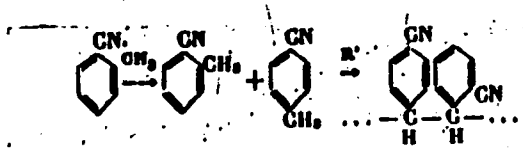
ACCESSION NR: AP4037282

treated with tert-butyl peroxide to form a polymer:



The above polymer structure was confirmed by IR and elemental analysis. In case 2, a mixture of two nitriles was treated with tert-butyl peroxide; malonitrile and adiponitrile, α-tolunitrile, or diphenylmethane; methyl 2-cyanoacetate and α-tolunitrile or malonitrile. All the copolymers produced contained a system of conjugated C=N bonds in the backbone, gave an EPR signal, and had high decomposition temperatures (300—600C), but showed no elasticity. As a rule, they were soluble in dimethylformamide and cresol only, and exhibited semiconducting properties. The temperature dependence of conductivity obeyed an exponential law.

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ACCESSION NR: AP4037282

Conductivity measured in vacuum (about 10^{-3} mm Hg) at 293K ranged from $3.35 \cdot 10^{-22}$ to $9.33 \cdot 10^{-17}$ ohm^{-1} cm^{-1}, but at 225—300C it reached 10^{-11} ohm^{-1} cm^{-1}. This research was done at the Institute of Organoelemental Compounds of the Academy of Sciences USSR. Orig. art. has: 2 figures, 3 tables, and 6 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 05Jun63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MT NO REF SOV: 007 OTHER: 009

Card 3/3

ACCESSION NR: AP4037285 S/0190/64/006/005/0901/0905

AUTHORS: Korshak, V. V.; Frunze, T. M.; Izy*neyev, A. A.; Shishkina, T. N.

TITLE: Synthesis of polymers by the polycyclization reaction. 4. Synthesis of mixed polyamidobenzimidazoles from 3,3'-diaminobenzidine, hexamethylenediamine, and diphenylsebacate

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 901-905

TOPIC TAGS: polymer polycyclization reaction, mixed polyamidobenzimidazole, diaminobenzidine hexamethylenediamine diphenylsebacate, polyamidization reaction

ABSTRACT: The polycondensation of 3,3'-diaminobenzidine (DAB), hexamethylenediamine (HMD) and diphenylsebacate (DPS) was conducted in a current of nitrogen, and the products were heated in a 1 mm vacuum and a 10^{-3} vacuum. The properties of the obtained mixed polyamidobenzimidazoles varied, depending on the ratio of the issuing materials, the temperature, and the duration of the polymerization reaction, but all of them contained blocks of the structure.

Card 1/3

ACCESSION NR: AP4037285

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds AN SSSR)

SUBMITTED: 21Jun63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MT, OC NO REF SOV: 002 OTHER: 001

Card 3/3

RODE, V.V.; ZHURAVLEVA, I.V.; RAFIKOV, S.R.; KORSHAK, V.V.; VINOGRADOVA, S.V.; SALAZKIN, S.N.

Chemical transformation of polymers. Part 18. Vysokom. soed. 6 no.6:994-996 Je '64 (MIRA 18:2)

ACCESSION NR: AP4040487 S/0190/64/006/006/1078/1086

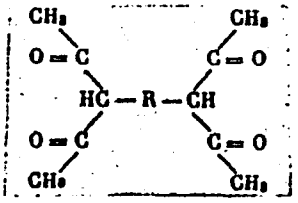
AUTHORS: Korshak, V. V.; Krongauz, Ye. S.; Berlin, A. M.

TITLE: Synthesis of polymers by the polycyclization reaction. 5. Polypyrazoles

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 6, 1964, 1078-1086

TOPIC TAGS: polycyclization reaction, branched diketone, adipic acid dihydrazide, keto enol tautomerism, polypyrazole, polyhydrazone

ABSTRACT: This is a continuation of an earlier work by the authors and P. N. Gribkova (Dokl. AN SSSR,149,602,1953 [Abstracter's note: 19637]) on the interaction of bis-(β-diketones) with the dihydrazide of adipic acid (DAA). The present investigation differed from the previous one in that instead of linear diketones it involved branched diketones of the type



Card 1/3

ACCESSION NR: AP4040487

where the R is either absent or represents CH_2, $CH_2C_6H_4CH_2$, $CH_2C_6H_4C_6H_4CH_2$, or $CH_2C_6H_4OC_6H_4CH_2$. The synthesis of these monomers with DAA was conducted by heating equimolecular quantities of the reactants either in absolute ethanol or in a melt for periods up to 10 hours at 80-170C. The obtained polyhydrazones or polypyrazoles were analyzed and their melting point, viscosity (in cresol or sulfuric acid), and infrared spectra were recorded. It was found that the reaction of tetraacetyldiethylbenzol-, of 4,4'-bis-(2",2"-diacetoethyl)diphenyl-, and of 4,4'-bis-(2",2"-diacetoethyl)diphenyloxide with DAA yielded polypiperazoles, while the other diketones produced polyhydrazones. In the opinion of the authors, the composition reactivity of the end product of the reaction is determined by the keto-enol tautomerism of the original diketones and by their cis- or trans-configuration. The keto form led directly to polypyrazoles, the trans-onol configuration yielded only polyhydrazones, while the cis-onol form yielded polypyrazoles through the polyhydrazone intermediate stage. V. E. Sheina supplied the tetraacetylpropane and carried out its purification. Orig. art. has: 3 tables and 4 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of

Card 2/3

ACCESSION NR: AP4040487

Elementoorganic Compounds, AN SSSR)

SUBMITTED: 11Jul63 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 008

Card 3/3

ACCESSION NR: AP4040488 S/0190/64/006/006/1087/1091

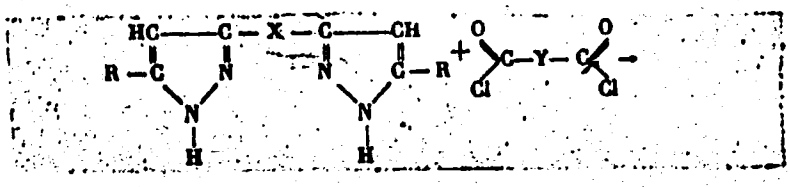
AUTHORS: Korshak, V. V.; Krongauz, Ye. S.; Berlin, A. M.; Travnikova, A. P.

TITLE: Synthesis of polymers by the polycyclization reaction. 6. Polypyrazoles

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 6, 1964, 1087-1091

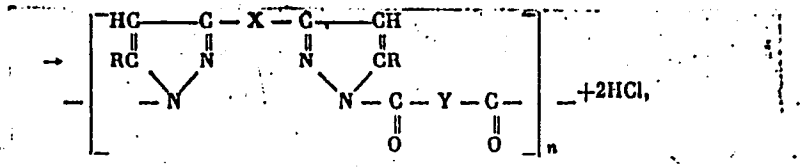
TOPIC TAGS: polycyclization reaction, polypryazole, bipyrazole polycondensation, dicarboxylic acid chloride, diketone polycyclization, dicarboxylic acid dihydrazide

ABSTRACT: The investigators attempted to synthesize polypyrazoles from compounds containing pyrazole cycles. The desired results were achieved by polycondensation of bipyrazoles with the chlorides of dicarboxylic acids according to the reaction



Card 1/3

ACCESSION NR: AP4040488



where X = $C_6H_4(CH_2)_2C_6H_4$; $C_6H_4OC_6H_4$; $CH_2C_6H_4CH_2$; $(CH_2)_8$; R = CH_3, C_6H_5; Y = $(CH_2)_4$, C_6H_4.

A total of 8 bypyrazoles were synthesized. Seven of them were new and represented: 4,4'-bis-(5-methylpyrazolyl-3)diphenyloxide, 4,4'-bis-(3,5-dimethylpyrazolyl-4) xylilene, 4,4'-bis-[(3,5-dimethylpyrazolyl-4)methyl]diphenyloxide, 4,4'-bis-[(3,5-dimethylpyrazolyl-4)methyl]diphenyl, 1,8 di-(5-phenyl-pyrazolyl-3)octane, di-(3,5-dimethylpyrazolyl-4), and 4,4'-bis-(5-methylpyrazolyl-3)diphenyldisulfide. The procedure was started by mixing 30-40 ml of pyridine with 0.1 mole quantities of one of the bypyrazoles. To these mixtures were added (dropwise) 0.1 mole amounts of adipic, terephthalic, or isophthalic acid chloride, dissolved in 20 ml of xylene. The contents of the flasks were stirred and cooled for several hours. They were then heated for a long time to 100-125C, and were allowed to stand overnight. The polypyrazoles so produced were identical with the polypyrazoles ob-

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ACCESSION NR: AP4040488

tained by polycyclization of bis-(β-diketones) with the dihydrazides of the corresponding dicarboxylic acids. The latter group was described in an earlier publication by the authors and P. N. Gritkova (Dokl. AN SSSR, 148, 602, 1963). Orig. art. has: 3 tables and 1 formula.

ASSOCIATION: Institut elementoorganichskikh soyedineniy AN SSSR (Institute of Elementoorganic Compounds, AN SSSR)

SUBMITTED: 11Jul63 DATE ACQ: 06Jul64 ENCL: 00

SUB CODE: GC NO REF SOV: 004 OTHER: 006

Card 3/3

ACCESSION NR: AP4042185 S/0190/64/006/007/1195/1202

AUTHOR: Korshak, V. V.; Krongauz, Ye. S.; Berlin, A. M.; Smirnova, T. Ya.

TITLE: Synthesis of polymers by polycyclization. Polypyrazoles. VII.

