MUSAYEV, M.R.; GUKASOVA, G.A.

Study of the conversion of mono- and ditertiary amylbenzenes
under conditions of catalytic cracking taking the hydrogen
redistribution into account. Azerb.khim.zhur. no.2:55-58 '62.
(MIRA 16:3)

(Benzene) (Cracking process) (Hydrogen)

MAMEDALIYEV, Yu.G. [deceased]; MUSAYEV, M.R.

Oxidation of isoamylenes by atmospheric oxygen. Azerb.khim.zhur.
no.5:29-40 '62. (MIRA 16:5)
(Butene) (Oxygen)

MAMEDOV, F.A.; MUSAYEV, M.R.; ISMAILZADE, I.G.

Raman spectra of monoamylcyclohexane isomers. Azerb.
khim. zhur. no.2:71-74 '63.   (MIRA 16:8)

MUSAYEV, M.R.; VELIYEV, Sh.V.; KOSYKHIN, A.S.; MEKHTIYEV, S.D.

Composition of pentenes obtained in the dehydration of amyl
alcohols on aluminum oxide. Azerb.khim.zhur. no.6:29-36 '63.
(MIRA 17:3)

L 60270-65   EWT(m)/EPF(c)/EWP(j)   Pc-4/Pr-4   JAJ/RM
ACCESSION NR: AP5021064   UR/0316/64/000/004/0019/0023

AUTHOR: Musayev, M. R.; Mamedov, F. A.   2 5
                                                                    8

TITLE: Conversion of dialkylbenzenes under conditions of catalytic cracking,
considering the redistribution of hydrogen

SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 4, 1964, 19-23

TOPIC TAGS: alkyl benzene, benzene, alkylation, hydrogen, catalytic cracking,
catalysis, propylene

Abstract: The transformations of diisopropylbenzenes (ortho, meta, and para),
the diisopropylbenzene fraction isolated from industrial alkylation of benzene
with propylene in the presence of anhydrous aluminum chloride, ditertiary
butylbenzenes (mixture of isomers) and a mixture of ditertiary amylbenzenes
under the conditions of catalytic cracking (temperature 450°C, space velocity
0.75 hr^{-1}) over synthetic aluminosilicate were investigated. The basic
transformation of the initial alkylbenzenes was found to be dealkylation of
side chains. It was established that part of the olefins formed during
dealkylation were saturated with hydrogen, liberated in the coke formation
over the catalyst. Maximum coke formation and saturation of dealkylated side
chains of the cracked hydrocarbons was observed for ditertiary butylbenzene.
Card 1/2

L 60270-65
ACCESSION NR: AP5021064

Orig. art. has 3 tables.

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: FP, GC

NO REF SOV: 015   OTHER: 000   JPRS,

Card 2/2

MEKHTIYEV, S.D.; MUSAYEV, M.R.

Dehydration of cyclohexanol and isomers of methylcyclohexanol over Al_2O_3. Azerb. khim. zhur. no.5:19-22 '64.

(MIRA 18:3)

MUSAYEV, R.M.; CHERNIKIN, V.I.

Formation of hydrates in liquefied hydrocarbon gases. Gaz.prom. 10 no.5:36-40 '65.

(MIRA 18:6)

MUSAYEV, M.R.; MEKHTIYEV, S.D.

Isomerization of cyclohexene to methylcyclopentenes during the
dehydration of cyclohexanol on aluminum oxide. Dokl. AN Azerb.
SSR 20 no.5:11-14 '64.

(MIRA 17:8)

1. Institut neftekhimicheskikh protsessov AN AzSSR imeni
Yu.G.Mamedaliyeva.

MUSAYEV, M.R.; KLYCHKOVA, S.N.; MEKHTIYEV, S.D.

Dehydration of saturated aldohols on aluminum oxide. Dokl.
AN Azerb. SSR 20 no.8:27-29 '64.   (MIRA 17:12)

1. Institut neftekhimicheskikh protsessov AN AzerSSR im.
Yu.G. Mamedaliyeva.

MUSAYEV, N.B.

Treatment of enterocolitis in children with dry plasma and
a furacilin solution. Azerb. med. zhur. 40 no.12:13-15 D'63
                                              (MIRA 17:3)

ACCESSION NR: AP3000225   S/0166/63/000/002/0075/0085

AUTHOR: Musayev, P. Kh.

TITLE: On the theory of atomic semiconductor properties in strong electric fields

SOURCE: AN UzSSR. Izv. Seriya fiziko-matem. nauk, no. 2, 1963, 75-85

TOPIC TAGS: mobility, carrier current, semiconductor, strong electric field, atomic
semiconductor, temperature gradient, carrier concentration, optical lattice vibra-
tion

ABSTRACT: Calculations have been made of distribution functions from which the
average energy and mobility of carrier currents in semiconductors are found under
nonequilibrium conditions, and, in particular, under strong electric fields.
Analysis is limited to atomic semiconductors with overlapping energy zones. The
kinetic equations are written for the spherically symmetric and asymmetric parts of
the i-th zone distribution function. Simplifying assumptions are made of a con-
stant, homogeneous electric field with no temperature gradients or carrier concen-
tration. The solution is given for a carrier interaction with optical lattice
vibrations, first in a weak electric field and then in a strong electric field.

Card 1/2

ACCESSION NR: AP3000225

The results show that in a semiconductor with overlapping energy zones the average energy and carrier mobility in each zone are given as functions of the mass of both type carriers and of the mean free path inside both zones and at interzonal transitions. Orig. art. has: 35 equations.

ASSOCIATION: Fiziko tekhnicheskiy institut AN UzSSR (Physical and Technical Institute AN UzSSR)

SUBMITTED: 25Jan63

SUB CODE: PH

DATE ACQ: 12Jun63

NO REF SOV: 009

ENCL: 00

OTHER: 000

Card 2/2

ACCESSION NR: AP4013027   S/0166/63/000/006/0080/0085

AUTHOR: Musayev, P. Kh.

TITLE: On electrical conductivity theory and the Hall effect in valence semi-
conductors in electric and magnetic fields

SOURCE: AN UzSSR. Seriya fiziko-matematicheskikh nauk, no. 6, 1963, 80-85

TOPIC TAGS: nondegenerate electrons, semiconductor, electric field, kinetic
equation, lattice oscillation, distribution function, Hall coefficient

ABSTRACT: The distribution function for nondegenerate electrons in semiconductors
of type Ge has been calculated, considering the effect of external magnetic and
electric fields (constant in time and homogeneous), and of scattering of conduction
electrons by optical phonons. The governing kinetic equation is written

$$e\left(\vec{E}+\frac{1}{c}\left[\vec{v},\vec{H}\right]\right)\nabla_{\vec{p}}\,f(\vec{p}) = \left(\frac{\partial f}{\partial t}\right)_{cr};$$

Card 1/3

ACCESSION NR: AP4013027

where the term on the right of the equality sign is the change in distribution
function during electron scattering on lattice vibrations.   The distribution
function is assumed to have the form

$$f\left(\vec{p}\right) = f_o\left(p\right) + f_1'\left(p\right)\cos\theta + f_1''\left(p\right)\cos\beta.$$

and the scattering term is the same as that given by V. A. Chuyenkov (ZhTF, t. 28,
470, 1958). This leads to a solution of the form

$$f_o(\epsilon) = c_1 \cdot \exp\left[-B\int_0^\epsilon \frac{\epsilon + \Omega^2/(A + F_\epsilon)^2}{\frac{2e^2E^2/3m^*}{A + F_\epsilon} + D\left(\epsilon + \frac{\Omega^2}{(A+F_\epsilon)^2}\right)} d\epsilon\right].$$

The average electron energy, current density, and Hall coefficient are subsequently
computed on the basis of a simplifying assumption that scattering probability on
optical phonons is much greater than on acoustic phonons. Orig. art. has: 26
equations.

