Ca

The alkaloids of Sphaerophysa salsula. I. M. M. Rubinshtein and G. P. Menshikov. *J. Gen. Chem. (U.S.S.R.)* 14, 161-71(1944)(English summary).—The basicity of the alkaloid of this Central Asian plant is so great that NH_4OH does not liberate it from its salts. The hot aq. ext. is evapd. to a small vol. and treated with 40% NaOH. This soln. is extd. with $CHCl_3$ which is then extd. with H_2O. The H_2O soln. is satd. with CO_2 and evapd. dry to give *spherophysine carbonate* (I), m. 192-3°. I and free *spherophysine* (II), $C_{10}H_{20}N_4$, are too hygroscopic for analysis, but the *dibenzoate*, m. 149-50°, and the *dipicrate*, m. 154-5°, are stable in air. II adds H to form *dihydrospherophysine* (III) (*carbonate* m. 193-4°, *dibenzoate* m. 146-7°, *dipicrate* m. 154-6°). When II and III are steam-distd. with $Ba(OH)_2$ they yield urea and the diamines $C_9H_{20}N_2$ (IV), b_{10} 105-6° (*dipicrate* m. 180-1°, *di-HCl salt* decomps. 262°), or $C_9H_{22}N_2$ (V), b_{10} 95-6° (*dipicrate* m. 171-2°, *di-HCl salt* decomps. 290°), resp. This shows the presence of a guanidine group. Reduction of IV gives V. Dry distn. of the HCl salt of V gives 1-isoamylpyrrolidine (VI) b. 166-7°; *picrate* m. 145-6°; *chloroplatinate* m. 168-9°; chloroaurate m. 157-8°. VI can be obtained in 80% yield by heating pyrrolidine and iso-BuCHO in the presence of HCO_2H. V reacts with HNO_2 to form a nitrosoamine which reacts with 50% HBr to give VI, and with 5% HCl to give 1-hydroxy-4-(isoamylamino)butane (HCl salt m. 159-60°). Thus, V is 1-amino-4-(isoamylamino)butane, but the position of the

Alkaloid Div., All-Union ~~/~~ Sci. Res. Chemico-Pharmaceutical Inst. im S. Ordzhonikidze

double bond and guanidine group in II is not fixed. Injec-
tion of II causes a fall in blood pressure. **II. The struc-**
ture of spherophysine and the partial synthesis of dihydro-
spherophysine and isodihydrospherophysine. *Ibid.* 172-
0(English summary).—The unsatd. diamine (I) from the
hydrolysis of spherophysine (II) is oxidized by cold
MnO_4 to give $Me_2CHCOCHO$, m. 95-6° (dioxime m.
09-10°, osazone m. 113-11°), and putrescine. Thus I is
$Me_2CHCH:CHNH(CH_2)_4NH_2$. When isoamylputres-
cine (III) from the alk. hydrolysis of dihydrospherophysine
(IV) is benzoylated, it gives the di-Bz deriv., m. 96-9°.
Heating this with 16% KOH for 30 hrs. gives partial
sapon. to the isomeric monobenzoylisoamylputrescines,
sepd. as the HCl salts, m. 93-3° (V) and 191-2° (VI).
Three times as much V forms as VI. When V is treated
with HNO_2 and sapond. with 15% HCl it gives III, showing
the Bz group is on the primary amine, so that VI is ben-
zoylated on the middle N atom. When the HCl salt of VI
is refluxed with CH_2N_2 and the Bz group removed, it gives
IV so that this is $Me_2CH(CH_2)_2NH(CH_2)_4NHC(:NH)$-
NH_2. Treatment of V with CH_2N_2 gives isodihydro-
spherophysine benzoate (*carbonate* m. 122°, *HCl salt* m.
125-6°). Hydrolysis gives *isodihydrospherophysine* (*car-*
bonate m. 167°, *dipicrate* m. 116-7°). H. M. L.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

MENSHIKOV, G. P.

"Investigation of the Alkaloids Sphaerophysa Salsula. Part II. Structure of Sphaerophysine and Partial Synthesis of Dithydrophaerophysine and Isodihydrosphaerophysine." Rubinstein, M. M., and Menshikov, G. P. (p. 1720

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1944, Volume 14, no. 3.

MENSHIKOV, G. P.

"Synthesis of N-Derivatives of Anabasine." Zdanovitch, E. S. and Menshikov, G. P. (p. 116)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1945, Volume 15, no. 1-2.

Alkaloid Div., Sci. Res. Chemico-Pharmaceutical Inst. im S. Ordzhonikidze

MENSHIKOV G.P.

PROCESSES AND PROPERTIES INDEX

10

Alkaloids of Trachelanthus korolkovi. II. G. P. Men'shikov and G. M. Borodina (All-Union Res. Chem.-Pharm. Inst. Ordzhonikidze, Moscow). *J. Gen. Chem.* (U.S.S.R.) 15, 225-36(1945)(English summary); cf. *C.A.* 35, 7111⁹.—It is shown that the formula of trachelantine (I) is $C_{15}H_{27}NO_6$ and that of trachelantamine $C_{15}H_{27}NO_5$ (II). The addnl. O of I is in direct bonding with N, i.e., I is II *N*-oxide. Alk. hydrolysis of II gives dibasic trachelantic acid and an amino alc., $C_8H_{15}NO$, which was named *trachelantamidine* (III), and is an isomer of hydroxyheliotridane and retronecanol. Action of $SOCl_2$ on III, followed by reduction, gave a satd. base, $C_8H_{15}N$, which differs from heliotridane and was named *pseudoheliotridane* (IV), on the basis of first Hofmann degradation. The extn. of the alkaloids was performed as previously described. The semicryst. mass after removal of $CHCl_3$ was filtered and washed with warm petr. ether and Me_2CO; after crystn. from Me_2CO I was obtained as colorless needles, m. 166-7°, while the filtrate after extn. with hot petr. ether and concn. of the latter gave II, m. 92-3° (from petr. ether-Me_2CO) (*monopicrate*, m. 155-6° (from EtOH)). Reduction of I with SO_2 in water gave II, while oxidation of the II with 3% H_2O_2 gave I. Hydrolysis of II with aq. $Ba(OH)_2$ at reflux gave III, b_9 114-15°, $[\alpha]_D$ −12.04°, as well as trachelantic acid (previously described). III forms an *HCl salt*, m. 110-12° (from EtOH-Et_2O), *monopicrate*, m. 174° (from EtOH), and *picrolonate*, m. 182° (from EtOH), while treatment with $SOCl_2$ in $CHCl_3$ gave *chloropseudoheliotridane*, $C_8H_{14}ClN$, b_{19} 88-8°, $[\alpha]_D$ −16.5° (no solvent) (*monopicrate*, m. 180° (from EtOH)); reduction of this in iso-AmOH with Na, followed by hydrogenation with Pt catalyst (Adams) in dil. HCl, gave IV, b. 159-60°, $[\alpha]_D$ −8.25° (no solvent); *monopicrate*, m. 232-3° (from EtOH); *picrolonate*, m. 162-3° (from water); *chloroaurate*, m. 183-4° (from 10% HCl); *methiodide*, does not m. 275° (from EtOH-Et_2O). IV in aq. soln., treated with moist Ag_2O, gave *des-N-methylpseudoheliotridane*, $C_9H_{17}N$, b. 158-60°, $[\alpha]_D$ −64° (no solvent) (*monopicrate*, m. 127° (from EtOH)); reduction of the base in dil. HCl according to Adams gave $C_9H_{19}N$, b. 165-7°, $[\alpha]_D$ −11° (no solvent) (*monopicrate*, m. 158-9° (from EtOH)). Passage of this dihydro deriv. over Pd-asbestos at 300-20° gave a pyrrole deriv., $C_8H_{13}N$, b. 189-91°, $[\alpha]_D$ −5° (no solvent). The evidence of difference in structure from heliotridane is incomplete as the Hofmann degradation may take more than one primary course.

G. M. Kosolapoff

Phytochemistry Lab.

AVN 1LA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

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Alkaloids of *Cacalia hastata*. V. S. Konovalov and G. P. Men'shikov (All Union Chem. Pharm. Research Inst., Moscow). *J. Gen. Chem.* (U.S.S.R.) **15**, 328-31 (1945)(English summary).—Two kg. of air-dried *Cacalia hastata* (super-soil portions only) was thoroughly wetted by 10% NH_4OH and extd. with $C_2H_4Cl_2$; the ext. was extd. with 5% H_2SO_4, and the latter made alk. with 25% NH_4OH and extd. with $CHCl_3$. After drying and removing the solvent 5 g. of tarry product was obtained, which crystd. slowly to yield 1.7 g. *hastacine*, m. 170-1° (from EtOH). The alkaloid is sol. in EtOH, $CHCl_3$, and Me_2CO, slightly sol. in Et_2O. Its compn. is $C_{18}H_{27}NO_5$, α_D −2.38°, $[\alpha]_D$ −72.34°. The alkaloid is hydrolyzed by boiling 7% alc. KOH to yield a dibasic HO acid, $C_6H_{10}(OH)(CO_2H)_2$, m. 148-9° (from water), α_D 0.33°, $[\alpha]_D$ 4.6°, which was named *hastanecinic acid*, and an amino glycol, $C_8H_{15}NO_2$, m. 113-14° (from Me_2CO), α_D −0.7°, $[\alpha]_D$ −9.07°, which was named *hastanecine*. The alkaloid possesses excellent *spasmolytic properties*. G. M. K.

