SEVERIN, V.A.; VERKHOVTSEVA, T.P.

Studies on a possibility of the synthesis of synnematin by P. chrysogenum. Antibiotiki 5 no.3:11-15 My-Je '60. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(SYNNEMATINE) (PENICILLIUM)

SEVERIN, V.A.; GORSKAYA, S.V.

Synthesis of streptomycin in enriched synthetic media. Antibiotiki 5 no. 5:21-25 S-O '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN)

SEVERIN, V. A., GORSKAYA, S. V., and GRACHEVA, I. V. (USSR)

"Amides in the Biosynthesis of Streptomycin and Glucosamines."

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

GORSKAYA, S.V.; SEVERIN, V.A.

Effect of carbon sources on the biosynthesis of streptomycin.
Antibiotiki 6 no.3:210-215 Mr '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(STREPTOMYCIN) (ACTINOMYCES)
(CARBOHYDRATE METABOLISM)

POLYAK, ...; PAVLOVA, V.I.

Studies on the balance and metabolism of amino nitrogen in Actinomyces spheroides during the process of growth and development. Antibiotiki 10 no.5:405-409 My '65.

(MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

SEVERIN, V. N.

"Prevention of Operation Shock," Voyenno-Med. Zhur., No. 11, p. 73, 1955.

SEVERIN, V.N.

Multiple bullet wounds of the abdominal region. Khirurgiia, no.11:85 N '55. (MIRA 9:6)

1. Iz khirurgicheskogo otdeleniya N-skogo gospitalya.
(ABDOMEN--WOUNDS AND INJURIES)

SEVERIN, V.N., gvardii podpolkovnik med. sluzhby; PRILEPSKIY, G.P., polkovnik med. sluzhby

Treatment of perforated ulcers of the stomach and duodenum in remote areas. Voen.-med. zhur no.5:31-34 My '57 (MIRA 12:7)
(PEPTIC ULCER, perforation,
ther. in field cond. (Rus))

SEVERIN, V.N.

Postoperative fistula of the pancreas. Khirurgiia 33 no.11:113-114 N '57. (MIRA 11:2)

(PANCREAS, fistula
postop., ther. (Rus))

SEVERIN, V.M.

Large open wound of the abdominal organs with multiple complications. Khirurgiia 35 no.3:123 Mr '59. (MIRA 12:8)
(ABDOMEN, wds. & inj.
large open wd. of abdom. organs, surg. (Rus))

SEVERIN, V.N.

Thrombophlebitis after herniotomy. Khirurgii 36 no.4:105-107 Ap '60. (MIRA 13:12)
(HERNIA) (VEINS—DISEASES)

KOCHETKOV, N.K.; DOMBROVSKIY, Yamush; BAZHENOVA, A.V.; SEVERIN, Ye.S.; NESMEYANOV, A.N.

β-aminovinyl ketones. Part 4. Synthesis of ketones of the pyridine series. Izv.AN SSSR Otd.khim.nauk no.2:172-176 F '56. (MLRA 9:7)

1.Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Ketones) (Pyridine)

AUTHORS: Kochetkov, N. K., Ambrush, Ivan, Ambrush, T. I., Severin, Ye. S. SOV/79-28-11-27/55

TITLE: Synthesis of Aliphatic β-Chloro-Vinyl Ketones From Oxy-Methyl Ketones (Sintez alifaticheskikh β-khlorvinil-ketonov iz oksimetilenketonov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11, pp 3024 - 3027 (USSR)

ABSTRACT: The most convenient synthesis of the accessible and reactive β-chloro-vinyl ketones is offered by the direct condensation of the chloric anhydrides with acetylene or vinyl chloride (Refs 1-5). Another one is given by the treatment of the corresponding oxy-ethylene ketones with phosporohalogen ketones or thionyl chloride (Refs 6,7). The latter was employed for the synthesis of aryl-β-chloro-vinyl ketones (Ref 8) but not for the most simple alkyl-β-chloro-vinyl ketones, as these can be obtained more easily by the first mentioned method. In the case of a failure of the first method the second may be of

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Synthesis of Aliphatic β-Chloro-Vinyl Ketones From Oxy-Methyl Ketones

SOV/79-28-11-27/55

importance. Two examples of the synthesis of the aliphatic β-chloro-vinyl ketones from oxy-methylene ketones were given, which can in all cases be used for the aliphatic series as well. The reaction of the oxy-methylene pinacoline with thionyl chloride in benzene solution was investigated in detail. It was found that the substitution of the enol hydroxyl of the oxy-methylene ketone by chlorine takes place sufficiently easily. In this case the yield of alkyl-β-chloro-vinyl ketones amounted to 70-80%, which must also hold for other alkyl-β-chloro-vinyl ketones. The earlier inaccessible α-alkyl-β-chloro-vinyl ketones can also be obtained according to this method. There are 15 references, 9 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

Card 2/3

AUTHORS: Khomutov, R. M., Karpeyskiy, M. Ya., SOV/79-29-2-60/71
Severin, Ye. S., Budovskiy, E. I., Kochetkov, N. K.

TITLE: Cycloserine and Related Compounds (Tsikloserin i rodstvennyye soyedineniya). VI. Synthesis of Cycloserine Analogues With a Substituted Amino Group (VI. Sintez analogov tsikloserina s zameshchennoy aminogruppoy)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 642-650 (USSR)

ABSTRACT: To investigate the relation between structure and chemotherapeutical activity in the lately discovered 4-aminoisoxazolidone-3-derivatives, the authors applied their earlier worked out method (Refs 1,2) to the synthesis of cycloserine analogues with a substituted amino group. In the course of this work, F. Šorm and collaborators (Ref 3) published a different synthesis of two representatives of this series. The synthesis of the above-mentioned analogues of cycloserine took place according to scheme 1. Other ways to form compounds (II) meet with difficulties. α-chloro-β-isopropylidene aminoxy propionic acid (I), one of the intermediate products in the synthesis of cycloserine (Ref 2) served as initial product. On the reaction of compound (I) with various amines in aqueous and alcohol

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solutions no alanine derivatives (II) were found in the reaction mixture, contrarily to the case in which inert solvents are used and also in case the reaction takes place without solvent with an excess of amine. The amination of (I) was carried out with methyl amine, β-phenyl ethyl amine, benzyl amine, piperidine and morpholine, which were all taken in excess to the initial chloric acid. The result in the crystalline state was α-methyl amino, α-benzyl amino, α-phenyl ethyl amino, α-piperidyl-β-isopropylidene amino oxy-propionic acid, with the specified radical values, in yields of 25-70 %. No pure crystalline product was obtained with morpholine. The next stage was the transition of (II) to the dichloro hydrates of esters (III), which was carried out with a mixture of hydrochloric acid and alcohol, with subsequent esterification. They were partly obtained in the crystalline and partly in the non-crystalline state. For the synthesis of other analogues of cycloserine (IV) the oily dichloro hydrates were used, which were not obtained in crystalline state. It was shown that the substitution in the amino group of cycloserine completely stops its chemotherapeutical activity. The above-described