Card 2/3

3-/ 2-

ACCESSION NR: AP4013027

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UzSSR (Physicotechnical
Institute, AN UzSSR)

SUBMITTED: 16May63   DATE ACQ: 03Mar64   ENCL: 00

SUB CODE: PH   NO REF SOV: 005   OTHER: 001

Card 3/3

MUSAYEV, P.Kh.

On the theory of the properties of atomic semiconductors
in strong electric and magnetic fields. Izv. AN Uz. SSR.
Ser. fiz.-mat. nauk 7 no.3:56-65 '63.   (MIRA 16:8)

1. Fiziko-tekhnicheskiy institut AN UzSSR i Tashkentskiy
gosudarstvennyy universitet imeni Lenina.

SOV/106-59-1-9/12

AUTHORS   Borodzyuk G.G., and Musayev R.A.

TITLE: The Calculation of the Reliability of a Long Distance Cable Communication System (O raschete nadezhnosti sistemy dal'ney svyazi po kabel'nym liniyam)

PERIODICAL: Elektrosvyaz', 1959, Nr 1, pp 70-75 (USSR)

ABSTRACT: Generally speaking the reliability of very long lines can be increased in two ways, either by increasing the reliability of the separate components which make it up or by the technique known in the Soviet Union as "reservation". This is simply the introduction of planned redundancy. It is possible to show that in practice both these methods are required. The basic theoretical material for the calculations is given in Refs 1 and 2. Failure of the cable installations themselves is extremely rare and therefore trouble is to be expected only from the intermediate sections which contain amplifiers. Here of course the trouble arises mainly from the unreliability of valves. "Reservation" is usually carried out in one of two ways: (1) by connecting valves in parallel in each stage of an amplifier; (2) by the duplication of entire amplifiers. The second method has two possible variants:

Card 1/4

SOV/106-59-1-9/12

The Calculation of the Reliability of a Long Distance Cable
Communication System

either the amplifiers are entirely self-contained or both
the main and reserve amplifiers share a number of common
components such as, for example, the negative feed-back
network. It can be noted in passing that in practice a
system is considered to be satisfactorily reliable, if it
is out of operation for one hour per year of operation.
The probability of failure is given by (1), where q is
the reliability of action of a valve over a time t.
The number of amplifiers in the trunk line is n and
the number of stages in the amplifier is m; then in a
complete transmission line the probability of failure is
given by (2). If in addition, valves are paired in
parallel then the overall probability of failure is given
by (4). This expression ignores the possibility of a
short circuit in a valve. The survival curve for valves
is assumed to be exponential, then the equation for P_1
(in the middle of page 72) determines the probability
to be substituted in (4). In practice m varies between
3 and 4 and n can be as large as 420. Eq (4) is
expanded as a series in (5). Hence the approximate

Card 2/4

SOV/106-59-1-9/12

The Calculation of the Reliability of a Long Distance Cable
Communication System

        expression for system loss is given by (6) in the case of
valve redundancy. The corresponding expression for
complete "reservation" of amplifiers is given by the
equation immediately following (8). By comparing (5) and
(8) it will be seen that, neglecting the case of short
circuits within valves, the probability of failure of the
system "reserved" with the aid of parallel valves in
comparison with one using parallel amplifiers is m
times less. In order to take into account the
possibility of valve failure due to short circuit, the
original probability p in previous section is now made
up of two components, one of which is the probability of
failure due to short circuit, and the other is the
probability due to all other causes. A coefficient a
is introduced showing which part of all failures is due
to short circuits and (12) is the new expression for a
probability which should be substituted in (4) to take
account of the possibility grid cathode shorts in valves.
Card 3/4 In practice the value of a is usually less than 0.1.
The merits of the two systems of "reservation" are now

SOV/106-59-1-9/12

• The Calculation of the Reliability of a Long Distance Cable
Communication System

compared when the possibility of short circuit is allowed.
The ratio of the losses in the valve and amplifier
methods is given by (16). This ratio is plotted in Fig 1
for $m = 3$ and $m = 4$. Finally a calculation is made
for a system 2500 km long with 4-stage amplifiers having
two valves per stage. The total number of amplifiers is
420, the probability of failure is $p = 1.6 \times 10^{-4}$ and
this is considered unsatisfactory. By using valves with
the life of 10000 hr the system performance is again
acceptable $(p = 8 \times 10^{-5})$.

Card 4/4   There are 1 figure and 2 references, one of which is
Soviet and 1 English.

SUBMITTED: September 10, 1958

MUSAYEV, R.A.; BABALYAN, G.A.; KRAVCHENKO, I.I.

Effect of hydrocarbon soluble surfactants on surface tension.
Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.5:97-102 '64.
(MIRA 18:6)

MUSAYEV, R.M.

Investigation of the formation of hydrates in gases of the
thermally processed oil in liquid state. Gaz.delo no.11:
17-18 '65.

(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnogo
gaza.

MUSAYEV, R.T.; NIZAMETDINOVA, M.A.

Mathematical modeling of the chemical process of adsorptioii using
an electronic computer. Vop. vych. mat. i tekh. no.3:119-123 '64.
(MIRA 18:9)

MUSAYEV, S.; ZURABOV, A.

Uzbek fumigation team. Zashch. rast. ot vred. i bol. 10 no.12:
46 '65.   (MIRA 19:1)

1. Nachal'nik fumigatsionnogo otryada pri Uzbekskoy gosudarst-
vennoy karantinnoy inspektsii, Tashkent (for Musayev). 2. Glavnyy
agronom fumigatsionnogo otryada pri Uzbekskoy gosudarstvennoy karan-
tinnoy inspektsii, Tashkent (for Zurabov).

SHVEDOV, V.P.; MUSAYEV, Sh.A.

Coprecipitation of La^{140}, Pm^{147}, and Y^{91} with iodates of quadrivalent cerium. Radiokhimiia 1 no.4:465-474 '59.

(MIRA 13:1)

(Cerium iodate) (Lanthanum) (Promethium) (Yttrium)

," Leningrad, 1960, 22 pp, 150 cop. (Leningrad Technological

Institute im Lensovet) (KL, 45-60, 123)

24092
S/186/60/002/006/017/026
A051/A129

21.4200

AUTHORS: Shvedov, V. P.; Musayev, Sh. A.

TITLE: A study of the separation of $La^{140}-Ya^{91}$, $La^{140}-Pm^{147}$ and $Sr^{90}-Y^{90}$ mixtures on a tri-valent cerium iodate precipitate.

