LICDT, G.K.,

Geography and Geology

Cartography. Moskva, Gos. uchebno-pedagog. izd-vo, 1948.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

COUNTRY : USSR
CATEGORY : Cultivated Plants. General Problems.
ABS. JOUR. : Ref Zhur-Biologiya, No. 5, 1959, No. 20261
Author : Liodt, G.N.
INST. : Voronezh Agric. Inst.
TITLE : Agricultural Map of the Farming Region
ORIG. PUB. : Zap. Voronezhsk. s-kh. In-ta, 1958, 27, No. 1, 39-44
ABSTRACT : No abstract

SUKHOV, V.I., prof., doktor tekhn. nauk; YUROVSKIY, Ya.I., dots., kand. tekhn. nauk; LIODT, G.N., prof., doktor geogr. nauk; NIKISHOV, M.I., starshiy nauchnyy sotr., doktor tekhn. nauk; BYKOVA, M.G., red.; DEYEVA, V.M., tekhn. red.

Making agricultural maps; Sostavlenie sel'skokhozyaystvennykh kart. Izd.2., perer. Moskva, Izd-vo sel'khoz. lit-ry, zhurnalov i plakatov, 1961. 310 p. (MIRA 15:2)
(Agriculture—Maps)

SULTANOV, Filaret Ivanovich; GORBACHEV, Sergey Mikhaylovich;
KRETOV, Pavel Yevgenyevich; LIOGENKIY, German Lvovich;
[illegible]

VOL'FSON, F.I.; LUKIN, L.I.; DYUKOV, A.I.; KUSHNAREV, I.P.; PEK, A.V.; RYBALOV, B.L.; SONYUSHKIN, Ye.P.; KHOROSHILOV, L.V.; CHERNYSHEV, V.F.; BIRYUKOV, V.I.; GARMASH, A.A.; DRUZHININ, A.V.; KARAMYAN, K.A.; KUZNETSOV, K.F.; LOZOVSKIY, V.I.; MALINOVSKIY, Ye.P.; NEVSKIY, V.A.; PAVLOV, N.V.; ROMENSON, B.M.; SAMONOV, I.Z.; SIDORENKO, A.V. [deceased]; SOPKO, P.F.; CHEGLOKOV, S.V.; YUDIN, B.A.; KREYTER, V.M., doktor geologo-mineral.nauk; retsenzent; KOTLYAR, V.N., doktor geologo-mineral.nauk, retsenzent; GRUSHEVOY, V.G., doktor geologo-mineral.nauk, retsenzent; NAKOVNIK, N.I., doktor geologo-mineral.nauk, retsenzent; KUREK, N.N., doktor geologo-mineral. nauk, retsenzent; LIOGEN'KIY, S.N., retsenzent; SHATALOV, Ye.T., doktor geologo-mineral.nauk, red.; KRISTAL'NYY, B.V., red.; SERGEYEVA, N.A., red.izd-va; GUROVA, O.A., tekhn.red.

[Basic problems and methods of studying structures of ore provinces

(Continued on next card)

VOL'FSON, F.I.---(continued) Card 2.

and deposits] Osnovnye voprosy i metody izucheniia struktur rudnykh polei i mestorozhdenii. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1960. 623 p.

(MIRA 13:11)

1. Akademiya nauk SSSR. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii. 2. Moskovskiy institut tsvetnykh metallov i zolota (for Dyukov, Biryukov, Druzhinin, Kuznetsov). 3. Institut mineralogii, geokhimii i kristallokhimii redkikh elementov AN SSSR (for Germash). 4. Akademiya nauk Armyanskoy SSR (for Karamyan). 5. Baleyzoloto (for Sidorenko). 6. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR (for Malinovskiy, Nevskiy, Pavlov, Chernyshev). 7. Moskovskiy geologorazvedochnyy institut im. S.Ordzhonikidze (for Ronenson). 8. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya (for Samonov). 9. Voronezhskiy universitet (for Sopko). 10. Kol'skiy filial AN SSSR (for Yudin).

(Ore deposits)

4. Geophysics - Novgorod Province

7. Report on the activity of the Komarovo geophysics party in the Lyubytino and Borovichi Districts of the Novgorod Province. (abstract) Izv. Glav. upr. geol. fon. no.3, 1947

9. Monthly list of Russian Accessions, Library of Congress, March 1953, Unclassified

LIOGEN'KIY, S.Ya.

Comparative study of magnetic properties of rocks from regions of the Altai. Razved.i okh.nedr. 20 no.5:19-25 S-O '54. (MLRA 10:1)
(Altai Mountains--Rocks--Magnetic properties)

LIOGEN'KIY, S.YA.

Role of natural electric currents in forming the oxidation zone of sulfide deposits. Inform.sbor. VSEGEI no.1:103-106 '55.
(MLRA 9:12)

(Sulfides)

Translation from: Referativnyy zhurnal, Geologiya, 195[illegible], Nr 10, pp 204-205 (USSR)

AUTHOR: Liogen'kiy, S. Ya.

TITLE: The Problem of Using Electrical Prospecting Methods in Mapping of the Rudnyy Altay (K voprosu primeneniya elektrorazvedki v tselyakh kartirovaniya na Rudnom Altaye)

PERIODICAL: Inform. sb. Vses. n.-i. geol. in-t, 1956, Nr 4, pp 112-118

ABSTRACT: The author has examined the conditions for using various methods of electrical prospecting in the Rudnyy Altay. He notes that the ratio of resistivity of the bedrock to the resistivity of the mantle rock is fairly large, reaching values of 10 to 20 and more. He also notes that the comparative constant value of resistivity of the sandy clay mantle over large areas favors the wide use of a vertical electrical sounding method for determining the thickness of the alluvial cover, with

15-57-10-14596

The Problem of Using Electrical Prospecting (Cont.)

a maximum electrode spacing up to 1000 m. He states that it is possible to interpret the great majority of vertical sounding graphs (several thousands) obtained in the Rudnyy Altay. Difficulty in deciphering the graphs was encountered only in the [illegible] (slope wash and creep) [illegible] research institute [illegible] course of the Bukhtarma River. The author states that the vertical electrical sounding method, properly used in combination with general geological mapping, helps to trace the distribution of different rock groups covered by mantle, to determine the thickness of the mantle, and to differentiate rocks according to lithology. The author examines the possibility of using symmetrical electrical profiling in the Rudnyy

Card 2/3

15-57-10-14596

The Problem of Using Electrical Prospecting (Cont.)

Altay for geological mapping, and he describes the screening effect of mantle that has a high conductivity and a sharply varying thickness in small areas. Figures are given to show the relationship of apparent resistivity to thickness of the mantle at various electrode spacings. These figures show the increase in screening effect of the mantle with an increase in the ratio between bedrock resistivity and mantle resistivity and with a decrease in electrode spacing. The author emphasizes that strong shielding effects of the mantle make interpretation of the electric profiling curves difficult, so that it becomes impossible to arrive at any practical conclusions for mapping. He concludes that vertical electrical sounding is most effective for the Rudnyy Altay. It is capable of the highest resolution, and gives the best technical and economic results.

Card 3/3

M. V. Sokol'skiy

(Altai Mountains Prospecting Geophysical methods)

Llogen'kiy, S. Ya.

AUTHOR: Llogen'kiy, S. Ya. 20-3-33/52

TITLE: Density of Ore-Bearing Rocks of the "Rudnyy Altay" (Polymetal Point and Rudnyy Altay).

PERIODICAL: [illegible]

[illegible] of gravitation, and many negative anomalies, where the rocks are located in a great depth, the sedimentary-metamorphic complex of the Middle Paleozoic Age connected with the vast majority of polymetallic ore deposits, is very low differentiated, with respect to

Card 1/3

[illegible]

[illegible] "[illegible]"

[illegible] sediments of which taking up to [illegible] of the [illegible] of [illegible] alloy, are differentiated as follows: the acid, i. e. the granitic ides, have the lowest density, according to an increased content of siliceous earth (2,57-2,68 g/cm³). The basic intrusive rocks: diabase, porphyrite and others, have a higher density (2,75-3,00 g/cm³). The highest difference of density, about of 0,7 g/cm³ exists between the Paleozoic and Mezo-Cenozoic formations, for the latter ones a density average of 2,oo g/cm³ may be assumed (table 1). A very different thickness of the light sediments (from zero up to 1oo-15o m and more) much complicates the gravimetric exploration for the purpose of geological charting. Therefore this me thod has to be completed by electron-exploring works according to the VEZ method. The density analysis of ore samples shows a wide fluctuation range of this parameter. 2,7o - 4,6o g/cm³. The The samples highest enriched with sulfides, have a density of 4,2o - 4,6o g/cm³. The "superabundance" - density ("izbytochnaya plotnost'") with respect to the rocks contained, amounts to 1,4o-1,6o g/cm³. With regard to the gravimetry sulfide ores can not be explored, because they only form small bodies, bedded too deep.

