[illegible]

Vinylation of Monoacetone-d-Glucose

-d- [illegible] acetylene. It [illegible] -propy-lidene-d- [illegible] -d-glucose. There are [illegible] references, [illegible].

ASSOCIATION: **Voronezh State University**
(Voronezhskiy gosudarstvennyy universitet)

SUBMITTED: November [illegible], 1[illegible]

AVAILABLE: Library of Congress

1. Monoacetone-d-Glucose-Vinylation

Card 2/2

AUTHORS: Mikhant'yev, B. I., Pryakhina, E. A. SOV/156-58-3-38/[illegible]

TITLE: The Synthesis of Ethyl, Isopropyl and n-Propyl-α-Methylallylacetal (Sintez etil-, izopropil- i n-propil-α-metilallilatsetaley)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 550-552 (USSR)

ABSTRACT: The authors investigated the interaction between α-methylalcohol with vinylethyl-, vinylisopropyl- and vinyl-n-propyl esters in the presence of acids acting as catalysts. Ethyl-isopropyl and n-propyl-α-methylallylacetal are produced in a yield of 70-80 %. The following syntheses were carried out: the synthesis of ethyl-α-methylallylacetal with boiling point 39-41 °C, d_4^{20} = 0,8351, nD^{20} = 1,4050, in a yield of 77,7 %; the synthesis of isopropyl-α-methylallylacetal with boiling point 52-53 °C, d_4^{20} = 0,8315, nD^{20} = 1.4067 in a yield of 100 %; the synthesis of n-propyl-α-methylallylacetal with a boiling point at 60-63 °C, d_4^{20} = 0,8369, nD^{20} = 1,4096, in a yield of 97,3 - 97,7 %. The hydration of the acetal was carried out on a nickel skeleton catalyst.

Card 1/2

SOV 156-58-3-34/[illegible]

The Synthesis of Ethyl, Isopropyl and n-Propyl-α-Methylallylacetal

There are 4 references, [illegible] which are Soviet.

ASSOCIATION: Kafedra khimii vysokomolekulyarnykh soyedineniy Voronezhskogo gosudarstvennogo universiteta (Chair for the Chemistry of High Molecular Compounds at Voronezh State University)

SUBMITTED: January 17, 1958

Card 2/2

AUTHORS: Mikhant'yev, B. I., Pavlov, L. P. SOV/156-58-4-37/49

TITLE: The Cyclic Acetals of the Isomeric Hydro Benzoins (Tsiklicheskiye atsetali izomernykh gidrobenzoinov)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 757-758 (USSR)

ABSTRACT: In the interaction of meso and rac. hydro benzoin with simple vinyl ester, cyclic acetals (meso hydro benzoin acetal and rac. hydro benzoin acetal) are formed. The syntheses of the initial products of rac. hydro benzoin with a yield of 45-50% and meso hydro benzoin with a yield of 37.5% are described in detail. The elementary analysis of the cyclic acetals was carried out and the empirical formula was given. During hydrolysis the acetals are converted into the initial hydro benzoin. The cyclic acetal of the meso hydro benzoin was prepared in a yield of 70.8%. After a double crystallization from alcohol, cyclic acetal was separated in the form of fine-needled crystals. The crystals have their melting point at 43.5-44, boiling point at 103-104°C and refractive index n_D^{20} = 1.5562, density d_D^{20} = 1.1021. The compound is easily

Card 1/2

SOV/156-58-4-37/49

The Cyclic Acetals of the Isomeric Hydro Benzoins

soluble in ester and alcohol, insoluble in water and unstable in air. The preparation of the cyclic acetal of the rac. hydro benzoin gave a yield of 22.8%; it is colorless, scentless and liquid. The boiling point is at 105-106°C and the refractive index is $n_D^{20} = 1.5570$. The compound mixes with ordinary organic solvents and decomposes in air. There are 8 references, 4 of which are Soviet.

ASSOCIATION: Kafedra khimii vysokomolekulyarnykh soyedineniy Voronezhskogo gosudarstvennogo universiteta (Chair of Chemistry of the Compounds of High Molecular Weight at the Voronezh State University)

SUBMITTED: January 17, 1958

Card 2/2

SOV 156-58-4-38/49

AUTHORS: Mikhant'yev, B. I., Sk[illegible]yar[illegible], V. A., Semen[illegible], [illegible]

TITLE: The Preparation of the Vinyl Ester of the Acridine-9-Carbonic Acid and Their Incomplete Acylals (Polucheniye vinilovogo efira akridin-9 karbonovoy kisloty i yego nepolnykh atsilaley)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 759-760 (USSR)

ABSTRACT: By vinylation of acridine compounds vinyl esters of the acridine-9-carbonic acid and their incomplete acylals were prepared. The preparation of the vinyl ester was carried out according to the method developed by Fawarski-Schostakowski (Favorskiy-Shostakovskiy) at 180° under a pressure of 20 atmospheres. The yield is 24%. The compound is easily soluble in boiling water, benzene, toluene, dioxane and other organic solvents. The melting point is at [illegible] C. Incomplete acylal of the composed vinyl ester was prepared with methyl cyclohexane in the reflux autoclave. The acylal is a yellow liquid with aromatic scent, it is soluble in organic solvents and decomposes when heated. The yield is 55%. The elementary analysis gave the following formula: $C_{23}H$[illegible]O_3N. The compound has the following character-

Card 1/2

SOV/156-58-4-38/49

The Preparation of the Vinyl Ester of the Acridine-9-Carbonic Acid and Their Incomplete Acylals

istics: n_D^{20} = 1.538; d_4^{20} = 1.03; MR = 105.99. The incomplete acylal of the composed vinyl ester of the acridine-9-carbonic acid with heptanol was prepared in a yield of 30%. The acylal is a light green liquid with a strong odor. The empirical formula is $C_{23}H_{27}O_3N$ and has the following characteristics: n_D^{20} = 1.34; d_4^{20} = 0.75; MR = 92.0. There are 2 Soviet references.

ASSOCIATION: Kafedra vysokomolekulyarnoy khimii Voronezhskogo gosudarstvennogo universiteta (Chair of Chemistry of Highmoleculars at the Voronezh State University)

SUBMITTED: March 22, 1958

Card 2/2

SOV/3-58-11-9/38

AUTHOR: Mikhant'yev, B.I., Doctor of Chemical Sciences; Professor, University Rector

TITLE: The Opinion of the University Staff (Mneniye kollektiva universiteta)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 11, pp 25 - 27 (USSR)

ABSTRACT: Having discussed N.S. Khrushchev's report to the TsK Presidium of the KPSS, the staff of the Voronezh University came to the conclusion that a thorough reorganization of its educational and scientific activity is necessary. In recent years the number of students with practical experience is steadily increasing. In 1957, they comprised 40 % of those admitted to the University's regular day-time department, and this year 60 %. Beginning with 1959, it will be possible, and necessary, to enroll into the Voronezh University only production workers. Exceptions should be permitted only in respect to outstandingly talented boys and girls. The age of admittance is 20 to 35 years, and for those coming direct from school - over 18 years. The evening and correspondence departments should adopt the same principles. The 8-month preparatory courses for production workers and demobilized soldiers are of considerable importance and should be somewhat enlarged so as to accomodate

Card 1/2

The Opinion of the University Staff SOV/3-58-11-9/38

300 students. Admittance should take place on recommendations from public organizations. Stationary education at the university will last 5 years. The author gives further details, in respect to scholarships, practical training, future employment, and payment of grants to all students of the 5th and 6th course. He comments on evening and correspondence education and on the necessity of a 3 year period of actual work in his speciality, before the graduate prepares his graduation thesis. The author suggests that at the same time the student gets his marks on his academical progress, his participation in social activity should also be discussed.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

Card 2/2

MIKHANT'YEV, B. I.

AUTHORS: Mikhant'yev, B. I., Pavlov, L. P. 79-2-43/64

TITLE: Vinylization of Hydrobenzoin. I (Vinilirovaniye gidrobenzoina. I.)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 487-490 (USSR)

ABSTRACT: The major part of the more simple vinylethers is obtained according to A. Ye. Favorskiy and M. F. Shostakovskiy (ref. 1). The vinylization of fatty aromatic and aromatic alcohols with some hydroxyles is less known. The present paper shows a synthesis of mezo-α,α'-divinyldioxydibenzyl from acetylene and hydrobenzoin hitherto not yet described in technical literature. A direct vinylization was carried out in an autoclave, at a maximum pressure of 60 atm. and a temperature of 130-135°C for 6 hours. The hydrolytic oxymation and the quantitative hydration of the product obtained indicated two vinyl groups. Mezo-α-α'-diethoxydibenzyl was obtained from the product by hydration in the presence of nickel. There are 5 references, 3 of which are Slavic.

ASSOCIATION: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

Card 1/2

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S/081/60/000/006/008/008
A006/A001

5.3831

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 6, p. 664, # 25205

AUTHORS: Mikhant'yev, B.I., Sklyarov, V.A., Fedorov, Ye.I.

TITLE: On the Polymerization and Copolymerization of Vinyl-n-Butyl Ester

PERIODICAL: Tr. Voronezhsk. un-ta, 1958, Vol. 49, pp. 41-44

TEXT: Polymerization of vinyl-n-butyl ester (I) under the effect of $FeCl_3$ at 80-90°C and 50-700 mm Hg pressure (P) entails the formation of a polymer with a molecular weight (M) of 14,200. I is easily polymerized in n-C_4H_9OH and $(C_2H_5)_2O$ solutions under the effect of BF_3 (temperatures (t) -3°C, P 760 mm Hg, M 6400). Copolymers of I with divinyl (II) were obtained under the effect of BF_3 (P 760 mm, t -5°C, M 10,400). The copolymers are soluble in $(C_2H_5)_2O$, C_6H_6, benzine, CCl_4, $CHCl_3$ and are not soluble in $(CH_3)_2CO$, acetoacetic ester, and dioxane. At 180°C they darken, harden and become insoluble in organic solvents. Copolymerization of I and II under the effect of $FeCl_3$ and P_2O_5 does not take place to a noticeable degree.

