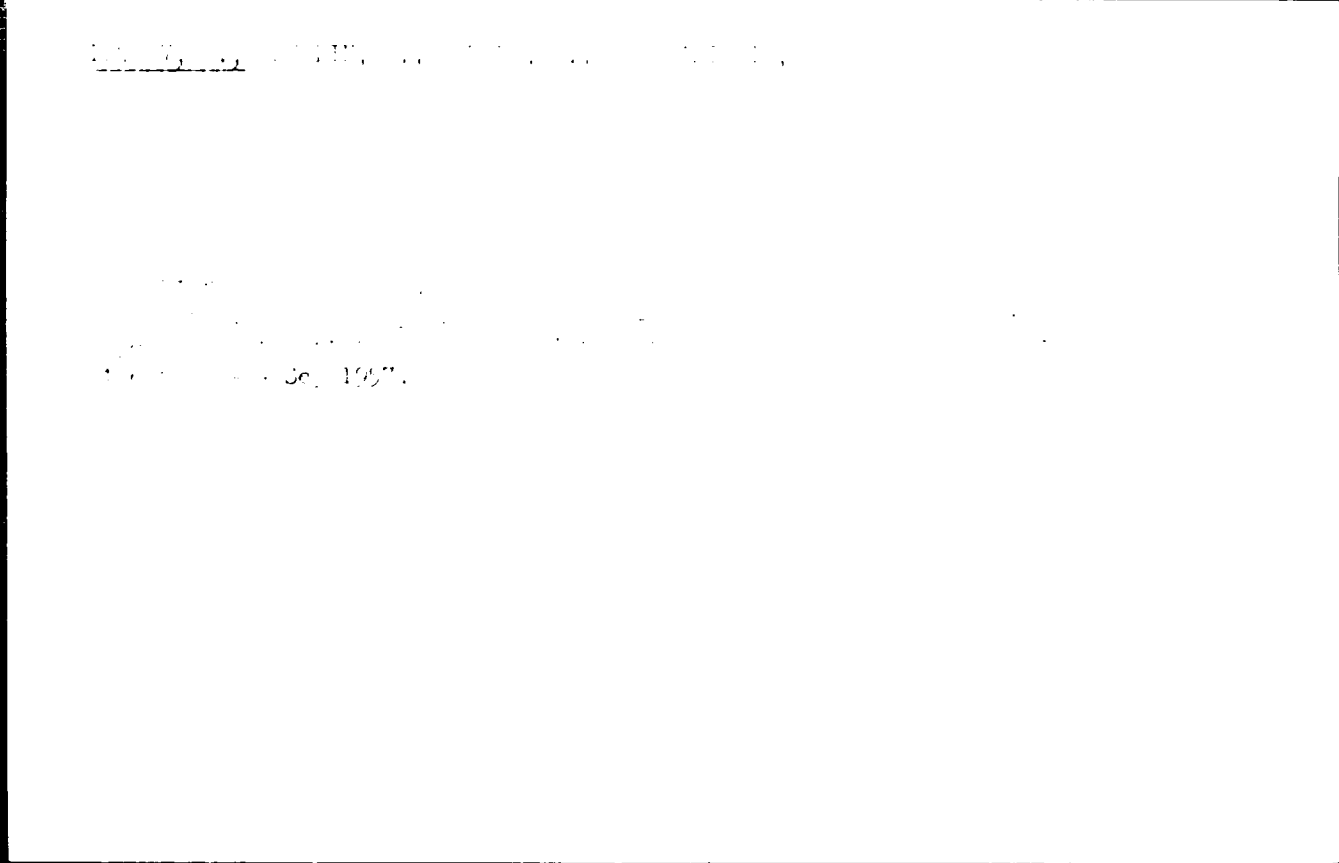
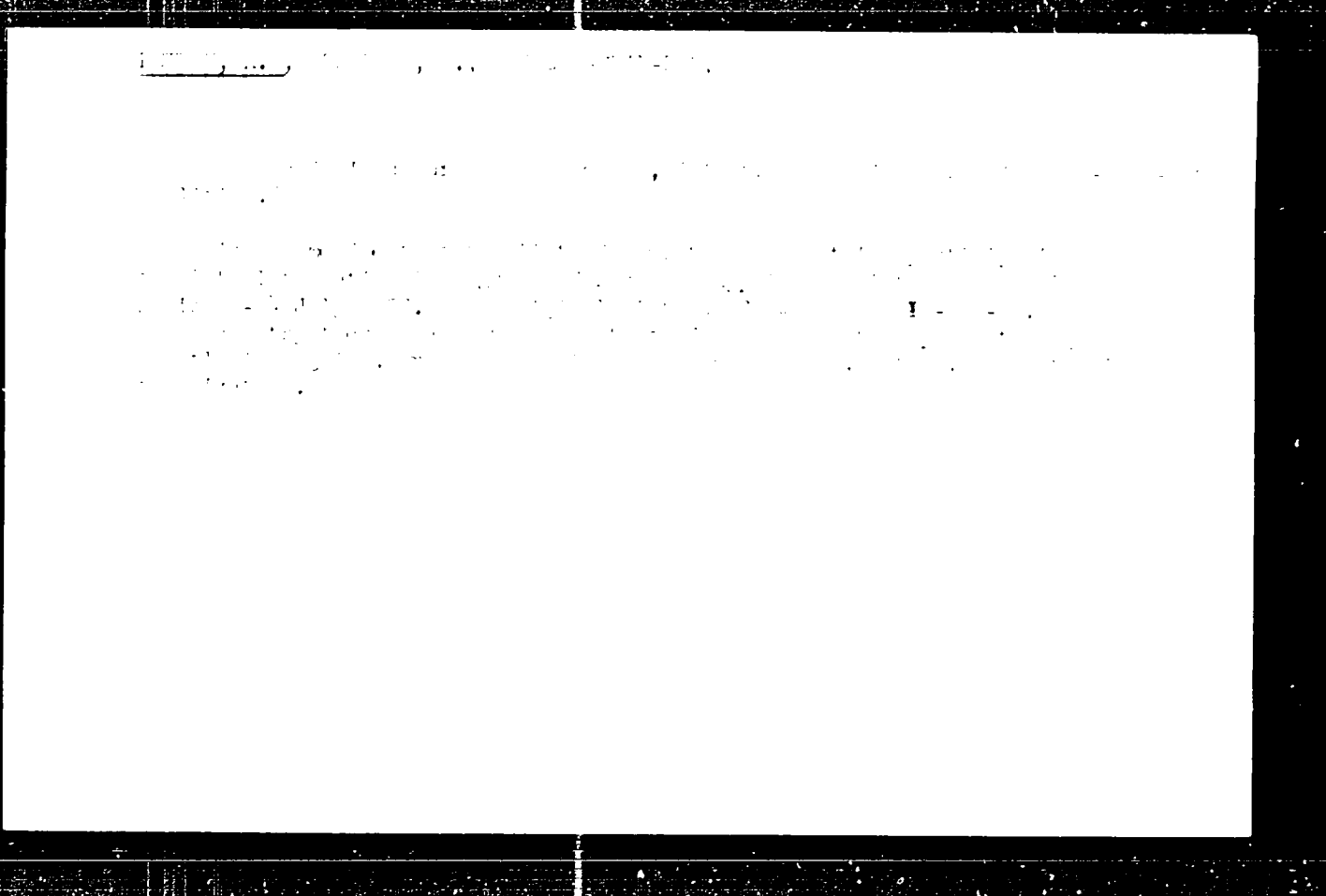


Petrov, A. A.

Arresting telomerization of isoprene and acryl thioglyde.
Kh. V. Bal'van, A. A. Petrov, YB. I. Kherize, and B. Yu. Shvarts. U.S.S.R. 100,808, Aug. 20, 1967. When the title reaction triggered by ZnCl₂ has gone far enough and the desired length of telomer chain is attained, the reaction is arrested by addn. of NH₄OH or an org. base such as pyridine or diethylamine. McHosh.

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4E3d
4E4
4E2C(4)
2-MAY
HS MB





PETROV, A., and SOKOLOVA, E., AS USSR, Moscow

"On the Effect of tert Butyllithium on Esters," a paper submitted at the 16th International Congress of Pure and Applied Chemistry, Paris, 18-24 July 1957.

AUTHORS: Bal'yan, Kh. V.; Petrov, A. A.; Porfir'yeva, Yu. I. 1957-19/10

TITLE: Study of Conjugated Systems. Part 72. Hydrogenation of Alkenylacetylenes (Issledovaniya v oblasti sopryazhennykh sistem. LXXII. Gidrirovaniye alkenilatsetilenov)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 365-370 (U.S.S.R.)

ABSTRACT: Experiments on the hydrogenation of propenylacetylene (pentene-3-in-1), butenylacetylene (hexene-3-in-1) and isopropenylacetylene (2-methyl-butene-1-in-3) with colloidal palladium as catalyst showed that in the case of the vinylacetylene hydrocarbons with final acetylene grouping, there is a greater selectivity in the hydrogenation process than in the case of vinylalkylacetylenes. The chemical processes occurring during the hydrogenation of the hydrocarbons described are explained. The isoprene in the hydrocarbon mixture derived during the hydrogenation of isopropenylacetylene was determined in the form of tetrabromide and by the product of its condensation with maleic anhydride. It was established that piperylene and hexadiene-1,3 were formed during the hydrogenation of propenyl- and butenylacetylenes which enter into reaction

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79-2-19/58

Study of Conjugated Systems. Part 72. Hydrogenation of Alkenylacetylenes

of further hydrogenation (up to olefines) in a much lesser degree than the very same hydrocarbons obtained during the hydrogenation of vinylmethyl and vinylethyl acetylenes.

A similar selectivity was also observed during the hydrogenation of acetylene alcohols with final acetylene grouping. It was discovered during the hydrogenation of the hydrocarbons that the entire surface of the catalyst, capable of hydrocarbon adsorption, was occupied by acetylene groupings of alkenylacetylenes up to the moment of almost complete conversion into diene hydrocarbons. After the surface was liberated, the hydrogenation of the diene hydrocarbons began with a considerably greater rate. The differences in the behavior during catalytic hydrogenation are explained.

Card 2/3

Petrov, G.I.

B-4

USSR/Physical Chemistry - Molecule, Chemical Bond.

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 357-.

Author : A.A. Petrov, G.I. Semenov, N.P. Sopov.

Inst :

Title : Studies in Region of Conjugate Systems. LXXIII. Question of Order of Bromine Addition to Vinylacetylene.

Orig Pub: Zh. obshch. khimii, 1957, 27, No 4, 928-933.

Abstract: The infrared spectra of 1- and 2-bromobutadiene-1,3, 1,2-dibromobutadiene-1,3, 4-chlorobutadiene-1,2 and two main fractions of vinylacetylene dibromides were studied. It was shown that in case bromine acted on vinylacetylene, all the 3 possible dibromides were forming, the allene (I) and the 1,3-diene dibromides prevailing. This confirms the conclusions arrived at earlier basing on chemical data (Petrov A.A. and others, Zh. obshch. khimii, 1950, 20, 708). The content of I in the mixture rises at the expense of II at the bromination of vinylacetylene, if

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PETROV, A.A.; PORFIR'YEVA, Yu.I.; SEMENOV, G.I.

Research in the field of conjugated systems. Part 74: Infrared spectra and reactivity of vinyl acetylene hydrocarbons. Zhur.ob. khim. 27 no.5:1167-1174 My '57. (MLRA 10:8)

Leningradskiy tekhnologicheskii institut imeni Lensoveta.
(Acetylene compounds--Spectra)
(Vinyl compounds)

PETROV, A.A.; PORFIR'YEVA, Yu.I.; SEMNOV, G.I.