PERIODICAL: Radiokhimiya, v. 2, no. 6, 1960, 723 - 727

TEXT: A study was made of the coprecipitation of La^{140}, Pm^{147}, Y^{91} and $Sr^{90} + Y^{90}$ on a cerium iodate precipitate in the absence of trilon B, based on the theories of the three types of "homogeneous precipitation". The three different cases are given as: 1) "homogeneous precipitation" with gradual reduction of the solution acidity in the presence of an excess of the precipitating agent; 2) "homogeneous precipitation" with the appearance of precipitating ions in the solution; 3) "homogeneous precipitation" with gradual decomposition of the complex compounds. The complete capture of La^{140}, Pm^{147} and Y^{91} in a saturated solution of KIO_3 led to the assumption that not only La^{3+}, and Pm^{3+}, but also Y^{3+} do not form soluble anion complexes with KIO_3. A study of the solubility of lanthanum and yttrium iodates at various concentrations of KIO_3 up to saturation showed that
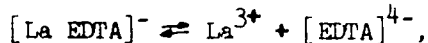
Card 1/3

24092
S/186/60/002/006/017/066
A051/A129

A study of the separation of .....

no noticeable soluble complex compounds of La^{3+}, Y^{3+} with KIO_3 are formed under the given conditions. The following equilibrium is derived:

$$[La\ EDTA]^- \rightleftharpoons La^{3+} + [EDTA]^{4-},$$

where $[EDTA]^{4-}$ is the anion part of trilon B. The experiment was carried out under the following conditions: 0.40 ml of a buffer solution (8 ml of 98 % acetic acid plus 7.2 ml of 2.25 n NaOH plus 0.8 ml water) was added to 2.2 ml of trilon B (20 mg of trilon B, pH = 8.0) containing the corresponding radioactive isotope, the obtained solution was mixed and left to stand for 10 minutes. Then 17.4 ml of a saturated solution of KIO_3 was added while mixing and the solution was left to stand again for about 10 minutes, after which 150 mg of crystallized KIO_3 was added. After mixing for 30 minutes, a fresh precipitate of cerium iodate (III) was introduced, containing 5 mg of Ce^{3+}; there is complete capture of La^{140}, Pm^{147}, Y^{90} and Sr^{90} by iodate precipitate of trivalent cerium in the saturated solution of KIO_3. Thus, it was shown experimentally that with the gradual decomposition of the cerium complex compound with trilon B in the presence of KIO_3 conditions are created for the "homogeneous precipitation" of $Ce^{(III)}$ iodate and for the se-

Card 2/3

A study of the separation of ....

24092
S/186/60/002/006/017/026
A051/A129

paration of $La^{140}-Y^{91}$ and $Sr^{90}-Y^{90}$ mixtures on this precipitate. There are 6 figures, 1 table and 21 references: 5 Soviet-bloc,and 16 non-Soviet-bloc. The references to the four most recent English language publications read as follows: A. M. Feibusch, K. Rowley a. L. Gordon, Anal. Chem., 30, 10, 103, 1958; J. A. Hermann, Ch. A., 52, 10, 7921, 1958; L. Gordon a. L. Ginsburg, Anal. Chem., 29, 1, 38, 1957; L. Gordon, K. Rowley, Anal. Chem., 29, 1, 34, 1957.

SUBMITTED: December 18, 1959.

Card 3/3

SHVEDOV, V.P.; MUSAYEV, Sh.A.

Separation of cerium (IV) iodate and the determination of cerium (IV) in it. Izv.vys.ucheb.zav; khim.i khim.tekh. 4 no.5:727-733 '61.   (MIRA 14:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, kafedra tekhnologii iskusstvennykh radioelementov.
           (Cerium iodate)   (Cerium--Analysis)

AUTHORS: Musayev, Sh. ..., Lebedov, V. r.

TITLE: Coprecipitation of yttrium and lanthanum ... in
              "homogeneous" precipitation

PERIODIC L: Referativnyy zhurnal. Khimiya, no. ;, ..., ..., ...
              ..... (Tr. L...n. r. tekhnol. in-t. im. Lensovet., ...,
              ...., ...-...)

TEXT: The coprecipitation of ; with lanthanum ioaite is studied. It is
shown that in "homogeneous" precipitation with AIO_3 from ! N HIO_3, by
neutralizing the acid to pH ., as a result of the hydrolysis of urea during
5 hr at 92°C, somewhat purer precipitates of $La(IO_3)_3$ are obtained than
by the usual method of precipitating with an excess of $AI... .. H ..$.
... rejected precipitation the coprecipitation of ... ...,
in the first precipitation to 5 - 6, in the third. The addition of a
complex-forming agent, K_2SO_4, at the end of the precipitation process...

Card 1/2

Depreci... ... of yttria   ... ...   -, --/--, ---/--, --/--
                                                  3151/: 1,4

consider... / reduce... the depreci... ... or γ³ ... ...
2u - 29,0). .Abstracter'. note: Complet. ... ...

Card 2/2

KRAKOVSKIY, N. I., professor (Moskva, pl. Vosstaniya, d. 1, kv. 194);
    MUSAYEV, S. M.

Congenital multiple arteriovenous anastomoses of the right
lower extremity. Vest. khir. no.4:91-94 '62.   (MIRA 15:4)

1. Iz Instituta khirurgii im. A. V. Vishnevskogo (dir. - prof.
A. A. Vishnevskiy) AMN SSSR.

                (FISTULA, ARTERIOVENOUS)
                (EXTREMITIES, LOWER--BLOOD SUPPLY)

MUSAYEV, S.M. (Moskva)

Intravascular electro agulation at dilated subcutaneous varicose
veins of the lower extremities. Eksper. Khir. i anest. 8 no.4:
36-37 Jl-Ag '63.   (MIRA   )

MUSAYEV, R

Musayev, R.A., g ne P

highly elli tical

Beh , bl

r etion

1

16.3500 16.4100 $S/044/60/000/010/008/021$
                                      22585
                                      $C111/C333$

AUTHOR: Musayev, S.R.

TITLE: The first boundary value problem for strongly elliptic
            systems in the class of generalized functions

PERIODICAL: Referativnyy zhurnal, Matematika, no. 10, 1960, 90,
            abstract 11647. (Uch.zap.Azerb.un-t Fiz.-matem. i khim.
            ser., 1959, No 2, 4(-51)

TEXT: Let G be a finite domain of the n-dimensional Euclidean
space E_n, and Γ its sufficiently smooth boundary. Let $F^m(E_n)$ be the
fundamental space of the finite functions of order m which are defined
on E_n. Let the set of the generalized functions which are defined in
E_n over the functions $F^m(E_m)$ and which vanish outside of $\bar{G}$ be denoted
by $Y_m(\bar{G})$. Problem (A): $q(x) \in Y_m(\bar{G})$ is given, determine $u(x) \in Y_k(\bar{G})$
which satisfies the equation $<Lu, \varphi> = <q, \varphi>$ for all $\varphi \in F^m(G)$
which satisfy the set of the boundary conditions $R\varphi = 0$. The unique
solubility of problem (A) is asserted if the coefficients Lu are
sufficiently smooth, and if the boundary value problem $L^*u = \psi$, $R(\varphi) = 0$
for every $\psi \in C^m(?)$ is uniqely soluble in the class $C^k(\bar{G})$. An
analogous result is asserted for a strongly elliptic system. Namely,
Card 1/2

22585

The first boundary value problem...   S/044/60/000/010/008/021
C111/C333

let $A^{(k_1,\ldots,k_s)}$ for fixed $k_1,\ldots,k_s$, $0 \leq s < 2$? $\sum_{i=1}^{s} k_i = 1,2,\ldots,n$

be a quadratic matrix of order N and

$$Lu = \sum_{k_1,\ldots,k_s=1}^{n} (-1)^s \frac{\partial^s}{\partial x_{k_1}\ldots\partial x_{k_s}} \left[A^{(k_1,\ldots,k_s)}(x)U \right]$$

a strongly elliptic system. Then the equation $\langle Lu, \varphi \rangle = \langle q, \varphi \rangle$,
where $q \in Y_m(\overline{G})$ is a given generalized function, $\varphi \in F^m(G)$, has a
unique solution $u \in Y_m(\overline{G})$, if the corresponding homogeneous conjugate
system possesses only the trivial solution for homogeneous boundary
data. The result generalizes the result of M.I.Vish k (Matem.sb.,
1951, 29 (7? No 3), as well as of S.L.Sobolev and M.I.Vishik (RZhMat,
1960, 7642).
[Abstracter's note: The interrogation marks appearing in the text
stand for signs unreadable on the margin of the photostat.
Complete translation.]