Card 2/3

Density of Ore-Bearing Rocks of the "Rudnyy Altay". 20-3-33/52

Oxidized ores, containing much of hypergenic (limonite, cerussite, anglesite and others), and many excavations of leached out sulfites, have an inhomogeneous density, usually lying about 0,3-0,6 g/cm^3 below the mean density of the contained rocks. By reason of that, negative anomalies of gravity may arise.
There is 1 table.

AFFILIATION: All-Union Scientific Geological Research Institute (Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut).

[illegible]

[illegible]

LIOGEN'KIY, S.Ya.

Physical properties of pegmatites and enclosing rocks of Korelia and the Kola Peninsula. Geol.rud.mestorozh. no.6: 117-120 N-D '59. (MIRA 13:7)

1. Vsesoyuznyy geologicheskiy nauchno-issledovatel'skiy institut, Leningrad.
(Russia, Northern--Pegmatites)

VEYKHER, A.A.; KULTYSHEV, N.P.; KURBAKO, Ye.P.; KUTKIN, S.F.; LEVITSKAYA, D.N.; MARKOVA, T.S.; TROITSKAYA, N.I.; URBANOVSKAYA, M.A.; KHAUSTOV, I.V.; LIOGEN'KIY, S.Ya.; NEMANOVA, G.F., red.izd-va; GUROVA, O.A., tekhn. red.

[Prospecting methods and the evaluation of molding materials] Metodika razvedki i otsenki mestorozhdenii formovochnykh materialov; sbornik materialov. Moskva, Gosgeoltekhizdat, 1963. 195 p. (MIRA 17:3)

LIOGINSKIY, G D.

Change methods of planning and accounting for gross output. Tekst. prom. 16 no.12:4-5 D'56. (MLRA 10:1)

1. Nachal'nik planovo-proizvodstvennogo otdela kombinata "Sovetskaya zvezda."
(Textile industry--Accounting)

1. Nachal'nik planovo-[illegible]
kombinata "Sovetskaya zvezda."
(Spinning machinery)

LIOGINSKIY, G.D.

Correct analysis of production indices ("Economics, organization, and planning of an industrial enterprise" by S. Kamenitser, V.Kontarovich, G.Pishchulin. Reviewed by G.D. Lioginskii). Tekst. prom. 19 no.9:81-84 S '59. (MIRA 12:12)

1.Nachal'nik planovo-proizvodstvennogo otdela kombinata "Sovetskaya zvezda".
(Industrial organization) (Textile industry)
(Kamenitser, S.) (Kontarovich, V.) (Pishchulin, G.)

SHVARTSMAN, D.A.; LIOGINSKIY, G.D.

Calculating the production costs per ruble of goods. Tekst. prom. 21 no.1:8-10 Ja '61. (MIRA 14:3)

(Manufactures—Costs)

LIOGINSKIY, G.D.

Calculating the gross production in textile factories. Tekst.-prom. 22 no.9:35-37 S '62. (MIRA 15:9)

1. Zamestitel' glavnogo inzhenera pryadil'no-nitochnogo kombinata "Sovetskaya zvezda" Leningradskogo soveta narodnogo khozyaystva.
(Textile industry--Accounting)

Liogon'okaya, R. I.

MTV **Rapid hardening of Portland cement for reinforced concrete shapes.** N. LEVIN AND R. I. LIOGON'SKAYA. *Tsement*, 21 [3] 15-19 (1956).—Suggested clinker composition is C_3S 55, C_2S 25, C_3A 11, and C_4AF 11%. Grinding to a specific surface of [illegible] cm²/gm. will ensure rapid hardening [illegible] of Portland cement. The addition of [illegible] (1)

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5292

Author: Levin, N. I., Liogon'kaya, R. I.

Institution: None

Title: Properties of Cements Produced by Means of Separation

Original Publication: Tsement, 1956, No 3, 6-10

Abstract: Sorting of cement by means of a separator into a fine and a coarse fraction makes it possible to produce two different kinds of cement due to a redistribution therein of the clinker materials -- alite and belite. The fine fraction is enriched with alite, the coarse with belite. Specific surface of fine fraction 5,400-6,100 cm²/gram, of the coarse fraction 1,600-2,300 cm²/gram. Both fractions are [illegible]

SOV-101-58-4-5/12

AUTHORS: Levin, N.I., Liogon'kaya, R.I.

TITLE: Quick Setting Cement for Urgent Emergency Work (Bystrotverdeyushchiy tsement dlya srochnykh avariynykh rabot)

PERIODICAL: Tsement, 1958, Nr 4, pp 19-22 (USSR)

ABSTRACT: The authors present the results of experiments to obtain a suitable quick-setting cement. The results of various tests are given in Tables 1-4. Table 4 illustrates the results obtained by testing quick-setting portland cement. The tests were carried out in the open air and under water. The 6-hour strength of these samples, which amounted to 110 - 115 kg/sq cm, met the requirements. The above results have proved: quick-setting portland cement, of the normalized mineralogic composition, is the only suitable material for urgent emergency work. This cement brand has to be ground to the fineness degree of 5,000 sq cm/g, with a 2.5% to 3% addition of $CaCl_2$.

Card 1/2

ACC NR: AP6018013 (A) SOURCE CODE: UR/0413/66/000/010/0145/0145

INVENTOR: Danyushevskiy, S. I.; Liogon'kaya, R. I.

ORG: None

TITLE: Expanding cement. Class 80, No. 182037 (announced by the State All-Union Institute for Design and Scientific Research Work (Gosudarstvennyy vsesoyuznyy institut po proyektirovaniyu i nauchno-issledovatel'skim rabotam)]

LIOGON KIY, B.I.

PHASE I BOOK EXPLOITATION SOV/4984

International symposium on macromolecular chemistry. Moscow, 1960.

Mezhdunarodnyy simpozium po makromolekulyarnoy khimii SSSR, Moskva, 14-18 iyunya 1960 g.; doklady i avtoreferaty. Sektsiya III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-18, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kashina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchange resins, semiconductor materials, etc., methods of catalyzing polymerization reactions, properties and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

AUTHORS: Berlin, A. A., Korshak, V. V., Parini, V. P.

TITLE: Production and Properties of Some Aromatic Polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 5, pp. 689-697

TEXT: In an earlier paper A. A. Berlin and V. P. Parini published the synthesis of homologous polyphenyl series by decomposing bis-diazobenzidine or bis-diazobenzidine-3,3'-dicarboxylic acid by means of salts of monovalent copper (Ref. 11). The present paper reports on this reaction and on the properties of the products obtained. The bis-diazo compounds were decomposed with an ammoniacal solution of copper sulfate, which had been stabilized with hydroxylamine hydrochloride. No different results were obtained with air supply or in argon atmosphere. An addition of the diazo solution to the copper solution, however, yielded products with higher molecular weight than those obtained in the inverse process. Analyses of the products obtained are given in Table 1. Nitrogen could not be completely removed. The chlorine content decreased with increasing

Card 1/3

83818

Production and Properties of Some Aromatic Polymers

S/190/60/002/005/008/015
B004/B067

molecular weight (Table 2). So, it is probably bound to the end group. The following polymer structure is assumed: $Cl-\left[C_6H_3(R)-C_6H_3(R)-N=N\right]_x-\left[C_6H_3(R)-C_6H_3(R)\right]_y-Cl$; R = -H or -COOH. The content of azo groups increases with increasing length of the chain. The carboxyl group in ortho-position favors the elimination of nitrogen. Fig. 2 shows that the loss in weight on heating (up to 450°C) [illegible] limit for every temperature. The infrared spectra taken [illegible]

[illegible] delocalization of unpaired electrons, have [illegible] formation of such biradicals was proved by reacting polymers with [illegible] ethinylbenzene at high temperatures. Unmeltable and insoluble products were formed. The magnetic properties and the electrical conductivity of

Card 2/3

83818

Production and Properties of Some Aromatic Polymers

S/190/60/002/005/008/015
B004/B067

the polymers will be described later. The authors thank I. A. Blyumenfel'd, Yu. Sh. Moshkovskiy, and A. A. Slinkin for studying the spectra and magnetic properties. There are 2 figures, 2 tables, and 19 references: 8 Soviet, 8 US, 2 German, and 1 Dutch.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR)

SUBMITTED: January 18, 1960

Card 3/3

5.5650

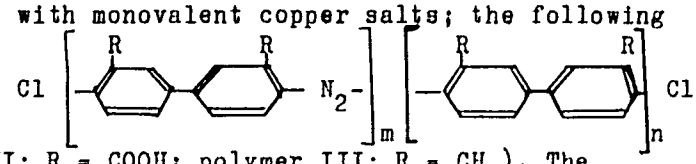
5004, 5094

AUTHORS: Liogon'kiy, B. I., Lyubchenko, L. S., Berlin, A. A., Blyumenfel'd, L. A., and Parini, V. P.