R. Milyutinskaya

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

5 (3)

AUTHORS: Mikhant'yev, B. I., Fedorov, Ye. I. SOV/153-2-3-15/29

TITLE: Synthesis of Vinyl Pyridone and Some of Its Derivatives

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 3, pp 390-391 (USSR)

ABSTRACT: By vinylation of 2-pyridone with acetylene the authors synthesized N-vinyl-2-pyridone. This reaction was carried out under pressure at 145 - 150° in the autoclave. Dioxane was used as solvent, the duration of vinylation was 6 hours. The product obtained yields N-ethyl-2-pyridone in the catalytic hydrogenation. The working conditions in this synthesis were the following: hydrogenation during 2 hours at 17° and 300 torr pressure with the use of a nickel catalyst. N-1,2-dichloro ethyl-2-pyridone was obtained by chlorination of N-vinyl-2-pyridone in carbon tetrachloride as solvent. Moreover, the authors synthesized N-vinyl-5-Br-2-pyridone by the action of acetylene on 5-Br-2-pyridone. Dioxane was used as solvent, the reaction was carried out in the autoclave at 150-160°. These four syntheses are described in detail in an experimental part. Yields, compositions, and physical data of the products obtained are given. There are 3 references, 2 of which are Soviet.

~~Card 1/2~~

Voronezh State Univ, Chair of High Molecular Compounds

S/138/59/000/010/005/010
A051/A029

AUTHORS: Mikhant'yev, B.I.; Rayevskiy, A.B.

TITLE: The Divinyl-Styrene ω-Polymer 15

PERIODICAL: Kauchuk i Rezina, 1959, No. 10, pp. 24 - 27

TEXT: The mechanism of ω-polymerization was studied. In this connection the initiating stage is of particular interest. The reaction mechanism was investigated at various ratios of divinyl to styrene in the absence of peroxides or triggers and at various temperatures. The effect of different amounts of hydrogen peroxide and elementary oxygen on the ω-polymerization was also studied. The experimental procedure is outlined in detail and the results of the investigation are discussed. By making a comparative study of the ω-polymerization rate with and without trigger (Fig. 1), it was seen that the reaction in both cases takes several hours, whereas the difference in the induction period is 240 hours. It is concluded that the extent of the induction period depends mostly on the processes which lead to the formation of the ω-polymer nucleus. As soon as the nucleus appears in the system, the rate of the reaction progressively increases and shortly after it almost all the monomers are converted to the ω-polymer ω-poly-

Card 1/3

mers are formed simultaneously in the system, which can be seen from the increase in viscosity and by the presence of benzene-soluble products in the ω-polymer In the experiments with triggers the induction period can be explained by the effect of traces of oxygen, namely, if the polymerization is conducted in an atmosphere of elementary oxygen the induction period becomes twice as long. The temperature coefficient of the reaction rate was computed from the difference of these rates at temperatures of 30, 50 and 70°C. The formula

$$\gamma = \sqrt{\frac{V_1}{V_2}}$$

is derived, where γ is the temperature coefficient of the reaction rate, and V_1, V_2 are the rates of polymerization. Several conclusions could be drawn from the experimental results: 1) The optimum ratio of divinyl to styrene for the ω-polymerization at 50°C in the absence of a trigger was found to be 0.17 mole/mole. 2) The temperature coefficient of the ω-polymerization rate in the presence of a trigger was found to be 1.70. 3) Molecular oxygen increases the induction period of the ω-polymerization by a factor of two, without affecting the rate. 4) Isopropylbenzene hydrogen peroxide, at 0.1 weight % quantity, does not noticeably affect the ω-polymerization. With a further increase in the concentration, the rate of polymerization decreases. There are 5 graphs, 2 tables and 14 references· 6

S/138/59/000/010/005/010

The Divinyl-Styrene ω-Polymer

Soviet, 6 English and 2 German.

ASSOCIATION: Voronezhskiy zavod sinteticheskogo kauchuka (Voronezh Plant of Synthetic Rubber)

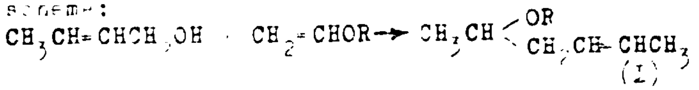
Card 3/3

AUTHORS: Mikhant'yev, B. I., Pryakhina, E. A. SOV/79-29-1-38/74

TITLE: Synthesis of Ethyl-, Isopropyl-, n-Propyl-, Isobutyl-, n-Butyl- and Isoamyl-Crotyl Acetal (Sintez etil-, izopropil-, n-propil-, izobutil-, n-butil- i izoamilkrotilatsetaley)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 179-181 (USSR)

ABSTRACT: The acetals of the unsaturated ethylene alcohols (I) have been little investigated so far. However, they can be used for various chemical transformations. The present investigation dealt with the synthesis of acetals, on the basis of crotyl alcohol and vinyl alkyl ethers according to the following scheme:



$$CH_3CH=CHCH_2OH + CH_2=CHOR \rightarrow CH_3CH\begin{cases} OR \\ CH_2CH=CHCH_3 \end{cases}$$

(I)

$R = C_2H_5$, iso-C_3H_7, n-C_3H_7, iso-C_4H_9, n-C_4H_9 and iso-C_5H_{11}.

The affiliation of the crotyl alcohol to the vinyl-alkyl ethers proceeds in an exothermic way. 30% hydrochloric acid was used as a catalyst. The ethyl-, isopropyl-, n-propyl-, isobutyl-, n-butyl-, and isoamyl crotyl acetals synthesized are readily mobile liquids of tasting flavor. The quantitative

Card 1/2

SOV/79-29-[illegible]-18/74

Synthesis of Ethyl-, Isopropyl-, n-Propyl-, Isobutyl-, n-Butyl- and Isoamyl-Crotyl Acetal

Hydrogenation of the acetals (Ref 1) confirmed the presence of a double bond in them. The constants of the hydrogenation products prepared correspond fairly with the data found in publications (Ref 2). The purity of the acetals was determined by examination. There are [illegible] Soviet references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: November [illegible], 19[illegible]

Card 2/2

5(3) SOV/79-29-4-41/77

AUTHORS: Mikhant'yev, B. I., Pavlov, L. P.

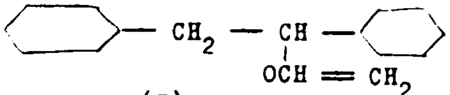
TITLE: Synthesis of α-Vinyloxydibenzil (Sintez α-viniloksidibenzila)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1230-1231 (USSR)

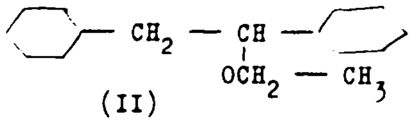
ABSTRACT: In the vinylation of hydroxy compounds of the diphenylethane series with acetylene by the method developed by A. Ye. Favorskiy and M. F. Shostakovskiy (Ref 1) the authors obtained the vinyl ether of α-oxydibenzil (of phenylbenzylcarbinol) (I). It was found that the affiliation of acetylene in the presence of caustic potash takes place at a satisfactory velocity at 160-170°. As a by-reaction at this temperature the water splits off from α-oxydibenzil, and stilbene is formed, as had already been pointed out in previous publications (Ref 2). Vinyl ether and the ethyl ether of α-oxydibenzil (II) obtained from vinyl ether by hydrogenation over the skeleton nickel catalyst decompose, like the initial alcohol, during normal distillation as well as when heated with a 20-30% sulphuric acid solution. In either case the stilbene yield is satisfactory (Refs 2-4).

Card 1/2

Synthesis of α-Vinyloxydibenzil SOV/79-29-4-41/77



(I)



(II)

The experiments carried out so far proved the capability of α-vinyloxydibenzil of polymerizing under the influence of the ether compound $(CH_3)_2 O \rightarrow BF_3$ ($\rightarrow$ denotes the semipolar bond) into viscous and solid resins. Ethyl ether can be easily brominated. During this process hydrogen bromide is removed. Thus α-vinyloxydibenzil was synthesized from acetylene and α-oxydibenzil, and α-ethoxydibenzil was obtained by hydrogenating the former. There are 6 references, 1 of which is Soviet.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: March 1, 1958

Card 2/2

5 (3)

AUTHORS: Mikhant'yev, B. I., Fedorov, Ye. I., Kucherova, A. I., Potapova, V. P.

SOV/79-29-6-20/72

TITLE: N-Allyl-pyridone-2 and 2-Alloxy-pyridine and Their Hydrogenation Products (N-Allilpiridon-2 i 2-alloksipiridin i produkty ikh gidrirovaniya)

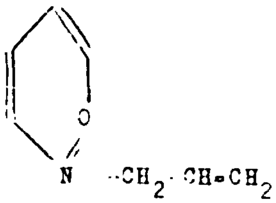
PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 1874 - 1875 (USSR)

ABSTRACT: A. Ye. [illegible] (Ref 1) synthesized the N-allyl quinolone-2 by reaction of the potassium salt of quinolone-2 with allyl bromide and tried to synthesize the 2-alloxy-quinoline from 2-chloro-quinoline and sodium allylate. The 2-alloxy-quinoline however was transformed by distillation under normal pressure into the N-allyl-quinolone-2. Considering the similarity of the chemical properties of quinolone-2 and pyridone-2 the authors tried the analogous synthesis on the basis of the sodium salt of pyridone-2 and obtained the N-allyl-pyridone-2 (I). By reaction of 2-chloro-pyridine with sodium allylate the 2-alloxy-pyridine was formed (II). In order to avoid the isomerization of compound (II) into the N-allyl-pyridone-2 the product was distilled from the reaction mixture in the vacuum (1.5 mm).

