"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

KAPNIK, G.M.; MIKHLIN, S.Ya.; KAPNIK, L.I. (Moskva)

Detection of intestinal function distrubances in infectious hepatitis patients. Vrach.delo no.8:827-829 Ag '59. (MIRA 12:12)

1. Laboratoriya fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR i Moskovskaya infetsionnaya klinicheskaya Bol'nitsa No.1.
(HEPATITIS, INFECTIOUS) (INTESTINES--DISEASES)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya.

Excretion of enzymes with feces in puppies in certain experimental nutritional disorders; preliminary report. Pediatriia 37 no.10: 34-38 O '59. (MIRA 13:2)

1. Iz laboratorii pishchevareniya (zaveduyushchiy - prof. G.K. Shlygin) otdela fiziologii i biokhimii pitaniya Instituta pitaniya AMN SSSR.
(INFANT NUTRITION DISORDERS exper.)
(ENZYMES metab.)
(FECES chem.)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya.; PAVLOVA, Z.M.

Effect of aminopterin on the secretion of intestinal enzymes. Physiol.zhur. 45 no.6:698-704 Je '59. (MIRA 12:8)

1. From the laboratory of physiology of digestion, Institute of Nutrition, Moscow.

(AMINOPTERIN, eff.
on intestinal enzyme secretion in dogs (Rus))
(INTESTINES, physiol.
enzyme secretion, eff. of aminopterin in dogs (Rus))
(ENZYMES
intestinal, eff. of aminopterin on secretion in dogs (Rus))

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ALIYEVA, V.I., kand.meditsinskikh nauk; MIKHLIN, S.Ya., kand.biologicheskikh nauk

Changes in the intestinal enzymes in chronic colitis as shown by data on the late results of treatment. Vrach. delo no.8:70-73 Ag '60. (MIRA 13:9)

1. Laboratoriya fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) i klinika lechebnogo pitaniya (zav. - prof. F.K. Men'shikov) Instituta pitaniya AMN SSSR.

(COLITIS) (DIGESTIVE FERMENTS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S. YA. (USSR)

"The Value of Enzymic Indices in the Diagnosis of Intestinal Disorders."

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya.; NESTERIN, M.F. (Moskva)

Secretory function of the pancreas and intestines in folic acid deficiency caused by the administration of aminopterin. Pat. fiziol. i eksp. terap. 5 no.6:26-30 N-D '61. (MIRA 15:4)

1. Iz laboratorii fiziologii pishchovareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR.
(PANCREAS—SECRETIONS) (FOLIC ACID)
(DIGESTIVE ENZYMES) (GLUTAMIC ACID)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya. (Moskva)

Evaluation of the activity of the intestines with the aid of enzyme indices in diseases of the digestive tract. Klin.med. no.7:61-67 '61. (MIRA 14:8)

1. Iz laboratorii fiziologii fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR.
(ENZYMES) (DIGESTIVE ORGANS—DISEASES)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya.

MIKHLIN, S.Ya.; NESTERIN, M.F. (Moskva)

Gastric secretory function during folic insufficiency due to the administration of aminopterin. Vrach. delo no.8:3-6 Ag '61. (MIRA 15:3)

1. Laboratoriya fiziologii pishchevareniya (zav. - prof. G.K. Shlygin), radiobiologicheskaya laboratoriya (zav. - G.P. Yeremin) Instituta pitaniya AMN SSSR.

(STOMACH--SECRETIONS)
(FOLIC ACID) (AMINOPTERIN)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

YEZOROV, M. N., prof.; MIKHLIN, S. Ya.; TUZHILIN, S. A.

Amount of intestinal enzymes in the duodenal contents and feces in patients with diabetes mellitus. Terap. arkh. 33 no.5:68-73 My '61. (MIRA 14:12)

1. Iz otdela lechebnogo pitaniya (zav. - doktor meditsinskikh nauk L. M. Levitskiy) i laboratorii fiziologii pishchevareniya (zav. - prof. G. K. Shlygin) Instituta pitaniya AMN SSSR.

(DIABETES) (ENZYMES) (INTESTINES)
(FECES--ANALYSIS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ALIYEVA, V.I.; MIKHLIN, S.Ya.

Amount of enterokinase and pancreatic enzymes in the duodenal juice of patients with chronic colitis and enterocolitis. Med. zhur.Uzb. no.3:38-40 Mr '62. (MIRA 15:12)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K.Shlygin) i otdela lechebnogo pitaniya (zav. - doktor med. nauk L.M.Levitskiy) Instituta pitaniya AMN SSSR.
(COLITIS) (PANCREAS—SECRETIONS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S. Ya.; NESTERIN, M.F.; BOCHKOV, N.P. (Moskva)

Effect of β-acetylpyridine on the enzyme-excretory processes and morphological picture of the intestine in dogs. Pat. fiziol. i eksp. terap. 6 no.3:67-68 My-Je'62 (MIRA 17:.)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K.Shlygin) Instituta pitaniya AMN SSSR i Instituta eksperimental'noy patologii i terapii AMN SSSR (direktor - doktor med. nauk L.A. Lapin).

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

NESTERIN M.F.; MIKHLIN, S.Ya.

Enzyme excretory processes in the principal digestive glands in some experimental avitaminoses. Vop. pit. 22 no.5:19-22 S-O '63. (MIRA 17:1)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shlygin) Institut pitaniya AMN SSSR, Moskva.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

NESTERIN, M.F.; MIKHLIN, S.Ya.

Effect of the deficiency of some group B vitamins on the external secretory activity of the pancreas. Biul. eksp. biol. i med. 57 no.1:41-44 Ja '64. (MIRA 17:10)

1. Laboratoriya fiziologii i patologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR. Predstavlena deystvitel'nym chlenom AMN SSSR B.A. Lavrovym.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ALIYEVA, V.I.; MIKHLIN, S.Ya.

Change in some enzymatic indices in chronic intestinal diseases. Sov. med. 28 no.7:28-34 Jl '64. (MIRA 18:8)

1. Laboratoriya fiziologii i patologii pishchevareniya (zav. - prof. G.K.Shlygin) i otdel lechebnogo pitaniya (zav. - doktor med.nauk I.S.Savoshchenko) Instituta pitaniya AMN SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 15740-66

ACC NR: AP5027346 (N) SOURCE CODE: UR/0396/65/009/005/0032/0036

AUTHOR: Nesterin, M. F.;
Mikhlin, S. Ya.

ORG: Laboratory of Physiology and Pathology of Digestion, Institute of Nutrition, AMN SSSR, Moscow (Laboratoriya fiziologii i patologii pishchevareniya Instituta pitaniya AMN SSSR)

24
B

TITLE: Changes in the activity of digestive organs during administration of β-acetylpyridine

SOURCE: Patologicheskaya fiziologiya i eksperimental'naya terapiya, v. 9, no. 5, 1965, 32-26

TOPIC TAGS: drug effect, 65 dog, rat, gland, digestion, digestive system, digestive drug, morphology

ABSTRACT: Beta-acetylpyridine was used as an antagonist to investigate the influence of nicotinic acid on the functions of organs and tissues of the alimentary canal. The administration of 192 mg of β-acetylpyridine to a dog with nicotinic

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UDC: 612.3.014.46:615.756.1

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 15740-66

ACC NR: AP5027346

acid deficiency led to its rapid death. The addition of β-acetylpyridine to the food of rats produced nicotinic-acid deficiency symptoms, subsequently prevented by the administration of nicotinic acid, nicotinamide, or tryptophane. The nicotinic-acid deficiency caused by the administration of a specific anti-metabolite caused a nutritional deficiency without structural alterations in the glandular cells. When β-acetylpyridine was given parenterally to healthy dogs in repeated doses of 1.0-2.0g/kg caused the development of a nicotinic-acid deficiency accompanied by changes in the secretory activity in the gastric and pancreatic glands, and by altered enzyme-secretory functions in the intestinal glands. The morphological structure of the oral mucosa, liver, and large and small intestines also changed. Orig. art. has: 2 figures and 3 tables.

SUB CODE: 06/ SUBM DATE: 17Mar64/ NR REF SOV: 006/ OTHER: 007

2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya. (Moskva)

Effect of experimental folic acid deficiency, caused by the administration of aminopterin, on the secretion of enzymes by the main digestive glands. Arkh. pat. 24 no.9:24-32 '62. (MIRA 17:4)

1. Iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSSR.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, S.Ya.; NESTERIN, M.F. (Moskva)

Secretory function of the stomach in [illegible] deficiency ind[illegible] β-acetylpyridine administration. [illegible] fiziol. i eksp. [illegible] 7 no.6:61-64 N-D '63. (MIRA [illegible])

1. Iz laboratorii fiziologii pishchevareniya (zav. [illegible] G.F. Shlygin) Instituta pitaniya AMN SSSR.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ACCESSION NR: AR4042249 S/0081/64/000/008/S020/S020

SOURCE: Ref. zh. Khimiya, Abs. 8S102

AUTHOR: Rayevskiy, V. G.; Yegorov, Ye. V.; Mikhlin, V. E.; Gul', V. Ye.; Voyutskiy, S. S.

TITLE: Influence of radiochemical cross-linking of elastomers on their adhesion to fiberforming polymers

CITED SOURCE: Sb. Vy*sokomolekul. soyedineniya. Adgeziya polimerov. M., AN SSSR, 1963, 89-93

TOPIC TAGS: elastomer, adhesion, polymer, radiochemistry, radiation vulcanization

TRANSLATION: The change of durability of adhesion of elastomers SKS-30 ARM-15, SKN-26 and butyl rubber with polycaprolactam film during irradiation of samples by a flow of accelerated electrons was examined. It was determined that the change of resistance to separation during irradiation is described by curves passing through a maximum which corresponds to a definite integral dose of irradiation.

Card 1/2

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ACCESSION NR: AR4042249

Thus the character of the change in adhesion strength during radiation vulcanization does not differ qualitatively from that observed earlier for cases of thermal vulcanization in the presence of vulcanizing agents. For samples with coatings of SKS-30 ARM-15 the dependence of the adhesion of this elastomer to polycaprolactam film was studied from the degree of its cross-linking during irradiation. The latter was characterized by the length of the section of molecular chain (M_c), included between two nodes of the space lattice. It was shown that the limiting degree of cross-linking, after the achievement of which a drop of adhesion strength sets in, shifts under the influence of radiation in the direction of a smaller density of the lattice, as compared to that observed for thermal vulcanization in the presence of vulcanizing agents. This phenomenon is explained from the positions of diffusion theory of adhesion. The presence of a limiting degree of cross-linking during radiation vulcanization was observed also on rubber-fabric materials based on capron fabric with a coating of Nairit and SKS-30 ARM-15 applied by facing the fabric on a calender. From authors' abstract.