TITLE: Polymers With Conjugate Bonds and Heteroatoms in the Conjunction Chain. XI. The Spectra of Electron Paramagnetic Resonance of Linear Aromatic Polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10, pp. 1494-1499

TEXT: In previous papers (Refs. 1, 2), the authors obtained aromatic polymers by reaction of bis-diazotized benzidine, benzidine-3,3'-dicarboxylic acid, and o-toluidine with monovalent copper salts; the following structural formula is given:



(polymer I: R = H; polymer II: R = COOH; polymer III: R = CH_3). The electron paramagnetic spectra (epr) were taken (Figs. 1-3) of these poly-

Card 1/2

Polymers With Conjugate Bonds and Heteroatoms in the Conjunction Chain. XI. The Spectra of Electron Paramagnetic Resonance of Linear Aromatic Polymers

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mers and the copolymer from I and p-diethinyl benzene, and the concentration of the nonpaired electrons was found to be 10^{18} - 10^{19} in 1 g of substance (Table) by comparison with the epr spectrum of diphenyl-picryl hydracyl as a standard. All epr spectra showed a signal with g-factor [illegible] which remains unchanged on heating to 300-350°C and cooling to 77°K. [illegible] The [illegible]

[illegible] stability of the epr spectrum in the wide temperature range indicates the paramagnetic character of at least part of the polymer. There are 5 figures, 1 table, and 9 references: 8 Soviet and 1 US.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR)

SUBMITTED: April 25, 1960

Card 2/2

28178

S/190/61/003/010/007/019
B124/B110

11.2215 also 2209

AUTHORS: Berlin, A. A., Liogon'kiy, B. I., Parini, V. P.

TITLE: Aromatic polytriazenes

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 10, 1961, 1491 - 1494

TEXT: The present paper deals with the synthesis and study of aromatic polytriazenes of the composition $-[-C_6H_4-C_6H_4-N=N-NH]_n-C_6H_4-C_6H_4-$, the diazoamino group of which is between benzene rings and characterized by high proton mobility. The compounds studied were synthesized by reaction of bis-diazonium salts with diamines in the presence of sodium acetate: $nClN_2-R-N_2Cl + nH_2N-R-NH_2 \xrightarrow[-HCl]{CH_3COONa} -Cl-[-R-N-N-NH-]_{2n-1}-R-NH_2$. A bis-diazonium salt solution was added dropwise under intensive mixing to the aqueous-alcoholic solution of benzidine and sodium acetate cooled down to 0°C, and the reaction was carried out in argon current. The yield was 92.5% referring to the fundamental unit of

Card 1/4

28178

S/190/61/003/010/007/019
B124/B110

polymer. The polymer is a brick-red powder partly soluble in aniline acetone, benzene, dioxane, pyridine, acetic anhydride, and quinoline, and entirely soluble in dimethyl formamide, concentrated H_2SO_4 and formic acid at room temperature. When heated, the polymer is also completely soluble in pyridine and quinoline. Extraction yielded two fractions, one soluble in acetone (36%), one insoluble in acetone (64%), the latter being soluble in dimethyl formamide. When the polymer is heated in argon, no loss in weight occurs up to 100°C. The loss in weight is 5.2% at 150°C, and 20.2% at 200°C. It was found that heating did not cause a progressive polymer decomposition; because the loss in weight did not surpass a certain limit for any temperature. The infrared spectra of the two fractions differ only by their absorption intensity. Another paper will describe the infrared spectra. The linear structure of polymer $Cl-[-C_6H_4-C_6H_4-N=N-NH-]_{n-1}-C_6H_4-C_6H_4-NH_2$ with the end groups $-Cl$ and $-NH_2$ in the ratio 1:1 and a mean molecular weight of ~ 4000 can be assumed on the basis of the infrared spectra, the anomalous course of viscosity curves (see Fig. 2), and the results of elementary analysis.

Card 2/4

28178

S/190/61/003/010/007/019
B124/B110

Aromatic polytriazenes

The anomalous course of viscosity curves proven the rigidity of polymer molecules and their tendency toward association. The epr spectra of [illegible]

[illegible] however, according to the Curie law. The epr spectra prove that the conjunction along the chain is preserved and unpaired electrons in basic state are present. Magnetic susceptibility was $0.55 \cdot 10^{-6}$ per gram. The aromatic polytriazenes are electrical insulators at room temperature; electrical conductivity rises, however, considerably with temperature. $E = 1$ ev, $\sigma_0 \sim 50$ $ohm^{-1} \cdot cm^{-1}$ at room temperature; $E = 1.3$ ev, $\sigma_0 \sim 6 \cdot 10^6$ $ohm^{-1} \cdot cm^{-1}$ at 200°C was found for the values of equation $\sigma = \sigma_0 \exp(E/kT)$. There are 3 figures and 9 references: 7 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: C. Marwel, G. Hartzell, J. Amer. Chem. Soc., 81, 448, 1959;

Card 3/4

28178
S/190/61/003/010/007/019
B124/B110

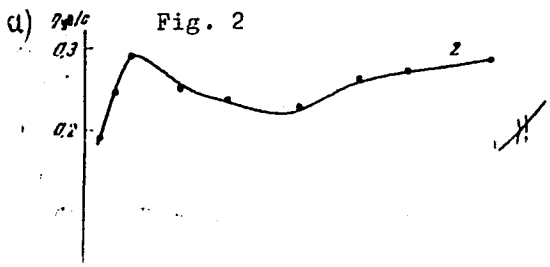
Aromatic polytriazenes

J. E. Stewart, M. Hellman, J. Res. Nat. Bur. Standards, 50, 125, 1958.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

SUBMITTED: November 14, 1960

Fig. 2. Dependence of intrinsic viscosity of the solutions of aromatic polytriazenes on the concentration (solvent: dimethyl formamide, Ubbelohde viscosimeter, temperature 20 ± 0.02°C). (1) Fraction of polymer soluble in acetone; (2) fraction insoluble in acetone



Legend: (a) [illegible] (b) [illegible] g/100 ml.

37430

S/190/62/004/005/006/026
B110/B144

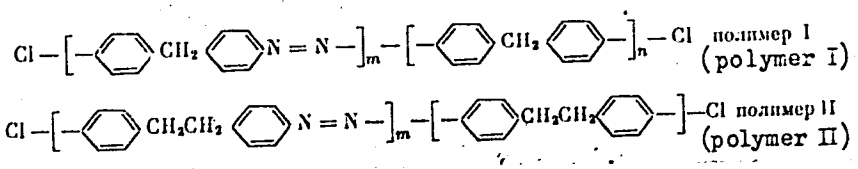
15.8540

AUTHORS: Berlin, A. A., Liogon'kiy, B. I., Parini, V. P., Leykina, M. S.

