

STADELNINKAS, A., inz.

Light over Lithuania; progress in engineering and preparation of  
cadres of specialists in the Lithuanian Soviet Socialist Republic.  
Przegl techn no.45:4-6 ll N '62.

1. Panstwowy Komitet Naukowo-Techniczny Rady Ministrow Litowskiej  
Socialistycznej Republiki Radzieckiej.

YUGOSLAVIA

Magisters Aurel STADLER and Stjepan DJURIC [Affiliation not given.]

"Pharmacies in the City of Subotica in the Second Half of the Nineteenth Century."

Belgrade, Arhiv za Farmaciju, Vol 13, No 1, 1963; pp 68-74.

Abstract : An account of the financial, political and economic problems of pharmacists in Subotica and the lobbying necessary to do anything from the opening of the first pharmacy in 1780 till the fourth in 1873. Eighteen local archival references.

1/1

GOTH, Endre, dr.; Nadasdi Miklos szigorlo orvos es Stadler, Egon, dr. ;  
Majsay, Aglaja technikai segedletevel.

Role of amino acids in the initiation of hormonal secretion; II.  
Effects of amino acids on compensatory hypertrophy and ascorbic  
acid content of the adrenal glands. Effects of amino acid consumption  
on corticosteroid excretion. Magy. belorv. arch. 9 no.3:85-90  
June 56.

1. A Budapesti III. ker. Tanacs Margit korhaza belosztalyanak  
(foorvos: Goth, Endre Kandidatus) kozl.

(ADRENAL CORTEX, physiol.

eff. of amino acids on hormonal secretion, vitamin C  
content & compensatory hypertrophy after unilateral  
adrenalectomy in rats (Hun))

(AMINO ACIDS, eff.

on hormonal secretion, vitamin C content & compensatory  
hypertrophy of adrenals after unilateral adrenalectomy  
in rats (Hun))

GOTH, Endre; GOTH, Margit; STADLER, Egon; FREY, Jozsef; MAJSAY, Aglaja

Function of the pituitary - adrenal system in diabetes. II. Relation of the plasma corticoid level to the degree of blood sugar fluctuation. Magy. belorv. arch. 10 no.5-6:186-191 Oct-Dec 57.

1. A Budapesti Margit Korhaz Belosztalyanak (foorvos: Goth, Endre) es a Budapesti VIII Szanto Kovacs u. Rendelointezet Laboratoriumanak (foorvos: Zimandy Aranka) kozlemenye.

(ADRENAL CORTEX HORMONES, in blood

in diabetes mellitus, relation to blood sugar fluctuation(Hun)

(DIABETES MELLITUS, blood in

adrenal cortex hormone level. relation to blood sugar fluctuation (Hun))

GOTH, Endre; STADLER, Egon

Therapeutic experiment with methionine in the treatment of chronic joint diseases. Orv. hetil. 99 no.36:1247-1248 7 Sept 58.

1. A Budapesti III. kerületi Tanács Margit Korhaza (igazgató-főorvos: Goth Endre dr. kandidatus) Belosztalyanak közleménye.

(JOINTS, dis.

chronic, ther., methionine (Hun))

(METHIONINE, ther. use

joint dis., chronic (Hun))

HUNGARY

NEMESSURI, M., and STADLER, E., of the National Institute of Sports Hygiene, Budapest [Original version not given].

"Adaptation to Muscle Activity of Circulation Control"

Budapest, Acta Physiologica Academiae Scientiarum Hungaricae, Supplement to Vol 22, 1963; p 17.

Abstract [Authors' English summary]: The increase of heart frequency in response to graded muscular work and the time required for restitution depend on the ability to physical performance. In trained sportsmen a negative phase of the heart rate, that of trophotropic excitation, manifests itself in the second or third minute after performance and may depress the heart rate by as much as ten minutes below resting value. The results seem to indicate that the dominance of the negative phase lasting one or two minutes longer in the pulse rate response to physical effort may be interpreted as a sign of adaptation favorable from the point of view of performance.

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L 14867-66

ACC NR: AT6007402

SOURCE CODE: HU/2505/65/026/00X/0024/0025

AUTHOR: Malomsoki, J.; Stadler, E.; Nemessuri, M.

ORG: Central Institute of Sports Medicine, Budapest (Kozponti Sportegeszsegugyi Intezet)

TITLE: Spiroergometric demonstration of the autonomic regulation related to muscle activity [This paper was presented at the 29th Meeting of the Hungarian Physiological Society held in Szeged from 2 to 4 July, 1964]

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, Supplement, 1965, 24-25

TOPIC TAGS: medical conference, circulatory system, human physiology, biologic respiration, muscle physiology

ABSTRACT:

At the 1963 meeting of the Society it has been reported that a negative phase in cardiac frequency developed following controlled physical activity. This counter-regulatory phenomenon was ascribed to trophotropic dominance and was correlated with the degree of physical fitness. In further investigations using spiro-

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ACC NR: AT6007402

ergometry it was demonstrated that, upon performance of a certain type of physical work, the regulatory phenomena mentioned were followed by a counter-regulatory phase which manifested itself in changes in O<sub>2</sub> consumption and CO<sub>2</sub> production. An analysis of the autonomic reactions during the individual phases of work (state of readiness, running activity, ergostasis, restitution) revealed that the trophotropic dominance in restitution was marked in subjects showing an economical regulation, while it was slight or absent in the other subjects. The counter-regulatory phenomenon may thus be looked upon as an overcompensation, creating in the organism conditions more favorable from the standpoint of performance than those prevailing before muscle work. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 2/2 *Jo*





STADLER, F.

"Telecommunication Engineering in the Development of the Economy", P. 4,  
(TECHNICKE NOVINY, Vol.1, No. 17/18, Dec. 1953, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12,  
Dec. 1954, Uncl.

STADLER, F.

Characteristics of telecommunications traffic. p. 2.

Vol. 11, no. 1, Jan. 1953

SLABOPROUDY OBZOR

Praha, Czechoslovakia

So; Eastern European Accession Vol. 5 No. 4 April 1956

STADLER F

621.395.663

1193. ON THE THEORY OF TELEPHONE TRUNK-CALL FEES. F. Stadler.

Slaboproudý Obzor, Vol. 16, No. 9, 449-56 (1955). In Czech.

The proposed method of determining trunk-call fees is based on two factors: (1) capital costs and (2) the value of a given call. The cost factor per unit call (3 min) is estimated for polygonal and star-type telephone networks; in the former the exchanges are connected in tandem, while in the latter they are subdivided into several ranks, an exchange of a lower rank being connected to only one higher rank exchange. Pricing the call on the basis of its value is based on its relative importance to the national economy and on the requested reduction of the waiting time during the busy hour. Practical examples of determining the charges in both tandem and star-type networks are given.

R.S. Sidorowicz

Z/039/62/023/012/004/004  
E192/3382

AUTHOR: Stadler, František, Engineer Doctor

TITLE: Some remarks on the theory of trunks

PERIODICAL: Slaboproudý obzor, v. 23, no. 12, 698 - 705

TEXT: The principal methods of calculating the number of trunks, i.e. calculation on the basis of the permissible losses and on the basis of the waiting time, are reviewed. The fundamental formulae of Bernoulli, Poisson and Erlang are analyzed in order to determine their validity and an attempt is made to base both the methods on the same premises. It is found that as regards the approach based on the permissible losses, it is of little importance whether the number of trunks is determined on the basis of the Bernoulli, Poisson or Erlang formulae. However, since, in general, the volume of telephone traffic is steadily increasing and it is therefore necessary to provide adequate quality of service under these conditions, it is recommended that the Bernoulli and Poisson formulae be used for systems up to six trunks and the Erlang formula for larger channels. Calculation of the number of trunks on the basis of the probable waiting time is not recommended since

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Some remarks on the theory ....

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E192/F382

this method is not sufficiently justified mathematically. It is not necessary to search for a special method for calculating the number of trunks for waiting-time systems; the method of permissible losses is here adequate. The probable maximum waiting time can be evaluated on the basis of a simple formula:

$$D_c = Z^2 \cdot \frac{y}{v} \quad (34) \quad \checkmark$$

where  $D_c$  is the probable maximum waiting time in hours,  $y$  traffic in erlangs,  $Z$  permissible losses relative to the traffic  $y$  and  $v$  is the number of lines which, for a given loss during the busy hour, are capable of carrying the traffic;  $v$  is read from a suitable table or diagram. As regards the probability that the waiting time is longer or shorter than a prescribed time interval, it is necessary to find the distribution of the number of calls as a function of their duration. The result is strongly dependent on this distribution function. There are 6 figures.

