SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Part 7: Diene synthesis of vinyl ethers and thioethers with 2,3-dimethyl-1,3-butadiene. Zhur.ob.khim. 31 no.7:2096-2100 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
(Vinyl compounds) (Butadiene)

S/079/61/031/007/003/008
D229/D305
24421

5.3700

AUTHORS: Komarov, N.V., Shostakovskiy, M.F., and Astaf'yeva, L.N.

TITLE: Interaction of γ-silicon acetylenic alcohols with thionyl chloride

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 7, 1961, 2100 - 2102

TEXT: This is a report on the syntheses and properties of new silico-organic compounds. The present work is a continuation of an earlier investigation concerning the syntheses and substitution reactions of numerous acetylenic alcohols containing inorganic elements. It was found in this work that γ-silicon acetylenic alcohols reacted with thionyl chloride to form corresponding chlorides:

$$R_3SiC \equiv C - CH_2OH + SOCl_2 \longrightarrow R_3SiC \equiv C - CH_2Cl + HCl + SO_2,$$

Card 1/4

Interaction of γ-silicon ...

$$R = CH_3,\ C_2H_5,\ C_6H_5.$$

Thus, new compounds were synthesized: 3-chloropropyne-1 - trimethylsilane, 3-chloropropyne-1-triethylsilane and 3-chloropropyne-1-dimethylphenylsilane. The reactivity of the above chlorides was studied by the following reaction:

$$(CH_3)_3SiC \equiv C - CH_2CHOHCH_3 + CH_2 = CHOC_4H_9 \rightarrow CH_3 - CH(OC_4H_9)$$

$$OCHCH_2C \equiv CSi(CH_3)_3.$$
$$|$$
$$CH_3$$

named (4-trimethylsilyl-1-methyl-butyne-3) - butylacetal. The synthesis of $(CH_3)_3$ SiC C-CH_2Cl, designated 3-chloropropyne-1-trimethylsilane is then described. Characteristics of the product are: b.p. 50°/17 mm, n_D^{20} 1.4546, d_4^{20} 0.9295, MR_D 42.87; calc. 42.77 [Abstractor's note: MR_D not defined]. Found percent: Si 18.84, $C_6H_{11}Si$Cl. Calculated percent: Si 19.14. The synthesis of $(C_2H_5)_3$ SiC C-

Card 2/4

Interaction of γ-silicon ...

CH_2Cl, named 3-chloropropyne-1-triethylsilane, was analogous to that of 3-chloropropyne-1-trimethylsilane. Quantities used: 8.92 gr. of thionyl chloride, 1gr. of pyridine, 9.51 gr. of 3-triethylsilyl-propyne-2-ol-1 (b.p. 109-110°/6 mm, n_D^{20} 1.4670, d_4^{20} 0.8932). The yield was 8.95 gr. (95 %). Characteristics of products b.p. 72°/6 mm, n_D^{20} 1.4698, d_4^{20} 0.9262, MR_D 57.03: calculated 56.66. Found percent: Si 15.16. $C_9H_{17}SiCl$. Calculated percent Si 14.84. Synthesis of $(CH_3)_2 - SiC \equiv C-CH_2Cl$ named 3-chloropropyne-1-dimethylphenylsilane was analogous to that of 3-chloropropyne-1-trimethylsilane. Characteristics of product: b.p. 118°/6 mm, n_D^{20} 1.5345, MR_C 62.39; calculated 62.44. Found percent: Si 13.54. $C_{11}H_{13}SiCl$. Calculated percent: Si 13.42. The authors then describe the synthesis of 5-tri-

Interaction of γ-silicon ... S/079/61/031/007/003/008 (24421) D229/D305

methylsilypentyne-4-ol-2. The yield was 3.5 gr. (16.4 %). The characteristics of the product: b.p. 95-97°/2 mm, n_D^{20} 1.4748, d_4^{20} 0.9101. Found MR_D 48.46: calculated 48.74. Found percent: Si 17.90 $C_8H_{16}OSi$. Calculated percent Si 17.9. Finally the synthesis of 4-trimethylsilyl-1-methylbutyne-3/butylacetyl is examined. The yield was 4.68 gr. (97.5 %). Characteristics of the product: b.p. 153°/3 mm, n_D^{20} 1.4655, d_4^{20} 0.8925, MR_D^2 79.12; calculated 78.51. Found percent: Si 11.52. $C_{14}H_{26}O_2Si$. Calculated percent: Si 11.00. There are 2 Soviet-bloc references.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya akademii nauk SSSR (Irkutsk Institute of Organic Chemistry, Siberian Division, Academy of Sciences USSR)

SUBMITTED: July 27, 1960

Card 4/4

PRILEZHAYEVA, Ye.N.; TSYMBAL, L.V.; SHOSTAKOVSKIY, M.F.

Sulfoxides and sulfones. Part 2: Stereochemistry of the addition of thiols to triple bonds of diacetylene and 1-alkyl-1-thiobuten-3-ynes and properties of isomeric 1,4-dialkylsulfonyl-1,3-butadienes. Zhur.ob.khim. 31 no.8:2487-2496 Ag '61. (MIRA 14:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.
(Butadiyne) (Butenyne) (Butadiene)

SHOSTAKOVSKIY, M.F.; PRILEZHAYEVA, Ye.N.; TSYMBAL, L.V.; TOLCHINSKAYA, R.Ya.; STAROVA, N.G.

Sulfones and sulfoxides. Part 3: Comparative reactivity of α,β-unsaturated sulfoxides and sulfones to nucleophilic reagents. Zhur.ob.khim. 31 no.8:2496-2503 Ag '61. (MIRA 14:8)

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

25365

S/079/61/031/008/003/009
D215/D304

53700

AUTHORS: Shostakovskiy, M.F., Kuznetsova, V.P., and Komarov, N.V.

TITLE: Study of synthesis and transformations of unsaturated organo-silicon compounds: interaction of γ-silicon-acetylene chlorides with sodium-acetoacetic and sodium-malonic esters

PERIODICAL: Zhurnal obshchey khimii, 1961, v. 31, no. 8, 2504-2507

TEXT: This paper studies reactions of γ-Si-acetylene chlorides of the propargyl type with Na acetoacetic and Na malonic esters and the prospects of obtaining Si-acetylene carbonyl compounds from these reactions. The reaction is smooth and the yield of keto-esters reaches 40-50%:

$$R_3SiC\equiv C-CH_2Cl + CH_3COCHNaCOOC_2H_5 \quad (R \text{ is } CH_3, C_2H_5 \text{ or } C_6H_5)$$

$$\downarrow$$

$$R_3SiC\equiv C-CH_2-CH(COCH_3)-COOC_2H_5 + NaCl$$

Card 1/3

Study of synthesis...

A Si-acetylene acid was obtained by the following reaction -

$$(C_2H_5)_3SiC{\equiv}C{-}CH_2Cl + NaCH(COOC_2H_5)_2$$

$$\downarrow$$

$$(C_2H_5)_3SiC{\equiv}CCH_2CH(COOC_2H_5)_2$$

$$\downarrow +H_2O$$

$$(C_2H_5)_3SIC{\equiv}C{-}CH_2{-}CH_2{-}COOH + CO_2 + 2C_2H_5OH$$

The presence of the carboxyl group in the product of this reaction was established by reaction with vinylbutyl ester - forming -

$$CH_3{-}CH(OC_4H_9)OOCCH_2CH_2C{\equiv}CSi(C_2H_5)_3$$

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Study of synthesis...

S/079/61/031/008/003/009
D215/D304

The acylal formed hydrolyzes to form the original Si-acetylene acid together with butyl alcohol and acetaldehyde. The stages in which the original Si-acetylebe keto-ester is converted into the acid are two, i.e. formation of a Si-acetylene keto-acid which then breaks down with fission of the Si≡C bond. Synthesis of the following new compounds is described: 6-trimethylsilyl-3-carbetoxyhexene-5-on-2,6-trisethylsilyl--3-carbetoxyhexene-5-on-2;6-dimethylphenylsilyl-3-carbetoxyhexene--5-on-2,6-triethylsilyl-3-carboxyhexene,5-on-2,4-triethylsilyl-1--carboxybutene-3, 1-butoxyethyl ester (4-triethylsilyl-1-carboxybutene-3). There are 3 Soviet-bloc references.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya akademiy nauk SSSR (Irkutsk Institute of Organic Chemistry, Siberian Division, Academy of Sciences, USSR)

SUBMITTED: July 25, 1960

Card 3/3

27904
S/079/61/031/010/004/010
D227/D304

15.8050

AUTHORS: Shostakovskiy, M.F., Skvortsova, G.G., Samoylova, M. Ya., and Fayershteyn, Yu. M.

