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S/026/61/000/007/002/002  
D051/D112

3, 2410 (1062, 1395, 1559)

AUTHORS: Korets, M.A.  
Ponizovskiy, Z.L.

TITLE: Galactic wanderers

PERIODICAL: Priroda, no.7, 1961, 45-52

TEXT: In this article the authors try to acquaint the general reader with the nature of cosmic radiation, its scientific background, and the special problems connected with this phenomenon. Even the slowest and heaviest particles of cosmic radiation detected near the Earth's surface have a velocity exceeding 100,000-200,000 kilometers per second. Therefore, in addition to its importance for astrophysics, cosmic radiation plays a considerable role for the study of elementary particles and their interaction at high energies. The largest accelerator of the world permits obtaining particles of an energy of about 30 bev, whereas the energy spectrum of cosmic radiation ranges from 1 to 10,000,000,000 bev. All elements lighter than iron are constituents of cosmic radiation, but their relative number is vastly different from their distribution in the universe. The universe contains about 90% hydrogen, about 9% helium, and only 1% of other elements. In

Card 1/8

21993

Galactic wanderers

S/026/61/000/007/002/002  
D051/D112

cosmic rays, however, the number of nuclei of elements heavier than helium is 5-6 times greater than in the universe. The number of Li, Be, and B nuclei permits establishing that the cosmic rays passed through an interstellar space medium of a density of 5-10 g/cm<sup>2</sup>. Such a change in the distribution of the elements shows that the assumption of acceleration and generation of mostly heavy nuclei of the iron and chromium group in the sources of cosmic radiation does not contradict experimental data. It seems certain that cosmic rays contain only a small number of nuclei with atomic weights from 17 to 23. If this deficiency cannot be explained by the character of Fe and Cr fission due to collisions with protons and He nuclei in the interstellar medium, the mentioned assumption will not hold. Experiments such as bombarding iron with proton beams and alpha-particles may help to solve this problem. The energy spectrum of the primary particles is particularly determined by their deflection in the geomagnetic field. The higher the energy, the lower the number of particles possessing it, the character of this spectrum being independent from the atomic weight of the particle. Particles of a kinetic energy below 0.2\*0.4 bev. could not be observed in primary cosmic radiation. Apparently, the magnetic fields coming from the Sun together with the corpuscular streams entirely remove this weak component of cosmic radiation from the solar

Card 2/8

21993

S/026/61/000/007/002/002  
D051/D112

Galactic wanderers

system. On the other hand particles of an energy above 15 bev are very rare, and no conclusions can be drawn concerning their energy spectrum. At present, installations with an effective area of some square kilometers, which will permit detecting one  $10^{19}$  ev particle per day, are being created. Photons could not be observed in primary cosmic radiation and electrons and positrons could not be recorded near the Earth. In the Galaxy, however, electrons play an important role as component parts of cosmic rays. As regards the problem of preferential directions of cosmic radiation, some scientists were of the opinion that the Galactic plane or the axis of that spiral sleeve of the Galaxy which contains the solar system may be considered as such directions. In this connection it must be observed that not only galactic but also solar cosmic particles arrive on the surface of the Earth. If the comparatively small solar contribution is excluded, it will appear that the Earth receives from all sides a homogeneous flux of cosmic particles, the error of measurement not being above 1-3%. This means that cosmic radiation in the Galaxy is isotropic. From the Galaxy only signals from electrons and positrons, which are constituent parts of the cosmic rays, can be recorded on the Earth. All cosmic radiation is thermal and nonthermal. The basic part of nonthermal radiation is connected with the acceleration of relativistic electrons in the magnetic fields of the Galaxy. Because the intensity of these fields is about  $10^{-5}$  gauss,

Card 3/8

21993

S/026/61/000/007/002/002  
D051/D112

## Galactic wanderers

the acceleration of electrons of about  $10^9$  ev produces a radiation on meter waves. For heavier particles such a radiation is incomparably weaker and nearly imperceptible against the background of electron radiation. In contrast to former conceptions, radioastronomic observations show that 80-90% of all cosmic radiation comes from a galactic "halo" or "corona" (Fig.3) of spherical form with a radius of 30,000-50,000 light years ( $3 \pm 5 \cdot 10^{22}$  cm) and basically containing ionized hydrogen of a mean density of 1 atom per  $100 \text{ cm}^3$ . The volume of the halo is  $1 \pm 5 \cdot 10^{68} \text{ cm}^3$ . The galactic disk (Fig.3) is considerably thicker than was assumed before (according to former conceptions the disk had a thickness and a diameter of 1,000-2,000 and about 100,000 light years, respectively). Its density of ionized hydrogen amounts to about 1 particle per  $\text{cm}^3$ . Finally there is a region of 400-900 light years in diameter which surrounds the galactic center. This region is immersed in a "dense" ( $1 \pm 2 \text{ atoms/cm}^3$ ) cloud of neutral hydrogen of 300-400  $\cdot$  2,000-2,500 light years. Its star concentration is 500-1,000 times higher than in the vicinity of the Sun. All this mass "rapidly" revolves around the galactic center (during 30,000 years one revolution at a distance of 300 light years). In the center itself is the galactic nucleus of about 30 light years in diameter with ionized hydrogen at a concentration of up to 1,000 protons per  $\text{cm}^3$ . Such a nucleus was also detected in some other galaxies, e.g. in the Andromeda

Card 4/8

21993

Galactic wanderers

S/026/61/000/007/002/002  
D051/D112

nebula. Radio maps obtained through measurements on 21 cm waves show that the spiral structure of the Galaxy begins at a distance of 10,000 light years from the center. It can be assumed that these spiral "sleeves" formed under the effect of a magnetic field. During its 10 billion years of existence the Galaxy has performed about 50 revolutions, which resulted in frequent breaks in the sleeves, so they cannot serve as magnetic traps for cosmic rays. V.L. Ginzburg, I.S. Shklovskiy, and other scientists are of the opinion that supernovae and, possibly, novae within the Galaxy are the main source of cosmic radiation, because the 200 billion stars of the Galaxy cannot produce cosmic rays with a total energy of  $10^{39}$ - $10^{40}$  erg/sec, an amount which is considered as necessary to maintain a constant flow of cosmic radiation on the observed energy level. The burst of a supernova is tremendous. The full energy, for instance, freed in the nebula Cassiopeia A (10,000 light years from the Earth) is about  $10^{51}$ - $10^{52}$  erg. It can be assumed that about one tenth of this amount went to the production of cosmic rays. Such an "injection" would compensate the energy losses of all cosmic rays in the Galaxy during 3,000-30,000 years. Most supernovae have less explosion energy, but even a mean energy a hundred times less would be sufficient for maintaining the cosmic radiation at a total energy of  $10^{56}$ - $10^{57}$  erg in a galaxy. But, however, intense may be the production of cosmic rays beyond the limits of our galaxy,

Card 5/8

21993

Galactic wanderers

S/026/61/000/007/002/002  
D051/D112

cosmic particles coming from outside are of no practical importance for its inter-  
nal balance. Only if particles with an energy of  $10^{18}$ - $10^{19}$  ev proved to be pro-  
tons and not heavy nuclei could a proton "injection" into the Galaxy be  
assumed. The mass of neutral hydrogen near the galactic plane is  $2.8 \cdot 10^{42}$ .  
Assuming that the interstellar gas consists of 93% hydrogen and 7% helium and  
adding the mass of gas of the halo, the mean density is  $\frac{3.6 \cdot 10^{42}}{5 \cdot 10^{68}} = 71 \cdot 10^{-27}$

$\approx 3 \cdot 10^{-26}$  g/cm<sup>3</sup>, which corresponds to 3-15 particles per 1,000 cm<sup>3</sup>. At a con-  
centration of 1 particle per 100 cm<sup>3</sup> in the interstellar gas and a particle speed  
nearly equal to light velocity the time until collision of various cosmic particles  
with the interstellar gas can be calculated:

protons (hydrogen)	3,800 million years
alpha-particles (helium)	940 million years
nuclei with atomic number 3-5	510 " "
nuclei with atomic number 6-9	360 " "
nuclei with atomic number above 10	250 " "
iron nuclei	140 " "

As these times are considerably below the age of the Galaxy, it follows that all  
presently existing cosmic rays did not originate together with it but at later

Card 6/8

21993

S/026/61/000/007/002/002  
D051/D112

Galactic wanderers

periods. Whether cosmic rays can escape from the Galaxy depends on the configuration of its magnetic fields and on the conditions at its boundaries. If in reality there should exist an "open" model of the Galaxy with part of the magnetic lines of force extending into the intergalactic space, an escape would be possible. But for the overwhelming majority of particles the paths to be covered would be so long and complex that the indicated lifetime would not be sufficient. In this way, also in the case of absence of reflection at the Galaxy boundaries, the loss in cosmic rays would be inconsiderable. The total number of cosmic particles at present in the Galaxy is estimated at  $10^{28}$ - $10^{29}$ . There are 6 figures.