Research in the field of conjugated systems. Part 75: Reaction of propargyl bromide with aliphatic aldehydes in S.N. Reformatskii's conditional reactions. Zhur.ob.khim. 27 no.5:1175-1178 My '57.
(MLRA 10:8)

1. Leningradskiy tekhnologicheskii institut imeni Lenseveta.
(Propyne) (Aldehydes)

Петров, А. А.

Distr: 4E43/4E20(1)/4E34 7

Preparation of hydroaromatic hydrocarbons by pyrolysis of acetates of secondary alcohols obtained from products of diene synthesis. *A. A. Petrov and N. P. Sopo* (Aviation Inst. Construct. Inst., Leningrad). *Zhur. Obshch. Khim.* 27, 1793-802 (1957); cf. C.A. 50, 8487g. The following cat-
 binols were prepd. by previously described technique (C.A. 47, 2735h): methyl(2-cyclohexen-1-yl), bp 93-9.5°, d₄ 0.9592, n_D 1.4842; ethyl(2-cyclohexen-1-yl), bp 104-4.5°, d₄ 0.9503, n_D 1.4832; 73% propyl(2-cyclohexen-1-yl), bp 118.5-14°, d₄ 0.9336, n_D 1.4806; 69.5% isopropyl(2-cyclohexen-1-yl), bp 106-7°, d₄ 0.9463, n_D 1.4830; 69.5% butyl(2-cyclohexen-1-yl), bp 131.5-2°, d₄ 0.9256, n_D 1.4796; 60.6% isobutyl(2-cyclohexen-1-yl), bp 131.5-2.5°, d₄ 0.9221, n_D 1.4776; methyl(6-methyl-2-cyclohexen-1-yl), bp 101-1.5°, d₄ 0.9466, n_D 1.4822; 68.5% ethyl(2-methyl-2-cyclohexen-1-yl), bp 108.5-0.5°, d₄ 0.9400, n_D 1.4830; methyl(2-methyl-2-cyclohexen-1-yl), bp 107-2.5°, d₄ 0.9492, n_D 1.4834; ethyl(2-methyl-2-cyclohexen-1-yl), bp 111.5-12°, d₄ 0.9400, n_D 1.4830; methyl(6-methyl-2-cyclohexen-1-yl), bp 106.2°, d₄ 0.9421, n_D 1.4834; ethyl(6-methyl-2-cyclohexen-1-yl), bp 116.5-17°, d₄ 0.9374, n_D 1.4828; methyl(2,5-dimethyl-2-cyclohexen-1-yl), bp 110.6-11.5°, d₄ 0.9348, n_D 1.4826; 76.7% ethyl(2,5-dimethyl-2-cyclohexen-1-yl), bp 118-9°, d₄ 0.9385, n_D 1.4851; 74.7% methyl(2,5-dimethyl-2-cyclohexen-1-yl), bp 118-10°, d₄ 0.9385, n_D 1.4850; ethyl(2,4-dimethyl-2-cyclohexen-1-yl), bp 120-7°, d₄ 0.9350, n_D 1.4876; methyl(2,5-enonmethylene-2-cyclohexen-1-yl), bp 91.5-2.5°, d₄ 1.0012, n_D 1.4636; ethyl(2,5-enonmethylene-2-cyclohexen-1-yl), bp 109-10°, d₄ 0.9888, n_D 1.5020. The preceding alcs. were acetylated with Ac₂O in presence of a drop of H₂SO₄, yielding

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Петров, А.А.; Софод, Н.Р.

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the respective acetates: b_m 101.5-11.5°, 0.9777, 1.4504; b_m 115-14°, 0.9665, 1.4608; b_m 121-2°, 0.9559, 1.4609; 84.5%, b_m 114-15°, 0.9610, 1.4582; 76%, b_m 127.5-88°, 0.9465, 1.4610, 79.1%, b_m 129.5-50.5°, 0.9445, 1.4603; 89%, b_m 107.5-103°, 0.9605, 1.4612; 68%, b_m 118-18.5°, 0.9586, 1.4590; 74%, b_m 109-5.5°, 0.9550, 1.4622; 70%, b_m 115.5-10.5°, 0.9509, 1.4611; 74.4%, b_m 113.5-16.5°, 0.9619, 1.4618; 68.6%, b_m 124.5-5.5°, 0.9536, 1.4628; 75.4%, b_m 119-20°, 0.9563, 1.4558; b_m 126-7°, 0.9625, 1.4600; 67.9%, b_m 125.5-0°, 0.9568, 1.4621; 72.4%, b_m 124-5°, 0.9524, 1.4718; b_m 109-5°, 1.0001, 1.4600; 61.4%, b_m 119-80°, 1.0184, 1.4780. The acetates were pyrolyzed at 400-600° by passage through a quartz tube filled with spirals of heat-resistant glass, yielding the following unsaturated compounds: 1-cyclohexen-1-ethane, b_m 66.5-7.5°, 0.8303, 1.4548; 67.7%, 1-methyl-2-(1-cyclohexen-1-yl)ethane, b_m 91.5-5°, 0.8392, 1.4735; 52.5%, 1-ethyl-2-(1-cyclohexen-1-yl)ethane, b_m 109.5-10.5°, 0.8418, 1.4740; 42%, 1,1-dimethyl-2-(1-cyclohexen-1-yl)ethane, b_m 100-7°, 0.8424, 1.4760; 46.1%, 1-propyl-2-(1-cyclohexen-1-yl)ethane, b_m 127-8°, 0.8408, 1.4780; 20.5%, 1-isopropyl-2-(1-cyclohexen-1-yl)ethane, b_m 118-19°, 0.8322, 1.4695; 68.2%, (E)-methyl-2-cyclohexen-1-yl)ethane, b_m 79-30°, 0.8303, 1.4558; 1-methyl-2-(E-methyl-2-cyclohexen-1-yl)ethane, b_m 100-4°, 0.8374, 1.4718; 60.6%, (Z-methyl-2-cyclohexen-1-yl)ethane, b_m 83-5°, 0.8384, 1.4702; 65.5%, 1-(E-methyl-1-cyclohexen-1-yl)-1-methylalkane, b_m 101.5-5.5°, 0.8309, 1.4748; 87%, (Z-methyl-1-cyclohexen-1-yl)ethane, b_m 87-90°, 0.8328, 1.4715; 79.3%, 1-methyl-2-(E-methyl-2-cyclohexen-1-yl)ethane, b_m 110-11°, 0.8412, 1.4770; 45.1%, (E,E)-dimethyl-2-cyclohexen-1-yl)-1-

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ПЕТРОВ, А.А.; ГОРДУ, Н.Р.

ethene, bp 68-73°, 0.8543, 1.4778; 42.2% 1-methyl-2-(2,5-dimethyl-3-cyclohexen-1-yl)ethene, bp 53.5-6°, 0.8606, 1.4822; 89.2% (3,4-dimethyl-3-cyclohexen-1-yl)ethene, bp 70.5-1.5°, 0.8460, 1.4785; 84.2% 1-methyl-2-(5,6-dimethyl-3-cyclohexen-1-yl)ethene, bp 87-7.5°, 0.8468, 1.4820; 42.3% (2,5-endomethylene-3-cyclohexen-1-yl)ethene, b. 71-4°, 0.9254, 1.5060. Pyrolysis of methyl(2,5-endomethylene-3-cyclohexen-1-yl)-carbonyl acetate gave an anomalous result, yielding mixed acetates of crotonyl and methylvinylcarbonyl acetates. Pyrolysis of the acetates over Pt-C at 350° gave mainly the expected aromatic hydrocarbons. The results indicate that dimer condensation of acrolein with piperylene yields mixed isomeric aldehydes with predominance of *o*-isomer; similar reaction with isoprene yields mainly (85%) the *p*-isomer. This is suggested by the fact that (2-methyl-3-cyclohexen-1-yl)ethene on dehydrogenation over Pt-C gave mainly *o*-Me-C₆H₄Et with some *p*-isomer, as evidenced by oxidation mainly to phthalic acid and small amt. of isophthalic acid. Similarly, dehydrogenation of (4-methyl-3-cyclohexen-1-yl)ethene, described above, gave a MeC₆H₄Et which oxidized mainly to terephthalic acid with a small amt. of isophthalic acid.

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Petrov, A.A.

Configured systems. LXXVI. Order of addition of bromine to alkenyl and isalkenylacetylenes, A. A. Petrov and Yu. I. Furlerova (Leningrad, Inst. Lemnigrapsk. Zash. Obshch. Khim. 27, 1806-13 (1957); cf. C.A. 52, 3681d. -Br (21.5 g.) in $CHCl_3$ with 13.2 g. $MeCH=CCH_2CH$ at -10° gave 84% 1,4-dibromo-1,2-pentadiene contaminated with 1,2-dibromo-1,3-pentadiene, b_p 66-76°, d_m 1.7926, n_D^{20} 1.5742, which treated with $MeOH-KOH$ lost 32% Br ion in 2 hrs. in the cold yielding 1-bromo-2-penten-1-yne, b_p 45-7°, 1.3785, 1.6210, and 1,2-dibromo-1,3-pentadiene, b_p 62-6°, 1.7630, 1.6710, neither of which was isolated in completely pure state. The initial dibromide heated with $HBr-Cu_2Br_2$ in Et_2O 5 hrs. gave 00% 1,2-dibromo-1,3-pentadiene, b_p 60-3°, 1.8070, 1.6670, which failed to lose Br in $MeOH-KOH$ in the cold. Bromination of $EtCH=CCH_2CH$ as above gave 1,4-dibromo-1,2-hexadiene (contaminated with probably 1,2-dibromo-1,3-pentadiene), b_p 85-95°, 1.6037, 1.6050, which with $MeOH-KOH$ in the cold in 2 hrs. gave a loss of 42% Br ion; heating the dibromide with $HBr-Cu_2Br_2$ in Et_2O gave 1,2-dibromo-1,3-hexadiene, b_p 88-90°, 1.7092, 1.6692. Similar bromination of $CH_3-CMeC:CH$ gave 1,2-dibromo-2-methyl-3-butyne, b_p 51-3°, 1.7655, 1.6310. Bromination of 3-methyl-3-penten-1-yne gave similarly a mixt. of 1,4-dibromo-3-methyl-1,3-pentadiene, 1,2-dibromo-3-methyl-1,3-pentadiene, and 3,4-dibromo-3-methyl-1-pentyne, b_p 70-85°, 1.6857, 1.6548, which in 4 hrs. in cold $MeOH-KOH$ lost 40% Br ion; heated with $HBr-Cu_2Br_2$, the dibromide mixt. gave mixed dibromides, mainly 1,2-dibromo-3-methyl-1,3-pentadiene.

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 HE 3d

Reaction of 1,3-butadiene with Br₂ in CCl₄

b.p. 65-7°, 1.6636, 1.5389. Bromination of Me₂CC(=CH)₂-C₂H₄ as above gave mixed dibromides, mainly 1,2-dibromo-3-*tert*-butyl-1,3-butadiene, b.p. 83-83°, 1.6286, 1.6239. Bromination of vinyl ethyl acetylene gave 1,2-dibromo-3-hexyne, b.p. 87-7.6°, n_D²⁰ 1.6472. Infrared spectra of the products are shown and the structural formulas are supported by these. While alkenyl acetylenes generally add Br in 1,4-positions and yield allene dibromides, the *tert*-Bu deriv. described above yields mainly the 1,3-diene dibromide.

G. M. Kosolapoff

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4E2c(j)
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4E3d

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PETROV, A.A.

