

BELIKOV, Sergey Ivanovich, inzh.; DOKUNINA, Natal'ya Aleksandrovna,
kand. tekhn. nauk; BURDINA, Nadezhda Nikolayevna, inzh.;
KRINZBERG, F.Ye., inzh., reitsenent; YAKUSHEV, A.I., prof.doktor
tekhn. nauk, reitsenent; BUMSHEYN, S.I., inzh., red.;
STEPANOVA, A.A., red. izd-va; NOVIK, A.Ya., tekhn. red.

[Allowances, fits and technical measurements in the
manufacture of aircraft] Dopuski, posadki i tekhnicheskie iz-
mereniia v proizvodstve letatel'nykh apparatov. Moskva, Oboron-
giz, 1963. 290 p. (MIRA 17:2)

~~BELIKOV, Y.~~

Charging storage batteries on cars. Avt. transp. 35 no.5:35 My '57.
(Automobiles--Bateries) (MLRA 10:6)

BELIKOV, V.

En route into the cosmos. IUn.tekh. 2 no.3:30-31 Mr '58. (MIRA 11:3)

1. TSentral'naya studiya dokumental'nykh fil'mov.
(Space flight)

ACC NR: AN7004844

SOURCE COEE: UR/9003/67/000/038/0004/0004

AUTHOR: Belikov, V.; Osipov, B.

ORG: none

TITLE: Electronic computer serves aeroflot.

SOURCE: Izvestiya, no. 38, 14 Feb 67, p. 4, col. 7

TOPIC TAGS: electronic computer, civil aviation, *computer application, cybernetics*

ABSTRACT:

Last year Aeroflot transported 53 million passengers. The newly established firm "Avtomatika" will do the cybernetics work by which with the help of a computer it will be possible to find out exactly the number of passenger seats available. The Ministry of Civil Aviation of the USSR thinks that the automated system of ordering and selling tickets will work 2 1/2 times faster than the most experienced cashiers.

SUB CODE: 0901/SUBM DATE: none/ ATD PRESS: 5114

Card 1/1

BEIKOV, V. A.

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, 112-2-3111
Nr 2, p. 83 (USSR)

AUTHOR: Belikov, V. A.

TITLE: Systems and the Technical and Economic Factors of City Distribution Networks (Skhemy i tekhniko-ekonomicheskiye pokazateli gorodskikh raspredelitel'nykh setey)

PERIODICAL: In Sbornik: Vopr. postroyeniya gor. elektr. setey, Moscow, M-vo kommun. kh-va RSFSR, 1956, pp. 33-72

ABSTRACT: It is pointed out that low-voltage radial networks often do not come up to the high standards of reliability and economy demanded of city networks. For regions of four- and five-story structures with a considerable number of responsible consumers, low voltage parallel-or multiple-series connected networks with reverse-power automatic switches with reserve transformer power and reserve carrying capacity are recommended. For regions of new building developments, intra-block, parallel-connected cable networks should be used. Extra-block networks using existing cables and overhead lines should be used in regions of

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112-2-3111

Systems and the Technical and Economic Factors of City (Cont.)

old building developments. Where factory-made automatic network switches are not available, the A-2,000 automatic air circuit breakers in conjunction with two WM5-171/1 power relays can be used for network protection. In 380/220-v networks the relay should be switched on a 90° phase connection diagram and in 220/127-v networks, on a 60° phase connection. In most cases it is possible to dispense with safety fuses between the transformer and the low-voltage installation. For regions where 1 to 3 story buildings predominate and where there is a small number of responsible consumers, ring, series- and parallel- connected networks are recommended. These networks would be without automatic switches, but would have safety fuse protection; they would have no reserve, or only a minimal transformer power and network carrying capacity reserve. In regions of new construction, the ring, overhead intra-block network should be used. In regions of old building construction the extra-block, series-or parallel-connected circuit utilizing existing lines should be used. In the latter case, the changeover to closed-circuit operation must be based on economic considerations. Individual, especially

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Systems and the Technical and Economic Factors of City (Cont.) 112-2-3111

responsible consumers can be supplied with individual, automatic reserve by equipping the feeders to the house with contactors. The utilization of high-voltage bi-radial networks for groups of four-and five-story apartment buildings is not recommended as it may lead to excessive capital investment or, in the case of transformer-point enlargement, to overexpenditure of non-ferrous metals.

Ya.M.Ch.

Card 3/3

15222700, 1111
BELIKOV, V.A.

Model projects of educational workshop units for schools.
Politekhnobuch. no.8:75-82 Ag '57. (MLRA 10:9)

1. Glavnyy inzhener Upravleniya kapital'nogo stroitel'stva
Ministerstva prosveshcheniya RSFSR.
(Technical education) (Workshops)

BELIKOV, V. A.

AUTHOR: Sergeyev, A.S., Docent 105-58-5-23/28

TITLE: Dissertations (Dissertatsii)

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 89-91 (USSR)

ABSTRACT: For the Degree of Candidate of Technical Sciences.
At the Academy for Communal Economy imeni Pamfilov (Akademiya kommunal'nogo khozyaystva im. Pamfilova):
P.F.Gogichaishvili on May 29, 1951 "Electric Energy Distribution in Rural Areas with Low-Storey Houses". Official opponents: I.A.Budzko, Doctor of Technical Sciences, and N.K. Arkhipov, Engineer.
V.A.Belikov on May 3, 1954 "Investigation of Basic Problems of the Building of Urban Closed Low-Voltage Networks". Official opponents: G.I.Atabekov, Professor, Doctor of Technical Sciences and N.A.Mel'nikov, Docent, Candidate of Technical Sciences.
At the Moscow Technological Institute of the Food Industry (Moskovskiy tekhnologicheskii institut pishchevoy promyshlennosti):
G.V.Drava on February 19, 1947 "Electromechanical Equipment of Mills, Grain Works and Grain Elevators". Official opponents: Professor K.G.Markvardt, Docent A.Ya.Sokolov and Engineer Galitsa.

Card 1/4

Dissertations

105-58-5-23/28

At the All-Union Correspondance Polytechnic Institute
(Vsesoyuznyy zaachnyy politekhnicheskiy institut):

B.B.Lur'ye on November 21, 1949 "Leonard Connection with Introduction of Generator-Armature Voltage into the Circuit of its Exciting Winding". Official opponents: N.V. Gorokhov, Professor, Doctor of Technical Sciences and Engineer A.Ye.Gurevich.

S.A.Esman on June 22, 1950 "Theory and Methods of Calculation of the Electric Drive and the Control Scheme of "Flying Scissors". Official opponents: I.G.Kul'bachnyy, Professor, Doctor of Technical Sciences and Ye.V.Nitusov, Professor, Doctor of Technical Sciences.

S.Ya.Dunayevskiy on June 29, 1950 "Analysis of Transitory Modes of Operation in the Generator-Motor System in Consideration of Saturation and Eddy Currents". Official opponents: Ye.V.Nitusov, Professor, Doctor of Technical Sciences and K.V.Urnov, Candidate of Technical Sciences.

V.D.Yurenkov on February 5, 1951 "Capacitive Electric Energy Abstraction at the Antenna of Electric Transmission Lines". Official opponents: G.I.Atabekov, Professor, Doctor of Technical Sciences and N.A. Mel'nikov, Docent, Candidate of Technical Sciences.

Card 2/4

Dissertations

105-58-5-23/28

M.A.Son'kin on November 5, 1951 "Electric Drive with a Control as Current Function for the Mechanism of Rolling Mills". Official opponents: A.N.Larionov, Professor, Doctor of Technical Sciences and F.A.Goryainov, Docent, Candidate of Technical Sciences.

G.P.Khalizey on June 25, 1951 "Problems of Theory and Practice in the Electric Drives of Rolling Staircases (Escalators)". Official opponents: N.V.Gorokhov, Professor, Doctor of Technical Sciences and K.V.Urnov, Docent, Candidate of Technical Sciences.