Card 7/8

KORETS, M.A. (Moskva); PONIZOVSKIY, Z.L. (Moskva)

Radiation belts and auroras. Priroda 51 no.11:76-77  
N '62. (MIRA 15:11)

(Auroras)  
(Van Allen radiation belts)



KORETS, M.A. (Moskva)

Winter theoretical school on the physics of solids. Priroda  
51 [i.e. 52] no.5:104-106 '63. (MIRA 16:6)

(Solids)  
(Physics—Study and teaching)

ACCESSION NR: AP4042031

S/0026/64/000/007/0106/0108

AUTHOR: Korets, M. A. (Moscow)

TITLE: Detection of gravitational waves

SOURCE: Priroda, no. 7, 1964, 106-108

TOPIC TAGS: gravitational wave detection, gravitational wave measurement, gravitational wave propagation velocity, gravitational wave energy, gravitational wave energy flux

ABSTRACT: Most physicists agree that gravitational forces propagate with a finite velocity (apparently equal to light velocity). This indicates the existence of gravitational waves. A joint conference concerned with the problem of whether there are methods to detect gravitational waves and whether they provide sufficient sensitivity was held by a group of scientists in the field of relativistic astrophysics and members of the Academy of Sciences SSSR and by the Soviet Committee for Gravitation, on 15 June, 1964. A summarized report on this subject was presented by V. V. Braginskiy of Moscow State University. Ya. B. Zel'dovich and I. D. Novikov treated the fall of

Card 1/2

L 27 109-65 F29-2/FBD/EWT(d)/EWA(k)/EWO(j)/EWT(l)/EWO(k)-2/T/EEG(t)/EEG(l)/  
EWP(e)/EEG(b)-2/EWA(m)-2/EWA(h) Pn-l/Po-l/Ep-l/Pac-l/Pf-l/Peb/Pi-l/Pl-l IJP(c) 5/0026/65/000/001/0112/0114

ACCESSION NR: AP5003586

AUTHORS: Korets, M. A. (Moscow); Penizovskiy, Z. L. (Moscow)

TITLE: Laureates of the Nobel Prize in physics for the year 1964

SOURCE: Priroda, no. 1, 1965, 112-114

TOPIC TAGS: quantum, quantum physics, laser, maser, Nobel Prize

ABSTRACT: The authors discuss the awarding of the Nobel Prize in physics to N. G. Basov and A. N. Prokhorov of the Soviet Union and to Charles Townes of the United States, who independently proposed new principles of generation and strengthening of electromagnetic waves in quantum systems. Fundamental differences between macroscopic and microscopic generation of radio and light waves are discussed. It is noted that, although Albert Einstein set forth the principle of induced radiation, actual applied research on lasers and masers did not get under way until the 1950's. The current and potential uses of laser and maser radiation are discussed; the new technology is already in use as a means of working with very hard materials. The field of communications offers even more and broader horizons of usefulness. A quantum-generated communications beam might provide a million channels of communication, with cosmic interplanetary and even interstellar contact possible. Light

Card 1/2

76  
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ACCESSION NR: AP5003586

location is more accurate than radiolocation, as beams are less dispersed. Mention is made of the Soviet effort to establish laser contact with the moon and of the introduction of new developments into the fields of medicine, meteorology, and computing machinery. A brief biographical sketch of the two Soviet laureates is given.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: GP

NO REF SOV: 001

OTHER: 000

Card 2/2

KORETS, M.A. (Moskva); PONIZOVSKIY, Z.I. (Moskva)

Unsolved problems of astrophysics. Priroda 54 no.9:118-120

S '65.

(MIRA 18:9)

L 5249-66 FBD/EWT(1)/FCC/EWA(h) GW/MS-2

ACC NR: AP5025249

SOURCE CODE: UR/0026/65/000/009/0118/0120

AUTHOR: Korets, M. A. (Moscow); Ponizovskiy, Z. L. (Moscow)

ORG: none

TITLE: Relativistic astrophysics

SOURCE: Priroda, no. 9, 1965, 118-120

TOPIC TAGS: astrophysics, cosmic ray, cosmic radio source, galaxy, metagalaxy, special relativity theory, cosmology, astronomic conference

ABSTRACT: A session of the working committee on relativistic astrophysics met in May 1965 to discuss problems dealing with quasars and cosmic rays. On the basis of comparative energy-density studies, V. L. Ginzburg and S. I. Syrovatskiy have concluded that the cosmic rays in the vicinity of the earth cannot possibly be of metagalactic origin if there is isotropic cosmic-ray propagation in the metagalaxy and no cosmic-ray "pumping" mechanism in the Galaxy. S. B. Pikel'ner has advanced the theory that a kind of "magnetic bridge" exists between some galaxies such that the metagalactic cosmic rays are anisotropic and reach the

Card 1/3

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42  
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L 5249-66

ACC NR: AP5025249

Galaxy in significant quantities. Ginzburg rejects this theory on the ground that all evidence indicates a high degree of cosmic-ray isotropy. Ginzburg holds, rather, that the cosmic rays observed near the earth were created in the Galaxy as the result of the explosion of supernovae. I. S. Shklovskiy believes that some cosmic rays must come from those sectors of the metagalaxy in which their density is great as, for example, in the Centaur A radio galaxy where the cosmic-ray density is 100 times that in the Galaxy. However, many questions (galactic boundaries, mechanism of heating the metagalactic medium, and the mechanism of cosmic-ray generation and acceleration) remain unanswered.

On the matter of quasars Shklovskiy reports that five more quasars have been identified recently with optical sources. On the basis of red-shift observations, they are not less than 6—8 billion light years away. A rough model of a quasar shows a denser central part having a diameter of about 400 billion km surrounded by a gas envelope extending some 5—30 light years. This, in turn, is surrounded by a radiowave-emitting region extending hundreds of light years. The angular dimensions of a quasar have been found to decrease with wavelength and in the infrared region can have the same dimensions as the nucleus described. Shklovskiy maintains that quasars represent a normal active stage in the

Card 2/3

Card 2/2

ACC NR: AP7006044

SOURCE CODE: UR/0026/66/000/009/0117/0119

AUTHOR: Korots, M. A.; Ponizovskiy, Z. L.

ORG: none

TITLE: Cosmic maser

SOURCE: Priroda, no. 9, 1966, 117-119

TOPIC TAGS: maser, radio emission, strong magnetic field, star

ABSTRACT: Professor I. S. Shklovskiy reported on the most recent work on the radio emission of neutral hydrogen at a scientific session of the Division of General and Applied Physics of the Academy of Sciences. Shklovskiy feels that this radio emission is caused by the presence of a strong magnetic field. The ionized hydrogen (H II) will be situated within some sphere and the neutral hydrogen (H I) outside it. At the boundary the neutral hydrogen is "squeezed", its density  $\rho$  increases and the magnetic field will be of the order of  $\beta$ , where  $\beta$  is close to  $\frac{1}{2}$  and  $\rho \sim 10^{-18}$ , whereas the normal density of hydrogen is  $10^{-24}$ . With its increase there should be an increase of OH density. From the time of fluctuations of the spectral characteristic it can be determined that the size of the sphere is about  $10^{17}$  cm and its mass is  $\approx M_{\odot}$ . It can be expected that there can be a transition of hydroxyl molecules to

Card 1/2

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ACC NR: AP7006044

higher vibrational levels. In this case "pumping" should occur due to quanta of the infrared part of the spectrum. The induced "maser" radiation then should be observed at 5.1, 2.2 and 1.4 cm. Further observations are required to determine whether such radiation exists. Shklovskiy believes that a "cosmic maser" arises where there is a condensation of the interstellar medium with a density of approximately 30,000 times more than the mean value. Such condensations apparently are protostars. Due to the great intensity of radiation of such a maser radioastronomers can judge the birth of a star even in the most distant corner of the Galaxy. [JPRS: 38,937]

SUB CODE: 03, 20

Card 2/2

KORETS, N. P.

60/49716

USSR/Chemistry - Bismuth  
Chemistry - Colorimetric Analysis Jan 49

"Colorimetric Determination of Bismuth in Lead  
With the Aid of Thiourea," N. P. Korets, Far  
East Polytech Inst, 4 pp

"Zavod Lab" No 1

Describes a recently developed simple method of  
quickly and accurately determining the pH by  
quantitative precipitation of a basic bismuth  
nitrite. Shows that intensity of staining  
thioureaic complexes follows Lambert-Barr's Law.  
It was possible to determine exactly bismuth con-  
tent of 0.006%.

60/49716

ANDREYEV, A.S.; ~~KOBETS, N.P.~~

Determination of small amounts of bismuth in antimonial lead. Zav. lab. 22 no.5:538-540 '56. (MIRA 9:8)

1. Leningradskiy politekhnicheskii institut imeni M.I. Kalinina. (Bismuth--Analysis) (Lead-antimony alloys)

~~KOBETS~~ APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824620013-5

~~V.I.~~, otv.red.; ~~PRVZNER~~, A.S., zaveduyushchiy red.izd-va;  
TEMKINA, Ye.L., tekhn.red.