All-Union Sci. Res. Chemico-Pharmaceutical Inst. im. S. Ordzhonikidze

COMMON ELEMENTS

MATERIALS INDEX

OPEN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX

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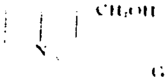
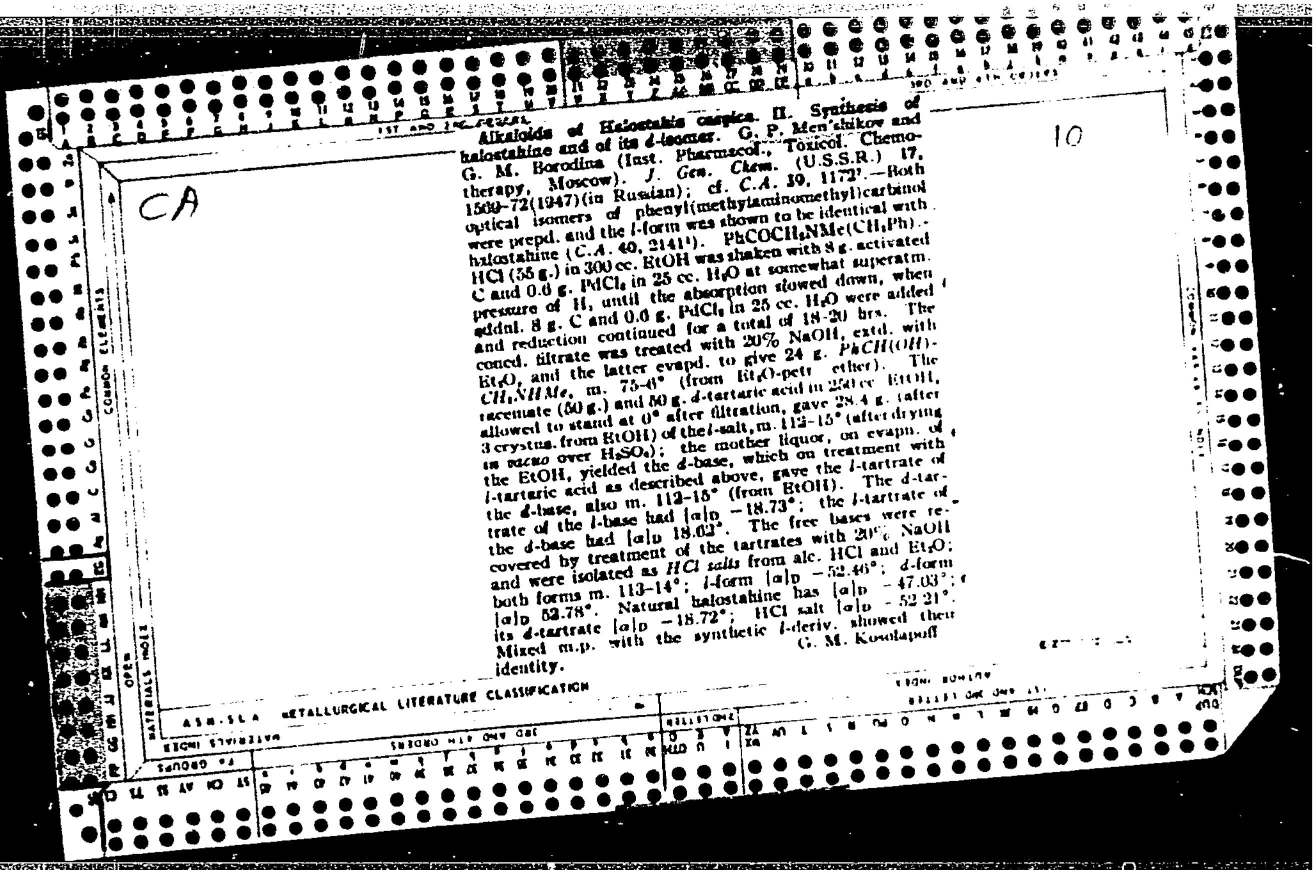
Alkaloids of *Trachelanthus korolkovi*. III. Structure of trachelanthamidine, the amino alcohol formed in the hydrolysis of the alkaloid trachelanthamine. G. P. Men'shikov (All-Union Chem. Pharm. Research Inst., Moscow). *J. Gen. Chem.* (U.S.S.R.) **16**, 1311-16(1946) (in Russian); cf. *C.A.* **40**, 2141⁹. Oxidation of trachelanthamidine with CrO_3 in dil. H_2SO_4 gave an *amino acid*, $C_8H_{13}O_2N$, m. 214-15.5°, which crystallizes as a monohydrate and has $[\alpha]_D$ −43.33°; *picrate* m. 176-7.5° (from water). Decarboxylation by means of CaO hydrate gave a base, $C_7H_{13}N$, identical with Prelog's *pyrrolizidine* (*C.A.* **33**, 5850⁹); *picrate* m. 250°, *picrolonate* m. 227°, *chloroplatinate* m. 205.5-6°. It is concluded that pseudoheliotridane (source of trachelanthamidine) has the structure of 1-methylpyrrolizidine, similar to heliotridane, and that the difference in the course of the Hofmann degradation in the 2 cases is due to diastereomerism. Since the OH group is primary in trachelanthamidine, the latter must have the structure



G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Alkaloids of Halostachis caspica. II. Synthesis of halostahine and of its d-isomer. G. P. Men'shikov and G. M. Borodina (Inst. Pharmacol., Toxicol. Chemotherapy, Moscow). *J. Gen. Chem.* (U.S.S.R.) 17, 1569-72(1947)(in Russian); cf. *C.A.* 39, 1172[7].—Both optical isomers of phenyl(methylaminomethyl)carbinol were prepd. and the *l*-form was shown to be identical with halostahine (*C.A.* 40, 2141[1]). $PhCOCH_2NMe(CH_2Ph)\cdot HCl$ (55 g.) in 300 cc. EtOH was shaken with 8 g. activated C and 0.6 g. $PdCl_2$ in 25 cc. H_2O at somewhat superatm. pressure of H, until the absorption slowed down, when addnl. 8 g. C and 0.6 g. $PdCl_2$ in 25 cc. H_2O were added and reduction continued for a total of 18-20 hrs. The concd. filtrate was treated with 20% NaOH, extd. with Et_2O, and the latter evapd. to give 24 g. $PhCH(OH)CH_2NHMe$, m. 75-6° (from Et_2O-petr. ether). The racemate (50 g.) and 50 g. *d*-tartaric acid in 250 cc. EtOH, allowed to stand at 0° after filtration, gave 28.4 g. (after 3 crystns. from EtOH) of the *l*-salt, m. 112-15° (after drying *in vacuo* over H_2SO_4); the mother liquor, on evapn. of the EtOH, yielded the *d*-base, which on treatment with *l*-tartaric acid as described above, gave the *l*-tartrate of the *d*-base, also m. 112-15° (from EtOH). The *d*-tartrate of the *l*-base had $[\alpha]_D$ −18.73°; the *l*-tartrate of the *d*-base had $[\alpha]_D$ 18.02°. The free bases were recovered by treatment of the tartrates with 20% NaOH and were isolated as *HCl salts* from alc. HCl and Et_2O; both forms m. 113-14°; *l*-form $[\alpha]_D$ −52.46°; *d*-form $[\alpha]_D$ 52.78°. Natural halostahine has $[\alpha]_D$ −47.03°; its *d*-tartrate $[\alpha]_D$ −18.72°; HCl salt $[\alpha]_D$ −52.21°. Mixed m.p. with the synthetic *l*-deriv. showed their identity.

G. M. Kosolapoff

PA 15T52

MEN'SHIKOV, G. P.

USSR/Chemistry - Alkaloids Feb 1947
Chemistry - Trachelanthus korolkovi, alkaloids of

"Investigation of the Alkaloids Trachelanthus Korolkovi: IV, The Trachelanthamine Structure," G. P. Men'shikov, 4 pp

"Zhur Obshch Khim" Vol XVII, No 2

Trachelanthamine is an ester of aminoalcohol-trachelanthamidine and trachelanthinic acid ($C_7H_{14}O_4$).

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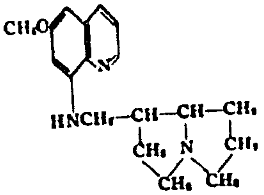
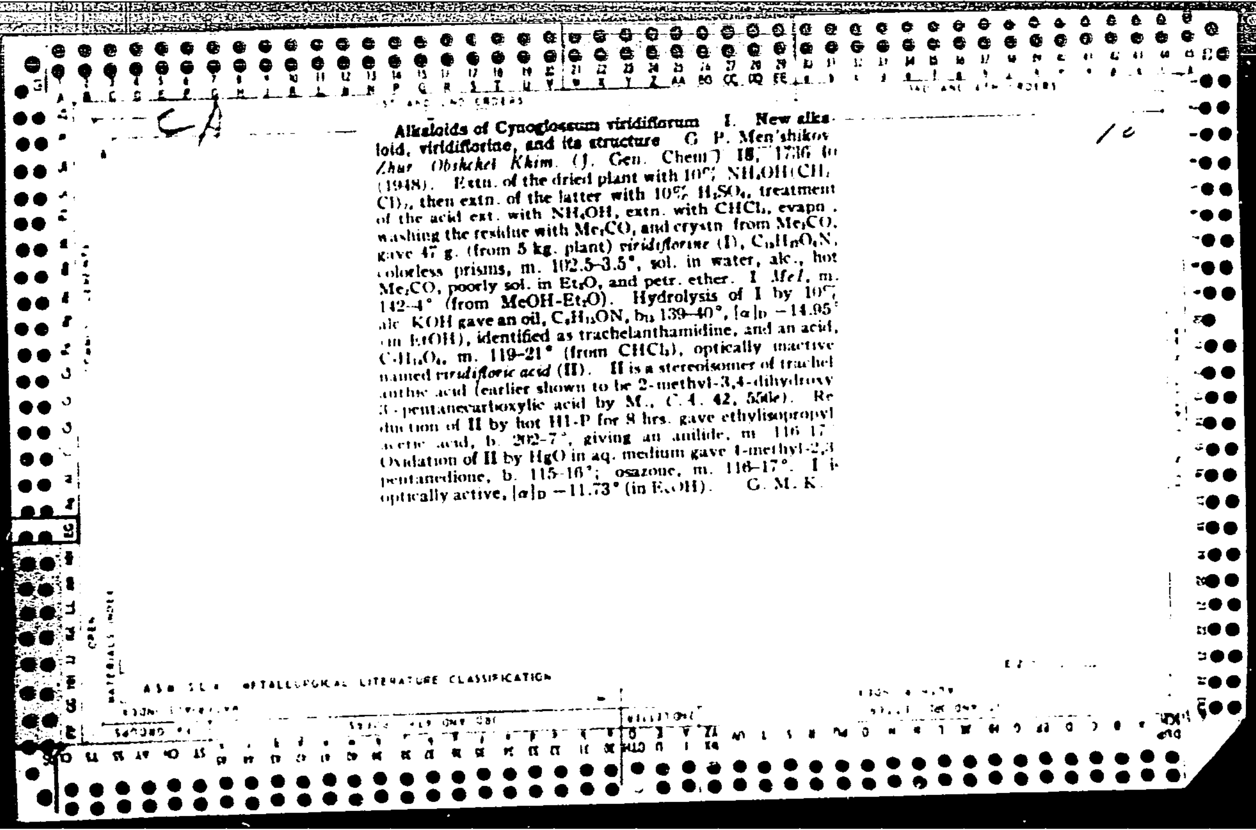
Alkaloids of Trachelanthus korolkovi. V. Synthesis of some derivatives of trachelantamidine. B. L. Gurevich and G. P. Men'shikov (Acad. Med. Sci., Moscow). *J. Gen. Chem.* (U.S.S.R.) 17, 1714-17(1947)(in Russian); cf. *C.A.* 42, 550e.—A no. of derivs. of trachelantamidine (I) were prepd. for pharmacol. study. I (5 g.) in 50 cc. dry $CHCl_3$ boiled 3 hrs. with 6 g. BzCl, cooled, and mixed with Et_2O gave 7.3 g. *benzoyltrachelantamidine-HCl*, m. 204-6° (from EtOH-Et_2O), sol. in H_2O and EtOH; it was optically inactive and is a *feeble anesthetic*. I (6.7 g.) and 12 g. p-$NO_2C_6H_4COCl$ boiled 6 hrs. in 50 cc. dry PhMe gave 15 g. *p-nitrobenzoyltrachelantamidine-HCl*, m. 242-4° (from EtOH). This (7 g.) in 80 cc. 20% AcOH treated at 80° over 6-7 hrs. with 7 g. Fe filings, heated 1 hr. after soln. of the Fe, filtered hot, and cooled, gave 6 g. *p-aminobenzoyltrachelantamidine diacetate*, m. 230-2° (from H_2O); treatment with K_2CO_3 gave the *free base*, m. 143-5° (from Et_2O-EtOH), $[\alpha]_D$ 7.8°, sol. in EtOH, poorly sol. in Et_2O and H_2O. This, in EtOH, with 1 equiv. HCl gave the *mono-HCl salt*, m. 230-2° (from EtOH), 2% sol. in cold water, which is an anesthetic comparable in potency to cocaine and apparently with less irritant properties. Chloropseudoheliotridane (*C.A.* 40, 2141¹) (20.6 g.) and 22 g. 6-methoxy-8-aminoquinoline in 60 cc. dry kerosene were heated 6 hrs. to 180-200° and cooled, and the tar and the kerosene soln. were extd. with 10% HCl; the acid exts. after extn. with Et_2O were treated with excess K_2CO_3 and extd. with Et_2O; the concd. ext. was made acid to Congo red with *N* HCl, then alk. to phenolphthalein with *N* NaOH, and extd. with Et_2O (which removes most of the unreacted methoxyaminoquinoline); the aq. soln., made strongly alk. with K_2CO_3 and extd. with Et_2O, gave, after removal of the Et_2O, soln. in EtOH, and addn. of alc. HCl, 7.2 g. *6-methoxy-8-(pseudoheliotridylamino)quinoline-2HCl*, m. 180-2° (from EtOH), sol. in H_2O; it was slightly active as an antimalarial.



