

BELYAVSKAYA, M., kand. ekonom. nauk; VYSHKVARTSEVA, L., kand. ekonom. nauk

Improve the analysis of the performance of the Repair and
Operating Center of the fleet. Rech. transp. 23 no.1:54-59
Ja '64. (MIRA 18:11)

ELYAVSKAYA, M., kand.ekonom.nauk; LEGOSTAYEV, V., inzh.-ekonomist

Improve the planning of returns. Rech.transp. 23 no.9:
9-11 S '64.

(MIRA 19:1)

BLANK, Shlioma Pinkhusovich; BELYAVSKAYA, Maia Iosifovna;
VYSHKVARTSEVA, Liliya Timoreyevna; BARAKIN, A.P., red.;
LOBANOV, Ye.M., red.

[Performance analysis of enterprises operating in inland
navigation] Analiz raboty ekspluatatsionnykh predpriatii
rechnogo flota. Moskva, Transport, 1965. 171 p.

(MIRA 18:7)

BELYAVSKAYA, S.F.

Use of exercise therapy in hypertension in middle aged and elderly persons treated in a polyclinic. Vop. kur. fizioter. i lech. fiz. kul't. 28 no.3: 7-223 June '63. (MIRA 17:5)

1. Iz Tsentral'noy polikliniki Soyuza Sovetskikh pisateley (glavnyy vrach-kand. med. nauk V.Ye. Giller) i kafedry lechebnoy fizkul'tury i vrachebnogo kontrolya Tsentral'nogo instituta fizicheskoy kul'tury (nauchnyy rukovoditel'-doksent S.A. Karpov).

BELYAVSKAYA, T. A. Cand. Chem. Sci.

Dissertation: "Applications of the Complex Compounds of Uranyl-Acetate for the Determination of Sodium." Moscow Order of Lenin State U imeni M. V. Lomonosov, 11 Jun 47.

SO: Vechernyaya Moskva, Jun, 1947 (Project #17836)

CA BELJAVSKAYA, T.H.

Microdetermination of sodium with manganese uranyl acetate. T. A. Beljavskaya (Nalozha Anal. Khim.). Vestnik Mosh. Univ. S. No. 5, Ser. Fiz.-Mat. i Estest. Nash No. 3, 80-82 (1950).—Gravimetric detn. of Na as $\text{NaMn}(\text{UO}_2\text{MAcO})_2 \cdot 10\text{H}_2\text{O}$ (dried at 60°) is easily accomplished with mg. amts., by pptn. with a reagent contg. $\text{UO}_2(\text{AcO})_2 \cdot 2\text{H}_2\text{O}$ and $\text{Mn}(\text{AcO})_2 \cdot 4\text{H}_2\text{O}$ in alc. AcOH. If not over twice as much K as Na is present, the results are good; otherwise they are high; Mg has no effect even in 20-fold amts. Colorimetry can be used by detg. the UO_2 content by the ferrocyanide method after dissolving the ppt. in AcOH.
G. M. Kosolapoff

BELIYAVSKAYA, T.A.; GIBALO, I.M.

"Quantitative analysis." V.N.Alekseev. Reviewed by T.A.Beliavskaia,
I.M.Gibalo. Zav.lab.21 no.7:884-885 '55. (MLRA 8:10)

1. Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo
universiteta.

(Chemistry, Analytic--Quantitative)

Quantitative separation of zirconium from iron and nickel
by the method of ion-exchange chromatography. I. P.

Almarin, T. A. Belinskaya, and N. M. Kostomarov
Vestnik M. Gos. Univ. Ser. Khim. Mat. Nauk. Ser. Khim. Nauk No. 2, 67-71 (1956). - Zr in HNO₃ soln. was filtered through different cation exchange resins; it was not adsorbed on 2 of them in the pH interval 0.5-1.95, partially adsorbed on the 3rd, and totally adsorbed on the 4th. Mixts of Zr(NO₃)₂ with Fe(NO₃)₃, FeCl₃, Fe₂(SO₄)₃, Ni(NO₃)₂, or NiCl₂ were passed through one of the cationic resins that did not adsorb Zr. Fe and Ni were totally adsorbed; however, in this case some Zr was also adsorbed, but could be removed from the chromatographic column by elution with (NH₄)₂CO₃ because of the formation of a sol. Zr complex. S. Pakover

3

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Chair Analytical Chemistry, Moscow State U.