Distr: 4E2j/4E2c(j)/4E3d

Conjugated systems. LXXVIII Order of addition of hydrogen halides to isopropylacetylene. A. A. Petrov and Yu. I. Buzhova (Leningrad Technol. Inst. Leningrad), *Zh. Obshch. Khim.* 27, 2076-81 (1957); *Ch. U.S.S.R.* 51, 1532-8; 52, 4468-9; preceding abstract. Shaking 8.8 g. isopropylacetylene with 20 ml. concd. HCl 3 hrs. gave 2.7 g. *trans-1,2-dibromo-1,2-dimethyl-2-butene*, b. 97-8°, d₄ 0.9640, n_D 1.4695, which reduced with excess MeOH-KOH lost but 5.5% Cl content in 1 hr. heated with 1,4-naphthoquinone in MePh chloroform solution, decomp. 188-9°. Shaking isopropylacetylene 5 hrs. with aq. HBr (d. 1.74) gave 6.7 g. *trans-1,2-dibromo-1,2-dimethyl-2-butene*, b. 84-5°, 1.3273, 1.5040, and 3 g. dibromide, 20% of Br content in 1 hr. in hot MeOH-KOH, and heated with 1,4-naphthoquinone, it gave *trans-1,2-dibromo-1,2-dimethyl-2-butene*, m. 170-70°. Treatment of vinylacetylene with aq. HBr as above gave mixed C₄H₇Br, b. 94-104°, 1.3704, 1.5070, which lost 46% Br in cold MeOH-KOH; this gave mainly *trans-1,2-dibromo-1,2-dimethyl-2-butene* and ozonolysis indicate the formation of much BrCH₂C(CH₃)=CH₂. Similar treatment of isopropylacetylene with aq. HBr gave also a mixt. of all possible isomeric adducts of HBr, b. 42-8°, 1.3233, 1.5068, which lose 48.4% Br in 1 hr. in cold MeOH-KOH; ozonolysis gave some BrCH₂Ac. Thus, isopropylacetylene and vinylacety-

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A. A. Petrov and I. P. ...
 give all isomeric adducts of HBr. Propenylacetylene,
 however, gives the adduct at the acetylenic link, forming a
 2-halo-1,3-pentadiene. Infrared spectra of the products are
 recorded. LXXVIII. Raman spectra and reactivity of
 vinylacetylenic hydrocarbons, A. A. Petrov, V. A. Kole-
 zova, and Yu. I. Forsteva. *Ibid.* 2081. The examn. of
 Raman spectra of selected vinylacetylenes indicates that
 the enhanced reactivity of the triple bond in respect to H
 and hydrogen halides may be connected with the high de-
 gree of polarisability of this bond. The following data are
 reported. $MeCH_2C\equiv CH$; CH_2 b. 46.5-7.5°, d_m 0.7203, n_D^{20}
 1.4348, Raman spectrum 3300(1), 3040(1), 3015(2), 2979(1),
 2949(1), 2922(7), 2100(15), 1830(8), 1616(10), 1441(8),
 1391(2), 1373(2), 1360(1), 1301(6), 1270(1), 1227(8),
 1115(1), 1028(7), 948(1), 822(7), 782(5), 637(2), 480-
 (7), 385(1), 367(2), 330(1), 287(1), 171(10) cm^{-1} . Infrared
 spectrum: 3300, 3040, 2885, 2341, 2915, 2857, 2116, 1661,
 1629, 1445, 1383, 1364, 1290, 1221, 1161, 1119, 1076,
 1028, 966, 843 and 729 cm^{-1} . $CH_2=CMeC\equiv CH$ b. 32-2.5°,
 5.7064, 1.4184, Raman spectrum 3300(2), 3103(6), 3027(4),
 2982(6), 2959(1), 2922(8), 2735(1), 2100(15), 2025(1), 1650-

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 2 May
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A.A. PETROV & Yu. I. PRIZR'eva

(1), 1612(12), 1444(4), 1429(1), 1387(10), 1372(2), 1284(9), 1264(4), 1010(5), 983(1), 882(5), 802(5), 763(9), 718(1), 616-10(0), 544(1), 524(8), 501(0), 200(6), 190(10) cm⁻¹, infrared spectrum 3300, 3108, 2994, 2907, 2832, 2874, 2114, 1623, 1451, 1412, 1379, 1272, 1230, 1174, 1098, 1015, 960, 903, 837, 782, 762 and 720 cm⁻¹. CH₂:CHC:CH₂ b. 59-9.5°, 0.7408, 1.4488, Raman spectrum 3101(2), 3014(6), 2917(12), 2336(4), 2235(20), 2094(1), 1606(15), 1539(2), 1409(8), 1377(3), 1291(10), 1166(5), 1032(3), 918(3), 746(0), 702(1), 677(3), 657(1), 621(7), 376(1), 363(4), 317(6) cm⁻¹, infrared spectrum 3115, 3058, 3030, 2941, 2857, 2257, 2208, 2076, 1855, 1809, 1445, 1418, 1379, 1295, 1167, 1009, 1020, 976, 920, 870, 745, 701 and 676 cm⁻¹. CH₂:CHC:CH₂ b. 83.5-84°, 0.7479, 1.4522, Raman spectrum 3110(6), 3038(8), 2983(4), 2848(3), 2823(3), 2330(4), 2230(20), 2196(4), 2088(1), 1606(15), 1582(3), 1460(1), 1435(1), 1414(3), 1391(4), 1377(2), 1291(10), 1166(5), 1067(3),

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2 May

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A. A. POKROV V YA. I. POKRIV'VA
 182(5), 142(5), 917(2), 730(2), 681(5), 496(1), 473(1),
 396(4), 334(1), 220(5) cm⁻¹; infrared spectrum 3115, 3040,
 2976, 2933, 2907, 2865, 2267, 2114, 1658, 1608, 1468, 1445,
 1422, 1381, 1323, 1295, 1187, 1071, 1038, 980, 919 and 780
 cm⁻¹; CH₂:CHC(CH₃)₂, Raman spectrum 3306(1), 3102(2),
 3012(4), 2997(6), 1608(5), 1408(4), 1288(4), 1091(3), 828(2),
 678(2), 678(2), 629(4), 615(4), 309(4), 219(4) cm⁻¹; infrared
 spectrum 3305, 3105, 3007, 3030, 2907, 2865, 2504, 2114,
 1658, 1610, 1412, 1387, 1241, 1096, 971, 929, 879 and 676
 cm⁻¹; RICH:CHC(CH₃)₂ b. 72-4°, 0.7425, 1.4351; CH₂:
 C(CM₂)C(CH₃)₂ b. 66.5-7.5°, 0.7584, 1.4320; CH₂:CHC-
 C(CH₃)₂ b. 108.5-60°, 0.7597, 1.4329; CH₂:CHC(CH₃)₂ b. 183-
 8°, 0.7741, 1.4555; CH₂:CHCH₂C(CH₃)₂ b. 42-8°, 0.728(16°),
 1.4185(16°); CH₂:CHCH₂C(CH₃)₂ b. 80-6.8°, 0.7630,
 1.4332. Provisional assignments of the vibrational fre-
 quencies are made in the group. O. M. Kosolapov.

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PM J

PETROV, A.A.; KOLESOVA, V.A.; PORFIR'YEVA, Yu.I.

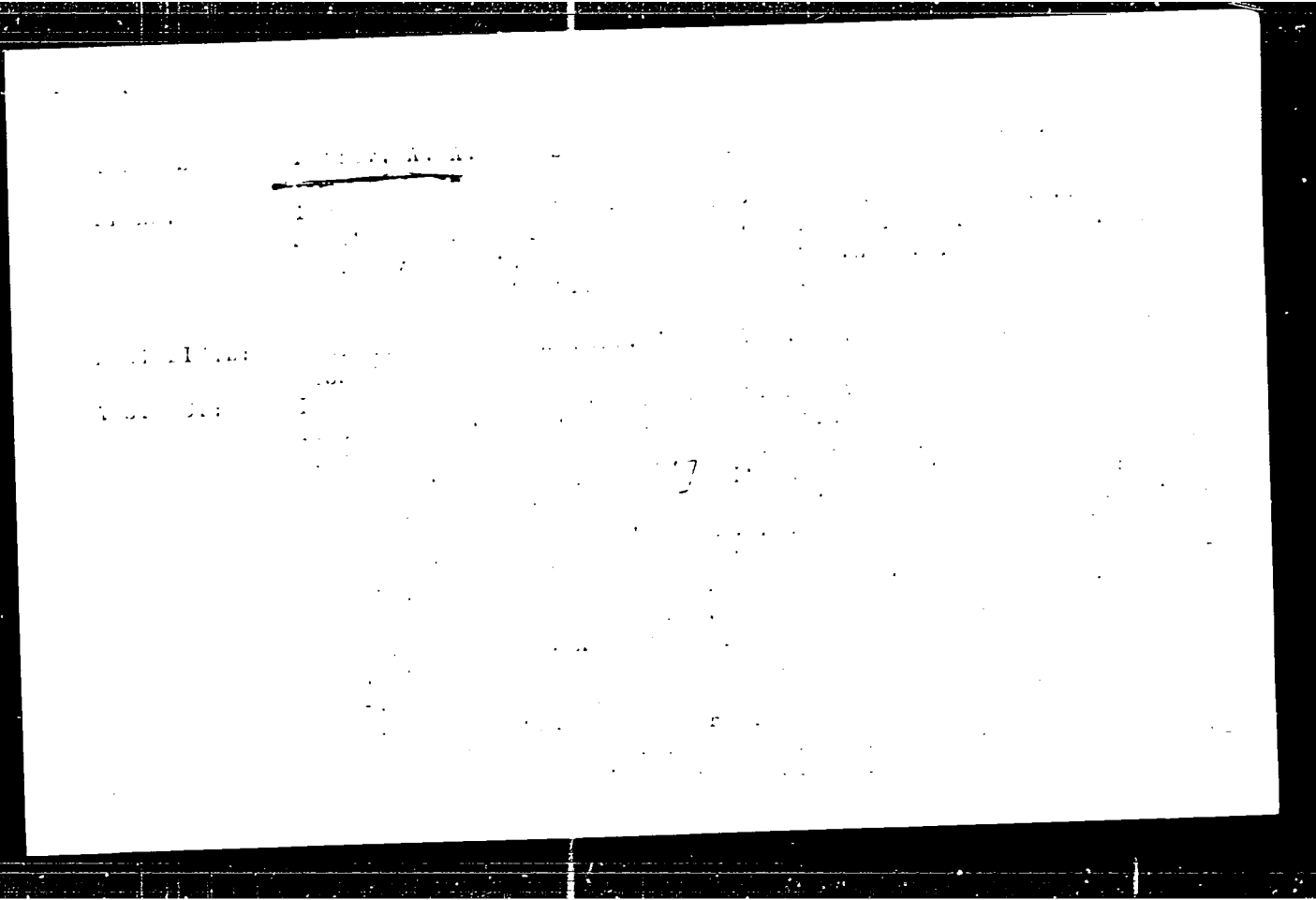
Studies in the field of conjugated systems. Part 78: Raman spectra
and reactivity of vinylacetylene hydrocarbons. Zhur. ob. khim. no.2:
2081-2087 Ag '57. (MLRA 10:9)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Butenyne)

PEROV, A.A.; RALL', K.B.