SUB CODE: MT, OC ENCL: 00

Card 2/2

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 40010-65 EWO(j)/EWT(m)/EPF(c)/EPF(n)-2/EWO(v)/EWP(v)/EPR/EWP(j)/T/EWA(b)/EWA(1) Pc-4/Pe-5/Pr-4/Ps-4/Pu-4/Peb RPL GG/RM/WW/03

ACCESSION NR: AT4049836 S/0000/64/000/000/0008/0012

56
52
B+1

AUTHOR: Gol'danskiy, V. I.; Gul', V. Ye.; Yegorov, Ye. V.; Zil'berg, G. A.; Mikhlin, V. E.; Rayevskiy, V. G.

TITLE: A new radiochemical method for preparing graft copolymers and their possible uses for increasing the bond strength between rubber and fabric

SOURCE: Khimicheskiye svoystva i modifikatsiya polimerov (Chemical properties and the modification of polymers); sbornik statey. Moscow, Izd-vo Nauka, 1964, 8-12

TOPIC TAGS: graft copolymer, bond strength, rubber fabric laminate, neutron irradiation, polycaproamide, elastomer, polymer impregnation, Capron fabric

ABSTRACT: Utilizing the localized effect of neutron irradiation, a new method was developed for obtaining graft copolymers; this was based on the irradiation of emulsions containing both polymer components and a lithium (boron) compound by a flow of thermal neutrons. The graft copolymers tested were obtained by irradiation, in a nuclear reactor, of emulsions made from a mixture of polycaproamide in formic acid, containing a Li compound, with solutions of elastomers in o-xylene. Infrared spectra showed the presence of a radiochemical interaction between the elastomer molecules and polycaproamide with the formation of a graft copolymer.

Card 1/2

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ACCESSION NR: AT4049836

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The composition of the resin mixture is tabulated. The resin coating was 0.2 0.02 mm thick. The vulcanized samples were tested on a Schopper apparatus. Tabulated data show that impregnation of Capron fabric with a non-irradiated emulsion decreases the bond strength between rubber and fabric by 30-40%, due to a decrease in the mechanical adhesion and the low cohesive strength of the adhesive. The use of the impregnating solution containing graft copolymer increases the bond strength by 45-60% as compared to the initial value. By combining impregnation of the fabric with a solution of epoxyamide resin (No. 89) and impregnation with a solution of an elastomer and a graft copolymer, the bond strength between the rubber and the fabric was almost doubled as compared to the strength obtained by impregnating only with epoxyamide, and increased four times as compared to materials based on nonimpregnated Capron fabric. Other modifications of the method of localized neutron irradiation permit the bond strength to be increased to 4.1 kg/cm, this value being limited by the cohesion of the rubber coating. This variant of the method will be described in a subsequent publication. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Chemical physics institute, AN SSSR); Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow fine chemical technology institute)

SUBMITTED: 18Apr62 ENCL: 00 SUB CODE: OC, MT

Card 2/2 NO REF SOV: 006 OTHER: 001

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ACC NR: AP7001406 SOURCE CODE: UR/0413/66/000/021/0108/0109

INVENTOR: Dontsov, A. A.; Mikhlin, V. E.; Dogadkin, B. A.

ORG: none

TITLE: A method for vulcanizing synthetic rubbers. Class 39, No. 187995 [announced by Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy institut tonkoy khimicheskoy technologii])

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 108-109

TOPIC TAGS: synthetic rubber, ~~synthetic rubber~~ vulcanization, carboxylate acid, ~~monovalent metal carboxylate~~

ABSTRACT: An Author Certificate has been issued for a method for vulcanizing synthetic rubbers with organic acid derivatives in the presence of radical-type activators. To improve the technological properties of rubber mixtures, salts of monovalent metals of unsaturated carboxylic acids are used as the organic acid derivatives. [BO]

SUB CODE: 11, 07/ SUBM DATE: 16Jul65/ ATD PRESS: 5109

UDC: 678.7.028.294:547.39-38

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

SOSONKIN, Z.S.; MIKHLIN, V.M. (Kishinev)

Chronic subdural hematoma. Vop.neirokhir. no.2:49-53 '62. (MIRA 15:3)

1. Neyrokhirurgicheskoye i rentgenologicheskoye otdeleniya Respublikanskoy psikhonevrologicheskoy bol'nitsy Moldavskoy SSR.

(HEMATOMA) (DURA MATER--TUMORS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V.M.

Reorganization and functional adaptation of the cranial bones as a sequel of meningoencephalitis in childhood. Zdravookhranenie 5 no.3:41-44 My-Je '62. (MIRA 16:1)

1. Iz kafedry psikhiatrii (zav. - prof. A.N.Molokhov) Kishinevskogo meditsinskogo instituta.
(SKULL--ABNORMITIES AND DEFORMITES) (ENCEPHALITIS)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V.M. (Kishinev)

Acute stomach dilatation in a patient with thyrotoxicosis.
Probl. endok. i gorm. 9 no.5:76-78 S-O'63 (MIRA 16:12)

1. Iz Respublikanskoy psikhonevrologicheskoy bol'nitsy (glavnyy vrach B.A. Morozov) Moldavskoy SSR.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V. M. Cand Tech Sci -- "Study of the clogging process of the consistent lubricants and certain peculiarities of their behavior in the bearing units of tractors and agricultural machines." Mos, 1960 (Min of Agr RSFSR. Len Agr Inst).

(KL, 1-61, 195)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V.M.

Conference of an international study group on problems concerning the repair of agricultural machinery. Mekh. i elek. sots. sel'khoz. 20 no.1:64 '62. (MIRA 15:2)
(Agricultural machinery--Repairing)

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SOV/[illegible]

AUTHORS: Mikhlin, V. M., Speranskiy, N. N.

TITLE: Determining Abrasive Impurities in Petroleum Products

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, Nr 3, pp 57-61 (USSR)

ABSTRACT: The described method uses two plates, one of hard steel and the other of cardboard, between which a sample of the petroleum product is placed. When the plates are rubbed against each other the abrasive impurities in a given petroleum product remove the dark oxide film from the metal plate. Since the polished (light) area of the metal plate is proportional to the amount of the abrasive admixtures, one can plot a calibrated curve and determine the concentration of the abrasive admixtures in petroleum products. The best results are obtained when the test is made at 18-20°. There are 4 figures; 1 table; and 2 references, 1 Soviet, 1 U.S. The U.S. reference is: Zweifel, H. C., ASTM Symposium, Nr 84, 20 (1948).

ASSOCIATION: All-Union Scientific Research Institute of Mechanization of Agriculture (VIM)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V.M.

Efficient lubrication and prolongation of the life of antifriction bearings. Trakt. i sel'khozmash. 30 no.8:30-32 Ag '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Bearings (Machinery))

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

S/272/63/000/001/002/006
E194/E155

AUTHOR: Mikhlin, V.M.

TITLE: A new method of determining abrasive contaminants in petroleum products

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, Metrologiya i izmeritel'naya tekhnika, no.1, 1963, 42-43, abstract 1.32.303. (In collection: Metody, pribory i oborud., primenyayemyye pri issled. i ispytanii s.-kh. tekhn. (Methods, instruments and equipment used in agricultural engineering investigations and testing). M., 1961, 268-277)

TEXT: The Vsesoyuznyy nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva (All-Union Scientific Research Institute for Mechanization of Agriculture) has developed a method of assessing the abrasive properties of mechanical contaminants in petroleum products. The sample of oil is spread between plates, one being of metal with a dark oxidized surface and the other of a material which is able to retain hard cardboard particles on its surface. During spreading, the abrasive contaminants scratch the

Card 1/3

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metal plate and brighten it in the contact zone. The device for spreading the oil consists of a load holder, a frame and a base-plate. The holder presses with constant force on the inserted metal plate which is bent to a certain profile to set up a definite contact. The frame, which is moved by a crank, is slotted to take a sheet of cardboard which carries the petroleum product to be tested. The size of the instrument is 40 x 40 x 105 mm; its weight 0.7 kg. The test lasts 3 - 5 minutes. The size of the light band on the metal plate is measured visually for the qualitative analysis of oil products or with a photo-electric calorimeter type ФЭК-М (FEK-M) suitably adapted for accurate quantitative work. The test procedure, the method of preparing the metal sheets and the use of control samples are described. The results of analysis of oil products with various amounts of quartz contaminant establish curves relating the degree of wear of plates to the concentration of abrasive contaminants for diesel fuel, diesel lubricant Дп-8 (Dp-8) and grease УСс-2 (USs-2). The tests responded to abrasive concentrations of the order of 0.002%. The influence of the hardness of contaminant particles on sheet wear and the influence of the oil sample size on the test results

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A new method of determining ... S/272/63/000/001/002/006
E194/E155

are shown. A schematic diagram of an automatic device for determining abrasive contaminants has been developed so that a large number of analyses can be carried out.
6 figures.

[Abstractor's note: Complete translation.]

Card 3/3

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

PASECHNIKOV, N., inzh.; MIKHLIN, V.M., inzh.

Position of the release valve in coarse oil filters.
Trakt. i sel'khozmash. 31 no.7:42 Jl '61. (MIRA 14:6)

1. Vsesoyuznny nauchno-issledovatel'skiy institut mekhanizatsii sel'skogo khozyaystva.
(Diesel engines--Oil filters)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, V.M., kand. tekhn. nauk

Evaluating the repairing qualities of machine parts. Mekh. i elek. sots. sel'khoz. 21 no.1:24-26 '63. (MIRA 16:7)

1. TSelinnyy filial Gosudarstvennogo vsesoyuznogo nauchno-issledovatel'skogo tekhnologicheskogo instituta remonta i ekspluatatsii mashinno-traktornogo parka.
(Agricultural machinery—Maintenance and repair)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 11865-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JG

ACC NR: AP6000763 UR/0078/65/010/012/2787/2795

AUTHOR: Mikhlin, Ye. B.; Korpusov, G. V.

