SAUSHKIN, Yu.G.; SOLOV'YEV, A.I.; YEFREMOV, Yu.K.; KOTEL'NIKCV, V.L.;
         IOFA, L.Ye.; DANTSIG, B.M.; BARKOV, S.A.; GRUZINSKAYA, V.A.;
         BARKOVA, G.Ye.

         V.A.Kondakov, 1886-1959; obituary. Vop. geog. no.54:174-176
         '61.   (MIRA 15:3)
                    (Kondakov, Vadim Aleksandrovich, 1886-1959)

BARKOV, Sergey Aleksandrovich, dots.; RONZHINA, Nadezhda Mikhaylovna,
dots.; TAL'SKIY, D.A., red.; GARINA, T.D., tekhn. red.

[Qualitative analysis; the semimicromethod] Kachestvennyi
analiz; polumikrometod. Izd.2. dop. Moskva, Vysshaia shkola,
1962. 267 p.   (MIRA 16:4)
                 (Chemistry, Analytical--Qualitative)

ZHIRNOVA, N.M.; ASTAKHOV, K.V.; BARKOV, S.A.

Spectrophotometric study of the complexing of indium (III) with ethylenediaminetetracetic and nitrilotriacetic acids. Zhur. fiz. khim. 39 no.5:1224-1228 My '65.   (MIRA 18:8)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni V.I. Lenina.

ZHIRNOVA, N.M.; ASTAKHOV, K.V.; BARKOV, S.A.

Spectrophotometric study of iron (III) and indium (III) complex
formation with hexamethylenediaminetetraacetic acid. Zhur.fiz.khim.
39 no.7:1787-1791 Jl '65.   (MIRA 18:8)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni V.I.
Lenina.

SHLEROVA, L.M.; ASTAKHOV, K.V.; BARKOV, S.A.

Spectrophotometric study of the complex formation of iron (III), neodymium (III), and indium (III) with N,N,N'-tetraacetic acid or 2,2'-diaminodiethyl ester. Zhur.fiz.khim. 39 no.11:2791-2795 N '65.   (MIRA 18:12)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni V.I.Lenina.

L 31514-66   EWT(m)/EWP(j)   RM

ACC NR: AP6008093

SOURCE CODE: UR/0076/66/040/002/0417/0421

AUTHOR: Zhirnova, N. M.; Astakhov, K. V./Barkov, S. A.

ORG: Moscow State Pedagogical Institute im. V. I. Lenin (Moskovskiy gosurdarstvennyy pedagogicheskiy institut)

7   39
        B

TITLE: Spectrophotometric study of complexing between indium (III) and diethylenetriaminepentaacetic acid

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 2, 1966, 417-421

TOPIC TAGS: acetic acid, complex molecule, indium compound, equilibrium constant, dissociation constant

ABSTRACT: Complexing between indium and the complexon diethylenetriaminepentaacetic acid in acid media (up to pH 3) was studied by using a series of solutions with a constant concentration of complex-forming ions (neodymium and indium perchlorates) and a variable concentration of the complexon. Also employed was a series of solutions with a constant concentration of the colored complex-forming ion $Fe(III)$ and complexon, and a variable concentration of the colorless complex-forming ion $In(III)$. The equilibrium and dissociation constants of the complex formed by indium with the complexon were determined spectro-photometrically on these solutions. The indium-diethylenetriaminepentaacetic acid complex was found to have a 1:1 composition. The average value of the equilibrium constant was

Card 1/2   UDC: 541.49

L 31514-66

ACC NR: AP6008093

found to be 8.1, and the value of the dissociation constant, 3.8×10^{-29} ($pK_H = 28.42$).
Orig. art. has: 3 figures, 1 table, and 4 formulas.

SUB CODE: 07 / SUBM DATE: 26Nov64 / ORIG REF: 003 / OTH REF: 008
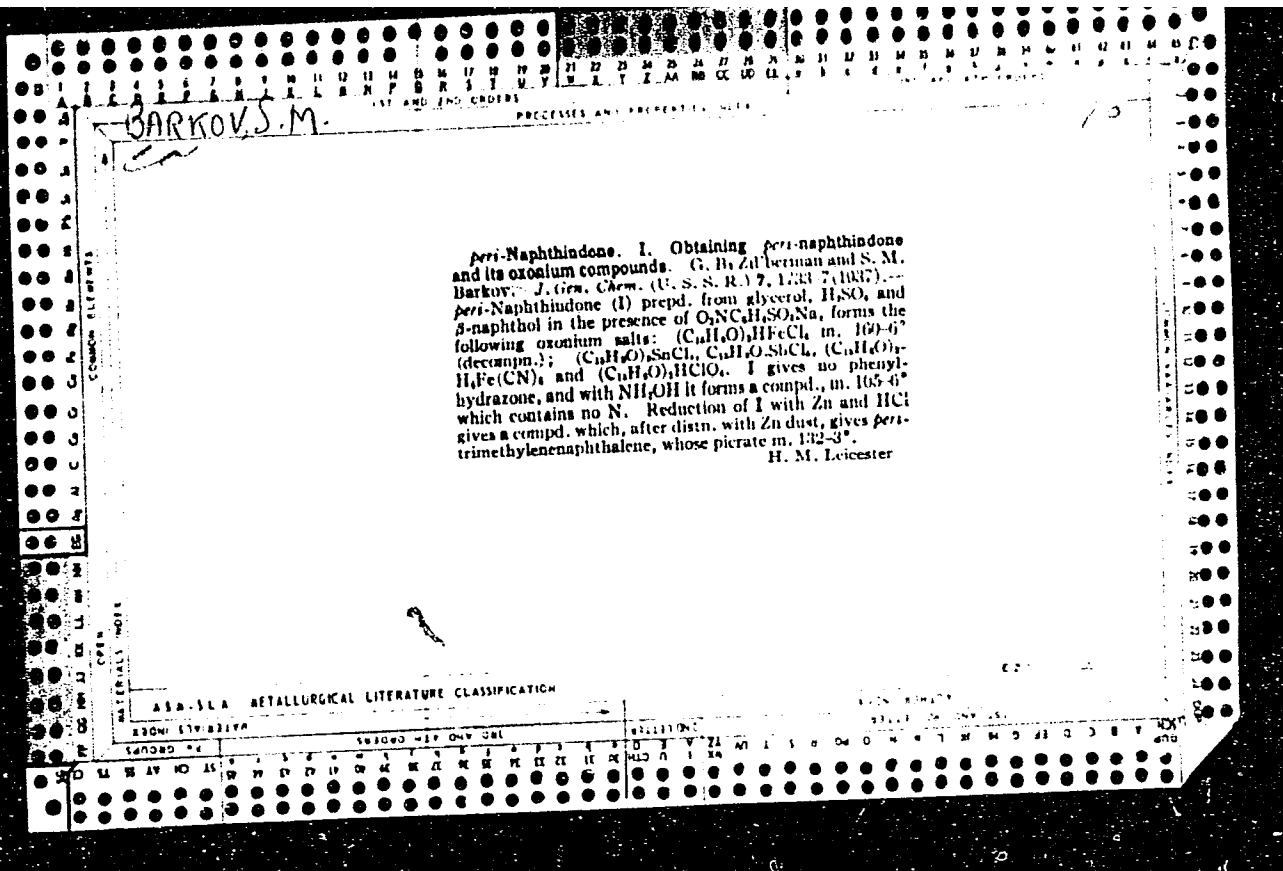
Card 2/2 mc

BARKOV, S. G.

"Device for Testing Fabrics for Abrasion," Tekst. prom., 12, No.8, 1952

BARKOV, S.U., insh.; YUDINA, G.I., nachal'nik montazhnogo truchalk

Instrument for determining the amount of external defects in flax yarn. Mashinostroitel' no.7 15-16 Ji '61.
(MIRA 18:4)

BARKOV. S. M.

peri-Naphthindone. I. Obtaining *peri*-naphthindone and its oxonium compounds. G. B. Zil'berman and S. M. Barkov. *J. Gen. Chem.* (U. S. S. R.) 7, 1233-7 (1937).— *peri*-Naphthindone (I) prepd. from glycerol, H₂SO₄ and β-naphthol in the presence of O₂NC₆H₃SO₃Na, forms the following oxonium salts: (C₁₃H₈O)₂HFeCl₄ m. 160-6° (decompn.); (C₁₃H₈O)₂SnCl₆, C₁₃H₈O.SbCl₅, (C₁₃H₈O)₂-H₂Fe(CN)₆ and (C₁₃H₈O)₂HClO₄. I gives no phenyl-hydrazone, and with NH₂OH it forms a compd., m. 105-6° which contains no N. Reduction of I with Zn and HCl gives a compd. which, after distn. with Zn dust, gives *peri*-trimethylenenaphthalene, whose picrate m. 132-3°.

H. M. Leicester

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

BARKOV, V.

We are feeding birds.   IUn.nat.no.9:36-37 D '56.   (MLRA 10:2)

1. Zaveduyushchiy Mytishchinskim lesoparkom.
        (Birds--Food)

BARKOV, V.

Forest trips. IUn.nat. no.5:24-25 My '60.

(MIRA 13:6)

1. Direktor Mytishchinskogo lesoparka.
            (Forests and forestry)

BARKOV, V.

Hedge. IUn. nat. no4:5-6 Ap '61.   (MIRA 14:3)

(HEDGES)

BARKOV, V., lesovod; ALIN, Yu.; GALIN, A., geolog

For the young geographers. IUn. nat. no.5:16-17 My '63.
(MIRA 16:7)
(Nature study)

BARKOV, V.A.

New centering device for contact lenses. Med.prom. 14 no.4:
42-44 Ap '60.   (MIRA 13:6)

1. Nauchno-issledovatel'skiy institut glaznykh bolezney imeni
Gel'mgol'tsa.
                        (CONTACT LENSES)

YASNITSKIY, P.A., prof. (Perm'); BEROV, V.P., dotsent (Perm')

Development of therapeutic departments at the Perm Medical
Institute. Trudy Perm. gos. med. inst. 43:105-109 '65.
(MIRA 17:6)

SONDAREVA, T.N., BARKOVSKIY, V.F., VEL'SK... , V.

Complex compounds of tetravalent cerium with sulfate ions.
Zhur. neorg. khim. 10 no.1:127-131 Ja '65.   (MIRA 18:11)

1. Ural'skiy gosudarstvennyy universitet imeni Gor'kogo.
Submitted July 11, 1965.

L 04894-67   EWT(1)   GW/GD

ACC NR: AT6027225   SOURCE CODE: UR/0000/66/000/000/0191/0195

AUTHOR: Barkov, V. F.; Shinarev, V. N.; Chistyakov, V. F.

ORG: none

TITLE: Investigation of a DFS-13 spectrograph

SOURCE: AN SSSR. Sibirskoye otdeleniye. Sibirskiy institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln. Issledovaniya po geomagnetizmu i aeronomii (Studies in geomagnetism and aeronomy). Moscow Izd-vo Nauka, 1966, 191-195

TOPIC TAGS: spectroscope, solar telescope, electronic device, timing device /ATs U-23 solar telescope, DFS spectrograph

ABSTRACT: A modified version of the DFS-13 diffraction spectrograph is described which is employed in combination with a ATsU-23 horizontal solar telescope at the Ussuriysk solar station (Ussuriyskaya solnechnaya stantsiya). The modification, consisting of providing automatic control of the electronic timer, makes the spectrograph suitable for astronomic observations. The diffraction grating of the spectrograph is 120 x 60 mm in size, has 600 line/ mm, and concentrates 82% of the reflected light at the wavelength $\lambda = 4047$ Å. The first-order

Card   1/2

L 04894-67

ACC NR: AT6027225   /

linear dispersion is 4 Å/mm; it increases slightly with the wavelength. The instrument pro-
file, determined from the neon lines, is represented by an empirical formula in the form of
the sum of three Gaussian curves. The half-width of the profile is 0.086 Å. The device is
focused photographically onto an Agfa Printon plate, first roughly then exactly. The linear
dispersion (established from photographs of the mercury and neon spectra in the center of the
solar disc) increases monotonically with the wavelength and equals 4.09 Å/mm for λ = 4200 Å
and 4.06 Å/mm for λ = 6000 Å. Light scattering, produced essentially at the various optical
surfaces and by reflection from the walls and the internal elements of the device, is reduced
by several diaphragms. The scattered light makes up only 0.4% of the incident light at 6000 Å,
0.9% at 4500 Å, and 1.4% at 3500 Å. In combination with the ATsU-23, the spectrograph has
made it possible to study the physical processes in the active regions of the sun. Orig. art.
has: 3 formulas and 6 figures.

