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26.2253
26.2310
24.6710

35959
S/207/62/000/002/001/015
D237/D302

AUTHOR: Sarychev, V. M. (Novosibirsk)

TITLE: Transformation of kinetic energy of a stationary plasma flow into electrical energy with isothermal retardation of the flow by a transverse magnetic field

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1962, 3-6

TEXT: The author considers an isothermal, one-dimensional flow of a non-viscous compressible fluid of finite conductivity in the plane channel of an arbitrary rectangular cross-section in a transverse magnetic field. The walls parallel to this magnetic field, serve as sectional electrodes separated by the insulators which allow potential difference variable w.r. to the length of the channel. Current flow in the plasma is perpendicular to the plasma flow and to the magnetic field, and the magnetic field induced by the current in the plasma is neglected. Equations of motion are written, optimal retardation conditions are deduced and the problem

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solved. Consideration of retardation of plasma in a channel of constant divergence leads to the conclusion that the isothermal retardation of plasma in the channels of constant cross-section and in the converging ones, is incompressible. Finally, the problem is solved for the retardation of plasma in a homogeneous magnetic field, when the potential difference on the wall-electrodes in the direction along the channel is constant. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: J. L. Neuringer, Optimum power generation from a moving plasma. Fluid Mech., 1960, vol. 7, p. 2; R. J. Rosa, Physical principles of magnetohydrodynamic power generation. Phys. Fluids, 1961, vol. 4, n. 2.

SUBMITTED: August 14, 1961

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

L 13807-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6002353 SOURCE CODE: UR/0207/65/000/006/0018/0025

61
60
B

AUTHOR: Sarychev, V. M. (Moscow)

ORG: none

TITLE: Unidimensional flows of thermally nonequilibrium plasma with a variable degree of ionization in the absence of currents

21,44,55

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1965, 18-25

TOPIC TAGS: heated plasma, plasma flow, plasma research, ionization, ionized plasma

ABSTRACT: The author examines unidimensional flows of nonviscous thermally nonequilibrium plasma with a variable degree of ionization in the absence of currents. The criterion of applicability for their description of ordinary gasdynamic equations is given. The expression for the velocity of sound in such a plasma is found. Under certain conditions the expression changes to the Newton formula for isothermal sound. The condition which is fulfilled in the critical section of the channel is found. The author establishes that weakly ionized plasma occurs at a constant electron temperature. The possible types of flow in a cylindrical channel are investigated in detail. The applicability criterion of the model of thermalequilibrium plasma and the relations which permit calculation of the flow of such a plasma in a channel of variable section are given. The flow of plasma in the absence of currents in it differs from the flow of an unionized gas. This difference is associated with the ionization and recombination processes occurring in the plasma. Electrons usually play the major role in these

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processes, therefore the average energies (temperatures) of the electrons and heavy particles (atoms and ions) can differ. If the frequency of inelastic collisions in plasma is small in comparison with the frequency of elastic collisions, the difference of temperatures of the electron and heavy components of the plasma can be appreciable. The author examines the simplest cases of unidimensional flows of plasma with consideration of the processes of ionization and recombination in the absence of thermal equilibrium between its components. The author thanks M. N. Kogan for a discussion of this work. Orig. art. has: 2 figures and 32 formulas

SUB CODE: 20 / SUBM DATE: 01Feb65 / ORIG REF: 002 / OTH REF: 001

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Card 2/2

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEV, V. N.

Selection of a more efficient method of sampling ores. Razved. i okh. nedr 28 no.6:15-17 Je '62. (MIRA 15:10)

1. Degtyarskiy rudnik.

(Ores—Sampling and estimation)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

BORODULIN, V.A., inzh.; SARYCHEV, V.P.; CHERNYKH, N.P.

Practices in the operation of jigs with an artificial bed of weighted rubber. Ugol' 35 no.8:59-60 Ag '60. (MIRA 13:9)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Borodulin, Chernykh). 2. Obogatitel'naya fabrika "Tomusinskaya 1-2" (for Sarychev).
(Coal preparation plants--Equipment and supplies)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEV, V. S., Cand Tech Sci -- (diss) "Research into technico-economical indicators of contemporary wooden structures of coverings." Moscow, 1960. 23 pp; with flowsheet; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor Red Banner Construction Engineering Inst im Kuybyshev, Chair of Wooden Structures); 200 copies; price not given; (KL, 17-60, 159)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEV, V.S.

Conference on ways to increase the efficiency of using wood in construction. Izv. ASiA no.2:115-116 '61. (MIRA 15:1)

1. Uchenyy sekretar' Komissii po derevyannym konstruktsiyam Soveta po koordinatsii Akademii stroitel'stva i arkhitektury SSSR.

(Wood—Congresses)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

GORODINSKIY, Semen Mikhaylovich, dots.; SARYCHEV, Viktor Sergeyevich, inzh.; ZELENOV, Aleksey Semenovich, inzh.; EYDINOV, Yu.S., inzh., red.

[High-frequency welding of polyvinyl chloride plasticized resin in the laying of floors] Vysokochastotnaia svarka polivinilkhloridnogo plastikata pri ustroistve polov. Moskva, Gosstroiizdat, 1963. 20 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Zaveduyushchiy otdelom Instituta biofiziki Ministerstva zdravookhraneniya SSSR (for Gorodinskiy). 3. Institut biofiziki Ministerstva zdravookhraneniya SSSR (for Sarychev, Zelenov).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ACCESSION NR: AT4016993 S/3057/63/000/000/0045/0053

AUTHOR: Sary*chev, V.S.; Zelenov, A.S.

TITLE: Development of fastening methods and high-frequency welding equipment for formula 57-40 masticated rubber shielding of structural elements

SOURCE: Zashchitny*ye pokry*tiya v atomnoy tekhnike (Shielding in nuclear engineering); sbornik statey. Moscow, Gosatomizdat, 1963, 45-53

TOPIC TAGS: masticated rubber, 57-40 rubber, rubber shielding, nuclear shielding, high frequency welding equipment, rubber welding

ABSTRACT: Various techniques and equipment are discussed that may be used when working with formula 57-40 masticated rubber (a thermoplastic material with a rather high dielectric loss factor) in the shielding of floors and walls. The requirements of a fully airtight and reliable covering are discussed and the sequence of operations in installing the protective shielding is explained. The relative merits of the high-frequency method of welding the material, as opposed to a welding technique in which a stream of hot air is employed, are analyzed. The authors describe a rig and method, of their own design, for high-frequency butt welding of polyvinylchloride sheet masticated

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ACCESSION NR: AT4016993

rubber, using a modified type LGD-1 HF voltage generator (the modifications are discussed). The entire rig, which is used for the welding of 2 to 3-mm thick sections of formula 57-40 masticated rubber, consists of an LGD-1 unit with partially modified electrical circuitry, a portable SPPR welding unit and a feeder line which carries the high-frequency voltage. Characteristic performance specifications for this rig are given (length of simultaneously welded shielding section - 350 mm; welding time for one section - 35 - 40 sec; lap welding speed of 2-mm thick rubber (set-up time included) - 8-10 lin. met. weld/hour; weld strength in % of basic material strength - 95-100%; weight of manual SPPR welding unit - 8 kg.) The authors describe a system and rig for the lap welding of 2-mm roll masticated rubber with considerably increased productivity due to the elimination of the need for cutting off the ends of the sheets. The rig weighs 800 g and has a welding speed of 8-10 seconds for a 200-mm length. The article devotes particular attention to the problem of preparing and fastening flanges (that is, the part of the shielding on the floor where it approaches the wall, either continuously or at a right angle), since this is critical for a hermetically-sealed strong covering, it being precisely at the point where the edge of the shielding meets the wall that the seal may be easily broken. Various methods for preparing and fastening these end-sections are analyzed and the requirements of each are discussed. Orig. art. has: 6 figures.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