Cycloserine and Related Compounds. VI. Synthesis of Cycloserine Analogues With a Substituted Amino Group

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cyclization of the N-substituted substances of β-chloro alanine hydroxamic acids into the derivatives of 4-aminoisooxazolidone-3 is preferable to the other schemes suggested by the other authors. There are 3 references, 2 of which are Soviet.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

SUBMITTED: December 17, 1957

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5 (3)

AUTHORS: Khomutov, R. M., Karpeyskiy, M. Ya., Budovskiy, E. I., Severin, Ye. S., Kochetkov, N. K. SOV/79-29-4-62/77

TITLE: Cycloserine and Related Compounds (Tsikloserin i rodstvennyye soyedineniya). VII Synthesis of 5-Methyl-4-Aminoisoxazolidone-3 (Cyclotreonine) [VII. Sintez 5-metil-4-aminoizoksazolidona-3 (tsiklotreonina)]

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1328 - 1333 (USSR)

ABSTRACT: In the present paper the synthesis of the 5-methyl-4-aminoisoxazolidone-3 (cyclotreonine) is described. The reason for this choice was the authors' desire to use the method earlier worked out by them (Refs 1,2) for the synthesis of the 5-substituted homologues of cycloserine, and since the latter is genetically related to the vital amino acid-treonine. This fact permits the assumption that cyclotreonine is as well biologically active. When this investigation was finished a report was published (Refs 4,5) on the synthesis of cyclotreonine from treonine over the corresponding hydroxamic acid. The synthesis of cyclotreonine (VI) carried out by the authors is illustrated by scheme 1. The

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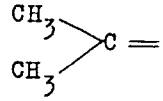
initial product (I) was obtained by the chlorination of methyl crotonate in methanol at 10-15° (70-80% yield), contrary to the complicated prescriptions in the publications. The condensation of (I) with the sodium derivative of acetoxime (Ref 2) led to the ester (II) which was saponified into the acid (III). Compound (III) yielded the amino acid (IV) (50%) with excess liquid ammonia at 45-50° within 8-10 hours. The hydrogenation reaction



was used for the determination of their structure, since it proceeds without contact with the asymmetrical β-carbon atom (Scheme 2). This way is a new method for the determination of the structure of the α-amino-β-isopropylidenaminooxy acids. The result of the reaction was the separation (87%) and the identification of the d,l-allotreonine which points out that (IV) belongs to the erythro series. The next stage was the transition of the amino acid (IV) to the compound (V) (50-60%). The last stage consisted in the cyclization of the dichloro hydrate (V) into the cyclotreonine (VI) by a caustic potash solution in

methanol solution (80-85%). Since the structure is not changed by the cyclization the formula cis-4, 1-5-methyl-4-aminoisoxazolidone-3 can be ascribed to the cyclotreonine. The structure is also confirmed by the data of the infrared spectrum. Its similarity was determined by means of the paper chromatography. Cyclotreonine has a distinctly marked antitubercular activity. There are 1 figure and 5 references, 3 of which are Soviet.

SUBMITTED: February 10, 1958

SEVERIN, Ye.S.—

17(4) SOV/20-126-5-62/69
AUTHORS: Kochetkov, N. K., Khomutov, R. M., Karpeyskiy, M. Ya., Budovskiy, E. I., Severin, Ye. S.

TITLE: The Mechanism of the Antibiotic Effect of Cycloserine (O methanisme antibioticheskogo deystviya tsikloserina)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1132-1134 (USSR)

ABSTRACT: The cycloserine was paid attention to since its discovery (1955, Ref 1) on the one hand as high effective antituberculous agent, on the other hand as an interesting and suitable object to study the dependence of the biological effect on the structure. In the Institute mentioned in the Association for some years a multiple-purpose study of the cycloserine (d-4-aminoisoxazolidone-3) and related compounds has been carried out. Methods of production of several compounds of this series were elaborated, and cycloserine itself was synthesized. It is not only of interest because of its relative simple structure but also because of its unusual complex of properties by which it differs from other known antibiotics. In spite of many papers the theme mentioned in the title was not dealt with (Ref 4).

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[illegible] the first considerations it may be supposed that the essential part of the antimicrobic activity of the cycloserine is its influence on the nitrogen metabolism of the micro-organisms. The paper is dedicated to the discussion of the probable nature of this influence in connection with the hypothesis of the biochemical effect of cycloserine proposed by the authors. Cycloserine reacts easily with aromatic aldehydes (data of this reaction are published (Schiff's bases). They transform quickly into isoserin, stable compounds under all conditions. The aromatic derivatives have a weak antimicrobial effect. Cycloserine analogues with substituted amino group and such without amino group are completely inactive. The racemate of the antibiotic is not inferior to the natural d-isomer in relation to activity but it even surpasses the latter sometimes in this regard. This cannot be explained till now. (The said activity of the single substances was investigated under the direction of Prof. A. N. Chernukha by E. A. Bregel', I. N. Balyn', V. P. Zuyeva, G. A. Ivanova, N. A. Kalinina, G. Ya. Kivman, V. S. Mitrofanov, E. G. Rukhadze, V. N. Solov'yev, E. M. Smol'nikova, and E. V. Chumachenko in

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[illegible] the authors suppose that the suppression of the AIA-biosynthesis is one of the most important manifestations of the antibiotic activity of cycloserine (Ref 5). If this is right then the cycloserine must influence the transamination reaction suppressingly. Actually experiments made by Ya. B. Vybornov and K. I. Ivanova on the request of the authors have shown that cycloserine completely inhibits the enzymatic transamination in the system pyruvic acid - glutamic acid in concentrations corresponding to the bacteriostatic one (5-10 γ/ml). The original action of the inhibition mechanism is the formation of the azomethine derivative by means of enzyme coformants catalyzing the transamination with the pyridoxal phosphate. The resulting Schiff's base must become a compound which cannot decompose again. Possible ways of such a stabilization are indicated. By the said original action the synthesis of the aspartic and glutamic acid and of the glycine is suppressed. The disturbance of the biosynthesis of the specific nucleoproteids caused thereby is for example lethal for Microbacterium tuberculosis at which they are the main part of its proteins (Ref 9). The data given here are in line with the existing data concerning the activity of the analogues of this anti-

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biotic (Refs 7,10). The estimation does not enclose all the cycloserine action but only part of it. The salts being formed easily by cycloserine and its azomethine derivatives with heavy metals can be toxic for the micro organisms or they can withdraw trace elements (Fe, Cu, Zn, Mg) out of the sphere of the micro-organisms. There are 10 references, 4 of which are Soviet.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

PRESENTED: March 12, 1959, by A. N. Bakh, Academician

BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.; KOCHETKOV, N.K.

