and of 1.48-7.40 μg Zr in ores with 0.5-14.9% relative error. Orig. art. has: 2 figures, 2 tables and 6 formulas.

ASSOCIATION: none

SUBMITTED: 28Sep64 ENCL: 00 SUB CODE: MM, GC

NO REF SOV: 005 OTHER: 001

Card 2/2

YEGOROV, A.M.; SMIRNOVA, M.N.

Study of the mean heat capacities of zinc and nickel orthosilicates at high temperatures. Zhur. fiz. khim. 39 no.9:2131-2135 S '65. (MIRA 18:10)

TRUBCHANNIKOV, M. M., yurist; SMIRNOVA, M. N., yurist

Privileges for those working in regions of the Far North and in areas with the same status as it. Fel'd. i akush. 27 no.6: 60-63 Je '62. (MIRA 15:7)

(RUSSIA, NORTHERN—MEDICAL PERSONNEL)

TRUBCHANNIKOV, M.M., yurist; SMIRNOVA, M.N., yurist (Moskva)

Regulating unemployment pay for temporary loss of working capacity. (MIRA 15:9)
Fel'd.i akush. 27 no.7:60-62 Jl '62.
(INSURANCE, UNEMPLOYMENT) (ABORTION)

L 25393-65 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) Pu-4. IJP(c) JD/WW/JG

ACCESSION NR: AP5001466 S/0075/64/019/012/1519/1521

AUTHOR: Moroshkina, T. M.; Smirnova, M. N.

TITLE: Spectrochemical determination of traces of titanium, zirconium, hafnium and thorium in solutions

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 12, 1964, 1519-1521

TOPIC TAGS: arc spectrum, spectrochemical analysis, ion exchange, preconcentration, titanium, zirconium, hafnium, thorium, trace analysis

ABSTRACT: There are no satisfactory methods for the simultaneous determination of micro amounts of the elements of the fourth group and thorium. In this work a method was developed for emission spectroscopic determination of Ti, Zr, Hf and Th in solutions (less than 1 μg/ml) after preconcentration by extraction and ion exchange. Use was made of the ability of 8-hydroxyquinoline complexes of Ti, Zr, Hf and Th to be extracted with chloroform at pH 1.5 - 4.6. The study was carried out also with solutions containing in addition to the above elements

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L 25393-65

ACCESSION NR: AP5001466

small amounts of Fe, Al, Ca, Mg, K, Na, Nb and Ta, totalling up to 1 g/ml. Such quantities of these elements are frequently found in natural waters and biological fluids. The sensitivity of this method is down to 5 μg of elements in question in the sample of 0.0005 μg/ml. The average deviation of a single determination from the mean is ±8-9%. Orig. art. has: 1 table

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova (Leningrad State University)

SUBMITTED: 13Feb64 ENCL: 00 SUB CODE: GC

NR REF SOV: 003 OTHER: 000

Card 2/2

1. [illegible]VA, V.P.
2. USSR (600)
4. Fish Culture
7. Progressive practice in pond fish culture, Ryb.khoz. 29 no. 4, 1953.

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

S [illegible]OVA, I. I.

S.I.[illegible]OVA, I. I.: "Experimental-clinical data on the effect of mineral water from the northern env. Solonikh on the secretory function of the stomach." Inst of Physiology imeni I. P. Pavlov, Acad Sci USSR
January 3, 1956
(Dissertation for the Degree of Candidate in Medical Sciences)

So: Knizhnaya Letopis', No 18, 1956

SMIRNOVA, M.P., dotsent

Clinical course of peptic ulcer based on data of the Archangel Province Clinical Hospital. Sov. med. 26 no.4: 105-109 Ap '63. (MIRA 17:2)

1. Iz kafedry gospital'noy terapii Arkhangel'skogo meditsinskogo instituta.

SMIRNOVA, M.P. (Arkhangel'sk, ul. Karla Marksa, d.36, fligel' 1, kv.2)

Clinicoanatomical comparisons in cancer of the pancreas; based on data from Archangel hospitals and autopsy rooms. Vop. onk. 10 no.5:91-93 '64. (MIRA 18:8)

1. Iz kafedry gospital'noy terapii (rektor - doktor med. nauk V.D.Dyshlovoy) Arkhangel'skogo gosudarstvennogo meditsinskogo instituta.

FEDINA, N.N., kand. med. nauk; SMIRNOVA, M.P.

