"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D.

USSR.

Podderyugin, V. D. A condition of orderability for an arbitrary ring. Uspehi Mat. Nauk (N.S.) 9, no 4(62), 211-216 (1954) (Russian)

The rings in [illegible] and [illegible]

[illegible] of two-point spaces.

T=F/W

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PODDERYUGIN, V.D.

1

32903
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D209/D302

9,7100

AUTHORS: Velikanova, T.M., Yershov, A.P., Kim, K.V., Kurochkin, V.M., Oleynik-Ovod, Yu.A. and Podderyugin, V.D.

TITLE: Programming program for machines

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 11, 1961, 5, abstract 11 B167 (Tr. Vses. soveshchaniya po vychisl. matem i primeneniyu sredstv vychisl. tekhn., Baku, Akademiya nauk SSSR, 1961, 81-95)

TEXT: It is shown that in 1957 in the Computing Center of the Academy of Sciences of the USSR, work on forming the system programming program (SPP) was completed. By using SPP the need for formulating programs of actual problems is avoided and this process is replaced by the process of compiling the information for SPP concerning the problem being solved. In working out the method of providing information about the problem for SPP the following points were observed: a) If possible, to provide the best approximation of

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D209/D302

Programming program for machines

the information to mathematical formulation of problems (i.e. to calculated formulae); b) reduction of the volume of auxiliary and purely technical work connected, as a rule, with the mathematical formulation of the problem and with the specific character of work on universal computing machines; c) that from the information one could see more or less accurately the structure of the completed program; d) reduction of volume of total information in order to make it more descriptive and easily surveyed. The information for SPP consists of five parts: 1) Program scheme - basic part of the information; 2) operators (0); 3) information about magnitudes; 4) information about memory blocks; 5) blocks. Except for the program scheme all the remaining parts of the information do not have to be given in an actual problem. The whole terminology used in this paper is explained. The program scheme is given. It is shown that the scheme can include 0's of the following types: 1) Arithmetical 0's; 2) restoration 0's; 3) non-standard 0's; 4) re-addressing 0's; 5) double counting 0's. Each operator in the scheme is represented by a letter giving the type of the 0 followed by the

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information about the given 0. The arithmetical 0's and certain non-standard 0's of special form are the exceptions. The popularity of the program scheme, the nearness of its form to the form of the mathematical formulation of the problem are obtained basically by a specific solution of the registration of mathematical formulae in arithmetical 0 and preservation in the program scheme. Examined in detail is an arithmetical 0 which realizes a single calculation to a certain sequence of formulas of the type $F(x_1, x_2, \ldots x_n) => y$, where the symbol "=>" indicates that y is a result of calculation according to the formula F. Further on, logical 0's non-standard 0's, cycles, re-addressing 0's, restoration 0's and double counting 0's are examined. Finally, an example of integration of a parabolic equation of the type

$$\frac{\partial z}{\partial t} = 0.75 \sqrt{x(1 - x)(t^2 + 2)} \frac{\partial^2 z}{\partial x^2},$$

$$z(x_1 0) = 0; \quad z(0,t) = 0; \quad z(1,t) = t$$

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up to the moment when t = T is given. One of the possible calculated formulas is shown. Information is provided about the block and the program scheme. [Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D.; YERSHOV, A.P., otv. red.; YAKOVKIN, M.V., red.; POPOVA, N.S., tekhn. red.

[Program control for the "Strela-3" computer (recording changing commands)] Programma kontrolia dlia "Strely-3" (PIK). Moskva, Vychislitel'nyi tsentr AN SSSR, 1960. 20 p. (MIRA 14:7)
(Programing (Electronic computers))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D.; YERSHOV, A.P., otv. red.; YAKOVKIN, M.V., red.; POPOVA, N.S., tekhn. red.

[Program control for the "Strela-3" computer (recording linear sections)] Programma kontrolia dlia "Strely - 3" (LUCH). Moskva, Vychislitel'nyi tsentr AN SSSR, 1960. 21 p. (MIRA 14:7)
(Electronic calculating machines) (Programing (Electronic computers))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/3 PG - 907
AUTHOR PODDERYUGIN V.D.
TITLE Conditions for the fact that a group can be ordered.
PERIODICAL Izvestija Akad.Nauk 21, 199-208 (1957)
reviewed 7/1957

The author gives a purely group-theoretical criterion for the fact that a group can be ordered.
Let G be a group with the domain of operators Ω. Let $\overline{\Omega}$ be the set of endomorphisms of G which correspond to the operators of Ω. G is called Ω-ordered if it is ordered and the image of an arbitrary positive element for an arbitrary endomorphism of $\overline{\Omega}$ is non-negative. A finite system of the elements $a_1, a_2, \ldots, a_n$ of G is called regular if for arbitrary i, k, ω all the equations

$$a_i\omega = 1, \quad a_i\omega = a_k, \quad a_i\omega = a_k^{-1} \qquad (i \neq k, \ \omega \in \Omega)$$

are not satisfied. A regular system is called independent if all products of the elements of thw type $a_i\omega$ are different from 1.

Theorem 1: Let $\overline{\Omega}$ be a subgroup of the group of automorphisms of G and let it

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contain all inner automorphisms.
In order that G can become Ω-ordered it is necessary and sufficient that in it for an arbitrary regular system of elements $a_1, a_2, \ldots, a_n$ it exists at least one independent system of elements $b_1, b_2, \ldots b_n$ such that $b_i = a_i$ or $b_i = a_i^{-1}$.
The subgroup H of G is called Ω-isolated if from

$$g\omega_1 \cdot \ldots \cdot g\omega_{l-1} \cdot g \cdot g\omega_l \cdot \ldots \cdot g\omega_n = h$$

with $g \in G$, $h \in H$, $\omega_i \in \overline{\Omega}$, $1 \leq l \leq n+1$ it always follows:

$$g \in H, \quad g\omega_i \in H \qquad i = 1, 2, \ldots, n.$$

An element g of G is called Ω-periodical if there exist $\omega_i \in \overline{\Omega}$ such that

$$g \cdot g\omega_1 \cdot g\omega_2 \cdot \ldots \cdot g\omega_n = 1.$$

A G-isolated subgroup of G is called strongly isolated.
Theorem 2: Let $\overline{\Omega}$ be the subgroup of the group of automorphisms of G. Let $\overline{\Omega}$ and G be commutative. Let G contain no Ω-periodic elements being

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different from 1. Then G can become Ω-ordered.

Theorem 3: In order that G can become ordered it is necessary and sufficient that in it it exists a solvable normal system Σ which satisfies the following conditions:

1. From $A \in \Sigma$ there follows $g^{-1}Ag \in \Sigma$ for all $g \in G$.
2. If $A \subset B$ are neighborhood subgroups of Σ, $N(A)$ is the normalizator of A in G and $C(A) = [N(A),N(A)]$, then $[C(A),B] \subseteq A$.
3. All subgroups of Σ are strongly isolated.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

ANTIPOV, I.N.; PODDERYUGIN, V.D., otv.red.; ORLOVA, I.A., red.

[Use of Simpson's method in solving a definite integral] Vychislenie opredelennogo integrala metodom Simpsona. Moskva, Vychislitel'nyi tsentr AN SSSR, 1964. 9 p. (Akademiia nauk SSSR. Vychislitel'nyi tsentr. Standartnye i tipovye programmy BESM-2, no.9). (MIRA 17:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

AGEYEV, M.I.; PODDERYUGIN, V.D., otv. red.; ORLOVA, I.A., red.

[Principles of the "Algol-60" algorithmic language.] Osnovy algorithmicheskogo iazyka Algol-60. Moskva, 1964. 114 p. (Akademiia nauk SSSR. Vychislitel'nyi tsentr. Obshchie voprosy programmirovaniia, no.1). (MIRA 17:10)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D.