[Uniform time and pay standards for construction, assembly, and repair operations in 1960] Edinye normy i restsenki na stroitel'nye, montazhnye i remontno-stroitel'nye raboty, 1960 g. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam. Sbornik 2. [Earthwork] Zemlianye raboty. No.2 [Using hydraulic machinery in earthwork] Gidromekhanizirovannye zemlianye raboty. 1960. 135 p. (MIRA 13:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Tsentral'noye normativno-issledovatel'skoye byuro (TsNIB) Ministerstva stroitel'stva elektrostantsiy (for Konstantinovskiy, Yakubovskiy). (Wages) (Dredging machinery)

KORITS, R.B., inshener.

Calculating the fitting pins of machine attachments. [Isd]  
LCHITOMASH 24:305-325 '51. (MIRA 8:2)  
(Machine tools--Accessories and attachments)

KORETS, S.B.

Use of planning and accounting units in establishing documenta-  
tion. Trudy NTO sud.prom. 8 no.2:95-99 '59. (MIRA 13:5)  
(Shipbuilding--Accounting)

Card 1/3

UDC: 534.29:532.52

ACC NR: AP7000144

3) the threshold cavitation pressure in viscous medium

$$P_{\eta\eta} = p_a - p_H + 8\eta / \ln \frac{R}{R_0};$$

4) the frequency dependence of the threshold pressure

$$P_{\eta\eta} \sim \frac{(6\rho)^{1/2}}{\alpha^{1/2} r^{1/2}} A_0^{1/2} f^{1/2} \sim \text{const } f^{1/2};$$

5) the frequency dependence of the threshold pressure in terms of the amplitude of the sonic impact wave

$$P_{\eta\eta} \sim \frac{(6\rho)^{1/2} (P_0)^{1/2} r^{1/2}}{\xi^{1/2} \rho^{1/2} c^{1/2}} f^{1/2} \sim \text{const } f^{1/2},$$

where:  $p_a$  is the atmospheric pressure,  $p_H$  - the equilibrium vapor pressure,  $R$  - radius of cavity,  $R_0$  - initial radius of cavity,  $\sigma$  - the surface tension of liquid,  $\eta$  - viscosity of liquid,  $\gamma$  - ratio of specific heats,  $p_{cr}$  - critical pressure,  $P_{\eta\eta}$  - sonic threshold pressure,  $f$  - frequency,  $P_{\eta\eta}$  - threshold pressure in viscous medium,  $\alpha$  - coefficient of energy transfer of potential energy from liquid to sonic energy,  $\rho$  - the density,  $A_0$  - acoustical energy,  $c$  - velocity of sound in liquid,  $P_0$  - sonic pressure,  $\xi$  - a constant, and  $r$  - distance from center of bubble to the point at which the pressure is being measured. It is concluded that the cavitation

Card 2/3

ACC NR: AP7000144

threshold is determined by the inertial and viscous forces. The cavitation threshold is practically independent of frequency up to the frequency at which the inertial and viscous forces become equal to surface tension forces and to the hydraulic pressure. Orig. art. has: 23 equations.

SUB CODE: 20/ SUBM DATE: 07Apr65/ ORIG REF: 001/ OTH REF: 006

Card 3/3

KORETSKAYA, A.

Eleventh All-Union Conference on High Molecular Weight Compounds.  
Khim.volok. no.5:77-78 '59. (MIRA 13:4)  
(Macromolecular compounds--Congresses)

KORETSKAYA, A. I.

A. S. Shpital'nyi, E. A. Meos, and A. I. Koretskaya - "The structure of salts formed from diamines and dicarboxylic acids of the aliphatic series." (p. 571 )

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1950, Vol. 20, No. 4.



BALAKLEYTSEVA, L.F.; KORETSKAYA, A.I.; KUDRYAVTSEV, G.I.

Polyamidoesters and fibers based on them. Khim.volok no.6:31-34 '63.

(MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

KORETSKAYA, A.I.; KUDRYAVTSEV, G.I.; KONKIN, A.A.

Solid state polyesterification. Part 1: Solid phase polyesterification of p-acetoxybenzoic acid and low-molecular weight products of condensation of dimethyl terephthalate and ethylene glycol. Vysokom. soed 6 no.3:434-440 Mr'64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut iskusstvennogo volokna.

KORETSKAYA, A.I.; KUDRYAVTSEV, G.I.; KONKIN, A.A.

Copolycondensation of  $\alpha, \omega$ -amino acids with linear oligomers of polyethylene terephthalate. Vysokom. soed. 7 no.5:908-912 My '65.  
(MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna.

KOTOMINA, I.N.; KORUETSKAYA, A.I.

Branch conference of the workers of the synthetic fibers  
industry. *Khim.volok.* no.1:65-67 '59. (MIRA 12:8)  
(Textile fibers, Synthetic--Congresses)

S/183/60/000/02/14/025  
B004/B005

**AUTHORS:**

Koretskaya, A. I., Konstantinov, A. A., Vinogradov, G. V.

**TITLE:**

An Apparatus for Determining the Viscosity of Polyamide Resin Melts

**PERIODICAL:**

Khimicheskiye volokna, 1960, No. 2, pp. 36 - 39

**TEXT:** The authors describe a variation of the recording viscosimeter of the type AKV-2. Because of the high viscosity of polyamide resin melts, discharge is not through a capillary tube but through a concentric slit. The melt is pressed through the slit by means of a spring-loaded piston. To prevent oxidation, the viscosimeter is filled with nitrogen. Fig. 1 shows a diagram of the apparatus, Fig. 2 the component parts made of stainless steel, and Fig. 3 a total view. Figs. 4 and 5 show experimental results obtained with caprone resin in the form of graphs. There are 5 figures and 10 references, 5 of which are Soviet.

**ASSOCIATION:**

VNIIV (All-Union Scientific Research Institute of Synthetic Fibers)  
Koretskaya, A. I.; Institut neftekhimicheskogo sinteza AN SSSR  
(Institute of Petroleum-chemical Synthesis of the AS USSR)  
Konstantinov, A. A., Vinogradov, G. V.

Card 1/1

L 48594-65 EWT(m)/EFF(c)/EMP(j)/T/EN4(c) Pc-4/Pr-A REC

ACCESSION NR: AP5010235

UR/0183/65/000/002/0075/0075

AUTHOR: Volokhina, A. B.; Koretskaya, A. I.

TITLE: Fifteenth Conference on High-Molecular Compounds

SOURCE: Khimicheskiye volokna, no. 2, 1965, 75-76

TOPIC TAGS: polymer, chemical conference, macromolecular chemistry, heat property

ABSTRACT: The 15th Conference on High-Molecular Compounds, held 25--28 January 1965, was divided into two sections: the first section dealt with the synthesis of new polymers and the second, with polymer modification. Members of 60 scientific-research institutes and institutions of higher learning presented over 150 papers. The plenary session was marked by two presentations. V. V. Korshak discussed general reactions of polymer synthesis. He pointed out that yearly worldwide research produces about 50,000 new polymers, and that it is in the area of polymer synthesis that research yields its best results. N. M. Yegorov presented a paper on the fundamental problems of industry and science in the polymer area. He noted that the chemical industry is to play a larger part in the five-year

45  
28  
6

Card 1/4

L 48594-65

ACCESSION NR: AP5010235

plan for development of the national economy in 1966--1970. A correspondingly important place is assigned to the production of synthetic fibers.

Among the general papers read at section meetings of the Conference, the presentation of M. M. Koton (Institute of Macromolecular Compounds) was devoted to problems encountered in the production and evaluation of thermally stable polymers. The most advanced physicochemical measurement methods are necessary to determine the behavior of polymers at high temperatures. Thermal stability of polymers is greatly influenced by structural factors. While the introduction of methylene groups sharply decreases the thermal stability of aromatic polymers, the introduction of phenyl groups at the NH groups of polybenzimidazole has no noticeable effect, and incorporation of boron, phosphorus, silicon or ferrocene links in polybenzimidazole fails to improve its thermal stability. The high thermal stability of N-containing polymers of the polymellitimide type may result from the formation of stable free radicals on heating; the free radicals, in turn, promote cross-linking.

B. A. Krentsel (Institute of Petrochemical Synthesis) discussed physiologically active polymers, with regard to their synthesis as well as

Card 2/4

I 48594-65

ACCESSION NR: AP5010235

to effects of their structure and conformation on their physiological activity. It is desired to reduce their mutogenic effects to a minimum, while maintaining their therapeutic activity. Polymers containing sulfhydryl and imidazole groups offer potential protection from radiation damage.

In discussing basic problems of the synthesis of polymers which contain a system of conjugation, A. A. Berlin (Institute of Chemical Physics) noted the interesting properties of this class of polymers, in particular the paramagnetic properties.

In his paper on the physicochemical properties of graft and block copolymers, N. A. Plate included a discussion of heat-resistant polymers containing rings in the main chain.