Organized action in obstetric-gynecological institutions for the treatment of parturients and patients in terminal states. Sbor. nauch. rab. Sar. gos. med. inst. 44:355-358 '64. (MIRA 18:7)

1. Iz akusherske-ginekologicheskoy kliniki pediatricheskogo fakul'teta Saratovskogo meditsinskogo instituta (zav. - prof. M.A. Daniakhiy) i rodil'nogo otdeleniya dorozhnoy bol'nitsy Privolzhskoy zheleznoy dorogi (glavnyy akusher-ginekolog K.S. Dorodnova).

SMIRNOVA, M.S.

Changes in the mechanical drilling speed with changes in depth. Razved. i okh. nedr 27 no.5:29-33 My '61. (MIRA 14:9)

1. Belgorodskaya zhelezorudnaya ekspeditsiya.
(Boring)

SMIRNOVA, M.S.

Footage drilled per run in boring holes. Razved. i okh. nedr 28 no.12:25-28 D '62. (MIRA 16:5)

1. Belgorodskaya zhelezorudnaya ekspeditsiya.
(Boring)

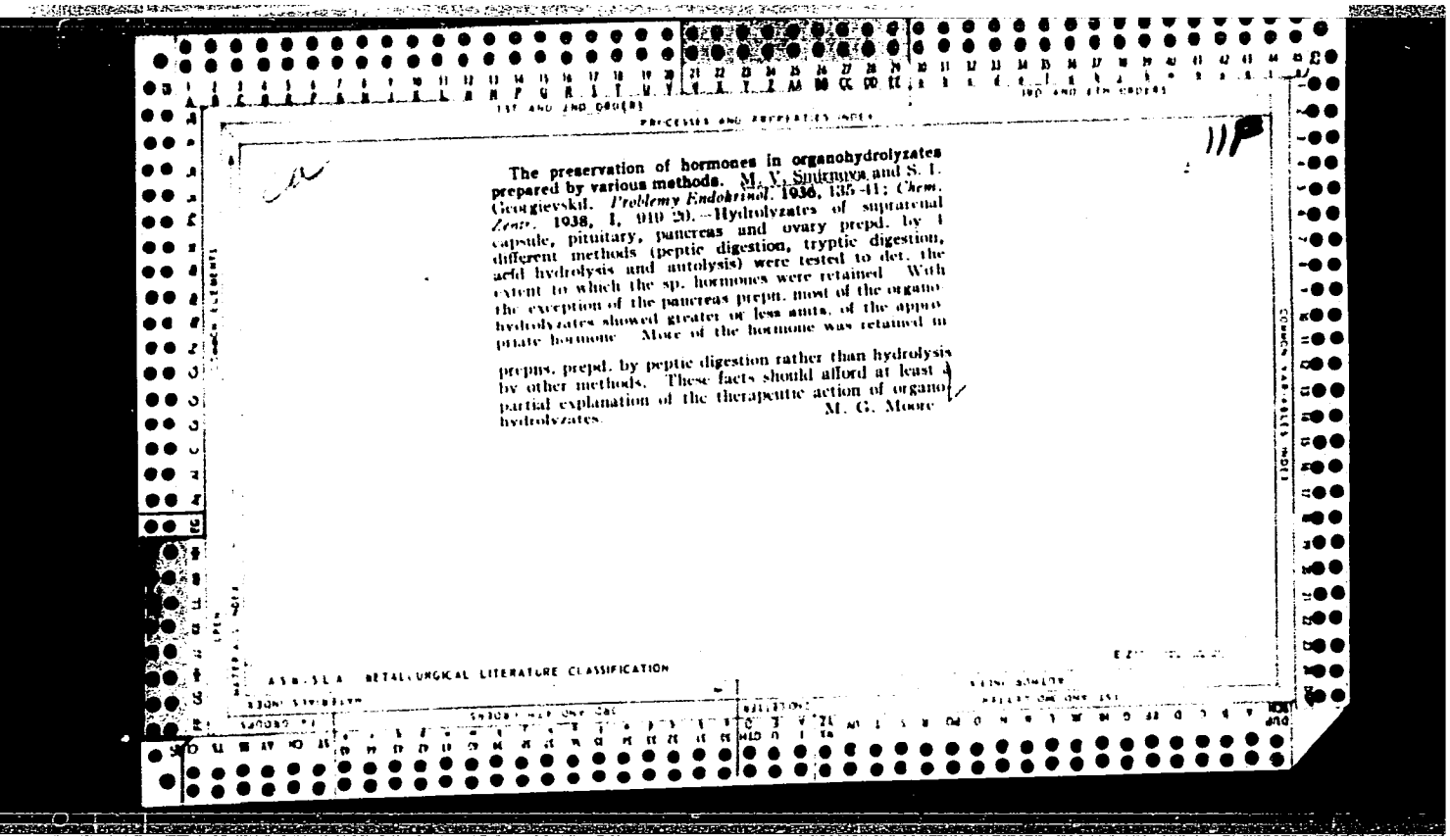
SMIRNOV, Aleksey Vsevolodovich; SMIRNOVA, Mara Valerianovna; SHAFIROVA, A.S., red.; PECHERSKAYA, T.I., tekhn.red.

