YANIN, B. T.: Cand Master Geolog-Mineralo Sci (diss) -- "Bivalve molluskS of the Valandin and Goterive of the Crimea (the order Schizodonta, Heterodonta, and Rudistae)". Moscow, 1959. 12 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Geology Faculty), 120 copies (KL, No 6, 1959, 128)

DRUSHCHITS, V.V.; YANIN, B.T.

Lower Cretaceous deposits of central Crimea. Vest.Mosk.un.Ser. biol., pochv., geol., geog. 14 no.1:115-120 '59.
(MIRA 12:9)

1. Moskovskiy gosudarstvennyy universitet, Kafedra paleontologii.
(Crimea--Geology, Stratigraphic)

YANIN, B.T.

New data on the stratigraphy of the Albian stage in Bakhchisaray District (Crimea). Biul. MOIP. Otd.geol. 37 no.3:128-129 My-Je '62. (MIRA 15:10)

(Bakhchisaray District—Geology, Stratigraphic)

AREHDT, Yu.A.; YANIN, B.T.

Late Jurassic and Early Cretaceous Crinoidea of the Crimea. Paleont. zhur. no.3:140-142 '64. (MIRA 18:2)

1. Paleontologicheskiy institut AN SSSR i Moskovskiy gosudarstvennyy universitet.

NAYDIN, D.P.; YANIN, B.T.

Some characteristics of the geology of the surroundings of Prokhladnoye (Crimea, Bakhchisaray District). Biul. MOIP. Otd. geol. 40 no.3:75-81 My-Je '65. (MIRA 18:8)

YANIN, F. G.

Loading and Unloading

New scheme for unloading ships. Rech. transp. 12 no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952, Unclassified.

YANIN, G.I.

School hotbeds heated by a stove. Biol. v shkole no.4:50-52 Jl-Ag '61. (MIRA 14:7)

1. Melitopol'skiy pedagogicheskiy institut.
(Hotbeds)

YANIN, Ivan Alekseyevich; YAKOVLEV, D.V., red.; KHITROV, P.A., tekhn.red.

[Increasing the efficiency of regenerative braking for VL22^{m} electric locomotives] Povyshenie effektivnosti rekuperativnogo tormozheniia na elektrovozakh VL22^{m}. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 36 p. (MIRA 12:1)

1. Starshiy mashinist lokomotivnogo depo Zlatoust Yuzhno-Ural'skoy dorogi.
(Railroads--Brakes) (Electric locomotives)

YANIN, I.A., mashinist

Regeneration of energy by the NB electric locomotive. Elek.i tepl.tiaga 14 no.3:7-9 Mr '60. (MIRA 13:7)

1. Depo Zlatoust Yuzhno-Ural'skoy dorogi.
(Electric locomotives)

YANIN, I.A., mashinist elektrovoza; KOVRIZHNYKH, V.V., mashinist elektrovoza; SHCHENOVICH, V.A., inzh.

How to check the operation of regenerative system. Elek. i tepl. tiaga 4 no.10:7-8 O '60. (MIRA 13:10)

1. Depo Zlatoust Yuzhno-Ural'skoy dorogi.
(Railroads--Brakes)

KALININ, V.K., kand. tekhn. nauk; MIRONOV, K.A., insh.; LEVIN, B.M., inzh.; LIBMAN, G.M., inzh.; YERSHOV, Ye.F., inzh.; PANCHENKO, P.M., inzh.; BOLYCHEV, N.G., mashinist elektrovoza; ZOLOTAREV, V.N., mashinist instruktor; YANIN, I.A., inzh.; BOVE, Ye.G., kand. tekhn. nauk, red.; USENKO, L.A., tekhn. red.

[Electric networks and maintenance of the equipment of electric locomotives] Elektricheskie skhemy i ukhod za oborudovaniem elektrovozov. [By] V.K.Kalinin i dr. Moskva, Transzheldorizdat, 1963. 279 p. (MIRA 16:7)
(Electric locomotives)

S/107/61/000/010/005/007
D201/D304

AUTHOR: Yanin, L., Engineer

TITLE: Exposure meter for projection photoprinting

PERIODICAL: Radio, no. 10, 1961, 49-50

TEXT: In the present article, the author describes the circuit of an exposure meter which permits quick evaluation of the exposure time required. It is essentially bridge circuit with a photo-emissive cell ФС-К1 (FS-K1) as the sensing device in one of the bridge arms. The diagonal of the bridge has a microammeter type МС-100 (MS-100) with 100 μA FSD. The bridge is zeroed by varying the resistance of one of the arms to give zero deflection of the ammeter, and with the illumination of FS-K1, the current flowing in the meter determines the exposure time. The power supply consists of a half-wave rectifier employing germanium diodes Д7Е (D7Ye) connected in series. The d.c. supply is stabilized by a neon valve СГ-2П (SG-2P) which is also used as "ON" indicator. The instrument is in a rectangular metal box 170 x 110 x 80 mm with the photocell FS-K1 on the outside. The FS-K1 is connected

Card 1/2

Exposure meter for...

S/107/61/000/010/005/007
D201/D304

to the bridge by a 500 mm length of wire. After calibration, a sample run is made with various apertures and corrections introduced if necessary. To determine the exposure time for different grades of photopaper, the relative values of sensitivity of different kinds of paper—Unibrom -30, Fotobrom 20, Bromportret 12-can be used. If a less sensitive 500 μA meter is to be used, the d.c. voltage has to be increased, remembering the maximum p.d. at the photo-emissive cell FS-K1 is 400V. There are 3 figures.

Card 2/2

YANIN, L., inzh.

Photographic exposure meter for printing operations. Radio no.10:49-50 O '61. (MIRA 14:10)
(Photographic sensitometry)

YANIN, L.

Replacement of 5Ts4S and 5Ts3S kenotrons with transistor diodes in television receivers. Radio no.2:37-38 F '61. (MIRA 14:9)
(Television--Receivers and reception)

YANIN, L., inzh.

Faults in the automatic gain networks of a television receiver. Radio no.3:25-26 Mr '62. (MIRA 15:3)
(Television—Receivers and reception)

YANIN, L.G., inzh.

PPM-AM modulation with time division of channels in a radio relay line. Vest. sviazi 22 no.11:8-10 N '62. (MIRA 16:12)

YANIN, L.V. (Moskva)

Basic trends in the activity of industrial sanitation inspection. Gig. truda i prof. zab. 4 no. 7:3-7 Jl '60. (MIRA 13:8)

1. Ministerstvo zdravookhraneniya SSSR.
(FACTORY SANITATION)

KOVARSKIY, A.G.; MEDOKS, T.S.; Prinimali uchastiye: GLEBOVA, L.F.; SMIRNOV, S.M.; YANIN, L.V.; ZHDANOV, V.M., prof., red.; KHRISTOV, L.N., red.; KNAKNIN, M.T., tekhn. red.

[Collection of official materials relating to laboratory work] Sbornik ofitsial'nykh materialov po laboratornomu delu. Moskva, Medgiz. Book 1. [Manual for laboratory doctors, sanitation doctors, and epidemiologists] V pomoshch' vrachamlaborantam, sanitarnym vracham i vracham-epidemiologam. 1961. 462 p. (MIRA 15:2)

(MEDICAL LABORATORIES) (BIOLOGICAL LABORATORIES) (CHEMICAL LABORATORIES)

YANIN, L.V., red.; ROMANOVA, Z.A., tekhn. red.

[The most important official documents on industrial hygiene and sanitation] Sbornik vazhneishikh ofitsial'nykh materialov po voprosam gigieny truda i proizvodstvennoi sanitarii. Moskva, Medgiz. No.2. 1962. 219 p. (MIRA 15:12)
(INDUSTRIAL HYGIENE)

KLIMOVA, T.Kh.; LORANSKIY, D.N.; YANKOVSKAYA, Z.V.; YANIN, L.V., red.; YEGOROV, Yu.L., red.; MIRONOVA, A.M., tekhn. red.