VAYNSHTEYN, B.S., kand. ekon. nauk; LEYKINA, K.B.; MINTS, M.G.; LUCHINSKIY, S.M.; KIYEVSKIY, V.G., kand. ekon. nauk; VINER, [redacted]; GUREVICH, M.S.; ZIKEYEV, B.V., kand. tekhn. nauk; [redacted]; SARYCHEV, V.S., kand. tekhn. nauk; APARIN, I.L.; KRINITSKAYA, M.Ye.; DZIKOVSKIY, G.I.; ZEL'TSER, R.Ya.; GOL'DENBERG, I.L.; ISAKOVSKIY, I.G.; D[redacted]OVA, S.N., [redacted]

[Economic efficiency of capital investments and the introduction of new equipment in construction] Ekonomicheskaia effektivnost' kapital'nykh vlozhenii i vnedreniia novoi tekhniki v stroitel'stve. Moskva, Stroiizdat, 1965. 235 p. (MIRA 18:8)

1. Moscow. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva. 2. Rukovoditel' sektora ekonomicheskoy effektivnosti novoy tekhniki Nauchno-issledovatel'skogo instituta ekonomiki stroitel'stva, Moskva (for Kiyevskiy). 3. Sektor ekonomicheskoy effektivnosti novoy tekhniki Nauchno-issledovatel'skogo instituta ekonomiki stroitel'stva, Moskva (for all except Demidova). 4. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva, Moskva (for Demidova).

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEV, Vladimir Sergeyevich, kand. tekhn. nauk; LAZAREVICH, S.K., red.

[Practices in the technical and economic evaluation of three-dimensional planning and building design solutions for industrial buildings] Opyt tekhniko-ekonomicheskoi otsenki ob"emno-planirovochnykh i konstruktivnykh proektnykh reshenii promyshlennykh zdanii. Leningrad, 1965. 27 p. (MIRA 18:4)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

S/065/63/000/004/003/004
A057/A126

AUTHORS: Zelenetskaya, I.S., Sarychev, Ye.I.

TITLE: Effect of the concentration of the ПМС-200А (PMS-200A) antifoam admixture to М12В (M12V) oil on the operation of the lubrication system in the 2Д100 (2D100) diesel

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no. 4, 1963, 62 - 63

TEXT: Considerable foaming of the M12V lubrication oil with 8% ВНИИ НП-360 (VNII NP-360) admixture was observed during the operation of the 2D100 diesel engine. The new project of technical standards specifies for the M12V oil a 0.005% content of the antifoam admixture PMS-200A. In the present investigation there is determined the optimum concentration of this admixture and its effect on the operation of the 2D100 diesel under test stand conditions. The admixture was diluted in the lubricant heated to 60°C and added into the gear box of the running engine. First was added 0.0015%, then 0.003%, and finally 0.005% of antifoaming admixture. It was controlled: the oil consumed by the engine, by the upper piston, by the lower piston, the pressure of the oil at the exit of the

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oil pump and at the entrance into the engine, at the beginning of the lower oil collector and the end of the upper oil collector. The values obtained demonstrate that the 0.0015% admixture effects a considerable increase of discharge of the oil pump and rise in pressure in the whole oil system, as well as an increase of the oil quantity consumed for cooling the pistons. The increase to 0.003% admixture effected a further increase of the mentioned parameters, but in a much smaller amount. Even le was the effect of the next rise to 0.005% in admixture added. Hence, the addition of 0.003% of the antifoaming admixture PMS-200A to the oil M12V is sufficient to secure the normal work of the lubrication system of the 2D100 diesel engine. There is 1 figure.

ASSOCIATION: TsNII MPS

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

EVENTOV, Ya.S.; MOVSHOVICH, E.B.; SARYCHEVA, A.I.

Cenomanian deposits of the Astrakhan region. Dokl. AN SSSR 135 no.5: 1211-1214 D '60. (MIRA 13:12)

1. Predstavleno akademikom A.L.Yanishnym.
(Astrakhan region—Geology, Stratigraphic)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

GRIKIL', P.A.; SARYCHEVA, A.P.; SITNIKOVA, O.A.

Effect of variable temperature seed treatment on corn development and ripening. Fiziol.rast. 2 no.5:447-453 S-O '55. (MLRA 9:2)

1.Kafedra botaniki Moskovskogo oblastnogo pedagogicheskogo instituta.
(Corn (Maize)) (Plants, Effect of temperature on)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, A.P.

Morphological, anatomical, and physiological characteristics of sunflowers hardened against droughts before seeding. Uch. zap. MOPI 79:73-80 '60. (MIRA 14:9)
(Mowcow Province--Sunflowers)
(Plants, Effect of aridity on)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, A.S.

Measures of the health station for lowering the morbidity rate among workers in a machinery plant. Sov.zdrav. 15 no.5 supplement:11 O '56. (MLRA 10:1)

1. Zamestitel' zaveduyushchego Belgorodskim oblzdravotdelom.
(VITAL STATISTICS
morbidity rate among workers of mechanical factory, control in Russia)
(INDUSTRIAL HYGIENE
same)

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L 60848-65 EWT(m)/EWP(w)/EPF(c)/EWP(i)/EWA(d)/T/EWP(t)/EWP(z)/
EWP(b) MJW/JD/WB

ACCESSION NR: AR5011410 UR/0081/65/000/006/K006/K006 72
620.194:669.715 41

SOURCE: Ref zh Khimiya, Abs. 6K37

AUTHOR: Vedenkin, S.G.; Sarycheva, G.S.; Komissarova, V.S.; Chicherina, Ye.A.

TITLE: Corrosion fatigue resistance of aluminum alloys

CITED SOURCE: Sb. Korrozion. ustalost' metallov. L'vov, Kamenyar, 1964, 194-202

TOPIC TAGS: aluminum base alloy, corrosion fatigue, fatigue strength, corrosion fatigue resistance, corrosion resistance, notch sensitivity, bending stress

TRANSLATION: Results are given of a determination of the fatigue strength of various Al-alloys with continuous and periodic immersion of the sample in 0.001% and % NaCl solutions. In the % solution the fatigue strength of the investi-

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creases by 75%. The relative notch sensitivity of the investigated alloys (round notch, R = 0.75 mm, n = 10^7 in the ratio σ_{-1}/σ_{1n}) in tests in 3% NaCl solution [illegible] (direct flexure test) From

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I. K.

SARYCHEVA, I. K. - "Conversion of Isoalkanes Having the Composition C_7-C_8 in the Liquid Phase Under the Influence of Aluminum Chloride." Sub 29 Feb 52, Moscow Order of Lenin State U imeni M. V. Lomonosov. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

Sarycheva, I.K.

7000

New synthesis of iroges. I. K. Sarycheva, G. A. Vorob'eva, A. S. Vasilenko, G. G. Vinokurova, S. A. Elkina, and N. A. Preobrazhenskii. *J. Gen. Chem. U.S.S.R.* 25, 1729-33(1955)(Engl. translation).—See *C.A.* 50, 7090d.

B. M. R.

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New synthesis of [illegible]

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

Synthesis of farnesol and farnesal. I. K. Sarychevn, N. G. Morozova, V. A. Abramovich, S. A. Breitburt, L. F. Sergienko, and N. A. Preobrazhenskii. *J. Gen. Chem. U.S.S.R.* 25, 1049-53(1955)(Engl. translation).—See *C.A.* 50, 8144i. B. M. R.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, L. K.

