The effect of stationary ... Z/033/63/013/001/005/013
E032/E414

with those reported earlier (Czech. J. Phys. 9 (1959), 495). Moreover, it was found that in the uniform positive column the product of the wavelength of the moving striations and the longitudinal component of the electric field is a constant for each type of moving striations (M. Novák: Czech. J. Phys. B 10 (1960), 954). There are 2 figures.

ASSOCIATION: Katedra elektroniky a vakuové fysiky KU, Praha
(Department of Electronics and Vacuum Physics, Charles University, Prague)

SUBMITTED: May 28, 1962

Card 3/3

PROSTEJOVSKY, J.

Local measurement of electron temperature in the plasma of a positive column by means of the microwave stroboscopic method. Cheskosl fiz zhurnal 14 no.10:796-798 '64.

1. Faculty of Mathematics and Physics of Charles University, Prague 2, Ke Karlovu 5.

PROSTEK, V.

KAPALIN, Vl.; PROKOPEC, M.; PROSTEK, V.

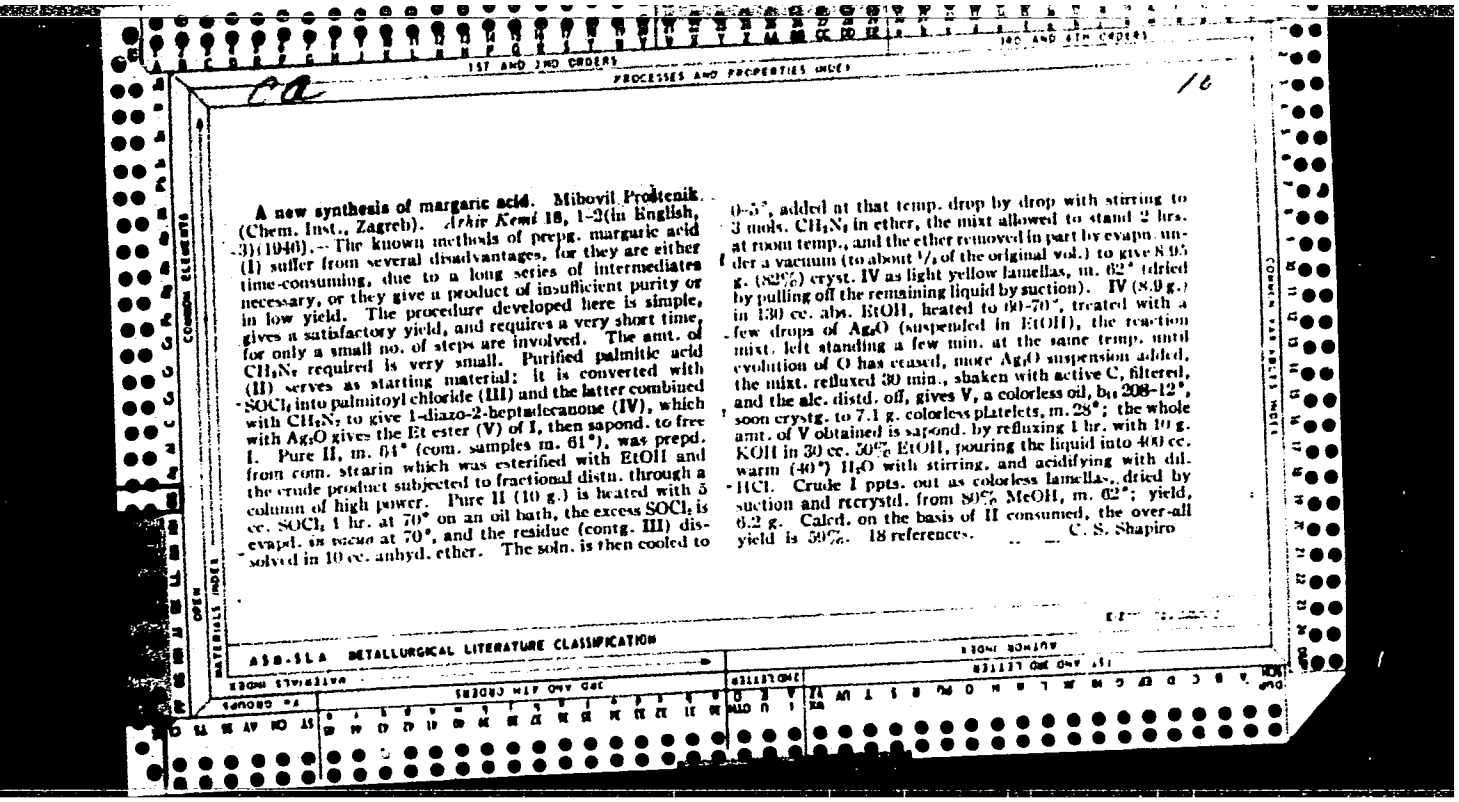
Method for following growth in schoolchildren. Cesk. pediat. 12 no.5-6:420-430 May-June 57.

1. Ustav hygieny, Odbor hygieny skolni, Praha Ustav organisace zdrav. KU, Praha.
(GROWTH, in inf. & child
method of following growth in preschool & schoolchild.
(Cz))

ZABLUDA, G.V.; PROSTEVA, M.I.

Migration of radioactive phosphorus absorbed by the leaves of tillering oat plants. Dokl. AN SSSR 109 no.2:397-399 Jl '56. (MLRA 9:10)

1. Ural'skiy gosudarstvennyy universitet imeni A.M. Gor'kogo. Sverdlovsk. Predstavleno akademikom A.L. Kursanovym.
(Oats) (Radioactive tracers) (Botany--Physiology)

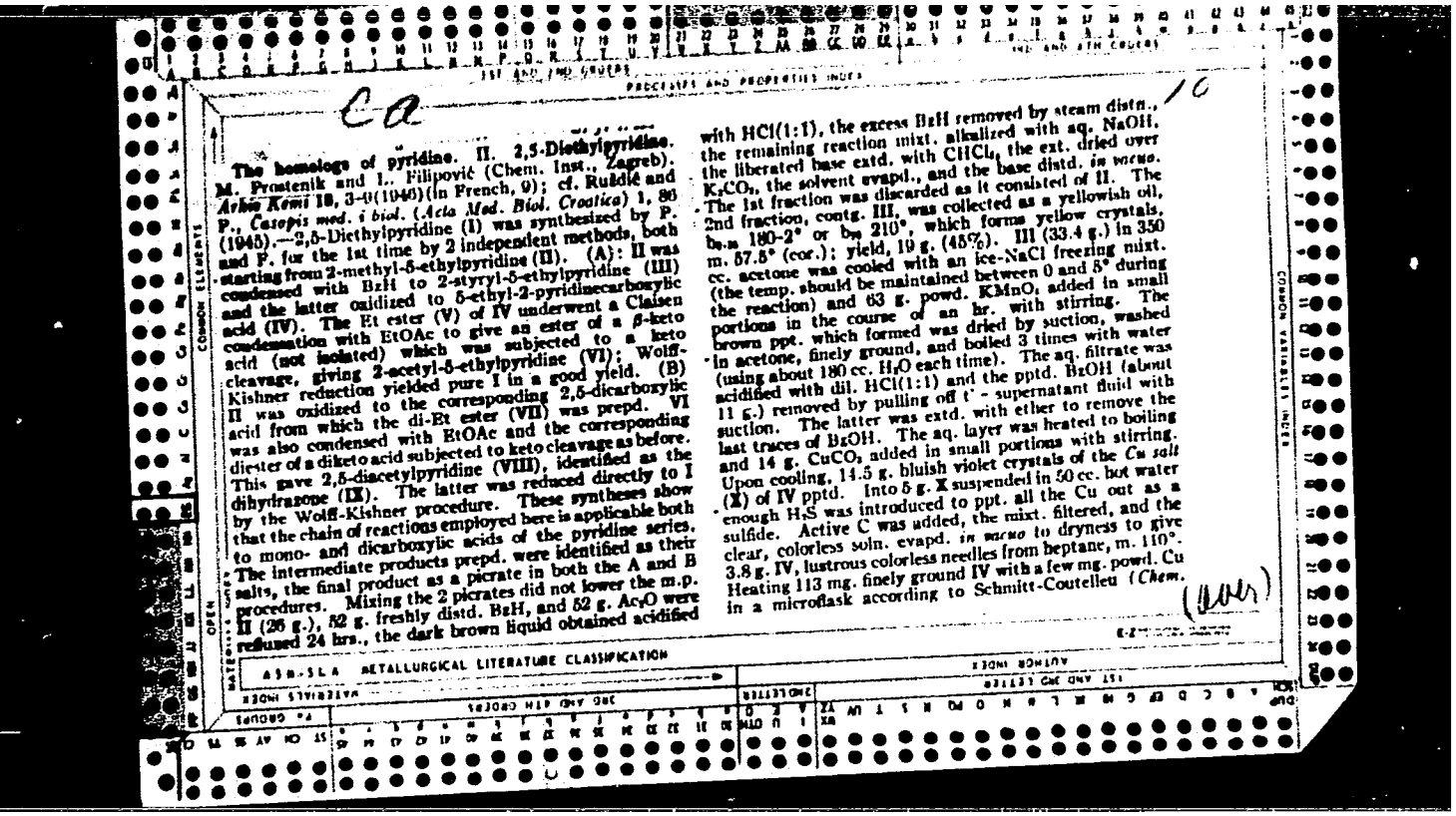


1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

A new synthesis of margaric acid. Mibovil Prostenik. (Chem. Inst., Zagreb). *Arhiv Kemi* 18, 1-2(in English, 3)(1940).—The known methods of prepg. margaric acid (I) suffer from several disadvantages, for they are either time-consuming, due to a long series of intermediates necessary, or they give a product of insufficient purity or in low yield. The procedure developed here is simple, gives a satisfactory yield, and requires a very short time, for only a small no. of steps are involved. The amt. of CH_2N_2 required is very small. Purified palmitic acid (II) serves as starting material; it is converted with $SOCl_2$ into palmitoyl chloride (III) and the latter combined with CH_2N_2 to give 1-diazo-2-heptadecanone (IV), which with Ag_2O gives the Et ester (V) of I, then sapond. to free I. Pure II, m. 64° (com. samples m. 61°), was prepd. from com. stearin which was esterified with EtOH and the crude product subjected to fractional distn. through a column of high power. Pure II (10 g.) is heated with 5 cc. $SOCl_2$ 1 hr. at 70° on an oil bath, the excess $SOCl_2$ is evapd. *in vacuo* at 70°, and the residue (contg. III) dissolved in 10 cc. anhyd. ether. The soln. is then cooled to 0-5°, added at that temp. drop by drop with stirring to 3 mols. CH_2N_2 in ether, the mixt allowed to stand 2 hrs. at room temp., and the ether removed in part by evapn. under a vacuum (to about 1/3 of the original vol.) to give 8.95 g. (82%) cryst. IV as light yellow lamellas, m. 62° (dried by pulling off the remaining liquid by suction). IV (8.9 g.) in 130 cc. abs. EtOH, heated to 60-70°, treated with a few drops of Ag_2O (suspended in EtOH), the reaction mixt. left standing a few min. at the same temp. until evolution of O has ceased, more Ag_2O suspension added, the mixt. refluxed 30 min., shaken with active C, filtered, and the alc. distd. off, gives V, a colorless oil, b_{15} 208-12°, soon crystg. to 7.1 g. colorless platelets, m. 28°; the whole amt. of V obtained is sapond. by refluxing 1 hr. with 10 g. KOH in 30 cc. 50% EtOH, pouring the liquid into 400 cc. warm (40°) H_2O with stirring, and acidifying with dil. HCl. Crude I ppts. out as colorless lamellas, dried by suction and recrystd. from 80% MeOH, m. 62°; yield, 6.2 g. Calcd. on the basis of II consumed, the over-all yield is 50%. 18 references. C. S. Shapiro