ORG: None

TITLE: Extraction of rare earth elements of the cerium subgroup with the diisoamyl ester of methylphosphonic acid

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 12, 1965, 2787-2795

TOPIC TAGS: solvent extraction, rare earth element, phosphate ester, lanthanum, cerium, neodymium, samarium

ABSTRACT: The object of the work was a more systematic investigation of the extractive properties of the diisoamyl ester of methylphosphonic acid with respect to individual rare earth elements and of the possibility of its use for their separation. To avoid hydrolysis, extractions were made from weak nitrate solutions in which the content of free nitric acid did not exceed 0.2-0.25 N. The oxides of the rare earth elements (lanthanum, cerium, praseodymium, neodymium, samarium) contained more than 99.9% of the basic element. Also tested were binary mixtures and the following concentrates: Concentrate (A), rich in cerium earths, had the following composition (%): La-30; Ce-3.4; Pr-15.6; Nd-45.4; Sm-4; total yttrium elements-1.6. Concentrate (B),

Card 1/2 UDC: 541.183.3:546.654/.659-38

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L 11993-66

ACC NR: AP6000763

rich in lanthanum, had the following composition (%): La-86.5; Ce-3.3; Pr-3.2; Nd-7.0. The acidity of the diisoamyl ester of phosphonic acid did not exceed 0.0005 N. The experiments were carried out at room temperature (20 ± 2°C) in separating funnels with a capacity of 150 ml. Distribution coefficients for the extractions were determined and are shown in tabular form. At an acidity of the aqueous phase of 0.1-0.2 N in HNO_3, the extractive capacity of the diisoamyl ester of methylphosphonic acid attained 200-205 gram/liter of total rare earth oxides. Saturation of the organic phase for the diisoamyl ester of methylphosphonic acid is reached at lower equilibrium concentrations of rare earth elements in the aqueous phase than for tributyl phosphate. This makes it possible to use a lower concentration of the salting out agent--$Al(NO_3)_3$--of the order of 2 or 3 N. Using 5 N $Al(NO_3)_3$ as a salting out agent, high values of the order of 2.5-3 are obtained for the separation coefficients for the vapors of lanthanum, cerium, neodymium, and samarium, which makes possible the use of the diisoamyl ester of methylphosphonic acid for the separation of rare earth elements of the cerium subgroup. Orig. art. has: 2 formulas, 5 figures, and 3 tables.

SUB CODE: 07/ SUBM DATE: 23May65/ ORIG REF: 009/ OTH REF: 002

jw

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

[illegible], Dr. [illegible]

"Pa[illegible]-Anatomical Changes [illegible] Experimental Contusive [illegible]", [illegible]

[illegible] ol., No. 1, [illegible] Mbr. [illegible] State [illegible]

Physicians, [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye.G.

Infection of the larynx in brucellosis. Vest.otorinolar 12 no.2: 78 Mr-Ap '50. (CLML 19:2)

1. Krasnoyarsk.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, YE. G.
2297

Cases of damage to the organ of hearing in mumps Vestn, Otorino-laring. 1951, 1 (57-59)
A report on 7 cases: 2 with complete loss of cochlear and vestibular function, 2 with bilateral and 3 with unilateral deafness. Daily lumbar punctures, intravenous injection of 25% glucose solution, subcutaneous injection of pilocarpine (1: 1,000) and oral doses of salicylates and hexamethylene tretamine (urotropine) were given in order to reduce the intracranial and intralabyrinthine pressure. In 3 cases the auditory function was restored but in 4 the treatment was without effect. The damage is ascribed to a meningeal serous labyrinthitis.

Salamun - Koper (XX, 6,7,8,11)

So: EXCERPTA MEDICA, Section VIII, Vol. 5, No.6, June 1952

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye. G. Prof

PA 196T86

USSR/Medicine - Selection of Flight Personnel Sep/Oct 51

"Selection of Professional Fliers (Correlation of Vestibulometric Data Taken in the Laboratory and in Flight)," Prof Ye. G. Mikhlin, Chair of Diseases of the Ear, Nose, and Throat, Krasnoyarsk Med Inst

"Vest Oto-Rino-Laringol" No 5, pp 13-16

In tests used to select professional flight personnel too much attention used to be paid to the reactions of the semicircular canals in response to angular accelerations and not

196T86

USSR/Medicine- Selection of Flight Personnel (Contd) Sep/Oct 51

enough to those of the otolithic app. Voyachek (1929) included both in his "OR" (otolithic reaction) tests given in Barani chair to study reactions. More attention should be paid to vegetative reactions (VR). Khilov, who carried out animal expts involving detachment of otolithic membrane by centrifuging, recommends closer attention to objective, more advanced symptoms (pallor, cold sweat, nausea and later vomiting). Cumulative method is best for laboratory investigation.

196T86

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye.G., professor

Pathological changes in the hearing apparatus of while mich in experimental tuberculosis. Vest.oto-rin. 17 no.1:59-60 Ja-F '55. (MLRA 8:5)

1. Iz kliniki bolezney ukha, gorla i nosa Krasnoyarskogo miditsinskogo instituta.
(EAR--TUBERCULOSIS)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

LUKOV, B.N., prof. (Kuybyshev); PETROV, V.I., dotsent (Moskva); PAVLENKO, T.M., aspirant (Moskva); YERMOLAYEV, V.G., prof. (Leningrad); ADO, A.D., prof.; VOVSI, M.S., prof.; YERMOLAYEV, V.G., prof. (Leningrad); KUPRIYANOVA, N.A. (Kazan'); PETROV, G.I. (Moskva); DOLGOPOLOVA, A.V. (Moskva); SAKHAROV, P.P., prof.; BYKHOVSKIY, Z.Ye., prof.; MIN'KOVSKIY, prof. (Chelyabinsk); KIMEL'CHONOK, I.P. (Irkutsk); TEMKIN, Ya.S., prof. (Moskva); MIN'KOVSKIY, A.Kh., prof. (Chelyabinsk); MIL'SHTEYN, T.N., doktor med.nauk (Leningrad); TRUTNEV, V.K., zasluzhennyy deyatel' nauki, prof.; TSYRESHKIN, B.D., kand.med.nauk (Moskva); SOBOL', I.M., prof. (Stavropol'); TURIK, G.M. (Moskva); FRENKEL', M.M. (Moskva); MAZO, I.L.; POKRYVALOVA, K.P.; PROSKURYAKOV, S.A., prof.; ATKARSKAYA, A.A., prof.; GOL'DFARB, I.V., prof. (Izhevsk); PORUBINOVSKAYA, N.M. (Moskva); RUDNEV, G.P., prof.; VOL'FSON, I.Z., prof. (Stalingrad), DOROSHENKO, I.T., prof. (Kalinin); ROZENFEL'D, M.O., prof. (Leningrad); SHUL'GA, A.O., prof. (Orenburg); MIKHLIN, Ye.G., prof.; TRET'YAKOVA, Z.V. (Moskva); MANUYLOV, Ye.N., prof. (Moskva); DOROSHENKO, I.T., prof. (Kalinin); YERMOLAYEVA, V.G., prof.

Speeches in the discussion. Trudy gos. nauch.-issl. inst. ukha, gorla i nosa no.11:79-87,129-146,179-186,233-248,311-333 '59. (MIRA 15:6)

1. Chlen-korrespondent AMN SSSR (for Ado). 2. Direktor Moskovskogo gosudarstvennogo instituta ukha, gorla i nosa (for Trutnev).
(OTORHINOLARYNGOLOGY—CONGRESSES)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye.G., prof.

Indications for tympanoplasty in circumscribed labyrintaitis with fistula. Vest.otorin. 22 no.5:49-52 S-O '60.

(MIRA 13:11)

1. Iz kafedry bolezney ukha, gorla i nosa Krasnoyarskogo meditsinskogo instituta.

(LABYRINTH (EAR)—DISEASES)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye.G., prof. ; PAVLOV, Yu.V., ordinator.

Removal of impacted foreign bodies from the bronchi in children using a drill. Vestn. otorinolaring. 25 no.3:102-103 '63 (MIRA 17:1)

1. Iz kafedry bolezney ukha, nosa i gorla (zav. - prof. Ye.G. Mikhlin) Krasnoyarskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

TRIFONOV, Dmitriy Konstantinovich; MIKHLIN, Ye.I., red.

[General economic laws] Obshchie ekonomicheskie zakony] Leningrad, Izd-vo Leningr.univ., 1964. 273 p. (MIRA 18:2)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

ZEMTSOVSKAYA, Vera Ivanovna; [illegible], Ye.I., red.

[Statistics of [illegible] a textbook. Statistika [illegible] nebnoe posobie. Leningrad, Izd-vo Leningr. [illegible] 53 p. (MIRA 17.8)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

A.E.S. MIKHLIN Ye. L.

Glass

Apparatus for making hollow glass products. E. L. MIKHLIN. Russ. 56,928, April 30, 1940. 32a. 12. M.Ho.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

BORISOGLEBSKIY, B.N., inzhener; MINKOV, V.P., inzhener, VEKSLER, G.M. inzhener, MIKHLIN, Ye.L.; SALAMATOV, I.I. inzhener, redaktor; STUPIN, A.I., redaktor; TIKHONOV, A.Ya., tekhnicheskiy redaktor

[Centrifuges; a catalog and reference book] TSentrifugi; katalog-spravochnik. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 90 p. (MLRA 8:11)

1. Russia(1923- U.S.S.R.)Ministerstvo mashinostroyeniya i priborostroyeniya.
(Centrifuges)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLIN, Ye.L., inzh.

Effect of the geometry of a rotor on the efficiency of a screw settling centrifuge. Trudy NIIKHIMMASH no. 29:72-85 '59. (MIRA 14:5)

(Centrifuges)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHL[illegible]. [illegible] [illegible]INOV'YEVICH

EPP.
.R92242

PYAT'DESY[illegible] LET TRET'YEGO SHYEZDA RSDR[illegible]. [illegible]ENINGRAD, 195[illegible].
[illegible]1 P.
AT HEA[illegible] OF TITLE: VSESOYUZNOYE O[illegible]SHCHESTV[illegible] PO RAS[illegible]POSTRANENIYU
[illegible]OLITICHE[illegible]KIKH I NAUCHNYKH [illegible]NANIY.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, A. A.

MIKHLINA, A. A. "A Ne Disease in Central Asia, Virus of Cotton," in Results of the Work of the Station f Plant Protection of the All Union Order of Lenin Scientific-Research Institute of Cotton Production on the Study of Pests and Diseases of Cotton and Lucerne for 1939 (Auto-references and References.) Publishing House of the All Union Order of Lenin Scientific-Research Institute of Cotton Production, Tashkent, 1941, pp. 63-65, 464.04 T18

SO: Sira Si-90-53 15 Dec. 1953

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

VIZGERT, R.V.; [illegible], A.F. ([illegible], A.F.), [illegible], I.[illegible]

Infrared absorption spectra of esters of substituted benzene-sulfonic acids and phenol. Ukr. fiz. [illegible] no.11:[illegible] [illegible] '64. [illegible]

1. Institut fiziki AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

11(4),7(3),24(7)

SOV/48-23-10-8/39

AUTHORS: Mal'nev, A. F., Sklyar, V. T., Mikhlina, I. M., Puchkovskaya, G. A., Shulyak, L. I., Shevchenko, Ye. F.