ASSOCIATION: Výzkumný ústav spojů, Praha (Telecommunications Research Institute, Prague)

SUBMITTED: June 8, 1962

Card 2/2

STADLER, Frantisek, inz., dr.

Bronze or steel conductors? Slabeproudy obzor 23 no.9:523-526 S '62.

1. Vyzkumny ustav spoju, Praha.

STADLER, Frantisek, inz. dr.

Overloading of telecommunication networks. (s spoje 9 no. 2:  
3-6 Ap '64.

1. Research Institute of Telecommunication.



STADLER, P., dr.

Problem of the waiting time. Glaboprady obzor 25 no. 3:173  
Nr 164.

STADLER, Frantisek, dr. inz.

On the S.Hrbek review of my article "Overload of telecommunication lines." Cs spoje 10 no.2:32 Ap '65.

STADLER, I.

From the production of synthetic alloys, p. 164.

STROJNISKI VESTNIK (Fakulteta za elektroehniko in strojninstvo Univerze v Ljubljani Institut za turboostroje v Ljubljana Drustov strojnih inzenirjev in tehnikov LR Slovenije in Strojna industrija Slovenije) Ljubljana, Yugoslavia. Vol. 3, no. 6, Dec. 1957.

Monthly List of East European Accession EEAI LC, Vol. 8, no. 6, June 1959.  
Uncla.

STADLER, Ivan, inz.

Impressions from some visits to American foundries. Livar vest  
10 no.1:12-14 '63.

1. "Litostroj", Ljubljana.

STADLER, Ivan, inz.

Electric furnace, modern foundry aggregate. Livar vest 10  
no. 2/3:47-59 '63.

1. "Litostroj", Ljubljana.

STADLER, Ivan, inz.

Dust removal and ventilation in foundries. *Livarstvo* 10  
no. 51/52: 2-17 '63.

1. "litostroj", Ljubljana.

STADLER, Ivan, inz.

Conference on the cleaning of casts with water in Gliwice,  
Poland. Livar vest 11 no. 2: 41-48 '64.

STADLER, J.

"Assuring an effective construction system in mining." p. 118.

UHLI. (Ministerstvo paliv). Praha, Czechoslovakia, Vol. 1, No. 4,  
Apr. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.



CZECHOSLOVAKIA/Chemical Technology. Chemical Products H  
and Their Uses. Part III. Food Industry.

Abs Jour : Ref Zhur-Khiniya, No 15, 1958, 51893

Author : Knez, V., Masek, J., Vedlich, M.,  
Stadler, K.

Inst : -

Title : Construction of a Plant for the Production  
of High Quality Ferments for Application  
in the Milk Industry.

Orig Pub : Prunysl potravín, 1957, 7, No 7, 310-313

Abstract : The quality of ferments depends not only  
on the quality of the milk used, but also  
on the purity of the bacterial cultures.  
One must sterilize milk at 90-95° for 30  
minutes while stirring, prior to the cul-  
ture inoculation. Subsequently, the steri-

Card : 1/2

STADLER, Laszlo

On ware damages occurring in railroad transportation due to the negligence of shipping duties. Kozleked kozl 18 no.4:53-56 Ja '62.

STADLER, Laszlo

The packaging of goods transported by railroads. Kozleked  
kozl 18 no.15:246-249 15 Ap '62.

STADLER, Laszlo

Liability for damages suffered in railroad transportation.  
Vasut 14 no.11:30-31 N '64.

AUTHORS: Fiala, A., Ing. and Štádlér, V. CZECH/34-59-5-17/19

TITLE: Analytical Determination of Combined Sulphur in Steel  
(Analytické určení vazby síry v oceli)

PERIODICAL: Hutnické Listy, 1959, Nr 5, pp 462-464 (Czechoslovakia)

ABSTRACT: A working method is described for determining the sulphur which is combined with iron and manganese in various types of steels, which yields acceptable results. The method is based on micro-analytical determination of the sulphur in the isolated substance obtained by electrolytic dissolution of steel specimens in a neutral electrolyte. In addition to enabling evaluation of the chemical composition, this method also permits determining the total quantity of sulphides in steel specimens taken during smelting and casting of the steel. Fig 2 shows a sketch of the instrument used. Some of the results obtained are entered in Tables 1 and 2, p 463. There are 2 figures, 2 tables and 2 references, 1 of which is Czech, 1 German.

ASSOCIATION: Závody V. I. Lenina, Plzeň (V. I. Lenin Works, Pilsen)

Card 1/1

STADLEROVA, M.

Kunovice in the Valachia region, Eastern Moravia. p. 30. SBORNIK.  
Praha. (Journal issued by the Czechoslovak Geographical Society; with English  
and Russian summaries. Quarterly) Vol. 60, no. 1, 1955

SOURCE: East European Accessions List (EEAL), Library of Congress  
Vol. 4, No. 12, December 1955

STADLEROVA, M.

Situation and tasks of Soviet geography in the contemporary period of its development; I. Gerasimov's report at the ad Congress of the Geographic Society of the USSR. Tr. from the Russian. p. 28, Ceskoslovenska spolecnost aemepisan. SOBORNIK. Praha. Vol. 61, no. 1, 1956.

SOURCE: East European Accessions List. (EEAL) Library of Congress. Vol. 5, No. 8, August 1956.

STADLEROVA, M.

Basic principles of the distribution of socialist production and the tasks of economic geography; V. Vasintin's report at the 2d Congress of the Geographic Society of the USSR. Tr. From the Russian, p. 31. Ceskoslovenska spolecnost aemepisan. SOBORNIK. Praha. Vol. 61, No. 1. 1956.

SOURCE: East European Accessions List. (EEAL) Library of Congress. Vol. 5, No. 8, August 1956.



STADLEROVA, M.

Professor Bohuslav Horak, seventy-five years old; a biographic sketch.  
p. 114. Ceskoslovenska spolecnost zemepisna, SBORNIK. Praha.  
Vol. 61, no. 2, 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress  
Vol. 5, No. 12, December, 1956.

STADLEROVA, M.

Bohuslav Horak and Dusan Travnicek's study on the Description of Communities North of the Danube (the so called Bavarian Geographer); a review. p. 228.  
(Sbornik, Vol. 61, no. 3, 1956, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957, Uncl.

STADLEROVA, M.

GEOGRAPHY & GEOLOGY

Periodicals: ANTHROPOGIZMUM. Vol. 63, No. 4, 1958.

STADLEROVA, M. The most important endeavors to establish an orographic division of the Czech Lands during the 19th century before the division was made by K. Koristka. p. 303.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4, 1959 April.

Unclass.

STADLMANN, Alfred, inz.

Ceramic ceiling assembled without using building machinery.  
Poz stavby 13 no.2:70-72 '65.

1. Study and Typification Institute, Prague, Worksite for  
House Construction, Bratislava.

STADLMUELLER, N.

Country : ROMANIA/Chemical Technology. H  
Category : Chemical Products and Their Applications.  
Artificial and Synthetic Fibres.  
Abs. Jour : Ref. Znan. - Fizik., No. 10, 1959, 37172.  
Author : StadlmueLLer, N.  
Institut. : Scientific Association of Engineers and Technicians  
Title : Technological Modifications in the Production  
of Viscose for the Purpose of Reducing Specific  
Expenses.  
Orig. pub. : II-a Conf. tehn.-stint. a ind. usora.  
Textile. [Bucuresti], ASIT, 1957, 336-341.  
Abstract : No abstract.

Card: 1/1

Country : RUMANIA/Chemical Technology. H  
Category : Chemical Products and Their Applications.  
Cellulose and Its Derivatives, Paper.  
Abs. Jour : Ref. Zhur. - Khim., No. 10, 1959, 37228.  
Author : Kirnaler G., Solomon I., Stadlmuller R.\*  
Institut. : Scientific Association of Engineers and Technicians.  
Title : The Preparation of Carboxymethyl Cellulose.  
Orig. Pub. : II-a Consf. Techn.-stint. a Ind. Uoara.  
Textile. (Bucharest), ASIT, 1957, 350-354.  
Abstract : The most favorable conditions for the preparation of carboxymethyl cellulose (I) in experienced industrial conditions were refined. The preparation is accomplished in 2 stages. In the 1st stage, the cellulose (C) is mercerized in sheets by an alkali solution for 30 minutes at a temperature of about 20°; the sheets are pressed out, pulverized in an apparatus for 110 minutes at 22-25°; the alkalinized cellulose is left in the apparatus for 20 hours and then is treated with monochloroacetic acid (II). In the second stage, the alkalinized C is etherified

Card: 1/3

STADNENKO, N.M.

