MEYNERT, Vladimir Adamovich; CHEKRYGIN, Ivan Gavrilovich; SHMAKOV, Aleksey Timofeyevich; GOROVOY, G.M., red.; STEPANOV, V.M., red. izd-va; DONSKAYA, G.D., tekhn. red.

[Road-building machinry; a manual for tractor operators] Dorozhno-stroitel'nye mashiny; posobie traktoristu. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1960. 174 p. (MIRA 15:3)

(Road machinery)

VAVILOV, Mikhail Aleksandrovich; CHEKRYGIN, I.G., red.; DONSKAYA, G.D., tekhn. red.

[Booklet for a dump-truck driver] Pamiatka shoferu avtomobilia-samosvala. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1961. 50 p. (MIRA 15:3)
(Dump trucks—Safety measures)

CHEKRYGIN, Ivan Gavrilovich; FILIN, A.G., red.; DONSKAYA, G.D., tekhn. red.

[Manual for the automobile lubricator] Posobie smazchiku avtomobilei. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 62 p. (MIRA 14:7)
(Automobiles—Lubrication)

MEYNERT, Vlzdimir Adamovich; CHEKRYGIN, Ivan Gavrilovich; SHMAKOV, Aleksey
Timofeyevich; STEPANOV, V.M., red.; GANYUSHIN, A.I., red. izd-va;
MAL'KOVA, N.V., tekhn. red.

[Road machinery: handbook for the tractor driver] Dorozhno-stroitel'nye mashiny; posobie mashinistu traktorov. Izd.2., ispr. i dop. Moskva, Avtotransizdat, 1962. 234 p. (MIRA 15:6)
(Road machinery)

CHEKRYGIN, Ivan Gavrilovich; BARANOV, A.Ya., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Safety measures in the maintenance and repair of motor vehicles] Tekhnika bezopasnosti pri tekhnicheskom obsluzhivanii i remonte avtomobilei. Izd.5, ispr. Moskva, Avtotransizdat, 1963. 71 p. (MIRA 16:10)
(Motor vehicles—Maintenance and repair)

CHEKMYGIN, Ivan Gavrilovich; FILIN, A.G., red.

[Handbook for the greaser of motor vehicles] Posobie smazchiku avtomobilei. Izd.2., isp. i dop. Moskva, Izd-vo "Transport,' 1964. 76 p. (MIRA 17:8)

CHEKRYGIN, Ivan Gavrilovich; FILIN, A.G., red.

[Safety measures in operating motortrucks] Tekhnika bezopasnosti pri ekspluatatsii gruzovykh avtomobilei. Mosiva, Transport, 1965. 31 p. (MIRA 18:8)

CHEKRYGIN, S.I.

Cut down expenses for the maintenance of signaling, central control, and block systems. Avtom., telem. i sviaz' 2 no.7:43 Jl '58.
(MIRA 11:6)

1. Zamestitel' nachal'nika Debal'tsevskoy distantsii signalizatsii i svyazi Donetskoy dorogi.
(Railroads--Signaling--Block system)

CHEKRYGIN, S.I.

Public inspectors are at work. Avtom., telem. i sviaz' 8 no.8: 20-21 Ag '64. (MIRA 17:10)

1. Starshiy elektromekhanik, rukovoditel' soveta obshchestvennykh inspektorov po bezopasnosti dvizheniya poyezdov Debal'tsevskoy distantsii Donetskoy dorogi.

PINSKAYA, R.M.; BASHTA, A.S., EPSHTEYN, P.D.; ROSLIK, S.M.; ARENZON,
P.Ya.; KORSUNSKYA, R.M.; VASINA, I.N.; CHEKRYGINA, N.I.;
VISHNEVSKAYA, Z.Ya.; KUL'CHITSKAYA, I.Ya.

Treatment of patients with tuberculous meningitis without subarachnoid administration of antibacterial preparations.
Probl.tub. 38 no.1:60-67 '60. (MIRA 13:10)
(MENINGES--TUBERCULOSIS)

MALYY, P.S., inzh.; CHEKRIGINA, M.P., inzh.

Influence of additives on the degree of concrete waterproofness.
Shakht. stroi. 9 no.10:15 O '65. (MIRA 18:9)

1. Shakhtoprokhodcheskoye upravleniye No.1 tresta Krivbasshakhtoprokhodka.

CHEKSTER, G.Ya., inzh.

Device for automatic reversion of current in a degreasing bath. Trakt. i sel'khozmash. 33 no.6:44-46 Je '63. (MIRA 16:7)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.
(Machinery—Cleaning)

L 30783-66 EWP(k)/EWT(d)/EWT(m)/EWP(h)/T-2/EWP(l)/EWP(w)/EWP(v) IJP(c) EM

ACC NR: AP6022100 SOURCE CODE: UR/0114/66/000/002/0045/0045

AUTHOR: Gal'perin, M. I. (Engineer); Chekulayev, A. V. (Engineer)

52
B

ORG: none

TITLE: Transport by water of odd-shaped, heavy working rotors of powerful radial-axial hydroturbines

14 24

SOURCE: Energomashinostroyeniye, no. 2, 1966, 45

TOPIC TAGS: inland waterway transportation, transportation equipment, crane, turbine rotor

ABSTRACT: The experience of shipping two large, heavy turbine rotors from Leningrad to Krasnoyarsk on the Yenisey River showed that the loading, shipping and unloading presented no insurmountable problems. The material was loaded at Leningrad with a 350-ton crane, and shipped during July and early August to the destination. The greatest problems were created by locks on the Belomorsk-Baltic canal which were too small to admit the transport barge plus tugs, requiring the barge to be pushed into the locks with usage of only one tug. The methods used to fasten the heavy rotors down in the barge proved satisfactory, even under storm conditions. [JPRS]

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 001

Card 1/1 15 UDC: 621.224.004.3(047)

TARASENKO, A., gvardii general-mayor meditsinskoy sluzhby v otstavke;
CHEKULAYEV, G., polkovnik meditsinskoy sluzhby v otstavke

Results of the treatment of patients with neglected cancer in the Leningrad District Military Hospital with preparations recommended by biochemist A.T. Kachugin. Vop. onk. 9 no.6: 116-120 '63. (MIRA 17:8)

1. Byvshiy nachal'nik Voyenno-meditsinskogo otdela Leningradskogo voyennogo okruga (for Tarasenko). 2. Byvshiy glavnyy terapevt Leningradskogo voyennogo okruga (for Chekulayev).

CHEKULAYEV, G. N.

Col. Med. Service, Chair Physical Therapy Mil. Med. Acad. Im. S. M. Kirov, Leningrad, -c1948-.

Medicine.

"Hematopoiesis with Cancerous Metastasis in the Bone Marrow," Klin. Med., 26, No. 1, 1948.

CHEKULAYEV, G. N.

Chekulayev, G. N. - "Leuco - and erythropause in ulcer disease of the stomach and duodenum," Sbornik trudov (Voyen.-med. akad. im. Kirova), Vol. XLIII, 1949, p. 148-69, Bibliog: p. 161-62, 169

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

CHEKULAYEV, G.N.

Content of ascorbic acid in bone marrow and peripheral blood in patients with peptic ulcer. Klin.med., Moskva no.4:86 Ap '50.
(CLML 19:3)

Clinic?

1. Of the First Department of Faculty Therapy (Head of Department -- Active Member of the Academy of Medical Sciences USSR Prof. M.I. Arinkin, Lieutenant-General Medical Corps, deceased), ~~Naval~~ Milit? Medical Academy imeni S.M.Kirov, Leningrad.

CHEKULAYEV, G.N.

IVANOV, V.A; SAPROKHIN, M.I; CHEKULAYEV, G.N.

Modifications in peripheral blood and bone marrow following exertion. Fizol.zh.SSSR 36 no.5:594-599 Sept-Oct 50. (CLML 20:4)

1. Staff of the First Faculty Therapeutic Clinic and the Physical Education Department of the Military Medical Academy imeni S.M. Kirov.

CHEKULAYEV, G.N.

Cytodiagnosis of lymphogranulomatosis in exudates. Klin.med., Moskva 29 no.4:60-63 Apr 1951. (CIML 20:9)

1. Of the First Faculty Therapeutic Clinic (Head of Staff--Prof. V.A. Beyer, Colonel, Medical Corps.

CHEKULAYEV, G. N.

[redacted]

Association of leukemias and malignant neoplasms. Klin. med., Moskva 30 no.4:85 Apr 1952. (CLML 22:2)

1. Leningrad.

CHEKULAYEV, G. N.

Erythroleukemia (erythroleukomyelosis). Klin. med., Moskva
30 no.4:86 Apr 1952. (CLML 22:2)

1. Leningrad.

CHEKULAYEV, G.N., kand.med.nauk (Leningrad)

A case of lead poisoning at home. Klin.med. 37 no.1:154-156
Ja '59. (MIRA 12:3)
(LEAD POISONING,
case reports (Rus))

CHEKULAYEV, G.S., starshiy nauchnyy sotrudnik.