SUB CODE: 17,20/   SUBM DATE: 25Dec65/   ORIG REF: 005

Card   2/2

BARKOV, V.G.

Love and protect the nature of our country! Biol. v shkole no.1:
51-53 Ja-F '58.   (MIRA 11:1)

1. Mytishchinskiy lesopark.
        (Nature study) (Mytishchi--Forest reserves)

BARKOV, Valeriy Grigor'yevich, lesnichiy; DERIM-OGLY, Ye.N., kand.
biol. nauk, red.; SULTANOVA, N., red.; PAVLOVA, S., tekhn.
red.

[Along the forest path; a forester's notes]Na lesnoi trope;
zapiski lesnichego. Izd.2., dop. Moskva, Mosk. rabochii,
1962. 157 p.   (MIRA 15:9)
                    (Natural history)

BARKOV, V.G.

Forest on wasteland. Priroda 51 no.7:68-73 Jl '62. (MIRA 15:9)

1. Mytishchinskoye lesoparkovoye khozyaystvo.
(Mytishchi region--Reforestation)

BARKOV, Valeriy Grigor'yevich

    A forester. IUn. nat. no.9:18-19 S '62.   (MIRA 16:5)

    1. Direktor Mytishchinskogo lesoparka Moskovskoy oblasti.
        (Mytishchi region--Forestry as a profession)

BARKOV, V.G.

Attracting useful birds. Biol. v shkole no.3:88-89 My-Je '63.
(MIRA 16:10)

1. Mytishchinskoye lesoparkovoye khozyaystvo, Moskovskaya oblast'.

AUTHOR: Barkov, V.I.

TITLE: Non-Conservative Radiative Transfer in a Uniform Medium

PERIODICAL: Optika i spektroskopiya, 1960, Vol. 9, No. 3, pp. 376-385

TEXT: Radiative transfer in a uniform infinite medium containing a point source of radiation was discussed by Ambartsumyan (Ref. 1) and Chandrasekhar (Ref. 2). A similar problem dealing with neutron diffusion in uniform media occurs in nuclear physics. The problem was also dealt with by Marshak (Ref. 3) who discussed the Milne problem for a sphere, which is applicable in estimating the explosive power of a nuclear detonation (Ref. 4). The present author solves the integro-differential equation of radiative transfer by using finite sums in place of integrals. The method is equivalent to the spherical harmonics approach and its advantage is its rapid convergence in low-order approximations. The author derives general expressions for the mean intensity and for radiation flux in the n-th approximation. The paper is entirely theoretical. Acknowledgment is made to M.A. Yel'Yashevich for suggesting the subject and for his advice. There are 7 references: 3 Soviet, 3 English and 1 translation from English into Russian.

SUBMITTED: June 20, 1959

Card 1/1

S/051/63/014/004/015/026
E039/E420

AUTHOR: Barkov, V.I.

TITLE: Radiation transfer in a uniform sphere with a central
               point source

PERIODICAL: Optika i spektroskopiya, v.14, no.4, 1963, 537-544

TEXT: The luminosity of a uniform sphere under the action of a
point source of radiation situated at the center of the sphere is
examined.   This article supplements the results of previous work
on the subject.   The spherical scattering indicatrix is
calculated for an isotropic source of radiation of known power in a
medium of given optical characteristics.   The distribution
function $I(\tau, \mu)$ satisfying the boundary conditions is solved
using the equations for radiative transfer and assuming that true
radiation from the medium itself is absent.   These results are of
use in astrophysics for investigating the properties of spherical
clouds.   It is known that this model does not fit real astro-
physical objects exactly and the estimation of the degree and
character of the difference is difficult.   Hence it is not
necessary to use high order approximations in problems of this type.
Card 1/2

Radiation transfer in ...

S/051/63/014/004/015/026
E039/E420

For application in neutron physics in the determination of neutron flux in the space surrounding a spherical system, the model can be applied with a high degree of accuracy.   This involves the use of approximations of a high order and greatly increases the volume of computational work.   In a practical example it is shown that the difference between the first and second approximation is 16% while between the second and third it decreases to 1.5%.   The flux of radiation and the average intensity is expressed in the n-th approximation in the final form of the solution given.

SUBMITTED: July 13, 1961

Card 2/2

L 62670-65 EWT(1)
ACCESSION NR: AP5017493 UR/0368/65/002/006/0534/0545
535.361

AUTHOR: Barkov, V. L.

TITLE: Radiation field of multilayered spherically symmetrical systems

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 6, 1965, 534-545

TOPIC TAGS: transport equation, spherical system, radiation field, Cauchy problem, multilayered system, optical characteristic, optical density variation

ABSTRACT: The author first indicates various physical examples of a multilayered system with spherical symmetry, and presents a formal statement of the problem of determining the emission from spherical multilayered systems for the case of a stationary radiation field and a continuous spectrum. The optical characteristics and the optical-density variation are assumed known for each layer in the system. Each layer is assumed to be in the state of local thermodynamic equilibrium, and the temperature variation in each layer is assumed known. The medium density and medium temperature depend only on the radius of the system. The problem is to find the radiation field in each layer of the system and in the outside space. Only the first stage of the problem, namely the determination of the transport equation, is formulated and its formal solution is found. It is shown that this solution is equivalent to the solution of the Cauchy problem for an assembly of

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L 62670-65

ACCESSION NR: AP5017493

defining functions. The differential equations and initial conditions are derived
for these functions. Some properties of these functions are established. Orig.
art. has: 59 formulas.   [02]

ASSOCIATION: none

SUBMITTED: 09Jul64   ENCL: 00   SUB CODE: OP

NO REF SOV: 005   OTHER: 001   ATD PRESS: 4057

Card 2/2

L 00828-66   EWT(1)/EWG(v)/EEC-4   GW   UR/0033/65/042/004/0749/0753
ACCESSION NR: AP5020674   523.755 .
                                                                        41
                                                                        B
AUTHOR: Barkov, V. I.

TITLE: The problem of coronal solar radiation in the continuous spectrum

SOURCE: Astronomicheskiy zhurnal, v. 42, no. 4, 1965, 749-753

TOPIC TAGS: solar radiation, solar corona, continuous spectrum, radiation
flux, integral equation, partial differential equation

ABSTRACT: The radiative transfer equation is solved for a spherically sym-
metric isothermal solar corona. With the assumption that the sun can be
represented by a nonradiating central black-body disk of radius r_1 with an
adjacent radiating outer shell of radius r_0, the following radiation transfer

$$L[I(r, \mu)] = -\varkappa(r)[I(r, \mu) - J(r, \mu)],$$

$$L = \mu \frac{\partial}{\partial r} + \frac{1 - \mu^2}{r} \frac{\partial}{\partial \mu},$$

equation is obtained where I is the radiation intensity and J is the source
function. The boundary conditions are given by

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L00828-66

ACCESSION NR: AP5020674

$$I(r, -\mu) = 0 \quad \text{at } r = r_0$$
$$I(r, +\mu) = 0 \quad \text{at } r = r_1 \Big\} \ (0 \leqslant \mu \leqslant +1).$$

The formal solution of this equation is

$$I(r, \mu) = \int_0^{\varphi_0(r,\mu)} J[\psi(t, r, \mu); \xi(t, r, \mu)] e^{-t} dt \quad (-1 \leqslant \mu \leqslant \mu_1);$$

$$I(r, \mu) = \int_0^{\varphi_1(r,\mu)} J[\psi(t, r, \mu); \ \xi(t, r, \mu)] e^{-t} dt \quad (\mu_1 \leqslant \mu \leqslant +1),$$

$$\mu_1 = \cos \theta_1 = \sqrt{1 - \left(\frac{r_1}{r}\right)^2}.$$

For an isothermal corona with temperature T_e and introducing the Plank function B, the radiation intensity can be given by

$$I(r, \mu) = B_v(T_e) \{1 - \exp[-\varphi_0(r, \mu)]\} \quad (- \leqslant \mu \leqslant \mu_1);$$
$$I(r, \mu) = B_v(T_e) \{1 - \exp[-\varphi_1(r, \mu)]\} \quad (\mu_1 \leqslant \mu \leqslant +1).$$

If one describes the electron density by the expression

$$N_e(r) = 10^8 \left(\frac{A}{r^{n_1}} + \frac{B}{r^{n_2}}\right),$$

Card 2/3

L 00828-66

ACCESSION NR: AP5020674

the solution of the resulting radiation flux equation

$$F(r_0) = 2\pi\Psi(T_e, v)R_\odot\left\{\int_0^{\mu_1}\left[\int_0^{2r_0\mu} N_e^2(\sqrt{t^2 - 2tr_0\mu + r_0^2})dt\right]\mu d\mu +\right.$$

$$\left. +\int_{\mu_1}^1\left[\int^{r_0\mu - \sqrt{r_1^2 - r_0^2(1-\mu^2)}} N_e^2(\sqrt{t^2 - 2tr_0\mu + r_0^2})dt\right]\mu d\mu\right\}$$

can be given by $F(r_0) = 2\pi\Psi(T_e, v)R_\odot\cdot 10^{10}\left\{4.54[I_1(6) + I_2(6)] + 13\left[I_1\left(\frac{31}{2}\right) +\right.\right.$

$$\left.\left. + I_2\left(\frac{31}{2}\right)\right] + 9.32[I_1(25) + I_2(25)]\right\}.$$

Here it has been assumed that $A = 2.13$, $B = 3.05$, $n_1 = 6$, $n_2 = 25$. As a numerical example, $F = 8.2 \times 10^{-21}$ watt/m^2·cycle for $\lambda = 9.1$ cm, $r_0 = 2.5$, and $r_1 = 1$. Orig. art. has: 52 equations.

ASSOCIATION: none

SUBMITTED: 09Nov64   ENCL: 00   SUB CODE: AA, GP

NO REF SOV: 001   OTHER: 001
Card 3/3

S/081/61/000/010/004/029
B117/B207

1 8310

AUTHOR: Barkov, V. M.