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 7, 1964, 1195-1202

TOPIC TAGS: polypyrazole, polycyclization reaction, bis-(β-diketone), dihydrazine, hexamethylenehydrazine dihydrochloride, p-phenylene-hydrazine dihydrochloride, polypyrazole property

ABSTRACT: The authors have synthesized polypyrazoles (mp,. 200—300C) by polycylization of linear and branched bis-(β-diketones) with dihydrazides of dicarboxylic acids. In an attempt to develop polypyrazoles with a higher heat resistance, dihydrazides were replaced with dihydrazine, or amide groups were introduced in the polymers to form hydrogen bonds. Polycyclization of bis-(β-diketones) with hexamethylene- or p-phenylenehydrazine dihydrochlorides in boiling alcohol with alkali added to separate and bind HCl, or heating equimolar amounts of the initial materials in pyridine, yielded

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ACCESSION NR: AP4042185

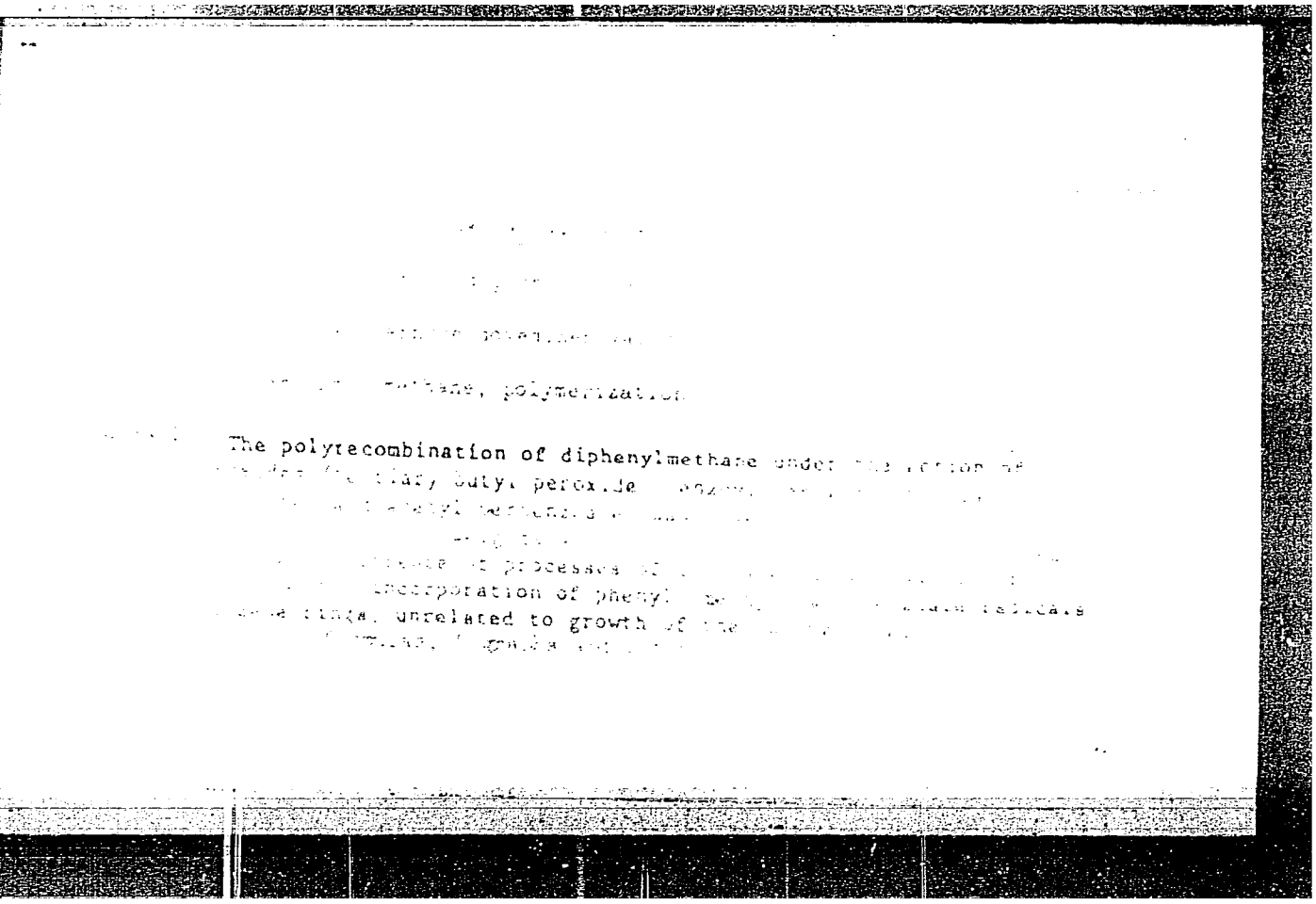
polypyrazoles — powders with a mp of 80—265C and a molecular weight of 5000. Polypyrazoles containing amide groups in the backbone were synthesized by reacting dipyrazoles with diisocyanates in chlorobenzene or by melting the initial materials in nitrogen. These polymers are white powders with a mp of 208—276C and a molecular weight of up to 10,000. IR spectra indicate that they do not contain hydrogen bonds. Thus, the attempt to synthesize heat-resistant polypyrozoles failed. The presence of heavy pyrazole rings upsets the symmetry and loosens the packing density of the polymer chains, and, as a result, prevents the formation of hydrogen bonds. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 11Jul63 ATD PRESS: 3068 ENCL: 00

SUB CODE: OC, GC NO REF SOV: 009 OTHER: 003

Card 2/2



The polyrecombination of diphenylmethane under

AP5003607

Institut elementoorganicheskikh soyedineniy AN SSSR Institute of Compounds. AN SSSR)

SUBMITTED: 19Jul63 ENCL: 00 SUB CODE: OC, GC

OTHER: 011 JPRS

L 19799-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 ASD(m)-3/AFETR RM

ACCESSION NR: AP5003608 S/0190/64/006/007/1228/1233

AUTHOR: Sosin, S. L.; Morozova, Ye. M.; Korshak, V. V.

TITLE: Production of high-molecular compounds on the basis of allyl derivatives by the method of polyrecombination

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 7, 1964, 1228-1233

TOPIC TAGS: polymerization, macromolecular chemisty

ABSTRACT: Polymers were synthesized by the reaction of polyrecombination, utilizing those factors that normally prevent radical polymerization, i.e. [illegible] of the allyl radical, which is incapable of continuing the [illegible] to recombination, and the ease of homolytic stripping [illegible] gen atoms of the methylene group. The method of synthesizing [illegible] by polyrecombination reactions is based on the recombination of the [illegible] formed by stripping the labile hydrogen atoms by the radicals [illegible] the thermal decomposition of peroxides. The polyrecombination was conducted at 200°, using p-allylanisole as the monomer and tertiary butyl peroxide as the source of free radicals. A polymer was

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ACCESSION NR: AP5003608

obtained, in which the double bonds were preserved. The polymer possessed a molecular weight of $5 \cdot 10^6$ and melted at 300°. It was shown that polymer formation proceeds in two steps, namely by preliminary conversion of allylanisole to an oligomer with molecular weight ~4000 through the polyrecombination reaction (first step), then further polymerization of the oligomer according to a radical mechanism (second step). Orig. art. has 3 formulas, 4 graphs and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Heteroorganic Compounds, AN SSSR)

SUBMITTED: 22Jul63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 006 OTHER: 008 JPRS

Card 2/2

ACCESSION NR: AP4042186 S/0190/64/006/007/1251/1255

AUTHOR: Korshak, V. V.; Frunze, T. M.; Kurashev, V. V.; Lopatina, G. P.

TITLE: Synthesis of certain polybenzimidazoles with a single or mixed single component, and study of their properties

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 7, 1964, 1251-1255

TOPIC TAGS: copolymer, polybenzimidazole, infusible copolymer, insoluble copolymer, heat resistant copolymer

ABSTRACT: New polybenzimidazoles with a single or mixed second component have been synthesized, and their properties have been studied. These organic copolymers have an unusually high heat resistance. Polybenzimidazoles with a single second component were prepared by polycondensation of 3,3'-diaminobenzidine (DAB) with diphenyl esters of isophthalic acid, terephthalic acid, or bis(p-carboxyphenyl)methylphosphine. The first two polybenzimidazoles proved to be infusible and insoluble. The P-containing polybenzimidazole

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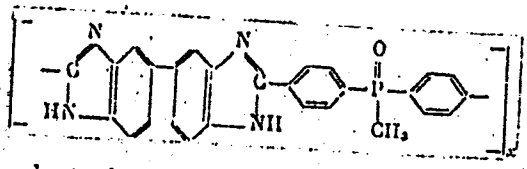
ACCESSION NR: AP4042186



is also infusible, but dissolves in formic and sulfuric acids. An attempt to synthesize an F-containing copolymer by polycondensation of DAB with the diphenyl ester of perfluoroterephthalic acid failed as a result of the decomposition of the polycondensation product. The thermomechanical curves of the synthesized products are given in Fig.1a of the Enclosure. Polybenzimidazoles with a mixed second component were prepared from DAB and mixtures of diphenyl esters of 1) terephthalic and isophthalic acids, 2) sebacic and isophthalic acids, and 3) sebacic and terephthalic acids. The thermomechanical curves of some of the products are given in Fig. 1b. Polybenzimidazoles containing mixed aromatic second components are infusible and are soluble only with difficulty; their solubility depends on the composition of the initial mixture. Polybenzimidazoles containing both aromatic and aliphatic groups exhibit a better solubility, which increases with an increase in aliphatic component content. Orig. art. has: 1 figure and 4 tables.

Card 2/4

ACCESSION NR: AP4042186

ASSOCIATION: Institut elementoorganicheskikh soyedinenly AN SSSR (Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 25Jul63 ATD PRESS: 3054 ENCL: 01

SUB CODE: OC NO REF SOV: 001 OTHER: 004

Card 3/4

ACCESSION NR: AP4042186 ENCLOSURE: 01

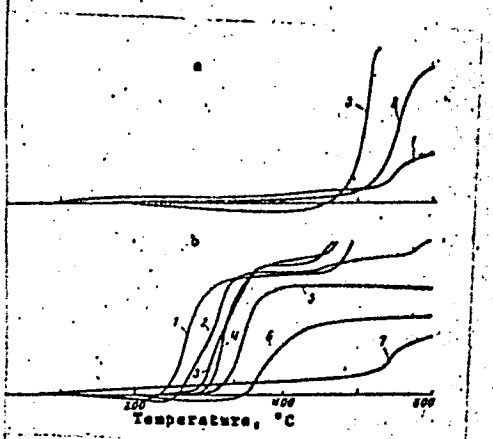


Fig. 1. Thermomechanical properties of: a) polybenzimidazoles prepared from 3,3'-diaminobenzidine and diphenyl esters of isophthalic (1) and terephthalic (2) acids or bis(-p-carboxyphenyl)methylphosphine oxide (3); b) polybenzimidazoles, prepared from 3,3'-diaminobenzidine and diphenyl esters of sebacic and terephthalic acids

Molar ratio of diphenyl ester of sebacic acid to diphenyl ester of isophthalic acid: 1 - 1.0:0.0; 2 - 0.8:0.2; 3 - 0.6:0.4; 4 - 0.5:0.5; 5 - 0.4:0.6; 6 - 0.2:0.8; 7 - 0.0:1.0.

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Card

ACCESSION NR: AP4043775 S/0190/64/006/008/1394/1397

AUTHOR: Korshak, V. V., Manucharova, I. F., Frunze, T. M., Kurashev, V. V.