Some substituted 2-aryl-5-aryliden -$\Delta^{1,5}$-imidazolin-4-ones. Zhur. ob.khim. 30 no.8:2569-2573 Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Imidazolinone)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.

Stereochemistry of azlactones. Zhur.ob.khim. 30 no.8:2573-2578 Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Azlactones)

SEVERIN, Y. E. S., KAPREYSKIY, M. YA., KHOMYTOV, R. N., BOGDASHOVA, L. S. (USSR)

"Synthesis of β-(N-Pyrazolyl)-Alanine."

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

SEVERIN, YE. S., TORCHINSKIY, YU. M., KHOMUTOV, R. M., GNUCHEV, N. V., KARPEYSKIY, M. YA., and POLYANOVSKIY, O. L. (USSR)

"The Mechanism of the Inhibition of Pyridoxal Enzymes by Cyloserine and Related Hydorxylamine Derivatives."

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

SEVERIN, YE. S., GOTTLIKH, B. P., BREUSOV, YU. N., KARPEYSKIY, M. YA., KHOMUTOV, R. M. (USSR)

"Synthesis of Certain Biologically Active Hydroxylamine Derivatives."

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

KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.

Relationship between biological action and chemical properties.
Biokhimiia 26 no.5:772-781 S-O '61. (MIRA 14:12)

1. Institute of Radiation and Physico-Chemical Biology, Academy of Sciences of the U.S.S.R., Moscow.
(CYCLOSERINE) (BIOLOGICAL PRODUCTS)

SEVERIN, S.Ye.; DIKANOVA, A.A.

Amino acid composition of protein-free filtrates of smooth muscles in vertebrate and invertebrate animals. Biokhimiia 25 no.6:1012-1017 N-D '60. (MIRA 14:5)

1. Chair of Animal Biochemistry the State University, Moscow.
(MUSCLE) (AMINO ACIDS)

KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.; GNUCHEV, N.V.

Mechanism of the interaction of cycloserine with pyridoxal and pyridoxal enzymes. Dokl. AN SSSR 140 no.2:492-495 S '61. (MIRA 14:9)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Predstavleno akademikom V.A.Engel'gardtom.
(Isoxazolidinone) (Pyridoxal)

KARPEYSKIY, M.Ya.; KHOMUTOV, R.M.; SEVERIN, Ye.S.

New synthesis of canaline. Zhur.ob.khim. 32 no.4:1357-1358 Ap '62. (MIRA 15:4)

(Canaline)

(3)

SEVERIN, E.S., KHOMUTOV, R.M. KARPEISKIY, M.YA. AND BREUSSOV, YU.N.

"The mode of interaction of some cyclic derivatioves of hydroxylamine with pyridoxal and palp-enzymes.

Paper presented at the Symposium on Biological and Chemical aspects of pyridoxal catalysis . Rome, Italy 21-31 Oct 1962

KHOMUTOV, R.M.; KAPPEYSKIY, M.Ya.; BREGER, M.A.; SEVERIN, Ye.S.

On some analogues of cycloserine with antitubercular effect.
Vop. med. khim. 8 no.4:389-391 Jl-Ag '62.
(MIRA 17:11)

1. Laboratoriya khimicheskikh osnov biologicheskogo kataliza Instituta radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR i otdela khimioterapii Instituta farmakologii i khimioterapii AMN SSSR, Moskva.

KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.

Synthesis of tetrahydro-1,2-oxazin-3-one. Izv.AN SSSR.Otd.khim.-nauk no.6:1074-1076 '62. (MIRA 15:8)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.

(Oxazinone)

KHOMUTOV, R. M.; KARPEYSKIY, M. Ya.; SEVERIN, Ye. S.

Derivatives of hydroxylamine. Report No. 4: Synthesis of cyclocanaline (homocycloserine) and related compounds. Izv. AN SSSR Otd. khim. nauk no.12:2161-2166 D '62.
(MIRA 16:1)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.

(Isoxazolidinone)

KHOMUTOV, R. M.; KARPEYSKIY, M. Ya.; SEVERIN, Ye. S.

"Rational design of amino acid antimetabolites for specific inhibition of enzymes."

report submitted for 6th Intl Biochemistry Cong, New York City, 26 Jul-1 Aug 1964.

KHOMUTOV, R. M.; KARPEYSKIY, M. Ya.; SEVERIN, Ye. S.

Derivatives of hydroxylamine. Report No. 6: Synthesis and some reactions of B-aminohydroxyalanine. Izv AN SSSR Ser Khim no. 4: 680-685 Ap '64. (MIRA 17:5)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.

KHOMUTOV, R.M.; SKVORTSOV, Ye.[illegible], KARPEYSKIY, M.Ya.

Hydroxylamine derivatives. Report No. 7: Synthesis of 4-substituted 3-isoxazolidones. Izv. AN SSSR. Ser.khim. no. 5:869-873 My '64. (MIRA 17:6)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.

KHOMUTOV, R.M.; SEVERIN, Ye.S.; KOVALEVA, G.K.

Controlled synthesis of inhibitors of enzymatic glutamic acid transformations. Dokl. AN SSSR 161 no.5:1227-1230 Ap '65. (MIRA 18:5)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Submitted June 17, 1964.

PAV[illegible], V.V.; [illegible], V.V.; SPIRIN, Ye.B.; KOVALEVA, G.K.; KHOMUTOV, R.M.

Formation of C^{14}-alanyl-RNA in the presence of cycloserine and its analogs. Biokhimiia 30 no.5:1015-1020 S-O '65. (MIRA 18:10)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR, Moskva.

V

COJNTRY : USSR
CATEGORY : Pharmacology and Toxicology. Narcotics and Hypnotics
ABS. JOUR. : RZhBiol., No. 1 1959, No. 4395

AUTHOR : Dunayeva, V. F.; Ivanenko, Ye. F.; Severina, A.I.
INST. : Kharkov Pharmaceutical Institute
TITLE : Effect of Narcosis on the Shift of Sulfhydryl Groups in the Cerebral Tissue of White Mice

ORIG. PUB. : Tr. Khar'kovsk. farmatsevt. in-ta, 1957, vyp. 1, 304-306

ABSTRACT : During sleep induced in mice by ether, barbamyl /amytal sodium/, medinal and urethane, the quantity of SH-groups in the cerebrum somewhat increases in different degrees under the influence of various preparations. This increase occurs proportionally to the duration of sleep and the concentration of narcotic drugs. The content of SH-groups changes unevenly during various periods of narcosis: during the period of excitation it rises only insignificantly, during sleep it in-

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SEVERINA, A.P.