G.B.Yakusha on October 6, 1952 "Melting of Iced Parts of Open-Air Transmission Lines of 35-110 kV Electric Transmission by Means of Electric Current". Official opponents: V.V.Burgsdorf, Professor, Doctor of Technical Sciences and M.I.Tsarev, Candidate of Technical Sciences.

At the Leningrad Institute for the Construction of Aircraft Equipment (Leningradskiy Institut aviatsionnogo priborostroyeniya):

I.A.Glebov on November 4, 1949 "Investigation of a Synchronous Generator with Ion Transformer in the Exciter Circuit". Official opponents: L.N.Gruzov, Professor, Doctor of Technical Sciences and M.I.Oranskiy, Docent, Candidate of Technical Sciences.

Card 3/4

Dissertations

105-58-5-23/28

B.V.Frolov on April 25, 1950 "Investigation of the Scheme of a Cascade Connection of an Asynchronous Machine with Ion Transformer". Official opponents: A.Ye.Kaplyanskiy, Professor, Doctor of Technical Sciences and Engineer G.K.Zherve.

S.I.Bardinskiy on April 16, 1953 "Investigation of an Asynchronous Ion Cascade in Generator Operation". Official opponents: O.B.Bron, Professor, Doctor of Technical Sciences and N.D.Panov, Candidate of Technical Sciences.

AVAILABLE:

Library of Congress

1. Scientific reports--USSR 2. Electrical equipment--USSR

Card 4/4

BELIKOV, V.A., inzh.

Testing prestressed concrete trusses in a horizontal position.
Trudy NIIZB no.16:141-149 '60. (MIRA 14:5)
(Prestressed concrete—Testing)
(Trusses)

BULGAKOV, V.S., kand. tekhn. nauk; MATKOV, N.G., kand. tekhn. nauk;
BELIKOV, V.A., inzh.; VASIL', A.P., kand. tekhn. nauk, red.;
KLIMOVA, G.D., red. izd-va; SHEVCHENKO, T.N., tekhn. red.

[Handbook on injecting the channels in prestressed concrete
elements with mortar]Rukovodstvo po in"etsirovaniu kanalov pred-
varitel'no napriazhenykh zhelezobetonnykh konstruktsii. Moskva,
Gosstroizdat, 1962. 28 p. (MIRA 15:9)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i
zhelezobetona, Perovo.

(Prestressed concrete)

BELIKOV, V.A.; BESSMERTNYI, I.S.; GLAZUNOV, A.A.; IOKHVIDOV, E.S.;
KOZLOV, V.A.; KUZNETSOV, K.S.; MIRER, G.V.; SOLDATKINA, L.A.;
FEDOSENKO, R.Ya.

"Fundamental problems concerning the design of municipal electric power distribution networks" by B.L. Aizenberg and S.N. Nikogosov. Reviewed by V.A. Belikov and others. Elektrichestvo no.7:93-94 (MIRA 15:7)
Jl 162.

1. Moskovskiy inzhenerno-ekonomicheskoy institut imeni S. Ordzhonikidze (for Belikov). 2. Giprokommunenergo (for Bessmertnyy). 3. Moskovskiy energeticheskoy institut (for Glazunov, Soldatkina). 4. Moskovskoye rayonnoye upravleniye energeticheskogo khozyaystva (for Iokhvidov). 5. Leningradskaya kabel'naya set' Leningradskogo upravleniya energokhozyaystvom Glavenergo Ministerstva elektrostantsiy SSSR (for Kozlov). 6. Mosinzhproyekt (for Kuznetsov). 7. Upravleniye po proyektirovaniyu zhilishchno-grazhdanskogo i kommunal'nogo stroitel'stva g. Moskvy (for Mirer). 8. Akademiya kommunal'nogo khozyaystva im. K.D. Panfilova (for Fedosenko).

(Electric power distribution)
(Aizenberg, B.L.) (Nikogosov, S.N.)

SHPAN'ON, P.A.; BELIKOV, V.A.

Active spectral method for testing diode modulation meters.
Izm. tekhn. no.1:43-45 Ja '64.

(MIRA 17:11)

ACC NR: AP7005261

SOURCE CODE: UR/0003/67/000/001/0087/0088

AUTHOR: Bastrykin, A. N. (Docent; Candidate of technical sciences); Belikov, V. A. (Docent; Candidate of technical sciences); Zhadin, K. P. (Deceased; Docent; Candidate of technical sciences); Padalko, L. P. (Engineer)

ORG: Moscow Engineering-Economics Institute im. S. Ordzhonikidze (Moskovskiy inzhener-no-ekonomicheskiy institut)

TITLE: Computers and education

SOURCE: Vestnik vysshey shkoly, no. 1, 1967, 87-88

TOPIC TAGS: ~~nonmilitary training~~, computer technique, *COMPUTER TECHNOLOGY, EDUCATION, MATHEMATICS, ECONOMICS*

ABSTRACT:

One of the problems encountered in training students of technical and economic institutes of higher education is the practical mastery of computer technology. To this effect, the authors describe the experience at the Moscow Engineering-Economic Institute, where for several years the Ural-4 has been used for diploma projects in the Electric Stations and Systems Department. The authors conclude that the use of mathematical methods and computers will help improve the methodical cooperation between the Mathematics, Computer Technology, and Engineering departments. In addition, it is now practical to create manuals of a new type so that the solutions to problems contained therein will require the application of computers. Such a manual is being prepared.

SUB CODE: 09/ SUBM DATE: none/ ATD PRESS: 5114
Card 1/1 IDC: none

BELIKOV, V.A., kand.tekhn.nauk

Principles of efficient construction of 6-10 kv. municipal
power distribution networks. Nov.tekh.zhil.-kom.khoz.:
Elek.i topl. gor. no.5:16-31 '61.

(MIRA 18:9)

BELIKOV, V.D.; DENISOV, V.N.

Mechanizing the sprinkling of public gardens and flower beds.
Gor. khoz. Mosk. 36 no.10:42-43 0 '62. (MIRA 15:12)
(Sprinklers)

BELIKOV, V.D.

Experimental study of the distributing apparatus of rotary
snow loaders. Nauch. trudy AKKH no.32:117-126 '64.

Methods of snow loading into transportation vehicles. Ibid.:
127-134 (MIRA 19:1)

BELIKOV, V.G.

Selecting the quantity of circulating fluid and the turbodrill in
developing efficient drilling conditions. Azerb.neft.khoz. 35 no.7:
J1 '56. (MIRA 9:12)

(Turbodrills) (Oil well drilling)

BELIKOV, V.G.

Relation between the performance of a turbodrill and the effective
area of the bit. Azerb. neft, khoz. 36 no.5:12-14 My '57.
(Boring machinery) (MIRA 10r11)

BELIKOV, V. G .

BELIKOV, V.G., Cand Tech Sci -- (diss) "Appearance of reserves and means of increasing the indicators of turbine drilling on areas of the Eastern Pre-Caucasus." Baku, 1958. 10 pp (Min of Higher Education USSR. Azerb Order of Labor Red Banner Indus Inst in M. Azizbekov). 100 copies (KL, 20-58,96)

BELIKOV, V.G.

Effect of axial bit load on the speed of rotation of turbo-
drill shafts. Izv.vys.ucheb.zav.; neft' i gaz 1 no.11:37-42
'58. (MIRA 12:5)

1. Groznenskiy neftyanoy institut.
(Turbo-drills)

BELIKOV, V.G.

93-58-3-7/17

AUTHOR: Belikov, V. G.