TITLE: Synthesis of vinyl ethers of o-, m-, and p-aminophenols

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 10, 1961, 3226-3230

TEXT: The authors discuss the preparation of vinyl ethers of aminophenols by direct acetylation, and investigate the dependence of yields of the products on the quantity of alkali and water, and the temperature. It has been found that the para-isomer vinylated at 170-180°C, while the ortho-isomer gave the highest yield of ether at 190°C. m-aminophenol, the most stable isomer, vinylated at 210-220°C. The reactions were carried out in aqueous media and the optimum quantity of water was found to correspond to 15-20%. Larger quantities had no effect on the yield while smaller caused tarring of the reaction mixture. The amount of KOH required

Card 1/ 4

Synthesis of vinyl ethers ...

in the reaction was 40% (15-20% for alkylphenols) which corresponds to the molar ratio of catalyst to aminophenol. The reaction can be represented as follows:

$$C_6H_4NH_2OH + KOH \longrightarrow C_6H_4NH_2OK + H_2O$$

$$C_6H_4NH_2OK + CH \equiv CH \xrightarrow{t^o, H_2O} C_6H_4NH_2OCH = CH_2 \; 3 \; KOH$$

The yield of ethers was 30-60%. Their structure was studied by hydrogenation to the corresponding phenetidines. Experimental procedure: The quantities used were 20 g. aminophenol, 1 - 10 g. KOH and 3 - 25 g. water. Vinylation was carried out in a rotating autoclave using 30-35 atm. acetylene pressure at a temperature optimum for the particular aminophenol. After attaining calculated absorption of acetylene the product was treated with benzene and

Card 2/ 4

Synthesis of vinyl ethers ...

the solution distilled in vacuum. Vinyl-o-aminophenyl ether separated in the form of yellow oil b.pt. 90°C/10 mm, n_D 1.5700 which on redistillation yielded 508 g. of colorless liquid b.pt. 66.5 - 68°C/1-2 mm n_D^{20} 1.5715, d_4^{20} 1.0677 MR_D 41.90; MR_{calc}. 42.06. The pure meta isomer boiled at 92.5 - 93°C/2mm n_D^{20} 1.5820, d_4^{20} 1.0759, MR_D 41.90, MR_{calc} 42.06 and the yield corresponded to 63.6 g. of colorless, odorless liquid. The pure para-isomer boiled at 118°C/10mm, n_D^{20} 1.5765, d_4^{20} 1.0759 MR_D 41.54 and its yield was 52.0 g. The ether was in the form of a colorless oil which darkened on exposure to air. Hydrogenation of the ethers on Raney nickel in alcoholic solution yielded corresponding phenetidines. o-aminophenol polymerises in the presence of ethereal boron trifuloride forming a solid mass with shiny black crystals. With the same catalyst, p-aminophenol forms a white, crystalline solid which on standing changes to a solid, dark yellow and opaque resin.

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27904
S/079/61/031/010/004/010
D227/D304

Synthesis of vinyl ethers ...

There are 4 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry, Siberian Division of the Academy of Sciences, USSR)

SUBMITTED: October 4, 1960

Card 4/4

31192
S/079/61/031/012/011/011
D204/D301

S 3610 1209

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

TITLE: The preparation of acrylone - and methacrylone pyrrolidones

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 12, 1961, 4060 - 4061

TEXT: The work was carried out in view of the recent interest in the amides of acrylic and methacrylic acids as potential starting materials for the synthesis of new polymers. $CH_2 = CH.CON(CH_2)_3CO$ (I) and $CH_2 = \overset{CH_3}{\overset{|}{C}}.CON(CH_2)_3CO$ (II) were prepared in 20 and 40% yields respectively by the action of the appropriate acid chlorides on Na pyrrolidone at $-10^{\circ} \rightarrow -15^{\circ}C$. Propyl gallate was used as an inhibitor and structures of the products were confirmed by infrared spectroscopy. Acrylone pyrrolidone (I) polymerizes very readily, forming a

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hard polymer, insoluble in water or organic solvents, during its preparation and distillation. Monomer (II) polymerizes in 20% yield on heating for 30 hours at 60°C, in the presence of 5% azo-iso-butyric dinitrile, to form a white powder (m.p.~270°C) soluble in dimethyl formamide. Properties of the above two monomers and the preparation of acrylone and methycrylone lactrams based on piperidone and caprolactam are now being investigated.

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

SUBMITTED: July 10, 1961

88407

S/020/61/136/004/016/026
B016/B075

5.3700

AUTHORS: Shostakovskiy, M. F., Corresponding Member AS USSR, Komarov, N. V., and Pukhnarevich, V. B.

TITLE: Synthesis and Some Conversions of Secondary γ-Silicon-containing Acetylene Alcohols

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 4, pp. 846-848

TEXT: Proceeding from the reaction of chlorosilanes with dimagnesium bromine derivatives of secondary acetylene alcohols the authors elaborated a synthesis method of secondary γ-silicon-containing acetylene alcohols: $R_3SiCl + R'CH(OMgBr)-C\equiv CMgBr \longrightarrow R_3SiC\equiv C-CHOH-R'$, where R and R' denote CH_3, C_2H_5, and other organic radicals. Furthermore, the reaction of the synthesized alcohols has been studied 1) with thionyl chloride

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Synthesis and Some Conversions of Secondary γ-Silicon-containing Acetylene Alcohols

S/020/61/136/004/016/026
B016/B075

and 2) with vinyl ethers. To 1): Substitution of hydroxyl by a chlorine atom proceeds under relatively mild conditions and results in the corresponding siliconacetylene chlorides. The Si-C bond is not ruptured. $R_3SiC \equiv C - CHOHC_2H_5 + SOCl_2 \longrightarrow R_3SiC \equiv C - CHClC_2H_5 + SO_2 + HCl$, where $R = CH_3$ and C_2H_5. To 2): Reaction with vinyl ethers proceeds easily and leads to the corresponding acetals:

$$R_3SiC \equiv C - CHOHC_2H_5 + CH_2 = CHOC_4H_9 \longrightarrow CH_3 - CH(OC_4H_9)(OCH(C_2H_5) - C \equiv CSiR_3),$$

where $R = CH_3$ and C_2H_5. The following compounds were synthesized according to (1): 5-trimethyl-silyl-pentin-4-ol-3, 5-triethyl-silyl-pentin-4-ol-3, 3-chloro 5-trimethyl-silyl-pentine-4, and 3-chloro 5-triethyl-silyl-pentine-4; reaction 2 led to: butyl-(3-trimethyl-silyl-

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Synthesis and Some Conversions of Secondary γ-Silicon-containing Acetylene Alcohols

S/020/61/136/004/016/026
B016/B075

1-ethyl-propine-2)-acetal and butyl-(3-triethyl-silyl-1-ethyl-propine-2)-acetal. There are 3 Soviet references.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry of the Siberian Branch, Academy of Sciences USSR)

SUBMITTED: October 12, 1960

Card 3/3

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

Stereo-oriented syntheses based on diacetylene, and isomeric conversions of 1,4-bis (arylthio)-1,3-butadienes and their disulfones. Dokl. AN SSSR 136 no. 3:595-598 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
2. Chlen-korrespondent AN SSSR (for Shostakovskiy).
(Butadiyne) (Butadiene) (Sulfones)

SHOSTAKOVSKIY, M.F. KOMAROV, N.V.; PUKHNAREVICH, V.B.

Synthesis and some conversions of secondary γ-silicon-containing acetulenic alcohols. Dokl. AN SSSR 136 no.4:846-848 F '61.
(MIRA 14:1)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR. 2. Chlen-korrespondent AN SSSR (for Shostakovskiy)
(Pentynol) (Silicon organic compounds)

5.3620 25318 S/020/61/138/005/018/025
B103/B220

AUTHORS: Prilezhayeva, Ye. N., Tsymbal, L. V., and Shostakovskiy, M. F., Corresponding Member AS USSR

TITLE: Comparative dienophilic reactivity in the series: vinyl sulfide — vinyl sulfoxide — vinyl sulfone

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 5, 1961, 1122-1125

TEXT: In previous papers, it was proved by the authors that the electrophilic nature of the double bond in the series of sulfur-containing vinyl compounds increases from vinyl sulfide over vinyl sulfoxide to vinyl sulfone. In ionic reactions, reagents add to vinyl-alkyl sulfides in the presence of acid catalysts in strict accordance with Markovnikov's rule (M. F. Shostakovskiy et al. Ref. ?: Izv. AN SSSR, OKhN, 1955, 154; Sintez i nekotoryye svoystva tiovinilovykh efirov (synthesis and some properties of thiovinyl ester), M. I. Uvarova, Kand. dissertatsiya (candidate's thesis), IOKh AN SSSR, 1953). Therefrom the authors conclude that the sulfur atom in these vinyl compounds acts as an electron donor:

$$CH_2 = CH \overset{\delta}{-} \overset{\delta}{S} - R,$$

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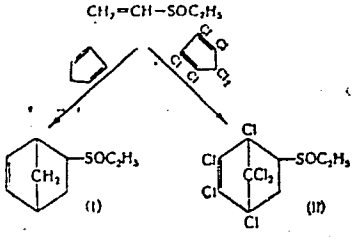
S/020/61/138/005/018/025
B103/B220

and that the double bond shows nucleophilic character just like that in oxygen vinyl esters. The HX reagents add to vinyl sulfoxides and sulfones merely under the influence of alkaline catalysts. Thereby, only $RSOCH_2CH_2X$ or $RSO_2CH_2CH_2X$ compounds are formed, and the associative activity of the nucleophilic reagent and, consequently, the electrophilic nature of the double bond increase from sulfoxide to sulfone. This indicates that the sulfonyl group is a much better electron acceptor than the sulfinyl group. The authors studied the variations of the reactivity of this series of compounds when used as dienophiles with one and the same diene. Cyclopentadiene (CP) and hexachlorocyclopentadiene (HCCP) were chosen as dienes. Up to the present, next to nothing has been known about the reactivity of vinyl-ethyl sulfoxide and, moreover, about the reactions occurring in the synthesis of diene in the presence of α,β-unsaturated sulfinyl compounds. The authors effected reactions between vinyl-ethyl sulfide, sulfoxide, and sulfone on the one hand, and CP or HCCP on the other, the conditions being as comparative as possible. They concluded from the results that the dienophiles mentioned from two reverse series with Cp and HCCP. As CP contains electropositive H atoms besides a diene system, reacts exothermically with vinyl-ethyl sulfone, and requires a

longer heating with vinyl-ethyl sulfide, it may be seen that the activity for $CH_2=CHX$ increases in the order $X=RS < RSO \ll RSO_2$. With HCCP which has an electronegative chlorine at the double bond, the opposite dependence is found: $X=RS > RSO > RSO_2$; here, vinyl-ethyl sulfide exhibits the highest reactivity. It is concluded that the activity of diene synthesis depends on the interrelations between the polarization of the double bonds of diene and dienophile rather than on the character of polarization of the double bond of the dienophile. Thus, HCCP is bound to be active for dienophiles having electron donor substituents, whereas CP is active for dienophiles having electron acceptor substituents. The authors obtained only monoadducts of vinyl-ethyl sulfoxide (I,II) with both HCCP and CP