[Collection of the most important official data on problems of industrial hygiene and industrial sanitation] Sbornik vazhneishikh ofitsial'nykh materialov po voprosam gigieny truda i proizvodstvennoi sanitarii. Moskva, Medgiz. No.1. 1962. 314 p. (MIRA 15:10)

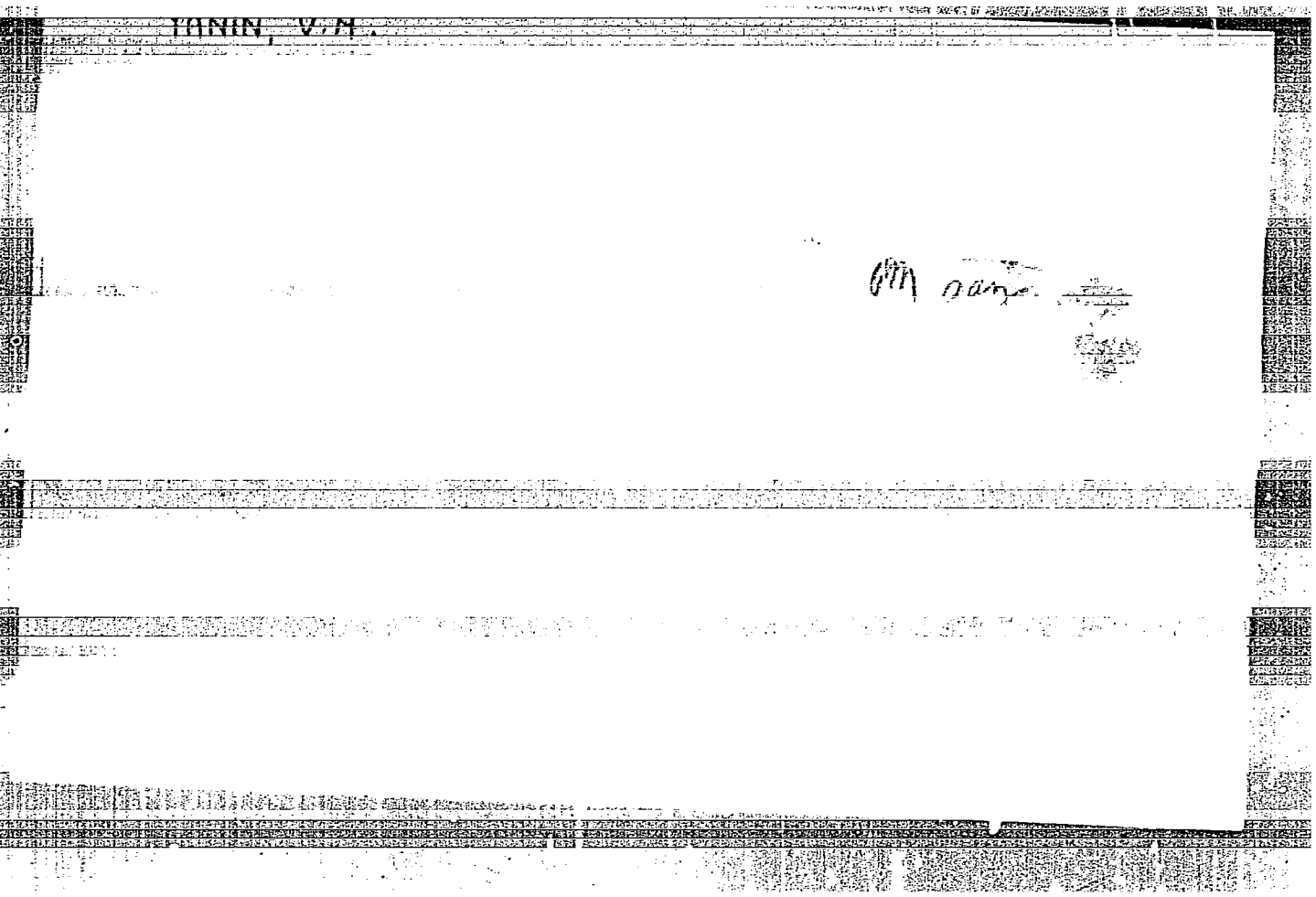
(INDUSTRIAL HYGIENE--LAW AND LEGISLATION)

YANIN, N.G.; SCHETCHIKOV, I.I.; BEL'SKIY, V.I., otv.red.; PEVZNER, A.S., zav.red.izd-va; GILENSON, P.G., tekhn.red.

[Uniform time and pay standards for construction, assembly, and repair operations in 1960] Edinye normy i rastsenki na stroitel'nye, montazhnye i remontno-stroitel'nye raboty, 1960 g. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. Sbornik 15. [Installing industrial furnaces and flues] Kladka promyshlennykh pechei i trub. 1960. 96 p.

(MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Normativno-issledovatel'skaya stantsiya No.5 (NIS-5) Ministerstva stroitel'stva RSFSR (for Yanin, Schetchikov).
(Wages) (Furnaces) (Flues)



S/193/61/0 0/011/002/007
A004/A101

AUTHOR: Yanin, V. Ye.

TITLE: Pressure working of metals at the enterprises of the Moscow City Sovnarkhoz

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 11, 1961, 20-24

TEXT: The author reports on the achievements of the Moscow City Sovnarkhoz plants in the field of forging, pressing, die forging and drop forging and points out that, in comparison with 1948, the stock of forging and pressing machinery in the Soviet Union had increased by 1958 nearly by a factor of 3. The development plan for the national economy provides for an increase in the production of forging and pressing machinery of 25% compared to 14% in 1958. The considerable increase in the production of forging and pressing equipment can be mainly explained by the necessity of producing precision forgings approaching the dimensions of the finished components. To increase the forging precision and cut the labor consumption some 20 crank-type drop-forging presses with a capacity of up to 6,300 tons have been installed in the Moscow plants. By 1960 the volume of precision forgings at the Moscow City Sovnarkhoz plants amounted to 34,000 tons

Card 1/4

or 13% of the total of drop-forgings. For 1961 the rated output figure of precision forgings is 35,000 tons, while it is planned to bring that figure up to 80,000 tons by 1965. The introduction of advanced technologies considerably improved the technological and economic indices of forging shop operations. In 1960 the metal consumption per ton of forging amounted to 1,170 kg, compared with 1,178 kg in 1958, while rejects could be reduced to 0.3%. The author points out, however, that still up to 30%of metal losses occur particularly in hand forging, while the losses are still greater when machine parts are manufactured directly from rolled material on machine tools, where the coefficient of metal utilization amounts to 0.3 - 0.5 only. Technological processes are being developed at the Moscow City Sovnarkhoz plants which will increase the output of serviceable metal in forging and pressing shops to 90%, while the metal loss in chips in mechanical shops in the manufacture of parts of intricate configuration will be cut by 15%. The practice of the "Krassnyy proletariy" Plant and the Moskovskiy zavod pozharnykh mashin (Moscow Fire Engine Plant) shows that in small-batch production the cost on die-making is paid off after 3,000 to 4,000 parts. The forging shops of the "Dinamo", "Krassnyy proletariy", Vladimir Il'ich and other plants have converted some 2,000 tons of hand forgings to die forging, which reduces the labor consumption by 35-40 norm-hours per ton of die

forgings, and saves some 80 rubles per ton. The author mentions the extensive use of multipurpose-setting dies for small-batch and big-lot production for which only inserts for the shaping grooves need to be changed to forge parts of different configuration. The author points out that at present already some 7,000 tons of forgings are produced by the impact extrusion method, which saves up to 15 - 40% of metal, cuts labor consumption by 15 - 40% and yields forgings attaining the 2nd class of precision without subsequent machining. The Avtozavod im. Likhacheva (Automovil Plant im. Likhachev) (ZIL) in cooperation with NIITavtoprom introduced the method of hot gear generation for the ZIL-157 truck. The machine tool for the manufacture of these gears has been described in the Byulleten' tekhniko-ekonomicheskoy informatsii, 1961, no. 8, 33. The author emphasizes that the use of induction heating in precision die forging has increased the labor productivity, facilitated the working conditions and created the necessary prerequisites for the overall automation of die-forging equipment. A deterrent of the increase in efficiency of pressing and forging equipment is the insufficient service life of dies made from the steel grades 5ХНТ (5KhNT), 5ХНВ (5KhNV), 5ХГС (5KhGS) and others which, on the average does not exceed 4,000 to 5,000 forgings. The author reports on a new non-nickel die steel which has been tested at one of the Moscow City Sovnarkhoz Plants and has been

developed by TsNIIchermet. The service life of this new steel is 4 to 6 times higher than that of 5KhNV steel. The Stankostroitel'nyy zavod im. Ordzhonikidze (Machine Tool Plant im. Ordzhonikidze) has erected a new mechanized line for the production of forgings for shafts and spindles of metal-cutting machines. This line consists of press-shears, merry-go-round-type gas furnace, vertical radial forging machine with hydraulic station, annealing furnace, conveyers and other means of mechanization. There is 1 Soviet-bloc reference.

YANIN, V.Ye., inzh.; OKHRIMENKO, Ya.M., doktor tekhn. nauk, prof.

New method for the deformation of bimetals. Vest. mashinostr. 45 no.7:67-71 Jl '65. (MIRA 18:10)

YANIN, V.Ye.

Survey of the state of technological processes in enterprises of the Moscow City Economic Council. Biul.tekh.-ekon.inform.-gos.nauch.-issl.inst.nauch.i tekh.inform. no.3:72-75 '62. (MIRA 15:5)

(Moscow--Industrial management)

YANIN, V.Ye.

Review of the levels of technological processes in enterprises of Moscow City Economic Council. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.6:84-86 '62. (MIRA 15:7)
(Moscow--Industry)

YANIN, V.Ye.