Belyavskaya, T. A.

137-1957-12-25523

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 368 (USSR)

AUTHORS: Alimarin, I. P., Belyavskaya, T. A., Bazhanova, L. A.

TITLE: Separation of Titanium From Accompanying Elements by the Method of Ion-exchange Chromatography (Otdeleniye titana ot soputstvuyushchikh elementov metodom ionoobmennoy khromatografii)

PERIODICAL: Vest. Mosk. un-ta, Ser. matem., mekhan., astron., fiz., khimii, 1956, Nr 2, pp 167-170

ABSTRACT: A systematic study of exchange of Ti^{4+} and Fe^{3+} ions in solutions of HCl , H_2SO_4 , and CNS^- was performed. The distribution coefficient ϕ was studied with regard to the ion-exchange resin and the solution. It may be computed from the formula $\phi = M_1 v/m(M-M_1)$, where M_1 is the cation fraction in the resin, M is the initial quantity of cation, v is the volume of the solution, m is the mass of the synthetic basic resin (SBS). In all experiments $v=60$ ml, $m=0.5$ g. It is established that at 0.4 N and 0.1 N H_2SO_4 $\phi_{Fe}/\phi_{Ti}=13.1$ and 17.5, respectively.

Card 1/2 Results obtained with thiocyanate are of little practical interest.

Chair, Analytical Chem., Moscow State U.

137-1957-12-25523

Separation of Titanium From Accompanying Elements (cont.)

The method of segregation was verified in a cylindrical tank 12 cm high and 0.8 cm in diameter. The completeness of the segregation was controlled by colorimetric and radiometric methods and involved the employment of Fe⁵⁹. The separation of Fe and Ti was examined for Fe:Ti ratios varying from 1:1000 to 10,000:1 (the amounts of Ti varying from 0.001 to 10 mg, and those of Fe, from 0.001 to 1 mg). 100-425 ml of 0.4N HCl are employed to elute Ti⁴⁺, and 100-500 ml of 4.0N HCl to elute Fe³⁺. The separation was complete.

Z. G.

1. Titanium-Separation
2. Ion exchange-Applications

Card 2/2

-BELYAUSKAYA, T. A.

Category: USSR/Analytical Chemistry - Analysis of inorganic substances.

G-2

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30967

Author : Belyayevskaya T. A., Fadeyeva V. I.