TITLE: Investigation of the thermal stability of some homogeneous and mixed polybenzimidazoles by the method of differential thermal analysis

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1394-1397

TOPIC TAGS: thermal stability, polybenzimidazole, differential thermal analysis, mixed polymer, thermogram

ABSTRACT: Using the gravimetric method described in an earlier paper, the authors investigated the thermal stability of ten polybenzimidazoles prepared from 3,3'-diaminobenzidine and the diphenylesters of either bis-(p-carboxyphenyl) methylphosphine oxide or terephthalic, isophthalic and sebacic acid. The weight loss of the polymers, heated in a stream of nitrogen to 550, 600 and 650C, the temperature of incipient decomposition and the temperature of steep weight loss are tabulated. As shown by Fig. 1. in the Enclosure, all these polymers, especially those of homogeneous composition, exhibited a high degree of thermal resistance, showing the first signs of decomposition at temperatures between 400 and 520C. The relationships between thermal behavior and polymer composition are

Card 1/3

ACCESSION NR: AP4043775

discussed at length. Orig. art. has: 1 table and 2 figures.

ASSOCIATION: Affiliation: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organometallic Compounds, AN SSSR); Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR (Institute of General and Inorganic Chemistry, AN SSSR)

SUBMITTED: 25Jul63 ENCL: 01

SUB CODE: OC NO REF SOV: 003 OTHER: 001

Card 2/3

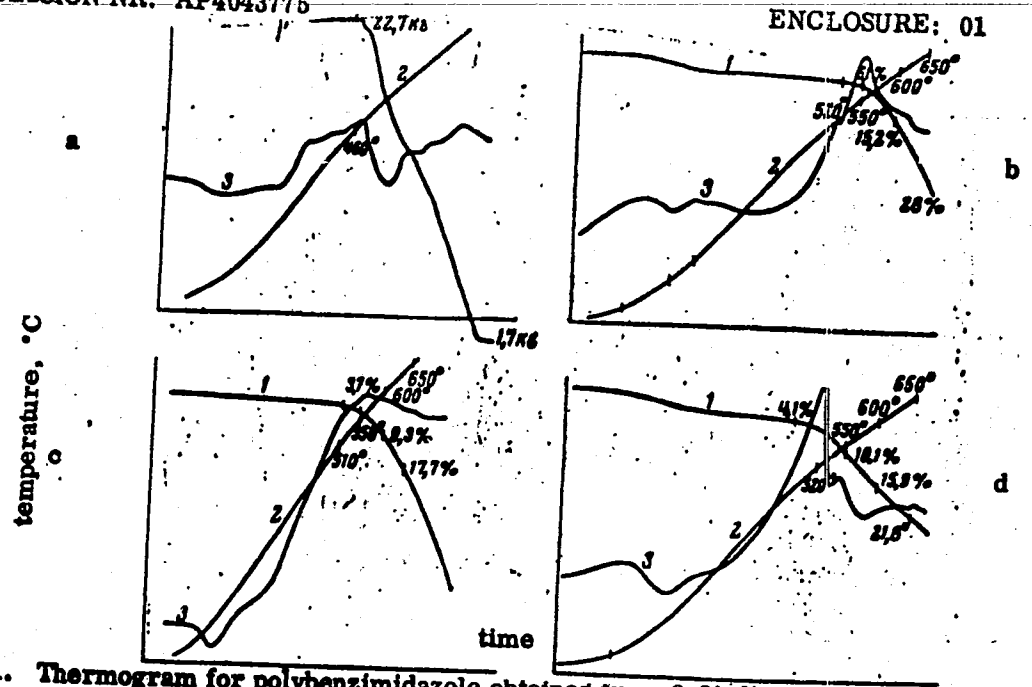


Fig. 1. Thermogram for polybenzimidazole obtained from 3,3'-diaminobenzidine and the diphenyl ester of: a. sebacic acid; b. isophthalic acid; c. terephthalic acid; d. bis-(p-carboxyphenyl)-methylphosphine oxide.

Card 3/3

ACCESSION NR: AP4043776 S/0190/64/006/008/1398/1402

AUTHOR: Sladkov, A. M., Korshak, V. V., Makhsumov, A. G.

TITLE: Synthesis and investigation of the properties of polyesters containing triple bonds in the chain. Polycondensation of acetylene glycols with dicarboxylic acids

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1398-1402

TOPIC TAGS: polyester, acetylene, polyacetylene, acetylene glycol, dicarboxylic acid, polycondensation, polymer physical property

ABSTRACT: Polyhexadieneisophthalate, polybutenephthalate, polybutynephthalate, polybutyneisophthalate, polyhexadieneterephthalate, polybutynemaleate, polybutenemaleate, polybutenesuccinate, polybutynesuccinate, and polybutenefumarate were prepared by the classical condensation of acetylene glycols with the chloroanhydrides of dicarboxylic acids, to supplement the results of a previous study in which similar polymers were obtained by polydehydrocondensation with oxidation. The melting point, yield, molecular weight, solubility, empirical formula of the monomer and elemental analysis, found vs calculated, are tabulated, as well as the infrared spectra of the polymers. The synthesis of 2,4-hexadienediol-1,6 and the polycondensation of butynediol with succinic anhydride, butynediol

Card 1/2

ACCESSION NR: AP4043776

with isophthalylchloride, 2,4-hexadienediol-1,6 with isophthalylchloride and butenediol-1,4 with fumaric acid are described in detail. Thermomechanical curves (relative elongation vs. temperature) of the polymers are presented and discussed. Orig. art. has: 3 tables and 1 figure

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organometallic Compounds, AN SSSR).

SUBMITTED: 08Aug63 SUB CODE: OC

NO REF SOV: 001 OTHER: 001

Card 2/2

ACCESSION NR: AP4043777

S/0190/64/006/008/1403/1406

AUTHOR: Vinogradova, S. V., Korshak, V. V., Salazkin, S. N., Bereza, S. V.

TITLE: Heterocyclic polyesters. LX. Polyarylates based on Phenolphthalein anilide

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1403-1406

TOPIC TAGS: polyester, polyarylate, phenolphthalein, phenolphthalein anilide, heterocyclic polyester

ABSTRACT: Using their method of equilibrium condensation described in Vy*sokomolekulyarny*ye soyedineniya 4, 339, 1962, with chlorodiphenyl in place of ditolylmethane as the solvent, the authors prepared polyarylates of 4,4'-diphenyldicarboxylic, terephthalic, isophthalic, diphenic, fumaric and sebacic acids with phenolphthalein anilide as the base. The phenolphthalein anilide was prepared by a procedure described by Albert [Berichte der deutschen chemischen Gesellschaft, 26, 3077, 1893); and technique of interphase polycondensation, which was also employed consisted of 1. adding a 0.1 benzene solution of chloroanhydride of the dicarboxylic acid to a 0.1 alkaline solution of phenolphthalein anilide, containing 0.9-1.0% of nekal, 2. thoroughly mixing for 20 min, and 3. precipitating the polymer with methanol, washing with methanol and hot water and drying in a vacuum at 80C.

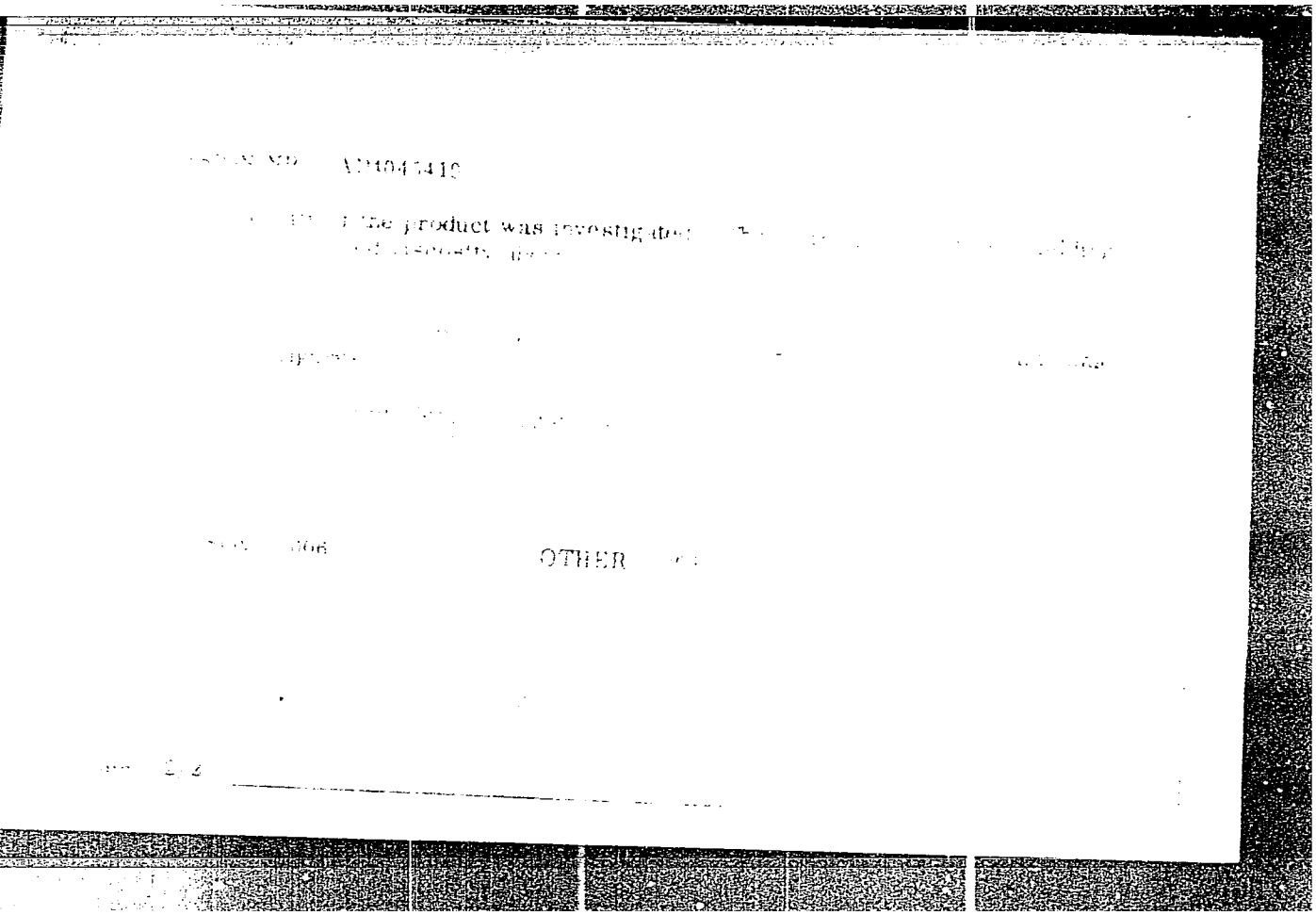
Card 1/2

[redacted]

Vinogradova, S. V.; Korshak, V. V.; [redacted]

Heterochain polyesters. XLI. Synthesis of phenolphthalein sulfide polyarylates by the method of interphase polycondensation

[redacted]



OTHER

1972

Sladkov, A. M.