TITLE: Kinetics of corrosion processes (quantitative-experimental
              proof of corrosion)

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 281, abstract
              10И149 (10I149). ("Materialy 3-y Nauchno-tekhn. konferentsii
              molodykh uchenykh, 1957. Novosibirsk, Sib. otd. AN SSSR",
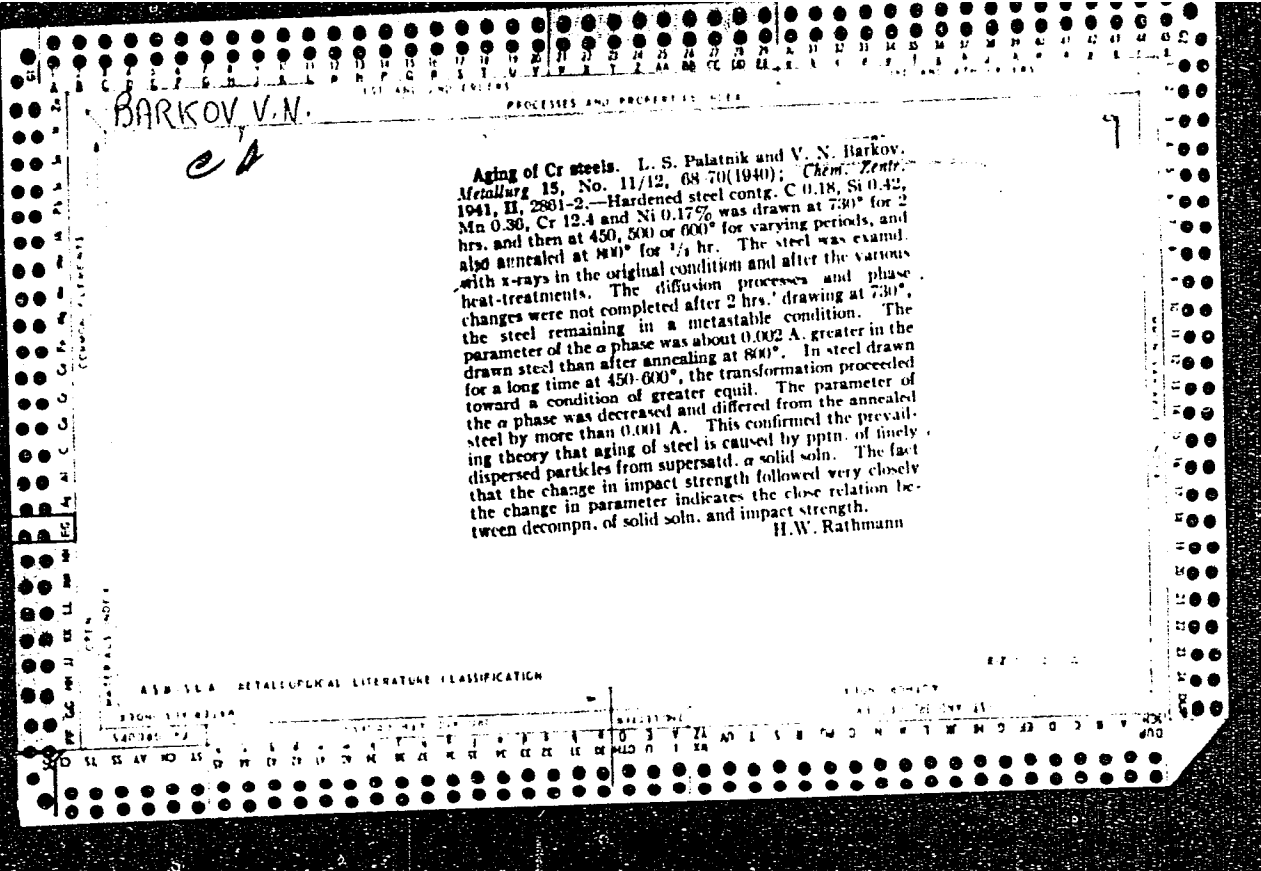   1960, 63-74)

TEXT: The film theory of corrosion was quantitatively confirmed by ex-
periments. The corrosion rate of metals was confirmed to be directly pro-
portional to their active surface. A mathematical relation was found
between the active surface and the mass of the dissolved metal. The
corrosion processes were classified according to the character of surface
transformation of the corroding metal. A formula was found for each kind
of corrosion to calculate the corrosion rate constant. 17 references are
given. [Abstracter's note: Complete translation.]

Card 1/1

BARKOVSKIY, V.M., inzh.; VEDOF'YANOV, V.L., inzh.; LAPIN, G.L., inzh.

Improving the boring and blasting operations in the carnallite deposits of Solikamsk potash mines. Vzryv. delo no.57/14: 322-330 '65.   (MIRA 19:11)

1. Permskiy nauchno-issledovatel'skiy ugol'nyy institut.

BARKOV, V.N.

PROCESSES AND PROPERTIES AREA

Aging of Cr steels. L. S. Palatnik and V. N. Barkov. *Metallurg* 15, No. 11/12, 68-70(1940); *Chem. Zentr.* 1941, II, 2881-2.—Hardened steel contg. C 0.18, Si 0.42, Mn 0.36, Cr 12.4 and Ni 0.17% was drawn at 730° for 2 hrs. and then at 450, 500 or 600° for varying periods, and also annealed at 800° for 1/2 hr. The steel was examd. with x-rays in the original condition and after the various heat-treatments. The diffusion processes and phase changes were not completed after 2 hrs.' drawing at 730°, the steel remaining in a metastable condition. The parameter of the α phase was about 0.002 A. greater in the drawn steel than after annealing at 800°. In steel drawn for a long time at 450-600°, the transformation proceeded toward a condition of greater equil. The parameter of the α phase was decreased and differed from the annealed steel by more than 0.001 A. This confirmed the prevailing theory that aging of steel is caused by pptn. of finely dispersed particles from supersatd. α solid soln. The fact that the change in impact strength followed very closely the change in parameter indicates the close relation between decompn. of solid soln. and impact strength.
H.W. Rathmann

ASM SLA   METALLURGICAL LITERATURE CLASSIFICATION

FRANTSEVICH, I.N.; BORUSHKO, M.S.; BARKOV, V.N.

Mechanical properties of low-carbon and low alloy steel at low temperatures. Trudy Inst. chern. met. AN URSR 3:115-125 '49.

(MLRA 8:7)

1. Chlen-korrespondent Akademii nauk USSR. (for Frantsevich)
   (Steel--Testing) (Metals at low temperatures)

LYSENKO, A.Ya.; MYCHKO-MEGRIN, A.Yu.; BARKOV, V.N.; KASATSKIY, A.I.;
    FEDOROVA, S.P.; YERMAKOV, V.V.

Medicogeographical studies of Brazil. Vop geog. no.68:137-203
'65.   (MIRA 18:12)

SOV/169-59-2-1231

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 2, p 31 (USSR)

AUTHORS: Tarkhov, A.G., Barkov, V.S.

TITLE: On the Method of Electric Profiling in the Case of Nonuniform Overburden

PERIODICAL: Byul. nauchno-tekhn. inform. M-vo geol. i okhrany nedr USSR, 1957, N- 7 (12), pp 34 - 37

ABSTRACT: It is presumed that the apparent resistivity ρ'_k obtained by the little device will be indicating the influence of the overburden, while the great device AB makes it possible to determine the value of ρ_k depending on the deep-seated rocks, when one carries out the investigations by the method of symmetrical electric profiling according to the AA'MNB'B scheme. Sharp distorting influences occur, when the overburden is non-uniform and variable in its thickness. It was attempted to represent the results of the electric profiling in the form of the graphs ρ_k/ρ'_k, showing a considerable simplicity, for the purpose of the elimination of the influences mentioned. A similar method of treatment was applied to engineering geological prospecting in the Far East and in the Perm' region. The graphs of the curves
Card 1/2 ρ'_k, ρ_k, and ρ_k/ρ'_k obtained in the Perm' region for A'B' = 100 m and

SOV/169-59-2-1231

On the Method of Electric Profiling in the Case of Non-Uniform Overburden

AB = 400 m and recorded in the region of karst limestones, are presented. The curves ρ_k and ρ'_k mark the karst zones by maxima in the curve, but similar extrema are observed also in other points out of the karst zones. The curve of the ρ_k/ρ'_k ratio marks the karst zone by a very distinct minimum. The curves ρ_k, ρ'_k, and ρ_k/ρ'_k obtained in limestones without karst formation are also given. It is noted that the curve of the ρ_k/ρ'_k ratio has a smooth character, but the curves ρ_k and ρ'_k are very jagged. The author summarizes that the practice confirms some advantages of the relation method. An analytic explanation of the relation method is given. The author recommends the testing of this method in geological mapping and in prospecting for mineral resources.

E.N. Kuz'mina

Card 2/2

SHAMINA, O.G., seysmolog; VINOGRADOV, S.D., seysmolog; SILAYEVA, O.I.,
    seysmolog; BARLAS, V.Ya., seysmolog; SHAMAYEVA, L.A., seysmo-
    log; RIZNICHENKO, Yu.V., red.; PANTAYEVA, V.A., red.; RYBKINA,
    V.P., tekhn. red.

[Weak earthquakes] Slabye zemletriaseniia. Moskva, Izd-vo ino-
str. lit-ry, 1961. 533 p.   (MIRA 15:1)

1. Institut fiziki Zemli AN SSSR (for Shamina, Vinogradov,
Silayeva, Barlas, Shamayeva).
                    (Earthquakes)

BARKOV, V. YE.

AID P - 688

Subject   : USSR/Electricity

Card 1/1   Pub. 29 - 23/24

Author   : Barkov, V. Ye., Eng.

Title   : Conference on problems of operation and development of
                communication circuits in power stations and factories.

Periodical   : Energetik, 7, 38-39, Jl 1954

Abstract   : A general report on a conference held in Moscow in the
                first quarter of 1954. The communication workers of enter-
                prises and establishments of the Ministry of Electric Power
                Stations and Electrical Industry (MESEP), took part in
                this conference as well as the workers of other Ministries.

Institution : None

Submitted   : No date

BARKOV, V.Ye., inzhener.

Put the means of communications to work for heavy industry. Vest.sviazi
16 no.8:18 Ag '56.   (MLRA 9:10)

1.Tekhnicheskoye upravleniye Ministerstva elektrostantsii SSSR.
(Telecommunication)

BARKOV, V.Ye.

Review of the rules regarding protective guards for communications installations. Avtom., telem. i sviaz' no.3:43 Mr '57.
(MLRA 10:4)

1. Starshiy inshener Tekhnicheskogo upravleniya Minesterstva elektrostantsii.
(Electric lines)

Barkov, V. Ye

105-7-26/29

AUTHOR: Barkov, V.Ye., Eng.

TITLE: News from the Technical Administration of the Ministry
of Electric Power Plants (V tekhnicheskom upravlenii
MES)

PERIODICAL: Elektrichestvo, 1957, Nr 7, pp. 92-93 (USSR)

ABSTRACT: The author describes the use and operations of mobile
grounding interruptors during repair work on electric
lines. The instrument prevents idle periods on
electric transmission lines caused by the grounding of
high-frequency channels. It was constructed by the
Central Laboratory VVS Mosenergo (Moscow Regional Power
System Administration) on the basis of an invention of
Ya.L. Bykhovskiy. Serial production of such inter-
ruptors was started by the Electrical Repair Works
(Elektroremontnyy zavod) of the Rostovenergo (Rostov
Regional Power System Administration).

ASSOCIATION: Technical Administration of the Ministry of Electric
Power Plants (Tekhnicheskoye upravleniye MES)

AVAILABLE: Library of Congress
Card 1/2

AUTHOR: Barkov, V.E., Engineer.   104-4-37/40

TITLE: Scientiific-Technical Conference on generalisation of experience in the production and operation of reinforced concrete poles for electrical transmission and communications lines. (Nauchno-tekhnicheskaya konferentsiya po obobshcheniyu opyta proizvodstva i ekspluatatsii zhelezobetonnykh opor liniy elektroperedachi i svyazi)

PERIODICAL: "Elektricheskie Stantsii" (Power Stations), 1957, Vol.28, No.4, p. 94 (U.S.S.R.)

ABSTRACT: The conference took place in Grozny on November 27 - 30, 1956. There were reports on the successes that had been achieved in the production of reinforced concrete poles for power and communication lines. There were several papers on the manufacture of reinforced concrete poles and on their application in various kinds of lines. There was general agreement that these poles are not nearly so widely used as they deserve, largely because the planning organisations under estimate their possibilities. The construction of factories for the manufacture of reinforced concrete poles is also lagging. At the present time power lines are being constructed with concrete poles for voltages up to 110 kV and also communication lines and supports for overhead wires on electrified

1/2

Scientific-Technical Conference on generalisation of
experience in the production and operation of reinforced
concrete poles for electrical transmission and communications
lines. (Cont.)   104-4-37/40

railways. A most important task is the development of stre-
ssed reinforcement. The conference recommended widespread
2/2 introduction of these poles and construction of a system of
factories for their manufacture.

AVAILABLE:

Barkov, V. Ye,

BARKOV, V.Ye., inzh.