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PHASE I BOOK EXPLOITATION SOV/5962

Vsesoyuznoye soveshchaniye po vychislitel'noy matematike i primeneniyu sredstv vychislitel'noy tekhniki, Baku, 1958.

Trudy (Transactions of the All-Union Conference on Computer Mathematics and Applications of Computers) Baku, Izd-vo AN Azerbaydzhanskoy SSR, 1961. 254 p. 500 copies printed.

Sponsoring Agency: Akademiya nauk Azerbaydzhanskoy SSR. Vychislitel'nyy tsentr.

Eds.: A.A. Dorodnitsyn, S.A. Aleskerov, and K.F. Shirinov; Ed. of Publishing House: A. Til'man; Tech. Ed.: T. Ismailov.

PURPOSE: The book is intended for mathematicians and other specialists interested in computer theory and uses for computers.

COVERAGE: The book contains the texts of 24 papers presented at the All-Union Conference on Computer Mathematics and Applications of Computers held in Baku, 3-8 Feb 1958. The "Resolution"

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of the conference, consisting of proposals for accelerating the development of computer mathematics and computer engineering, is also included.

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Korolyuk, V.S. Construction of Logic Problem Algorithms 23

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3

Transactions of the All-Union (Cont.) SOV/5962

Dzhabarzade, R.M. Standard Subroutine for Solving a System of Ordinary Differential Equations 36

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Velikanova, T.M., A.P. Yershov, K.V. Kim, V.M. Kurochkin, Yu.A. Oleynik-Ovod, and V.D. Podderyugin. Program for Automatic Programming 81

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

S/044/62/000/006/115/127
B162/B102

16.6800

AUTHORS: Velikanova, T. M., Yershov, A. P., Kim, K. V., Kurochkin, V. M., Oleynik-Ovod, Yu. A., Podderyugin, V. D.

TITLE: Programming program for a computer

PERIODICAL: Referativnyy zhurnal. Matematika, no. 6, 1962, 70, abstract 6V376 (Tr. Vses. soveshchaniya po vychisl. matem. i primeneniyu sredstv vychisl. tekhn. Baku. AN AzerbSSR, 1961, 81 - 93).

TEXT: A programming program (PP) is described for the computer C-3 (S-3). The information which the programmer prepares for the PP consists of five parts: (1) scheme of the program, (2) removed operators, (3) information on quantities, (4) information on memory arrays, (5) arrays. The scheme of the program may include arithmetical and logical operators, recovery operators, non-standard operators, re-address operators and binary counting operators. In the scheme of the program the necessity of a cyclic repetition of a certain group of operators may be indicated, for which this group is enclosed in brackets. Under the opening bracket of the cycle, the parameter of the cycle and its initial value, if it differs

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

YERSHOV, A.P.;KIM, K.V.; PODDERYUGIN, V.D., otv. red.; ORLOVA, I.A., red.; KORKINA, A.I., tekhn. red.

[Programming program for the "Strela-3" computer; a manual] Programmiruiushchaia programma dlia vychislitel'noi mashiny "Strela-3" (PPS); rukovodstvo dlia pol'zovaniia. Moskva, Vychislitel'nyi tsentr AN SSSR, 1961. 61 p. (MIRA 15:1)

1. Otdel teoreticheskogo programmirovaniya Vychislitel'nogo tsentra AN SSSR (for Yershov, Podderyugin).
(Programming (Electronic computers))

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Podderyugin, V. D.

Programma kontrolya dlya "Strely-3" (PIK). Moskva, Vychislitel'nyy Tsentr AN SSSR, 1960.

20 p. charts, tables.

At head of title: Akademiya Nauk SSSR. Vychislitel'nyy Tsentr.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDERYUGIN, V.D.

16(0); 24(2) PHASE I BOOK EXPLOITATION SOV/3365

Akademiya nauk Azerbaydzhanskoy SSR

Tezisy dokladov Soveshchaniya po vychislitel'noy matematike i primeneniyu sredstv vychislitel'noy tekhniki (Outlines of Reports of the Conference On Computational Mathematics and the Use of Computer Techniques) Baku, 1958. 63 p. 400 copies printed.

Additional Sponsoring Agencies: Akademiya nauk SSSR. Vychislitel'nyy tsentr, and Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

No contributors mentioned.

PURPOSE: This book is intended for pure and applied mathematicians, scientists, engineers and scientific workers, whose work involves computation and the use of digital and analog electronic computers.

COVERAGE: This book contains summaries of reports made at the Conference on Computational Mathematics and the Application of Computer Techniques. The book is divided into two main parts. The first part is devoted to computational mathematics and contains 19 summaries of reports. The second section is devoted to computing techniques and contains 20 summaries of reports. No personalities are mentioned. No references are given.

Aleskerov, S.A. Mathematical Description of Transient Processes in Nonlinear Electromagnetic Systems 11

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Velikanova, T.M., and A.P. Yershov, K. V. Klis, V.M. Kurochkin, Yu. A. Olsynik-Ovod, and V. D. Podderyugin. Computer Programming Routine for the "Strela" Computer (PPG) 16

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

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PODDERYUGIN, V.G.

Ordering condition of an arbitrary ring. Usp.mat.nauk 9 no.4: 211-216 '54. (MLRA 8:1)
(Rings (Mathematics))

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODGORNYY, Ya.M.

Apparatus for air conditioning in the cab of the "John Deere" 95RC combine. Trakt. i sel'khozmash. no.1:43-45 Ja '64. (MIRA 17:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

SOKOLOV, G.A., doktor geol.-min. nauk, otv. red. Prinimali uchastiye: VLASOVA, D.K.; GLAGOLEV, A.A.; ZHARIKOV, V.A.; LOGINOV, V.P.; LUKIN, L.I.; MYAKELYA, R.O.; OMEL'YANENKO, B.I.; OSTROVSKIY, I.A.; PERTSEV, N.N.; PODDLESSKIY, K.V.; RUSINOV, L.V.; SOFIANO, T.A.; TIMOFEYEVA, L.K.; SHABYNIN, L.I.; SHADLUN, T.N.; LAPIN, V.V., red. izd-va; MAKUNI, Ye.V., tekhn. red.

[Physicochemical problems in connection with the formation of rocks and ores] Fiziko-khimicheskie problemy formirovaniia gornykh porod i rud. Moskva, Vol.1. 1961. 658 p. (MIRA 14:10)

1. Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdenii, petrografii, mineralogii i geokhimii. 2. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva (for Vlasova, Glagolev, Zharikov, Omel'yanenko, Ostrovskiy, Pertsov, Shabynin). 3. Moskovskiy geologo-razvedochnyy institut im.S.Ordzhonikidze (for Shabynin, Pertsev.)

(Petrology)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

CHRZASTEK, Hanna; PODDUBIUK, Wladyslawa

Evaluation of living and health conditions of children in the village Golab. Pediat. polska 36 no.4:423-430 '61.

1. Z Instytutu Medycyny Pracy i Higieny Wsi w Lublinie Dyrektor: prof. dr med. J. Parnas i z Kliniki Chorob Dzieci AM w Lublinie Kierownik: prof. dr med. W. Klepacki.

(CHILD WELFARE)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

ACCESSION NR: AT4037691 S/2865/64/003/000/0210/0216

AUTHOR: Gorban', G. M.; Kondrat'yeva, I.I.; Poddubnaya, L. T.