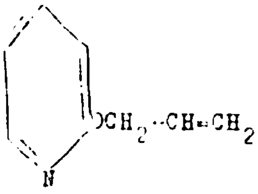
Card 1/2

N-Allyl-pyridone-2 and 2-Alloxy-pyridine and Their Hydrogenation Products V/79-29-6-20/72

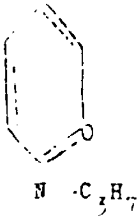
The hydrogenation of N-allyl pyridone-2 and 2-alloxy-pyridine on the skeleton-nickel catalyst yielded the corresponding N-n-propyl pyridone-2 (III) and 2-propoxy-pyridine (IV).



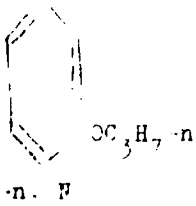
(I)



(II)



(III)



(IV)

There are 3 references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: May 15, 1958

Card 2/2

MIKHANT'YEV, B.I.; TARASOVA, A.V.; SKLYAROV, V.A.; FEDOROV, Ye.I.

Acetals. Report No.2. Trudy VGU 57:177-187 '59.
(MIRA 13:5)

(Acetals)

MIKHANT'YEV, B.I.

Syntheses and some conversions of vinyl ethers and vinyl esters.
Trudy VGU 57:189-201 '59. (MIRA 13:5)
(Ethers) (Esters)

MIKHANT'YEV, B.I.

Part played by A.E.Favorskii in the development of organic chemistry. Trudy VGU 57:203-209 '59. (MIRA 13:5)
(Favorskii, Aleksei Evgrafovich 1860-1945)

PHASE I BOOK EXPLOITATION SOV/5225

Mikhant'yev, Boris Ivanovich, Anatoliy Yakovlevich Shatalov, and Igor' Kirillovich Marshakov

Polimery - novyye korrozionno-stoykiye materialy (Polymers; New Corrosion-Resistant Materials) Voronezh, Izd-vo Voronezhskogo univ., 1960. 106 p. 5,000 copies printed.

Scientific Ed.: I. Ya. Klinov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: G.F. Biryukov; Tech. Ed.: M.V. Novikov.

PURPOSE: This book is intended for teachers in higher schools of education. It may be used by chemical engineers and technicians of plant laboratories, technologists and foremen, as well as workers who are interested in improving their skills.

COVERAGE: The book reviews the causes and types of corrosive destruction to metals and alloys exposed to external conditions, and discusses methods and means of replacing nonferrous metals and alloyed steels with new corrosion-resistant

Card 1/3

materials based on synthetic polymers and natural and synthetic resins. The main physicochemical properties are given for the structural plastics which have received wide practical application in the national economy, and especially in anticorrosion engineering. No personalities are mentioned. There are 68 Soviet references (including 2 translations).

TABLE OF CONTENTS:

S/138/60/000/002/002/009
A051/A029

AUTHORS: Mikhant'yev, B.I., Rayevskiy, A.B.

TITLE: The Inhibition of ω-Polymerization

PERIODICAL: Kauchuk i Rezina, 1960, No. 2, pp. 3 - 6

TEXT: The nature of ω-polymerization is little known The divinyl styrene ω-polymer, which is formed in the production of rubber by the emulsion method, is harmful, since it clogs the apparatus and causes a breakdown in the equipment. It is stressed, therefore, that the development of a method for the prevention of ω-polymer formation is of great practical significance. The authors used sulfur, polysulfide of sodium, n-oxydiphenylamine, quinone, hydroquinone and isopropyl benzene hydroperoxide as inhibitors. It was found that hydroquinone inhibits ω-polymerization 2 to 4 times as effectively as quinone. Elemental sulfur in a 0.05% dosage increases the induction period of the ω-polymerization by a factor of 2. An aqueous solution of polysulfide of sodium, after dilution or processing with air, is a good inhibitor of ω-polymerization. N-oxydiphenylamine inhibits ω-polymerization well. The induction period increases 8 times with

Card 1/2

S/138/60/000/002/002/009
A051/A029

The Inhibition of ω-Polymerization

a dosage of 0.01% of the latter. Since the porous polymer is formed in the production apparatus in the presence of water or perhaps oxygen, the experiment was directed at a study of the inhibitors in the presence of these latter components. The authors previously pointed out in Reference 4, that oxygen increases the induction period of the ω-polymerization considerably. In the present work the behavior of oxygen introduced into the system at the end of the induction period was also investigated and it was noted that it does not inhibit the ω-polymerization in this case. As a result of the experiments the authors conclude that sulfur, sodium polysulfide and n oxy diphenylamine can be recommended for use as inhibitors of ω-polymerization in industry. There are 6 figures, 3 tables and 4 references: 2 Soviet and 2 English.

ASSOCIATION: Voronezhskiy Gosudarstvennyy universitet i Voronezhskiy zavod sinteticheskogo kauchuka im. S M Kirova (Voronezh State University and Voronezh Synthetic Rubber Plant imeni S.M. Kirov)

Card 2/2

S/153/60/003/003/03[illegible]/0[illegible]/XX
B016/B058

AUTHORS: Mikhant'yev, B. I., Lapenko, V. L.

TITLE: Interaction of Monovinyl Diacetone-glucose With Alcohols and Organic Acids

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 3, pp. 560 - 561

TEXT: The authors report on the synthesis of an acetal carried out by them: 3-(n-butoxy-2-ethylidene)-1,2-5,6-diisopropylidene-d-glucose in the presence of concentrated H_2SO_4 as a catalyst. They further synthetized two acylals: 3-(formoxy-2-ethylidene)-1,2-5,6-diisopropylidene-d-glucose and 3-(acetoxy-2-ethylidene)-1,2-5,6-diisopropylidene-d-glucose. Monovinyl diacetone glucose served as initial compound for the synthesis of all three materials. The acetal was produced through accumulation of n-butyl alcohol on the initial compound and the acylals through accumulation of formic acid and acetic acid, respectively. The authors conducted

Card 1/2

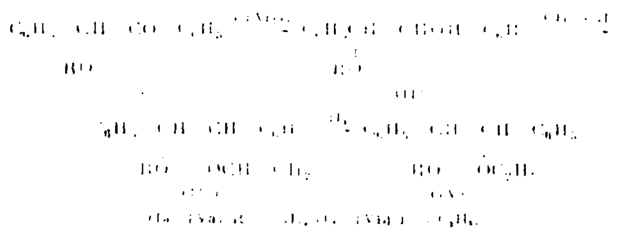
Interaction of Monovinyl Diacetone-d-glucose With Alcohol and Organic Acids
S/153/60/00[illegible]/00[illegible]/03[illegible]/0[illegible]/XX
B0[illegible]/B05[illegible]

a synthesis from d[illegible] d gl[illegible] Ref. [illegible] and vinyl n-butyl ester (prepared according to the [illegible] Ref. 4) in order to satisfy themselves regarding the purity [illegible] of the acetal. All synthesized materials form transparent [illegible] slightly [illegible] liquids which do not discolor bromine water. The authors mention the constants, empirical formulas, calculated and obtained yields of these substances.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet; Kafedra khimii vysokomolekulyarnykh soyedineniy (Voronezh State University; Chair of Chemistry of High-molecular Compounds)

SUBMITTED: November [illegible]

Card 2/



[illegible] H. [illegible] H. M. [illegible] [illegible]
97 [illegible]

[illegible] ([illegible]). The [illegible] shows the data on the [illegible] polymers. [illegible] 10 references: [illegible] Soviet, [illegible] German, [illegible] U.K., and [illegible] U.S. The U.K. [illegible] U.S. references are: J. C. Irvine, J. Weir, J. [illegible] Soc., 91, [illegible] ([illegible]); J. C. Irvine, D. McNicol, J. Chem. Soc., [illegible] ([illegible]); C. L. [illegible], M. L. Wolfrom, R. C. Fr[illegible], J. Am. Chem. Soc., [illegible] ([illegible]); [illegible] ([illegible]); Ch. A., [illegible] ([illegible]).

[illegible]TION: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

[illegible]ED: January 31, 19[illegible]

[illegible] of Hydrobenzoin. II. Mono[illegible]thyl

77850
SOV/[illegible]

*Soluble in ether, benzene, dioxan, [illegible]
Insoluble in water, methyl, and ethyl alcohols.

[illegible]	Polymer fraction	Yield of polymer (%)	Found %C	Found %H	Found M	Calculated %C	Calculated %H	Specific viscosity of 1% solution in benzene	Temperature [illegible] softening	[illegible]
[illegible] vinyl [illegible] $(C_{17}H_{18}O_2)_n$ *	1	21.0	79.82, 80.12	7.12, 7.08	1043	80.28	7.13	0.0286	39 - 45°	210
	2	49.4	80.03, 79.77	7.11, 7.10	69[illegible].8			0.0198	17 - 25	200
[illegible] vinyl [illegible] $(C_{18}H_{20}O_2)_n$ *	1	14.1	80.47, 80.67	7.45, 7.22	1293	80.56	7.51	[illegible]	41 - 48	[illegible]
	2	34.3	80.54, 80.40	7.60, 7.60	846.8			0.0215	22 - 27	190

5.3610

77890
SOV/79-30-2-[illegible]

AUTHORS: Mikhant'yev, B. I., Fedorov, E. I.