Synthesis of farnesol and farnesal. I. K. Sarycheva, N. G. Morozova, V. A. Abramovich, S. A. Breitburt, L. F. Sergienko, and N. A. Preobrazhenskii (Inst. Fine Chem. Technol., Moscow). *Zhur. Obshchei Khim.* 25, 2001-6 (1955); cf. Kerschbaum, *C.A.* 7, 2753; Ruzicka, *C.A.* 17, 2419.—To MeMgI from 47.42 g. Mg in Et_2O there was added at 0° 88 g. $AcCH_2CH_2CH_2OH$ in Et_2O and after 8 hrs. at room temp. the mixt. was decompd. with ice-20% AcOH, yielding 51.4% $Me_2C(OH)(CH_2)_2OH$, b_{14} 126-7°, d_{20} 0.9645, n_D^{20} 1.4492. This (21.2 g.) in dry C_6H_6 was treated with ice cooling with 40.6 g. PBr_3 in 40 ml. C_6H_6 and the mixt. kept 3 hrs. on a steam bath and treated with ice, yielding 56.1% *di-Br analog*, b_{40} 94-5°, d_{20} 1.5400, n_D^{20} 1.4888, which darkens in air. This (23.8 g.) and 7.8 g. pyridine heated 2 hrs. at 60-70° in partial vacuum (150 mm.), and the mixt. cooled and filtered gave on distn. 76.4% $Me_2C:CHCH_2CH_2Br$, b_{100} 96°, d_{20} 1.2172, n_D^{20} 1.4720. This (8 g.) in Et_2O was added to 1.2 g. Mg and the Grignard reagent was treated at 0° with 3.43 g. $AcCH:CH_2$ in Et_2O over 0.5 hr.; after 2 hrs. at room temp. the mixt. was treated with ice-20% AcOH and extd. with Et_2O, yielding 29.3% *linalool*, b_{20} 128-30°, d_{20} 0.8724, n_D^{20} 1.4625. This (100 g.) in 30 ml. MePh brought to reflux and treated 2 hrs.

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Syn. of farnesol and farnesal

with dry HCl yielded 87.5% *geranyl chloride*, b_{17} 105–10°, d_{20} 0.9315, n_D^{20} 1.4799. EtONa from 11.73 g. Na and 200 ml. EtOH was treated with 66.37 g. $AcCH_2CO_2Et$, followed after 1 hr. by 88.08 g. geranyl chloride, at 24–30 drops per min., after which the mixt. was refluxed until it became neutral to litmus; treatment with 150 ml. H_2O and refluxing with 42.9 g. $Ba(OH)_2$ 8 hrs. gave a ppt. of the Ba salt of geranylacetoacetic ester, which was treated with 20% HCl and extd. with Et_2O to yield 79.6% *α,β-dihydropseudoionone*, b_{16} 136–8°, d_{20} 0.8812, n_D^{20} 1.4690. This (38.86 g.) mixed with 24.4 g. $ClCH_2CO_2Et$ in C_6H_6 was added to 4.86 g. Mg in refluxing C_6H_6; after refluxing 1 hr. and cooling, the mixt. treated with 10% HCl gave *crude Et β-hydroxyhydrofarnesolate*(I), b_{12} 163–70°, which had undergone dehydration. I (6.7 g.) in C_6H_6 was treated dropwise with 2.5 g. $POCl_3$ in 16 ml. pyridine and the mixt. refluxed 45 min., cooled, and quenched in H_2O; the org. layer was washed with $NaHCO_3$ and distd., yielding 4.5 g. *Et farnesolate*, $C_{17}H_{28}O_2$, b_{10} 162–4°, d_{20} 0.9230, n_D^{20} 1.4792. This (2.6 g.) in Et_2O was added to 0.38 g. $LiAlH_4$ in Et_2O at −50° and stirred 1 hr. at −30°, yielding after treatment with H_2O 84% *farnesol*, b_2 142–3°, d_{20} 0.9016, n_D^{20} 1.4887, which treated with AcCl in pyridine-C_6H_6 with ice cooling 8 hrs. gave 70.1% *acetate*, b_2 105–7°, d_{20} 0.9247, n_D^{20} 1.4770. Shaking 1.33 g. farnesol with 100 ml. petr. ether and 10 g. activated MnO_2 4 hrs. gave 62.1% *farnesal*, b_2 105–6°, d_{20} 0.8999, n_D^{20} 1.4871; *semicarbazone*, m. 136–7°.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I.K.; VOROB'YEVA, G.A.; PREOBRAZHENSKIY, N.A.

New method of synthesizing the esters of polyenocarbonic acids. Part 7. Zhur.ob.khim. 27 no.10:2653-2662 O '57. (MIRA 11:4)

1.Institut tonkoy khimicheskoy tekhnologii.
(Carbonic acid) (Esters) (Unsaturated compounds)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I.K.; VOROB'YEVA, G.A.; PREOBRAZHENSKIY, N.A.

Synthesis of 2,3,6-trimethylundecatrien-2,6,8- one-10 (pseudoirone). Part 2. Zhur.ob.khim. 27 no.10:2662-2667 O '57. (MIRA 11:4)

1.Institut tonkoy khimicheskoy tekhnologii.
(Pseudoirone)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I. K.

79-11-17/56

AUTHORS: Sarycheva, I. K., Vorobyeva, G. A., Kucheryavenko, L. G., Preobrazhenskiy, N. A.

TITLE: Synthesis of 2,3,6-Trimethyloctadiene-2,7-ols-6-3-Methyl Linalool (Sintez 2,3,6-trimetiloktadiyen-2,7-ola-6-3-metillinaloola)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11, pp.2994-2999 (USSR)

ABSTRACT: In the described methods of synthesis of the irones 1-bromo-2,3-dimethylbutene-2 and 2,3-dimethylheptene-2-on-6, which are over 3-methyllinalool and 3-methylcitral converted to pseudoirones, regularly occur as intermediate products. The replacement of 2,3-dimethylheptene-2-on-6 by 2-methyl-3-methyleneheptanone-6 caused no essential changes in the schemes recommended earlier and only decided the question concerning new sources of raw material. Therefore it was of interest to work out, on the basis of the accessible compounds, a new way for the structural grouping $CH_3-\overset{CH_3}{C}=\overset{CH_3}{C}-CH_2$ which represents a starting-point of quite a number of intermediate products in the irone synthesis. The present paper describes the synthesis of 3-methyllinalool, starting from the methyl acetoacetic ester: This ester is converted to 3-methylpentanone-4-ol-1, this is again transformed to 2,3-dimethylpentadiol-2,5 which is con-

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79-11-17/56

Synthesis of 2,3,6-Trimethyloctadiene-2,7-ols-6-3-Methyl Linalool

verted to 2-5-dibromo-2,3-dimethylpentane and further to 5-bromo-2,3-dimethylpentene-2. By condensation with methylvinylketone in the presence of lithium the final product was converted to 3-methyllinalool with a 14,1 % yield (see scheme 1). Thus the synthesis of 3-methyllinalool was realized over quite a number of intermediate products. New methods of the synthesis of 1-bromo-2,3--dimethylbutene-2 and 2,3-dimethylheptene-2-on-6 were worked out. There are 1 figure, and 6 references, 1 of which is Slavic.

ASSOCIATION: Moscow Institute of Fine Chemical Technology (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

SUBMITTED: October 8, 1956

AVAILABLE: Library of Congress

1. Irone synthesis 2. 2,3,6-Trimethyloctadiene-2,7-ols-6-3-Methyl linalool-Synthesis

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AUTHORS: Sarycheva, I. K., Vorobyeva, G. A., Kuznetsova, N. A., Preobrazhenskiy, N. A.