Pressworking of metals in the enterprises of the Moscow Economic Council. Biul.tekh.-ekon.inform.Gos.nauch.-issl. inst.nauch.i tekh.inform. no.2:80-81 '63. (MIRA 16:2)
(Moscow—Forging)

Pf-4/Pt-10/Pu-4 WW/JD/WW/JG
ACCESSION NR:

Moskovskiy zavod obrabotki tsvetnykh metallov (Moscow non-ferrous metal processing plant) devised a new method of preparing these billets. An ingot of Ng. 10 steel 70 x 60 x 600 mm, is cleaned with emery paper on its 60 mm side, degreased in a 10% soda solution, washed, coated with borax flux, heated to 1150-1180C, vertically inserted in a special cast-iron mold, and molten copper is poured into the free space of the mold adjacent to the cleaned side of the steel ingot. The joint so obtained is diffusional. Tensile tests of strips cut across such a billet invariably result in a rupture through the copper part never at the joint. The billet is rolled in six stages to the final sizes used in

Card 1/ 2

33329-65

ACCESSION NR: AP5005527

after rolling. The first reduction should not exceed 30% but the last can reach 60%. A formula describing warping of bimetal strips during rolling is derived. V. K. Antsiferov and R. I. Vuytlogot took part in the [illegible]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 005 OTHER: 001

Card 2/2

L 64372-65 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(h)/EWA(c) MJW/JD/
ACCESSION NR: AP5018670 UR/0122/65/000/007/0067/0071 HW/HW
621-419.4.002.2

AUTHORS: Yanin, V. Ye. (Engineer); Okhrimenko, Ya. M. (Doctor of technical sciences, Professor)

TITLE: New mode of deformation of bimetals

SOURCE: Vestnik mashinostroyeniya, no. 7, 1965, 67-71

TOPIC TAGS: bimetallic strip, brass invar bimetal, bimetallic strip deformation/ N36 Invar brass, N45Kh6 Invar brass, L90 brass L62 brass, GDN alloy

ABSTRACT: Plastic deformation of bimetallic specimens with the deformation forces directed parallel to the bonded surface between the metals was investigated. The specimens were prepared according to the method suggested by V. E. Yanin, I. K. Antsiferov, and R. I. Anpilogov (Sposob izgotovleniya bimetallicheskikh polos listov, ugolkov i tomu podobnykh izdeliy. Avtorskoye svidetel'stvo SSSR, NO. 147439, 1960) from four bimetallic combinations: (Invar N36-brass L90; N36-L62; N36-alloy GDN; N45Kh6 - [illegible]. Specimens were [illegible] mm; A = 25.5, B = 15 mm a_t/a_m = 0.5-0.9 for the

Card 1/4

last two bimetals. Sixteen specimens of each bimetal were deformed 20, 40, and 80% at 16 mm/sec. The resulting deformations were studied visually (after sectioning and etching) and by γ-radiation from isotopes. It was found that the bulging of the welded surface depended on the coefficient $n = p_t a_t / p_m a_m$ (where

$$p_m = \sigma_{r_t}\left(1 + \frac{\mu_t}{3} \cdot \frac{a_{t_1}}{H_1}\right);$$

$$p_m = \sigma_{r_m}\left(1 + \frac{\mu_m}{3} \cdot \frac{a_{m_1}}{H_1}\right).$$

μ = coefficient of friction at contact area). If $n > 1$, the bulge was in the direction of the soft metal; for $n < 1$, it was in the direction of the hard metal. It was found that the bimetallic bonds remained intact in all specimens (up to 80% deformation) but that cracks formed first on the outside (at 40-45% deformation) and then at the [illegible]. The maximum lateral strains [illegible] increase nearly with ϵ_H so that curves of ϵ_A and ϵ_B versus ϵ_H (only sample curve is given) can be used to determine strip sizes for a given maximum strain. In general, it is suggested that for $\sigma_{Tt}/\sigma_{Tm} > 2.5$ H_o/A should be < 2; for < 2.5 it should be < 1.5.

Card 2/4

ACCESSION NR: AP5018470

Orig. art. has: 4 figures, 4 tables, and 4 formulas.

ASSOCIATION: none

Card 3/4

L 64372-65

ACCESSION NR: AP5018670

ENCLOSURE: 01

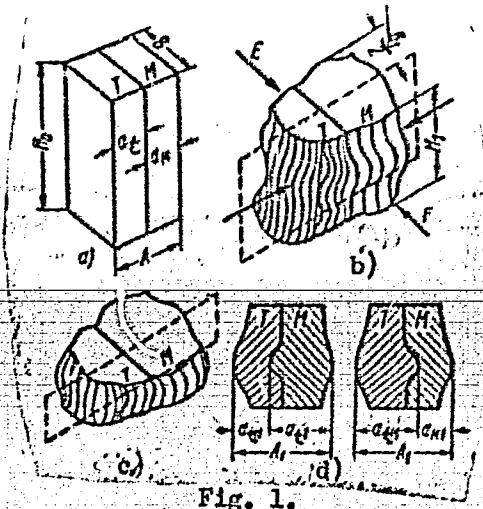


Fig. 1.

Specimen geometry: a- before deformation; b- after; c- after; d- section at $B_1/2$ (T = hard, M = soft metal)

Joining of dissimilar metals 18

Card 4/4

YANIN, V.Ye.

Effect of the shape of bimetal test pieces during upsetting on their state of stress. TSvet. met. 38 no.5:79-82 My '65. (MIRA 18:6)

YANINA, A. D.

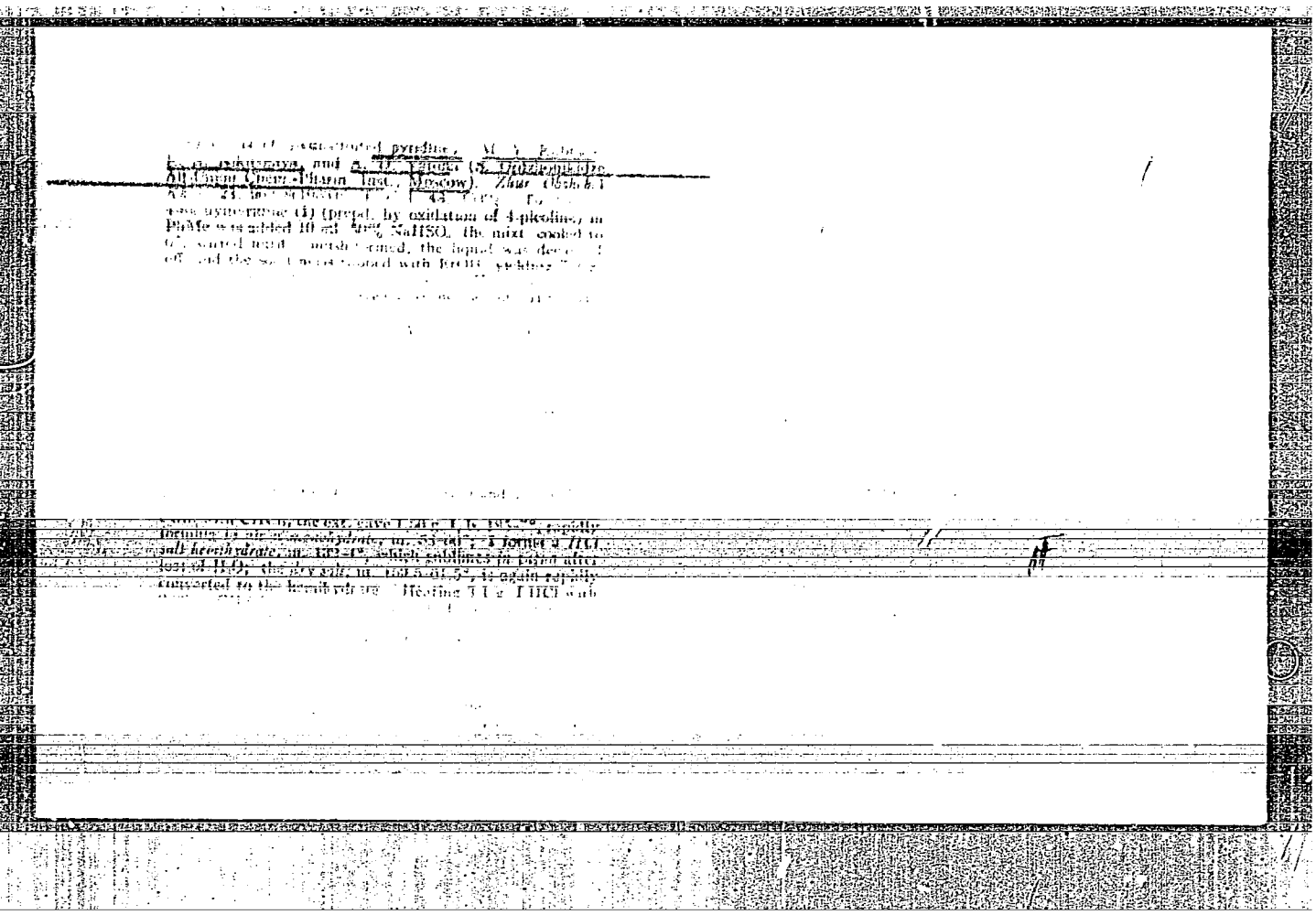
USSR/Chemistry - Pharmaceuticals 11 Jun 52
Medicine - Tuberculosis, Chemotherapy