TITLE: Investigation of the Composition of the High Molecular Hydrocarbon Fractions of Petroleums of the Bitkovskoye Deposit by Means of Infrared Absorption Spectra

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 10, pp 1192-1193 (USSR)

ABSTRACT: The present investigation was carried out in collaboration with the laboratoriya geokhimii nefti Ukr. NIGRI (Laboratory for Petroleum Chemistry of the Ukr. NIGRI). Investigations were carried out of petroleums obtained from the boreholes 300, 310 and 350 of the Bitkovskoye deposit in the western Ukraine. First, the solid fraction T was separated at 0 and -18°, and later the aromatic fraction AT was separated according to the method of Chernozhukov and Kazakova (Ref 1). The remainder of the solid fraction OT was separated by carbamide complex formation (complex-forming part KT, - non-complex-forming part NKT). The remaining liquid fraction was chromatographically separated into a paraffin naphthene fraction PNZh and a mono-, bi-, and polycyclic aromatic hydrocarbon-containing fraction (1AZh, 2AZh and

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

Investigation of the Composition of the High Molecular Hydrocarbon Fractions of Petroleums of the Bitkovskoye Deposit by Means of Infrared Absorption Spectra SOV/48-23-10-6/39

nAZh). The fraction PNZh was further treated with carbamide and thiocarbamide and four components were obtained. The spectra were recorded in the range 2-15μ by means of the vacuum infrared spectrometer of the type VIKS-3 (sample thickness 50 - 55μ). In the following, a number of details concerning the spectra of the investigated fractions are given. The KT-spectra showed intense bands at 3.4 - 3.5, 6.82, 13.72 and 13.89μ (corresponding to the oscillations of the CH_2-groups) and weak bands (CH_3) at 6.92 and 7.25μ. The n-paraffins were characterized by the intense band at 13.89, the NKT-fraction by the 7.25μ-band as well as that with 13.89μ. The aromatic fractions had the following bands: 1AZh: 6.2, 122, 13.4, 13.8 and 14.3μ (intense) and 9.6, 11.4 and 12.8μ (weak). 2AZh: 6.2, 11.4, 12.2 and 13.4 as well as 12.8, 13.8 and 14.3μ (weak) nAZh: 6.2, 11.4 and 13.4 as well as 9.6, 11.4 and 13.4μ. The investigation results showed that the petroleums obtained from the various boreholes differ from one another. Thus, the T-fraction from the borehole 350

Card 2/3

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

Investigation of the Composition of the High Molecular Hydrocarbon Fractions of Petroleums of the Bitkovskoye Deposit by Means of Infrared Absorption Spectra SOV/48-23-10-8/39

contained more ramified paraffins than that from 310. The petroleum of the former contained more aromatic, and that of the latter more paraffin-hydrocarbons. There are 5 references, 3 of which are Soviet.

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MAL'NEV, A.F. [Mal'niev, A.F.]; MIKHLINA, I.M.

Using infrared absorption spectra for determining the quantity of oil in paraffins. Ukr.fiz.zhur. 6 no.6:859-861 N-D '61. (MIRA 16:5)

1. Institut fiziki AN UkrSSR, Kiyev.
(Spectrochemistry) (Paraffins)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

VIZGERT, R.V. [Vizhert, R.V.]; MAL'NEV, A.F. [Mal'niev, A.F.]; MIKHLINA, I.M.

Effect of the nature and position of the substitute on the infrared spectra of benzosulfochlorides and ethyl esters of benzenesulfonic acid. Ukr.fiz.zhur. 7 no.5:512-514 My '62. (MIRA 16:1)

1. Institut fiziki AN UkrSSR, Kiyev.
(Benzenesulfonic acid—Spectra)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

VIZGERT, R.V.; MAL'NEV, A.F.; MIKHLINA, I.M.

Effect of the nature and position of substitutes on the infrared spectra of benzenesulfonyl chlorides and benzenesulfonates. Izv. AN SSSR. Ser. fiz. 27 no.7:969-973 '63. (MIRA 16:8)
(Benzenesulfonyl chloride--Spectra)
(Benzenesulfonic acid--Spectra)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

OBOLONCHIK, V.A.; MIKHLINA, T.M.

Cerium selenides and oxyselenides. Zhur. prikl. khim. 38 no.7:1451-1456 Jl '65. (MIRA 18:7)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, S. YE.

4

482c (7)

2 May

Determination of diphenylguanidine in rubber mixtures. S. R. Mikhlina. Sbornik Trudov Kiev. Tekhnol. Inst. [illegible] 1954, No. 6, 70-3; Referat. Zhur., Khim. 1955, Abstr. No. 56713.—Diphenylguanidine (DPG) was detd. by neutralization with excess 0.1N HCl and subsequent titration with 0.1N alkali soln. in the presence of methyl orange. The method was verified with DPG samples and with mixts. of synthetic rubber and DPG. In the latter case, the precision is within 5.06%. The soly. of DPG and mercaptobenzothiazole was also studied. Best solvents are Me and Et alcs. N. Vasileff

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APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 12020-65 EWT(m)/EWP(b) RDW/JD

ACCESSION NR: AP4047995 S/0073/64/030/010/1037/1039

AUTHOR: Obolonchik, V. A.; Mikhlina, T. M.

TITLE: Preparation and properties of rhenium selenide

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 10, 1964, 1037-1039

TOPIC TAGS: rhenium selenide, rhenium diselenide, rhenium diselenide preparation, rhenium diselenide property, hydrogenation catalyst, hydrogen selenide synthesis

ABSTRACT: The preparation and chemical properties of rhenium diselenide, $ReSe_2$, have been studied to supplement available data on rhenium selenides, which are considered good catalysts of hydrogenation. Two methods of preparing pure $ReSe_2$ were developed using either the reaction of rhenium metal with hydrogen selenide or the reaction of ammonium perrhenate with hydrogen selenide. The synthesis of pure hydrogen selenide from elements and the preparation of spectroscopic-grade ammonium perrhenate from rhenium metal were described. The same

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 12020-65

ACCESSION NR: AP4047995

laboratory apparatus was employed for the study of both solid-state reactions, which produced $ReSe_2$. The hydrogen-selenide synthesis and the preparation of $ReSe_2$ were carried out in two sections of the same reaction tube, heated to 500 and 700C, respectively. Experimental data indicated that both methods of preparation required the same temperature but different optimum time. Chemical and x-ray analysis were used to determine the product composition. A method was developed to determine rhenium in the product by hydrogen reduction of $ReSe_2$ at 900C. The chemical properties of pure $ReSe_2$ were determined. The $ReSe_2$ products were found to be active catalysts of the hydrogenation of n-butane and butenes, which produces divinyl. Orig. art. has: 1 figure, 3 tables and 2 formulas.

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute for the Study of Materials, AN UkrSSR)

SUBMITTED: 09Sep63 ATD PRESS: 3122 ENCL: 00

SUB CODE: GC, IC NO REF SOV: 002 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 57869-65 EWT(1)/EWT(m)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c)
RDW/JD/JG/AT
ACCESSION NR: AP5017774 UR/0080/65/038/007/1451/1456
546.655'23

30
B

AUTHOR: Obolonchik, V. A.; Mikhlina, T. M.

TITLE: Cerium selenides and oxyselenide

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 7, 1965, 1451-1456

TOPIC TAGS: rare earth selenide, cerium selenide, cerium monoselenide, cerium sesquiselenide, cerium oxyselenide, selenide preparation, semiconductor material

ABSTRACT: Preparation of cerium selenides has been studied in the first of a series of studies on the selenides of rare-earth elements. The study was initiated because of the possible use of these selenides in semiconductor and other new technological fields and because very few data are available in the literature. Direct synthesis from the elements was discarded as unpractical, partly because of the scarcity of pure rare-earth elements. Two indirect methods were explored. One, the reaction of pure cerium dioxide with pure selenium in solid phase produced at 1100—1200C and under specified conditions nearly pure cerium oxyselenide Ce_2O_2Se. The data obtained at temperatures to 1350C suggested that at even higher temperatures preparation of cerium selenide CeSe would be possible. Electric resistivity of the compacted and slightly sintered Ce_2O_2Se sample was found to be of the order of

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L 57869-65

ACCESSION NR: AP5017774

4×10^5 ohm·cm. The second method consisted of reacting pure cerium dioxide with hydrogen selenide which was synthesized in the reactor. Nonstoichiometric cerium monoselenide was obtained by this reaction at 1100C after 2 hr. At longer (5—6 hr) reaction time and 1100—1200C, a stoichiometric cerium selenide Ce_2Se_3 was obtained. The latter can be converted into CeS by heating in hydrogen stream or in vacuum. Orig. art. has: 3 figures and 3 tables.

[JK]

ASSOCIATION: none

SUBMITTED: 10Jun62 ENCL: 00 SUB CODE: IC,GC

NO REF SOV: 000 OTHER: 006 ATD PRESS: 4038

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

L 11148-66 EWT(m)/ETC(F)/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD

ACC NR: AP6000688 SOURCE CODE: UR/0080/65/038/009/2100/2103

AUTHOR: Obelonchik, V. A.; Mikhlina, T. M.

ORG: Institute for the Problems of Materials of the AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Lanthanum selenides and oxyselenides

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 9, 1965, 2100-2103

TOPIC TAGS: selenide, selenium compound, lanthanum compound, chemical reaction, hydrogenation

ABSTRACT: A series of experiments was made on the reaction of lanthanum chloride and hydrogen selenide. This method can be illustrated by the following equations:

$$2LaCl_3 + 3H_2Se \rightarrow La_2Se_3 + 6HCl,$$
$$2LaCl_3 + 4H_2Se \rightarrow La_2Se_4 + 6HCl + H_2.$$

Hydrogen selenide was synthesized from 99.998% pure selenium in a quartz reactor and was passed over lanthanum powder at temperatures on the order of 300-1200°C. Results of the reaction are shown in tabular form.

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L 11148-66

ACC NR: AP6000688

To obtain lanthanum diselenide, the temperature was gradually increased to 750-800°C and was held at this level for 2 hours. To obtain hydrogen sesquiselenide, the temperature was raised to 1100-1150°C and held at this level for 2-2.5 hours. To study the stability of La_2Se_3 and La_2Se_4, and to obtain a phase with a lower content of selenium, studies were carried out on the hydrogenation of lanthanum sesquiselenide. At temperatures of 350-380°C, there was obtained a black product corresponding by analysis to lanthanum sesquiselenide. This phase is stable up to a temperature of 550°C; at higher temperatures (on the order of 900°C) there is evolved the known brick-colored lanthanum sesquiselenide. The data indicate that lanthanum oxyselnide, La_2O_2Se, is obtained in the reaction of lanthanum oxide with selenium in an inert atmosphere at temperatures of 1100-1200°C. The action of hydrogen selenide on lanthanum oxide or chloride at 700-800°C leads to the production of La_2Se_4, while at temperatures of 1100-1200°C it leads to the production of lanthanum sesquiselenide, La_2Se_3. On heating lanthanum sesquiselenide to 1200°C in a stream of hydrogen, the selenium content decreases to a limiting value corresponding to lanthanum sesquiselenide. Orig. art. has: 3 figures and 2 tables.