TITLE: Tooth Spacing in Cone Rock Bits (O velichine shaga zub'yev sharoshechnykh dolot)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 3, pp 29-33 (USSR)

ABSTRACT: The article reviews the literature and experimental data on cone rock bits. V. S. Fedorov [Ref 1] points out that the harder the formation and the lighter the weight on the bit, the smaller must be the space between the teeth of the bit. High-speed filming of cone rock bits operations done by the All-Union Design and Planning Scientific Research Institute for Drilling Oil and Gas Wells (VNIIneft') showed that formation breakup efficiency increases with increased spacing of the teeth [Ref 2]. The author points out that three cone rock bits are of the M, S, T, and K type designed for soft, average, above average, and hard formations respectively. These four types of bits differ in their tooth spacing (Table 1). An analysis of bit performance in wells of the Gudermes Drilling Department (Gudermes-skaya kontora-bureniya) under the authority of the State All-Union

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93-58-3-7/17

Tooth Spacing in Cone Rock Bits (Cont.)

Association of the Grozny Oil and Gas Industry (Grozneft') shows that in sandy formations the performance of M type bits is generally superior to S type bits (Table 2). This is substantiated by drilling data from various Grozneft' oil fields (Table 3). An analysis made by the Grozny Petroleum Scientific Research Institute (GrozNII) also disclosed that No. 12 M type bits perform better in sandy formations than S type bits. The best results were obtained in the Tash-Kala, Starogroznski, and Gudermes oil regions. Experimental drilling carried out by the former Tash-Kala Drilling Department in the Karagan and Cholrak sandstone formations has also shown that M type bits can be used in deep drilling of clayey and sandy formations as well as clayey formations interbedded with perl or hard sandstone (Table 4). A comparison of data on drilling in the Akhtyrka (Akhtyrskaya), Bugundyr, and Goryachiy Klyuch oil pools under the authority of the State All-Union Association of the Krasnodar Oil and Gas Industry (Krasnodarneft') has also disclosed the superiority of M type bits over S type bits [Ref 4]. Experimental drilling carried out by the Petroleum Production Administration of the State All-Union Administration of the Abinskiy Petroleum Industry (NPU Abinneft') with T12M2-10" turbodrills using SML-12 M type bits and VSS-12 S type bits also shows the superiority of M type bits (Table 5). However,

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Tooth Spacing in Cone Rock Bits (Cont.)

93-58-3-7/17

the efficiency of the M type bits as compared with the S type bits decreases when the torque on the turbodrill shaft is inadequate (Table 6). This deterioration in efficiency is shown in drilling with TI2M2-10' turbodrills and No. 14 M type bits of larger diameter (Table 7), as well as by data on drilling in the Bragany region (Table 8) even in clayey formations (Table 9). In 1950, F. D. Zenkov [Ref 7] was against the use of VSML-12 bits in sandstone formations and at that time his conclusion was correct since the performance of the VSML-12 bits was inferior to that of the ZIS-7 bits (Table 10). At present, however, this conclusion is wrong since the modern TI2M2-10" turbodrills as compared with the TI4M-9 3/4" turbodrills develop a higher rotation moment. The author concludes that the bits must be redesigned to suit the newer turbodrills of high rotation moment, that bits with narrow spaced teeth are best for turbodrills of low rotation moment, that for present-day turbodrills M type bits are generally better than the S type bits for drilling sandstone formations in the Southern regions, and that increased efficiency in rock breakup will probably result from using bits with the widest possible tooth spacing. He also believes that the potential possibilities of three cone rock bits in turbine drilling have not yet been fully exhausted. There are 10 tables and 9 references of which 8 are Soviet and one is English.

AVAILABLE: Library of Congress

Card 3/3

BELIKOV, V.G.

Adaptability of turbodrills to axial bit loading. Izv. vys. ucheb.
zav.; neft' i gaz no.4:27-32 '58. (MIRA 11:9)

1. Azerbaydzhanskiy industrial'nyy institut im. M. Azizbekova.
(Turbodrills)

BELIKOV, V.G.

Drop method for the detection of thiosulfate ions with the use of sodium nitroprusside. Nauch.dokl.vys.shkoly; khim.i khim. tekhn. no.1:108-109 '59. (MIRA 12:5)

1. Predstavlena kafedroy farmatsevticheskoy khimii Pyatigorskogo gosudarstvennogo farmatsevticheskogo instituta.
(Thiosulfates) (Sodium nitroprussides)

FEDOROV, V.S.; HELIXOV, V.G.

Starting up turbodrills. Izv. vys. ucheb. zav.; neft' i gaz 2
no.4:29-33 '59. (MIRA 12:10)

1.Groznenskiy neftyanoy institut.
(Turbodrills)

HELKOV, V.G.

Turbodrills with a reduced number of stages and turbodrills with hollow shafts. Izv. vys. ucheb. zav.; neft' i gaz 2 no.8:27-30 '59. (MIRA 12:11)

1. Groznenskiy neftyanoy institut.
(Turbodrills)

BELIKOV, V.G.

Practicability of the use of high-volumetric capacity turbodrills
and hollow-shaft turbodrills. Neft.khoz. 37 no.2:31-33 F '59.
(MIRA 12:4)

(Turbodrills)

FEDOROV, V.S.; BELIKOV, V.G.; ISAYEVA, V.V., ved. red.; BASHMAKOV, G.M.,
tekh. red.

[Methods of generalizing progressive practices in the technology
of boring] Metody obobshchenia peredovogo opyta v tekhnologii
bureniia. Moskva, Gostoptekhizdat, 1962. 155 p. (MIRA 15:5)
(Boring)

BELIKOV, V.G.; ALEKSANDROV, M M.

More about the problem of determining the basic hydraulic parameters of a turbine drilling rig. Izv. vys. ucheb. zav.; neft' i gaz 8 no.1:117-119 '65. (MIRA 18:2)

1. Groznenskiy neftyanoy institut.

BELIKOV, V.G.

Permissible axial load on a bit in electric drilling. Izv. vys.
ucheb. zav.; neft' i gaz 8 no.3:21-24 '65.

(MIRA 18:5)

1. Groznenskiy neftyanoy institut.

AUTHOR: Belikov, V.G.

32-12-15/71

TITLE: Short Reports (1) (Korotkiye soobshcheniya).

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1437-1437 (USSR)

ABSTRACT: For the purpose of determining the presence of aniline in any medium it is recommended in this paper to make use of its reaction to sodium-nitroprusside. The reagent is in this case used in a 1% concentration after first having been exposed to solar radiation (for 6-15 minutes according to the time of the year) or that of a quartz lamp (20-25 minutes from a distance of 10 cm). Analysis is carried out in a slightly acid medium, and after 5 to 6 seconds of reaction, a blue coloring should become noticeable. When carrying out the analysis according to the drop method it is possible to find a minimum content of up to 0,7 μ with a diluting limit of 1:50.000. This kind of reaction is recommended for the determination of the presence of aniline in antifebrine as well as in the air.

Card 1/2

Short Reports (1)

32-12-15/71

ASSOCIATION: Pyatigorsk Pharmaceutical Institute (Pyatigorskiy
farmatsevticheskiy institut).

AVAILABLE: Library of Congress

Card 2/2 1. Aniline-Determination 2. Sodium nitroprusside-Reactions

BELIKOV, V.G.

Purity test for chloretone and lobeline hydrochloride.
Med.prom. 12 no.6:31-33 Je '58

(MIRA 11:7)

1. Pyatigorskiy farmatsevticheskiy institut.
(LOBELINE)
(PROPANOL)

BELIKOV, V.G., Cand Chem Sci --(disc) "Utilization of sodium nitroprusside in the qualitative analysis of chemico-pharmaceutical preparations." Mos, 1959. 15 pp (Min of Higher Education USSR. All-Union Scientific Research ~~Inst~~ Chemico-Pharmaceutical Inst in ^S Ordzhonikidze VNIKhPI), 250 copies (III, 31-59, 113)

-7-

5(2)

AUTHOR:

Belikov, V. G.