Preparation of polyethers by oxidative polydehydrocondensation of dipropargyl acetals

Vysokomolekulyarnyye soyedineniya, v. [illegible], 1972,

KEY WORDS: polyether, dipropargyl acetal, oxidative polydehydrocondensation

ABSTRACT: Communication IV of the series "Synthesis and study of the properties of polymers with acetylenic bonds in the backbone" [illegible] that certain new dipropargyl acetals have been prepared and [illegible] a new type of polyether. Diacetal preparation involved [illegible] propargyl alcohol with [illegible] aldehyde, [illegible] furfuraldehyde, [illegible] with [illegible]

L 11330-65
ACCESSION NR: AP4045423

3

and the monopropargyl acetal. Acid catalysts were used. The [illegible] were confirmed by elemental analysis, molar refraction, [illegible] determination, and IR spectra. [illegible] reaction of the diacetals yielded dark insoluble [illegible] containing copper in complex form. Orig. art. has: 1 [illegible] and 2 formulas.

[illegible] Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN [illegible])

[illegible] ATD PRESS: 3147 [illegible] 00

[illegible] NO REF SOV: 003 [illegible]

L 12608-65 EWT(m)/EPF(c)/EWP(i)/T Pc-4/Pr-4 RM
ACCESSION NR: AP4045431 S/0190/64/006/009/1642/1645

[illegible] M. Korshak, V. V. [illegible]

[illegible] copper complexes from [illegible]

[illegible]

[illegible] copper complex, propargyl benzoate, hexadiyndiol dibenzoate, diphenoxyhexadiyne, acetylenic polyester

[illegible] A study has shown the possibility of [illegible] organic [illegible] containing conjugated [illegible]

form the copper complexes, these compounds were subjected to oxidative [illegible] dehydrocondensation by treatment with [illegible]

[illegible] and refluxing of the mixture for 3—3.5 hr. Dark-brown [illegible]soluble products containing 1—2% Cu were formed in all cases. They [illegible] were typical of complex-(ionic)-bound copper with no narrow signal in any case. IR spectra were also [illegible]. The pre- [illegible] was made that this type of

EWT(1)/EPA(s)-2/EWG(k)/EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pz-6/Pr-4/Pt-10
AT/RM

AP4047215 S/019/64/000/020/1848/1851

Volkovskiy, D. G.; Sosin, S. L., Korshak, V. V.

Polydispersity and chain structure of polyphenylmethylene

Vysokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, [illegible], and top half of insert facing p. 1850

TOPIC TAGS: polydispersity, chain structure, polyphenylmethylene, organic semiconductor, fractionation, molecular weight, intrinsic viscosity, semiconducting polymer

ABSTRACT: A study has been made of the fractional composition of polyphenylmethylene (PPM) and of the relationship between the molecular weight (M) and the intrinsic viscosity [η] of fractionated PPM. Previously prepared PPM was fractionated by means of precipitation addition of a nonsolvent. The intrinsic viscosity and molecular weight were determined for each fraction by light scattering. PPM showed considerable polydispersity when the Mw/Mn ratio was

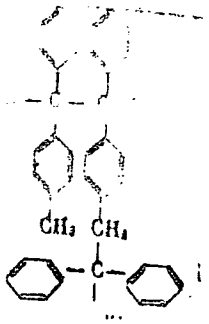
L 10377-65

ACCESSION NR: AP4047215

relation between [η] and M fitted the formula:

$$[\eta] = 3.93 \times 10^{-3} \times M^{0.[illegible]}$$

alue of the exponent of M suggested that [illegible] also are as follows:



ing was assumed to result in loose macromolecular packing, confirmed by x-ray patterns and a thermomechanical curve

0277-65

ACCESSION NR: AP4047215

showing the absence of crystallivity and high-elastic deformation. Orig. art. has: 4 figures, 1 table, and 3 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN SSSR).

SUBMITTED: 13Dec63 ATD PRESS: 3119 ENCL: 00

SUB CODE: SS NO REF SOV: 001

Card 3/3

KORSHAK, V.V.; VINOGRADOVA, S.V.; VINOGRADOV, M.G.

Ring formation in beryllium polysebacyl diacetonate solutions. Vysokom. soed. 6 no.11:1987-1991 N '64 (MIRA 18:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

TIMOFEYEVA, G.I.; DUBROVINA, L.V.; KORSHAK, V.V.; PAVLOVA, S.A.

Viscosimetric properties of polyarylates. Vysokom. soed. 6 no.11:2008-2010 N '64 (MIRA 18:2)

Molecular weight distribution of polyarylates. Ibid.:2011-2014

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

[illegible]/ZhPKh(e)/EPR/EWR(j)/T/EWP(t) [illegible]
[illegible]
[illegible]
AP5021477

Korshak, V. V. Vinogradova, S. V., Vinogradov, M. I., Dombrovich, Yu. A.

Studies in the field of coordination polymers. 22. The reversible de-
[illegible]ion of polymeric beryllium complexes with bis (beta-diketones) in solution

Vysokomolekulyarnyye soyedineniya, v. 9, no. 12, 1967, 2129-2134

TOPIC TAGS: coordination polymer, beryllium complex, heteroorganic compound, polymer, heteroorganic polymer, polymer degradation, cyclic oligomer

Polymeric beryllium intracomplexes with 4,4'-bis-(acetoacetyl)diphenyl-
[illegible] with symmetrical 4,4'-bis-(acetoacetyl)[illegible] and were prepared by a
[illegible] yielding
[illegible] polymeric complex in solution
[illegible] temperatures. The polymers were heated [illegible] under nitrogen in 0.5-
[illegible] benzene, bis-[illegible]-ethane, anisole,
[illegible] tetrachlorobethane. The changes [illegible] a temperature
[illegible] of the equilibrium for the reversible [illegible] similar thermal
[illegible] been observed with solutions of [illegible]-acetonate
[illegible]omolekulyarnyye soyedinineniya v. 6, 729, 1964). A generalized scheme for
[illegible]

L 21209-65
ACCESSION NR: AP5001479

[illegible] reversible formation of cyclic oligomers from intracomplex beryllium polymers [illegible]. Orig. art. has: 3 tables, 5 figures and 3 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute for Heteroorganic Compounds, AN SSSR)

SUBMITTED: 06Feb64 ENCL: 00 SUB CODE: OC

NO REF SOV: 003 OTHER: 001

Card 2/2

L 1[illegible]-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5001482 S/0190/64/006/0 2/2174/2177

AUTHOR: Korshak, V. V.; Vinogradova, S. V.; Antonova-Antonova, I. P.

TITLE: Colored polyaryl carbonates based on 4,4'-Azobenzenedicarboxylic acid

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 12, 1964, 2174-2177

TOPIC TAGS: polyaryl carbonate, colored polyaryl carbonate, homopolymeric polyaryl carbonate, mixed polyaryl carbonate

ABSTRACT: Colored polyaryl esters based on 4,4'-azobenzenedicarboxylic acid have been prepared by equilibrium or by interfacial polycondensation. Homopolymeric polyaryl esters were synthesized from 4,4'-azobenzenedicarbonyl chloride and phenolphthalein bisphenol A, hydroquinone, or resorcinol. Mixed polyaryl esters were synthesized from 4,4'-azobenzenedicarbonyl chloride, terephthalic or isophthalic acid, and phenolphthalein. The syntheses yielded color-fast materials owing to the presence of the -N=N- chromophore group in the backbone. Homopolymeric polyaryl esters prepared from 4,4'-azobenzenedicarbonyl

Card 1/2

ACCESSION NR: AP5001482

chloride and bisphenol A or resorcinol were crystalline. All other homopolymeric and mixed polyaryl esters were amorphous. Homopolymeric and mixed polyaryl esters based on phenolphthalein have high softening temperatures (250—350C). Some polyaryl esters based on 4,4'-azo- [illegible]arboxylic acid, phenolphthalein, and hydroquinol (molar [illegible]:0.5:0.5) had a softening point of 44C—46[illegible]. They dissolve [illegible] in organic solvents and form strong-colored transparent films [illegible]utions. Orig. art. has: 4 tables. [BO]

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Heteroorganic Compounds, AN SSSR)

SUBMITTED: 21Feb64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 002 ATD PRESS: 3171

Card 2/2

ACCESSION NR: AP4042875 S/0062/64/000/007/1281/1288

AUTHOR: Korshak, V. V.; Krongauz, Ye. S.; Berlin, A. M.; Gribkova, P. N.; Sheina, V. Ye.

TITLE: Synthesis of polymers for the polycyclization reaction. Communication 1. Polypyrazoles

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1281-1288

TOPIC TAGS: polymer, heat resistant polymer, polyhydrazone, polypyrazole, bis-(β-diketone), dicarboxylic acid dihydrazide, polycyclization reaction, polypyrazole structure, polypyrazole property

ABSTRACT: Polymers containing pyrazole rings have been synthesized in an attempt to produce new polymeric materials with improved heat resistance and chemical stability. Polypyrazoles were synthesized from bis-(β-diketones) of the $R'COCH_2CO-R-COCH_2COR'$ type and dihydrazides of dicarboxylic acids. The reaction, designated as polycyclization, proceeds in two steps: 1) formation of polyhydrazones by the reaction of the carbonyl oxygen of the ketone with the end amine

Card 1/3

L 2[illegible]-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RPL JAJ/RM
ACCESSION NR: AP4042876 S/0062/64/000/007/1288/1292

[illegible], V. V.; Vinogradova, S. V.; Wu, Pang-yuan 1

[illegible] polyesters Communication [illegible] polyamidoarylates [illegible] interphase polycondensation.

[illegible] SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1288-1292

TOPIC TAGS: polyamidoarylate, structure, heterochain polyester, phosphorus [illegible] polyester, interphase polycondensation, [illegible] thermomechanical [illegible], polyarylate block, polyamide block, molecular weight

ABSTRACT: The structure of polyamidoarylates prepared from bis(p-carboxyphenyl)-[illegible]sphine oxide or sebacic acid with diane and hexamethylenediamine (1:0.5:0. [illegible] interphase polycondensation changed on heating. The viscosity in tricresol [illegible] was reduced rapidly during the first two hours of heating, then [illegible] slightly on prolonged heating. Thermomechanical curves were drawn. [illegible] the polymers contain polyarylate [illegible] of different [illegible] the interphase [illegible] ratio and [illegible] phase polyamide [illegible]

ACCESSION NR: AP4042876

...be obtained. Thus, polyarylates obtained by interphase polycondensation ...phic acid and diano (1:0.5) in different solvents had different molecular ... Orig. art. has: 2 figures and 3 tables.

... Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organometallic Compounds, Academy of Sciences ...)

SUBMITTED: 00Oct62 ENCL: 00

NO REF SOV ...

ACCESSION NR: AP4042877 S/0062/64/000/007/1292/1295

AUTHOR: Korshak, V. V.; Vinogradova, S. V.; Wu, Pang-yuan

TITLE: Heterochain polyesters Communication 51. Polyamidoarylates and polyarylates based on the chloranhydride of bis(p-carboxyphenyl)methylphosphine oxide.