Card 2/2

MASHNEV, M.M., kand.tekhn.nauk, dotsent; MUSAYEV, S.T., aspirant

Lengthening the service life of the tires and rims of rolling stock
wheel sets by their hardening with induction heating. Sbor.trud.
LIIZHT no.197:87-103 '62.   (MIRA 16:8)
                    (Steel--Hardening) (Car wheels)

S/169/62/000/010/018/071
D228/D307

AUTHORS: Amirkhanov, Kh.I., Dzhamalov, S.A., Magatayev, K.S.,
              Musayev, S.Ye. and Bydtayev, A.B.

TITLE: Geothermal investigations in Dagestan

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1962, 17-18,
              abstract 10.A111 (In collection: Probl. geotermii i
              prakt. ispol'zovaniya tepla Zemli, v. 2. M., AN SSSR,
              1961, 167-170)

TEXT: A description is given of the results of work by the
Dagestanskiy filial AN SSSR (Dagestan Branch, AS USSR) on the study
of geothermal phenomena in the region of Dagestan's Tertiary depos-
its. Upper Cretaceous and Tertiary deposits in the plains part of
the territory are the most perspective for hot water. The following
tentative conclusions were drawn on the basis of this research.
1. The temperature growth magnitude decreases with depth. 2. Deep
temperature changes depend on the underground water movement. The
heat conductivity of wet rocks is very much higher, so that the

Card 1/2

Geothermal investigations ...

S/169/62/000/010/018/071
D228/D307

temperature leveling in them proceeds more intensively. 3. It can
be established from graphs of the temperature change with depth in
different areas, and from geothermal charts compiled by the Dagestan
Branch, AS USSR, that a region's geologic structure does not always
correspond to the temperature change.
/ Abstracter's note: Complete translation 7

Card 2/2

MUSAYEV, Sh.M.

Methods of preserving virulent cultures without losing their
pathogenicity. Uzhb. biol. zhur. v no.3:16-18 '65.
(MIRA 18:8)

1. Institut botaniki AN UzSSR.

MUSAYEV, Sh.M.

Methods of isolation and characteristics of the causative agent of
the potato ring rot. Uzb. biol. zhur. 8 no.4:45-48 '64. (MIRA 18:7)

1. Institut botaniki AN UzSSR.

ERGESHEV, T.; MUSAYEV, Sh.Z.

Using the refraction prospecting method for determining the depth of occurrence of the surface of the Paleozoic basement and its lithological divisions. Uzb.geol.zhur. 7 no.1:40-44 '63.   (MIRA 16:4)

1. Institut geologii AN UzSSR.
   (Uzbekistan—Geology, Stratigraphic)   (Seismic prospecting)

DERYABIN, V.; MUSAYEV, T., nauchnyy sotrudnik; SULEYMANOV, I., nauchnyy
    sotrudnik

Preparations against suctorial pests of cotton. Zashch. rast.
ot vred.i bol 10 no.9:25-26 '65.   (MIRA 18:11)

1. Samarkandskaya sel'skokhozyaystvennaya opytnaya stantsiya.
2. Zaveduyushchiy otdelom zashchity rasteniy Samarkandskoy
sel'skokhozyaystvennoy opytnoy stantsii (for Musayev,
Suleymanov).

GALAYKO, S.M., kand. med. nauk; KHAYDAROV, A.Kh., prof.; MUSAYEV, T.M., aspirant

Surgical treatment of trophic ulcers of the leg. Nauch. trudy SamMI 22:89-93 '63. (MIRA 17:9)

1. Iz kliniki gospital'noy khirurgii Samarkandskogo meditsinskogo instituta.

IGNAT'YEVA, L.A.; MUSAYEV, T.N.; SLOVOKHOTOVA, T.A.

Study of interaction of isopropyl alcohol with a Ni/Al_2O_3 catalyst
by infrared spectroscopy. Kin. i kat. 6 no.2:294-299 Mr-Ap '65.
(MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, fizi-
cheskiy i khimicheskiy fakul'tety.

MUSAYEV, U.A.

Implantation of preserved tissue according to Filatov's method
in the compound treatment of children with tuberculous meningitis.
Azerb.med.zhur. no.3:56-61 Mr '59.   (MIRA 12:6)

1. Iz tuberkuleznoy kliniki (zav.prof.I.V.TSimbler) Instituta
pediatrii Akademii meditsinskikh nauk SSSR (direktor - chlen-
korrespondent AMN SSSR prof.O.D.Sokolova-Ponomareva).
        (MENINGES--TUBERCULOSIS) (TISSUE EXTRACTS)

MUSAYEV, U.A.

Tissue therapy in the compound treatment of children with tuberculous
meningitis and its influence on the phagocytic activity of
leucocytes. Azerb. med. zhur. no. 10:13-19 O '60. (MIRA 13:10)

1. Iz tuberkuleznoy kliniki (zav. prof. I.V. TSimbler) Instituta
pediatrii Akademii meditsinskikh nauk (direktor - chlen-korrespondent
AMN SSSR prof. O.D. Sokolova-Ponomareva).
    (MENINGES—TUBERCULOSIS) (TISSUE—EXTRACTS) (PHAGOCYTOSIS)
                    (LEUCOCYTES)

USMANOV, Kh.U.; TILLAYEV, R.S.; MUSAYEV, U.N.

Graft polymers produced from natural rubber. Uzb. khim. zhur.
no.3:20-23 '59.   (MIRA 12:9)

1.Sredneaziatskiy gos.univeraitet im. V.I. Lenina. 2.Chlen-
korrespondent AN UzSSR (for Usmanov).
              (Polymers) (Rubber)

MUSAYEV, U.N.

SOV/4984

PHASE I BOOK EXPLOITATION

International symposium on macromolecular chemistry. Moscow, 1960.

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

Tech. Ed.: P. S. Kashina.