Concerning the level of comprehension by younger pupils of pictures  
with a plot. Nauk. zap. Nauk.-dosl. inst. psykhol. 11:36-38 '59.  
(MIRA 13:11)

1. Institut psikhologii, Kiyev.  
(Comprehension)

STADNICHENKO, A., starshiy nauchnyy sotrudnik

Japanese merchant fleet and shipping problems. Mor. flot  
21 no.12:42-44 D '61. (MIRA 14:12)

1. Institut narodov Azii AN SSSR.  
(Japan-Merchant marine)



STADNICHENKO, A.I., kand.geograf.nauk (stantsiya Zagoryanskaya, Yaroslavskaya  
sheleznaya doroga).

Do you know about this? Zdorov'e 4 no.6:32 Je '58 (MIRA 11:6)  
(SMOKING)

KOSTIN, N.P., gornyy inzhener; GUSAROV, M.I., gornyy inzhener; ALEKSEYEVSKIY,  
N.A., gornyy inzhener; STADNICHENKO, A.P., gornyy inzhener.

Drift mining at a speed of 302 meters per month. Gor.zhur.no.9:12-15  
S '56. (MIRA 9'10)

1.Severoural'skiye boksitovyys rudniki.  
(Ural Mountain region--Bauxite) (Mining engineering)

STADNICHENKO, A.P., inzh.

Results of work in Northern-Ural bauxite mines in 1957. Bul.  
TSIIN tsvet. met. no.9:9 '58. (MIRA 11:6)  
(Ural Mountain region--Bauxite)

KOZLOVSKIY, Nikolay Fedorovich[Kozlovs'kyi, M.F.]; STADNICHENKO, G.S.  
[Stadnychenko. H.S.], red.; KONTAR, K.F., tekhn. red.

[Japan seen through the lens; news photographer's notes]V ob'-  
iektyvi Iaponiia; zapysky fotokorespondenta. Kyiv, Derzh.vyd-  
vo obrazotvorchoho mystetstva i muzychnoi lit-ry URSR, 1962. 69 p.  
(MIRA 16:2)

(Japan--Views)

STADNICHENKO, N. V., Eng.

Coal Mines and Mining

Continuous work schedule is the basis for the full utilization of mining technology. Mekh. trud. rab. 6 No. 8, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

STADNICHENKO, N.V., inzh.

Greater attention to mining operations. Ugol' 34 no.2:22-28 P '59.  
(MIRA 12:4)

(Coal mines and mining)

STADNICHENKO, N.V., dots; NAZAROV, V.T., gornyy inzh.

Most advantageous borehole diameter. Ugol' 34 no.10:20-22 0 '59.  
(MIRA 13:2)

1. Novocherkasskiy politekhnicheskiy institut (for Stadnichenko).
2. Nachal'nik stroitel'stva shakhty No.1 "Gukovskaya" (for Nazarov).  
(Blasting) (Boring)

STADNICHENKO, N.V.; MAZAROV, V.T.

Advantageous borehole diameters. Ugol' 35 no.11:51-52 N '60.

(MIRA 13:12)

(Boring) (Blasting)



STADNICHENKO, N. V., CAND TECH SCI, "INVESTIGATION OF  
BLAST-DRILLING OPERATIONS IN <sup>conducting</sup> ~~MAKING~~ HORIZONTAL <sup>workings</sup> ~~EXCAVA-~~  
~~TIONS~~ <sup>through</sup> ~~ALONG THE~~ ROCK." NOVOCHERKASSK, 1961. (MIN OF  
HIGHER AND SEC SPEC ED UKSSR, KHAR'KOV MINING INST).  
(KL, 3-61, 220).

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STADNICHENKO, N.V.

Role of the time factor in the efficiency of capital investments.  
Trudy NPI 139:3-14 '62. (MIRA 16:6)  
(Capital investments)

STADNICHENKO, N.V.; STADNICHENKO, P.G.

Economic effectiveness of capital investments. Ugol' 38 no.11:  
50-54 N'63. (MIRA 17:9)

1. Novocherkasskiy politekhnicheskiy institut (for N.V. Stadnichenko). 2. Rostovskiy finansovo-ekonomicheskii institut (for P.G. Stadnichenko).

STADNICHENKO, N.V.; STADNICHENKO, P.G.

Economic effectiveness of capital investments. Ugol' 38 no.11:  
50-54 N'63. (MIRA 17:9)

1. Novocherkasskiy politekhnicheskiy institut (for N.V. Stadnichenko). 2. Rostovskiy finansovo-ekonomicheskii institut (for P.G. Stadnichenko).

STANDARD NO. 1.111

Device for checking the geometry of broach teeth. Mashinostroenie  
no.4:62-62 31 Aug '64. (MIRA 17:10)

GOL'DBERG, I.Ye.; STADNICHENKO, V.I.; LAURENCO, N.I.

Automation of the technological process of manufacturing stator  
plate sections for micromotors and electric motors of the unified  
series. Blul.tekh.-ekon.inform.Gos.nauch.-issl.Inst.nauch.i tekhn.  
inform. 18 no.5:30-33 My '65. (MIRA 18:6)

STADNICHENKO, V.G.

~~Soils of the Veliko-Anadol' Forest.~~ Nauk.zap.Dnipr.un. 48:53-63 '55.  
(MIRA 10:11)

(Ol'ginka District--Forest soils)

DOMBROVSKIY, A.V.; STADNICHUK, M.D.

Interaction of the complex salt of  $\beta$ -nitrophenyldiazonium and  
ferric chloride with alcohols. Zhur.ob.khim.25 no.9:1737-1739  
S '55. (MIRA 9:2)

1.Chernevitskiy gosudarstvennyy universitet.  
(Diazonium compounds) (Alcohols)



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53600

2209, 1153

S/079/60/030/007/031/039/XX  
B001/B066

AUTHORS: Petrov, A. A., Kormer, V. A., and Stadnichuk, M. D.

TITLE: Investigations in the Field of Conjugate Systems. CXXI.  
Addition of Lithium Alkyls to Trialkylvinyl Acetylenyl  
Silane  $\eta$

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2243-2248

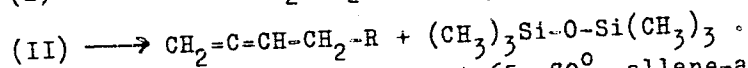
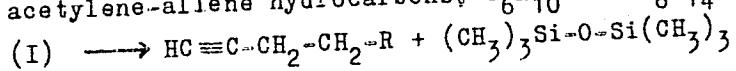
TEXT: The authors continued their investigation of the reaction of lithium alkyls with compounds having a double and a triple bond, and studied, taking into account the papers of Refs. 3, 4, the addition of lithium ethyl, propyl, isopropyl, butyl, and tertiary butyl to trimethylvinyl acetylenyl silane. By treating the reaction product with water they obtained the addition products of the expected composition:  $(\text{CH}_3)_3\text{Si} - \text{C}_4\text{H}_4 - \text{R}$ . According to the mode of addition of lithium alkyls, structures (I) to (VI) were possible. In the infrared spectra of all adducts, frequencies of the stretching vibrations of a triple and allene bond system were found. In the spectral region which is characteristic of the stretching vibrations of the double bonds, no absorption was observable (Diagram 1). These  
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Investigations in the Field of Conjugate  
Systems. CXXI. Addition of Lithium Alkyls  
to Trialkylvinyl Acetylenyl Silane

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B001/B066

data show that the adducts are mixtures of acetylene and allene compounds, and that formulas (IV) and (VI) are negligible. On hydrogenation of the silicon hydrocarbons obtained from the adducts with lithium ethyl and lithium butyl by means of  $\text{PdCaCO}_3$ , trimethylhexyl and trimethyloctyl silanes were obtained accordingly. Their structure was confirmed by comparing their infrared spectra with those of authentic samples of silicon hydrocarbons (Diagram 2). Thus all formulas, except (I) and (II), may be excluded. The ratio between the acetylene and allene isomers was found from their hydrolysis. The hydrolytic cleavage of two silicon hydrocarbons, with  $\text{R} = \text{C}_2\text{H}_5$  and  $\text{C}_4\text{H}_9$ , gave hexamethyl disiloxane and mixtures of acetylene-allene hydrocarbons,  $\text{C}_6\text{H}_{10}$  and  $\text{C}_8\text{H}_{14}$ , according to the scheme



Since hydrolysis took place at  $65-70^\circ$ , allene-acetylene isomerization was impossible in this case. The acetylene isomer content in the mixture was determined analytically (Ref. 5). Also the difference between the

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Investigations in the Field of Conjugate  
Systems. CXXI. Addition of Lithium Alkyls  
to Trialkylvinyl Acetylenyl Silane

S/079/60/030/007/031/039/XX  
B001/B066

molecular refraction of (I) and (II) permits to estimate the probable composition of the adduct mixtures of (I) and (II). It was thus shown that lithium alkyls add to trimethylvinyl acetylenyl silane and give a mixture of acetylene and allene compounds. They add in another way as to the vinyl alkyl acetylenes. The course of the curve (Diagram 4) showing the hydrogenation rate of the mixtures of adducts (I) and (II) is remarkable. The authors mention A. D. Petrov, S. I. Sadykhzade, and Yu. P. Yegorov. They express their gratitude to T. V. Yakovleva for examining the infrared spectra. There are 4 figures, 1 table, and 7 references: 6 Soviet and 1 US. X

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

SUBMITTED: July 16, 1959

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55310

2209

32045  
S/051/61/011/005/005/018  
E202/E192

AUTHORS: Yakovleva, T.V., Petrov, A.A., and Stadnichuk, M.D.