TITLE: Polymers with conjugate bonds and a heteroatom in the conjugate chain. XXIV. Synthesis and study of the properties of linear aromatic polymers with methylene groups between the benzene rings

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 662-669

TEXT: Bis-diazotized 4,4'-diamino-diphenyl methane and 4,4'-diamino-dibenzyl were converted into the linear polymers



полимер I (polymer I)

полимер II (polymer II)

Card 1/3

molecular fragments. The decrease of the [illegible] polymer chain is explained by a decrease in integral concentration of paramagnetic particles per g of substance and by the intensity of the

Card 2/3

narrow signal as compared to polyazophenylenes: Measurement of the electrical conductivity yielded for I: $E = 1.7$ ev, $\sigma_0 = 10^{12}$ $ohm^{-1} \cdot cm^{-1}$, $\sigma_{300^oK} = 10^{-16}$ $ohm^{-1} \cdot cm^{-1}$, $\sigma_{600^oK} = 10^{-2}$ $ohm^{-1} \cdot cm^{-1}$. For II, $\log \sigma = f(1/T)$ between 300 and 370°K was a curve whose angle of inclination approached $\pi/2$ as the temperature rose. Introduction of one or two CH_2 or NH groups thus causes a steep increase in the temperature dependence of the conductivity. The conductivity of these polymers will be high at high temperatures owing to the considerable heat resistance of I and II at 300-350°C. There are 3 figures and 4 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

SUBMITTED: March 23, 1961

[illegible]

[illegible]

AUTHORS: Klopman'kiy, N. I., Moskovskiy, Yu. [illegible], Tsetlin, V. I., Berlin, A. A.

TITLE: Infrared spectra of some aromatic polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 8, 1962, 1241-1248

TEXT: The IR spectra of the following linear polymers synthesized previously from Vysokomolek. soyed., v. 4, 603, 1124, 1962; 5, 1221, 1961; 1, 1[illegible], 1959), were examined in order to correlate their structures. (I) $-\left[C_6H_5-C_6H_5\right]_m-\left[N-N-C_6H_5-C_6H_5\right]_n-$ (I), where R = H (I), $-CH_3$ (II), or COOH (III); a block-copolymer of I with p-diethinyl benzene; the copper chelate compound of III; $F-\left[C_6H_5-C_6H_5-\right]_m-\left[N-N-C_6H_5-C_6H_5\right]_{n-m-F'}$ $-\left[C_6H_5-C_6H_5\right]_m-\left[N-N-C_6H_5-C_6H_5\right]_n-$ with $-O-CO-CH_3$ or OH groups at the end;

Card 1/3

$Cl-[C_6H_5-CH_2-C_6H_5-]_m-[N=N-C_6H_5-CH_2-C_6H_5]_n-Cl$; $Cl-[C_6H_5-CH_2-CH_2-C_6H_5]_m-[N=N-C_6H_5-CH_2-CH_2-C_6H_5]_n-Cl$; $-[C_6H_5-C_6H_5-N=N-NH-]_n-C_6H_5-C_6H_5-$.

Results: (1) Quinoid structures occur in polymers with continuous conjugate chains. The introduction of substituents (CH_3, COOH) or chain links ($-CH_2-$, $-CH_2-CH_2-$, -N=N-NH-) disturbs the coplanarity of the molecule and reduces the proportion of quinoid structures. (2) In polymers the ionization of the carboxyl groups increases with molecular weight. (3) The formation of a three-dimensional structure with a continuous system of conjugated bonds is characterized by a continuous background in the whole spectral region studied, and by the absence of noticeable absorption bands. There are 5 figures. The most important English-language references are: Blowers, M. Hellmann, J. Res. Nat. Bur. Standards, 60, 189, 1958; R. Dann, J. Amer. Chem. Soc., 79, 4209, 1957; [illegible], Nature, 3, 107, 1960.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR)

SUBMITTED: May 19, 1961

[illegible]

[illegible]

[illegible]

(packing density, character of electron interaction between macromolecules)
The types of electron interaction in polymers with conjugated bonds are

Card 1/3

dealt with in a communication by I. L. Kotlyarevskiy, L. B. Fisher, A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn (Ref. 6: Vysokomolek. soyed., 4, no. 1 (1962)). Where the degree of conjugation of the polymer is not too low, the electric characteristics are determined by the second factor. This is confirmed by the following: if methylene bridges, which reduce conjugation along the chain, are introduced in the macromolecule (polymer 2 in Table 1), the semiconductor properties are not destroyed but rather intensified (E_σ decreases), as the mobility of chains and the packing density increase, promoting electron interaction between the chains. With introduction of the group $-CH_2-CH_2-$ (polymer 3), the reduction of conjugation is so intense that it is no longer compensated by an increase in packing density. In all the polymers investigated, the effect of relaxation polarization (reversible decrease of electrical conductivity on application of direct current) was observed. It is due to the translation of charged sectors of the polymer chains in the electrostatic field. The temperature of this polarization (200°C) is 30-50°C lower for polymer 3, than for the others, which shows that chain mobility is highest with this polymer. Similar results were obtained for the electric properties of polyferrocenes (Ref.7: A. A. Dulov, A. A. Slinkin, A. M. Rubinshteyn, Vysokomolek. soyedin.,

4 (1962)). A. A. Berlin assisted in the present work. There are 2 figures and 1 table. The English-language references read as follows: D. D. Eley. G. D. Parfitt, Trans. Farad. Soc., 51, 1529 (1955); M. Hatano, S. Kambara, S. Okamoto, J. Polymer Sci., 51 (156), 26 (1961).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR). Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: January 5, 1962, by B. A. Kazanskiy, Academician

SUBMITTED: January 2, 1962

Legend to Table 1: (I) Structural formula of the polymer; (II) molar weight; (III) activation energy of the electrical conductivity, E_σ (120 - 250°C), ev; (IV) σ_0, $ohm^{-1} \cdot cm^{-1}$; (V) irreversible change in σ after heating; (VI) number of unpaired spins per g of N (on the basis of epr);

BERLIN, A.A.; VONSYATSKIY, V.A.; LIOGON'KIY, B.I.

Quasiradical block polymerization. Dokl. AN SSSR. 144 no.6:1316-1319 Je '62. (MIRA 15:6)

1. Institut khimicheskoy fiziki Akademii nauk SSSR. Predstavleno akad. V.N.Kondrat'yevym.
(Polymerization)

BERLIN, A.A.; RAGIMOV, A.V.; LIOGON'KIY, B.I.

Polysulfophenylene quinones. Izv. AN SSSR.Otd.khim.nauk no.10:1863-1865 O '62. (MIRA 15:10)

1. Institut khimicheskoy fiziki AN SSSR.
(Benzoquinone) (Benzidinesulfonic acid)

LIOGON'KIY, B. I.

Dissertation defended for the degree of Candidate of Chemical Sciences at the Institute of Hetrochemical Synthesis: in 1962:

"Synthesis and Investigation of the Properties of Several Polymeric Aromatic Compounds."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

ACCESSION NR: AT4033997 S/0000/63/000/000/0134/0138

AUTHOR: Berlin, A. A.; Liogon'kiy, B. I.; Parini, V. P.

[illegible]

TOPIC TAGS: polymer, aromatic polymer, polyazophenylene, fluorine containing polymer, polymer synthesis, heat resistant polymer, organic semiconductor, semiconducting polymer

ABSTRACT: Aromatic polymers (polyazophenylenes) (I) with an average molecular weight up to 4,000 or 4,500 were synthesized by reduction of 4,4'-biphenylbisdiazonium tetrafluoroborate with monovalent copper salts. The resultant polymers were in the form of dark cinnamon powders, showed significant thermal stability (retaining a glassy state even at 450C) and lost less than 10% of their initial weight at 500C in an inert atmosphere. Similarly to polymers synthesized earlier from the bisdiazonium chloride (II), the fluorine-containing polymers (I) had phenylene and azo groups. Infrared analysis, viscosimetric measurements and thermomechanical tests indicated that the length of polymer molecules with conjugated

Card 1/2

ACCESSION NR: AT4033997

bonds is greater in I than in II. I produced EPR signals of higher intensity than II and exhibited higher magnetic susceptibility ($X \cdot 10^{-6} = 1.4$ CGSM at H = 3500 oersteds, as compared to 0.17-0.20 CGSM). Electrical conductivity obeyed an exponential law and ranged from 10^{-15} $ohm^{-1} \cdot cm^{-1}$ at room temperature to 10^{-11} at 125C. Orig. art. has: 5 figures.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AN SSSR)

SUBMITTED: 10Sep62 ENCL: 00

SUB CODE: OC, MT NO REF SOV: 010 OTHER: 002

S/138/63/000/003/004/008
A051/A126

AUTHORS: Berlin, A. A., Drozdovskiy, V. F., Liogon'kiy, B. I.