Inst : Moscow University

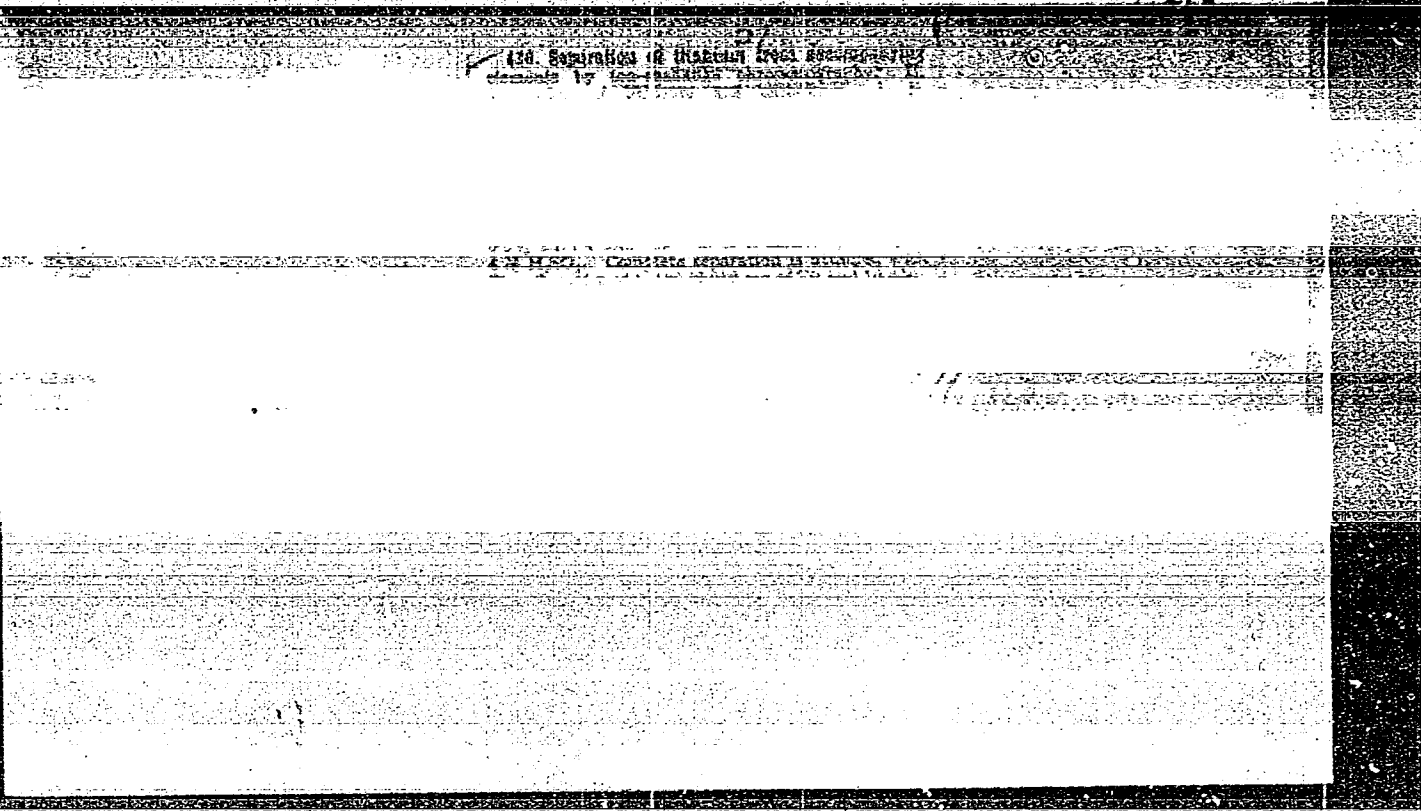
Title : Quantitative Separation of Beryllium from Some Elements by the Method of Ion-Exchange Chromatography

Orig Pub: Vestn. Mosk. un-ta, 1956, No 6, 73-79

Abstract: Study of the conditions of Be adsorption by SBS cation-exchange resin, depending on pH, and of its desorption by hydrochloric acid, alkalies and solutions of $(\text{NH}_4)_2\text{CO}_3$, NaHCO_3 . A method of quantitative separation of Be from Cu and Ni is described. To the solution containing Be and Cu (Ni), is added NH_4OH and an excess of 10% solution of $(\text{NH}_4)_2\text{CO}_3$ (pH 8.5-9). The solution is passed through a column (height 20, diameter 0.7 cm) containing SBS in NH_4^+ -form, at a rate of 1.5-2 ml/minute. The column is washed with 20-30 ml of $(\text{NH}_4)_2\text{CO}_3$ solution, the solutions are

Card : 1/2

-7-



AUTHORS: Belyavskaya, T. A., Chmutova, M. K. SOV/156-58-2-25/48

TITLE: Separation of Zirconium From Chromium and Aluminum by Means of the Method of Ion-Exchange-Chromatography (Otdeleniye tsirkoniya ot khroma i alyuminiya metodom ionoobmennoy khromatografii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp. 305 - 307 (USSR)