Indices of channel bottom stability in irrigation systems. Vop. gidr. no.1:61-73 '55. (MLRA 9:12)
(Irrigation canals and flumes)

CHEKULAYEV, I.

Urgent matter. Prof.-tekh. obr. 21 no.7:4 Jl '64. (MIRA 17:11)

CHEKULAYEV, N.

Encouraging results. Avt.transp. 43 no.11:13-14 N '65. (MIRA 18:12)

1. Direktor avtokolonny No.1103 Lenpromtransa.

SOV/124-58-1-816

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 106 (USSR)

AUTHOR: Chekulayev, N. M.

TITLE: On the Distribution of the Air and the Material to Be Dried in an Air-type Spray Dryer (K voprosu o raspredelenii vozdukha i sushimogo materiala v vozdushnykh raspylyayushchikh sushilkakh)

PERIODICAL: Tr. Vologodsk. molochn. in-ta, 1956, Nr 14, pp 329-339

ABSTRACT: Bibliographic entry

Card 1/1

CHEKULAYEV, Nikolay Mikhaylovich; IVANOVA, N.M., red.; SOKOLOVA, I.A., tekhn.red.

[Evaporation and evaporating apparatus in the dairy industry] Vyparivanie i vyparnye ustanovki v molochnoi promyshlennosti. Moskva, Pishchepromizdat, 1959. 70 p.

(MIRA 14:2)

(Dairy industry--Equipment and supplies)
(Evaporating appliances)

CHEKULAYEV, P.G., gornyy inzh.

Rig with a sinker rock drill in the "Kayraktinskiy" open-pit mine. Gor.zhur. no.9:72 S '60. (MIRA 13:9)

1. Krasnoyarskiy institut tsvetnykh metallov.
(Karaganda Province--Strip mining)
(Rock drills)

PANCHEV, S.S., prof.; PASHKOV, A.D., gornyy inzhener; DUSEV, V.I., gornyy inzhener; CHEKULAYEV, P.G., gornyy inzhener

Comparative evaluation of rock breaking by detonations of charges in vertical and inclined holes. Vzryv. delo no.47/4:52-63 '61. (MIRA 15:2)

1. Institut tsvetnykh metallov imeni M.I.Kalinina.
(Blasting) (Boring)

KUDRYA, N.A., inzh.; CHUVILIN, A.M., inzh.; PESKOV, B.A., inzh.;
CHEKULAYEV, P.G., inzh.; SOVETOV, G.A., inzh.

Testing a new boring bit for sinker hammers. Gor. zhur.
no.9:51-52 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh
splavov, Moskva.

CHEKULAYEV, P.I.

SHMELEV, S.V.; DUBROVSKAYA, A.I.; CHEKULAYEV, P.I.

Operating practice of GDR finishing factories. Tekst.prom.14 no.12:35-37 D'54. (MLRA 8:2)

(Textile finishing)

CHEKULAYEV P.N.

SHMELEV, S.V.; DUBROVSKAYA, A.I.; CHEKULAYEV, P.N.

Operating experience of finishing plants of the German People's Republic. Tekst.prom. 14 no. 9:29-32 S '54. (MLRA 7:11)
(Germany, Eastern--Textile finishing) (Textile finishing--Germany, Eastern)

SOV/135-59-9-12/23

12(3)

AUTHORS: Veretnik, L. D. and Chekulayev, V. E., Engineers

TITLE: Diesel Locomotive TE-10 With Uniframe Body of Welded Construction

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 9, pp 33-35 (USSR)

ABSTRACT: The authors present a report on the construction of a new type of diesel locomotive (TE-10). This diesel locomotive is constructed by the Khar'kov Transport Machine Building Plant imeni Malyshev. It has 3000 hp and will be used on the railway system. In comparison with other Soviet diesel locomotives (TE-3, TE-2, TE-1), the weight per horse power is low (46 kg/hp). The uniframe body (Fig 1) is a compound welded construction. Its weight is 17 tons, length of the body: 17.5 m, width: 3.1 m and height: 3.1 m. The speciality of this welded construction is that the body and frame constitute one part, and every element carries a certain part of the total load. The uniframe body consists of: 1) body-frame (Fig 2); 2) two cabins for the engineer (Fig 3); 3) two side walls; 4) cover on the cooler and

Card 1/2

SOV/135-59-9-12/23

Diesel Locomotive TE-10 With Uniframe Body of Welded Construction

5) cover on the engine. All joints were done by semi-automatic welding with electrodes type E42 and E50. Tests have shown that all stresses were within the permissible limits and were not higher than 1400 kg/cm^2. The sagging in the middle part of the body amounts to 30 mm. There are 6 photographs.

ASSOCIATION: Khar'kovskiy zavod transportnogo mashinostroyeniya imeni Malysheva (Khar'kov Transport Machine Building Plant imeni Malyshev)

Card 2/2

S/589/62/000/063/019/021
E194/E436

AUTHORS: Aliyeva, F.Z., Chekulayev, V.P.

TITLE: Special constructional features of resistance thermometers

SOURCE: USSR. Komitet standartov, mer i izmeritel'nykh priborov. Trudy institutov Komiteta. no. 63(123). Moscow, 1962. Issledovaniya v oblasti teplovykh i temperaturnykh izmereniy. 218-224

TEXT: The development of platinum resistance thermometers for accurate measurement of temperature is reviewed briefly and accepted methods of making such thermometers are described. In the VNIIM it was particularly required that the resistance of the thermometers should be very close to that of the reference standard and, so as to make it easy to adjust their resistance, the coiled wires were cut in two, wound into the grooves of the supporting frame and joined at the tip where the adjustment could be made. In this way the resistances were adjusted to within ± 0.1% of the nominal value. To improve heat transfer conditions between the sensitive elements and the surrounding medium, most of the thermometers were filled with helium containing about 10% oxygen.

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Special constructional features ...

S/589/62/000/063/019/021
E194/E436

For experimental purposes two thermometers were filled with pure helium and four with dry air whilst two were left unfilled and unsealed. Stability tests are described for about 20 resistance thermometers made from high purity platinum wire, and it is concluded that the heat treatment procedure is most important. Resistance thermometers which are filled with air stabilise quickly at 500°C, but prolonged heat treatment is required to stabilise thermometers filled with helium. This agrees with results obtained in the British National Physical Laboratory. It was also found that thermometers made of platinum with a temperature coefficient of resistance equal to or greater than 3.926×10^{-3} (degrees)$^{-1}$ are more stable than those with the temperature coefficient of 3.923×10^{-3} (degrees)$^{-1}$. The data obtained indicate that the new thermometers are very stable. There are 4 tables.

ASSOCIATION: VNIIM

SUBMITTED: March 18, 1961

Card 2/2

ALIYEVA, F. Z.; CHEKULAYEV, V. P.

Equipment for the reproduction of the boiling point of water. Trudy inst. Kom. stand., mer i izm. prib. no.51:35-40 '61.
(MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D. I. Mendeleyeva.

(Boiling points)

ALIYEVA, F.Z.; CHEKULAYEV, V.P.

Structural characteristics of resistance thermometers. Trudy inst. Kom.stand., mer i izm.prib. no.63:218-224 '62. (MIRA 15:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I.Mendeleyeva.

(Thermometers)

CHEKULAYEV, V.P.

Water boiler. Nov. nauch.-issl. rab. po metr. VNIIM no.3:1-2 '64 (MIRA 18:2)

ZHERMUNSKIY, B., kand.tekhn.nauk; MARAKIN, N., inzh.; CHEKULAYEV, Ye., inzh.

Use of high-moment hydraulic drive for the turning mechanism of gantry crane upper structures. Rech. transp. 20 no.12:10-13 D '61. (MIRA 14:12)

(Cranes, derricks, etc.--Hydraulic drive)

CHEKULAYEV, Ye.F., inzh.

Hydrostatic drive for the displacement mechanism of a bridge crane. Mashinostroenie no.4:46 Jl-Ag '64. (MIRA 17:10)

ZAKHARYUTA, Vyacheslav Pavlovich, starshiy predovavatel'; SIMONENKO, Igor' Borisovich, kand. fiziko-matem. nauk; CHEKULAYEVA, Aleksandra Afanas'yevna, mladshaya nauchnaya sotrudnitsa; YUDOVICH, Viktor Iosifovich, kand. fiziko-matem. ispolnyaushchiy obyazannosti dotsenta

Capacitance of a round disc on a dielectric layer; for a case of thick layer. Izv. vys. ucheb. zav.; elektromekh. 8 no.5:487-494 '65. (MIRA 18:7)

1. Kafedra matematicheskogo analiza Rostovskogo-na-Donu gosudarstvennogo universiteta.

C.A.

CHEKULAYEVA, I.A.