[Gifts from the green ocean] Dary zelenogo okeana. Irkutsk, Irkutskoe knizhnoe izd-vo, 1959. 109 p. (MIRA 14:1)
(Siberia--Forests and forestry)

SMIRNOVA, M.V.; LEBEDEVA, Z.I.

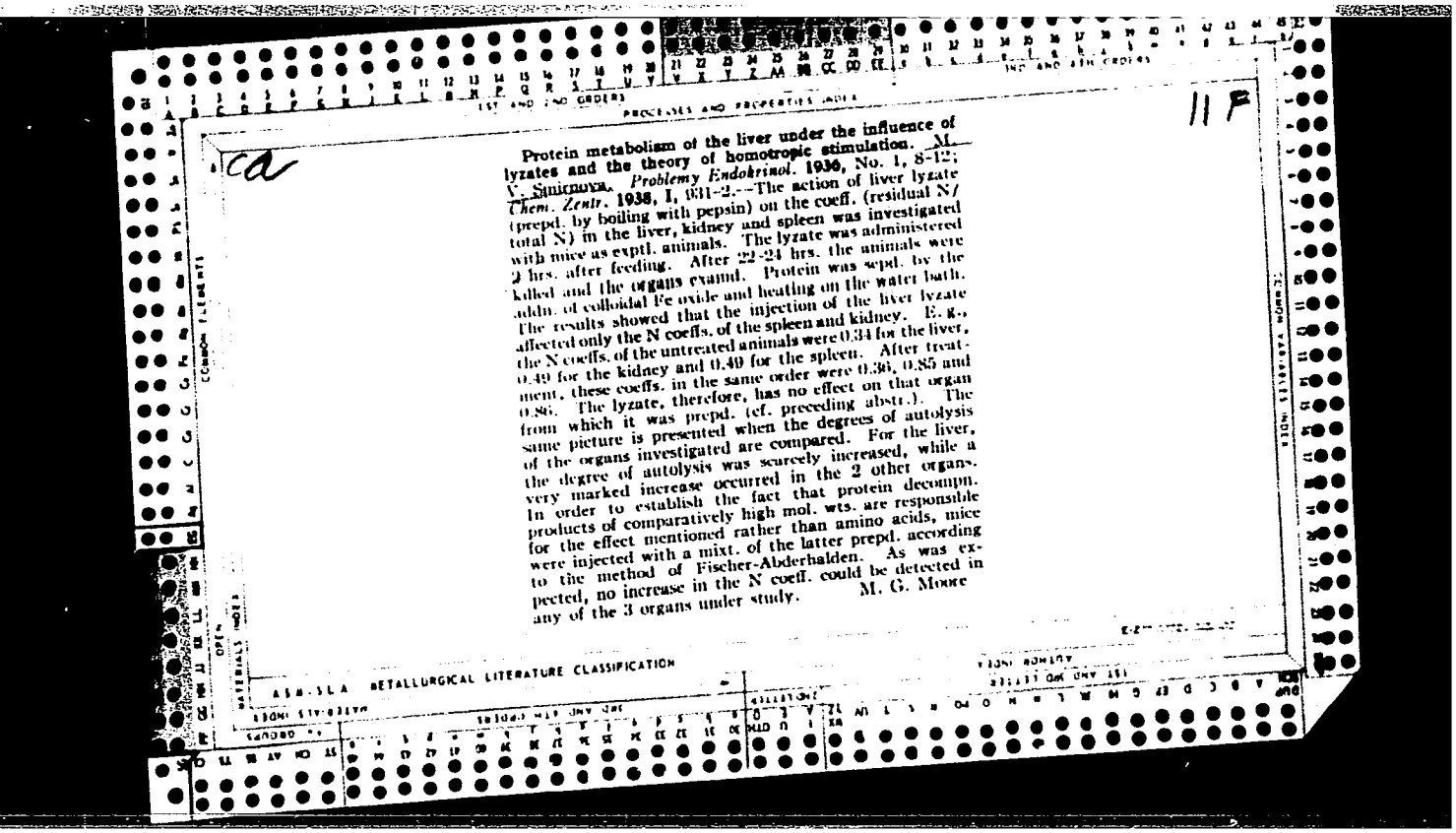
Some data on the activity of proteinases of Staphylococcus albus in vitro and in the process of toxin formation. Vop. med. khim. 9 no.1:44-48 Ja-F '63. (MIRA 17:6)