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1292-1295

TOPIC TAGS: Heterochain polyester, polyamiddarylate, polyarylate, phosphorus containing polyester, synthesis, interphase polycondensation, solution polycondensation, thermally reactive polyarylate, softening temperature, viscosity, crystallinity, linear polymer, self extinguishing polymer

ABSTRACT: Polyamidoarylates based on the chloranhydride of bis(p-carboxyphenyl)-methylphosphine oxide, diatomic phenols (diane, resorcinol, diallyldiane) and diamines (hexamethylenediamine, m-phenylenediamine, piperazine) were synthesized by the interphase polycondensation method. Polyarylates based on the chloranhydrides of bis(p-carboxyphenyl)-methylphosphine oxide, of terephthalic, isophthalic or sebacic acids and phenols (diane, resorcinol, hydroquinone) were synthesized by equilibrium polycondensation in high boiling solvent. A thermally reactive

Card 1/2

Card 2/2

EWP(e)/EWP(j)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4042878 S/0062/64/000/007/1296/1302

AUTHOR: Vinogradova, S. V., Korshak [illegible] Sb

TITLE: Mixed block polyarylates based on polyethylene oxide, dihydric phenols and aromatic dicarboxylic acid anhydrides

SOURCE: AN SSSR. Izvestiya. Seriya [illegible], no. 7, 1964, 1296-1302

TOPIC TAGS: polyester chain polyester, polyarylate, polyethylene oxide, dihydric phenol, aromatic dicarboxylic chloranhydride, hydroquinone, triethylene glycol

ABSTRACT: Mixed block polyarylates based on polyethylene oxide (PEO) of different molecular weights (or di- or triethylene glycol), diane, hydroquinone, phenolphthalein and the corresponding bischloranhydride of isophthalic or terephthalic acid were synthesized by [illegible] in the presence of tertiary nitrogen in a boiling solvent--dixylylmethane, heating for [illegible] hours, boiling for 3 hours, filtering, washing with [illegible] 220C for 7 hours, precipitating product polymer [illegible]

Card 1/3

AP4043878

ing and drying at about 60°. Elemental analysis [illegible] showed reaction [illegible] occurred. The effect of structure and ratio of the [illegible] on the [illegible] of the polyarylate were studied. The hydroquinone-terephtha- [illegible] in organic sol- [illegible] elasticity and [illegible] temperature (even with 30-45% of high [illegible]

Card 2/3

L 16664-65

ACCESSION NR: AP4042878

...weight the larger the amount of PEO that may be incorporated ... improve ... affecting temperature ... of ... to ... the product still does not melt at 500C with the same weight ... ethylene glycol the melting temperature is reduced to about 180 or ... tively. Orig. art. has: 3 figures and 3 tables.

...SOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR ... of Organometallic Compounds, Academy of Sciences SSSR) ...

SUBMITTED: 12Dec62 ENCL: 00

SUB CODE: GC, OC NO REF SOV: 001 OTHER: 000

Card 3/3

ACCESSION NR: AP4028153 S/0291/64/000/001/0067/0070

AUTHOR: Korshak, V. V.; Sladkov, A. M.; Makhsumov, A. G.

TITLE: Synthesis and investigation of properties of polyesters containing triple bonds in the chain. Communication 2. Production of polyesters by the oxidative dehydropolycondensation reaction

SOURCE: Uzbekskiy khimicheskiy zhurnal, no. 1, 1964, 67-70

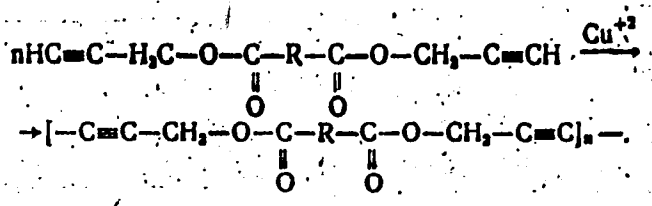
TOPIC TAGS: dipropargyl ester, dipropargyl polyester, acetylenic polyester, dipropargyl isophthalate, dipropargyl succinate, dipropargyl maleate, IR spectra, melting point, softening temperature, heat resistance, oxidative hydropolycondensation

ABSTRACT: Several new dipropargyl esters and polyesters were synthesized. Dipropargyl terephthalate, oxalate, isophthalate, succinate and maleate (the last three compounds have not been reported in the literature) were prepared by reaction of propargyl alcohol and the appropriate acid anhydride. The dipropargyl polyesters were then prepared by oxidative dehydropolycondensation in the

Card 1/3

ACCESSION NR: AP4028153

presence of copper acetate in pyridine and methanol solutions by refluxing for 20 hours, pouring the product into cold water, and filtering the black polymer, which is formed according to the reaction:



IR spectra of the polymers show C C, C-O, C=O and C-O-C groups and the absence of the ≡C-H group. The polymers have high softening temperatures and high thermal stability (fig. 1). Orig. art. has: 2 tables, 1 figure and 1 equation

ASSOCIATION: Institut khimii polymerov AN UzSSR (Institute of Polymer Chemistry, AN UzSSR)

SUBMITTED: 24May63 DATE ACQ: 29Apr64 ENCL: 01

SUB CODE: OC NO REF SOV: 003 OTHER: 005

Card 2/3 ATD PRESS: 3044

ACCESSION NR: AP4028153 ENCLOSURE: 01

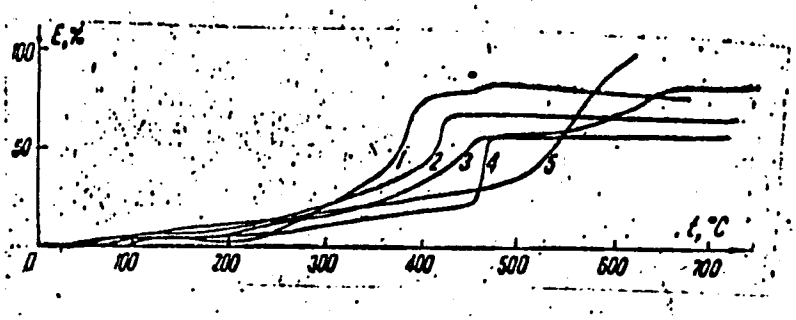


Fig. 1. Synthesis and investigation of polyester properties

1 - Dipropargyloxalate polymer; 2 - dipropargylmaleate polymer; 3 - dipropargylterephthalate polymer; 4 - dipropargylsuccinate polymer; 5 - dipropargylisophthalate polymer.

Card 3/3

[illegible] Zavyalova, V. A. [illegible]

[illegible]ylphosphine—borane complex, pyrolysis

[illegible]SSR. Izvestiya, Seriya khimicheskaya, no. 8, 1964, 1541-

TAGS: phenylphosphine borane complex, (phenylphosphino)borane a[illegible] inorganic polymer, boron containing polymer, phosphorous [illegible]g polymer

[illegible] in an attempt to prepare a homogeneous tridimensional net- [illegible] of the composition $(C_6H_5PBH$ [illegible] the [illegible] [illegible]borane complex at 150[illegible] [illegible] was found that at 150[illegible], the [illegible] mol [illegible] form a (phenylphosphino)[illegible] [illegible] mole- [illegible] of 2150, which is probably linear in structure, with [illegible] temperature, the amount of linear [illegible] increases to [illegible]5 mol and the linear polymer becomes [illegible] linked. [illegible] is accompanied by degradation, the rate of which in-

Card 1/2

ACCESSION NR: AP4044710

creases with temperature, and which results in the splitting off of
[illegible] and the formation of a boron-rich residue capable of
[illegible]ad in air. The pyrolysis is assumed to proceed as follows:

[illegible]

[illegible] formula and 1 table.

[illegible] elementoorganic[illegible]
[illegible]nonelemental Compounds, AN [illegible]

[illegible] ATD PRESS: [illegible]

[illegible] NO REF SOV: [illegible]

KORSHAK, V.V.; OGNEVA, N.Ye.; GOGUADZE, TS.A.; FOMIN, A.V.

Stabilization of water-logged soils by means of spatial copolymers of the acrylic series. Plast.massy no.10:40-44 '64.
(MIRA 17:10)

ACCESSION NR: AP4047407

[illegible], A. M.; Korshak, [illegible]

[illegible]ative polydehydrocondensati[illegible] of dipropargyl ethers

SOURCE: AN SSSR, Izvestiya. Seriya khimicheskaya, no. 10, 1964, [illegible]

TOPIC TAGS: polyether, dipropargyl ether, oxidative polydehydrocondensation

ABSTRACT: New dipropargyl ethers of 4,4'-dihydroxybiphenyl, 1,4-dihydroxynaphthalene, alizarin, and quinizarin have been synthesized and polymers prepared therefrom by oxidative polydehydrocondensation in the presence of copper salts. Because [illegible] prepared earlier [illegible] method contained copper [illegible] in the [illegible] forming [illegible] was [illegible] by reacting the dihydroxy compound [illegible] propargyl bromide in the presence of KOH at 70—80C. The monomers were identified by

Card 1/2

ACCESSION NR: AP4047407

IR spectroscopy and elemental analysis; their melting points ranged [illegible]. As expected, polyethers [illegible] which contain complex-forming groups, had much higher [illegible] content than the other two polyethers. Orig art. has: [illegible] tables and 1 figure.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR).

SUBMITTED: 05Mar64 ATD PRESS: 3125 ENCL: 00

SUB CODE: OC, GC NO REF SOV: 004 OTHER: 000

Card 2/2

EWT(m)/EPF(c)/EWP(j)/T

ACC NR: AP4047408

Kudrzavtsev, Yu. P.; Sladkov, A. M.; Korshak, V.

...ative polydehydrocondensation ... benzene and ... the presence of p-substituted ...

...zvestiya. Seriya ...

... oxidative polydehydrocondensation poly-

... suitable ...

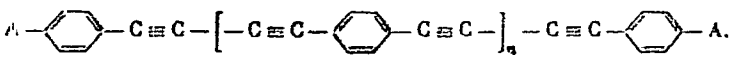
... peroxide, p-nitro-, ... was carried out. ... was ... ...

... electron donors facilitate ... the ... group (A) ... In all cases the p-substituted ... group (A)

Card 1/2

ACCESSION NR: AP4047408

were the end groups:



In the case of acetylene and p-nitrophenylacetylene, only [illegible]nitrophenylbutadiene was obtained. The oligomers of [illegible] and p-iodophenyl[illegible] have formulas [illegible].

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of [illegible], SSSR).

SUBMITTED: 09Mar64 ATD PRESS: 3126 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 001

Card 2/2

EPA(g)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 RPL

RM/WW

ACCESSION NR: AP5000491 S/0062/64/000/011/2104 2106

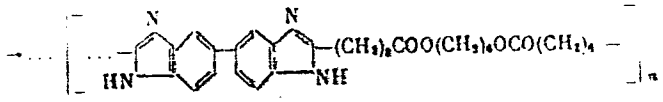
AUTHOR: [illegible]ak, V. V.; Frunze, T. M.; Izy*neyev, A. A.