SOV/156-59-1-26/54

TITLE:

A Drop Method for Indicating the Thiosulphate Ion by Means of Sodium Nitroprusside (Kapel'nyy metod otkrytiya iona tiosul'fata s pomoshch'yu nitroprussida natriya)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 108-109 (USSR)

ABSTRACT:

It is very complicated to indicate the thiosulphate ion in the presence of sulphide, sulphite and sulphate ions. For this reason a method has been developed in which the thio-sulphate is reduced to sulphide with caustic soda, the residue is calcined and has then added to it one drop of 0.1% sodium nitroprusside solution. A durable, red-violet color is obtained. The reaction takes place even with 2γ thiosulphate and a dilution of 1:10,000. The disturbing sulphide ion must previously be removed by cadmium acetate and the surplus cadmium must be removed by caustic soda. The second drop method makes possible the stagewise determination of sulphate, thiosulphate and sulphite in the presence of sulphate. Sulphide ion reacts in solution while assuming a violet color after the addition of one drop of 10% caustic soda and 1 drop of 0.1% solution of sodium nitroprusside to a drop of the solution

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SOV/156-59-1-26/54

A Drop Method for Indicating the Thiosulphate Ion by Means of Sodium Nitroprusside

to be investigated. Then 0.5 mole of a 5% solution of cadmium acetate and 1 mole 10% caustic soda are added to 1 mole of the solution to be investigated. The precipitate is removed by filtration and one drop is removed by evaporation and has a drop of sodium nitroprusside added thereto. Thiosulphate reacts while assuming a red-violet color. To determine the sulphite one drop of 10% potassium ferrocyanide solution and a drop of 1% solution of sodium nitroprusside are added to a drop of a saturated zinc sulphate solution. A drop of the solution to be investigated is added to the white precipitate formed. The precipitate assumes a red color when mixed through in the presence of sulfite ions. The analysis can be carried out within 5 minutes. There are 2 Soviet references.

ASSOCIATION: Kafedra farmatsevticheskoy khimii Pyatigorskogo gosudarstvennogo farmatsevticheskogo instituta
(Chair of Pharmaceutical Chemistry of Pyatigorsk State Institute of Pharmaceutics)

SUBMITTED: July 19, 1958

Card 2/2

BELIKOV, V.G. (Pyatigorsk)

New method of aniline detection in sanitary and hygienic studies. Gig.
truda i prof.zab. 3 no.5:53-54 S-0 '59. (MIRA 13:2)

1. Farmatsevticheskiy institut.
(ANILINE) (SODIUM NITROPRUSSIDES)

BELIKOV, V.G.

Qualitative analysis of thione, cutisone and phytoncide
preparations of onion and garlic. Med.prom. 13 no.4:52-54
Ap '59. (MIRA 12:6)

1. Pyatigorskiy farmatsevticheskiy institut.
(ACETANILID) (CUMALDEHYDE) (PHYTONCIDES)

5 (2)

AUTHOR:

Belikov, V. G.

SOV/32-25-8-11/44

TITLE:

New Color Reaction of the Thiosemicarbazide With Sodium-nitroprusside

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, p 931 (USSR)

ABSTRACT:

Reference 1 recommends a color reaction on thiosemicarbazide (I) based on the reaction of (I) with sodium nitroprusside (II) with hydroxylamine (III) and caustic soda (IV) at which a red coloring is formed. Thiourea produces the same reaction and the mixture (II), (III), and (IV) itself is red. In the present case it was established that an ammoniacal solution of (I) with (II) has a red-orange coloring which turns to an intense red-violet at the addition of glacial acetic acid; this coloring remains for several hours. The ammoniacal solution of (II) (without (I)) is a light yellow and becomes colorless after the addition of glacial acetic acid. The article contains the reaction mechanism and two kinds of analysis, a macromethod and a drop-weight method. The reaction makes possible the determination of 100 μ g of (I) in 1 ml or 4 μ g of (I) in one drop of the solution to be investigated. There is 1 Soviet reference.

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New Color Reaction of the Thiosemicarbazide With Sodium-nitroprusside SOV/32-25-8-11/44

ASSOCIATION: Pyatigorskiy farmatsevticheskiy institut (Pyatigorsk Pharmaceutical Institute)

Card 2/2

GRYAZNOVA, Ye.A.; BELIKOV, V.G.

Detection and determination of aniline in medicolegal investigations.
Sud.-med.ekspert. 2 no.4:39-43 O-D '59. (MIRA 13:5)

1. Kafedry sudebnoy khimii (zav. - dotsent Ye.A. Gryaznova) i
farmatsevticheskoy khimii (zav. - dotsent V.N. Bernshteyn) Pyati-
gorskogo farmatsevticheskogo instituta.
(ANILINE--ANALYSIS)

BELIKOV, V.G.

Detection of novarsenol by means of sodium nitroprusside. Izv. vys.ucheb.zav.; khim.i khim tekhn. 3 no.1:78-79 '60. (MIRA 13:6)

1. Kafedra farmatsevticheskoy khimii Pyatigorskogo farmatsevticheskogo instituta.
(Neocinchophen) (Sodium nitroprusside)

BELIKOV, V.G.

"Use of sodium nitroprusside in the qualitative analysis of
pharmaceutical chemicals" by V.G. Belikov. Med.prom. 14 no.6:
62 Ja '60. (MIRA 13:6)

(CHEMISTRY, MEDICAL AND PHARMACEUTICAL)
(NITROPRUSSIDES)

BELIKOV, V.G.

Sodium nitroprusside as a reagent for alkaloids. Med. prom. 14
no.9:43-47 S '60. (MIRA 13:9)

1. Pyatigorskiy farmatsevticheskiy institut.
(SODIUM NITROPRUSSIDE) (ALKALOIDS)

BELIKOV, V.G., assistant; SMIRNOVA, L.N., studentka IV kur'sa

Drop method for the detection of penicillin in medicinal forms.
Apt. delo 10 no. 2:32-33 Mr-Ap '61.

(MIRA 14:4)

1. Kafedra farmatsevticheskoy khimii Pyatigorskogo farmatsevticheskogo instituta (nauchnyy rukovoditel' - kandidat khimicheskikh nauk dotsent V.N. Bernshteyn).
(PENICILLIN)

BELIKOV, V.G.; BERNSTEIN, V.N.

Colorimetric determination of pilocarpine. Med. prom. 15 no.11:
59-61 N '61. (MIRA 15:6)

1. Pyatigorskiy farmatsevticheskiy institut.
(PILOCARPINE) (COLORIMETRY)

BERNSHTEYN, V.N.; BELIKOV, V.G.

Sodium nitroprusside and its uses in analytical chemistry. Usp.
khim. 30 no. 4:52-549 Ap '61. (MIRA 14:4)

1. Pyatigorskiy farmatsevticheskiy institut.
(Sodium nitroprusside)

BELIKOV, V.G.

Qualitative and photolorimetric determination of small quantities
of synestrol. Med. prom. 17 no.9:32-35 S'63. (MIRA 17:5)

1. Pyatigorskiy farmatsevticheskiy institut.

BELIKOV, V.G.; LUK'YANCHIKOVA, G.I.; BERNSHTEYN, V.N.; KUL' I.Ya.

New qualitative reactions for apressine. Aptech. delo 12 no.3:
60-62 My-Je'63 (MIRA 17:2)

1. Pyatigorskiy farmatsevticheskiy institut.

BELIKOV, V.M.; MAYRANOVSKIY, S.G.; KORCHEMNAYA, TS.B.; GUL'TYAY, V.P.

Tautomerism of nitro compounds. Report No.5: Polarographic study
of recombination of nitroacetic ester anion. Izv. AN SSSR. Ser.khim.
no.3:439-444 Mr '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR i
Institut elementoorganicheskikh soyedineniy AN SSSR.