1. Otdel biokhimii Instituta mikrobiologii, epidemiologii i immunologii imeni N.F. Gamalei AMN SSSR, Moskva.



The preservation of hormones in organohydrolyzates prepared by various methods. M. V. Smirnova and S. I. Georgievskii. *Problemy Endokrinol.* **1936**, 135-41; *Chem. Zentr.* **1938**, I, 910-20.—Hydrolyzates of suprarenal capsule, pituitary, pancreas and ovary prepd. by 4 different methods (peptic digestion, tryptic digestion, acid hydrolysis and autolysis) were tested to det. the extent to which the sp. hormones were retained. With the exception of the pancreas prepn. most of the organo hydrolyzates showed greater or less amts. of the appro priate hormone. More of the hormone was retained in preps. prepd. by peptic digestion rather than hydrolysis by other methods. These facts should afford at least a partial explanation of the therapeutic action of organo hydrolyzates.

M. G. Moore



Protein metabolism of the liver under the influence of lyzates and the theory of homotropic stimulation. M. V. Simirnova. *Problemy Endokrinol.* **1936**, No. 1, 8-12; *Chem. Zentr.* **1938**, I, 931-2.--The action of liver lyzate (prepd. by boiling with pepsin) on the coeff. (residual N/total N) in the liver, kidney and spleen was investigated with mice as exptl. animals. The lyzate was administered 2 hrs. after feeding. After 22-24 hrs. the animals were killed and the organs exaind. Protein was sepd. by the addn. of colloidal Fe oxide and heating on the water bath. The results showed that the injection of the liver lyzate affected only the N coeffs. of the spleen and kidney. E. g., the N coeffs. of the untreated animals were 0.34 for the liver, 0.49 for the kidney and 0.49 for the spleen. After treatment, these coeffs. in the same order were 0.36, 0.85 and 0.86. The lyzate, therefore, has no effect on that organ from which it was prepd. (cf. preceding abstr.). The same picture is presented when the degrees of autolysis of the organs investigated are compared. For the liver, the degree of autolysis was scarcely increased, while a very marked increase occurred in the 2 other organs. In order to establish the fact that protein decompn. products of comparatively high mol. wts. are responsible for the effect mentioned rather than amino acids, mice were injected with a mixt. of the latter prepd. according to the method of Fischer-Abderhalden. As was expected, no increase in the N coeff. could be detected in any of the 3 organs under study. M. G. Moore

SMIRNOVA, M. V.

The activity of Corynebacterium diphtheriae in the dynamics of toxin formation under different culture conditions.

M. V. Smirnova (Inst. Epidemiol. and Microbiol., Acad. Med. Sci. U.S.S.R., Moscow). *Biokhimiya* 20, 509–6 (1955).—A deep culture aeration method was used in growing *C. diphtheriae*. The methods used in the study of protease activity are described. Protease of *C. diphtheriae* is similar to cathepsin in that its activity is enhanced by cystine, glucose, and Fe, and that its activity depends upon the pH of the medium. The onset of diphtheria toxin formation coincides with the increase in protease activity. Aeration lowers the toxin titer apparently by reducing the activity of intracellular protease and completely arresting the production of extracellular protease. In deep culture the activity of both types of protease is enhanced. In quiescent culture methods no extracellular protease can be detected. Bubbling of CO_2 results in a high toxin production coincidental with a high activity of intra- and extracellular proteases. The complete absence of diphtheria toxin is accompanied, as a rule, by a very low protease activity. 8-Quinolinol completely blocks the activity of *C. diphtheriae* proteases even in deep culture. Normal horse serum and horse serum antitoxin inactivate the proteases only partially.

B. S. Levine

Lab. Biochem

SMIRNOVA, M. V.

Dept. Biochem

Effect of nucleoprotein compounds on the activity of the proteolytic enzymes of Corynebacterium diphtheriae. M. V. Smirnova (N. F. Gamaleĭ Inst. Epidemiol. and Microbiol., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 21, 561-0(1950).—Nucleoproteins (I) and ribonucleic acid (II) used in the study were prepd. from a 48 hr. culture of *C. diphtheriae* by the method of Belozerskiĭ and Proskuryakov (*Prakticheskoe Rukovodstvo po Biokhimii Rastenii*, 1956, Moscow); the Na salt of nucleic acid was prepd. from yeasts. These substances were analyzed and the results tabulated. N and P were calcd. on the basis of dry ash-free material. The exptl. data indicate that the introduction of nucleic acid compds. in the form of II and I of *C. diphtheriae* represents a means for the change of the course of activity of the proteolytic enzyme of *C. diphtheriae* in the direction of an increase in its synthesis. The results also indicated that the effect of the nucleic compds. is characterized by a degree of specificity. Under the conditions of the expts. and under the effect of the Na nucleate of yeast an increase was observed in the hydrolytic function of the enzyme of *C. diphtheriae*. The increase in their synthetic functions resulted only in the presence of nucleic compds. of the *C. diphtheriae*.