On reviewing the "Regulations for protecting communication
signals from the detrimental effects of high-tension installations."
Prom.energ. 12 no.8:38 Ag '57.   (MIRA 10:10)

1.Sekretar' mezhduvedomstvennoy komissii.
                  (Telecommunication)

BARKOV, V.Ye.; BYKHOVSKIY, Ya.L.; GRZHIBOVSKIY, V.V.; PAVLYCHEV, L.Ye.;
     RABOTNOVA, K.A.; SOKOLOV, V.B.; SOLOV'YEV, P.N.; KHERSONSKIY,
     D.S.; ZVENIGORODSKIY, I.S., red.; SAVEL'YEV, V.I., red.; BORUNOV,
     N.I., tekhn.red.

[Savety rules in the construction and use of communication structures
and equipment] Pravila tekhniki bezopasnosti pri ekspluatatsii i
stroitel'stve sooruzhenii i ustroistv sviazi. Moskva, Gos.energ.
izd-vo, 1959. 103 p.   (MIRA 13:4)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva elektro-
stantsiy. Tekhnicheskoye upravleniye. 2. Tekhupravleniye Mi-
nisterstva elektrostantsiy (MES) (for Berkov). 3. Vsesoyuznyy
nauchno-issledovatel'skiy institut energetiki (VNIIE) (for Bykhovskiy,
Pavlychev, Sokolov). 4. Gosudarstvennyy trest po organizatsii i ratsio-
nalizatsii elektrostantsiy (ORGRES) (for Grzhibovskiy). 5. Leningrad-
skoye rayonnoye upravleniye energokhozyaystva (Lenenergo) (for Rabot-
nova). 6. Moskovskoye rayonnoye upravleniye energokhozyaystva (for
Solov'yev, Khersonskiy).
          (Electric engineering--Safety measures)
          (First aid in illness and injury)

BARKOV, V.Ye., inzh.

New books for telecommunication and power engineering workers.
Elek. sta. 31 no.9:95-96 S '60.   (MIRA 14:10)
                    (Bibliography--Telecommunication)
                    (Bibliography--Electric power)

BARKOV, E.A.

Povyshenie skorostei dvizheniia transporta v gorodakh (Increasing the speed of city transport traffic). Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1954. 84 p.

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

L 24419-65   EED(b)-3/EWT(1)/T   Pae-2   IJP(c)
ACCESSION NR: AP4049454   S/0317/64/000/008/0044/0045

AUTHOR: Barkov, Yu. (Engineer, Captain);Burlachenko, N. (Engineer, Captain)

TITLE: A motion picture machine gun for tanks

SOURCE: Tekhnika i vooruzheniye, no. 8, 1964, 44-45

TOPIC TAGS: gunnery training, tank crew training, machine gun camera

ABSTRACT: In order to improve the effectiveness of the gunnery training of a tank crew and to evaluate such factors as target acquisition time and accuracy of aim, motion picture cameras were installed on tanks next to the main gun. The gun trigger was connected to the 24 volt, 9000 rpm DC motor which operates the camera. The optical axis of the camera was adjusted to intersect the line of aim of the gun at 800-1000 meters in front of the tank. The target acquisition process and the actual "firing" was recorded on film, with a small clock providing the time data. The developed film was later used to evaluate the tank crew's performance without waste of live ammunition. The two types of camera used are PAU-22 and PAU-22m. Their weight is 3.5 kg and their dimensions are 100 x 100 x 315 mm. Both cameras use standard 35-mm film. The PAU-22m camera uses an objective lense of the "Sonnar" type and its aperture ratio can be adjusted from 1:2 to 1:22. When the motion picture machine gun training is combined with driver training,
Card 1/2

L 24419-65
ACCESSION NR: AP4049454

significant fuel economy is obtained. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MS, ES

NO REF SOV: 000   OTHER: 000

Card 2/2

VYSTAVKIN, N.I.; KOSHKIN, N.; BARKOV, Yu.A.

Readers' letters. Bezop. truda v prom, 8 no.10.56 O '61.   (MIRA 17:11)

1. Pomoshchnik glavnogo inzhenera po tekhnike bezopasnosti shakhty
im. Oktyabr'skoy revolyutsii tresta Shakhtantratsit kombinata Rosto-
vugol' (for Barkov).

BARKOV, Yu.I.

Preparation and conservation of hemoplastic bone and cortilage transplants at low temperature. Vest.khir.76 no.9:92-95 O '55.

(MLRA 9:1)

1. Iz khirurgicheskoy kliniki (zav.prof. A.N.Filatov) Leningradskogo ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skogo instituta perelivaniya krovi.

(BONE TISSUE, transplantation
     homograft prep. & preserv. in low temperature)
(CARTILAGE, transplantation
     same)
(TRANSPLANTATION,
     bone tissue & cartilage, homograft perp. & preserv.)

"Clinicoroentgenological Evaluation of Osteoplasty by Using Bone Homotransplants Preserved Under Refrigeration," by A. D. Li, senior scientific associate, and Yu. I. Barkov, scientific associate, Department of Plastic Surgery (head, Prof V. I. Rozov), Leningrad Scientific Research Institute of Traumatology and Orthopedics and of Surgical Clinic (head, Prof A. N. Filatov), Leningrad Order of Red Banner of Labor Scientific Research Institute of Blood Transfusion; Vestnik Khirurgii imeni I. I. Grekova. Vol 78, No 6, Jun 57, pp 101-106

Bone homotransplants used in these studies were stored by two methods: (1) cooling bone tissue to -70° for 24 hours, then storing it at -25°; (2) cooling bone tissue to -25° and storing it at the same temperature.

Operations performed on 25 patients suffering from different pathological skeletal conditions, using the above-described method for preparing homotransplants, yielded 18 positive and 7 negative results in a follow-up from 3 to 20 months.

The authors conclude that clinicoroentgenological data enable one to consider homotransplants a valuable plastic material, capable of being reconstructed or reincorporated into living tissue, just like transplants, although at a slower rate. (U)

BARKOV, Yu.I., nauchnyy sotrudnik

Preservation of bone homotissues by freezing and lyophilization.
Akt.vop.perel.krovi   no.6:3-7 '58.   (MIRA 13:1)

1. Khirurgicheskaya klinika Leningradskogo instituta perelivaniya
krovi (zav. klinikoy - chlen-korrespondent AMN SSSR, prof. A.N.
Filatov).
                    (TISSUE EXTRACTS)

KRUPKO, I.L., prof., TKACHENKO, S.S., kand.med.nauk, BARKOV, Yu.I.

Bone homoplasty [with summary in English]. Vest.khir.81 no.8:71-80
Ag '58   (MIRA 11:9)

1. Iz kliniki ortopedii i travmatologii (nach. - prof. I.L. Krupko
Voyenno-meditsinskoy ordena Lenina akademii im. S.M. Kirova i
laboratorii konservirovaniya i peresadki tkaney (nauch. rukovod. -
chlen-korr. AMN SSSR prof. A.N. Filatov) Leningradskogo ordena
Trudovogo Krasnogo Znameni nauchno-issledovatel'skogo instituta
perelivaniya krovi. Adres avtorov: Leningrad 9, Botkinskaya ul.,
d.13 , klinika ortopedii i travmatologii Voyenno-meditsinskoy
ordena Lenina akademii im.S.M. Kirova).
                   (BONE AND BONES, transpl
                        homografts, indic. (Rus))

KHOLIN,V.V.; LUK'YANOV, V.P.; BARKOVA, A.M.

Determination of the integral absorbed dose in animals irra-
diated with X-rays. Radiobiologiia 2 no.6:947-949 '62
(MIRA 16:11)
1. Institut usovershenstvovaniya vrachey, Leningrad.

*

BARKOVA, A.M.

Case of recurrent reactive stupor. Probl.sud.psikh. 8:236-242
'59.   (MIRA 13:6)
                          (Stupor)

L3489
S/205/62/002/006/021/021
E073/E435

AUTHORS: Kholin, V.V., Luk'yanov, V.P., Barkova, A.M.

TITLE: Determination of the integral absorbed X-ray dose
             in animals

PERIODICAL: Radiobiologiya, v.2, no.6, 1962, 947-949

TEXT: The authors propose a new and more accurate method for the
determination of the integral absorbed dose, applicable to various
conditions of irradiation of test animals.   According to
S.N.Ardashnikov and N.S.Chetverikov, the integral absorbed dose
can be calculated by means of the following expression:

$$\Pi_{integr} = \frac{\psi D A \rho}{\gamma} (1 - e^{-\gamma d}) \; g \cdot rad$$

where ψ - scaling coefficient (= absorbed dose in
rad/irradiation dose in r),   D - exposure dose at surface level,
d - density of irradiated tissue, γ - electronic transformation
coefficient,   d - thickness of tissue.   Two numerical examples
are given.   It is emphasized that the results are approximate
because of the complicated geometry and irregular structure of
Card 1/2

Determination of the integral ...   S/205/62/002/006/021/021
                                     E073/E435

the bodies of the test animals.

ASSOCIATION: Institut usovershenstvovaniya vrachey, Leningrad
             (Postgraduate School for Doctors, Leningrad)

SUBMITTED: March 5, 1962 .

Card 2/2

ACC NR: AR7000604 *(N)*   SOURCE CODE: UR/0417/66/000/010/0066/0066

AUTHOR: Barkova, E. N.

TITLE: Mechanism of the effects of cutaneous applications of hydrogen peroxide during hypoxic hypoxia

SOURCE: Ref. zh. Farmakol, khimioterapevt sredst, toksikol, Abs. 10. 54.454

REF SOURCE: Nauchn. tr. Omskiy med. in-t, no. 67, 1965, 51-57

TOPIC TAGS: hypoxia, hydrogen peroxide, dog, hypoxic hypoxia, cutaneous application, oxyhemographic control

ABSTRACT: Tests were made on 30 dogs under hexenal anesthesia. Hypoxic hypoxia induced by tracheal stenosis (compression of a rubber tube connected by a T-piece with trachae) was under oxyhemographic control. The HbO_2 level was lowered to 75% in the arterial blood and to 32—33% in the venous blood. The oxygen incidated an increase in arterial-venous difference, a decrease of alkaline blood capacity, a metabolic acidosis, manifested by increased levels of organic acids, were noted in the process. A 20% H_2O_2 solution applied to the abdominal skin of a dog, was followed in 20 to 30 minutes by increased HbO_2 blood levels

Card 1/2   UDC: 615. 7

ACC NR: AR7000604

more so in the venous blood (on the average by 9%) than in the arterial blood (on the average by 4.3%). In addition a corresponding restitution of the initial alkaline blood reserve and lowering of the organic acids levels was noted. Orig. art. has a bibliography of 20 reference items. V. Yerokhin. [Translation of abstract]

SUB CODE: 06/

[AM]

Card 2/2

BARKOVA, E.A.; IYERUSALIMSKIY, A.P.

Dynamics of the accumulation of virus-neutralizing antibodies
in patients with various clinical forms of tick-borne ence-
phalitis. Vop. virus 8 no.2:189-193 Mr-Ap'63   (MIRA 16:12)

1. Omskiy nauchno-issledovatel'skiy institut prirodnoochagovykh
infektsiy i kafedra noervnykh bolezney Novosibirskogo meditsin-
skogo instituta.

BARKOVA, F.F.; LILEYEV, I.S.

Kinetics of the interaction of solid lithium carbonate and ammonium
chloride. Izv. Sib. otd. AN SSSR no.7:36-39 '58.   (MIRA 11:9)

1.Zapadno-Sibirskiy filial AN SSSR.
        (Lithium carbonate) (Ammonium chloride)

BARKOVA, F.F.; BUNTIN, A.P.

Reaction of solid lithium carbonate with hydrogen chloride and
chlorine. Izv.Sib.otd.AN SSSR no.2:54-69 '59. (MIRA 12:7)

1. Zapadno-Sibirskiy filial AN SSSR.
   (Lithium carbonate) (Hydrogen chloride) (Chlorination)

ZAVOLOTSKIY, T.V., kand.tekhn.nauk, otv.red.; MIKULINSKIY, A.S., prof.,
    doktor tekhn.nauk, red.; LOGVINENKO, A.T., kand.tekhn.nauk, red.;
    BARKOVA, F.F., kand.khim.nauk, red.; BUSHUYEVA, V.M., red.;
    MAZUROVA, A.F., tekhn.red.