TITLE: Allylation of Amino and Bromoaminopyridines

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 568-5[illegible] (USSR)

ABSTRACT: Allyl chloride reacts with 2-sodium derivatives of aminopyridine, 5-bromo-aminopyridine, and 3,5-dibromo-aminopyridine, forming corresponding 2-allyl-aminopyridine (I), 5-bromo-2-allylaminopyridine (II), and 2,5-dibromo-2-allylaminopyridine (III).

Properties of Allylaminopyridines

Nr	Obtained product	bp/mm pr	mp	n_D^{20}	d_4^{20}	Yield (%)
1	I	56-58/1	-	1.5676	1.0241	61.2
2	II	-	50-50.[illegible]	-	-	[illegible]
3	III	108-110/1.5	-	1.6297	1.7744	4[illegible]

Compounds I, II, and III were hydrogenated over skeletal Ni at room temperature, at atmospheric pressure, and the corresponding 2-n-propyl-aminopyridine (IV), 5-bromo-2-n-propylaminopyridine (V), and

Card 1/2

Allylation of Amino and Bromoaminopyridines

77890
SOV/79-30-2-41/78

3-5,dibromo-2-n-propylaminopyridine (VI) were obtained.

Properties of Propylaminopyridines

Nr	Obtained product	bp/mm pr	mp	n_D^{20}	d_4^{20}	Yield (%)
4	IV	66-67/1.5	-	1.5468	0.993[illegible]	[illegible]
5	V	-	40.3-41	-	-	80
6	VI	95-96/2	-	1.6090	1.7153	9[illegible]

There are 2 tables; and 3 references, 2 Soviet, 1 Austrian.

ASSOCIATION: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

SUBMITTED: February 4, 1959

Card 2/2

5.3400

AUTHORS: Mikhant'yev, B. I., Pryakhina, E. A.

TITLE: Vinylation of Ethylene Glycol Monoethers

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr [illegible], pp [illegible]-960 (USSR)

ABSTRACT: Synthesis of ethylene glycol monoethers with allyl radicals was studied.

The following compounds were obtained from ethylene glycol, metallic Na (added at 50°), and corresponding alkyl halides (added with heating on water bath): monobutyl ether of ethylene glycol (61%), bp 78-80° (22 mm), d_4^{20} 0.8981, n_D^{20} 1.4197; α-methylallyl ether of ethylene glycol (17.6%), bp 68-70° (20-21 mm),

Card 1/2

Vinylation of Ethylene Glycol Monoethers

78[illegible]00
SOV/79-30-3-44/69

d_4^{20} 0.9147, n_D^{20} 1.4310; monocrotyl ether of ethylene glycol (27.6%), bp 85-87° (21-22 mm), d_4^{20} 0.9387, n_D^{20} 1.4428. The following vinyl ethers were obtained by vinylation of the ethers in autoclaves (max pr 45 atm) at 150° with 10% KOH: vinyl butyl ether of ethylene glycol (70%), bp 70-72° (20-21 mm), d_4^{20} 0.8653, n_D^{20} 1.4213; vinyl crotyl ether of ethylene glycol (5[illegible]%), bp 77-80°, (21-22 mm) d_4^{20} 0.8958, n_D^{20} 1.4410; vinyl α-methylallyl ether of ethylene glycol (69%), bp 72-74° (36 mm), d_4^{20} 0.8761, n_D^{20} 1.4300. There are 4 references, 1 U.S., 3 Soviet. The U.S. reference is: W. H. Watanabe, L. E. Conlon, J. Am. Chem. Soc., 79, 2828 (1957).

ASSOCIATION: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

SUBMITTED: March 24, 1959

Card 2/2

MIKHANT'YEV, B.I.; LAPENKO, V.L.

Vinylation of diacetone-δ-galactose. Zhur.ob.khim. 31 no.6:1843-1844 Je '61.
(MIRA 14:6)

1. Voronezhskiy gosudarstvennyy universitet.
(Galactose)

MIKHANT'YEV, B.I.; PRYAKHINA, E.A.

Synthesis of acetals based on vinyl ethers of n-butyl- and crotyloxyethanols. Zhur.ob.khim. 31 no.8:2766-2768 Ag '61.
(MIRA 14:8)

1. Voronezhskiy gosudarstvennyy universitet.
(Acetals) (Ethanol)

27507
S/079/61/031/009/008/012
D215/D306

5 3400

AUTHORS: Mikhant'yev, B.I., and Mikhant'yev, M.B.

TITLE: O-Aminophenylvinyl and p-aminophenylvinyl ethers

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 9, 1961, 3050 - 3051

TEXT: M.F. Shostakovskiy and I.A. Chekulayeva (Ref. 1: Izv. AN SSSR Okh.N., 1954, 1111) prepared vinyl ethers of ethanolamines and decided that acetylene adds only to the hydroxyl groups of diethanolamine. However, diarylamines and acridone have been found to vinylate through the amino group. The presence of both groups in aminophenols allows the addition of two vinyl groups thus producing ortho- and para-aminophenylvinyl ethers. Both ethers are prepared by reacting the corresponding aminophenol with acetylene under pressure, in the presence of KOH and aqueous dioxon. The ortho-ether boils at 87.5-88.5°C/10 mm, and has the empirical formula C_8H_9ON,

X

Card 1/2

X

27507

O-Aminophenylvinyl and ... S/079/61/031/009/008/012
D215/D306

n_D^{20} - 1.5706, d_4^{20} - 1.0975; the para-ether boils at 103-104°C/10mm, n_D^{20} - 1.5788, d_4^{20} - 1.080. Both ethers polymerize in the presence of boron trifluoride and copolymerize with vinylbutylether. Hydrogenation of any of the ethers on skeletal nickel gives the corresponding aminophenylethyl ether. There are 4 references, 2 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (State University of Voronezh)

SUBMITTED: October 7, 1960

Card 2/2

MIKHANT'YEV, B.I.; PAVLOV, L.P.

Acetals of hydrobenzoin ethers. Zhur. ob. khim. 31 no. 11:3643-3646 N '61. (MIRA 14:11)

1. Voronezhskiy gosudarstvennyy universitet.
(Hydrobenzoin) (Ethers)

L 141-64 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/Pr-4 RM/WW/MAY
ACCESSION NR: AR3006942 S/0081/63/000/010/0698/0698

SOURCE: RZh. Khimiya, Abs. 10T499

AUTHOR: Mikhant'yev, B. I., Kretinin, S. A., Shatalov, V. P.

TITLE: Study of the properties of divinyl-styrene rubbers filled in the latex stage

CITED SOURCE: Tr. Labor. khimii vy*sokomolekul. soyedeneniy. Voronezhsk. un-t, vy*p. 1, 1962, 162-169

TOPIC TAGS: Divinyl-styrene rubber, latex stage, rubber

TRANSLATION: A study was made of the conditions of filling SKS-30AR with HAF carbon black, channel carbon black, Al sub 2 O sub 3, PN-6 oil, auto scrap-18, and mazut at the latex stage and on rollers. Carbon black dispersions were prepared with a magnetic striction vibrator with a frequency of 25 kilocycles (concentration of carbon black of 15%, vibration time of 20 minutes). With

Card 1/2

L 141-64
ACCESSION NR: AR3006942

the introduction of 0.2-0.5% leucanol the vibration time is lowered to 5-10 minutes. The combination of latex with the dispersion of carbon black and the oil emulsion was also conducted through vibration for 3-5 minutes. The mixture was coagulated by CaCl sub 2 with H sub 2 SO sub 4 or CH sub 3 COOH. The expenditures per ton of commercial rubber with HAF carbon black were: CaCl sub 2 -- 30 kg, CH sub 3 COOH -- 1.9 kg; with channel carbon black; CaCl sub 2 -- 15.6 kg. CH sub 3 COOH -- 8 kg. The product which was obtained was dried at 80-90 degrees with forced ventilation. Upon introducing the carbon black into the latex a more plastic mixture was obtained which yielded stronger and more elastic vulcanized rubbers; the speed of vulcanization was increased. Dispersions with leucanol yielded better rubbers than without it. A basic technological plan for the production of carbon black-butyric rubbers was proposed. A 20% aqueous solution of Al sub 2 O sub 3 was prepared in a ball mill (30 rev/min) for 3 hours at about 20 degrees. The expenditure of CaCl sub 2 for the coagulation of 1 ton of commercial rubber was 47 kg. There was no loss of Al sub 2 O sub 3 during the coagulation of the latex mixture. The introduction of Al sub 2 O sub 3 into the latex produced more plastic mixtures and stronger vulcanized rubbers than when it was introduced on rollers. G. Chasovshchikov

DATE ACQ: 01Jul63 SUB CODE: CH, MA ENCL: 00

Card 2/2

MIKHANT'YEV, B.I.; PAVLOV, L.P.; LAPENKO, V.L.

Halogenated ethers of hydroxybenzoin. Zhur.ob.khim. 32 no.6 1798-1801 Je '62. (MIRA 15:6)

1. Voronezhskiy gosudarstvennyy universitet.
(Benzoin) (Ethers)

MIKHANT'YEV, B.I.; LAPENKO, V.L.; PAVLOV, L.P.

Vinylation of mannitol and its aceto derivatives. Zhur.ob.khim. 32 no.8:2505-2508 Ag '62. (MIRA 15:9)

1. Voronezhskiy gosudarstvennyy universitet.
(Mannitol) (Vinylation)

MIKHANT'YEV, B.I.; RADZHYUNAS, L.V.

Vinyl ethers of o- and m-hydroxydiphenylamines. Izv.vys.ucheb.zav.; khim.i khim.tekh. 6 no.4:697-698 '63. (MIRA 17:2)

1. Voronezhskiy gosudarstvennyy universitet. Kafedra khimii vysokomolekulyarnykh soyedineniy.

MIKHANT'YEV, B.I.; FEDOROV, Ye.I.