Synthesis and reactions of vinyl ethers of ethanolamines. I. Vinylation of monoethanolamine. M. F. Shostakovskii, I. A. Chekulaeva, and N. A. Gershtein. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* **1951**, 328-33.—Heating $HOCH_2CH_2NH_2$ (I) in N 6 hrs. to 120-40° gave 64 g. unchanged I and 4 g. tar; in the presence of KOH some 20% tar forms, while addn. of 10% K salt of I gives 10% tar. Heating I under C_2H_2 pressure (16 atm.) at 120-40°, in the presence of 10% KOH (solid) gave 10-12% vinyl deriv. and much tar; without KOH in C_6H_6, only tar formed. The best yields were obtained when 72 g. I was treated with 2.8 g. K and the soln. dild. with 150 ml. C_6H_6 and heated 12 hrs. at 120-40° in a rotating steel autoclave under 16 atm. C_2H_2; distn. gave 57 g. pure $CH_2:CHOCH_2CH_2NH_2$, b_{741} 114.5-15.5°, b_{743} 115-16°, n_D^{20} 1.4580, d_4^{20} 0.9018; treated with dil. H_2SO_4 it yields AcH; distn. of the higher-boiling fractions gave about 1 ml. each of apparently $CH_2:CHOCH_2CH_2NHCH:CH_2$, b_{15} 58°, n_D^{20} 1.4801, d_4^{20} 0.8550, and $HOCH_2CH_2N(CH:CH_2)_2$, b_4 95-115°, n_D^{20} 1.5092, d_4^{20} 1.0412. Both are gradually hydrolyzed in part by dil. H_2SO_4, yielding some 25% AcH at room temp. Some resinous *solid*, m. 95-6°, also forms. G. M. Kosolapoff

Inst. Org. Chem., AS USSR

CHEKULAYEVA, I.A.

SHOSTAKOVSKIY, M.F.; CHEKULAYEVA, I.A.; GERSHTEYN, N.A.

Synthesis and transformations of vinyl ethers of ethanolamines. II. Synthesis of amino acetals. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52., 185-92 [Engl. translation].
(CA 47 no.19:9911 '53)

CHEKULAEVA, I. A.

Chem abs. v48
1-25-54
Organic Chemistry

✓ β-Aminoethyl isopropyl acetal. M. F. Shostakovskii, I. A. Chekulaeva, and N. A. Gershtein. *Akad. Nauk S.S.S.R., Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 15-17(1952); cf. *C.A.* 43, 6159*c*.—Into a precooled autoclave was charged 16.4 g. $MeCH(OCHMe_2)OCH_2CH_2Cl$ and 50 ml. liq. NH_3; the mixt. was heated 6 hrs. at 140-50° (110 atm. max. pressure) and filtered after cooling, release of NH_3 pressure and washing the app. with Et_2O. Distn. gave 47% $MeCH(OCHMe_2)OCH_2CH_2NH_2$, b_{19} 71-6°, b_{20} 75-6°, d_{20} 0.9123, n_D^{20} 1.4240. Similarly from $MeCH(OCH_2CHMe_2)OCH_2CH_2Cl$ were obtained: $MeCH(OCH_2CHMe_2)OCH_2CH_2NH_2$, b_8 83-4°, d_{20} 0.9000, n_D^{20} 1.4246; $[MeCH(OCH_2CHMe_2)OCH_2CH_2]_2NH$, b_{14} 160-5°, d_{20} 0.9210, n_D^{20} 1.4320; and $[MeCH(OCH_2CHMe_2)OCH_2CH_2]_3N$, b_4 210-20°, d_{20} 0.9322, n_D^{20} 1.4380. Among the by-products in prepn. of the iso-Pr deriv. there were found: $[MeCH(OCHMe_2)OCH_2CH_2]_2NH$, b_8 147-53°, d_{20} 0.9326, n_D^{20} 1.4300, and $[MeCH(OCHMe_2)OCH_2CH_2]_3N$, b_6 185-95°, d_{20} 0.9397, n_D^{20} 1.4340, in 29% and 8.5% yields, resp. Heating for 10 hrs. or longer increases the yield of the mono-NH_2 deriv. to over 45%, while lowering the proportion of NH_3 to 4 moles to 1 mole of chloro deriv. raises the yield of the secondary amine to 40%. G. M. Kosolapoff

CHEKULAYEVA, I.A.

Chem 4

Chem Abs V48
1-25-54
Organic Chemistry

Vinyl 2-aminoethyl ether. M. E. Shostakovskii, I. A. Chekulaeva, and N. A. Gershtein. Akad. Nauk S.S.S.R. *Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 33-4 (1952); cf. *C.A.* 38, 330^{5}.—To 72 g. $HOCH_2CH_2NH_2$ was slowly added 2.8 g. K and the product in 150 ml. C_6H_6 was placed into an autoclave; C_2H_2 was added to 14-16 atm. and the mixt. was heated to 120-40° 4-6 hrs.; after cooling to 20-30° the C_2H_2 pressure was again restored and heating repeated until the calcd. amt. is consumed. Distn. gave 85% $H_2NCH_2CH_2OCH:CH_2$ crude, b. 110-20°, which was treated with Na in the cold and redistd. yielding the *pure product*, 57 g., b_{754} 115-16°, n_D^{20} 1.4300, d_{20} 1.9018 (sic). The autoclave must not have any Cu parts in order that explosions be averted. G. M. Kosolapoff

Mf
4-20-54

CHEKULAYEVA, I. A.

Synthesis and transformations of vinyl ethers of ethanolamines. III. The character of the double bond of vinyl ethers of ethanolamines. M. F. Shostakovskii and I. A. Chekulaeva. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1953, 335-40(Engl. translation).—See *C.A.* 48, 5794*h*.

H. L. H.

CHEKULAYEVA, I. A.

5(2)

1/2

Synthesis and transformations of vinyl ethers of ethanolamines. III. The character of the double bond of vinyl ethers of ethanolamines. M. F. Shostakovskii and I. A. Chekulaeva. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 368-73; cf. *C.A.* 47, 1595e, 9911*g*.—Passage of ethylene oxide into 75 g. Et_2NH in 250 ml. H_2O over 4.5 hrs. at 5-10° gave, after addn. of 60-70 g., 60% $Et_2NCH_2CH_2OH$, b. 159-61°, n^{20}_D 1.4412, d_{20} 0.8838. This with 10% ROK in C_6H_6 was heated in an autoclave under 15 atm. C_2H_2 initial pressure to 140-50°, yielding 95-8% $Et_2NCH_2CH_2OCH:CH_2$ (I), b. 155-7°, n^{20}_D 1.4328, d_{20} 0.8306. Without C_6H_6 the yield drops to 83-5%, while KOH as catalyst gave a 0% yield, and much tar. Hydrogenation of the product over Raney Ni gave $Et_2NCH_2CH_2$-

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$C_4H_{10}O_4N_2Ag.2NH_3$. At 20°, mono-Ag aspartate (II) absorbs more than 3 NH_3, but no definite compd. could be isolated; at 0° and −18° it forms the *tetra-NH_3 complex*, $C_4H_6O_4NAg.4NH_3$. To prep. it successfully, II must be very finely divided (by adding its alc. soln.), for the granular ppt. formed by digestion of $H_2NCH(CO_2Ag)CH_2CO_2Ag$ (III) in hot aq. aspartic acid gives variable and uncertain results. At 20° and 0°, III forms $C_4H_5O_4NAg_2.3NH_3$ and, at −18°, $C_4H_5O_4NAg_2.4NH_3$ (cf. Bruni and Levi, no source cited). At 20°, Ag glutamate absorbs more than $3NH_3$, but no definite compd. could be isolated; at −18° the *tetra-NH_3 complex*, $C_5H_8O_4NAg.4NH_3$, is formed. At 20°, mono-Ag glutathionate absorbs more than $3NH_3$, but no definite compd. was isolated; at 0° and −18° the *tetra-NH_3 complex*, $C_{10}H_{16}O_6N_3SAg.4NH_3$, is formed. At 20°, di-Ag glutathionate forms the *tetra-NH_3 complex*, $C_{10}H_{15}O_6N_3SAg_2.4NH_3$, and at 0° and −18° the *hexa-NH_3 complex*, $C_{10}H_{15}O_6N_3SAg_2.6NH_3$. At 20°, D-$Me_2CHCH(NH_2)CO_2Ag$ absorbs more than $2NH_3$, but does not give a definite complex; at 0° and −18°, it forms the *tri-NH_3 complex*, $C_5H_{10}O_2NAg.3NH_3$. At 20°, 0°, and −18°, the Ag deriv. of saccharin forms the *tri-NH_3 complex*, $C_7H_4O_3SNAg.3NH_3$. These results parallel those obtained by Ley for Cu complexes [*Z. Elektrochem.* 10, 954(1904); *C.A.* 3, 1015]. In conjunction with the earlier work of B.-M., the expts. lead to certain general conclusions. For the NH_3 group to be co-

(over)

2/2 M. F. Shostakovskii & I. A. Chekulaeva

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ordinated with Ag, it must be in the α-position. In the β-position, coordination is incomplete, and in the γ-position the tendency to coordinate is relatively small. A secondary factor, of minor influence, is the strength of the acid; with steric conditions otherwise the same, the weaker the acid, the greater is the tendency for the NH_2 group to coordinate with Ag.