[Rare alkali elements; collected papers given at the Conference on
the Chemistry, Technology, and Analytical Chemistry of Rare Alkali
Elements, Jan.27-31, 1960] Redkie shchelochnye elementy; sbornik
dokladov soveshchaniia po khimii, tekhnologii i analiticheskoi
khimii redkikh shchelochnykh elementov 27-31 ianvaria 1958 g.
Novosibirsk, Izd-vo Sibirskogo otd-nia AN SSSR, 1960. 99 p.
                                            (MIRA 13:6)
1. Vsesoyuznoye soveshchaniye po khimii, tekhnologii i analiti-
cheskoy khimii redkikh shchelochnykh elementov. 1st, 1953, Novo-
sibirsk. 2. Khimiko-metallurgicheskiy institut Sibirskogo otde-
leniya AN SSSR (for Logvinenko). (Alkali metals) (Metals, Rare and minor)

BARKOVA, G. V.

The interaction of lead titanate with salts in melts. I. N. Belyaev, M. L. Sholokhovich, and G. V. Barkova (V. M. Molotov State Univ., Rostov-on-Don). *Zhur. Obshchei Khim.* 24, 211–15(1954).—Binary m.-p. diagrams of $PbTiO_3$ (I) with 13 salts of univalent metals were detd. at temps. up to 1100° by noting the occurrence of crystals. Each binary is a section of a ternary system with I as a component. Eleven systems are stable without metathesis, and form eutectics. Each of these is listed with the second constituent, eutectic compn. (mol. % I) and eutectic m.p.: Na_2CO_3, 0.15%, 830°; K_2CO_3, 0.75%, 877°; Na_2F_2, 1.5%, 980°; K_2F_2, 12%, 845°; Na_2MoO_4, 0.2%, 680°; K_2MoO_4, 0.12%, 914°; Na_2SiO_3, 35%, 857°; K_2SiO_3, 22.5%, 640°; $(NaVO_3)_n$, 1%, 620°; $(KVO_3)_n$, 1%, 516°; Na_2WO_4, 0.2%, 680°. These systems can be used to ppt. monocrystals of I from the fused medium. I is sol. in melts of the fluorides and silicates. The systems, K_2SiO_3—I and $(NaVO_3)_n$—I showed evidence of compd. formation. Two systems were not stable (e.g., $Na_4P_2O_7$ + $(PbTiO_3)_3$ → $2 Na_2TiO_3 + Pb_3P_2O_7$) and showed minima (not true eutectics) at which two crystn. curves intersected. These were: $Na_4P_2O_7$, min. at 9% I, 622° and $K_4P_2O_7$, min. at 12.5% I, 982°. Stratification of the melt occurred in Na_2F_2—I, Na_2MoO_4—I, and Na_2WO_4—I. Two liquid phases were formed. These must correspond to stable diagonal sections whose end points lie on a more complex 4-component system. The intervals of stratification were 2 to 20% I for Na_2F_2—I, 1.5 to 3.5% I for Na_2MoO_4—I, 1.25 to 3.25% I for Na_2WO_4—I. The m.-p. diagram was also detd. for the systems: Na_2MoO_4—PbO and Na_2WO_4—PbO. For Na_2MoO_4—PbO, the eutectic point was 685° at 0.2% PbO with the system transforming from two liquids to solid plus liquid at 769° from 0.75 to 99.75 mol. % PbO. For Na_2WO_4—PbO, the eutectic point was 681° at 0.1% PbO with the system transforming from two liquids to solid plus liquid at 778° from 0.5 to 99.75 mol. % PbO. It is concluded that the metastable systems of I with Na_2F_2, Na_2MoO_4, and Na_2WO_4 result to decompose I into PbO and TiO_2. The PbO thus formed is responsible for the stratification. I is distinguished chiefly from $BaTiO_3$ by a greater soly. in

BARKOVA, G.V.

13584*   Interaction of Lead Titanate With Sodium and Potassium Silicates. Vzaimodeistvie titanata svintsa s silikatami natriia i kaliia. (Russian.) M. L. Sholokhovich and G. V. Barkova. Zhurnal Obshchei Khimii, v. 25, no. 7, July 1955, p. 1255-1263.

Investigates the reactions in the ternary system Na_2SiO_3-$PbTiO_3$-K_2SiO (In fused state) for the purpose of determining the possibility of growing $PbTiO_3$ monocrystals. Tables, diagrams, graphs. 9 ref.

Barkova G. V.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-
chemical analysis. Phase transitions.   B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29941

Author : Sholokhovich M. L., Barkova G. V.
Inst   : not given
Title   : Interaction of Metatitanates of Sodium and Potassium with Salts in
          Fusions

Orig Pub: Zh. obshch. khimii, 1956, 26, No 5, 1266-1272

Abstract: In the systems, investigated by the visual-polythermal method, of
          Na_2TiO_3 - Na_2Cl_2, $K TiO$ - $K Cl$, $Na TiO$ - Na_2CrO_4, K_2TiO_3 - $K CrO_4$,
          K_2TiO - $K SO_4$, $Na TiO$ - $Na SO_4$, $Na TiO$ - Na_2WO_4, K_2TiO_3 - K_2WO_4,
          Na_2TiO - Na_2MoO_4, $K TiO$ - $K MoO_4$ stratification has been ascer-
          tained over a wide range of concentrations. In the Na-systems strati-
          fication regions are considerably wider than in the systems with K-salts.
          In the systems of meta-titanates and meta-vanadates of Na and K solid
          phase of TiO_2 separates. The authors consider these systems the in-

Card   : 1/2   -54-

Rostovskiy -NA- Donu, gosudarstvennyy Universitet.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-
chemical analysis. Phase transitions.   B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29941

stabile sections of ternary $M_2O - TiO_2 - V_2O_5$-systems. In the K_2TiO_3 -
KCl_2 system , below the region of stratification, $K_2Ti_2O_5$ crystalli-
zes, which is also an indication that this system is not a binary.
According to the data of the authors the meta-titanates of Na and K
differ from $BaTiO_3$ by considerably greater solubility in the melts.
Limited solubility, in liquid state, of meta-titanates of Na and K
in chlorides and oxygen-containing Na- and K-salts of anions of the
sixth group constitutes one of the characteristic properties of these
salts.

Card   : 2/2   -55-

BARKOVA, G. V.

Interaction of the titanates and molybdates of potassium and lead in melts. I. N. BELYAEV, M. L. SHOLOKHOVICH, AND G. V. BARKOVA. *Zhur. Neorgan. Khim.,* 1 [5] 1028-34 (1956)—A visual polythermal method was used to investigate the reciprocal system $K, Pb-TiO_3, MoO_4$. The system is a quasi-stable profile of the four-component reciprocal system $PbO-K_2O-TiO_2-MoO_3$. In this system, in addition to the four salts forming strictly ternary reciprocal systems, two additional products of interaction are formed, TiO_2 and $PbO \cdot PbMoO_4$. The results of the work can be represented in the form of a regular tetrahedron in three-dimensional space. The ternary systems would be represented by phase diagrams on the faces of the tetrahedron, and the more complex systems, by diagrams on various sections through the figure. Stratification, which appears in the ternary compositions on the $K_2MoO_4-K_2TiO_3$ face of the tetrahedron, extends far into the square of the reciprocal system, covering a great part of the square of crystallization. (This square is a plane bisecting four of the six edges of the tetrahedron, on which the composition of a system $K_2MoO_4-K_2TiO_3-PbMoO_4-PbTiO_3$ can be diagramed). This circumstance supports an assertion previously reported that stratification in a ternary system may be simply an extension of stratification from more complex systems, particularly the square of crystallization corresponding to the three components of the given ternary system. The face of the tetrahedron $K_2TiO_3-PbTiO_3$ shows the compound $2K_2TiO_3 \cdot PbTiO_3$ with a melting temperature of 830°C. It is shown that K_2TiO_3 has a stabilizing influence on $PbTiO_3$, whereas, in contrast, $PbMoO_4$, $K_2MoO_4 \cdot PbMoO_4$, and K_2MoO_4 decrease the stability of $PbTiO_3$. In the presence of these salts, $PbTiO_3$ breaks down at much lower temperatures. 8 figures, 8 references. D.T.W.

SAUSHKIN, Yu.G.; SOLOV'YEV, A.I.; YEFREMOV, Yu.K.; KOTEL'NIKCV, V.L.;
        IOFA, L.Ye.; DANTSIG, B.M.; BARKOV, S.A.; GRUZINSKAYA, V.A.;
        BARKOVA, G.Ye.

        V.A.Kondakov, 1886-1959; obituary. Vop. geog. no.54:174-176
        '61.   (MIRA 15:3)
                        (Kondakov, Vadim Aleksandrovich, 1886-1959)

BERNSHTEYN, M.Kh.; YABKO, Ya.M.; ZAYONCHKOVSKIY, A.D.; KRZHIZHANOVSKIY, K.O.;
     ZAMYATIN, K.K.; BERNSHTEYN, Ye.S.; BARKOVA, L.V.; PROKURAT, R.E.;
     VTOROV, G.N.

Artificial leather with a nonwoven base. Kozh.-obuv.prom. 5 no.4:
18-21 Ap '63.   (MIRA 16:5)
                         (Leather, Artificial)

.

OVECHENKO, N.G., kand. tekhn. nauk; DMITRUSHINA, Z.T., inzh.; BARKOVA, L.V.,
        inzh.; PAVLOV, S.A., doktor tekhn. nauk, prof.

Effect of the fiber length and amount of bonding materials on
the physiocomechanical properties of nonwoven fibrous film
systems. Tekst. prom. 23 no.9:30-33 S '63.   (MIRA 16:10)

1. Sotrudniki Moskovskogo tekhnologicheskogo instituta legkoy
promyshlennosti (MTILP).
                    (Nonwoven fabrics)

BARKOVA, M V

Copolymerization of three-component systems. I. II. Methyl methacrylate-acrylonitrile-triallyl orthosilicate. III. Methyl methacrylate-acrylonitrile-glycolic esters of methacrylic acid. S. M. Zhivukhin, M. V. Barkova and I. P. Losev (Zh. obshch. Khim. 1950, 20, 2245—2247, 2247—2250, 2250—2254).—I. Copolymerization reactions were studied in the system (I) methyl methacrylate-acrylonitrile-triallyl borate. Triallyl borate, although unable to polymerize at 60±0·2° in presence of 0·5% of B₂O₃, copolymerizes in above conditions with methyl methacrylate and acrylonitrile, forming transparent, colourless uniform blocks which do not deteriorate through storage. The reaction mechanism of I, with component ratio 1 : 0·1 : 0·01, involves a five-stage process. Equations for determining polymer composition at any stage of process and analytical data are given.

II. Copolymerization of methyl methacrylate-acrylonitrile-tetra-allyl orthosilicate was effected in conditions similar to I (synthesis of tetra-allyl orthosilicate being by reaction of anhyd. allyl alcohol with SiCl₄). A five-stage mechanism was again indicated. Ratio of products was immaterial but good moulding ability was observed when mol. ratio was 1 : 0·1 : 0·01 which permitted working at 150—160°. Transparent colourless solids resulted, not deteriorating through storage, exhibiting increased hardness, thermal stability and electrical insulating characteristics but a lower degree of water-resistance compared with methyl methacrylate polymers.