3

Influence of acids and alkalies on absorption spectra of pyridine dyes. N. E. Grigor'eva, I. K. Gintse, and A. P. Severina (State Univ., Kharkov). *Zhur. Obshchei Khim.* 26, 3088–104(1956); cf. *C.A.* 50, 13778i.—Absorption spectra of several pyridine-base dyes were examd. in 96% EtOH, and in EtOH with varying amts. of HCl, CO_2, or AcOH; some spectra were examd. also in aq. solns. with varying amts. of NaOH. The pyridine dyes in aq. EtOH undergo hydrolysis which is more intense in cases of comp[lex]s. with lower basicity of the cation; any acid added to the so[lu]n. shifts the equil. in the direction of the dye salt, while alk[ali] shifts the equil. in the direction of the base if the dye contains electron-donor groups; with electron-acceptor gr[oup]s the addn. of alkali yields deeply-colored anionic dy[es]. The anilino-base pyridine dyes are decolorized in conc[entrated] H_2SO_4 owing to salt formation, these reverting to the orig[inal] dyes on dilu[tion]. The following abs. max. were noted in Et[OH] and EtOH with excess HCl, resp., for the following dyes of type $RNH(CH)_5NHRCl$ (R shown): Ph, 485 mμ; 485 mμ; *p*-[Me]MeC$_6$H$_4$, 495, 495; *p*-MeOC$_6$H$_4$, 500, 500; *p*-HOC[$_6$H$_4$], 505, 505; *p*-Me$_2$NC$_6$H$_4$, 500, 550; 1-C$_{10}$H$_7$, 410, 480, 2-C$_{10}$H$_7$, 422, 510; *p*-EtO$_2$CC$_6$H$_4$, 505, 505; *p*-HO$_2$CC$_6$H$_4$, 500, 500; *o*-O$_2$NC[$_6$H$_4$], H[$_4$], —, 500; *p*-O$_2$NC$_6$H$_4$, 410, 527. The various spectra are reproduced. Treatment of Na enolate of glutaconaldehyde (prepd. from excess NaOH and pyridine-SO_3) with *p*-$O_2NC_6H_4NH_2$ in EtOH, in the presence of a little HCl gave *N*-(*p*-*nitrophenyl*)-5-(*p*-*nitrophenylimino*)-1,3-*pentadienylamine*-*HCl*, violet, m. 142–4°, which retains EtOH.

G. L. K.

GEGESI KISS, Pal, dr., akademikus; HORANYI, Bela, dr.; BARTHA, Lajos, dr.; HORVATH, Laszlo Gabor, dr.; P.LIEBERMANN, Lucy; PERCZEL, Jozsef, dr.; LENARD, Ferenc, dr.; CSIRSZKA, Janos, dr.; SEVERINI, Erzsebet, dr.; KARDOS, Lajos, dr.

The 1962 work of the Committee on Psychology, Hungarian Academy of Sciences. Magy pszichol szemle 20 no.3:337-386 '63.

1. Magyar Tudomanyos Akademia Pszichologiai Bizottsaga elnoke; "Magyar Pszichologiai Szemle" foszerkesztoje (for Gegesi Kiss).
2. "Magyar Pszichologiai Szemle" szerkeszto bizottsagi tagja (for Horanyi, Bartha, Horvath, P.Liebermann, Lenard and Kardos).

GORKIN, V.Z.; SEVERINA, I.S.; POLETAYEV, A.I.

Effect of dimethylhydrazine and tetramethyltetrazene on the activity of mitochondrial monoamine oxidase. Zhur.VKHO 9 no.1:115-116 '64. (MIRA 17:3)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.

SEVERINA, I.S.

424. Influence of starving, loss of blood, and partial hepatectomy on intensity of serum albumin formation in live chick liver slices. [illegible] 1955 1 357 '64. *Referat Zh* [illegible] 1956 [illegible] 4 days. The synthesis [illegible] serum albumin I in liver slices began to be depressed after 24 hr and stopped completely after 48 hr. Addition to the suspension medium of a mixture of all amino acids separately or together with glucose noticeably raised the rate of production of I 24 hr after the start of starvation this reached approx the level of synthesis in normal chicks in the following days of starvation a less marked effect was observed. Loss of blood (3–5 ml. once or twice), amounting on the average to 4–9 g. per 100 g. of body wt., showed no noticeable effect. After partial removal of the liver (approx. 40% of its total wt.), the slices of the remaining regenerating liver tissue showed after 24 hr. a considerable depression of the synthesis of I, and even a disappearance of pre-existing I; after 2—5 days the production of I increased sharply, and much exceeded the level in the same chicks before operation. The amount of I in the plasma was somewhat lowered by partial hepatectomy. (Russian)

B. IVANOV

SEVERINA, I. S.

Severina, I. S. - "Investigation of the Formation of Serum Albumin in the Surviving Liver Tissue of Chicks under Normal Conditions and under Certain Influences Changing the Conditions of Protein Metabolism." Acad Med Sci USSR. Inst of Biological and Medical Chemistry. Moscow, 1956 (Dissertation for the Degree of Candidate in Biological Sciences).

So: Knizhnaya Letopis', No. 10, 1956, pp 116-127

EXCERPTA MEDICA Sec.2 Vol.10/10 Phy.Biochem. Oct 57

SEVERINA I. S.

4298. BRAUNSTEIN A. E., SEVERINA I.S. and BABSKAYA Yu. E. Lab. of Nitrogen Metab., Inst. of Biol. and Med. Chem., Acad. of Med. Scis of USSR, Moscow. *Inhibition of the ornithine cycle of urea formation by α-methyl-DL-aspartic acid (Russian text) BIOKHIMIJA 1956, 21/6 (738-745) Tables 7

Me-AS α-methyl-DL aspartic acid (0.03 M) causes 6-100% inhibition of the overall synthesis of urea from NH_3 in liver slices and of urea formation from citrulline (CTR) and AS in liver homogenate; α-methyl-DL-glutamate and α-methylalanine are not inhibitory. Me-AS fails to inhibit the following intermediate steps of the ornithine cycle: formation of CTR from NH_3, CO_2 and ornithine (with washed residue of liver homogenate), cleavage of argininosuccinate, and hydrolysis of arginine by liver arginase. Moreover, me-AS does not interfere with transamination reactions, respiration of liver cells or respiratory phosphorylation. The experimental data show, in accordance with the earlier suggestion, that me-AS interferes with the synthesis of argininosuccinate by Ratner's 'condensing enzyme', acting as a structural analogue of L-AS. The inhibition of the second phase of urea synthesis by me-AS is non-competitive with respect to the concentration of AS, CTR or respiratory substrate (α-ketoglutarate). Preincubation of the homogenate with me-AS enhances the degree of inhibition.