79-28 3-18/61

TITLE: A New Synthesis of the 2,6,10,14-Tetramethylhexadecene--15-ols-14 of Isophytene (Novyy sintez 2,6,10,14-tetrametilgeksadetsen-15-ola-14, izofitola)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 647-651 (USSR)

ABSTRACT: The method of synthesis of the vitamins E (tokoferolov) and Vitamine K_1 (α-fillokhinona) which have been published until now are based on the utilization of the 2,6,10,14-tetramethylhexadecene-14-ols-16, called phytene, which is only produced of chlorophyll, one kilogram from one ton of chlorophyll (Ref 1) (see the respective reaction process). The known semisyntheses (Ref 2) are based on the utilization of natural terpene- and sesquiterpene alcohols of the aliphatic series and until now have not found considerable application. According to the investigations of vitamins E and K_1 as well as of other natural products it was found that the compound isomeric to phytene, namely 2,6,10,14-

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A New Synthesis of the 2,6,10,14-Tetramethylhexadecene-15-ols-14 of Isophytene 79-28-3-18/61

tetramethylhexadecene-15-ol-14, the isophytene (formula VII) fully substitutes phytene. (Ref 3). (See reaction process 2 with formula VII !). In the present work a new complete synthesis of isophytene (VII) is realized (see formulae I,II,III,IV,V, and VI); as basic material 2,6-dimethylundecadiene-2,6-on-10 and geranilacetone (II) is used which is produced of synthetic linalos (I), either by means of the diketene or the corresponding acetoacetate, or by a reaction using the acetoacetate without the separation of the acetoacetate (II). The 2,6-dimethylundekadiene-2,6-on-10 (II) converts to 2,6,10-trimethyldodekadiene-2,6-in-11-ol-10 by the action of sodiumacetylenide in liquid ammonia. The former is the dehydronerolodene (III) which then reacts with acetoacetate. In this case, different from the known syntheses of phytene and isophytene (VII), the necessary elongation of the carbon chain up to C_{18} is reached in one step. The 2,6,10-trimethylpentadekatetraene-2,6,10,12-on-14 (VI) synthetized this way is hydrated in the presence of a nickel catalyst and converts to the 2,6,10-trimethylpentadekanol-14. The

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A New Synthesis of the 2,6,10,14-Tetramethylhexadecene--15-ols-14 of Isophytene 79-28 3-18/61

latter is oxidized with a chromium mixture in acetic acid to 2,6,10-trimethylpentadekanone-14 (V). Furthermore the condensation (V) with sodiumacetylendien[illegible] realized; the obtained 2,6,10,14-tetramethylhexadecine-15-ol-14 (VI) finally converts to isophytene (VII) by "selective hydration" in the presence of the Lindlar catalyst (Ref 6). There are6 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute for Chemical Precision Technology)

SUBMITTED: March 14, 1957

Card 3/3

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

79-28-4-55/60

AUTHORS: Bazilevskaya, G. I., Gura, D. V., Baynova, M. S., Dyumayev, K. M., Sarycheva, I. K., Preobrazhenskiy, N. A.

TITLE: Synthesis of Tropane-3-α-ol, Tropine (Sintez tropan-3-α-ola, tropina)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 4, pp.1097-1105 (USSR)

ABSTRACT: The representatives of the tropane group (cocaine, atropine, tropine and also their natural and synthetic derivatives) play a considerable part among alkaloids. The presence of substituents in the pyrrolidine - piperidine grouping causes the possibility of different stereoisomeric forms of the tropane alkaloids. Thus, 4 configurations, and according to it 4 racemic isomers are known for cocaine. It was found that the compounds synthesized in 1956 allococaine, allo--pseudo-cocaine and the tropeines are derivatives of tropane--3-ole of tropine (formula I) while natural cocaine and pseudo-cocaine have the structure of pseudo-tropine (formula II) (Ref 1).

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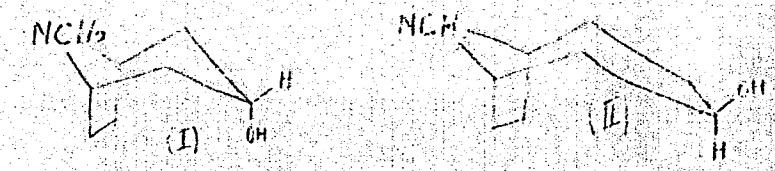
79-28-4-55/60

Synthesis of Tropane-3-ol. Tropine



These two tropane-3-oles can be represented by reduction of the corresponding ketone tropinone. For the production of one or the other isomer not only the selection of the hydration agent but also the conditions of the carrying out of the reaction play an important part. In the present work the sterically directed reduction of tropinone to tropine carried out by the authors is described. Synthesis of tropinone was made by 3 methods described in technical publications: 1) Karrer and Alagil (Ref 6); 2) Willstätter, Wolfes and Mäder (Ref 8); 3) Gal, Simoniy and Tokar (Ref 10). In order to improve these 3 methods some modifications were made. Succinic dialdehyde which is necessary as starting product for the synthesis of tropinone according to the last two methods was represented by the authors according to 4 different methods which are all given in detail. On

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79-28-4-55/60

Synthesis of Tropane-3-α-ol, Tropine

this occasion acetylene or ethyl acetal of the bromoacetoaldehyde or succinic diethyl ester or furane served as starting product. The method of representation based on succinic diethyl ester was elaborated anew by the authors. The authors investigated a series of methods in order to find conditions for a stereo directed reduction of tropinone to tropine: reduction with sodium amalgam as well as electrolytic and catalytic hydration under different conditions. Tropane-3-oles with different content of stereoisomers are formed according to reaction conditions, but only in the presence of a nickel catalyst at 60 atmospheres pressure and 20° they succeeded in obtaining tropine without a content of pseudo-tropine. The thus synthesized tropine proved identical with that isolated from natural alkaloid atropine.

All synthesis reactions mentioned are described in detail in an extensive experimental part. There are 29 references, 1 of which is Soviet.

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79-28-4-55/60

Synthesis of Tropane-3-α-ol, Tropine

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute for Fine Chemical Technology)

SUBMITTED: April 18, 1957

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

5(3)

AUTHORS: Sarycheva, I. K., Molotkovskiy, Yu. G., Vorobjeva, G. A., Preobrazhenskiy, N. A.

SOV/79-29-4-16/77

TITLE: Complete Synthesis of 2-Methyl-3-phytyl-naphthoquinone-1,4 Vitamin K_1 (Polnyy sintez 2-metil-3-fitilnaftokhinona-1,4-vitamina K_1)

PERIODICAL Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1123-1126 (USSR)

ABSTRACT: In the present paper the synthesis of vitamin K_1(I) is described which is based on the condensation of 2-methyl-naphtho-hydroquinone-1,4 (II) with isophytol (III) in the presence of the ether compound of trifluoborate (Scheme) (Ref 7). The initial product for (III) was the pseudo-ionone (IV) (Ref 8). The pseudo-ionone is hydrogenated in the autoclave in the presence of the nickel catalyst to give compound (V) which is directly oxidized with the chromium mixture to (VI) without any separation. Compound (VI) is transformed with sodium acetylenide into (VII) which is converted by acetoacetic ester first into (VIII) and then via (IX) into (X). The condensation of (X) takes

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Complete Synthesis of 2-Methyl-3-phytyl-naphthoquinone-1,4 SOV/79-29-4-16/77
Vitamin K_1

place with sodium acetylenide with (XI) being formed. (XI) is reduced in the presence of the palladium catalyst to give isophytol (III). It must be mentioned that the physico-chemical constants of isophytol which was synthesized from linaloöl (Ref 11) were somewhat different from the given sample, obviously owing to the predominance of various diastereoisomeric forms in them. The product of the reaction of isophytol (III) with 2-methyl-naphthohydroquinone-1,4 (II) is the 2-methyl-3-phytyl-naphthohydroquinone-1,4 (XII). This is oxidized to give the end product (I), the vitamin K_1. The vitamin K_1 synthesized by the authors corresponds with the natural one as far as its properties are concerned; this was confirmed by the spectroscopic investigation (Fig). There are 1 figure and 13 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology)

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5(3)

AUTHORS: Sarycheva, I. K., Shustorovich, Ye. M., Vorob'yeva, G. A., Preobrazhenskiy. N. A.