TITLE: Vibrational spectra and structure of the enyne type silicon hydrocarbons

PERIODICAL: Optika i spektroskopiya, v.11, no.5, 1961, 588-593

TEXT: Vibrational spectra of the following were studied: 1-trimethylsilylbutene-3-yne-1; 1-trimethylsilyl-3-methylbutene-3-yne; 1-trimethylsilyl-pentene-3-yne-1; and 1-trimethylsilyl-2-cyclohexene-1-yl-ethyne. These were contrasted with the available data on the corresponding enyne type hydrocarbons. Full data of the Raman and IR vibrational spectra are given for all the above compounds. It is concluded that the substitution of C with Si, at the triple bond causes a sharp lowering of the frequency in both spectra at ca. 75 cm<sup>-1</sup>, and increases the corresponding intensity of the band in the IR spectrum. The frequency of the double bond remains substantially unchanged. Two additional bands identified as the cis and trans isomers were found in the first compound. The degree of depolarisation of the lines of valency vibrations C ≡ C; C = C; and Si - C, with  
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Vibrational spectra and structure ...

32045

S/051/61/011/005/005/018  
E202/E192

reference to the ellipsoid of polarisation was also investigated. It was shown that with the elongation of the C- chain of the silicon hydrocarbon, the ellipsoid is stretched, while when the branching occurs it shrinks. Cyclisation, on the other hand, has similar effect as the elongation of the straight chain. Finally, the authors conclude that the above mentioned frequency fall in the triple bond spectrum is due not only to the change of the mass of the nearest atom, but also due to the increased coefficient of elasticity. There are 1 figure, 3 tables and 7 references; all Soviet-bloc.

X

SUBMITTED: December 26, 1960

Card 2/2

89510

S/079/61/031/002/003/019  
B118/B208

5-3700

AUTHORS: Stadnichuk, M. D. and Petrov, A. A.

TITLE: Studies in the field of conjugated systems. CXXVIII. Mode of bromine addition to silicon-containing enine compounds

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 2, 1961, 411-418

TEXT: Following Ref. 1 concerning the mode of bromine addition to enines, the authors studied the effect of the substitution of a trialkyl or triaryl silyl group for one of the hydrogen atoms on the reactivity of the enine system with respect to bromine. A. D. Petrov and S. I. Sadykh-zade et al. (Refs. 2, 3) found that 1-triethyl silyl buten-3-ene-1 adds the first bromine molecule to the triple bond. The authors studied this problem thoroughly, and brominated silicon-containing enines with different substituents in the enine system and at the silicon atom. The following silicon-containing enine systems were first selected as initial products: 1-trimethyl silyl buten-3-ene-1 (I), 1-trimethyl silyl penten-3-ene-1 (II), 1-trimethyl silyl-3-methyl buten-3-ene-1 (III), and 1-trimethyl silyl ethynyl cyclohexene-1 (IV). In the second group, the following compounds were studied:

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B118/B208

Studies in the field ...

1-triethyl silyl and 1-triphenyl silyl buten-3-ines-1 (V) and (VI). The results obtained were compared with those of compound (I). (II) and (IV) have so far not been described. The following three types could be expected when adding bromine to these enines:

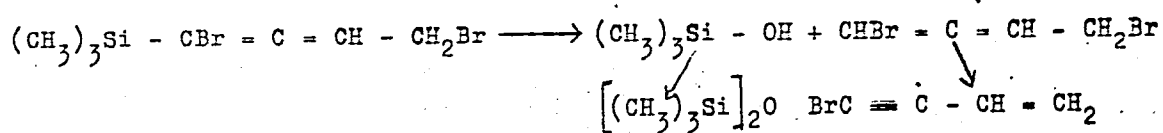
$R_2Si - C \equiv C - CR'Br - CHR''Br(A)$ ,  $R_2Si - CBr = CBr - CR' - CHR''(B)$ ,

$R_2Si - CBr = C = CR' - CHR''Br(C)$  (Ref. 1). This bromination was carried out in chloroform at  $-10-15^\circ C$ . In most cases, the dibromides could be easily separated by vacuum distillation from excess initial products, and from tetrabromides and other high-boiling products formed in low quantities. The structure of the dibromides was confirmed by their infrared spectra (Diagram), and by chemical means. In all cases, bromine added to the 1, 4-position and to the ethylene bond. The highest yield in allene-1, 4-adduct is obtained from 1-trimethyl silyl buten-3-ine-1, the lowest one from 1-trimethyl silyl-3-methyl buten-3-ine-1. Dibromides of 1-trimethyl silyl buten-3-ine-1 were shown to be capable of: 1) isomerization on heating, giving 1, 3-diene dibromide, 2) splitting off vinyl bromo acetylene under the action of alcoholic alkali:

Card 2/13

S/079/61/031/002/003/019  
B118/B208

Studies in the field ...



The changes in the addition direction of bromine, according to the position of methyl groups in the enine chain, are explained by electron displacements. There are 1 figure, 12 tables, and 12 references: 10 Soviet-bloc and 2 non-Soviet-bloc.

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

SUBMITTED: February 29, 1960

Legend to the figure: Infrared absorption spectra of dibromides (layer thickness about 30 $\mu$ ): 1: 1-trimethyl silyl buten-3-ine-1; 2: 1-trimethyl silyl buten-3-ine-1 (Experiment b); 3: 1-trimethyl silyl penten-3-ine-1; 4: 1-trimethyl silyl-3-methyl buten-3-ine-1; 5: 1-trimethyl silyl ethinyl

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20947

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2209, 1164, 1279

S/079/61/031/004/001/006  
B118/B208

AUTHORS: Petrov, A.A., Korner, V.A., and Stadnichuk, M.D.

TITLE: Studies in the field of conjugate systems. CXXXIII.  
Addition of lithium dialkyl amides to trialkyl-silyl-  
buten-3-yne (Enyne compounds. LII)

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 4, 1961, 1135 - 1139

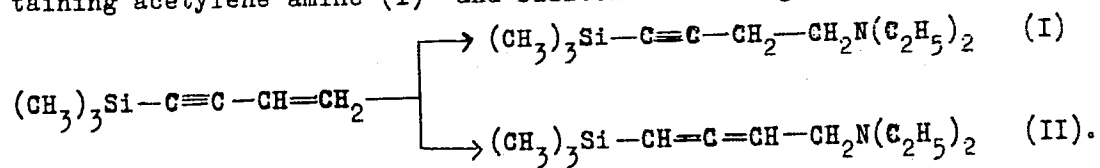
TEXT: As was previously shown, lithium dialkyl amides readily add to vinyl acetylene hydrocarbons to form acetylene or allene amines, depending on the structure of vinyl acetylene hydrocarbons. Considering the considerable dependency of the reaction direction on the structure it was of interest to study more thoroughly the reactions of lithium dialkyl amides with enyne compounds. The present paper describes the reactions of lithium diethyl amide and lithium piperidide with 1-trimethyl-silyl-buten-3-yne-1. The latter adds lithium dialkyl amides even in the cold, but the adduct is more or less cleft when treated with water, forming the amine and hexamethyl siloxane owing to the weak hydrolytic stability of the C-Si bond in  $\alpha$ -position to the multiple bond. Reaction of 1-trimethyl-silyl-

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S/079/61/031/004/001/006  
B118/B208

Studies in the field of ...