Allylation of chloroaminopyridines. Zhur.ob.khim. 33 no.3:865-866 Mr '63. (MIRA 16:3)

1. Voronezhskiy gosudarstvennyy universitet.
(Pyridine)
(Allyl compounds)

L 35073-65 EPF(c)/EPR/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 RPL RM/WW

ACCESSION NR: AR5006368 S/0081/64/000/024/S031/S032

42
40

SOURCE: Ref. zh. Khimiya, Abs. 24S182

B+1

AUTHOR: Mikhant'yav, B. I.; Sklyarov, V. A.; Fedorov, Ye. I.; Avtonomova, M. D.; Shmygaleva, T. A.; V'yukova, V. P.; Shatsman, F. D.; Shevtsova, A. G.; Afanasov, F. P.

1 1

TITLE: Polymerization and copolymerization of simple vinyl ethers

CITED SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 2, 1963, 3-11

TOPIC TAGS: polymerization, copolymerization, vinyl ether, polymer, copolymer

TRANSLATION: The possibility of producing high-molecular polymers and copolymers of vinylbutyl ester was investigated. In the presence of ferric chloride at 50-70 mm pressure and 80-90°C vinylbutyl ester is polymerized to form a product with a molecular weight of 14,000. A polymer with a molecular weight of 6,400 is obtained at normal pressure and -3°C in the presence of BF_3. Vinylbutyl ester is copolymerized with divinyl in the presence of BF_3 or ferric chloride; BF_3 appears to be the better catalyst, in whose presence a polymer with the molecular weight of

Card 1/3

L 35073-65

ACCESSION NR: AR5006368

2

10,400 is produced at -5°C. Chains of vinylbutyl ester predominate in the structure of the copolymer, and transverse bonds are present on account of the divinyl chains. The copolymerization of vinylbutyl ester with divinyl does not occur under the effect of phosphorus anhydride and ferric chloride. The polyvinylethyl ester is copolymerized with styrene (1:1) in the presence of ferric chloride and in the ratio of 1:2 in the presence of the dinitrile of azoisobutyric acid. The copolymers produced have a molecular weight of 58,000-76,000 and form films resistant to water and dilute solutions of acids and bases. Vinylbutyl ester is copolymerized with styrene in a 1:1 ratio ($FeCl_3$ as catalyst) and 1:8 ratio (BF_3 as catalyst); products with molecular weight of 21,000-50,000 are formed. The vinylphenyl ether is also copolymerized with styrena in ratios of 1:1 and 2:1 in the presence of the esterate of BF_3 (as catalyst), and is also copolymerized with heating in ratios of 1:1, 1:2, and 2:1 at 100-105°C. Solid copolymers are obtained with molecular weights of 48,500-92,000. Copolymers of N-vinylacridone and styrene are produced in mass and in emulsion; N-vinylacridone, styrene, and divinyl are produced in emulsion and also N-vinylacridone, styrene, divinyl and acrylonitrile. The products have molecular weights of 200,000-650,000. Of the rubber-like materials most plastic was the latter copolymer, containing N-vinylacridone, styrene, divinyl, and acrylonitrile in the ratio 1:16:29:22. N-vinylacridone reduces the solubility and increases the hardness of the copolymers. S. Bass

Card 2/3

L 35073-65

ACCESSION NR: AR5006368

0

SUB CODE: OC, GC

ENCL: 00

Card 3/3

L 35072-65 EPF(c)/EPR/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 RPL RM/WW

S/0081/64/000/024/S032/S032

ACCESSION NR: AR5006369

SOURCE: Ref. zh. Khimiya, Abs. 24S183

32
B+1

AUTHOR: Mikhant'yev, B. I.; Yadreyev, F. I.

TITLE: Polymerization and copolymerization of higher vinylalkyl ethers

CITED SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 2, 1963, 19-23

TOPIC TAGS: polymerization, copolymerization, polymer

TRANSLATION: The polymerization of vinyldodecyl, vinyltridecyl, and vinylheptadecyl ethers and their copolymerization with vinylbutyl ether in benzene were investigated. $FeCl_3$ in butanol and BF_3 esterate, which are active even in very small quantities, were the catalysts used. Polymerization of all the ethers under study proceeds smoothly although initial slight cooling is required (to ∿10°C) along with intensive mixing since in the opposite case the reaction is violent and the temperature is raised to 90-140°C. The resultant polymers of the higher alkyl ethers are yellow solids having a melting point from 38 to 60°C, and are readily soluble in all organic solvents (except alcohols) at ∿20°C. Depending on the depth

Card 1/2

L 35072-65

ACCESSION NR: AR5005369

O

of polymerization their molecular weight varies from 1100 to 7700 (cryoscopically). Data from X-ray structural analysis indicates their structure is characterized by a high degree of ordering. The copolymers of the higher alkyl ethers with vinylbutyl ether are viscous products possessing amorphous disordered structures. S. Bass

SUB CODE: OC, GC

ENCL: 00

Card 2/2

L 22031-66 EWT(m)/EWP(j) GS/RM

ACC NR: AT6005935 SOURCE CODE: UR/0000/63/000/000/0024/0027

31
B+1

AUTHORS: Mikhant'yev, B. I.; Radzhyunas, L. V.

ORG: Laboratory for the Chemistry of High-Molecular-Weight Compounds, Voronezh State University (Laboratoriya khimii vysokomolekulyarnykh soyedineniy Voronezhskogo gosudarstvennogo universiteta)

TITLE: Vinylation of aminophenols

SOURCE: Voronezh. Universitet. Laboratoriya khimii vysokomolekulyarnykh soyedineniy. Trudy, no. 2, 1963. Monomery, khimiya i tekhnologiya SK (Monomers, chemistry, and technology of synthetic rubber), 24-27

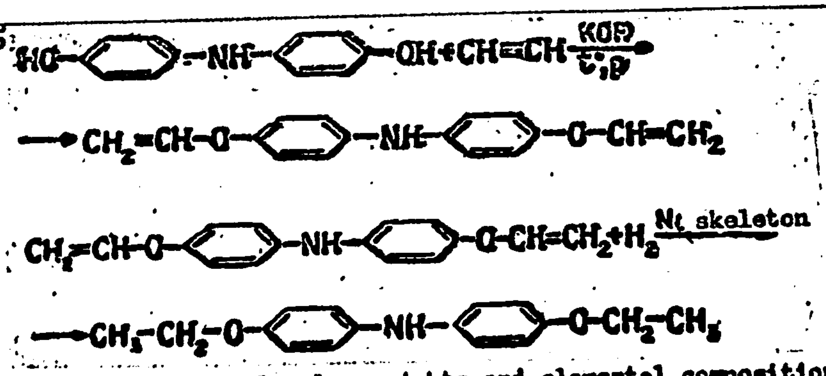
TOPIC TAGS: organic nitrogen compound, organic synthetic process, aromatic ether, aromatic hydrocarbon, phenol

ABSTRACT: This investigation is a continuation of work published by B. I. Mikhant'yev and V. B. Mikhant'yev (ZhOKh, 31, 3050, 1961). The aminophenylvinyl ethers, m-aminophenylvinyl ether and n,n'divynyldiphenylamine ether were synthesized after the method of A. Ye. Favorskiy and M. F. Shostakovskiy (ZhOKh, 13, 1, 1943). The reactions were carried out according to the schemes:

Card 1/2

L 22031-66

ACC NR: AT6005935:



Reaction yields, melting points, molecular weights and elemental composition of the synthesized compounds are presented. Orig. art. has: 4 equations.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

Card 2/2 dda

L 22030-66 EWT(m)/EWP(j) IJP(c) GS/RM
ACC NR: AT6005936 (A) SOURCE CODE: UR/0000/63/000/000/0028/0035

31

AUTHORS: Mikhant'yev, B. I. ; Radzhyunas, L. V.

B+1

ORG: Laboratory for the Chemistry of High-Molecular-Weight Compounds, Voronezh State University (Laboratoriya khimii vysokomolekulyarnykh soyedineniy Voronezhskogo gosudarstvennogo universiteta)

TITLE: Vinylation of aminophenols containing a tertiary nitrogen atom

SOURCE: Voronesh. Universitet. Laboratoriya khimii vysokomolekulyarnykh soyedineniy. Trudy, no. 2, 1963. Monomery, khimiya i tekhnologiya SK (Monomers, chemistry, and technology of synthetic rubber), 28-35

TOPIC TAGS: organic nitrogen compound, organic synthetic process, aromatic ether, aromatic hydrocarbon, monomer

ABSTRACT: This investigation is an extension of the works published by B. I. Mikhant'yev and V. B. Mikhant'yev (ZhOKh, 31, 3050, 1961) and by B. I. Mikhant'yev and L. B. Radzhyunas (Izv. vysshikh uchebnykh zavedeniy. Khimiya i khim. tekhnologiya, 6, vyp. 4, 697, 1963). In this study m-(N,N-diethyl)-aminophenylvinyl ether, m-(N,N-dimethyl)-aminophenylvinyl ether, and p-(N,N,-dimethyl)aminophenylvinyl ether were synthesized after the method of A. B. Favorskiy and M. F. Shostakovskiy (ZhOKh, 13, 1, 1943). Picrates of the vinyl and ethyl ethers were also synthesized. The product yields, melting points, boiling points, refractive indices, and molecular

2

L 22030-66
ACC NR: AT6005936

composition of the derived compounds are tabulated. It was found that the yields of monomers depended on the temperature and on KOH concentration of the reaction mixture (see Fig. 1).