SUB CODE: 07/ SUBM DATE: 20Jul63/ ORIG REF: 001/ OTH REF: 003

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

KOLCHINSKAYA, L.M.; RUSOVA, L.A.; MIKHLINA, V.V.

Introducing the manufacture of No.10, 7 nylon cord. Khim. volok. no.1:7-8 '62. (MIRA 18:4)

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[illegible], M.P., [illegible] nyy [illegible], kand. tekhn. [illegible]
[illegible] nyy sotrudnik; [illegible], [illegible]
[illegible] nyy sotrudnik

[illegible] the strength [illegible]
[illegible] tekst. prom. [illegible]
[illegible].

[illegible] Kiyevskiy [illegible]
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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

Evaluation of Soviet preparations of vitamin D. E. E. Mikhlina. Fedistrya 1942, No. 1/2, 13-17.—By tests on mice, the latest vitamin D prepns. of Soviet manuf. showed a toxic limit of [illegible] international units.

G. M. Kosolapoff

17

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

Piperazine dialdols. XX. Synthesis of racemic isopropylpiperazine. A. G. Natradze and E. E. Mikhlina (Lomonosov Inst. Fine Chem. Technol., Moscow). *J. Gen. Chem.* (U.S.S.R.) 17, 1718-27(1947)(in Russian); cf. *C.A.* 40, 2147[1]. Isovaleric acid (100 g.) and 80 g. PCl_3 were heated to 60°, then treated with 300 g. Br and heated until decolorized; the soln., slowly added with stirring to 147 g. abs. EtOH and treated with ice, gave 70.7% *Et α-bromoisovalerate*, b_{10} 91-3°. This (148 g.), added to the reaction mixt. of 105 g. di-Et malonate, 15.2 g. of EtOH, and washed with H_2O, gave 66% *Me,CH(CH-(CO₂Et)CH(CO₂Et)₂*, b_{10} 172-3°. This (83 g.), 165 cc. concd. HCl, and 81 cc. water, refluxed until hydrolysis was complete, gave on concn. 88% *isopropylmalonic acid*, m. 107°. This (27 g.) and 50 g. Ac_2O boiled 4 hrs. gave 88% *isopropylmalonic anhydride*, b_{10} 136°, a soln. of which (21 g. in 105 cc. EtOH), was said with HCl, heated on a steam bath 2 hrs., then concd. *in vacuo*, and treated with satd. $NaHCO_3$, gave 79% *di-Et isopropylmalonate*, b_{10} 129°. This (24.4 g.) and 9.3 g. HCO_2Et were added to the EtONa from 2.6 g. Na and 5.2 g. EtOH in 75 cc. dry Et_2O, allowed to stand 3 days in the cold and 2 days at room temp., then treated with ice water, and the aq. soln. was sepd. and extd. with Et_2O; the aq. soln. was carefully acidified to Congo red with 10% H_2SO_4, extd. with Et_2O, and the ext. poured onto amalgamated Al, allowed to react 3-4 hrs., and filtered, and the combined filtrate and Et_2O washings were distd. to give 73% mixed *stereoisomeric Et paraconates*, b_{10} 165-70°; this on fractionation gave the 2 isomers, b_{10} 166-7° and 175-6°; the 1st is the *stable form*, at° 1.445, d_4^{20} 1.1056; the 2nd crystallizes on cooling and m. 65-7°. The stable form (21.7 g.), boiled 16 hrs. with 4 parts of 1:1 HCl and concd. *in vacuo*, gave 81.6% *isopropylparaconic acid*, m. 81-6° (from water or benzene). This (5 g.) and 20 g. SOCl₂, heated 5 hrs. to 60-5° gave 99.2% *acid chloride*, b_{10} 139-40°. This (5.3 g.), slowly added with stirring at −14° to the CH_2N_2 from 21 cc. concd. *in vacuo*, gave 99.2% *diazomethyl isopropylparacanyl ketone*, $Me_2CHCH_2CO.O.CH_2CHCOCHN_2$, m. 127.5-8.5°. This (10.8 g.) in 175 cc. abs. EtOH was added to 0.7 g. fresh Ag_2O in 50 cc. abs. EtOH with stirring, then kept 2 hrs. at 50° and refluxed 1 hr., after filtration, the soln. was distd. to give 80.5% *Et isopropylhomoparaconate*, b_{10} 101-3°, at° 1.467, d_4^{20} 1.002. This (4.5 g.) and 5 parts 20% HCl, refluxed 16 hrs., gave on concn. *in vacuo* 85.5% *isopropylhomoparaconic acid*, m. 110°. This with $SOCl_2$ gave 94.5% *chloride*, b_{10} 102-3°, which was converted, as described above, into *diazomethyl isopropylhomoparaconyl ketone* (99.3%), m. 84-5°. This (from 3.6 g. acid), 25 g. AcOH, and 5 g. Ac_2O, heated 3 hrs. to 100°, then boiled 2 hrs., gave *acetoxymethyl isopropylhomoparaconyl ketone* (81.4%), b_{10} 181-3°, d_4^{20} 1.104, at° 1.411. This (0.92 g.) in 20 cc. H_2O was added to 2.7 g. Cu acetate and 3.5 g. 40% formalin in 75 cc. 25% NH_4OH and the mixt. heated to boiling over 1 hr., treated 0.5 hr. with H_2S, filtered, blown with air, treated with ½ vol. concd. HCl, and boiled 0.5 hr., after evapn. to dryness, the residue was taken up in a little H_2O, treated with NH_4OH, and extd. with $CHCl_3$, evapn. of the ext. gave crude *isopropylpiperazinedione*; this, neutralized with 1:15 HNO_3 to weak Congo red color and concd. *in vacuo*, gave *isopropylpiperazinedione nitrate* (58.5%), m. 124-5. 5.5° (from abs. EtOH); 40% K_2CO_3 gave 88.8% of the *free base*, m. 86-8° (from EtOH); *HCl salt* (73% yield by evapn. the aq. HCl soln. of the base), very hygroscopic. The HCl salt (0.3 g.), 0.24 g. 35% formalin, and 0.2 cc. H_2O, heated until clear, then treated with 0.12 g. HCO_2H, heated 15 hrs. to 100°, evapd. *in vacuo*, and the residue neutralized by 1:15 HNO_3, followed by evapn. *in vacuo* and washing with dry EtOH, gave *isopropylpiperazine* (I) *nitrate* (39.3%), m. 138-9°; the *free base* was isolated as a yellow oil. The above methylation method was also checked as follows: 1.5 g. 1-(hydroxymethyl)imidazole-HCl, 2 g. 35% formalin, in 1.5 cc. water were heated until clear, treated with 1 g. HCO_2H, and heated 15 hrs. on a steam bath; after evapn. *in vacuo* and treatment of the residue with EtOH, the residue of *1-(hydroxymethyl)-5-*

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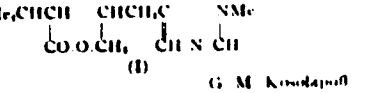
methylmadasole was converted to the *picrate* (80.3% yield). The picrate was converted to the *HCl salt*, m. 93-4°, which on mixing with the HCl salt of the starting material gave a m. p. of 86-7°.



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G. M. Kosolapoff

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MIKHLINA, YE. YE.

USSR/Chemistry - Antitubercular Drugs Jan 52

"Synthesis of Certain Aminoguanidine Derivatives," M. N. Shchukina, Ye. Ye. Mikhlina, All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonokidze

"Zhur Obshch Khim" Vol XXII, No 1, pp 132-135

Prepd a number of substituted benzalguanyls and their N^4-alkyl derivs. Found from tests at Div of Chem Therapy, All-Union Sci Res Chem-Phar Inst that these compds possess tuberculostatic activity but are toxic.

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MIKHLINA, E. E.

1/2

Chemical Abst.
Vol. 48
Apr. 10, 1954
Organic Chemistry

Synthesis of 2,3-substituted quinuclidines. M. V. Rubtsov and E. E. Mikhlina (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). Zhur. Obshchei Khim. 23, 823-8(1953).—To 1.25 g. Na in 20 ml. abs. EtOH was added 8.7 g. $CH_2(CO_2Et)_2$ and 9.6 g. Et 4-pyridylacrylate, and the mixt. stirred 1 hr. at 60° and treated with very dil. AcOH and extd. with Et_2O, yielding 94.2% *Et β-[bis(ethoxycarbonyl)methyl]-4-pyridinepropionate*, $b_{0.3}$ 173-5° (some decompn.); *HCl salt* (I), m. 121-2° (from EtOH-Et_2O). This (4.4 g.) refluxed 8 hrs. with 44 ml. concd. HCl gave *1-(4-pyridyl)glutaric acid-HCl*, which, heated 3 hrs. with 35 ml. 5% alc. HCl, concd. *in vacuo*, treated with K_2CO_3, and extd. with Et_2O, yielded 84.4% *di-Et ester*, $b_{0.3}$ 146-8°. I reduced over Pt oxide in EtOH to *Et β-[bis(ethoxycarbonyl)methyl]-4-piperidinepropionate*, isolated as the *HCl salt* (II), a taffy-like mass; the free base is amorphous; treatment with Ac_2O gave the *1-Ac deriv.*, $b_{0.3}$ 200-7°. II (from 47.8 g. pyridine analog) in dry $CHCl_3$ treated over 8 hrs. with 20.4 g. Br in $CHCl_3$, allowed to stand 12-14 hrs., concd., treated with H_2O and K_2CO_3, and extd. with Et_2O yielded crude *Et β-[bis(ethoxycarbonyl)bromomethyl]-4-piperidinepropionate*, which, boiled 2 hrs. with 300 ml. pyridine, concd., and treated with 50% K_2CO_3 gave 72% *Et 2,2-dicarbethoxy-3-quinuclidineacetate*, $b_{0.3}$ 147-8°; *methiodide*, m. 139-41° (from EtOH-Et_2O). The ester refluxed 16 hrs. with concd. HCl gave *2-carboxy-3-quinuclidineacetic acid-HCl* (III), decomp. 253-4° (from aq. Me_2CO); the pure product decomp. 254-5° (from EtOH-Et_2O). This (0.4 g.) 1.1 g. Ag_2O, and 6 ml. H_2O shaken 2 hrs.; dild., heated to the b.p., filtered, satd. with H_2S, filtered, and evapd. gave 43.8% *2-carboxy-3-quinuclidineacetic acid*, m. 265-7°; an 87.6% yield is obtained with alc. NH_3. III (7 g.) heated with 100 ml. $SOCl_2$ 10 hrs. at 70°, freed of $SOCl_2$, and the resulting *acyl chloride-HCl* (IV) refluxed 3 hrs. with EtOH gave 82.7% *di-Et 2-carboxy-3-quinuclidineacetate*, $b_{0.3}$ 126°, n_D^{20} 1.4797, (also obtained from III and 5% alc. HCl refluxed 6 hrs.); *methiodide*, m. 140-1° (from EtOH-Et_2O). The ester (8.2 g.) in Et_2O treated with 4.64 g. $LiAlH_4$ suspended in Et_2O, boiled 1 hr., and treated with 9 ml. H_2O gave 88.7% *2-hydroxymethyl-3-(2-hydroxyethyl)quinuclidine*, $b_{0.3}$ 156-7°; *HCl salt*, hygroscopic solid. The latter (5.22 g.) in dry

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Rubtsov, M. V.