G. M. Kosolapoff



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Alkaloids of Cynoglossum viridiflorum I. New alkaloid, viridiflorine, and its structure G. P. Men'shikov
Zhur. Obshchei Khim. (J. Gen. Chem.) **18**, 1736 (in
(1948). Extn. of the dried plant with 10% NH_4OH(CH
$Cl)_3$, then extn. of the latter with 10% H_2SO_4, treatment
of the acid ext. with NH_4OH, extn. with $CHCl_3$, evapn.,
washing the residue with Me_2CO, and crystn. from Me_2CO,
gave 47 g. (from 5 kg. plant) *viridiflorine* (I), $C_{15}H_{27}O_4N$,
colorless prisms, m. 102.5-3.5°, sol. in water, alc., hot
Me_2CO, poorly sol. in Et_2O, and petr. ether. I *MeI*, m.
142-4° (from MeOH-Et_2O). Hydrolysis of I by 10%
alc. KOH gave an oil, $C_8H_{15}ON$, b_{11} 139-40°, $[\alpha]_D$ −14.95°
(in EtOH), identified as trachelanthamidine, and an acid,
$C_7H_{14}O_4$, m. 119-21° (from $CHCl_3$), optically inactive
named *viridifloric acid* (II). II is a stereoisomer of trachel
anthic acid (earlier shown to be 2-methyl-3,4-dihydroxy
3-pentanecarboxylic acid by M., C. A. 42, 556e). Re
duction of II by hot HI-P for 8 hrs. gave ethylisopropyl
acetic acid, b. 202-7°, giving an anilide, m. 116-17°.
Oxidation of II by HgO in aq. medium gave 4-methyl-2,3
pentanedione, b. 115-16°; osazone, m. 116-17°. I is
optically active, $[\alpha]_D$ −11.73° (in EtOH). G. M. K.

MEN'SHIKOV, G. P.

USSR/Chemistry - Alkaloids Pharmaceuticals Oct 48

"Research on the Alkaloids Lindelofia Anchusoides: I, Two new Alkaloids, Lindelofin (I) and Lindelophamine (II), and Their Structures," A. S. Labenskiy, G. P. Men'shikov, Phytochem Lab, All-Union Sci Res Chemico-Phar Inst imeni Ordzhonikidze, Moscow, 6 pp

"Zhur Obshch Khim" Vol XVIII, No 10

Isolates two new alkaloids from Lindelofia anchusoides of the family Borraginaceae: I ($C_{15}H_{27}O_4N$) and II, ($C_{20}H_{33}O_5N$). Former is ester of "d-isotetronekanol" and trachelanthic acid, and latter is derivative of former, formed by esterification with angelic acid of one of the two hydroxyl groups of trachelanthic acid. Submitted 22 May 47.

PA 2/5CT31

MEN'SHIKOV, G. P.

A. S. Labenskii and G. P. Men'shikov, Investigation of alkaloids Lindelofia anchusoides. I. New alkaloids lindelofin and lindelofarin and their structure. p. 182

From Lindelofia anchusoides (species Borraginaceae) are isolated two new alkaloids: lindelofin ($C_{15}H_{27}O_4N$) and lindelofarin ($C_{20}H_{33}O_5N$). It is proved that lindelofin is a complex ester of d-iso-retro-necanole (II) and trachelanthic acid (I). It is proved that lindelofarin is a derivative of lindelofin, where one of the two hydroxyl groups of the trachelanthic acid is esterified by tiglinic acid. From this the structure of lindelofarin is limited only by two possibilities (III).

Orzhonikidze All Union Scientific Research Institute of Pharmaceutical Chemistry
Photo-Chemical Laboratory, Moscow, May 22, 1947

SO: Journal of General Chemistry (USSR) 22, (84) No. 10 ([illegible]):

MEN'SHIKOV, G. P.

2/50T65

USSR/Chemistry - Supinine Alkaloids Jul 49

"Research on the Alkaloids of Heliotropium Supinum I, The New Alkaloid Supinine (I) and Its Structure G. P. Men'shikov, Ye. L. Gurevich, Phytochem Lab, All-Union Sci Res Chemicopharm Inst imeni Ordzhonikidze, Moscow, 5 pp

"Zhur Obshch Khim" Vol XIX, No 7

Isolated I ($C_{15}H_{25}O_4N$) from Heliotropium supinum and found it to be the ester of supinidine (an unsaturated amino alcohol with the formula $C_8H_{13}ON$) and the well-known trachanthinic acid. By exhaustive reduction of I over platinum, produced

[redacted] 2/50T65

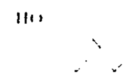
USSR/Chemistry - Supinine Alkaloids (Contd) Jul 49

optically active trachanthinic acid and l-heliotridane. By partial reduction of I over platinum obtained isoheliotridene and determined position of double bond thereby. Submitted 20 Mar 48.

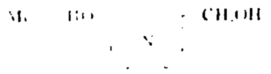
[redacted] 2/50T65

A

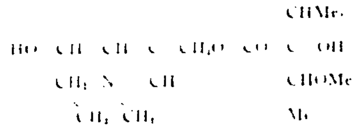
Alkaloids of Heliotropium lasiocarpum. G. P. Men'shikov and A. D. Kuzovkov. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 1702-12(1949). Oxidation of *hydroxyheliotridan* ($C_8H_{15}ON$) with CrO_3-AcOH yields an *amino ketone*, $C_8H_{13}ON$, shown to be identical with retronecanone, *semicarbazone*, m. 250° (from EtOH), *oxime*, m. 165-7° (after sublimation *in vacuo*), *picrate*, m. 195° (from EtOH). Hence, *hydroxyheliotridan* has the structure I. Reduction of heliotridine with H over Raney Ni at normal temp. and pressure gave *dihydroxyheliotridan*, m. 76-7° (from Me_2CO), [α]D -34°; *picrate*, m. 157-8°, used for purification of the free base, $C_8H_{15}O_2N$, which with 0.5 mole BzCl in $CHCl_3$ yielded a *mono-Bz deriv.*, m. 133-4° (from Me_2CO), [α]D -5.08°, whose *picrate* m. 134-5° (from EtOH, followed by drying at 80°). The mono-Bz deriv. (2.5 g.) treated in the cold with 5 g. pure $SOCl_2$, then warmed 1 hr. on a steam bath, concd., and fractionally pptd. by Me_2CO-Et_2O in the form of the HCl salts, gave upon treatment with picric acid (after NH_4OH treatment) a *picrate*, m. 146-7° (from EtOH), of the base $C_{15}H_{17}O_2N$, which gave the *HCl salt*, m. 147-8° (from Me_2CO), and upon hydrogenation in EtOH over Pt catalyst gave *noretronecanol*, after hydrolysis of the Bz residue. The above facts fix the location of the 2 HO groups of heliotridine. Treatment of 6 g. heliotrine with 15 g. cold $SOCl_2$, followed by 1.5 hrs. on a steam bath, evapn., soln. in 5% HCl, evapn. *in vacuo*, and reduction by 75 g. $CrCl_2.6H_2O$, 5 g. Hg, [illegible] and [illegible] HCl [illegible] 130-40° gave *supinidine*, isolated as the *picrate*, m. 14[illegible]°, and *methiodide*, m. 112-14°, [α]D [illegible] (in MeOH); the residual soln. gave *heliotric acid*. Hence, the structure of *heliotridine* is II and that of *heliotrine* is III.



I



II



III

C. M. Kosolapoff

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The alkaloids of Heliotropium lasiocarpum, the structure of heliotrin. G. P. Men'shikov and A. D. Kuzovkov (All-Union Sci. Research Chem.-Pharm. Inst., Moscow). *J. Gen. Chem.* (U.S.S.R.) 19, No. 9, a137-48 (1949)(English translation). -See C.A. 44, 1113g

F. J. C.

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CA

Alkaloids of Nanophyton erinaceum. A. D. Kuzovkov and G. P. Men'shikov (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen Chem.) 20, 1624-7(1950).—The upper parts of the plant yielded on steam distn. with added NaOH a total of 0.1% *l-2,6-dimethylpiperidine* [*HCl salt*, m. 253-4° (from EtOH), α_D -13.8°]; *free base*, b. 133-5°, d_4^{20} 0.8400, n_D^{20} 1.4442, and *l-1,2,6-trimethylpiperidine*, b. 153-4°, d_4^{20} 0.8448, n_D^{20} 1.4485, α_D -43.02° (*HCl salt*, m. 162.5-4.0°). Heating the 1st product with AgOAc and aq. AcOH to 180° gave 2,6-*dimethylpyridine*, b. 142-3°, *picrate*, m. 159-60°; *chloroaurate*, m. 125-6°; *phthalate*, m. 117-19°. Methylation of the 1st product by HCO_2H and 30% aq. CH_2O gave an *HCl salt*, m. 162.5-4.0°, identical with the material obtained from the 2nd alkaloid above, i.e. the 1,2,6-tri-Me deriv.

G. M. Kosolapoff

10

CA

The alkaloids of Nanophyton erinaceum. A. D. Kuzovkov and G. P. Men'shikov. *J. Gen. Chem. U.S.S.R.* 20, 1587-90(1950)(Engl. translation). See C.A. 45, 2485 R. M. S.

CA

10

Alkaloids of Elaeagnus angustifolia. Structure of eleagnine. G. P. Men'shikov, E. L. Gurevich, and G. A. Samsonova (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1927-8(1950); cf. Masagetov, C.A. 40, 6754.—The alkaloid *eleagnine* is the *racemic* form of *tetrahydroharman*. Dehydrogenation of 2 g. of the alkaloid with 1.5 g. AcOH, 10 ml. H_2O, and 12 g. Ag_2CO_3 8 hrs. at 180° in a sealed tube yielded harman, m. 233-4°, which with Na in EtOH readily regenerated eleagnine, m. 179-80°; HCl salt, decomp. 263-4°. G. M. Kosolapoff

10

CA

Alkaloids of Elaeagnus angustifolia. Structure of elaeagnine. G. P. Men'shikov, E. L. Gurevich, and G. A. Samsonova. *J. Gen. Chem. U.S.S.R.* 20, 1995-9(1950) (Engl. translation). See *C.A.* 45, 2490d. R. M. S.