A 58.5 LA METALLURGICAL LITERATURE CLASSIFICATION



Ca

The homologs of pyridine. II. 2,5-Diethylpyridine. M. Protenik and L. Filipović (Chem. Inst., Zagreb). *Arhiv Kemi* **18**, 3-9(1940)(in French, 9); cf. Ruddle and P., *Casopis mod. i biol.* (*Acta Med. Biol. Croatica*) **1**, 86 (1946).—2,5-Diethylpyridine (I) was synthesized by P. and F. for the 1st time by 2 independent methods, both starting from 2-methyl-5-ethylpyridine (II). (A): II was condensed with BzH to 2-styryl-5-ethylpyridine (III) and the latter oxidized to 5-ethyl-2-pyridinecarboxylic acid (IV). The Et ester (V) of IV underwent a Claisen condensation with EtOAc to give an ester of a β-keto acid (not isolated) which was subjected to a keto cleavage, giving 2-acetyl-5-ethylpyridine (VI); Wolff-Kishner reduction yielded pure I in a good yield. (B) II was oxidized to the corresponding 2,5-dicarboxylic acid from which the di-Et ester (VII) was prepd. VI was also condensed with EtOAc and the corresponding di-ester of a diketo acid subjected to keto cleavage as before. This gave 2,5-diacetylpyridine (VIII), identified as the dihydrazone (IX). The latter was reduced directly to I by the Wolff-Kishner procedure. These syntheses show that the chain of reactions employed here is applicable both to mono- and dicarboxylic acids of the pyridine series. The intermediate products prepd. were identified as their salts, the final product as a picrate in both the A and B procedures. Mixing the 2 picrates did not lower the m.p. II (26 g.), 52 g. freshly distd. BzH, and 52 g. Ac_2O were refluxed 24 hrs., the dark brown liquid obtained acidified with HCl(1:1), the excess BzH removed by steam distn., the remaining reaction mixt. alkalized with aq. NaOH, the liberated base extd. with $CHCl_3$, the ext. dried over K_2CO_3, the solvent evapd., and the base distd. *in vacuo*. The 1st fraction was discarded as it consisted of II. The 2nd fraction, contg. III, was collected as a yellowish oil, b$_{0.35}$ 180-2° or b$_{20}$ 210°, which forms yellow crystals, m. 57.5° (cor.); yield, 19 g. (45%). III (33.4 g.) in 350 cc. acetone was cooled with an ice-NaCl freezing mixt. (the temp. should be maintained between 0 and 5° during the reaction) and 63 g. powd. $KMnO_4$ added in small portions in the course of an hr. with stirring. The brown ppt. which formed was dried by suction, washed in acetone, finely ground, and boiled 3 times with water (using about 180 cc. H_2O each time). The aq. filtrate was acidified with dil. HCl(1:1) and the pptd. BzOH (about 11 g.) removed by pulling off the supernatant fluid with suction. The latter was extd. with ether to remove the last traces of BzOH. The aq. layer was heated to boiling and 14 g. $CuCO_3$ added in small portions with stirring. Upon cooling, 14.5 g. bluish violet crystals of the *Cu salt* (X) of IV pptd. Into 5 g. X suspended in 50 cc. hot water enough H_2S was introduced to ppt. all the Cu out as a sulfide. Active C was added, the mixt. filtered, and the clear, colorless soln. evapd. *in vacuo* to dryness to give 3.8 g. IV, lustrous colorless needles from heptane, m. 110°. Heating 113 mg. finely ground IV with a few mg. powd. Cu in a microflask according to Schmitt-Coutelleu (*Chem.*

PROSTENIK, M.

Yugoslavia (430)

Technology

Homologues of pyridine. 3d report. The reduction of 2-acetyl-pyridine to 2-ethyl pyridine. p. 10, Arhiv Za Kemiju, Vol. 18, no. 1-4, 1946.

East European Accessions List, Library of Congress, Vol. 1, no. 14, Dec. 1952. UNCLASSIFIED.

CA

Homologs of pyridine. IV. 3,5-Diethylpyridine. M. Protitch and L. Filipović (Univ. Zagreb, Yugoslavia) *Arhiv. Kem.* 21, 175–80 (in English, 180–1) (1949); cf. *C.A.* 42, 7950g.—3,5-Diethylpyridine (I) was evidently obtained but not described by Chichibabin (*C.A.* 10, 1666). I was prepd. by 2 modifications, (*A*) and (*B*), of this method and also by an independent method (*C*). Condensation of aldehydes with ammonium to pyridine bases: (*A*) PrCHO and NH_3 were condensed on SiO_2 gel (Blaugel, Merck) at 300–31°. In contrast to $Al(OH)_3$ used in the Chichibabin procedure, SiO_2 gel slowed the rate of reaction. Regeneration of the catalytic activity of the SiO_2 was accomplished by passing air 15 min. through the hot tube. After removal of the more volatile components from about 200 cc. of condensate, the residual mixt. of tertiary bases (70 cc.) was dried over KOH and fractionated to yield I, b. 208°, n_D 84 6°, in relatively small amts. and a larger amt. of *2-propyl-3,5-diethylpyridine* (II), b. 242°. The fraction b. 200–12° was dissolved in KOH and I isolated by fractional pptn. with picric acid in alc. I *picrate*, red needles, m. 190° (from EtOAc). I was liberated from the *picrate* by treating with aq. KOH and distg. with steam. Other salts of I were the *picrolonate*, prisms, m. 161° (from EtOAc), and the *styphnate*, m. 100° (decompn.). II [*picrate*, plates, m. 123.5° (from EtOH)], was identical with II described by Chichibabin (*J. Russ. Phys.-Chem. Soc.* 37, 1249 (1905)). (*B*) Chichibabin (*J. Russ. Phys.-Chem. Soc.* 37, 1249 (1905)). (*B*) EtOH and NH_3 were condensed over SiO_2 gel as above, but with a poorer yield of tertiary bases. I and II were likewise obtained; showing that $Al(OH)_3$ can again be successfully replaced by SiO_2 gel as the catalyst. (*C*) Reduction of 8 g. 2,6-dimethyl-3,5-diacetylpyridine [cf. Scholtz, *Ber.* 30, 2383 (1907)] with 3.5 g. NaH_2PO_2 in the presence of 3 g. Na in 20 cc. abs. alc. by the Wolff-Kishner procedure gave 2 g. *2,6-dimethyl-3,5-diethylpyridine* (III), b. 111–12°; *picrate*, long yellow prisms, m. 140° (from EtOAc); *picrolonate*, yellow prisms, m. 283° (decompn.) (from EtOAc); and *styphnate*, large yellow rhomboheedrons, m. 147° (decompn.) (from EtOAc). III (1.5 g.) and 5 cc. Ac_2O refluxed 40 hrs. with 5 cc. Ac_2O gave 2.0 g. *2,6-distyryl-3,5-diethylpyridine* (IV), yellow needles, m. 134–5° (from EtOH); *picrate*, yellow needles, m. 253° (decompn.) (from EtOAc). The soln. of IV in EtOH had a bluish-violet fluorescence. *3,5-Diethyl-2,6-pyridinedicarboxylic acid* (V) was prepd. by dissolving 1.5 g. IV in 20 cc. Me_2CO and adding 3.09 g. powd. $KMnO_4$ in small portions with const. stirring at 0°. The product formed a brown mass, which was rinsed with Me_2CO, boiled with 50 cc. water, filtered, the ppt. boiled twice more in the same manner, the combined filtrates acidified with HCl (1:1), extd. with ether to remove BzOH, and the aq. layer sepd., boiled and treated with Cu carbonate (1 g.); upon cooling, the Cu salt of V formed blue crystals. V was liberated from this salt by satg. the soln. with H_2S. Crude V was decarboxylated with powd. Cu in a Hickman flask to yield I; the picrate was identical with I picrate obtained by procedures (*A*) and (*B*).

C. S. Shapiro

CA

10

Synthesis of 1,3-dibromo- and 1,3-diacetoxy-2-alkanones. M. Protenik (Univ. Zagreb). *Arhiv Kem.* 21, 182-8 (1949) (Serbian summary).—1,3-Dibromo- and 1,3-diacetoxy-2-alkanones were prepd. from α-brominated fatty acid halides (I) which were converted, with CH_2N_2 in Et_2O, into the corresponding diazoketones (II). II with HBr gave high yields of 1,3-dibromo-2-alkanones (III), which can be regarded as homologs of $(BrCH_2)_2CO$. The Br atoms in III were replaced by AcO groups by acetylating a glacial AcOH suspension of AgOAc. All of the acetoxy ketones (IV) formed cryst. oximes and semicarbazones. The method was general, since IV could be derived from long-chain homologs in the fatty acid series (C_4-C_{16}). It may be possible by the above route to prep. dihydrosphingosine and its isomers, and attempts are now being made. Fatty acids were brominated in the α-position by the Hell-Volhard-Zelinsky method. The reaction mixt. was distd. *in vacuo* and the product treated with $SOCl_2$ for C_{16} and higher acids or with $SOBr_2$ for C_{14} and lower acids to yield I. I in ether were added dropwise to CH_2N_2 in ether at 0-5° with const. stirring, the mixt. set aside 2-3 hrs. and the ether removed *in vacuo* to yield II. The crude II from lower acids were liquid and those from higher acids cryst. Crude II were dissolved or suspended in glacial AcOH (20 cc. AcOH for the II from 10 g. I) and 66% HBr added dropwise; a violent reaction with evolution of N occurred. The reaction mixt. was dild. with H_2O, and the excess HBr removed by shaking with $NaHCO_3$; III sepd. in the form of an oil ($C_n < C_{12}$) or as crystals ($C_n \geq C_{12}$). The oils were extd. with ether, and the ext. dried over Na_2SO_4 and distd. The crystals were recrystd. from 96% EtOH. The following III were prepd.: 79.3% *1,3-dibromo-2-pentanone*, oil, $b_{0.6}$ 95-7°; $b_{0.6}$ 80.5°; 82.1% *1,3-dibromo-2-nonanone*, oil, $b_{0.6}$ 117-19°; 97.3% 82% *1,3-dibromo-2-hendecanone*, m. 35° (from 96% EtOH); *1,3-dibromo-2-pentadecanone*, m. 50.5° (from 96% and 97.5% *1,3-dibromo-2-nonadecanone*, m. 50.5° (from 96% EtOH). III (10 g.) in 25 cc. glacial AcOH was boiled 3 hrs. with powd. AgOAc (⅓ added at the start, ⅓ after 1 hr.), the AgBr and the excess AgOAc removed on a glass filter while warm, the ppt. washed with a small amt. of glacial AcOH, the filtrate and washings dild. with H_2O to 3 times the original vol., and the acid neutralized with solid $NaHCO_3$ to yield IV as yellow oils ($C_n < C_{11}$) or yellow crystals ($C_n > C_{11}$). The oils were extd. with ether, dried over Na_2SO_4, and distd. The cryst. products were recrystd. from 96% EtOH. The semicarbazones and oximes were prepd. by dissolving IV in 96% EtOH and treating, resp., with aq. semicarbazide-HCl plus NaOAc, or with $HONH_2$·HCl plus NaOAc. The reaction mixt. in either case was allowed to stand many hrs. at ordinary temp. and then refrigerated. The products in the form of green crystals were recrystd. from MeOH. The following IV were prepd.: 70.3% *1,3-diacetoxy-2-pentanone*, b_{16} 124-8° (*semicarbazone*, colorless prisms, m. 140°); 73.8% *1,3-diacetoxy-2-nonanone*, yellow oil, $b_{0.6}$ 105-15° (*semicarbazone*, yellow oil, $b_{0.6}$ 131°); 77.3% *1,3-diacetoxy-2-hendecanone*, yellow oil, $b_{0.6}$ 110-20° (*semicarbazone*, colorless prisms, m. 120°); 90% *1,3-diacetoxy-2-pentadecanone*, m. 39° (*semicarbazone*, m. 117°; *oxime*, m. about 65°); and 89.5% *1,3-diacetoxy-2-nonadecanone*, m. about 53° (from MeOH). C. S. Shapiro

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D256/D308

24,610

AUTHORS: Šicha, M., Veselý, V., Studnička, J., Prostějovský, J. and Novák, M.

TITLE: Investigation of stationary and traveling striated discharge in neon with local HF excitation

PERIODICAL: Czechoslovak Journal of Physics, v. 12, no. 12, 1962, 919-929

TEXT: The possibility was investigated of using the disturbance produced by a local HF field in systematic studies of stationary and traveling striation of the discharge in inert gases. In the method developed by the authors the HF field interacted upon a limited part of the positive column of a d-c discharge originating stationary and traveling strata and striation waves. Discharge tubes 50 to 80 cm long were used applying across them a voltage adjustable from 200 V to 3 kV. The discharge current was controlled and stabilized with two pentode tubes in series with the discharge tube. The luminous pattern of the discharge was observed visually and tubes

Card 1/3

Investigation of stationary ...

could be moved along and across the discharge tube by means of photo-electronmultiplier. A toroidal resonator operating in the 40 cm wavelength-band provided the local HF excitation. A double structure was observed in the stationary strata differing both in shape and amplitude; the amplitude of one structure against the other one increased with increasing discharge current, but at the same time the stationary strata were independent of the amount of HF power absorbed by the plasma. The striation waves were found to originate in the region of the HF excitation of the positive column. The resonance frequency of the moving strata was investigated as a function of the discharge current as well as the dependence of the wavelength upon the frequency. The frequency of the traveling strata in the striation wave and the resonance frequency of the artificially produced traveling strata were found to be equal within the accuracy of the measurements. The pattern of the discharge could be controlled by changing the modulation of the HF field. It was concluded that the possibility of employing the HF disturbance in the studies of striation in d-c discharges has been established. There are 7 figures and 1 table.