Conjugated systems. Part 81: Order of adding bromine to
dialkyl-vinylacetylenyl- carbinols. Zhur. ob. khim. 27 no.9:
2402-2406 S '57. (MIRA 11:3)

Leningradskiy institut aviatsionnogo priborostroyeniya.
(Bromination) (Alcohols)



Work Title : Leningrad Technological Institute imeni Lensovet

1. Acetylene-Infrared spectra
2. Vinylacetylene-Alcohols-Infrared spectra
3. Infrared spectra-Applications

1. 41

ADVISOR: [illegible]

TITLE: [illegible]

CHARACTER: [illegible]

ABSTRACT: [illegible]

DATE: [illegible]

AUTHORS

V. I. E. A. Shargin, Y. A. ... 317 10-10-2-11 16
Petrov, A. A. Maslov, L. K. Yashvina, I. V.

TITLE

The Action of Phosphorus Pentachlorides on Vinyl Acetylene and Isopropenyl Acetylene (Deystviye pyatichloristora fosfora na vinil'atssetilen i izopropenil'atssetilen)

PERIODICAL

Naukoye i obshchestvo. Khimiya i khimicheskaya tekhnologiya, 1968, Nr 2, pp. 335 - 338 (USSR)

ABSTRACT

In previous reports (REFS 1-3) it was proved that the sequence of the affiliation of various substances to the vinyl acetylene hydrocarbons depends on the structure of the latter and on the nature of the affiliated molecules. It was interesting to compare the results thus obtained to those concerning the affiliation of compounds to the vinyl acetylene hydrocarbons which react under a rupture of the P—halide-3-bond, above all of the phosphorus pentachloride. A survey of publications follows. The authors investigated the affiliation of PCl_5 to the acetylene mentioned in the title in a benzene² or CCl_4 -medium. The reaction is accompanied by a HCl-separation. In the case

Card 1, 4

The Action of Phosphorus Pentachlorides on Vinyl Acetylene and Isopropenyl Acetylene

SOV 1955-2-11, 28

of vinyl acetylene excess and increased temperature (30°), the reaction was limited to the chlorination of the vinyl carbon (mainly tetrahalides were formed). At low temperature phosphoric products are formed. The latter are rather viscous oils which consolidate after longer storage. They react with acetylene or alkyne, since they react with acetylene with a silver oxide solution. The double bonds of the double bonds (approximately 100%) are in the infrared spectra of the adducts. Phosphorus pentachloride and phosphorus pentachloride are chlorinated. The chlorination is accelerated with phosphorus pentachloride with vinyl acetylene in the case of a double bond. The other double bond in this side chain is not easily chlorinated if they are chlorinated. The analysis of the adducts showed that they contain phosphorus two of which are connected with the chlorine. The double character of the investigated phosphorus pentachloride is not extractable of the phosphorus pentachloride. Several adducts are formed during the reaction. The chlorine

Cont. 2, 4

The Action of Phosphorus pentoxide on Vinyl Acetylene and Isopropyl Acrylate

SOV KHIM. SVET. 1964, 11

It is well known that phosphorus pentoxide acts as a catalyst for the polymerization of vinyl monomers in the presence of $CH_2=CH-$. This is in agreement with the fact that the mentioned catalyst is known to be the cause of chlorination of aliphatic hydrocarbons and alkenes. The mechanism of the action of phosphorus pentoxide on vinyl monomers is still unclear. It is known that phosphorus pentoxide is a strong dehydrating agent. It was expected that PO_5 is affiliated in vinyl and isopropyl acrylate only to the acetylene group. The affiliation of phosphorus pentoxide to the vinyl group was expected and the results of the study are in agreement with this. The results of the study of the action of phosphorus pentoxide on vinyl and isopropyl acrylate are given below. There are no data on the action of phosphorus pentoxide on vinyl and isopropyl acrylate in the literature. There are no data on the action of phosphorus pentoxide on vinyl and isopropyl acrylate in the literature. There are no data on the action of phosphorus pentoxide on vinyl and isopropyl acrylate in the literature.

ASSOCIATED WITH: Kafeina, G. I., and G. I. Kafeina, Leningradskiy gosudarstvennyy universitet, Leningrad (Chair of Organic Chemistry of the Leningrad Institute of Technology, Leningrad)

AUTHORS: Petrov, A. A., Bazarova, N. A., Genisov, M. L. SOV 156-45-12-52

TITLE: The Reaction of Chloroprene with 2-Chloropentene-3 in the Presence of Tin(II) Chloride. Reaktsiya khloroprena s khloropentenom v prisutstve khloridov olova

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya 1948, No. 3, pp. 530-532 (USSR)

ABSTRACT: The polymerization of 2-chloropentene-3 with chloroprene in the catalytic action of $SnCl_2 \cdot 2H_2O$ was investigated. As a result a compound with the formula $C_9H_{14}Cl_2$ was formed in good yield:
 $C_9H_{14}Cl_2$ in %: C = 56.3, H = 3.1, Cl = 36.59 - 36.1
 t = 92°, d₄ = 1.048, n_D²⁰ = 1.4850, MR_D = 1.1.
 In reacting with water $C_9H_{14}Cl_2$ decomposes into acetic acid, chloroacetic acid and m-hydroxy succinic acid. The infrared absorption spectrum of this compound points to the absence of vinyl groups. In the unsaturated halogen derivatives chloro-

Card 1/2

SOV 156 58 1 32 52

The Reaction of Chloroprene with 2-Chloropentene in the Presence of Tin(II) Chloride

prene is replaced by 2-chloropentene. 4. There are 1 figure and 5 tables in the paper. The paper is in Russian.

ASSOCIATION: Institute of Organic Chemistry, Leningradskaya St. 29, Leningrad, U.S.S.R. Lensoveta (Chair of Organic Chemistry) of the Leningrad Technological Institute im. Len

SUBMITTED: January 1958

Card 2/2

SOV 711 11-11-11-11

Author: Petrov, A. A., Kaplin, B. S.

Title: Letter to the Editor. *Prilozheniya v reaktivnosti*, in the series of the Compound of Water and Alcohols With Vinylalkyl Acetylenes (O poryadke prisoedineniya k vinilalkilaksetilenu vol'nykh spirov)

Periodical: *Zhurnal obshchey khimii*, 1975, Vol. 26, no. 7, pp. 1999 - 2000 (1975)

ABSTRACT: In the investigation of the compound reactions of the vinyl alkyl acetylenes the authors found that the correct process proceeds contrary to their combination with water, alcohols and hydrogen halides. In the case of water and alcohols the hydrogen is bound to the second atom of the compound system, in the case of hydrogen halides to the first. This way the atoms of this system change their polarity in these reactions (see reaction process in the table). The correct process of the binding of hydrogen halides with the vinylalkyl acetylenes was dealt with earlier (refs 1,2). The structure of the acetone obtained in the hydration of the vinylmethyl- and vinylpropyl acetylene in the presence of HgSO₄ was proved by the hydration and the spectral analysis. The structure of the eters forming

Card 1/3

Letters to the Editor on the order of the compound
of Water and Alcohols With Vinylaldehydes

in the binding of the alcohols in the presence of a catalyst
with the vinylmethyl- and vinylethyl acetylenes were also
determined by spectral analysis as well as by oxidation with
diluted sulfuric acid into the corresponding ketones and
propyl ketones. The spectral analytical data show that the
ethers (I) also the ethers are formed as isomeric
products. There are 4 references, 3 of which are Soviet.

ASSOCIATION: Leningraiskiy tekhnologicheskiy institut imeni Lomonosova,
(Leningrad Tekhnologicheskii Institut imeni Lomonosova)

SUBMITTED: APRIL 7, 1948

Card 2/3

PATRICK A

AUTHOR: PATRICK A. A. ...

TITLE: Infrared Spectra of the ... LXXXII ...

PERIODICAL: ...

ABSTRACT: In earlier papers the infrared spectra ... triple bonds as well as of a ... linkage system ...

Page 1/2

Investigations in the Field of Combined Systems LXXXIII
Infrared Spectra of Vinylacetate- and Diethyl-...

... spectra of the ... and ...
... spectra of the ...
... vinylacetate 2-methoxy ...
... 2-methoxyacetone ...
... 2-methoxyacetone-1,3 ...
... butadiene-1,3 and 2-ethoxybutadiene-1,3 ...
... in the ... and intensity of ...
... correspond to the systems of short ...
... There are ...
... are shown.

ASSOCIATION: Leningrad Technological Institute (Institute of Chemistry)

SUBMITTED: December 30, 1954

AVAILABLE: Library of Congress

Card 2/2 1. Alcohols 2. Vinyl acetate 3. Infrared spectrum-Analysis

AUTHORS: Petrov, A. A. *Uchenye Zapiski Kazanskogo Universiteta*, 1967, 61, 1, 113-117.

TITLE: Investigations in the Field of Conjugated Systems
 (Isobutadiene-1,3-diene and its derivatives. LXV. The
 Structure and Reactivity of the Methyl Ester of Crotonaldehyde
 Carboxylic Acid. LXXVIII. Stroyeniye i reaktivnaya sposobnost'
 metil' estera vinnol'noy kisloty (Karginov, A. A.).

PERIODICAL: *Journal of Chemistry*, 1967, Vol. 61, No. 1, pp. 113-117. (USSR).

ABSTRACT: In the series of investigations of reactions at double and triple bonds with
 double and triple bonds the reaction of the a,b-unsaturated
 compound with the reagent was investigated. It was found that
 the reaction proceeds very slowly. However, a catalytic effect was
 clearly shown. The rate of substitution increases with increasing
 in vacuum. The infrared spectrum of the compound was
 was investigated in the infrared spectrum. The results show
 that the initial structure of the compound is not a
 other of the isomers. The results were compared with those of
 was obtained at the same time. The results of the study
 and M. V. Karginova, the authors express their appreciation to
 data obtained in the study of the structure of the compound.
 The results of the study of the structure of the compound
 place at the disposal of the scientific community.

Card 1/2

Investigations in the field of Conjugate Systems
LXXXVIII. The Structure and Reactivity of the α -Carboxylic Acids

1. Synthesis and properties of the α -carboxylic acids
2. Spectroscopic and structural studies of the α -carboxylic acids
3. Chemical reactions of the α -carboxylic acids
4. Stereoisomerism of the α -carboxylic acids

ASSOCIATED: α -Carboxylic acids, Conjugate systems, Reactivity

SUBJECTS: Chemistry

AVAILABLE: α -Carboxylic acids

Card 1

AUTHOR:

FRANK, A. A.

TITLE

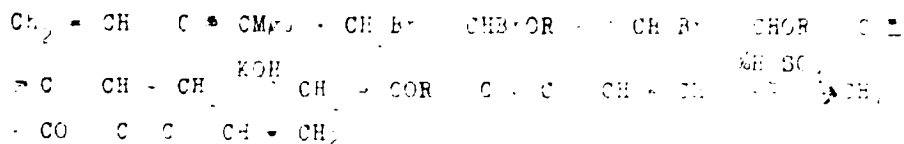
Investigation of the mechanism of the reaction of
divinylacetylene with $\text{R}_2\text{C}=\text{C}=\text{C}=\text{C}_2$
LXXXIV. Divinylacetylene and $\text{R}_2\text{C}=\text{C}=\text{C}=\text{C}_2$
P. A. Frank, *Journal of Polymer Science, Polymer Chemistry Edition*,
Vol. 12, p. 2211-2218 (1974).
LXXXIV. Divinylacetylene and $\text{R}_2\text{C}=\text{C}=\text{C}=\text{C}_2$
S. G. L. Franks, *Journal of Polymer Science, Polymer Chemistry Edition*,
Vol. 12, p. 2219-2224 (1974).