TITLE: Use of the polycyclization reactions for the synthesis of E
[illegible]taining benzimidazole, ester, and amide groups

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1964, 2104-2106

TOPIC TAGS: polyesterification, polycyclization, copolymer, mixed copolymer

ABSTRACT: Polyesterification and polycyclization have been used simultaneously for the preparation of poly(benzimidazole ester) (I) and poly(benzimidazole amide) (II). Copolymer I



was synthesized from 3,3'-diaminobenzidine, 1,6-hexanediol, and diphenyl sebacate under conditions described in an earlier study

Card 1/3

L 18296-65

ACCESSION NR: AP5000491

[illegible] soyedineniya, no. 5, 1964, 901-905). Copolymer I is a yellowish-green glassy amorphous product, insoluble in a number of organic solvents and partly soluble in not concentrated sulfuric acid. Its structure was confirmed by elemental analysis. Copolymers II were synthesized from bis(3,4-diaminophenyl)methane, 1,6-hexanediamine, and diphenyl sebacate. Copolymers II are dark-brown glassy products. X-ray patterns indicate that the degree of crystallinity of copolymers II increases with an increase in the polyamide content. Elemental analysis indicates that the chains of copolymer II contain imidazole, amide, and amine groups. The thermomechanical [illegible] of copolymers I and II are given in Fig. 1 of the Enclosure. Orig. art. has: 2 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Organoelemental Compounds, AN SSSR)

SUBMITTED: 18Apr64 ENCL: 01 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 000 ATD PRESS: 3156

Card 2/3

L 18296-65

ACCESSION NR: AP5000491 ENCLOSURE: 01

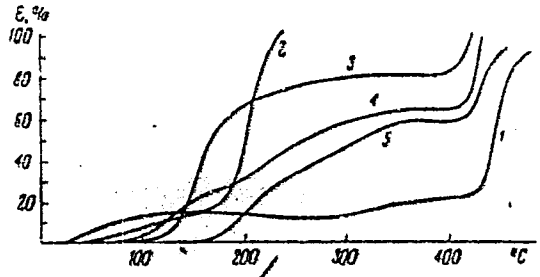


Fig. 1. Thermomechanical curves of copolymers I and II

1 - Poly(benzimidazole ester), prepared from 3,3'-diaminobenzidine, 1,6-hexanediol, and sebacic acid in a 1/1/2 ratio; 2, 3, 4, 5 - poly(benzimidazole amide) prepared from bis(3,4-diaminophenyl)methane, 1,6-hexanediamine and diphenyl sebacate; tetramine/diamine ratios: 2 - 0.2/0.8; 3 - 0.4/0.6; 4 - 0.6/0.4; 5 - 0.8/0.2.

Card 3/3

L 150 S-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RPL/APGC(b)/SSI/AFWL/ASD/ RM

ACCESSION NR: AP5000746 S/0191/64/000/012/0009/0013

AUTHOR: Peshekhonova, A. L.; Kamenskiy, I. V.; Korshak, V. V.; Kovarskaya, B. M.;

TITLE: Conditions for the formation of steric structures in furfural-hexamethylenetetram-

SOURCE: Plasticheskiye massy*, no. 12, 1964, 9-13

TOPIC TAGS: furfural copolymer, hexamethylenetetramine copolymer, polymer curing, polymer crosslinking, polymer deformation, infrared spectroscopy

ABSTRACT: Crosslinking in furfural-hexamethylenetetramine polymers with molar ratios ... weights of 450 and 46... was studied by deter- ...

Card 1/2

I 005-65
ACCESSION NR: AP5000746

...al changes and catalytic curing. The latter was studied at 120-250C with Petrov's catalyst, ...benesulfonic acid, or zinc chloride, which gave better results than the other catalysts. ... determination of catalytically cured specimens started at ... temperatures than ... obtained by thermal treatment at higher temperatures. ... decrease in the ... [illegible] ... of a right ... [illegible] ... may be double ...nds but also the nitrogen atoms of furan heterocycles and the partial destruction and ... of the initial polymer molecule. Orig. art. has ... tables and ... figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 011 OTHER: 005

Card 2/2

L 11140-65 EPA/EPF(c)/EPR/EPA(s)-2/EWA(h)/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4/
Pt-10/Peb RPL/ASD(m)-3 RM/WW/JW

ACCESSION NR: AP5001600 S/0062/64/000/012/2223/2224

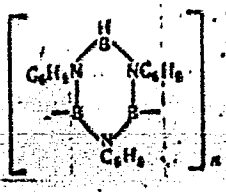
AUTHOR: Korshak, V. V.; Zamyatina, V. A.; Bekasova, N. I.; Komarova, L.G.

TITLE: Polycondensation of 1,3,5-triphenylborazine

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2223-2224

TOPIC TAGS: borazine, triphenylborazine, thermal stability, polymer

ABSTRACT: The thermal stability of 1,3,5- triphenylborazine (I) and 2-methyl-1,3,5-triphenylborazine (II) has been studied. Heating of I to 400—420C produced evolution of hydrogen and polycondensation to form a polymer with a molecular weight of 7000. The polymer is transparent and brittle and melts at above 500C; it is stable in air but partly hydrolizes in cold and boiling water. IR analysis suggests the following structure:



Card 1/2

L 21140-65
ACCESSION NR: AP5001600

3

Heating of II to 400C caused no polycondensation, and virtually no evolution of hydrogen. Apparently trifunctional borazine has a lower thermal stability than difunctional borazine. Orig. art. has: 2 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences, SSSR).

SUBMITTED: 04May64 ENCL: 01 SUB CODE: OC, GC

NO REF SOV: 000 OTHER: 003 ATD PRESS: 3165

Card 2/2

SOSIN, S. L.; KORSHAK, V. V.; VAL'KOVSKIY, D. G.

Reactivity of hydrocarbons and their derivatives in the polyrecombination reaction. Dokl. AN SSSR 155 no. 2:376-378 Mr '64. (MIRA 17:5)

1. Chlen-korrespondent AN SSSR (for Korshak).

ACCESSION NR: AP4034542 S/0020/64/155/005/1140/1143

AUTHOR: Sladkov, A. M.; Korshak, V. V. (Corresponding member); Kudryavtsev, Yu. P.; Makhsumov, A. G.

TITLE: Synthesis of polyethers containing triple bonds in the chain.

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1140-1143

TOPIC TAGS: polyether, synthesis, triple bond polyether, monopropargyl ether copolymer, dipropargyl ether copolymer, diethynylbenzene copolymer, unsaturated ether, electrophysical property, photoelectromotive force, conjugated polyene, IR spectra, acid polydehydrocondensation, conjugated triple bond , acetylenec ether polymer

ABSTRACT: Polyethers based on the acid condensation products of mono- and dipropargyl ethers with p-diethynylbenzene (DEB) were synthesized and their properties, especially their electrophysical properties, were studied. DEB was condensed under acid conditions with the dipropargyl ethers of 4,4-dihydroxydiphenyl, of 4,4-dihydroxydiphenyl-ol-2-propane, and of hexafluoro-2,2-bis-(4-hydroxyphenyl)-propane, and the propargyl ethers of phenol, quinizarin and benzoic

Card 1/2

ACCESSION NR: AP4034542

acid. These unsaturated ethers were selected because their certain electro-physical properties, such as photoelectromotive force. The characteristic for conjugated polyenes were absent in these polymers. It was hoped that incorporating DEB in the chain of the polyether molecule would change its electrophysical properties. IR spectra of the products obtained showed the characteristic of the absorption bands for the acid polydehydrocondensation of DEB were preserved. From IR data and elementary analysis it is concluded that the generally insoluble polymers contained conjugated triple bonds alternated with the ether groups. "IR spectra were obtained in the INEOS AN SSSR laboratory by N. A. Chumayevsk, whom the authors sincerely thank." Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organometallic Compounds Academy of Sciences SSSR)

SUBMITTED: 29Oct63 DATE ACQ: 13May64 ENCL: 00

SUB CODE: OC NO REF SOV: 004 OTHER: 000

Card 2/2

KORSHAK, V.V.; VINOGRADOVA, S.V.; VINOGRADOV, M.G.

New method for the production of macrocyclic compounds from linear polymers. Dokl. AN SSSR 155 no.6:1354-1356 Ap '64.
(MIRA 17:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
2/ Chlen-korrespondent AN SSSR (for Korshak).

L 12 [illegible]-65 EWT(m)/EPF(c)/T/EWP(j) Pc-4/Pr-4 AEDC(a)/SSD/AFWL RM

ACCESSION NR: AP4036723 S/0020/64/156/002/0368/0371

AUTHORS: Korshak, V.V. (Corresponding member AN SSSR); Vinogradova, S.V.; Papava, G.Sh.; Tsiskarishvili, P.D.

TITLE: Investigations in the area of mixed block-polyarylates

SOURCE: AN SSSR. Doklady*, v. 156, no. 2, 1964, 368-371

TOPIC TAGS: mixed block polyarylate, synthesis, polycondensation, property modification, elasticity, solubility, viscosity, pentone, silicon containing oligomer, polypropyleneglycol, polyethyleneglycol, pentone polyarylate, silicon oligomer polyarylate, polypropyleneglycol polyarylate, polyethylene glycol polyarylate, softening point, light stability, crystallinity, block copolymerization

ABSTRACT: Mixed block-polyarylates containing different structures in the block were synthesized to determine the possibility of modifying the properties (increasing elasticity, colorability, solubility and viscosity while retaining high glassing temperature of the polyarylates. Polycondensation reactions of the types, A = radical of the block component molecule, B = dihydric

Card 1/5

phenol molecule radical and D = dicarboxylic acid chloranhydride molecule radical, result in the synthesis of the mixed block polyarylates:

1. $n\text{HO}-\text{A}-\text{OH} + n\text{ClOC}-\text{D}-\text{COCl} \rightarrow 2n\text{HCl} + -[\text{OAOOCDCO}]_n-$
2. $n\text{HO}-\text{B}-\text{OH} + n\text{ClOC}-\text{D}-\text{COCl} \rightarrow 2n\text{HCl} + -[\text{OBOOCDCO}]_n-$
3. $n\text{HO}-\text{A}-\text{OH} + 2n\text{ClOC}-\text{D}-\text{COCl} + n\text{HO}-\text{B}-\text{OH} \rightarrow 4n\text{HCl} + -[\text{OAOOCDCOOBOOCDCO}]_n-$

Low molecular bifunctional polymers with terminal hydroxyl groups were used for the block component: pentone (PN): $H\left[OCH_2C(CH_2Cl)_2CH_2\right]_n$

silicon-containing oligomer (Si): $\left[OC_6H_3(CH_3)CH_2\right]_n\left[OSi(CH_3)_2\right]_n$

polypropyleneglycol (PPG): HO[illegible]

[illegible] form copolymer[illegible] with 3 perchloride [illegible] HN and the st[illegible] polymers [illegible] molecular wtg. [illegible] An examination of the 46 mixed [illegible] that were synthesized led to the following conclu- [illegible] properties of the copolymer change with the amount of the

ACCESSION NR: AP4036723

component in the reaction mixture, increasing the block com- lowers the product softening temperature and frequently im- solubility. A block-polyarylate containing a high molecular ... segment melts at a higher temperature than the copoly- ... molecular weight ... higher formed ... softening temperature than ... corresponding ..., e.g., PE, melting at ... copolymerizes with ... and diane to form a product containing 54 wt.% PE, ... the properties of the ... polyarylates ... to the structure of the initial dihydric phenol and di- ... Replacing ... with isophthalic lowers the softening temperature of the copolymer. The mixed block polyarylate has better light stability than the polyethylene terephthalate block. X-ray analysis show the ... polyarylates have a highly ordered crystalline structure. ... are rigid structures; and by including the more elastic block segments in the polymer chain the mobility of the polyarylate molecule increases, leading to better packing, and hence increased crystallinity of the block polyarylate. Orig. art. has: 1 figure, 2 tables and 3 formulas.