MEN'SHIKOV G. P.

PA194T71
Dec. 51

USSR/Chemistry - Antimalarials

"Syntheses in the Pseudoheliotridane Series," A. D. Kuzovkov, G. P. Men'shikov, Phytochem Lab, All-Union Sci Res Chemicophar Inst imeni S. Ordzhonikidze

"Zhur Obshch Khim" Vol XXI, No 12, pp 2245-2248

Following earlier work on synthesis of plasmoquine analogue contg pseudoheliotridane group, synthesized by reactions of chloropseudoheliotridane with appropriate amines or Kphenolate: methyl-benzyl-, B-ethanol-, octyl-, methyl-octyl-, diethyl-, andphenyl-pseudoheliotridylamines, N-pseudoheliotri-dyl-piperidine, and pseudoheliotridyl-phenyl ester. Characterizes above compds. Discusses reaction conditions.

PA 194T71

MEN'SHIKOV, G.P.; PETROVA, M.F.

Alkaloids of Makrotomia echoides. I. New alkaloid makrotomine and its structure. Zhur. Obshchey Khim. 22, 1457-61 '52. (MLRA 5:8) (CA 47 no.15:7512 '53)

1. S. Ordzhonikidze All-Union Chem.Pharm. Inst., Moscow.

MENSHIKOV, G.P.; DENISOVA, S.O.; MASSAGETOV, P.S.

Alkaloids of Turneforcia sibirica. I. New alkaloid turneforcine.
Zhur.Obshchey Khim. 22, 1465-7 '52. (MLRA 5:8)
(CA 47 no.15:7512 '53)

1. S. Ordzhonikidze All-Union Chem.Pharm. Inst., Moscow.

MEN'SHIKOV, G. P.

Chem

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

Alkaloids of Makrotomia echioides. I. A new alkaloid, makrotomine, and its structure. G. P. Men'shikov and M. F. Petrova. *J. Gen. Chem. U.S.S.R.* **22**, 1499-1502 (1952)(Engl. translation).–See *C.A.* **47**, 7512g.
H. L. H.

MEN'SHIKOV, G. P.

Chem 5

③

Chemical Abst.
Vol. 48 No. 5
Mar. 10, 1954
Organic Chemistry

Alkaloids of Turneforcia sibirica. I. A new alkaloid, turneforcine. G. P. Men'shikov, S. O. Denisova, and P. S. Massagetov. *J. Gen. Chem. U.S.S.R.* 22, 1509-10(1952) (Engl. translation).- See *C.A.* 47, 7512*c*. H. L. H.

1·28·54

MEN'SHIKOV, G. P.

USSR/Chemistry - Pharmaceuticals, Alkaloids 11 Nov 52

"On the Composition of Cholchicerine and the New Alkaloid Cholchamine," V. V. Kiselev, G. P. Men'shikov, and A. A. Beer, All-Union Sci-Res Chemico-pharmaceutical Inst imeni S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol 87, No 2, pp 227, 228

Some chemical constants and physical properties of cholchamine are given and the method of crystallizing this substance is described. The perchlorate was obtained by interaction with sodium perchlorate; the

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monobenzoyl derivative was obtained by treatment with benzoyl chloride. On the basis of the data obtained, cholchamine seems to be a secondary base differing from cholchicine in having a nitrogen in place of a methyl group. The composition of cholchicerine corresponds to the formula $C_{43}H_{50}O_{11}N_2$. Presented by Acad V. M. Rodionov 11 Sep 52.

PA 245T7

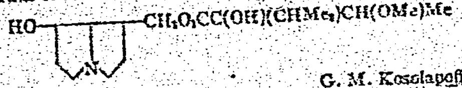
245T7

MEN'SHIKOV, G.P.

4

U.S.S.R

Alkaloids of Rindera echinata. I. New alkaloid echinatine and its structure. G. P. Men'shikov and S. O. Denisova (S. Ordzhonikidze All-Union Sci. Research Chem. Pharm. Inst., Moscow). *Sbornik Statei Obshchei Khim.* 2, 1458-61(1953).—Extn. of upper parts of *R. echinata* with $(CH_2Cl)_2$ in the presence of 10% NH_4OH, followed by transfer of the alkaloids into $CHCl_3$ and evapn. of the ext. gave an oil which with picrolonic acid gave *picrolonate of echinatine*, $C_{15}H_{25}O_5N.C_{10}H_8O_5N_4$, m. 206° (from EtOH). The *free base* is an oil which is optically active. Saponification with 10% aq. alc. NaOH gave viridifloric acid and heliotridane. Hydrogenation of echinatine over PtO_2 in MeOH gave viridifloric acid and hydroxyheliotridane, b_7 119-20°. Thus echinatine has the following structure



G. M. Kosolapoff

MEN'SHAKOV, G.P.

LENKEVICH, M.M.; GRIGOR'YEVA, L.M.; MIKHEL'SON, M.Ya.; SAVINSKIY, Ya.R.; MEN'SHAKOV, G.P.; BEL'GOVA, I.N.; TANK, L.I.; KARASIK, V.M.

Pharmacology and Toxicology Section of the Leningrad I.M. Sechenov Society of Physiologists, Biochemists and Pharmacologists. Farm.i toks. 16 no.2:57-58 Mr-Ap '53. (MLRA 6:6)

1. Otdel farmakologii IEM Akademii meditsinskikh nauk SSSR (for Lenkevich and Tank). 2. Pervyy Leningradskiy meditsinskiy institut (for Mikhel'son and Savinskiy). 3. Kafedra farmakologii Leningradskogo veterinarnogo instituta (for Men'shakov). 4. Leningradskiy pediatricheskiy meditsinskiy institut (for Bel'gova). 5. Sektsiya farmakologii i toksikologii Leningradskogo obshchestva fiziologov, biokhimikov farmakologov imeni I.M. Sechenova. (Pharmacology--Societies) (Physiology--Societies) (Biochemistry--Societies)

MEN'SHIKOV, G. P.

USSR/Chemistry - Alkaloids Sep 53

"Results of Work of Soviet Investigators in the Field of 1-Methylpyrollizidine Alkaloids," G.P. Men'shikov

Usp Khim, Vol 22, No 9, pp 1138-1156.

Reviews work of USSR investigators on the chemistry of alkaloids isolated from Borraginaceae, Compositae, and Leguminosae, i.e. derivs of heliotridane, d-heliotridane, pseudoheliotridane, and d-pseudoheliotridane. An account of work on platyphylline is included (27 USSR refs, 21 foreign refs).

268T16

MEN'SHIKOV, G.K

Chem Abs

V.48 15 Jan 54

Organic Chem

~~Alkaloids~~ of Orobanche lutea. I. New alkaloid oro~~banchamine~~. M. M. Rabinshtein, G. P. Men'shikov, and P. S. Massagetov (S. Ordzhonikidze ~~All-Union Chem.-Pharm. Inst.~~, Moscow). *Zhur. Obshchei Khim.* 23, 158 (1953).—Extn. of 1.8 kg. of upper plant parts with 10% NH_4OH-$(ClCH_2)_2$, extn. of the org. layer with 5% H_2SO_4, washing the acid ext. with Et_2O, neutralization of the acid layer with NH_4OH and extn. with $CHCl_3$ gave a solid residue, which treated with 2:1 $CHCl_3$-petr. ether gave 1.1 g. product, which m. 193-4° (from $CHCl_3$-petr. ether). The material is a new alkaloid, *orobanhamine*, $C_9H_{11}O_4N$, $[\alpha]_D$ 33.92° (EtOH). It has no active H. G. M. K.

7-14-54

261T6

MEN'SHIKOV, G. P.

USSR/Chemistry - Pharmaceuticals, Alkaloids

Jan 53

"Stereoisomeric Transformations in the Heliotridane Series," A.C. Labenskiy, N.A. Serova, and G.P. Men'shikov, All-Union Sci-Res Chemicopharmaceutical Inst im S. Ordzhonikidze

DAN SSSR, Vol 88, No 3, pp 467-470

Two diastereomeric amino acids were prepd from oxidation of isoretronicalonic acid and from lindelofidine having identical properties except that specific rotation was opposite. This

261T6

isomerization makes it possible to prepare pseudoheliotridane from heliotridane. Presented by Acad V.M. Rodionov 24 Nov 52.

MEN'SHIKOV, G. P.

USSR/Chemistry - Alkaloids 11 Feb 53

"The Chemical Properties of Colchamine," V. V. Kiselev, G. P. Men'shikov, All-Union Sci-Res Chemicopharmaceutical Inst im S. Ordzhonikidze

DAN SSSR, Vol 88, No 5, pp 825-827

Studied the chem properties of colchamine, an alkaloid of Colchicum speciosum Stew. From the results, established that colchamine is N-methyldesacetylcolchicine, and colchamein (obtained by saponifying an OCH_3 group of colchamine) is N-methyldesacetylcolchacein. The product of the

264T24

reaction of iodine on colchamine is N-methyliodocolchinol. N-methylcolchaminic acid is N-dimethyldesacetylcolchicinic acid and N-acetylcolchamine is N-methylcolcheine. Presented by Acad V. M. Rodionov 26 Nov 52.

MEN'SHIKOV, G. P.

USSR/Chemistry - Alkaloids 1 Nov 53

"A New Alkaloid From the Plant Heliotropium supinum," S. I. Denisova, G. P. Men'shikov and L. M. Utkin, All-Union Sci-Res Chem-Pharm Inst im S. Ordzhonikidze

DAN SSSR, Vol 93, No 1, pp 59-61

Isolated a new alkaloid from Heliotropium supinum in the form of its picrate. Found that it has the comp $C_{20}H_{31}O_7N$. Propose the name helipsupine for the alkaloid. Presented by Acad V. M. Rodionov 1 Sep 53.

275T5

MEN'SHIKOV, G.P.; PETROVA, M.F.; PUKHAL'SKAYA, Ye.Ch.

Carcinostatic effect of aqueous extracts of higher plants.
Vop.onk. 1 no.2:44-49 '55. (MLRA 8:10)

1. Iz laboratorii khimii prirodnykh veshchestv (zav.prof. G.P.Men'shikov) i laboratorii eksperimental'noy khimioterapii (zav. chl.korr. AMN SSSR. prof. L.F.Lazionov) Instituta eksperimental'noy patologii i terapii raka AMN SSSR (dir.chl. korr. AMN SSSR prof. N.N.Blokhin)

(NEOPLASMS, experimental,
carcinostatic eff. of plant extracts)

(PLANTS,
extracts, carcinostatic eff.)

Men'shikova, G. P.