Card 2/3

Z/055/62/012/012/004/004
D256/D308

Investigation of stationary ...

ASSOCIATION: Lehrstuhl für Elektronik und Vakuumphysik der Karls-universität, Prag (Department of Electronics and Vacuum Physics, Charles University, Prague) (M. Šicha, V. Veselý, J. Studnička and J. Prostějovský); Physikalisches Institut der Tschechosl. A.d.W., Prag (Institute of Physics, Czechoslovak, AS, Prague) (M. Novák)

SUBMITTED: May 15, 1962

Card 3/3

PROSTENIK, M.

9

Studies in the sphingolipides series. I. Synthesis of racemic 2-amino-1,3-dihydroxyoctadecane. M. Prostenik and Z. Stanković. (Univ., Zagreb, Yugoslavia). *J. Org. Chem.* 18, 59–63(1953).—$C_{15}H_{31}CO_2H$ (115 g.) treated with 176 g. Br and 5.24 g. red P gives 131 g. $C_{15}H_{31}CHBrCO_2H$ (I), m. 52.5°. Adding dropwise $C_{15}H_{31}CHBrCOCl$ from 22 g. I in 40 cc. ether to CH_2N_2 from 19.1 g. $H_2NCONMeNO$ at 0°, keeping the mixt. 2 hrs. at 20°, and evapg. to dryness give $C_{15}H_{31}CHBrCOCHN_2$, which, treated in 30 cc. AcOH with 10 cc. 66% HBr, gives 75.6% $C_{15}H_{31}CHBrCOCH_2Br$ (II), prisms, m. 52–2.5°. Refluxing 3.34 g. II with 5.01 g. AgOAc in 20 cc. AcOH 3 hrs., neutralizing the filtered soln. with $NaHCO_3$, and extg. with ether give 3.32 g. brown oil from which, on chromatographic purification, 1.4 g. *1,3-diacetoxy-2-octadecanone*, needles, m. 56.5°, is obtained. *1,3-di-BzO analog* (III), prepd. with AgOBz in 38.8% yield, m. 72–3°. Hydrogenating 11 g. III in 400 cc. MeOH satd. with NH_3 12 hrs. at 60° and 1500 lbs. in the presence of Raney Ni gives 83% *2-amino-1,3-dihydroxyoctadecane*, yellow resin [*oxalate*, m. 196° (decompn.); *tri-Ac deriv.*, prepd. with Ac_2O-C_5H_5N, needles, m. 93–9°; *tri-Bz deriv.* (IV), needles, m. 146–7°; *N-Bz deriv.*, prepd. by heating 350 mg. IV with 20 cc. *N* KOH-MeOH 45 min. at 40°, m. 114°]. Refluxing 200 mg. III, 50 mg. $HONH_2$, and 100 mg. NaOAc in 20 cc. MeOH 12 hrs., evapg. the mixt. *in vacuo* to dryness, taking up the residue in H_2O, extg. the soln. with ether, and refluxing the oxime formed 2 hrs. with 200 mg. $LiAlH_4$ in 40 cc. ether give 35 mg. $C_{15}H_{31}CH(OH)CH(NH_2)CH_2OH$ [*oxalate* m. 190° (decompn.)]. Hydrogenating 34.2 g. $C_{15}H_{31}CH(OAc)COCH_2OAc$ in 600 cc. MeOH satd. with NH_3 6 hrs. at 60° and 1500 lbs. with Raney Ni gives 21.5 g. $C_{15}H_{31}CH(OH)CH(NH_2)CH_2OH$ [*oxalate*, m. 198° (decompn.); *tri-Ac deriv.*, m. 92–3°; *N-Ac deriv.*, needles, m. 125–6°]. F. E. Brauns

MAF 9-20-cu

Sphingolipides. II. Synthesis of enantiomeric sphingines. D. E. Funke and M. Protiemić (Univ. Zagreb, Yugoslavia). *J. Org. Chem.* 19, [illegible](1963); cf. *C.A.* 48, 12456*f*.—$C_{16}H_{31}COCl$, b_9 164°, prepd. in 92% yield by heating 54.1 g. $C_{16}H_{31}CO_2H$ and 50 cc. $SOCl_2$ 2 hrs., is treated in 50 cc. ether with CH_2N_2 in ether at 0–5°, giving $MeCH_2(n\text{-}C_{14}H_{29})CHCOCHN_2$ (I), m. 57–8°. Adding I to 150 cc. AcOH contg. 2 g. NaOAc at 60–70° and refluxing the mixt. 1 hr. give 82% $C_{16}H_{31}COCH_2OAc$ (II), m. 76.5–8° after chromatographic purification. Refluxing 32.65 g. II in abs. EtOH with $HONH_2$ (from 10 g. HCl salt) in abs. EtOH 10 hrs., distg. off the EtOH, pouring the residue into 100 cc. H_2O, and extg. with ether give 20% $C_{16}H_{31}C(:NOH)CH_2OH$ (III), m. 91–2°. From the mother liquor is obtained 65.5% of a waxy material (IV), probably a mixt. of II *oxime* and III. Reducing 1.69 g. II in 90 cc. abs. MeOH and 20 cc. $PhCH_2NH_2$ with 100 mg. PtO_2 in 20 cc. abs. MeOH 2 hrs. at atm. H pressure and 20°, making the filtered mixt. alk. with 3 g. KOH, extg. with ether, and concg. the washed and dried ether ext. give 60% $C_{16}H_{31}CH(NHCH_2Ph)CH_2OH$ (V), m. 72–4° with a transition in cryst. form at 57–8°. Refluxing 2.19 g. III in 100 cc. abs. ether with 1.12 g. $LiAlH_4$ in 100 cc. ether 5 hrs. gives 85% $C_{16}H_{31}CH(NH_2)CH_2OH$ (DL-sphingine) (VI), glistening plates, m. 79–80°. Treating 5.14 g. IV in the same way gives 62% VI, m. 76–7°. Shaking 470 mg. V in 20 cc. 95% EtOH with 500 mg. Pd-$BaSO_4$ in 10 cc. 95% EtOH gives 78.5% VI, m. 78–80° (*N-Ac deriv.*, prepd. by treatment with Ac_2O-C_5H_5N and hydrolysis of the di-Ac deriv., m. [illegible] *N-Ac deriv.*, m. 92.5–4°). VI *d-tartrate* m. [illegible] decomp.) *di-benzoyl-d-tartrate* m. 143–4°. VI is resolved by dissolving 720 mg. L-glutamic acid in 30 cc. H_2O and 50 cc. 95% EtOH and 1.4 g. VI in 40 cc. EtOH and cooling the mixt., giving 850 mg. L(+)-*sphingine* L-*glutamate* (VII), m. 150–2° after another cryst. from 80% EtOH. The mother liquors yield 572 mg. D(−)-*isomer* (VIII), m. 135–7°. Decompn. of 2.8 g. VII with 3*N* Na_2CO_3 and extn. with ether give 78.4% L(+)-*sphingine* (IX), m. 85–6°, $[\alpha]_D^{25}$ 4.82° (*c* 3.76, $CHCl_3$) [*di-Ac deriv.*, m. 100–3°, $[\alpha]_D^{25}$ −23.9° (*c* 2.046, $CHCl_3$); *N-Ac deriv.*, m. 97–8°, $[\alpha]_D^{25}$ −12.27° (*c* 2.737)]. Decompn. of VIII with Na_2CO_3 gives D(−)-*sphingine* (X), plates, m. 83–5°, $[\alpha]_D^{25}$ −4.92° (*c* 3.04) [*di-Ac deriv.*, m. 101–3°, $[\alpha]_D^{25}$ 22° (*c* 2.145); *N-Ac deriv.*, m. 97–8.5°, $[\alpha]_D^{25}$ 11.74° (*c* 2.49)]. An equimolar mixt. of IX and X m. 78–80.5° and shows no depression with racemic sphingine.

F. E. Brauns—

PROSTENIK, M.

USSR

Preparation of amines by reductive alkylation of benzylamine. M. Prostenik and N. Z. Stanaćev. *Farm. Glasnik* 10, 107–11(1954)(English summary).—A 2-step laboratory-scale prepn. of primary amines is described: 1. reductive alkylation of benzylamine and 2. hydrogenolysis of *N*-substituted benzylamines obtained in reaction 1 to the corresponding primary amines. Using this method cyclohexanone, acetophenone, and furfural were converted to cyclohexylamine, *dl*-α-phenylethylamine and tetrahydrofurfurylamine in good yields. 17 references. V. Mihajlov

YUGO

The sphingolipides series. III. Preparation of sphingine by the catalytic reduction of tribenzoylsphingosine. M. Munk-Weinert, D. E. Sunko, and M. Prostenik (Univ. Zagreb, Yugoslavia). *J. Org. Chem.* 19, 378–80(1954); cf. *C.A.* 49, 173g.—Tribenzoylsphingosine (1.1 g.), m. 118–20°, is hydrogenated in 90 cc. EtOH with 200 mg. Adams' PtO_2 catalyst 3 hrs. at 24° and atm. pressure, the filtered soln. is evapd. *in vacuo* to dryness, the residue taken up in ether, and the washed ($NaHCO_3$, H_2O) ether soln. evapd., giving 72.4% *O,N-dicyclohexanoylsphingine* (I), m. 90–1°, $[\alpha]_D^{23}$ 21.36° (*c* 2.336, $CHCl_3$). From the aq. washings cyclohexanecarboxylic acid, m. 29–30°, is isolated. Heating 300 mg. I with 15 cc. *N* KOH-MeOH 1 hr. at 40° gives 84% *N-cyclohexanoylsphingine* (II), platelets, m. 115.5–16°. Refluxing 250 mg. I with 5 g. 10% H_2SO_4-MeOH 24 hrs. gives 85.1% D-sphingine (III), m. 84–5°. Refluxing similarly 90 mg. II with 10% H_2SO_4-MeOH gives 97% III, m. 86–7°, $[\alpha]_D^{23}$ −5.1° (*c* 3.14, $CHCl_3$). F. E. B.

B I

Prostenik, M.

YUGO.

The reaction of α-phthalimidoacid chlorides with substituted sodiomalonates. A method for the preparation of α-amino ketones and related compounds. D. E. Sunko and M. Prostenik (Univ. Zagreb, Yugoslavia). *Arhiv kem.* 26, 7–14(1954)(in English).—Bowman's method (*C.A.* 47, 8938c) for the synthesis of ketones was used to prepare α-phthalimido ketones and α-amino ketones. A soln. of 5 g. $PhCH_2CH(CO_2Et)_2$ in 30 ml. C_6H_6 was added to 0.02 mole of dry NaOEt, then 4.32 g. $PhCH_2OH$ was added, a C_6H_6–EtOH azeotrope distd. off, a soln. of 4.48 g. o-$C_6H_4(CO)_2NCH_2COCl$ (I) in C_6H_6 added to the residue, and the mixt. refluxed 30 min. and poured in 100 ml. ice water acidified with H_2SO_4. The org. layer was sepd., the aq. layer extd. with C_6H_6, the combined exts. washed with H_2O, dried and evapd., the residue dissolved in 25 ml. dioxane, and 200 ml. EtOH added to give after scratching 2.4 g. (21.4%) o-$C_6H_4(CO)_2NCH_2COC(CO_2CH_2Ph)_2CH_2Ph$ (II), colorless prisms, m. 101–2° (from EtOH–dioxane). To a soln. of 25.2 g. 3,4-dihydro-2*H*-pyran in 100 ml. C_6H_6 contg. one

drop H_2SO_4 19.45 g. $PhCH_2CH(CO_2H)_2$ (III) was added, the mixt. stirred 30 min., 4 g. anhyd. K_2CO_3 added, the mixt. stirred again 30 min., the soln. decanted from inorg. material, evapd. *in vacuo* below 30°, and the residue dissolved in 100 ml. C_6H_6. This soln. was added to 2.3 g. Na suspended in 200 ml. C_6H_6, stirred until dissolved, a soln. of 21 g. I in 100 ml. C_6H_6 added slowly, let stand 1 hr., 10 ml. AcOH added, refluxed 2.5 hrs., washed with H_2O, evapd., the residue dissolved in 60 ml. EtOH and let stand in cold to give 10 g. (36.4%) *o*-$C_6H_4(CO)_2NCH_2COCH_2$-CH_2Ph (IV), m. 116.5° (from EtOH). The same compd. was prepd. by a 10-hr. hydrogenating I g. II in 30 ml. EtOAc over 1 g. 10% Pd-$BaSO_4$ at room pressure and temp., evapg. of solvent, and heating 30 min. at 100° in 98.6% yield; oxime, m. 140–1° (from EtOH). A soln. of 14.57 g. C_6H_5Br in 50 ml. C_6H_6 was added to a soln. prepd. from 8 g. $CH_2(CO_2Et)_2$ and NaOEt (from 1.15 g. Na) in 50 ml. C_6H_6, refluxed 12 hrs., 100 ml. H_2O added and acidified with dil. HCl. The org. layer was sepd., dried, distd. *in vacuo* up to 130°/0.3 mm., a soln. of 15 g. KOH in 12 ml. H_2O added to the residue, hydrolysis effected by shaking, 100 ml. H_2O added, the mixt. acidified with 5*N* HCl, extd. with Et_2O, evapd., residue crystd. from C_6H_6 to give 8.9 g. (63%) $C_6H_5CH(CO_2H)_2$ (V), m. 114–15°. A soln. of C_6H_5CH-$(CO_2R)_2$ (R = tetrahydro-2-pyranyl) (prepd. from 8.56 g. V in the same manner as described for III) was added to 0.04 mole dry NaOEt, then 8.90 g. I in 30 ml. C_6H_6 was added; let stand 2 hrs., 4 drops AcOH added, refluxed 2