Card 3/5

L 12433-65

ACCESSION NR: AP4036723

2

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR, Institute of Organometallic Compounds, Academy of Sciences SSSR; Institut khimii im. Melikishvili, Akademii nauk Gruz SSR

SUBMITTED: 05Feb64

ENCL: 01

SUB CODE:

NR REF SOV:

OTHER: 004

Card 1/3

ACCESSION NR. AP4033672

ENCLOSURE 01

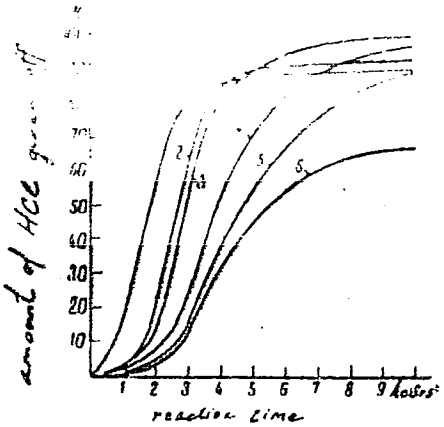


Fig. 1

Change in the amount of hydrogen chloride given off in the reaction of the chloro- [illegible] of terephthalic acid with: 1--PEO-2; 2--PPO-1; 3--PEO-2; 4--diane; 5--PN-2; 6--Si

Card 5/5

KORSHAK, V.V.; VINOGRADOVA, S.V.; PANKRATOV, V.A.

Effect of the structure of initial biphenols on the properties of polyarylates. Dokl. AN SSSR 156 no. 4:880-883 Je '64. (MIRA 17:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
2. Chleh-korrespondent AN SSSR (for Korshak).

ACCESSION NR: AP4041160 S/0020/64/156/004/0924/0925

AUTHOR: Slonimskiy, G. L.; Korshak, V. V.; Vinogradova, S. V.; Kitaygorodskiy, A. I.; Askadskiy, A. A.; Salazkin, S. N.; Belavtseva, Ye. M.

TITLE: Physico-chemical means of regulating supermolecular structure and mechanical properties of amorphous polyarylate F-1.

SOURCE: AN SSSR. Doklady*, v. 156, no. 4, 1964, 924-925, and insert facing p. 924

TOPIC TAGS: polyarylate, supermolecular structure, amorphous polymer, mechanical property, control, regulation, phenolphthalein isophthalic acid polymer, polymerization, reaction medium, brittleness, elongation, strength, impact strength, rigid macromolecular structure

ABSTRACT: The supermolecular structure and consequently the mechanical properties, especially the brittleness, of amorphous polyarylate F-1 (phenolphthalein-isophthalic acid based polymer) were improved by selecting a new polymerization reaction medium. Electron microscopic comparison of F-1 polymerized as previously in ditolylmethane in which it is insoluble and polymerized in α-chloronaphthalene in which it is soluble showed the structure no longer comprised a multitude of fine weakly bonded spherical particles, but was fibrillar with no fractures. In the

Card 1/2

ACCESSION NR: AP4041160

ditolylmethane the free energy of formation of the coagulated macromolecule was less than for an uncoiled macromolecule. The desired change in the superstructure (i.e., uncoiling) was effected by the solvent. The mechanical properties of the two types of F-1 of the same molecular weight (28,000) were compared. The elongation increased from 10-20% in the brittle to 50-80% in the fibrillar material; strength increased from 640-740 kg/cm^2 and impact strength from 2-3 to 6-10 kg.cm/cm^2. Thus brittleness was reduced by a factor of about 4. In the 50,000 molecular weight material the elongation was 130% and impact strength, 20 kg.cm/cm^2. It is concluded that the mechanical properties of polymers with rigid macromolecules should be regulated not only by chemical changes in the macromolecule but also by the physical conditions of the surrounding media in which the macromolecule is formed. Orig. art. has: 2 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organometallic compounds Academy of Sciences SSSR)

SUBMITTED: 02Mar64 ENCL: 00

SUB CODE: OC, SS NO REF SOV: 005 OTHER: 000

Card 2/2

SOSIN, S.L.; KORSHAK, V.V.; VASNEV, V.A.

Effect of polar factors in the polyrecombination reaction.
Dokl. AN SSSR 156 no. 5:1124-1126 Je '64. (MIRA 17:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Korshak).

KORSHAK, V. V.

L 8900-65 EWT(1)/EPA(s)-2/EWG(k)/EWT(m)/EWP(j)/T Pa-6/Pc-4/Pt-10 ESD(dp)/
ASD(a)-5/ESD(t)/AFWL/RAEM(t) AT/RM

ACCESSION NR: AP4045633 S/0020/64/158/002/0389/0392

AUTHOR: Kudryavtsev, Yu. P.; Gladkov, A. M.; Asseyev, Yu. G.; Nedoshivin, Yu. N.; Kasatochkin, V. I.; Korshak, V. V. (Corresponding member AN SSSR)

TITLE: Study of the properties and structure of carbyne

SOURCE: AN SSSR. Doklady*, v. 158, no. 2, 1964, 389-392

TOPIC TAGS: organic semiconductor, semiconducting polymer, dehydrochlorination, polyacetylene

ABSTRACT: Polymers containing conjugated polyyne groups in the backbone have been studied by IR and EPR spectroscopy. The polymer samples were prepared by dehydrochlorination of poly(vinylidene chloride): 1) with sodium amide in liquid ammonia; 2) with sodium amide in tetrahydrofuran; 3) as in (2), but with further treatment with sodium methylate in boiling methanol; and 4) with fusion with sodium metal. IR spectra of the samples were recorded and compared with those of polyynes prepared by oxidative polycondensation of acetylene. In all cases except that of sodium fusion, absorption bands corres-

Card 1/2

L 8900-65
ACCESSION NR: AP4045633

ponding to the C≡C bond were found. It was concluded that poly(vinylidene chloride) dehydrochlorination is a suitable preparative method for polyyne or, at least, for fragments thereof. All of the samples gave a narrow EPR signal, with a g-factor close to that of a free electron and a line width of 5—9 oe; the unpaired electron concentration rose with the degree of dehydrochlorination. Orig. art. has: 1 formula and 3 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy. Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR)

SUBMITTED: 30Apr64 ATD PRESS: 3109 ENCL: 00

SUB CODE: MT, GS NO REF SOV: 004 OTHER: 001

Card 2/2

L 14377-65 EWT(m)/EPF(c)/EWP(j)/T Pc-4/Pr-4 RM
ACCESSION NR: AP4047327 S/0020/64/158/004/0915/0917

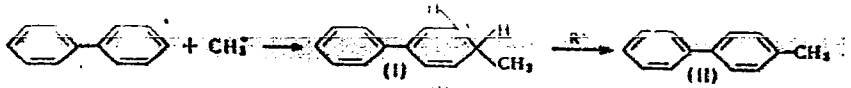
AUTHOR: Sosin, S. L.; Korshak, V. V. (Corresponding member AN SSSR); Rossky, D. G.

TITLE: Reaction of biphenyl with tert-butyl peroxide

SOURCE: AN SSSR. Doklady*, v. 158, no. 4, 1964, 915-917

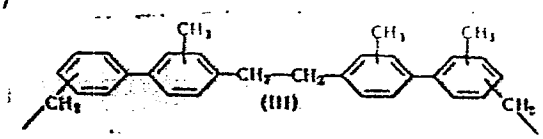
TOPIC TAGS: polyrecombination, biphenyl, diphenyl ether, benzophenone, tert-butyl peroxide

ABSTRACT: A study has been made of the polyrecombination of biphenyl, diphenyl ether, or benzophenone in the presence of tert-butyl peroxide to form polymers [illegible] having methylated benzene rings. The reactions were carried out [illegible] with the peroxide added dropwise [illegible] products [illegible] precipitation and reprecipitation. [illegible] was gas-liquid [illegible] chromatization to the dicyclohexyl [illegible] spectroscopy [illegible] analysis. The polymer products [illegible] were formed [illegible] methylation of methylphenyl radicals [illegible] products with, [illegible] a hydrogen atom by part of the methyl group, etc.



Card 1/2

L 14377-65
ACCESSION NR: AP4047327



Polymers from diphenyl ether and benzophenone were prepared at peroxide, monomer ratios of 1.5/1 and above. Their respective molecular weights were 300(and 15,000, and their melting points 160—177 and 205—215C. Orig. art. has: 2 figures and 3 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR)

[illegible]Apr64	ENCL: 00	SUB CODE: MT	
[illegible]: 002	OTHER: 004		

Card 2/2

L 17655-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 RPL/
ESD(s)-3/AFWL/ESD(dp)/ESD(t) RM/RM

ACCESSION NR: AP5000916 S/0020/64/159/004/0843/0846

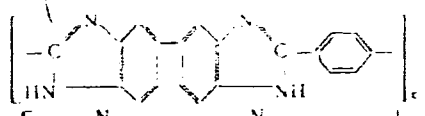
AUTHOR: Kasatochkin, V. I.; Korshak, V. V. (Corresponding member AN SSSR); [illegible], V. V.; Smotkina, Z. S.; Frunze, T. M.; Khrenkova, T. M.