C. C. Davis

CHEKULAYEVA, I. A.

USSR

Synthesis and transformations of vinyl ethers of ethanolamines. IV. Copolymerization of vinyl ether of 2-aminoethanol and methyl ester of methacrylic acid. M. F. Shostakovskii, I. A. Chekulaeva, and A. M. Khomutov (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1954, 323-8; cf. *C.A.* 48, 5704*h*.—Pure $CH_2:CHOCH_2CH_2NH_2$ does not polymerize under action of Bz_2O_2 in 100 hrs. at 60°. In mixts. with Me methacrylate it copolymerizes in varying proportions, yielding products contg. 0.25–5.3% N; the copolymers with appreciable amts. of N are generally insol. and infusible. No polymer of Me methacrylate usually forms in the course of copolymerization, but the yields of the copolymer are usually quite low. Expts. with copolymerization yielded varying amts. of $CH_2:CHOCH_2CH_2NHCH_2CHMeCO_2Me$, b_4 97.5°, n_D^{20} 1.4491, d_{20} 0.9998, which hydrogenated over Raney Ni to the satd. analog, b_1 82°, n_D^{20} 1.4333, d_{20} 0.9658.

G. M. Kosolapoff

CHEKULAYEVA, I. A.

USSR/ Chemistry - Synthesis

Card 1/2 Pub. 40 - 23/27

Authors : Shostakovskiy, M. F., and Chekulayeva, I. A.

Title : Synthesis and conversions of vinyl ethers of ethanol amines. Part 5

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 1111-1118, Nov-Dec 1954

Abstract : The processes occurring during the vinylation of di-and triethanol amines were investigated. It was found that the vinylation of above mentioned amines leads to the synthesis of complete and incomplete vinyl ethers. Experiments showed that vinyl ethers of diethanol amine and beta-aminoethanol do not submit to cyclization during the synthesis.

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

Submitted : December 23, 1953

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 1111-1118, Nov-Dec 1954

Card 2/2 Pub. 40 - 23/27

Abstract : Certain chemical conversions of vinyl ethers of di- and triethanol amines were studies and their structure were analyzed. The vinyl ethers in ion conversions were seen to be less reactive than non-substituted vinylalkyl ethers. The tendency of the ethers toward polymerization is explained. Ten references: 7 USSR, 2 USA and 1 German (1931-1954). Tables.

CHEKULAYEVA, I. A.

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Optical study of some vinyl ethers of ethanolamines. M. F. Shostakovskiĭ, M. I. Batuev, I. A. Chekulaeva, and A. D. Matveeva (N. D. Zelinskiĭ Inst., Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.* 1955, 481-6(Engl. translation), 544-50; cf. *C.A.* 49, 7888*b*.—The previously reported vinyl ethers of ethanolamine and its analogs display the Raman characteristics of intramol. H bonds; the chem. inertness of some compds. in this group is ascribed to H bonding. The region of diffuse Raman lines at 3150-3400 cm.$^{-1}$ includes the O—H—O, as well as N—H—O bonds. The following Raman spectra are reported: $CH_2{:}CHOCH_2CH_2NH_2$, 169(2), 248(4b), 285(0), 824(2), 882(2), 404(1), 435(1), 498(4), 003(3), 644(0), 710(2), 821(5b), 904(4), 906(4), 990(4), 1084(2), 1099(3), 1113(3), 1157(1), 1179(2), 1209(2), 1821(10), 1354(2), 1407(2), 1461(5), 1617(8), 1637(7), 2871(7), 2932(8b), 3018(3), 3217(0), 3263(1), 3293(1), 3324(5b), 3385(3b); $(CH_2{:}CHOCH_2CH_2)_2NH$, 171(2), 241(4b), 503(3), 609(3), 660(0), 745(0), 778(0), 826(5b), 893(3), 935(0), 972(3), 1001(2), 1032(3), 1067(2), 1102(2), 1149(3), 1203(3), 1263(3), 1322(10), 1384(0), 1389(1), 1413(2), 1463(8), 1617(8), 1642(7), 2842(2), 2876(7), 2938(8b), 3022(4), 3225(0), 3271(1), 3336(4b); $CH_2{:}CHOCH_2CH_2NHCH_2CHMeCO_2Me$, 163(1), 188(1), 236(8b), 824(1), 366(1), 421(0), 468(0), 505(1b), 611(0b), 658(0b), 708(1), 768(1), 813(1), 838(6b), 903(2b), 935(0), 973(3), 991(3), 1029(0), 1055(0), 1104(1), 1152(1b), 1206(1b), 1321(10), 1366(1), 1410(1), 1463(8), 1619(6), 1637(5), 1600(2), 1698(1), 1737(4), 2880(6), 2943(10b), 2972(3), 3020(2), 3032(0), 3178(1), 3224(1), 3274(1), 3343(4b); $PhNHCH_2CH_2OCH{:}CH_2$, 125(2), 178(1), 214(2), 233(2), 248(3), 414(4b), 490(1), 510(1), 531(1), 576(0), 596(1), 619(4), 646(0), 663(0), 752(4), 782(4), 815(5), 833(0), 852(5), 871(0), 916(1), 993(10), 1029(5), 1073(0), 1155(4), 1182(3), 1199(0), 1287(1), 1320(5), 1356(0), 1380(0), 1408(0), 1434(0), 1455(1), 1493(1), 1603(10), 1619(1), 1639(1), 2850(0), 2876(4), 2933(4), 2984(0), 3024(1), 3301(1), 3351(1), 3406(4b); $HOCH_2CH_2NH_2$, 171(1), 482(4), 522(2), 836(4), 874(5), 1034(3), 1065(4), 1083(5), 1108(4), 1173(2b), 1248(3b), 1208(5), 1313(5), 1359(4b), 1460(10), 1593(1b), 2707(3b), 2802(10), 2914(9), 2942(9), 3145(1), 3187(3), 2239(2), 3300(6b), 3364(3b), 3150-3400 (HO band).

G. M. Kosolapoff

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CHEKULAYEVA, I. A.

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Synthesis and transformations of vinyl ethers of ethanolamines. VII. The vinyl ether of 2-(diphenylamino)ethanol. M. F. Shostakovskii and I. A. Chekulaeva. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1955, 820-33(Engl. translation).—See *C.A.* 50, 9325c. B. M. R.

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CHEKULAYEVA, I-A-

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Synthesis and transformations of vinyl ethers of ethanol-
amines. VII. The vinyl ether of 2-(diphenylamino)-
ethanol. M. F. Shostakovskii and I. A. Chekulaeva (N. D.
Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad.*
Nauk S.S.S.R., Otdel. Khim. Nauk 1955, 913–18; cf. *C.A.*
49, 15489*i*; 50, 1622*f*.—Heating Ph_2NH with ethylene oxide
in an autoclave to 220–40° gave 60–5% $Ph_2NCH_2CH_2OH$
(I), b_4 183–6°, d_{20} 1.121, n_D^{20} 1.6210. This (73 g.), 8 g.
K salt, 200 ml. C_6H_6, and 14–16 atm. C_2H_2 gave, after 3 hrs.
at 180°, 74.5% $Ph_2NCH_2CH_2OCH:CH_2$, b_4 158–9°, n_D^{20}
1.5980, d_{20} 1.0698. In dioxane soln. the yield reaches 81.5%;
the use of KOH catalyst gave 52–66.5% yields in C_6H_6.
The ether hydrolyzes with 2% H_2SO_4 at 95° to AcH and I.
Hydrogenation of I over Raney Ni gave $Ph_2NCH_2CH_2OEt$,
b_4 158–9°, $n_D^{20.5}$ 1.5920, d_{20} 1.0600. $Ph_2NCH_2CH_2OCH:CH_2$
(8.7 g.) and 7.2 g. I treated with 1 drop concd. HCl, and
kept 4 hrs. after the exothermic reaction yielded 62.5%
$MeCH(OCH_2CH_2NPh_2)_2$ (II), b_4 282–4°, n_D^{20} 1.6185, d_{20}
1.1175. Similarly the vinyl ether with BuOH gave MeCH-
$(OBu)_2$ and II, as well as a wide fraction of materials which
decompd. during distn., yielding $BuOCH:CH_2$ and I. A
similar reaction with MeOH gave II and $MeCH(OMe)_2$, as
well as decompn. products, including I. $FeCl_3$ (5% in Bu-
OH) polymerizes $Ph_2NCH_2CH_2OCH:CH_2$ to 29% of a
viscous dark liquid, mol. wt. about 600; concd. HCl gives
about 31% *polymer*, mol. wt. 420–60; $(:NCMe_2CN)_2$
polymerizes the vinyl ether to a yellow oil, mol. wt. 475, in
a very low yield after 100 hrs. at 60°. G. M. K.