TITLE: Gaseous products of vital activity liberated by man in sealed chambers

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy* kosmicheskoy biologii, v. 3, 1964, 210-216

TOPIC TAGS: respiration, air purification, metabolic waste

ABSTRACT: Experimental studies have shown that a human being in the process of his vital activities liberates a number of toxic gaseous products into the surrounding medium. Thus, for example, a chamber in which a man has been sealed for 24 hours will contain 297 mg of ammonium, 278 mg of carbon monoxide (417 mg for smokers), 504 mg of hydrocarbons, 0.6 mg of aldehydes, 235 mg of ketones, 5 mg of mercaptans and hydrogen sulfides, and 89 mg of fatty acids. Permanent contaminants in the air of the sealed chamber were carbon dioxide, hydrocarbons, aldehydes, and ammonium. The carbon dioxide and hydrocarbons were found only in a gaseous form; the others both in the air and in the condensate. Data accumulated

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

ACCESSION NR: AT4037690

S/2865/64/003/000/0204/0209

AUTHOR: Korotayev, M. M.; Kustov, V.V.; Meleshko, G. I.; Poddubnaya, L. T.; Shepelev, Ye. Ya.

TITLE: Toxic gaseous substances liberated by Chlorella

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy* kosmicheskoy biologii, v. 3, 1964, 204-209

TOPIC TAGS: algae, respiration, toxicology, photosynthesis, carbon monoxide, closed ecological system, manned space flight, air purification

ABSTRACT: The liberation of toxic gaseous substances in the process of vital photosynthetic activity of Chlorella pyrenoidosa S-39 was studied in six experiments lasting 2 to 12 days and in eight experiments lasting 7 to 26 hr. It has been established that during cultivation of Chlorella the air of the system accumulates carbon monoxide, nitrogen oxides, hydrocarbons, and, perhaps, methane. Carbon monoxide concentration in different experiments ranged from 0.003 to 0.09 mg/l. In most cases the amounts of carbon monoxide produced exceeded permissible limits. The content of nitrogen oxides in the same system ranged from 0.0006 to

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0.012 mg/l and that of hydrocarbons from 0.0033 to 0.061 mg/l. The production of carbon monoxide in the algae culture is apparently due to the oxidative breakdown of the tetrapyrrol radical of the chlorophyll molecule. To develop systems of purification of regenerated air by biological means, further study of the mechanisms of formation and dynamics of accumulation of toxic substances during prolonged and continuous cultivation of algae in a closed system will be required.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: PH, LS

NO REF SOV: 003 OTHER: 008

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

OKOLOV, F.S.; NIKOLOV, S.Kh.; IVANOV, R.F.; KOPEYKIN, V.I.; PODDUBNAYA, V.A.

Effect of ultrasonic waves on the colloidal properties of the human blood serum. Nauch. trudy Kub. gos. med. inst. 19: 111-119 '62. (MIRA 17:8)

1. Iz kafedry obshchey gigiyeny (zaveduyushchiy - zasluzhennyy deyatel' nauki Kirgizskoy SSR prof. F.S. Okolov) Kubanskogo gosudarstvennogo meditsinskogo instituta.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA-ARNOLDI, V.A.

Study of pollen tubes in angiosperms. Dokl. AN SSSR 162 no.3,705-708 My '65. (MIRA 18:5)

1. Glavnyy botanicheskiy sad AN SSSR. Submitted May 20, 1964.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

S/020/60/133/04/12/031
B019/B060

AUTHORS: Komar, A. P., Academician of the AS UkrSSR, Makhnovskiy, Ye. D., Poddubnov, V. P.

TITLE: The Relative Yield and the Energy Distribution of Photodeuterons From Copper

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4, pp. 797-799

TEXT: The authors measured the ratio between the photodeuteron yield and the photoproton yield from copper and the energy distribution of these particles at the maximum energy of the bremsspectrum of the 70 Mev gamma radiation. Basing on Fig. 1, the authors discuss details of the experimental setup. A special pulse method was developed for the identification of the particles, and formulas (1) and (2) are given for the calculation of the radius of curvature of the particle path in the magnetic field (11,500 oe) toward the emulsion. The authors worked with an НИКФИ-Я 2 (NIKFI-Ya2) 400 μ thick nuclear emulsion. Fig. 2 shows the radii of curvature as a function of the particle ranges in the emulsion and the

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNYY, I. YA.

62B-2-2/8

AUTHORS: Poddubnyy, I. Ya; Reykh, V. N; Starovoytova, Ye. I; Nazarov, V. G.

TITLE: The Influence of the Molecular Weight of Polymers on Some Physical-Mechanical Properties of Their Vulcanisates. (Vliyaniye velichiny molekulyarnogo vesa polimerov na nekotoryye fiziko-mekhanicheskiye svoystva ikh vulkanizatov).

PERIODICAL: Kauchuk i Rezina, 1958, Nr.2. pp. 6 - 11. (USSR).

ABSTRACT: The dependence of the strength and elasticity of vulcanisates on the molecular weight of the initial polymers was investigated for a number of 1,3-butadiene- and 1,3-butadiene-styrene rubbers made in the USSR. A similar investigation was carried out by A. S. Novikov et al. (Ref.11) on a sample of 1,3-butadiene-styrene rubber CKC-30A. Samples of Na-1,3-butadiene rubber were prepared at 10°, 20° and 70°C (samples 1-Б, 2-Б, and 3-Б), of potassium 1,3-butadiene rubber CKB at 0° and 60°C (samples 1-B and 2-B), and of emulsified 1,3-butadiene-styrene rubber CKC-30, CKC-30A and CKC-30Б (samples 1C, 1CA and 1CБ). Properties of these polymers are given in Table 1. The samples were fractionated according to a method by I. I. Zhukov, I. Ya. Poddubnyy and A. V. Lebedev (Ref.12). The molecular weight of fractions was determined viscosimetrically, and calculated according to the formula

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62B-2-2/S

The Influence of the Molecular Weight of Polymers on Some Physical-Mechanical Properties of Their Vulcanisates.

$[\eta] = f(M)$, according to a method evolved in the Physico-Chemical Laboratory of VNIISK. The composition of rubber mixtures based on 1,3-butadiene and 1,3-butadiene-styrene rubber is given in Table 2; Table 3: variation in the molecular weight of the polymers during mixing on 135 x 75 mm rollers; Table 4 and 5: the physico-mechanical properties of vulcanisates of fractions of various rubbers. It was found that for most polymers the strength of the vulcanisates depends on the molecular weight (Fig.1). The investigated polymers differed also with regard to the value of the molecular weight above which the strength of vulcanisates is practically independent from the molecular weight; for 1,3-butadiene-styrene rubber the curve for strength-molecular weight reaches a maximum in the region 180 - 200,000 and for 1,3-butadiene rubbers in the region 320 - 340,000. Figures 2 and 3 give the ratio of the strength R of 1,3-butadiene-styrene vulcanisates and 1,3-butadiene rubbers and the molecular weight. It can also be seen that at very high molecular weights the strength of the vulcanisates of 1,3-butadiene-styrene rubber can reach a value of 360 - 380 kg/cm^2; under similar conditions, the strength of

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The Influence of the Molecular Weight of Polymers on Some Physical-Mechanical Properties of Their Vulcanisates. 62B-2-2/8

1,3-butadiene rubber vulcanisates CKB and of 1,3-butadiene rubber CKB manufactured at 0°C reaches a value of 260 - 270 kg/cm². Potassium - 1,3-butadiene rubber CKC, manufactured at 60°C has a very low breaking strength when compared with the polymer manufactured at 0°C. It was also shown that a linear relation governs the dependence of the break strength of vulcanisates and the value $\frac{1}{M}$=R. A molecular weight of 34,000 was found to give a strength of the vulcanisates practically equal to 0 for sodium 1,3-butadiene rubber, and the rubber CKB prepared at 0°C, and a molecular weight of 25,000 for 1,3-butadiene-styrene rubber. It was shown that 1,3-butadiene-styrene rubbers lose their elastic properties at a molecular weight of 20,000, and 1,3-butadiene rubbers at a molecular weight of 24,000. The character of the strength and elastic properties of the rubber CKB prepared at 60°C was determined; the vulcanisates of this polymer have very low values of break strength and elasticity which are practically independent from the molecular weight of the initial polymer. There are 24 References, 13 Russian

Card 3/4

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62B-2-2/8

The Influence of the Molecular Weight of Polymers on Some Physical-Mechanical Properties of Their Vulcanisates.