TITLE: Structuralizing of rubber under the effect of polyazophenylenes

PERIODICAL: Kauchuk i rezina, no. 3, 1963, 10

TEXT: Sulfurless vulcanization of rubbers is assumed possible on the basis of the comparatively low excitation energies in polyazophenylenes which, in turn, are expressed in their high reactivity. Experiments showed that polyazophenylene (PAPh) and methyl-substituted polyazophenylene (MPAPh) promote the thermal structuralizing of butadiene-styrene rubber СКС-30 АРМ (SKS-30 ARM) at 180 - 210°C, whereby MPAPh has a greater structuralizing effect than PAPh. The structuralizing effect is also maintained in the case of a carbon-black rubber mix. The polyazophenylenes were found to reduce the rate of thermal and thermo-oxidizing destruction of the SKS-30 ARM sulfurless vulcanizate. There is 1 figure.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR i Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Institute of Chemical Physics of the USSR AS and Scientific Research Institute of the Tire Industry)

Card 1/1

B/190/63/005/003/008/024
B101/B186

A molar ratio of 1:1 at 23 - 180° in nitro/ gave a precipitate which was separated by extraction with benzene into a soluble fraction I and an insoluble fraction II. At a molar ratio of 1:2 the fraction III, soluble in benzene, and the insoluble fraction IV were obtained. The substances I-IV are dark brown powders. The reaction of ferrocene with diphenyl-4,4'-bis-diazonium-3,3'-dicarboxylic dichloride in dilute sulfuric acid and in argon atmosphere at 20°C gave, at a ratio of 1:1, the insoluble compound V, at a ratio of 1:2, the insoluble compound VI, both black powders. I and III are soluble in almost all organic solvents, II and IV in dimethylformamide V and VI in alkali and in dimethylformamide. All substances can be press-formed. The substances soluble in organic solvents form rigid films. The elementary analysis showed that in I and III 2-4 diphenyl groups are bound

Card 1/3

per 1 Fe atom, in II and IV 5 - 6 diphenyl groups, and in V and VI 4-5 diphenyl groups are bound. The molecular weight of the soluble substances was 1000 - 1400, that of the insoluble substances was much higher. A linear structure of the polymers with parallel arrangement of the polyphenylene groups and a small number of ramifications is concluded from the dependence of the viscosity on the concentration and from the analysis of the IR spectra. The double bonds of the cyclopentadienyl are conjugated with those of the phenylene groups. All polymers synthetized are paramagnetic and give an esr signal with g = 2.00, width 7 - 8 oe, and an in-

$100 \cdot 10^6$. There are 3 figures and 4 tables.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

SUBMITTED: August 5, 1961

L 41762-65 EPF(c)/EWP(j)/EWA(c)/EWT(m)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4033384 S/0062/64/000/004/0593/0600

26
B

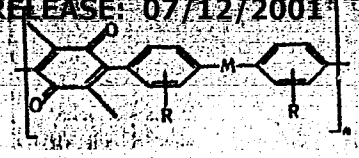
AUTHOR: Ragimov, A. V.; Liogon'kiy, B. I.; Berlin, A. A.

TITLE: Oxidation-reduction potentials and electron exchange properties of some polyarylenquinones

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1964, 593-600

TOPIC TAGS: oxidation reduction potential, electron exchange, ion exchange, polyarylenquinone, pi pi conjugation

ABSTRACT: The polymers with electron-exchange properties are used for removing oxygen from water, as models for biological catalysts and in the analytical chemistry. Intermolecular propagation can be expected if electron exchange and [illegible] groups are in the pi-conjugation. These systems must be quite [illegible]



Orig. art. has: 1 graph, 2 tables and 2 formulas.

ASSOCIATION: None

SUBMITTED: 21Oct63 ENCL: 00 SUB CODE: GC, OC

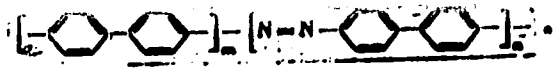
NR REF SOV: 004 OTHER: 007

cc

ACCESSION NR: AP4033387 S/0062/64/000/004/0703/0709

AUTHOR: Berlin, A. A.; Liogon'kiy, B. I.; Parini, V. P.

TITLE: Polymers with a conjugated system. Communication 56. Synthesis and study of the properties of a polymer based on bis(nitrosoaryl)benzidine



Card 1/3

ACCESSION NR: AP4033387

The reaction was carried out under argon at 40—45C for 4 hr, then at the boiling point of benzene for 4 more hr; nitrogen evolved and the polymer precipitated. The polymer is partly soluble in aniline, pyridine, quinoline, and dimethylformanide, and is completely soluble in concentrated sulfuric acid. Decomposition in air begins at 500C. IR and EPR spectra, concentration dependence of reduced viscosity in 98% H_2SO_4, magnetic susceptibility, and thermomechanical curves were measured, and themogravimetric analysis was performed for the polymer and compared with similar data for polyazophenylene prepared by reduction of 4,4'-biphenylbis(diazonium chloride) with cuprous salts. The fact that the new polymer prepared in the absence of metal showed an EPR signal and paramagnetism was regarded as confirming that these effects are due not to the presence of impurities but to the formation during the synthesis of a homologous polymer fraction of stable biradicals and charge transfer complexes. The temperature dependence of electrical conductivity obeyed an exponential law; σ_0 equals 10^{-3} $ohm^{-1} \cdot cm^{-1}$, E equals 1.01 ev. At 125C, the electrical conductivity is 10^{-10} $ohm^{-1} \cdot cm^{-1}$. Orig. art. has: 3 figures and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki, Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

Card 2/3

ACCESSION NR: AP4033387

SUBMITTED: 16Oct62 DATE ACQ: 15May64 ENCL: 00

SUB CODE: CH, PH NO REF SOV: 007 OTHER: 005

Card 3/3

SLONIM, I.Ya.; URMAN, Ya.G.; VONSYATSKIY, V.A.; LIOGON'KIY, B.I.; BERLIN, A.A.

Nuclear magnetic resonance in polymers with a system of conjugate bonds. Dokl. AN SSSR 154 no.4:914-917 F '64. (MIRA 17:3)

1. Institut khimicheskoy fiziki AN SSSR i Nauchno-issledovatel'skiy institut plastificheskikh mass. Predstavleno akademik [illegible]

ACCESSION NR: AP4037243 S/0062/64/000/005/0909/0912

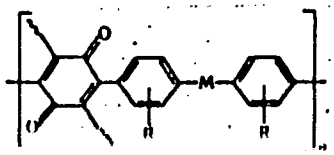
AUTHOR: Dulov, A. A.; Liogon'kiy, B. I.; Ragimov, A. V.; Slinkin, A. A.; Berlin, A. A.

TITLE: Electrical and magnetic properties of polyarylenequinones

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 5, 1964, 909-912

TOPIC TAGS: organic semiconductor, semiconducting polymer, polyarylenequinone

ABSTRACT: A study has been made of the electrical and paramagnetic properties of polyarylenequinones (I) with the general formula



were synthesized from the quinone and the bisdiazotized diamines. Their structure was linear or three-dimensional depending on the reactant ratio (1/1 or 1/3; or 1/1 and cross linked with benzidine). The temperature dependence of d-c electrical conductivity for pellet samples of I was determined in the range 100—350C at 10^{-5} mm Hg. A correlation was found between molecular structure, packing density, and electrical properties. Reduction of the backbone quinone radicals to the stable semiquinone form resulted in a sharp rise in conductivity (the change in activation energy remained small). This is believed to confirm the participation of unpaired electrons in the conduction process. This research was conducted at the Institute of Chemical Physics, Academy of Sciences SSSR, and the Institute of Organic Chemistry imeni N. D. Felinskiy, Academy of Sciences SSSR. Orig. art. has: 1 formula, 2 figures, and 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR); Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

ACCESSION NR: AP4037243

L 8878-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RAEM(c)/RAEM(i)/AS(mp)-2/SSD/ ASD(m)-3/AFWL/ESD(t) RM

ACCESSION NR: AP4012070 S/0020/64/154/004/0914/0917

[illegible]

[illegible]

TOPIC TAGS: nuclear magnetic resonance, coplanar polymers, noncoplanar polymers, conjugated bond polymer, magnetic field, secondary magnetic moment, polyphenylene, macromolecular structure, conjugated double bond system.