BELIKOV, V.G., inzh.; GONCHARENKO, D.I., kand. tekhn. nauk

Mining an extremely thin flat seam with a scraper-plow unit.
Ugol' 39 no.5:54-56 My '64. (MIRA 17:8)

1. Kombinat Donetskugol' (for Belikov). 2. Donetskii nauchno-
issledovatel'skiy ugol'nyy institut (for Goncharenko).

DELIKOV, V. I.,

Subject : USSR/Aeronautics - accelerometer AID P - 4770
Card 1/1 Pub. 135 - 28/31
Authors : Belikov, V. I., Col. and M. P. Sheynin
Title : For wider use of load factor indicator
Periodical : Vest. vozd. flota, 8, 93, Ag 1956
Abstract : The authors suggest the use of an accelerometer during
the execution of aerobatics.
Institution : None
Submitted : No date

BELIKOV, V.K.; BELOV, M.S.

Experience in organizing practical work in agriculture.
Politekh.obuch. no.6:44-54 Je '57. (MIRA 12:4)

1. Skhodnenskaya srednyaya shkola No.2 Khimkinskogo rayona
Moskovskoy oblasti.
(Agriculture--Study and teaching) (Field work (Educational method))

BELIKOV, V.K.

How we organized a school machine-tractor station. Politekhnobuch.
no.8:62-63 Ag '57. (MLRA 10:9)

1. Skhodnenskaya srednyaya shkola No.2 Khimlinskogo rayona Moskovskoy
oblasti.

(Farm mechanization--Study and teaching)

BELIKOV, V.K.

The specialist in greenhouses and hotbeds. Politekh.obuch.
no.11:77-78 N '57.

(MIRA 10:10)

(Hotbeds) (Greenhouse management)

BELIKOV, U.K.
BELIKOV, V.K.; KITAYEV, I.G.

~~Textbooks on farm mechanization. Politekh. obuch. no.2:87-88~~
F '58.

(MIRA 11:1)

(Farm mechanization)

BELIKOV, V.K.

Preparing students for practical work in a rural school. Politekh.
obuch. no.5:36-42 My '59. (MIRA 12:6)

1. Skhodnenskaya srednyaya shkola No.2 Khimkinskogo rayona Moskov-
skoy oblasti.

(Skhodnia--Agriculture--Study and teaching)

(Field work (Educational method))

BELIKOV, V.K.

Work practices of enterprises of nonferrous metallurgy in the
Ukrainian S.S.R. in the area of efficiency and inventions..

Met. i gornorud. prom. no.1:77 Ja-F '65.

(MIRA 18:3)

BELIKOV, V. M., RODIONOV, V. M. and MACHINSKAYA, I. V.

"Methods for Obtaining Esters of Alpha-Nitro Replacing Carbonic Acid," Zhur. Obshch. Khim., 18, No.5, 1948

Describes preparation of nitroacetoethyl ester. This is done by nitration of the acetic acid ester and subsequent oxidation of the resultant isonitrosoacetic acid with potassium bichromate. Yield is 60% of theoretical. Submitted 18 Apr 47.

PA 8/49T65

BELIKOV, V. M.

"Quantitative Determination of Methyl Groups Connected to Carbon," Usp.
Khim., 21, No.4, 1952

Belikov, V. M.

Characterization of nitroacetic ester, *Belikov, V. M., Rodionov, I. and V. M. Belikov (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow), Dokl. Akad. Nauk S.S.S.R. 24, 827-28 (1953).*—To 50 ml. EtOH was added gradually 24 g. AcH, followed by 0.1 g. NaOAc in 4 ml. H₂O, and at 16° there was added 17 g. EtO₂CCH₂NO₂ in 10 ml. EtOH, with continued cooling. After several hrs. at room temp. the mixture was acidified with 1 ml. HCl and extr. with Et₂O, yielding 63% MeCH(OH)CH(NO₂)CO₂Et, b_p 92-100°, n_D²⁰ 1.4433, d₄ 1.1803, and 14 g. MeCH(OH)CH(NO₂)CO₂Et, b_p 180-90° (decompu.) n_D²⁰ 1.4500, d₄ 1.2030. EtClO similarly gave 35% EtCH(OH)CH(NO₂)CO₂Et, b_p 87-90°, n_D²⁰ 1.4305, d₄ 1.1600; iso-BuCHO gave 25% iso-BuCH(OH)CH(NO₂)CO₂Et, b_p 90-2°, n_D²⁰ 1.4515, d₄ 1.0924. To 53.0 g. EtO₂CCH₂NO₂ was added 21.2 g. CH₃CHCN and 0.5 g. catalyst prepd. from 0.5 g. PhNMe₂·PhSO₃H (cf. C.A. 42, 4942a) and the mixt. warmed to 80-90° 4 hrs. After treatment with dil. HCl and extr. with Et₂O there was obtained 52% EtO₂CCH(NO₂)CH₂CH₂CN, b_p 147-51°, b_p 146.5-8°, n_D²⁰ 1.4550, d₄ 1.2037. A similar reaction with 2:1 proportion of components gave 80% EtO₂CC(CH₂CH₂CN)₂NO₂, m. 51.8-2.7° (from MeOH). The latter (10 g.) in 50 ml. abs. EtOH was acid. with dry HCl with cooling and kept 3 days at room temp., yielding after diln. with H₂O and extr. with Et₂O, 70% 1,2,3-tricarboethoxy-3-nitropentane, b_p 185-8°, n_D²⁰ 1.4540, d₄ 1.1703. Hydrogenation at 140 atm. H of 6.7 g. EtO₂CCH₂NO₂, 3 g. AcOH, and 7 ml. EtOH, over Ni with cooling, gave 50% EtO₂CCH₂NH₂·HCl salt, m. 141.5-3.5° (from EtOH), after evapn. and acidification with HCl. G. M. Kosolunoff

BELIKOV, V. M.

"The Transformation of Nitrocarboxylic Acids." Cand Chem Sci, Inst of
Organic Chemistry imeni N. D. Zelinskiy, Acad Sci USSR 21 Dec 54. (VM, 9 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR
Higher Educational Institutions (12)

SO: Sum. No. 556, 24 Jun 55

BELIKOV, V.M.

Certain reactions for the condensation of esters of aliphatic nitro-
carboxylic acids. Izv. AN SSSR otd. khim. nauk no. 7:855-862 JI. '56.
(MLBA 9:10)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk
SSSR,
(Acids, Fatty) (Condensation products (Chemistry))

Some reactions of condensation of esters of aliphatic
nitro carboxylic acids. V. M. Belikov. *Bull. Acad. Sci.
U.S.S.R., Div. Chem. Sci.* 1974, 476-84. (Russian transl.)
Lett. Soc. 1: 51 (1975). *h. M. E.*

Chem.

5(3)

AUTHOR:

Belikov, V. M.

SOV/62-58-12-14/22

TITLE:

On the Diazotization of p-Oxybenzoic Acid and p-Sulfophenol
(O diazotirovani p-oksibenzoynoy kisloty i p-sul'fopenola)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk,
1958, Nr 12, pp 1486-1487 (USSR)

ABSTRACT:

Although the reaction investigated in this paper is not what is generally known as diazotization, this expression was maintained as it perfectly interprets the introduction of the diazo group into the organic molecule. This work was carried out under the supervision of V. M. Rodionov, Member, Academy of Sciences, USSR. The Rodionov-Matveyev reaction (Ref 1) was extended to the p-oxybenzoic acid and the p-sulfophenol, and diazo compounds in yields of 70-90% were obtained. The treatment of the diazo solution which had been obtained from p-oxybenzoic acid according to a method suggested by Zandmeyer, led to the formation of m-chloro-p-oxybenzoic acid and p-chloro-o-nitro-phenol. This points to the fact that the original reaction products are 2-oxy-5-carboxyl-phenyl diazonium and m-nitro-p-oxy-phenyl diazonium.