PERIODICAL:

Journal of Polymer Science, Polymer Chemistry Edition, Vol. 12, p. 2211-2218 (1974)

ABSTRACT:

The authors have studied the reaction of divinylacetylene with $\text{R}_2\text{C}=\text{C}=\text{C}=\text{C}_2$ and the synthesis of alkyl-substituted divinylacetylene from the reaction of



Card 1/4

Investigations Within the Field of B and Systems
LXXXIV Diene Compounds
I. Synthesis and Properties of 2-Alkylvinylacetates, Esters, Ethers,
of Methylvinylacetate

in divinylacetylene. It turns yellow and polymerizes on
storing. It easily forms crystallized forms with 2,4-dinitro- and
2,4-dinitrophenylhydrazine.
Above critical point the methylvinylacetone is
hydrated to methylbutylketone, which is identified as
crystalline 2,4-dinitrophenylhydrazone. The infrared spectral
investigation of this ketone points to the presence of
strong bands within the molecule. Ethyl- and butylethers
of trimethyl- and divinylacetylene was obtained from
vinylacetylene and the corresponding acetylenes.
The p-methoxy- and p-ethoxyvinylacetylene synthesized from
the latter was restricted.
There are 5 references, 2 of which are Soviet.

Card 3/4

Investigations Within the Field of ...
LXXXIV. Diene Compounds
I. Synthesis and Properties of ...
of Methylvinylacetylenes

ASSOCIATION: ...
(Theoretical Institute, Leningrad, USSR)

SUBMITTED: March 1958

Card 4/4

AUTHORS:

TITLE:

PERIODICAL:

ABSTRACT:

Card 1/1

Investigations in the Field of the Chemistry of Organic Oxides XIV On the Interaction of the α -Oxide With Ammonia and Amines

two possess a vinyl group. Unsaturated amino alcohols were produced and described. There are 1 table and 4 references, 4 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Leningveta (Leningrad Technological Institute imeni Leningveta)

SUBMITTED: April 4, 1957

Card 3/3

Investigation of the ...
Dissolved in ...

agents ...
state. The saponification of these esters with ...
the corresponding ...
hydrolysis ...
under the ...
acid ...
esters ...
layers ...
with ...
crystalline state ...
luted ...
be ...
which ...

Card 2, 3

Investigations of the Flight Recorder System LXXXV
Diene Halides With a Polyethylene

ASSOCIATION Leningradskiy Institut Aviatstroiennoy Promyshlennosti
(Leningrad Institute for the Manufacture of Aviation Instruments)

SUBMITTED April 1961

Card 3,3

7-21-51

AUTHORS: Petry, A. A. ~~Radomskiy, A. I.~~ et al. V. M. L.

TITLE: Investigations in the Field of Conjugated Systems (I. Ple. ~~Radomskiy~~ v. oblasti khimicheskoykh sistem' LXXXVI. Addition of Piperylene Hydrochloride to Isoprene LXXXVI. ~~Prilozheniya k piperilenu i isoprenu~~)

PERIODICAL: Zhurnal Obshchey Khimii, 1951, Vol. 21, No. 11, p. 1129-1132 (USSR).

ABSTRACT: In the present work the experimental results of the addition of piperylene hydrochloride (2-chloropentene-2) to isoprene is described. This hydrochloride differs favorably from the hydrochlorides of the most simple diene hydrocarbons by the fact that both allyl isomers are here of one and the same structure which reduces the number of possible isomers of the addition products by 50%. The selection of diene hydrocarbon was not made arbitrarily as in consequence of its position 1,4 the geranylenchloride isomer was to be expected, from which one could then pass over to the practically important isomers of citral, to the pseudocitronellol and the citronellol. The addition ex

Card 1/3

Investigations in the field of C₁₀ bicyclics, etc. LXXVII. Synthesis of 1,2,3,4-tetrahydro-1,2,3,4-dioxepine Hydrochloride to Isoprene

periments with a view to preparing a product which would react in the reaction to replace ammonia with a usual amine. The reaction of the formation of a mixture of telomers (products of telomerization) the yield of the initial addition products mainly depends on the duration of contact of the reagents and of the catalyst (=depth of the telomerization process). Only the starting product of piperylene hydrochloride to isoprene at a ratio of 1:1 was investigated; here telomers with open and cyclic end groups can occur. Thus the telomerization polymerization of these two basic substances was carried out in the presence of tin chloride. It showed that this addition takes place mainly in the 1,2 position and that as initial substance, preferably 1-chloro-1,2-dimethylcyclohexane-2,6-dione, is used. In the case of nitral, the 2,3-dimethylcyclohexane-1,4-dione was obtained. If crystalline derivatives were to be obtained, the synthesis of the 2,4-dinitrophenylpyrazolone Apseudo-ionone (1938) was synthesized by condensation with acetone. The 4,5-dimethylcyclohexane

Card 2/3

Investigations in the Field of Longwave Systems. LXXVII. Synthesis of Polyethylene Hydrochloride to Ippolito.

forms by hydration of the polyethylene hydrochloride. There are also some references to the work of S. G. ...

ASSOCIATION: Lenin University of Chemical Engineering and Technology (Lenin Engineering Institute) and Lenin State University.

SUBMITTED: April 10, 1958

Card 3, 3

AUTHORS:

V. I. ...

TITLE:

Investigation of the reaction of ...
various ... LXXXVII. ...
tion of α -chloro ...
LXXXVII. ...
press.

PERIODICAL:

Zhurnal ...
(USSR)

ABSTRACT:

To complete the ...
the halogen ...
the detailed papers by ...
others dealing with ...
author placed the problem ...
tion reactions of α -ethoxy ...
chloroprene. The formation ...
be expected as a final ...
prene with the α -halogen ...
products obtained after ...
ture interest. Their ...

Card 1/3

Investigations in the Field of Chlorinated Systems. LXXXVII. The Action of α -Chloric Ether and α -Ethyl Ether on $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$ and $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$

From this data it can be seen that within the limits of the α -chloric ether and α -ethyl ether, a regular increase of the boiling temperature as well as a decrease of the specific weight and refractive index can be found. The same holds true for the refractive indices for all ethers that form a homologous series; it is interesting to note that in the series of α -chloric ethers, a regularity of 0.001 is observed in the series of α -ethyl ethers. This fact was observed several times also in the case of α -chloric ether and α -ethyl ether. The structure of the products of the reaction of α -chloric ether with $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$ and $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$ is confirmed by means of the results of their elementary analysis in the analytical reaction with the aid of $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$. The α -chloric ether of α -methylphenyl with α -chloric ether and α -ethyl ether reacts $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$ OR $\text{R}=\text{CH}_3, \text{C}_6\text{H}_5, \text{C}_6\text{H}_4, \text{C}_6\text{H}_3$ and C_6H_2 .

It was also found that the α -chloric ether and α -ethyl ether taken in a ratio of 1:1 in the reaction were found to be in the fourth position of the ether system. Compounds containing unsaturated ethers and amines were not obtained from the products of this reaction. There are 10 products.

Card 2/3

Investigations in the Field of Synthetic Chemistry, *Journal of Organic Chemistry*, 1954, 19, 1000-1001.
 α -Chloric Ethers and α -Ethy. *Bulletin of the Chemical Society of Japan*, 1954, 27, 1000-1001.

tables, and 9 references, 2 of which are 3 vols.

ASSOCIATION: Leningradskiy Tekhnicheskii Universitet imeni Lenina
(Leningrad Technical Institute named Lenin)

SUBMITTED: May 24, 1954

Card 3/3

AUTHORS:

С.С. Соловьев

TITLE:

Известия Академии наук СССР, химическая серия, 1977, № 10, с. 2300-2304.
Исследования по синтезу 2-хлор-1,3-диалкил-5-нитро-1,3-дигидро-2H-имидазола
и 2-хлор-1,3-диалкил-5-нитро-1,3-дигидро-2H-имидазола
с заместителем в положении 2.

PERIODICAL:

Журнал химической промышленности, Vol. 1, No. 10, 1977
USSR

ABSTRACT:

In the literature for recent years there has been a number of
synthesis the problem of the absence of an adequate system
of some different substituents (Refs 1-3). In the
system has not been touched as opposed to the literature
various. The authors wanted to solve this problem by study-
ing the condensation of 2-chloro-1,3-dialkyl-5-nitro-1,3-dihydro-2H-
imidazole and of 2-chloro-1,3-dialkyl-5-nitro-1,3-dihydro-2H-
imidazole with propargyl aldehyde. It was found that in these
cases the formation of two isomeric
products (forms I and II) takes place, the
direction of the reaction being that which is determined

Card 1/3

Investigations in the Field of Chemical Systems. LXXXVIII. The Polymerization of 3-Chloropentadiene with Propylene Oxide and Propylene Oxide

the presence of the alkyl group. The results of the...
graphical separation of their mixture and the...
role played... in the oxidation...
mixture... the ratio between the...
monomer... separation of the...
the... of 3-chloropentadiene...
and... the rate of...
benzene... of 1:1. A further...
... the... chloropentadiene...
... will be attributed to the...
... This treatment of the...
... hexadiene...
... at the...
... in small...
... was obtained...
... as...
... If the...
... ethyl...
... the experimental...

Card 2, 3

Investigations in the Field of Conjugated Systems. LXXVIII. The Synthesis
of 3-Chloropentadiene 1,3 and 4-Chloropentadiene 1,3 With Propargyl Alkyne
hyde and Propionic Acid

that the orientation in the diene synthesis are dependent
on other factors than is the case in the substitution in
the benzene ring. Thus it was proved that in all condensations
the isomers having the alkyl group and the oxygen-containing
radical in the ortho position are dominating. There are
7 references 4 of which are Soviet.

ASSOCIATION: Leningradskiy Institut Khimicheskoy Fiziki
(Leningrad Institute of Aviation Instruments)

SUBMITTED: May 24, 1957

Card 5/3

AUTHORS: Petrov, A. A.; Shvarts, Ye. Y.; Kuznetsov, L. L.

TITLE: Investigations in the Field of Combined Systems. Issue
vaniya v oblasti stvryaznennykh sistem' LXXXIX. The Influence
of Various Factors on the Yield of Geranyl Chloride in the
Reaction of Isoprene With Its Hydrochlorides. LXXXIX. Vliyaniye
razlichnykh faktorov na vykhod geranilkhlorida v reaktsii
isoprena s yego gidrokhlordami)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, No. 3, pp. 1117-1121
(USSR)

ABSTRACT: In many investigations of synthesizing geranyl chloride as
a good yield special attention was paid to the reaction of
the 1-chloro-3-methylbutene-2 to isoprene. Its production
offered good prospects to the perfume and vitamin industry.
This was the reason for many laboratories, such as the
author's, to investigate the reaction of the diene hydrocarbons
with their hydrochlorides in order to learn on which con-
ditions the best yields of geranyl chloride and its derivatives

Card 1/3

Investigations in the Field of Combined Systems. LXXXIX. The Influence of Various Factors on the Yield of Geranyl Chloride in the Reaction of Isoprene With Its Hydrochlorides

would be realized. The final product of the reaction of isoprene hydrochlorides to isoprene is a complex mixture of halogen derivatives of the formula $C_{10}H_{16}Cl_n$. In this paper only the fraction of terpene chlorides of the composition $C_{10}H_{16}Cl_2$ was investigated. The telomerization reaction of isoprene with its hydrochlorides was investigated in the presence of various catalysts of various nature and zinc chloride proved to be the best. It was found that the character of the telomerization depends on the nature of the catalyst. Tin chloride promotes the formation of the higher telomers besides geranyl chloride, tin chloride that of terpenyl chloride. It was shown that in using tin chloride and zinc chloride catalysts the yield of geranyl chloride depends first of all on the depth of the conversion and that with the same depth of conversion secured it does not depend on the nature of the catalyst, the nature of the halogen derivatives, the temperature, the ratio of reagents, and only a little on the nature of the solvent. The composition of the mixture of terpene chlorides formed in the tel-

Card 2/2

PETROV, A.A.; KUPIN, B.S.