SEVERINA, I.S.

Role of glutamine in the formation of urea. Biokhimiia 25 no.5: 847-854 S-O '60. (MIRA 14:1)

1. Laboratory of Nitrogenous Metabolism, Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.

(UREA) (GLUTAMINE)

SEVERINA, I.S.

Synthesis of urea from omega-amino acids and citrulline in rat liver homogenate. Biokhimiia 26 no.5:943-951 S-O '61. (MIRA 14:12)

1. Laboratory of Nitrogenoys Metabolis, Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.

(CITRULLINE) (UREA) (AMINO ACIDS)

GORKIN, V.Z.; GRIDNEVA, L.I.; ROMANOVA, L.A.; SEVERINA, I.S.

Determination of the activity of mitochondrial monoamino oxidase by spectrophotometry. Biokhimiia 27 no.6:1004-1014 N-D '62. (MIRA 17:5)

1. Laboratoriya biokhimii aminov i drugikh azotistykh osnovaniy Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

BRUSOVA, L.V.; GORKIN, V.Z.; ZHELYAZKOV, D.K.; KITROSSKIY, N.A.; LEONT'YEVA, G.A.; SEVERINA, I.S.

New spectrophotometric method for determining monoamine oxidase activity in liver homogenates. Vop. med. khim. 10 no.1:83-89 Ja-F '64. (MIRA 17:12)

1. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.

SEVERINA, I.S.; GORKIN, V.Z.

Selective inhibition of the monoamine oxidase activity in mitochondria of the rat liver by various oxyquinolines. Biokhimiia 29 no.6:1093-1102 N-D '64. (MIRA 18:12)

1. Laboratoriya biokhimii aminov i drugikh azotistykh osnovaniy Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva. Submitted April 11, 1964.

KORABEVICH, Vatslav [Korabiewicz, Waclaw]; SEVERINA, N.Ya. [translator]; KHODOSH, I.A., otv. red.; MAKSIMOVA, T.G., red.

[With the peoples of East Africa; safari mingi. Abridged translation from the Polish] U narodov Vostochnoi Afriki; safari mingi. Moskva, Nauka, 1965. 152 p. (MIRA 18:11)

5(3) SOV/79-29-6-42/72

AUTHORS: Korobitsyna, I. K., Severina, T. A., Yur'yev, Yu. K.

TITLE: Synthesis of the 4-Oxymethylene-2,2,5,5-tetraalkyl Furanidones-3 (Sintez 4-oksimetilen-2,2,5,5-tetraalkilfuranidonov-3)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1960 - 1964 (USSR)

ABSTRACT: In continuation of a previous paper (Ref 1) the authors describe the synthesis of the β-ketoaldehyde of the 4-formyl-2,2,5,5-tetraalkyl furanidones-3. They found that the 2,2,5,5-tetraalkyl furanidones-3 enter the condensation with ethyl formate according to the Claisen reaction. Ir carrying out the reaction in absolute ether with finely ground sodium 4-oxymethylene-2,2,5,5-tetraalkyl furanidones-3 are formed (yield 56-66%).

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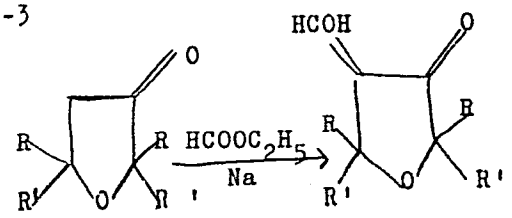
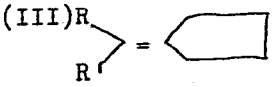
Synthesis of the 4-Oxymethylene-2,2,5,5-tetraalkyl Furanidones-3

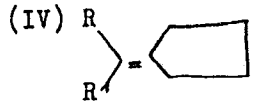
SOV/79-29-6-42/72



(I) $R=R'=CH_3$

(II) $R=CH_3$, $R'=C_2H_5$

(III) 

(IV) 

These furanidones are crystalline products very unstable in air. They must be stored in dark glasses if possible in unpurified state. They take a cherry-red color with $FeCl_3$ and form green copper salts with copper acetate. The absorption spectra of these copper salts in methanol show in the ultraviolet range the maxima characteristic of the copper salts of the β-dicarbonyl compounds. The percent content of the enol form was determined according to K. Meyer (Ref 2) (Table). The data in the table show that the β-ketoaldehydes of the 2,2,5,5-tetraalkyl furanidine series as well as of the alicyclic series (Refs 3,4) are a mixture of the formyl and oxymethylene form which is in equi-

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librium. In this case the latter considerably predominates. The data on the table also show that with the increase of the radicals in the positions 2 and 5 of the furanidine cycle the enolization of the formyl group increases in position 4. In the action of the benzoyl chloride on the pyridine solutions of the compounds (I), (III), (IV) the corresponding O-benzoates (VII),(V) and (IX) were obtained. In the case of the action of the sodium compounds of the same oxymethylene ketones the compounds (VI), (VIII) and (X) were obtained (Scheme 2). There are 1 table and 4 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: May 9, 1958

KUCHEROV, V.F.; IVANOVA, L.N.; SEVERINA, T.A.

Synthesis of some monoketones of the cis-hydrindan series.
Izv. AN SSSR. Otd.khim.nauk no.7:1348-1350 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Indanone)

KUCHEROV, V.F.; SEVERINA, T.A.; IVANOVA, L.N.; KOGAN, G.A.; RUDENKO, B.A.

Synthesis and the character of enolization of some β-diketones of the perhydroindan series. Izv.AN SSSR.Ser.khim. no.8:1428-1438 Ag '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Ketones) (Indan) (Enols)

IVANOVA, L.N.; SEVERINA, T.A.; KUCHEROV, V.F.

Some chemical transformations of methyl ether of cis-18-nor-$\Delta^{9(11)}$ estra-15,17-dione. Izv. AN SSSR. Ser. khim. no.5: 843-845 '65. (MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

IVANOVA, L.N.; SEVERINA, T.A.; KOGAN, G.A.; KUCHEROV, V.F.

Some reaction of β-diketones of the perhydroindan series. Izv.AN SSSR.Ser.khim. no.8:1438-1445 Ag '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Ketones) (Indan)

SEVERINA, V.A., GRACHEVA, I.V., GORSKAYA, S.V.