$CHCl_3$ treated with 18 ml. $SOCl_2$, boiled 0.5 hr., and concd. *in vacuo*, gave 94% *2-chloromethyl-8-(2-chloroethyl)quinuclidine-HCl*, m. 139-40°; with 50% K_2CO_3 it gave the free base, $b_{0.05}$ 120-2°, which forms a *methiodide*, m. 136°. IV (from 3 g. acid HCl salt) and 40 ml. $Et_2NCH_2CH_2OH$ kept 3.5 hrs. at 80-5° gave 63% *bis(2-diethylaminoethyl) ester*, $b_{0.5}$ 187-9°, of *2-carboxy-3-quinuclidineacetic acid; trimethiodide*, decomp. 197-9°.

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L 30386-66 EWT(m)/EWP(j)/ETI IJP(c) JD/JG

ACC NR: AP6019663 SOURCE CODE: UR/0073/66/032/006/0567/0572

AUTHOR: Obolonchik, V. A.; Mikhlina, T. M.

ORG: Institute of the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Selenides of praseodymium, neodymium, samarium, and europium

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 6, 1966, 567-572

TOPIC TAGS: selenide, ~~polyselenide~~, praseodymium, neodymium, samarium, europium, CHEMICAL REACTION

ABSTRACT: Polyselenides of praseodymium, neodymium and samarium of the Me_2S_4 type were prepared by reacting the respective metal oxides with hydrogen selenide at 750—800C. Sesquiselenides of these metals were prepared by similar reactions at 1100—1200C, or by thermal decomposition of the polyselenides in hydrogen or in an inert gas. The reaction of europium with hydrogen selenide at 1100C yielded europium monoselenide (EuSe); europium selenides with a higher selenium content were not obtained. The preparative procedure of the selenides, their properties, their stability in various media, and the preparation of compacted selenide specimens are described in the source. Orig. art. has: 3 figures and 3 tables. [BO]

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, Ye. Ye.

USSR/Chemistry - Pharmaceuticals, Bactericides — Jul 53

"Synthesis of Substituted Hydroxy- and Dihydroxydiphenylmethanes," M. V. Rubtsov, Ye. Ye. Mikhlina and L. A. Pelenitsina, All-Union Sci-Res Chem-Pharm Inst im Ordzhonikidze

Zhur Obshch Khim, Vol 23, No 7, pp 1209-1214

Simplified the methods found in the literature for the prepn of 4,4'- and 2,4'-dioxydiphenylmethanes. Synthesized a series of derivs of hydroxy- and dihydroxydiphenylmethanes and tested their chemotherapeutic activity.

272T20

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, YE. YE.

USSR/Chemistry - Drugs

"Aminoalkyl Derivatives of Quinuclidine," M. V. Rubtsov, Ye. S. Nikitskaya, Ye. Ye. Mikhlina, A. D. Yanina, and V. Ya. Furshtatova, All-Union Sci-Research Chemico-Pharmaceut Inst im Ordzhonikidze

Sep 53

Zhur Obshch Khim, Vol 23, No 9, pp 1555-1559

A number of substituted 2-aminomethyl quinuclidines and 2-aminomethyl-3-(-aminoethyl)-quinuclidines were synthesized.

268T33

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, Ye Ye 260T6

USSR/Chemistry - Pharmaceuticals 21 Feb 53

"Synthesis of 2,3-Disubstited Quinuclidines," M. V. Rubtsov and Ye. Ye. Mikhlina, All-Union Sci-Res Chem-Pharm Inst im S. Ordzhonikidze

DAN SSSR, Vol 88, No 6, pp 1003-1006

Synthesized [2-carboxyquinuclidyl-(3)]-acetic acid, some of its derivs, and conversion products starting with the ethyl ester of β-dicarboxymethyl-β-[pyridyl-(4)]-propionic acid. Presented by Acad V. M. Rodionov 27 Nov 52.

260T6

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, YE. YE.

Synthesis of diastereoisomeric 2-phenyl-3-(4-piperidyl)-glutaric acids. M. V. Rubtsov, E. F. Mikhlina, and V. Ya. Pushkatova (S. Ordzhonikidze [illegible] Research Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 24, 2069-62(1954); cf. *C.A.* 48, 3978a.—A mixt. of EtONa (from 2.6 g. Na and 40 ml. EtOH), 18.56 g. $PhCH_2CO_2Et$, and 20 g. Et 3-(4-pyridyl)acrylate heated 2 hrs. at 60°, and treated with very dil. AcOH gave 90% *di-Et 2-phenyl-3-(4-pyridyl)glutarate*, m. 100° (from petr. ether), hydrolysis with boiling 1:1 HCl 4 hrs. gave the *free acid*, decomp. 231-3°, insol. in org. solvents. Hydrogenation of the *di-Et ester* over a Pt oxide catalyst in EtOH contg. dry HCl required 140 hrs., yielding the corresponding *3-(4-piperidyl) analog* (I), m. 70-80°, as a *monohydrate*; distn. results in loss of H_2O, yielding the anhyd. *free ester*, $b_{0.1}$ 172°, which readily picks up 1 H_2O. The product heated with Ac_2O 1 hr. gave *di-Et 2-phenyl-3-(1-acetyl-4-piperidyl)glutarate*, $b_{0.4}$ 215-18°, m. 85°. Hydrolysis of I refluxed 15 hrs. in concd. HCl gave a less-sol. isomer of the *free acid HCl salt* (II), decomp. 230-1°, and a more-sol. *isomer* (III), decomp. 178° (from EtOH-Et_2O). The former isomer with alc. NH_3 gave a free acid decomp. 210-12°, while the latter gave a free acid isomer decomp. 272°. Heating II *in vacuo* 15 min. at 230° converts it to III, isolated as the HCl salt. The di-Et ester with Br in $CHCl_3$ at 20° gave *di-Et 2-phenyl-3-(4-piperidyl)-glutarate perbromide HBr salt*, $C_{20}H_{28}O_4NBr_3$, decomp. 145-7°.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

Yu. K. Yu. Ilia Yes

62 Synthesis of substituted derivatives of 2-aminomethyl-3-(2-hydroxyethyl)quinuclidine. M. V. Rubtsov, E. E. Mikhlina, and V. Ya. Furshtatova (S. Ordzhonikidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow). Zhur. Obshchei Khim. 24, 2217-22(1954); cf. C.A. 48, 3978a, 10111c. Hydrolysis of 13.4 g. di-Et 2-carboxy-3-quinuclidylacetate in H_2O 7 days at room temp. gave 11.35 g. crude 3-carbethoxymethylquinuclidine-2-carboxylic acid (I) (from abs. EtOH-Et_2O) contg. some 2-carboxy-3-quinuclidineacetic acid, sepd. through its insoly. in $CHCl_3$, m. 180-2°. The $CHCl_3$ ext. from the above treated with EtOH-HCl gave 35.8% 3-carbethoxymethylquinuclidine-2-carboxylic acid-HCl, m. 229-9° (decompn.). This (4.7 g.) heated with 47 ml. $SOCl_2$ 4 hrs. at 60-5°, concd. in vacuo and treated with dry NH_3 in Et_2O suspension gave 39.6% 3-carbethoxymethylquinuclidine-2-carboxamide (II), m. 103-8° (from Et_2O); similarly was prepd. the β-diethylaminoethylamide, viscous liquid, $b_{0.4}$ 185-6°, and the diethylaminoisopentylamide, 76.1%, $b_{0.4}$ 190-1° (structure not given), as well as the 2-pyrrolidinamide, 70.2%, $b_{0.4}$ 200-12°, m. 59-8°, and 50.8% corresponding piperidide, $b_{0.4}$ 190-2°, m. 45-7°. II (3.65 g.) reduced with 2.4 g. $LiAlH_4$ in Et_2O-C_6H_6 gave 78.7% 2-aminomethyl-3-(2-hydroxyethyl)quinuclidine (III), $b_{0.4}$ 157-60°; dipicrate, m. 203-4°. Similar reduction of the other amides gave: 65% 2-(β-diethylaminoethylaminomethyl)-3-(2-hydroxyethyl)quinuclidine, $b_{0.4}$ 170-2°; 86.5% 2-(diethylaminoisopentylaminomethyl)-3-(2-hydroxyethyl)quinuclidine, $b_{0.4}$ 185-6°, and 69.5% 2-(2-pyrrolylaminomethyl)-3-(2-hydroxyethyl)quinuclidine, m. 127-9° (from $CHCl_3$), as well as 67.8% N-[3-(2-hydroxyethyl)quinuclidylaminomethyl]piperidine, m. 126-17°. III (1.25 g.) and 1.21 g. 6-methoxy-4-chloroquinoline heated in PhOH 3 hrs. at 190° gave 46.6% 2-(6-methoxy-4-quinolyl)aminomethyl-3-(2-hydroxyethyl)quinuclidine, m. 207-9° (from Et_2O-$CHCl_3$). Similar reaction with 2-methoxy-6-chloro-9-phenoxyacridine in BuOH gave 78.3% 2-[2-methoxy-9-phenoxy-6-acridylaminomethyl]-3-(2-hydroxyethyl)quinuclidine, m. 185-6.5°; di-HCl salt, decomp. 289-90°.

G. M. Kosolapoff

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Mikhlina, Ye. E.