SOV/79-29-4-32/77

TITLE: Synthesis of the 7-Cyano-2,6-Dimethyl, and 2,3,6-Trimethyl-Heptadienes-2,6 of the Nitriles of the Geranic and 3-Methyl Geranic Acids (Sintez 7-tsiano-2,6-dimetil- i 2,3,6-trimetil-geptadiyenov-2,6, nitrilov geraniyevoy i 3-metilgeraniyevoy kislot)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1189-1192 (USSR)

ABSTRACT: In the terpene series the synthesis of the nitrogenous compounds is of importance since they (e. g. amines and nitriles) render possible the synthesis of geraniol, citral, geranic acid and numerous homologues (Ref 1). The present article contains a description of the synthesis of the nitriles of geranic acid (I,R=H) and 3-methyl geranic acid (I,R=CH_3) starting from 2 -methylheptene-2-on-6 (IV,R= H) and, accordingly, from 2,3-dimethylheptene-2-on-6 (IV,R=CH_3) (Pattern 1). Compound (IV,R=H) is synthesized as initial

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product from (II,R=H). This alcohol is transformed (Ref 2) into the bromide (III,R=H) which is condensed by acetic anhydride (Ref 3) in the presence of magnesium. In order to arrive at (I,R=H), (IV,R=H) is transformed with cyanoacetic acid. Compound (I,R=H) is also obtained by transformation of (IV) with ethyl cyanoacetate and subsequent selective saponification and decarboxylation of the compound (V, R=H) obtained. Similarly, the synthesis of the nitrile of the compound (I,R=CH_3) is carried out, namely by the transformation of (IV,R=CH_3) with the ethyl cyanoacetate. The structure of the initial product (I) was proved according to pattern 2. The divergency found between the physicochemical constants of the synthetic nitrile of geranic acid (I,R=H) and those of the nitrile prepared from natural citral (IX) (Ref 6) is explained by the differences in the relative stereoisomer contents (Ref 7) (last pattern). There are 7 references, 4 of which are Soviet.

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Synthesis of the 7-Cyano-2,6-Dimethyl, and 2,3,6-Trimethyl Heptadienes-2,6 of the Nitriles of the Geranic and 3-Methyl Geranic Acids SOV/79-29-4-32/77

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology)

SUBMITTED: March 31, 1958

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5 (3)

SOV/79-29-7-46/83

AUTHORS: Vorob'yeva, G. A., Sarycheva, I. K., Preobrazhenskiy, N. A.

TITLE: Synthesis of 2,6,10,14,18,22-Hexamethyltetracosahexaen-2,6,10,14,18,23-ol-22, the Farnesylnerolidol (Sintez 2,6,10,14,18,22-geksametiltetrakozageksayen-2,6,10,14,18,23-ola-22 farnezilnerolidola)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2314 - 2318 (USSR)

ABSTRACT: Farnesylfarnesol $C_{30}H_{50}O$, a component of the natural β-phylloquinone (vitamin K_2) (Ref 1), belongs to the group of isoprene polymers occurring in nature, such as rubber, gutta-percha, solanesol ($C_{50}H_{80}O$), and other polyterpenes. The physico-chemical and biological properties of these compounds are connected with their stereo-isomerism, caused by the presence of double bonds and methyl groups. The cis-trans isomerism complicates the synthesis of similar isoprenoid compounds, as conversions of the spatial configuration in the course of a reaction leading to mixtures of the isomers have frequently been observed.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

Synthesis of 2,6,10,14,18,22-Hexamethyltetracosa-hexaene-2,6,10,14,18,23-ol-22, the Farnesylnerolidol SOV/79-29-7-46/83

In the present paper the synthesis of farnesylnerolidol (I) by condensation of β,γ-unsaturated alcohols with acetoacetic ester (Ref 3) is described. Nerolidol (II) (Ref 4) is used as an initial substance. The stepwise building up of the isoprene links of farnesylnerolidol (I) was effected by the application of three similar methods, which included the synthesis of the ketones by means of acetoacetic ester or acetylacetone, condensation with acetylene, and selective hydrogenation (Scheme). Compound (II) interacted with acetoacetic ester to yield (III), (III) being converted to (IV) by condensation with sodium acetylide. Pd-catalyzed selective hydrogenation of (IV) gave (V). This alcohol (V) was then submitted to a similar reaction cycle. Thus, the compounds (VI), (VII), and (VIII) were obtained successively. Farnesylnerolidol was finally synthesized from (VIII) by way of the intermediates (IX) and (X). There are 5 references, 1 of which is Soviet.

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Synthesis of 2,6,10,14,18,22-Hexamethyltetracosa-hexaen-2,6,10,14,18,23-ol-22, the Farnesylnerolidol SOV/79-29-7-46/83

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova (Moscow Institute for Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: March 27, 1958

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APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

AUTHORS: Sarycheva, I. K., Myagkova, G. I., Preobrazhenskiy, N. A. SOV/79-29-7-47/83

TITLE: Synthesis of Octadeca-9,12-dienoic-1-acid (Sintez oktadekadiyen-9,12-ovoy-1 kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2318 - 2323 (USSR)

ABSTRACT: The authors succeeded in synthesizing the octadeca-9,12-dienoic-1-acid (I) by using undecyl-10-enic-1-acid and heptanal-1 (enanthole), the half products of various chemical industrial processes (Ref 6) (Scheme). The initial undecylenic acid was brominated to form acid (II), which gave acid (III, R=H) by the elimination of HBr. The corresponding methyl ester (III, R=CH_3) on treatment with phenylmagnesium bromide yielded compound (IV), which was dehydrated to give (V). Subsequent destructive oxidation of (V) gave the acid (VI, R=H). The methyl ester (VI, R=CH_3) was used as an intermediate in the synthesis of linoleic acid (I). For the synthesis of the second structural element in this synthesis, namely compound (X), enanthole was used. The latter was transformed into 1,1-dichloroheptane (VII) and then into

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heptyne-1 (VIII). The organomagnesium compound of (VIII) was caused to react with formaldehyde and the resulting compound (IX) was treated with phosphorus tribromide. By condensation of the magnesium derivative of the methyl ester of 9-decynoic-1-acid (VI) with (X) in the presence of copper (I) chloride substance (XI) was obtained. Selective hydrogenation of the methyl ester of (XI) and subsequent saponification (XII) yielded linoleic acid (I). The structure of (I) was verified by its physicochemical constants and spectroscopic data (Figs 1,2). There are 2 figures, 1 table, and 7 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov)

SUBMITTED: June 16, 1958

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78309
SOV/79-30-3-63/69

AUTHORS: Sarycheva, I. K., Vargaftik, M. N., Utkina, O. V., Preobrazhenskiy, N. A.

TITLE: Investigations of Lipides. IV. Study of Unsaturated Glycerides Using Paper Chromatography

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 1048-1050 (USSR)

ABSTRACT: Identification and separation of synthetic glycerides was studied using paper chromatography. A previously described procedure (H. Schlenk and others, J. Am. Oil Chem. Soc., 34, 377, 1957) was used. For the monoglycerides of oleic (A), linoleic (B), and linolenic (C) acids, the following R_f were obtained: 0.70, 0.81, and 0.91. The R_f values obtained for the investigated triglycerides are given in Table 1 below.

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Table 1. R_f values for triglycerides.

Key: (a) Triglyceride; (b) Number of double bonds; (L) linoleic acid; (S) stearic acid; (O) oleic acid; (Ln) linolenic acid.

a	b	R_f
LSL (I)	4	0.10
SLL (II)	4	0.12
LOO (III)	4	0.16
SLnO (IV)	4	0.20
LOL (V)	5	0.24
LLL (VI)	6	0.26
SLnLn (VII)	6	0.32
LnSLn (VIII)	6	0.40
LLnL (IX)	7	0.47
LnLL (X)	7	0.49
LLnLn (XI)	8	0.53
LnLnLn (XII)	9	0.68

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Investigations of Lipides. IV

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It was shown that the investigated mono- and triglycerides can be separated and identified by the above method. There are 3 figures; 1 table; and 6 references, 2 U.S., 1 U.K., 1 Swiss, 2 Soviet. The U.S. and U.K. references are: D. Chapman, A. C. Davies, J. Chem. Soc., 1502 (1957); J. W. Dieckert, R. Reiser, J. Am. Oil. Soc., 33, 123 (1956); H. Schlenk, I. L. Gellerman, J. A. Tillotson, H. K. Mangold, J. Am. Oil. Chem. Soc., 34, 377 (1957).

ASSOCIATION: Moscow Institute of Fine Chemicals Technology (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

SUBMITTED: January 6, 1959

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I.K.; SHATENSHTEYN, G.A.; PLESHAKOV, M.G.; PREOBRAZHENSKIY, N.A.