B. S. Levine

1

EXCERPTA MEDICA Sec 4 Vol 12/2 Med. Micro. Feb 59

478. RIBONUCLEASE OF C. DIPHTHERIAE (Russian text) - Smirnova M. V. and Karaseva E. M. Dept. of Biochem., Inst. of Epidemiol. and Microbiol., USSR Acad. of Med. Scis, Moscow - BIOKHIMIYA 1958, 23/2 (234-236) Graphs 3

A maximum of ribonuclease activity was found at pH 6. Ribonuclease activity in an old culture is higher than in a young one. Ca ions increase the activity of ribonuclease while Mg ions block the activity of the enzyme. Cystine, cysteine and sulphite greatly enhance the activity. Azide and iodacetic acid inhibit the enzyme.

1880. THE INTERRELATION BETWEEN RIBONUCLEIC ACID AND RIBONUCLEASE WITH PROTEASE ACTIVITY AND TOXIN FORMATION IN C. DIPHTHERIAE (Russian text) - Smirnova M. V. Dept. of Biochem., Inst. of Epidemiol. and Microbiol., USSR Acad. of Med. Scis, Moscow, USSR - BIOHIMIYA 1958, 23/3 (351-355) Graphs 6

RNA, ribonuclease and proteases of C. diphtheriae were shown to take part in toxin biosynthesis. Increase in ribonuclease activity as caused by Ca was accompanied by a drastic decrease of the RNA content and of the proteolytic activity of C. diphtheriae, as well as by a rise in the titre of the diphtheria toxin in the culture medium. Blockage of ribonuclease activity by sodium azide at an almost constant RNA content resulted in a drastic rise of the hydrolytic function of C. diphtheriae proteases along with a decrease in the synthesis of the diphtheria toxin.

SMIRNOVA, M.V.

Catalase activity in the dynamics of toxin formation by Corynebacterium diphtheriae in aerated cultures under stationary conditions. Ukr.biokhim.zhur. 30 no.5:757-760 '58 (MIRA 11:12)

1. Otdel biokhimii Instituta epidemiologii i mikrobiologii AMN SSSR, Moskva.
(CORYNEBACTERIUM DIPHTHERIAE)
(CATALASE)

SMIRNOVA, M.V.; ATABEGOVA, M.A.; KARASEVA, Ye.M.

Modification of certain chemical components and antigenic properties of nucleoproteins and antigens of Corynebacterium diphtheriae during toxin formation. Vop.med.khim. 5 no.2: 98-101 Mr-Ap '59. (MIRA 12:5)

1. Biochemical Department, Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R.
(CORYNEBACTERIUM DIPHTHERIAE, toxin form., antigenic & chem. aspects (Rus))

TSI TYAN'-TSIN [Ch'i T'ien-ch'in]; SMIRNOVA, M.V.

Certain properties of proteases in E. coli under conditions of and aerated cultivation. Biokhimiia 24 no.2:205-209 Mr-Ap '59. (MIRA 12:7)

1. Biochemical Department, Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R., Moscow.

(ESCHERICHIA COLI, metab.
proteases, eff. of aeration & stationary cultivation (Rus))
(PROTEASE
in E. coli, eff. of aeration & stationary cultivation (Rus))

SMIRNOVA, M.V.

Effect of adenosinetriphosphoric acid on protease activity of Corynebacterium diptheriae and biosynthesis of the diphtheria. Biokhimiia 24 no.3:392-397 My-Je '59. (MIRA 12:9)

1. Biochemical Department, Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R., Moscow.

(ADENYLPYROPHOSPHATE, effects,
on Corynebacterium diphtheriae protease activity & toxin synthesis (Rus))
(CORYNEBACTERIUM DIPHTHERIAE, eff. of drugs on,
ATP, on protease activity & toxin synthesis (Rus))
(PROTEASES,
in Corynebacterium diphtheriae, eff. of ATP (Rus))

SMIRNOVA, M.V.; KUCHINSKAYA, N.Ye.; LEBEDEVA, Z.I.; TSAR'KOVA, V.I.