-buten-3-yne-1 with lithium diethyl amide gives a mixture of silicon-containing acetylene amine (I) and silicon-containing allene amine (II):



The infrared spectrum of this mixture shows a very intense frequency of stretching vibrations of the acetylene bond ( $2171 \text{ cm}^{-1}$ ) and an intense band of stretching vibrations of the allene grouping ( $1937 \text{ cm}^{-1}$ ). In the range  $1600 \text{ cm}^{-1}$  no absorption was observed which indicated the absence of an isomer with a conjugate system of double bonds. The presence of silicon is confirmed by the characteristic frequencies  $1208$  and  $1256 \text{ cm}^{-1}$ , that of the  $(\text{CH}_3)_3\text{Si}$  grouping by the frequencies  $843$  and  $762 \text{ cm}^{-1}$ . Heating with 10% KOH solution in methanol results in a cleavage of the mixture to form hexa-

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S/079/61/031/004/001/006  
B118/B208

Studies in the field of ...

methyl siloxane and a mixture of acetylene and allene amines. The structure of the amines present in the mixture was confirmed spectroscopically and chemically. Reaction of trimethyl-silyl-butenyne with lithium piperide gave a mixture of silicon-free amines with silicon-containing amines. The former product consisted of nearly pure 1-piperidino-butyne-3. Analysis gave 90% of a compound with an acetylene group in end position whose infrared spectrum rather corresponded to that of 1-piperidino-butyne-3. The second product is an adduct of piperidine to trimethyl-silyl-buten-3-yne-1 and, with respect to structure, also an acetylene compound. It was thus confirmed that, contrary to vinyl acetylenes, the 1-trimethyl-silyl-buten-3-yne-1 tends to form acetylene compounds in reactions with lithium dialkyl amides. The mode of addition depends on the nature of the amine. The formation of silicon-free compounds seems to be due to the instability of the C—Si—bond to bases. The two resultant silicon-containing amines are colorless oils completely soluble in dilute hydrochloric acid. If they are separated from this solution, they are, however, partially cleft at the C—Si—bond. There are 1 figure and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language-publication reads as follows: E.L. Warrisk, J.Am.Chem.Soc., 68, 2455, (1946).

Card 3/4 *Leningrad Technological Inst. in Leningrad*

22203

S/079/61/031/006/004/005  
D223/D305

53700

2203 0274 1104

AUTHORS: Stadnichuk, M.I. and Petrov, A.A.

TITLE: Hydrogenation of enin silicon-hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, v.31, no.6,1961, 1855-1861

TEXT: In the present work the hydrogenation of silicon containing enins at ordinary temperatures in the solution of methanol and presence of Pd/CaCO<sub>3</sub> was carried out. The hydrogenation of compounds was carried out with differently placed methyl groups in an enin system (1-trimethylsiliconebutene-3-in-1, 1-trimethylsiliconepentene-1-in-1, 1-trimethylsilicone-3-methylbutene-3-in-1 and also 1-trimethylsiliconetriethylene-cyclohexone-1) and with differently positioned silicon atom (1-triethylsilicone- and 1-triphenylsiliconebutene-3-in-1). The reaction either interrupted after addition of 1 mole of hydrogen per 1 mole of initial material or it terminated. The plot of exhaustion rates of hydrogenation in all investigated cases show clearly two maxima, (Figure 1), corresponding to the binding of 0.8 and 1.4 moles of hydrogen. The binding of the

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S/079/61/031/006/004/005  
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Hydrogeneration of enin silicon-hydrocarbons

Fig. 1 hydrogeneration rate curves.  
1) 1-trimethylsiliconebutene-3-in-1  
2) 1-trimethylsiliconepentene-3-in-1  
3) 1-trimethylsilicone-3-methylbutene-3-in-1. 4) 1-trimethylsiliconeethylene cyclohexone-1.

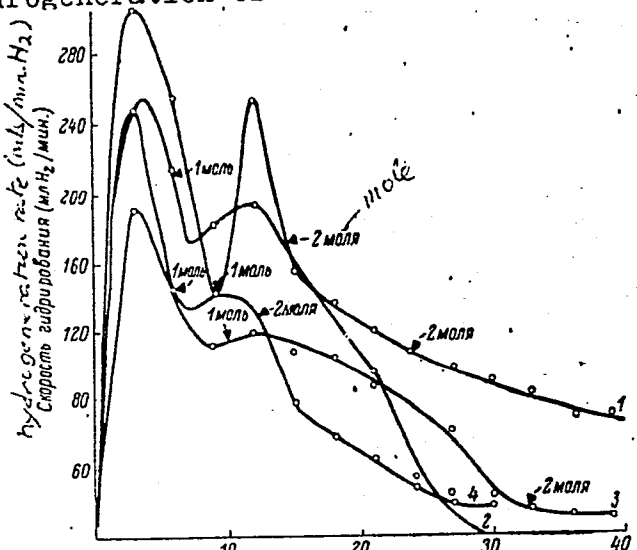


Рис. 1. Кривые скорости гидрирования.

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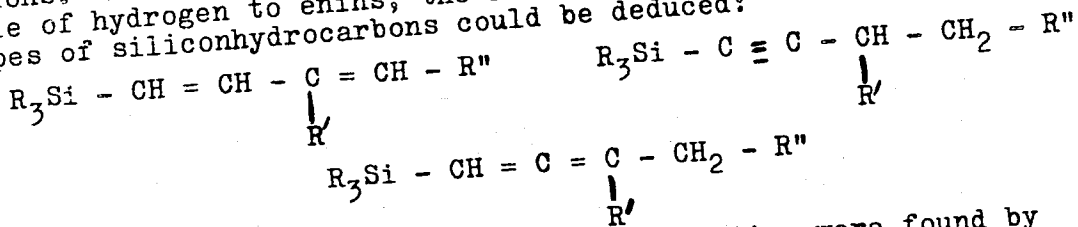
1 — 1-триметилсиллилбутен-3-ин-1, 2 — 1-триметилсиллилпентен-3-ин-1, 3 — 1-триметилсиллил-3-метилбутен-3-ин-1, 4 — 1-триметилсиллилэтиленциклогексен-1.

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D223/D305

Hydrogeneration of enin silicon-hydrocarbons

third mole of hydrogen proceeds very slowly. The initial hydrogeneration rate is slightly decreased by substitution into the enin system. The pronounced character of the curves of hydrogeneration rates point out the preferential ways of the hydrogeneration process, while on the other hand the experiments on hydrogeneration using reacting components ratio 1 : 1 showed no signs of preferenti- ations. Based on the results of experiments of additions of 1 mole of hydrogen to enins, the formation of the following three types of siliconhydrocarbons could be deduced:



The structure of the products of hydrogeneration were found by

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D223/D305

Hydrogeneration of enin silicon-hydrocarbons

infra-red spectrum and by chemical methods. The comparison of the infra-red spectrums of the hydrogeneration products and initial siliconehydrocarbons showed that in all results of hydrogeneration new double substituted acetylenes were formed. The acetylene bond in silicon containing enins is revealed by the characteristic bond intensity at about  $2150\text{ cm}^{-1}$ . The acetylene siliconehydrocarbons formed by hydrogeneration showed absorption at about  $2170\text{ cm}^{-1}$ . These acetylene bond absorption bands appear intensive which indicates the appreciable acetylene content of the hydrogeneration products. The infra-red spectrums of hydrogeneration products showed the appearance of a new bond in the region  $1940\text{ cm}^{-1}$  of medium and weak intensity. The absorption in this region indicates the formation of small quantities of allenes, i.e. of partial addition of hydrogen into 1.4-position, but this was not detected in the case of siliconehydrocarbons not containing vinyl group (1-trimethylsiliconepentene-3-in-1 and 1-trimethylsiliconeethylenecyclohexene-1). The chemical methods of establishing the structure of the hydrogeneration products were based on ability to add hydrogen

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D223/D305

### Hydrogeneration of enin silicon-hydrocarbons

across the double bond. The gaseous hydrocarbons obtained by the hydrolytic separation of the hydrogeneration products of 1-trimethylsiliconbutene-3-in-1, 60% of which were removed, contained about 95% of acetylene and about 2% of dienes. Unreacted part of initial material, judged by the infra-red spectrum does not differ in composition from the latter. The ozonation of hydrogeneration products gave propionic, acetic and oxalic acids. Formation of acetic acid confirms the partial binding of hydrogen to the 1.4 position, while the formation of propionic acid (main product of oxidation) confirms the acetylene structure of the main hydrogeneration product. Comparison of the constants of hydrogeneration products and some triallylsiliconealkyldienes-1.3 also indicates the formation of acetylene bonds and not diene bonding of hydrogeneration. These later ones possess a high refractive index as for instance 1-trimethylsiliconbutadiene-1.3,  $n_D^{20} = 1.4478$  (Ref 9: A.D. Petrov, S.I. Sadykhzade, Izv. AN SSSR, OZhN, 1958, 513 and Ref 10: S.I. Sadykhzade, I.V. Avgushevich and A.D. Petrov, DAN