Amino nitrogen balance and metabolism in Actinomyces streptomycini during growth and development [with summary in English]. Vop.med. khim.4 no.6:455-463 N-D '58 (MIRA 12:1)

1. All-Union Research Institute of Antibiotics, Moscow.
(ACTINOMYCES, metab.
amino nitrogen in Actinomyces streptomycini (Rus))
(NITROGEN,metab.
same (Rus))

17(2,3)
AUTHORS: Severina, V. A., Gorskaya, S. V., Gracheva, I. V. SOV/20-126-5-54/69

TITLE: Effect of Amides on the Biosynthesis of Streptomycin (Vliyaniye amidov na biosintez streptomitsina)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1103 - 1106 (USSR)

ABSTRACT: It was previously proved that various amino acids such as glycine, α-alanine, valine, arginine, histidine, lysine, isoleucine and phenyl-alanine, stimulate the streptomycin formation both in the usual fermentation of the actinomycetes on a simple synthetic medium, and in severe experiments with cultivated mycelium. Various other amino acids do not show this effect, while others (cystine and tryptophane) suppress the formation of streptomycin. Most of the stimulating amino acids disappear from the nutrient medium after 40-48 hours. Ammonia is formed due to a desamination of the α-amino group; besides, arginine serves as an ammonia source on account of the arginase- and urease-activity of the actinomycetes. As is known, the streptomycin molecule, namely its streptobiosamine part, contains methyl-glucosamine. There are publication references on a role

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of the glutamine in the glucosamine synthesis by transamination (Refs 1-3), in which glutamine acts as a distributor of the amino group. Under these points of view, the streptomycin producer was struck with the idea investigating this process. . . Asparagine and the genus LS-1 were first used for this purpose. For the method of cultivation, see reference 4. A culture without amide served as control. Table 1 shows that the activity of the culture-liquid increased by 25-4o% as compared with the control. Further 13 severe, even more accurate, experiments have shown (Table 2) that the said increase may even attain 6o%. Thus, asparagine takes part in the streptomycin synthesis. Further experiments, with and without glucose, have shown (Table 3) that glucose raises considerably the yield of streptomycin; thus, according to an opinion uttered, asparagine has something to do with the formation of glucosamine. The control of the glucose consumption showed (Figs 1 a,b) that, in the presence of asparagine, the decrease of the glucose is higher than in the control. No spot of any amino acid could be ascertained chromatographically (Fig 2: 1-5). The disappearance of the amide strip speaks for a utilization of the nutrient by the fungus. A further task would be the testing of the effect of glutamine on the processes

in question. This could further clarify the mechanism of participation of the said amides in the building-up of the antibiotic molecule. There are 4 figures, 4 tables, and 4 references, 1 of which is Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute for Antiobiotics)

PRESENTED: March 19, 1959, by V. N. Shaposhnikov, Academician

SUBMITTED: March 10, 1959

SEVERINA, V.A.; GORSKAYA, S.V.; GRACHEVA, I.V.

Studies on the role of amino acids in streptomycin synthesis. Vop. med.khim. 5 no.6:448-457 N-D '59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.
(STREPTOMYCIN chem.)
(AMINO ACIDS chem.)

SEVERINA, V.A.; GORSKAYA, S.V.; GRACHEVA, I.V.

Role of amides in streptomycin biosynthesis. Dokl. AN SSSR 139 no.3:736-739 Jl '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Predstavleno akademikom A.I. Oparinym.
(STREPTOMYCIN) (ASPARAGINE) (GLUTAMINE)

SEVERINA, V.A.; GORSKAYA, S.V.; GRACHEVA, I.V.

Role of amides in the biosynthesis of streptomycin. Vop. med. khim. 7 no.4:425-433 Jl-Ag '61. (MIRA 15:3)

1. The All-Union Research Institute of Antibiotics, Moscow.
(STREPTOMYCIN) (AMIDES)

SEVERINA, V.A.; GORSKAYA, S.V.; GRACHEVA, I.V.

Effect of cycloserine on the biosynthesis of glucosamine and streptomycin. Dokl. AN SSSR 154 no.4:960 F '64.
(MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov. Predstavleno akademikom A.N. Belozerskim.

FONIN, V.S.; SEVERINA, V.A.

Some physiological properties of organisms producing novobiocin. Antibiotiki 9 no.4:375-379 Ap '64. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

FONIN, V.S.; SEVERINA, V.A.

Studies on the process of biosynthesis of novobiocin in synthetic media. Antibiotiki 9 no.9:801-806 S '64.
(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

SEVERINA, YE. F.

23235. Kratkiye rezul'tat ispytaniy shakhtnogo elektrooborudovaniya za 1948 God. /oborudovaniye, dopushchennoye dla. Primeneniya v kamennougol'nykh shakhtakh/. Sbornik statey (gos. makeyevsk. nauch. - issled. in-t Po bezopasnosti rabot v gornoy prom-sti), 1949, May. c. 1-9

SO: LETOPIS' 31, 1949

SUMIN, I.F.; SEVERINA, Ye.F.

Principles for constructing blastproof battery containers. Trudy MakNII 11.Vop.gor.elektromekh.no.3:86-103 '60.
(MIRA 16:5)

(Mine railroads—Batteries)

KOLMAKOV, S.; SEVERINENKO, G.

Construction organizations need ultrashort wave radio stations. Radio no.12:25 D '54. (MLRA 8:1)

1. Starshiy inzhener otdela svyazi upravleniya stroitel'stva "Ukrvodstroy" (for Kolmakov). 2. Starshiy mekhanik otdela svyazi upravleniya stroitel'stva "Ukrvodstroy" (for Severinenko)
(Radio, Short-wave--Stations)

L 41333-65 EWT(l)/EWA(j)/EWA(b)-2 RO
ACCESSION NR: AR4039967 S/0299/64/000/009/B025/B025 10 B

SOURCE: Ref. zh. Biol. Sv. t., Abs. 9B190

AUTHOR: Severinets, L. Ya.; Solov'yev, S. N.

TITLE: Xanthalycins A and B - new antibiotics 6

CITED SOURCE: Sb. Materialy* 3-y Nauchn. sessii Leningr. in-ta antibiotikov, 1963. L., 1963, 82

TOPIC TAGS: xanthalycin, antibiotic, polyene, pentane

TRANSLATION: Strain 1130/12 forms 2 antibiotics (named xanthalycin A and B) with antifungal activity. The new antibiotics belong to the pentane group of the polyene series which does not contain nitrogen in the molecule, but in physicochemical properties they differ from other pentanes (filipin, lagozin, pentamycin, and fungichromycin). Antibiotics A and B are similar to one another, but have a different coloring and the white one changes irreversibly into yellow under the effect of light. From a resume.