"Isonicotinoyl Hydrazones and Their Antitubercular Activity," M.M. Shchukina, G. N. Pershin, O. O. Makeyeva, Ye. D. Sazonova, Ye. S. Nikitskaya, A. D. Yanina, A. I. Yakovleva, All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol LXXXIV, No 5, pp 981 - 984

Isonicotinoyl hydrazide has an antitubercular action, but its therapeutic index is low. A series of substituted isonicotinoyl hydrazide derivs were prepd and their bacteriostatic action on tuberculosis bacilli in vitro tested. It was shown that substituted isonicotinoyl hydrazones have a higher antitubercular activity than para-aminosalicylic acid and streptomycin and are better tolerated by exptl animals than the hydrazide of isonicotinic acid. This made it possible to select from them substances for clinical study on tubercular humans. A substance, called "Phtivazide" by the authors, was forwarded for clinical study, which is progressing successfully. Presented by Acad A. N. Nesmeyanov 9 Apr 52.

223T17



U S S R

YANINA, A. D.

USSR/Chemistry - Drugs

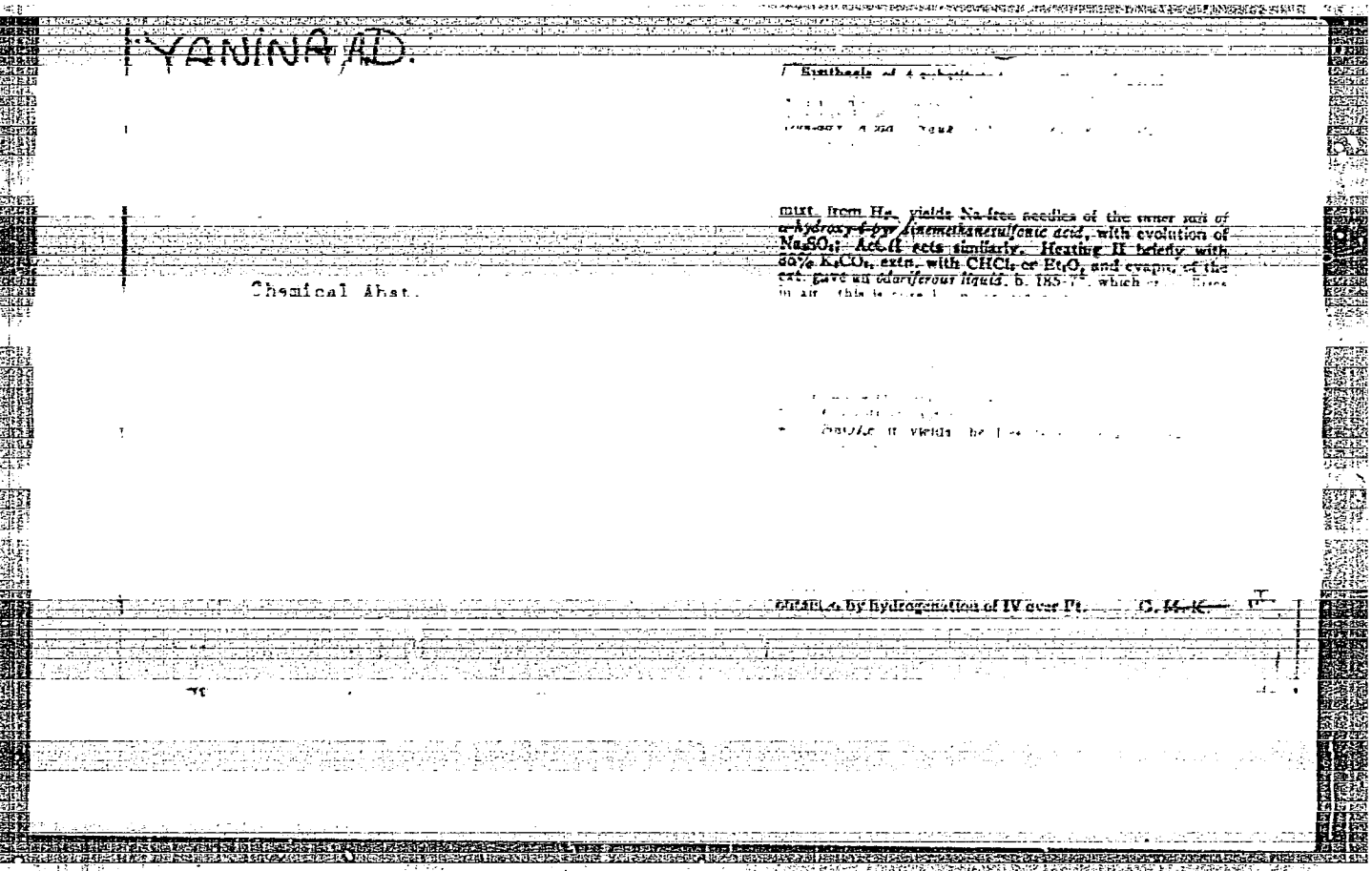
Sep 53

"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

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



YANINA AD.

Chemical Abst.

YANINA, A. D.

Synthesis of γ-formylpyridine and isonicotinic acid. / M. V. Rubtsov, E. S. Nikit-kaya, and A. D. Yanina. / *J. Gen. Chem. U.S.S.R.* 24, 1631-2(1954)(Engl. translation). See C.A. 49, 13241h. B, M, R

YANINA, A.D.

USSR/Chemistry - Synthesis

Card 1/1 : Pub. 151 - 34/42

Authors : Rubtsov, M. V.; Nikitskaya, E. S.; and Yanina, A. D.

Title : Synthesis of gamma-formylpyridine and isonicotinic acid

Periodical : Zhur. ob. khim. 24/9, 1646-1651, Sep 1954

Abstract : The conditions favorable for the synthesis of gamma-formylpyridine by selective oxidation of gamma-picoline, with selenium dioxide in the presence of beta-picoline, are described. Two variants for the derivation of isonicotinic acid, with a yield of 75-80% of the initial gamma-picoline, were developed. The effect of selenium dioxide, on the selective oxidation of gamma-picoline, is explained. Five references: 2-USSR; 1-Swiss; 2-German and USA (1934-1953).

Institution : The S. Ordzhonikidze All-Union Scientific Research Chemical Pharmaceutical Institute

Submitted : April 14, 1954

AUTHORS: Yanina, A. D., Rubtsov, M. V. SOV/79-29-2-27/71

TITLE: The Hofmann Cleavage of 1-Azabicyclo-(3,2,1)-Octane (Gofmanovskoye rasshchepleniye 1-azabitsiklo-(3,2,1)oktana)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 485-493 (USSR)

ABSTRACT: In the Hofmann cleavage (Refs 1,2) the unsymmetric bicyclic systems react with a common nitrogen, under formation of not one monocyclic heterocycle but 3 heterocycles which have an unsaturated side chain or under the formation of their transformation products, in dependence on the question, from which β-carbon atom the hydrogen will separate to form the water molecule. The direction of cleavage apparently depends both on the stability of the bicycles and on experimental conditions. This was proven by the experimental cleavage in the case of 1-azabicyclo-(3,2,1)-octane (III). The initial product in this connection was 1-carbethoxy methyl-3-carbethoxy piperidine (I) (Scheme 1). The intramolecular condensation of (I) into (II) proceeded in the presence of potassium alcoholate [not with metallic potassium (Ref 3)], which increased the yield from 30 to 71 %. By reduction of the ketone (II) octane (III) was obtained, which was transformed by methyl iodide into the

Card 1/2

The Hofmann Cleavage of 1-Azabicyclo-(3,2,1)-Octane SOV/79-29-2-27/71

quaternary salt (IV) and further with silver oxide into the corresponding base (V). It was found that on cleaving 1-azabicyclo-(3,2,1)-octane under various conditions (at normal pressure, in vacuum, in 40 % potash lye, and at increased pressure) three products are formed: 1-methyl-3-allyl pyrrolidine, 1-methyl-3-(β-oxyethyl)-piperidine, and di-[β-(1-methyl piperidyl-3)]-ethyl ether. 1-methyl-3-allyl pyrrolidine was separated in all cases and is the chief product of the cleavage of 1-azabicyclo-(3,2,1)-octane in alkali medium, in vacuum, and at normal pressure. On its heating in water under pressure, 1-methyl-3-(β-oxyethyl)-piperidine is the chief product. There are 8 references, 1 of which is Soviet.