Synthesis of 3-methyl-1,16-hexadecanedioic acid. Zhur.ob.khim. 30 no.8:2539-2542 Ag '60. (MIRA 13:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Hexadecanedioic acid)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

VASIL'YEV, A.Ye.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Synthesis of 1,1-ethylenedioxy-5-hexyne. Zhur.ob.khim. 30 no.8:2542-2543 Ag '60. (MIRA 13:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Hexyne)

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S/079/60/030/009/019/022/XX
B001/B066

AUTHORS: Pleshakov, M. G., Sarychëva, I. K., and Preobrazhenskiy, N. A.

TITLE: Synthetic Investigations in the Field of Polyacetylene Fatty Acids

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 9, pp. 2983 - 2985

TEXT: The synthesis of arachidonic acid (Refs. 1,2) and other higher polyacetylene acids of the aliphatic series is related to the synthesis of the poly-yne hydrocarbons and their derivatives. The authors synthesized 1-chloro undecadiyne-2,5 (IV), 2-(octadiyn-4',7'-yl)-1,3-dioxolane (VII), tridecatriyne-1,4,7 (VIII), the ethyl ester of 7-chloro heptynoic-5-acid (X), and the ethyl ester of eicosatetrainic-5,8,11,14-acid (I). 1-chloro undecadiyne-2,5 (IV) was obtained from heptyne-1 (II) (Refs. 3,4) with 1,4-dichloro butyne-2 (III) (Ref. 5) under the action of organomagnesium compounds. As initial product

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Synthetic Investigations in the Field of Polyacetylene Fatty Acids

S/079/60/030/009/019/022/XX
B001/B066

for the same method of synthesizing 2-(octadiyn-4',7'-yl)-1,3-dioxolane (VII), propargyl bromide (VI) (Ref.6) and 2-(pentyn-4'-yl)-1,3-dioxolane (V) (Ref. 7) were used. Tridecatriyne-1,4,7 (VIII) results from compound (IV) and sodium acetylenide. The ethyl ester of the 7-chloro heptynoic-5-acid (X) is obtained by reacting the ethyl ester of β-bromo propionic acid (IX) (Ref. 8) with 1,4-dichloro-butyne-2 (III). Condensation of compound (VIII) with the ethyl ester of 7-chloro heptynoic-5 acid (X) eventually gives the ethyl ester of eicosatetrainic-5,8,11,14 acid (I). The molecular refraction of tridecatriyne-1,4,7 (VIII) is higher than the theoretical value, which is characteristic of such compounds (Ref. 9). There are 10 references: 4 Soviet, 3 US, 1 British, 1 French, and 1 Spanish.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology)

SUBMITTED: August 8, 1959

Card 2/2

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SEREBRENNIKOVA, G.A.; SMIRNOV, L.D.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipides. Part 6: Synthesis of triglycerides of vegetable oils. Zhur.bo.khim. 31 no.5:1537-1540 My '61. (MIRA 14:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

(Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

PLESHAKOV, M.G.; VASIL'YEV, A.Ye.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Synthesis of 4, 7, 9, 12-hexadecatetrayne-1, 16-dicarboxylic acid. Zhur.ob.khim. 31 no.5:1545-1547 My '61. (MIRA 14:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

(Hexadecatetraynedicarboxylic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MITROFANOVA, T.K.; ZVO'KOVA, Ye.N.; SARYCHEVA, L.K.; IVASHCHENKO, S.P.; PREOBRAZHENSKIY, N.A.

Lipides. Part 7: Synthesis of some triglycerides from linseed and soybean oils. Zhur.ob.khim. 31 no.7:2178-2180 Jl '61. (MIRA 14:7)

(Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I.K.; SEREBRENNIKOVA, G.A.; MITRUSHKINA, L.I.; PREOBRAZHENSKIY, N.A.

New synthesis of 1,2,4-trimethyl-3,6-hydroquinone. Zhur.ob.khim. 31 no.7:2190-2192 Jl '61. (MIRA 14:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

(Hydroquinone)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MITROFANOVA, T.K.; SARYCHEVA, I.K.; IVASHCHENKO, S.P.; PYATNOVA, Yu.B.; SEREBRENNIKOVA, G.A.; PREOBRAZHENSKIY, N.A.

Lipides. Part 9: Synthesis of some triglycerides of soybean oil. Zhur.ob.khim. 31 no.9:2984-2986 S '61. (MIRA 14:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SEREBRENNIKOVA, G.A.; MITROFANOVA, T.K.; KRAYEVSKIY, A.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Total synthesis of soya-bean oil triglycerides. Dokl. AN SSSR 140 no.5:1083-1086 O '61. (MIRA 15:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova. Predstavleno akademikom A.N.Nesmeyanovym.
(Soy-bean oil)
(Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MAURIT, M.Ye.; SMIRNOVA, G.V.; PARFENOV, E.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Complete synthesis of 2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-6-oxychromane (vitamin E, α-tocopherol) and its derivatives. Dokl. AN SSSR 140 no.6:1330-1333 O '61. (MIRA 14:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Predstavleno akademikom A.N.Nesmeyanovym.
(Tocopherol)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, I.K.

S/079/62/032/001/004/016
D213/D302

AUTHORS: Pyatnova, Yu.B., Kovtun, I.A., Pleshakov, M.G., Krayevskiy, A.A., Sarycheva, I.K., and Preobrazhenskiy, N.A.

TITLE: Studies in the synthesis of poly-yne compounds

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 1, 1962, 138-139

TEXT: Methods of preparing decadi-yne-1,4, and tetradecatriyne-2,5 8-ol-1 are described. The above compounds are intermediates in the synthesis of arachidonic and other unsaturated acids. (1) Chlorobutyne-2-ol-1: Butyne-2-diol 1,4 was treated in pyridine and benzene (1:1) mixture) at 3-5°C with excess $SOCl_2$ (1.1 equiv.) with temperature being kept at 15-20°C. The yield was 60 %. (2) Octyne-2-ol-1: Prepared in 59 % yield from 1 chlorobutyne-2-ol-4, with n-butyl magnesium bromide, the former being added over 90 mins. The fraction of b.p. 98-100°C/16 mm was collected. (3) 1-Bromo-octyne-2: To octyne-2-ol-1 in dry ether kept at 0 - 2°C, PBr_3 in slight excess and catalytic amounts of pyridine were added over 15 mins. The yield

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was 80 %. (4) Decadiyne-1,4: 1 Bromooctyne-2 was reacted with Na acetylenide. The yield was 48 %. (5) Tetradecatriyne-2,5,8-ol-1: To a solution of excess ethyl magnesium bromide in dry ether with cooling to -3-5°C propargyl alcohol in benzene was added over 90 mins. There are 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: W.J. Bailey and E. Fujiwara, J. Am. Chem. Soc., 77, 165, 1955; W.J. Gensler, A.P. Mahadevan and J. Casella, J. Am. Chem. Soc., 78, 63, 1956; J.M. Osbond and J.C. Wickens, Chem. a. Ind., 1959, 1288.

ASSOCIATION: Moskovskoy Institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova(Moscow Institute of Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: January 25, 1961

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

PYATNOVA, Yu.B.; SMIRNOV, L.D.; VASIL'YEVA, L.V.; MYAGKOVA, G.I.; GOL'TSEVA, Z.V.; YEVSTIGNEYEVA, R.P.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Production of 5,8,11,14-eicosatetraenoic (arachidonic) acid. Zhur. ob. khim. 32 no.1:142-144 Ja '62. (MIRA 15:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Eicosatetraenoic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; VOLKOVA, V.I.; PLESHAKOV, M.G.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Complete synthesis of 9,12-octadecadienoic (linoleic) acid. Zhur.ob.khim. 32 no.3:742-745 Mr '62. (MIRA 15:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Linoleic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SEREBRENNIKOVA, G.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipides. Part 11: Synthesis of triglycerides of soybean oil. Zhur.ob.khim. 32 no.7:2208-2210 Jl 62. (MIRA 15:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Synthesis of cis, cis-9,12-octadecadienoic, linoleic acid. Zhur.ob.khim. 32 no.11:3541-3543 N '62. (MIRA 15:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.
(Linoleic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZAPESOCHNAYA, G. G.; ZVONKOVA, Ye. N.; MITROFANOVA, T. K.; SEREBRENNIKOVA, G. A.; SARYCHEVA, I. K.; PREOBRACHENSKIY, N. A.