hrs., washed with H_2O, evapd., and 20 ml. EtOH added to the residue to give 3.9 g. *o*-$C_6H_4(CO)_2NCH_2CO(CH_2)_3Me$, m. 89–90° (from EtOH); oxime, m. 108–110°. A soln. of 0.5 g. IV, 4 ml. $(HOCH_2)_2$ and 0.02 g. *p*-$MeC_6H_4SO_3H$ in 30 ml. PhMe was slowly distd. collecting 10 ml. of distillate during 4 hrs., the residue washed with 2*N* $NaHCO_3$ and H_2O, dried and evapd. to give 0.51 g. ethylene ketal of IV, m. 114–18°; analytical sample 0.38 g., m. 125–5.5° (from EtOH). A soln. of 1 g. IV in 10 ml. AcOH was heated with 3 ml. III (d. 1.90) for 10 hrs. on a steam bath, the solvent evapd. *in vacuo*, the residue dissolved in H_2O and extd. with $CHCl_3$, the aq. soln. coned. *in vacuo* and filtered, the filtrate evapd. *in vacuo*, the residue dissolved in abs. EtOH, Et_2O added, the solvent decanted, the dissolution and pptn. of crystals repeated twice, and finally crystd. from abs. EtOH-petr. ether to yield 0.32 g. of colorless needles of $PhCH_2CH_2COCH_2NH_2.HI$, m. 123–3°. This was dissolved in 1.5 ml. AcOH, 0.32 g. anhyd. NaOAc and 0.4 ml. BzCl was added, heated 10 min. on a steam bath and dild. with 15 ml. H_2O to give 0.29 g. $PhCH_2CH_2COCH_2NHBz$, m. 86.5–7.5° (from EtOH-H_2O 3:1); oxime, m. 151–2° (from C_6H_6). IV (3 g.) was reduced with 1.5 g. $LiAlH_4$ in 300 ml. Et_2O in a Soxhlet extractor to give 2.82 g. partly crystd. oil, which gave with $(CO_2H)_2$ in EtOH soln. the oxalate of *o*-$C_6H_4(CH_2)_2NCH_2CH(OH)CH_2CH_2Ph$, m. 158°

(decompn.) (from EtOH). A mixt. of 10 ml. OCH_2CH_2OH, 1.5 g. IV, 2.5 ml. $NH_2NH_2.H_2O$, and 2 g. KOH was heated under reflux for 90 min. at 130° and 2 hrs. at 200–10°, cooled, dissolved in H_2O, distd. with steam, distillate (90 ml.) satd. with K_2CO_3, extd. with Et_2O, exts. dried, evapd., and the residue (0.5 g. oil) treated in EtOH soln. with $(CO_2H)_2$ to give the oxalate of $PhCH_2CH(CO_2H)CH_2CH_2NH_2$, m. 142–5° (decompn.) (from EtOH); picrate, m. 185–6° (from aq. EtOH then C_6H_6). To a soln. prepd. by addn. of 0.04 mole $PhCH_2CH(CO_2R)_2$ (R = tetrahydro-2-pyranyl) in 30 ml. C_6H_6 to 0.04 mole dry NaOEt a soln. of 9.5 g. *o*-$C_6H_4(CO)_2NCHMeCOCl$ in 40 ml. C_6H_6 was added slowly below 30° to give, after 8 hrs.' standing, refluxing for 15 hrs., cooling, washing with H_2O and evapg. *in vacuo*, 10.2 g. of a yellow oil. This, 13.38 g., refluxed 1 hr. with a soln. of 10 g. Girard T reagent and 15 g. AcOH in 135 ml. abs. EtOH, then added to an ice-cold soln. of 9 g. NaOH in 1000 ml. H_2O, extd. with Et_2O (9.65 g., 50%, of nonketonic material), aq. layer acidified with 100 ml. 12*N* HCl, let stand 1 hr., ether-extd., org. layer dried and evapd., yielded 5.22 g. (39%) crude ketonic fractions; 2.32 g. of it in 20 ml. C_6H_6 was chromatographed on 20 g. alumina and eluted with 10-ml. portions of C_6H_6. Fractions 5–16 were combined (0.5 g. oil) and converted to the oxime of *o*-$C_6H_4(CO)_2NCHMeCOCH_2CH_2Ph$, m. 170–3° (from EtOH-petr. ether), $[\alpha]_D^{25}$ 5.31° (*c* 1.32, $CHCl_3$).

E. Gustaf

PROSTENIK, M.

4

YUGO.

Synthesis of optically active 2-aminooctadecanes. M. Munk-Weinert and M. Prostenik (Univ. Zagreb, Yugoslavia). *Arhiv Kem.* 26, 49–58 (1954) (in English).—To a soln. of $AcCHNaCO_2Et$ (from 5.18 g. Na, 100 ml. EtOH and 55 ml. $AcCH_2CO_2Et$) 65.35 g. $C_{14}H_{29}Br$ was added, the mixt. refluxed 6 hrs., 60 g. KOH in 60 ml. H_2O added, the mixt. kept 30 min. at 60° with shaking, refluxed 2 hrs. with 400 ml. 5*N* HCl, extd. with Et_2O, washed with 5% KOH and H_2O, dried, evapd., and the residue crystd. twice from EtOH to give 33.2 g. (55%) $C_{14}H_{29}Ac$ (I), m. 53°; 2,4-dinitrophenylhydrazone, m. 92° (from EtOH); oxime (II), m. 67–9° (from EtOH). A soln. of 2.69 g. I and 5 ml. $PhCH_2NH_2$ in 25 ml. EtOH was hydrogenated 3.5 hrs. over PtO_2 (from 45 mg. PtO_2) to give 3.23 g. (89.9%) DL-2-benzylaminooctadecane (III), $b_{0.01}$ 200–5°; neutral oxalate, m. 131–3° (from abs. EtOH). II (5 g.) in 100 ml. anhyd. Et_2O was dropped into a soln. of 1.4 g. $LiAlH_4$ in 75 ml. anhyd. Et_2O, refluxed 1 hr., theoretical amt. of H_2O added, Et_2O layer dried and evapd. to leave 4.64 g. crude DL-2-aminooctadecane (IV), m. 45–55°. The same compd., $b_{0.3}$ 135–7°, m. 65–75° [oxalate, m. 150–2° (from abs. EtOH); *d*-tartrate, m. 125–6° (from EtOH); dibenzoyl-*d*-tartrate, m. 160–2° (from abs. EtOH)], was prepd. (93.7% yield) by reduction of 3 g. III in 25 ml. EtOH over 1 g. Pd-$BaSO_4$ catalyst in 3 hrs. at room temp. and pressure. A mixt. of 0.23 g. IV, 1 ml. Ac_2O, and 1 ml. C_5H_5N heated 0.5 hr. at 100° gave 0.21 g. *dl*-2-acetoamidooctadecane (V), m. 82° (from EtOH). To a soln. of 18 g. III in 40 ml. Me_2CO 9.6 g. *l*-benzoylalanine (VI) was added, heated on a steam bath, let stand overnight, sepd. crystals filtered off (13.35 g., 96.7%) and crystd. twice from 50 ml. Me_2CO to give 8.84 g. (64%) VI salt (VII) of III, m. 80°, $[\alpha]_D^{20}$ 22.6° (*c* 2.5, EtOH);

mother liquors from VII were evapd., residue dissolved in Et_2O, washed with 2*N* Na_2CO_3 and H_2O, residue (8.96 g. oil) dissolved in 25 ml. Me_2CO, 4.812 g. D-VI added and the sepd. crystals crystd. twice from 35 ml. Me_2CO to give 8.93 g. (64.7%) (−)-VII, m. 50°, $[\alpha]^{25}_D$ −22.0° (*c* 2.5, EtOH). A soln. of 5.96 g. (+)-VII in Et_2O was mixed with 2*N* Na_2CO_3, the Et_2O layer washed with H_2O, dried, evapd. and the residue distd. *in vacuo* to give 3.59 g. (−)-2-benzylaminooctane (VIII), b_{5-6} 153–6°, $[\alpha]^{25}_D$ −8.95°, d_{25} 0.8690. By catalytic debenzylation of 2.59 g. VIII in the same manner as described for III, 1.94 g. (−)-IV, b_{5-6} 132–3°, $[\alpha]^{25}_D$ −2.62° (*c* 4.58, $CHCl_3$) was obtained. (−)-IV, 0.54 g., gave 0.58 g. (+)-V, m. 90–1°, $[\alpha]^{25}_D$ 4.34° (*c* 4.84, $CHCl_3$). From 0.135 g. (−)-IV and 0.074 g. *o*-$C_6H_4(CO)_2O$, heated 1 hr. at 140°, 0.165 g. (−)-2-phthalimidooctane (IX) was obtained, m. 61–2°, $[\alpha]^{25}_D$ −11.07° (*c* 2.8, $CHCl_3$). Analogously: (+)-III [4.46 g. from 7.22 g. (−)-VIII], b_{5-6} 153–5°, $[\alpha]^{25}_D$ 8.24°; (+)-IV, b_{5-6} 132–4°, $[\alpha]^{25}_D$ 2.80° (*c* 5, $CHCl_3$); (−)-V, m. 90–1° (from EtOH), $[\alpha]^{25}_D$ −4.75° (*c* 4.84, $CHCl_3$); (+)-IX, m. 61–2° (from EtOH), $[\alpha]^{25}_D$ 10.67° (*c* 3, $CHCl_3$).

E. Gustak

PROSTENIK, M.

YUGOSLAVIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27011.

Author : Prošťenik, M., Stanaćev, N.Ž.
Inst :
Title : Studies in The Sphingolipids Series. V. Synthesis of Racemic Dihydrosphingosine Derivatives Starting with DL-serine.

Orig Pub: Arhiv kemiju, 1955, 27, No. 4, 197 - 201.

Abstract: It is shown that derivatives of DL-serine can serve as initial compounds for the synthesis of fragments of the C_{18} chain of sphingosine. The following derivatives of sphingosine were synthetized: 1-ethoxy-2-(N-isoindolinyl)-3-oxyoctadecane (I) and 1-ethoxy-2-phthaloylamino-3-oxyoctadecane (II). The initial α-phthaloylamino-β-ethoxypropionic acid (III) was prepared

Card 1/3

YUGOSLAVIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27011.

by boiling α-amino-β-ethoxypropionic acid with phthalic anhydride in toluene distilling water off (yield 78%, melting point 135°), or of ethyl ester of α-bromo-β-ethoxypropionic acid (saponification, reaction with NH_4OH, further same as mentioned above) yield 60%. Acid chloride of III (prepared of III and $SOCl_2$, yield 91.5%, melting point 70 to 71°) was introduced into the reaction with dibenzyl ester of natrotetradecimalonic acid, the reaction product was debenzylated by catalytic hydrogenation in alcohol solution (10%-ual Pf/$BaSO_4$). The filtrate was boiled 4 hours in order to decarboxylize it, concentrated by evaporation and diluted with petroleum ether; the precipitated

Card 2/3

YUGOSLAVIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. E-3

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27011.

deposit was discarded, and 1-ethoxy-2-phthaloyl-aminooctadecanone-3 (IV), yield 10.5%, melting point 40 to 40.5° (from abs. alc.), was separated from the mother liquor (by chromatographing with Al_2O_3 from solution in C_6H_6). I was prepared by reducing IV with $LiAlH_4$ in ether (boiling 10 hours), yield 37%, melting point 59 to 60° (from alc.). II was prepared by reducing 2 g of IV with $NaBH_4$ (in CH_3OH + dioxane; 24 hours at 20° and purified by chromatographing with Al_2O_3, yield 55 mg, melting point 80 to 81° (from alc.). See RZhKhim, 1956, 23203 for report IV.