Other members reported the synthesis of new polyamidopolysulfamides suitable for producing fibers with reactive sulfamide groups. Polyamidoesters with high melting points have been prepared. Polymers with benzimidazole and benzphosphorimidazole links in the main chain had been

Card 3/4



L 48594-65

ACCESSION NR: AP5010235

prepared at the Institute of Macromolecular Compounds; compounds containing pentavalent phosphorus exhibit the highest thermal stability. Synthesis of fiber-forming poly(ethylene sulfide) was reported by B. A. Dolgoplosk. Z. A. Rogovin presented data on the introduction of aldehyde groups into macromolecules of polyacrylonitrile, cyanoethylated cellulose, and graft copolymers of cellulose and polyacrylonitrile. Other papers dealt with the synthesis and modification of various linear polymers: polyphosphites, poly(alkylene phosphonates), heteroorganic polymers, polycarbonates, polybutadienes, ferrocene-containing polymers, and various polymers containing conjugated double bonds. Orig. art. has 6 figures.

ASSOCIATION: VNIIV

SUBMITTED: 00

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SUB CODE: 00, 00

NO REF SOV: 000

OTHER: 000

FSB, v. 1, no. 6

Card 4/4

ACCESSION NR: AP4030356

S/0190/64/006/003/0434/0440

AUTHORS: Koretskaya, A. I.; Kudryavtsev, G. I.; Konkin, A. A.

TITLE: A study of solid state polyesterification reaction. 1. Solid state polyesterification of p-acetoxybenzoic acid and of low molecular condensation products of dimethylterephthalate and ethyleneglycol

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 6, no. 3, 1964, 434-440

TOPIC TAGS: solid state, polyesterification, solid state polyesterification, p-acetoxybenzoic acid, dimethylterephthalate, ethyleneglycol, catalyst, boric acid, urea, benzidine, terephthalic acid, activation energy

ABSTRACT: The kinetics of solid state polyesterification of p-acetoxybenzoic acid (ABA) and of condensation of dimethylterephthalate (DMTP) with ethyleneglycol (EG) were studied in an atmosphere of nitrogen and in vacuum by the thermogravimetric technique. It was found that within 15 hours at 163C the polyesterification of ABA in a current of nitrogen was 7% complete, while at 168C (within 1-2 degrees of the melting point) it amounted to 14%. The addition of various catalysts caused a marked acceleration of the ABA polyesterification reaction, boric acid being the

Card 1/2

ACCESSION NR: AP4030356

most effective, then urea, benzidine, and terephthalic acid. The obtained ABA polymer had a melting point of 202-203C, was readily soluble in concentrated sulfuric acid (partly so in tricresol) and had a relative viscosity of 1.06-1.10. The investigation of the solid phase polyesterification reaction of DMTP and EG revealed that at 180C it took 360 minutes to reach a 60% completion, while in a 2 mm vacuum the reaction was 100% complete within 160 minutes. The authors assume that under vacuum the reaction has the characteristics of one of the 1.5 order. The activation energy of these reactions was calculated. V. V. Tikhomirova participated in the experimental work. Orig. art. has: 5 charts and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut iskusstvennogo volokna (Scientific Research Institute of Synthetic Fibers)

SUBMITTED: 28Feb63

DATE ACQ: 07May64

ENCL: 00

SUB CODE: CH

NO REF SOV: 008

OTHER: 011

Card 2/2

KORETSKAYA, E.

Development of business accounting on collective farms. Vop.  
ekon. no.6:144-152 Je '59. (MIRA 12:9)  
(Collective farms-accounting)

C.A. KORETSKIYA, G.A. 2

*Electron-microscope study of titanin sols and the mechanism of formation of colloidal particles. Z. Ya. Ierutseva, G. A. Koretskiya, and V. A. Kargin (Karpov Inst. Phys. Chem., Moscow). Kolloid. Zhur. 12, 338-41(1950); cf. C.A. 43, 7122g. -- Sols obtained by mixing  $TiCl_4$  with cold  $H_2O$  contain originally amorphous spheres (e.g. 0.2  $\mu$ ) which then crystallize within some hours. When  $TiCl_4$  is mixed with hot water, cryst. particles form at once. The crystals seem to be mixts. of rutile, anatase, and brookite. A new electronographic study showed that the spacings of rutile are a 4.88, c 2.95 A., anatase a 3.73, c 9.37 (contrary to literature data), and brookite a 9.20, b 5.44, c 5.14.*

J. J. Birkman

KORETSKAYA, I. A.

(Structure) of hydrocellulose film. V. A. Kargin, V. L. Kurov, V. S. Linnov, G. S. Alarkov & I. A. Koretskaya. Dokl. Akad. Nauk SSSR, 1945, 101, 767-769. It is shown to be entirely amorphous. K. P. Linnov.

0102

KORETSKAYA, L.A.

MALYUGA, D.P., kandidat sel'skokhozyaystvennykh nauk; KORETSKAYA, L.A.,  
kandidat khimicheskikh nauk; PETROV, V.A.

Middle Zeya endemic region. Priroda 44 no.9:112-113 S '55.  
(MLRA 8:11)

1. Dal'nevostochnaya ekspeditsiya Soveta po izucheniyu pro-  
izvoditel'nykh sil pri Akademii nauk SSSR  
(Zeya Valley--Cattle--Diseases)

KLOPOV, S.V., doktor tekhn.nauk; KORETSKAYA, L.A., kand.sel'skokhoz.nauk

Completion of Soviet-Chinese investigations in the Amur Basin.  
Vest.AN SSSR 32 no.8:85-87 Ag '62. (MIRA 15:8)  
(Amur Valley--Natural resources)



KORITSKAYA, Lidiya Aleksandrovna; KARAVAYEV, M.N., otvetstvennyy redaktor;  
KUL'TIASOV, I.M., redaktor izdatel'stva; ASTAF'YENVA, G.A.,  
tekhnicheskiiy redaktor

[Fodder resources of the Zeya-Bureya plain] Kornovye resursy Zeisko-  
Bureinskoi ravniny. Moskva, Izd-vo Akademii nauk SSSR, 1956. 77 p.  
(Amur Province--Forage plants) (MIRA 9:8)

KORETSKAYA, Lidiya Aleksandrovna; DOYARENKO, Ye.A., kand. biol.  
nauk, otv. red.; KOLPAKOVA, Ye.A., red. izd-va;  
TIKHOMIROVA, S.G., tekhn. red.; POLYAKOVA, T.V., tekhn.  
red.

[Nature and natural feed resources of the Amur Basin] Prirod-  
nye usloviia i estestvennye kormovye resursy basseina Amura.  
Moskva, Izd-vo Akad. nauk SSSR, 1962. 129 p. (MIRA 15:10)  
(Amur Province--Pastures and meadows)

KOVALEVSKAYA, A.N.; KOBITSKAYA, L.S.; SEREBRYAKOV, V.A., direktor.

Effectiveness of vaccinotherapy of bacterial dysentery in children. Vop.pediat.  
21 no.4:17-18 J1-Ag '53. (MLRA 6:10)

1. Tadshikskiy institut epidemiologii, mikrobiologii i gigiyeny.  
(Dysentery) (Vaccination)

KORETSKAYA, L. S., Docent, and OYVIN, V. I., Senior Scientific Associate

"The Pathogenesis of Bacillary Dysentery," a report presented at the First Conference of Pathologists of Central Asia and Kazakhstan held in Stalingrad, 12-15 Feb 1955, Ark. Patol., 17, No 3, pp 83-87, 1955

Abstrat Sum. 1003, 20 Jul 56

KORETSKAYA, L.S.

OYVIN, V.I.; KORETSKAYA, L.S.; KHASHIMOV, D.M.; VAYSBURD, K.A.

Distribution of antibodies in protein fractions of blood plasma of patients having acute dysentery [with summary in English]. Vop.med.khim. 3 no.3:190-194 My-Je '57. (MIRA 10:8)

1. Stalinabadskiy institut epidemiologii i gigiyeny, kafedra patofiziologii i kafedra infektsionnykh bolezney Stalinabadskogo meditsinskogo instituta imeni Avitsenny

(DYSENTERY, BACILLARY, immunol.)

antibody distribution in blood protein fractions (Rus)

KORETSKAYA, L.S., kand.med.nauk, dots.

Enteric bacterial infections in Tajikistan, their etiology and control.  
Zdrav.Tadsh. 4 no.6:34-38 N-D '57. (MIRA 11:4)

1. Zaveduyushchiy otdelom bor'by s kishchnymi infektsiyami  
Stalinabadskogo instituta epidemiologii i gigiyeny (direktor-  
dotsent M.Ya.Rasulov).

(TAJIKISTAN--INTESTINES--DISEASES)

KORETSKAYA, L.S.

OYVIN, V.I.; KORETSKAYA, L.S. (Stalinabad)

Electrophoretic study of blood serum in experimental dysentery in rabbits. Arkh.pat. 19 no.11:46-54 '57. (MIRA 11:1)

1. Iz otdela bor'by s kishhechnymi infektsiyami (zav. - dotsent L.S. Koretskaya) Stalinabadskogo instituta epidemiologii i gigiyeny i kafedry patologicheskoy fiziologii (zav. - prof. I.A.Oyvin) Stalinabadskogo meditsinskogo instituta imeni Avitsenny.