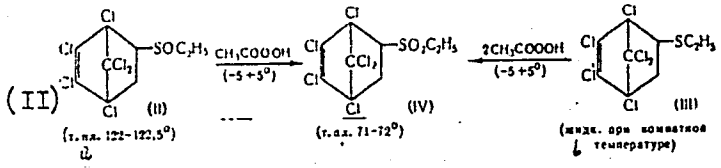


(I)

Card 3/5

Comparative dienophilic reactivity... 25378

On reaction with CP a mixture of crystalline and liquid (I) is formed at a ratio of about 3:1. Apparently, the higher melting product has an endo-configuration, and Alder's rule is followed in this reaction. (II) is formed on reaction with HCCP; it has a definite melting point which is not changed by recrystallization. This indicates a steric homogeneity of (II). The adducts obtained from HCCP and vinyl-ethyl sulfide (III) as well as sulfoxide (II) give the same product (IV) as obtained from HCCP and vinyl-ethyl sulfone, under conditions excluding isomerization



(where a) melting point; b) liquid at room temperature). Recently, it has been proved by the authors and V. A. Azovskaya et al. (Ref. 11: ZhOKh, 31, No. 6 (1961)) that the reaction of divinyl sulfone with HCCP results in an exoadduct as primary product. In their opinion, the reason for this deviation from Alder's rule is the thermal izomerization of the corre-

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sponding endo-monoadduct to an exo-monoadduct. Apparently, the same rule holds in the present case. The adduct of vinyl-ethyl sulfide (III) (synthesized at room temperature) undergoes complete isomerization during fractionation of the reaction mixture. There are 1 table and 11 references: 8 Soviet-bloc and 3 non-Soviet-bloc. The two references to English-language publications read as follows: Ref. 7: K. Alder, XIV Intern. Congr. of Pure and Applied Chemistry, 1955; Ref. 9: Allen. J. Am. Chem. Soc., 62, 656 (1940).

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

SUBMITTED: February 14, 1961

SHOSTAKOVSKIY, M.F.; KOMAROV, N.V.; MAROSHIN, Yu.V.

Synthesis and some transformations of silanols in the vinylacetylene series. Dokl. AN SSSR 139 no.4:913-915 Ag '61. (MIRA 14:7)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR. 2. Chlen-korrespondent AN SSSR (for Shostakovskiy).
(Silanol)

SHOSTAKOVSKIY, M.F.

28676
S/020/61/140/002/021/023
B130/B110

5.4130

AUTHORS: Shigorin, D. N., Smirnova, V. I., Zhuravleva, G. S., Grachova, Ye. P., and Shostakovskiy, M. F., Corresponding Member AS USSR

TITLE: Epr spectra of γ-irradiated acetylene and its derivatives

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 2, 1961, 419-422

TEXT: To determine the relationship between the structure of the initial molecules and the structure of the resulting radical, the authors studied the epr spectra of γ-irradiated acetylene, methyl acetylene, methyl deutero acetylene, ethyl- and butyl acetylene, as well as phenyl- and methyl-phenyl acetylene at 77°K. The compounds were irradiated in special-glass ampuls giving no epr spectrum with the used dose of γ-radiation. Before the tests, the ampuls were evacuated to 10^{-3} mm Hg. Irradiation was conducted with Co^{60}. A superheterodyne radiospectroscope was used for taking the epr spectra. The magnetic field was calibrated with the epr spectra of the pyroxylamine disulfone ion, $[NO(SO_3)_2^{2-}]$ in

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Epr spectra of γ-irradiated ...

chloroform. Copper chloride monocrystals were used for determining the concentration of the radicals obtained. The relative error when determining the yield of radicals was ~20%. Test results are given in Tables 1 and 2. The spectrum of deutero methyl acetylene obtained from heavy water- and Li-methyl acetylenide suggests an interaction of the unpaired electron in the radical with the protons of the CD and CH_2 groups. The symmetric triplet of methyl-phenyl acetylene may be explained by: (1) the interaction of the unpaired electron with the protons of the methylene group in the radical C_6H_5-C≡C-$\dot{C}H_2$, or (2) by the fact that this spectrum has to be ascribed to the radical of the phenyl ring $\dot{A}_r$-C≡C-H. A comparison with the spectra of benzene and methyl-phenyl acetylene with benzene indicates that explication (1) is applicable. An intensive epr spectrum of C_2H_2 is only obtained by high-dose irradiation, which suggests a considerable redistribution of energy in the system. This is even more distinct with phenyl acetylene which gives no epr spectra with high-dose irradiation either. The redistribution of the energy absorbed may be explained by the formation of complexes between the molecules. In fact, polymeric compounds were found on the ampul walls

Epr spectra of γ-irradiated ...

during the experiments. There are 1 figure, 2 tables, and 4 references: 2 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: C. P. Poole, S. Anderson, J. Chem. Phys., 31, no. 2, 346 (1959); R. West, Ch. Kreinbil, J. Am. Chem. Soc., 81, no. 4, 765 (1961).

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

SUBMITTED: May 25, 1961

Table 1. Integral intensity of γ-irradiation ~10^7 rad.
Legend: (a) initial compounds (boiling point, °C), (b) radical presumed, (c) number of lines, (d) total width, oersteds, (e) the number of lines due to superposition with the spectrum of CH_3-C≡C-H cannot be determined.

SHOSTAKOVSKIY, M.F.; SKVORTSOVA, G.G.; SAMOYLOVA, M.Ya.; ZAPUNNAYA, K.V.

Vinyl compounds. Report No.3: Refractometric investigation of the copolymerization of vinyl cresyl esters and acrolein in the presence of cation catalysts. Izv.Sib.otd.AN SSSR no.12:37-41 '61.
(MIRA 15:3)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

(Vinyl compound polymers)

SHOSTAKOVSKIY, M.F.; CHEKULAYEVA, I.A.; MIGALKINA, E.V.

Vinyl ethers of ethanolamines in diene synthesis. Report No.1: Interaction of vinyl ethers of β-(dialkylamino)-ethanols and monoethanolamine with cyclopentadiene. Izv. AN SSSR Otd.khim.nauk no.1:152-155 Ja '62. (MIRA 15:1)

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

S/062/62/000/001/009/015
B117/B101

AUTHORS: Shostakovskiy, M. F., Sidel'kovskaya, F. P., and Kolodkin, F. L.

TITLE: Study of lactones and lactams. Communication 21. Addition of mercapto compounds to N-alkenyl lactams

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1962, 155 - 162

TEXT: N-alkenyl lactams are systematically studied in the laboratoriya vinilovykh soyedineniy Instituta organicheskoy khimii AN SSSR (Laboratory for Vinyl Compounds of the Institute of Organic Chemistry AS USSR). In the present paper, the free radical addition of mercaptans to N-alkenyl lactams was studied: N-vinyl pyrrolidone (I), N-vinyl caprolactam (II), N-allyl pyrrolidone (III), N-allyl caprolactam (IV). Ethyl, n-butyl mercaptans, and ethyl mercapto acetate were used for this reaction. Preliminary results of this study have been published (Zh. obshch. khimii 30, 4108 (1960)). The addition of mercaptans to N-vinyl and N allyl lactams was conducted by heating equimolecular amounts of the initial

Card 1/4

Study of lactones and lactams...

component in closed ampuls at 70 - 80°C for 18 hrs. Azoisobutyrodinitrile was used as initiator. When adding mercaptans to N-vinyl lactams, β-addition products are obtained, when adding it to N-allyl lactams, γ-alkyl thio derivatives are obtained (70 - 95% yields) : N-β-alkyl thioethyl-α-pyrrolidones, N-β-alkyl thioethyl-ε-caprolactams, N-γ-alkyl thiopropyl-α-pyrrolidones, and N-γ-alkyl thiopropyl-ε-caprolactams. N-vinyl lactams proved to be more reactive than N-allyl lactams. In both groups the activity of caprolactam derivatives was somewhat higher than the activity of other lactam derivatives. The reactivity of mercaptans decreases as follows: $HSCH_2COOC_2H_5 > n\text{-}C_4H_9SH > C_2H_5SH$. With pyrrolidone derivatives, the structure of adducts was proved by a synthesis from N-β-chloro-ethyl pyrrolidone (IX) and the corresponding sodium thiolates. The structure of N-allyl lactam adducts was confirmed by N-β-alkyl thiopropyl pyrrolidones (XVII) and (XVIII) syntheses: The reaction of N-β-chloro propyl pyrrolidone (XVI) with the corresponding sodium thiolates yielded N-β-ethyl thiopropyl-α-pyrrolidone and N-β-carbethoxy-methyl thiopropyl-α-pyrrolidone. The effect of the position of the lactam ring in substituted S-alkyl mercapto acetic acids on the biosynthesis of penicillins was studied with

Card 2/4

Study of lactones and lactams...