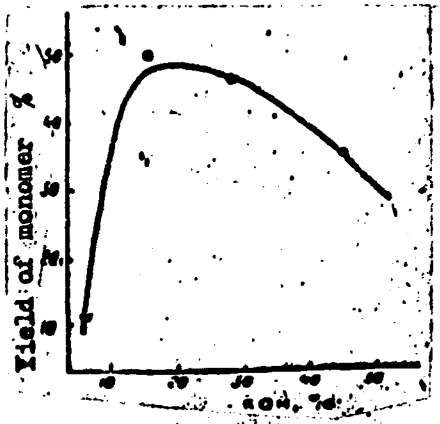


Fig. 1. Yield of monomer as a function of KOH concentration of this solution.

Orig. art. has: 4 tables and 2 graphs.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 008

Card 2/2 dda

L 22029-66 EWT(m)/EWP(j)/T GS/RM

ACC NR: AT6005937 (A) SOURCE CODE: UR/0000/63/000/000/0047/0049

41

B+I

AUTHORS: Mikhant'yev, B. I.; Kretinin, S. A.; Shirokov, Yu. P.

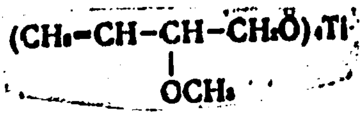
ORG: Laboratory for the Chemistry of High-Molecular-Weight Compounds, Voronezh State University (Laboratoriya khimii vysokomolekulyarnykh soyedineniy Voronezhskogo gosudarstvennogo universiteta)

TITLE: Synthesis and polymerization of certain titanoorganic compounds containing unsaturated radicals

SOURCE: Voronezh. Universitet. Laboratoriya khimii vysokomolekulyarnykh soyedineniy. Trudy, no. 2, 1963. Monomery, khimiya i tekhnologiya SK (Monomers, chemistry, and technology of synthetic rubber), 47-49

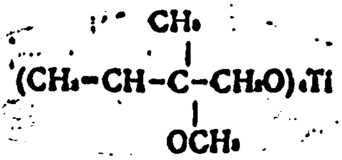
TOPIC TAGS: organometallic compound, organotitanium compound, titanium compound, organic synthetic process, titanium, polymerization

ABSTRACT: The organotitanic compounds



$$(CH_2{=}CH{-}\underset{\displaystyle OCH_3}{\underset{|}{CH}}{-}CH_2O)_4Ti$$

and



$$(CH_2{=}CH{-}\overset{\displaystyle CH_3}{\overset{|}{\underset{\displaystyle OCH_3}{\underset{|}{C}}}}{-}CH_2O)_4Ti$$

Card 1/2

L 22029-66

ACC NR: AT6005937

were synthesized to extend the work of S. V. Nogina, R. Kh. Freydlina, and A. N. Nesmeyanov (Izv. AN SSSR, OKhN, 3, 327, 1950). The compounds were synthesized by reacting $TiCl_4 \cdot 8NH_3$ in dry benzene with 2-methoxybuten-3-ol-1 and with 2-methoxy-2 methylbuten-3-ol-1 respectively. The intermediate products were synthesized after the method of A. A. Petrov (ZhOKh, 11, 991, 1941; ZhOKh, 16, 1625, 1946) and of A. N. Pudovnik and S. G. Denislamova (ZhOKh, 27, 2363, 1957). Reaction yields and the characteristic physical constants for the synthesized compounds are tabulated. The polymerization of the synthesized compounds was studied. Only thermopolymerization and polymerization induced by orthophosphoric acid yielded polymers. Metallic sodium, BF_3, $FeCl_3$, and benzoyl peroxide did not induce polymerization. The polymers obtained were ruby-red in color, brittle, and showed a poor adhesion to glass. Orig. art. has: 2 formulas.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 007 OTH REF: 001

Card 2/2dda

L 37019-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 WW/RM

ACCESSION NR: AR5003012 S/0081/64/000/020/S082/S082

31
B

SOURCE: Ref. zh. Khimiya, Abs. 20S511

AUTHOR: Mikhant'yev, B. I.; Kretinin, S. A.; Gostev, M. M.; Shatalov, V. P.; Markina, E. I.; Senyuk, Ye. P.

TITLE: Butadiene-styrene rubbers 15 filled with carbon black 15 and oil and produced by high-temperature polymerization

CITED SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 2, 1963, 103-108

TOPIC TAGS: synthetic rubber, butadiene rubber, styrene rubber, carbon black filler, gas black filler, channel black filler, oil filled rubber, high temperature polymerization, rubber mechanical property, rubber emulsifier, synthetic fatty acid, colophony, latex coagulation

TRANSLATION: The authors studied the properties of butadiene-styrene rubbers of the SKS-30 type, produced by high-temperature polymerization with the addition of 17.6-50.0 parts by weight PN-61611 and 50.0 parts by weight gas black, channel black or HAF black to latex stage. The following combinations were tested as

Card 1/2 15

L 37019-65

ACCESSION NR: AR5003012

emulsifying agents: Nekal and the Na soaps of synthetic fatty acids; Nekal and the K soaps of synthetic fatty acids; the K soap of hydrogenated colophony and the K soaps of synthetic fatty acids. The 20% carbon black dispersions were prepared by grinding in a ball mill for 24 hrs. in the presence of 4-6 parts by weight leukanol and G.6 parts by weight NaOH (in relation to the carbon black). The oil emulsion was of commercial origin. During the coagulation of mixtures from Nekal latex, the best results were produced by $CaCl_2$ and CH_3COOH; in the case of latex produced with the soaps of synthetic fatty acids, the best results were produced by a mixture of $CaCl_2$, NaCl and CH_3COOH; in the case of colophony latex, NaCl and H_2SO_4 gave the best results. During deformation of the initial rubber with 4500 g, raw mixtures of rubber filled with carbon black and oil (SMK rubber) had a somewhat greater plasticity and less reducibility than when carbon black was added to oil-filled rubber on the rollers. The strength of the SMK vulcanates was somewhat lower, however. The method of introducing the carbon black had no significant effect on the properties of rubber mixtures and vulcanates in soft rubber. The properties of rubber do depend, however, on the method of coagulation. The instantaneous (single-stage) coagulation of SMK rubber resulted in somewhat more rigid mixtures with increased strength and decreased relative elongation. A. Shvarts.

SUB CODE: MT ENCL: 00

Card 2/2

L 41103-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AR6021268 (A) SOURCE CODE: UR/0081/66/000/004/S030/S030

AUTHOR: Mikhant'yev, B. I.; Shatalov, G. V.

14, 44

B

TITLE: Polymerization of piperylene. Report 2. Polymerization of trans- and cis-piperylene in the presence of the diisobutylaluminum chloride and alcoholic cobaltous chloride complex catalytic system

SOURCE: Ref zh. Khim, Part II, Abs. 4S188

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 83-86

TOPIC TAGS: catalytic polymerization, alkene, polymerization catalyst, tensile strength, elongation, fluid viscosity

ABSTRACT: Pure isomers were separated from the amylene-piperylene fraction. Polymerization was carried out for 8-10 hours at 20° in dry oxygen-free argon in glass ampoules in 20-30% solution in absolute benzene. Catalyst was 3% diisobutylaluminum chloride (I) and 0.01-0.02% $CoCl_2$ on the weight of the monomer. Percentage of conversion was 75-85%. The polymer consists primarily of 1,4- and 1,2-cis groups. Decreasing the amount of the alcoholic $CoCl_2$ complex does not cause a change in the polypiperylene structure but reduces $[\eta]$. Reducing the amount of I to

Card 1/2

L 41103-66

ACC NR: AR6021268

2

2% and reducing reaction time leads to a decrease in polymer yield and $[\eta]$. The latter is also reduced by raising the temperature to 40°. A carbon black[6] vulcanizate of the polymer has a tensile strength[15] of 160 and 101 kg/cm^2 at 20° and 100° and relative elongation of 760 and 490%, respectively. Report 1, see R. Zh. Khim., 1964, 24S175. I. Gritskova. [Translation of abstract].

SUB CODE: 07

Card 2/2 11b

L 33751-66 EWT(m)/EWP(j)/T RM

ACC NR: AR6016783 (A) SOURCE CODE: UR/0081/65/000/023/S026/S026

AUTHOR: Shatalov, V. P.; Afanasov, F. P.; Mikhant'yev, B. I.

TITLE: Polymerization of isoprene under the influence of a homogeneous "cobaltic" system

SOURCE: Ref. zh. Khimiya, Abs. 23S166

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 87-89

TOPIC TAGS: isoprene, catalytic polymerization, aluminum compound

ABSTRACT: The polymerization of isoprene (I) on an $Al(iso-C_4H_9)_2Cl$ (II) catalytic system (2 to 4%), with a $CoCl_2$ alcohol complex (III) (0.01%) and an addition of acrylnitril at various ratios of the components: (1:8:4, 1:8:8 and 1:16:4) is studied. The reaction was carried out without the presence of O_2 and moisture in an absolute benzene solution at 20 to 40° and the following concentrations: (I) 20%, (II) and (III) 2 to 4% and 0.01% (to I). The yield of the polymer is 49 to 80% of mol. wt. 105 800 - 193 400, cis - 1.4 links content of 60 to 69%, 1.4-trans 29 to 38% and 3.4 about 2%. The polymer is practically entirely soluble in benzene. The amount of gel-fraction amounts to only a few percent. V. Dudkin.

SUB CODE: 07/ SUBM DATE: none

Card 1/1 BLG

L 42875-66 EWT(m)/EWP(j)/T WW/RM
ACC NR: AR6024955 (A) SOURCE CODE: UR/0081/66/000/006/S029/S029

AUTHOR: Mikhant'yev, B. I.; Mikhant'yev, V. B.; Kalmykov, V. V.