11 English.

ASSOCIATION: All-Union Research Institute for Synthetic Rubber im. S. V. Lebedev. (Vsesoyuznyy nauchno-issledovatel'skiy institut sintcticheskogo kauchuka im. S. V. Lebedeva).

AVAILABLE: Library of Congress.

Card 4/4

1. Vulcanizates- Physical Properties 2. Vulcanizates-Mechanical properties 3. Polymers-Molecular weight 4. Butadienes-(Polymerized)-Properties

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNYY, I.Ya., prof., red.; SHUR, Ye.I., red.; FOMKINA, T.A., tekhn. red.

[Physicochemical methods used in the analysis and investigation of products of the synthetic rubber industry] Fiziko-khimicheskie metody analiza i issledovaniia produktov proizvodstva sinteticheskogo kauchuka. Pod red. I.IA.Poddubnogo. Leningrad, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1961. 151 p. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.

(Rubber, Synthetic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

BRESLER, S.Ye.; MOSEVITSKIY, M.I.; PODDUBNYY, I.Ya.; SHI GUAN'-I [Shih Kuan-i]

Specific mechanism of molecular chain termination in heterogeneous polymerization. Vysokom.soed. 3 no.6:820-827 Je '61.

(MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni S.V.Lebedeva i Institut vysokomolekulyarnykh soyedineniy AN SSSR.

(Polymerization)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

AVER'YANOV, S.V.; PODDUBNYY, I.Ya.; TRENKE, Yu.V.; AVER'YANOVA, L.A.

γ-Ray vulcanization by methylvinyl siloxane rubber with a low content of vinyl groups. Kauch. i rez. 20 no.12:1-7 D '61. (MIRA 15:1)

1. Vsesyuznyy naucyno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva.
(Vulcanization) (Gamma rays)
(Siloxanes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

SOKOLOV, V.N.; PODDUBNYY, I.Ya.; PEREKALIN, V.V.; YEVDOKIMOV, V.F.

Polymerization of ethylene nitrate by gamma rays. Dokl.AN SSSR 138 no.3:619-620 My '61. (MIRA 14:5)

1. Predstavleno akademikom N.N.Semenovym.
(Polymers) (Nitro compounds) (Gamma rays)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNYY, I. YA.

AUTHOR: Bresler, S. Ye., Korotkov, A. A., Mosevitskiy, M. I., Poddubnyy, I. Ya. 57-1-16/30

TITLE: Investigation of Catalytic Polymerization of Diene Hydrocarbons by Means of Molecular-Weight Distribution of Polymers (Issledovaniye kataliticheskoy polimerizatsii diyenovykh uglevodorodov s pomoshch'yu molekulyarno vesovykh raspredeleniy polimerov)

PERIODICAL: Zhurnal Tekhnichoskoy Fiziki, 1958, Vol. 28, Nr 1, pp. 114-131 (USSR)

ABSTRACT: The problems in connection with the computation and the analysis of the theoretical molecular-weight distribution are investigated. On the basis of the analysis the experimental data are discussed which are obtained on the occasion of the production of polyvinyl and polyisoprene samples by means of polymerization in a solution under the action of lithium-butyl. Lithium-buthyl had been chosen as catalizer because it is soluble in saturated hydrocarbons due to which fact polymerization is homogeneous and the analysis of the results is considerably easier. The theoretical computation and the analysis of the molecular

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Investigation of Catalytic Polymerization of Diene Hydrocarbons by means of Molecular-Weight Distribution of Polymers

57-1-16/30

weight distribution can be carried out according to 2 methods. Considering the discrete polymerization process i.e. the connection of a sequence of monomer units with the growing chain, a system of differential equations can be set up. The problem can be solved by means of this system. However, this solution expressed in sums is somewhat complicated. If, however, from the beginning polymerization is approximated by the assumption of a continuous increase of the chain, a much simpler problem with a very convenient solution is obtained. However, in this case some details get lost. Both methods of computation are given. Divinyl and isoprene are used as monomers and on the occasion of the polymerization hexane and diethyl--ester are used as solvents. The measuring of the polymerization kinetics was carried out according to the dilatometric method. The sedimentation experiments were carried out in the ultra centrifuge of Svedberg (ref. 14) with scale optics at 60000 - 65000 rev./min. The diffusion tests were carried out in the Lamm apparatus with scale optics (ref. 14) at (20 ±0,003)°C. It is demonstrated

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

57-1-16/30

Investigation of Catalytic Polymerization of Diene Hydrocarbons by means of Molecular-Weight Distribution of Polymers

that on the occasion of polymerization of divinyl or isopren with lithium butyl in hexane at 30 - 70°C the role of the secondary reactions which lead to the limitation of the growing of the chain is only unimpertant and that it can be neglected. I.e. nearly all active chains grow until the complete utilization of the monomer. On the occasion of the polymerization the author observed a similar occurrence to that described in reference 20 and 21 by one of the authors. It is demonstrated that a delay in the growing of the polymer molecules due to interaction of the polar active centres counteracts simultaneously to the increase of the general polymerization-velocity with increase of the concentration of the active centres. With the increase of the polymerization-temperature the role of the heat movement becomes more important. The shape of the curves of the molecular-weight-distribution shows that on the one hand the formation of a complex with ester activates the binding to which the monomer units are connected with the active complex from the catalytical point of view, on the other hand, however, that it weakens them. For this reason a break in this connection is

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Investigation of Catalytic Polymerization of Diene Hydrocarbons by means of Molecular-Weight Distribution of Polymers 57-1-16/30

possible and it is accompanied by the separation of a complex from the polymer chain. Furthermore, it is demonstrated that the hydrodynamic properties of the macromolecules depend only little on the micro structure of the molecular chains. It seems to be due to the following reason: the increase from one member to two members with simultaneous shortening of the chain causes a decrease of the mobility of the individual members due to which fact the measurings of the molecular ball in the solution remain practically unchanged. The second very important conclusion is that the rise of the polymerization temperature to 70°C, as well as the use of ester as solvent lead to no important increase in the branching of the molecular chain since the presence of a uniform dependence S=d(M) for the polymer type concerned is very unlikely. Analytic dependence of S and M in the molecular weight interval (S in Svedberg): for polydivinyl in octan at 20°C... $S = 0{,}0389 \cdot M^{0{,}39}$, for polyisopren in octane at 20°C... $S = 0{,}0155 \cdot M^{0{,}49}$. M. N. Barsukova assisted at this work. The work was discussed with S. Ya. Frenkel'. There are 15 figures, 1 table, and 25 references, 6 of which are Slavic.

Card 4/5

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Investigation of Catalytic Polymerization of Diene Hydrocarbons by Means of Molecular-Weight Distribution of Polymers 57-1-16/30

ASSOCIATION: Institute for High-Molecular Alloys AN USSR Leningrad (Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad)

SUBMITTED: July 23, 1957

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNYY, N.P.

Effect of sulfates containing vadose waters on ore deposition. (MIRA 18:5)
Uzb. geol. zhur. 8 no.5:53-60 '64.