ABSTRACT: In recent years, a series of papers on the chromatographic separation of zirconium from the accompanying elements have been published (Refs 1 to 16). The present report contains material on the sorption of the metals referred to in the title from hydrochloric acid solutions by means of ion-exchanging resins. The sorption of related elements from hydrochloric acid solution can be quite different in its properties. This is due to the unequal stability of the chloride complex-ions (Refs 17 to 20). In order to clarify the optimum conditions of chromatographic separation of the afore-mentioned metals, the comparing sorption of the elements was investigated. The distribution coefficient ϕ is calculated

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Separation of Zirconium From Chromium and Aluminum
by Means of the Method of Ion-Exchange-Chromatography

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according to the formula

$$\varphi = \frac{M_1}{M - M_1} \cdot \frac{V}{m}, \text{ where } M_1 \text{ is the fraction of the element}$$

in the resin, M - the total amount of the element in the initial solution, V - the volume of the solution and m - the mass of resin. V and m were constant in the tests carried out by the authors. 3 ion-exchanging resins: KY2-DE-10 and AN-2F were used. After the coefficients φ of the element-distribution between the hydrochloric acid solutions and the ion-exchanging resins were found, further tests have shown a completely lacking sorption of all 3 mentioned metals from 0,1 - 6 n.-solutions of HCl. The results are shown in table 1. It hence follows that zirconium is completely sorbed from relatively diluted HCl-solutions (0,1 to 1 n.). This indicates its existence as positively charged ion in the solution. Chromium is more weakly sorbed under the above conditions. Aluminum is completely sorbed from 0,1 n. - solution, but from 1 n.-solution it is scarcely sorbed. The sorption

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Separation of Zirconium From Chromium and Aluminum
by Means of the Method of Ion-Exchange-Chromatography

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of the elements decreases according to the increasing acidity. It further follows from table 1 that the differences of sorption from 1 n-HCl can be based on the chromatographic separation of the zirconium from chromium and aluminum. The proposed method of quantitative separation is briefly described. There are 3 tables and 21 references, 5 of which are Soviet.

ASSOCIATION: Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo universiteta im.M.V.Lomonosova (Chair of Analytical Chemistry of Moscow State University imeni M.V.Lomonosov)

SUBMITTED: October 14, 1957

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Separation of Zirconium From Chromium and Aluminum
by Means of the Method of Ion-Exchange-Chromatography

SOV/156-58-2-25/48

Card 4/4

5(2)

AUTHORS: Belyavskaya, T. A., Alimarin, I. P., SOV/75-13-6-9/21
Kolosova, I. F.

TITLE: Separation of Titanium From Accompanying Elements by Means of Ion-Exchange Chromatography (Otdeleniye titana ot soputstvuyushchikh elementov metodom ion-obmennoy khromatografii) Communication 3. Separation of Titanium and Zirconium (Soobshcheniye 3. Razdeleniye titana i tsirkoniya)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 6, pp 668-670 (USSR)

ABSTRACT: The authors of the present paper investigated the adsorption of tetravalent titanium and zirconium in ion-exchange resins in hydrochloric solution. The use of hydrochloric solutions is of interest in chromatography because frequently a slight modification of the acid concentration leads to a considerable difference in the adsorbability of elements the properties of which are very similar to each other (Refs 1-8). The adsorbability was investigated by determination of the distribution coefficients. Here, an exactly weighed sample of the air-dried exchange resin is shaken with a certain volume

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Separation of Titanium From Accompanying Elements
by Means of Ion-Exchange Chromatography.
Communication 3. Separation of Titanium and Zirconium

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of the solution to be investigated until equilibrium is attained. From an aliquot of the solution the amount of the element is determined that has not been adsorbed by the resin. The distribution coefficient φ is computed according to the formula

$$\varphi = \frac{M_1}{M - M_1} \cdot \frac{V}{m} \quad (\text{Ref 9}),$$

where M_1 is the adsorbed part of the element in mg, M the total amount of the element in mg contained in the initial solution, V the volume of the solution and m the quantity of the resin. The authors determined the relative adsorption of titanium and zirconium by this method. V and m were kept constant. As adsorbents the cation exchange resins SBS and KU-2 (both in the H-form) and the anion exchange resins EDE-10 and AN-2F (in the Cl-form) were used. The content of titanium in the equilibrated solutions was determined photometrically with chromotropic acid, the content of zirconium with arsenazo.