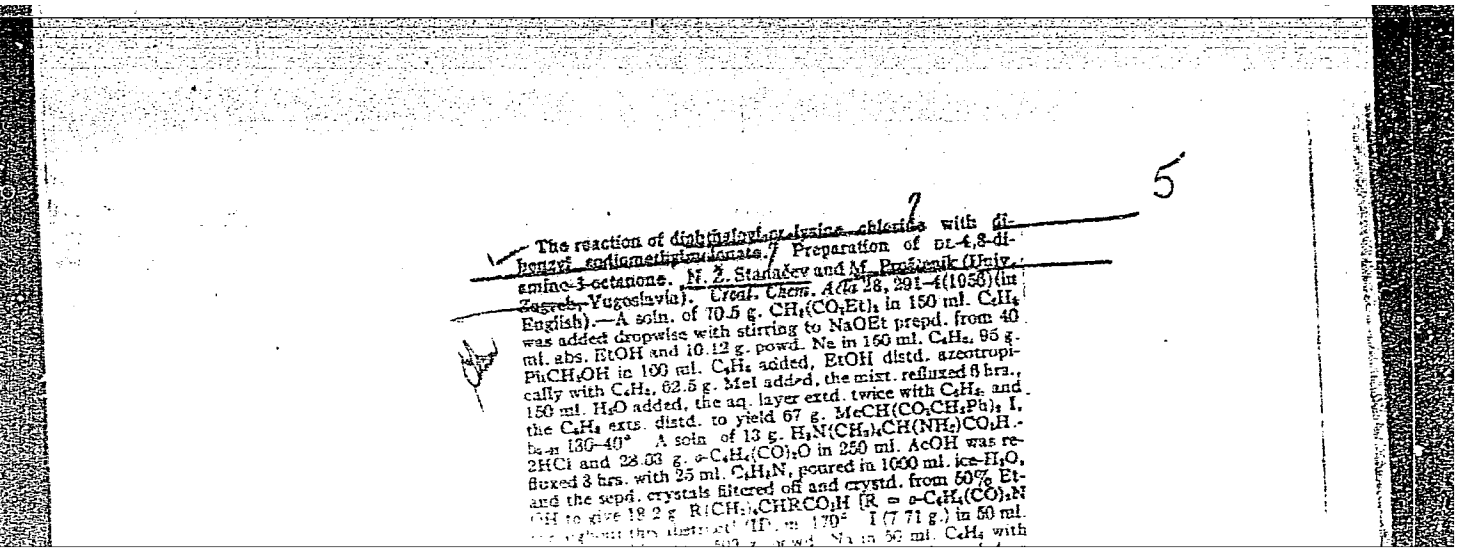
Card 3/3

PROSTENIK, M.

Necrosamine series. II. Synthesis of racemic 4, 5-diaminonadecane. III. Preparation of 4-(O-carboxybenzamido-)5-benzylaminoeicosane and its hydrolysis to 4-amino-5 hydroxyeicosane. IV. Preparation of 2-methyl-3-hexahydrophthalimido-4-aminononadecane. In English.

P. 211(Croatica Chemica Acts. Vol. 28, no. 3, 1956. Zagreb, Yugoslavia)

Monthly Index of East European Accessions (EFAI) LC. Vol. 7, no. 2, February 1958



The reaction of dialkylaryl-α-lysine chlorides with dibenzyl sodiomethylmalonate. Preparation of DL-4,8-diamino-3-octanone. N. Ž. Stanačev and M. Protežnik (Univ., Zagreb, Yugoslavia). *Croat. Chem. Acta* 28, 291–4(1958)(in English).—A soln. of 70.5 g. $CH_4(CO_2Et)_2$ in 150 ml. C_6H_6 was added dropwise with stirring to NaOEt prepd. from 40 ml. abs. EtOH and 10.12 g. powd. Na in 160 ml. C_6H_6. 95 g. $PhCH_2OH$ in 100 ml. C_6H_6 added, EtOH distd. azeotropically with C_6H_6, 62.5 g. MeI added, the mixt. refluxed 6 hrs., 150 ml. H_2O added, the aq. layer extd. twice with C_6H_6 and the C_6H_6 exts. distd. to yield 67 g. $MeCH(CO_2CH_2Ph)_2$ I, b$_{0.5}$ 130–40°. A soln. of 13 g. $H_2N(CH_2)_4CH(NH_2)CO_2H$·2HCl and 28.03 g. o-$C_6H_4(CO)_2O$ in 250 ml. AcOH was refluxed 3 hrs. with 25 ml. C_5H_5N, poured in 1000 ml. ice-H_2O, and the sepd. crystals filtered off and crystd. from 50% EtOH to give 19.2 g. $R(CH_2)_4CHRCO_2H$ [R = o-$C_6H_4(CO)_2N$] (II), m. 179°. I (7.71 g.) in 50 ml. [illegible] with 0.92 g. powd. Na in 50 ml. C_6H_6 with

PROSTENIK, M.

YUGOSLAVIA / Organic Chemistry. Natural Substances and Their Synethetic Analogues. G

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50522

Author : Stanacev, N.Z.; Prostenik, M.
Inst : -
Title : On the Reaction of dipthaloyl-DL-Lysine chloride With dibenzylsodiomethylmalonate. Preparation of DL-4,8-diamino-3-octanone.

Orig Pub : Croat. chem. acte, 1956, 38, #4, 291-294 (Eng.)

Abstract : A synthesis of DL-4,8-diamino-3-octanone (I), based on the reaction of diphthaloyl-DL-Lysine chloride (II) with dibenzyl-sodiomethylmalonate (III) is described. Attempt of preparation of I from III and DL-2-phthalimido-6-benzamido-caproate was not successful. Into a suspension of 10.12 g of pulverized Na in 150 ml of benzene

Card 1/ 5

YUGOSLAVIA / Organic Chemistry. Natural Substances and Their Synethetic Analogues. G

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50522

were added 40 ml of ethanol. Upon dissolution of Na a solution of 70.5 g diethylmalonate in 150 ml of benzene was added, followed by the addition of a solution of 95 g phenyl carbinol in 100 ml of benzene. At the same time excess of ethanol was driven off as an azeotropic mixture with benzene. 62.5 g of CH_3I were introduced and the mixture was boiled for 6 hours, finally 150 ml of H_2O were introduced and benzene layer was distilled off. The yield of dibenzyl methyl malonate (IV) was 51%, b.p. 130-140° (0.02 mm). A solution of 13 g of DL-Lysine dichloride and 28.03 g phthalic anhydride in 250 ml of gl acetic acid, was boiled for 3 hours with 25 ml of pyridine. The solution was then

Card 2/5

43

YUGOSLAVIA / Organic Chemistry. Natural Substances and Their Synethetic Analogues. G

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50522

poured into cold water. The yield of diphthaloyl-DL-Lysine (V) was 75%, m.p. 169-170° [fr. 96% ethanol + water (1:1)] - 10 g V were boiled for 1 hour, with 30 ml of thionychloride (VI), and the excess of VI was driven off in vacuum. In that manner 10.98 g II (oil) were obtained, but could not be further purified. Into a suspension of 0.593 g of powdered Na in 50 ml benzene a solution of 7.71 g IV in 50 ml C_6H_6 was added. The mixture was boiled until the disappearance of Na and cooled to ~20°, subsequently a solution of 10.98 g II in 50 ml C_6H_6 was added. After stirring for 12 hours the contents were poured into water, containing a few drops of conc. H_2SO_4. Benzene layer was evaporated in

Card 3/5

YUGOSLAVIA / Organic Chemistry. Natural Substances and Their Synethetic Analogues. G

Abs Jour : Ref. Zhur.- Khimiya, No. 15, 1958, No. 50522

vacuum, the residue was dissolved in 50 ml of dioxane and hydrogenated over 1 g of 10% Pd/$BaSO_2$. When no more hydrogen was absorbed a fresh portion of catalys ($\sim$1 g) was added twice. The filtrate was boiled for 2 hours, (decarboxyla'ed) was dried in vacuum, and the residue was heated for 1 hour (100°C) in vacuum, after which operation it was dissolved in 50 ml of C_6H_6; and chromatographed on activated Al_2O_3. From the eluents were obtained: 31.4% DL-4,8-diphthalimido-3-octanone(VII)(oil), which crystallized from an alcoholic solution, m.p. 90-91° (fr. dioxane), VII-2,4-dinitrophenylhydrazone, m.p. 104-105° (fr. 96% alc. containing HCl) and 2,4-dinitrophenyl hydrazone-

Card 4/5

YUGOSLAVIA / Organic Chemistry. Natural Substances and Their Synethetic Analogues. G

Abs Jour : Ref. Zhur. - Khimiya, No. 15, 1958, No. 50522

I-dichloride, 64.5% yield, m.p. 216-217° (fr. alc. cont. HCl). A mixture of 6g DL-2-amino-6-benzamidocaproate and 3.55 g of phthalic anhydride was heated on an oil bath to 130-140°, then it was cooled and the melt was dissolved in 100 ml of 96% alcohol. Finally water was added(until appearance of turbidity). The yield of 2-phthalimido-6-benzamido-caproate was 88%, its m.p. 161-162°. -- Y. Shvatchkin

Card 5/5

PROSTENIK, M.

A synthetic investigation in the necrosamine series. M. Prostenik and P. Alaupović (Univ. Zagreb, Croatia, Yugoslavia). *Naturwissenschaften* 43, 349–50 (1956).—Prepn. of racemic necrosamine, $Me(CH_2)_{11}CH(NH_2)CH(NH_2)C_7H_7$ (Ikawa, *et al.*, *C.A.* 48, 10575*i*) proceeded from a Bowman ketone synthesis between dibenzyl tetradecylmalonate and *N*-phthaloyl-DL-norvaline acid chloride or *N*-phthaloyl-DL-valine acid chloride which yielded 4-phthalimido-5-icosanone (I), m. 38–3.5°, and 2-methyl-3-phthalimido-4-nonadecanone (II), m. 52–3°, resp. I and II hydrolyzed with HBr gave 4-amino-5-icosanone-HBr (III), m. 95–6°, and 2-methyl-3-amino-4-nonadecanone-HBr (IV), m. 127–7.5°. Oximes of III and IV reduced over PtO_2 and the corresponding diamines isolates as the di-HCl salts gave 4,5-diaminoeicosane-2HCl, m. 265–7° (H_2O) [diacetyl deriv. m. 122–3° (MeCN)], and 2-methyl-3,4-diaminononanedecane-2HCl, m. 225–6° (alc.) [diacetyl deriv. m. 138–8° (MeCN)].

I. M. Lagowski

YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

Author : Stanacev N. Z., Prostenik M.
Inst :
Title : Studies in the Sphingolipids Series. IX. Synthesis of DL-2-Amino-1,3,4-Trihydroxy-Octadecane and of Its C_4-Methyl Ether

Orig Pub: Croat. chem. acta, 1957, 29, No 2, 107-113.

Abstract: DL-2-amino-1,3,4-trihydroxy-octadecane (I) and its C_4-methyl ether (II) are prepared over the intermediate compounds: 2-methoxy-hexadecanoic acid (III) ——→ ethyl ester of 2-methoxy-hexadecanoylaceto-acetic acid (IV) ——→ ethyl ester of (2-p-nitro-phenyl-hydrazone)-2,3-dioxo-4-methoxy-octadecanoic

Card : 1/6

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

acid (V) ——> ethyl ester of 2-acetamido-3-oxo-4-methoxy-octadecanoic acid (VI) ——> 1,4-lactone of 2-amino-3-hydroxy-octadecanoic acid (VII). 0.659 mole methyl ester of 2-bromohexadecanoic acid, obtained by bromination of palmitic acid (see Sintezy org. preparatov, 3, 275, M., 1952) and subsequent esterification with CH_3OH, are boiled for 3 hours with a solution of $NaOCH_3$ (18.4 g Na and 450 ml absolute CH_3OH), and for 1 hour with a solution of 40 g NaOH in 200 ml water, poured into 500 ml 100% H_2SO_4; yield of III 74.8%, MP 73-74° (from petroleum ether). $SOCl_2$ is distilled off, after 24 hours (20°), from 0.035 mole III and 25 ml $SOCl_2$, to get the anhydride of 2-methoxy-hexadecanoic acid (VIII). A suspension

YUGOSLAVIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

of 6.9 g Na in 150 ml absolute ether is stirred with 0.35 mole ethyl acetate in 100 ml absolute ether for 1 hour at a boil and then for 12 hours at 20°, 0.245 mole VIII in 100 ml absolute ether are added within 15 minutes (0°), the mixture is stirred for 2 hours and is then boiled for 1 hour, 50 ml 10% HCl are added and 90.5% crude IV are extracted with ether. Solution of10.75 g IV in 250 ml 86% alcohol is mixed with 30 ml 50% solution CH_3COONa and stirred for 30 minutes at 20°, then the mixture is stirred for 15 minutes with 20 g CH_3COONa, there are added 0.03 mole p-nitraniline (diazotized with 0.03 mole $NaNO_2$ and 9 ml HCl, and adjusted to pH 6.5 with 12 g CH_3COCNa and 2 g NH_4Cl), mixture is stirred for 1 hour (20°), diluted