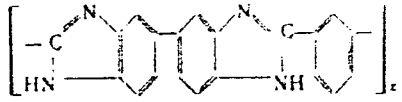
TITLE: Some properties of polybenzimidazoles

SOURCE: AN SSSR. Doklady, v. 159, no. 4, 1964, 843-846, and insert facing p. 844

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

ABSTRACT: The results of a comparative investigation of the structure and properties of polymers obtained by polycondensation of 3,3'-diaminobenzidine and diphenyl [illegible] of terephthalic or isophthalic acids are reported. The polycondensation was [illegible] under vacuum at up to 380C for 3 1/2 hr. Polybenzimidazoles with the structure

I  and

II 

Card 1/3

L 17655-65
ACCESSION NR: AP5000916

were obtained. The polymers had high thermal stability, i.e., basic changes in the elemental composition of both polymers took place at 500C along with a consid- [illegible] increase in the evolution of volatile [illegible] have semiconduct- [illegible] ty. Poly- [illegible] tarity [illegible] levated [illegible] spectra [illegible] e molecular [illegible] ray diffraction [illegible] in the initial [illegible] matically [illegible] destruction [illegible] Orig. art. has: 2 formulas, 3 figures, and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Heteroelemental Compounds, AN SSSR); Institut goryuchikh iskopayemykh Gosudarstvennogo komiteta po toplivnoy promyshlennosti pri Gosplane SSSR (Mineral Fuel Institute of the State Committee for the Fuel Industry at the Gosplan, SSSR)

Card 2/3

L 17655-65
ACCESSION NR: AP5000916

SUBMITTED: 14Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 003 ATD PRESS: 3152

Card 3/3

L 41351-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWA(h)/EWA(1) Pc-4/
Pr-4/Ps-4/Pt-10/Peb/Pu-4 RPL WW/GG/RM
ACCESSION NR: AP5001997 S/0020/64/159/006/1361/1363

AUTHOR: Zamyatina, V.A.; Korshak, V.V. (Corresponding member AN SSSR); Solomatina, [illegible]; Tsetlin, B.[illegible]

TITLE: Radiation synthesis of polymers with the base of trimeric cyclic dimethylphosphinoborine

SOURCE: AN SSSR. Doklady, v. 159, no. 6, 1964, 1361-1363

TOPIC TAGS: radiation polymer synthesis, trimeric cyclic dimethyl phosphinoborine, radiation effect, linear structure

[illegible] was shown recently (V. V. Korshak [illegible] Vysokomol. soyed. 5, 1447 (1963)) that [illegible]

[illegible] be expected that irradiation may produce a similar effect in cyclic phosphinoborines. The authors selected for this purpose the trimeric cyclic dimethyl phosphinoborine. The irradiation was [illegible]

Card 1/2

ACCESSION NR: AP5001997

...s were investigated. It was ... s forms ... of a linear and of a polycyclic ... has: 2 figures

... elementoorganic ... chemical

ASSOCIATION: 001 OTHER: 002

Card 2/2

... ...-65 EPA(s)-2/EWT(m)/EPR/EPF(c) ... Pr-4 Ps-4 Pt-10

... AT... 137

... Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov (The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 283-286

... TAGS: diethylene glycol ester, butanediol ester, ... acid, polyester ..., benzenesulfonic acid, plasticizer, ...

...CT: Optimal conditions were developed for ... of ... at 150 C and a 1... glycol ... were obtained. Monoesters ... catalysts ... or p-toluenesulfonic acids at elevated temperature ... give infusible and in... products, and at room temperature they form ... The latter

L 41156-65
ACCESSION NR: AT5002137

were identified as the corresponding diesters formed in the presence of ionic catalysts with the liberation of glycol. Thus, polymerization of [illegible] diesters. A low polymer [illegible] for 4-6 hrs at [illegible]

ASSOCIATION: None

SUBMITTED: 30Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 001 OTHER: 001

bo
2/2
ard

L 40015-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/GS/RM

ACCESSION NR: AT4049840 S/0000/64/000/000/0028/0032

AUTHOR: Korshak, V. V.; Davankov, A. B.; Fyushti, M. Sh.

TITLE: Investigation of the copolymerization reactions and chemical transformations of polymers of methyl-substituted styrene with [illegible]. II. Introduction of chlorine atoms into the structure of copolymers of vinyltoluene with methylstyrene and divinylbenzene by chloromethylation

SOURCE: Khimicheskiye svoystva i modifikatsiya polimerov (Chemical properties and modification of polymers); sbornik statey. M., Izd-vo Nauka, 1964, [illegible]

TOPIC TAGS: methyl-substituted styrene, vinyltoluene copolymer methylstyrene copolymer, divinylbenzene copolymer, chloromethylation, diene copolymer, chloromethyl ether

ABSTRACT: The authors investigated the conditions of the introduction of mobile chlorine atoms into the molecular structure of vinyltoluene-α-methylstyrene and vinyltoluene-divinylbenzene copolymers by chloromethylation with chloromethyl ether (b.p. [illegible]). The reaction [illegible]. The effect of the granule size of the copolymers on the chloromethylation product was investigated at the boiling temperature of monochloromethyl

L 40013-65

ACCESSION NR: AT4049840

ether, using non-aqueous $ZnCl_2$ as the catalyst. Analytical data show that by us-
[illegible] swollen copolymer, the diameter of the spherical granules does not
[illegible] methylation. The high Cl content in [illegible] (20.3%)
[illegible] chloromethyl groups [illegible]
[illegible] chloromethylation proceeds in two stages. The dependence of Cl con-
[illegible] chloromethylated product on the time and temperature of reaction and
[illegible] nature of the catalyst was investigated [illegible]. Data
[illegible] 30C on the effect of time in relation to [illegible] content showed
[illegible] increasing number of crosslinks in [illegible], the Cl
[illegible] creases in the end products. This is [illegible] in swelling
[illegible] copolymer in monochloromethyl ether [illegible] of the bridge-
[illegible] ethers, and hence [illegible]
[illegible]
[illegible] will [illegible] increase [illegible]
[illegible] after the [illegible]
[illegible] explained by the fact that [illegible] chloromethyla-
[illegible], the swelling capacity of the copolymer increases, and the macromole-
[illegible] lattice remains accessible to the monochloromethyl ether molecules. The
[illegible] content reaches its theoretical value in 3 hours. The effect of the nature and

Card 2/3

L 40019-65

ACCESSION NR: AT4049840

...of different catalysts on chloromethylation of copolymers containing 10%
... weight of vinyltoluene ... benzene ... on
... respectively, the Cl content ...
... er. The best results were obtained ... and 24.9%. This demonstrates ...
... Orig. art. has: 4 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedinenii AN SSSR (Heteroorganic compounds institute, AN SSSR)

SUBMITTED: 21May62 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 006 OTHER: 006

Card 3/3 LL

KORSHAK, Vasiliy Vladimirovich; KRONGAUZ, Ye.S., red.

[Advances in polymer chemistry] Progress polimernoi khimii. Moskva, Nauka, 1965. 411 p. (MIRA 19:1)

L 35412-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 WW/RM
ACCESSION NR: AP5005753 S/0065/65/000/001/0035/0038

AUTHOR: Korshak, V. V.; Vinogradova, S. V.; Sibing, S. A.

TITLE: Investigation of [illegible]

SOURCE: Khimicheskiye volokna, no. 1, 1965, [illegible]

TOPIC TAGS: polyester, stress measurement, strain measurement, solubility, thermal stability, polymer, formaldehyde/ Novolak No. 18

ABSTRACT: The authors' purpose was a study of the possibility of increasing heat [illegible] of known polyarylates by partial cross-linking of their polymer chains. [illegible] study polyarylate of phenophthalein and a mixture and a mixed [illegible]ate of n,n'-dioxydiphenylpropane, terephthalic acid, and isophthalic acid [illegible] proportions of 1:0.5:0.5 mole) were used. For cross-linking agents the [illegible]ed Novolak No. 18 and formaldehyde. [illegible] were made of infrared [illegible]n spectra, x-ray powder photographs, [illegible]ty, strength, and elongation. [illegible] indicates that cross-linking of linear [illegible] may be effected with [illegible] and formaldehyde. The degree of [illegible] depends on the amount of [illegible]-linking agent, the temperature, and the duration of the reaction. [illegible] cross-linked polyarylates are insoluble in organic solvents, and they possess high [illegible] stability. [illegible] In conclusion, the authors express their thanks to B. L. [illegible]

AP5005753

and his co-workers for making possible the determination of the mechanical
films." Orig. art. has: 6 figures and 1 tables.

ASSOCIATION: INSOS AN SSSR; VKIIV

SUBMITTED: 03Feb64 ENCL: 00 SUB CODE: OC, MT

OTHER:

Card 2/2

[illegible] Pogozhin, S. V., Chou, [illegible]

[illegible] products from [illegible]

[illegible] Izvestiya. Seriya khimicheskaya, [illegible]

[illegible]ene, dehydrocondensation, polymer

[illegible] and diisopropylbenzene polymers were [illegible] by the thermal [illegible] reaction. The effect [illegible] the polymerization [illegible] the yield and [illegible] of the polymers [illegible] is also given of certain peculiarities of the polydehydrocondensation [illegible]. 10 figures, 5 tables, [illegible] formulas

[illegible] elementoorganicheskikh soyedineniy Akademii nauk SSSR [illegible] organic compounds, Academy of [illegible]

[illegible]

L 40972-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 JAJ/RM
ACCESSION NR: AP5006415 S/0062/65/000/001/0146/0154

AUTHOR: Korshak, V. V.; Rogozhin, S. V.; Sidorov, T. A.; Chou Jun-p'ei; [illegible]

TITLE: Preparation of polymer products from p-xylene, pseudocumene, and ditolylethane

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 146-154

TOPIC TAGS: polymer, xylene, pyrolysis, pyrolysis polymerization

ABSTRACT: Polymer compounds were produced by thermal polydehydrocondensation of p-xylene, pseudocumene, and ditolylethane. These hydrocarbons were pyrolized on an [illegible] metal wire located in a liquid monomer. The effect of temperature and time on the yield of polymers was investigated and it was found that the yield increased with both temperature and time. The structure of the polymers was investigated through analysis of their infrared spectra. The probable mechanism of the formation of polymer products was discussed. It was assumed that the soluble [illegible] of p-xylene is formed chiefly by branching of linear molecules, as a result of interaction with active radicals and the recombination of macroradicals with each other or with radicals forming from monomers, dimers, etc. Orig. art. has:

Card 1/2

L 40972-65
ACCESSION NR: AP5006416

9 figures, 5 tables, 2 equations.

ASSOCIATION: Institut elementoorganicheskikh soyedinenii Akademii nauk SSSR (Institute of Elementoorganic Compounds, Academy of Sciences SSSR)

SUBMITTED: 19Feb63 ENCL: 00 SUB CODE: GC, OC

NO REF SOV: 001 OTHER: 002

Card 2/2

KORSHAK, V.V.; SIDOROV, T.A.; VINOGRADOVA, S.V.; KOMAROVA, L.I.; VALETSKIY, P.M.; LEBEDEVA, A.S.

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1. Institut elementoorganicheskikh soyedineniy AN SSSR.