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Hydrogeneration of enin silicon-hydrocarbons

SSSR, 112, 662, (1957)), and a product of hydrogeneration of 1-trimethylsiliconbutene-3-in-1 which could have contained diene, had refractive index  $n_D^{20} = 1.4310$ . It was, thus, established that enin siliconhydrocarbons would hydrogenerate on the palladium in all three directions but preferably across the double bond. This postulate is exemplified in the case of 3-ethylsilicone and 3-phenylsiliconebutene-3-in-1 which possess bulky substitutes in position 1. Following this the catalytic hydrogeneration of silicon hydrocarbons is similar to the enin hydrocarbons, the difference between the two groups is probably connected with the influence of space factors which bring about absorption across the triple bond and then absorption and hence hydrogeneration follow the course of double bond. Since ethylene bond hydrogenerates easier than acetylene (Ref 11: G.C. Bond, Quart. Rev. 8, 279, 1954) then correspondingly the addition rate of the first and second mole of hydrogen in the case of enin siliconhydrocarbons is the same as in similarly structured hydrocarbons. The increase in space difficulties brings about an

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D223/D305

Hydrogeneration of enin silicon-hydrocarbons

appreciable decrease in the hydrogeneration rate of 1-trimethylsilyl-  
conethylenecyclohexene when compared with 1-trimethylsiliconebutene  
-3-in-1 and others. Especially the slow hydrogeneration rate of  
1-triphenylsiliconbutene-3-in-1 could be a result of polarization  
which decreases the electron density of the double bond, resulting  
in absorption on palladium and consequently slower hydrogeneration.  
There are three tables, 2 figures and 16 references: 14 Soviet-  
bloc and 2 non-Soviet-bloc. The references to the English-language  
publications read as follows: G.C. Bond, Quart. Rev. 8, 279, (1954);  
F.C. Whitmore, L.H. Sommer et al., J. Am. Chem. Soc., 68, 475, (1946).

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lenso-  
veta ( Leningrad Technological Institute imeni Lenso-  
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SUBMITTED : June 29, 1960

Card 7/7

S/079/61/031/011/002/015  
D228/D305

AUTHORS: Petrov, A. A., Mingaleva, K. S., Stadnichok, M. D.  
and Martina, I. A.

TITLE: The dipole moments, structure and reaction capacity of  
some enin hydrocarbons and silicohydrocarbons

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 11, 1961, 3521-3524

TEXT: The authors compare the dipole moments of four enin hydrocarbons - with tertobutyl and triphenyl radicals - and five enin silicohydrocarbons - with a triple bonded, trimethylsilyl grouping - in order to clarify the difference in the reaction capacity of such substances. Previous work in this field has been done by A. A. Petrov, K. S. Mingaleva, and B. S. Kopin (Ref. 4, Dokl. AN SSSR, 123-298, 1958; Ref. 5, Zh. obshch. khimii, 29, 3732, 1959) and other scientists. Experimental procedure: The hydrocarbons were prepared in the following way: vinyltrimethylsilylacetylene and its isopropenyl derivatives by the method of I. A. Martina and A. A. Petrov (Ref. 5, Zh. obshch. khimii, 31, 119, 1961).

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D228 D305

The dipole moments

entailing the respective alkylation of propenyltertiobutylmagnesium bromide and the β-gradation of the alcohol, obtained from t-butoxyacetylethylmagnesium bromide and a series of triphenylmethylvinylacetylethyls by reacting with phenylchloromethane with vinylacetylethylmagnesium bromide. The substituted carbons were synthesized from trimethyl or triphenylsilyl and vinylacetylethylmagnesium bromide. The dipole moments were determined on the method of dilute solutions, the dielectric permittivity being measured to a special device by the polarization technique. According to G. N. Kartsev and Ye. K. Svirina (Dokl. Akad. Nauk SSSR, 122, 99, 1958; Izv. Akad. Nauk SSSR, Otd. Khim. Nauk, 211, 1960), atomic polarization cannot be disregarded in the case of  $S_{\alpha}$  compounds, so the authors used a value of 5 units per atom  $S_{\alpha}$  atom, the atomic polarization for vinylhydrocarbons. Conclusions: The data for the hydrocarbons show that the introduction of methyl and vinyl groups into the  $1_{\alpha}$ ,  $2_{\alpha}$ , and  $3_{\alpha}$  positions in the vinylacetylethyl and vinylmethylacetylethyl molecules has various effects on their dipole moments, these are respectively pronounced in the case of the vinylacetylethyl, and the authors consider the mechanism to be enriched by reactions at the expense of the vinyl system. The same patterns are observed

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The dipole moments...

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served in the silicohydrocarbons, although such compounds tend to have smaller dipole moments, which may be due to the displacement of free electron pairs of the halogens or oxygen to the side of the Si atom, whose d-shell is unfilled. However, the orientation of the dipole moment in the molecules of the silicohydrocarbons does not appear to differ from that in the molecules of the corresponding hydrocarbons. There are 2 tables and 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: W. H. Carothers, G. J. Berchet, J. Am. Chem. Soc., 55, 1095 (1933); C. Eaborn, Silicoorg. comp., London, 1960.

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

SUBMITTED: November 30, 1960

Card 3/3

27260  
S/020/61/139/005/013/021  
B103/B217

53700  
AUTHORS:

Petrov, A. A., Stadnichuk, M. D., and Kheruze, Yu. I.

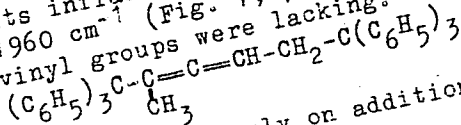
TITLE:

Addition of triphenyl methyl radicals to enyne hydrocarbons and silicon hydrocarbons

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 139, no. 5, 1961, 1124-1127

TEXT: The authors found that isopropenyl acetylene is not the only compound that adds triphenyl-methyl radicals in 1,4-position according to A. F. Thompson, Jr., D. M. Surgenor, (Ref. 1: J. Am. Chem. Soc., 65, 486 (1943)). When triphenyl chloro methane and metallic mercury reacted with vinyl methyl acetylene (I), they obtained a crystalline adduct C<sub>43</sub>H<sub>36</sub>. The latter had, in its infrared spectrum, a rather intensive band of the allene group at about 1960 cm<sup>-1</sup> (Fig. 1,1), whereas the bands characteristic of acetylene and vinyl groups were lacking. Therefore, the structure



formed analogously on addition of triphenyl methyl radicals to vinyl-tert-

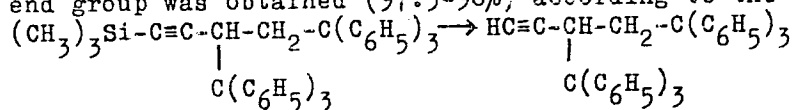
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27260

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B103/B217

Addition of triphenyl methyl

butyl acetylene (II) which, however, could not be separated in pure state. Its infrared spectrum is given in Fig. 1,2. Triphenyl methyl radicals are added to silicon-containing enynes in different order according to structure, in contrast to vinyl acetylene hydrocarbons. Thus, vinyl trimethyl silyl acetylene (1-trimethyl silyl butene-3-ene-1) (III) mainly adds to the double bond. An intensive band  $2168\text{ cm}^{-1}$  of the triple bond exists in the infrared spectrum of the adduct, and a weak band in the range of  $1945\text{ cm}^{-1}$  where the absorption of allene compounds usually takes place (Fig. 1,3). The adduct structure was also chemically confirmed. A hydrocarbon with an acetylene end group was obtained (97.5-98%) according to the scheme



due to hydrolytic cleavage of this substance. The structure of the hydrocarbon was proved by means of argentometric titration and by the infrared spectrum; the intensive frequency  $3315\text{ cm}^{-1}$  of the acetylene end group (Fig. 1,5) was detected. This hydrocarbon is, according to its structure, an isomer of the 1,4-adduct of the triphenyl methyl radicals to vinyl acetylene, and differs from this isomer only by a higher melting point.

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B103/B217

Addition of triphenyl methyl ...