(DYSENTERY, BACILLARY, experimental,  
blood protein electrophoresis (Rus))

(BLOOD PROTEINS, in var.dis.  
exper. bacillary dysentery, electrophoresis (Rus))

COUNTRY USSR  
CATEGORY Microbiology  
ABS. JOUR. Ref Zhur-Biologiya, No.4, 1959, No. 14848  
AUTHOR Koretskaya, L.S.; Kovalovskaya, A.N.  
INST.  
TITLE Something New in the Etiology of acute Intestinal Disorder.  
ORIG. PUB. Zdravookhr. Tadzhikistana, 1958, No.2, 10-13  
ABSTRACT : No abstract

CARD: 1/1



KORETSKAYA, L.S.; KOVAIEVSKAYA, A.N.

Food toxoinfection caused by serotype o26:B6 of Escherichia coli;  
author's abstract. Zhur.mikrobiol.epid. i immun. 29 no.4:58 Ap  
'58. (MIRA 11:4)

1. Iz Stalinabadskogo instituta epidemiologii i gigiyeny.  
(ESCHERICHIA COLI, infections,  
026:B6 causing food pois. (Rus)  
(FOOD POISONING, case reports,  
E. coli 026:B6 (Rus)

KORETSKAYA, L.S.; KOVALEVSKAYA, A.N.; LEVINA, G.Ye.; LITVINENKO, R.M.

Peculiarities of colienteritis in Stalinabad and its relative weight in the sum total of acute intestinal diseases in children. Zdrav. Tadzh. 7 no. 2:32-37 Mr-Apr '60. (MIRA 13:10)

1. Iz Stalinabadskogo instituta epidemiologii i gigiyeny, Stalinabadskogo medinstituta im. Abuali ibni Sino i Detskoy infektsionnoy bol'nitsy.

(STALINABAD--INTESTINES--DISEASES)

KORETSKAYA, L.S.; KOVALEVSKAYA, A.N.; KAYUMOVA, M.K.

Test of the influence of gibberellic acid on the growth of some  
bacteria of the intestinal group. Zdrav. Tadzh. 7 no.5:61-62 '60.  
(MIRA 13:12)

(GIBBERELIC ACID)

(INTESTINES--BACTERIOLOGY)

KORETSKAYA, L.S.; BUSHUYEVA, G.I.

Detection of bacterial carriers of intestinal infections among patients with cholecystopathies. Zdrav.Tadzh. 9 no.3:30-32 My-Je '62. (MIRA 15:8)

1. Iz Dushanbinskogo instiuta epidemiologii i gigiyeny.  
(GALL BLADDER--DISEASES) (INTESTINES--DISEASES)

KORETSKAYA, L.S.; YELFIMOVA, V.Z.

Carrier state of pathogenic intestinal bacteria groups in Dushanbe.  
Zhur.mikrobiol., epid. i immun. 40 no.12:110-113 D '63.

(MIRA 17:12)

1. Iz Tadzhikskogo instituta epidemiologii i gigiyeny.

PISARENKO, V.I.; RAPOPORT, L.G.; KORETSKAYA, L.S.

Authors' abstracts. Zhurn. mikrobiol., epid. i immun. 42 no. 2:143  
F '65.

(MIRA 18:6)

1. Dushanbinskiy institut epidemiologii i gigiyeny.

KORETSKAYA, N. I

**AUTHORS:** Koretskaya, N. I.; Danilova, A. V.; Utkin, L. M. 79-2-58/58

**TITLE:** Synthesis of Harmine Derivatives. Part 1. (Sintez proizvodnykh garmina. I.)

**PERIODICAL:** Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 542-545 (U.S.S.R.)

**ABSTRACT:** This report describes the synthesis of certain harmine derivatives for pharmacological investigation. The new harmine derivatives were identified as Ind-N-(beta-diethylamino)-ethylharmine, dichlorohydrate; Py-N-chlor-(beta-diethylamino)-harmine ethylate, hydrochloride; Ind-N-benzylharmine; Py-N-iodomethylate Ind-N-benzylharmine; Py-N-chloromethylate of Ind-N-benzylharmine, ethyl ether of norharmine carboxylic acid. The authors obtained new derivatives of tetrahydroharmine, namely, Py-N-(beta-diethylamino)-ethyltetrahydroharmine; tetrahydronorharmine carboxylic acid.

~~6000~~ 1/2

There are 5 references, none of which are Slavic.

*A-U. Sci Res Chem Pharm. Inst. in  
S. Orelskaya*

AUTHOR: Koretskaya, N. I. 79-12-37/43

TITLE: Alkaloids From Peganum Harmala L. (Alkaloidy Peganum Harmala L.).  
I: On the Separation of Two New Alkaloids  
(I: O vydelenii dvukh novykh alkaloidov).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 12,  
pp. 3361-3364 (USSR)

ABSTRACT: The alkaloids contained in the "grave diggers" plant (Peganum harmala L), are subject to investigations for a long time already. Garmaline, garmine garmalol, M- peganine were separated from its seeds and the L - peganine from its blossoming stolons. Dried external parts of the plant from "Peganum harmala L" served as material for the present investigation, which were collected during their blossoming period in the promontory of the Kirgisian Ala-Tau by the leader of the expedition Massagetov P. S.. By means of an extraction with isopropyl alcohol alkaloids were isolated to a degree of 1'78 %, which mainly consisted of an alkaloid, which could be identified to be the dl-peganine (see the attached table!). From the resin-like residue the garmine (0,0025 %) and two new compounds could be isolated

~~Card 1/3~~



Alkaloids From Peganum Harmala L.  
I: On the Separation of Two New Alkaloids

79-12-37/43

by means of a chromatographic process ( $Al_2O_3$ ) after a separation of the peganine, that is to say, an alkaloid, number one, with the composition  $C_{11}H_{10}ON_2$  (0,094 %) and an alkaloid, number two, with the formula  $C_{11}H_{10}O_2N_2$  (0,054 %). For the purpose of a comparative investigation of the newly isolated alkaloids and the peganine, infrared absorption spectra were taken of them. The bands established from peganine corresponded to the (-OH) and (-N=C) groups, which verifies the assumed structure. The band, which is characteristic for the OH-group is missing in the spectrum of the alkaloid number one, the band originating from the (-N=C) group remains. There appears a band, however, which indicates a carbonylic bonding  $\alpha, \beta$  or an amidokarbonyl. The investigation of both alkaloids is continued. There are 1 table, and 7 references, 0 of which are Slavic.

Card 2/3

*A-U Sci Res Chem Pharm Inst.  
in J. Org. Chem.*

79-28-4-53/60

AUTHORS: Koretskaya, N. I. , Utkin, L. M.

TITLE: The Alkaloids in Peganum harmala L. (Alkaloidy Peganum harmala L.) II. On the Structure of Two New Alkaloids (II. O stroyenii dvukh novykh alkaloidov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 4, pp.1087-1089(USSR)

ABSTRACT: In a former article (Ref 1) the authors reported on the isolation of peganine (formula I), harmine and 2 new bases which were named alkaloid Nr 1 ( $C_{11}H_{10}ON_2$ ) and alkaloid Nr 2 ( $C_{11}H_{10}O_2N_2$ ) from the overground parts of the African rue (Peganum harmala L. ). In the present article the investigation of the structure of the newly isolated compounds is continued. The authors found that in the reduction of alkaloid Nr 1 with lithium-aluminum-hydride dihydro-desoxy peganine ( $C_{11}H_{14}N_2$ ) is formed (Refs 2, 3). The presence of a band at  $16\text{ cm}^{-1}$  in the ultra-red absorption spectrum (which is the band of the carbonyl group in acid amides) indicates that with this compound an oxo compound of desoxy peganin is concerned (Refs 2, 4). According to its properties and composition alkaloid Nr 1 agreed with 2,3-trimethylene quinazolone

~~Card 1/4~~

The Alkaloids in Peganum harmala L. II. On the Structure of Two New Alkaloids

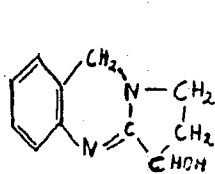
79-28-4-53/60

(4) formula II) described in technical publications (Ref 4). Their identity was proved by direct comparison of the two substances. The ultra-red absorption spectrum of alkaloid Nr 2 indicates that this compound contains a hydroxyl group besides an acid amide-like bound carbonyl group. This made possible the conclusion that alkaloid Nr 2 is an oxo-derivative of peganine, namely the 1,2,3-( $\alpha$ -hydroxy trimethylene)-quinazolone (4) (formula III). The racemate of this compound which forms during oxidation of d,1-peganine with hydrogen peroxide is described in technical publications. (Refs 4, 5). 1,2,3-( $\alpha$ -hydroxy trimethylene)-quinazolone (4) synthesized by the authors according to an analogous rule from 1-peganine proved to be identical with alkaloid Nr 2. By means of these investigations it was demonstrated that besides peganine the overground parts of the African rue contain compounds which are either decomposition products of peganine, or preliminary stages in the formation of this alkaloid in the plant. The part played by the mentioned compounds in the conversion processes of peganine may probably be explained by the investigation of the interactions of all three derivatives of 2,3-trimethylene

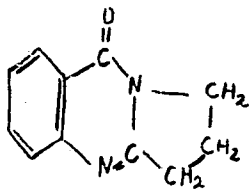
Card 2/4

The Alkaloids in *Peganum harmala* L. II. On the Structure of Two New Alkaloids 79-28-4-53/60

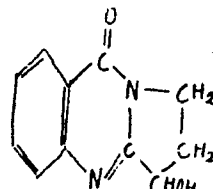
quinazoline in various stages of the growing of the plant.