3

The anticancer properties of water-extracts of higher plants. G. P. Men'shikova, M. F. Petrova, and E. Ch. Pukhal'skaya. *Voprosy Onkologii* 1, No. 2, 44–9(1955).—The effect of H_2O exts. of higher plants was tested first on the growth and development of sarcoma 45. Exts. of *Ungernia severtzowii* proved inactive in their fresh state. Keeping sterile exts. for 100 days at 4° increased the toxicity and caused them to acquire arresting properties on the growth of sarcoma 45. This was not due to the presence of any alkaloids, but appeared to be due to some protein fractions which become denatured upon storing. Tests with exts. of *Phleum pratense, Trifolium pratense,* and common meadow hay produced similar results. Authors conclude that freshly prepd. exts. of some higher plants which normally manifest no anticancer properties, under certain conditions can be made to acquire such properties. Storing of such sterile exts. at 4° is regarded as one factor favoring the development of anticancer properties. It was shown that the anticancer properties reside in the alc.-pptd. fraction of the plant exts., which include some proteins. Alc.-ppts. of the H_2O exts. of the 4 plants tested manifested no antisarcoma 45 properties in their fresh state. However, continued treatment and purification with alc. elicited such antisarcoma properties, probably due to the intense protein denaturation. Further tests showed that the antisarcoma 45 properties thus elicited were not limited to sarcoma 45 (60–78%), but arrested the development of Geren, Crocker, LIO-1, and SSK tumors in 30–45% of the cases, but had no effect on the Ehrlich carcinoma or on carcinoma M-1.

B. S. Levine

Men'shikov, G.P.

USSR/Chemistry - Pharmaceuticals

Card 1/1 Pub. 22 - 21/45

Authors : Kuzovkov, A. D.; Mashkovskiy, M. D.; Danilova, A. V.; and Men'shikov, G.P.

Title : Synthesis of pseudoheliotridane and heliotridane

Periodical : Dok. AN SSSR 103/2, 251-252, Jul 11, 1955

Abstract : The synthesis of curare-like compounds - pseudoheliotridane and heliotridane - is briefly described. The medicinal properties of these compounds are listed. Four references: 3 USSR and 1 USA (1923-1952).

Institution : All-Union Sc.Res.Chem.Pharm. Inst. im. S. Ordzhonikidze

Presented by : Academician I. N. Nazarov, February 21, 1955

MEN'SHIKOV, G.P.

2

Med

Isolation of new antibiotic longisporin and a study of its chemical nature. G. P. Men'shikov and M. M. Rubinshtein (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 26, 2035-9(1956).—The culture mass of strain 108 of *Actinomyces longispori* yielded after extn. with $CHCl_3$ and chromatography of the product on Al_2O_3 in Et_2O a new antibiotic, named *longisporin*. The substance is $C_{33}H_{54}O_{10}$, m. 99-101° (from petr. ether), $[\alpha]_D$ 2.02°; the yield varied from 0 to 1.5 g./20 l. of culture mass. Hydrolysis with alc. KOH gave a constituent hydroxy acid $C_{11}H_{18}O_4$, m. 64-5° (from C_6H_6-petr. ether). Longisporin contains 3 ester groups, the nature of the alc. component being unknown, except that it is not glycerol. The isolated acid is $C_{10}H_{18}O(OH)(CO_2H)$, but it is suggested that the antibiotic consists of a cyclic ester of 3 acid units.

G. M. Kosolapoff

20-5-43/60

AUTHOR PETROVA, M.F., DENISOVA, S.I. and MEN'SHIKOV, G.P.

TITLE An Investigation of Heliotropium Lasiocarpum Alkaloids. Dissociation of Lasiocarpic acid and its Esters in Caustic Sodium Solutions.
(Issledovaniye alkaloidov Heliotropium lasiocarpum. Raspad laziokarpinovoy kisloty i yeye efirov v rastvorakh yedkikh shchelochey.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957 Vol 114 Nr 5, pp 1073-1075 (U.S.S.R.)

ABSTRACT Lasiocarpic acid is a portion of the molecule of the alkaloid, lasiocarpin, where it etherifies the primary hydroxyl group of the amine-glycol, heliotridin. It is, however, so much destroyed in the saponification of the alkaloid by caustic sodium solutions that it cannot be obtained in a pure condition by this method. The free acid can best be obtained with an almost quantitative yield by catalytic reduction of the alkaloid with a platinum catalyst. On this occasion the primary hydroxyl group of heliotridin is reduced by an allyl character. The lasiocarpic acid, being a saturated substance, is not altered on this occasion and can be obtained freely. With great probability it was also

CARD 1/4

20-5-43/60

An Investigation of Heliotropium Lasiocarpum Alkaloids. Dissociation of Lasiocarpic acid and its Esters in Caustic Sodium Solutions.

demonstrated that the lasiocarpic acid has a structure of 2-methyl-2,3-dioxy-4-methoxypentane-3- carbonic acid. The present investigation is dedicated to the study of the dissociation of lasiocarpic acid, which occurs when it is heated in alkaline solutions. The authors at once met with very unexpected results. It was found that in contrast to lasiocarpin the lasiocarpic acids (more precisely its salts) are highly resistant to alkali. In any case, those reaction conditions leading to a rapid dissociation of leasiocarpic acid in alkaloid saponification, influence the free acid only little. They enable its re-isolation with a 94-95 % yield. This induced the authors to suppose that there exists a great difference between the stability of the free lasiocarpic acid and its ethers. To check this, the methylether was produced from basiocarpic acid by diazomethane-influence in an ether solution. When heated in alkaline solutions this methylether behaved just as lasiocarpin. Here, too, the molecule of the acid itself rapidly dissociated. It was found that one of the splinters of the dissociated lasiocarpic acid is acetone. It was

CARD 2/4

20-5-43/60

An Investigation of Heliotropium Lasiocarpum Alkaloids. Dissociation of Lasiocarpic acid and its Esters in Caustic Sodium Solutions.

determined quantitatively as 2,4-dinitrophenylhydrazone. From its amount the dissociation speed of lasiocarpic acid was determined in the case of the free acid as well as in the case of its ethers. The airoxygen does not participate in this reaction. The results were the same in the case of access of air, in hydrogen or nitrogen. Tab.1 shows that the dissociation of lasiocarpic acid proceeds about 200 times more slowly than that of its ethers. The amount of acetone (about 95 % of theory) rapidly reaches this high limit after which it rises very slowly. This can probably be explained by the fact that the ether itself under alkali-influence is altered in two directions: acid-dissociation with formation of acetone on the one hand and saponification with formation of a more stable salt of the acid on the other hand. From the liberated amount of acetone it is also possible to estimate the speed of these two directions: molecule-dissociation is 20 times faster than saponification. The second part of lasiocarpic acid is an optically active

CARD 3/4

20-5-43/60

An Investigation of Heliotropium Lasiocarpum Alkaloids. Dissociation of Lasiocarpic acid and its Esters in Caustic Sodium Solutions.

acid $C_5H_{10}O_4$. After isolation is does not crystallize. From it was won a well crystallizing quinine salt with a melting point of 158-159°C. The latter acid was obtained from the methylether of lasiocarpic acid as well as from lasiocarpin. In the case of lasiocarpic acid the substituent activating the cleavage apparently is the carboxyl group. By comparison of the obtained results with published data and the here-mentioned formula of lasiocarpic acid it will not be hard to realize that its dissociation took place at the expense of splitting of the C-C bond between the second and third carbon atom.
(1 Table, 3 Slavic references)

ASSOCIATION: Institute for experimental pathology and cancer therapy of the Academy of Medical Sciences of the USSR.
(Institut eksperimental'noy patologii i terapii raka Akademii meditsinskikh nauk SSSR)
PRESENTED BY: A.I.OPARIN, member of the Academy.
SUBMITTED: -
AVAILABLE: Library of Congress.

CARD 4/4

SOV/79-28-7-34/64

AUTHORS: Denisova, S. I., Petrova, M. F., Men'shikov, G. P.

TITLE: The Decomposition of Macrotominic Acid and the Acid of Heliosupine in Alkali Liquors (Raspad makrotominovoy kisloty i kisloty iz geliosupina v rastvore yedkoy shchelochi)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 7, pp 1882-1885 (USSR)

ABSTRACT: The alkaloid macrotomine is an ester of macrotominic acid. The latter is, however, attacked to such a high degree by the saponification of the alkaloid in its formation in the alkaline way that it can not be obtained in pure state. Therefore the explanation of its structure had to proceed from the alkaloid ester itself, on which occasion the authors in their investigation of the products of its oxidation decomposition by the action of periodic acid found that it is most probably a 2-methyl-2,3,4-trioxypentane-3-carboxylic acid (I). Macrotomine as ester of the saturated amino alcohol of trachelantamidine cannot yield a free acid of the above mentioned structure by catalytic reaction; it was, however, char-

Card 1/3

SOV/79-28-7-34/64

The Decomposition of Macrotominic Acid and the Acid of Heliosupine in Alkali Liquors

acterized by the catalytic reduction of the closely related heliosupine with platinum and by the production of its/slowly decomposing acid. This was achieved in the form of a quinine salt and then was further proved by a theoretically founded way of comparison. In the comparison of the structural investigations carried out with macrotominic acid the conclusion must be drawn that its decomposition is the result of the decomposition of the C-C-binding between two or three carbon atoms (see scheme). In the alkaline saponification of macrotomine and heliosupine, which are esters of the acids with a structure 2-methyl-2,3,4-trioxypentane-3-carboxylic acid, they decompose into the acetone and dioxybutyric acid. This decomposition takes place also on a heating of the free acid (i.e., their salts) from heliosupine in alkali liquor, however, much more slowly (by the 200-fold) than is the case with macrotominic acid. There are 5 references, 4 of which are Soviet.

Card 2/3

SOV/79-28-7-34/64

The Decomposition of Macrotominic Acid and the Acid of Heliosupine in Alkali Liquors

SUBMITTED: June 3, 1957

1. Acids--Decomposition 2. Acids--Structural analysis

Card 3/3

PETROVA, M.F.; PUKHAL'SKAYA, Ye.Ch.; MEN'SHIKOV, G.P.

A preparation from Hippophae rhamnoides inhibiting growth of transplanted animal tumors. Biul. eksp. biol. med. 47 no.2:102-106 F '59.
(MIRA 12:4)

1. Iz laboratorii khimii prirodnykh veshchestv (zav. - prof. G.P. Men'shikov) i laboratorii eksperimental'noy khimioterapii (zav. - chlen-korrespondent AMN SSSR prof. L.F. Larionov) Instituta eksperimental'noy patologii i terapii raka (dir. - chlen-korrespondent AMN SSSR prof. N.N. Blokhin) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Zakusovym.

(CYTOXIC DRUGS, eff.
  Hippophae rhamnoides extract, eff. on transpl. tumors
  in animals (Rus))
(PLANTS,
  same)

5.3900

77411
SOV/79-30-1-72/78

AUTHORS: Uretskaya, G. Ya., Rybkina, Ye. I., Men'shikov, G. P.