Isopropenyl trimethyl silyl acetylene (1-trimethyl silyl-3-methyl butene-3-ine-1) (IV) adds triphenyl methyl radicals in 1,4-position, i.e., in the same direction as enyne hydrocarbons. Triphenyl methane is formed in this case as by-product (17% for IV, 6% for V). An intensive band ( $1930\text{ cm}^{-1}$ ) of the allene group exists in the infrared spectrum of the adduct, whereas the bands of the acetylene bond is lacking (Fig. 1,4). An allene hydrocarbon described in the literature (Ref. 1) is formed by hydrolytic cleavage. The structure of the adduct of triphenyl methyl radicals to propenyl trimethyl silyl acetylene (1-trimethyl silyl pentene-3-ine-1) (V) has hitherto not been reliably determined. It is assumed to have a 1,3-diene structure, since neither an allene nor an acetylene group exists in its infrared spectrum. The authors explain the difference in the order of addition of triphenyl methyl radicals to hydrocarbon (II) and silicon hydrocarbon (III) of analogous structure by increasing steric hindrances for the acetylene bond in transition from quaternary hydrocarbon to quaternary silicon. Steric hindrances also occur at the double bond of silicon hydrocarbons IV and V. Therefore, the 1,4-addition is more favorable. Addition is now retarded, which is proved by a lower yield of adducts and by formation of triphenyl methane. The authors' experiments were conducted with a mixture of tri-

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S/020/61/139/005/013/021  
B103/B217

Addition of triphenyl methyl

phenyl chloro methane (melting point 108-112°C) with an excess of enyne compound, benzene, and metallic mercury (10-fold excess). The mixture was shaken for several days in a hermetically sealed glass in protective gas atmosphere. Then, the excess of enyne and solvent was distilled off, the residue extracted with ether. The ether was distilled off, the residual oil, when standing, crystallized more or less quickly. The adducts were recrystallized from petroleum ether or from acetone. All adducts (constants and data see Table 1) are weakly soluble in ether, petroleum ether, acetone, CCl<sub>4</sub>, and practically insoluble in alcohol. The adduct of silicon hydro-

carbons (V) is almost insoluble. Hydrolysis of the adducts of (III) and (IV) was realized by boiling with alcoholic KOH solution (25-fold excess) for 35 hr. I. A. Maretina assisted in synthesis. There are 1 figure, 1 table, and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

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

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S/079/62/032/008/001/006  
D204/D307

AUTHORS: Stadnichuk, M.D. and Petrov, A.A.

TITLE: Investigations of conjugated systems. CLVIII.  
The addition of Li alkyls to trimethylsilyl-iso-propenyl- (A) and to trimethylsilyl-propenyl-acetylene (B)

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 8, 1962,  
2490 - 2494

TEXT: The reactions of LiBu and LiPr with A and B were studied to determine the structural influences of the enyne grouping on the direction of addition. The addition of A to LiBu gave a product, C, which after treatment with water and hydrolysis with alc. KOH gave a mixture of hydrocarbons containing ~ 24 % of compounds possessing a terminal triple bond. Infrared spectroscopy revealed that C was a mixture of allenic and acetylene compounds, the most important product being  $(\text{CH}_3)_3\text{SiCH} = \text{C} = \underset{\text{CH}_3}{\text{C}} - \text{CH}_2 - \text{C}_4\text{H}_9$ .

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S/079/62/032/008/001/006  
D204/D307

Investigations of conjugated ...

Analogous results were found for the addition of LiPr and A. The addition of B to LiBu gave a product, D, which on hydrolysis yielded hydrocarbons containing ~41% of substituted acetylenes. The allenic part of D was mainly  $(CH_3)_3SiCH = C = \underset{CH_3}{\underset{|}{CH}} - C_4H_9$ . These differences

are explained by the different electron displacements in the case of A and B (resulting in unequal polarization of the 1,4 positions) and by the steric effect of  $-CH_3$  in A. The differences between the addition products of Li alkyls and (a) vinyl alkyl acetylene, and (b) silicon containing enynes, (i.e. the formation of a greater proportion of acetylenes in the latter case), are ascribed to the steric effect of the  $-Si(CH_3)_3$  group and to a partial transfer of the  $\pi$  electrons from the triple bond into the d-orbit of silicon. There are 3 figures.

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

SUBMITTED: July 12, 1961

Card 2/2

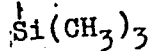
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D204/D307

AUTHORS: Stadnichuk, M.D., and Petrov, A.A.

TITLE: Investigations of conjugated systems. CLXI. The addition of silicon hydrides to 1-trimethylbuten-3-yne-1 (A)

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 11, 1962, 3514-3521

TEXT: The additions of  $\text{MeSiHCl}_2$ ,  $\text{EtSiHCl}_2$ ,  $\text{SiHCl}_3$ ,  $\text{Me}_3\text{SiH}$  and  $\text{Et}_3\text{SiH}$  to A were studied, in the presence of  $\text{H}_2\text{PtCl}_6$ , investigating the addition products by ir spectroscopy, nuclear magnetic resonance, and by chemical methods. Addition of  $\text{MeSiHCl}_2$  to A, initially at  $85^\circ\text{C}$  (self-heating) and then for 8 hrs. at  $100^\circ\text{C}$ , followed by methylation of the product, gave  $(\text{CH}_3)_3\text{Si-SH} = \text{C} - \text{CH} = \text{CH}_2$ . In the



absence of prolonged heating during the addition reaction a certain amount of

Card 1/2

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S/079/62/032/011/003/012  
D204/D307

AUTHORS: Stadnichuk, M.D., and Petrov, A.A.  
TITLE: Investigations of conjugated systems CLXII. The nature of the additions of bromine and hydrogen to vinyl- (A) and allyl - (B) dimethylvinylacetylenylsilanes  
PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 11, 1962, 3522 - 3527

TEXT: Compound A was synthesized by the mixing of cold vinyltrichlorosilane with magnesium bromovinylacetylene, allowing the mixture to stand for 14 hrs., heating at 100°C for 2.5 hrs., cooling to -50°C, heating with  $\text{BrMgCH}_3$  and heating for 3 hrs. at 100°C. Compound B was prepared by the addition of allyldimethylchlorosilane to cooled Mg bromovinylacetylene, boiling for 2 hrs., allowing to stand for 3 hrs. and cooling with water. Reaction of A with  $\text{Br}_2$ , in  $\text{CHCl}_3$  solution, at -10 to -12°C, over 4 hrs., gave rise to a product which in spectroscopy and chemical tests showed to be  $\text{CH}_2\text{Br}$ -  
Card 1/2

S/020/62/145/004/019/024  
B110/B144

AUTHORS: Fedorova, A. V., Stadnichuk, M. D., and Petrov, A. A.

TITLE: Addition of methyl dichlorosilane to allene hydrocarbons

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 837 - 840

TEXT: The addition of methyl dichlorosilane to propyl and butyl allenes as well as to methyl propyl and methyl amyl allenes in the presence of  $H_2PtCl_6$  was investigated. The monoadducts were subjected to IR-spectral and ozonolytical analysis and to hydration. The effect of adding methyl dichlorosilane to olefins depends evidently on a nucleophilic mechanism whereby, firstly, the hydride ion attaches itself to the central atom of the allene system. Since the direction of addition is determined sterically, a 1,2-addition takes place in the case of monosubstituted allenes, but addition on the small radical in the case of disubstituted allenes. The properties of all monoadducts are listed (Table 2). There are 1 figure and 2 tables. ✓

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta  
~~9-1/2~~ (Leningrad Technological Institute imeni Lensovet)

ACCESSION NR: AP3001481

S/0079/63/033/005/1421/1424

AUTHOR: Stadnichuk, M. D.

TITLE: Hydrogenation and bromination of 1-trimethylsilyl-3-tertiary butyl  
butene-3-ine-1

SOURCE: Zhurnal obshchey khimii, v. 33, no. 5, 1963, 1421-1424

TOPIC TAGS: hydrogenation, bromination, 1-trimethylsilyl-3-tertiary butyl  
butene-3-ine-1

ABSTRACT: Hydrogenation and bromination of 1-trimethylsilyl-3-tert. butyl-  
butene-3-ine-1 indicated reactions were different from those with the analogous  
1-trimethylsilyl-3-methyl-butene-3-ine-1. Bromination yielded a mixture of ace-  
tylenic and of 1,3-diene dibromide silyl hydrocarbon isomers. Hydrogenation  
yielded the corresponding acetylenic and the allene silyl hydrocarbons. Identify-  
ing IR spectra and physical and chemical data are given. Orig. art. has: 1  
figure and 9 formulas.