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New paths of synthesis of 2-quinuclidinecarboxylic acid. M. V. Rubtsov and E. E. Mikhlina (S. Ordzhonikidze All-Union Chem. Pharm[redacted], Moscow). *Zhur. Obshchei Khim.* 25, 2303-10(1955).—Refluxing 10 g. 4-(2-hydroxy-3,3,3-trichloropropyl)pyridine (I) with 40 ml. EtOH, 10 ml. H_2O, and 19 ml. AcOH and 9 g. Zn dust added over 20 min., gave 0.67 g. *4-(2-hydroxy-3,3-dichloropropyl)pyridine*, m. 134-6°. Hydrogenation of I over Pt in alc. HCl gave 94.8% corresponding *piperidine-HCl* (II.-HCl), decomp. 194-6°; II decomp. 159-60° (from EtOH); HBr salt decomp. 188-9°. II heated with MeI in EtOH gave 51.6% *N-Me deriv.*, m. 172.5-3.5° (from EtOH). Similarly, $PhCH_2Cl$ gave 71.8% *N-benzyl deriv.*, m. 130-1°. Heating II with $POCl_3$-PCl_5 at reflux 2 hrs., coln. in Et_2O and washing the ext. with H_2O and $NaHCO_3$ gave II *phosphate*, $C_6H_{11}PO_4NCl_3$, an oil. II heated with 68% HBr in a sealed tube 3 hrs. at 120° gave *4-(2-bromo-3,3,3-trichloropropyl)piperidine-HBr*, decomp. 166-6.5°, in 40.6% yield. This (1 g.) in 12 ml. H_2O, treated with 15 ml. 15% Na_2CO_3 and 20 ml. $CHCl_3$ and shaken 3 hrs. gave a little *2-trichloromethylquinuclidine*; *HCl salt-H_2O*, decomp. 230° (from EtOH-HCl). II in EtOH heated with alc. KOH 4 hrs. at 45°, treated with CO_2, filtered, evapd. and taken up in 10% HCl gave 61.8% *8-(4-piperidyl)lactic acid-HCl.H_2O*, decomp. 202-4° (from EtOH-Et_2O); *Et ester*, decomp. 230° (from EtOH-Et_2O); *free ester base* (III), b_{12} 147-8°, n_D^{20} 1.4628, on standing changes to a solid mass, m. 230-1°, indicating that this substance is a polymer which can be depolymerized by long heating with alc. HCl. III with BzCl

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NEW PATHS OF SYNTHESIS . . . .

In pyridine gave 85.7% the *N-Bz deriv.*, $b_{0.05}$ 175-7°, n_D^{20} 1.518. III evapd. with 20% HCl-EtOH, then treated with $SOCl_2$ at 63°, evapd., treated with aq. K_2CO_3, followed by pyridine, gave a low yield of an ester, bp 137-47°, which refluxed with 17% HCl gave a poor yield of *2-quinuclidinecarboxylic acid*, decomp. 286°, while the residue yielded III. II in pyridine treated with BzCl, then treated with 10% HCl, gave 93.8% *N-Bz deriv.*, m. 177-9° (from EtOH). This treated with alc. KOH 48 hrs. gave *K β-(N-benzoyl-4-piperidyl)lactate*, which treated with aq. $AgNO_3$ gave the Ag salt, a solid which darkens in light. This with EtI in Et_2O refluxed 6 hrs. gave 87.5% *Et β-(N-benzoyl-4-piperidyl)-lactate*, $b_{0.05}$ 175°, n_D^{20} 1.518, which refluxed with 17% HCl 4 hrs. gave after the usual treatment 63.7% *Et β-(4-piperidyl)-lactate*, bp 147-8°, n_D^{20} 1.4628, which polymerizes on standing; 77.3% is obtained if the refluxing is performed 24 hrs. with 20% EtOH-HCl.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

MIKHLINA, YE. YE.

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61542

Author: Rubtsov, M. V., Mikhlina, Ye. Ye.

Institution: None

Title: Preparation and Properties of Ethyl-N-(quinuclidyl-2)-urethane

Original Periodical: Zh. obshch. khimii, 1956, 26, No 1, 135-138

Abstract: Described is an attempt to synthesize 2-aminoquinuclidine from quinuclidine carboxylic acid-2 (I) over its hydrozide (II) according to Curtius. On interaction of II with iso-C_5H_{11}-ONO (III) in alcoholic solution of HCl there is obtained ethyl-(IV) and in the solution of HCl in iso-$C_5H_{11}OH$ respectively the isoamyl (V)-N-(quinuclidyl-2)-urethane; together with IV as a by-product were isolated ethyl-(VI) and with V the isoamyl (VII) ester of I. On saponification of IV by action of dilute HCl was obtained NH_4Cl and amorphous polymer of dehydroquinuclidine (VIII). On heating of IV with $C_6H_5CH_2NH_2$ (IX) to 100° evidently takes place

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USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61542

Abstract: transacylation as a result of which is formed benzyl-urethane (X) and 2-aminoquinuclidine; the latter split off NH_3 and is converted to VIII. On heating of IV with IX (or with $C_6H_5NH_2$) to 180° NH_3 is evolved and together with VIII there is formed respectively dibenzyl-(XI) or diphenyl-(XII)-urea. XI is formed also on heating IX with X to 180°. A solution of 3.76 g II in 40 ml absolute alcohol is mixed with 7.27 ml 16.4% alcoholic solution of HCl, there are added within 20 minutes with cooling with ice and stirring 3.88 g III, mixing is continued for 3 hours at ~20°, then the mixture is boiled for 4 hours, evaporated in vacuum and the residue is treated with 50% solution of K_2CO_3 [redacted] extracted with ether; the residue after evaporation of ether is heated 30 minutes in boiling water bath and ground with dry ether; yield of IV is 44.3%, MP 166-168°; hydrochloride MP 136-138° (from aqueous acetone). From mother liquor isolated 1 g VI, BP 87-89°/0.5 mm, 122-123°/14 mm, $n^{23}D$ 1.4723, hydrochloride MP 300° (decomposition). Under analogous conditions were prepared V (BP 105-108°/0.6 mm, $n^{16}D$ 1.4587) and VII ($n^{16}D$ 1.4671). Mixture of 1 g IV and 10 ml HCl (1:1) boiled for 4 hours filtered, evaporated in vacuum, acetone is added, [redacted]

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USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61542

Abstract: NH_4Cl, filtrate evaporated, residue treated with 50% solution K_2CO_3 and extracted with $CHCl_3$; thus VII was obtained; picrate MP 158-160°.

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MIKHLINA, YE. Ye.

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Chem

β-(4-Pyridyl)glutaric acid and products of its transformations. M. V. Rubtsov, E. E. Mikhlina, and V. Ya. Furshtatova (S. Ordzhonikidze Russian Sci. Research Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 26, 445-9 (1956); cf. *C.A.* 43, 1274*h*.—Heating 3 g. di-Et β-(4-pyridyl)glutarate with 23 ml. *N* KOH 8 hrs. gave on acidification and evapn. 99% *β-(4-pyridyl)glutaric acid* (I), m. 183-5° (from EtOH). I *di-Et ester* with N_2H_4 in EtOH gave 91.5% I *dihydrazide*, m. 189-90°. I di-Et ester and concd. NH_4OH-EtOH in 25 hrs. gave 84.8% I *diamide*, m. 192-4° (from EtOH). I *di-Et ester* (5 g.) refluxed 20 hrs. with 10.2 g. $PhCH_2NH_2$ gave 93.3% I *bis(benzylamide)*, m. 153-3°; the use of $Et_2NCH_2CH_2NH_2$ similarly gave 37% I *bis(diethylaminoethylamide)* (II), m. 100-2°. Similarly was prepd. I *bis(3-diethylaminopropylamide)*, a hygroscopic solid, $b_{0.3}$ 220-50°. II (3 g.) added to 1.04 g. $LiAlH_4$ in Et_2O-C_6H_6 and refluxed 20 hrs., gave after aq. treatment, 58% *1,5-bis(diethylaminoethylamino)-5-(4-pyridyl)pentane*, $b_{0.4}$ 193-7°, n^{15}_D 1.5047, whose *picrate*, yellow, m. 103-5°. Refluxing I di-Et ester with $Et_2NCH_2CH_2OH$, in which a little Na had been dissolved, with continuous distn. of EtOH 3 hrs. at 150° gave 64.3% I *bis(diethylaminoethyl)ester*, $b_{0.2}$ 195-7°. Reduction of I di-Et ester with $LiAlH_4$ in C_6H_6 (2 hrs. at reflux) gave 86% *3-(4-pyridyl)-1,5-dihydroxypentane*, m. 64-6°. This (1.9 g.) acidified with alc. HCl, freed of EtOH by distn. *in vacuo*, soln. in dry $CHCl_3$, and treatment with 12 ml. $SOCl_2$ gave after refluxing 1 hr. 42.7% *3-(4-pyridyl)-1,5-dichloropentane* (III), $b_{0.15}$ 121-2°, after treatment with concd. K_2CO_3. On standing this forms the quaternary salt, insol. in Et_2O. III (0.85 g.) refluxed with excess $PhCH_2NH_2$ 7 hrs. gave *N-benzyl-4-(4-pyridyl)piperidine*, $b_{0.3}$ 160-4° (*picrate*,

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Rubtsov, M.V., Mikhlina, E.E., and Furshtatova, V.Ya.

(m. 218–10°). Hydrogenation of I di-Et ester over Pt in alc. HCl gave 93% *di-Et β-(4-piperidyl)glutarate*, $b_{0.1}$ 131–2°, n^{20}_D 1.4688, which with hot *N* NaOH in 8 hrs. gave the *free acid*, 93.8%, m. 213°, purified through the *Ag salt*, which is insol. in H_2O; *HCl salt*, m. 174–5°. The *di-Et ester* conventionally treated gave: *diamide*, 51%, m. 180° (from EtOH-Et_2O); *bis(benzylamide)*, 69%, m. 163–7° (also prepd. from the acid HCl salt and $SOCl_2$, the crude acyl chloride then treated with RNH_2); *bis(diethylaminoethylamide)*, 67%, $b_{0.6}$ 170–90°. The bis(benzylamide) reduced with $LiAlH_4$ in Et_2O-dioxane to 33% *1,5-dibenzylamino-3-(4-piperidyl)pentane*, $b_{0.1}$ 255–70°. O. M. Kosolapoff

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E-2

USSR/ Organic Chemistry - Synthetic organic chemistry

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11138

Author : Rubtsov M.V., Mikhlina Ye.Ye , Furshtatova V.Ya
Title : Preparation of Isonicotinic Acid

Orig Pub : Zh prokl. khimii, 1956, 29, No 6, 946-948

Abstract : A method has been developed for the preparation of isonicotinic acid (I) by oxidation with dilute HNO_3 of the mixture of α-methylolpicolines (II) formed on heating mixture of β- and γ-picolines (III, IV) with formalin (V) at atmospheric pressure. It is shown that in lieu of HNO_3 a mixture of HNO_3 and H_2SO_4 can be successfully utilized in the oxidation. An experimental study is made of the preparation of I from citric acid (VI); a more precise determination has been made of the conditions of preparation, with increased yields, of 2,6-dihydroxy isonicotinic acid (VII) and 2,6-dichlor isonicotinic acid (VIII); yields of I have been considerably increased. 117.6 g technical mixture III and IV (the mixture contains 15% water and 40% IV, on the dry basis) and 200 g V are boiled 15 hours; III and excess V are steam distilled, aqueous solution of II is concentrated to 160-180 ml and

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USSR/ Organic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11738

these are added, within 20 minutes, to 350 ml of 57.5% HNO_3 heated to 98°, heating is continued for 4 hours, after which neutralization is effected with 65-75 g Na_2CO_3 to obtain I, yield 77.5-85% (on basis of IV), MP 314°. From distillate, by addition of 32 g KOH and 48 g NaCl, are isolated 48-56 g III. Trimethyl ester of VI, 73 g, is shaken for 15-20 minutes with 730 ml 25% aqueous solution of NH_3, the mixture is evaporated in vacuum, 365 g of 73% H_2SO_4 are added, the mixture is slowly heated to 125°, and held at 125-130°.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

AUTHORS: Mikhlina, Ye. Ye., and Rubtsov, M. V.