Card : 3/6

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

with water, and ether is used to extract 34% V, MP 73-74° (from alcohol). To mixture of 15 g Zn-powder, 60 ml glacial CH_3COOH and 30 ml $(CH_3CO)_2O$ is added dropwise a solution of 12.8 mole V in 90 ml glacial CH_3COOH at 15-20°, the mixture is stirred vigorously for 3 hours, and then for 3 hours at 40-45°; yield of VI 64.8%, MP 83-84° (from petroleum ether). Solution of 10 m-mole VI and 15 m-mole $NaBH_4$ in 100 ml CH_3OH containing 3 drops of 45% KCH is allowed to stand for 48 hours at 20°, is then diluted with water and the evaporated ether extract is boiled for 5 hours with 50 ml 48% HBr to get 78.9% VII. HBr, MP 120-135° (from ethyl acetate). Solution of 3 g VII. HBr and 3 g $LiAlH_4$ in 100 ml tetrahydrofuran is boiled for 4 hours, excess $LiAlH_4$ is decomposed

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

with water, the oil thus obtained is diluted with 25 ml absolute alcohol and allowed to stand for 24 hours with 10 ml saturated solution of oxalic acid in absolute alcohol, to get 680 mg of the oxalate of I, MP 200-202° (from alcohol; decomposes) and 240 mg of MP 218-220° (from alcohol; decomposes). 680 mg oxalate of I (MP 200-202) are shaken with 25 ml 5% KOH; $CHCl_3$ extracts 9.24% I, MP 112-118° (from CH_3CN), and there are obtained 17.64% of $CHCl_3$-insoluble form of I, MP 136-138° (from CH_3CN). To a suspension of I, MP 112-118° (100 mg), in ether (50 ml) are added, gradually and with vigorous stirring, 10 ml 1 N NaOH and 1 ml benzoyl chloride; the resulting partially crystallized oil

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43256.

is allowed to stand with 1 ml 45% KOH in 20 ml CH_3OH (18 hours, 20°), to get 55 mg of D-2-benzamido-1,3,4-trihydroxy-octadecane, MP 112-113° (from acetone). After boiling for 2 hours and letting it stand for 12 hours, a mixture of 3.7 m-mole V, 1.05 g $LiAlH_4$ and 70 ml ether is decomposed with water and the substance extracted with ether is hydrogenated over Pd/C in 50 ml alcohol, 50 ml ether and 3.43 ml concentrated HCl-acid, and evaporated; the portion soluble in ethyl acetate is shaken with 2 N Na_2CO_3 and II that is extracted with ether is precipitated as the oxalate from absolute alcohol, yield 395 mg, MP 174-176° (decomposes). Communication VIII see RZhKHim, 1958, 36323.

Distr: 4E2c(j)

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Application of the asymmetric synthesis in the determination of the configuration of amino alcohols and diamines with two adjacent asymmetric carbon atoms. M. Protiva, F. Alaupović (Univ. Zagreb, Yugoslavia). *Croat. Chem. Acta* 29, 393–402(1957)(in English).—To a suspension of 1.93 g. Na powder in 250 ml. C_6H_6 was added a soln. of 4.04 g. $Me(CH_2)_{11}CH(CO_2CH_2Ph)_2$ in 250 ml. C_6H_6, the mixt. stirred 1–2 hrs. at room temp., a soln. of 20 g. L-MeCHRCOCl [R = *o*-$C_6H_4(CO)_2N$ throughout this abstr.] in 150 ml. C_6H_6 added, the thick, turbid mixt. allowed to stand overnight, poured into ice H_2O contg. few drops of H_2SO_4, extd. with C_6H_6, the solvent evapd. *in vacuo*, the residue dissolved in 400 ml. EtOH, hydrogenated over two 3-g. portions of Pd-$BaSO_4$ for 12 hrs. at 20°, the catalyst removed, the filtrate refluxed 2 hrs., the solvent evapd., the residue dissolved in 50 ml. C_6H_6, allowed to stand overnight, the cryst. $Me(CH_2)_{11}CH(CO_2H)_2$ (4.05 g.) filtered off, the filtrate chromatographed on 150 g. Al_2O_3, and eluted with C_6H_6 gave 12.2 g. D-MeCHRCO$(CH_2)_{11}$Me (I), m. 73–3.5° (EtOH), $[\alpha]_D^{20}$ −3.1° (*c* 11, $CHCl_3$). I (2.9 g.) refluxed with 30 ml. HOAc and 25 ml. 66% HBr 10 hrs., the acid evapd. *in vacuo*, the residue refluxed with 50 ml. $CHCl_3$, *o*-$C_6H_4(CO_2H)_2$ (1.1 g.) filtered off, the filtrate evapd. *in vacuo*, and the residue crystd. from EtOAc gave 2.3 g. D-MeCH(NH_2)CO$(CH_2)_{11}$Me.HBr (II), m. 115–16° (from 10:1 EtOAc-EtOH), $[\alpha]_D^{20}$ −3.5° (*c* 3.4, C_5H_5N). II (4 g.) refluxed 3 hrs. with a soln. of $NH_2OH.HOAc$ (prepd. from 4 g. $NH_2OH.HCl$, 10 g. NaOAc, and 80 ml. EtOH), the solvent removed, and the residue treated with 200 ml. H_2O gave 3 g. D-MeCH(NH_2)C(:NOH)$(CH_2)_{11}$Me (III), m. 123–4° (EtOAc). III was converted to D-*erythro*-Me[CH(NH_2)]-$(CH_2)_{11}$Me.2HCl (IV) in the following ways. III (1.5 g.) extd. from a Soxhlet thimble with Et_2O into a soln. of 3 g. $LiAlH_4$ in 500 ml. Et_2O during 50 hrs., 20 ml. H_2O added, the Et_2O dried, satd. with HCl, and allowed to stand overnight in a refrigerator yielding 1.25 g. IV, m. 304–6° (EtOH-Et_2O), $[\alpha]_D^{20}$ 0.86° (*c* 2.69, EtOH). III (0.4 g.) in 100 ml. EtOH and 1 ml. HCl hydrogenated with Adams catalyst for 24 hrs., the Pt filtered off, the filtrate evapd., the residue treated with 10 ml. 2*N* NaOH, extd. with Et_2O, and the dried Et_2O satd. with HCl gave 0.22 g. IV. IV (0.1 g.) was added to 5 ml. 2*N* NaOH, extd. with Et_2O, the solvent evapd., and the residue dissolved in 10 ml. EtOH and CS_2 yielding dithiocarbamate salt, m. 125–7°, which was refluxed 2 hrs. with 10 ml. EtOH, the solvent evapd., and the residue crystd. from petr. ether yielding MeCH.NH.CS.NH.CH-$(CH_2)_{11}$Me, m. 88–9°, $[\alpha]_D^{20}$ −3.5° (*c* 2.6, EtOH). A suspension of 200 mg. IV in 10 ml. H_2O shaken with 10 ml. 2*N* NaOH, 1 ml. BzCl and 20 ml. 2*N* NaOH added, stirred 1 hr., extd. with 400 ml. Et_2O, the solvent evapd., and the residue crystd. from EtOH gave dibenzoyl-IV, m. 156–62°. A mixt. of 0.4 g. IV, 8 ml. Ac_2O, and 1 ml. C_5H_5N heated 2 hrs. at 100°, poured into 120 ml. 2*N* H_2SO_4, extd. with Et_2O, the ext. washed with H_2O, evapd., and the residue crystd. from MeCN gave 0.1 g. diacetyl-IV, m. 126–7°. I was converted to D-*erythro*- and D-*threo*-MeCH(NH_2)-CH(OH)$(CH_2)_{11}$Me (V) in the following ways. II (1.5 g.)

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1/2

M. Pesták and P. Alaupovič

was dissolved in 500 ml. Et_2O and 60 ml. C_4H_8O, refluxed with 1.5 g. $LiAlH_4$ for 12 hrs., 20 ml. H_2O added, the org. layer filtered, dried with Na_2SO_4, the solvent evapd. *in vacuo*, the residue dissolved in Et_2O, and satd. with HCl yielding 1.02 g. *erythro*-V.HCl, m. 177–9° (from 2:1 MeCN-EtOH), $[\alpha]_D^{25}$ 2.2° (*c* 2.78, EtOH). A soln. of 1.5 g. II in 200 ml. EtOH hydrogenated at room temp. with 200 mg. Adams catalyst, the Pt filtered off, the EtOH evapd., the residue shaken with 250 ml. 2*N* NaOH and 200 ml. Et_2O, the Et_2O layer washed with H_2O, dried, and satd. with HCl gave 740 mg. *erythro*-V.HCl; the ethereal mother liquor was evapd., and the residue crystd. from EtOAc yielding 120 mg. *threo*-V.HCl, m. 176–7°, $[\alpha]_D^{25}$ −0.86° (*c* 2.77, EtOH). A mixt. of 0.3 g. D-*erythro*-V, 40 ml. 2*N* NaOH, 20 ml. Et_2O, and 0.5 ml. BzCl shaken 20 min., the ppt. extd. with 300 ml. Et_2O, washed with H_2O, and the Et_2O dried and evapd. yielding 0.3 g. D-*erythro*-MeCH(NHBz)CH(OH)$(CH_2)_{14}$Me (VI), m. 108–9° (MeCN), $[\alpha]_D^{25}$ −4.05° (*c* 2.47, $CHCl_3$). In the same manner was prepd. D-*threo*-VI, m. 95–6°. D-*erythro*-V.HCl (0.3 g.), 5 ml. Ac_2O, and 10 ml. C_5H_5N heated 2 hrs. at 100°, the mixt. poured into 2*N* H_2SO_4, extd. with Et_2O, evapd., and the oily residue crystd. from MeCN gave 0.15 g. D-*erythro*-MeCH(NHAc)CH(OAc)$(CH_2)_{14}$Me (VII), m. 70–70.5°. VII (0.1 g.) was heated with 10 ml. *N* NaOH in EtOH at 40–50° for 1 hr., the mixt. poured into H_2O, the ppt. extd. with Et_2O, washed with H_2O, and the Et_2O evapd. yielding 60 mg. D-*erythro*-MeCH(NHAc)CH(OH)$(CH_2)_{14}$Me (VIII), m. 121–8° (MeCN). No acyl migration occurred when D-*erythro*-VI (0.1 g.) was treated with 10 ml. EtOH and 5 ml. 26.8% ethanolic HCl for 15 hrs. at room temp., or with 0.4 ml. of ethanolic HCl for 120 hrs. at room temp., or with EtOH and 10% HCl for 3 hrs. at reflux. D-*threo*-VI was converted to D-*threo*-V.HCl when treated for 120 hrs. at room temp. with ethanolic HCl. VIII was recovered unchanged when treated with 30% ethanolic HCl for 4 and 64 hrs. at room temp., but when VIII (48 mg.) was refluxed for 2 hrs. with 10 ml. EtOH and 2 ml. 10% HCl D-MeCH(NH_2)CH(OAc)$(CH_2)_{14}$Me.HCl, m. 94–5° (MeCN), was obtained.

PLUSCEC, J.; KISIC, A.; PROSTENIK, M.

On the reaction of 2-phthalimido-1-octadecanal and 2-methoxy-1-octadecanal with nitromethane. Croat chem acta 35 no.2: 93-99 '63.

1. Department of Chemistry, Faculty of Medicine, University of Zagreb, and Department of Biochemistry, Institute "Ruder Boskovic", Zagreb, Croatia, Yugoslavia.

MAJHOFER-ORESCANIN, B. (Mrs.); PROSTENIK, M.

Studies in the sphingolipids series. XXI. Croat chem acta 33 no.4:219-228 '61.

1. Department of Biochemistry, Institute "Ruder Boskovic", Zagreb, Croatia, Yugoslavia.

PROSTENIK, M.; KISIC, A.; MAJHOFER-ORESCANIN, B.; MUNK-WEINERT, M.; JELUSIC, S.

Occurrence of C_{20}-sphingolipide bases in animal and plant tissue. Bul sc Youg 7 no1/2:1 F-Ap '62.

1. Zavod za kemiju Medicinskogo fakulteta i Biokemijski odjel Instituta "Ruder Boskovic," Zagreb.

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Identification of normal higher aliphatic aldehydes by means of the melting point data of their thiosemicarbazones. Croat chem acta 34 no.1:1-6 '62.

1. Department of Chemistry, Faculty of Medicine, University of Zagreb, Zagreb, Croatia, Yugoslavia.

MAJHOFER-ORESCANIN, B., Mrs.; FROSTENIK, M.

Studies in the sphingolipids series. XXI. C_{20}-Sphingosine, a new long-chain base of animal origin. Croat chem acta 33 no.4:219-228 '61.