ABSTRACT: The nuclear magnetic resonance of polyphenylene and its derivatives was studied, to determine if the molecules have a flat structure and the adjacent rings are noncoplanar. The magnetic field and the secondary moment of polyphenylene, polyazophenylene, and methyl-substituted polyazophenylene (all of 1000-3000 molecular weight) were determined at -196C, 20C and 175C. Experimental values for the secondary moment of polyphenylene are much less than the

Card 1/2

L 8878-65

ACCESSION NR: AP4012978

2

theoretical value if the molecule were planar, but agree with theoretical value if the adjacent rings were rotated 37° along the C–C bond between the rings. Results are similar for polyazophenylene. The moment for the methyl-substituted polyazophenylene was found to be no higher than that of the unsubstituted: this indicates noncoplanarity of the adjacent rings and rotation of the methyl group in the molecule even at 196C. Orig. art. has: 1 table, 1 figure, and 3 formulas.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR; (Institute of Chemical Physics, Academy of Sciences SSSR); Nauchno-issledovatel'skiy institut plasticheskikh mass (Scientific Research Institute of Plastics)

SUBMITTED: 04Sep63 ENCL: 00

[illegible] NO REF SOV: 008 OTHER: 00

Card 2/2 [illegible]

L 4997/66 EWA(s)-2/EWT(m)/EWP(e)/EWP(j)/T/EWA(c) Pc-4/Pr-4/Pt-7 RPL RM

ACCESSION NR: AP5009658 UR/0062/65/000/003/0419/0424

AUTHOR: Kazakova, Z. S.; Parini, V. P.; Liogon'kiy, B. I.

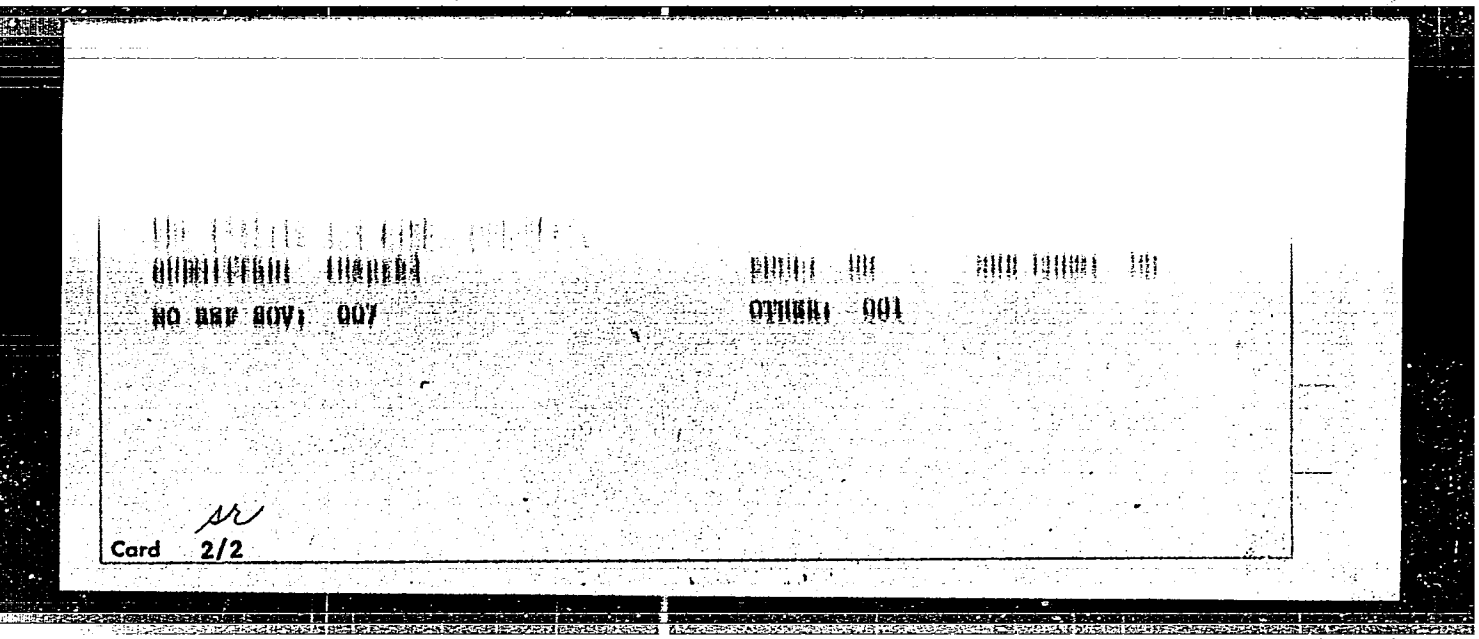
TITLE: Aromatic nitrogen-containing polymers from quinonebischloroimide

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 419-424

TOPIC TAGS: aromatic polymer, quinonebischloroimide polymer, azo group, polymer stability, infrared spectrum, electron spin resonance spectrum, polymer conductivity, polyazophenylene, polymer crosslinkage

ABSTRACT: The authors attempted to synthesize a polymer containing the maximum possible number of azo groups $-(-N{=}N-\langle\bigcirc\rangle-)_n$. To this end, they dechlorinated p-benzoquinonebischloroimide with metallic potassium and obtained a polymer whose basic unit had the probable structure of an azo group and a small quantity of cross-linked structures. A comparative study of the infrared spectra, thermal stability, viscosity of solutions, ESR spectra and electrical conductivity of the polymers obtained, and also fractions of polyazophenylenes containing different amounts of nitrogen, showed that this polymer is close to the highest molecular fractions of polyazophenylene, which contain the maximum quantity of nitrogen.

Card 1/2



L 10878-66 EWT(m)/EWP(j)/T RPL RM

ACC NR: AP5028254 SOURCE CODE: UR/0379/65/001/004/0511/0518

AUTHOR: Liogon'kiy, B. I.; Ragimov, A. V.; Berlin, A. A.

ORG: Institute of Chemical Physics, AN SSSR, Moscow (Institut khimicheskoy fiziki AN SSSR)

TITLE: Preparation and study of stable polyradicals of semiquinone type

SOURCE: Teoreticheskaya i eksperimental'naya khimiya, v. 1, no. 4, 1965, 511-518

TOPIC TAGS: quinone, free radical, electron paramagnetic resonance

ABSTRACT: The treatment of polyarylenequinones (PAQ) with alcoholic alkali forms polyradicals of semiquinone type (PRQ), which were identified with EPR and IR spectra. It was found that in alcoholic alkali there occurs not only an ionization of the hydroquinone form, but also a reduction of the quinone form of PAQ to semiquinone polyradicals, this being due to the electron donor [illegible]

L 10470-66
ACC NR: AP5020254

100-1230. The great stability of PAQ relative to that of low-molecular semiquinones is due to the presence of a conjugation chain and to the rigidity of the PAQ structure. The formation of unpaired electrons and their participation in conduction processes is confirmed by a sharp increase in electrical conductivity in passing from PAQ to PAQ. Orig. art. has: 7 figures and 1 table.

SUB CODE: 07 / SUBM DATE: 14Feb65 / ORIG REF: 010 / OTH REF: 004

Card 2/2

L 34859-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 RM

ACCESSION NR: AP5008195 S/0286/65/000/005/0070/0070

AUTHOR: Berlin, A. A.; Liogon'kiy, B. I.; Popova, Z. V.; Yanovskiy, D. M.; Vonsyatskiy, V. A.