TITLE: Synthesis of 3-Methylquinuclidine-2-carboxylic Acid (Sintez 3-metilkhinuklidinkarbonovoy kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, No. 1, pp. 77-83 (U.S.S.R.)

ABSTRACT: The synthesis of di-substituted quinuclidine derivatives - 3-methylquinuclidine-2-carboxylic acid from gamma-ethylpyridine, is described. Condensation of the gamma-ethylpyridine with dioxy-malonic ester and consequent conversion of 1,1-dicarboethoxy-2-(pyridyl-4')-propene-1 into 3-methylquinuclidine-2-carboxylic acid was considered the most simple synthesis method. However, instead of 1,1-dicarboethoxy-2-(pyridyl-4'O-propene-1, ethyl ether alpha-oxy-alpha carboethoxy-beta-(pyridil-4)-butyric acid was obtained. Reduction of the diester in the presence of platinum oxide and consequent saponification and decarboxylization led to alpha-oxy-beta-(piperidyl-4)-butyric acid. In order to convert the latter compound into 3-methylquinuclidine-2-carboxylic acid, it was necessary to substitute the alpha-oxy group in the acid with a haloid. The acid was treated with thionyl chloride. At a temperature of 60-65°, only acid chloride was formed; increased temperatures to 70-75° resulted in intensive resinification of

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the substance, and no change of the alpha-oxy group into Cl group was observed.

This result indicates that the alpha-oxy group in the acid is less active, as a result of which the synthesis of 3-methylquinuclidine-2-carboxylic acid from alphaoxy-beta-(piperidyl-4)-butyric acid has proven impossible.

There are 5 references, of which 3 are Slavic.

ASSOCIATION: All-Union Scientific-Research Chemical-Pharmaceutical Institute im. S. Ordzhonikidze (Vsesoyuznyy Nauchno-Issledovatel'skiy Khimiko-Farmatseyticheskiy Institut im. S. Ordzhonikidze).

PRESENTED BY:

SUBMITTED: January 30, 1956

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MIKHLINA, E.E.

Synthesis of the lactone of 3-hydroxymethyl-3-carboxymethylquinuclidine. E. E. Mikhlina and M. V. Rubtsov (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 27, 691-5(1957); cf. *C.A.* 50, 3471.—Refluxing 54.4 g. Et 3-(4-pyridyl)propionate with 91 g. formalin in 370 ml. H_2O 1 day, steam distg. the residual CH_2O, and evapg. the residue gave 69.5% 4-$C_5H_4N[CH_2OH].CH_2.CO.O.CH_3$, m. 132-4° (from dry EtOH); with concd. HCl it gave the *HCl salt*, m. 216-17° (from 80% EtOH). The latter shaken with Pt catalyst and H in dry EtOH gave 95% *piperidyl analog*, isolated as the *HCl salt* (I), decomp. 211-13° (from EtOH-Et_2O), also formed in 98.5% yield on similar hydrogenation in 4% HCl; the *free base* m. 141-3° (from $CHCl_3$). The HCl salt (15 g.) heated 4 hrs. at 60-5° with 60 ml. $SOCl_2$ in C_6H_6 and 4 hrs. at 70-5° gave, after sepn. of the solid, washing it with C_6H_6 and Et_2O, soln. in warm EtOH and cooling, 79.5% 4-$C_5H_{10}N[CH.C(CH_3Cl).CH_2.CO.O.CH_3.HCl$ (II), decomp. 225-7°, which shaken with Ag_2O in H_2O 8 hrs. gave colorless $Ag[O_2CCH_2C(CH_2OH)_2CH(C_5H_{10}N-4)]$, which taken up in aq. HCl and filtered gave, on evapn., I, identical with the above. Treating 7.03 g. II in 200 ml. EtOH with 58.7 ml. 0.5*N* alc. KOH, filtering, evapg., and refluxing the residue with 70 ml. dry pyridine 3 hrs. and cooling gave 58.8% *3-hydroxymethyl-3-carboxymethylquinuclidine lactone-HCl*, decomp. 310-12° (from dry EtOH); *free lactone*, $b_{0.1}$ 140°, m. 157-9°; *picrate*, m. 234-6° (from 90% EtOH). The lactone heated with $N_2H_4.H_2O$ in EtOH 10 hrs. gave 98% *3-(hydroxymethyl)quinuclidyl-3-acetic acid hydrazide*, m. 145-8° (from $CHCl_3$-Et_2O). Similarly was prepd. the *phenylhydrazide*, decomp. 151-3° (from EtOH-Et_2O). G. M. Kosolapoff

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MIKHLINA, YE. YE.

AUTHORS: Mikhlina, Ye. Ye., Rubtsov, M. V. 79-1-22/61

TITLE: The Synthesis of Quinuclidine-3-Acetic Acid (Sintez khinuklidin-3-uksusnoy kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp 1[illegible]-1[illegible] (USSR)

ABSTRACT: The present paper describes the synthesis of quinuclidine-3-acetic acid which makes it possible to transfer the investigation to the 3-substituted derivatives of quinuclidine. 4-(β-oxyethyl) was first used as initial product for this synthesis with the attempt of synthesizing 1,1,1-trichloro-2-oxy-3-(pyridyl-4')-4-oxybutane from this product by reaction with chloral. This attempt failed, as only resin like products were obtained. The tests with 4-(β-acetoxyethyl)-pyridine (83%) obtained from 4-(β-oxyethyl) pyridine (formula I) only yielded 4-vinylpyridine as final product. 4-(β-methoxyethyl)-pyridine (VI) proved to be a more stable compound during the influence of chloral. The condensation of this product with chloral in the presence of acetic piperidine (see the reaction scheme) led to 1,1,1-trichloro-2-oxy

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The Synthesis of Quinuclidine-3-Acetic Acid 79-1-22/63

-3-(pyridyl-4')-4-methoxybutane (VII), where no substituted 4-vinylpyridine was produced (as it was the case in the analogous reaction of 4-(β-acetoxyethyl)-pyridine with chlorate). The compound (VII) was by reaction with potassium alcoholate converted to 4-methoxy-3-(pyridyl-4')-crotonic acid (VIII). Its ethyl ester (IX) was at room temperature and in the presence of a platinum catalyst converted to the ethyl ester of methoxy-3-(piperidyl-4')-butyric acid (X). In order to exchange the methoxy group for halide and for the purpose of a synthesis of the derivative of quinuclidine the compound (X) was heated at 100 - 120°C with 67 % hydrobromic acid in a tube soldered shut. 4-bromo-3-(piperidyl-4') butyric acid synthesized in this connection was esterified and in the presence of pyridine subjected to cyclization. The ethyl ester of quinuclidine-3-acetic acid (XI) finally resulted which was after saponification converted to quinuclidine-3-acetic acid. There are 3 references 4 of which are Slavic.

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79-1-22/33

The Synthesis of Quinuclidine-3-Acetic Acid

ASSOCIATION: All-Union Scientific Chemical-Pharmaceutical Research Institute imeni Ordzhonikidze
(Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze)

SUBMITTED: January 7, 1957

AVAILABLE: Library of Congress

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1. Chemistry 2. Quinuclidine-Synthesis 3. Acetic acid

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134120016-2

AUTHORS: Furshtatova, V. Ya., Mikhlina, Ye. Ye., Rubtsov, M. V. 79-28-5-8/69

TITLE: Synthesis of 6,7-Di-substituted 1-Azabicyclo-(3,2,1)-Octane (Sintez 6,7-dizamesnchennykh 1-azabitsiklo-(3,2,1)-oktana)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1170-1176 (USSR)

ABSTRACT: In the last publication by the authors (Reference 1) a simple synthesis of 6-carboxymethyl-1-azabicyclo-(3,2,1)-octane-7-carboxylic acid and of its derivatives was described. Most interesting of these compounds were the properties of the ethyl esters of 6-carbethoxymethyl-1-azabicyclo-(3,2,1)-octane-7-carboxylic acid. Thus this ester hydrolized easily in aqueous solution under formation of an acidous ester. The same way also reacts the isomeric ethyl ester of 3-carbethoxymethylquinuclidine-2-carboxylic acid which converts to 3-carbethoxymethylquinuclidine on the same conditions. The comparison of the two isomeric diesters makes possible the assumption, that the saponification of

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Synthesis of 6,7-Di-substituted 1-Azabicyclo- 79-28-5-8/69
-(3,2,1)-Octane

of the carbethoxyl group in ethyl ester of the 6-carbethoxymethyl-1-azabycyclo-(3,2,1)-octane-7-carboxylic acid (in the mentioned scheme) takes place in position 7 and that the acidous ester forming on this occasion has the structure (II) of the scheme. From this a whole number of 7-alkyl-(aryl)-aminoethyl-6-(β-oxyathyl)-1-azabicyclo--octanes and of esters of 7-dialkylaminoethyl-6-(β-oxyethyl)-1-azabicyclo-(3,2,1)-octane were obtained. The compound (II) converts to compound (III) by means of thionylchloride; this compound was further treated with alkyl-(aryl) amines. The amides (IV) obtained then were reduced to the compound (V) by means of lithium aluminum hydrate. On treating this with chlorine anhydrides of some acids the corresponding esters (VI) resulted. On the conversion of (V zh = ж) with thionylchloride the compound (VII) was obtained in which the chlorine atom in the 6-β-chlorethyl group is of limited activity as experiments showed. There are 2 Soviet references.

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