1. Institut geologii AN TurkmSSR.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

KOROTAYEV, M.M.; KUSTOV, V.V.; MELESHKO, G.I.; PODDUBNAYA, L.T.; SHEPELEV, Ye.Ya.

Toxic gaseous substances produced by Chlorella. Probl. kosm. biol. 3:204-209 '64. (MIRA 17:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

GORBAN', G.M.; KONDRAT'YEVA, I.I.; PODDUBNAYA, L.T.

Gaseous products liberated by man in a hermetic cabin. Probl. kosm. biol. 3:210-216 '64. (MIRA 17:6)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, N.A.; LAVRENOVA, G.I.

Preparation of some diketopiperazines composed of two different amino acids and investigation of their properties. Vest.Mosk. un.Ser.mat.,mekh.,astron.,fiz.khim. 13 no.3:165-175 '58. (MIRA 12:4)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.
(Piperazine)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Poddubnaya, N.A.

PODDUBNAYA, N.A.; GAVRILOV, N.I.; KISELEV, M.I. [deceased]

Structure of gramicidin S. Part 4: Studies of its copper complexes. Zhur.ob.khim. 26 no.6:1779-1786 Je '56. (MIRA 11:1)

1.Moskovskiy gosudarstvennyy universitet.
(Gramicidin) (Copper compounds)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Poddubnaya, M. A.

Structure of gramicidin S. V. Two forms of gramicidin, their mutual transformations and structure. N. I. Gavrilov, M. A. Poddubnaya, L. N. Aktanova, and E. M. Grigor'eva (State Univ., Moscow). *Zhur. Obshchei Khim.* 26, 2029-35(1956); cf. *C.A.* 50, 14138c; 51, 1843c.—The Cu-biuret complexes of gramicidin S acidified slightly in 96% EtOH yield a monomeric form of gramicidin, with absorption max. 535 mμ (red form); with 50% EtOH there is regenerated the dimeric form of gramicidin with absorption max. 570 mμ (violet form). The red form has two free NH_2 groups. The detns. of mol. wt. were made by Barger's technique (*Ber.* 37, 1754(1904)). Gramicidin S after deamination (*loc. cit.*) behaves itself analogously to gramicidin proper in formation of Cu complexes; its monomeric form has an absorption max. 510 at mμ while the dimeric form has one at 540 mμ. G. M. Kosolapoff

red

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, S.S.; BELOV, V.N.

Reaction of halohydrins of acetopropyl alcohol and sodio-acetoacetic ester. Trudy VNIISNDV no.4:52-55 '58. (MIRA 12:5)

(Propanol) (Acetoacetic acid)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, S. S.

Optically active organomercury compounds. 1. Preparation of diastereoisomeric l-menthyl esters of α-(bromomercuri)phenylacetic acid. A. N. Nesmeyanov, O. A. Reutov, and S. S. Poddubnaya (M. V. Lomonosov State Univ., Moscow). Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1953, 649-54. Stereoisomeric l-menthyl esters of PhCH(HgBr)CO_2H with Hg yield an equimolar mixt. of the corresponding diastereoisomeric menthyl esters; this fact supports the contention (cf. C.A. 46, 10120h; following abstr.) that a free radical with an unpaired electron on a C atom has planar structure. The 2 isomers were sepd. by crystn. from MeOH or Me_2CO. Esterification of racemic PhCHBrCO_2H with l-menthol in the presence of HCl gave: a *menthyl ester* (I), m. 80°, $[\alpha]^{18}_D$ 10.0° (EtOH) (from MeOH), and the *isomeric liquid ester* (II), bp 223-5°, $[\alpha]^{18}_D$ −98.5° (EtOH). Shaking II (149 g.) with 1177 g. Hg 0.5 hr., letting stand 24 hrs. at room temp., washing with EtOH, and extg. the Hg deriv. with hot Me_2CO gave 68 g. crude *l-menthyl 2-(bromomercuri)phenylacetate*. Crystn. of this from EtOH gave a *product*, m. 158-61°, whose activity varied with the solvent used for crystn.: $[\alpha]^{18}_D$ −74.6° (from EtOH), −91.2° (from Me_2CO), −114° (from CCl_4), −75.2° (from C_6H_6). This variability was held to be evidence for the presence of 2 diastereoisomers. Similar reaction of 35 g. I with 88 g. Hg in C_6H_6 250 hrs. with shaking gave after usual treatment and extn. with hot Me_2CO 1.3 g. menthyl ester of PhCH(HgBr)CO_2H (2.4%), m. 155-6° (crude), m. 157-8° (from MeOH), $[\alpha]^{18}_D$ −73.8°. Heating I with Hg at 95-100° with agitation 24 hrs. gave 35.0% of the ester, m. 155-7°, $[\alpha]^{18}_D$ −75.7° (from MeOH). Crystn. from much MeOH gave a product, m. 162-3°, $[\alpha]^{18}_D$ −96.4°, and the more sol. *diastereoisomer*, m. 152-4°, $[\alpha]^{18}_D$ −49.3°. Me_2CO gave similar results. G. M. Kosolapoff

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13G92

PODDUBKO, Velentin Aleksandrovich

USSR/Leaders in Transportation Development 25 Dec 1947
7306.

Legislation 3122.0400

"164. Concerning the Confirmation of Comrade Valentin Aleksandrovich Poddubko as Deputy Chief and Member of the Collegium of the Main Administration of the Northern Sea Route of the Soviet of Ministers of the USSR"
½ p

"Sob Post Sovmin" No 10

Decree No 3446, 1 Oct 1947, complete.

13G92

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBKOV, P.

[Financing planning organizations] Finansirovanie proektnykh organizatsii. Moskva, Gosfinizdat SSSR, 1954. 96 p. (MLRA 7:12D)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, N. A. PA 2/50T60

USSR/Chemistry - Spectrophotometry Oct 48
Proteins

"Spectrophotometry of Biuretic Complexes as a Method of Research on Proteins: VI, Absorption Spectra of Solutions of Cupric Complexes of Several Amides," N. A. Poddubnaya, N. I. Gavrilov, Lab of Albumin Chem, Moscow State U, 11¼ pp

"Zhur Obshch Khim" Vol XVIII, No 10 - p-1848

Investigated absorption spectra of blue-violet Cu complexes of oxamide derivatives, violet Cu complexes of malonamide derivatives, and red Cu complexes of biuret derivatives. Submitted 18 Sep 47.

2/50T60

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAIA, N. A.

N. A. Poddubnaia and N. I. Gavrilov, Spectro-photometry of "Biuretic" complexes as method of investigation of albumen. VIII. Absorption spectra of solutions of copper complexes of amino-acids. p. 1860

The amino-acids form copper complexes with a maximum absorption 610-630m.u. It is proved by electrolysis that copper enters into to the anion part of the copper complex.

Lab. of Chemistry of Albumen, Moscow State University, Holder of the Lenin Order. September 18, 1947

SO: Journal of General Chemistry (USSR) 28, (80) No. 10 (1948):

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, N. A.

Feb 51

USSR/Chemistry - Organic Phosphorus Compounds

"Structure of the Protein Micromoleculs. V. Action of Phosphorus Pentachloride on Diketopiperazine," N. I. Gavrilov, R. G. Petrova, N. A. Poddubnaya, Lab Protein Chem imeni N. D. Zelinskiy, Moscow State U

"Zhur Obshch Khim" Vol XXI, No 2, pp 284-289

Reacted diketopiperazine with phosphorus pentachloride. Attempt to find optimum conditions for synthesis of dichlorodhydropiperazine was unsuccessful. Dkietopiperazine was unrecrystd for recrystd and heated long time at 150°. Carbon tetrachloride was best solvent. In abnormal type of conversion obtained only phosphorus compd of unknown Structure

176T17

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, N.A.