TITLE: A method of heat and light stabilization of halogen-containing high-molecular-weight compounds. Class 39, No. 168874

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

TOPIC TAGS: polymer, halogenated polymer, polymer stability, stabilizing inhibitor, polyazophenylene

ABSTRACT: Oligomeric polyazophenylenes, their mixtures with each other, and their mixtures with other stabilizers (e.g., hydroquinone, can be used to stabilize halogen-containing, high-molecular-weight compounds. [VM]

ASSOCIATION: none

SUBMITTED: 00Nov64 ENCL: 00 SUB CODE: MA

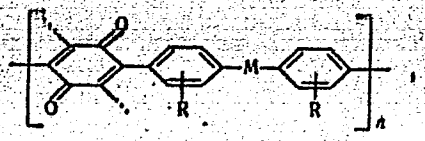
NO REF SOV: 000 OTHER: 000 SUB CODE: GC

LIUBOMIRSKIY, B.I.; [illegible]

Spectral study of polymeric arylene quinones and some products of their transformation. Vysokom. soed. 7 no.4:661-669 Ap '65. (MIRA 18:6)

1. Institut khimicheskoy fiziki AN SSSR.

played by unpaired electrons in the conductivity here investigated. The polymers had the general formula



It was shown that when polyarylenequinones are converted to polysemiquinones, the

Card 1/2

L 60990-65

ACCESSION NR: AP5019788

electrical resistance decreases, while the activation energy remains practically constant (in polymers which do not contain the sulfo group). At low temperatures, the increase in electrical conductivity resulting from the reduction of polyarylenequinones to the semiquinone form is due to the appearance of unpaired electrons. During heating, recombination of the semiquinone radical centers takes place or quinhydrone complexes are formed. The rise in electrical conductivity is caused by the formation of segments having a greater number of conjugated bonds and by the increase in the exchange between these segments. Polarization at high temperatures in reduced polymers which do not contain the sulfo group is not related to the ionic conduction mechanism. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: Institut khimicheskoy fiziki, Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR); Institut organicheskoy khimii, Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 17Feb64 ENCL: 00 SUB CODE: OC, EM

NO REF SOV: 005 OTHER: 002

DULOV, A.A.; LIOGON'KIY, B.I.; RAGIMOV, A.V.; SLINKIN, A.A.; BERLIN, A.A.

Electric properties of polymeric semiquinones. Zhur.fiz.khim. 39 no.7:1590-1594 Jl '65. (MIRA 18:8)

1. Institut khimicheskoy fiziki i Institut organicheskiy khimii AN SSSR.

L 21423-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6010120 (A) SOURCE CODE: UR/0190/66/008/003/0540/0547

AUTHOR: Berlin, A. A.; Raginov, A. V.; Liogon'kiy, B. I.; Belova, G. V.

[illegible]

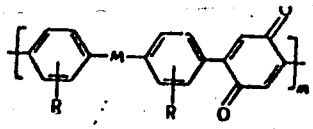
[illegible] redox agent

ABSTRACT: New polyarylenequinones exhibiting redox and ion-exchange properties have been prepared by the reaction of p-benzoquinone with various bisdiazotized aromatic diamines. The diamines used were benzidine (polymer I), o-tolidine (II), 2,2'-benzidinedisulfonic acid (III), and 4,4'-diamino-2,2'-stilbenedisulfonic acid (IV). The polymer had linear (A) or network structures (AB):

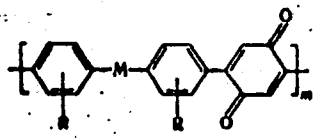
Card 1/3 UDC: 541.64+678.01:53

L 21423-66

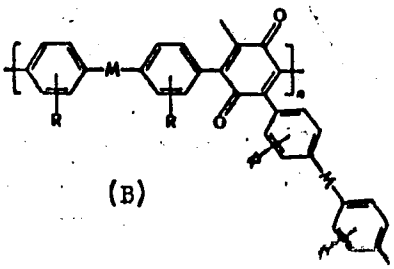
ACC NR: AP6010120



(X)



(A)



(B)

[illegible]

L 21423-66

ACC NR: AP6010120

the quinone groups to hydroquinone groups. The results of thermomechanical and thermogravimetric measurements showed that heating causes further polymerization. The polymers were resistant to thermal-oxidative degradation up to 250—300C and to thermal degradation in an inert atmosphere up to 600—700C. Orig. art. has: 2 figures and 3 tables.

[SM]

SUB CODE: 11/ SUBM DATE: 16Apr65/ ORIG REF: 004/ OTH REF: 005/ ATD PRESS: 4221

Card 3/3 ULR

L 13012-66 EWT(m)/EWT(1)/T IJM

ACC NR: AP6003470 (A)

[illegible]

TITLE: On the catalytic and inhibiting influence of certain polysulfophenylquinones on the telomerization condensation reaction

SOURCE: Plasticheskiye massy, no. 1, 1966, 3-6

TOPIC TAGS: polymer, polymerization, catalytic polymerization, high polymer, polymerization kinetics, polymerization rate

44,55

ABSTRACT: The catalytic and inhibiting effects of polysulfophenylquinone (obtained by reacting p-benzoquinone with bis-diazotized benzidine-disulfo-2,2' acid (PSFKh-3) in the mole ratio of 1:3) on the condensation telomerization of digoesteracrylates, dimethylmethacrylate of diethylene glycol (MD) and dimethylmethacrylate-bis-diethyleneglycol)phthalate (MDF-1) were studied. The method used was that described by A. A. Berlin, T. Ya. Kefeli, and G. V. Korolev (Khim. prom., No. 12, 12, 1962). The kinetics of water elimination during the synthesis of MD in the presence of sulfuric acid and PSFKh-3, and the effect on PSFKh-3 of the ion exchange properties of synthesized esters were investigated. The experimental

Card 1/2 UDC: 678.764.43:678.044.1:547.567

L 13812-66

ACC NR: AP6002470

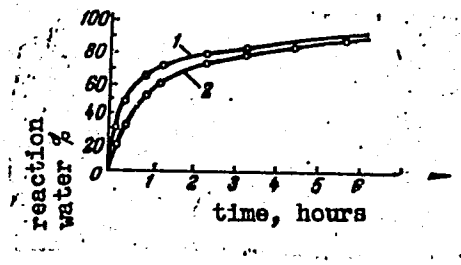


Fig. 1. Kinetics of elimination of water reaction during the synthesis of MD. 1 - in presence of sulfuric acid; 2 - in presence of PSFKh-3.

[illegible]

Card 2/2

L 28881-66 EWP(j)/EWT(m)/T IJP(c) RM/WW

ACC NR: AP6017886 SOURCE CODE: UR/0062/66/000/005/0945/0945

AUTHOR: Berlin, A. A.; Liogon'kiy, B. I.; Shamrayev, G. M.; Belova, G. V.

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

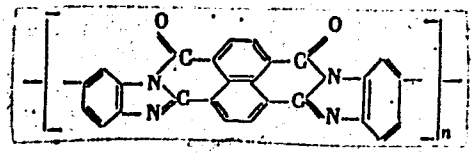
40
B

TITLE: New high-thermal-stability polymers with semiconducting properties: poly[aroylenebis(benzimidazoles)]

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1966, 945

TOPIC TAGS: organic semiconductor, semiconducting polymer, heat resistant polymer, polybenzimidazole

ABSTRACT: New high-thermal-stability polybenzimidazoles — poly[naphthoylenebis-(benzimidazoles)] — have been prepared which show high electrical conductivity at elevated temperatures:



Card 1/2

UDC: 542.91+541.6+541.67

SUB CODE: 07, 20/ SUBM DATE: 30Dec65/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 5007

Card 2/2

LIOKOVA, A.

"How the Tirnovo District Radio Commission works." p 1. " From our literary program; evening dedicated to the people's artist Petko Atanasov." p.1. (RADIO PREGLED, Vol. 8 #5, Jan. 1953, Bulgaria)

SO: Monthly List of East European Accessions, Vol. 2 #8, Library of Congress, August, 1954, Uncl.

LIOKUMOVICH, A.D., veterinarnyy vrach.

Cases of paratyphoid fever in cows and methods for its elimination. Veterinariia 33 no.12:26-27 D '56. (MLRA 9:12)

1. Bobruyskaya meshrayonnaya vetbaklaboratoriya.
(Cows--Diseases) (Paratyphoid fever)

Kh.

LIOZUMOVICH, Kh., kandidat tekhnicheskikh nauk.

Model of footwear made by stitching and gluing the sole to the top. Prom.koop. no.11:24-26 N '55. (MLRA 9:5)
(Shoe industry)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

LIOKUMOVICH, Kh.Kh., kandidat tekhnicheskikh nauk; LYUBINSKAYA, A.G., redaktor; LAUT, V.G., tekhnicheskiy redaktor

[Designing shoe models] Konstruirovanie modelei obuvi. Moskva, Vsesoiuznoe kooperativnoe izd-vo, 1956. 198 p. (MLRA 10:1)
(Shoe industry)

LIOKUMOVICH, Kh.Kh., kandidat tekhnicheskikh nauk.