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

SUBMITTED: January 3, 1958

Card 2/2

RUBTSOV, M.V.; NIKITSKAYA, Ye.S.; YANINA, A.D.; USOVSKAYA, V.S.

New ganglion blocking preparations. Khim. i med. no.15:16-28 '60.
(MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(AUTONOMIC DRUGS)

5.3610

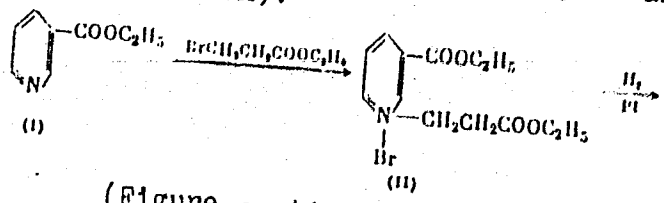
77883
SOV/79-30-2-34/78

AUTHORS: Yanina, A. D., Rubtsov, M. V.

TITLE: Hoffmann Degradation of 1-Azabicyclo-(3,2,1)-Octanes. II. Cleavage of 7-Methyl-1-Azabicyclo-(3,2,1)-Octane

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 526-533 (USSR)

ABSTRACT: Quaternary base of 1-azabicyclo-(3,3,1)-nonane (VII), on thermal decomposition, forms 1-methyl-3-allyl-piperidine (VIII). The latter was used for the preparation of the methiodide of 7-methyl-1-azabicyclo-(3,2,1)-octane (X).

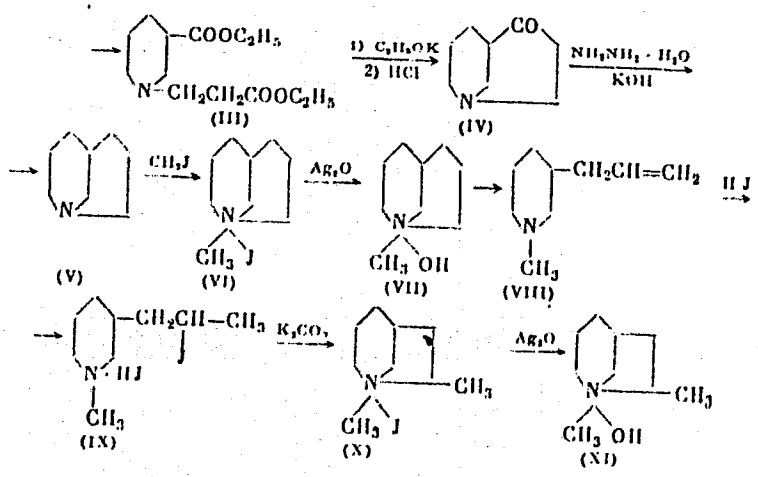


Card 1/9

(Figure continued on Card 2/9)

(Cont'd from Card 1/9)

777883 SOV/79-30-2-34/78



Card 2/9

Hoffmann Degradation of 1-Azabicyclo-(3,2,1)-Octanes. II. Cleavage of 7-Methyl-1-Azabicyclo-(3,2,1)-Octane

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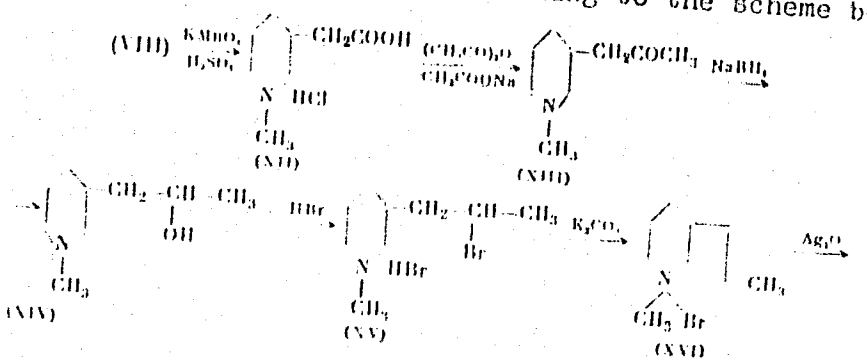
SOV/79-30-2-34/78

Synthesis of X is based on the addition of HI to VIII (according to Markownikow) with formation of 1-methyl-3-(β -Iodopropyl)-piperidine (IX), and cyclization to compound X. X was synthesized for the final structure proof according to the scheme below:



Card 3/9

(Figure cont'd on Card 4/9)

Hoffmann Degradation of 1-Azabicyclo-(3,2,1)-Octanes. II. Cleavage of 7-Methyl-1-Azabicyclo-(3,2,1)-Octane

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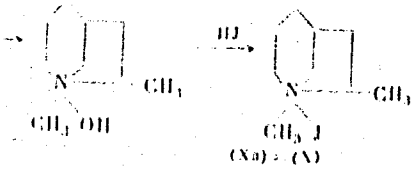
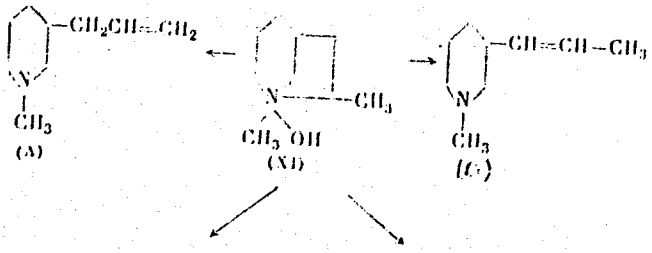
SOV/79-30-2-34/78



Theoretically, four possible compounds can be formed by Hoffmann degradation of XI.

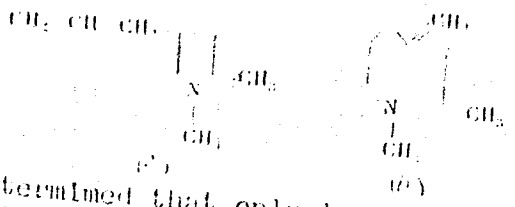


Card 4/9

(Figure cont'd on Card 5/9)

Hoffmann Degradation of 1-Azabicyclo-(3,2,1)-Octanes. II. Cleavage of 7-Methyl-1-Azabicyclo-(3,2,1)-Octane

77883
SOV/79-30-2-34/78



It was determined that only 1-methyl-3-allyl-piperidine (A) is formed by degradation of XI.

Card 5/9

The Obtained Compounds and Their Properties

Nr	Starting Materials	Obtained product	Yield in %	bp/mm pr	n_D^{20}
1	ethylester of nicotinic acid + ethyl γ -bromo-propionate + alcohol	III	71	123-125°/0.3	1.4581
2	III + K + anhydrous toluene + anhydrous alcohol	IV	48	95-100°/15	-
3	IV + KOH + hydrazine hydrate + glycerol	V	80	mp 84-86°	-
4	V + H_2O + AgOH	VIII	77	168-170°	1.4540
5	VIII + HI	IX	96	-	-

(Table cont'd)

The Obtained Compounds and Their Properties

Nr	Starting Materials	Obtained product	Yield in %	bp/mm pr	n_D^{20}
6	IX + H_2O + ether + 50% solution of K_2CO_3	X	69.7	mp 320° (dec)	-
7	VIII + H_2O + 10% H_2SO_4 + $KMnO_4$	ethyl-1--methyl piperidyl--3-acetate	72	115-116°/15	1.4540
8	ethyl-1-methylpiperidyl-3-acetate + HCl (1:1)	XII	90	mp 188-190°	-
9	XII + anhydrous CH_3COONa + acetic anhydride	XIII	33.5	95-97°/12	n_D^{18} 1.4632

Card 7/9

(Table cont'd)

The Obtained Compounds and Their Properties

Nr	Starting Materials	Obtained product	Yield in %	bp/mm pr	n_D^{20}
10	sodium borohydride + $+ CH_3OH$ + XIII	XIV	89	112-114°/1	n_D^{18} 1.4739

Four attempts were made at a Hoffmann degradation of compound XI: (1) H_2O + AgOH under normal pressure; (2) distillation under vacuum; (3) heating in the presence of alkali; (4) heating in the presence of water, under pressure. In all cases, only VIII was obtained (corresponding in 80,66,84.5, and 64% yields) with bp 168-170°, $n_D^{20.5}$ 1.4540. There are 4 references, 1 Soviet, 3 U.S. The 3 U.S. references are: L. H. Sternbach, S. Kaiser, J. Am. Chem. Soc., 74, 2215 (1952); N. J. Leonard, E. Barthel, Jr.,

Card 8/9

Hoffmann Degradation of 1-Azabicyclo-(3,2,1)-Octanes. II. Cleavage of 7-Methyl-1-Azabicyclo-(3,2,1)-Octane

77883
SOV/79-30-2-34/78

ibid, 71, 3098 (1949); A. Bugger, C. R. Walter, ibid, 72, 1988 (1950).