Card 1/2

On the Diazotization of p-Oxybenzoic Acid and p-Sulfophenol

SOV/62-58-12-14/22

There are 6 references, 3 of which are Soviet.

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

SUBMITTED: April 14, 1958

Card 2/2

5(3)

AUTHORS:

~~Belikov, V. M.,~~ Mayranovskiy, S. G., Safonova, E. N., Novikov, S. S. SOV/62-58-12-15/22

TITLE:

Heat of Hydration of 2-Nitro-Pyrrole (Teplota gidratatsii 2-nitropirrola)

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1488-1489 (USSR)

ABSTRACT:

In the present paper the authors mention briefly that the hydration of 2-nitro-pyrrole was immediately proved by measuring the heat effect. It was found that in the transition from glacial acetic acid solutions to diluted acetic acid solutions the displacement of the absorption spectrum taking place in the ultraviolet 2-nitro-pyrrole spectrum is connected with the hydration of molecules of the dissolved substance. It is accompanied by a heat effect of -1.5 to -1.7 kcal/mol. In the course of the investigation the mixing heat of acetic acid with water at 21-22° and at a concentration of 25-35% was measured. This heat is equal to zero if the content of acetic acid is 28% of the final mixture. There are 1 figure, 1 table, and 4 references, 2 of which are Soviet.

Card 1/2

Heat of Hydration of 2-Nitro-Pyrrole

SOV/62-58-12-15/22

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

SUBMITTED: May 16, 1958

Card 2/2

5(3)

AUTHORS:

Yershova, L. V., Gogitidze, V. N., Belikov, V. M., Novikov, S. S. SOV/62-59-5-35/40

TITLE:

Preparation of Gem-dinitroparaffins (O poluchenii gem-dinitroparafinov)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 943-945 (USSR)

ABSTRACT:

For the investigation of the influence exercised by the carbon chain in the gem-dinitro-compounds upon their physical properties the homologous series of gem-dinitro-compounds was synthesized. For this purpose the alkyl acetoacetic esters were nitrated. This method was applied for the first time by G. Chancel (Ref 1). It renders it possible to extend the carbon chain in stages, i.e. the initial product is extended each time by one carbon atom. In the course of the present investigation, a series of gem-dinitroparaffins from 1,1-dinitropropane to 1,1-dinitrodecane was in this way obtained. Of the synthesized compounds, the molar refraction of the dinitromethyl group was determined (Table 1). Moreover, also the physical constants and boiling points were determined (Table 2). There are 2 tables and 6 references, 1 of which is Soviet.

Card 1/2

Preparation of Gem-dinitroparaffins

SOV/62-59-5-35/40

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: November 11, 1958

Card 2/2

5 (3)

AUTHORS:

Novikov, S. S., Belikov, V. M.

SOV/62-59-6-23/36

TITLE:

Investigation in the Field of Nitropyrroles (Issledovaniye v oblasti nitropirrol'ov). Communication 1. New Synthesis Methods of the Pyrrole Ring (Soobshcheniye 1. Novyy metod sinteza pirrol'nogo tsikla)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1098 - 1101 (USSR)

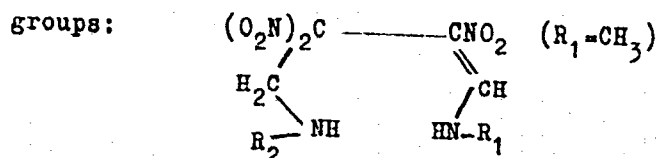
ABSTRACT:

In continuation of a previous paper (Ref 1) in which the condensation of nitroacetic acid ester with aldehydes was investigated, this paper deals with the reaction of α,β,β -trinitropropione aldehyde with formalin and methylamine. Together with Mannich's base a compound with the melting point of 170° was found, to which according to its ultimate analysis and other chemical properties the chemical structure of 1-methyl-3,4-dinitropyrrole was ascribed. The reaction scheme is given. For the purpose of proving it, the splitting-off of the methylamino group in the cyclization was investigated in order to observe which hydrogen atom remains in the ring. With the diamines there is in this case a competition between the two amino-

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Investigation in the Field of Nitropyrroles.
 Communication 1. New Synthesis Methods of the
 Pyrrole Ring

SOV/62-59-6-23/36



It was observed that, independently of the aminogroups chosen, methyldinitropyrrole was always obtained. In general it could be determined that it is always the more basic methylamine that remains in the ring. The methylamino group may also compete with the methylamine. The reaction of methylimide with ethylamine and CH_2O yielded comparative quantities of methyl- and ethyldinitropyrrole. In the course of further reactions it was possible to synthesize dinitropyrrole immediately from dialkali salts of the trinitropropione aldehyde, by passing over the methylimide stage. By means of this new method of synthesizing dinitropyrroles also the previously unknown 3,4-dinitropyrrole could be produced. In the experimental part the production of

Card 2/3

Investigation in the Field of Nitropyrroles.
Communication 1. New Synthesis Methods of the
Pyrrole Ring

SOV/62-59-6-23/36

the different substances is described in detail. There are 7
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: September 30, 1957

Card 3/3

5(3)

AUTHORS:

Safonova, E. N., Belikov, V. M., Novikov, S. S. SOV/62-59-6-30/36

TITLE:

Some Reactions of the Nitropyrroles Associated With the
Mobility of the N-H Bond (Nekotoryye reaktsii nitropirrolov,
svyazannyye s podvizhnost'yu svyazi N-H)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 6, pp 1130 - 1132 (USSR)

ABSTRACT:

In a previous paper by the authors (Ref 1) it was found that the nitropyrroles, which do not have a substituent on the hydrogen, are acids, and that their acidity depends on the nitro groups bound to the pyrrole ring. (2-nitropyrrole=acid). If, as is assumed, the stronger acid, and 2,5-nitropyrrole weakly acid, 2,4-nitropyrrole chemical activity of the nitropyrroles is connected with the mobility of the hydrogen atoms in this compound, the change in chemical activity must depend on the dissociation constants of the nitropyrroles. In order to prove this, the formation of salts, the cyano-ethylation, and the methylation of the pyrroles mentioned was investigated. It was shown that all three nitropyrroles form stable sodium salts, while the ammonium salts are unstable. The hydracine salt of 2-nitropyrrole could not be produced, the other two pyrroles formed normal hydrazine salts. When put into diluted

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Some Reactions of the Nitropyrroles Associated With the
Mobility of the N-H Bond

SOV/62-59-6-30/36

sulphuric acid all salts were again decomposed into the initial products. With the cyanoethylation it showed that the more acid the nitropyrrole, the more acid a catalyst had to be used for the reaction. (Catalysts in the order of the nitropyrroles mentioned: CH_3ONa , CH_3COOK , CH_3COOH). Methylation of the 2,5-dinitropyrrole by dimethylsulphate occurred less readily than with the two other pyrroles. The N-H bond which, in dependence on its mobility, is able to react in the aforementioned manner, is also responsible for the motion of the hydrogen atoms of the methyl group, of the alcohols, or of the carboxylic acid. The character of the atom to which the hydrogen is bound is of minor importance. In the experimental part the syntheses of the different salts, and of the cyanoethylated and methylated compounds of the nitropyrroles mentioned are described in detail. For some of the compounds synthesized, the bacterio-static activity was determined in the VNEKhFI (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze (All-Union Chemicopharmaceutical Scientific Research Institute imeni Ordzhonikidze)) by Professor N. G. Pershin to whom the authors therefore express their gratitude.

Card 2/3

Some Reactions of the Nitropyrroles Associated With the
Mobility of the N-H Bond

SOV/62-59-6-30/36

There are 2 Soviet references.

ASSOCIATION:

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

SUEMITTED:

December 8, 1958

Card 3/3

5(3)

SOV/62-59-7-22/38

AUTHORS: Safonova, E. N., Belikov, V. M., Novikov, S. S.