TITLE: Synthesis of 6-Amino-7-Methylpurine Derivatives as Possible Antimetabolites

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 327-332 (USSR)

ABSTRACT: Several derivatives of 7-methylpurine were synthesized for future study of their antimetabolic action. The following compounds were synthesized and described: 2,6-dichloro-7-methylpurine (I), 7-methyladenine (II), 2-chloro-6-ethyleneimino-7-methylpurine (III), 2-chloro-6-monoethanolamino-7-methylpurine (IV), 2-chloro-6-diethanolamino-7-methylpurine (V), 6-diethylamino-7-methylpurine (VI), 6-monoethanolamino-7-methylpurine (VII), ethyl ester of N-(2-chloro-7-methylpurine-6-glycine (VIII), ethyl ester of N-(2-chloro-7-methylpurine-6)-dl-α-alanine (IX), and ethyl ester of N-(7-methylpurine-6)-glycine (X). Compound I was prepared by the modified method of J. Davell for preparation of

Card 1/4

Synthesis of 6-Amino-7-Methylpurine Derivatives as Possible Antimetabolites

77411
SOV/79-30-1-72/78

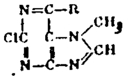
trichloropurine (J. Am. Chem. Soc., 73, 2937 (1951)): freshly distilled phosphoryl chloride was boiled with theobromine and dimethylaniline; the residue left after distillation of $POCl_3$ was neutralized with Na_2CO_3 and the precipitate washed with 2% KOH and recrystallized from water (yield 25%; mp 197.5-196°). Compound III was made by letting the mixture of ethyleneimine, 2,6-dichloro-7-methylpurine, and 1% NaOH stand for 18-20 hr at room temperature. 2-Chloro-6-aminosubstituted 7-methylpurines (compounds IV, V, VIII, and IX; see Table A) were synthesized by boiling the alcohol solution of compound I with the corresponding amine. The 6-aminosubstituted 7-methylpurines (compounds II, VI, and X) were obtained by the modified method of E. Fischer (Ber., 30, 2400 (1897); ibid, 31, 104 (1898)), i.e., by boiling 2-chloro-6-aminosubstituted 7-methylpurine with HI (d 1.50) and red phosphorus. Melting points of the products were: 7-methyladenine (II), 345-346°; 6-diethylamino-7-methylpurine hydrochloride (VI), 200.5-201.5°; hydrochloride of ethyl N-(7-

Card 2/4

Synthesis of 6-Amino-7-Methylpurine Derivatives as Possible Antimetabolites

77-11
SOV/79-30-1-72/76

Table A. 2-Chloro-6-aminosubstituted 7-methylpurines.



R	EMPIRICAL FORMULA	MELTING POINT	SOLVENT FOR RECRYSTAL-LIZATION	YIELD (%)	FOUND (%)			CALCULATED (%)		
					C	H	Cl	C	H	Cl
$N(CH_2CH_2OH)_2$	$C_{10}H_{14}O_2N_5Cl$	175°	Alcohol	56	44.33	5.32	13.04	44.19	5.20	13.06
$HNCH_2CH_2OH$	$C_8H_{10}ON_5Cl$	216–217	Alcohol		42.43	4.40	15.95	42.17	4.45	15.65
$HNCH_2COOC_2H_5$	$C_{10}H_{12}O_2N_5Cl$	210	Water	75.5	44.25	4.42	13.01	44.53	4.48	13.14
$\underset{CH_3}{HNCH}-COOC_2H_5$	$C_{11}H_{14}O_2N_5Cl$	70–71	Water	56.5			12.61 12.77			12.50
	$C_{11}H_{16}O_3N_5Cl$				43.45 43.74	5.45 5.37		43.78	5.40	

Card 3/4

Synthesis of 6-Amino-7-Methylpurine Derivatives as Possible Antimetabolites

77411
SOV/79-30-1-72/78

methylpurine-6)-glycinate (X), 217-218°(decomp.). The latter compound was also obtained (very small amount) by reacting 6-chloro-7-methylpurine with ethyl glycinate. Compound VII was prepared by reacting ethylene oxide with a solution of 7-methyladenine in 25% acetic acid. Biological action of compounds III, V, VII, II, VI, and X was studied in the laboratory of experimental chemotherapy. Results of these tests will be publsihed separately. There is 1 table; and 5 references, 2 German, 3 U.S. The U.S. references are: J. Davell, J. Am. Chem. Soc., 73, 2947 (1951); R. Adams, F. Whitmore, J. Am. Chem. Soc., 67. 127 (1945); R. Prasad, R. Robins, J. Am. Chem. Soc., 79, 6401 (1947).

SUBMITTED: December 17, 1958

Card 4/4

[illegible]

[illegible]
SOV/[illegible]

AUTHORS: Denisova, S. I., Ko[illegible], L. P., [illegible], I. P.

TITLE: Concerning a New Antibiotic [illegible] Actinomyces Fluorescens

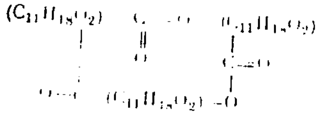
PERIODICAL: Zhurnal [illegible] (USSR)

ABSTRACT: A new antibiotic--crystalline ([illegible] needles), optically inactive compound with [illegible] formula [illegible] and melting [illegible]

Isolated from mycelium of actinomycete [illegible] Actinomyces fluorescens and called "[illegible]." The compound was isolated from the raw mycelium ([illegible]) the laboratory supervised by N. A. Kra[illegible]-Institute of Microbiology of the Academy of Sciences, USSR, by repeated extractions, first with acetone and then with ether (after the acetone was removed by distillation). The crystals, which separate from the oily residue after distillation of ether, were redissolved in several [illegible]

Card 1/3

of ether, which again was distilled off. The [illegible] residue was recrystallized many times from [illegible] ethyl alcohols alternately. [illegible] (ester number was found to be [illegible] calculated figure of [illegible] for three ester [illegible] molecule; the [illegible] product was found to [illegible] the formula $C_{11}H_{1}$.O (OH)COOH which has [illegible] groups in the hydrocarbon chain; the two oxygen [illegible] in it probably belong to two ether [illegible]) [illegible] that fluorin has no active hydrogen led to the conclusion that fluorin is a cyclic ester of the same hydroxyacid of the formula:



Card [illegible]/[illegible]

Concerning a New Antibiotic Isolated From the Group Actinomyces Fluorescens SO[illegible]

The authors plan to continue the study of [illegible] structure. According to experimental results obtained by the Laboratory of Chemotherapy of the Infectious Diseases of the All-Union [illegible] Pharmaceutical Institute [illegible] toward [illegible] completely destroyed in blood serum. Elemental [illegible] determination of [illegible] performed [illegible] A. D. [illegible] took part in the experimental part of this work. There is 1 Soviet reference.

SUBMITTED: December [illegible]

Card 3/3

PUKHAL'SKAYA, Ye.Ch.; PETROVA, M.F.; MEN'SHIKOV, G.P.

5-oxytryptamine from Hippophae rhamnoides as an antitumorigneic preparation in experiments on animals. Biul. eksp. biol. i med. 50 no.10:105-110 O '60. (MIRA 14:5)

1. Iz laboratorii eksperimental'noy khimioterapii (zav. - chlen-korrespondent AMN SSSR prof. L.F.Larionov) i laboratorii khimii prirodnykh veshchestv (zav. - prof. G.P.Men'shikov) Instituta eksperimental'noy i klinicheskoy onkologii (dir. - deystvitel'nyy chlen AMN SSSR N.N.Blokhin) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Blokhinym.

(ALKALOIDS) (CANCER)

MEN'SHIKOV, G.P.

Structure of the alkaloid dubinidine. Zhur. ob. khim. 31
no. 2:693-694 F '61. (MIRA 14:2)

(Dubinidine)

PETROVA, M.F.; MEN'SHIKOV, G.P.

Bases of the bark Hippophaë rhamnoides. Part 1: Isolation of 5-hydroxytryptamine (serotonin). Zhur.ob.khim. 31 no.7:2413-2415 Jl '61. (MIRA 14:7)

1. Institut eksperimental'noy i klinicheskoy onkologii Akademii meditsinskikh nauk SSSR.

(Indol)

MEN'SHIKOV, G.P.; DENISOVA, S.I.

Isolation of actinomycetes from the Actinomyces fluorescens group.
Antibiotiki 7 no.1:31-32 Ja '62. (MIRA 15:2)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(ACTINOMYCES)

DENISOVA, S.I.; OVCHINNIKOVA, G.A.; MEN'SHIKOV, G.P.

Study of the antibiotic "fluorin." Part 2: Structure of the skeleton of hydroxy acid formed in the hydrolysis of "fluorin." Zhur.ob.khim. 33 no.6:2058-2061 Je '63. (MIRA 16:7)
(Antibiotics)

PETROVA, M.F.; KRANTS, F.S.; MEN'SHIKOV, G.P.

Method of producing 5-hydroxytryptamine (serotonin) from the bark of Hippophae rhamnoides. Zhur. prikl. khim. 37 no.12: 2763-2764 D '64. (MIRA 18:3)

MEN'SHIKOV, G.P.; KUCHERYAVENKO, L.P.; DENISOVA, S.I.

Amino acid composition of actinomycins of the "Antibiotic No. 2703". Antibiotiki 9 no.4:309-311 Ap '64.
(MIRA 19:1)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

L 08662-67 EWT(1) JK

ACC NR: AP6033276 SOURCE CODE: UR/0020/66/170/004/0970/0973

AUTHOR: Denisova, S. I.; Kuimova, T. F.; Menshikov, G. P.; Krasil'nikov, N. A. (Corresponding member AN SSSR)

3/ 27 6

ORG: Institute of Experimental and Clinical Oncology, Academy of Medical Sciences, SSSR (Institut eksperimental'noy i klinicheskoy onkologii Akademii meditsinskikh nauk SSSR); Institute of Microbiology, Academy of Sciences, SSSR (Institut mikrobiologii Akademii nauk SSSR)

TITLE: An antiphage, antitumor substance extracted from *Actinomyces globisporus* which specifically reacts with DNA

SOURCE: AN SSSR. Doklady, v. 170, no. 4, 1966, 970-973

TOPIC TAGS: fungus, DNA, bacteriophage, neoplasm, amino acid

ABSTRACT: The antiphage action of a substance present in cultures of *Actinomyces globisporus* (strain 81) on various organic media was studied using special sensitive actinophage strains. This antiphage action is removed by high-molecular-weight DNA of the thymus or DNA from other sources (calf pancreas and herring sperm in these experiments), but low-molecular-weight products of enzymatic or acid hydrolysis of DNA of the thymus, RNA, and albumin do not neutralize the antiphage activity of strain 81. A water-soluble powder extracted from

Card 1/2 UDC: 612.396.17

L 08562-67

ACC NR: AP6033276

Actinomyces globisporus culture fluid was active against gram-positive bacteria (Staphylococcus aureus 209, Bacillus subtilis, Bacillus mycoides, and Sarcina lutea), but was inactive with respect to gram-negative bacteria, yeasts, and fungi. It has been demonstrated that preparation 81 retards the growth of some transplanted animal tumors, such as Ehrlich ascites tumors, and cultures of human cancer cells. Analysis of preparation 81 shows the presence of amino acids and the sugars xylose, arabinose, and glucose, suggesting that the substance is a glucoprotein. Orig. art. has: 3 figures and 1 table. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 07Jun66/ ORIG REF: 005/ OTH REF: 002

Card 2/2

MEN'SHIKOV, I.

How we conduct seminars. Fin. SSSR 21 no.9:63 S '60. (MIRA 13:9)

1. Starshiy inspektor Byudzhetnogo upravleniya Ministerstva finansov Uzbekskoy SSR.
(Uzbekistan--Finance--Study and teaching)

MEN'SHIKOV I

AUTHOR: [illegible] 130 - 6 - 27/27

TITLE: Exhibition of work by artist-metallurgists. (Vystavka rabot khudozhnikov-metallurgov).

PERIODICAL: "Metallurg" (Metallurgist), 1957, No.6, (facing p.48, inside back cover), (USSR).

ABSTRACT: Some exhibits at a recent exhibition of spare-time artistic work by members of the "Zaprozhstal'" works metallurgists' club are described. There is 1 photograph.