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

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

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

Usanov, Yu. L., U. N. Musayev, and R. S. Tillyav (USSR).
The Radiation Method of Conolymerization of
Polystyrene and Perchlorovinyl

Rafikov, S. R., U. N. Chelnokov, I. V. Zhuravlev, and P. N.
Gribkova (USSR). Oxyethylation of Carbochain and Hetero-
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Santo L., and K. Gal (Hungary). Grafting Methyl Methacrylate
Onto Films of Polyvinyl Alcohol Under the Action of X-Rays   184

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Grafting Methyl Methacrylate Onto Polypropylene and Poly-
ethylene   207

Tutorskiy, I. A., Z. I. Sneliy, and V. M. Byatrov (USSR).
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Rubbers With Polyamides and ε-Caprolactam   214

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Source of Free Radicals on Crosslinking in Polyethylene   224

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Kang, and L. S. Gal'braykh (USSR). Synthesis of New
Cellulose Derivatives and Other Polysaccharides   293

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Of the Controlled Synthesis of Modified Celluloses With
Oxides of Nitrogen   302

Ivanov, V. I., N. Ya. Lenshina, V. S. Ivanova (USSR).
Oxidational Transformations in Chains of Cellulose Molecules   310

Berlin, A. A., Ye. A. Penskaya, and G. I. Volkova (USSR).
Mechanicochemical Transformations and Block Copolymeriza-
tion During the Freezing of Starch Solutions   321

Usanov, Yu. L., B. I. Aykhodzhayev, and U. Azizov (USSR).
Modification of the Properties of Cellulose by Grafting   334

33121

15.8620

S/638/61/001/000/051/056
B125/B104

AUTHORS: Usmanov, Kh. U., Tillayev, R. S., Musayev, U. N.,
Tursunov, D.

TITLE: Polymerization and synthesis of graft polymers from
natural rubber and from polystyrene by gamma irradiation

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu
atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent,
1961, 298-302

TEXT: The synthesis of graft polymers from natural rubber with vinyl
chloride and from polystyrene with acrylonitrile and their properties were
studied and the synthesis of homopolymers by radiation polymerization of
acrylonitrile, vinyl chloride, and furfuryl alcohol have been investigated.
The radiation polymerization of ethylene and of vinyl polymers was
studied at the laboratory of the Academician S. S. Medvedev and by A.
Shapiro (Khimiya i tekhnologiya polimerov, 1,1,1958). Regnier's method
(Petrov, G. K., Tekhnologiya sinteticheskikh smol i plasticheskikh mass
(Technology of synthetic resins and plastics), M.-L., Goskhimizdat, 1946,

Card 1/4

Polymerization and synthesis ...

33121
S/638/61/001/000/051/056
B125/B104

p. 329) was used to obtain vinyl chloride, from chemically pure dichloro
ethane by Co^{60} gamma irradiation of $0.5 \cdot 10^6 - 5 \cdot 10^6$ r. Ampoules filled with
a mixture of natural rubber and vinyl chloride were irradiated at the
laboratoriya Fiziko-tekhnicheskogo instituta AN UzSSR (Laboratory of the
Physicotechnical Institute, AS Uzbekskaya SSR) The polymer resulting from
gamma irradiation is not soluble, but swells slightly in some solvents
(benzene, toluene, carbon tetrachloride, methylene chloride) and some
solvent mixtures. The polymer obtained by grafting and irradiation has
a more strongly ramified chain than the original rubber with a netlike
structure resistant to solvents. The maximum amount of absorbed liquid
per gram of polymer and the swelling rate constant drop a little with
increasing dose. The data contained in the figure were recorded with a
dynamometric balance of V. A. Kargin and T. I. Sogolova (ZhFKh, 1949, 23,
5, 530). All graft polymers from natural rubber and vinyl chloride are
more heat-resistant than the initial rubber. The mechanical properties
and the electrical insulating quality of additionally vulcanized grafted
rubber meet the ГOCT (GOST) requirements on insulating rubber for the
cable industry. The graft polystyrene polymer with acrylonitrile was
produced by gamma irradiation ($1 \cdot 10^6 - 4 \cdot 10^6$ r) of a swelled polystyrene
film. The amount of nonreacting polystyrene and of the copolymer drops
Card 2/4,

33121

Polymerization and synthesis ...

S/638/61/001/000/051/056
B125/B104

with increasing radiation dose. The thermal resistivity of the initial
and of the graft polymer is increased by the grafting of polystyrene with
acrylonitrile. In addition, the graft polymer is more resistant to solvents
than the initial polymer. Irradiation of acrylonitrile and vinyl
chloride (starting material for the production of graft polymers) yielded
polyacrylonitrile, polyvinyl chloride, and polyfurfuryl alcohol. There
are 1 figure, 1 table, and 9 references: 3 Soviet and 6 non-Soviet. The
four most recent references to English-language publications real as
follows: Ballantine D. S., Mod. Plastics., 35, 171, 1957; Chapiro A. I.,
Polym. Sci., 29, 120, 321, 1958; Hammon H. G., S. P. E. Journal, 14, N3,
40, 1958.

ASSOCIATION: Tashkentskiy gosuniversitet im. V. I. Lenina (Tashkent
State University imeni V. I. Lenin)

Fig. Deformation as a function of temperature. Legend: (1) natural rubber;
(2) natural rubber + vinyl chloride, dose $1 \cdot 10^6$ r; (3) natural rubber
+ vinyl chloride, dose $2 \cdot 10^6$ r; (4) polystyrene; (5) polystyrene + acrylo-
nitrile, dose $4 \cdot 10^6$ r; (A) deformation.

Card 3/4

15.8000

2209, 1407, 1581

21735
S/026/61/000/003/006/006
A166/A127

AUTHORS: Usmanov, Kh.U., Professor, Tillayev, R.S., Candidate of Chemical Sciences, and Musayev, U.N.

TITLE: A New Method of Changing the Properties of Polymers

PERIODICAL: Priroda, no. 3, 1961, 91-93

TEXT: The article deals with the uses of grafted and bloc copolymerization in modifying the properties of polymers. The Institut khimii polimerov AN UzSSR (Institute of Polymer Chemistry, AS Uzbekskaya SSR) has synthesized grafted copolymers of cellulose with acrylonitryl, styrol and other monomers. The grafting of styrol makes the surface of the cellulose waterrepellent, while the grafting of acrylonitryl makes for non-rotting, heat-resistant properties. These methods are at present only in the pilot-plant stage. Academican V.A. Kargin succeeded by treating polymers with oxygen or ozone, to obtain grafted copolymers of polystyrol and acrylic acid, and starch, styrol and methyl methacrylate. Under his direction a team

Card 1/2

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A New Method of Changing the ...   S/026/61/000/003/006/006
A166/A127

of Uzbek scientists has devised a method of treating cellulose with
ozone to synthesize grafted copolymers of cellulose with acryloni-
tryl or with styrol and other monomers via their peroxide compounds.
Mechanical processing is now widely used to break polymer bonds and
form free radicals. Intensive friction between two discs of natural
and synthetic rubber is used to produce copolymers which combine
the strength and frostresistance of natural rubber with the oil-
and petroleum-resistance of synthetic rubbers. Grafted copolymers
are now being successfully synthesized under ionizing radiation. To
reduce the solubility of polyvinyl alcohol, Hungarian scientists
have synthesized under influence of X-rays a grafted copolymer of
polyvinyl alcohol and methyl methacrylate.

ASSOCIATION: Sredneaziatskiy gosudarstvennyy universitet im. V.I.
                Lenina (Central Asian State University im. V.I.
                Lenin), Tashkent.

Card 2/2

S/e44/62/000/000/082/129
D423/D307

AUTHORS: Usmanov, Kh. U., Tillayev, R. S. and Musayev, U. N.