Lipides. Part 16: Synthesis of triglycerides, constituents of cocoa butter. Zhur. ob. khim. 32 no.12:3906-3909 D '62. (MIRA 16:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova.

(Glycerides) (Cacao butter)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; PYATNOVA, Yu.B.; MYAGKOVA, G.I.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Total synthesis of linoleic, linolenic, arachidonic, and docosatetraen-7,10,13,16-ic acids. Dokl. AN SSSR 146 no.6:1349-1351 O '62. (MIRA 15:10)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Predstavleno akademikom M.I. Kabachnikom.
(Acids, Fatty)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SEREBRENNIKOVA, G.A.; ZVONKOVA, Ye.N.; ZAPESOCHNAYA, G.G.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipides. Part 18: Synthesis of the glyceride constituents of corn oil. Zhur.ob.khim. 33 no.2:437-440 F '63. (MIRA 16:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.
(Corn oil) (Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SEREBRENNIKOVA, G. A.; MITROFANOVA, T. K.; KLYKOV, V. N.; SARYCHEVA, I. K.; PREOBRAZHENSKIY, N. A.

Lipides. Part 17: Synthesis of the glyceride composition of safflower oil. Zhur. ob. khim. 33 no.1:60-62 '63. (MIRA 16:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M. V. Lomonosova.

(Oils and fats) (Glycerides)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

PYATNOVA, Yu.B.; MYAGKOVA, G.I.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Total synthesis of ethyl ester of 5,8,11,14-eicosatetraenoic (arachidonic) acid. Zhur.ob.khim. 33 no.4:1120-1122 Ap '63. (MIRA 16:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Eicosatetraenoic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Higher acids of the aliphatic series. Part 9: Synthesis of cis-, cis-, cis-9,12,15-octadecatrienoic linolenic acid. Zhur.-ob.khim. 33 no.6:1831-1835 Je '63. (MIRA 16:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Octadecatrienoic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; PLESHAKOV, M.G.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Higher acids of the aliphatic series. Part 10: Synthesis of cis-, cis-, cis-9,12,15-octadecatrienoic, linolenic, acid. Zhur.ob.khim. 33 no.6:1835-1839 Je '63. (MIRA 16:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Oxtadecatrienoic acid)

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZAPESOCHNAYA, G.G.; KOVTUN, I.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Synthesis of 1,12-dodecanolide. Zhur.ob.khim. 33 no.7:2133-2136 Jl '63. (MIRA 16:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

(Dodecanilide)

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZAPESOCHNAYA, G.G.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipids. Part 20: Synthesis of dodecanoic (lauric) acid. Zhur. ob. khim. 33 no.8:2552-2555 Ag '63. (MIRA 16:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonsova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

BEREZOVSKAYA, M.V.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Plasmalogens. Part 1: Synthesis of 1,2-isopropylideneglycerylhepten-1'-yl-1'-oic ether. Zhur.ob.khim. 34 no.2:543-545 F '64. (MIRA 17:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

KRAYEVSKIY, A.A.; FEDOROVA, N.V.; ZOTOVA, S.A.; SARYCHEVA, I.K.; PREOBRAZHENSKA, N.A.

Methylene-divided polyyne compounds. Synthesis of 1,4-heptadine and 2,5,8-undecatriyn-1-ol. Zhur.ob.khim. 34 no.2:552-554 F '64. (MIRA 17:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MITROFANOVA, T. K.; NECHIPORENKO, V. P.; SARYCHEVA, I. K.; PREOBRAZHENSKIY, N.A.

Lipids. Part. 24: Synthesis of monoacid triglycerides by the re-esterification of triacetins with methyl esters of higher fatty acids. Zhur. ob. Khim. 34 no.6:1906-1908 Je '64. (MIRA 17:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

PYATNOVA, Yu.B.; FEDULOVA, V.V.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

New synthesis of 5,8,11,14-eicosatetraenoic (arachidonic) acid.
Zhur. ob. khim. 34 no.10:3317-3320 O '64. (MIRA 17:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZVONKOVA, Ye.N.; SEMENOVA, Yu.I.; GUS'KOVA, L.I.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipids. Part 25: Synthesis of substituted aliphatic vinyl ethers. Zhur. ob. khim. 34 no.11:3659-366 N'64 (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZVONKOVA, Ye.N.; SARYCHEVA, I.V.; PREOBRAZHENSKIY, N.A.

Synthesis of neutral plasmalogens. Dokl. AN SSSR 159 no.5: 1079-1082 D '64 (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Predstavleno akademikom A.N. Nesmeyanovym.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MITROFANOVA, T.K.; KRAYEVSKIY, A.A.; SEREBRENNIKOVA, G.A.; KLYKOV, V.N.; ZVONKOVA, Ye.N.; ZAPESOCHNAYA, G.G.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Complete synthesis of the glyceride base of vegetable oils and animal fats. Dokl. AN SSSR 160 no.1:133-136 Ja '65. (MIRA 18:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Submitted July 4, 1964.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

MYAGKOVA, G.I.; KRAYEVSKIY, A.A.; PYATNOVA, Yu.B.; SARYCHEVA, L.K.; PREOBRAZHENSKIY, N.A.

Higher fatty acids. Part 16: Synthesis of cis-, cis-, cis-, cis-, 9,12,15,18- tetracosatetraenoic acid. Zhur. org. khim. 1 no.6:981-983 Je '65. (MIRA 18:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZVONKOVA, Ye.N.; TSETLIN, V.I.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Lipids. Part 27: Synthesis of α, and β-chimyldipalmitates. Zhur. org. khim. 1 no.4:630-634 Ap. '65. (MIRA 18:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZINKEVICH, E.P.; TREBOGANOV, A.D.; MINTSNER, B.I.; KRAYEVSKIY, A.A.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Macrocyclic compounds. Part 2: Synthesis of cyclooctanone and cyclododecanone. Zhur. org. khim. 1 no.9:1587-1590 S '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova. Submitted July 8, 1964.

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5"

"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

ZINKEVICH, E.P.; SARYCHEVA, I.K.; PREOBRAZHENSKIY, N.A.

Macrocyclic compounds. Part 3: Synthesis of cyclotetra and cyclohexadecanones. Zhur. org. khim. 1 no.9:1591-1594 S '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni L.W. Lomonosova. Submitted July 20, 1964.

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ACC NR: AP7003652 SOURCE CODE: UR/0079/66/036/008/1380/1382

10

AUTHOR: Ivashchenko, S. P.; Sarycheva, I. K.; Preobrazhenskiy, N. A.

ORG: Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Research in the field of lipids. XXXVI. Synthesis of methylglycerylltriphenylphosphonium chloride derivatives

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1380-1382

TOPIC TAGS: alkylphosphonium salt, organic synthetic process, chromatography

ABSTRACT: Alpha, beta-isopropylidine-alpha'-methylglycerylltriphenylphosphonium chloride, alpha-acetyl-alpha'-methylglycerylltriphenylphosphonium chloride, and alpha, beta-diacetyl-alpha'-methylglycerylltriphenylphosphonium chloride were synthesized from corresponding glycerin derivatives, triphenylphosphine, and benzoyl chloride. In the course of the work, alpha, beta-isopropylidine-alpha'-methoxymethylglycerin, alpha-acetyl-alpha'-methoxymethylglycerin, and alpha, beta-diacetyl-alpha'-methoxymethylglycerin were also prepared and characterized. Conditions of thin-layer chromatography on aluminum oxide were developed for identifying phosphonium salts and intermediate compounds in their synthesis: for the phosphonium chlorides the solvent system 9:1 chloroform-methanol was used, and for the glycerin derivatives ether or ether-petroleum ether mixtures. [JPRS: 33,970]

UDC: 547.915.5

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SARYCHEVA, I.K.; SEREBRENNIKOVA, G.A.; ZVONKOVA, Ye.N.; MITROFANOVA, T.K.; MAURIT, M.Ye.; UTKINA, O.V.; PREOBRAZHENSKIY, N.A.