ASSOCIATION: Metallurgists' Club, "Zaporozhstal'" works. (Predsedatel' pravleniya kluba metallurgov zavoda "Zaporozhstal'").

AVAILABLE:

Card 1/1

MEN'SHIKOV, I A

MEN'SHIKOV, I.A., prof., doktor tekhnicheskikh nauk; BABUSHKIN, I.N., dots. kand.tekhn.nauk; VORONITSYN, K.I., dots., kand.tekhn. nauk, laureat Stalinskoy premii, retsenzent; GOL'DBERG, A.M., dots., kand.tekhn.nauk, retsenzent; BRILING, N.R., zasluzhennyy deyatel' nauki i tekhniki, prof., doktor tekhn.nauk. SHENDAREVA, L.V., tekhn.red.

[Lumber transport traction machinery] Lesotransportnye tiagovye mashiny. Moskva, Goslesbumizdat. Pt.1. 1951. 586 p. (MIRA 11:2)
(Lumber--Machinery) (Traction engines)

KONDRAT'YEV, Afanasiy Borisovich, kand.tekhn.nauk; YERSHOVA, Galina Nikolayevna, inzh.; MEN'SHIKOV, Ivan Alekseyevich, prof., doktor tekhn.nauk; MOSKOVSKIY, Mikhail Ivanovich, kand.tekhn.nauk; SOBOLEV, David Iosifovich, kand.tekhn.nauk; SMIL'GEVICH, Petr Kazimirovich, inzh.; SHIROKOV, Boris Ivanovich, kand.sel'skokhoz.nauk. Prinimali uchastiye: TREBIN, Boris Nikolayevich, inzh.; OSOBOV, Vadim Izrailevich, inzh. BRIK, P.A., prepodavatel', retsenzent; IVANOV, V.A., prepodavatel', retsenzent; KOGANOV, A., prepodavatel', retsenzent; KONONOV, B.V., prepodavatel', retsenzent; MARKOV, G.Ya., prepodavatel', retsenzent; OSIPOV, G.P., prepodavatel', retsenzent; RYABOV, P.I., prepodavatel', retsenzent; SOLOV'YEV, K.Ya., prepodavatel', retsenzent; SOROKIN, V.Ya., prepodavatel', retsenzent; BANNIKOV, P., red.; VORONKOVA, Ye., tekhn.red.

[Manual for collective farm machinery operators] Spravochnik mekhanizatora sel'skogo khoziaistva. Penza. Penzenskoe knizhnoe izd-vo, 1959. 610 p. (MIRA 14:2)

1. Saratovskiy institut mekhanizatsii sel'skogo khozyaystva imeni M.I.Kalinina (for Brik, Ivanov, Koganov, Kononov, Markov, Osipov, Ryabov, Solov'yev, Sorokin).

(Agricultural machinery) (Farm mechanization)

BUDANOV, G.V., inzh., otv. za vypusk; KACHURIN, Ye.D., red.; MEN'SHIKOV, I.M., red.; FISHKOV, Ya.L., red.; EPSHTEYN, S.M., red.; PIREGIN, I.I., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Collection No.25 of standardized regional unit rates for refractory bricklaying for industrial furnaces and stacks. Price-list of average, regional estimate prices for refractory materials and products. Approved and put into effect as of Januar 1, 1962]Sbornik No.25 edinykh raionnykh edinichnykh rastsenok na ogneupornuiu kladku promyshlennykh pechei i trub. TSennik srednikh raionnykh smetnykh tsen na ogneupornye materialy i izdeliia. Utverzhden... i vveden v deistvie s 1 ianvaria 1962 g. Moskva, Metallurgizdat, 1962. 287 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.)Gosudarstvennyy komitet po delam stroitel'stva. (Bricklaying--Prices)
(Refractory materials--Prices)

SOV/68-59-5-5/25

AUTHORS: Sverdlin, V.M., and Men'shikov, ~~I.Ye.~~

TITLE: From Experience in Operation of the Cableway for Transporting Refuse from the Coking Plant of the Cherepovets Metallurgical Works (Opyt ekspluatatsii otval'noy kanatnoy dorogi koksokhimicheskogo tsekha Cherepovetskogo Metallurgicheskogo Zavoda)

PERIODICAL: Koks i khimiya, 1959, Nr 5, pp 13-15 (USSR)

ABSTRACT: A brief description of the cableway for transporting waste from the coal washery on the above works is given. The improvement in the labour productivity and decrease in the cost of transporting waste achieved on the coking plant due to the replacement of dump cars by the cableway is mentioned.
There is 1 figure.

Card 1/1

ASSOCIATIONS: GPI Proyektavtomatika, and Cherepovetskiy metallurgicheskiy zavod (Cherepovets Metallurgical Works)

BUCHNEV, K.N., prof.; SHAKHMATOV, M.M., kand. veterinarnykh nauk; TITOV, V.L., nauchnyy sotrudnik; MEN'SHIKOV, L.F., nauchnyy sotrudnik; KRIVENKO, O.P., vrach-laborant; VOVK, V.I., vrach-laborant; LAISHEVA, M.M., vrach-laborant; POLUBOYAROVA, G.V., vrach-laborant

Diagnosis of rabies by precipitation reaction in agar gel. Veterinariia 40 no.3:66-70 Mr '63. (MIRA 17:1)

1. Alma-Atinskiy zooveterinarnyy institut (for Buchnev).
2. Laboratoriya virusologii nauchno-issledovatel'skogo veterinarnogo instituta Kazakhskoy akademii sel'skokhozyaystvennykh nauk (for all except Buchnev).

Menshikov M. I.

3

Photoelectric and optical properties of antimony-cesium films of varying composition. M. I. Men'shikov. *J. Tech. Phys.* (U.S.S.R.) 17, 579-88(1947)(in Russian).

Films in which the Sb:Cs ratio varied from point to point and with time were produced by the action of Cs vapor on an Sb film of nonuniform thickness obtained by sputtering Sb onto the inner wall of a cylindrical glass flask of radius *R*; the surface d. *q* of the Sb at any point is a function of the distance *x* along the axis between the given point and the Sb source; the distribution formula $q = (Q/4\pi R^2)[1/(1 + a^2)^{3/2}]$, where Q = amt. of Sb vaporized, $a = x/R$, was confirmed by direct interferometric exploration. In films of pure Sb, the curves of decreasing spectral transmission coeffs. D_λ with increasing q show a discontinuous drop at $q = 6 \times 10^{-6}$ g./sq. cm.; below that point, the D_λ curve for $\lambda = 6300$ A. is uppermost, that for $\lambda = 4200$ A. lowest; this order is reversed beyond the point of discontinuity. The thicker film, blue-violet in transmitted light, is visibly cryst. while the brown thin layer is not yet crystd.; the boundary at $q = 6 \times 10^{-6}$ g./sq. cm. is distinctly visible in pure Sb but disappears and has no significance after treatment with Cs. The strong deviation of the exptl. D_λ curves for pure Sb from the theoret. exponential curve, particularly at low q, can be taken as evidence of nonuniformity of thin layers on glass. Crystn., even in thick layers, is suppressed if the Sb is condensed on glass walls kept at the temp. of liquid N; unfreezing of the film at room temp. gives rise to crystn. in ellipsoidal spherolites with the long axis perpendicular to the direction of the mol. beam. The shapes of the curves of D_λ and of the photoelec. sensitivity S_λ in terms of q, obtained by exploration of the surface of the Sb-Cs film at a given moment with a monochromatic light amt. of Cs in the layer, at any given moment, as inversely proportional to the initial q. On that basis, the ratio of the q corresponding to h and l, resp., being very exactly = 1.37 at all times, with an av. deviation of only ± 0.03, the amt. of Cs in the layer corresponding to the max. l is 1.37 times that in the layer with the max. h, as the layer with the 1st max. (h) is clearly identical with the tech. photocathode of the established compn. $SbCs_3$, the latter max. (l) corresponds to the compn. Sb_2Cs_7. With the temp. of the Cs source kept at 90°, the S_λ curve shows, in addn. to h and l, a 3rd max. which, by an analogous calcn., is shown to correspond to the compn. Sb_2Cs_4; this compd. evidently is not stable at room temp. In terms of time, at const. temp. and const. q, the S_λ curve passes through two max., first a lower (l) and then a higher one (h); these max. are the higher the shorter the wave length (between 6300 and 4200 A.). The reverse holds for the only max. of D_λ the position of which in time (~ 170 hrs.) for $q = 16 \times 10^{-6}$ g./sq. cm. coincides with l of S_λ; at the time (~ 230 hrs.) S_λ passes through h, D_λ is and remains const. This indicates that the chem. reaction between Sb and Cs is concluded at the time h is reached; further arrivals of Cs atoms change only the surface coverage which obviously is optimum at h. The ratio of the times necessary to reach l and h also corresponds to the amts. of Cs at the two points and confirms satisfactorily the value 1.37. Completely formed Sb-Cs layers show a distinct max. of D_λ around $q = 13 \times 10^{-6}$ g./sq. cm. in $\lambda = 6300$ A.; there is still a hint of a max. in $\lambda = 5600$ but it is absent in 4900 and 4200 A. No interpretation is forthcoming. The quantum efficiency of Sb-Cs photocathodes formed at room temp. is not less than 0.08 electrons per quantum at $q = 12 \times 10^{-6}$ g./sq. cm., $\lambda = 4200$ A.

N. Thon

METALLURGICAL LITERATURE CLASSIFICATION

JAECKEL, Rudolf, 1907- [author]; MARTINSON, E.N. [translator]; MEN'SHIKOV, M.I. [editor].

[Making and measuring a vacuum] Poluchenie i izmerenie vakuuma. Perevod s nemetskogo E.N.Martinsona, pod red. M.I.Men'shikova. Moskva, Izd-vo inostrannoi lit-ry, 1952. 343 p.

(MLRA 6:7)
(Vacuum)

ZHIGAREV, A.A.; MEN'SHIKOV, M.I.; TYAGUNOV, G.A.

[Vacuum apparatus; study charts] Vakuumnaia tekhnika; uchebnye tablitsy. Moskva, Gos. energ. izd-vo, 1955. (MLRA 9:5)
(Vacuum apparatus)

LANIS, Viktor Anatol'yevich; LEVINA, Lyubov' Yefremovna; SHAMSHUR, V.I.,
redaktor; MEN'SHIKOV, M.I., redaktor; SKVORTSOV, I.M., tekhnicheskiy
redaktor.

[Practical basis for the technique of vacuum tests] Prakticheskie osnovy tekhniki vakuumnykh ispytanii. Pod red. M.I.Men'shikova. Moskva, Gos.energ.izd-vo, 1955, 119 p. (MIRA 8:4)
(Vacuum apparatus)

MENSHIKOV, M. I. and RYBCHINSKIY, R. Ye.

"Mass Spectrometer MAG-3 for Continuous Analysis of Gas Mixtures" lecture given at the International Metallurgists' Conference, Moscow 26-30 June 56

CS-3,302,240, 11 Jan 57.