(I)



(II)



(III)

It is interesting that in the reduction of 2,3(α-hydroxy trimethylene)-quinazolone (4) with zinc in diluted hydrochloric acid 2,3-trimethylene-quinazolone (4) and desoxy peganine was obtained.

The reactions mentioned in this work are described in detail in an experimental part. There are 6 references, 1 of which is Soviet.

Card 3/4

*A-U Chem. Pharm. Sci Res Inst. in S. Ordzhonikidze*

DANILOVA, A.V.; KOROTSKAYA, N.I.; SHVETS, Z.I.; UTKIN, L.M.

New method for obtaining platyphylline from *Senecio platyphyllus*.  
Med.prom. 14 no.4:28-30 Ap '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevti-  
cheskiy institut imeni S. Ordzhonikidze.  
(PLATYPHYLLINE)

LABENSKIY, A.S.; KORETSKAYA, N.I.

Effect of some factors on the formation of solasodine during  
the hydrolysis of the glycoalkaloids of *Solanum aviculare*. Med.  
prom. 15 no.3:41-42 Mr '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-garmatsevticheskiy  
institut imeni S.Ordzhonikidze.  
(ALKALOIDS)

DANILOVA, A.V.; KORETSKAYA, N.I.; UTKIN, L.M.

Structure of "renardin" alkaloid (from *Senecio renardi*). Part 2.  
Zhur. ob. khim. 31 no. 11:3815-3818 N '61. (MIRA 14:11)

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

DANILOVA, A.V.; KORETSKAYA, N.I.; UTKIN, L.M.

New alkaloid from *Senecio othonnae* M.B. Zhur.ob.khim.

32 no.2:647-648 F '62.

(MIRA 15:2)

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

(Alkaloids)



KORETSKAYA, N.I.; DANILOVA, A.V.; UTKIN, L.M.

Structure of jaconecic and jacolinecic acids. Zhur.ob.khim. 32  
no.4:1339-1345 Ap '62. (MIRA 15:4)

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

KORETSKAYA, N.I.; DANILOVA, A.V.; UTKIN, L.M.

Structure and interrelation between senecic and  
epoxyjaconecic acids. Zhur.ob.khim. 32 no.11:3823-3827  
N '62. (MIRA 15:11)

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

KORETSKAYA, N.I.; UTKIN, L.M.

New alkaloid from the plants *Vinca erecta* RGL. et Schmalh. Zhur.-  
ob.khim. 33 no.6:2065-2066 Je '63. (MIRA 16:7)

L. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevti-  
cheskiy institut imeni S.Ordshonikidze.  
(Alkaloids) (Vinca)

DANILOVA, A.V.; KORETSKAYA, N.I.

Structure and properties of seneciophylline. Zhur. ob. khim.  
35 no.3:584-587 Mr '65. (MIRA 18:4)

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

KORETSKAYA, N.I.; DANILOVA, A.V.; UTKIN, L.M.

Structure of the alkaloid ranardin. Part 3: Structure of  
dihydrodeoxyranonin. Khim.prirod.sost. 1:22-27 '55.

(MIRA 18:6)

I. Vsesoyuznyy nauchno-Issledovatel'skiy khimiko-farmatsevticheskiy  
Institut im. S.Ordzhenikida.

KHEYFITS, L.A., kand.khim.nauk; SIMANOVSKAYA, B.A.; PEREGUDOVA, Zh.A.;  
BELOV, V.N.; SHAPIRO, Ye.S., insh.; KORETSKAYA, P.S.,  
insh.

Industrial process for making museron (isobornyl-2-  
methylcyclohexanone). Masl.-shir.prom. 25 no.11:30-32  
'59. (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteti-  
cheskikh i natural'nykh dushistykh veshchestv (for  
Kheyfits, Simanovskaya, Peregudova, Belov). 2. Moskovskiy  
sinteticheskii zavod (for Shapiro, Koretskaya).  
(Odorous substances) (Cyclohexanone)

ABSTRACT AND PROPERTY INDEX

2

Structure of V<sub>2</sub>O<sub>5</sub> cat. E. Ya. Il'icheva, T. A. Karavaya, and V. A. Kargin. Doklady Akad. Nauk S.S.S.R. 20, 1121-4(1968).—Electron-microscope picture of V<sub>2</sub>O<sub>5</sub> cat. prepared according to bits (Ser. 37, 1000(1964)) by adding HCl to NH<sub>4</sub>V<sub>2</sub>O<sub>6</sub> and washing on the filter until the filtrate turned red, dry, and dialyzing, showed, under a magnification of 10000-10000, initial presence of sep. particles and small aggregates, growing linearly into long strands, without or with only very little branching. Thus, the particles can aggregate only at two "active" points. It contradicts any representation of a homogeneity of the surface of the particles. N. T.

638-368 METALLURGICAL LITERATURE CLASSIFICATION

EDOM SYNDICATE EDOM BOMIRV

108000 #2 108000 #10 04V 000

COLLECTION

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

KORETSKAYA, T. A.

37197. BERESTNEVA, Z. YA. i KORETSKAYA, T. A. i KARGIN, V. A. Elektronika  
roskopicheskoye issledovaniya siyozoley. Kolloidnyy Zhurnal, 1949, Vyp 6,  
s. 369-70

SO: Letopis' Zhurnal'nykh Statey, Vol 7, 1949



(A)

Electron-microscopic study of silica sols. Z. Ya. Burdakov, I. A. Kozlovskaya, and V. A. Kargin (Karpov Inst. Phys. Chem., Moscow). Kolloid. Zhur. 11, 300-70(1949). -- Drops of  $\text{SiO}_2$  sols evapd. on org. films and then

coated with Cr show structures of 2 types: (1) particles of 0.01-0.1  $\mu$  presumably originating from the colloidal  $\text{SiO}_2$  and (2) cracked structureless films presumably originating from the molecularly dissolved  $\text{SiO}_2$ . J. J. B.

CA

2

The mechanism of formation of colloidal particles of aluminum hydroxide. Z. Ya. Beresneva, T. A. Kuznetsova, and V. A. Kargin (Karpov Inst. Phys. Chem. Moscow). *Kolloid. Zhur.* 18, 323 (1956); *Ch. C.* 49, 926. — Al(OH)<sub>3</sub> sols were prepd. by mixing of AlCl<sub>3</sub> and NH<sub>3</sub> sols, and subsequent dialysis. Fresh sols contained spheres (visible in an electron microscope) showing no crystallinity (electron-diffraction patterns). A few days later the sol contained hexagonal structures. Some weeks later, microcrystals of hydrogillite were identified. The crystal. process was more rapid than for SnO<sub>2</sub>, but slower than for TiO<sub>2</sub> sol.  
J. J. Wilkerman

KORETSKAYA, T. A.

USSR/Chemistry (Colloid) - Vanadium Pentoxide Mar/Apr 52

"The Structure of Vanadium Pentoxide Solubles,"  
Z. Ya. Berestnyeva, T. A. Koretskaya, V.A. Kargin,  
Sci Res Phys Chem Inst imeni L. Ya. Karpov

"Kolloid Zhur" Vol XIV, No 2, 1952, pp 73-76

Electron diffraction diagrams of freshly prepd  $V_2O_5$  sols and of sols prepd by aging were obtained. The freshly prepd sols have amorphous structure. As they age, crystn sets in. After a few days, good interference pictures of polycrystals are obtained.

216#8

KORETSKAYA, T. A.

Chem. Abst.  
Vol 48, No. 9  
May 10, 1954

General and Physical Chemistry

The mechanism of formation of colloidal particles of a  
gold sol. Z. Ya. Berestneva, T. A. Koretskaya, and V. A.  
Kargin. *Colloid J. (U.S.S.R.)* 14, 437-44 (1952) (Engl.  
translation).—See C.A. 47, 3083d. H. L. H.

Chem

8-3  
JJP

KORETSKAYA, T. A.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 33/52

Authors : Kargin, V. A., Academician; Karpov, V. L.; Lipatov, Yu. S.;  
Markova, G. S.; and Koretskaya, T. A.