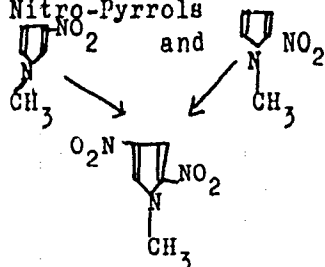
TITLE: An Investigation of Nitro-Pyrrols (Issledovaniye v oblasti nitro-pirrolov). Communication 2. Synthesis of Some Nitro-Pyrrols (Soobshcheniye 2. Sintez nekotorykh nitropirrolov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1307 - 1311 (USSR)

ABSTRACT: In a preceding paper a N-methyl-derivative of the configuration N-methyl-3,4-dinitro-pyrrol was obtained from the authors by a new method of synthesis. The anti-synthesis of this substance was not possible. Therefore, some other mono- and dinitro-pyrrols with or without N-substituents were synthesized and their chemical qualities and ultraviolet spectra were compared with those of the substances in the above named paper. In the table the data of all nitropyrrols are represented which are described in other publications (Refs 1-4). Some methods of the synthesis of nitro-pyrrols, which are described in publications are indicated (Refs 3,5,2). Like the scheme besides N-methyl-2,4-dinitropyrrol

Card 1/2

An Investigation of Nitro-Pyrrols. Communication 2. Syn- 507/62-53-7-22/38
thesis of Some Nitro-Pyrrols



2-nitro-pyrrol,2,4- and 2,5-dinitro-pyrrol were got now by nitrification and methylation, which were not yet described in other papers. The used method of nitrification by Rinke, obtaining 2-nitro-pyrrol, was changed and improved in some points. In the experimental part the syntheses are

described in detail. There are 6 figures, 1 table, and 7 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: September 30, 1957

Card 2/2

5(3), 5(4)
AUTHORS:

SOV/62-59-8-16/42

Novikov, S. S., Balikov, V. M., Yegorov, Yu. P., Safonova, E. N.,
Semenov, L. V.

TITLE:

Investigations in the Field of Nitropyrroles. Communication 3.
Ultra-violet Absorption Spectra and Tautomeric Transformations
of Some Nitropyrroles

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1959, Nr 8, pp 1438-1444 (USSR)

ABSTRACT:

In the present paper the ultra-violet spectra of 8 nitro-
pyrroles are investigated. The bands of the various compounds
are given in table 1 and shown in the figures. The spectra
were interpreted as indicating that the position of the
NO₂ group in the pyrrole nucleus can be determined by means
of the ultra-violet spectrum. The already supposed structure
of 1-methyl-3,4-dinitropyrrole (Ref 1) could be proved. The
tautomeric phenomena were investigated in a series of deri-
vatives not substituted at the nitrogen of nitropyrrole and
it could be shown that the acidity of these compounds increases
with the increasing number of nitro groups. The same effect
could be observed by regrouping the nitro group from position
β into α. This phenomenon was considered an inductive effect

Card 1/2

SOV/62-59-8-16/42

Investigations in the Field of Nitropyrroles. Communication 3. Ultra-violet Absorption Spectra and Tautomeric Transformations of Some Nitropyrroles

of the nitro group on the polarization of the N-H bond.
There are 6 figures, 1 table, and 17 references, 6 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: November 30, 1957

Card 2/2

5.3610

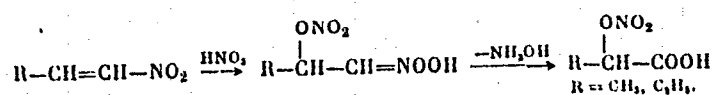
77378
SOV/79-30-1-39/78

AUTHORS: Belikov, V. M., Yershova, L. V., Novikov, S. S.

TITLE: Concerning the Action of Nitric Acid on Nitroolefins

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 191-192 (USSR)

ABSTRACT: The action of HNO_3 on nitroolefins, specifically, on 1-nitrobut-1-ene, 1-nitroprop-1-ene, and nitroethylene, was investigated. The nitrates of α -hydroxy acids were obtained as final products. From nitrobutylene the nitrate of α -hydroxybutyric acid (I) was obtained, and, from nitropropylene, the nitrate of lactic acid (II). Nitroethylene formed very unstable products. An attempt to isolate a discrete compound was unsuccessful. The reaction probably takes place as follows:



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Concerning the Action of Nitric Acid
on Nitroolefins

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Compound (I) was obtained in 47% yield, bp $115^{\circ}/2$ mm, n_D^{20} 1.4365, d_4^{20} 1.2849, and (II) in 39% yield, bp $95^{\circ}/3$ mm, n_D^{20} 1.4356, d_4^{20} 1.3672. There are 3 references, 1 U.S., 1 French, 1 U.K. The U.S. and U.K. references are: M. Frankel, K. Klager, J. Org. Ch., 23, 494 (1958); F. Pattison, G. Brown, Can. J. Chem., 34, 879 (1956).

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

SUBMITTED: January 14, 1959

Card 2/2

NOVIKOV, S.S.; SAFONOVA, E.N.; BELIKOV, V.M.

Chemistry of nitropyrroles. Report No.5: Synthesis of substituted derivatives of dinitropyrroles. Izv.AN SSSR.Otd. khim.nauk no.6:1053-1056 J1 '60. (MIRA 13:7)

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

(Pyrrole)

S/062/60/000/009/015/021
B023/B064

AUTHORS: Belikov, V. M., Mayranovskiy, S. G., Korohemnaya, Ts. B.,
Novikov, S. S., and Klimova, V. A.

TITLE: Tautomerism of Nitro Compounds. Communication 1. Study of
the Mechanism of Tautomeric Conversions of Phenyl
Nitromethane

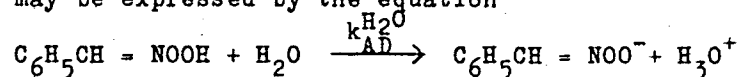
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, 1960, No. 9, pp. 1675-1680

TEXT: The authors investigated the tautomeric conversions of the nitro
compounds as thoroughly as possible by the polarographic method. They
used phenyl nitromethane because its tautomeric conversions proceed
comparatively slowly. They determined the constant (K_N) of the acidic
dissociation of phenyl nitromethane in water both potentiometrically and
polarographically, and obtained $K_N = 1.6 \cdot 10^{-7}$ mole/l. The dissociation
kinetics of phenyl nitromethane was investigated in buffer solutions at
pH between 7 and 10. The constants of the rate of dissociation were

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experimentally determined with all components of the buffer solution. The rate of interaction of phenyl nitromethane, with water as standard, is $k_{ND}^{H_2O} \approx 8 \cdot 10^{-7} \text{ l/mole} \cdot \text{sec}$. The kinetics of the transition from the aci- into the nitro form was also studied at pH between 1 and 6. It is found that the rate of isomerization is independent of the hydrogen ion concentration at $\text{pH} < 2$, and may be expressed by the equation



The rate of isomerization increases at a further increase of pH. In general, the rate of isomerization is determined by the stage of dissociation of the aci form. The constants were - like in the determination of the dissociation rate of the nitro form - determined with all components of the buffer mixtures. The aci form is a stronger acid than the nitro form. The behavior of the phenyl nitromethane ion in buffer solutions at pH 4-6 showed that in the pH range of from 4 to 4.7, the rate of development of nitro forms is practically independent of the pH of the solution. At a