Structure of gramicidin C. III. Some products of hydrolysis of gramicidin C. N. A. Poddubnaya and M. I. Kiselev (State Univ., Moscow). *Zhur. Obshchei Khim.* 26, 1508-12(1956); cf. *C.A.* 49, 8800f.—Autoclave acidic hydrolysis of gramicidin C yielded proline-phenylalanine anhydride, indicating the existence of this substance in the natural structure of gramicidin. Leucylglycylglycine and alanylglycylglycine heated in autoclave with 1.5% H_2SO_4 3 hrs. at 180° at 10 atm. yielded solus. contg. dipeptides, as shown by photometry of their Cu complexes. Autoclaving of gramicidin in H_2O failed to change the substance in 3 hrs. However in 1% HCl in 1-3 hrs. it was possible to split off proline, phenylalanine and leucine, along with ornithine and di- and tripeptides, as shown by paper chromatography, or electrophoresis. The latter method yielded from the midportion of the electrophorogram an anhydride, $C_{14}H_{18}O_2N_2$, m. 2 2-6.5°, which hydrolyzed to proline and phenylalanine. Autoclaving of gramicidin with 1.5% H_2SO_4 3 hrs. at 180° gave ornithine, proline, valine, leucine, and phenylalanine, also given after addnl. hydrolysis with HCl of a pptd. material isolated from the H_2SO_4 hydrolyzate. Autoclaving with 3% H_2SO_4 gave a trace of diketopiperazine along with proline, phenylalanine, and leucine. Electrophoresis of the HCl hydrolyzate gave a substance which showed a biuret reaction indicative of dipeptide. Reflux hydrolysis of gramicidin with 10% HCl 60 hrs. gave phenylalanine and proline. G. M. K.

Chem 2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Structure of gramicidin C. III. Some products of hydrolysis of gramicidin C. G. A. Poddubnaya and M. I. Kistlev. J. Gen. Chem. U.S.S.R. 26, 1691 [illegible] lish translation. — See C.A. [illegible] B. M. R.

2 3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Structure of gramicidin S. IV. Further study of copper complexes. N. A. Poddubnaya, N. I. Gavrilov, and M. I. Kiselev. J. Gen. Chem. U.S.S.R. 25, 1911-7(1956)(English translation).—See C.A. 51, 1843a.

B. M. R.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

GAVRILOV, N.I.; POGDURNAYA, N.A.; AKIMOVA, L.M.; GRIGOR'YEVA, Ye.M.

Structure of gramicidin S. Part 5. Two formsof gramicidin, their reciprocal conversionsand structure. Zhur.ob.khim. 26 no.7:2029-2035 Jl '56. (MLRA 9:10)

1. Moskovskiy gosudarstvennyy universitet.
(Gramicidin S)

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5(3) 17

AUTHORS: Poddubnaya, N.A. and Lavrenova, G.I. SOV/55-58-3-20/30

TITLE: Production of Some Diketopiperazines Consisting of two Different Amino Acids and the Investigation of Their Properties (Polucheniye nekotorykh diketopiperazinov, sostoyashchikh iz dvukh razlichnykh aminokislot, i issledovaniye ikh svoystv)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii 1958, Nr 3, pp 165-176 (USSR)

ABSTRACT: By cyclization of depeptides in glycol the following composite anhydrides are received: glycyl-alanyl-, glycyl-valyl-, glycyl-leucyl-, glycyl-phenylalanyl- and l-leucyl-l-tyrosyl-. The following composite sarcosine anhydrides are received: sarcosyl-valyl- and sarcosyl-phenylalanyl (not mentioned in the literature) and sarcosyl-glycyl-.
The character and the time of decomposition of the obtained anhydrides has been investigated by observing the absorption intensity in the biuret reaction. If the nitrogen of the diketopiperazine has a benzyl radical, then the cycle is extremely stable and is only split up under longer cooking with concentrated hydrochloric acid.

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Production of Some Diketopiperazines Consisting of two Different Amino Acids and the Investigation of Their Properties SOV/55-58-3-20/30

There are 2 figures, 6 tables, and 19 references, 3 of which are Soviet, 8 German, 7 American, and 1 Swiss.

ASSOCIATION: Kafedra organicheskoy khimii (Chair of Organic Chemistry)

SUBMITTED: February 11, 1957

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA N. A

79-2-27/64

AUTHORS: Poddubnaya, N. A. , Lavrenova, G. I.

TITLE: The Production and Investigation of Some Properties of N-Monoaminoacyl Substituted Sarcosine-Diketopiperazines (Polucheniye i issledovaniye nekotorykh svoystv N-monoaminoat.silzameshchennykh sarkozinovykh diketopiperazinov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 404 - 410 (USSR)

ABSTRACT: Monoacyldiketopiperazine (reference 1) was for the first time produced in the interaction of diacetylketopiperazine with a number of fatty and mixed amines in ether- and benzene-solutions, independent of the molar interrelations of the components. In the present work the authors synthesized a number of N-monoaminoacyl derivatives of diketopiperazines containing a tertiary nitrogen atom, in order to get consequently acquainted with the rules governing the molecule that are in connection with the occurrence of similar atoms. Besides the introduction of sarcosine into the molecules of the compound to be investigated is of special interest, as this amino acid, beside N-methylvaline and proline, represents a component of the antibiotics - actinomycine C (reference 2). The structure of this antibiotic has not yet been finally proved, but according to the authors' data the sarcosine-anhydride and the leucyl-proline-

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anhydride form under the influence of hydrazine hydrate upon the compound. This may be caused by the splitting of the aminoacyl linkage. The acylation of the sarcosine-anhydrides was performed by means of N-phthalyl-substituted chlorine anhydrides of amino acids. These latter are very stable on heating and the diketopiperazines are well acylated by them. The obtained N-phthalylaminoacyl derivatives and their properties are given in table 1. The slow formation of copper complexes (as a consequence of the decomposition of the diketopiperazine ring) is characteristic of all mono- and diaminoacyl derivatives of diketopiperazines. In this connection, in comparison to free tripeptides, as well in the one as in the others a displacement of the maximum is observed (table 2). The results of the measurements of maxima of the absorption spectra are to be seen in table 3. Summary: 1) The N-monophthalylaminoacylated derivatives of sarcosine anhydrides were synthesized for the first time: N-phthalylglycil-sarcosyl-d, 1-valinanhydride, N-phthalyl-d,1-valyl-sarcosyl-glycinanhydride and N-phthalyl-d,1--norleucyl-sarcosyl-d,1-phenylalaninanhydride. 2) The mixed N,N'--diphthalylaminoacyldiketopiperazine-N,N'-diphthalylglycil-d,1--phenylalaninanhydride was synthesized for the first time. 3) The absorption spectra of the biuret complexes which were obtained from

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The Production and Investigation of Some Properties of N-Monoaminoacyl Substituted Sarcosine-Diketopiperazines 79-2-27/64

N-phthalylaminoacyldiketopiperazine were measured. The scheme of their decomposition in an alkaline medium was confirmed by the synthesis of phthaloyl-glycil-valyl-sarcosine and phthaloyl-glycil--valine. 4) It was shown that under the influence of the hydrazine hydrate upon N-monophthalylaminoacyldiketopiperazines a splitting at the amino-acyl linkage takes place. There are 3 tables, and 10 references, 6 of which are Slavic.

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: January 7, 1957

AVAILABLE: Library of Congress

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5.3600

77406
SOV/79-30-1-67/78

AUTHORS: Poddubnaya, N. A., Maksimov, Vyach. I.