1. Department of Biochemistry, Institute "Ruder Boskovic," Zagreb, Croatia, Yugoslavia.

PALAMETA, B. (Zagreb); PROSTENIK, M. (Zagreb)

Chromatography of the lipide bases on paper impregnated with cilicic acid. Croat chem acta 33 no.3:133-135 '61.

1. Department of Biochemistry, Institute "Ruder Boskovic," Zagreb, Croatia, Yugoslavia.

PALAMETA, B.; PROSTENIK, M.

On the erythro and threo-2,3-dihydroxytetracosanoic acids. Croat chem acta 32 no.4:177-182 '60. (EEAI 10:9)

1. Department of Biochemistry, Institute "Ruder Boskovic", Zagreb, Croatia, Yugoslavia.

(Bromination) (Oxidation) (Acids)
(Configuration)

MUNK-WEINERT, M.; PROSTENIK, M.

Studies in the sphingolipid series. XVIII. Synthesis and resolution of 1-hydroxy-2-aminoeicosane (C_{20}-sphingine). Croat chem acta 32 no.4: 197-202 '60. (EEAI 10:9)

1. Department of Chemistry, Medical Faculty, University of Zagreb, Croatia, Yugoslavia.

(Sphingine) (Sphingolipides) (Eicosanedioic acid)

KISIC, A.; PROSTENIK, M.

Studies in the sphingolipids series. XIX. Note on the distribution of C_{18} and C_{20}-phytosphingosine in yeast cerebrin. Croat chem acta 32 no.4:229-230 '60. (EEAI 10:9)

1. Department of Biochemistry, Institute "Ruder Boskovic", Zagreb, Croatia, Yugoslavia.

(Sphingolipids) (Cerebrin) (Chromatography) (Gases)

PROSTENIK, M.; MAJHOFER-ORESCANIN, B.; MUNK-WEINERT, M.; RIES-LESIC, B.

Studies in the sphingolipide series. XII. Structure of the cerebrin anhydro base of yeast (C_{20} - phytosphingosine anhydro base). Croat chem acta 32 no.1:11-15 '60. (EEAI 9:12)

1. Department of Biochemistry, Instute "Ruder Boskovic," and Department of Chenistry, Medical Faculty, University of Zagreb, Zagreb, Croatia, Yugoslavia.
(Sphingolipides) (Cerebrin) (Yeast)
(Phytosphingosine)

RIES-LESIC, B.; PROSTENIK, M.

Studies in the sphingolipide series. XIII. On the ceramides and ceramide esters of C_{20} - phytosphingosine anhydro base of yeast. Croat chem acta 32 no.1:17-21 '60. (EEAI 9:12)

1. Department of Biochemistry, Institute "Ruder Boskovic," Zagreb, Croatia, Yugoslavia.
(Sphingolipides) (Cerebrin) (Ceramides)
(Phytosphigosine) (Esters) (Yeast)

GERENCEVIC, Nada; PROSTENIK, Mihovil

Synthesis of photographic sensitizers in the thiazole series from alpha-amino acids. Kem ind 13 no. 2: 98-101 F '64.

1. Department of Chemistry, Faculty of Medicine, University of Zagreb.

PROSTENIK, Mihovil

Formation and structure of dyes in the processes of their chromogenic development. Kem ind 12 no.8:597-600 '63.

1. Medicinski fakultet, Zagreb.

PROSTAKOVA, T.N.

A case of intensive invasion by Ascarides. Med.paras.i paraz.bol. no.5:469 S-O '53. (MLRA 6:12)

1. Iz Osipenkovskoy protivomalyariynoy gorodskoy stantsii.
(Worms, Intestinal and parasitic)

BARONSKIY, Isaak Vladimirovich, inzh.; VIKTOROV, Georgiy Borisovich; VOROB'YEV, Vladimir Il'ich; KIM, Anatoliy Senyurovich; LEONT'YEV, Sergey Nikolayevich, kand. tekhn. nauk; MUZYKANTOV, Stepan Pankrat'yevich; PROSTENTSOV, Grigoriy Yevgen'yevich; TSAY, Trofim Nikolayevich

[Building of mining enterprises] Stroitel'stvo gornykh predpriiatii. Moskva, Nedra, 1965. 323 p. (MIRA 18:10)

PROSTETOVA N. P.

USSR/Pharmacology. Toxicology. Chemotherapeutical Preparations V

Abs Jour : Ref Zhur-Biol., No 8, 1958, 37680

Author : Balandin G. A. Prostetova N. P.
Inst : Rostov na Donu State Scientific-Research Intiplahue Institute
Title : On the Problem of the Mechanism of the Therapeutic Effect of Syntomycin and Levomycin in Brucellosis (K voprosu o mekhanizme teravpeticheskovo deystviya sintomitsina i levomitsina pri brutselleze).

Orig Pub : Tr. Rostovsk.-n-Donu Gos. n-i in-ta, 1956, 10, 364-391

Abstract : Literary data indicate that when patients afflicted with brucellosis are treated with syntomycin (1) and levomycetin (11) the

Card 1/2

USSR/Pharmacology. Toxicology. Chemotherapeutical Preparations V

Abs Jour : Ref Zhur-Biol., No 8, 1958, 37680

Abstract : symptoms of the disease quickly disappear; however, neither of the preparations have an etiotropic effect. 1 and 11 failed to prevent the generalization of the infection when mice were infected with brucella. 1 and 11 administered to mice which were preliminarily vaccinated produced the same results. It is assumed that the therapeutic action of 1 and 11 is depended on their development under the influence of the areactivity of the macroorganism. Relapses of the disease are caused by the restoration of the normal reactivity of the brucella infected organism after the administration of the antibiotics was halted.

Card 2/2

ZABLUDA, G.V.

USSR/Plant Physiology - Mineral Nutrition. I-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, 19966

Author : Zabluda, G.V., Prosteva, M.I.
Inst : -
Title : On the Movement of Radiactive Phosphorus Absorved by Leaves in Growing Barley Plants.

Orig Pub : Dokl. AN SSSR, 1956, 109, No 2, 397

Abstract : Barley of the Wiener variety was raised in vessels with soil containing 70% of its moisture capacity. The leaves were fed with a solution of $Na_2HP^{32}O_4$ in a concentration of 0.1 curie/ml for a period of 6 hours. P^{32} moved from the main stems into the secondary at a greater intensity than it moved from the secondary into the main stems. The intensity of P^{32} movement decreased with the age of the plants. This work was carried out in the Ural University in Sverdlovsk.

Card 1/1

Movements of radioactive phosphorus absorbed by leaves of tillering barley plants. G. V. Zabluda and M. I. Prosteva (*Dokl. Akad. Nauk SSSR*, 1956, 109, 997—999).—Following immersion of main stem leaves in solutions containing $Na_2H^{32}PO_4$ activity also appears in the tillers; the converse applies, to a less marked degree, when tiller leaves are immersed. The rate of transfer of ^{32}P varies inversely with age of the plants. R. Pumpian

PROSIEVA, M.I.

Movement of radioactive phosphorus absorbed by leaves in bushing plants of barley. G. V. Zabluda and M. I. Prosteva (A. M. Gorkii State Univ., Sverdlovsk). *Doklady Akad. Nauk S.S.S.R.* 109, 397-0(1950).—In barley plants during the bush-forming stage P^{32} absorbed by the leaves moves from the main stem into branches, although the reverse movement also takes place. P^{32} movability declines with increasing age of the plant. The predominant direction of motion is from the main stem into the branches.

G. M. Kosolapoff

PROSTETOVA, N. P.

Prostetova, N. P.

"Vaccine Therapy of Experimental Brucellosis." Rostov na Donu State Medical Inst. Rostov na Donu, 1955. (Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

ZABLUDA, G.V.; PROSTEVA, M.I.

Peculiarities of the effect of gibberelin on the growth and development of healthy and degenerated potato plants of the "Rannyaya Roza" variety. Nauch. dokl. vys. shkoly; biol. nauki no.2:181-185 '61. (MIRA 14:5)

1. Rekomendovana kafedroy fiziologii rasteniy Bashkirskogo gosudarstvennogo universiteta im. 40-letiya Oktyabrya.
(GIBBERELLINS) (POTATOES—VARIETIES)

PROSTETSOV, P. A. Cand Biol Sci -- (diss) "Pigmentation of the membranes ~~and~~ [illegible] of the interral organs (and histology) of vertebrates." Khar'kov, 1957. 16 pp (Min of Higher Education UkSSR. Khar'kov Order of Labor Red Banner State Univ im A. M. Gor'kiy), 200 copies (KL, 14-58, 112)

PROSTNEV, G.I., master

Shorten the fitting time. Stroi.truboprov. 4 no.1:7 Ja '59.
(MIRA 12:1)

(Pipe fitting)

PROSTOKOVA, T. N.

Two cases of murine hymenolepiasis in children. Med. parazit., Moskva no.3:278-279 May-June 1953. (CLML 25:1)

1. Of the Helminthological Department (Head -- T. N. Prostakova) of Osipenko Municipal Anti-Malarial Station (Head -- Ye. V. Grigor'yev).

PROSTAKOVA, T.N., zaveduyushchiya otdelom; GRIGOR'YEVA, Ye.V., zaveduyushchiya stantsiyey.

Two cases of rat hymenolepiasis in children. Med.paraz.i paraz.bol. no.3: 278-279 My-Je '53. (MLRA 6:8)

1. Gel'mintologicheskiy otdel Osipenkovskoy gorodskoy protivomalyariynoy stantsii. (Worms, Intestinal and parasitic)

PROSTYAKOV, A. P.

USSR/General Problems of Pathology. Pathophysiology of Infection. U

Abs Jour: Ref Zhur-Biol., No 8, 1958, 37106.

Author : Prostiakov, A.P.
Inst : Leningrad Veterinary Institute.
Title : Disproteinemia in Experimental Piroplasmosis in Dogs.

Orig Pub: Sb. rabot Leningr. vet. in-ta, 1956, vyp. 18, 43-52

Abstract: At the height of the piroplasmosis invasion stage, for a period of 3-4 days, the concentration of gamma globulin (I) in the blood increased by 3-5%, the albumins decreased. During the period of the appearance of clinical signs, the value of I decreased by 3-10% of the original level, the beta globulins increased almost twofold. A second infection of the dogs caused, within 4-8 days, a sharp increase of I

Card : 1/2

...nology. Pathophysiology of

... Ref Zhur-Biol., No 8, 1958, 37106

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concentration. With the appearance of clinical signs, the I content and alpha-globulin increased, beta globulin and albumin decreased. When infection of the dogs was carried out with a weaker stimulant, no decrease of I below the original level was noted. In almost all the cases the increase of I concentration had a stable character and persisted for 30-50 days.

Card : 2/2

153

PROSTIYAKOV, K.M.; BEYUL, Ye.A.

Determination of the absorptive function of the small intestine by the method of radio-indication. Med.rad. 5 no.6:27-29 '60. (MIRA 13:12)

(INTESTINES) (IODINE—ISOTOPES)

PROSTOKHANOV, A.F., kand. voyenno-morskikh nauk, podpolkovnik

Shifting of flight formation for surveying a sector of the sea in the shortest time. Mor. sbor. 47 no.1:54-58 Ja '64. (MIRA 18:7)

PROSTOLUPOV, M.

PROSTOLUPOV, M.

In the Shcherbakov Grain Elevator. Muk.-elev. prom. 23 no.11:10-11 N '57. (MIRA 11:1)

1. Direktor Shcherbakovskogo elevatora.
(Shcherbakov--Grain elevators)

PROSTOMOLOTOV, F.; TSULIMOV, A., red.; TEL'PIS, V., tekhn. red.

[Reorganization of industrial management and prospects for industrial development in the Moldavian S.S.R. during the seven-year plan]Perestroika upravleniia promyshlennost'iu Moldavskoi SSR i perspektivy ee razvitiia v semiletke. Kishinev, Gos. izd-vo "Kartia moldovenieske," 1960. 59 p. (MIRA 15:11)

(Moldavia--Industrial organization)

PROSTOMOLOTOV, F; PETRYAKOV, A.

[Light industry in Moldavia during the seven-year plan] Legkaia promyshlennost' Moldavii v semiletke. Kishinev, Kartia moldoveniaske, 1960. 94 p. (MIRA 15:3)
(Moldavia--Industries)

DRIZIN, B.; KULAKOVSKIY, A.; PROSTOSERDOV, A.

Air-supported buildings for grain storage. Muk.-elev. prom. 27 no.10:14-16 O '61. (MIRA 14:12)

1. Gosudarstvennyy komitet zagotovok Soveta Ministrov SSSR (for Drizin). 2. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy mukomol'no-krupyanoy i kombikormovoy promyshlennosti i elevatorno-skladskogo khozyaystva (for Kulakovskiy, Prostoserdov).