III. Copolymerization of methyl methacrylate-acrylonitrile-glycol ester (II) of methacrylic acid is fully explained. II was obtained by reaction of ethylene glycol with methacrylic acid by, use of H₂SO₄, hydroquinone and anhyd. benzene. 1 : 4-Butylene glycol dimethacrylate and diethylene glycol dimethacrylate were prepared similarly. Copolymerization was achieved in (a) solid and (b) emulsion form, with mixture in any ratio with (a) ;

Moscow Chemico-Technological Inst.

menu D. I. Mendeleyer

ZHIVUKHIN, S.M.   BIRKOVA, N.V.   LOSEV, I.P.

for (b), recommended quantities of additives were from 1·75 to
2·25%. Only copolymers containing 0·01 mol. of II per 1 mol. of
methyl methacrylate were able to stand up to subsequent moulding
at 160—180°. Polymerization proceeded in three stages in presence
of Bz₂O₃. For prep. of copolymers by (b) containing 4·95% of
acrylonitrile [which percentage corresponds with mol. ratio 1 : 0·1 :
0·01 used experimentally for method (a)] it is essential to use an
excess of acrylonitrile, e.g., 1 mol. methyl methacrylate to 0·5 mol.
acrylonitrile. Polymerization proceeded in aq. emulsion with ratio
of water to monomer mixture 2 : 1. Ratio of mixture methyl
methacrylate/acrylonitrile/II was 1 : 1 : 0·02 mol. In the mixture
was dissolved Bz₂O₃ (0·5 wt.-% of mixture) and the mixed monomers
with initiator were emulsified in water containing starch (2) with
plasticizer (dibutyl phthalate, 5% on wt. of mixed monomers).
Time of emulsification was 10 min. (1200 r.p.m., pH 7). The mix-
ture was slowly heated to 76° for 3 hr., then washed with water
for elimination of starch. Copolymers were dried at 56—60°,
screened and moulded at 190—200° and 300 kg./cm². Manufactured
articles exhibited a greater degree of hardness, thermal stability and
resistance to organic solvents than articles manufactured from
materials with a polymethyl methacrylate base.   A. L. B.

BARKOVA, M.V.; KALANTAROVA, M.S.; MURASHOVA, N.V.

Adhesive tapes for splicing magnetic recording tapes. Trudy VNAIZ
no.7:68-79 '60. (MIRA 14:4)
(Magnetic recorders and recording)

S/081/61/000/009/011/015
B101/B203

AUTHORS: Barkova, M. V., Kalantarova, M. S.

TITLE: Possibility of using a fluoroplast basis for producing highly
              resistant magnetic tape

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1961, 544, abstract
              9П30 (9P30) ("Tr. Vses. n.-i. in-ta zvukozapisi", 1959,
              vyp. 6, 105-118)

TEXT: The authors give a brief survey of highly resistant bases used
abroad for producing magnetic tapes (MT). Tests were carried out on the
suitability of a film made of fluoroplast, type "ftorofol'", as a basis
for MT. Two formulas were elaborated for magnetic lacquer containing
magnetic powder with needle-shaped particles (gamma iron oxide) type МПЗ-3
(MPZ-3) and medium-viscous fluoroplast type C -42 (S-42), one formula
using phenolic resin type ВДУ (VDU), the other an epoxy resin type ЭД -6
(ED-6). The formulas given guarantee stability of the lacquer, good
surface quality of the magnetic layer, and good adhesion to the highly

Card 1/2

Possibility of using a fluoroplast...   S/081/61/000/009/011/015
                                           B101/B203

' resistant fluoroplast basis. A brief characteristic is given of the
physicomechanical and electroacoustic properties of MT on a fluoroplast
basis. [Abstracter's note: Complete translation].

Card 2/2

BARKOVA, M.V.

Some data on the palynological spectra of Karginskiy sediments in the Ust'-Port region. Sbor. st. po paleont. i biostrat. no.31:79-89 '63.   (MIRA 16:11)

L 35548-65   EWT(m)/EPF(c)/EPR/EWP(j)/T   Pc-4/Pr-4/Ps-4   WW/RM

ACCESSION NR: AP5008196   S/0286/65/000/005/0070/0070

AUTHORS: Barkova, M. V.; Stebeneva, N. F.; Kolosov, V. G.; Lebedeva, L. V.;   35
Shteynpress, A. B.   B

TITLE: A method for producing pressed materials from polytetrafluoroethylene.
Class 39, No. 168875

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 70

TOPIC TAGS: polytetrafluoroethylene, plastic, thermosetting material

ABSTRACT: This Author Certificate presents a method for obtaining pressed material
from polytetrafluoroethylene. In order to give the material fluidity and the
capacity for reworking into wares by the methods of plastic retreatment, the
polytetrafluoroethylene with or without fillers is mixed with highly fluid thermo-
setting polymers (furan, resorcin furfurol, and others) or monomers (such as
furfuryl alcohol, FA monomer).

ASSOCIATION: none

SUBMITTED: 06Jun62   ENCL: 00   SUB CODE: MT, OC

NO REF SOV: 000   OTHER: 000

Card 1/1

L 9688-66   EWT(m)/EWP(j)/T/EWA(h)/ETC(m)/EWA(l)   MW/RM

ACC NR: AP6000975   SOURCE CODE: UR/0286/65/000/022/0057/0057

INVENTOR: Barkova, M. V.; Lebedeva, L. V.; Lokantseva, I. M.; Zaviralina, T. P.;
Chentemirova, L. M.

ORG: none ·

TITLE: Preparation of heat-resistant epoxy compounds. Class 39, No. 176393

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 57

TOPIC TAGS: epoxy plastic, heat resistance, irradiation resistance, heat resistant material

ABSTRACT: An Author Certificate has been issued for a preparative method for heat-
and radiation-resistant compounds based on epoxy resin and a curing agent. The
method provides for the use 9,10-dihydroanthracene, or the 9,10-endo-α,β-succinic
anhydride [sic], an adduct of maleic anhydride and anthracene.   [BO]

SUB CODE: 11, 07/ SUBM DATE: 19Jul63/ ATD PRESS: 4/51

Card 1/1   UDC: 678.643.043

ACC NR: AP6035719 (A) SOURCE CODE: UR/0413/66/000/019/0079/0079

INVENTOR: Barkova, M. V.; Chentemirova, I. M.

ORG: none

TITLE: Method of obtaining a binder for fiber glass reinforced plastic. Class 39, No. 186672

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 79

TOPIC TAGS: binder, glass reinforced plastic

ABSTRACT: This Author Certificate introduces a method of obtaining a binder for fiber glass reinforced plastic using butadiene styrene rubber. To maintain the strength characteristics at increased temperatures, the rubber is mixed with dymalimide in the ratio of 0.25:1 to 2:1, following which the mixture is suspended in chloroform. [Translation]   [NT]

SUB CODE: 11/ SUBM DATE: 02Apr65/

Card 1/1   UDC: 678.86:678.762.2-134.662

KRYUGER, L.V.; BARKOVA, T.A.

Information pertaining to the mycorhiza of corn. Agrobiologiia
no.1:137-138 Ja-F '59.   (MIRA 12:4)

1. Permskiy sel'skokhozyaystvennyy institut imeni D.N.
Pryanishnikova.
                (Corn(Maize)) (Mycorhiza)

BARKOVA, V.V., inzh. po tyagovym podstantsiyam.

Using metal frames for lead stroage batteries. Elek. i tepl. tiaga
2 no.3:30-31 Mr '58.   (MIRA 11:4)

1. Zlatoustovskiy uchastok energosnabzheniya, Yuzhno-Ural'skaya
doroga.
                          (Storage)

BARKOVA, YE. A.

YUDIN, V. A. Insh. i BARKOVA, YE. A. Kand. Tekh. Nauk
Akademiya Kommunal'nogo khozyaystva i. K. D. Pamfilova

PRIMENYAYA SPOSOBNOST' PLENYETOY ULITSOY SETI

Page 78

SO: Collection of Annotations of Scientific Research Work on Construction,
completed in 1950, Moscow, 1951

BARKOVA,Ye.A.; KUDRYAVTSEV,O.K.; MARKOVNIKOV,V.L., redaktor; OTSCHEVA,
M.A., redaktor; KONYASHINA,A.D., tekhnicheskiy redaktor

[Calculating the time of runs in city transportation] Raschet vre-
meni reisa na gorodskom transporte. Moskva, Izd-vo Ministerstva
kommunal'nogo khoziaistva RSFSR, 1955. 108 p.   (MIRA 9:2)
                    (Traffic surveys)

KUDRYAVTSEV, Orest Konstantinovich, BARKOVA, Yelena Aleksandrovna;
MARKOVNIKOV, V.L., redaktor; OTOCHEVA, M.A., redaktor Izdatel'stva;
KONYASHINA, A., tekhnicheskiy redaktor

[Reference tables for traction computations in urban transportation]
Spravochnye tablitsy po tiagovym raschetam gorodskogo transporta.
Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1956.
149 p.   (MLRA 10:3)
        (Local transit)

BARKOVA, Ye. A.; BLATNOV, M.D.; KUDRYAVTSEV, O.K.; SAMOYLOV, D.S.;
MINASYAN, Ye.A., redaktor;ZHOROV, D.M.,tekhnicheskiy redaktor

[Principles of the organization of the movement of city passenger
transportation; a practical manual] Osnovy organizatsii dvizheniia
gorodskogo passazhirskogo transporta; metodicheskoe rukovodstvo.
Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1956. 270 p. (MIRA 10:4)
          (Local transit)

BARKOVA, Ye.A., kand.tekhn.nauk; SOSYANTS, V.G., dotsent, nauchnyy
red.; CHABROV, I.M., red.vypuska

[Classification of city transportation routes according to
the complexity of traffic conditions; scientific report]
Klassifikatsiia marshrutov gorodskogo transporta po slozh-
nosti uslovii dvizheniia; nauchnoe soobshchenie. Moskva,
Otdel nauchno-tekhn.informatsii, 1958. 56 p.   (MIRA 13:2)
                    (Traffic engineering)

MERKULOV, Yefim Afanas'yevich; PETROV, Vyacheslav Konstantinovich [deceased];
SOSYANTS, Vasiliy Georgiyevich; YUDIN, Vasiliy Aleksandrovich;
Prinimali uchastiye: DUBROVIN, Ye.N.; SLAVUTSKIY, A.K.; BARKOVA,
Ye.A.; BLATNOV, M.D.; KUDRYAVTSEV, O.K.; SAMOYLOV, D.S.; FRIDLYAND,
A.G.. BRONSHTEYN, L.A., red.; RACHEVSKAYA, M.I., red.izd-va;
LELYUKHIN, A.A., tekhn.red.

[Urban transportation and street construction] Gorodskoi transport
i dorozhno-mostovoe khoziaistvo. Moskva, Izd-vo M-va kommun.khoz.
RSFSR, 1959.   473 p.   (MIRA 12:8)

1. Sotrudniki Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova
(for Barkova, Blatnov, Kudryavtsev, Samoylov, Fridlyand).
          (Transportation)   (Streets)