28
B

TITLE: Polymerization and copolymerization of vinyl compounds at reduced pressure

SOURCE: Ref. zh. Khimiya, Part II, Abs. 6S192

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 94-95

TOPIC TAGS: vinyl compound, copolymerization, ether

ABSTRACT: In the polymerization (PM) of vinyl ethers of higher fatty alcohols in the
presence of ferric chloride at the boiling point of the initial ether and at atmospher-
ic pressure, these ethers partly decompose at the boiling point (150-200°), and the
polymers obtained are insufficiently viscous and are contaminated with the alcohol and
monomer. According to the proposed method of PM and copolymerization of high-boiling
vinyl compounds, the process is carried out in a vacuum (e. g., a residual pressure of
12-18 mm) and at a reduced temperature (e. g., 40-70°). The method makes it possible
to obtain high-quality products in 85-90% yield of theoretical, no depolymerization
takes place, and the polymers obtained are pure. Example. The PM of vinyl hexyl
ether (100 g) is carried out in a flask connected to a straight condenser, which is
followed by a condensate receiver. The latter is connected to an aspirator; after the
latter has been connected, heating of the flask containing the reaction mixture is
started (on a water bath). At the instant the ether begins to boil, Kt (2-4 drops of

Card 1/2

L 42875-66

ACC NR: AR6024955

5% alcohol solution of ferric chloride) is introduced through a capillary. The PM reaction proceeds quietly, and the partly unreacted monomer is driven off through the straight condenser and collected in the receiver . E. Bukhina. [Translation of abstract]

SUB CODE: 07

Card 2/2

L [illegible]01-66 [illegible]

ACC NR: AR6015910 (A) SOURCE CODE: UR/0081/65/000/022/S027/S027

40
B

AUTHOR: Fedorov, Ye. I.; Mikhant'yev, B. I.; Fursova, L. Ya.

TITLE: Emulsion copolymerization of 2-allylaminopyridine and N-vinyl-2-pyridone with bivinyl and styrene

SOURCE: Ref. zh. Khimiya, Abs. 22S157

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 100-104

TOPIC TAGS: emulsion polymerization, copolymerization, pyridine, vinyl compound, styrene

ABSTRACT: The copolymerization (CP) of N-vinyl-2-pyridone and 2-allylaminopyridine with bivinyl and styrene was carried out in an emulsion, the latex obtained was tested for bonding cord with rubber, and the effect of ultrasound on the adhesive properties of the latex were studied. The emulsion CP was carried out at 20° and a ratio of the hydrocarbon phase (HP) to the aqueous phase of 100:150; the HP consisted of 70% bivinyl and 30% styrene (the pyridine derivatives were introduced by decreasing the amount of styrene); the aqueous phase (in % of HP) consisted of: water 150, synthetic fatty acid (C_{10}-C_{16}) 4, KOH 0.9, hydroquinone 0.035, Na_2SO_3 0.2, trilon B 0.025, cumene hydroperoxide 0.25, Leukanol 0.5, diproxid 0.2. The copolymers B, C,

Card 1/2

ACC NR: AR6015910

D contained 3.1, 5.53, and 4.1% of pyridine derivatives respectively. The impregnant for the cord was prepared from latex, resorcinol-formaldehyde resin, and a carbon black dispersion. It is shown that admixtures of pyridine derivatives do not appreciably affect the bonding of the cord to the rubber; an increase in the static strength of the bond is observed only in latex B in the case of rubber based on synthetic butadiene rubber; irradiation with ultrasound does not affect the adhesive properties of the latexes. A. Zak. [Translation of abstract]

SUB CODE: 07,11

Card 2/2

L 40962-66 EWT(m)/EWP(j) IJP(c) RM/JWD

ACC NR: AR6016972 (A) SOURCE CODE: UR/0081/65/000/024/S077/S078

AUTHOR: Mikhant'yev, B. I.; Gostev, N. M.; Kretinin, S. A. 42 B

6 15

TITLE: Carbon black-oil filled butadiene styrene rubber of low temperature polymerization obtained in a system with a Trilon Rongalite activating group

SOURCE: Ref. zh. Khimiya, Abs. 24S547

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 186-190

TOPIC TAGS: butadiene styrene rubber, filler, carbon black, polymerization catalyst, elasticity, tensile strength

ABSTRACT: The possibility of using channel and gas furnace blacks in reinforcement in SKS-30 ARK latex prepared with the Trilon Rongalite activating group was investigated. The carbon blacks were introduced into the latex as 20% dispersions stabilized with K-soaps of hydrated or disproportionated rosin. The following proportions of stabilizer were necessary to obtain stabilized dispersions: for channel black 4-5 parts by weight, for furnace black 3.5 parts by weight, for their mixtures (1:1) 5-6 parts by weight. Introduction of both carbon blacks and their

Card 1/2

L 40962-66

ACC NR: AR6016972

mixtures to the latex gives vulcanizates with lower modulus and greater elasticity. The strength of vulcanizates with furnace black is higher and with channel black it is lower than when the carbon black is added on the rolls. M. Ayzinson. [Translation of abstract].

SUB CODE: 07, 11, 10

Card 2/2

MIKHANT'YEV, B.I.; LAPENKO, V.L.

Vinylation of acetone derivatives of sorbitol dulcitol. Zhur.ob.khim. 34 no.2:694-696 F '64. (MIRA 17:3)

1. Voronezhskiy gosudarstvennyy universitet.

ZALUKAYEV, L.P.; MIKHANT'YEV, B.I.; ZALUKAYEVA, Ye.A.

Problem of intramolecular donor-acceptor interaction. Dokl. AN SSSR 156 no. 5:1109-1111 Je '64. MIRA 17:6

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom M.I.Kabachnikom.

MIKHANT'YEV, B.I.; FADEHYNAK, L.V.

Vinyl ethers of some p-aminophenols. Zhur. ob. khim. 34 no.10: 3424-3425 O '64. (MIRA 17:11)

1. Voronezhskiy gosudarstvennyy universitet.

L 42875-66 EWT(m)/EWP(j)/T WW/RM

ACC NR: AR6024955 (A) SOURCE CODE: UR/0081/66/000/006/S029/S029

AUTHOR: Mikhant'yev, B. I.; Mikhant'yev, V. B.; Kalmykov, V. V.

28
B

TITLE: Polymerization and copolymerization of vinyl compounds at reduced pressure

SOURCE: Ref. zh. Khimiya, Part II, Abs. 6S192

REF SOURCE: Tr. Labor. khimii vysokomolekul. soyedineniy. Voronezhsk. un-t, vyp. 3, 1964, 94-95

TOPIC TAGS: vinyl compound, copolymerization, ether

ABSTRACT: In the polymerization (PM) of vinyl ethers of higher fatty alcohols in the presence of ferric chloride at the boiling point of the initial ether and at atmospheric pressure, these ethers partly decompose at the boiling point (150-200°), and the polymers obtained are insufficiently viscous and are contaminated with the alcohol and monomer. According to the proposed method of PM and copolymerization of high-boiling vinyl compounds, the process is carried out in a vacuum (e. g., a residual pressure of 12-18 mm) and at a reduced temperature (e. g., 40-70°). The method makes it possible to obtain high-quality products in 85-90% yield of theoretical, no depolymerization takes place, and the polymers obtained are pure. Example. The PM of vinyl hexyl ether (100 g) is carried out in a flask connected to a straight condenser, which is followed by a condensate receiver. The latter is connected to an aspirator; after the latter has been connected, heating of the flask containing the reaction mixture is started (on a water bath). At the instant the ether begins to boil, Kt (2-4 drops of

Card 1/2

L 42875-66

ACC NR: AR6024955

5% alcohol solution of ferric chloride) is introduced through a capillary. The PM reaction proceeds quietly, and the partly unreacted monomer is driven off through the straight condenser and collected in the receiver . E. Bukhina. [Translation of abstract]

SUB CODE: 07

Card 2/2

MIKHANOVSKIY, Vladimir Naumovich; SHUN, M.S., otv. red.;
NAZARENKO, L.M., red.; TROFIMENKO, A.S., tekhn. red.

[Electromagnetic defectoscopy in constant and variable fields] Elektromagnitnaia defektoskopiia v postoiannom i peremennom pole Khar'kov, Izd-vo Gos.univ., 1963. 57 p (MIRA 16.11)

(Magnetic testing)
(Pipe mills--Quality control)

27507
S/079/61/031/009/008/012
D215/D306

5 3400

AUTHORS: Mikhant'yev, B.I., and Mikhant'yev, [illegible]B.

TITLE: O-Aminophenylvinyl and p-aminophenylvinyl ethers

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 9, 1961,
3050 - 3051

TEXT: M.F. Shostakovskiy and I.A. Chekulayeva (Ref. 1: Izv. AN SSSR Okh.N., 1954, 1111) prepared vinyl ethers of ethanolamines and decided that acetylene adds only to the hydroxyl groups of diethanolamine. However, diarylamines and acridone have been found to vinylate through the amino group. The presence of both groups in aminophenols allows the addition of two vinyl groups thus producing ortho- and para-aminophenylvinyl ethers. Both ethers are prepared by reacting the corresponding aminophenol with acetylene under pressure, in the presence of KOH and aqueous dioxon. The ortho-ether boils at 87.5-88.5°C/10 mm, and has the empirical formula C_8H_9ON,

Card 1/2

O-Aminophenylvinyl and ...