(Grenaries)

RABINOVICH, A.I., kand.tekhn.nauk; PROSTOSERDOV, A.N., inzh.

Granary with a precast roof. Bet.i zhel.-bet. no.8:345-348 Ag '61. (MIRA 14:8)
(Granaries) (Precast concrete construction)

PROSTOSERDOV, A. P.

SOVALOV, I.G., kandidat tekhnicheskikh nauk; PROSTOSERDOV, A.P., redaktor izdatel'stva; VOROVNEV, N.K., tekhnicheskiy redaktor

[Safety manual for concrete workers] Pamiatka po tekhnike bezopasnosti dlia betonshchika. Izd. 2-oe, ispr. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1956. 23 p. (MLRA 10:8)
(Concrete--Safety measures)

DAVYDOV, Natan Isakovich; PROSTOSERDOV, A.P., red.; VAGIN, A.A., red.izd-va; KARASEV, A.I., tekhn.red.

[Industrial oxygen plants] Stantsii tekhnologicheskogo kisloroda. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 302 p. (MIRA 13:2)
(Oxygen)

PROSTOSERDOV, A. P.

GUROVSKIY, N.Ya.; PROSTOSERDOV, A.P., redaktor izdatel'stva; STEPANOVA, E.S., tekhnicheskiy redaktor

[Safety manual for gas welders and metal cutters] Pamiatka po tekhnike bezopasnosti dlia gazosvarshchika i rezchika metalla. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 15 p. (MLRA 10:10)

(Gas welding and cutting--Safety measures)

PROSTOSERDOV, A.P.

LAZAREV, D.F.; PROSTOSERDOV, A.P., redaktor izdatel'stva; BOROVNEV, N.K., tekhnicheskiy redaktor

[Safety manual for drillers] Pamiatka po tekhnike bezopasnosti dlia buril'shchika. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1957. 18 p. (MLRA 10:7)
(Boring--Safety measures)

PROSTOSERDOV, A.P.

DANILOV, P.P.; GRIGOR'YANTS, A.S., spetsredaktor; PROSTOSERDOV, A.P., redaktor izdatel'stva; BOROVNEV, N.K., tekhnicheskiy redaktor

[Safety manual for scraper operators] Pamiatka po tekhnike bezopasnosti dlia skreperista. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 21 p. (MLRA 10:7)
(Scrapers)

CHESNOKOV, A.S., inzhener; PROSTOSERDOV, A.P., redaktor; TOKER, A.M., tekhnicheskiy redaktor.

[Safety manual for operators of rolling, cutting and punching presses] Pamiatka po tekhnike bezopasnosti dlia rabotaiushchikh na pravil'nykh val'tsakh, nozhnitsakh i dyroprobivnykh pressakh. Moskva, Gos.izd-vo lit-ry po stroit. i arkhitekture, 1955. 23 p. (MLRA 9:5)

1.Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy metallurgicheskoy i khimicheskoy promyshlennosti. Upr[illegible]rabochikh kadrov, truda i byta.
(Power presses--Safety measures)

PROSTOSERDOV, A.P.

DANILOV, P.P.; GRIGOR'YANTS, A.S., spetsredaktor; PROSTOSERDOV, A.P., redaktor izdatel'stva; BOROVNEV, N.K., tekhnicheskiy redaktor

[Safety manual for operators on caterpillar cranes] Pamiatka po tekhnike bezopasnosti dlia mashinista gusenichnogo krana. Moskva, Gos.izd-vo lit-ry po stroit, i arkhit., 1957. 22 p. (MLRA 10:7)
(Cranes, derricks, etc.--Safety measures)

PROSTOSERDOV, A.P.

SUL'ZHENKO, K.M.; PROSTOSERDOV, A.P., redaktor izdatel'stva; BOROVNEV, N.K., tekhnicheskiy redaktor.

[Safety manual for firing boiler furnaces] Pamiatka po tekhnike bezopasnosti dlia kochegarov kotel'nykh ustanovok. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1956. 19 p. (MLRA 10:5)
(Furnaces--Safety measures)

GORBATOV, V.I.; PROSTOSERDOV, A.P., redaktor izdatel'stva; DAKHNOV, V.S., tekhnicheskiy redaktor

[Safety manual for plasterers] Pamiatka po tekhnike bezopasnosti dlia shtukaturov. Izd. 3-e, ispr. i dop. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 26 p. (MLRA 9:8)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy metallurgicheskoy i khimicheskoy promyshlennosti. Upravleniye rabochikh kadrov, truda i byta.
(Plastering--Safety measures)

AKBEROV, Ya.Kh.; PROSTOSERDOV, A.P., redaktor izdatel'stva; MEL'NICHENKO, F.N., tekhnicheskiy redaktor

[Safety manual for operators of lathes and milling, planing, and grooving machines] Pamiatka po tekhnike bezopasnosti dlia rabotaiushchikh na tokarnykh sverlil8nykh, frezernykh, strogal'nykh i dolbezhnykh stankakh. Izd. 2-oe. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1955. 28 p. (MLRA 9:7)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy metallurgicheskoy i khimicheskoy promyshlennosti. Upravleniye rabochikh kadrov, truda i byta.
(Machine-shop practice--Safety measures)

LAZAREV, D.F., inzhener; PROSTOSERDOV, A.P., redaktor izdatel'stva; MEL'NICHENKO, F.M., tekhnicheskiy redaktor

[Safety manual for workers putting raw brick into kilns and drawing the fired brick from them] Pamiatka po tekhnike bezopasnosti dlia sadchikov syrtsa i vygruzchikov kirpicha iz obzhigatel'nykh pechei. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 28 p. (MLRA 9:8)

1. Russia (1923- U.S.S.R.) Ministerstvo transportnogo stroitel'stva. Otdel rabochikh kadrov, truda i zarabotnoi platy.
(Brickmaking--Safety measures)

ACC NR: AP7002411 SOURCE CODE: UR/0363/66/002/012/2252/2254

AUTHOR: Yestaf'yeva, G. N.; Prostoserdova, I. V.; Pumper, Ye. Ya.

ORG: All-Union Electrotechnical Institute im. V. I. Lenin (Vsesoyuznyy elektrotekhnicheskiy institut)

TITLE: The effect of annealing on the electrical property on indium antimonide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 12, 1966, 2252-2254

TOPIC TAGS: indium antimonide semiconductor, semiconductor conductivity, pn junction, pnp junction, annealing

ABSTRACT:

A study was made of the causes of inversion of electrical conductivity after annealing n-type InSb semiconductors. Annealing experiments were carried out at 410 or 480C in vacuum with 1 mm thick InSb wafers with 10^{14} cm^{-3} donor concentration and 100 cm^{-2} or 10^4 cm^{-2} dislocations density. Also, experiments with zinc diffusion were conducted at 440C before and after annealing. Inversion of electrical conductivity was found to depend on dislocations density and on the interaction of the semiconductor with the

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ACC NR: AP7002411

ambient medium and was caused by vaporization of In and Sb atoms. The greater vaporation from the surface defects of the wafer than from its interior explained the higher concentration of acceptors on the surface of the annealed specimens. The Cu and Mg impurity atoms which were detected in the InSb wafers were separated from the surface defects by annealing and contributed to an additional accumulation of acceptors near the surface. The p-n-p junction was formed in the InSb wafers by annealing at 480C and by subsequent Zn diffusion or vice versa. This was due to the chemical reaction below the diffusion layer between Zn atoms and the impurity atoms which were separated by annealing from the structure defects in the bulk of the wafer and which were diffused to the surface. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 24Jun65/ ORIG REF: 004/ OTH REF: 005
ATD PRESS: 5111

Card 2/2

PUMPER, Ye.Ya.; PROSTOSERDOVA, I.V.

Zinc diffusion in indium antimonide. Fiz. tver. tela 6 no.3: 899-902 Mr '64. (MIRA 17:4)

1. Vsesoyuznyy elektrotekhnicheskiy institut imeni Lenina, Moskva.

ACCESSION NR: AP4019856 S/0181/64/006/003/0899/0902

AUTHORS: Pumper, Ye. Ya.; Prostoserdova, I. V.

TITLE: Diffusion of zinc in indium antimonide

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 899-902

TOPIC TAGS: single crystal, indium antimonide, electron hole transition, atom capture probability, diffusion coefficient

ABSTRACT: The distribution of zinc concentrations by diffusion into monocrystalline n-type indium antimonide has been investigated. The four-probe technique was used to measure the concentration level at 77K. The accuracy in determining electron-hole transition depth was 2-3 μ. The original material contained a donor admixture with a 10^{14} -10^{15}/cm^3 concentration level. The zinc concentration distribution curve is found to have a step form. To solve approximately for the equilibrium and homogeneous concentration N_0 of traps, the assumption is made that the probability of nondimensional atom capture by the traps is unity, while the probability of atoms leaving the traps is zero. This leads to an expression for N_0 in terms of diffusion coefficient and rate of cross-section transfer. Compar-

Card 1/2

ACCESSION NR: AP4019856

ison with the experimental results shows satisfactory agreement, despite the simplicity of the analytic approach. Orig. art. has: 5 formulas, 2 figures, and 1 table.

ASSOCIATION: Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenina, Moscow (All-Union Electrotechnical Institute)

SUBMITTED: 18Oct63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 000 OTHER: 009

Card 2/2

PROSTOSERDOV, N. N. C/1964 1964

WINE AND WINE MAKING

DECEASED

GEL'FAND, M.S.; GLEYZER, G.D.; PETRAKOV, I.S.; PROSTOSERDOV, V.P.; SAAKYAN, S.M. (Moskva)

Structure and content of the mathematics course in grades 9-11 of the evening (staggered) secondary general schools. Mat. v shkole no.3:46-47 My-Je '62. (MIRA 15:7)
(Mathematics--Study and teaching)

L 5363-66 EWT(m)/EWP(t)/EWP(b) LJP(c) JD
ACC NR: AP5027402 SOURCE CODE: UR/0181/65/007/011/3255/3259

AUTHOR: Prostoserdova, I. V.; Pumper, Ye. Ya.; Troneva, N. V.

ORG: All-Union Electrical Engineering Institute (Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenina); State Design and Planning Scientific Research Institute of the Rare Metals Industry, Moscow (Gosudrastvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti)

TITLE: Mechanism of the anomalous diffusion of zinc in indium antimonide

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3255-3259

TOPIC TAGS: zinc, indium compound, antimonide, metal diffusion

ABSTRACT: Various models have been proposed to explain the anomalous diffusion of zinc in $A^{III}B^{V}$ compounds. Nearly all these models are based on the assumption that the zinc atoms exist in two state S_1 and S_2 with different coefficients of diffusion D_1 and D_2 and concentrations C_1 and C_2. The author conducts experiments to record both diffusion fluxes for zinc in indium antimonide. The zinc was diffused into n-InSb plates at 440°C and the specimens were then annealed for various periods.

Card 1/2

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ACC NR: AP5027402

The distribution of acceptor concentration was measured by the probe method, and the total number of Zn atoms was measured by the local x-ray spectral method. The experimental conditions made it possible to record two separate diffusion fluxes of zinc in indium antimonide with comparable surface concentrations and coefficients of diffusion $D_1 = 3 \cdot 10^{-10}$ cm^2·sec^{-1} and $D_2 < 10^{-3} D_1$. Probe measurements of Zn concentrations in InSb indicate that the S_2 state is substitutional. The experimental data indicate that the form of the distribution curve is determined by interaction between the two diffusion fluxes. The mechanism of this interaction may be similar to the trap mechanism (Ye. Ya. Pumper, I. V. Prostoserdova, *FTT*, 6, 899, 1964) or to the mechanism responsible for diffusion of charged and neutral zinc atoms (J. W. Allen, *J. Phys. Chem. Sol.*, 15, 134, 1960). Orig. art. has: 3 figures.

SUB CODE: SS,MM/ SUBM DATE: 09Feb65/ ORIG REF: 005/ OTH REF: 003

Card 2/2

PROSTOSINSKII, B.

Problema putei iz Sibiri v Zapadnuiu Mongoliiu. [The problem of routes from Siberia into Western Mongolia]. (Kobdoskii i Uliasutaiskii raiony). (Zhizn' Sibiri, 1926, no. 1-2 (41-42), p. 103-108).

DLC: HC483.Z5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

PROSTOV, A.

"The nesting of the thicker bill sea gull Gelochelidon nilotica nilotica Gmelin in Bulgaria."

p. 603 (Izvestia) Vol. 7, no. 7, 1956. Sofia, Bulgaria

SO:: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 5, May 1958

PROSTOV, A.

PROSTOV,A. New data on the ornithofauna of the Bulgarian Black Sea coast. p. 451. Vol. 4/5, 1955 IZVESTIIA, Sofiia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

PROSTOV, Al.

Studies on the ornithofauna in the Petrich region, Southwestern Bulgaria. Izv Zool inst BAN no.13:33-77 '63.