CHEKULAYEVA, I.A.

USSR/ Chemistry - Synthesis and conversion

Card 1/2 Pub. 40 - 19/27

Authors : Shostakovskiy, M. F., and Chekulayeva, I. A.

Title : Synthesis and conversions of vinyl ethers of ethanolamines. Part 6. Vinyl ether of beta-(phenylamino)ethanol

Periodical : Izv. AN SSSR. Khim. nauk 1, 146-153, Jan-Feb 1955

Abstract : A study of chemical conversions of vinyl ether of beta-(phenylamino) ethanol showed that the compound investigated experiences a series of conversions when subjected to the effect of concentrated hydrochloric acid resulting in the formation of 2-methyl-3-phenyloxizolidine, beta-(phenylamino)ethanol and a $C_{12}H_{15}ON$ compound.

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

Submitted : December 23, 1953

Card 2/2 Pub. 40 - 19/27

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 146-153, Jan-Feb 1955

Abstract : The results obtained from the vinylation of beta-(phenylamino)ethanol showed that this compound easily converts into cyclic acetal. Sixteen references: 12 USSR, 2 German and 2 USA (1901-1954). Tables

62-1-11/21

CHEKULAYEVA, I. A.

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

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

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

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

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62-1-11/

Synthesis and Conversions of Vinyl Ethers of Ethanolamines. Part 8

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

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

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

Card 2/3

Chekulayeva, I.A.

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A. 62-2-12/28

TITLE: Synthesis and Conversions of the Vinyl Ethers of Ethanol-Amines (Sintez i prevrashcheniya vinilovykh efirov etanolaminov). Report 9: Quaternary Ammonium Salts of the Vinyl Ethers of Ethanol Amines (Soobshcheniye 9. Chetverichnyye ammoniyevyye soli vinilovykh efirov etanolaminov).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 204-209 (USSR).

ABSTRACT: The investigation of the properties of the interaction products of the above-mentioned vinyl ethers with alkyl halides is a natural continuation of the investigation of the reactivity of the double bond of the vinyl ethers of ethanol amines. This bond depends on the nature of the amino group and increases with the replacement of free hydrogens by alkyl- and phenyl-radicals. The influence of the amino group can be excluded by means of addition compound of the alkyl halides to the nitrogen of the vinyl ethers of ethanol amines. In the investigation the authors used the vinyl ether of β-(diethylamino)-ethanol, the vinyl ether of β-(diphenylamino)-ethanol and the trivinyl ether of triethanol amine. Quaternary

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Synthesis and Conversions of the Vinyl Ethers of Ethanol--Amines. Report 9: Quaternary Ammonium Salts of the Vinyl Ethers of Ethanol Amines.

62-2-12/28

ammonium salts of β-(diethylamino)-ethanol, of the vinyl ether of β-(diethylamino)-ethanol and some derivatives of it (with CH_3, C_2HJ and C_2H_5Br) were obtained. The authors investigated some conversions of the quaternary ammonium salts of the vinyl ether of β-(diethylamino)-ethanol (hydrolysis, polymerization, interaction with alcohols and organic acids). The authors examined the interaction of the trivinyl ether of triethanol-amine and the vinyl ether of β-(diphenylamino)--ethanol with methyl iodide and ethyl bromide. There are 1 table and 5 references, 5 of which are Slavic.

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

SUBMITTED: September 28, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Vinyl ethers of ethanol-amines-Synthesis 2. Quaternary ammonium salts

AUTHORS: Shestakovskiy, M. F., Chekulayeva, I. A. SOV/62-58-6-33/37
Kondrat'yeva, L. V.

TITLE: Letter to the Editor (Pis'ma redaktoru)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 6, pp. 794 - 794 (USSR)

ABSTRACT: Recently increased interest has been displayed by research workers in the chemistry of diacetylene. In the course of the present report the authors describe some of the peculiar features of the interaction between diacetylene and some aminoalcohols. It was shown that β-(diethylamino)ethanol enters into reaction with diacetylene (contrary to non-substituted alkyl esters) without a catalyzer. On this occasion 1-(β-diethylamino)ethoxybutene-in-3 (Formula I) with 80-90% yield is formed. Ethinylvinyl ester combines with the 2.molecule of β-(diethylamino)ethanol under more rigorous conditions. This causes the formation of: Di-(β-diethylamineethoxy)buthadien-1,3 with 55-60% yield:

$$\xrightarrow{(C_2H_5)_2NCH_2CH_2OH} (C_2H_5)_2NCH_2CH_2OCH{=}CH{-}CH{=}CHOCH_2CH_2N(C_2H_5)_2.$$

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Letter to the Editor

SOV/62-58-6-33/37

In the case of buthyl alcohol the following acetal was obtained: $CH_3 - C \equiv C - CH(OC_4H_9)\ OCH_2CH_2N(C_2H_5)_2$. The structure of the compounds obtained was ascertained by means of hydrolysis and spectral analysis.

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

SUBMITTED: April 16, 1958

1. Acetylenes--Chemical reactions 2. Amino alcohols--Chemical reactions 3. Spectrographic analysis--Applications 4. Cyclic compounds--Hydrolysis

Card 2/2

5(3)

SOV/62-59-1-21/38

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A.

TITLE: Synthesis and Transformations of Vinyl Ethers of Ethanol Amines (Sintez i prevrashcheniya vinilovykh efirov etanolaminov). Communication 10. Free-radical Polymerization and Copolymerization of Trivinyl Ether of Triethanol Amine (Soobshcheniye 10. Svobodnoradikal'naya polimerizatsiya i sopolimerizatsiya trivinilovogo efira trietanolamina)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 130 - 133 (USSR)

ABSTRACT: In the present paper the authors investigated the polymerization of trivinyl ethers of triethanol amine $(CH_2=CHOCH_2CH_2)_3N$ and its copolymerization with methyl methacrylate under the influence of benzoyl peroxide and dinitrile of the azoisobutyric acid and determined some laws governing this reaction. The results of the investigations are given (Tables 1 and 2). It was found that the polymerization of the respective vinyl ether and its copolymerization with methyl methacrylate are not initiated by benzoyl peroxide. The polymerization and copolymerization of trivinyl ethers of triethanol amine with methyl methacrylate was carried out in the presence of dinitrile of azobutyric acid. It was

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Synthesis and Transformations of Vinyl Ethers of Ethanol SOV/62-59-1-21/38
Amines. Communication 10. Free-radical Polymerization and Copolymerization of Trivinyl Ether of Triethanol Amine

stated that primarily three-dimensional products are produced therein. Polymers and copolymers were hydrolized with sulfuric acid of 2% at 20°. The authors found that they contain free vinyl groups. The products of hydrolysis possess also a three-dimensional structure. The results of the hydrolysis are presented in table 3. There are 1 figure, 3 tables and 7 Soviet references.

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: April 18, 1957

Card 2/2

5(3)

SOV/62-59-1-22/38

AUTHORS: Shostakovskiy, M. F., Gladyshevskaya, V. A., Chekulayeva, I. A.

TITLE: Synthesis and Transformations of Vinyl Ethers of Ethanol Amines (Sintez i prevrashcheniya vinilovykh efirov etanolaminov) Communication 11. Some Features of Copolymerization of Vinyl Ethers of the β-Aminoethanol and Methyl Esters of Methacrylic Acid (Soobshcheniye 11. Ob osobennostyakh sopolimerizatsii vinilovogo efira β-aminoetanola i metilovogo efira metakrilovoy kisloty)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 134 - 139 (USSR)

ABSTRACT: Since the dinitrile of the azoisobutyric acid, unlike benzoyl peroxide, includes not only methyl methacrylate but also the vinyl ether of β-aminoethanol in the polymerization (Ref 2) the authors investigated the copolymerization of these substances under the effect of dinitrile of the azoisobutyric acid. It was shown that the interaction of the components mentioned is complicated. Apparently three compounds participate in the copolymerization: vinyl ether

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Synthesis and Transformations of Vinyl Ethers of Ethanol Amines. Communication II. Some Features of Copolymerization of Vinyl Ethers of the β-Aminoethanol and Methyl Esters of Methacrylic Acid SOV/62-59-1-22/38

of β-aminoethanol, methyl methacrylate and the product of their interaction, i. e. the methyl ester of β-(β-vinyl oxy-ethyl) aminoisobutyric acid. The latter is formed according to the equation

$$CH_2=CHOCH_2CHNH_2+CH_2=C(CH_3)COOCH_3 \longrightarrow$$

$$\longrightarrow CH_2=CHOCH_2CH_2NHCH_2CH(CH_3)COOCH_3$$

during the reaction so that its concentration in the system remains unknown. The participation of the three components in the copolymerization leads to the formation of 2 fractions of the copolymer for each ratio of the initial monomers (Table 1). The process investigated is complicated by the fact that besides copolymerization and addition also condensation takes place. This is a result of the fact that besides multiple bonds also other functional groups of the initial components participate in the reaction, which leads to the formation of copolymers with three-dimensional structure. In addition, the polymerization of methyl ester of β-(β-vinyl oxy-ethyl)aminoisobutyric acid and its copolymeriza-

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Synthesis and Transformations of Vinyl Ethers of Ethanol Amines. Communication 11. Some Features of Copolymerization of Vinyl Ethers of the β-Aminoethanol and Methyl Esters of Methacrylic Acid SOV/62-59-1-22/38

tion with methyl methacrylate under the influence of dinitrile of azoisobutyric acid (Table 3) were carried out. There are 3 tables and 6 references, 2 of which are Soviet.