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further increase of pH, the rate of formation of the nitro form decreases in proportion with the reduction of the acid concentration. In this stage, the rate of formation of the nitro form is determined by the stage of recombination of the anion under the formation of a non-dissociated nitro form. The rates of dissociation and recombination of the nitro form as well as the rate of dissociation of the aci form were experimentally determined. On the basis of the kinetic analysis of tautomeric conversions of phenyl nitromethane it is found that the anion may appear in two forms: as aci anion and as nitro anion. As a result of the kinetic investigations the authors obtained a picture of tautomeric transformations of phenyl nitromethane in aqueous solution for the special case in which only H_2O^+ occurs as a base. See Scheme. Thus, it may be concluded that the duality of the reactivity of the phenyl nitromethane ion is apparently due to the coexistence of ions of two types. The isomerization of these ions proceeds at low rates. These rates determine under certain conditions the direction of the reaction to the one or the other side. This phenomenon may, in the authors' opinion, contribute to clarify the duality of the reactivity

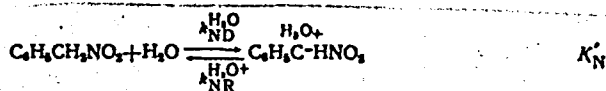
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Tautomerism of Nitro Compounds. Communication 1. S/062/60/000/009/015/021
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 of Phenyl Nitromethane

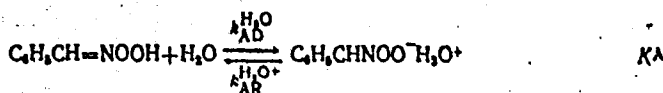
of other tautomeric compounds. G. S. Salyamon and Ya. S. Bobevich (Ref.12) are mentioned. V. I. Slovetskiy and V. A. Shlyapochniokov have taken the spectra. There are 1 table and 12 references: 3 Soviet, 6 US, 1 German, 1 Danish, and 1 Swedish.

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: March 24, 1959; completed June 8, 1960



$k_1 \uparrow \downarrow k_2 \quad K$



$K'_N \approx 2 \cdot 10^{-7} M/l \quad k_{ND}^{H_2O} = 8 \cdot 10^{-7} s/M \cdot \text{cek} \quad k_{NR}^{H_3O^+} = 200 s/M \cdot \text{cek}.$

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$K_A = 1,3 \cdot 10^{-4} M/l \quad k_{AB}^{H_2O} = 4,14 \cdot 10^{-5} s/M \cdot \text{cek} \quad k_{AR}^{H_3O^+} = 18 s/M \cdot \text{cek}.$

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S/062/60/000/010/007/018

B015/B064

11.1360

AUTHORS: Mayranovskiy, S. G., Belikov, V. M., Korchemnaya, Ts. B., Klimova, V. A., and Novikov, S. S.

TITLE: Tautomerism of Nitro-compounds. Information 2. Polarographic Investigation of the Kinetics of Tautomeric Conversions of Phenyl Nitro-methane

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1787-1795

TEXT: In a previous investigation (Ref. 1), the polarographic activity of the aci-form of phenyl nitro-methane was determined. The present paper describes the technique applied and gives the experimental data obtained. The polarographic behavior of the aci- and nitroforms of phenyl nitro-methane was investigated, i.e., the kinetics of the transformation of the aci-form into the nitro-form at pH 1-4, the nitro-form into the anion at pH 7-10, and the anion into the nitro-form at pH 4-6. Moreover, the dissociation constants of the aci- and nitro-forms were

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polarographically and potentiometrically determined. The experiments were conducted in an optical polarograph, and the current was measured with an M-91 (M-91) microammeter. The potential of the dropping electrode was checked with an $\Lambda M-1$ (LM-1) voltmeter, and determined with a $\Pi-4$ (P-4) potentiometer. The experiments were carried out at $25 \pm 0.1^\circ\text{C}$ using various buffer solutions, and the pH was determined with glass electrodes and $\Lambda\Pi-5$ (LP-5) or $\Lambda\Pi-59$ (LP-59) potentiometers. The potentials of the half-waves at pH 1.15 are $E_{1/2} = -0.52$ v for the nitro-form and $E_{1/2} = -0.66$ v

for the aci-form. Investigations of the dissociation kinetics showed that the ionization of phenyl nitro-methane in buffer solutions can be described by an equation of the first order. The ionization rate was investigated in the presence of various bases. The rate of transformation of the aci-form into the nitro-form was found to follow the equation of a reaction of the first order throughout the pH range investigated. Investigations on the recombination kinetics of phenyl nitro-methane showed that at pH 4-5 the dissociation of the aci-form and the recombination of the nitro-form take place simultaneously. The values for the dissociation

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constants of the aci- and nitro-forms under the action of bases and acids were computed with the help of Brönsted's equation (Tables 1,2). The authors thank D. G. Knorre for advice. There are 11 figures, 2 tables, and 5 references: 4 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: March 24, 1959

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35437

S/081/62/000/004/074/087
B138/B110

112214

AUTHORS: Zimakov, P. V., Volkova, Ye. V., Fokin, A. V., Sorokin, A. D.,
Belikov, V. M.

TITLE: Use of nuclear radiation energy in the process of the
polymerization of fluoro-olefines

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 557, abstract
4P24 (Sb. "Radioakt. izotopy i yadern. izlucheniya v nar.
kh-ve SSSR, v. 1. M.", Gostoptekhizdat, 1961, 219-226)

TEXT: The processes of the separate and combined radiation polymerization
of tetrafluorethylene and trifluorchlorethylene have been investigated with
the aim of eliminating some of the deficiencies in existing methods of
fluoro-olefine polymerization. It has been found that tetrafluorethylene
and trifluorchlorethylene can easily be polymerized under various
temperature conditions and mediums with comparatively low radiation
intensities. The resulting polymers have a high degree of purity. The
possibility of producing various fluoro-copolymers by radiation is
demonstrated. Both radiation polymerization and radiation vulcanization
might be carried out in the case of fluor-containing rubbers. [Abstracter's
note: Complete translation.]
Card 1/1

BELIKOV, V.M.; MAYRANOVSKIY, S.G.; KORCHEMNAYA, TS.B.; NOVIKOV, S.S.

Tautomerism of nitro compounds. Report 3: Effect of temperature and ionic strength of solutions on the rates of phenylnitromethane tautomeric transitions. Izv. AN SSSR, Otd. khim. nauk no. 6: 1108-1111 Je '61.

(MIRA 14:6)

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


S/019/61/000/018/043/073
A152/A126

AUTHORS: Fokin, A.V.; Volkova, Ye.V.; Belikov, V.M.; Abkin, A.D.; Khomyakovskiy, P.M.; Gantmakher, A.R.; Krasnousov, L.A.

TITLE: Process of obtaining polytetrafluoroethylene

PERIODICAL: Byulleten' izobreteniy, no. 18, 1961, 42

TEXT: Class 39c, 2501. No. 141301 (675645/23 of August 3, 1960). A process of obtaining polytetrafluoroethylene through a polymerization of tetraethylene fluoride in a water medium in the presence of initiators, the distinctive feature of which consists in that, for the purpose of obtaining a high-purity polymer, γ -radiation Co^{60} is taken as initiator.



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VOLKOVA, Ye.V.; FOKIN, A.V.; BELIKOV, V.M.

Polymerization of tetrafluoroethylene by the action of gamma
rays. Zhur.VKHO 6 no.1:113-114 '61. (MIRA 14:3)
(Ethylene) (Gamma rays) (Polymerization)

S/844/62/000/000/079/129
D423/D307

AUTHORS: Volkova, Ye. V., Fokin, A. V., Zimakov, P. V. and Belikov, ~~V. M.~~

TITLE: Certain special features of the radiation polymerization of tetrafluorethylene by the action of β and γ radiations

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 465-469

TEXT: Recent investigations are described of the radiation polymerization of TFE in the solid, liquid and vapor phases, using Co^{60} and Sr^{90} as the γ and β sources. Irradiation in the liquid phase was carried out at 20 - 25°C using $CHCl_3$ as the solvent with a dose-rate of 11 rad/sec. Conversion of monomer increased with increase of dosage and concentration of monomer. The polymer obtained (PTFE) contained up to 2% chlorine, which was explained by the fact that the $CHCl_3$ also participates in the reaction by interaction of

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