Order of water and alcohol addition to vinyl alkylacetylenes. Zhur.
ob. khim. 38 no.7:1999-2000 31 1988. (MIRA 11:9)

Leningradskiy tekhnologicheskii institut imeni Lenooveta.
(Acetylene)

ABSTRACT: The investigation of the structure of the...
 TITLE: Investigation of the structure of the...
 AUTHOR: [Name obscured]

SYNOPSIS: The investigation of the structure of the...
 USSR

1. The investigation of the structure of the...
 of the most...
 part of a...
 are...
 The...
 corresponds to the...
 On the other hand, the number of the...
 from...
 to the...
 the...
 expected...
 the...

Investigations in the Field of Conjugate Systems.

1977-1983-61

1. Synthesis of the 1-Chloropentene-1 to Diene

attractive, since their results promised to be simple and convincing. It was shown that the above reaction proceeds in two main directions under the formation of 1-chlorine-5-methyl octadiene-1,6 (1,2 affiliation), and 1-chlorine-7-methyl octadiene-2,6 (1,4 affiliation), in approximately equal quantities. A by-product (20%) is formed as well, apparently a 1-methyl-2-chloro-ethyl cyclohexene-4. The hydration of the mentioned main products leads to 1-methyl octane. The 5-methyl heptadiene-2,6 al was obtained from 1-chlorine-5-methyl octadiene-2,6 according to Somme (Somme). In the strength of the comparison of the results obtained by the affiliation reaction to the analogous ones obtained in the case of isoprene considerable influence of the structure of the diene hydrocarbon on the affiliation process of the halogen derivatives could be found. There are 1 figure, 1 table, and 7 references, 7 of which are Soviet.

1. CITATION: Leningradskiy tekhnologicheskii institut imeni Leningeta
(Leningrad Institute of Technology imeni Leningeta)

1977, 3

... 1981 ...
... 1981 ...

Page 0 of 1

... 1981 ...

Page 3/1

Reisov, I. M., Kazantsev, N. I.

Reaction of divinyl with 2-chloroprenyl
chloroprenyl 1,2-dichloroprenyl
prenyl to divinyl 1,2-dichloroprenyl
k divinilu

1961: Zhurnal obshchey khimii, 1961, Vol. 31, No. 10, p. 2000
(USSR)

1961: Compared with the reaction of divinyl with 2-chloroprenyl
vinyl with chloroprenyl 1,2-dichloroprenyl
complicated due to the tendency of chlorine
towards rearrangement. Reaction of divinyl
with divinyl in the presence of chlorine
noted. It is demonstrated that, in the
above mentioned reaction, the yield of
considerably lower, depending on the
Chloroprenyl affiliates itself to the
1,2-position, but to 1,4-position in the
to 1,4-position (Scheme), the 1,4-position

...tions in the field of Bond... DI. of 11... SOV/79-28-8-3/66
of Chloroprenyl to Divinyl

Diene-2,6-d1, participated in the form of 2,6-d1...
hydrazones. From the spectroscopic analysis...
products of C₁₀H₁₅Cl which can be...
the reaction products to be only a small...
mer which are not formed in accordance...
rule upon the affiliation of the halogen...
partial migration of the 1,2-product...
double bond occurs. The expected cyclic...
propyl-cyclohexene-3, was obtained, then...
quantities, from the corresponding alcohol...
phosphorus trichloride. There are 11...
of which are Soviet.

LOCATION: Leningradskiy tekhnologicheskii institut imeni L. D. Lavrent'eva
(Leningrad Institute of Technology imeni L. D. Lavrent'eva)

DATE: August 15, 1957

... 7, 2

PETPOV, A.A.; PORFIR'YEVA, Yu.I.; YAKOVLEVA, T.V.; MINGALEVA, K.S.

Conjugated systems. Part 42: Order of addition of iodine to vinyl
acetylene hydrocarbons. Zhur.ob.khim. 28 no.9:2320-2324 S '58.
(MIRA 11:11)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Iodine) (Acetylene)

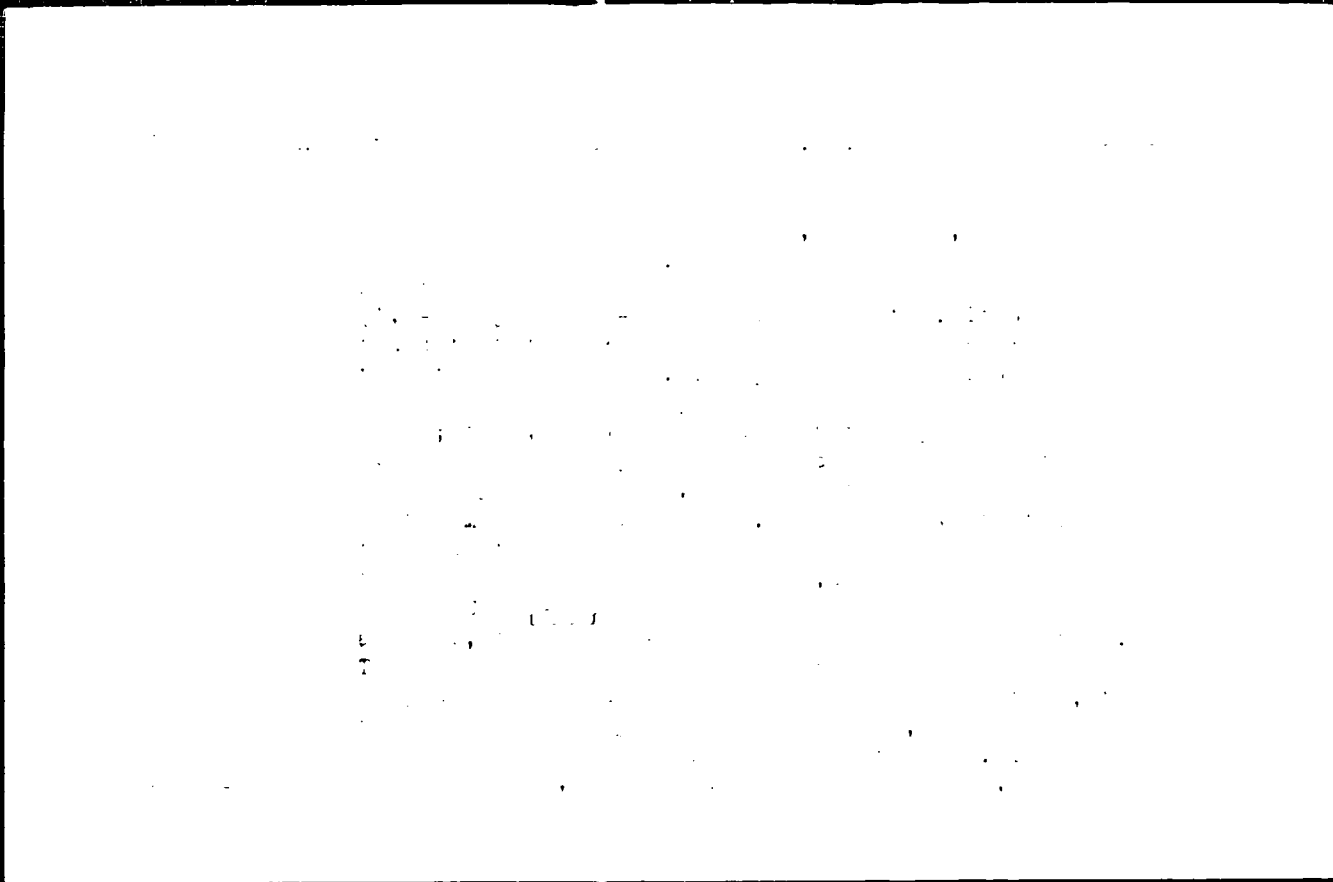
PETROV, A.A.; PORFIR'YEVA, Yu.I.; SEMENOV, G.I.

Conjugated systems. Part 43: Order of addition of alkyl hypobromites
to vinyl alkyl acetylene. Zhur.ob.khim. 28 no.9:2325-2328 S '58.

(MIRA 11:11)