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 6, 1957

Card 3/3

5(3) SOV/62-59-9-36/40

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A., Kondrat'yeva, L. V.

TITLE: Interaction Between Diacetylene and Amines

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, p 1690 (USSR)

ABSTRACT: The authors report an addition of amines and diamines to diacetylene, by means of which various nitrogen containing unsaturated compounds were also obtained in good yields without use of a catalyst. Hitherto, compounds of this kind were mentioned once only in patent publications (Ref 2), for the synthesis of which catalysts were applied. Primary amines form N-alkyldiamino-1,4(-1,3)-butadiene-1,3 (Yield 80%) with diacetylene. Secondary amines form N,N-dialkylamino-1-buten-1-ine-3 (Yield 60%) with diacetylene. By addition of a second molecule of amine, these compounds give 1,4-diaminobutadienes. Diacetylenes can also add diamines, giving compounds of various structures according to reaction conditions. The structures of these compounds were

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confirmed by means of hydrolysis, diene synthesis, and spectroscopy. There are 2 references, 1 of which is Soviet.

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, 1959

5.3831
~~5 (1), 5 (3)~~

67038

AUTHORS: Shostakovskiy, M. F., Bogdanova, A. V., Chekulayeva, I. A. SOV/153-2-5-23/31

TITLE: Synthesis of New Monomers on the Basis of Acetylene and Diacetylene

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 5, pp 769 - 775 (USSR)

ABSTRACT: From acetylene and diacetylene, as well as from compounds containing a mobile hydrogen, monomers (ether and thioether) with a vinyl-ethyl-vinyl- and a diene group can be obtained. The compounds with mobile hydrogen ~~are~~ in particular: alcohols of various structure, amino alcohols, mercaptanes, phenols, silanols, etc. According to the method of A. Ye. Favorskiy and M. F. Shostakovskiy different types of vinyl compounds with a total formula $CH_2=CH-XR$ can be obtained where X = O,N,S,Si, and R is an alkyl, aromatic, hydroaromatic, or other radical (Ref 1). The most interesting among the recently obtained unsaturated compounds on acetylene basis, is the vinyl-ether of the amino alcohols (Refs 5,6). They may be used as initial raw materials for several nitrogen-containing macromolecular products including some with

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67038

Synthesis of New Monomers on the Basis of Acetylene and Diacetylene SOV/153-2-5-23/31

a three-dimensional structure (to be used as ion-exchanger resins). At present diacetylene becomes interesting because it may serve as a starting raw material for various syntheses, and because it has both a scientific and a practical significance. In the laboratory for vinyl compounds of the Institute in which the authors work, the hitherto neglected chemistry of the diacetylenes concerning the interaction with compounds containing mobile hydrogen has been systematically studied. By the reaction of diacetylene with alcohols (Ref 8) and mercaptanes (Ref 10) (constants of the reaction products in Table 1), as well as with amino alcohols (Ref 10) organic compounds with a simple ether (also containing nitrogen) and with a thio-ether-group in the conjugated system of the double and triple linkages (I) can be obtained. Additionally, butadiene-α-ether (II), α,δ-di-thio-ether (III) and mixed α,δ-thio-ether are obtained. The synthesis method of the 1-alkoxy-butadienes-1,3 on the diacetylene and the alcohol basis makes possible the production of several representatives of this class which contain alkyl- and cyclic radicals (Ref 16). The alcohols react with diacetylene under the influence of alkali and on heating. In this reaction, ethyl-vinyl-ether (I) and acetals of butin-2-al-4 (see Scheme) are formed. The reaction of the diacetylene with mercaptanes occurs gradually. Unlike the reaction with alcohols, the 2-mercaptane molecule adds itself to the threefold linkage and di-thio-alkyl (or phenyl) of the butadiene-1,3 is formed (Scheme). The compounds produced are highly reactive. The authors recommended a new method of synthesis for the 1-alkoxy-butadiene-1,3 based on partial hydration of the ethyl-vinyl-ether (Table 4). Tables 2,3,5, and 6 list the constants of additional products synthesized. Finally, they established the conditions of the synthesis of vinyl ether of ethanol amines 7 of various structures, and examined their properties. There are 6 tables and 18 references, 13 of which are Soviet.

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

5.3610

77353
SOV/79-30-1-14/78

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A., Kondrat'yeva, L. V.

TITLE: Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 75-81 (USSR)

ABSTRACT: Reaction of butadiyne with β-(diethylamino)-ethanol at room temperature without catalyst yields (80-90%) 1-(β-diethylamino)-ethoxybut-1-en-3-yne (I), bp 99° (11 mm), n_D^{20} 1.4832. When compound I is hydrolyzed with 10% H_2SO_4 it yields 1,3,5-triacetylbenzene (yield 80%), mp 162-163°. Reaction of compound I with aliphatic alcohols under rigorous conditions (boiling under vacuum (10 mm) for 6 hr in the presence of catalyst, potassium

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Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

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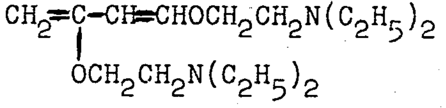
ethoxide) yields, along with the acetals of but-1-yn-4-al, also addition products of one molecule of alcohol to a molecule of ethylvinyl ether. These addition products have both a diene and an allene structure. Thus, reaction of I with β-(diethylamino)-ethanol yields (55-60%) di-(β-diethylaminoethoxy)-buta-1,3-diene (II), bp 151° (4 mm), n_D^{20} 1.4819. Compound II can also contain some 1,4-di-(β-diethylaminoethoxy)-buta-1,3-diene (IIa).



$$CH_2{=}C(OCH_2CH_2N(C_2H_5)_2){-}CH{=}CHOCH_2CH_2N(C_2H_5)_2$$

(II)

$$(C_2H_5)_2NCH_2CH_2OCH{=}CH{-}CH{=}CHOCH_2CH_2N(C_2H_5)_2 \quad \text{(IIa)}$$

Reaction of I with butanol yielded (50-60%) the acetal of but-1-yn-4-al (III), bp 138-140° (10 mm), n_D^{20} 1.4542,

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Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

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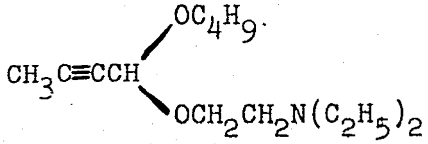
containing an admixture, a product with an allene structure. The yield of butoxy-(β-diethylamino)-ethoxybuta-1,3-diene (IV), bp 153-155° (7 mm), n_D^{20} 1.4570, in this case, was only 10-25%.



$CH_3C{\equiv}CCH\begin{matrix}OC_4H_9\\ OCH_2CH_2N(C_2H_5)_2\end{matrix}$

(III)

$H_9C_4OCH{=}CH{-}CH{=}CHOCH_2CH_2N(C_2H_5)_2$

(IV)

During the reaction of ethyl vinyl ether with alcohols there occurs, evidently, not only the isomerization that causes migration of the triple bond, but acetylene-allene-dienic isomerization of reaction products as well, which leads to the formation of di-alkoxybuta-1,3-dienes.