N-γ-carbethoxy-methyl thiopropyl lactams (XII, XV), N-β-carbethoxy-methyl thioethyl lactams (VI, VIII), and N-carbethoxy-methyl thiomethyl lactams synthesized later (M. F. Shostakovskiy, T. M. Voronkina, F. P. Sidel'kovskaya, Zh. obshch. khimii 31, 1463 (1961)). After their introduction into the nutrient of Penicillium chrysogenum, the compounds in question proved to cause the formation of new penicillins. As to their activity in fungus fermentation, these compounds may be set up as follows: $\overline{(CH_2)_n - CO - N} - CH_2SR \left\langle \overline{(CH_2)_n - CO - N} - CH_2CH_2SR \right.$ $\left. \geq \overline{(CH_2)_n - CO - N} - CH_2CH_2CH_2SR \right.$; $R = CH_2COOC_2H_5$. Pyrrolidone derivatives are more active than caprolactam derivatives, probably due to their more hydrophilic character. The authors thank T. P. Verkhovtseva of the Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics) for examining derivatives of mercapto acetic acid. Ye. N. Prilezhayeva and E. S. Shapiro are mentioned. There are 1 table and 18 references: 12 Soviet and 6 non-Soviet. The four references to English-language publications read as follows: W. H. C. Rueggeberg, W. A. Cook, USA Patent 2810687 (1957);

Card 3/4

N. W. Cusa, H. McCombie, J. Chem. Soc., 1937, 767; A. J. Vogel, J. Chem. Soc., 1948, 1842; L. B. Fieser, J. Amer. Chem. Soc., 46, 2639 (1924).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the [illegible])

SUBMITTED: July 29, 1961

Table. Products of mercaptan addition to N-alkenyl lactams. Legend: (1) Number; (2) structural formula of sulfide; (3) yield, %; (4) boiling point, °C (p mm Hg); (5) determined; (6) calculated.

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Report No.10 Interaction between divinyl ether and anthracene. Izv. AN SSSR Otd. khim.nauk no.2:346-350 F '62. (MIRA 15:2)

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

SHOSTAKOVSKIY, M.F.; KOMAROV, N.V.; MISYUNAS, V.K.

Reaction of stannols with the Grignard reagent. Izv. AN SSSR Otd.khim.nauk no.2:368 F '62. (MIRA 15:2).

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

(Tin organic compounds)
(Grignard reagents)

S/062/62/000/003/012/014
B110/B101

AUTHORS: Shostakovskiy, M. F., Gladyshevskaya, V. A., and Khomutov, A. M.

TITLE: Decomposition of azoisobutyric dinitrile in vinylbutyl ether

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1962, 499-505

TEXT: The products formed in the reaction of azoisobutyric dinitrile (A) with vinylbutyl ether (B) by recombination, disproportionation, breaking off of the H atom and chain growth were studied. On the basis of the molecular weights, the following compounds formed by recombination are presumed: R-M-M-R, R-M-M-M-R (molecular weight 430), where M = monomer link. By radical combination during the decomposition of azoisobutyric dinitrile (R-R), tetramethyl succinic dinitrile (melting point 167°C) is formed: $2(CH_3)_2\overset{CN}{\underset{|}{C}}\cdot \longrightarrow (CH_3)_2\overset{CN}{\underset{|}{C}}-\overset{CN}{\underset{|}{C}}(CH_3)_2$ (I). The decomposition of A is supposed to occur according to

Card 1/4

Decomposition of azoisobutyric...

$$1)\ (CH_3)_2\underset{\underset{CN}{|}}{C}\cdot \rightarrow (CH_3)_2C=C=N\cdot \qquad (V)$$

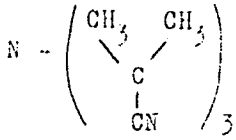
$$2)\ (CH_3)_2C=C=N\cdot + H \rightarrow (CH_3)_2C=C=NH$$

$$3)\ (CH_3)_2C=C=NH + (CH_3)_2C=C=N\cdot \rightarrow (CH_3)_2C=C=N-NHC(CH_3)_2CN\ (VI)$$

VI isomerizes to IV. At a ratio of 90 % B : 10 % A, it was found after heating for 1 hr at 80°C that the greater part of A did not decompose and only small amounts of IV were formed. Heating for 2 hr increased decomposition of A, polymer yield and formation of IV. Longer heating produced complete decomposition of A, increasing polymer yield and constant amount of IV. At a < 6-hr heating, no I was formed. The formation of I, taking place on 6 hr heating, indicates the decomposition of IV ⟶ I, which was proved experimentally. Heating for 6 hr at 80°C of 50 mole% A and 50 mole% B produced I, small amounts of IV and low-molecular polymer. 33.3 mole% A and 66.6 mole% B produced large amounts of IV and compounds melting at 85°C, identified by elementary analysis and infrared spectroscopy as triisobutyronitrile amines:

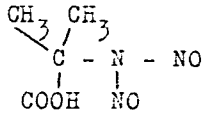
Card 3/4

Decomposition of azoisobutyric...



(VII).

When heated for 6 hr at 80°C, VII decomposes under formation of I. For 1 mole% A and 99 mole% B, only low-molecular polymer was formed. During the effect of thionyl chloride, benzosulfochloride, nitrous acid and hydrochloric acid on IV, it decomposes. HCl action produced A. This confirms the reaction III. HNO_2, with IV, produced a nitro compound melting at 120°C:



There are 2 tables.

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

SUBMITTED: September 15, 1961

Card 4/4

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

Lactones and lactams. Report No.22: N-acryloyl lactams.
Izv.AN SSSR.Otd.khim.nauk no.3:505-510 Mr '62. (MIRA 15:3)

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

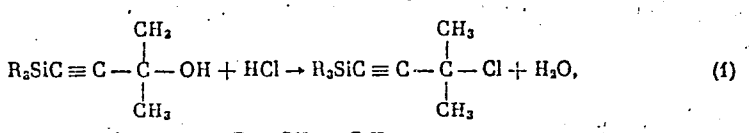
S/062/62/000/003/013/014
B110/B101

AUTHORS: Shostakovskiy, M. F., Komarov, N. V., Kuznetsova, V. P., and Igonina, I. I.

TITLE: Investigations into synthesis and conversions of unsaturated organosilicon compounds. Communication 3. Interaction of tertiary γ-silicon acetylene alcohols with concentrated hydrochloric acid and thionyl chloride

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1962, 510-512

TEXT: The reaction of tertiary γ-silicon acetylene alcohols with concentrated hydrochloric acid and thionyl chloride showed that the low homologs of tertiary γ-silicon acetylene compounds react easily and almost quantitatively with concentrated hydrochloric acid:



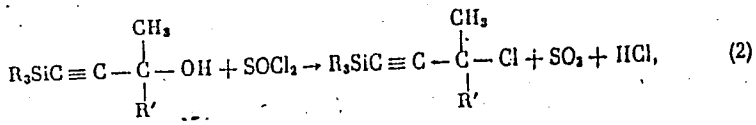
$$R_3SiC\equiv C-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_2}{|}}{C}}-OH + HCl \rightarrow R_3SiC\equiv C-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-Cl + H_2O, \qquad (1)$$

where $R = CH_3$ и C_2H_5.

Card 1/3

Investigations into synthesis and...

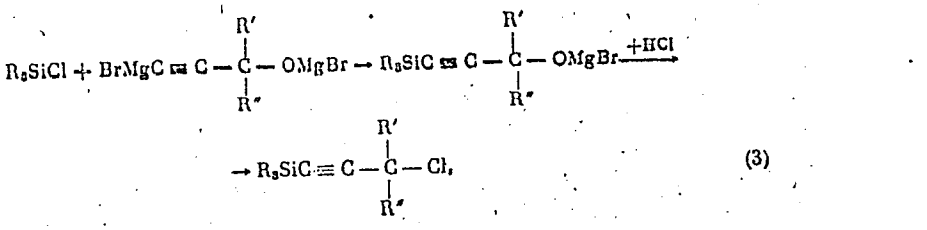
Rupture of the Si-C bond conjugated with the triple bond does not take place here. The exchange of hydroxyl for chlorine only occurs partially; it could be obtained, however, with $SOCl_2$;



$$R_3SiC\equiv C-\underset{\underset{R'}{|}}{\overset{\overset{CH_3}{|}}{C}}-OH + SOCl_2 \rightarrow R_3SiC\equiv C-\underset{\underset{R'}{|}}{\overset{\overset{CH_3}{|}}{C}}-Cl + SO_2 + HCl, \qquad (2)$$

where R and R' = CH_3, C_2H_5 etc.