Study of the arginase activity of a toxicgenic strain of Staphylococcus albus in vitro and in the process of cultivation. Vop. med. khim. 8 no.2:181-186 Mr-Ap '62. (MIRA 15:4)

1. Department of Biochemistry, N.F.Gamaleya Institute of Epidemiology and Microbiology, Academy of Medical Sciences of the U.S.S.R., Moscow.
(STAPHYLOCOCCUS ALBUS) (ARGINASE)

GUREVICH, T.Z.; SMIRNOVA, M.V. (Moskva)

Acute gastric hemorrhage due to hiatal hernia. Vrach. delo no.11:143-144 N'63 (MIRA 16:12)

1. Dispansernyy otdel (zav. - O.Ye. Morokhovets) TSentral'noy poliklinik Ministerstva zdravookhraneniya RSFSR.

SMIRNOVA, M.F.; [illegible], Ye.V.; NECHAYEVA, L.Ye.; ISAKOVA, Z.I.

Interrelation between nucleic acid metabolism and toxin biosynthesis in Staphylococcus albus. Vop.med.khim. 10 no.3:274-279 My-Je '64. (MIRA 18:2)

1. Otdel biokhimii Instituta epidemiologii i mikrobiologii imeni Gamaleya AMN SSSR, Moskva.

VRUBLEVSKIY, Mikhail Ivanovich; SMIRNOVA, M.Ye., red.; YELIZAROVA, N.A., tekhn. red.

[Mineral waters of the central Caucasus as one of the manifestations of its geological development]Mineral'nye vody TSentral'nogo Kavkaza kak odno iz proiavlenii ego geologicheskogo razvitiia. Leningrad, Izd-vo Leningr. univ., 1962. 254 p. (MIRA 16:2)
(Caucasus--Mineral waters) (Caucasus--Geology)

VOLKOV, Mikhail Aleksandrovich; SMIRNOVA, M.Ye., red.; ZHUKOVA, Ye.G., tekhn. red.

[Course in theoretical mechanics]Kurs teoreticheskoi mekhaniki. Leningrad, Izd-vo Leningr.univ., 1962. 391 p. (MIRA 15:10)
(Mechanics, Analytic)

VESELOV, M.G., prof., otv. red.; SMIRNOVA, M.Ye., red.; ZHUKOVA, Ye.G., tekhn. red.

[Problems of quantum chemistry] Voprosy kvantovoi khirurgii; sbornik statei. Leningrad, 1963. 136 p. (MIRA 16:12)

1. Leningrad. Universitet.
(Quantum chemistry)

YANOVSKIY, B.M., otv. red.; SMIRNOVA, M.Ye., red.; KISELEVA, L.I., tekhn. red.

[Electromagnetic sounding and magnetotelluric methods of prospecting] Elektromagnitnoe zondirovanie i magnitotelluricheskie metody razvedki; materialy Vsesoiuznoi konferentsii, aprel' 1961 g. Leningrad, 1963. 199 p. (MIRA 16:10)

1. Leningrad. Universitet.
(Electromagnetic prospecting)

SMIRNOVA, N. A.

"Synthese des hydrocarbures olefiques et paraffiniques de structure iso, contenant un atome de carbone quarternaire. I. Sur la reaction des hydrobromures de l'isomere et du 1,1,3-trymethylbutadiene avec le chlorure du cyclohexyl magnesium." by Levina, R. J., Panjouskina, A. M. Sceglova, N. A., Smirnova, N. A., Scerbakova, K. D. , and Sor, N. J. (p 411)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1941, vol 11, no 1.

Smirnova, N.A.

Three-phase equilibriums in the system aniline–aniline hydrochloride–water at 25°. M. P. Susarev and N. A. Smirnova. *Vestnik Leningrad. Univ.* 11, No. 16, *Ser. Fiz. i Khim.* No. 3, 85–104(1956).—Two types of 3-phase equil. were studied: $(C_6H_7N.HCl)_{solid}$–$(C_6H_7N + C_6H_7N.HCl + H_2O)_{soln.}$–$(C_6H_7N + H_2O)_{vapor}$ and $(C_6H_7N + C_6H_7N.HCl + H_2O)_{liq.}$–$(C_6H_7N + C_6H_7N.HCl + H_2O)_{liq.}$–$(C_6H_7N + H_2O)_{vapor}$. The soly. and the partial pressure of the components in the areas of equil. were detd. at 25°. The change in the chem. potentials of the components, the total and partial vapor pressure, and the compn. of the vapor with a change in the compn. of the soln. were detd. The data are treated from the standpoint of the thermodynamic theory of 3-component heterogeneous systems (Storonkin, *C.A.* 50, 7560*b*; S. and Markuzin, *C.A.* 50, 13586*f*). I. R. L.