TITLE: Copolymerization and grafting of sylvan under the action of γ radiation

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 454-489

TEXT: Copolymers of acrylonitrile and sylvan were obtained by the action of γ radiation from Co^{60} on various mixture ratios in sealed glass ampoules. It was shown that the yield of copolymer increased with increasing dosage and also with increasing acrylonitrile content. Physicochemical tests established that the copolymer consisted of soluble and insoluble portions. Chemical analysis and investigation of the ir spectra established the presence of nitrogen indicating the fact that it influenced the formation of copolymers. Investigation of the thermomechanical properties showed that the copolymers can exist in all three physical states. Radiation polymerization

Card 1/2

Copolymerization and grafting ...   S/844/62, 000, 000, ...
                                           D/423/D507

of sylvan only took place in the presence of sensitizing ...
such as SCl$_4$ and SHSl$_5$. This was explained by the formation of ...
radicals by the solvents, thus initiating polymerization. Grafting
polymerization was studied by using chlorinated polyvinyl ...
(perchlorvinyl) with a molecular weight of 51,040 and ...
content of 62.5%, mixed with sylvan in sealed glass ampoules,
subjected to a γ dosage of 1 - 1.5 hr. The results showed that in
order to reduce the quantity of homopolymer for a given system ...
be chosen such that the basic polymer is more initiation-...
than the grafting monomer. Study of the physical properties ...
grafted polymers obtained from sylvan and perchlorvinyl ...
that lacquers were formed in a mixture of acetone and ... ...
which are stable to bending and to shock and which are ...
stable. There are 4 figures and 2 tables.

ASSOCIATION: Tashkentskiy gosudarstvennyy universitet im. V. I.
               Lenina, khimicheskiy fakul'tet (Tashkent State Uni-
               versity im. V. I. Lenin, Faculty of Chemistry)

Card 2/2

USMANOV, Kh.U.; TIL'AYEV, R.S.; MUSAYEV, U.N.; KURBANOV, Sh.A.

Radiation-induced grafting of acrylonitrile into polyvinyl
alcohol. Khim. i fiz.-khim. prirod. i sint. polim. no.1:
207-214 '62   (MIRA 18:1)

1. Chlen-korrespondent AN UzSSR (for Usmanov).

MUSAYEV, U. N.

/

}²292

S/190/62/004/006/019/026
B110/B138

/5.8620

AUTHORS: Usmanov, Kh. U., Larin, P. P., Tashpulatov, Yu. T.,
Musayev, U. N., Tillayev, R. S.

TITLE: The IR spectra of graft copolymers of polystyrene and
perchlorovinyl with acrylonitrile, obtained under γ-radiation

PERIODICAL:· Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962, 907-912

TEXT: The IR spectra were investigated for the graft copolymers of poly-
styrene with acrylonitrile (PSA) and perchlorovinyl with acrylonitrile
(PCA), obtained by γ-radiation. The graft copolymers were prepared
according to the authors (Mezhdunarodnyy simpozium po makromolekulyarnoy
khimii (International Symposium on Macromolecular Chemistry), Moskva, iun'
1960 g. sektsiya III, p. 270). The radiation dose was 1 - 10,000,000
roentgen. For spectral analysis KBr compacts were produced. A double-
beam IR spectrophotometer type ИКС-14 (IKS-14) was used with NaCl prism
for 2.5 - 15μ. Homopolymerization of acrylonitrile and graft copolymeriza-
tion with polystyrene takes place during graft copolymerization. Since
the spectrum of the graft copolymer differed from that of the initial

Card 1/3

The IR spectra of graft...

polymer, grafting of polyacrylonitrile and polystyrene presumably occurred during irradiation. The graft copolymer of polystyrene with acrylonitrile corresponded to oscillations at: 2.86 - 2.94μ to hydrogen bond (N.....H); 3.28 and 3.32μ = asymmetric oscillations of the CH_2 group; 3.43 and 3.52μ = valency oscillations of the CH_2 group; 4.45μ = C$\equiv$N valency oscillations; 5.13, 5.31 and 5.53μ = harmonics of the monosubstituted benzene ring; 5.98μ = C=O valency oscillations; 6.24μ = oscillations of the C=C bond of the benzene ring; 6.69μ = oscillation of the benzene ring; 6.87, 7.09, 7.20μ = deformation oscillations of the CH_2 group; 7.94μ = C-H deformation oscillations; 8.44, 8.66μ = oscillations of the monosubstituted benzene ring; 9.13, 9.34μ = C-C skeleton oscillations; 10.99, 11.80μ = CH oscillations of the monosubstituted benzene; 3.16, 14.28μ = non-flat deformation oscillations of the CH group of the monosubstituted benzene ring. The insolubility of the copolymer (C = 73.77%, H = 6.81%, N = 13.47%, O = 5.95%) is explained by: (1) grafting, (2) appearance of new bonds (2.86 - 2.94μ: N....H hydrogen bond). For the graft copolymer of perchlorovinyl and acrylonitrile, there corresponded the bands: 2.91μ to NH valency oscillations in the NH_2 group; 3.39μ = C-H deformation oscillations;

Card 2/3

The IR spectra of graft...

S/190/62/004/006/019/026
B110/B138

5.81μ = C=O valency oscillations; 7.03μ = CH_2 deformation oscillations; 7.37, 9.83μ = C≡N valency oscillations; 10.39μ = C-C skeleton oscillations; 13.17μ = C-Cl valency oscillations; 14.80μ = C-H deformation oscillations. The appearance of the band at 2.91, 5.81, 7.37 and 9.83μ presumably proves saponification of the C≡N to the O=C-NH_2 group owing to HCl separation and air humidity. For the graft copolymer of perchlorovinyl with acrylonitrile the following oscillations appear: 3.40μ = CH_2 valency oscillations, 4.42μ = C≡N valency oscillations; 5.99μ = C=O valency oscillations; 6.67, 6.87μ = CH_2 deformation oscillations; 7.19, 7.36, 7.94 and 8.36μ = C-H deformation oscillations; 9.13, 9.34μ = -C-C-C- skeleton oscillations; 13.10μ = C-Cl valency oscillations. There are 2 figures.

ASSOCIATION: Institut khimii polimerov AN UzSSR (Institute of the Chemistry of Polymers AS UzSSR). Tashkentskiy gosudarstvennyy univer-sitet im. V. I. Lenina (Tashkent State University imeni V. I. Lenin)

SUBMITTED: April 14, 1961
Card 3/3

ACCESSION NR: AT4042432   S/3103/64/000/002/0175/0182

AUTHOR: Usmanov, Kh. U., Tillayev, R. S., Musayev, U. N., Yuldasheva, Kh.

TITLE: Thermomechanical properties and plasticizing of grafted copolymers obtained by radiation polymerization

SOURCE: AN UzSSR. Institut khimii polimerov. Khimiya i fiziko-khimiya prirodny*kh i sinteticheskikh polimerov, no. 2, 1964, 175-182

TOPIC TAGS: grafted copolymer, acrylonitrile, polystyrene, polyvinylchloride,.vinyl perchloride, glass temperature, Gamma-irradiation, plasticizer, saponified copolymer, radiation polymerization, polymer plasticizing, polymer thermomechanical property

ABSTRACT: A study of the thermomechanical properties of grafted copolymers obtained by grafting acrylonitrile on polystyrene, polyvinyl chloride and vinyl perchloride showed that the glass temperature T_C of these copolymers, regardless of the ratio of the components, corresponds essentially to the glass temperature of the initial polymers, but that the flow temperature T_t lies above the temperature of chemical stability of the products. Copolymers, as compressed tablets (3-4 mm thick and 7 mm in diameter), were tested before and after irradiation at doses of 1-10 Mr. The thermomechanical curves were plotted with the dynamometric scales of Kargin and Sogolova at a constant load for 10 sec., at a specific
Card   1/3

ACCESSION NR: AT4042432

load of 1.4 kg/cm^2. The curves obtained for all the copolymers, with or without plasticizers were quite similar, and showed less effect of temperature than on pure polymers. Tabulated irradiation data showed that the thermomechanical properties of grafted copolymers remain almost unchanged under the influence of irradiation. This indicates the greater stability of grafted copolymers to γ-rays as well as to high temperatures. The flow of grafted copolymers is therefore considered to be almost independent of grafting. An investigation of the plasticizing of grafted copolymers showed that grafted copolymers synthesized from two homopolymers which have a common plasticizer remain unchanged in their compatibility with this plasticizer. For grafted copolymers containing, on the one hand, chains able to plasticize (polystyrene, polyvinyl chloride) and, in the other component, unplasticizable rigid chains (polyacrylonitrile), the compatibility with the plasticizer is low and limited. The change in thermomechanical properties (decrease in Tc) with increasing plasticizer concentration (tetralin or methylbenzoic ether) is plotted. In addition, analytical data for nitrogen content and acid number of the grafted copolymers are tabulated. The thermomechanical curves of saponified vinyl perchloride and polyacrylonitrile grafted copolymers showed that the glass temperature is decreased and the plasticity is increased by saponification. A further increase in plasticity is produced by plasticizers, especially glycerol. Such an increase could never be obtained by plasticizing unsaponified grafted copolymers. Orig. art. has: 2 tables and 3 figures.

Card   2/3

ACCESSION NR: AT4042432

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

SUBMITTED: 00

SUB CODE: OC

NO REF SOV: 006

ENCL: 00

OTHER: 000

Card   3/3

ACCESSION NR: AP4040479

AUTHOR: Larin, P. P.; Musayev, U. N.; Tashpulatov, Yu. T.; Tillayev, R. S.; Usmanov, Kh. U.

S/0190/64/006/006/0997/1000

TITLE: IR spectra of copolymers of acrylonitrile and 2-methylfuran

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 6, 1964, 997-1000

TOPIC TAGS: copolymer, acrylonitrile, furan. 2-methyl, copolymer Ansil, radiation induced copolymerization, bulk copolymerization, solution copolymerization

ABSTRACT: The IR spectra of acrylonitrile--2-methylfuran (Ansil') copolymers have been studied. The copolymers were prepared by irradiating mixtures of the pure monomers both in bulk and in various solvents from a Co^{60} source. The study has confirmed the formation of copolymers. From the results it was assumed that in radiation-induced copolymerization of acrylonitrile and 2-methylfuran in solution, solvent molecules add to the ends of the copolymer molecules and accelerate termination. This assumption was confirmed by the fact that "Ansil'" copolymers prepared in solution have a lower molecular weight than those bulk copolymerized.

Card 1/2

ACCESSION NR: AP4040479

The addition of the solvent is probably accompanied by a partial cyclization of
polyacrylonitrile segments to form conjugated C=N bonds.   Orig. art. has 2
figures.

ASSOCIATION: Institut khimii polimerov AN UzSSR(Institute of Polymer Chemistry,
AN UzSSR); Tashkentskiy gosudarstvenny*y universitet im. V. I. Lenina (Tashkent
State University)

SUBMITTED: 25May63   ENCL: 00   SUB CODE: OC, GC

NO REF SOV: 003   OTHER: 001

Card 2/2

_____, _____; _____ _____, _____; _____ __, _____;   _____, ___.; _____,
___.

        _____ spectr_ f __ ___l m___ __ __d _t__l __d α-_____-
_uron. Vys_____, _ _ l. ___ ___: _-_____ __ __4   (__ __ __ _:__)

        1. In_____ _____, _____ _ _____ __SS__ ____ __ __ l; _____
stv _____ ___v_____t__t _____ L___ _a.

L 60142-65   EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T   Pc-4/Pr-4/Pu-4   GG/JAJ/RM

ACCESSION NR: AT5019596   UR/3021/64/000/257/0003/0010

AUTHOR: Usmanov, Kh. U.; Tillayev, R. S. (Docent); Musayev, U. N.

TITLE: Radiation copolymerization of acrylonitrile with sylvan

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 257, 1964. Fiziko-khimiya polimerov i neorganicheskaya khimiya (Physical chemistry of polymers and inorganic chemistry), 3-10

TOPIC TAGS: acrylonitrile, sylvan, radiation polymerization, polyacrylonitrile, Ansyl copolymer

ABSTRACT: Acrylonitrile was copolymerized with sylvan by sealing the purified monomers (present in various proportions) in glass ampoules and irradiating them with gamma rays from radioactive cobalt. The yield and properties of the copolymer (Ansyl) depend on the dose, irradiation rate, monomer ratio, and presence of solvents and their nature. As the irradiation rate increased from 20 to 505 r/sec, the copolymer yield decreased from 38.5 to 23.3%, possibly because of a decrease in the effectiveness with which primary radicals initiate the copolymerization, since they have a greater tendency to react with one another rather than with the monomer molecule. As the proportion of acrylonitrile in the original mixture increased, the

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L 60142-65
ACCESSION NR: AT5019596

2

polyacrylonitrile content of the copolymer rose, indicating that acrylonitrile is more reactive than the sylvan monomer when acted upon by gamma rays. The calculated copolymerization constants were r_{An} = 1.893 and r_{sylv} = 0.044. Addition of dimethylformamide (DMF), acetone, methanol, and CCl_4 to the mixture of monomers in amounts up to 10 vol. % decreases the copolymer yield, then increases it from 15 to 55% in the case of acetone, from 16 to 80% in the case of DMF, and to 57 and 91% in the case of methanol and CCl_4 respectively. The heats of solution and swelling and the densities of the Ansyl copolymers were determined. The thermomechanical curves of the Ansyl copolymers were found to change with the irradiation dose. As the latter increased from $5 \cdot 10^6$ to $25 \cdot 10^6$ r, the yield temperature rose, apparently owing to a more extensive copolymerization and increase in the molecular weights of the products. Beyond $25 \cdot 10^6$ r, the deformability became limited as a result of cross-linking. Orig. art. has: 7 figures and 4 tables.

ASSOCIATION: Tashkentskiy gosudarstvennyy universitet im. V. I. Lenina (Tashkent State University)

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

NO REF SOV: 003   OTHER: 001

Card 2/2

L 60144-65   EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(l)   Pc-4/Pr-4/
Peb/Pu-4   GG/JAJ/RM   UR/3021/64/000/257/0022/0025
ACCESSION NR: AT5019598

AUTHOR: Usmanov, Kh. U.; Tillayev, R. S. (Docent); Musayev, U. N.; Kurbanov, Sh. A.

TITLE: Radiation grafting of methacrylic acid to butadiene rubber

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 257, 1964, Fiziko-khimiya polimerov i neorganicheskaya khimiya (Physical chemistry of polymers and inorganic chemistry), 22-25

TOPIC TAGS: radiation polymerization, methacrylic acid, butadiene rubber, graft copolymer

ABSTRACT: The grafting of methacrylic acid to butadiene rubber (SKB) was carried out in sealed glass ampoules in the presence of air by exposing the mixtures to Co^{60} gamma radiation. The degree of grafting increases with the irradiation dose and monomer concentration in the initial mixture. However, as the monomer concentration rises above 50%, the amount of the homopolymer increases, reducing the degree of grafting. The latter is also reduced by an increase in the irradiation rate from 19 to 600 r/sec; this is apparently due to the fact that the free radicals combine increasingly with one another rather than with the macromolecule of the rubber. Addition of 40-60 wt. % benzene to the initial mixture caused a certain rise in the

Card 1/2

L 60144-65

ACCESSION NR: AT5019598

degree of grafting (an increase from 80 to 92% in copolymer yield). However, addition of 30-60% methanol, which dissolves the graft polymer only, not the initial rubber, decreased the copolymer yield from 80 to 57%. The thermomechanical properties of the rubber were found to change considerably: the glass-transition temperature of the rubber jumped from -40 to +200-220°C, and its deformability declined markedly. This is apparently due to an increase in the rigidity of the chains and to cross-linking of the chains of the grafted rubber under the influence of gamma radiation. A study of the homopolymerization kinetics of methacrylic acid showed that the yield of polymethacrylic acid rises with increasing irradiation dose, but this is associated with a reduction of its molecular weight, apparently because of a degradation of the polymer. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Tashkentskiy gosudaratvennyy universitet im. V. I. Lenina (Tashkent State University)

SUBMITTED: 00   ENCL: 00   SUB CODE: MT, GC

NO REF SOV: 001   OTHER: 004

Card 2/2

L 60146-65   EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/EWA(h)/EWA(1)   Pc-4/Pr-4/Peb/
Pu-4   GG/JAJ/RM   UR/3021/64/000/257/0030/0043
ACCESSION NR: AT5019600

AUTHOR: Usmanov, Kh. U.; Tillayev, R. S. (Docent); Musayev, U. N.; Ishanov, M. M.

TITLE: Polymerization and copolymerization of methacrylic acid with methacrylamide
under the influence of gamma radiation

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 257, 1964. Fiziko-khimiya
polimerov i neorganicheskaya khimiya (Physical chemistry of polymers and inorganic
chemistry), 30-43

TOPIC TAGS: methacrylic acid, methacrylamide, radiation polymerization

ABSTRACT: The study consisted of three parts: (1) radiation polymerization of
methacrylic acid; (2) radiation polymerization of methacrylamide; (3) radiation co-
polymerization of methacrylic acid with methacrylamide. In each case, the yields
and properties of the polymers depended on the dose, irradiation rate, and irradia-
tion time. Optimum conditions for obtaining the methacrylic acid-methacrylamide
copolymer were a dose of 350-400 thousand r at a rate of 200 r/sec and a 50:50 mono-
mer ratio in the presence of 50% water. The physicochemical and thermomechanical
properties of the copolymers were studied. It was shown that the molecular weight

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L 60146-65

ACCESSION NR: AT5019600

and density of the copolymer are higher than the average values for the constituent homopolymers. The copolymers and homopolymers have no highly elastic or viscofluid state, and the decomposition temperature of the copolymer is the average of the decomposition temperatures of the two homopolymers. Characteristic infrared bands of the copolymer were identified. Preliminary studies of the copolymer indicate that it is a good structure-forming agent for clay mortar. Orig. art. has: 14 figures and 8 tables.

ASSOCIATION: Tashkentskiy gosudarstvennyy universitet im. V. I. Lenina (Tashkent State University)

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

NO REF SOV: 008   OTHER: 003

Card 2/2

USMANOV, Kh.U.; TILLAYEV, R.S.; MUSAYEV, U.N.

Density of graft copolymers obtained by radiation. Vysokom. soed.
7 no.8:1310-1313 Ag '65.   (MIRA 18:9)

1. Tashkentskiy gosudarstvennyy universitet imeni V.I.Lenina.

L 4£575-66   EWT(m)/EWP(j)/T   IJP(c)   WW/RM

ACC NR: AP6027003   (A)   SOURCE CODE: UR/0291/66/000/002/0040/0043

AUTHOR: Musayev, U. N.; Usmanov, Kh. U.; Babayev, T. M.

ORG: Tashkent State University im. V. I. Lenin (Tashkentskiy gosuniversitet)

TITLE: Synthesis and study of the properties of graft copolymers of polystyrene with methacrylic acid. Part 1: Effect of irradiation dose on the grafting

SOURCE: Uzbekskiy khimicheskiy zhurnal, no. 2, 1966, 40-43

TOPIC TAGS: graft copolymer, methacrylic acid, polystyrene

ABSTRACT: The purpose of the work was to find the optimum conditions for the synthesis of a graft copolymer of polystyrene (PS) and methacrylic acid (MAC) by the radiation method. Mixtures of the monomer and polymer in various weight ratios were placed in glass ampoules and irradiated with Co^{60} γ rays in the presence of air and at 10^{-3} mm Hg, and the copolymer was separated by extracting the homopolymers with benzene and methanol. It is shown that the synthesis takes place at low irradiation doses. As the dose increases, the effectiveness of the grafting diminishes. The optimum conditions of the synthesis were found to be: an irradiation dose of about 250,000 r, a source power of 100 r/sec, and a 50:50 ratio of polymer to monomer without solvents. Orig. art. has: 1 figure and 3 tables.

SUB CODE: 07/ SUBM DATE: 10Mar65/ ORIG REF: 004

Card 1/1 .1C

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Graphs for the selection of roller conveyers with individual drives.
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EFENDIYEV, F.A., prof., zasluzhennyy deyatel' nauki, EYVAZOV, B.A., prof.
zasluzhenyy deyatel' nauki, ABDULAYEV, D.M., prof.,zaslyzhenyy deyatel'
nauki, SELIMKHANOV, G.A., MAMEDBEKOVA, L.A., TER-KASPAROVA, I.R.,
SULTANOVA, Sh.A.,MUSAYEV, Ya.A., ATAKISHIYEV, A.R., ABDULLAYEV, V.M.

Dzhalil Iusufovich Guseinov; on his 60th birthday. Arkh.pat. 20
no.7:93-94 '58   (MIRA 11:9)

1. Chleny Azerbaydzhanskogo obshchestva patologoanatomov (for
Selimkhanov, Mamedbekova, Ter-Kasparova, Sultanova, Musayev, Atakishiyev,
Abdullayev, V.M.)
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MUSAYEV, Ya.M.

Changes in the delicate morphology of the nervous apparatus of the
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total action on the body of antibiotics and chemical preparations.
Azerb. med. zhur. no.6:52-58 Je '61.   (MIRA 14:6)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent
AN AzerbSSR, zasluzhennyy deyatel' nauki, prof. D.Yu.Guseynov)
Azerbaydzhanskogo gosudarstvennogo meditsinskogo instituta imeni
N. Narimanova (direktor - zasluzhennyy deyatel' nauki, prof.
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Interaction between benzene and alkene halides. Azerb. khim
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