Size correlation between the foot and the last. Leg.prom. 15[i.e. 16] no.6:23-24 Je '56. (MLRA 9:8)
(Shoe industry) (Lasts)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

KOTEL'NIKOV, Viktor Nikolayevich, kand.tekhn.nauk; LIOKUMOVICH, Khatskel' Khaimovich, kand.tekhn.nauk; PETRUNINA, Mariya Matveyevna, inzh.; SHVETSOVA, Tamara Petrovna, inzh.; FINGER, A.M., prepodavatel' tekhnikuma, retsenzent; STESHOV, I.I., inzh., nauchnyy red.; GRACHEVA, A.V., red.; PLEMYANNIKOV, M.N., red.; MEDVEDEV, L.Ya., tekhn.red.

[Technology of shoe manufacturing] Tekhnologiia obuvi. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1959. 602 p. (MIRA 13:3)

(Shoe manufacture)

NAYMAN, I.M., kand.khimicheskikh nauk; LIOKUMOVICH, Kh.Kh., kand.tekhn.nauk

Work boots for workers in iron and steel casting shops.
Mashinostroitel' no.4:35 Ap '62. (MIRA 15:5)
(Boots and shoes)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

AFANAS'YEV, Aleksandr Afanas'yevich; RABINOVICH, Yakov Mikhaylovich; VINOGRADOV, V.K., retsenzent; LIOKUMOVICH, Kh.Kh., kand. tekhn. nauk, retsenzent; NOVOKHATSKIY, K.I., nauchnyy red.[deceased]; MINAYEVA, T.M., red.; TRISHINA, L.A., tekhn. red.

[Safety engineering in shoe manufacture]Tekhnika bezopasnosti v obuvnom proizvodstve. Moskva, Rostekhizdat, 1962. 225 p. (MIRA 16:2)

(Shoe industry--Safety measures)

18(5). 28(1) SOV/120-59-7-11/24

AUTHOR: Liokumovich, L. F., Engineer

TITLE: Choice of Optimal Parameters of Oscillation and Power Rating of Eccentric-Shaft Ramming Tables

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 7, pp 24-28 (USSR)

ABSTRACT: The subject in question is a method for the determination of the optimum amplitude of frequency and of the power rate for the transmission for eccentric type ramming plates for the ramming of mold boxes. As a basis the theories served of P.N. Aksenov (Liteynoye Proizvodstvo, 1955, Nr 10) and of A.F. Kobrinskiy (Communications of the Academy of Sciences, 1956, Nr 6, 1957). The theoretical thesis of the above mentioned authors had been checked (with the assistance of V.A., Poplavskiy, Engineer, and G.M. Volikova, Technician. An apparatus had been designed which is linked to a system of measuring instruments (amplifier, oscillograph, voltage stabiliser.). Three oscillographs show the results of experiments and confirm the theory. There are 4 diagrams and 4 Soviet references.

Card 1/1

Liokumovich).

(Clay) (Drying apparatus)

LIOKUMOVICH, L.; SHAPIRO, D., kandidat tekhnicheskikh nauk.

Semidry pressed hollow bricks. Stroi. mat. 2 no.11:26-27 N '56. (MLRA 10:2)

1. Glavnyy inzhener Gostrudnbyuro Mosgorispolkoma (for Liokumovich)

Author: [illegible]

Institution: None

Title: Combined Drying and Grinding of Clay

Original Periodical: Stroit. materialy, izdeliya, i konstruktsii, 1956, No 5, 29-30

Abstract: The modification of a drum dryer (D) at the Rostov brick factory is described. The modification consisted in the removal of the inner screens and housings and their replacement with 2 sets of bucket blades and chains. The bucket blades continuously sift the clay (C) and spread it evenly over the cross section of the drum (D), thus assuring a more intensive drying of the clay particles by the hot gasses and reducing the drying time. The chains, in addition to drying of the clay by the heat accumulated in the chains, effect a partial grinding of the particles, thus reducing the amount of clay

Card 1/2

USSR/Chemical Technology -- Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1610

Abstract: which has to be conveyed to the disintegrators. The productivity of the D on the basis of the amount of water removed was increased by 15-20% the temperature of the inlet gases was reduced.

Card 2/-

LIOKUMOVICH, L.M.

LIOKUMOVICH, L.M.; DIBROV, G.D.; GLADYSHEVA, S.A., red.; PYATAKOVA, N.D., tekhn.red.

[Semidry-press process at the Rostov Brick Factory] Opyt raboty Rostovskogo kirpichnogo zavoda polusukhogo pressovaniia. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1957. 61 p. (MIRA 11:3)
(Brickmaking)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

LIOKUMOVICH, L.M., inzh.

Using water sprinklers in kilning brick temperatures. Stroi. mat. 5 no.5:23-25 My '59. (MIRA 12:8)
(Brickmaking)

LIOKUMOVICH, L.N.

Firing brick with pressed fuel. Stroi. mat. 11 no.4:24-25 Ap '65. (MIRA 18:6)

New color reaction for barium ion. L. M. Kul'berg and R. B. Liokumovich (Kiev Technol. Inst. of Light Industry). *Zhur. Anal. Khim.* 4, 255-6(1949).—4-Nitro-3-hydroxybenzoic acid is proposed as reagent for detecting Ba. To carry out the test, place a drop of a 1% soln. of the reagent in alc. or acetone on a filter paper. After the solvent evaps. add a drop of the soln. to be tested, expose the paper to NH_3 vapor, and heat carefully over a hot plate to drive off the colored NH_4 salt of the reagent. A bright red ring indicates the presence of Ba. Sensitivity is 1.47 γ in a limiting diln. of 1:116. Ca, Sr, Co, Zn, Mn, and some other ions sometimes form a yellow spot. Mg and Pb increase the sensitivity. M. Hosch

CVABUTSKIY, M. SH.; LITVINOV, M. A.; [illegible], R. B.

Tanning

Accelerated bating and liming of cowhide. Russian leather as it applies to requisites of conveyor line production. Leg. prom. 12 No. 8 1952

Monthly List of Russian Accessions, Library of Congress, October, 1952. UNCLASSIFIED.

LIOKUMOVICH, R.B., inzh.; TIMCHENKO, R.S.

Production and use of synthetic tanning materials in the countries of people's democracies. Izv. vys. ucheb. zav.; tekh. leg. prom. no.3:135-145 '58. (MIRA 11:10)
(Europe, Eastern--Tanning materials)

L 41752-66 EWT(1) IJP(c) GG/AT

ACC NR: AP6011910 SOURCE CODE: UR/0141/66/009/002/0261/0271

62
61
B

AUTHOR: Kondratenko, A. N.; Liokumovich, V. I.; Rybin, P. N.

ORG: none

TITLE: Nonlinear theory of electromagnetic waves in a confined plasma

21 21

SOURCE: IVUZ. Radiofizika, v. 9, no. 2, 1966, 261-271

TOPIC TAGS: isotropic plasma, plasma electromagnetic wave, NONLINEAR THEORY, CONFINED PLASMA

ABSTRACT: The propagation of electromagnetic waves with small finite amplitude in a homogeneous plasma layer of any thickness is theoretically considered. The E-mode (E_x, E_z, H_y) is determined; a slight nonlinearity is assumed. The initial hydrodynamic system of nonlinear partial differential equations consists of three Maxwell equations and one equation describing the motion of plasma electrons. Solution of this system is sought in the form of a small-parameter

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ACC NR: AP6011910

series; in each approximation, the partial differential equations are reduced to ordinary linear differential equations with known right [illegible]

Card 2/2

LIOKUMOVICH, V.N.

LIOKUMOVICH, V., model'yer.

Use more creativeness in the design of new shoe models. Leg.prom.14 no.3:16-17 Mr '54. (MLRA 7:5)

(Shoe industry)

LIOKUMOVICH, Kh.Kh.; LIOKUMOVICH, V.Kh.

New method of designing shoe backstays. Leg.prom.16 no.10:38-40 O '56. (MIRA 10:12)

(Shoe industry)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000930010019-8"

MUZIKAR, V.; LION, B.

Causes of microbial contamination of beer. Cesk. hyg. 7 no.10: 622-626 D '62.

1. Krajska hygienicko-epidemiologicka stanice, Usti n. L.
(BEER) (ESCHERICHIA COLI INFECTIONS) (AEROBACTER AEROGENES)