TITLE: Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 30, Nr 1, pp 308-312 (USSR)

ABSTRACT: In the first article of this series [Zhur. obshchey khim., 29, 3483 (1959)] the authors demonstrated the effect of two benzyl groups upon stability of acid chlorides of N,N-dibenzyl- α -aminoacids. In this work the authors synthesized the following N,N-dibenzylpeptides: methyl N,N-dibenzylleucylglycinate (I), methyl N,N-dibenzylleucylalaninate (II), methyl N,N-dibenzylleucylphenylalanylglycinate (III), N,N-dibenzylleucylphenylalanine (IV) and its ethyl ester (V), and N,N-dibenzylleucylglycylglycine (VI) and its ethyl ester (VII), in order to study their properties connected with tertiary nitrogen. Synthesis

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Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

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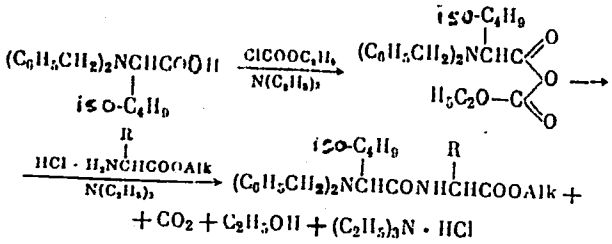
was performed according to the scheme:



using Velluz method [Velluz, L., Anatol, G., Amiard, I., Bull. soc. chim., (5), 21, 1449 (1954)]. Compounds (I), (II), (V), and (VII) were obtained by reacting N,N-dibenzylleucine, triethylamine and $ClCOOC_2H_5$ in chloroform at 0°, with subsequent addition of hydrochlorides of respective esters of aminoacids [methyl

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Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

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glycinate for (I), methyl alaninate for (II), ethyl phenylalaninate for (V), and ethyl glycylglycinate for (VII)] in chloroform. Compounds (IV) and (VI) were prepared from their ethyl esters by addition of NaOH with subsequent neutralization. Compound (III) was made by reacting N,N-dibenzylleucylphenylalanine with $ClCOOC_2H_5$ and triethylamine and subsequent addition of methyl glycinate hydrochloride. Table 1 shows results of paper electrophoresis performed on some reaction solutions (electrophoregram was developed by the method of Reindel [Reindel, E. Hoppe, W., Ber., 87, 1103 (1954)] in 30% acetic acid at a potential gradient of 6.6 v/cm). Table 2 lists the yields and melting points of the prepared compounds. On hydrogenation of N,N-dibenzylleucylphenylalanine at 50-60° for 1.5 hr over Pd-black in acetic acid, leucylphenylalanine (mp 218-220°) was obtained in 65% yield. There are 2 tables; and 5 references, 1 Soviet, 1 French, 2 German, 1 Swiss.

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Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

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TABLE 1

Compound	Distance (in cm, from cathode)		
	3 hr	4.5 hr	7 hr
N,N-Dibenzylleucine	1.2-1.5	2.8	3.5
Methyl N,N-dibenzylleucylglycinate	2.6	5.2	7.0
Methyl N,N-dibenzylleucyalaninate	2.6	5.0	6.2
Ethyl N,N-dibenzylleucylphenylalaninate	2.6	4.6	6.0
Ethyl N,N-dibenzylleucylglycylglycinate	3.2	-	-
Methyl glycinate	6.4	-	--
Ethyl phenylalaninate	4.8	-	-
Ethyl glycylglycinate	6.4	-	-

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Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

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TABLE 2

Prepared Compounds	Yield (%)	mp
Methyl N,N-dibenzylleucylglycinate	80	80-82
Methyl N,N-dibenzylleucylalaninate	84	102-105
Ethyl N,N-dibenzylleucylphenylalaninate	75	87-88
Ethyl N,N-dibenzylleucylglycylglycinate	64	
Methyl N,N-dibenzylleucylphenylalanylglycinate		115
N,N-Dibenzylleucylphenylalanine	76	154
N,N-Dibenzylleucylglycylglycine	74	145
	95 (from its ester)	165

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Study of Properties of Aminoacids and Peptides Containing Tertiary Nitrogen. II. Synthesis of N,N-Dibenzylpeptides

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ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: August 4, 1958

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

PODDUBNAYA, N.A.; LAVRENOVA, G.I.

Transformations related to the presence of a pyrimidine base in the albomycin molecule. Vest. Mosk. un. Ser. 2: Khim. 18 no.5:65-67 S-O '63. (MIRA 16:11)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

5.3610

77497
SOV/79-30-1-68/78

AUTHORS: Poddubnaya, N. A., Makaimov, Vyach. I.

TITLE: Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III. Study of Absorption Spectra of the Copper Complexes of Dibenzyltripeptides

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 312-317 (USSR)

ABSTRACT: Earlier studies of the biuret reaction ((1) Gavrilov, N. I., et al., Arkh. biol. nauk, 39, 87 (1937); (2) Biokhimiya, 4, 45 (1939); (3) Izvest. Akad. nauk SSSR, Otdel. khim. nauk, 1, 127 (1941); (4) Poddubnaya, N. A., Gavrilov, N. I., Zhur. obshchey khim., 18, 648, 662 (1948); (5) Plekhan, M. I., Gavrilov, N. I., ibid, 21, 312, 316, 574 (1951); (6) Poroshin, K. T., Izvest. Akad. nauk SSSR, Otdel. khim. nauk, 1952, 972) have disclosed a connection between the structure of protein com-

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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pounds and the color of their copper complexes. Gavrilov and his coworkers (references (1)-(3), (5), above) have developed a spectrophotometric method for the structure study of protein copper complexes. In this work the authors studied the dependence of light absorption upon alkalinity of solutions of complexed peptides containing tertiary nitrogen. The copper complexes of the investigated peptides (ethyl N,N-dibenzylleucylglycylglycinate, ethyl glycylglycinate, leucylglycylglycine, N,N-dibenzylleucylglycylglycine, and methyl N,N-dibenzylleucylphenylalanylglycinate) were prepared by the method described in an earlier work (Gavrilov, N. I., Plekhan, M. I., Poddubnaya, N. A., Izvest. Akad. nauk SSSR, Otdel. khim. nauk, 1, 127 (1941)), varying solvent and amounts of alkali. 0.5 ml of a 0.25 M copper acetate solution was used in all experiments. Absorption spectra were measured on the SF-4 spectro-

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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photometer. Table 1 lists the experimental data.

Table 1. Position of absorption maxima of the copper complexes in various media as function of alkali concentration.

Medium	Weight of NaOH in g / 10 ml solution	Ethyl glycylglycinate		Leucyl-glycylglycine		Ethyl N,N-dibenzyl-leucyl-glycyl-glycinate		N,N-dibenzyl-leucyl-glycyl-glycine		Methyl N,N-dibenzylleucyl-phenylalanyl-glycinate	
		λ_{max} (in mμ)	ε_{max}	λ_{max} (in mμ)	ε_{max}	λ_{max} (in mμ)	ε_{max}	λ_{max} (in mμ)	ε_{max}	λ_{max} (in mμ)	ε_{max}
Water	0.05	620	0.760	—	—	—	—	—	—	—	—
	0.4	620	0.720	—	—	—	—	—	—	—	—
50% Alcohol	0.05	610	0.685	560	0.830	520	0.350	520	0.340	510	0.350
	0.1	—	—	—	—	530	0.190	520	0.180	—	—
	0.2	—	—	—	—	560	0.230	550	0.220	—	—
	0.3	—	—	—	—	—	—	580	0.180	520	0.125
	0.4	610	0.670	570	0.845	610	0.150	590	0.150	520 *	0.120
96% Alcohol	0.05	610	0.700	—	—	520	0.350	520	0.500	—	—
	0.1	—	—	—	—	580	0.365	—	—	—	—
	0.2	—	—	—	—	590	0.470	580	0.325	—	—
	0.3	—	—	—	—	590	0.460	—	—	—	—
	0.4	610	0.670	—	—	600	0.490	600	0.400	—	—

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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Copper complexes of N,N-dibenzylleucylglyclglycine and its ethyl ester show various absorption maxima in alkaline solutions; one at 0.125 M NaOH with λ_{max} = = 520 mμ, and the other at 1.0 M NaOH with λ_{max} = = 590-610 mμ (introduction of ester group hardly influences absorption). (See Fig. 1.)