Card 1/2

ACCESSION NR: AP 3001481

ASSOCIATION: Leningradskiy tekhnologicheskij institut im. Lensovetu (Leningrad Technological Institute)

SUBMITTED: 20 Apr62

DATE ACQ: 17 Jun63

ENCL: 00

SUB CODE: 00

NO REF SOV: 006

OTHER: 000

Card 2/2



YAKOVLEVA, T.V.; STADNICHUK, M.D.; PETROV, A.A.

Vibrational spectra and the structure of organic compounds.  
Part 9. Opt. i spektr. lf no. 4:573-576 Ap '64. (MIRA 17:5)

GANUSHCHAK, N.I.; YUKHOMENKO, M.M.; STADNICHUK, M.D.; DOMBROVSKIY, A.V.

Haloarylation of unsaturated compounds with aromatic diazo  
compounds. Part 18:Chloroarylation of diisopropenyl. Zhur. ob.  
khim. 34 no.7:2238-2243 J1 \*64 (MIRA 17:8)

1. Chernovitskiy gosudarstvennyy universitet i Leningradskiy  
tehnologicheskii institut imeni Lensoveta.

L 16588-65 EWT(m)/EPF(c)/EMP(j)/T Pc-l/Pr-l RM

ACCESSION NR: AP4044195

S/0079/64/034/008/2625/2630

AUTHOR: Shakhovskoy, B. G. ; Stadnichuk, M. D. ; Petrov, A. A. B

TITLE: Investigations in the area of unsaturated organosilicon compounds. XIV. Synthesis and hydrogenation of certain conjugated diyne silicon hydrocarbons 1

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2625-2630

TOPIC TAGS: unsaturated organosilicon compound, conjugated diyne silicon hydrocarbon, diacetylenic silicon hydrocarbon, alkadiyne magnesium bromide, tetraalkylsilane, hydrogenation, catalytic hydrogenation

ABSTRACT: Diacetylenic silicon hydrocarbons with the silicon atom at the triple bond were synthesized, then hydrogenated in the presence of Pd/CaCO<sub>3</sub>. 1-Trimethylsilylpentadiene-1,3, 1-trimethylsilylhexadiene-1,3, 1-trimethylsilylheptadiene-1,3 were obtained by reacting the suitable alkadiene magnesium bromide with trimethylchlorosilane in a nitrogen atmosphere. Upon reduction of these compounds, the first mole of hydrogen added rapidly to the triple bond not linked

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L. 16663-65  
ACCESSION NR: AP4044195

to the Si ( $\alpha$  to the Si atom) and subsequent hydrogenation to the tetraalkylsilane proceeded much more slowly. IR spectra for the diacetylenic compounds and the reduction products were obtained and discussed in detail. Orig. art. has: 3 figures and 1 table

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

SUBMITTED: 13Jun63

ENCL: 00

SUB CODE: *OC*

NO REF SOV: 008

OTHER: 004

Card 2/2

SYDNICAK, H.D.

Unsaturated organosilicon compounds. Part 15: Addition of silicon hydrides to cyclic enyne hydrocarbons. Zhur. ob. khim. 34 no.9: 2931-2934 S '64. (MIRA 17:11)

1. Leningradskiy tekhnologicheskij institut imeni Lensoveta.

STADNICHUK, M.D.; MINGALEVA, K.S.; PETROV, A.A.

Dipole moments and the structure of  $\kappa,3$ -diene silicon hydrocarbons.  
Zhur. ob. khim. 34 no.10:3289-3291 O '64. (MIRA 17:11)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.

L 42420-65 EWT(m)/EPF(c)/EWP(j)/EWP(b)/EWP(t) Po-4/Pr-4 LJP(c) JD/RM  
ACCESSION NR: AP5008836 S/0079/65/035/003/0451/0456

AUTHOR: Stadnichuk, M. D.; Petrov, A. A.

TITLE: Synthesis and some physical and chemical properties of enyne type germanium-containing hydrocarbons

SOURCE: Zhurnal obshchey khimii, v. 35, no. 3, 1965, 451-456

TOPIC TAGS: germanium organic compound, spectrum, nuclear magnetic resonance, hydrogenation

ABSTRACT: Only a few representatives of germanium organic compounds are known which have a triple bond in the  $\alpha$ -,  $\beta$ - and  $\gamma$ -positions with respect to germanium. This article presents data on the synthesis, physical properties and some chemical transformations of three enyne germanium-containing hydrocarbons: 1-triethylgermanium-3-butene-1-yne (I), 1-triethylgermanium-3-methyl-3-butene-1-yne (II) and 1-triethylgermanium-3-pentene-1-yne (III). The purity of these compounds was determined by liquid-gas phase chromatography. Their structure was verified by infrared and nuclear magnetic resonance spectra. In the IR spectra of the obtained compounds the  $2147\text{ cm}^{-1}$  band corresponding to the triple bond in the  $\alpha$ -position with respect to germanium does not differ from silicon analogs. Dipole moments were measured

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L 42420-65

ACCESSION NR: AP5008836

for the above compounds. Electronegativity of germanium on Pauling's scale is somewhat lower than that of silicon and carbon, thus one would expect the effect of the trialkylgermanium radical on the electron density redistribution to be analogous to the effect of the trialkylsilylradical. Measurements of the dipole moments indicated that the behavior is much more complex and requires additional data for the determination of the effect of the germanium organic radical on electron density redistribution. It was established that germanium compounds I-III are hydrogenated much more slowly than the corresponding silicon analogs. It was shown that the first hydrogen molecule is joined to germanium enynes chiefly along the double bond and in the 1,4 position. Orig. art. has: 3 tables and 3 figures.

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

SUBMITTED: 10Jan64

ENCL: 00

SUB CODE: 0C

NO REF SOV: 010

OTHER: 007

Card 2/2



STADNICHUK, M.D.; PETROV, A.A.

Study of unsaturated organogermanium compounds. Part 2: Course  
of the bromination of 1,3-enyne germanium hydrocarbons. Zhur.  
ob. khim. 35 no.4:700-704 Ap '65.

(MIRA 18:5)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveteta.

KHMEI'NITSKIY, R.A.; POLYAKOVA, A.A.; PETROV, A.A.; MEDVEDEV, F.A.;  
STADNICHUK, M.D.

Mass spectra and structure of organic compounds. Part 11: Mass  
spectra of 1,3-enyne germanium hydrocarbons. Zhur. ob. khim.  
35 no.5:773-776 My '65. (MIRA 18:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i gaza i Leningradskiy tekhnologicheskii institut imeni  
Lensoveta.

SHAKHOVSKOY, R.G.; STADNICHUK, M.F.; PETROV, A.A.

Unsaturated organosilicon compounds. Part 17: Synthesis and  
bromination of some conjugated diyne silicon hydrocarbons.  
Zhur. ob. khim. 35 no.10:1714-1720 O '65. (MIRA 18:10)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.

L 06504-67 EWP(j)/EWT(m) RM

ACC NR: AP7000488

SOURCE CODE: UR/0079/66/036/006/1150/1153

AUTHOR: Ganushchak, N. I.; Yukhomenko, M. M.; Stadnichuk, M. D.; Shevchuk, M. I.ORG: Chernovitskiy State University (Chernovitskiy gosudarstvennyy universitet);  
Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskii  
institut)TITLE: Synthesis of certain phosponium salts and 1,5-diphenylpentadienes-1,3 on  
the basis of chloroarylbutenes

SOURCE: Zhurnal obshchey khimii, v. 36, no. 6, 1966, 1150-1153

TOPIC TAGS: organic phosphorus compound, organic salt, organic synthetic process

ABSTRACT: The reaction of a number of chloroarylbutenes with triphenylphos-  
phine yielded new triphenyl-(1-arylalkenyl-2)-phosponium chlorides[ArCH<sub>2</sub>C(R)+C(R')CH<sub>2</sub>P(C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>]Cl<sup>-</sup>. The phosponium salts were converted to thecorresponding 1,5-diphenylpentadienes-1,3 by reaction with sodium ethylate and  
benzaldehyde. The infrared and nuclear magnetic resonance spectra of the pro-  
ducts were studied. The diphenylpentadienes are oily, yellowish liquids,  
which are readily soluble in the usual organic solvents, decolorize bromine  
water and permanganate solution. They do not take part in diene synthesis re-  
actions, even with such dienophiles as maleic anhydride with heating.

Orig. art. has: 2 figures and 1 table. [JPRS: 37,023]

SUB CODE: 07 / SUBM DATE: 03Jun65 / ORIG REF: 010

UDC: 547.341

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