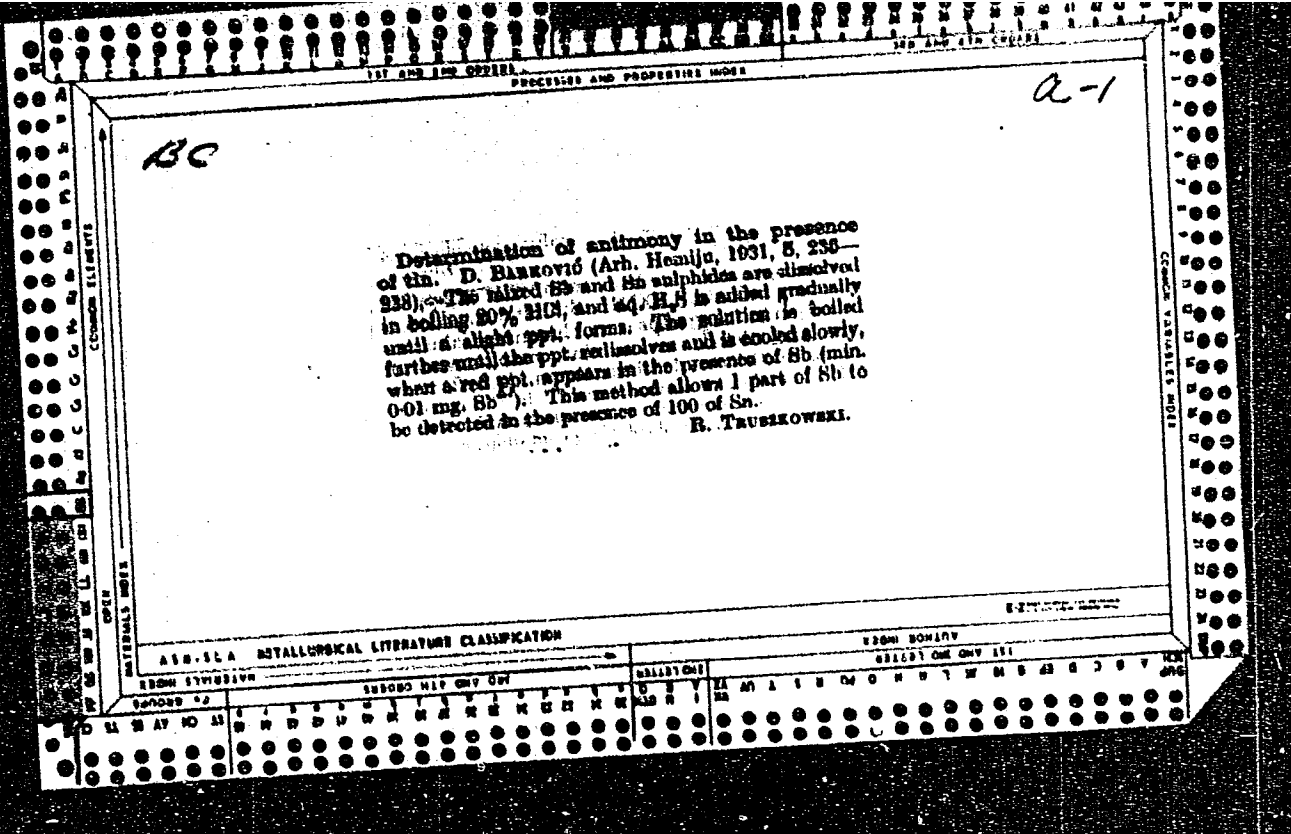POKROVSKIY, V.I., kand.med.nauk; BARKOVA, Ye.V.; KUZNETSOV, V.S.

Clinical aspects and therapy of suppurative meningitis induced by
Afanasev-Pfeiffer's bacillus. Pediatriia 37 no.10:69-74 0 '59.
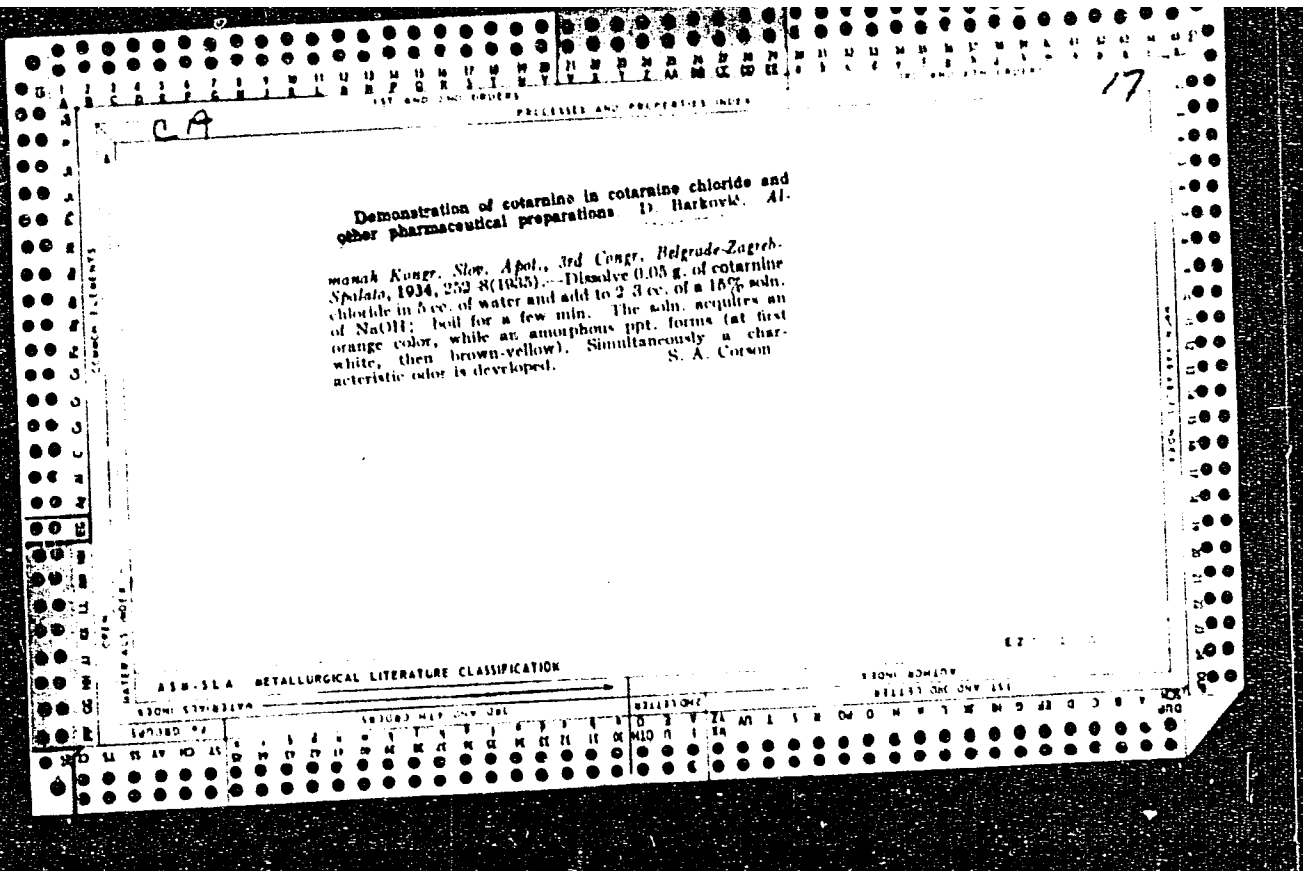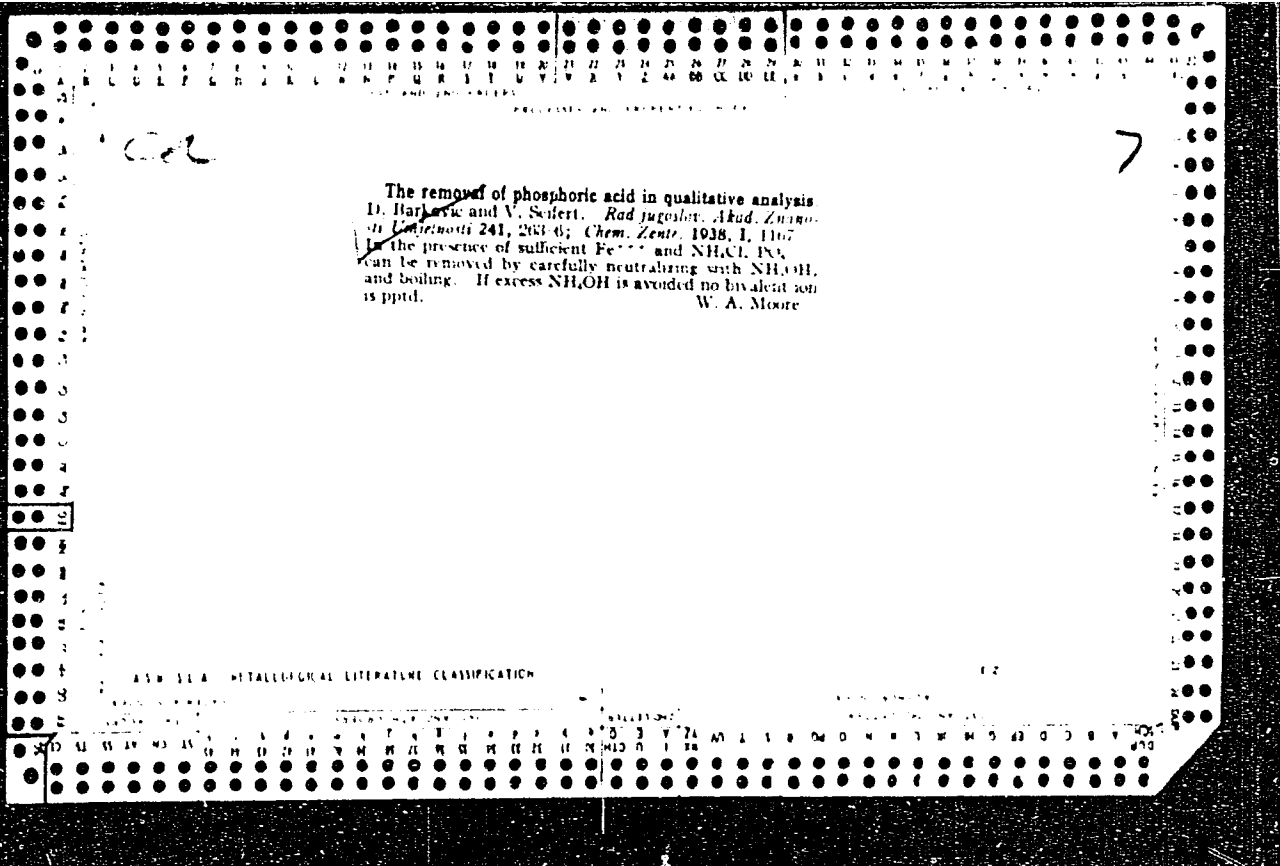   (MIRA 13:2)
1. Iz kafedry infektsionnykh bolezney (zaveduyushchiy - prof. K.V.
Bunin) I Moskovskogo meditsinskogo instituta imeni I.M. Sechenova
(direktor - prof. V.V. Kovanov) i 1-y Moskovskoy klinicheskoy infektsi-
onnoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR N.G.
Zaleskver).
          (MENINGITIS in inf. & child.)
          (HAEMOPHILUS INFLUENZAE infect.)

BARKOV, Leonidovich; BU...

Butt-joint of tubes will press...

BC

a-1

Determination of antimony in the presence of tin. D. Barković (Arh. Hemija, 1931, 5, 235—238). The mixed Sn and Sb sulphides are dissolved in boiling 20% HCl, and aq. H₂S is added gradually until a slight ppt. forms. The solution is boiled further until the ppt. redissolves and is cooled slowly, when a red ppt. appears in the presence of Sb (min. 0·01 mg. Sb). This method allows 1 part of Sb to be detected in the presence of 100 of Sn.