1. Leningradskiy tekhnologicheskij institut imeni Lensoveta.
(Bromites) (Acetylene)

viniletilenoksidov

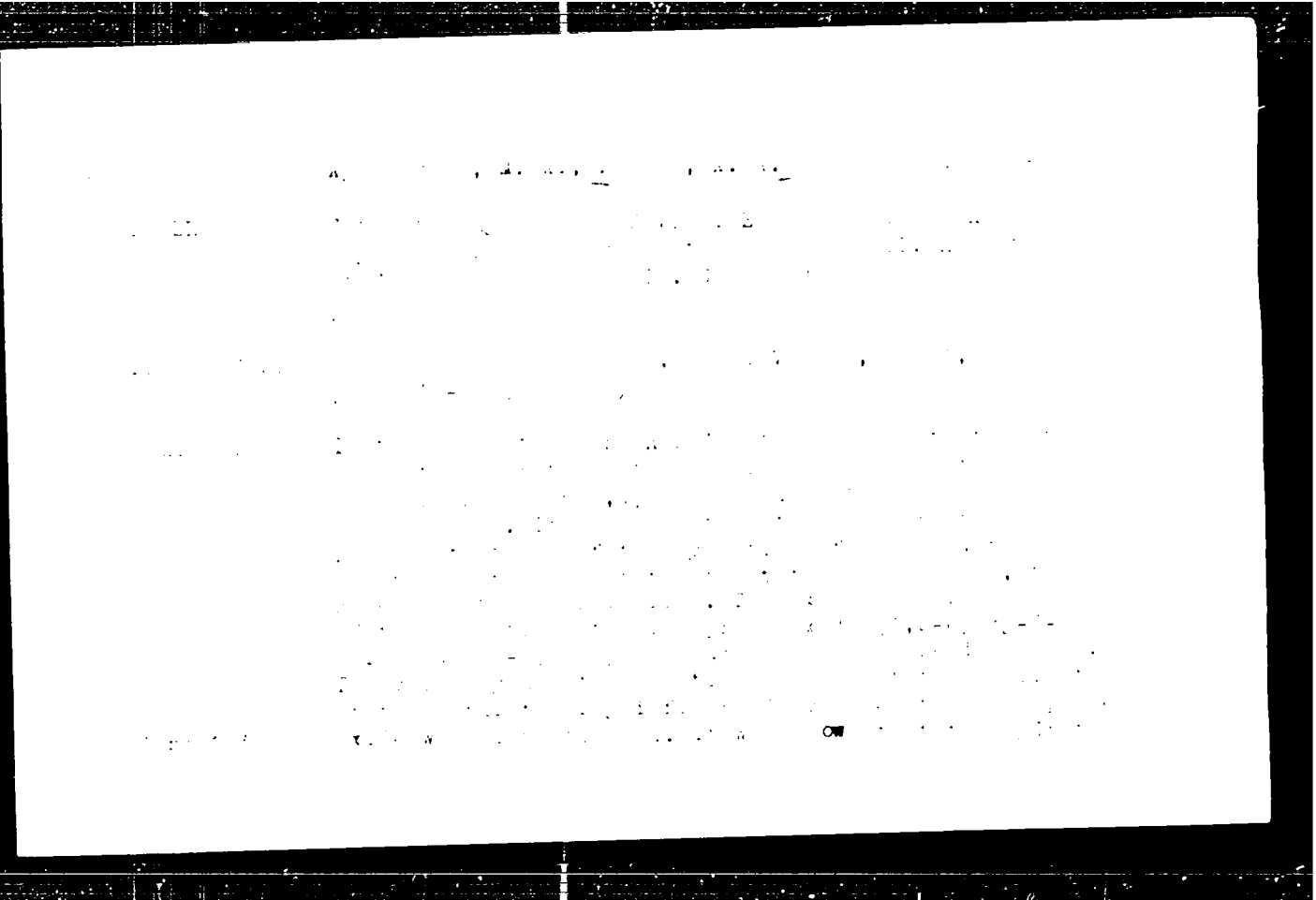


"APPROVED FOR RELEASE: 07/19/2001

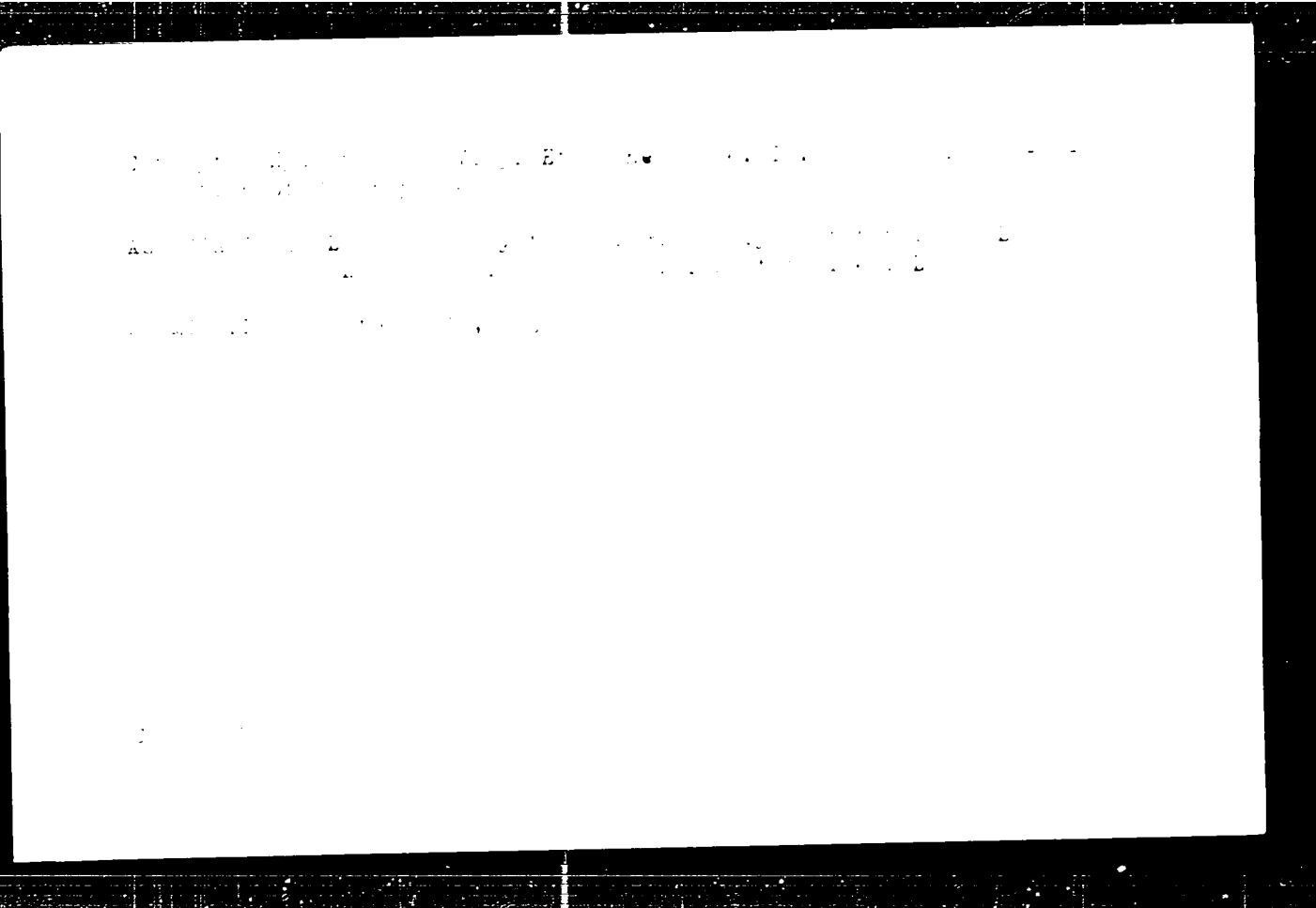
CIA-RDP86-00513R001240410011-7

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001240410011-7"



Soviet references.



AUTHORS:

Petrov, A. A. ...
Zemskov, M. L.

TITLE:

Investigations in the Field of Polymeric Systems Based on a
viblasti sojryazhenyykh sistem ...
With Its Hydrochloride, and the ...
XIV. Reaktsii ...
... hidrokloridov ...

PERIODICAL:

Zhurnal ...
USSR

ABSTRACT:

... was ...
the allyl type ...
of ...
mixtures ...
affiliated ...
mixture depends primarily on the nature of the ...
... The ...
structure of the ...
several other examples. The reaction of polyene ...
hydrochloride ...

Card 1

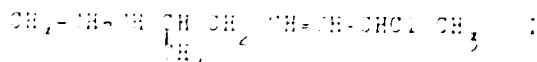
Investigations in the Field of Copolymer Systems
XCV. Reactions of Piperylene With the Hydrochloride,
and the 1,4-Hydrochloride of Isoprene

the transition formation of the compound $C_{10}H_{12}Cl_2$, whereas
in the reaction of the same diene with the isomer of the
the 1,4-hydrochloride of isoprene. In these methyl-terminated
considerably more higher polymers are formed under equal
conditions. In both cases the ratio between the addition of
higher polymers depends on the ratio of monomer addition. Thus,
it was found that with primary halogen derivatives of the allyl
type a deeper polymerization takes place than in the secondary
ones. The results of the allylation of piperylene and the
piperylene in the allylation depend on the ratio of monomer
product will be a function of the ratio of monomer addition. The
content of higher polymers depends on the ratio. The empirical
formula of this product corresponds to the formula $C_{10}H_{12}Cl_2$
and contains all of the elements of the diene. Further investigation
pointed to a polymerization of the diene. The infrared
spectrum points to the presence of a double bond in the
well as to the presence of a chlorine atom. The structure of the
initial product is the allylation of a diene. The ratio of monomer

Card 2/4

Investigations in the Field of the ...
XCV Reactions of Piperylene With Its Hydrochloride
and the 1,4-Hydrochloride of Isoprene

proved by their polymerization, hydrogenation and with Nitrophenol
according to Dumas, and finally by the infrared spectra.
All data obtained permit to assume that the main product of
affiliation, more than 80% of 2-chloro-pentene-4 to
piperylene is the 2-chloro-2-methyl-1,3-butadiene (1,7)



There are ... and 4 Soviet references

ASSOCIATION: Leningradskiy tekhnicheskii institut imeni Leningra
Leningrad Tekhnicheskii Institut imeni Leningra

SUBMITTED: December 1, 1957

Card 3,3

PROB. ...
Interaction
Vinylacetylene

PERIODICALS

DOI: ...
(1968)

ABSTRACT

In the works carried out, the authors ...
one of which is not ...
vinyl acetylene hydrocarbons with ...
described (refs 1,2). Their reactions ...
reagents, in this case with diazomethane, are not very
interesting (refs 3,4). Diazomethane easily reacts with
acetylene under formation of pyrazole (ref 5). With ethylene
it produces pyrazoline, however, in a low yield. The authors
could not find data on the order of the connection of
diazomethane to vinyl acetylene in technical literature. The
formation of vinyl pyrazole could be expected in connection
with the strong tendency of the triple bond to the
connection of nucleophilic reagents. However, experiments
showed that the connection takes place only in the ...

Card 1/3

Interaction Between Vinyl Acetylene and Diazotetrazole

binding and that from it... structure of this matter was proved... by means of the method... hydrogen acetylene end grouping... 2) A considerably intensive band of the... spectrum, moreover, an intensive band of CH... acetylene hydrogen... and... frequencies characteristic of... between 900 and 1000 cm^{-1} ... intensive band 1126 cm^{-1} corresponded to the double binding. In order to solve the position of the double binding in the cycle the authors recorded the infra-red... In this case a higher frequency... double bindings. Due to this reason... double and the acetylene binding takes place in... ethinyl pyrazoline since reduced values of the indicated frequencies correspond to these two bindings. These...

Card 2/3

Interaction Between Vinyl Acetylene and Diazomethane

found in the present investigation that vinyl acetylene reacts with diazomethane as a conjugated system although diazomethane is connected only to the double binding. The order of connection corresponds to the assumed polarity of vinyl acetylene and to the nucleophilic character of diazomethane. There are 1 figure and 10 references, 4 of which are in Russian.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Leninskogo (Leningrad Technological Institute named Lenin)

PRESENTED: December 2, 1967, by B. A. Arshinov, Institute of Chemical Sciences AS USSR

144

SJ720-103-2-24

AUTHORS:

Petrov, A. A., Mingaleva, K. S., Kupin, B. S.

TITLE:

Dipolar Moments and Reactivity of the Vinyl Acetylene Hydrocarbons (Dipol'nyye momenty i reaktivnaya sposobnost' vinilatsetilenovykh uglevodorodov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1968, Vol. 133, No. 2, pp 298-300 (USSR).

ABSTRACT:

The investigation of the addition reactions of the vinyl acetylene hydrocarbons lead to the conclusion that in the molecules of the vinyl acetylene and n-alkyl acetylenes (III) the electron cloud is displaced in the direction of the triple bond (Ref. 1). However, in the case of the vinyl aryl acetylenes (II) and some isoalkenyl acetylenes (IV) a double polarization of their molecules had to be assumed which is increased in the one or the other direction depending on the nature of the addenda: in the interaction with the hydrogen halides the order of addition proved an electron displacement in the direction of the triple bond (Ref. 2), however, in reactions with bromine, water and alcohols it was the direction of the double bond (Refs. 3,4). This twofold reactivity could have its cause in the weakening

Card 1/4

SIV 11-12-1957

Dipolar Moments and Reactivity of the Vinyl Acetylene Hydrocarbons

of the polarity of the enic system due to a partial electron displacement in one direction which is contrary to the usual displacement in the β,γ -enic system (III, IV). Some physical properties of the vinyl alkyl acetylenes tend to show such a polarization (Scheme). The authors measured the dipolar moments of 7 vinyl alkyl acetylenes with the following alkyl groups: CH_3 -, C_2H_5 -, C_3H_7 -, C_4H_9 -, C_6H_5 -, C_6H_4 -, and C_6H_4 -, as well as the cis- and trans-propenyl acetylenes, the iso-propenyl acetylene and the β -tert.butyl-vinyl acetylene, and, for the reason of comparison, also the moment of the phenyl acetylene. The following results were obtained: 1) The dipolar moments of the vinyl methyl and isopropenyl acetylenes are considerably lower than that of vinyl acetylene (0.17 D). This is due to the electron displacement in the opposite direction to the non-substituted vinyl acetylene was experimentally proved. 2) The dipolar moment increases a little with the increase of the carbon radical, but then remains about constant. 3) In the cis- and trans-propenyl acetylenes the electrons are displaced in the same direction as in the non-substituted vinyl acetylene.

1. Dipole Moments and Reactivity of the Vinyl Acetylene Hydrocarbons

The Bekker-Natan effect can not be directly proved in the molecule of isopropenyl acetylene. Although *n*-tert-butyl vinyl acetylene has a higher dipolar moment than isopropenyl acetylene this dipolar moment is close to that of vinyl butyl acetylene. Thus, the measurement results of the dipolar moments of vinyl acetylene hydrocarbons proved the concept of the reaction mechanism of the addition in the places of the conjugated triple and double bond, as earlier proposed on the basis of chemical characteristics. There are 2 tables and 10 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet
(Leningrad Technological Institute imeni Lensovet)

PRESENTED: July 4, 1968, by G. A. Arbuzov, Academician.