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Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

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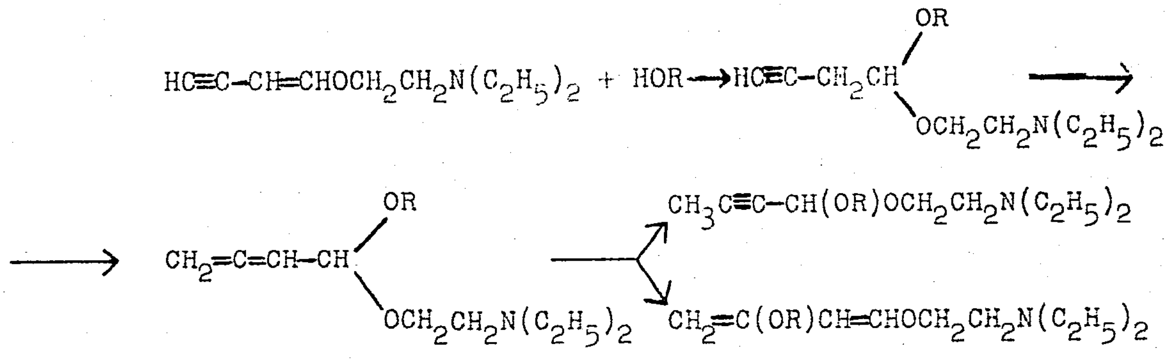
SOV/79-30-1-14/78



$$HC\equiv C-CH=CHOCH_2CH_2N(C_2H_5)_2 + HOR \longrightarrow HC\equiv C-CH_2CH\begin{array}{l}\diagup OR\\ \diagdown OCH_2CH_2N(C_2H_5)_2\end{array} \longrightarrow$$

$$\longrightarrow CH_2=C=CH-CH\begin{array}{l}\diagup OR\\ \diagdown OCH_2CH_2N(C_2H_5)_2\end{array} \longrightarrow \begin{array}{l}\nearrow CH_3C\equiv C-CH(OR)OCH_2CH_2N(C_2H_5)_2\\ \searrow CH_2=C(OR)CH=CHOCH_2CH_2N(C_2H_5)_2\end{array}$$

$R=C_4H_9$ and $CH_2CH_2N(C_2H_5)_2$

When the reaction of I with β-(diethylamino)-ethanol is extended from 6 to 22 hr, the addition product of two molecules of amino alcohol with one molecule of ethyl

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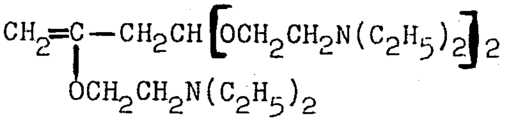
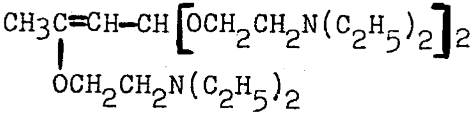
vinyl ether is obtained. The structure of this compound is V or Va (based on spectral analysis) and its physical constants are: bp 178-179°, n_D^{20} 1.4608.



$$CH_2{=}\underset{\substack{|\\ OCH_2CH_2N(C_2H_5)_2}}{C}-CH_2CH\left[OCH_2CH_2N(C_2H_5)_2\right]_2$$

(V)



$$CH_3\underset{\substack{|\\ OCH_2CH_2N(C_2H_5)_2}}{C}{=}CH-CH\left[OCH_2CH_2N(C_2H_5)_2\right]_2$$

(Va)

Reaction of I with ethylmercaptan at 70-80° for 6 hr yielded (60-70%) ethylmercapto-(β-diethylaminoethoxy)-

Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

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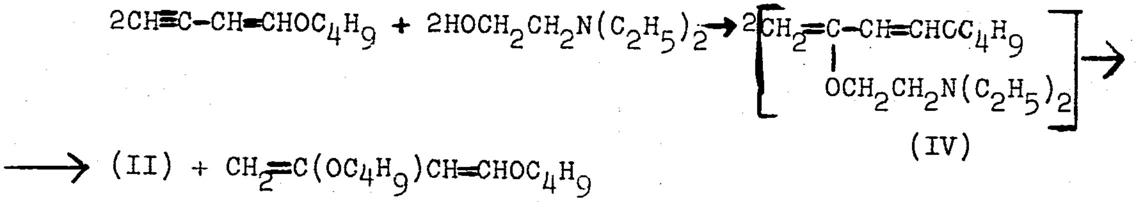
-buta-1,3-diene (VI) or (VIa), bp 152° (7 mm), n_D^{20} 1.5290. The attempt to prepare compound VI by parallel synthesis from 1-ethylmercaptobut-1-en-3-yne and 1-butoxybut-1-en-3-yne failed. Only di-(β-diethylaminoethoxy)-buta-1,3-diene (II) was obtained. The formation of II in this case can be explained by disproportionation of butoxy-(β-diethylaminoethoxy)-buta-1,3-diene (IV) into symmetric dialkoxybuta-1,3-dienes.



$$2CH\equiv C-CH=CHOC_4H_9 + 2HOCH_2CH_2N(C_2H_5)_2 \rightarrow 2\left[\begin{array}{l} CH_2=\underset{|}{C}-CH=CHOC_4H_9 \\ \qquad OCH_2CH_2N(C_2H_5)_2 \end{array}\right] \rightarrow$$

(IV)

$$\rightarrow (II) + CH_2=C(OC_4H_9)CH=CHOC_4H_9$$

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Reaction of Butadiyne With Amino Alcohols and Amines. I. Synthesis and Conversions of 1-(β-Diethylamino)-ethoxybut-1-en-3-yne

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SOV/79-30-1-14/78

The authors wish to thank B. V. Lopatin for spectral analysis of the prepared compounds. There are 11 references, 5 Soviet, 5 German, 1 U.S. The U.S. reference is: Copenhaver, J. W., Bigelon, M. H., Acetylene and Carbon Monoxide Chemistry, 305 (1949).

ASSOCIATION: Institute of Organic Chemistry of the Academy of Sciences, USSR (Institut organicheskoy khimii Akademii nauk SSSR)

SUBMITTED: October 15, 1958

84866

S/079/60/030/010/002/030
B001/B075

11.1340

AUTHORS: Shostakovskiy, M. F., Chekulayeva, I. A., and Kondrat'yeva, L. V.

TITLE: Reaction of Diacetylene With Amino Alcohols and Amines. II. Synthesis of N-Alkyldiamino-1,4-butadienes-1,3 and N,N-Dialkylamino-1-buten-1-ines-3

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 10, pp. 3179-3183

TEXT: The authors had shown in Ref. 4 that the reactions of diacetylene with aliphatic amines and β-(dialkylamino) ethanols start at room temperature and proceed exothermically without a catalyst. This paper gives a detailed description of these reactions in which the nature of the initial amine plays an essential part. Thus, primary amines react with diacetylene to form N-alkyldiamino-1,4-butadienes-1,3 (I) (80% yield) according to the following formula:

$2RNH_2 + CH\equiv C-C\equiv CH \longrightarrow RNHCH=CH-CH=CHNHR$ (I) (I a): $R = n-C_4H_9$;

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Reaction of Diacetylene With Amino Alcohols and Amines. II. Synthesis of N-Alkyldiamino-1,4-butadienes-1,3 and N,N-Dialkylamino-1-buten-1-ines-3

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B001/B075

(I b): n-C_5H_{11}; (I v): iso-C_5H_{11}. Secondary amines react under analogous conditions, forming N,N-dialkylamino-1-buten-1-ines-3 (II) (60% yield) according to the following formula:

$R_2NH + CH{\equiv}C{-}C{\equiv}CH \longrightarrow R_2NCH{=}CH{-}C{\equiv}CH$ (II) (II a): R = C_2H_5; (II b): n-C_4H_9; (II v): n-C_5H_{11}. The addition of the amines to compound (II) requires harder conditions. The diene structure of the reaction products was proved by spectral analysis and by diene synthesis with ethyl vinyl sulfone. The structure of the products obtained by reacting diacetylene with secondary amines was proved by hydrolysis. The synthesized products are unstable liquids which are only stable when kept in sealed ampoules between -50° and -70°. Dienes (I) and (III) absorb carbon dioxide from the air and form solid, stable carbonates. The spectral analysis carried out by B. V. Lopatin confirmed the presence of the group $-C\begin{smallmatrix}\diagup\!\!\!\diagup O\\ \diagdown O-\end{smallmatrix}$ in the dienes obtained. There are 1 table and 6 references: 3 Soviet, 2 German, and 1 US.

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84866

Reaction of Diacetylene With Amino Alcohols and Amines. II. Synthesis of N-Alkyldiamino-1,4-butadienes-1,3 and N,N-Dialkylamino-1-buten-1-ines-3

S/079/60/030/010/002/030
B001/B075

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

SUBMITTED: August 4, 1959

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Card 3/3

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S/020/60/135/001/020/030
B016/B067

AUTHORS: Shostakovskiy, M. F., Corresponding Member AS USSR, Chekulayeva, I. A., Kondrat'yeva, L. V., and Lopatin, B.V.

TITLE: Structure and Some Properties of the Products of Interaction Between Diacetylene and Alkyl Amines

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 1, pp. 101-104

TEXT: In studying the reaction of diacetylene with primary and secondary alkyl amines (Ref. 1) the authors observed that the N-alkyl-diamino-1,4-butadienes-1,3 and the N,N-dialkyl-amino-1-butenines-3, respectively, are the main products. The authors succeeded in isolating the geometric isomers of N,N-diethyl-amino-1-buten-1-ine-3 (I and II) from the reaction of diacetylene with diethyl amine. The chemical transformations and the data of spectral analysis prove that I and II have cis- and trans-structures, respectively. On heating, isomer I passes over into II. The UV spectrum of II is more intensive than that of I. In the IR spectrum of I, no absorption bands were observed in the range of from 800 to 1000 cm^{-1}, in the IR spectrum of II, however, an intensive absorption band is observed at 945 cm^{-1} which is characteristic of a trans-configuration (Table 1).