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

SUBMITTED: February 21, 1959

Card 9/9

YANINA, A.D.; RUBTSOV, M.V.

Hofmann cleavage of 1-azabicyclo [3.3.1]octanes. Part 3: Hofmann cleavage of a quaternary base of 2-methyl-1-azabicyclo[3.2.1]octane. Zhur.ob.khim. 30 no.8:2544-2550Ag '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Azabicyclooctane)

YANINA, A.D.; RUBTSOV, M.V.

Hofmann degradation of 1-azabicyclo (3,2,1) octanes. Part 4: Hofmann degradation of 4-methyl-1-azabicyclo (3,2,1) octane. Zhur.ob.khim. 32.no.6:1789-1798 Je '62. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze.
(Bicyclooctane) (Hofmann reaction)

YANINA, A.D.; RUBTSOV, M.V.

Hofmann degradation of 1-azabicyclo(3,2,1)octanes.
Part 5: Hofmann degradation of 6-methyl-1-azabicyclo(3,2,1)
octane. Zhur.ob.khim. 32 no.10:3151-3158 O '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-
farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Azabicyclooctane) (Degradation)

YANINA, A.D.; RUBTSOV, M.V.

Hofmann degradation of 1-azabicyclo(3,2,1)octanes. Part 6: Hofmann degration of a quaternary ammonium base of 8-methyl-1-azabicyclo(3,2,1)octane. Zhur.ob.khim. 32 no.11:3693-3698 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Azabicyclooctane) (Hofmann degradation)

YANINA, A. D.; RUBTSOV, M. V.

Hofmann degradation of 1-azabicyclo(3,2,1)octanes. Part 7: Hofmann degradation of 3-methyl-1-azabicyclo(3.2.1)octane. Zhur. ob. khim. 32 no.12:3941-3945 D '62. (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.

(Azabicyclooctane) (Hofmann reaction)

ACC NR: AP6031301 SOURCE CODE: UR/0366/66/002/009/1707/1711

AUTHOR: Yanina, A. D.; Mikhlina, Ye. Ye.; Rubtsov, M. V.

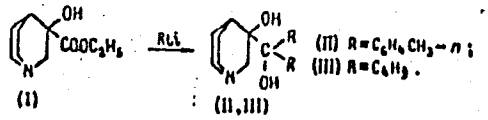
ORG: All-Union Scientific Research Chemical-Pharmaceutical Institute imeni S. Ordzhonikidze (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut)

TITLE: Pinacolone rearrangement in the series of 1-azabicycloalkanes. Part 2

SOURCE: Zhurnal organicheskoy khimii, v. 2, no. 9, 1966, 1707-1711

TOPIC TAGS: pinacolone rearrangement, pinacol, organic synthetic process, heterocyclic base compound

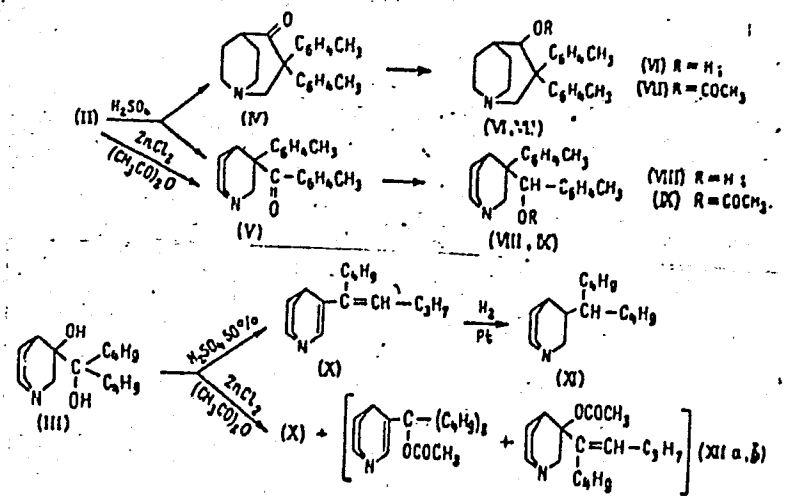
ABSTRACT: The reaction of 3-hydroxy-3-carbothoxyquinuclidine (I) with butyl and p-tolyllithium was used to synthesize 3-hydroxy-3-[α,α-di(p-tolyl)-α-hydroxymethyl]-quinuclidine (II) and 3-hydroxy-3-(α,α-dibutyl-α-hydroxymethyl)quinuclidine (III):



The following reactions were also carried out:

Card 1/3 UDC: 547.834.4

ACC NR: AP6031301



The pinacolone rearrangement of compound (II) in 50% H_2SO_4 leads to the formation of a mixture of two ketones: 3,3-di(p-tolyl)-4-keto-1-azabicyclo[3.2.2.]nonane (IV) and 3-(p-tolyl)-3-(p-methylbenzoyl)quinuclidine (V); on heating pinacol (II) with zinc chloride in acetic anhydride, only ketone (V) is formed. Under the same conditions, in the case of pinacol (III), whose alkyl radical is longer than that of (II), only

Card 2/3

ACC NR: AP6031301

processes of dehydration and conversion of the unsaturated compounds formed are observed. It is concluded that the introduction of a methyl radical into the phenyl ring of 3-hydroxy-3-(α,α-diphenyl-α-hydroxymethyl)quinuclidine facilitates the course of the pinacolone rearrangement.

SUB CODE: 07/ SUBM DATE: 14Dec65/ OTH REF: 003

Card 3/3

YANINA, S.P.; MITSAK, V.F.

OP-10 foaming agent for synthetic glues. Der.prom. 9 no.2: 20-21 F '60. (MIRA 13:6)
(Glue) (Foam)

YANIOS, Nikolay Ivanovich; DVOSKIN, Baniamin Yakovlevich; SAVICH, M.P., redaktor; OYSTRAKH, V., tekhnicheskiy redaktor

[Talks about Kazakhstan] Besedy o Kazakhstane. Alma-Ata, Kazakhskoe gos.izd-vo, 1957. 154 p. (MLRA 10:9)
(Kazakhstan)

Y

14-57-7-15386

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 184 (USSR)

AUTHOR: Yanios, N.

TITLE: Specialized Agriculture of Southern Kazakh SSR (O spetsializatsii sel'skogo khozyaystva Yuzhnogo Kazakhstana)

PERIODICAL: S. kh. Kazakhstana, 1957, Nr 1, pp 16-20

ABSTRACT: The author discusses logical distribution of various branches of agriculture and more efficient local specialized methods for agriculture and animal husbandry in the southern oblasts of Kazakh SSR. These are the Yuzhno-Kazakhstanskaya , Alma-Ata, Dzhambul , Taldy-Kurgan, and Kzyl-Orda Oblast, containing approximately 85 percent of the total land under irrigation.

Card 1/1

YANIOS, Nikolay Ivanovich, kand. ekon. nauk; KURINA, Ye.A., red.; TROFIMOV, A., tekhn. red.

[Resources for increasing labor productivity in nonferrous metallurgy (based on the example of Kazakhstan enterprises)] Rezervy rosta proizvoditel'nosti truda v tsvetnoi metallurgii (Na primere predpriiatii Kazakhstana). Moskva, Izd-vo "Znanie," 1958. 45 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.3, no.14). (MIRA 11:8)
(Nonferrous metal industries)

Yanios, Nikolay Ivanovich

BURAMBAYEV, Gaziz Khismatovich; YANIOS, Nikolay Ivanovich; MASONOVA, S.Ya., red.; MAKAROV, I.I., red.izd-va; GUBIN, M.I., tekhn.red.

[Economic and cultural development of the Kazakh S.S.R.] Rastsvet ekonomiki i kul'tury Kazakhskoi SSR. Moskva, Izd-vo "Znanie," 1958. 46 p. (Vsesoyuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.1, no.40) (MIRA 11:2)
(Kazakhstan--Economic conditions)

YANIS, N. A., BOGDANOV, O. S., KHAYIMAN, V. I., and PODNEK, A. K.

"Investigation of the Action of modifying agents in flotation by means of radioactive tracers," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

Paper presented.
Angewandte Chemie 3, '59

YANIS, N. A.

SOV/137-58-10-20395

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 6 (USSR)

AUTHOR: Bogdanov, O. S., Podnek, A. K., Khaynman, V. Ya., Yanis, N. A.

TITLE: Studies by the Mekhanobr Institute in the Field of Flotation Theory (Raboty instituta Mekhanobr v oblasti teorii flotatsii)

PERIODICAL: Obogashcheniye rud, 1957, Nr 5, pp 25-28

ABSTRACT: A brief examination is made of the major studies conducted at the Mekhanobr Institute in the field of study of the physical and mechanical foundations of flotation and the reaction between flotation reagents and minerals.