27507
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D215/D306

n_D^{20} - 1.5706, d_4^{20} - 1.0975; the para-ether boils at 103-104°C/10mm; n_D^{20} - 1.5788, d_4^{20} - 1.080. Both ethers polymerize in the presence of boron trifluoride and copolymerize with vinylbutylether. Hydrogenation of any of the ethers on skeletal nickel gives the corresponding aminophenylethyl ether. There are 4 references, 2 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (State University of Voronezh)

SUBMITTED: October 7, 1960

Card 2/2

GVANTSELADZE, Valentina Sergeyevna; [illegible], [illegible] Kuz'mich;
[illegible] LUKIDZE, Irakliy Te[illegible]ravovich

[Congenital heart defects; clinical aspects, diagnosis and surgical treatment] Vrozhdennye poroki serdtsa; klinika, diagnostika i khirurgicheskoe lechenie. Tbilisi, Izd-vo AN Gruz.SSR, 1963. 114 p. (In Georgian)

GOROKHOV, I., inzh. (Zhdanov); GRANKOV, L., inzh. (Zhdanov); RAKHMANOV, N., inzh.-mayor, izobretatel'; BASKAKOV, Yu. (Chernogorsk); PERFIL'YEV, N. (Moskva); GLINCHEVSKIY, V. (Penza); KORNEV, M., inzh. (Kiyev); MIKHAREV, P., konstruktor (Orenburg*; D'YACHKOV, M. (Irkutsk)

How interesting! Izobr.i rats. no.1:19 '63. (MIRA 16:3)

1. Nachal'nik Penzenskogo byuro po delam ratsionalizatsii i izobretatel'stva (for Glinchevskiy).

(Technological innovations)

MIKHAREV, V.A., agronom.

"New" methods for determining seeding rates for grain crops.
Zemledelie 4 no.7:122-124 Jl '56. (MLRA 9:9)
(Grain) (Sowing)

USSR / Cultivated Plants. Grains. Legumes. Tropical Cereals. M-1

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6209

Author : Mikharev, V. A.
Inst : Chkalov Agricultural Institute
Title : The Sowing of Durum Wheat by Separate Seed Fractions

Orig Pub : Zemledeliye, 1957, No 3, 80-82

Abstract : The results of the study at the Chkalov agricultural institute (1954-1956) of the norms of sowing of durum wheat (Melanopus 69 variety) in relation to the size of seeds is given in this paper. Excessive density of sowings (6.5 millions for small seeds, 5.5 mil. for medium and large sizes on 1 ha) causes the plants to become depressed. This phenomenon

Card 1/2

MIKHAREV, V. A. Cand Agr Sci -- "Certain problems of agricultural engineering and prospects of development of the cultivation of durum wheat in Orenburgskaya Oblast." Omsk, 1961 (Authors' Abstracts of Dissertations presented at Omsk Agr Inst im S. M. Kirov). (KL, 4-61, 205)

92

-[redacted]-

MIKHARSKIY, K.I., inzh.

Threading trapezoidal double screw threads by a vortex method in one operation. Stroi.i dor.mash. 6 no.8:34-36 Ag '61.
(MIRA 14:8)

(Screw cutting)

MIKHASENOK, YE. V.,

Agriculture & Plant & Animal Industry.

Increased milk production. Saratovskoe obl. gos. izd-vo, 1950.

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

VOLKOV, Ye.T.; MIKHASENOK, Ye.Yu.

Z.M.Penkina, compiler of a complete bibliography of Russian books on the sea. Okeanologiia 2 no.5:954-958 '62. (MIRA 15:11)
(Penkina, Zinaida Mikhailovna, 1861-1887)

MIKHASEV, M.I.

Dynamics of gas metabolism in circulatory insufficiency. Kardiologiia 1 no.6:74-81 N-D '61. (MIRA 15:1)

1. Iz kafedry propedevtiki vnutrennikh bolezney (nachal'nik - deystvitel'nyy chlen AMN SSSR prof. N.N.Savitskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(RESPIRATION) (BLOOD--CIRCULATION, DISORDERS OF)

KUZNETSOV, V.I., dotsent; KUSHAKOVSKII, M.S., kand.med.nauk; MIKHASEV, M.I.
(Leningrad)

Antihypertensive activity of cystamine. Klin.med. 39 no.1:71-76 Ja '61. (MIRA 14:1)

1. Iz kafedry propedevtiki vnutrennikh bolezney (nach. - zasluzhennyy deyatel' nauki deystvitel'nyy chlen AMN SSSR prof. N.N. Savitskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(BLOOD PRESSURE)
(THYLAMINE)

MIKHASIK, I., podpolkovnik; NERETIN, Ye., podpolkovnik;
SUKHOTIN, Ye., podpolkovnik

Recording of military and political training. Voen. vest.
41 no.5:69-73 My '61. (MIRA 14:8)
(Russia--Army--Personnel records)

MIKHALOVA, G.N., Cand Tech Sci -- (diss) "Optimum temperature of predefecation." Mos, 1958, 19 pp; 5 sheets with graphs (Min of Higher Education USSR, Mos Tech Inst of Food Industry) (KL, 2[illegible], 1[illegible])

MIKHATOVA, G.N.

Optimum for predefecation temperature. Sakh. prom. 32 no.8:29-34 Ag '58. (MIRA 11:9)

1.Moskovskiy tekhnologicheskiy institut pishchevoy promshlennosti.
(Sugar manufacture)

MIKHATOVA, G.N.

Product calculation in the combined processing of sugar beets and raw cane sugar. Sakh.prom. 36 no.4:45-48 Ap '62. (MIRA 15:5)

1. Vsesoyuznyy zaochnyy institut pishchevoy promyshlennosti.
(Sugar manufacture)

BUGAYENKO, I.F.; MIKHATOVA G.N.

[High-molecular flocculants in the sugar industry] Vysokomolekuliarnye flokulianty v sakharnoi promyshlennosti. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1964. 21 p. (MIRA 17:12)

KAGANOV, Isaak Natanovich; MIKHATOVA, Galina Nikolayevna;
VOYKOVA, A.A., red.

[Chemical and technical calculations and accounting in sugar manufacture] Khimiko-tekhnicheskie raschety i uchet v sakharnom proizvodstve. Moskva, Pishchevaia promyshlennost', 1964. 330 p. (MIRA 18:4)

L 21251-66 EWT(l)/EWT(m)/EWP(t) IJP(c) JD/AT

ACC NR: AP6009065 SOURCE CODE: UR/0185/66/011/003/0253/025

AUTHOR: Kozak, O. V.; [redacted] —Mikhatskaya, N. A.; Pasichnyk, L. L.—Pasechnik, L. L.

H8.
B

ORG: Institute of Physics, AN URSR, Kiev (Instytut fizyky AN URSR)

21,44,55

TITLE: The measurement of electron temperature in helium plasma by the intensity ratio of the spectral lines

27

SOURCE: Ukrayins'kiy fizychnyy zhurnal, v. 11, no. 3, 1966, 253-257

TOPIC TAGS: electron temperature, helium plasma, spectral line

ABSTRACT: This paper presents some calculations linking the intensity ratio of the spectral lines with the electron temperature in helium plasma. The calculations are carried out for different singlet (λ = 5047Å, λ = 5016Å, λ = 4922Å) and triplet (λ = 4713Å, λ = 4472Å) combinations. The excitation function for He-lines and cross-section data in maxima applied here represent an average of results obtained by other authors. The electron temperature values obtained by the intensity ratio of the helium spectral lines in the plasma of a positive discharge column with a hot cathode are compared with the results obtained by means of probe techniques. The experimental data show that intensity ratio of some spectral lines depends on the helium pressure when the latter is over 10^{-3} mm Hg. The use of spectral lines for determining the electron temperature of plasma. Orig. art. has: 4 figures, 2 tables, and 1 formula. [Based on authors' abstract.] [JKP]

Card 1/[illegible] SUB CODE: 20/ SUBM DATE: 04Jun65/ ORIG REF: 062/ OTH REF: 008/

BLG

MIKHATSKIY, A.G. (Nezhin)

Concerning one drawing. Fiz. v shkole 22 no.2:90 Mr-Ap '62. (MIRA 15:11)

(Interference (Light))

MIKHATSKIY, YU. V.

MIKHATSKIY, Yu. V.: "Me[illegible] of the Stream of Single [illegible]-ally Repeated Impulses." (Min Higher Education UkSSR. Kiev Order of Lenin Polytechnic Inst. Chair of the Theoretical Principles of Radio Engineering. Kiev, 1955.
(Dissertation for the Degree of Candidate in Technical Sciences.)

SO: Knizhnaya Letopis', No 9, 1956

MIKHATSKIY, Yu.V.

Calculation of the error of pulse diode voltmeters. Izv.vys.
ucheb.zav.; radiotekh. 2 no.3:316-320 My-Je '59.
(MIRA 13:2)

1. Rekomendovana kafedroy teoreticheskikh osnov radiotekhniki
Kiyevskogo ordena Lenina politekhnicheskogo instituta.
(Electron-tube voltmeter)

9(2,3) SOV/115-59-8-24/33

AUTHOR: Mikhatskiy, Yu. V.

TITLE: Designing Circuits of Diode Pulse Voltmeters

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 8, pp 44 - 47 (USSR)

ABSTRACT: In this paper the author analyses the influences of the initial diode current and the grid current of the reflex circuit tube on the function of a diode peak voltmeter. The combined action of these two currents determines to a considerable degree the zero-stability of a voltmeter, its readings and the input resistance of the reflex circuit. In this connection, the author considers problems encountered in designing the most efficient pulse voltmeter circuits. Based on these investigations, a circuit with a closed input is recommended for measuring positive pulses. For measuring negative pulses an open input circuit is recommended. For peak-to-peak measurements of pulses, the circuit must be designed according to Figure 7. There are 12 circuit diagrams, 1 graph and 2 Soviet references.

Card 1/1