SUB CODE: LS ENCL: 00

Card 1/1 ce

BELEN'KIY, B.G.; SEVERINETS, L.Ya.

Microdetermination of calcium in organic substances by photometric titration with complexon III solution. Zhur.anal.khim. 18 no.8: 950-955 Ag '63. (MIRA 16:12)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

SOLOV'YEV, S.N.; SEVERINETS, L.Ya.

Isolation, properties and separation of individual components of the antibiotic 1130/12. Antibiotiki 10 no.1:9-13 Ja '65.
(MIRA 18:4)

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov.

SEVERINETS, L.Ya.

Classification and characteristics of pentaen antibiotics. Antibiotiki 10 no.6:496-502 Je '65. (MIRA 18:7)

1. Laboratoriya khimii (zav. S.N.Solov'yev) Leningradskogo nauchno-issledovatel'skogo instituta antibiotikov.

L 22946-66 EWT(1)/T JK

ACC NR: AP6014828 SOURCE CODE: UR/0297/65/010/001/0009/0013

AUTHOR: Solov'yev, S. N.; Severinets, L. Ya.

ORG: Leningrad Scientific Research Institute of Antibiotics (Leningradskiy nauchno-issledovatel'skiy institut antibiotikov)

TITLE: Isolation, properties, and separation into components of antibiotic 1130/12

SOURCE: Antibiotiki, v. 10, no. 1, 1965, 9-13

TOPIC TAGS: antibiotic, bacteria, solvent extraction, mouse/1130-12 antibiotic

ABSTRACT: The antibiotic 1130/12 was isolated from the mycelium of a strain of Actinomyces xantholicus, by extraction with ethanol. It is in the form of light-yellow amorphous powder, soluble in dimethylformamide, low alcohols, acetone, glacial acetic acid, glycol, and pyridine; it is insoluble in chloroform, ether, water, and petroleum ether. A qualitative analysis indicates the presence of a polyene grouping, and the absence of sugars, glucosamines, sulfur, and haloids. The steps required for the isolation of the antibiotic are as follows: a) oxidation of the cultural liquid diluted with HCl to a pH of 3.5-4.0; b) isolation of the mycelium; c) triple treatment of the mycelium with ethanol, 1:2 (weight/volume); d) neutralization of the extracts to a pH of 7.0; e) concentration under a vacuum; f) precipitation by water; g) separation and washing of the precipitate with water;

Card 1/2

UDC: 615.779.931-011/014

L 22946-66

ACC NR: AP6014828

7

h) lyophylization. The substance obtained has been found to be a highly complex antibiotic, with antibacterial and antifungus properties. Two preparations have been obtained from the substance: 1) a preparation isolated from the mycelium which could not be separated into components; 2) a preparation obtained from the mycelium consisting of inactive admixtures and an amorphous antibacterial component. The antibiotic has been found to be active against Staphylococcus aureus 209, other Staphylococci resistant to other antibiotics, and against Streptococci. It is thermostable, retaining its activity when heated to temperatures of up to 90 degrees to pH of 4.0-6.0. Its LD_{50} when intraperitoneally administered to white mice in acute experiments is 250 milligrams per kilogram body weight. The authors thank A. N. Yegorenkovaya and V. N. Shatik for biological control; A. A. Medvedkovaya and B. V. Sokolov for determining the wide antibiotic spectrum of active antibiotics; V. G. Ovcharov for determining the toxicity; and V. S. Nymyu and L. B. Sokolov for carrying-out the fermentation and isolation preparations. Orig. art. has: 3 figures and 1 table. [JPRS]

SUB CODE: 06 / SUBM DATE: 31Jul63 / ORIG REF: 002

Card 2/2

SZALAI, Sardor, dr., akademikus; HORVATH, Laszlo Gabor, dr.; FODOR, Mark, dr.; ILLYES, Gyulane; CSIRSZKA, Janos, dr.; SANDELHAUSEN, Miklos, dr.; RETI, Laszlo, dr.; SEVERINI, Erzsebet, dr.; PERCZEL, Jozsef, dr.

Discussion. Magy pszichol szemle 17 no.3:296-317 '60.

1. Magyar Tudomanyos Akademia Kozlekedestudomanyi Fobizottsaganak tagja (for Horvath).

MATRAI, Laszlo, dr., akademikus; GEGESI, Kiss, Pal. dr., akademikus; HORANYI, Bela, dr., az orvostudomanyok doktora; SALAMON, Jeno, dr., a pszichologiai tudomanyok kandidatusa; HORVATH, Laszlo Gabor, dr., a pszichologiai tudomanyok doktora; LENARD, Ferenc, dr., a pszichologiai tudomanyok kandidatusa; SEVERINI, Erzsebet

The 1963 work of the Committee on Psychology of the Hungarian Academy of Sciences. Magy pszichol szemle 21 no.3:329-354 '64.

1. Editor-in-Chief, "Magyar Pszichologiai Szemle", Budapest (for Gegesi Kiss). 2. Editorial Board Member, "Magyar Pszichologiai Szemle" (for Matrai, Horanyi, Salamon, Horvath and Lenard).

KAL'SADA, I.N.; SEVERINOV, I.G.

Seasonal changes in the content of ascorbic acid in potatoes of Crimean Province. Vop. pit. 21 no.6:78-79 N-D '62. (MIRA 17:5)

1. Iz kafedry gigiyeny (zav. - dotsent V.L. Ovsyannikov) Krymskogo meditsinskogo instituta, Simferopol'.

KAL'SADA, I.N.; SEVERINOV, I.S.

Chemical structure and content of ascorbic acid in vegetables from the Crimea. Vop. pit. 23 no.2:84-85 Mr-Ap '64. (MIRA 17:10)

1. Kafedra gigiyeny (zav. - dotsent V.A. Ovsyannikov) Krymskogo meditsinskogo instituta, Simferopol'.

SEVERINOV, K., Geroy Sotsialisticheskogo Truda, Brigadir rabochikh

The Party gav us the wings. Sov.shakht. 10 no.10:7-8 O '61.
(MIRA 14:12)

1. Ochistnyy zaboy shakhty No.5-6 imeni Dimitrova, Stalinskaya oblast'.
(Communist Youth League)
(Coal miners)

SEVERINOV, Kuz'ma, brigadir, Geroy Sotsialisticheskogo Truda

Support the cause of peace with work. Sov. shakht. 11 no.9: 30-32 S '62. (MIRA 15:9)

1. Donetskaya shakhta No.5-6 imeni Dimitrova.
(Disarmament--Congresses) (Coal mines and mining)

SEVERINOV, Kuz'ma, brigadir, Geroy Sotsialisticheskogo Truda

This is the matter of your honor, worker! Sov. profsoiuzy 18 no.20:4-5 O '62. (MIRA 15:10)
(Donets Basin--Coal miners)