5(4) SOV/54-59-2-16/24

AUTHORS: Smirnova, N. A., Morachevskiy, A. G.

TITLE: Methods of Determining the Composition of Vapor and the Boiling Temperature of Solutions Separating Into Layers (K metodike opredeleniya sostava para i temperatury kipeniya rasslaivayushchikhsya rastvorov)

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 2, pp 106-110 (USSR)

ABSTRACT: These methods, which are much more difficult than for homogeneous solutions, have been little developed up to now. For their further development, this paper deals with the conditions for determining the composition of the vapor in the state of equilibrium and the boiling temperature. In order to investigate experimentally the equilibrium states between the vapor phase and the liquid phase, the equilibriums between the liquid phases of the boiling liquid must first of all be guaranteed, which is attained by uninterrupted stirring. Besides, the condensate of the vapor is separated on two phases which renders its separation very difficult. The devices designed for this investigation are discussed in short (Refs 1-11),

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all of which are still unsatisfactory in the opinion of the authors. A slightly changed arrangement of the device by Bushmakin (Ref 11) was used for the investigations carried out here. Its construction is shown in figure 1. The position of the three-way tap for the separation of the vapor was changed as against the device by Bushmakin. It was attached directly to the tube between the boiler and the condenser. The vapor condenses only now in a collecting device outside the device (Fig 2). An electromagnetic agitator is used for stirring. The device was heated from outside in the lower part of the boiler. The working process is described. The results of the measurements will be published in a later paper. An ebulliometer designed by Sventoslavskiy (Ref 15), together with an agitator, was used for determining the boiling temperature (Fig 3). Experimental investigations of various binary and ternary solutions were carried out with it. The authors thank Professor A. V. Storonkin for his interest in the work. There are 3 figures and 15 references, 4 of which are Soviet.

SUBMITTED: January 1, 1959

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5(4) SOV/54-59-3-14/21

AUTHOR: Smirnova, N. A.

TITLE: Investigation of the Equilibrium Liquid - Vapor in the Systems n-Propyl Alcohol - Water and n-Propyl Alcohol - Propylacetate

PERIODICAL: Vestnik Leningradskogo universiteta. Seriya fiziki i khimii, 1959, Nr 3, pp 8o - 93 (USSR)

ABSTRACT: The investigations of the present paper are part of complex of investigations of the equilibrium liquid - vapor in ternary systems. Among the two systems mentioned in the title the system n-propyl alcohol - propyl acetate has hitherto not been investigated. The initial substances were ordinary n-propyl alcohol purified according to the method Zepalova-Mikhaylova and synthetic propyl acetate. Analyzed were: 1) the mixture propyl alcohol - water (I), with an alcohol content of >70% by density determination (among others from the refractive indices). Table 1 contains respective data. 2) Propyl alcohol - propyl acetate (II) by saponification with KOH. The boiling temperature of differently composed mixtures at pressures of 200, 400, 600, and 700 torr and vapor composition were determined. I. N. Bashmakin (Ref 2) devised the apparatus used for determining the

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boiling temperature only once. Swietoslavski's special ebulliometer served for mixtures with an alcohol content of 1-20% by weight and over 96% by weight. The measuring results are compiled in table 2, the data of isothermal measurement in table 3. Figures 1,3 show the dependence of the boiling point- and condensation temperature on the composition of the two systems. A comparison with the information available on the system I (M. S. Vrevskiy (Ref 8), Doroshewsky and Polansky (Ref 7)) yielded varying agreement of results. For system (I) the portion of propyl alcohol was determined at saturated vapor in vapor and in solution at 79.8° and compared with data by Vrevskiy (Table 4). The temperature of the azeotropic mixture was determined (Table 5). An agreement was found with the data of references 5,6. Tables 6 and 7 and figure 3 show the same results for system (II). The molar vaporization heat of the mixtures q_{12} and the partial vaporization heats L_i were determined from the values of the two systems obtained concerning the dependence of the total and partial vapor pressure on temperature, and the partial molar heat of solution H_i and the heat of mixing H of the solution from the vaporization heats of the pure com-

ponents L_i^0 and L_i were calculated. Tables 8 and 9 contain the corresponding values for the two systems. Figures 4, 5, 6, and 7 give the concentration dependence of these values. Herefrom a regular decrease of a_{12} and L_i with increasing temperature was found to exist for a given concentration. At 80-90° H amounts to several hundred calories in a broad range of concentration; (agreement with data of references 10 and 11). L_{PrOH} is always higher than L_{PrOAc}. The former rises and the latter decreases with increasing alcohol content (Fig 6). From the data on the equilibrium solution - vapor the displacement of the composition of a binary azeotropic mixture was calculated in dependence on temperature variation according to a formula by Storonkin and Morachevskiy (Ref 12) and compared with experimental results; the agreement was found to be good. In conclusion, the authors thank Professor A. V. Storonkin and Docent A. G. Morachevskiy for reviewing the paper. There are 7 figures, 10 tables, and 12 references, 5 of which are Soviet.