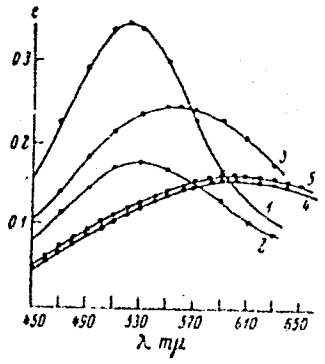

Fig. 1. Absorption spectra of copper complexes of ethyl N,N-dibenzylleucylglycyl-glycinate in 50% alcohol. NaOH: (1) 0.05 g, (2) 0.1 g, (3) 0.2 g, (4) 0.3 g, (5) 0.4 g.

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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10 ml samples were used. These spectra correspond to the maxima values (λ_{max} = 520 mμ and λ_{max} = 620 mμ) for tetrapeptide and dipeptide copper complexes, respectively, found by M. I. Plekhan and N. I. Gavrilov (Zhurnal obshchey khim., 21, 312, 316, 574 (1951)). Addition of acid to the solution with λ_{max} = 590mμ(0.4 g NaOH) caused a shift of the absorption maximum toward the short wavelength, which was accompanied by an increase in the value of ε (Fig. 4).

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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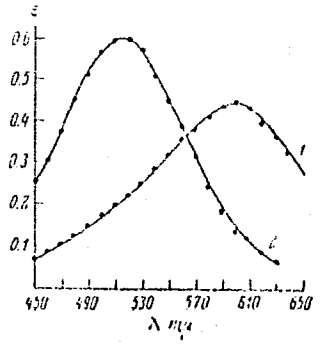

Fig. 4. Absorption spectra of copper complexes of ethyl N, N-dibenzylleucylglycylglycinate in 50% alcohol. (1) Original ester of dibenzyltripeptide, 0.4 g NaOH; (2) regenerated dibenzyltripeptide hydrochloride, 0.4 g NaOH.

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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Addition of NaOH to this solution shifted the absorption maximum back to 590 mμ. Increase of alcohol content in the solvent does not shift the absorption maxima, but causes a marked increase in the value of ε for one of the maxima (with λ_{max} = 590 mμ). These results suggest existence of two types of complexes which are in a state of dynamic equilibrium that can be shifted by changing the alkali concentration. The complexes are not equally stable: in aqueous solution the complex with λ_{max} = 590 mμ dissociates more than in alcohol. The authors give a tentative explanation of the formation of two copper complexes, depending upon alkalinity of solution. They ascribe it to the influence of the benzyl radicals substituted for two amine hydrogens, greatly increasing the basicity of the nitrogen on the nearest amide group, and thus causing unequal enolization ability of the two carbonyl groups of the tripeptide. Absorption spectra of leucylglycylglycine show only one maximum at both

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Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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concentrations (0.125 and 1.0 M) of NaOH. On the other hand, with triethylamine (which does not cause an increase of enolization) instead of NaOH, N,N-dibenzylleucylglycylglycine shows only one complex (λ_{max} = 600 m μ). It is supposed that at low alkali concentrations (enolization of the carbonyl group. of dibenzyltripeptides is insignificant) a copper complex with two molecules of dibenzyltripeptide for each atom of copper is formed (λ_{max} = 520 m μ). Increase of alkalinity enhances enolization of the carbonyl group resulting in formation of the monomolecular complex (λ_{max} = 600 mμ). That the formation of the second complex is not caused by the dipeptide part of the molecule, is shownby the absorption data on ethyl glycylglycinate, which does not exhibit a shift in the absorption maximum. Introduction of the benzyl group into the peptide chain (see methyl N,N-dibenzylleucylphenylalanyl-

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

Study of Properties of Aminoacids and Peptides, Containing Tertiary Nitrogen. III.

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glycinate) eliminates the second complex (only a red complex with λ_{max} = 510-520 mμ is formed at all alkali concentrations) and causes a sharp decrease of absorption. The authors state that present data do not make it possible to establish the structure of the copper complexes and that further study is planned in that direction. There are 5 figures; 1 table; and 15 references, 11 Soviet, 1 French, 1 Hungarian, 1 German, 1 U.S. The U.S. reference is: M. Rising, F. Parker, D. Jaston, J. Am. Chem. Soc., 56, 1178 (1934).

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: August 4, 1958

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

LAVRENOVA, G.I.; PODDUBNAYA, N.A.

Structure of albomycin. Part 8: Transformations related to the presence of the pyrimidine base in the albomycin molecule. Zhur. ob. khim. 34 no.9:2864-2868 S '64.

(MIRA 17:11)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

ACC NR: AP7011818 SOURCE CODE: UR/0079/66/036/012/2096/2098

AUTHOR: Lavrenova, G. I.; Revina, L. P.; Poddubnaya, N. A.

ORG: none

TITLE: Chemical structure of the antibiotic albomycin. XV. Nature of the pyrimidine base of the inactive fraction A-1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 12, 1966, 2096-2098

TOPIC TAGS: antibiotic, albomycin, hydrolysis

SUB CODE: 07

ABSTRACT: It was shown in earlier work that clinically applied albomycin consists of five fractions. Of the three principal fractions (A-1, A-2, and A-3), only one (A-2) is physiologically active. The chemical constitution of A-1 and A-3 is of interest, because they are products of the conversion of A-2. The study of A-1 and A-3 may yield data on the structure of the antibiotic and on the reasons for its inactivation. In the hydrolysis of A-1 with 72% $HClO_4$, 1-methylcytosine formed, just as from A-2 under the action of this reagent. Hydrolysis of A-1 with $Ba(OH)_2$ resulted in splitting of the pyrimidine ring, wheres N^6-methylcytosine formed from A-2 under the same conditions. The UV spectra of A-1 in an aqueous solution and in solutions in 0.01 N HCl and 0.01 N NaOH were determined. Orig. art. has: 2 tables.

Card 1/1 [JPRS: 40,351] UDC: 615.779.931

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001341420005-1

ACC NR: AP7011819

SOURCE CODE: UR/0079/66/036/012/2098/2101

AUTHOR: Lavrenova, G. I.; Revina, L. P.; Poddubnaya, N. A.

ORG: none

TITLE: Chemical structure of the antibiotic albomycin. XVI. Methylation of the pyrimidine fragment of the inactive fraction A-1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 12, 1966, 2098-2101

TOPIC TAGS: antibiotic, albomycin, methylation, amino acid

SUB CODE: 07

ABSTRACT: In the methylation with diazomethane of the A-1 fraction of albomycin, substitution of hydrogen in the amino group of 1-methylcytosine took place and 1,N^6-dimethylcytosine formed. The latter was identified by comparison of its properties with those of synthetic 1,N^6-dimethylcytosine. On the basis of the data obtained, it was concluded that the pyrimidine base is bound to the amino acid moiety of A-1 over N^3. Orig. art. has: 2 tables. [JPRS: 40,351]

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(Albomycin)

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(Albomycin)

(Pyrimidine)

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Reply to the comments by O. Mikes, IA. Turkova and F. Sorm.
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(Uracil)

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(Albomycin) (Amino acids)

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(Copper organic compounds—Spectra)

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