M. M.

1. Ores--Flotation 2. Flotation--Theory 3. Reagents--Chemical reactions
4. Minerals--Chemical reactions

Card 1/1

YANIS, N. Ya. (Mekhanobr)

"The investigation of various flotation modifiers for non-sulphide minerals with the aid of radioactive isotopes"

report presented at the 4th Scientific and Technical Session of the Mekhanobr Inst, Leningrad, 15-18 July 1958

MIKHAYLOVA, N.S.; KHAYNMAN, V.Ya.; YANIS, N.A.

Use of liquid scintillation counters to determine the sorption of flotation reagents. Obog. rud 5 no.5:28-41 '60. (MIRA 14:8)
(Flotation--Equipment and supplies)

S/137/62/000/005/022/150
A006/A101

AUTHORS: Bogdanov, O. S., Hsing Wei-chung, Yanis, N. A.

TITLE: Studying the effect of sodium oleate and flotation modifiers under conditions of flotating beryl, spodumene and fluorspar

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 7, abstract 5G42 ("Tr. Vses. n.-i. i proyektn. in-ta mekhan. obrabotki poleznykh iskopayemykh", 1961, no. 128, 26-36)

TEXT: Results are given from investigating the interaction of beryl, spodumene and fluorspar surfaces with oleic acid (I) containing radioactive isotope C^{14}, ferric chloride with Fe^{59} isotope, and H_2SO_4 with S^{35} isotope. The quantity of a reagent sorbed by minerals, was determined on flotation products by direct measurement of the radiation intensity of the mineral powder. To measure the intensity of preparations I, the method of scintillation reading was employed with the aid of liquid scintillators. Flotation experiments were carried out with a laboratory mechanical-type machine of 160 ml volume, at 1:8 solid-liquid ratio. The studies were applied to the existing acid and alkaline schemes of separating beryl, spodumene and fluorspar. Prior to flotation, the mineral batch was mixed

Card 1/2

S/137/62/000/005/022/150
A006/A101

in a cup with a solution of required flotation reagents at a given liquid-solid ratio. To study the nature of I and sodium oleate (II) fixation on beryl and spodamene, the method of infrared spectroscopy was used. The joint processing of the minerals with reagents was performed in a special adsorption column. As a result of investigating sorption of I and II; the effect of pH; processing with HF and H_2SO_4, and with a mixture of these acids; processing with NaOH, on flotation of beryl, spodumene and fluorspar, and sorption of oleate by their surfaces, the conclusion is drawn that during the interaction of II with beryl, spodumene and fluorspar, both physical sorption of I molecules and chemical sorption of oleate ions take place. Highest sorption capacity is shown by spodumene, which corresponds to its better flotability. Optimum beryl flotation and sorption of beryl oleate occurs in the neutral range; and those of spodumene in the weakly alkaline range. The activating effect of HF upon beryl and of NaOH upon beryl and spodumene, is predetermined by more favorable conditions developed on the mineral surface for the chemosorptional fixation of the ion collector; this is connected with the selective dissolving in HF of silicate groups. Beryl depression, non-activated and preliminarily activated with HF, after processing with H_2SO_4 is explained by reduced sorption of the collector and its fixation prevalently in molecular form.

[Abstracter's note: Complete translation]

L. Glazunov

Card 2/2

S/081/62/000/001/027/067
B151/B101

AUTHORS: Mikhaylova, N. S., Khaynman, V. Ya., Yanis, N. A.

TITLE: Application of liquid scintillation counters for the investigation of the interaction between flotation reagents and minerals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1962, 302-303, abstract 1I155 (Tr. Vses. n.-i.i proyektn. in-ta mekhan. obrabotki poleznykh iskopayemykh, no. 128, 1961, 37-44)

TEXT: A description is given of methods, measuring equipments and results from the application of scintillating solutions and gels. These methods make it possible to increase by 200 - 250 times the sensitivity of the measurement of isotopes with soft β-radiation, on the surface of mineral powders and in dilute aqueous solutions. This method opens up new possibilities for investigation and also makes working with such radiators safer and cheaper. [Abstracter's note: Complete translation.]

Card 1/1

BOGDANOV, O.S.; SIN VEY-CHZHUN [Hsing Wei-chung]; YANIS, N.A.

Studying the action of sodium oleate and flotation modifiers during the flotation of beryl, spodumene, and feldspar. Trudy Mekhanobr no.128:26-36 '61. (MIRA 15:1)
(Flotation--Equipment and supplies) (Beryl) (Spodumene)

RAZUMOV, K.A.; SIN VEY-CHZHUN [Hsing Wei-chung]; YANIS, N.A.

Effect of calcium and iron cations on the flotation of beryl and biotite with a cation collector. Obog. rud 7 no.3:3-5 '62. (MIRA 16:4)
(Flotation) (Cations)

YANISHEVSKAYA, I.

YANISHEVSKAYA, I.

Polish women, builders of a better future. Vsem.prof.dvizh. no.8:37-39 Ag '57. (MLRA 10:8)

1.Sekretar' TSentral'nogo soveta profsoyuzov Pol'shi.
(Poland--Women)

YANISHEVSKAYA, I.A.

Alkali and nepheline syenite in the Matyr section. Mat.po. geol.Zap.Sib. no.64:160-173 '63. (MIRA 17:4)

YANISHEVSKAYA, M. N.

YANISHEVSKAYA, M. N. -- "Microflora in Pneumonia of Children." Tashkent State Medical Inst imeni V. M. Molotov. Tashkent, 1956 (Dissertations for the Degree of Candidate in Medical Sciences)

SO: Knizhnaya Letopis', No 9, 1956

S/016/60/000/06/14/051

AUTHORS: Samsonov, P.F. and Yanishevskaya, M.N.

TITLE: New Varieties of Shigella Dysenteriae in Tashkent

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1960, No. 6, pp. 52 - 57

TEXT: Fifteen mannitol-negative strains were isolated from dysentery patients and carriers in Tashkent. Although similar to Shigella dysenteriae by their biochemical, cultural and morphological characteristics and their ability to provoke specific kerato-conjunctivities in guinea pigs, they did not agglutinate with any of the specific dysentery antisera and were therefore classed as atypical Shigella dysenteriae. They appeared related to Shigella ambigua. The strains had a distinct antigenic structure and constituted an independent serological group with sub-groups. Further research is needed for precise classification of the strains and to determine their pathological role. There are 2 tables and 12 references, 10 of which are Soviet, 1 Hungarian and 1 English.

Card 1/2

S/016/60/000/06/14/051

New Varieties of Shigella Dysenteriae in Tashkent

ASSOCIATION: Tashkentskiy gosudarstvennyy meditsinskiy institut (Tashkent State Medical Institute)

SUBMITTED: June 16, 1959

Card 2/2

SAMSONOV, P.F., prof.; YANISHEVSKAYA, M.N., assistent

Shigella ambigua. Nauch.trudy uch.i prak.vrach. no.2:15-21 '61.
(MIRA 15:8)

1. Iz kafedry mikrobiologii Tashkentskogo gosudarstvennogo meditsinskogo instituta (zav. kafedroy - prof. P.F.Samsonov).
(SHIGELLA AMBIGUA)

YANISHEVSKAYA, M.N.

Materials on the diagnosis of bacillary dysentery. Med. zhur. Uzb. no. 2:16-18 F '61. (MIRA 14:2)

1. Iz kafedry mikrobiologii (zav. - prof. P.F. Samsonov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(DYSENTERY)

YANISHEVSKAYA, M.N.

Keratoconjunctival test in the detection of dysentery bacteria. Nauch.trudy uch.i prak.vrach. no.2:36-43 '61. (MIRA 15:8)

1. Iz kafedry mikrobiologii Tashkentskogo gosudarstvennogo meditsinskogo instituta (zav. kafedroy - prof. P.F.Samsonov).
(DYSENTERY) (KERATOCONJUCTIVITIS)

SAMSONOV, P.F., prof.; YANISHEVSKAYA, M.N., assistent

Shigella ambigua in Tashkent. Report No.2: Serological characteristics. Med. zhur. Uzb. no.3:47-50 Mr '61. (MIRA 14:5)

1. Iz kafedry mikrobiologii Tashkentskogo gosudarstvennogo meditsinskogo instituta.

(TASHKENT--SHIGELLA AMBIGUA)

YANISHEVSKAYA, M.N.; DUBOVITSKAYA, N.K.; KLYUCHAREVA, T.Ye.; MITRIKINA, P.Ye.; PEKSHEVA, M.N.; SAMOYLOVA, Z.Ye.; TYUNEYEVA, G.A.

Difficulties in diagnosing some atypical dysenterial bacteria. Med. zhur. Uzb. no.2:20-22 F '62. (MIRA 15:4)

1. Iz kafedry mikrobiologii (zav. - prof. P.F.Samsonov) Tashkentskogo gosudarstvennogo meditsinskogo instituta i laboratoriy gorodskoy i rayonnykh sanitarno-epidemiologicheskikh stantsiy Tashkenta.
(SHIGELLA) (DYSENTERY)

AKHMEDOV, N.A.; KLYUCHAREVA, T.Ye.; SAMSONOV, P.F.; YANISHEVSKAYA, M.N.