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Furthermore, an intensive absorption band is observed in the spectrum of substance I at 692 cm^{-1} which is interpreted as the CH-vibrational deformation of the isomer. In spectrum II, no corresponding band exists in this region. The IR spectra of the isomers I and II were taken on a spectrophotometer of the type UR-10. The pictures showed that the bands of the double bond are split into two components. The intensities of the components are not equal. Substance I and II may only be geometrical or place isomers: $(C_2H_5)_2NCH=CH-C\equiv CH$ and $CH_2=CN(C_2H_5)_2-C\equiv CH$. In the range 885-895 cm^{-1} and 3075-3095 cm^{-1} of the IR spectrum of both substances, no absorption bands are observed which are characteristic of a terminal double bond. This confirms the cis-trans isomerism. On the basis of the investigation of products of the addition of amines (III), alcohols (IV), and mercaptans (V) to I and II, the place isomerism seems to be excluded (see Scheme). In the reaction of n-amyl amine with the isomers I and II, 1,4-amino-substituted butadienes (III) were formed under analogous conditions which

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Structure and Some Properties of the Products S/020/60/135/001/020/030
of Interaction Between Diacetylene and B016/B067
Alkyl Amines

had the same physico-chemical constants, formed the same picrates, and also had similar IR spectra. The IR spectra of products of the addition of butyl alcohol (IV) and ethyl mercaptan (V) to I had no absorption bands corresponding to the terminal double bond. This excludes the presence of this bond in the initial isomers. Hence, the addition with the formation of I is the most essential point in the reaction of diacetylene with diethyl amine. This agrees with the results obtained by the ion reaction of the thiols with diacetylene which is stereospecific and proceeds according to the method of the "trans-addition" rule. N-butyl-diamino-1,4-butadiene-1,3 (VI) with cis-cis configuration of the substituents with respect to the double bonds is the main product resulting from the reaction of diacetylene with n-butyl amine. The structure of VI was confirmed by a diene synthesis and by data of spectral analysis. IR spectra of butadiene VI in a polar and a non-polar solvent showed that the position of the absorption bands of >C=N and >C=C< bonds was only slightly influenced (Table 2). The Raman spectrum showed only one line in the region of 1600 cm^{-1}. The bond >C=N (1684 cm^{-1} in the IR spectrum) was also present

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84667

Structure and Some Properties of the Products of Interaction Between Diacetylene and Alkyl Amines

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B016/B067

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in a second substance which was formed in a small amount in the reaction of diacetylene with n-butyl amine. This substance will be further investigated. There are 1 figure, 3 tables, and 3 references: 2 Soviet and 1 US.

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: July 18, 1960

Card 4/4

SHOSTAKOVSKIY, M.F.; KHOMUTOV, A.M.; CHEKULAYEVA, I.A.; KHOMUTOVA, N.M.

Synthesis and polymerization of diallyl tartrate. Izv.AN SSSR.-
Otd.khim.nauk no.11:2075-2077 N '61. (MIRA 14:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Tartaric acid) (Polymerization)

CHEKULAYEVA, I.A.; SHOSTAKOVSKIY, M.F.; GLADYSHEVSKAYA, V.A.; LIPOVICH, I.V.

Synthesis and transformations of vinyl ethanolamine ethers. Part 13: Copolymerization of some vinyl ethanolamine ethers with methacrylate. Vysokom.soed. 3 no.6:901-907 Je '61. (MIRA 14:6)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo.
(Ethanol) (Methacrylic acid) (Polymerization)

SHOSTAKOVSKIY, M.F.; LASKORIN, B.N.; NIKUL'SKAYA, G.N.; CHEKULAYEVA, I.A.;
IOANISIANI, P.G.

Suspension polymerization of the trivinyl ether of triethanolamine. Synthesis of a new anion exchanger. Vysokom.soed. 3 no.6:908-911 Je '61. (MIRA 14:6)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Ethanol) (Ethers) (Polymerization) (Ion exchanger resins)

29522
S/062/61/000/011/009/012
B103/B147

15.8113

AUTHORS: Shostakovskiy, M. F., Khomutov, A. M., Chekulayeva, I. A., and Khomutova, N. M.

TITLE: Synthesis and polymerization of diallyl tartrate

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 11, 1961, 2075 - 2077

TEXT: Synthesis and polymerization of diallyl tartrate (DAT) were studied. This was done to clarify the effect of its structure on the course of polymerization as well as the polymer properties, in the case where DAT contains further functional groups (OH). The synthesis was effected by esterification of tartaric acid with allyl alcohol in the presence of hydroquinone and sulfuric acid at 70°C in benzene solution. In order to establish the polymerization conditions of DAT, different quantities of the following initiators were used: (a) benzoyl peroxide (Bz_2O_2), and (b) azoisobutyric acid dinitrile, the temperature (60, 95, and 125°C) as well as the reaction time (5 - 21 hr) being varied. It has been found that

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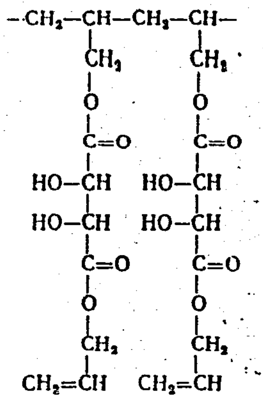
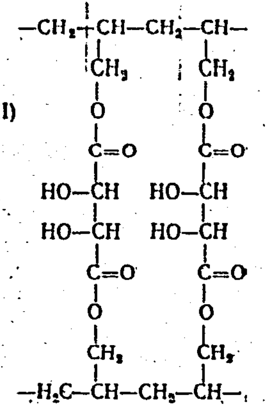
Synthesis and polymerization...

either linear (I) or tridimensional (II) polymers are formed in different quantitative proportions depending on the reaction conditions:

(I)



(II)



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B103/B147

Synthesis and polymerization

Table 1 shows the effect of Bz_2O_2 as initiator on the polymerization of DAT. The polymers have a predominantly cross-linked structure in the presence of 4.5 - 6% of Bz_2O_2. Increase of temperature and heating time have the following effects: with 6% of Bz_2O_2, DAT is practically not polymerized within 5 hr at 60°C, whereas a solid and insoluble polymer is formed at 95°C (yield 57%). Such a polymer forms at 60°C only after heating for 21 hr. Polymerization with 6% of Bz_2O_2 at 125°C for 18 hr gave the best results: 98% of a solid transparent polymer which cannot be charged by static electricity. Its heat resistance is 294°C (b) is inferior to Bz_2O_2 as initiator. At 95°C, its use yields only 5% of viscous polymer within 18 hr. DAT is less active in polymerization than fumaric and maleic esters. This might be due to the OH groups contained in DAT. There are 2 tables and 6 references: 4 Soviet and 2 non-Soviet. The references to English-language publications read as follows: Tsunao Araki, Hiroko Jida, Repts Govt. Chem. Ind. Research Inst. Tokyo, 47, 95 (1952); Chem. Abstrs., 47, 10889 (1953).

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29522

Synthesis and polymerization...

S/062/61/000/011/009/012
B103/B147

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)

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SUBMITTED: June 12, 1961

Table 1. Polymerization of diallyl tartrate with different quantities of Bz_2O_2 at 95°C within 5 hr. Legend: (1) Bz_2O_2 content, %; (2) fractionated quantity of polymer, g; (3) polymer yield, %; (4) total; (5) tridimensional; (6) linear; (7) quantity of nonpolymerized monomer, %; (8) content of tartaric acid in the tridimensional polymer, %; (9) real; (10) theoretical

Card 4/4

GASTILOVICH, Ye.A.; SHIGORIN, D.N.; GRACHEVA, Ye.P.; CHEKULAYEVA, I.A.;
SHOSTAKOVSKIY, M.F.

Investigating the nature of the complexes and derivatives of acetylene by the method of infrared absorption spectra. Opt.i spektr. 10 no.5:595-599 My '61. (MIRA 14:8)
(Acetylene—Spectra)

SHOSTAKOVSKIY, M.F.; CHEKULAYEVA, I.A.; KONDRAT'YEVA, L.V.

Reactions of diacetylene with amino alcohols and amines. Part 2: Synthesis of N-alkyl-1,4-diamino-1,3-butadiences and N,N-dialkyl-amino-1-buten-3-ynes. Zhur.ob.khim. 30 no.10:3179-3183 O '61. (MIRA 14:4)

1. Institut organicheskoy khimii AN SSSR.
(Butadiene) (Butenyne)

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)

5.3832,

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

AUTHORS: Shostakovskiy, M. F., Corresponding Member AS USSR, Chekulayeva, 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_2O 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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B101/B144

Reactivity of ethinyl...

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)

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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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