Here too, the Si-C bond is stable. Tertiary γ-silicon acetylene chlorides may be obtained directly from triaryl(alkyl)chlorosilanes, magnesium derivatives of acetylene alcohols and concentrated HCl:



$$R_3SiCl + BrMgC\equiv C-\underset{\underset{R''}{|}}{\overset{\overset{R'}{|}}{C}}-OMgBr \rightarrow R_3SiC\equiv C-\underset{\underset{R''}{|}}{\overset{\overset{R'}{|}}{C}}-OMgBr \xrightarrow{+HCl}$$

$$\rightarrow R_3SiC\equiv C-\underset{\underset{R''}{|}}{\overset{\overset{R'}{|}}{C}}-Cl, \qquad (3)$$

Card 2/3

where R, R' and R" are organic radicals. This method produces a 70 % yield. Tertiary (-silicon acetylene chlorides are colorless, easily movable liquids of specific odor, soluble in organic solvents and insoluble in water. The following compounds were synthesized from the corresponding alcohols: 4-trimethyl-silyl-2-methyl-2-chlorobutyne-3, b.49°C (14 mm Hg), n_D^{20} 1.4415, d_4^{20} 0.8774; 5-trimethyl-silyl-3-methyl-3-chloropentyne-4, b.61-62°C (8 mm Hg), n_D^{20} 1.4602, d_4^{20} 0.9082, and 4-triethyl-silyl-2-methyl-2-chlorobutyne-3, b.101-102°C (16 mm Hg), n_D^{20} 1.4525, d_4^{20} 0.8861.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry of the Siberian Department of the Academy of Sciences USSR)

SUBMITTED: October 24, 1961

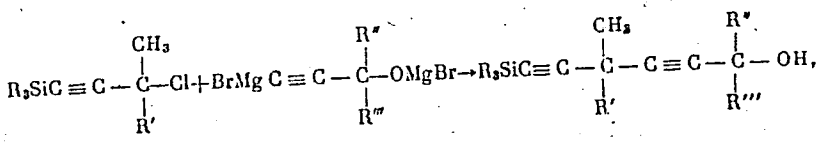
S/062/62/000/003/014/014
B110/B101

AUTHORS: Shostakovskiy, M. F., Komarov, N. V., Kuznetsova, V. P., Igonina, I. I., and Semenova, N. V.

TITLE: Investigations into synthesis and conversions of unsaturated organosilicon compounds. Communication 4. Synthesis and some conversions of organosilicon diacetylene alcohols with isolated ternary bonds

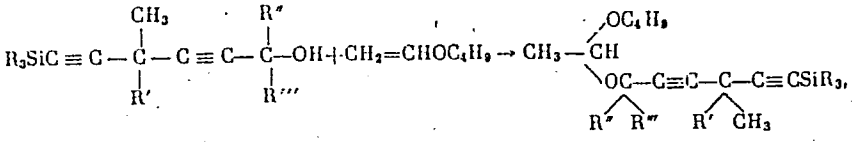
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1962, 512-515

TEXT: The reaction of tertiary γ-silicon acetylene chlorides with magnesium derivatives of primary, secondary and tertiary acetylene alcohols was studied:



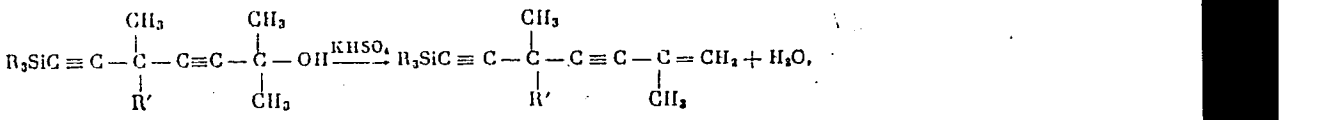
Card 1/5

where R and R' are similar or dissimilar organic radicals, R" and R"' = H or organic radicals. The reaction proceeds easily under formation of organosilicon diacetylene compounds with isolated ternary bonds. The behavior of this new class of organosilicon compounds was tested with regard to acetal formation, dehydration and exchange of hydroxyl for halogen. Organosilicon diacetylene alcohols with vinyl butyl ether produced organosilicon diacetylene acetals, not yet described:



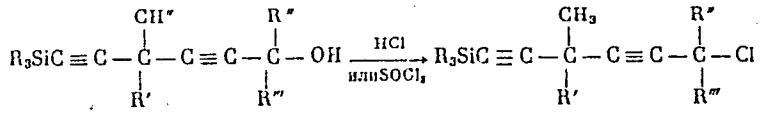
where R and R' are similar and dissimilar organic radicals; R" and R"' = H or organic radicals. Primary alcohols react without catalyst under heating, secondary ones without catalyst during heating, and tertiary ones require concentrated hydrochloric acid as catalyst. Tertiary silicon acetylene alcohols are dehydrated by the action of $KHSO_4$:

Investigations into synthesis and...



where $R = CH_3$; $R' = CH_3$ и C_2H_5.

The dehydration of secondary alcohols is not possible in this way. When treated with concentrated hydrochloric acid or thionyl chloride, tertiary alcohols exchange hydroxyl for chlorine:



no rupture taking place at the Si-C bond conjugated to the triple bond. The following compounds were synthesized: 6-trimetyhl-silyl-4,4-dimethyl-hexadiin-2,5-ol-1, b.98-99°C (2 mm Hg), n_D^{20} 1.4736, d_4^{20} 0.8973; 7-trimethyl-silyl-5,5-dimethyl-heptadiin-3,6-ol-2, b.116°C (12 mm Hg),

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Investigations into synthesis and...

n_D^{20} 1.4675, d_4^{20} 0.8930; 7-trimethyl-silyl-2,5,5-trimethyl-heptadiin-3,6-ol-2, b.102°C (7 mm Hg), m.41-42°C; 7-trimethyl-silyl-2,5-dimethyl-5-ethyl-heptadiin-3,6-ol-2, b. 105°C (6 mm Hg), n_D^{20} 1.4697, d_4^{20} 0.8867; 6-trimethyl-silyl-4,4-dimethyl-hexadiin-2,5-butylacetal, b.133-134°C (5 mm Hg), n_D^{20} 1.4590, d_4^{20} 0.8993; 6-trimethyl-silyl-1,4,4-trimethyl-hexadiin-2,5-butylacetal, b.121-122°C (2 mm Hg), n_D^{20} 1.4465, d_4^{20} 0.8670; 6-trimethyl-silyl-1,1,4,4-tetramethyl-hexadiin-2,5-butylacetal, b.134-135°C (9 mm Hg), n_D^{20} 1.4439, d_4^{20} 0.8523; 6-trimethyl-silyl-1,1,4-trimethyl-4-ethylhexadiin-2,5-butylacetal, b.122-123°C (2 mm Hg), n_D^{20} 1.4502, d_4^{20} 0.8786; 7-trimethyl-silyl-2,5,5-trimethyl-heptadiin-3,6-ene-1, b.90-91°C (7 mm Hg), n_D^{20} 1.4658, d_4^{20} 0.8187; 7-trimethyl-silyl-2,5-dimethyl-5-ethyl-heptadiin-3,6-ene-1, b.89-90°C (6 mm Hg), n_D^{20} 1.4732, d_4^{20} 0.8754; 7-trimethyl-silyl-2-chloro-2,5,5-trimethyl-

SHOSTAKOVSKIY, M.F.; KUZNETSOV, N.V.; YAN CHZHE-MIN' [Yang Chê-min]

Synthesis of ethers and esters of 1,2-dioxyethylene and their transformations. Izv.AN SSSR Otd.khim.nauk no.4:710-716 Ap '62. (MIRA 15:4)

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

PRILEZHAYEVA, Ye.N.; PETUKHOVA, N.P.; SHOSTAKOVSKIY, M.F.

Electrophylic addition of thioacetic acid to vinyl ethers.
Izv.AN SSSR Otd.khim.nauk no.4:728-729 Ap '62. (MIRA 15:4)

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

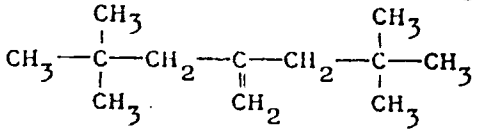
S/204/62/002/005/004/007
E075/E136

AUTHORS: Shostakovskiy, M.F., Prilezhayeva, Ye.N., and Mer, L.N.

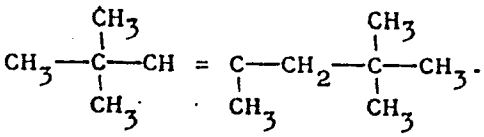
TITLE: Synthesis and properties of tertiary dodecanethiol from tri-isobutylene

PERIODICAL: Neftekhimiya, v.2, no.5, 1962, 735-738

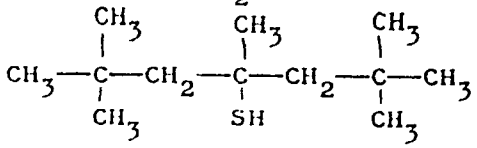
TEXT: The synthesis was carried out from "Butlerov tri-isobutylene" consisting of:



and



It was expected that H_2S would combine with these compounds to form



The best catalyst for this reaction was $BF_3 \cdot H_3PO_4$. The

Card 1/2

Synthesis and properties of tertiary...

isobutylenes were agitated for 45 hours with an excess of liquid H_2S released from a sealed ampule and 40% $BF_3 \cdot H_3PO_4$ (in H_3PO_4) under 15-17 atm in an autoclave. The maximum yield of the thiol was 30-40%. Its vinyl derivative was prepared by heating to 145 °C with acetylene for 3 hours in the presence of powdered KOH in dioxane.
There is 1 table.

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

SUBMITTED: April 19, 1962

Card 2/2

34991
S/190/62/004/003/011/023
B110/B144

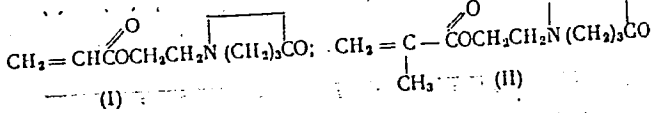
15.8070

AUTHORS: Sidel'kovskaya, F. P., Zelenskaya, M. G., Shostakovskiy, M. F., Lopatin, B. V.

TITLE: New acrylic and methacrylic acid esters

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 389-392

TEXT: A synthesis of α,β-unsaturated esters with lactam rings



(I) (II)

was developed to produce new monomers and polymers and to study the effect of the lactam ring on the acrylic ester double bond and on polymer properties. The lactam ring is introduced into saturated esters by the action of N-(β-hydroxyethyl)-pyrrolidone (P) on fatty acids or their acid chlorides. Esterification of acrylic and methacrylic acid (AA, MA) with P is more difficult than that of saturated acids. AA and MA chlorides and P form esters with < 55 % yields (optimum conditions; 1.5 hrs, 70°C, $CHCl_3$

Card 1/2

and CCl_4 as solvents, soda (or NH_3) to bind HCl) and sometimes additional small amounts of high-boiling products of unknown structure. The esters I and II are mobile liquids soluble in water, ethanol, methanol, acetone, and benzene, saponifiable in alkali, insoluble in ether and petroleum ether. They polymerize at 40°C, but withstand long-time storage at room temperature. IR spectra taken with an NKC-14 (IKS-14) spectrophotometer (NaCl prism) showed two carbonyl groups and one $=CH_2$ double bond. Solid polymers insoluble in organic substances and water, are obtained with azoisobutyric acid dinitrile. With benzoyl peroxide, only polymers from I insoluble in organic substances and water, could be produced within 12 hrs at 80-82°C. There are 1 figure, 1 table, and 4 references: 1 Soviet and 3 non-Soviet. The most important reference to English-language publications reads as follows: G. M. Stempel et al. J. Amer. Chem. Soc., 72, 2299, 1950.

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

SUBMITTED: February 23, 1961

SHOSTAKOVSKIY, M.F.; KOMAROV, N.V.; PUKHNAREVICH, V.B.; SKLYANOVA, A.M.

Synthesis and transformations of unsaturated organosilicon compounds. Report No.5: Synthesis and some transformations of 4-trimethylsilyl- and 4-triethylsilyl-3-butyn-2-ols. Izv.AN SSSR.Otd.khim.nauk no.6:1019-1024 '62. (MIRA 15:8)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR.
(Silicon organic compounds) (Unsaturated compounds)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; VOLKOV, A.N.

Vinyl compounds in diene synthesis. Report No.12: Structural selectivity of the diene condensation of vinyl ethers with isoprene. Izv.AN SSSR Otd.khim.nauk no.7:1254-1258 Jl '62. (MIRA 15:7)

1. Institut organicheskoy khimii N.D.Zelinskogo AN SSSR.
(Vinyl compounds) (Isoprene)

VOLKOV, A.N.; BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.

Vinyl compounds in diene synthesis. Report No.11: Diene synthesis of vinyl ethers and thioethers with isoprene. Izv.AN SSSR.Otd.khim. nauk no.7:1280-1284 Jl '62. (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Ethers) (Isoprene) (Vinyl compounds)

S/062/62/000/008/010/016
B117/B180

AUTHORS: Shostakovskiy, M. F., Skvortsova, G. G., Samoylova, M. Ya., and Shergina, N. I.

TITLE: Copolymerization of vinyl ethers of o-, m- and p-aminophenols with acrolein in the presence of stannic chloride

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1447-1451

TEXT: This study shows that the polymer yield depends more on the ratio, than on the activity, of the components. The highest yields were recorded with a 75:25 mole % acrolein: aminophenyl vinyl ether ratio. The copolymer contains more amino-phenyl to vinyl ether links than does the initial mixture. The amorphous copolymers, containing 7-8% oxygen, are bright yellow, orange or brown in color, soluble in acetone, benzene and chloroform, and insoluble in alcohols, petroleum ether, water and dilute acids and alkalis. Heated to 130-140°C, they melt to form brightly colored liquids. The molecular weights of the polymers obtained were between 600 and 3,000. Qualitative and spectral analysis revealed

the presence of functional groups. There are 4 figures and 2 tables.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry of Siberian Department of the Academy of Sciences USSR)

SUBMITTED: February 7, 1962

GUSEYNOV, I.I.; LOPATIN, B.V.; VASIL'YEV, G.S.; ORLOVA, L.V.; SHOSTAKOVSKIY, M.F.

Spectra and structure of 1,2,3,-phosphorus-containing heterosubstituted 1,3-butadienes. Izv.AN SSSR.Otd.khim.nauk no.9:1550-1554 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Butadiene—Spectra)

PRILEZHAYEVA, Ye.N.; TSYMBAL, L.V.; SHOSTAKOVSKIY, M.F.

Addition of diethyldithiophosphoric acid to vinylaryl sulfides and vinyl ethers. Izv.AN SSSR.Otd.khim.nauk no.9:1679-1681 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Phosphorodithoic acid) (Sulfides) (Ethers)

SIDEL'KOVSKAYA, F.P.; KOLODKIN, F.L.; ANDRIANOVA, G.M.; SHOSTAKOVSKIY, M.F.

Lactones and lactams. Report No.23: Addition of thiophenol to N-alkenyl lactams. Izv.AN SSSR.Otd.khim.nauk no.9:1631-1638 S '62. (MIRA 15:10)

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

SHOSTAKOVSKIY, M.F.; KUZNETSOV, N.V.; YAN CHZHE-MIN' [Yang Che-min]

Synthesis of ethers and esters of 1,2-dioxyethylene and their conversions.
Izv.AN SSSR.Otd.khim.nauk no.9:1695-1696 S '62. (MIRA 15:10)
(Ethylene glycol) (Ethers) (Esters)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; GOLOVIN, A.V.; SHAMAKHMIDOVA, S.

New polymeters of vinyl ethers. Report No.2: Heterogeneous catalyst of stereospecific polymerization at room temperature. Izv. AN SSSR.Otd. khim.nauk no.10:1813-1817 O '62. (MIRA 15:10)

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

SHOSTAKOVSKIY, M.F.; KUZNETSOV, N.V.; YAN CHZHE-MIN' [Yang Chê-min]

Some conversions of 1,4-dioxene. Izv. AN SSSR.Otd.khim.nauk no.10: 1859-1860 '62. (MIRA 15:10)

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

SHOSTAKOVSKIY, M.F.; GUSEYNOV, I.I.

Synthesis of fully substituted saturated ethers of 1-alkoxy-2-hydroxychlorophosphine-3-chloro-1,3-butadienes. Dokl. AN Azerb. SSR 18 no.11:17-21 '62. (MIRA 17:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

SHOSTAKOVSKIY, M. F.; KUZNETSOV, N. V.; YAN CHZHE-MIN' [Yang Chê-min]; BALEZINA, G. G.

Some conversions of acetals of alkoxy- and bromoacetaldehydes. Izv. AN SSSR Otd. khim. nauk no.12:2220-2223 D '62. (MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Acetals) (Acetaldehyde)

SHOSTAKOVSKIY, M. F.; BOGDANOVA, A. V.; VOLKOV, A. N.

Interaction of vinyl ethers with furan and 2-methylfuran.
Izv. AN SSSR Otd. khim. nauk no.12:2224-2226 D '62.
(MIRA 16:1)

1. Institut organicheskoy khimii im. N. D. Zelinskogo AN SSSR.

(Ethers) (Furan)

S/249/62/018/011/002/003
D403/D307

AUTHORS: Shostakovskiy, M.F. and Guseynov, I.I.

TITLE: Synthesis of full esters of 1-alkoxy-2-oxydichlorophosphine-3-chlorobutadienes-1,3

PERIODICAL: Akademiya nauk Azerbaydzhanskoy SSR. Doklady, v. 18, no. 11, 1962, 17-21

TEXT: The reactions of 1-alkoxy-2-oxydichlorophosphine-3-chlorobutadienes-1,3 with various primary alcohols were studied, in continuation of earlier work (ZhOKh, 1960, 30, 2836) obtaining 10 new compounds of general structure $ROCH = C(OR')(O=P(OR')) - CCl = CH_2$, where R and R' = Me, Et, Pr, Bu in various combinations. The reactions were carried out at 3-5°C, in the presence of pyridine, and 60-70% yields were achieved. The compounds were pale-yellow liquids which

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Synthesis of full esters ...

could be kept in sealed tubes under N_2, and dissolved readily in organic solvents. The physical constants are tabulated. There is 1 table.

ASSOCIATION: IOKh im. N.D. Zelinskogo AN SSSR (IOKh im. N.D. Zelinskiy of the AS USSR)

SUBMITTED: August 24, 1962

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

Reactivity of acetals and ionic telomerization. Usp.khim. 31 no.10:1165-1178 O '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.
(Acetals) (Polymerization)

33935
S/079/62/032/001/013/016
D204/D302

53700

AUTHORS: Shostakovskiy, M.F., and Komarov, N.V.

TITLE: The interaction of polyorganosiloxanes with Iositch reagents

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 1, 1962, 320-321

TEXT: A study of the interaction of polyorganosiloxanes with Iositch reagents [Abstractor's note: Name transliterated], leading to the formation of acetylenic silanols, e.g.

$$(R_2SiO)_x + BrMgC \equiv CH \rightarrow HC \equiv CSiR_2OH$$

$$(R_2SiO)_x + BrMgC \equiv CMgBr \rightarrow HOR_2SiC \equiv CSiR_2OH$$

$$(R_2SiO)_x + BrMgC \equiv C - R' \rightarrow R'C \equiv CSiR_2OH$$

where R, R' are organic radicals and x is a whole number. The compounds dimethyl ethynyl silanol, 1,2-bis (dimethyl hydroxy silyl) acetylene, (3-methyl-butyn-1-ol-3)-dimethyl silanol and diethyl vi-

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SHOSTAKOVSKIY, M.F.; GUSEYNOV, I.I.; VASIL'YEV, G.S.

Synthesis of saturated full esters of 1-alkylthio-2-hydroxydichlorophosphine-3-chloro-1,3-butadienes. Zhur. ob.khim. 32 no.2:375-377 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

(Esters)
(Butadiene)

GUSEYNOV, I.I.; VASIL'YEV, G.S.; SHOSTAKOVSKIY, M.F.

Synthesis of allyl and propargyl full esters of 1-alkylthio-2-hydroxydichlorophosphine-3-chloro-1,3-butadienes. Zhur. ob.khim. 32 no.2:378-379 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

(Esters)
(Butadiene)

SHOSTAKOVSKIY, M.F.; GUSEYNOV, I.I.; VASIL'YEV, G.S.

Synthesis of tetraalkyldiamides of 1-alkylthio-2-hydroxydichlorophosphine-3-chloro-1,3-butadienes. Zhur.ob.khim. 32 no.2:380-381 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN USSR.
(Butadiene)
(Amides)

SHOSTAKOVSKIY, M.F.; SOKOLOV, B.A.; GRISHKO, A.N.

Addition of methylbutyl- and methylisobutylfluorosilanes to styrene. Zhur.ob.khim. 32 no.2:663 F '62. (MIRA 15:2)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

(Silane)
(Styrene)

SHOSTAKOVSKIY, M.F.; KUL'BOVSKAYA, N.K.; GRACHEVA, Ye.P.; LABA, V.I.; YAKUSHINA, L.M.

Synthesis and conversions of substituted vinyl ethers. Part 12: Vinylation of alkyl thiols by tert-butylacetylene. Zhur.ob.khim. 32 no.3:709-714 Mr '62. (MIRA 15:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Thiols) (Hexyne)

S/079/62/032/005/009/009
D204/D307

AUTHORS: Shostakovskiy, M.F., Sokolov, B.A., and Yermakova, L.T.

TITLE: Synthesis of p-chlorophenyl trichlorogermanium (I)

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 5, 1962, 1714

TEXT: The authors carried out, for the first time, a high temperature condensation of $HGeCl_3$ with p-dichlorobenzene. The mixture, in the ratio 1:1, was passed through a quartz tube 900 mm long and 22 mm in diameter, at 550°C. The condensate, I, was collected in a trap cooled with dry ice, in 11.5 % yield. B.p. 105 - 107°C/5 mmHg; n_D^{20} 2.5738; d_4^{20} 1.6467. Found Cl 47.21 %; calculated Cl 48.81 %. Increasing the $HGeCl_3$: p-Cl-C_6H_4-Cl ratio to 2:1 raised the yield to 16 %. Only traces of $PhGeCl_3$ were obtained when PhCl was substituted in place of ClC_6H_4Cl, under the same conditions. $PhGeCl_3$ prepared by the Grignard reaction had a b.p. of 80°C/6 mmHg, n_D^{20}.

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Synthesis of p-chlorophenyl ... S/079/62/032/005/009/009 D204/D307

1.5702, d_4^{20} 1.6641. [Abstractor's note: Essentially complete translation].

ASSOCIATION: Irkutskiy institut organicheskiy khimii sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences, USSR)

SUBMITTED: October 14, 1961

Card 2/2

SHOSTAKOVSKIY, M.F.; VLASOV, V.M.; GORBAN', A.K.

Synthesis of vinyl ether and acetals on the basis of ℓ -menthol. Zhur. ob.khim. 32 no.6:1729-1734 Je '62. (MIRA 15:6)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR.
(Ethers) (Acetaldehyde) (Menthol)

VORONKINA, T.N.; STRUKOV, I.T.; SHOSTAKOVSKIY, M.F.

Synthesis of the precursors and fragments of antibiotics. Part 8: Preparation and study of the products of condensation of heterocyclic compounds with hydroxy- and mercaptoacetic esters. Zhur.ob.khim. 32 no.7:2097-2101 Jl '62. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(Heterocyclic compounds) (Acetic acid) (Antibiotics)

SHOSTAKOVSKIY, M.F.; SHAPIRO, E.S.

Methods of the indirect synthesis of phthalylglycine vinyl esters. Zhur.ob.khim. 32 no.10:3137-3141 O '62. (MIRA 15:11)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.

(Glycine) (Vinylation)

S/079/62/032/012/002/008
D424/D307

AUTHORS: Shostakovskiy, M.F., Sokolov, B.A., Grishko, A.N., Lavrova, K.F. and Kazan, G.I.

TITLE: Addition of fluorohydrosilanes to unsaturated compounds

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 12, 1962, 3882-3885

TEXT: The above reaction has not been studied previously because of the difficulty of synthesizing compounds of the type R_nSiHF_{3-n}. A number of such compounds has now been synthesized, in 60-80% yields, by the reaction of the corresponding alkyl or amyl chlorohydrosilanes with concentrated HF at room temperature, over 30-40 minutes. The following additions were carried out, using a 0.1 M solution of chloroplatinic acid in iso-propanol as catalyst: diethylfluorosilane to allyl chloride, and methylpropyl-, methyliso-propyl-, methylbutyl-, and methyliso-butylfluorosilanes and methyl- and propyldifluorosilanes to styrene. The first of these additions

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proceeded in accordance with Markovnikov's rule to give γ-chloropropyldiethylfluorosilane. Each of the additions to styrene proceeded in two directions - in accordance with an contrary to Markovnikov's rule - to give predominantly the α- and some β-isomers. Identities of the adducts formed were established by comparing their Raman spectra with those of the compounds obtained by fluorinating the corresponding chloro compounds. Addition of the dialkylmonofluorosilanes to styrene takes place more vigorously than that of the corresponding chloro compounds, giving higher yields. The physical constants of five of the dialkylfluorosilanes and of 11 of the styrene addition products and the Raman spectra of 10 of the styrene addition products are given: 15 of these compounds are new. There are 2 tables.

ASSOCIATION: Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya Akademii nauk SSSR (Irkutsk Institute of Organic Chemistry of the Siberian Branch of the Academy of Sciences USSR)

SUBMITTED: December 15, 1961

Card 2/2

VOPONKINA, T. M.; STRUKOV, I. T.; SHOSTAKOVSKIY, M. F.

Precursors and fragments of antibiotics. Part 9: Condensation of aliphatic aldehydes with mercaptoacetic acid and its ethyl ester. Zhur. ob. khim. 32 no.12:3877-3881 D '62. (MIRA 16:1)

(Aldehydes) (Acetic acid)

SHOSTAKOVSKIY, M.F.; SKVORTSOVA, G.G.; ZAPUNNAYA, K.V.; KOSITSYNA, E.I.

Vinylation of indole. Zhur.prikl.khim. 35 no.4:915-917 Ap '62. (MIRA 15:4)

1. Irkutskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

(Indole) (Vinylation)

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

Wonderful properties of polyvinylpyrrolidone. Priroda 51 no.1: 105-108 Ja '62. (MIRA 15:1)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR, Moskva.
(Pyrrolidinone)

PRILEZHAYEVA, Ye.P.; PETUKHOVA, N.P.; SHOSTAKOVSKIY, M.F.

Reaction of dichlorocarbenes with vinyl sulfides. Dokl. AN SSSR 144 no.5:1059-1061 Je '62. (MIRA 15:6)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
2. Chlen-korrespondent AN SSSR (for Shostakovskiy).
(Methylene) (Sulfides)

40569
S/020/62/146/002/011/013
B101/B144

5.3732

AUTHOR: Shostakovskiy, M. F., Corresponding Member AS USSR, Shekulayeva, I. A., Kondrat'yeva, L. V.

TITLE: Reactivity of ethinyl vinyl compounds containing nitrogen

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 2, 1962, 376-379

TEXT: The effect of nitrogen atoms on the hydrolyzability of triple bonds in compounds with the general structure $R_2NCH=CH-C\equiv CH$ was studied. In N,N-dimethyl-amino-1-butene-1-yne-3 and the corresponding diethyl compound, the H_2C addition takes place without a catalyst even at room temperature. The corresponding N,N-dialkyl vinyl ketones $R_2NCH=CH-CO-CH_3$ are formed. The presence of carbonyl groups conjugated with the double bond was proved by IR spectra, and the structure was confirmed by a color reaction for methyl ketone. The corresponding dibutyl and dipentyl compounds hydrolyze more slowly. Dialkyl-aminobutenines react with water, aliphatic alcohols, and amines under less severe conditions than β-dialkyl aminoethoxy butenines. 1-(β-diethylamino)-ethoxy butene-1-yne-3 did not hydrolyze at

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room temperature. Biosynthesis is attributed to the action of biocatalysts and to the formation of similar compounds reacting under mild conditions. There is 1 figure.