Specific phages in the diagnosis of bacterial dysentery. Report No.1. Nauch.trudy uch.i prak.vrach.Uzb. no.3:151-157 '62. (MIRA 16:2)

1. Iz kafedry mikrobiologii Tashkentskogo gosudarstvennogo meditsinskogo instituta (zav. - prof. P.F. Samsonov) i Oblastnoy sanitarno-epidemiologicheskoy stantsii Tashkenta (zav. S.I. Eydel'nant).

(DYSENTERY) (BACTERIOPHAGE)

KOSOVSKIY, A.A., inzh.; YANISHEVSKAYA, M.V., inzh.

Operation of transformer oil. Elek.sta.29 no.3:87-88 Mr '58.
(Insulating oils) (MIRA 11:5)

SHCHEGLOV, A.P., inzh.; YANISHEVSKAYA, M.V., inzh.

Use of the transformer insulating oils of municipal electric power distribution networks. Elek. sta. 35 no.6:77-79 Je '64. (MIRA 18:1)

1. Leningradskaya kabel'naya set'.

YANISHEVSKAYA, N.L.

Treatment of infectious polyarthritis of indeterminate etiology at the Tashminvody Health Resort. Trudy Uz. gos. nauch.-issl. inst. kur. i fizioter. no.15:193-201 '59. (MIRA 14:9)
(ARTHRITIS) (MINERAL WATERS)

YANISHEVSKAYA, V.M.

PHASE I BOOK EXPLOITATION SOV/4973

Soveshchaniye po lyuminestsentsii, 8th, 1959

Metody lyuminestsentnogo analiza; materialy soveshchaniya (Methods for Luminescence Analysis; Materials of the 8th Conference) Minsk, Izd-vo AN BSSR, 1960. 147 p. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Belorusskoy SSR. Institut fiziki.

General Ed.: N. A. Borisevich; Ed.: L. Timofeyev; Tech. Ed.: N. Siderko.

PURPOSE: This collection of articles is intended for chemists and physicists interested in molecular luminescence, and for scientific personnel concerned with applications of this and related phenomena in research in the life sciences.

COVERAGE: The collection contains 28 papers read at the Eighth Conference on Luminescence, which took place 19-24 October, 1959 [place of conference not given]. These studies are concerned principally with the development of new luminescence methods for quantitative and qualitative chemical analysis, and with the applications of luminescence in medical and biological research. They discuss luminescence methods for the determination of uranium, mercury, magnesium, aluminum, boron, and other elements, as well as luminescence methods for the diagnosis of skin cancer and the detection of grippe virus, pathogenic microorganisms, etc. The structural design of new instruments for luminescence analysis is described. The conference was not concerned with studies on the phosphorescence of crystal phosphors. There is a discussion of the contributions of Soviet specialists in molecular luminescence in the course of the year and a half preceding the conference. The articles of V. K. Matveyev (p. 75) and of V. V. Patrikeyev (p. 79) have been annotated because of their importance. No personalities are mentioned. References accompany most of the articles.

Card 4/10

S/063/60/005/003/010/011/XX
A051/A029

AUTHORS: Bozhevol'nov, Ye.A., Yanishevskaya, V.M.

TITLE: Aluminum Determination by the Luminescent Method

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im. D.I. Mendeleyeva, 1960, Vol. 5, No. 3, pp. 356-357

TEXT: Luminescent methods for determining aluminum were developed in various objects according to standards of $1 \cdot 10^{-8}$ - $1 \cdot 10^{-5}$%. The method suggested in (Ref. 1) using salicylal-o-aminophenol for the detection and semi-quantitative determination of aluminum was investigated by the authors (Ref. 2). The sensitivity of the reaction was evaluated as 0.05 γ Al/5 ml of solution. The optimum pH value is 5.6-6.2. The reagent is introduced in the form of a 0.01% solution in acetone in a quantity of 0.15 ml to 5 ml of the solution being analyzed. The proportional relationship between the intensity of the fluorescence and the aluminum concentration is observed prior to its content attaining 0.5 γ in 5 ml of solution. Besides aluminum,

Card 1/10

Aluminum Determination by the Luminescent Method

no other cations cause fluorescence in quantities of 25 γ in 5 ml of solution. Only copper and iron in quantities more than 0.1 γ in 5 ml are able to extinguish the fluorescence of the salicylal-o-phenol and aluminum complex. The sensitivity of the given reaction depends to a greater extent on the purity of the applied buffer solution and as a result of its purification by the chromatographic method using the complex-forming agent 2,2',4'-trioxy-5-chloro-1,1'-azobenzene-3-sulfo-acid (Ref. 3) it is possible to form a buffer solution containing $5 \cdot 10^{-8}$% aluminum in it. Such a purity in the buffer solution yields a sensitivity of the reaction of 0.0025 γ in 5 ml. The buffer solution is purified by introducing 5 ml of 0.1% of the above-mentioned complex-forming agent to 100 ml of the solution being purified, and this is left to stand for one hour, so that the internal complex formation of the compound with aluminum can take place. 20-25 l of the buffer solution can be purified on a column having a volume of 20-25 ml. The ЭДЭ-10 (EDE-10) anionite, which fills the column, absorbs 2,2',4'-trioxy-5-chloro-1,1'-azobenzene-3-sulfo-acid and acquires a dark brown

Card 2/10

Aluminum Determination by the Luminescent Method

color in the top portion of the column. The distribution of this coloring down the column in the purification process is the criterion of the degree of anionite consumption. When the colorless zone of the anionite becomes less than 3 cm the anionite in the column should be replaced by a fresh batch. The addition method is used in all cases due to the extinguishing effect of copper and iron, which enables one to perform the analysis without first eliminating copper and iron from the solution being analyzed. The increment of the fluorescence intensity was determined after the introduction of a known quantity of aluminum into the solution and the unknown quantity of aluminum was determined from the intensity of the fluorescence of the solution in 10 ml of solution according to the formula:

$$Al_{\gamma}/10\ ml = \frac{\Delta C_{Al}(I_x - I_o)}{I_{\Delta C_{Al}} - I_x},$$

where ΔC_{Al} is the quantity of Al in γ introduced into 10 ml of the ana-

S/063/60/005/003/010/011/XX
A051/A029

Aluminum Determination by the Luminescent Method

lyzed solution; I_x is the intensity of fluorescence of the analyzed sample; $I_{\Delta C_{Al}}$ is the intensity of the fluorescence of the solution with aluminum introduced into it; I_o is the subtracted value of the control test. The fluorescence intensity was measured with a УМ-2 (UM-2) monochromator, where a ФЭУ 19-М (FEU 19-M) photomultiplier was used as the emission receiver. The determination of aluminum in sodium acetate was performed directly in its aqueous solution, after the pH was brought to 5.6-6.0. The analyzed solution was brought to 100 ml with water, four 9 ml samples were removed, into two of which additions of aluminum were added in quantities of 0.05 and 0.08 γ, into the third sample - 2 drops of 0.05 n solution of trilon B. The volume of all four solutions was brought to 10 ml with water and 0.3 ml of a 0.01% solution of salicylal-o-amino-phenol was added into each. After 60 min the intensities of the fluorescence of each solution were recorded photometrically. The percentage of aluminum in the sodium acetate was calculated according to the formula:

Card 4/10

S/063/60/005/003/010/011/XX
A051/A029

Aluminum Determination by the Luminescent Method

Content of Al,% = $\frac{\Delta C_{Al}(i_x - I_T)}{M(I_{\Delta C_{Al}} - I_x)\cdot 900}$, where M is a weighed portion of sodium acetate dissolved in 100 ml of water; I_T is the subtracted value corresponding to the solution with trilon B. The determination of the aluminum percentage with an addition of aluminum of 0.05 and 0.08 γ did not deviate by more than 20%. Aluminum was determined in acids and hydrogen peroxide after these had been evaporated. Neutral salts were added in order to ensure a complete transfer of the residue to the buffer solution after evaporation. The determination of aluminum in hydrofluoric acid can be accomplished only in using acidic decomposition of the residue after evaporation of HCl. Table 1 lists examples of aluminum determinations in solutions of HCl, HNO_3, HF, H_2SO_4 and H_2O_2. The determination error did not exceed 20%. Table 2 lists examples of aluminum determination after preliminary introduction of Al. Table 3 lists the degree of agreement between the

Card 5/10

S/063/60/005/003/010/011/XX
A051/A029

Aluminum Determination by the Luminescent Method

results for Al-determination by the two methods on an example of HF analyses. There are three tables and 3 references: 2 Soviet, 1 Czechoslovakian.

ASSOCIATION: VNII khimicheskikh reaktivov (All-Union Scientific Research Institute of Chemical Reagents)

SUBMITTED: October 21, 1959

Card 6/10