5(3)

AUTHORS:

Petrov, A. A., Ruzimova, M. A., Genes, V. M. L. SOV, 1966-5, p. 127-132

TITLE:

The Telomerization of α -Chlorobutadiene-1,3 With Piperylene Hydrochloride (2-Chloropentene-3) (Telomerizatsiya α -khlorbuta-diyena-1,3 s hidrokhloridom piperilena (2-khlorpentenom-3))

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1966, Nr. 1, pp. 124-126 (USSR)

ABSTRACT:

The present article shows that the 3,4 addition takes place, above all, between 2-chloropentene-3 and α -chlorobutadiene. The six compounds possible are listed. In view of the hydrogenation (of methyl stane) the low yield of Sommelet's reaction, the bromination according to Kaufman (only one double bond reacts), the ozonization (above all acetic acid and some α -methylsuccinic acid, almost no chlorine-substituted acids), and on the basis of the (illustrated) infrared spectrum it is stated that the compound $CH_2=CH-CH-CH-CH_2-CHCl-CH=CHCl$



is formed with a small admixture of $CH_2=CH-CH-CH-CH_2-CH=CH-CHCl_2$

Card 1/2

The Telomerization of a Chlorostyrene With Piperidine Hydrochloride
(2-Chloropentene)

SOV. KHIM. 1971, 11, 177-182

This polymerization reaction was studied with its substituted vinyl monomers. For the analysis of the telomers $C_7H_{11}Cl_2$, $C_8H_{13}Cl_2$, $C_9H_{15}Cl_2$, $C_{10}H_{17}Cl_2$, $C_{11}H_{19}Cl_2$ and $C_{12}H_{21}Cl_2$ was investigated. Substituted telomers were obtained with 40% allylic where- as substituted telomers with only few allylic groups. Thus, the synthesis of the telomers is accompanied by a radical allylic rearrangement particularly in the terminal group $-CH_2-CH=CH_2$. The laboratory technological data for the operation are listed. There are 1 figure and 2 Soviet references.

ASSOCIATION: Kafedra organicheskoy khimii Leningradskogo tekhnicheskogo instituta im. Lenina
(Chair of Organic Chemistry of Leningrad Technical Institute imeni Lenina)

SUBMITTED: July 17, 1971

Card 2, 2

Authors: Petrov, A., Lazovleva, T.V. and Kormer, V.A. 507/51-7-2-26/34

TITLE: Infrared Spectra of Certain Di-Substituted Allene Hydrocarbons
(InfraKrasnyye spektry nekotorykh dvuzameshchennykh allenovykh
slovoformov,

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 2, pp 267-271 (USSR

ABSTRACT: The authors obtained the infrared transmission spectra of the following
nine allenes:

heptadiene-2,3 (curve 1 in a figure on p 268);

nonadiene-2,3 (curve 2);

7-methyloctadiene-2,3 (curve 3);

6,6-dimethyloctadiene-2,3 (curve 4);

octadiene-3,4 (curve 5);

nonadiene-3,4 (curve 6);

7-methyloctadiene-3,4 (curve 7);

decadiene-3,4 (curve 8);

7,7-dimethyloctadiene-3,4 (curve 9).

The frequencies of the nine compounds are listed in a table on pp 269-270.

These hydrocarbons were prepared by reaction of lithium alkyls and
vinylalkylacetylenes. The spectra were recorded by means of an

Infrared Spectra of Certain Di-Substituted Allene Hydrocarbons

IKS-14 spectrophotometer using an NaCl prism up to 1800 cm^{-1} and an LiF prism for higher wave numbers. The samples were in the form of layers 0.05 mm thick. The most characteristic and intense bands observed in the spectra of all these hydrocarbons were the bands due to the allene group at 1960-1965 cm^{-1} and due to non-planar deformational vibrations of the group $\text{C}=\text{C}=\text{C}-\text{H}$ at 870-875 cm^{-1} . Other absorption bands are briefly discussed. There are 1 figure, 1 table and 4 references, 1 of which is Soviet, 1 translation from English into Russian and 1 reference.

SUBMITTED: February 23, 1969.

5.3100

67159

AUTHORS: Petrov, A.A. and Karoyeva, T.V.

UDC 547.71.01.01

TITLE: On the Hydrogen bond¹ in acetone dimers.

PERIODICAL: Optika i Spektroskopiya, 1969, Vol. 7, No. 1, p. 51-53 (1968)

ABSTRACT: Hydrocarbons with an end acetone group can readily exchange a hydrogen atom for a methyl one. The authors have shown that (ketone). One would expect also that compounds with an end acetone group might form complexes with amines. It is noted that the authors obtained infrared spectra of certain tertiary amine-acetone dimers with the following general formula: $R_3N-(CH_2)_n-C(=O)CH_3$ ($n = 1, 2, 3, 4, 5$). The spectra were measured by means of an IR-18 spectrometer with LiF and NaCl prisms. Some of them are shown in a figure on p 51d where curves 1-5 represent respectively: dimethylamine-1, diethylamine-2, diethylaminopentane-4, piperidine-3, piperidine-pentane-4, diethylaminobutene-1-octane-7. The amines were prepared according to the techniques described earlier (ref. 1-3). In all cases the authors found a band near 3300 cm^{-1} in all cases a broad band at 110 cm^{-1} (ref. 1-3) on p 51d curves 1-5. The latter band is attributed to the valence

card 1/2

4

1(1), (4), 24(7)

SOV 48-11-10-1111

AUTHORS: Petrov, A. A., Yakovleva, I. V.

TITLE: Infrared Spectra and the Structure of the Products of the Telomerization of Diene Hydrocarbons With Halogen Derivatives

PERIODICAL: Izvestiya Akademii Nauk SSSR. Seriya Khimicheskaya, 1977, Vol. 23, Nr 10, pp 1217-1218 (USSR)

ABSTRACT: The authors had already previously found that diene-hydrocarbons react easily with halogen derivatives in the presence of Ti-, Zn-, Fe- and other metal chlorides. This results in 1,2- and 1,4 products, the structural determination of which is not without certain difficulties. For the structural determination of these telomers the authors used infrared spectra in that they determined the intensity of the bands of valence oscillations of short bonds, the corresponding deformation oscillations within the range $800-1000\text{ cm}^{-1}$, and the valence oscillation bands ($=\text{C-H}$, 3030 cm^{-1} for the harmonic vibration with $\nu = 6100\text{ cm}^{-1}$). In the simplest case two products of the telomerization $\text{C}_8\text{H}_{13}\text{Cl}$ were obtained in the telomerization of divinylchloride and its hydrochlorides, the structure of which could be determined

Card 1/2

SOV. 48-17-10-17

Infrared Spectra and the Structure of the Products of the Polymerization of
Diene Hydrocarbons With Halogen Derivatives

... of $CH_2=CH-CH_2-CH_2-CH_2-CHCl-CH=CH_2$ and
 $CH_2=CH-CH=CH-CH_2-CH_2-CH=CH-Cl$. In some cases, ...
... polymerization of 3-chloropentene-3 with isoprene, ...
... 1,4-addition were obtained (yield ...). In ...
... $-CH-CH-$... be distinctly identified. ...
... of infrared spectroscopy by the problem of the practical ...
... of telomers produced from allyl-isomers ...
... solved; ... in the analysis of telomer mixtures ...
... obtained by the application of this method. There are
... Soviet reference ...

Chem. ...

SOV, 46-23-10-1-10

AUTHORS: Petrov, A. A., Yakovleva, T. V.

TITLE: The Infrared Spectra and the Structure of the Addition Compounds of Various Substances to Vinyl Acetylene Hydrocarbons

PERIODICAL: Investiya Akademii nauk SSSR. Seriya fizicheskaya, 1973, Vol. 1, Nr 10, pp 1226-1227 (USSR)

ABSTRACT: Petrov et al. in a number of earlier papers already dealt with investigations of addition reactions to vinyl acetylene hydrocarbons in electrophilic, nucleophilic, and radical reagents (Refs 1-8). The addition compounds were 1,3-diene-, acetylene-, and allene-compounds. They all had very characteristic bands in the infrared spectrum: 1600 cm^{-1} , 2100 or 2200 cm^{-1} and 1960 cm^{-1} . For the determination of structure, above all the valence- and deformation vibrations of the CH group were used. The addition reaction of bromine to non-substituted vinyl acetylene furnished two addition compounds: one low-boiling (1558 and 1621 cm^{-1} and 928 and 969 cm^{-1}) and one high-boiling one (1960 cm^{-1}). The structures of the two latter compounds determined as being $\text{CHBr}=\text{CBr}-\text{CH}=\text{CH}_2$ and $\text{CHBr}=\text{C}=\text{CH}-\text{CH}_2\text{Br}$, a result that was confirmed by chemical methods. Also small quantities

CONT 1/3

SOV, 48-23-10-11, 12

The Infrared Spectra and the Structure of the Addition Compounds of Various Substances to Vinyl Acetylene Hydrocarbons

of the third possible isomer (3300 cm^{-1}) were found, which had the structure $\text{CH}_2\text{C}=\text{CHBr}-\text{CH}_2\text{Br}$. The addition of bromine to vinyl alkyl acetylene gave $\text{R}-\text{C}\equiv\text{C}-\text{CHBr}-\text{CH}_2\text{Br}$ and $\text{R}-\text{CHBr}-\text{CH}=\text{C}-\text{CHBr}$. In the following some further results obtained by earlier investigations (Refs 4,6,7,8) are briefly discussed. Structures with acetylene groups at their ends may be determined with particular reliability by means of infrared spectra, because within the range of CH-valence vibrations of this group (3300 cm^{-1}), no other frequencies are found; an identification of allene compounds according to the frequency 1960 cm^{-1} is, however, very difficult. Determination of 1,3-diene compounds according to the frequencies in the range of $1640-1720\text{ cm}^{-1}$ is also difficult because in this range there lie also the compounds which are characteristic of some acetylene compounds. There are 10 Soviet references.

Card 2/2

TITLE :

Addition

SYNOPSIS :

addition

Card 1 of 1

Investigation of the Field of Conjugated Quinones. Part 2. *Journal of Polymer Science*
XVII. Addition of vinyl groups to the quinone ring system. *Journal of Polymer Science*
1964, 13, 1001-1010.

The authors obtained the following results: They have shown that
of addition of vinyl groups to the quinone ring system is
infrared spectra of the polymers. In experiments
the addition of vinyl groups to the quinone ring system
the authors have shown that the polymerization of
vinyl groups on the quinone ring system is
of the type obtained from vinyl methyl- and vinyl ethyl
acrylates led to the conclusion that they are not
of the same type. It was shown that the initial product
the polymerization of vinyl groups on the quinone ring system
of the polymerization of vinyl groups on the quinone ring system
affiliated with the quinone ring system. The authors
interpretation of the results regarding the nucleophilic
electrophilic nature of the addition reaction.

Card 2

Investigations in the Field of ...
XVII. Addition of ...
KOR

...

ANSI Z39.18: 1968 Performed by ...
Beringrad Technological Institute

REPRODUCED: February 1968

Card 1/1

... Division ...
... 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

Investigation of the synthesis of telomers with the composition $C_2H_4(C_2H_4O)_n$ and their properties.

Figure 2 presents the infrared spectra of telomers obtained by the reaction of ethylene oxide with ethylene. Figure 3 gives the infrared spectra of telomers with the composition $C_2H_4(C_2H_4O)_n$. Table 1

presents the results of distillation of the telomers obtained with ethylene oxide and 1,2-dichloroethane. Table 2 gives the characteristic features of the infrared spectra of telomers obtained with ethylene oxide and 1,2-dichloroethane. Table 3 gives the physical data of telomers obtained with ethylene oxide and 1,2-dichloroethane.

Table 4 gives the physical data of telomers obtained with ethylene oxide and 1,2-dichloroethane.