R. TRUSZKOWSKI.

17

Demonstration of cotarnine in cotarnine chloride and
other pharmaceutical preparations   D. Harkovic. Al-

manah Kongr. Slov. Apot., 3rd Congr. Belgrade-Zagreb-
Spalato, 1934, 253 8(1935).—Dissolve 0.05 g. of cotarnine
chloride in 5 cc. of water and add to 2-3 cc. of a 15% soln.
of NaOH; boil for a few min. The soln. acquires an
orange color, while an amorphous ppt. forms (at first
white, then brown-yellow). Simultaneously a char-
acteristic color is developed.   S. A. Corson

ASM-SLA   METALLURGICAL LITERATURE CLASSIFICATION

The removal of phosphoric acid in qualitative analysis.
D. Barković and V. Seifert. Rad jugoslav. Akad. Znano-
ti Umjetnosti 241, 263-6; Chem. Zentr. 1938, I, 1167.
In the presence of sufficient Fe^{+++} and NH_4Cl, PO_4
can be removed by carefully neutralizing with NH_4OH,
and boiling. If excess NH_4OH is avoided no bivalent ion
is pptd.   W. A. Moore

ASM SLA   METALLURGICAL LITERATURE CLASSIFICATION

Chemical composition of the alcohols in dammar resin. D. Barković and V. Vukčević-Kovačević (Inst. of Pharmaceutical Chemistry and the Chemical Lab., Philos. Faculty, Zagreb). *Arhiv Kem.* 18, 66–74(1946) (in English, 74–75).—In 2 previous studies (*C.A.* 35, 4030[1,4]) it was found that dammar resin contains compds. of alc. character and that the α-dammar resin likewise consists of alcs. This portion of the resin, constituting 0.5 of the total resin, is neutral, dissolves in alc., and can be oxidized. From the oxidation product was isolated a cryst. product, C$_9$H$_{15}$O$_3$N$_2$ (Barković: *Diss.*, Zagreb, 1940, and *C.A.* 35, 4030[4]). In the present study it was possible to isolate sep. components of the complex mixt. and to oxidize the alcs. of the dammar resin with CrO$_3$ in HOAc. From the reaction product were isolated 2 lactones as a mixt. of their K salts which could be sepd. from each other by fractional crystn. from KtOH since one was much more sol. than the other. Further expts. showed that the alcs. of the dammar resin do not contain lactone groupings; they most probably belong to the triterpene class of compds., while the lactones obtained, with their much smaller mol. wts., were probably the product of oxidative degradation of the original alcs. Oxidation of the alcs. in dammar resin and purification of the product: The alc. mixt. (isolated from dammar resin) (100 g.) in 1 l. HOAc was heated to 40–50°, and 50 g. CrO$_3$ in a little H$_2$O, as well as 500 cc. 96% HOAc, was added in small portions, with const. stirring, within 0.5 hr., the mixt. allowed to stand another 30 min., 150 cc. 96% H$_2$SO$_4$ added, the soln. poured into 10 l. H$_2$O acidified with H$_2$SO$_4$, and the ppt. obtained filtered off, washed first in warm H$_2$O acidified with H$_2$SO$_4$, then in cold H$_2$O, then dried by warming slightly. The crude product was purified by dissolving in HOAc and repptg. from H$_2$O acidified with H$_2$SO$_4$, the process being repeated 2–3 times. Sepn. of the oxidation product of dammar resin alcs. into components: Dissolve 30 g. of the purified oxidation product in 30 cc. alc. with heating, add 5 cc. 30% KOH, and dil. with H$_2$O to 10 l. From the colloidal soln. a mixt. of K salts of the 2 lactones, L$_1$ and L$_2$, is isolated by pptn. with 30% KOH. The pptn. is

slow and the reaction mixt. must be stirred 15 min., then let stand 12 hrs. The ppt. is filtered off, washed with H$_2$O, alkalized with KOH, redissolved in H$_2$O, and again pptd. with 30% KOH; this is repeated once or twice. The final ppt. is filtered off, washed with a little water, and dried in air. Separation of lactone L$_1$ from lactone L$_2$ is achieved by suspending the above salt mixt. in 150 cc. acetone, adding a little KOH soln. (30%), and letting stand several hrs. The salt of L$_2$ goes into soln. together with the neutral product mentioned above, while that of L$_1$ ppts. out, is filtered off, washed with acetone, and dried in air. Addn. of 15% KOH (several cc.) to the filtrate produces within several hrs. sepn. of a *neutral product* as an oily layer sinking to the bottom. The supernatant fluid is decanted, poured into water alkalized slightly with KOH, and acidified with HCl. This causes pptn. of the salt of L$_2$ with some traces of that of L$_1$ and other impurities. To the reaction mixt. is added KOH soln. to alk. reaction, whereupon a part of the ppt. (the impurities) redissolves. The remaining ppt. is filtered off, washed in H$_2$O slightly alkalized with KOH, dried, and again suspended in acetone. The undissolved portion represents the traces of L$_2$ salt, which is filtered off, washed with acetone, and dried in air. The acetone filtrate is poured into sufficient water and the addn. of HCl causes decompn. of the salt of L$_2$ and permits isolation of lactone L$_2$. Purification and properties of the lactone L$_1$, C$_9$H$_{14}$O$_3$, mol. wt. 388.6: The crude lactone, dissolved in alc. with heating, is poured with stirring into water acidified with HCl and more HCl is added to acid reaction. The mixt. is left standing until a ppt. forms. The latter is filtered off, washed with water, and redissolved in alc. and the soln. is decolorized with charcoal and concd. until the lactone L$_1$ ppts. out. The soln. in alc. and pptn. from water acidified with HCl is repeated several times. The pure product (yield, 5% of the total wt. of alcs.), colorless needles, m. 210°, mol. wt. (detd. by the method of Swietoslavski) 383.3–405.5, is very sol. in C$_6$H$_6$, CHCl$_3$, and HOAc, moderately sol. in acetone and EtOAc, slightly sol. in alc., and very slightly sol. in Et$_2$O. C(NO$_3$)$_4$ gave a yellow color

with L_1 in $CHCl_3$. L_1 in Ac_2O poured carefully out to a layer of concd. H_2SO_4 gave an orange to red contact ring. Sapon. of lactone L_1: To L_1 in 20 cc. neutral alc. is add. d 25 cc. $N/2$ alc. KOH and the mixt. refluxed on a water bath 1 hr. and titrated bot with $N/2$ HCl to phenolphthalein end point. The sapon. no. was 140.31–140.37; one CO_2H is demonstrated in L_1. Repptn. of L_1 from the titrated soln., which has been dild. with H_2O and acidified with HCl, gives the same product, m. 216° (no depression of the mixed m.p.). Sapon. and demonstration of the lactone linking in lactone L_1: The lactone in 20 cc. alc. and 25 cc. $N/5$ alc. KOH, is refluxed 1 hr. on a water bath and titrated bot with $N/5$ HCl against phenolphthalein; 81 cc. $N/5$ HCl is added to the titrated soln., the mixt. refluxed 2 hrs. on a water bath, and the soln. titrated with $N/5$ alc. KOH. The mol. wt. calcd. from this expt. is 395.2–403.5. Lactone L_1 can be isolated from the last titrated soln. by acidification with HCl and crystn. from alc. Acetylation of lactone L_1: Lactone L_1 (1.5 g.) in 30 cc. of a mixt. of equal parts C_5H_5N and Ac_2O, let stand 48 hrs. in the dark, then poured into H_2O acidified with H_2SO_4 and let stand 1 hr., the ppt. formed filtered off, washed in H_2O, dried in air, dissolved in HOAc, repptd. by pouring into water acidified with H_2SO_4, washed with H_2O, dried, first in air, then over concd. H_2SO_4, and the product purified by recrystn. several times from alc., gives colorless needles, m. 216°, m.p. not depressed on mixing with pure L_1. Br deriv. of lactone L_1, $C_8H_{10}O_4Br$ (I): To L_1 (1 g.) in 50 cc. $CHCl_3$, at 5°, add in small portions with stirring a dil. soln. of Br in $CHCl_3$ until the soln is permanently (2–3 min.) colored yellow. The $CHCl_3$ is removed by blowing (air?) through the soln. and the residue is dried in a vacuum desiccator. The dried residue is dissolved in a little $CHCl_3$ and pptd. by addn. of Et_2O or acetone (a double or triple vol.) and the process repeated several times to give a pure product m. 210–21° (m p. is detd. rapidly by heating the capillary tube in concd. H_2SO_4 preheated to 200°), sol. in $CHCl_3$, slightly sol. in alc. and acetone, very slightly sol. in Et_2O and

petr. ether. The Beilstein halogen test is pos. I is debrominated by refluxing 0.5 g. with 50 cc. 25% alc. (MeOH) KOH 30 min. on a water bath, acidifying the mixt. with HCl, filtering off the ppt., and washing it with H_2O and air-drying to give prisms, m. 228–30° (from alc.); the Beilstein test for halogens is neg.: a soln. of the debrominated product in $CHCl_3$ turns yellow on addn. of 2 drops of a soln. of Br in $CHCl_3$. Oxime of the lactone L_1, $C_8H_{10}O_3N$ (II): To 0.5 g. L_1 in 50 cc. alc. add 1 g. $NH_2OH \cdot HCl$ and 1.5 g. fused NaOAc in a little H_2O, reflux, and then boil on a water bath 3.5–4 hrs. to conc. the soln. During the process a little ppt. is formed; more is obtained after leaving the reaction mixt. overnight. The ppt. is filtered off, washed with H_2O, then with alc., dissolved in a mixt. of MeOH or EtOH with $CHCl_3$, the soln clarified by shaking with charcoal, and then concd. to give in a little while colorless prisms, recrystd. several times, m. 278–81° (decompn.) (bath preheated to 250°), moderately sol. in HOAc and $CHCl_3$, slightly sol. in C_5H_6, very slightly sol. in MeOH, EtOH, Et_2O, and acetone. Desoximation To 0.5 g. II dissolved in 15 cc. 96% HOAc with heating is added 5 cc. 25% HCl, the mixt. heated 1 hr. on a water bath, then poured into water with stirring. The ppt. is filtered off, washed in H_2O, and dried in air, yielding colorless needles, m. 216° (from alc.), does not depress the m.p. of the pure L_1. Isolation, purification, and properties of the lactone L_1, $C_8H_{10}O_4$, mol. wt. 392.6: The crude K salt of L_1 is dissolved by heating in alc. and the soln. poured into H_2O. On addn. of HCl to the soln. a ppt. is formed (pptn. is completed by allowing to stand). The crystals are filtered off, washed in H_2O, dried in air, redissolved in alc., repptd. from dil. HCl several times, and the purified lactone then recrystd. from acetone as colorless platelets. From alc.–Et_2O needles are obtained. Repeated crystn. gives a pure product, m. 184°; the yield is about 17% of the total weight of the resin alcs. L_1 is sol. in alc. and acetone and slightly sol. in Et_2O, HOAc, and Ac_2O. The $C(NO_2)$ test is neg. for L_1 in $CHCl_3$. The Ac_2O test gives a reddish brown contact ring when L_1 dissolved in this reagent is poured onto a layer of concd. (96%) H_2SO_4.

PROCESSES AND PROPERTIES INDEX

The Rast mol. wt. detn. gives 344.4, the Swietoslavski detn., 379.8. Acetylation of lactone L_4: Acetylate 1.5 g. L_4 as given under the procedure for acetylation of L_1. The product is crystd. from acetone as colorless platelets; recrystd. from Ac_2O, acetone, or alc., the pure product, m. 184°, does not depress the m.p. of pure L_4. Sapon. of L_4: Proceed as stated under the sapon. of L_1. Presence of one CO_2H is demonstrated. The lactone is regained from the sapond. liquid by pouring the latter into H_2O and pptg. L_4 out with HCl. The ppt., washed with H_2O, dried in air, and recrystd. from acetone in colorless platelets, m. 184°. Sapon. and demonstration of the lactone link in L_4:

The technique is the same as that described under the procedure for L_1. The mol. wts. obtained from this expt. are 405.7 and 378.9. L_4 is regained from the titration medium by pouring the liquid into water, acidifying with HCl, and recrystg. from alc. or acetone. The K salt of L_4 crystd. out of the colloidal aq. soln. of the oxidation product, gotten from the oxidized mixt. of resin alcs. as stated earlier, on addn. of KOH. Recrystn. from alc. gives crystals in the form of scales. Dioxime of L_4, $C_8H_{10}O_4N_2$, obtained similarly to II, crystd. from $CHCl_3$-MeOH (1:3) as colorless needles; after repeated recrystn. it m. 203° (decompn.). Composition of the oxidation product: Separate investigation has shown that this product contains only 25% of the lactone mixt. Acids of unknown constitution formed as a result of the oxidation of the resin alcs. constitute 50% of the oxidation product, while the remainder (25%) consists of various products, mostly of aldehydic or ketonic character. Separation of the neutral product from the lactone mixt. and from the acidic portion of the oxidation product: When the mixt. of K salts of L_1 and L_4 is isolated by addn. of KOH to the colloidal soln. cc.atg. the oxidation product, the acid portion of the latter remains in the alk. mother liquor, while the neutral product, consisting mostly of a mixt. of aldehydes and/or ketones, remains in the ppt. together with the lactone salts. It is sepd., along with the salt of L_1, from the salt of L_4 by soln. in acetone, and from the salt of L_1 by alkalizing the filtrate with 15% KOH, whereupon an oily layer forms which can be decanted. The oily layer and the acid mixt. were not studied further.

C. S. Shapiro

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION