SHOSTAKOVSKIY, M.F.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 40 - 20/26

Authors : Shostakovskiy, M. F., and Gladyshevskaya, V. A.

Title : Polymerization of vinyl compounds. Part 2. Multistage synthesis of polyvinylethyl ether

Periodical : Izv. AN SSSR. Otd. khim. nauk 2, 344 - 349, Mar-Apr 1955

Abstract : The accomplishment of a multistage synthesis of numerous ethoxy compounds including the dimer and hexamer is announced. It is pointed out that the multistage synthesis was not concluded with the formation of above mentioned ethoxy compound; after the formation of the hexamer the reaction mixture was found to contain products with a molecular weight much higher than that of the hexamer. However, these compounds could not be separated in individual form because they decomposed during distillation. Eight references: 6 USSR and 2 USA (1935-1955). Table.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Submitted : December 30, 1953

SHOSTAKOVSKIY, M.F.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 40 - 21/26

Authors : Shostakovskiy, M. F.; Zhebrovskiy, V. V.; and Medelyanovskaya, M. A.

Title : Reaction of vinyl and polyfunctional compounds. Part 4. Reaction of vinylalkyl ethers with glycerin, 1,2-glycerin and 1,3-glycerinacetals

Periodical : Izv. AN SSSR. Otd. khim. nauk 2, 350 - 353, Mar-Apr 1955

Abstract : The reaction of vinylalkyl ethers with glycerin, 1,2-glycerin and 1,3-glycerinacetals was investigated in the presence of hydrochloric acid. The reaction products obtained and their properties are described. The synthesis of hitherto unknown 1,3-glycerinacetal-2-butoxyacetal from 1,3-glycerinacetal and vinylbutyl ether is discussed. Two USSR references (1954).

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Submitted : January 13, 1954

SHOSTAKOVSKIY, M.F.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 40 - 22/26

Authors : Shostakovskiy, M. F.; Zhebrovskiy, V. V.; and Medelyanovskaya, M. A.

Title : Reaction of vinyl and polyfunctional compounds. Part 5. Reaction of trivinylglycerin ether with monoatomic alcohols

Periodical : Izv. AN SSSR. Otd. khim. nauk 2, 354 - 358, Mar-Apr 1955

Abstract : The reaction of trivinylglycerin ether with monoatomic alcohols was investigated by utilizing the glycerin ether in the role of a polyfunctional vinyl ether and ethyl and butyl alcohols in the role of monoatomic alcohols. The products obtained from this reaction (acetals) were found to be identical to the acetals obtained during the reaction of vinylethyl and vinylbutyl ethers with glycerin. The structure of the glycerin acetals is described. Eight references: 6 USSR and 2 USA (1928-1955).

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Submitted : January 13, 1954

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.; MORGUNOVA, Ye.S.

Polymerization of vinyl lactams. Soob.o nauch.rab.chl.VKHO no.3:5-8 '55. (MIRA 10:10)

(Polymerization) (Lactams)

SHOSTAKOVSKIY, M.F.; PRILEZHAYEVA, Ye.N.; UVAROVA, N.I.

Free radical polymerization and copolymerization of thiovinyl esters. Soob.o nauch.rab.chl.VKHO no.3:21-24 '55. (MIRA 10:10)
(Polymerization) (Vinyl alcohol)

SHOSTAKOVSKIY, M.F.; GLADYSHEVSKAYA, V.A.

Studies in the field of polymerization of vinyl compounds. Soob.o nuach.rab.chl.VKHO no.3:25-27 '55. (MIRA 10:10)
(Polymerization) (Vinyl compounds)

SHOSTAKOVSKIY,M.F.; BATUYEV,M.I.; CHEKULAYEVA,I.A.; MATVEYEVA,A.D.

Optical study of certain ethanolamine vinyl ethers. Izv.AN SSSR. Otd.khim.nauk no.3:544-550 My-Je '55. (MLRA 8:9)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.

(Vinyl ethers) (Ethanol)

SHOSTAKOVSKII M.F.

14645* Synthesis of Sulfurous Substances on the Basis of Vinyl Ethers and Acetylene. Sintez sernistykh veshchestv na osnove prostykh vinilovykh efirov i atsetilena. XII. The Most Effective Catalysts in the Reaction of Combining Hydrogen Sulfide With Vinyl Ethers, Contrary to the Markovnikov Rule. O naibolee effektivnykh katalizatorakh v reaktsii prisoedineniia serovodoroda k prostym vinilovym efiram protiv pravila Markovnikova. (Russian.) M. F. Shostakovskii, E. N. Prilezhaeva, and E. S. Shapiro. *Izvestiia akademii nauk SSSR, otdelenie khimicheskikh nauk*, 1955, no. 4, July-Aug., p. 734-741.

Includes tables, 17 ref.

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SHOSTAKOVSKIY, M.F.; KOCHKIN, D.A.; ROG, V.M.

Investigation into the synthesis and conversion of organic silicon compounds which contain oxygen. Part 2. The reactions of diethyl- and diphenylsilan diols with vinyl ethers. Izv. AN SSSR. Otd.khim. nauk no.5:953-955 S-O '55. (MLRA 9:1)

1.Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR. (Vinyl ethers) (Silanediol)

SHOSTAKOVSKIY, M.F.; SHIKHIYEV, I.A.; KOMAROV, N.V.

Research in the field of synthesis and conversion of silicon organic compounds containing oxygen. Dokl.AN Azerb.SSR 11 no.11; 757-763 '55. (MLRA 9:5)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR. Predstavleno deystvitel'nym chlenom AN Azerbaydzhanskoy SSR Yu.G. Mamedaliyevym.

(Silicon organic compounds)

SHOSTAKOVSKIY, M.F.; KOCHKIN, D.A.; SHIKHIYEV, I.A.; VLASOV, V.M.

Investigation in the field of oxygenated silicon organic compounds. Part 7. Synthesis and certain conversions of silanols. Zhur.ob. Khim. 25 no.3:622-626 Mr '55. (MLRA 8:7)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silanol)

SHOSTAKOVSKIY, M.F.

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Vinyl aryl ethers. III. Copolymerization of vinyl aryl and vinyl alkyl ethers under the influence of ionic catalysts. M. F. Shestakovskii and A. V. Bogdanova. *J. Gen. Chem. U.S.S.R.* 25, 1497-1501(1955)(Engl. translation). See C.A. 50, 4848d. B. M. R. (1)

SHOZTAKOVSKIY, M.F.

USSR/ Chemistry

Card : 1/1

Authors : Shostakovskiy, M. F., Zhebrovskiy, V. V., and Medelyanovskaya, M. A.

Title : Study of the reaction of vinyl and polyfunctional compounds. Part 2.- Reaction of vinyl ethers with polyvinyl alcohol.

Periodical : Izv. AN SSSR, Otd. Khim. Nauk, 3, 535 - 540, May - June 1954

Abstract : The reaction of polyvinyl alcohol with vinyl butyl and vinyl phenyl ethers was investigated at different component ratios. The reaction process which leads to the formation of polyacetals of polyvinyl alcohol, and the stages of formation of mixed acetals with their consequent cyclication, are explained in detail. The differences between the analytical and calculated data concerning the elementary composition of the polyacetals are explained by the nature of the macromolecular substances. Seven references: 6 USSR, 1 USA. Table.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Org. Chemistry

Submitted : March 25, 1953

SHOSTAKOVSKIY, M.F.

Vinyl aryl ethers. III. Copolymerization of vinyl aryl and vinyl alkyl ethers under the influence of ionic catalysts. M. F. Shostakovskii and A. V. Bogdanova (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 25, 1550-5(1955); cf. *C.A.* 45, 1500e; 49, 13941e.—ArOCH:CH_2 copolymerize with ROCH:CH_2 if the catalyst employed for the reaction is BF_3-Et_2O. A no. of copolymers of EtOCH:CH_2 and BuOCH:CH_2 with PhOCH:CH_2 and *p*-$Me_3CC_6H_4OCH$:CH_2 were prepd. with various proportions of the monomers. The reaction occurs rapidly and is exothermic. The qual. soly. of the copolymers in Me_2CO, BuOH, EtOH, MeOH, AcOH, and gasoline is given in tabular form. The mol. wts. of the products are generally below 7500.

G. M. Kosolapoff

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SHOSTAKOVSKIY, M. F.

AID P - 3931

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 14/19

Authors : Shostakovskiy, M. F., V. V. Zhebrovskiy, and B. A. Aronov

Title : Copolymerization of vinyl butyl ether with vinyl chloride

Periodical : Zhur. prikl. khim. 28, 10, 1123-27, 1955

Abstract : The copolymerization of vinyl butyl ether and vinyl isobutyl ether with vinyl chloride was carried out in a water emulsion in an autoclave in the presence of ammonium persulfate at 30 and 50°C. Four tables, 6 references, 5 Russian (1949-53).

Institution : None

Submitted : F 17, 1954

KASATOCHKIN, V.I.; SHOSTAKOVSKIY, M.F.; ZIL'BERBRAND, O.I.; KOCHKIN, D.A.

Hydrogen linkage in silanols. Zhur.fiz.khim. 29 no.4:730-733 Ap '55.
(MIRA 8:8)

1. Akademiya nauk SSSR, Institut organicheskoy khimii.
(Silanol)

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; SHAPIRO, E.S.

Polymerization of the vinyl isopropyl and vinyl cyclohexyl ethers under the influence of 2,2'-azo bisnitrile of isobutyric acid. Izv. AN SSSR.Otd.khim.nauk 86 no.6:1085-1089 My '55. (MLRA 9:4)

1.Institut organicheskoy khimii imeni N.D.Zalinskogo Akademii nauk SSSR. (Ethers) (Nitriles)

SHOSTAKOVSKIY, M.F.

USSR/Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 23/50

Authors : Shostakovskiy, M. F., and Bogdanova, A. V.

Title : Study of vinyl aryl ethers. Reaction of vinylphenyl ether with dibutyl acetal

Periodical : Dok. AN SSSR 100/1, 89-92, Jan 1, 1955

Abstract : Investigations were conducted to determine the reactivity of vinyl aryl ethers during contact with compounds containing active hydrogen. Results indicate that vinylphenyl ether will react with dialkyl acetals leading to the formation of alkoxyphenoxyalkanes with a carbon chain of various length. A study of phenoxydibutoxybutane hydrolysis products and 1,1,3-tributoxybutane and butylphenyl acetal formed during the basic synthesis led to a conclusion that this reaction is also followed by the separation of the alkoxy-acetal group. Seven references: 5 USSR and 2 USA (1949-1954).

Institution : Acad. of Sc., USSR., The N. D. Zelinskiy Institute of Organic Chemistry

Presented by : Academician I. N. Nazarov, June 24, 1954

Shostakovskiy, M.F.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 24/52

Authors : Shostakovskiy, M. F.; Kondratyev, Kh. I.; and Belyayev, V. I.

Title : Synthesis and conversion of oxygen-containing silico-organic compounds

Periodical : Dok. AN SSSR, 100/2, 287-290, Jan 11, 1955

Abstract : Experimental data are presented regarding the synthesis of n-butyl-, isobutyl-, secondary-butyl-, and tertiary-butyldimethylphenylsilaneacetals. A study was made of the chemical properties of mixed silico-organic acetals, i. e. acetals containing alcohol and silanol radicals, and it was found that they are much closer to the alkylaryl acetals and that their symetrization is accompanied by a series of other reactions. The presence of a tautomerism in silico-organic acetals was established by their thermal decomposition characteristics. Ten USSR references (1943-1954).

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organic Chemistry

Presented by : Academician B. A. Kazanskiy, July 19, 1954

SHOSTAKOVSKIY, M.F.

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 25/45

Authors : Shostakovskiy, M. F.; Gershteyn, N. A.; and Neterman, V. A.

Title : Reaction of benzoyl peroxide with vinyl ethers

Periodical : Dok. AN SSSR 103/2, 265-268, Jul 11, 1955

Abstract : Investigation was conducted to determine the reaction between benzoyl peroxide and vinyl ether and to establish the characteristics of the liquid phase and the composition of the gaseous phase. It was found that vinyl ethers react well with benzoyl peroxide forming acylali addition products. The reaction products obtained during low peroxide concentration were found to be low molecular vinyl ether polymers similar to telomers. Twelve references: 8 USSR, 3 USA and 1 German (1925-1954). Tables; graph.

Institution : Acad. of Sc., USSR, Inst. of Orga. Chem. im. N. D. Zelinskiy

Presented by : Academician B. A. Kazanskiy, February 16, 1955

SHOSTAKOVSKIY, M. F.

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Low-molecular-weight polymerization of vinyl ethers under the action of benzoyl peroxide. M. F. Shostakovskii, B. S. Shapiro, and F. P. Sidel'kovskaya. *Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.* 1956, 351-4 (Engl. translation).—See *C.A.* 50, 11052*h*.
B. M. R.

SHOSTAKOVSKIY, M.F.

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✓Low-molecular-weight polymerization of vinyl ethers under the action of benzoyl peroxide. M. F. Shostakovskiĭ, E. S. Shapiro, and F. P. Sidel'kovskaya (N. D. Zelinskiĭ Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 368–72.—Polymerization of $BuOCH:CH_2$ and iso-$PrOCH:CH_2$ with 0.1–1.0% Bz_2O_2 at 60° and 80° showed that with lower than 2% concn. of Bz_2O_2 the reaction is that of low-mol.-wt. polymerization; with 5–10% catalyst this is complicated by reactions of addn. The polymers had mol. wts. of 330–1215.

G. M. Kosolapoff

SHOSTAKOVSKIY, M.F.

Reaction of dialkyl dithiophosphates with thiovinyl ethers. T. A. Mastryukova, E. N. Prilezhaeva, N. I. Uvarova, M. F. Shostakovskii, and M. I. Kabachnik. — *Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.* 1956, 433–40 (Engl. translation).—See *C.A.* 50, 16662*a*. B. M. R.

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SHOSTAKOVSKIY, M.F.

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Synthesis and transformations of oxygen-containing organosilicon compounds. III. Reactions of propylene oxide with alkyl(aryl)chlorosilanes. M. F. Shostakovskii, M. S. Malinovskii, M. K. Romantsevich, and D. A. Kochkin (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 632-4; cf. *C.A.* 50, 11235c.—To 29.04 g. propylene oxide (I) was added 75.56 g. iso-BuEtSiClH keeping the temp. at 30-5°; after 8 hrs. at 35-45° and standing overnight, the mixt. gave 84.9% *iso-BuEtSiHOCH$_2$CHMeCl*, b_4 50-50.5°, n^{20}_D 1.4330, d_{20} 0.9161. Similarly were obtained (b.p., n^{20}_D, and d_{20} given): 75.3% *MeSiH(OCH$_2$CHMeCl)$_2$*, b_4 90.5-1°, 1.4389, 1.0915; 77.1% *Me$_2$Si(OCH$_2$CHMeCl)$_2$*, $b_{1.5}$ 75.5-6°, 1.4378, 1.0755; 69.3% *EtSiH(OCH$_2$CHMeCl)$_2$*, b_2 85.2-5.4°, 1.4405, 1.0830; 72% *CH$_2$:CHSi(OCH$_2$CHMeCl)$_3$*, b_1 140.5-1°, 1.4537, 1.1457. Shaking EtSiH(OCH$_2$CHMeCl)$_2$ with concd. HNO$_3$ and heating 1 hr. at 60° gave MeCHClCO$_2$H. The results indicate that the ring of I opens at the primary C atom. Also in *Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.* 1956, 639-41 (Engl. translation). G. M. K.

SHOSTAKOVSKIY, M.F.

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Chem

Synthesis and transformations of oxygen-containing organosilicon compounds. IV. Synthesis of methyl-, ethyl-, propyl-, and isopropylmethylphenylsilyl acetals.
M. F. Shostakovskii and Kl. I. Kondrat'ev (N. D. Zelinskii
Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest.
Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 811-16; cf.
C.A. 50, 102*c*; 51, 10261.—PhMgBr from 314 g. PhBr
treated in 1 hr. with 258 g. Me_2SiCl_2, and the liquid portion
sepd. and distd. yielded fractions with mixts. of $Me_2PhSiCl$
and $Me_2PhSiBr$ suitable for use in the following syntheses.
Into 75 g. fraction, b_{16} 74-8°, above, in Et_2O was passed NH_3
at 0° yielding 50 g. $(Me_2PhSi)_2NH$, b_{7-10} 168-70°, b_{2-3}
128-9°, d_{20} 0.9850, n_D^{20} 1.5384. This (74 g.) in 100 ml. H_2O
and 250 ml. Et_2O was treated dropwise with 0.5*N* HCl over
2.5-3 hrs. until reaction was complete, maintaining the soln.
on the basic side; distn. gave 62.6 g. *$Me_2PhSiOH$*, b_{10} 99-
9.5°, d_{20} 0.9968, n_D^{20} 1.5120, which on direct distn. gave
91.2% $(Me_2PhSi)_2O$, b_1 106-8°, d_{20} 0.9986, n_D^{20} 1.5176.
Keeping in a sealed tube 7.7 g. $Me_2PhSiOH$, 46.1 g. $MeOCH:$
CH_2, and 1 drop concd. HCl 20 min. at 20° and 6 hrs. at 30°
gave 65.9% *$MeOCHMeOSiMe_2Ph$*, b_1 66-6.5°, d_{20} 0.9694,
n_D^{20} 1.4802. Similarly were prepd.: 76.5% $EtOCHMeO$-
$SiMe_2Ph$, $b_{2.4-3}$ 76-7°, d_{20} 0.9542, n_D^{20} 1.4742; 88.5% *PrO*-
$CHMeOSiMe_2Ph$, b_3 78-9°, d_{20} 0.9439, n_D^{20} 1.4742; unstated
yield of *iso-$PrOCHMeOSiMe_2Ph$*, b_2 74-6°, d_{20} 0.9410, n_D^{20}
1.4737. Shaken with 2% H_2SO_4 these acetals are hy-
drolyzed rapidly at room temp. the reaction rate decreasing
in order: Me, iso-Pr, Et, Pr, in the OR radical.

G. M. Kosolapoff

SHOSTAKOVSKIY, M. F.

Synthesis and transformations of oxygen-containing organosilicon compounds. IV. Synthesis of methyl-, ethyl-, n-propyl-, and isopropylmethylphenylsilyl acetals. M. F. Shostakovskii and Kh. I. Kondrat'ev. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1956, 829-31 (English translation).—See *C.A.* 51, 3486*i*. B. M. R.

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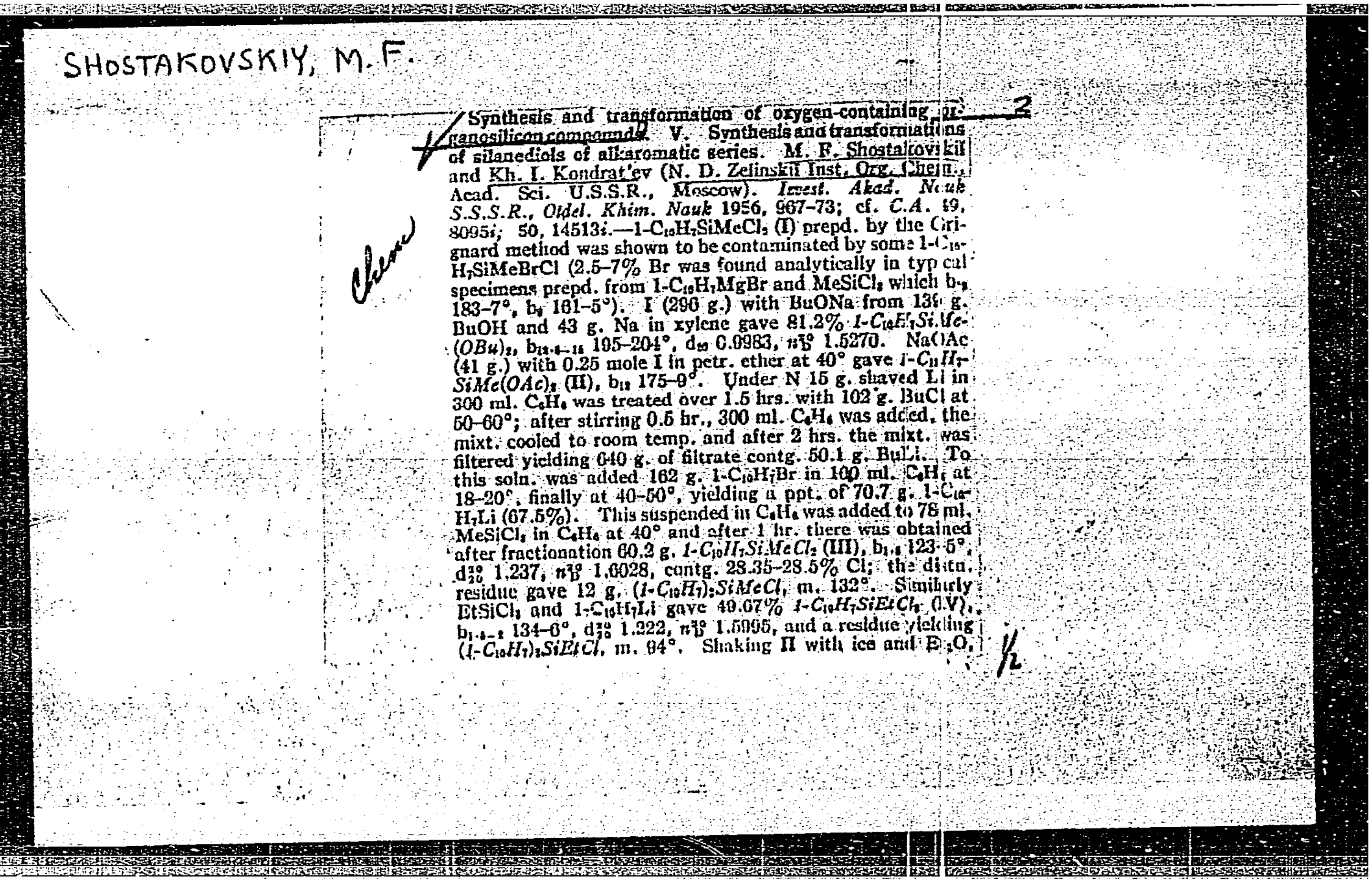

SHOSTAKOVSKIY, M. F.

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Synthesis and transformation of oxygen-containing organosilicon compounds. V. Synthesis and transformations of silanediols of alkaromatic series. M. F. Shostakovskii and Kh. I. Kondrat'ev (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 967–73; cf. *C.A.* 49, 8095*i*; 50, 14513*i*.—1-$C_{10}H_7SiMeCl_2$ (I) prepd. by the Grignard method was shown to be contaminated by some 1-$C_{10}H_7SiMeBrCl$ (2.5–7% Br was found analytically in typical specimens prepd. from 1-$C_{10}H_7MgBr$ and $MeSiCl_3$ which b_{11} 183–7°, b_4 161–5°). I (290 g.) with BuONa from 136 g. BuOH and 43 g. Na in xylene gave 81.2% *1-$C_{10}H_7SiMe(OBu)_2$*, $b_{12.5-13}$ 195–204°, d_{20} 0.9983, n_D^{20} 1.5270. NaOAc (41 g.) with 0.25 mole I in petr. ether at 40° gave *1-$C_{10}H_7SiMe(OAc)_2$* (II), b_{12} 175–9°. Under N 15 g. shaved Li in 300 ml. C_6H_6 was treated over 1.5 hrs. with 102 g. BuCl at 50–60°; after stirring 0.5 hr., 300 ml. C_6H_6 was added, the mixt. cooled to room temp. and after 2 hrs. the mixt. was filtered yielding 640 g. of filtrate contg. 50.1 g. BuLi. To this soln. was added 162 g. 1-$C_{10}H_7Br$ in 100 ml. C_6H_6 at 18–20°, finally at 40–50°, yielding a ppt. of 70.7 g. 1-$C_{10}H_7Li$ (67.5%). This suspended in C_6H_6 was added to 78 ml. $MeSiCl_3$ in C_6H_6 at 40° and after 1 hr. there was obtained after fractionation 60.2 g. *1-$C_{10}H_7SiMeCl_2$* (III), $b_{1.5}$ 123–5°, d_{20}^{20} 1.237, n_D^{20} 1.6028, contg. 28.35–28.5% Cl; the distn. residue gave 12 g. *$(1\text{-}C_{10}H_7)_2SiMeCl$*, m. 132°. Similarly $EtSiCl_3$ and 1-$C_{10}H_7Li$ gave 49.07% *1-$C_{10}H_7SiEtCl_2$* (IV), $b_{1.5-2}$ 134–6°, d_{20}^{20} 1.222, n_D^{20} 1.5995, and a residue yielding *$(1\text{-}C_{10}H_7)_2SiEtCl$*, m. 94°. Shaking II with ice and Et_2O,

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Shostakovskii, M.F., Kondrat'ev, Kh.I.

10–12 hrs. there is formed 44% $MeSi(OBu)_3$, with the above-listed products formed in smaller yields and much high-boiling material. The mixt. from $EtSiHCl_2$ gave small amts. of *$EtSiH(OBu)_2$*, b_{18} 89–90.5°, 1.4085, 0.8466, and *$EtSi(OBu)_3$*, b_{16-17} 134–5°, 1.4140, 0.8783; the yield of the latter rises to 65% if the proportion of BuOH is 8 moles to 1. The SiH link in the above series is thus readily alcoholyzed, apparently with loss of H. G. M. Kosolapoff

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SHOSTAKOVSKIY, M.F.

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Synthesis and transformations of vinyl compounds of silicon. II. Vinylation of hydrogen-containing halosilanes and alkyldihalosilanes by the contact method. M. F. Shostakovskii and D. A. Kochkin (N. D. Zelinskii Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 1160-2; cf. *C.A.* 49, 6000*b*; 51, 1820*c*.—Passage of mixed $HSiCl_3$ and C_2H_2 over Pd on Al_2O_3 (by bubbling C_2H_2 through $HSiCl_3$), the catalyst bed being maintained at 200-300°, resulted in 51.3% conversion to $CH_2:CHSiCl_3$, b$_{742}$ 92°, n_D 1.4350, d$_{20}$ 1.2050 (35.5% yield) and 9.8% $(CH_2SiCl_3)_2$, b$_{744}$ 200.5°, and 11% high-boiling products. Similarly passage of 70 g. $MeSiHCl_2$ and C_2H_2 over this catalyst at 260-80° in 3 hrs. gave 45% $CH_2:CHSiMeCl_2$, b$_{746}$ 91°, n_D^{20} 1.4270, d$_{20}$ 1.0808, 6.3 g. $(CH_2SiMeCl_2)_2$, b$_4$ 72-3°, n_D^{20} 1.4760, d$_{20}$ 1.2628, and 9.3 g. high-boiling products. Similarly passage of 84.5 g. $EtSiHCl_2$ and C_2H_2 at 260-75° over the same catalyst over 4.5 hrs. gave 34.8% $CH_2:CHSiEtCl_2$, b$_{744}$ 118.5-9.5°, n_D^{20} 1.4385, d$_{20}$ 1.0604, 4.7% $(CH_2SiEtCl_2)_2$, b$_3$ 100-2°, n_D^{20} 1.4790, d$_{20}$ 1.187, and 13 g. high-boiling products. G. M. K.

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~~SHESTAKOVSKIY, M.F.~~

SHESTAKOVSKIY, M.F.

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Chem

Free radical polymerization and copolymerization of β-butoxyethyl vinyl sulfide. 7 M. F. Shostakovskiĭ, E. N. Prilezhaeva, and A. M. Khomutov (N. D. Zelinskiĭ Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 1230-5.—$BuOCH_2CH_2SCH:CH_2$ was polymerized with Bz_2O_2 or isobutyroazonitrile catalysts with kinetic curves shown. The monomer polymerizes and copolymerizes with $CH_2:CMeCO_2Me$ very readily, being more active than usual vinyl sulfides. Isobutyroazonitrile is a more effective catalyst than is Bz_2O_2, yielding up to 65-8% polymer and 70-90% copolymer in 24 hrs. at 60°. The copolymers prepd. contained from 0 to 100% vinyl sulfide units.

G. M. Kosolapoff

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SHOSTAKOVSKIY, M.F.

Low-molecular polymerization. I. Reaction mechanism of some simple vinyl ethers with carbon tetrachloride. M. F. Shostakovskii, A. V. Bogdanova, M. M. Zverev and G. I. Plotnikova (*Izv. Akad. Nauk SSSR, Otd. khim. Nauk*, 1956, 1236—1242).—Examination of reaction mechanism of CCl_4 with vinyl phenyl (I), vinyl butyl (II) and vinyl ethyl ethers (III) in presence of Bz_2O_2 shows that simple vinyl ethers are able to form products of equimol. combinations and also polymeric products, according to conditions and ratio of materials. Synthesis of 85·4% yield of 1 : 3 : 3 : 3-tetrachloropropyl phenyl ether was achieved at 70—75°, with ratio of I to CCl_4 1 : 4 and by use of 0·0045 mol. of Bz_2O_2. A fraction of filtrate from the reaction mixture separated with b.p. 145—145·5°. The polymers in the reaction mixture deposited as transparent orange-coloured products, decomposing at 125° with separation of HCl and forming resinous products; they dissolved in methanol and benzene but not in gasoline. Synthesis was made of 1 : 3 : 3 : 3-tetrachloropropyl butyl and 1 : 3 : 3 : 3-tetrachloropropyl ethyl ethers with II and III in similar conditions. Polymer products were light yellow, transparent and viscous; they dissolved in ether and other org. solvents (from II, not in MeOH). Mol. wt. of III ~890. According to mol. ratio of vinyl ethers to CCl_4 so the yield of tetrachloropropyl products decreases and polymer yield increases. (With ratio of ether to CCl_4 1 : 4, proportionately high yields of tetrachloropropyl products were obtained.) Hydrolytic cleavage and the reaction with alcohol indicated the mobility of α-Cl in 1 : 3 : 3 : 3-tetrachloropropyl ether. A. L. B.

9
4E3d
4E2c (4)
2 May
4E4

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SHOSTAKOVSKIY, M.F.

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3 Am-1,2 may

3

Synthesis and transformations of unsaturated organosilicon compounds. I. Synthesis and transformations of tertiary organosilicon acetylenic alcohols. M. F. Shostakovskii, I. A. Shikhiev, and N. V. Komarov (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 1271-4.—To EtMgBr from 109 g. EtBr 42 g. $Me_2C(OH)C{\vdots}CH$ was added with cooling, the mixt. stirred 3 hrs., left overnight, 0.6 g. Cu_2Cl_2 and 1 g. HgCl added, the mixt. cooled and treated with 64 g. Me_3SiCl, stirred 3 hrs., heated 6 hrs. on a water bath, and treated with aq. HCl gave 93% $Me_3SiC{\vdots}CCMe_2OH$, b_{11} 71°, m. 42-2.5°. This (15.63 g.) and 9.1 g. $BuOCH{:}CH_2$ treated with 0.2 ml. 33% HCl, kept 30 min. at 90°, and left overnight gave, after neutralization with K_2CO_3, 66.4% $Me_3SiC{\vdots}CCMe_2OCHMeOBu$, b_4 85-6°, n_D^{20} 1.4331, d_{20} 0.8541, which heated with 2% H_2SO_4 gave 92-4% AcH. Hydrogenation of the acetylenic alc. over Pd in EtOH gave $Me_3SiCH{:}CHCMe_2OH$, $b_{11.5}$ 72-3°, n_D^{20} 1.4430, d_{20} 0.8377, and hydrogenation over Raney Ni gave 92.8% $Me_3SiCH_2CH_2CMe_2OH$, b_4 56°, n_D^{22} 1.4319, d_{20} 0.8265. The following were prepd. by conventional methods (% yield, b.p., n_D^{20}, and d_{20} given): $Et_2MeSiC{\vdots}CCMe_2OH$, 71.2, b_6 79°, 1.4522, 0.8614; $Et_2MeSiCH{:}CHCMe_2OH$, 96.3, b_{8} 77°, 1.4512, 0.8568; $Et_2MeSiCH_2CH_2CMe_2OH$, 94.6, b_4 80°, 1.4461, 0.8340.

G. M. Kosolapoff

SHOSTAKOVSKIY, M.F.; GERSHTEYN, N.A.; NETERMAN, V.A.

Exchange reactions of acetaldehydedibutyl acetal. Izv.AN SSSR.Otd. khim.nauk no.3:378-381 Mr '56. (MLRA 9:8)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.

(Acetaldehyde)

Shostakovskiy, M. F.

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 958

Author: Mastruykova, T. A., Prilezhayeva, Ye. N., Uvarova, N. I., Shostakovskiy, M. F., and Kabachnik, M. I.

Institution: Academy of Sciences USSR

Title: On the Reaction of Dialkyldithiophosphates with Thiovinyl Ethers

Original Periodical: Izv. AN SSSR, Section on Chemical Sciences, 1956, No 4, 443-450

Abstract: It is shown that $(RO)_2PSSH$ (I) combines easily with $CH_2 = CHSR'$ (II) in accordance with Markovinkoff's rule with the formation of $(RO)_2PSSCH(CH_3)SR'$ (III). The following compounds of the type III have been prepared (R, R', the yield in percent, bp in ° C/mm, n_D^{20}, and d_4^{20} are indicated in that order): C_2H_5, C_2H_5 (IV), 70-75, 109-110/2.5, 1.5290, 1.1392; C_2H_5, C_4H_9 (V), 66, 109-110/2, 1.5198, 1.0965; C_2H_5, $C_4H_9OCH_2CH_2$, 80, 123-125/3, 1.5125, 1.0940; iso-C_4H_9, C_2H_5, 78, 113-115/2, 1.5070, 1.0556; iso-C_4H_9, C_4H_9, 90, 121-122/2, 1.5052, 1.0384; iso-C_4H_9, $C_4H_9OCH_2CH_2$, 60-80, 124-126/3, 1.5012,

Card 1/2

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.

Use of the iodoform reaction in the analysis of certain vinyl compounds.
Izv.AN SSSR Otd.khim,nauk no.5:615-621 My '56. (MLRA 9:9)

1.Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.
(Iodoform) (Vinyl compounds)

SHOSTAKOVSKIY, M.F.; KOCHKIN, D.A.; ROGOV, V.M.

Research in the synthesis and conversion of oxygen-containing organosilicon compounds. Part 6. Preparation of secondary dialkyl-(aryl) chlorosilanes, dialkyl-(aryl)silanols and some of their conversions. Izv. AN SSSR. Otd.khim.nauk no.9:1062-1069 S '56. (MLRA 9:11)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Silicon organic compounds)

SHOSTAKOVSKIY, M.F.; KOCHKIN, D.A.; VINOGRADOV, V.L.; NETERMAN, V.A.

Research in the synthesis and conversion of oxygen-containing organosilicon compounds. Part 6. Interaction of hydrogen-con-taining alkyl(aryl) dichlorosilanes with alcohols. Izv. AN SSSR. Otd.khim.nauk no.10:1269-1271 O '56. (MLRA 9:12)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Silane) (Alcohols)

SHOSTAKOVSKIY M.F.

USSR/Organic Chemistry - Synthetic Organic Chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4469

Author : Shostakovskiy, M.F., Shikhiyev, I.A., Komarov, N.V.
Inst : Academy of Sciences Azerbaydzhan SSR
Title : Investigations of the Synthesis and Conversions of Oxygen-Containing Organosilicon Compounds

Orig Pub : Dokl. AN AzerbSSR, 1956, 12, No 3, 177-181

Abstract : On heating (60-65°, 35 hours) equimolecular amounts of vinyl ether, gamma-hydroxypropyl-trimethylsilane and corresponding organic acid (glacial CH_3COOH, propionic, isobutyric) and subsequent fractionation in vacuum, were obtained the following partial organosilicon acetals $CH_3CH(OCOR)O(CH_2)_3Si(CH_3)_3$ (listing consecutively R, yield in %, BP in °C/mm, $n^{20}D$, d_4^{20}): CH_3, 59.5, 92-93/8, 1.4218, 0.9027; C_2H_5, 73.15, 99-100/7, 1.4242, 0.8979; $(CH_3)_2CH$, 64.0, 110-111/7, 1.4262, 0.8935.

Card 1/1

- 110 -

SHOSTAKOVSKIY, M.F.; SHIKHIYEV, I.A.; KOMAROV, N.V.

Investigations in the field of the synthesis and conversion of oxygen-containing silicon organic compounds. Report no.3: Synthesis and conversion of some vinyl esters of γ-hydroxipropyltrimethyl- and methyldiethylsilanes. Izv. AN SSSR. Otd. khim. nauk no.12:1493-1499 D '56.
(MIRA 10:4)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.

(Silane)

SHOSTAKOVSKIY, M.F.; SHIKHIYEV, I.A.; BELYAYEV, V.I.

Research in the field of oxygen containing organosilicom compounds. Part 5. Preparation of organosilicon acetals. Zhur.ob.khim. 26 no.3:706-709 Mr '56. (MLRA 9:8)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silicon organic compounds) (Acetals)

Shostakovskiy, M.F

USSR/Chemistry of High Molecular Substances. F

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 27084.

Author : Shostakovskiy, M.F.; Prilezhayeva, Ye. N.; Tsymbal, L.V.

Inst :

Title : To The Question of Synthesis and Conversions of Vinyl Ethers of Higher Polyatomic Alcohols and Cellulose. II. Vinyl Ethers on Cellulose Base.

Orig Pub: Zh. obshch. khimii, 1956, 26, No. 3, 739 - 745.

Abstract: The conditions of extension of the vinylization reaction of Favorskiy and Shostakovskiy on cellulose were studied. The possibility of the synthesis of vinyl ethers of cellulose at the interaction of alkaline cellulose with acetylene (10 to 15-fold excess of acetylene) in dioxane medium at 130 to 150° in 5 hours' time

Card 1/2

Card 2/2

Chem 7

Synthesis and transformations of oxygen-containing organosilicon compounds. I. Synthesis of dialkyl-, alkylaryl-, and diarylsilanediols and some of their properties. M. F. Shostakovskii, D. A. Kochkin, Kh. I. Kondrat'ev, and V. M. Rogov (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 26, 3344-8 (1956).—Addn. of 60 g. Et_2SiCl_2 in 500 ml. Et_2O in 20 min. to 32 g. ice-cooled, powd. NaOH, 600 ml. H_2O, and 100 g. Et_2O, sepn. of the org. layer, and concn. by an air stream at room temp., followed by addn. of isopentane and chilling, gave 65% $Et_2Si(OH)_2$, m. 92-2.5°; a 75% yield was obtained by hydrolysis in neutral medium by simultaneous addn. of *N* NaOH or KOH and 40 g. Et_2SiCl_2 in 300 g. Et_2O to 360 g. dry Et_2O and a drop of phenolphthalein below 4°. The diol kept at 60° changes to a liquid but can be stored without contact with atm. moisture for a long time in the cold. Similarly, $EtSiHCl_2$ gave a gelatinous product which in a few hrs. changed to a glass, which decompd. above 400°; insol. in common solvents; the substance appears to be a trimer $(EtSiO_{1.5})_3$. Similarly, Ph_2SiCl_2 gave 86.1% $Ph_2Si(OH)_2$, m. 139° (from isopentane-Et_2O); $MePhSiCl_2$ gave 1% $MePhSi(OH)_2$, m. 74-5°, and 40.3% $O(SiMePhOH)_2$, m. 112-13°, sepd. by insoly. in H_2O of the second compd., which is purified by crystn. from C_6H_6-isopentane. Similarly, $(1\text{-}C_{10}H_7)_2SiCl_2$ gave an unstated yield of $(1\text{-}C_{10}H_7)_2Si(OH)_2$, m. 157-8° (from C_6H_6-heptane). Similarly was prepd. $EtPhSi(OH)_2$, m. 68.5°. The chlorosilanes used as intermediates were (b.p., d_{20}, and n_D^{20} given): $EtSiHCl_2$, b_{760} 74.5°, 1.0849, 1.4129; Et_2SiCl_2, b_{760} 128-30°, 1.1050, 1.4605; $MePhSiCl_2$, b_{751} 198-200°, 1.1604, 1.5180; $EtPhSiCl_2$, b_{753} 227-30°, 1.1837, 1.5321; Ph_2SiCl_2, b_{746} 293-302°, b_{12} 163-5°, 1.1860, —; $(1\text{-}C_{10}H_7)_2SiCl_2$, b_{11} 230-5°, m. 151-2°. The latter was prepd. by addn. of 95.6 g. $SiCl_4$ in 2 hrs. at 18-20° to 102 g. $1\text{-}C_{10}H_7Li$ in 200 ml. C_6H_6 under N; after heating 2 hrs. at 50-60°, the mixt. was cooled and the product filtered off. G. M. Kosolapoff

SHOSTAKOVSKIY, M. F.

3

Vinylation of coal. M. F. Shostakovskii, N. G. Titov and I. N. Smirnov (*Zh. prikl. Khim.*, 1956, 29, 463—468).—A sample of coal containing 20—30% oxygen was taken; its chemical and petrographic analyses are given. Hydroxyl groups were determined by the Schotten–Baumann method, showing that saponified coal products are of lower mol. structure than untreated coal. 3·13% CO groups present had to be reduced to OH-groups before vinylation. Vinylation took place at 170—175°; the detailed method is given. 10·8% vinyl groups were found in the coal and 6% volatile low-mol. ethers. Up to 40% of the organic mass dissolves in alcohols, ethers, benzene, toluene, acetone and light petroleum. R. Lond.

SHOSTAKOVSKIY, M. F.

Vinylation of coal of the Moscow Basin. M. F. Shostakovskii, N. G. Timov, and R. N. Smirnov. *J. Appl. Chem. U.S.S.R.* 29, 503-7(1956)(Engl. translation).—See *C.A.* 50, 14205*c*. L. M. R.

3

SHOSTAKOVSKIY, M.F

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19257

Author : Shostakovskiy M. F., Shikhiyev I. A., Komarov N. V.

Inst :

Title : Investigations in the Field of Synthesis and Conversion of Unsaturated Silicoorganic Compounds. Synthesis of Silicoorganic Clucoles of Diacetylene Series.

Orig Pub: Dokl. AN SSSR, 1956, 109, No 2, 344-346.

Abstract: Described is the synthesis of diacetylene silicoorganic glucoles $HOC(CH_3)_2C{-}CSi(R)_2C{-}CC(CH_3)_2OH$ (Ia-c) (a $R=CH_3$; b $R=C_2H_5$; c $R=C_3H_7$). To C_2H_5MgBr, prepared from 48 g. Mg and 220 g C_2H_5Br, are added under cooling 1 mole of dimethylacetylenylcarbinole in 100cc abs. ether and 0.5 mole $(CH_3)_2SiCl_2$, after 12 hours is added 10-15% HCl, from the ether layer is isolated Ia, yield 64.3%, m.p. $80-82^{\circ}$ (from benzene). Analogically were obtained Ib, yield 55%, m.p. $76-78^{\circ}$, and Ic, yield 48%, m.p. $70-71^{\circ}$. The presence

Card : 1/2

USSR/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19257.

of two (OH)-groups is proven by the preparation of acetyl derivatives of Ib. A mixture of 0.1 mole Ib and 0.2 mole $(CH_3CO)_2O$ is heated 8 hours at 70°, after 12 hours after the distillation of CH_3COOH diacetate Ib is obtained, yield 61%, b.p. $104-141^{\circ}/3$mm, $n^{20}D$ 1.4639, $d_4 20$ 0.9675.

Card : 2/2

SHOSTAKOVSKIY, M.F.

1

Organophosphorus insecticides. O,O-Diethyl β-ethylmercaptoethyl dithiophosphate (M-74) and its analogs. M. I. Kabachnik, T. A. Mastryukova, M. F. Shostakovskii, E. N. Prilezhaeva, D. M. Paikin, M. P. Shabanova, and N. M. Gamper (N. D. Zelinskii Inst. Org. Chem., Moscow). *Doklady Akad. Nauk S.S.S.R.* 109, 777–80(1956).—Alkylation of alkali salts of $(RO)_2PS_2H$ with $RSCH_2CH_2Cl$ (details not cited) gave the following: 99% $(EtO)_2PS_2CH_2CH_2SEt$, b_2 125–6°, n_D^{20} 1.5330, d_{20} 1.1445; 75% $(EtO)_2PS_2CH_2CH_2SBu$, b_1 150°, 1.5255, 1.1040; 70% $(EtO)_2PS_2CH_2CH_2SCH_2CH_2OBu$, b_1 188–90°, 1.5160, 1.1050; 80% $(iso\text{-}PrO)_2PS_2CH_2CH_2SEt$, b_1 134–5°, 1.5189, 1.0887; 94% $(iso\text{-}PrO)_2PS_2CH_2CH_2SBu$, b_4 148–9°, 1.5100, 1.0622; 62% $(iso\text{-}PrO)_2PS_2CH_2CH_2SCH_2CH_2OBu$, b_1 172–3°, 1.5090, 1.0967; 60% $(iso\text{-}BuO)_2PS_2CH_2CH_2SCH_2CH_2OBu$, b_1 188–9°, 1.5053, 1.0855. The 1st substance showed good insecticidal and acaricidal properties, with systemic action.

G. M. Kosolapoff

Agri

SHOSTAKOVSKIY, M. F.

"Silicones with vinyl-groups," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Polymer Research Inst.

B-3,084,395

SHOSTAKOVSKIY, M.F.

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4E2c

3 May

√**Synthetic resins.** M. F. Shostakovskii, V. V. Zhebrovskii, and M. A. Medelyanovskaya. U.S.S.R. 115,290, Apr. 25, 1057. Polyvinyl alc.-base synthetic resins are produced by treating poly(vinyl alc.) with vinyl or thiovinyl esters in chlorinated hydrocarbons or other inert solvents.

M. Hosch

Shostakovskiy, M.F.

6

27

Vinylation of hydrogen-containing alkyl- or arylhalosilanes. M. F. Shostakovskii, K. A. Andrianov, D. A. Kochkin, and V. L. Vinogradov. U.S.S.R. 105,407, Apr. 25, 1957. The silanes are vinylated by reaction with C_2H_2 in the presence of a catalyst. Pd deposited on Al_2O_3 or $CaCO_3$ is used as a catalyst. M. Hosch

4E3d

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4E2c

1 may

SHOSTAKOVSKIY, M.F.

7
4E4j
4E2d
2 May

1/3

Vinyl aryl ethers. 7 V. Some properties of vinyl 2-naphthyl ether. 7 M. F. Shostakovskii, A. V. Bogdanova, and G. K. Krasil'nikova (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 339–44; cf. *C.A.* 50, 7737*i*.—Addn. of C_2H_2 at 17–18 atm. to an autoclave contg. 50 g. 2-$C_{10}H_7OH$, 30 ml. H_2O, and 16.5 g. powd. KOH at 184–8° gave 73% *2-$C_{10}H_7$-$OCH:CH_2$*, b_5 114°, b_{22} 147°, m. 34° (supercooled, n_D^{20} 1.6172, d_{20} 1.0612). This hydrolyzed completely on heating with 2% H_2SO_4 on a steam bath. Passage of dry HCl at −7° into the ether gave in 5 hrs. 96.3% *2-$C_{10}H_7OCH$-ClMe*, a powder, decomp. 18–20°, which fumes in air; this heated *in vacuo* to 100° under N gave 89% dimer, *($C_{12}H_{12}O$)$_2$*, m. 196–7°. 2-$C_{10}H_7OCHClMe$ (5 g.) in abs. Et_2O was treated with 5 g. 2-$C_{10}H_7$ and treated with a stream of dry NH_3, yielding after standing overnight, 6.1 g. 4-methyldinaphtho-2′,1′;2,3-1″,2″;5,6-pyran, m. 173–4°; similar reaction in BuOH gave 75.4% above pyran and 69% $(BuO)_2CHMe$. Addn. of 15 g. 2-$C_{10}H_7OCHClMe$ to EtONa from 1.7 g. Na in EtOH gave 25% dimer, m. 193°, identical with that described above and 47.5% pyran deriv., m. 172°, identical with the above, along with MeCH-$(OEt)_2$. Adding a little concd. HCl to 10 g. 2-$C_{10}H_7OCH$:-CH_2 and 5.8 g. PhOH in C_6H_6 and heating 5 hrs. at 80° gave 82% above pyran deriv., m. 171°. 2-$C_{10}H_7OH$ with appropriate vinyl ethers in presence of a catalytic amt. of HCl gave *$MeCH(OPh)(OC_{10}H_7$-2)*, b_1 183°, n_D^{20} 1.6139, d_{20} 1.1282, *$MeCH(OEt)(OC_{10}H_7$-2)*, b_1 168°, 1.5762, 1.0889, Shostakovskii, M.F. + Etc. 7

4E4j
4E2c
JMay

and *MeCH(OC$_6$H$_{11}$)(OC$_{10}$H$_{17}$-2)*, b$_1$ 105°, 1.5370, 1.0720;
On prolonged storage these acetals deposit crystals of the
above described pyran. VI. Some properties and trans-
formations of vinyl cyclohexyl ether and its derivatives.
A. V. Bogdanov, M. F. Shostakovskii, and G. K. Krasil'-
nikova. *Ibid.* 345-52; cf. *C.A.* 51, 6730e.—*C$_6$H$_{11}$OCH:*
CH$_2$ (I), b$_{11}$ 64°, n_D^{20} 1.4541, d$_{20}$ 0.8890, hydrolyzed com-
pletely on shaking 0.5 hr. with 2% H$_2$SO$_4$. I satd. with dry
HCl at −5° gave 73.6% *C$_6$H$_{11}$OCHClMe*, b$_{14}$ 82.5-3°, n_D^{20}
1.4598, d$_{20}$ 1.0108, which fumes in air, and is rapidly hydro-
lyzed on shaking with H$_2$O. Treatment of it with dry
NH$_3$ with ice cooling gave 88.8% *MeCH(OC$_6$H$_{11}$)$_2$*, b$_{12}$
134-5°, b$_{14}$ 140°, 1.4672, 0.9535. Similar treatment of
BuOCHClMe gave 81% MeCH(OBu)$_2$, while PhOCHClMe
with NH$_3$ similarly gave 92% PhOH. Addn. of 7 g. C$_6$H$_{11}$-
OCHClMe with EtONa from 1 g. Na in excess EtOH gave
MeCH(OEt)OC$_6$H$_{11}$, b$_{17}$ 71°, b$_{11}$ 62°, 1.4367, 0.9411.
C$_6$H$_{11}$OCHClMe (15 g.) with BuMgBr from 14.1 g. BuBr
gave 60% *MeBuCHOC$_6$H$_{11}$*, b$_{14}$ 104-5°, 1.4408, 0.8533;
similarly, BuOCHClMe gave 74.0% *BuOCHMeBu*, b$_{14}$
65°, 1.4088, 0.7800, while PhOCHClMe gave 80.4% *Ph-*
OCHMeBu, b$_4$ 86°, 1.4901, 0.9228. Heating 13.9 g. I
and 1.1 g. Bz$_2$O$_2$ in 61.4 g. CCl$_4$ 2 hrs. at 88° gave 68%

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Shostakovskii, M.F. + Etc. 4E4j
4E2c
Jmay

$C_6H_{11}OCHClCH{:}CCl_2$ (II), b_4 100°, 1.5040, 1.2412, and
19.8% $CCl_2{:}CHCH(OC_6H_{11})_2$, b_4 152–3°, 1.4987, 1.1292,
along with 1.5 g. solid polymer. II is completely hydro-
lyzed by 1 hr. in H_2O at 90°. II (16 g.) and EtONa from
1.51 g. Na and excess EtOH gave 100% NaCl, $CCl_2{:}CH$-
$CH(OEt)_2$, b_1 46–7°, 1.4600, 1.1482; 3.1 g. $CCl_2{:}CHCH$-
$(OC_6H_{11})_2$, and 0.6 g. $CCl_2{:}CHCH(OEt)(OC_6H_{11})$, b_3 111.5–
2.5°, 1.4647, 1.1212. $CCl_3CH_2CHClOC_6H_{11}$ (obtained
from the crude prepn. of I without distn.) treated as above
with EtONa-EtOH gave $CCl_3CH_2CH(OEt)_2$ (cf. above ref.),
along with $CCl_3CH_2CH(OEt)(OC_6H_{11})$, b_3 122–2.5°, 1.4770,
1.1882, $MeCH(OEt)_2$, and $CCl_2{:}CHCH(OC_6H_{11})$. Heating
22.08 g. I with 4.62 g. CCl_4 and 0.5 g. Bz_2O_2 2 hrs. at 81°
gave 42% yellow solid polymer contg. 1% Cl. I with
ROH in the presence of a trace of concd. HCl gave 85%
$MeCH(OC_6H_{11})_2$, b_{11} 134–5°, 1.4072, 0.9535, 60% $MeCH$-
$(OC_6H_{11})(OC_{10}H_7)$, b_1 165°, 1.5670, 1.0726, 50% $MeCH$-
$(OPh)OC_6H_{11}$, b_{10} 142–3°, 1.4940, 0.9972, and 60% $MeCH$-
$(OEt)OC_6H_{11}$, b_{12} 81–2°, 1.4560, 0.9405.

G. M. Kosolapoff

3/3

SHOSTAKOVSKIY, M.F.

✓ **Ionic and radical polymerization and copolymerization of vinyl ethers of cyclohexanol, 2-decalol, and 2-naphthol.** A. V. Bogdanova, M. F. Shostakovskii, and G. K. Krasil'nikova (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 387-9; cf. *C.A.* 50, 11284b.—Addn. of few drops of 5% Et_2O soln. of $BF_3.Et_2O$ and stirring without further heating gave 80-96% polymers with mol. wts. 500-2000 from $2\text{-}C_{10}H_7OCH:CH_2$, 2-decalyl vinyl ether, and $CH_2:CHOC_6H_{11}$; these were colorless or yellowish solids, sol. in many of the common solvents. Copolymers of these with $EtOCH:CH_2$, $BuOCH:CH_2$ and $PhOCH:CH_2$ were prepd. in 31-79% yields, the products having mol. wts. up to 2118, being viscous or solid substances contg., except for the vinyl cyclohexyl ether-vinyl phenyl ether, predominance of alkyl vinyl ether component. When the 1st 3 monomers were heated with Bz_2O_2 or $(Me_2C(CN)_2N)_2$, polymers in 10-70% yields were obtained when 3-5% catalyst was used, although 10% solid polymer also formed from $CH_2:CHOC_6H_{11}$ on heating without a catalyst for a prolonged period. Copolymerization of these 3 monomers with $CH_2:CHCO_2Me$ and $CH_2:CMeCO_2Me$ performed with Bz_2O_2 catalyst (0.2%) at 60° in 68 hrs. gave appropriate copolymers in 22-80% yields with predominant content of the acrylates.

G. M. Kosolapoff

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SHOSTAKOVSKIY, M.F.

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2 may

Synthesis of sulfur compounds based on vinyl ethers and acetylene. XIV. Ionic polymerization of vinyl alkyl sulfides. M. F. Shostakovskii, E. N. Prilezhaeva, and V. M. Karavaeva (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 621-5; cf. *C.A.* 50, 9278c.—Adding $BF_3 \cdot Et_2O$ to $EtSCH:CH_2$, $BuSCH:CH_2$, or $BuOCH_2CH_2SCH:CH_2$ and heating 8 hrs. at 60° yielded polymers, pptd. from C_6H_6 with MeOH. The mol. wts. of the products were relatively low in comparison with polymers prepd. by radical polymerization. The mol. wts. were detd. by titration with $HgCl_2$ in EtOH, which cleaves the product at the RS link; they ranged from 1800 to 2750. XV. Free-radical copolymerization of thiovinyl ethers with some unsaturated compounds. V. M. Karavaeva, E. N. Prilezhaeva, and M. F. Shostakovskii. *Ibid.* 650-2.—Copolymerizations were performed with $EtSCH:CH_2$, $BuSCH:CH_2$, and $PhSCH:CH_2$ on the one hand, and $PhCH:CH_2$, $CH_2:CHCO_2Me$, and $CH_2:CMeCO_2Me$ on the other, with using $(:NCMe_2CN)_2$ at 60°. Curves of the compn. and the yields of copolymers with various proportions of monomers are shown. The products are brittle solids whose strength declines with increasing content of S-bearing monomers. The m.ps. of the copolymers decline with the size of the alkyl group bound to the sulfide link. G. M. Kosolapoff

SHostakov-Y, M.F.

Distr: 4E4j/4E3d/4E2c(j)

Synthesis of methylolpyrrolidone. M. F. Shostakovskii, F. P. Sidel'kovskaya, and M. G. Zelenskaya (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 782; cf. Breitenbach and Wolf, *C.A.* 50, 12972*h*.—CH_2O with lactams in alk. medium gave 85-90% $\overline{(CH_2)_3.CO.N}CH_2OH$, m. 77-9.5°, which with $SOCl_2$ gave the chloride, b_4 97-7.5°, n^{20}_D 1.5022, d_{20} 1.2381, which is readily hydrolyzed by H_2O. Thus, an authentic methylolpyrrolidone has been obtained.
G. M. Kosolapoff

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9 May
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Distr: 4E4j/4E3c(j)/4E3d

Low polymerization. IV. Synthesis of new hydroxy-alkanes. M. F. Shostakovskii, A. V. Bogdanova, and G. K. Krasil'nikova (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 1141-3; cf. *C.A.* 50, 1650c; 51, 10361h.—Reaction of 69 g. MeCH(OBu)$_2$, 25.5 g. vinyl cyclohexyl ether, and 0.1 ml. 25% BF$_3$ in Et$_2$O at 125-30° gave a mixt. of products from which was isolated 9 g. MeCH(OBu)(OC$_6$H$_{11}$), 4.1 g. *tributoxybutane*, b$_4$ 119-20°, n_D^{20} 1.4303, d_{20} 0.8670, 4.1 g. *MeCH(OC$_6$H$_{11}$)CH$_2$CH(OBu)$_2$*, b$_3$ 131-2°, 1.4410, 0.9069, and 7.2 g. *dibutoxydicyclohexyloxy-octane*, b$_3$ 204-5°, 1.4650, 0.9428. Similarly, 12 g. PhO-CH:CH$_2$ and 19.4 g. MeCH(OBu)(OPh) at 70° gave 55% *1-butoxy-1,3-diphenoxybutane*, b$_1$ 158°, 1.5175, 1.0232; attempts made with MeCH(OPh)$_2$ gave tars and poly-merized products. Reaction of 11.5 g. HC:CCH:CHOBu and 35 g. MeCH(OBu)$_2$ with a few drops of BF$_3$.Et$_2$O in 3 hrs. at 130-40° gave 40% *1,1,3-tributoxy-5-hexyne*, b$_{0.4}$ 134-5.5°, 1.4530, 0.9087. The use of MeCH(OEt)$_2$ in the above gave *HC:CCH$_2$CH(OBu)CH$_2$CH(OEt)$_2$*, b$_4$ 96.5°, 1.4520, 0.9223. MeCH(OEt)$_2$ and HC:CCH:CHOC$_6$H$_{11}$ similarly gave *HC:CCH$_2$CH(OC$_6$H$_{11}$)CH$_2$CH(OEt)$_2$*, b$_3$ 110-12°, 1.4826, 0.9672, and an *ethoxycyclohexyloxyhexenyne*, C$_{14}$H$_{22}$O$_2$, b$_3$ 81°, 1.4900, 0.9504. G. M. Kosolapoff

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[illegible]

62-1-10/21

AUTHORS: Shostakovskiy, M. F.; Khomutov, A. M.; Belyayev, V. I.

TITLE: Investigation of Chemical Conversions of Unsaturated and High Molecular Compounds. Part 7. Copolymerization of Vinyltertiarybutyl Ether and Methyl Ether of Methacrylic Acid (Issledovaniya v oblasti khimicheskikh prevrashcheniy nepredel'nykh i vysokomolekulyarnykh soyedineniy. Soobshcheniye 7. Sopolimerizatsiya viniltretichnobutilovogo efira i metilovogo efira metakrilovoy kisloty)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 70-74 (U.S.S.R.)

ABSTRACT: The laws governing the copolymerization of vinyltertiarybutyl ether and methyl methacrylate are discussed. It was found that the yields of the copolymers obtained depend upon the chemical structure of the initiators. The reduction in the yields of copolymers os methylmethacrylate and vinyltertiary butyl ether is explained by the low activity of the polymerization chain having a butyl ether with free valence. The use of dinitrylazoisobutyric acid leads to the formation

Card 1/2

SHOSTAKOVSKIY, M.F

AUTHORS: Shostakovskiy, M. F., and Chekulayeva, I. A. 62-1-11/21

TITLE: Synthesis and Conversions of Vinyl Ethers of Ethanolamines. Part 8. Vinyl Ethers of Beta-(Dimethylamino)Ethanol and Beta-(2,5-Dichlorophenylamino)Ethanol (Sintez i prevrashcheniya vinilovykh efirov etanolaminov. Soobshcheniye 8. Vinilovye Efiry beta-(dimetilamino) etanola i beta-(2,5-dikhlorfenilamino)etanola)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 75-79 (U.S.S.R.)

ABSTRACT: The authors synthesized vinyl ethers of beta-(dimethylamino) and beta-(2,5-dichlorophenulamino) ethanol and studied some conversions of these ethers. The relation between the nature of the amino-group and the reactivity of the vinyl ether is explained. It was established that vinyl others having the primary or secondary amino group are inert toward ion conversions. The substitution of the hydrogens of the amino group with alkyl groups and especially with phenyl radicals

Card 1/3

62-1-11/21

Synthesis and Conversions of Vinyl Ethers of Ethanolamines. Part 8

leads to a higher reactivity of the vinyl ether. Vinyl ether of beta-(dimethylamino)ethanol is perfectly identical in its characteristics to vinyl ether of beta-(diethylamino) ethanol; when subjected to reaction with alcohols if forms acetals: $CH_2 = CHOCH_2CH_2N(CH_3)_2 + HOCH_2CH_2N(CH_3)_2 \rightarrow CH_3CH[OCH_2CH_2N(CH_3)_2]_2$.

Vinyl ether of beta-(2,5-dichlorophenylamino) ethanol is identical to the vinyl ether of beta-(phenylamino) ethanol; thanks to its greater hydrogen mobility in the presence of nitrogen and traces of concentrated hydrochloric acid, the vinyl ether easily submits to certain conversions (see formulas on bottom of page 75).

Card 2/3

Table. There are 8 references, of which 6 are Slavic

SHOSTAKOVSKIY,

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10784* (Russian.) Investigation in the Field of Low-Molecular Polymerization. Issledovanie v oblasti nizkomolekuliarnoi polimerizatsii. II. Interaction Between Some Vinyl Ethers and Carbon Tetrachloride Under the Influence of Different Initiators. Vzaimodeistvie nekotorykh prostykh vinilovykh efirov s chetyrekhkhloristym uglerodom pod vliianiem razlichnykh initsiatorov. A. V. Bogdanova and M. F. Shostakovskii. *Izvestiia Akademii Nauk SSSR, Otdelenie Khimicheskikh Nauk,* no. 2, Feb. 1957, p. 224-229.

A study of the condition of interaction of simple vinyl ethers with CCl_4 under the influence of various reagents and factors that initiate a reaction with the free radical.

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SHOSTAKOVSKIY, M.F.; KONDRAT'YEV, Kh.I.

Synthesis and transformation of organic compounds containing oxygen and silicon. Report No.7: Synthesis of dimethyl-α-naphthyl-, methyl-α-dinaphthyl-, ethyl-α-dinaphthyl- and α-trinaphthylsilanols. Izv.AN SSSR.Otd.khim.nauk no.3:319-324 Mr '57. (MLRA 10:5)

1.Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.

(Silanols)

SHOSTAKOVSKIY, M. F.

BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.; KRASIL'NIKOVA, G.K.

Investigations in the field of vinylaryl ethers. Report No.6: Some properties and transformations of vinylcyclohexyl ether and its derivatives. Izv.AN SSSR.Otd.khim.nauk no.3:345-352 Mr '57.
(MLRA 10:5)

1.Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.
(Vinyl compounds)

PRILEZHAYEVA, V.M.; KARAVAYEVA, V.M.; PRILEZHAYEVA, Ye.N.; SHOSTAKOVSKIY, M.F.

Synthesis of sulfur compounds based on vinyl ethers and acetylene. Report No.15: Free-radical copolymerization of thiovinyl ethers with some unsaturated compounds. Izv. AN SSSR. Otd. khim. nauk no.5:650-651 My '57. (MIRA 10:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.

(Polymerization) (Vinyl ether)

SHOSTAKOVSKIY, M.F.; SIDEL'KOVSKAYA, F.P.; ZELENSKAYA, M.G.

Letter to the editor. Izv. AN SSSR Otd. khim. nauk no.6:762 Je '57.
(MIRA 10:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Pyrrolidone)

SHIKHIYEV, I.A.; SHOSTAKOVSKIY, M.F.; KOMAROV, N.V.

Synthesis and transformation of silicon organic compounds containing oxygen. Report No.8: Interaction of vinyl ethers with silanes and β-alcohols containing silicon. Izv. AN SSSR. Otd. khim. nauk no.9:1132-1133 S '57. (MIRA 10:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Vinyl ether) (Silane) (Alcohols)

SHOSTAKOVSKIY, M.F.

Distr: 4E4j/4E3d/4E2c(j)

Synthesis and transformations of unsaturated organosilicon compounds. II. Synthesis of tertiary triatomic γ-silicon-bearing alcohols of the acetylenic series. I. A. Shikhiev, M. F. Shostakovskii, N. V. Komarov, and L. A. Kayutenko (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otd. Khim. Nauk* 1957, 1139-41; cf. *C.A.* 51, 2534i.—To EtMgBr from 29 g. Mg was added at −10° 50.4 g. Me$_2$C(OH)C:CH and the mixt. stirred 3 hrs., left overnight, stirred 2-3 hrs., treated with 1 g. Cr$_2$Cl$_2$ and 0.5 g. HgCl$_2$, treated with strong cooling with 27 g. SiHCl$_3$, refluxed 12-15 hrs., treated with aq. HCl, and extd. with Et$_2$O, yielding 53.4% *HSi[C:CCMe$_2$OH]$_3$*, m. 163-3.5° (dioxane). Similarly Me$_2$C(OH)C:CH and EtMgBr with MeSiCl$_3$ gave 92% *MeSi(C:CCMe$_2$OH)$_3$*, m. 214°, while the use of CH$_2$:CHSiCl$_3$ similarly resulted in 65.7% *CH$_2$:CHSi(C:CCMe$_2$OH)$_3$*, m. 172.5-73° (dioxane). V. Synthesis of mixed diacetylenic organosilicon glycols. I. A. Shikhiev and L. A. Kayutenko. *Ibid.* 991-3.—Reaction of 0.5 mole Me$_2$C(OH)C:CH with 1 mole RMgX (unspecified) and treatment of the cooled mixt. with 0.25 mole MePhSiCl$_2$ gave after refluxing 4 hrs. and treatment with cold dil. HCl 47.4% *(HOCMe$_2$C:C)$_2$SiMePh* (I), m. 129-30°; this hydrogenated over Raney Ni in EtOH to *satd. deriv.* m. 93-4°. I heated with Ac$_2$O gave the *diacetate*, b$_4$ 178-9°, d$_{20}$ 1.0281, n_D^{20} 1.5112. Similarly were obtained: 57.3% *(HOCMe$_2$C:C)$_2$SiEtPh*, m. 92-3°; 43.7% *(HOCMe$_2$C:C)$_2$SiPh$_2$*, m. 123-4°; 83.8% *(HOCMe$_2$C:C)$_2$SiEtH*, m. 62-3°; *(HOCMe$_2$C:C)$_2$SiMeC$_{10}$H$_7$*, m. 92-3°. G. M. Kosolapoff

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SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; KRASIL'NIKOVA, G.K.

Studies in the field of low polymerization. Report No.4: Synthesis of new oxyalkanes. Izv. AN SSSR. Otd. khim. nauk no.9:1141-1143 S '57.
(MIRA 10:12)

1. Institut organichskoy khimii im. N.D. Zelinskogo AN SSSR.
(Paraffins)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; USHAKOVA, T.M.

Vinyl compounds in diene synthesis. Report No. 1: Interaction of some vinyl ethers with cyclopentadiene and hexachlorocyclopentadiene. Izv. AN SSSR Otd. khim. nauk no.10:1245-1249 O '57. (MIRA 11:3)

1.Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Ethers) (Cyckopentadiene)

[illegible]

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P, Zelenskaya, M. G. 62-11-24/29

TITLE: Investigations in the Field of Lactones and Lactames. (Issledovaniye v oblasti laktonov i laktamov). 8.Report **Preparation of Polyvinylpyrrolidone with Protracted Action** (**Soobshcheniye** 8. **Polucheniye preparata polivinilpirrolidona prolongiruyushchego deystviya**).

PERIODICAL: Izvestiya AN SSSR, Otdel.Khim.Nauk, 1957, Nr 11, pp. 1406-1408 (USSR)

ABSTRACT: The task of the present paper was the production of polymers of the vinylpyrrolidone with relatively high molecular weight, discovering the characteristics for an active preparation in extended view and ascertaining the conditions for the production of it. For this purpose the polymerization of the vinylpyrrolidone under presence of H_2O_2 and of the azoisobutyric-acid-dinitril as well as in a aqueous solution under the influence of H_2O_2 was investigated. It is shown that in the presence of azoisobutyric-acid-dinitril the polymerization takes place at a lower temperature but also much slower than in a polymerization with H_2O_2. The plymeride developping on this occasion show a much higher viscosity, but have no colour or odour. The polymeride obtained at more than 100° almost always have an unpleasant scent and a yellowish colour. The polymerization under H_2O_2-influence in a

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62-11-24/29

Investigations in the Field of Lactones and Lactames.
8.Report.**Preparation of Polyvinylpyrrolidone with Protracted Action.**

solution has higher advantages than such"in a block": 1) This process takes place at relatively lower temperature, 2) the product output becomes higher, 3) the polymeride developing is colourless and has no odour. In the physiological experiments at the 1. Moscow Institute for Medicine (reference 3) it was ascertained that the samples with a relative viscosity of a 3% aqueous solution of 3.7 to 4.o are the most effective as "prolongator". The best sample showed a relative viscosity of 3,74, an osmotic pressure of 27o mm water column and an average molar weigth of~5o ooo. There are 1 table, 3 references,1 of which is Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D.Zelinskiy of the AN USSR (Institut organicheskoy khimii im.N. D. Zelinskogo Akademii nauk SSSR.)

SUBMITTED: June 21, 1957

AVAILABLE: Library of Congress.

Card 2/2

AUTHORS: Shostakovskiy, M.F., Kochkin, D.A., Vinogradov, V.L. 62-12-4/20

TITLE: Investigation of the Synthesis and of the Transformations of Vinyl Compounds of Silicon (Issledovaniya v oblasti sinteza i prevrashcheniy vinilovykh soyedineniy kremniya) Information 3. The Obtaining of Vinyl-Alkyl-Chlorine-Silanes by the Interaction of Acetylene With Hydrogen-Containing Chlorosilanes and the Investigation of Some of Their Properties (Soobshcheniye 3. Polucheniye vinilalkilkhlorsilanov vzaimodeystviyem atsetilena s vodorodsoderzhashchimi khlorsilanami i issledovaniye ikh nekotorykh svoystv).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1452-1456 (USSR)

ABSTRACT: The present paper deals with the elaboration of the reaction of the vinylation of hydrogen-containing alkyl-halide-silanes as a result of their cooperation with acetylene. From the reaction products the following substances were separated: methyl- and ethyl butadienyl-dichlorine silanes, dimethyl- and diethyltetrachloride silylethanes, as well as dimethyl- and diethyltetrachloride silylethanes. The catalyzers of the vinylation are those of the palladium group (metals, acids, salts). The reaction of vinylation can be realized by means

Card 1/2

Investigation of the Synthesis and of the Transformations of Vinyl Compounds of Silicon. Information 3. The Obtaining of Vinyl-Alkyl-Chlorine-Silanes by the Interaction of Acetylene With Hydrogen-Containing Chlorosilanes and the Investigation of Some of Their Properties

62-12-4/20

of the method interrupted in autoclave as well as by the uninterrupted method (like in the case of the vinylation of alcohols). There are 9 references, 6 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D.Zelinskiy (Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk).

SUBMITTED: June 22, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Hydrogen-Vinylation-Reaction 2. Methylbutadienyldichlorine
3. Ethylbutadienyldichlorine 4. Diethyltetrachloride silylethanes

62-12-5/20

AUTHORS: Shostakovskiy, M.F., Sidel'kovskaya, F.P., Zelenskaya, L.G.

TITLE: Investigations Carried out in the Fields of Lactones and Lactams (Issledovaniye v oblasti laktonov i laktamov). Information 9. The Synthesis of the Vinyllactams and Some of Their Properties (Soobshcheniye 9. Sintez vinillaktamov i ikh nekotoryye svoystva).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1457-1464 (USSR)

ABSTRACT: In publications dealing with chemical problems much attention has recently been paid to the synthesis and polymerization of nitrogen-containing vinyl compounds. Among these methods, there is the reaction of direct vinylization suggested by Favorskiy and Shostakovskiy, which was carried out with alcohols and phenols. Further working out of this reaction made it possible to synthesize a number of valuable preparations. The authors gave a report about the vinylization of lactams by using pyrrolidone, piperidone and capro-lactam as examples. The catalyzers of vinylization are alkaline salts of lactams. It was shown that the most simple method of preparing the salts is the direct interaction between lactams and alkaline metals. It was

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Investigations Carried out in the Fields of Lactones and Lactams. Information 9. The Synthesis of the Vinyllactams and Some of Their Properties

62-12-5/20

further shown that vinylperidone as well as other vinyl lactams must be hydrolyzed in an acid medium. Optimum conditions of hydrolysis were found. The polymerization of vinyl lactams was carried out under the influence of dinitryl of azoiso-butyric acid as well as under the influence of H_2O_2 in an aqueous solution. The authors then describe a simultaneous polymerization of the vinyl peridone with the methyl ester of methacrylic acid. There are 7 tables, and 17 references, 11 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D.Zelinskiy (Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR).

SUBMITTED: July 3, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Lactones-Vinylization 2. Lactams-Vinylization 3. Alcohols 4. Phenols 5. Pyrrolidone

62-12-15/20

AUTHORS: Shostakovskiy, M.F., Savitskiy, Ye.M., Kochkin, D.A., Musatova, L.V.

TITLE: On the Comparative Efficiency of Silicon Alloys With Copper and Nickel, Applicable in Direct Synthesis of Vinylchlorosilanes (O sravnitel'noy effektivnosti splavov Kremniya s med'yu i nikelem, primenyayemykh v pryamom sinteze vinilkhlorsilanov).

PERIODICAL: Izvestiya AN SSSR OtdeleniyeKhimicheskikh Nauk, 1957, Nr 12, pp. 1493-1495 (USSR)

ABSTRACT: In the course of a thorough analysis of the alloy of silicon with copper (which was already previously described) the authors, among other things, found that the alloy contained 50% silicon, 49% copper, and 0.4% aluminum. Also silicon alloys were investigated which contained also other metals such as chromium, manganese, and molybdenum. In other cases (with the exception of nickel and copper) negative results were obtained. From the result of the synthesis (see table) it may be seen that the silicon-nickel alloy is more active (when vinylchlorosilanes are obtained by direct synthesis). It was further shown that the silicon-nickel alloy (nickel content 15%) must be considered to be the most suitable. There are 1 table, and

Card 1/2

On the Comparative Efficiency of Silicon Alloys With Copper and Nickel, Applicable in Direct Synthesis of Vinylchlorosilanes

62-12-15/20

4 references, 2 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D.Zelinskiy (Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR).

SUBMITTED: August 13, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Silicon copper-Alloy-Analysis 2. Silicon nickel-Alloy-Analysis

SHOSTAKOVSKIY, M. F.

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Synthesis and transformation of unsaturated hydroxyl-containing silicoörganic compounds. M. F. Shostakovskii, I. A. Shikhiev, and N. V. Komarov. *Doklady Akad. Nauk Azerbaidzhan. S.S.R.* 13, 277-81(1957)(in Russian); cf. *Izvest. Akad. Nauk S.S.S.R.* 10, 1282(1956); *C.A.* 51, 1826*b*, 2534*i*.—$SiHCl_3$ (I) (67 g.) and 0.0 g. Pd-$CaCO_3$ was placed in an autoclave, the air displaced with C_2H_2, then pressured to 18-20 atm. with C_2H_2, the mixt. slowly heated at 90-110° with continuous stirring 15-20 min., cooled, and distd. yielding 35-40% vinyltrichlorosilane (II). To 29 g. Mg in 600 ml. Et_2O was added dropwise with cooling and stirring 130 g. EtBr (III), the mixt. heated 30 min., cooled to −10° with vigorous stirring, 50.4 g. dimethylethynylcarbinol (IV) added slowly dropwise, the mixt. stirred 2-3 hrs., kept overnight, stirred 2-3 hrs., 1 g. Cu_2Cl_2 and 0.5 g. $HgCl_2$ added as catalyst, 27 g. I added dropwise with cooling, the mixt. heated on a water bath at 34-35° 12-15 hrs., 10% HCl added until the ppt. dissolved, the water layer sepd., extd. with Et_2O, the ext. added to the principal Et_2O layer, washed with H_2O, dried, the Et_2O distd., and the residue crystd. yielding 53.4% $HSi[C:C-C(OH)Me_2]_3$, m. 183-3.5°. $CH_2:CHSi(C:CCMe_2OH)_3$ was prepd. similarly with 29 g. Mg in 600 ml. Et_2O, 130 g. III, 50.4 g. IV, and 32 g. II in 65.7% yield. N. C.

Shostakovskiy, M.F.

Distr: 4E4j/4E2c(j)/4E3d

Organosilicon alcohols and phenols. M. F. Shostakovskii, I. A. Shikhiev, and N. V. Komarov. *Uspekhi Khim.* 26, 1087–108(1957).—Review of the synthesis and reactions of organosilicon compds. belonging to classes of alcs. and phenols, with 83 references through 1956. C. M. K.

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79-2-17/58

AUTHORS: Shostakovskiy, M. F., and Gracheva, Ye. P.

TITLE: Synthesis and Conversion of Alpha-Methylvinyl Ethers of Iso-Alcohols and Ethylene Glycol. Part 5. (Sintez i prevrashcheniye alfa-metilvinilovykh efirov izospirtov i etilenglikolya. V.)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 355-359 (U.S.S.R.)

ABSTRACT: The purpose of this experiment was to study the synthesis and certain properties of alpha-methylvinylisoalkyl ethers and alpha-methylvinyl ethers of ethylene glycol. The reaction between methylacetylene and isopropyl, isobutyl, isoamyl alcohols in the presence of powdered potassium hydroxide led to the formation of homologous substituted vinyl ethers. The reaction of methylacetylene with ethylene glycol in the presence of KOH resulted in the formation of monovinyl ether ethylene glycol which under conditions of the high reaction temperature isomerized into cyclic ketal. The latter phenomenon is explained by the fact that the reaction of the addition of ethylene glycol to the acetylene takes place at 130 - 140° while the addition of ethylene

Card 1/2

SHCSTAKCVSKIY, M.F.

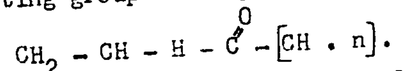
30-7-8/36

AUTHOR SHOSTAKOVSKIY, M.F., Dr. chem. sc., SIDEL'KOVSKAYA, F.P., cand.chem.sc.

TITLE On the Vinyl-Lactams and Their Polymers
(O vinillaktamakh i ikh polimerakh. Russian)

PERIODICAL Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 7, pp 45 - 51 (U.S.S.R.)

ABSTRACT During recent years great achievements were attained in the field of the chemistry of vinyl compounds. Quite a number of saturated compounds were obtained which contain atoms of oxygen, sulfur and silicon. An especially interesting group of compounds are the vinyl lactams of the general structure:



$CH_2 - CH - H - \overset{O}{C} - [CH \cdot n]$. (n = trivalent vinylpyrrolidone, n = 4-vinylpiperidone, n = 5-vinylcaprolactam). The first report on a synthesis of vinyl lactams came from the I.G. Farbenindustrie. Already for several years work has been done in the Institute for Organic Chemistry of the Academy of Science of the U.S.S.R. on the investigation of the synthesis and the transformation of vinyllactams, in order to obtain vinylpyrrolidone. The polymerization is of special interest. During recent years various papers were published which prove the use of vinylpyrrolidone in other fields of scientific research. Due to its strong inclination toward formation of complex compounds, its easy solubility in H_2O and in organic solvents, polyvinylpyrrolidone

Card 1/2

SHOSTAKOVSKIY, M.F.; KOCHKIN, D.A.; VINOGRADOV, V.L.; NETERMAN, V.A.

Synthesis and conversion of oxygen containing silicon organic compounds. Part 6: Reaction of oxygen containing alkyl (aryl) dichlorosilanes with alcohols. Zhur. ob. khim. 27 no.9:2487-2491 S '57. (MIRA 11:3)

1. Institut organicheskoy khimii AN SSSR.
(Silanes) (Alcohols)

SHOSTAKOVSKIY, M.F.

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Chem 11E4j

Synthesis of γ-butyrolactone. M. F. Shostakovskii, F. P. Sidel'kovskaya, and M. G. Zelenskaya. *Zhur. Priklad. Khim.* 30, 324-9(1957).—γ-Butyrolactone (I) was prepd. by passing the vapors of 1,4-butanediol (II) in a current of H and N over a Cu catalyst at 220-40°. The catalyst was prepd. by shaking 200 ml. pumice powder with 13.4 g. $[CuCO_3Cu(OH)_2]$, 7.1 g. $Na_2SiO_3.8H_2O$, and 13.4 ml. H_2O; the coated pumice was placed in the reactor and heated in N 8 hrs. at 100° and then in H till no more H_2O or CO_2 formed. II was dropped on the catalyst at 20-35 ml./hr. with H at 100-200 l./hr. to yield 90.1% I and the catalyst remained active after 10-20 expts. In a current of N (400 l./hr.) the yield was only 28.2% in the first run and 6% in the second run, without regeneration of the catalyst. Regeneration after 3-4 hrs. in a current of H, 2-5 l./hr., at 200° increased the yield to 40%. Complete regeneration which consisted of heating 8 hrs. at 300° in air and then 10 hrs. at 200° in H increased the yield of I to 50%. These facts were taken as evidence in support of the postulate that H functions more than as a carrier of II, H is adsorbed by the catalyst and enters the reaction, and as long as a reservoir of adsorbed H is present the reaction takes place in N.

I. Bencowitz

SHOSTAKOVSKIY, M.F.

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4E4j

2

Synthesis of divinyl esters of dibasic acids. M. F. Shostakovskii, A. M. Shur, and B. P. Filimonov. *Zhur. Priklad. Khim.* 30, 818-19(1957).—Mixts. of a dibasic acid, HgOAc, vinyl acetate (I), and 100% H_2SO_4 were boiled 20 hrs., replacing evapd. I continuously. After cooling and neutralizing with NaOAc, I was distd. up to 125° at atm. pressure and then *in vacuo*. The amt. of each ingredient used (in the order given), the yield, and the b.p. of the esters obtained were as follows: glutarate, 15 g., 0.6 g., 75 ml., 30 ml., 36%, b_3 88-91°; adipate, 15 g., 0.6 g., 75 ml., 30 ml., 60%, b_{10} 118-25° (b_6 105-6°); pimelate, 10 g., 0.4 g., 50 ml., 20 ml., 36%, b_3 132-5°; sebacate, 25 g., 1.0 g., 125 ml., 50 ml., 51%, b_3 134-6° (b_{10} 162°). All esters on heating with 1% Bz_2O_2 were converted to colorless, transparent resins. I. Bencowitz

Shostakovskiy, M. F.

1-4E
1-4E3c

1/ **Synthesis of some diallyl esters of dibasic acids.** M. F. Shostakovskii, A. M. Shur, and B. F. Filimonov. *Zhur. Priklad. Khim* 30, 971-4(1957).—The acid, allyl alc., C_6H_6, and H_2SO_4 mixt. was heated by the azeotropic method in a Dean-Stark flask till the vol. of the lower layer in the trap remained const., washed twice with H_2O once with soda, and again with H_2O, the product dried with anhyd. Na_2SO_4, the C_6H_6 driven off, and the residue fractionated *in vacuo*. The proportions originally used (in the order given), the duration of the reaction, and the yield and properties (b.p., d_4, n_D^{20}) of the esters obtained were as follows: glutaric acid, m. 97°, 8.6 g., alc. 35 ml., C_6H_6 10 ml., H_2SO_4 1 ml., 3 hrs., 68%, b_{20} 119°, 1.0483, 1.4520; diglycolic acid, m. 146-8°, 8.6 g., 35 ml., 10 ml., 1 ml., 4.2 hrs., 80.3%, b_{1-2} 139-40°, 1.1046, 1.4580; pimelic acid, m. 101-3°, 9.5 g., 50 ml., 30 ml., 0.8 ml., 15 hrs., 92%, b. 145-7°, 1.0119, 1.4562; $O(CH_2CH_2CO_2Et)_2$ (I), —, 16.5-27 g., 41-100 ml., 15-35 ml., 1-1.7 ml., 6-25 hrs., 50-8%, b_3 131-3°, 1.0379, 1.4542; $(CH_2OCH_2CH_2CO_2H)_2$ (II), m. 62.3°, 20.6 g., 27 ml., 15 ml., 1 ml., 5 hrs., $b_{1.5}$ 103-5°, 1.0809, 1.4613. Esterification of pimelic acid, I, and II was carried out with 70% alc. I was prepd. by Bruson's method (*C.A.* 40, 347^1) and II by cyanoethylation (cf. Nazarov, *et al.*, *C.A.* 49, 4514*h*). I was a noncryst. mixt. contg. 91.2% pure acid (by titration). The allyl esters when heated with Bz_2O_2 30-5 hrs. in sealed tubes formed soft, jelly-like polymers. Copolymerization (5 hrs.) with divinyl esters of adipic, pimelic, and sebacic acids gave clear, colorless resins, the hardness of which was a function of the proportions of the original monomers. All polymers and copolymers were insol. in C_6H_6 or in Me_2CO.

I. Bencowitz

Shostakovskiy, M.F.

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Film-forming substances based on vinyl esters of fatty acids. V. V. Korshak, M. F. Shostakovskii, A. A. Ivanova, and N. A. Gershtein. *Zhur. Priklad. Khim.* 30, 1368-74 (1957).—Oleic acid (250 g.) was vinylated in the presence of ZnO (5 g.) with C_2H_2 11.5 hrs. under 15-17 atm. pressure at 176°, yielding 67.9% of the vinylated ester (I), b_4 180-4°, d_4^{20} 1.4650, n_D^{20} 1.4650. I was polymerized in sealed tubes filled with N, air, or CO_2. The presence of 0.25% Bz_2O_2 accelerated polymerization at 100°. At high temps. the rate of polymerization was not affected by Bz_2O_2 or by the O in air. Only those polymers obtained after 80 hrs., at 200° gave drying films; the time required for complete drying of films of polymers heated 80, 90, and 104 hrs. was 90, 48, and 48 hrs., resp. The polymer obtained on 104 hrs. heating had mol. wt. 1035, iodine no. 70.25, and acid no. 60.0. To avoid the cleavage during polymerization of vinyl esters of fatty acids, copolymerization with tung oil was investigated. Fatty acids from cottonseed oil were heated at 160° with 2% ZnO until a product with acid no. of 173 was obtained. It (250 g.) was vinylated 10.5 hrs. at 180° with C_2H_2 under 14-15 atm. pressure yielding 288 g. (100.78%) of a product (II) consuming 31 g. C_2H_2. II, after sepn. of the catalyst, had acid no. 7.69. This with 15% tung oil was polymerized 7 hrs. at 150°, giving 257.5 g. of a copolymer with acid no. 10.9 and iodine no. 121.2. Its drying and phys. properties compared with films from boiled linseed oil. I. Bencowitz

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4E4c

4E2c (j)

4E3d

2 may

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SHOSTAKOVSKIY, M. F.

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Preparation of silicon tetrachloride from carbon tetrachloride. M. F. Shostakovskii, D. A. Kochkin, and L. V. Laine. *Zhur. Priklad. Khim.* 30, 1401-2(1957).—CCl_4 (50 g.) was added dropwise to 150 g. of an alloy of Cu 20 + Si 80% at 260-300°. The condensate, after fractionation, gave 75.6 g. (85%) $SiCl_4$, b_{760} 57.3°, contg. about 1% $(:CCl_2)_2$. Some C deposited on the walls of the reaction tube. I. Bencowitz

1-4E4j
1-4E3d

SHOSTAKOVSKIY M.F.

BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.; PLOTNIKOVA, G.I.

Dephenolizing tar water with vinyl ethers. Zhur.prikl.khim. 30 no.12:1872-1874 D '57. (MIRA 11:1)
(Ethers) (Coke industry) (Phenols)

AUTHORS: Shostakovskiy, M. F., Bogdanova, A. V., Krasil'nikova, G. K.

20-114-6-31/54

TITLE: The Interaction of Diacetylene With Some Hydroxyl-Containing Compounds (Vzaimodeystviye diatsetilena s nekotorymi gidroksilsoderzhashchimi soyedineniyami).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 114, Nr 6, pp. 1250-1253 (USSR)

ABSTRACT: Because of its high reactivity diacetylene is of interest for synthetic organic chemistry. But its use is restricted by its small accessibility. The authors describe the 3 known production methods of diacetylene (references 1-8). The aim of the present investigation is the study of the interaction conditions of diacetylene with butanol, cyclohexanol and β-decanol, the isolation of the products and the comparison of their properties. Diacetylene reacts with alcohols under the influence of caustic alkalies on heating. On that occasion ethyl-vinyl-ethers form. In the case of an excess of alcohol they are converted to butine-2-Al-4-acetals (equation 2).

$$CH\equiv C-C\equiv CH + ROH \rightarrow CH\equiv C-CH\quad CH-OR, \qquad (1)$$

where R = C_4H_9(I); C_6H_{11} (II); $C_{10}H_{17}$ (III)

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The Interaction of Diacetylene With Some Hydroxyl-Containing Compounds

20-114-6-31/54

$$CH\equiv C-CH=CH-CH-OR \dashrightarrow CH\equiv C-CH_2-CH(OR)_2 \rightarrow$$

$$\rightarrow CH_3-C\equiv C-CH(OR)_2,$$

where $R = C_4H_9$ (IV); C_6H_{11} (V); $C_{10}H_{17}$ (VI).

The reaction takes place in steps. In contrast to the alkylacetylenes the first alcohol-molecule is added to diacetylene, in opposition to the Markovnikov-rule. This is done by the influence of the second ethenyl group. The next molecule is added to the ethylvinylether according to the Markovnikov-rule. It is followed by an isomerization discovered for the hydrocarbone by Favorskiy (reference 9). On heating to 100° only ethylvinylethers are produced. Acetals only develop above 130°. The interaction of diacetylene with β-decalol begins at 90° and only ethylvinylether is obtained. At higher temperatures decanol is obtained. In order to prove this structure of isolated ethers and acetals, the authors used bromination, hydrolysis (reference 2) and hydrogenation (a partial and a complete one). In the partial hydrogenation 1-alkoxybutadienes develop, in the complete one - saturated ethers of the C_4H_9OR, series, where

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The Interaction of Diacetylene With Some Hydroxyl-Containing Compounds

20-114-6-31/54

$R = C_4H_9$(VIII); C_6H_{11}(IX;$C_{10}H_{17}$ (X). From the butynal-acetals the authors produced the corresponding butyralacetals. Ethylvinyl ethers are easily brominated. The addition of the first bromine-molecule probably takes place at the double bond and is accompanied by an isomerization. The second bromine-molecule is added to the triple bond and 1-butoxy-1,2,3,4-tetrabromobutene-2 (XIII) forms.
The reactions described indicate a considerable reactivity ethylvinylethers in the ionic conversions. In this connection some peculiarties of their double bond become recognizable. 16 compounds, 10 of whom were unknown in literature, were synthesized on the diacetylene-basis.
There are 2 tables, and 13 references, 2 of which are Slavic.

Card 3/4

AUTHORS: Shostakovskiy, M. F., Shmonina, L. I. 62-1-11/29

TITLE: The Investigation of the Radical Addition Mechanism of Poly-halides Compounds to Vinyl Acetate(Issledovaniye radikal'nogo mekhanizma prisoyedineniya poligaloidnykh soyedineniy k vinilatsetatu)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 64 - 67 (USSR)

ABSTRACT: Up to now the interaction between polyhaloidmethane and trichlorosilane and various olefins and simple vinyl esters was investigated most precisely. This was done to a smaller extent, however, with the reaction of the interaction of the above mentioned compounds with complex vinyl esters. There exists only one American patent (1946, reference 7) in which the interaction between the carbon tetrachloride and vinyl acetate is described. The polarization products of thegeneral formula $CCl_3 (CH_2CHOCOCH_3)_n$ Cl, were obtained as result, where n = 1....8. In the present paper the authors report on the investigation of the interaction between CCl_4, $CHCl_3$, $SiCl_4$, $SiHCl_3$ and $C_2H_5SiHCl_2$ and vinyl acetate under the influence of benziolperoxide. It was found that the yield of the equimolecular addition compound of CCl_4 to vinyl acetate is increased corresponding to the greater quan-

Card 1/2

The Investigation of the Radical Addition Mechanism of Polyhalides Compounds to Vinyl Acetate 62-1-11/29

tity of CCl_4. The yield of the product was improved and its constants were defined exactly. For the first time equimolecular addition compounds were obtained of $SiHCl_3$ and $C_2H_5SiHCl_2$ to the vinyl acetate. Here $SiCl_4$ does not enter interaction with vinyl acetate (in the presence of benzoil peroxide). After the interaction between $CHCl_3$ and vinyl acetate has taken place a mixture of theproducts of low-molecular polymerization is formed. There are 2 tables, 7 references, 3 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR (Insitut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: July 19, 1956

AVAILABLE: Library of Congress

1. Halides-Chemical reactions 2. Vinyl acetate-Chemical reactions

Card 2/2

AUTHORS: Shostakovskiy, M. F., Shapiro, E. S. 62-1-12/29
Sidel'kovskaya, F. P.

TITLE: Investigation in the Field of the Lactones and Lactams (Issledovaniye v oblasti laktonov i laktamov). Report 10: On the Reaction of the Addition of Hydrogen Sulfide to Vinyllactames (Soobshcheniye 10. O reaktsii prisoyedineniya serovodoroda k vinillaktamam)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 68 - 74 (USSR)

ABSTRACT: The reactions of the above mentioned compound according to the general formula have practically not been treated at all in the references and were the object of detailed investigation in the laboratory of the authors. Already the investigation of the properties of the vinylcaprolactame and vinylpyrrolidone showed that they can quantitatively hydrolyze according to the ion mechanism (in acid medium). The reaction of the alcohols with vinylprolactame took place under formation of alkoxyethylideslactame only up to 8% (since the process was complicated by the by-reactions). The behavior of the vinyllactames in the above mentioned reaction is to a certain extent similar to the behavior of thionylethers (and of vinylethylsulphide). (tables 1 and2).

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Investigation in the Field of the Lactones and Lactams 62-1-12/29
Report 10: On the Reaction of the Addition of Hydrogen Sulfide to Vinyllactames

In the present paper the authors report on the investigation of the reaction of the above mentioned compound and prove that on the basis of the vinylcaprolactame and vinylpyrrolidone sulfides and thioles can be obtained with a general yield of 75--85%. Furthermore it was found that the second reaction stage had a greater velocity than was assumed and thus leads to the formation of sulfide. The synthesis of the thiole (on the basis of vinylkaprolactame) succeeded with a yield of 40-45%. It was shown that the reaction of the compound of hydrogen sulfide with vinylcaprolactame is retarded in the case of that the latter had came for a longer time into contact with air. The synthesis of thiole with the pyrrolidone ring was realized with a yield of 60% (after the reaction between N-B-chloroethylpyrrolidone and NaSH had taken place). There are 2 tables and 15 references, 14 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry imeni N.D.Zelinskiy, AS USSR
(Insitut organicheskoy khimii im.N.D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: July 6, 1956

1. Lactones-Derivatives 2. Lactams-Derivatives 3. Hydrogen sulfide-Chemical reactions 4. Vinyllactames-Chemical reactions 5. Thiols-Synthesis

- SHOSTAKOVSKIY, M. F.

AUTHORS: Shostakovskiy, M. F., Khomutov, A. M., Alimov, A. P., 62-1-22/29

TITLE: The Synthesis of the Complex Divinyl Ether of Tartaric Acid(Sintez slozhnogo divinilovogo efira vinnoy kisloty)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1956
Nr 1, pp 108 - 109 (USSR)

ABSTRACT: The synthesis of the vinylethers by interaction between the vinyl acetate and alcohols or acids was already described in literature (references 1,2).Corresponding to the kind of reaction according to this method simple as well as complex vinylethers can be synthetized. The reaction of the acid vinylization with the action of the acetate can be expressed by the following equation:

$$CH = CHOCOCH_3 + RCOOH \xrightarrow[HgSO_4]{20-80^{\circ}} CH_2 = CHOCOR + CH_3COOH.$$

By this way of indirect vinylization the composed vinylethers of the mono- and dibasic acids were obtained. The authors carried out the synthesis of the complex vinylethers with dibasic (4-atomic) oxyacid (d-tartaric acid) experimentally. The obtained divinylether of tartaric acid is a slightly ⊢--⊣ colored viscous liquid which is soluble in sulphuric ether, acetone, benzene, and alcohol. The divinylether of tartaric acid is poly-

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The Synthesis of the Complex Divinyl Ether of Tartaric Acid 62-1-22/29

merizable in presence of benzoilperoxide or of the dinitryl of azoiso-butyric acid and co-polymerizes with the methylether of the methylacrylic acid. There are 4 references, 1 of which is Slavic.

ASSOCIATION: Insitute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR (Insitut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: July 19, 1957

AVAILABLE: Library of Congress

1. Vinyl ethers-Synthesis

Card 2/2

SHOSTAKOV

AUTHORS: Shostakovskiy, M. F., Shmonina, L. I. 62-1-23/29

TITLE: On the Question of the Production of Hexachlorobutadiene (K voprosu o poluchenii geksakhlorbutadiyena)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958 Nr 1, pp. 1o9 - 111 (USSR)

ABSTRACT: Hexachlorobutadiene belongs to the best solvents for many organic substances. There are many papers in literature describing the various kinds of the synthesis of hexachlorobutadiene. There is also a series of patents. It was, however, interesting to find also other ways of synthesis, starting from the available raw material. In the previous report of the laboratory of the authors it was proved that it is possible to obtain hexachlorobutadiene on the basis of diazetylene. Furthermore the authors were interested to detect whether it is possible to obtain a substance starting from butindiole (formulae (1) to (4)). These reaction were up to now only partly realized. The authors obtained 1,4 -dichlorbutine according to the known method of (Johnson, ref. 4) with a yield of 80%. It turned out that 1,4-dichlorobutine does not combine at all with chlorine under the given conditions. The realization of this reaction succeeded (with a yield of ~ 98%) by chlorination in a solution

Card 1/2

of tetracarbon at a temperature of -40, -50° with a yield of ~75%. Furthermore it was shown that in the chlorination of 1,2,3,4 -tetrachlorobutadiene in dependence on the conditions of the reaction 1,1,2,4,4-hexachlorobutene as well as octachlorobutine can be obtained. There are 6 references, 2 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry imeni N. D. Zelinskiy, AS USSR (Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: July 27, 1957

AVAILABLE: Library of Congress

1. Hexachlorobutadiene-Synthesis 2. Solvents-Production

Card 2/2

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P. 62-1-24/29

TITLE: Investigation in the Field of Lactones and Lactams (Issledovaniye v oblasti laktonov i laktamov).
Report 11: Condensation of Ethylene Oxide with Lactams (Soobshcheniye 11.Kondensatsiya okisi etilena s laktamami)

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 1, pp 111 - 115 (USSR)

ABSTRACT: The reaction of the condensation of organic oxides with lactams has hitherto not been described in literature. In the present paper the interaction of oxyethylene with pyrrolidone and caprolactames was investigated. The process took place at a temperature of 2o, 6o, and 2oo° in the presence of H_2O, CH_3OH, H_2SO_4 (or without them). At temperatures of 2o and 6o° the oxyethylene did not react with pyrrolidone. At 2oo-21o° an interaction between the above mentioned substances took place with formation of N-(ß-oxyethyl)pyrrolidone, formerly synthetized from butyrolactone and ethanolamine 5 (table 1). In order to confirm the structure N-(ß-hydroxyethyl)-pyrrolidone was transformed into chloroethylpyrrolidone by interaction with chlorothionyl. The yield of chloroethylpyrrolidone amounted to ~9o%. The results of the other experiments are shown in the table. There are

Card 1/2

Investigation in the Field of Lactones and Lactams 62-1-24/29
Report 11: Condensation of Ethylene Oxide with Lactams

1 table, 6 references, 2 of which are Slavic.

ASSOCIATION: Institute of Organic Chemistry Imeni N. D. Zelinskiy AS USSR (Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR)

SUBMITTED: July 26, 1957

AVAILABLE: Library of Congress

1. Ethylene oxide-Condensation reactions 2. Lactams-Chemical reactions

Card 2/2