Synthesis of the main triglycerides of linoleic acid. Dokl. AN SSSR 135 no.3:617-619 N '60. (MIRA 13:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. Predstavleno akad. A.N. Nesmeyanovym.
(Linoleic acid)

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SARYCHEVA, L. I.

3227 On the generation of a high-energy electronphoton component. G. YA. ARTYUKHOV, G. T. Satespin, L. I. Sarycheva and L. KH. EYDUS Doik.Akad.Nauk, SSSR, 69 (No.2) 153-6(1949) In Russian.

The narrow structure of showers observed when high-energy electrons and photons are emitted is explained by the formation of special showers in the atmosphere; the occurence of photon showers suggests that photons are present in special showers which become converted into electrons during the passage through the atmosphere. Electrons of energy 2-3 x 10^9 eV were observed. A close connection is established between the electron-photon component and penetrating and nuclear active particles; this agrees with the view that nuclear active particles, which are responsible for the formation of this component at great depth of the atmosphere, are secondary particles.

J. Jacobs

Physics Inst. im. Lebedev, AS USSR

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SARYCHEVA, L. I.

USSR/Nuclear Physics - Radiation, 21 Sep 49
Cosmic Electron-Photon Component

"Formation of High-Energy Electrons and Photons in the Lower Atmospheric Strata by Cosmic Radiation," YA. G. Artukhov, G. T. Zatsepin, L. I. Sarycheva, L. Kh. Eydus, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 3½ pp

"Dod Ak Nauk SSSR" Vol LXVIII, No 3

Describes study of high-energy electron-photon component conducted in summer 1948 on the Pamirs. According to experimentally confirmed hypothesis, secondary nuclear-active particles are formed when special showers are generated, causing a nucleocascade process. Fundamental significance of this process must be admitted not only in development of wide showers but also in formation of high-energy electron-photon component in lower strata of atmosphere. Submitted by Acad D. V. Skobel'tsyn 22 Jul 49

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PROCESSES AND PROPERTIES INDEX

8

1727 Particles Capable of Producing Nuclear Disintegrations, as Observed in Extensive Atmospheric Showers. G. T. Zatsepin and L. I. Sarycheva. Doklady Akad. Nauk S.S.S.R. 69, 635-8(1949)(in Russian).

Opinions differ on the nature and genesis of penetrating particles recorded by instruments at the passage of extensive atmospheric showers. Some authors describe them as mesons from the air, for others they are high-energy photons generating mesons in Pb. In the present authors' view, extensive showers have a complex constitution, comprising, besides the electron-photon component, penetrating particles of two types: particles that do not produce nuclear disintegrations (probably mesons), and "nucleo-active" particles generating, through collisions with nuclei, all the other components of the extensive atmospheric showers. In the present note experiments, made at 3860 m altitude, are described, corroborating the above hypothesis. Effects were compared of the traversing of 22 cm Pb by "solitary" particles and by those accompanied by an extensive shower. Whereas the former, in 96.5% cases, do not produce showers under lead, the latter generally generate showers containing, besides electrons, new penetrating particles. The former are probably μ mesons, while the latter are the "nucleo-active" particles. According to a rough estimate, there are at least 20% nucleo-active particles among the total number of penetrating ones.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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SARYCHEVA, L. I.

USSR/Nuclear Physics - Cosmic Rays Feb 52

"Electron-Nuclear and Broad Atmospheric Showers of Cosmic Rays," Yu. T. Arishchenko, G. T. Zatsepin, I. L. Rozental, L. I. Sarycheva, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXII, No 2, pp 143-151

Studies electron-nuclear showers. Concludes that such showers occur not only in heavy (Pb), but also in light elements (C). High-energey shower particles produce secondary showers, a proof of nuclear cascade processes (cf G. T. Zatsepin, "Dok Ak Nauk SSSR" Vol LXVII, 933, 1949). Density of beam of active nucleons is found proportional to denisty of electron beam. Indebted to Acad D. V. Skobeltsyn, Prof N. A. Dobrotin, G. B. Zhdanov, M. I. Podgoretskiy, Received 10 May 51

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SARYCHEVA, L. I.

Sarycheva, L. I. -- "The Nuclear-Active Component of Extensive Atmospheric Showers and the Nuclear-Cascade Process." Cand Phys-Math Sci, Physics Inst, Acad Sci USSR, Moscow 1953. (Referativnyy Zhurnal-Fizika, Jan 54)

SO: SUM 168, 22 July 1954

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SARYCHEVA, L.I.

6

USSR

537.591.15

5755. Nucleon interactions at high energies and extensive showers. G. T. ZATSEPIN, I. L. ROZENTAL', L. I. SARYCHEVA, G. B. KHRISTIANSEN AND L. H. LIDOS. *Tr. Akad. Nauk SSSR (Ser. Fiz.)* 17, *No.* 1, 39-50 (1953) *In Russian.*

Summarizes the results of measurements on extensive air showers at 3860 m altitude. It is found that the particle density at a distance r from the shower core varies as r^{-n} where $2 \cdot 7 < n < 3 \cdot 1$, for $200 < r < 600$ *m*. The fraction of penetrating particles increases with r and reaches 25% at $r \sim 600$ *m*. It is concluded that the integral energy spectrum of the primary radiation can be expressed as a power law with exponent between 1·6 and 1·8 for energies up to 10^{18} eV. See also Abstr. 8297 (1952). [Shortened version of Wataghin's summary (see Abstr. 5747 above) which contains 6 diagrams.] H. ELLIOT

Physics Inst. im. Lebedev, AS USSR

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"APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001447220006-5

SARYCHEVA, L. I., KHRISTIANSEN, G. B., DOBROTIN, N. A., ZATSEPIN, G. T., ROZENTAL', I. L and EYDUS, L. Kh.

"Wide Atmospheric Showers of Cosmic Rays," Usp. Fiz. Nauk SSSR, 49, No. 2, pp 185-242, 1953.

Translation DSI Trans. No. 31, Jan 1954.

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Sarycheva, L.I.

USSR/Physics - Cosmic radiation

Card 1/1 Pub. 22 - 18/63

Authors : Zatsepin, G.T., and Sarycheva, L.I.

Title : The altitude at which atmospheric showers (of primary particles) move

Periodical : Dok. AN SSSR 99/6, 951-954, Dec21, 1954

Abstract : A question on a number of atmospheric showers of primary particles of a definate energy spectrum at an arbitrary altitude is discussed. By assuming a certain law for an energy spectrum of particles and by taxing (coefficient of absorption) for an effective cross-section of particle interaction, the following expression is given for a number of primary particles of a given energy which collided at the altitude x_0 $\varphi(y_0, x_0)$ $dx_0\, dy_0 = Be^{\nu y_0} e^{-\mu_0 \nu_0 \rho_0 dx_0 dy_0}$. Then, a mathematical expression is derived for the number of showers (of primary particles) that may occure in the atmosphere at a certain altitude. Applications of the derived formula to experimental data gave satisfactory results. Two references; 1-USSR (1951-1953).

Institution: The Physical Institute im. P.N. Lebedev of the Acad. of Scs of the USSR

Presented by: Academician D.V. Skobel'tsin, June 17, 1954

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DOBROTIN, N.A.; ZATSEPIN, G.T.; NIKOL'SKIY, S.I.; SARYCHEVA, L.I.; KHRISTIANSEN, G.B.

Investigation of the interaction of high-and superhigh-energy particles with nucleons and atomic nuclei. Izv.AN SSSR Ser.fiz.19 no.6:666-676 N-D '55. (MLRA 9:4)

1.Fizicheskiy institut imeni P.N.Lebedeva Akademii nauk SSSR i Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Cosmic rays) (Nuclear physics)

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