ACCESSION NR: AP3014918 S/0207/63/000/005/0035/0040

AUTHORS: Arkhipov, V. N. (Moscow); Severinov, L. I. (Moscow)

TITLE: Rotational relaxation in a plane-parallel rarefaction wave

SOURCE: Zhurnal prikl. mekhaniki i tekhn. fiziki, no. 5, 1963, 35-40

TOPIC TAGS: rarefaction wave, rotational relaxation, plane parallel rarefaction wave, rarefaction wave rotational relaxation, supersonic flow, supersonic flow deflection

ABSTRACT: The effect of relaxation time in a rarefaction wave on the flow properties of an inviscid, compressible, non-heat conducting fluid has been analyzed. The relaxation equations are written in polar coordinates r, φ, and the corresponding differential equations for the two families of characteristics are derived, which, for the condition $\varphi = \varphi_0$ are written as

$$V = V_*, \quad \beta = S = 0, \quad p = \rho = T = \theta = a_f = 1$$

$$\beta(r, \varphi^*) = \varphi^*$$

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ACCESSION NR: AP3014918

where φ^* - angle of incidence less than zero. In the limit $r \to 0$ these equations are transformed to ordinary differential equations describing a supersonic Prandtl-Meyer type flow and are solved iteratively for values in the vicinity of $r = 0$. Numerical solutions are obtained for $\gamma = 5/3$, $V_0 = 2$, and $\varphi^* = -20$ and the flow field described in the domain $\varphi^* \leq \varphi \leq \varphi_0$, $r > 0$. "The author is grateful to V. A. Ipatov." Orig. art. has: 31 equations and 5 figures.

ASSOCIATION: none

SUBMITTED: 17Jan63 DATE ACQ: 27Nov63 ENCL: 00

SUB CODE: PH NO REF SOV: 001 OTHER: 004

Card 2/2

L 58940-65 EWT(l)/EWP(m)/EPR/FCS(k)/EWA(l) Ps-4 WW
ACCESSION NR: AP5014764 UR/0208/65/005/003/0566/0571
517.9:533.7

AUTHOR: Severinov, L. I. (Moscow)

TITLE: Use of "artificial viscosity" in numerical solution of the inverse gas dynamics problem

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 5, no. 3, 1965, 566-571

TOPIC TAGS: differential equation, approximation calculation, gas dynamics

ABSTRACT: By introducing higher derivatives of the desired function, multiplied by small coefficients, into the differential equations of gas dynamics, the author attempts to regularize the inverse gas dynamics problem. The computations justify a faith in this technique as useful for numerical solution of analogous problems. This technique permits continuous computation through shock waves. He studies supersonic flow around a blunt body of rotation under zero angle of attack, where the shock wave is taken so as to obtain a form close to spherical. In examples of computations done in this paper, the author considered a system of chemical reactions coinciding with the system of R. E. Duff and N. Davidson (Calculation of reacting

Card 1/3

profiles behind steady shock waves; II. The dissociation of air. J. Chem. Phys., 1959, 31, No. 4, 1018-1027). He also studied nonequilibrious perturbation of oscillating degrees of freedom of molecules of nitrogen and oxygen. Experimental data on the characteristic times of perturbation of oscillating degrees of freedom were presented for computations in analytic form by N. S. Korzhikov. Computations were made for an unperturbed medium which was a mixture of argon and molecular oxygen and nitrogen; the molar fractions were equal to 0.0097, 0.2095, and 0.7808 respectively. The system of gas dynamics equations (equations of motion, including mass and energy) is written in the form

$$\frac{\rho u}{H_x}\frac{\partial u}{\partial x}+\rho v\frac{\partial u}{\partial y}-\frac{\rho uv}{(1+x^2)H_x}=-\frac{1}{H_x}\frac{\partial p}{\partial x}+\frac{\varepsilon_1}{H_x^2}\frac{\partial^2 u}{\partial x^2}-\frac{\varepsilon_2}{(1+x^2)H_x^2}\frac{\partial v}{\partial x}+$$
$$+\frac{\varepsilon_1}{rH_x}\left[\frac{\partial u}{\partial x}-\left(\frac{\partial u}{\partial x}\right)_0\right]\left(\frac{1}{\sqrt{1+x^2}}-\frac{2rxy}{(1+x^2)^{1/2}H_x^2}\right),$$
$$\frac{\rho u}{H_x}\frac{\partial v}{\partial x}+\rho v\frac{\partial v}{\partial y}+\frac{\rho u^2}{(1+x^2)H_x}=-\frac{\partial p}{\partial y}+\frac{\varepsilon_2}{H_x^2}\frac{\partial^2 v}{\partial x^2}+ \quad (1)$$
$$+\frac{\varepsilon_1}{(1+x^2)H_x^2}\left[\frac{\partial u}{\partial x}-\left(\frac{\partial u}{\partial x}\right)_0\right]+\frac{\varepsilon_2}{rH_x}\frac{\partial v}{\partial x}\left(\frac{1}{\sqrt{1+x^2}}-\frac{2rxy}{(1+x^2)^{1/2}H_x^2}\right),$$

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$$v\frac{\partial\rho}{\partial y}+\rho\frac{\partial v}{\partial y}+\frac{u}{H_x}\frac{\partial\rho}{\partial x}+\frac{\rho}{H_x}\frac{\partial u}{\partial x}+\frac{\rho u}{r\sqrt{1+x^2}}-\rho v\left(\frac{1}{(1+x^2)H_x}+\frac{x}{r\sqrt{1+x^2}}\right)=0,$$

$$-\frac{u}{H_x}\frac{\partial h}{\partial x}+v\frac{\partial h}{\partial y}-\frac{u}{\rho H_x}\frac{\partial p}{\partial x}-\frac{v}{\rho}\frac{\partial p}{\partial y}=\frac{c_1}{\rho H_x^2}\frac{\partial u}{\partial x}\left[\frac{\partial u}{\partial x}-\left(\frac{\partial u}{\partial x}\right)_0\right]+$$

$$+\frac{c_1}{\rho H_x^2}\frac{\partial v}{\partial x}\left(\frac{\partial v}{\partial x}+\frac{u}{1+x^2}\right).$$

Here h is specific enthalpy, ρ is density, $r = r_1/R_0$. To this system is adjoined the equation of state and equations describing relaxation processes. "The author thanks V. N. Arkhipov, L. A. Bader, and N. S. Korzhikov for their discussions and help with the work." Orig. art. has: 8 figures and 3 formulas.

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Card 3/3

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