Title : About the phase condition of hydrate cellulose films

Periodical : Dok. AN SSSR 101/4, 707-709, Apr 1, 1955

Abstract : The phase condition of hydrate cellulose compounds obtained through three different methods was investigated by means of electrons with an energy of 90 kev. The existence of foreign crystalline inclusions in the cellulose films even after 3 days of thorough washing was established electronmicroscopically. A study of the entire conversion process - from isotropic, swollen hydrate cellulose into highly orderly arranged fibers - showed that the phase conversions do not affect the complete conversion process. The fact that cellulose compounds are amorphous was confirmed. Thirteen references: 10 USSR, 2 German and 1 USA (1917-1953). Table; illustrations.

Institution : .....

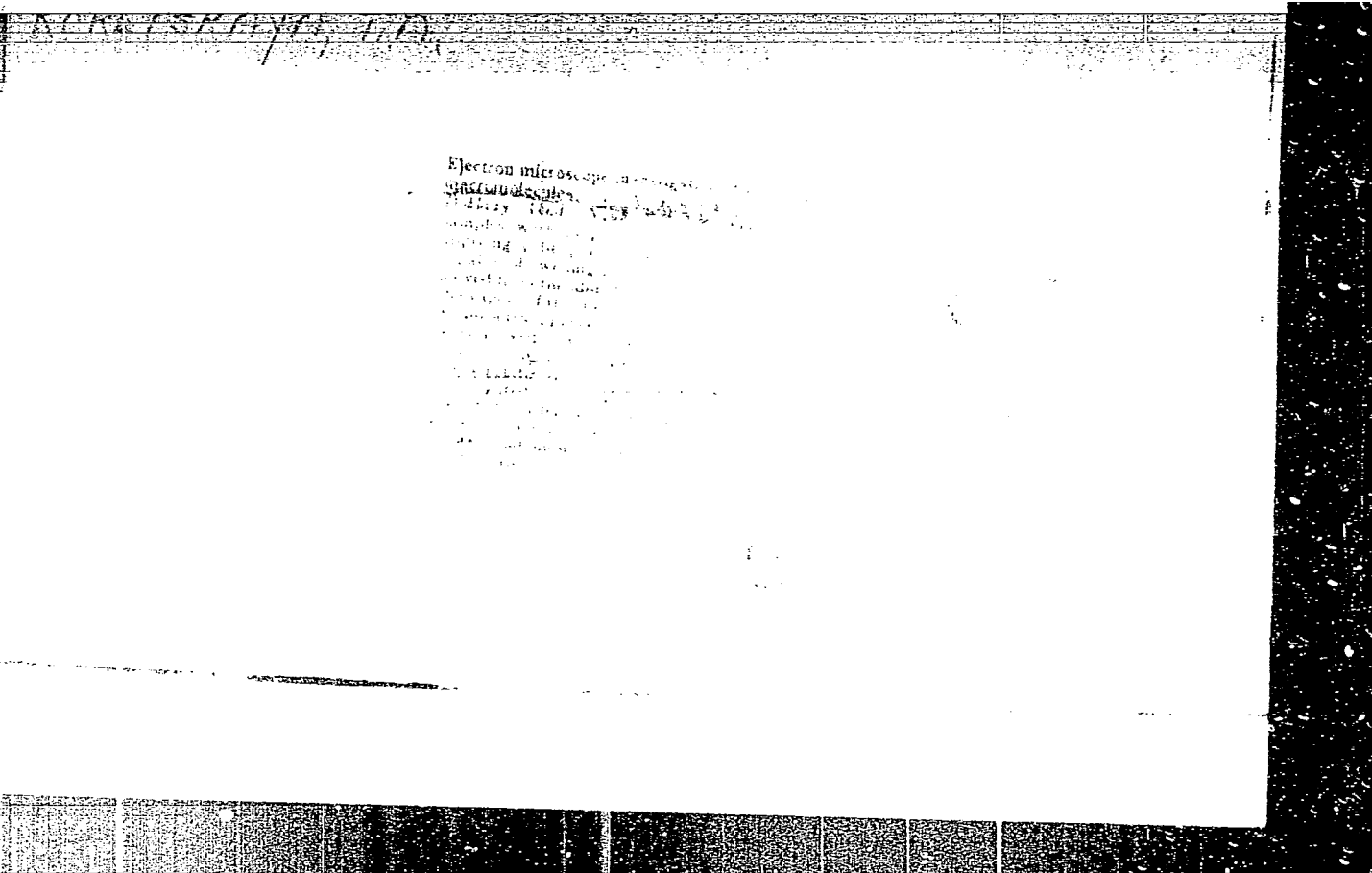
Submitted : November 11, 1954

Structures of silver sol  
skaya, and L. A. Kargin  
Stroev. N. and S. M. S.  
3083a - Electron microscopical  
tion patterns of Ag sol  
sols with Nylit and H<sub>2</sub>O  
first amorphous and then

3

scope. An escape rate not higher than  
must be maintained. The temperature  
to electron irradiation.

Phon Chem Inst. L. Ya. Kargin



KARGIN, V.A.; GORINA, A.A.; KORETSKAYA, T.A.

Electron microscope study of the mechanism of sintering of  
polytetrafluoroethylene (fluoroplast-r). Vysokom.soed. 1  
no.8:1143-1147 Ag '59. (MIRA 13:2)

1. Nauchno-issledovatel'skiy institut plasticheskiikh mass.  
(Ethylene)



KARGIN, V.A.; KORETSKAYA, T.A.

Mechanism of formation of polymer crystals. Part 1. Vysokom.  
soed. 1 no.11:1721-1723 N '59. (MIRA 13:5)

1. Fiziko-khimicheskiy institut imeni L. Ya.Karpova.  
(Polymers) (Crystals)

KARGIN, V.A.; KORETSKAYA, T.A.

Electron microscope study of the effect of oleic acid on the  
development of secondary structures in polyethylene. Vysokom.  
soed. 5 no.11:1729-1733 N '63. (MIRA 17:1)

1. Fiziko-khimicheskiy institut imeni Karpova.

S/020/65/149/002/026/028  
B101/B144

AUTHORS: Kargin, V. A., Academician, Koretskaya, T. A., Bogayevskaya, T. A.

TITLE: Transition of flat structures of isotactic polystyrene into spherulithes

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 2, 1963, 370

TEXT: Amorphous isotactic polystyrene was applied from toluene or xylene solution at 110°C to a film support. Examination with the electron microscope showed that amorphous particles of different shape had formed. Furthermore, intensive structural changes were observed on heating at 140 - 180°C in solid state. Nuclei of spherulithe formation occur. In crystallized polystyrene, initially laminated crystals form which grow by the helical mechanism analogously to polyethylene and paraffin. Then the edge of the faces doubles, and folds are formed from which fibrils and spherulithes arise.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

Card 1/2

Transition of flat structures of ...

S/020/63/149/002/026/028  
B101/B144

SUBMITTED: December 26, 1962

Card 2/2

L 9069-55 EWT(m)/EWP(j) Pt-4 RAEM(t)/ASD(a)-5/AFWL RM

3/0190/54/1006/003/0441/0443

ACCESSION NR: AP4030357

AUTHORS: Kargin, V. A.; Koretskaya, T. A.; Bogayevskaya, T. A.

TITLE: Crystallisation of isotactic polystyrene

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 6, no. 3, 1964, 441-443

B

TOPIC TAGS: polystyrene, isotactic polystyrene, amorphous isotactic polystyrene, toluene, xylene, decaline, bundle formation, spherulite formation, crystallisation

ABSTRACT: The objective of the present investigation was to clarify the structure-formation processes in solid polymers at temperatures above the vitrification point. Isotactic polystyrene was selected for this study since it crystallizes in two stages at a lower rate, thus facilitating the study of the separate stages. The investigation was conducted with an electron microscope. The solutions in xylene, toluene, and decaline, and on the solid state appear. When the solutions (prepared at the boiling points of the respective solvents) were evaporated at 110C, the polystyrene was amorphous. When the polystyrene was dissolved in xylene at 95-97C and then allowed to cool to 25C, spherulite-like structures separated out. Solutions of isotactic polystyrene in decaline (when allowed to cool down to 25C) yielded amorphous fibrous structures.

L 7009-65

ACCESSION NR: AP4030357

On heating to 120C, these acquired a crystalline structure, forming bundles. It was further shown that isotactic polystyrene, obtained in an amorphous state from solutions in xylene, toluene, or decaline, when heated to 110-200C produced crystalline plates or planes which became twisted, forming fibrils, bundles, and spherulites. It was shown that the nature of the solvent greatly influenced the structure of isotactic amorphous polystyrene and that a partial crystallization of these structures takes place at low temperatures. The crystallization systems. Orig. art. has 12 pages, 2 plates, 1 diagram.

Nauchno-issledovatel'skiy fiziko-khimicheskiy institut (Scientific Institute of Physical-Chemical Institute)

Mar 1965

NO REF 3071 000

NOV 1965

THRU 1965

RAPOPORT-MOLODTSOVA, N.Ya.; BOGAYEVSKAYA, T.A.; KORETSKAYA, T.A.;  
SOGOLOVA, T.I.; KARGIN, V.A., akademik

Fibrous structures and the formation of an isotactic polystyrene  
jelly. Dokl. AN SSSR 155 no. 5:1171-1173 Ap '64. (MIRA 17:5)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.