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

SUBMITTED: May 25, 1962

SHOSTAKOVSKIY, M.F.; PRILEZHAYEVA, Ye.N.; SVIRIDOVA, A.V.

Polymerization of vinyl ethyl sulfone under the effect of free radical initiating agents. Dokl. AN SSSR 146 no.4:837-839 O '62. (MIRA 15:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. 2. Chlen-korrespondent AN SSSR (for Shostakovskiy).
(Sulfones) (Polymerization)
(Radicals (Chemistry))

L 13012-63 EPF(c)/EWP(j)/EWT(m)/BDS ASD Pr-4/Pc-4 RM/WW
ACCESSION NR: AP3002907 S/0289/63/000/001/0136/0140

AUTHOR: Shostakovskiy, M. F.; Sokolov, B. A.; Khil'ko, O. N.; Shergina, N. I.

TITLE: The sequence of addition of hydrosilanes to phenylacetylene

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya khimicheskikh nauk, no. 1, 1963, 136-140

TOPIC TAGS: hydrosilane addition reaction, trans-isomer formation, trichlorosilane, methyldichlorosilane, ethyldichlorosilane, methylethyldichlorosilane, triethylsilane

ABSTRACT: This study is an ivestigation of the addition reactions of one or two hydrosilane molecules to penylacetylene. The addition reaction of hydrosilanes to an acetylene triple bond is accomplished by means of a catalyst which is 0.1 M H sub 2 PtCl sub 6. 6 H sub 2 O in isopropyl alcohol. The synthesized products containing the double bond may be used to obtain polymers. Some of these products will polymerize if only left to stand. The hydrosilanes investigated in this work were trichlorosilane, methyldichlorosilane, ethyldichlorosilane, methylethyldichlorosilane, and triethylsilane in accordance with the reaction shown in the Enclosure. It was shown that one or two molecules can react with

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L 13012-63
ACCESSION NR: AP3002907

phenylacetylene contrary to the Markov law. When using H sub 2 PtCl sub 6 times 6 H sub 2 O catalyst, the cis-additive of hydrosilane molecule forms a trans-isomer. Orig. art. has: 1 table.

ASSOCIATION: Irkutskiy Insitut Organicheskoy Khimii Sibirskogo Otdeleniya AN SSSR (Irkutsk Institute of Organic Chemistry, Siberian Department, AN SSSR)

SUBMITTED: 29Apr62 DATE ACQ: 24Jul63 ENCL: 01

SUB CODE: 00 NO REF SOV: 006 OTHER: 004

Card 2/2

S/062/63/000/003/010/018
B101/B186

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A., and Lipovich, I.V.

TITLE: Synthesis and transformation of the amino ethanol vinyl ether. Communication 14. Reaction of the 2-amino ethanol vinyl ether with vinyl acetate

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 532 - 535

TEXT: It was found that the 2-amino ethanol vinyl ether reacts with vinyl acetate in different ways according to the reaction conditions. In the absence of an initiator and with low temperatures the reaction proceeds mainly according to: $CH_2=CHO(CH_2)_2NH_2 + CH_2=CHOCOCH_3 \rightarrow CH_2=CHO(CH_2)_2NHCOCH_3 + CH_3CHO$. The N-acetyl-β-amino ethanol vinyl ether, b.p. 104°C/3 mm Hg, $n_D^{20} = 1.4671$, $d_4^{20} = 1.027$, is formed. If heated, however, the 2-amino ethanol vinyl ether reacts with the acetaldehyde formed: $CH_2=CHO(CH_2)_2NH_2 + CH_3CHO \rightarrow CH_2=CHO(CH_2)_2N=CH-CH_3 + H_2O$ with

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Synthesis and transformation of ...

resinification taking place. Still more complicated, and also accompanied by resinification, is the reaction in the presence of azoisobutyric dinitrile, as copolymerization both of the initial monomers and of the reaction products takes place. The polymers are soluble in water as well as in alcohol. The acylation investigated can also be applied to the diethanol amine divinyl ether. N-acetyl diethanol amine divinyl ether, b.p. 120 - 121°C/4 mm Hg, n_D^{20} = 1.4778, d_4^{20} = 1.034 is formed. The synthesized N-acetyl derivatives of the amino ethanol vinyl ether are new monomers, containing both a vinyl and anamino group as functional group. There are 2 tables.

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

SUBMITTED: June 6, 1962

S/062/63/000/003/011/018
B101/B186

AUTHORS: Chekulayeva, I. A., Lipovich, I. V., and Shostakovskiy, M.F.

TITLE: Synthesis and transformation of the amino ethanol vinyl ethers. Communication 15. Polymerization of amino ethanol vinyl ethers

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 535 - 540

TEXT: As a result of the polymerization of amino ethanol vinyl ethers in the presence of azoisobutyric dinitrile at 60°C in ampuls are given: Formula of the vinyl ether, its b.p. (°C/mm Hg), n_D^{20}, the yield of polymer, the molecular weight of it and a short characterization of the polymer. The data given are: $CH_2=CHOCH_2CH_2NH_2$, 115 - 116, 1.4390, 14 - 15, -, viscous, yellow, soluble in water and alcohols; $CH_2=CHOCH(CH_3)CH_2NH_2$, 127 - 128, 1.4380, 10 - 11, -, in like manner; $CH_2=CHOCH_2CH_2N(C_2H_5)_2$, 155 - 157, 1.4328, 7 - 8, 435 - 451, viscous, yellow, soluble in ether, benzene, acetone, methanol; $CH_2=CHOCH_2CH_2N(CH_3)_2$, 158 - 159/3, 1.5980,

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Synthesis and transformation of ...

10 - 11, 475, viscous, yellow, soluble in acetone and benzene; $(CH_2=CHOCH_2CH_2)_2NH$, 80 - 81/8, 1.4576, 19 - 21, 1490 - 1550, viscous, dark yellow, soluble in acetone, benzene and alcohols; $(CH_2=CHOCH_2CH_2)_2NC_4H_9$, 90 - 91/4, 1.4536, 18 - 40,-, likewise; $(CH_2=CHOCH_2CH_2)_2NCH_2COOCH_3$, 126 - 127/5, 1.4640, 20 - 21, -, likewise; $(CH_2=CHOCH_2CH_2)_2NCH_2CH_2COOCH_3$, 124 - 125/5, 1.4652, 20 - 22,-, likewise; $CH_2=CHOCH_2CH_2NHCH_2CH_2OH$, 95 - 96/4, 1.4687, 5-7,-, viscous, yellow, soluble in alcohols; $CH_2=CHOCH_2CH_2N(CH_2CH_2OH)_2$, 141-142/3.5, 1.4805, 6-7, -, viscous, yellow, soluble in water and alcohols; $(CH_2=CHOCH_2CH_2)_2NCH_2OH$, 125 - 126/4.5, 1.4725, 19 - 20,-, solid, yellow, insoluble in usual solvents, non-meltable; $(CH_2=CHOCH_2CH_2)_3N$, 120 - 122/5, 1.4678, 38 - 40, -, likewise; $CH_2=CHOCH_2CH_2NHCOCH_3$, 104 - 105/3, 1.4671, 68 - 70,-, colourless, rubberlike, soluble in water and alcohols; $(CH_2=CHOCH_2CH_2)_2NCOCH_3$, 120 - 121/4, non-meltable. The N-butyl diethanol amin divinyl ether was for the first time synthesized from N-butyl di-

S/062/63/000/003/011/018
B101/B186

Synthesis and transformation of ...

ethanol amin and acetylene at 14 atm, 160°C; the amino-isopropanol vinyl ether from amino ispropanol and acetylene at 15 atm, 140 - 150°C; the methyl-N-divinyl oxyethyl-α-amino-acetate from diethanol amin divinyl ether and methyl chloroacetate and the methyl-N-divinyl oxyethyl-β- aminoproprionate from diethanol amino divinyl ether and methyl acrylate. There is 1 table.

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

SUBMITTED: June 6, 1962

Card 3/3

L 13558-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3000705 S/0190/63/005/005/0767/0771

66
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AUTHOR: Shostakovskiy, M. F.; Skvortsova, G. G.; Zapunnaya, K. V.

TITLE: Fractionation of vinylphenyl ether-acrolein copolymerization products

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 5, no. 5, 1963, 767-771

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ABSTRACT: Earlier publications by the authors reported the synthesis of vinylcresyl ether-acrolein copolymerization products. In the present paper equimolar amounts of vinylphenyl ether and acrolein were copolymerized at room temperature for 168 hours in the presence of boron trifluoride etherate. The resultant product was dissolved in acetone, followed by precipitation with ethanol. From the 5% acetone solution five fractions of the copolymer were precipitated with various amounts of absolute ethanol, and their melting point, molecular weight, viscosity, and ultraviolet and infrared absorption spectra determined. The monomers were shown to copolymerize in almost equimolar proportions, the molecular weight of the copolymers having a range of from 500 to 2700. The ultraviolet absorption spectra of the fractions have a minimum at 250 - 252 Millimicrons and a sharply defined maximum at 270 - 280 Millimicrons. A tentative formula of the copolymer is given. Orig. art.
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