PAZUKHIN, Vasiliy Aleksandrovich; FISHER, Aleksandr Yakovlevich; KRESTOVNIKOV, A.N., professor, doktor, retsenzent; MEYERSON, G.A., professor, doktor, retsenzent; ZHUKOVSKIY, Ye.I., professor, doktor, retsenzent; MEN'SHIKOV, M.I., kandidat tekhnicheskikh nauk, retsenzent; SAMSONOV, G.V., kandidat tekhnicheskikh nauk, retsenzent; MESHCHERYAKOV, S.I., kandidat tekhnicheskikh nauk, retsenzent; SAMSONOV, G.V., redaktor; ARKHANGEL'SKAYA, M.S., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskiy redaktor

[Vacuum in metallurgy] Vakuum v metallurgii. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,1956. 520 p.
(Vacuum) (Metallurgy) (MLRA 9:12)

32-7-47/49

AUTHOR: Men'shikov, M.I., Candidate of Technical Sciences

TITLE: Criticism and Bibliography (Kritika i bibliografiya)
V.A. Pazukhin, A.Ya. Fisher, Vacuum in Metallurgy
(Vakuum v metallurgii)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 7, pp. 885 - 886 (USSR)

ABSTRACT: The first part of this book is intended to be used by technical workers in metallurgical plants and research organizations as an introduction to this field of science. The material was gathered from various publications and translated works. However, the selection of material in the first part of the book cannot be described as being satisfactory by a metallurgical engineer, because it contains no data on vacuum apparatus, which, however, is necessary for the information of engineers dealing with this subject. Also other important technical and scientific data are lacking. Thus, in article 44 of the book instruction material is dealt with unsatisfactorily, and no reference is made to the fact that certain informations contained in this book has already been given by other previously published books. Or, what references

Card 1/2

32-7-47/49

Criticism and Bibliography. V.A. Pazukhin, A.Ya. Fischer, Vacuum in Metallurgy

are made, are of obsolete instruction material. On the other hand, such important fields as that of the vacuum and of metallurgical furnaces are not dealt with at all. The book, furthermore, contains many technical and scientific errors as well as misprints, which may mislead the reader. Eleven different faults found with this book are discussed and suitable correlations are recommended.

ASSOCIATION: None given

AVAILABLE: Library of Congress

Card 2/2

KUZNETSOV, Vladimir Ivanovich; MEN'SHIKOV, M.I., red.; SHAMSHUR, V.I., red.; ASANOV, P.M., tekhn.red.

[Mechanical vacuum pumps] Mekhanicheskie vakuumnye nasosy. Pod red. M.I.Men'shikova. Moskva, Gos.energ.izd-vo, 1959. 279 p. (MIRA 13:3)

(Vacuum pumps)

24(8)

PHASE I BOOK EXPLOITATION SOV/2117

Soveshchaniye po eksperimental'noy tekhnike i metodam vysokotemperaturnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniy pri vysokikh temperaturakh; trudy soveshchaniya (Experimental Techniques and Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, AN SSSR, 1959. 789 p. (Series: Akademiya nauk SSSR. Institut metallurgii. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali) 2,200 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: A.L. Bankvitser.

PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) constitution diagram studies 3) physical properties of liquid metals and slags 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverage, see Table of Contents.

IV. NEW METHOD OF ANALYSIS AND PRODUCTION OF PURE METALS

SOV/120-59-4-1/50

AUTHOR: Men'shikov, M. I.

TITLE: Development of Vacuum Technology (A Review)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 4, pp 3-21 (USSR)

ABSTRACT: This review is concerned with work carried out in the Soviet Union and abroad during the last two to three years. Most of the material included was discussed during the First International Congress on Vacuum Technology which took place in Namur (Belgium) in June, 1958. The review is divided into the following sections: 1) mechanical pumps, 2) diffusion pumps, 3) ion pumps, 4) sorption and sorption-ion pumps, 5) cold traps and condensation pumps. There are 21 figures, 5 tables and 49 references, of which 25 are Soviet, 17 English, 6 German and 1 French. (It is stated that the proceedings of this Congress are to be published by Pergamon Press).

SUBMITTED: May 18, 1959.

Card 1/1

L 15688-65 EWT(d) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 ASD-3/AFFTC/ESD-3/APGC
ACCESSION NR: AP4047481 S/0120/64/000/005/0157/0161

AUTHOR: Levina, L. Ye.; Men'shikov, M. I.; Pavlenko, V. A.; Rabinovich, I. S.; Rafal'son, A. E.; Tsy*mberov, M. Ya.; Shutov, M. D.

TITLE: New MKh 1101 mass-spectrometric leak detector

18 9 10

SOURCE: Pribory* i tekhnika eksperimenta, no. 5, 1964, 157-161

TOPIC TAGS: leak detector, mass spectrometric leak detector / MKh 1101 leak detector

ABSTRACT: The new MKh 1101 leak detector differs from previous types (PTI-4a and PTI-6) in that it has no oil-vapor pump, uses an oxidation-resistant cathode, and is calibrated by a reference diffusion-type helium leak. Two lobar rotary (Roots) pumps driven by a single motor provide the rough and fine vacuums; the equilibrium vacuum is $(2-5) \times 10^{-4}$ torr. The cathode is stable in operation at pressures up to 1 torr. The leak detector sensitivity is $(1-5) \times 10^{-6}$

Card 1/2

L 15688-65
ACCESSION NR: AP4047481

lmc/sec for helium and 5 x 10^{-4} lms/sec for hydrogen. Setting the detector in operation takes only 10 minutes. Orig. art. has: 6 figures.

ASSOCIATION: SKB Analiticheskogo priborostroyeniya AN SSSR (Special Design Office for Analytical Instruments, AN SSSR)

SUBMITTED: 03Jun63 ENCL: 00

SUB CODE: ME NO REF SOV: 002 OTHER: 000

Card 2/2

SAKHAROVA, Ol'ga Dmitriyevna; MEN'SHIKOV, M.P., red.; BEYSHENOV, A., tekhn.red.

[Alay Valley] Alaiskaia dolina. Frunze, Kirgizskoe gos. izd-vo, 1959. 75 p. (MIRA 12:8)
(Alay Valley--Description and travel)

MEN'SHIKOV, Nikolay Aleksandrovich; CHERNYSHEV, I.K., retsenzent; MAN'KOVICH, B.Ya., retsenzent; KONSTANTINOV, V.P., red.; KAN, P.M., red.izdatel'stva; TSVETKOVA, S.V., tekhn.red.

[Organization of ships' radio communication systems] Organizatsiia sudovoi radiosviazi. Moskva, Izd-vo "Rechnoi transport," 1957. 88 p. (MIRA 10:12)

(Radio--Installations on ships)

PHASE I BOOK EXPLOITATION SOV/5712

Makiyenko, Semen Ivanovich, Nikolay Aleksandrovich Men'shikov, and Vadim Pavlovich Konstantinov

Organizatsiya radiosvyazi, radioveshchaniya i radionavigatsii na rechnom transporte (Organizing Radio Communications, Radio Broadcasting, and Radio Navigation in River Transportation) Moscow, Izd-vo "Rechnoy transport", 1960. 130 p. 2,800 copies printed.

Ed.: D. K. Sukhov; Reviewer: I. I. Pospelov; Ed. of Publishing House: P. M. Kan; Tech. Ed.: V. A. Bodrova.

PURPOSE: This book is intended for radio-communication personnel and for ship handlers and other personnel concerned with the operation of fleets, harbors, and maintenance bases.

COVERAGE: The book presents the principles of the organization of radio communications, radio broadcasting, and radio navigation in river transportation. Primary attention is paid to radio communication operations aboard ships, in particular during navigation

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in reservoirs. The basic types of shipboard radio equipment are briefly described, and problems pertaining to the servicing and maintenance of shipboard electrical and radio equipment for navigation are discussed. Ch. I was written by S. I. Makiyenko and N. A. Men'shikov, Engineers, and Ch. II by V. P. Konstantinov, Engineer. The authors thank I. I. Pospelov, Chief of Communications of the VORP (Vsesoyuznoye ob"yedineniye rechnogo parokhodstva -- All-Union River Steamship Line Association), S. P. Yanovskiy, Chief of Communications of Yeniseyskoye parokhodstvo (Yenisey Steamship Line), A. A. Babkov, Chief of Communications of the Obskoye parokhodstvo (Ob' Steamship Line and B. Ya. Koposov, Chief Engineer of the Kamskoye parokhodstvo (Kama Steamship Line) radio center. There are 13 references, all Soviet.

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<u>Knizhnaya Letopis'</u>,
No. 27, July 2, 1955.

MEN'SHIKOV, N. G. Cand Agr Sci -- (diss)"The Development of Animal ~~Breeding~~ Husbandry in Latvia (During the Period of the Decay of Feudalism ~~Prior to the Advent of Monopolistic~~ and Premonopolistic Capitalism)." Riga, 1957. 23 pp 20 cm. (Min of Agriculture USSR, Latvian Agricultural Academy), 150 copies (KL, 17-57, 98)

BASKAKOV, V.S.; VIKHLYAYEV, V.M.; GAVRILOV, R.I.; GREBNEV, P.A.; ZHEMCHUZHNIKOVA, Ye.Ye.; IDEL'SON, I.D.; MEN'SHIKOV, N.S.; MOROZOVA, Yu.G.; POPOV, V.A.; FEDOROV , S.F.; PAVLOV, Ya.M., dotsent, kandidat tekhnicheskikh nauk, redaktor; ZHIGLINSKIY, A.A., inzhener, redaktor; RUNICH, K.N., inzhener, redaktor; SOKOLOVA, L.V., tekhnicheskiy redaktor

[A collection of drawings for parts used in machine building] Sbornik mashinostroitel'nykh chertezhei dlia detalirovok. Izd. 2-oe, dop. i perer. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 1 v., 50 l. (MIRA 10:2)
(Machinery--Design)

GONCHAROV, Gerasim Ivanovich; MEN'SHIKOV, N.S., dotsent, retsenzent;
SAVEL'YEV, A.A., kand.tekhn.nauk, red.; VASIL'YEVA, V.P., red.
izd-va; KONTOROVICH, A.I., tekhn.red.

[Making and reading drawings in machinery manufacture] Sostavlenie
i chtenie chertezhei v mashinostroenii. Izd.2., perer. i dop.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 150 p.
(MIRA 13:10)

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MEN'SHIKOV, Nikolay Sergeyevich; PAVLOV, Ya.M., red.

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GERB, M.A.; KULACHKOV, V.I., inzh., retsenzent; MEN'SHIKOV, N.S.,
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[Compilation and reading of machinery drawings] Sostavlenie i chtenie mashinostroitel'nykh chertezhei. Moskva, Mashgiz, 1963. 218 p. (MIRA 16:4)
(Machinery—Drawing)

IDEL'SON, Iya Dmitriyevna; MEN'SHIKOV, N.S., red.

[Construction of the line of intersection of surfaces of geometrical bodies; textbook on descriptive geometry] Postroenie linii peresecheniia poverkhnostei geometricheskikh tel; posobie po kursu nachertatel'noi geometrii. Leningrad, Leningr. politekhn. in-t im. M.I.Kalonina, 1965. 65 p.
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1. Nachal'nik sluzhby signalizatsii i svyazi Krasnoyarskoy dorogi.
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Constructions for signaling and for communications on the Krasnoyarsk railroad. Avtom., telem. i sviaz' 3 no.4:23-24 Ap '59. (MIRA 12:5)

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