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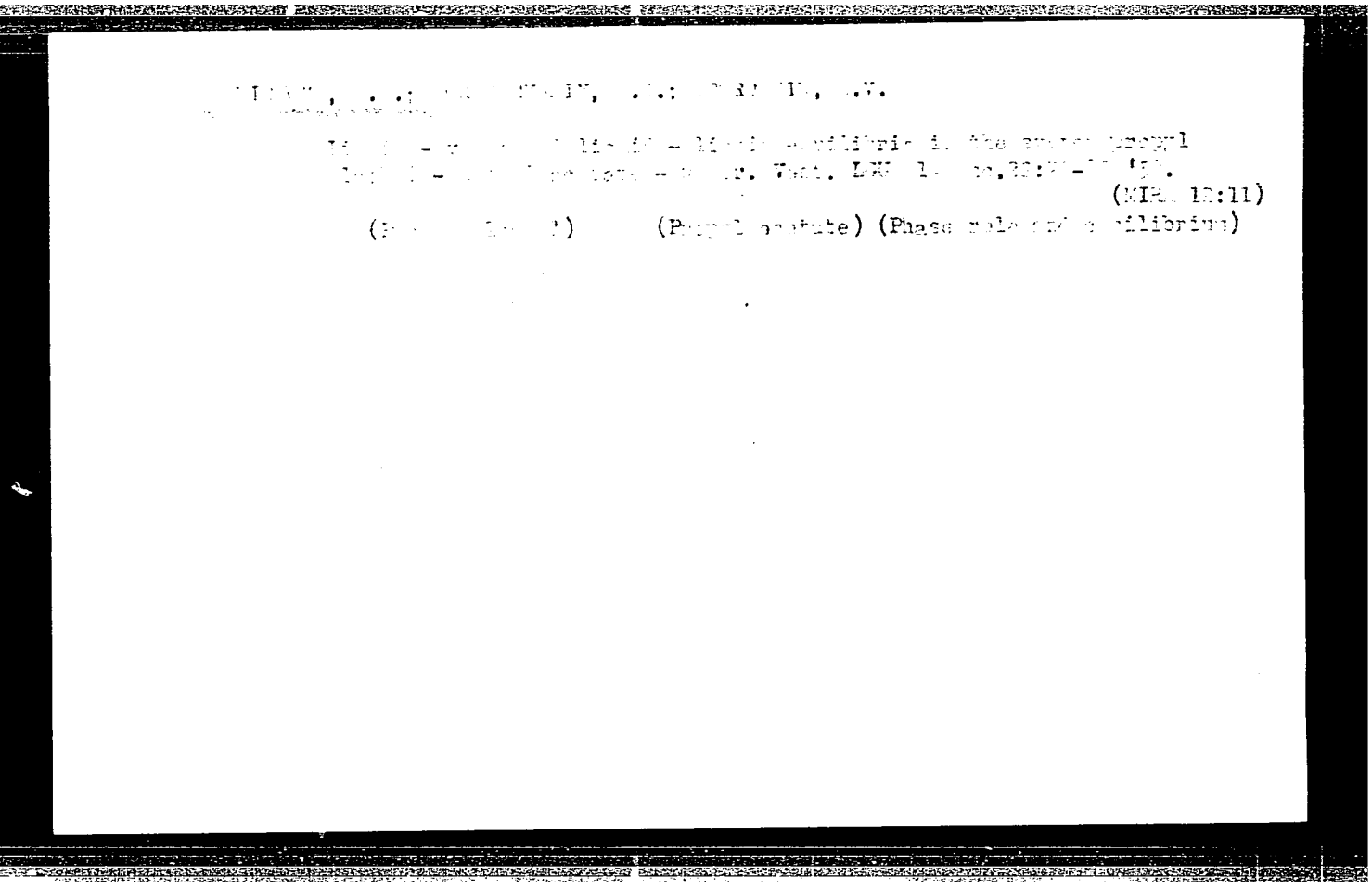

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