L 27308-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6008975

SOURCE CODE: UR/0190/65/007/011/1927/1929

AUTHORS: Konstantinopol'skaya, M. B.; Koretskaya, T. A.; Berestneva, Z. Ya.; Kargin, V. A. 27  
3ORG: Physico-Chemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)TITLE: Structure formation in regular polyamides, 5SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1927-1929

TOPIC TAGS: polymer structure, polymer nylon, electron microscopy

ABSTRACT: The present investigation is an extension of earlier published work by M. B. Konstantinopol'skaya, Z. Ya. Berestneva, and V. A. Kargin (Vysokomolek. soyed., 7, 420, 1965). The polymorphism of 6, 6-6, and 6-10 nylons was studied as a function of the temperature and nature of solvent. The form of the crystallites was determined by means of an electron microscope. It was found that, depending on the experimental conditions, two types of crystal forms were formed, viz.: plates and fibrilles. The formation of the latter was enhanced by shortening the time of secondary structure formation, e.g. rapid evaporation of solvent, addition of precipitating agent, and recrystallization of the polymer from the melt. Several electron microscope slides are presented. Orig. art. has: 12 photographs.

SUB CODE: 11/ SUBM DATE: 16Dec64/ ORIG REF: 002

Card 1/1 2

UDC: 678.01:53+678.675 2



L 37085-66 EWP(j)/EWT(m)/T IJP(c) RM

ACC NR: AP6015059

SOURCE CODE: UR/0190/66/008/005/0949/0951

AUTHORS: Korotakaya, T. A.; Sogolova, T. I.; Kargin, V. A. 14

ORG: Physico-Chemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut) B

TITLE: Electronmicroscopic investigation of the crystallization of polymers in the presence of artificial crystallizing agents

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 949-951

TOPIC TAGS: polypropylene plastic, polyethylene plastic, electron microscopy, crystallization/ JEM-5Y electron microscope

ABSTRACT: The effect of high melting, low molecular weight additives (e.g., bismuth salicylate-I, titanium oxalate, copper naphthionate-II, zirconium oxalate-III, silica gel, etc) upon crystallization of polypropylene and high and low density polyethylene was investigated by means of electronmicroscopy. The study was performed using electron microscope JEM-5Y. The samples of crystallizing agents were introduced as suspensions into the solutions or melts of the polymers. Independently of their chemical structure, the artificial nuclei result in orientation of the polymer at the polymer-nucleus interphase and are effective when the supramolecular spherulitic and dendritic structures are formed. The structures formed in the presence of nuclei are similar in their morphology to those formed in the absence of the artificial nuclei.

Card 1/2

UDC: 678.01:53

KORETSKAYA, T.F.; ZHOLKEVICH, V.N.

Effect of dehydration on the capacity of tissues of *Vicia faba* for oxidizing glutamic acid. *Fiziol. rast.* 11 no.1: 87-92 Ja-F '64. (MIRA 17:2)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.

KORETSKAYA, T.F., ZHOLKEVICH, V.N., KHOLLER, V.A., (USSR)

"Measurements of the Energy Balance of Plant Tissues  
at Different Water Saturation Levels."

Report presented at the 5th Int'l. Biochemistry Congress,  
Moscow, 10-16 Aug 1961.

ZHOLKEVICH, V.N.; <sup>5</sup>KORETZKAYA, T.F.

Metabolism of pumpkin roots in dry soil. Fiziol.rast. 6 no.6:  
686-698 M-D '59. (MIRA 13:4)

I. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy  
of Sciences.

(Plants, Effect of aridity on)  
(Roots (Botany))  
(Plants--Metabolism)

KORZHUYEV, P.Z.; KORETSKAYA, T.I.

Some ecologico-physiological characteristics of birds and flying  
mammals. Zhur.ob.biol. 20 no.5:390-397 S-0 '59. (MIRA 13:1)

1. Institut morfologii zhivotnykh im. A.N. Severtsova AN SSSR.  
(BIRDS) (BATS) (MORPHOLOGY (ANIMALS))

KORETSKAYA, T.I.

(Moskva)

Study of hepatopoiesis in experimental uremia. Pat. fiziol. i  
eksp. terap. 7 no.3:50-55 My-Je'63 (MIRA 17:4)

1. Iz patofiziologicheskoy laboratorii (zav. - chlen-korres-  
pondent AMN SSSR N.A. Fedorov) Tsentral'nogo ordena Lenina insti-  
tuta gematologii i perelivaniya krovi (dir. - dotsent A. Ye.  
Kiselev) Ministerstva zdravookhraneniya SSSR.

KRASHILINA, A.Ya.; TARENT'YEVA, E.I.; KORETSKAYA, T.I.; ZARETSKIY, I.I.  
(Moskva)

Experimental investigations of the general toxic and antileukic  
action of the antibiotic 6270. Pat. fiziol. i eksp. terap. 5 no.2:  
21-26 Mr-Ap '61. (MIRA 14:5)

1. Iz Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya  
krovi Ministerstva zdravookhraneniya SSSR (dir. - deystvitel'nyy  
chlen AMN SSSR prof. A.A.Bagdasarov).  
(ANTIBIOTICS) (LEUKEMIA)

ZARETSKIY, I.I.; KRASHILINA, A.Ya.; TEREENT'YEVA, E.I.; KORETSKAYA, T.I.

Study of the action of some antineoplastic antibiotics on mouse leukemia. Vop.onk. 7 no.11:68-75 '61. (MIRA 15:5)

1. Iz Tsentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi Ministerstva zdravookhraneniya SSSR (dir. - deystv. chl. AMN SSSR prof. A.A. Bagdasarov).  
(LEUKEMIA) (ANTIBIOTICS) (CYTOTOXIC DRUGS)



KORZHUYEV, P.A.; KORETSKAYA, T.I.

Ecologic and physiologic characteristics of the blood in shrews and moles.  
Trudy Inst. morf. zhiv. no. 41:129-136 '63. (MIRA 16:4)  
(Shrews) (Moles (Animals)) (Blood)

33695

S/076/62/036/002/007/009  
B152/B110

5.2410

AUTHORS: Makarov, A. V., Koretskaya, T. V., and Panchenkov, G. M.

TITLE: Zone melting separation of boron isotopes

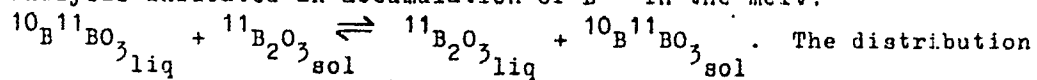
PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 2, 1962, 391 - 393

TEXT: In this study, the suitability of zone melting for the separation of boron isotopes has been tested. Boron anhydride  $B_2O_3$  was used for the purpose. The boron anhydride was filled into a stainless steel tube in such quantity that in the molten state about half the tube was full. During the experiment the tube moved at a certain velocity through a furnace heated to 700 - 800°C. In order to obtain a melting zone as narrow as possible, two water-cooled glass coolers were placed on either side of the furnace. After the experiment the sample taken from the tube was analyzed in the form of  $Na_2B_4O_7$  in a mass spectrometer. Six experiments were made altogether, using different rates (1.5 - 0.15 cm/hr), tubes of different dimensions (l = 45 - 50 cm), and a varying number of passages through the melting zone (1 - 25). The mass-spectrometric Card 1/2

33695

S/076/62/036/002/007/009  
B152/B110

Zone melting separation...

analysis indicated an accumulation of B<sup>11</sup> in the melt:

The distribution coefficient is, however, very small. Therefore, zone melting is not suitable for the concentration of boron isotopes. A. M. Kolchin, Z. F. Kolchina, and V. F. Malakhov are thanked for analyses. There are 1 figure, 1 table, and 8 references: 2 Soviet and 6 non-Soviet. The four references to English-language publications read as follows: J. C. Posey, H. A. Smith, J. Amer. Chem. Soc. 79, 555 (1957); H. A. Smith, C. O. Thomas, J. Phys. Chem., 63, 445 (1959); R. E. Weston, Geochim. et cosmochim. acta, 8, 281, 1955; Japanese Patent 768 ('58), February 12, 1958, C. A. 1959, no. 9, 7820d. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 20, 1961

Card 2/2

KORETSKAYA, Yu. M.

LOGINOV, V.K., Kandidat meditsinskikh nauk; KORETSKAYA, Yu.M.

Phthiv<sub>2</sub>id for treating pulmonary tuberculosis in patients with  
lepromatous lesions. Probl.tub. 34 no.6 supplement; 11 N-D '56.

(MLRA 10:2)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo instituta po izuche-  
niyu lepry (dir. V.F.Shubin, nauchnyy rukovoditel' - prof. I.N.  
Perevodchikov.

(ISONICOTINIC ACID) (TUBERCULOSIS) (LEPROSY)