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Separation of Titanium From Accompanying Elements
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It was found that neither titanium nor zirconium were adsorbed by the two anion exchange resins in 0.1 - 6 n hydrochloric solution. In dilute hydrochloric solution (0.1 - 1 n) zirconium is quantitatively adsorbed at both cationites used. That indicates that zirconium under present conditions is present in the form of positive ions. On the increase of the acid concentration a slight difference occurs in the adsorption at the two cationites. The resin SBS adsorbs Zr to a very small extent even in the stronger acid solution. There is only a small adsorption of titanium in 0.1 - 1 n hydrochloric solution, in stronger acid solutions there is no adsorption any more. On the basis of the different adsorption of titanium and zirconium in 1 n hydrochloric solution at the cation exchangers KU-2 (Zr is quantitatively adsorbed, Ti not at all) a method of quantitative chromatographic separation of titanium and zirconium at concentration ratios of Ti : Zr as 1000 : 1 up to Ti : Zr as 1 : 10,000 was devised. The separation occurs in 1 n hydrochloric solution; zirconium is washed out from the exchanger by 4 n HCl .

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Separation of Titanium From Accompanying Elements. SOV/75-13-6-9/21
by Means of Ion-Exchange Chromatography.
Communication 3. Separation of Titanium and Zirconium

After the separation neither titanium in the solution of zirconium, nor zirconium in the solution of titanium could be found. The use of the resin SBS cannot be recommended since, first the elution of the same quantity of titanium requires an amount of 1n HCl that is 2.5 times higher, secondly, because Zr could be eluted by 4 n HCl only up to 80-85%. The procedure of the separation is described in detail. There are 2 tables and 19 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 22, 1957

Card 4/4

ALIMARIN, I.P.; BELYAVSKAYA, T.A.; MU BIN-VEN' [Mu Ping-wen]

Forms in which zirconium exists in solutions of hydrochloric acid, ammonium carbonate, and complexon III. Radiokhimiia 1 no.6:645-649 '59. (MIRA 13:4)
(Zirconium compounds)

BELYAVSKAYA, T.A.; MU BIN-VEN' [Mu Ping-Wén]

Condition of zirconium in solutions of mineral acids. Vest.Mosk.
un.Ser.mat., mekh.astron.fiz.khim. 14 no.4:207-214 '59.
(MIRA 13:8)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
(Zirconium)

S/189/62/000/005/003/006
D204/D307

AUTHORS: Belyavskaya, T. A., Alimarin, I. P., and
Mu Ping-Wen

TITLE: Chromatographic separations of zirconium and
beryllium

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II,
Khimiya, no. 5, 1962, 41-44

TEXT: The present work is a part of systematic study of the
separation of Zr from metals with which it is commonly alloyed,
by chromatographic methods. The sorption of Zr and Be was
first measured--up to 11N HCl, up to 5N HNO₃, up to 20% (NH₄)₂CO₃,
and up to 5% complexone III--on cationite KY-2 (KU-2) and
anionite AB-17 (AV-17) under static conditions. Comparison
of the results revealed that the two metals might be separated
chromatographically from 2N acids, 2% complexone III, and 5%

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Chromatographic separations...

S/189/62/000/005/003/006
D204/D307

$(\text{NH}_4)_2\text{CO}_3$, although the difference in sorption was not so pronounced in the latter case. It was experimentally confirmed that Zr and Be may be effectively separated on KU-2 from 2N HCl or 2N HNO_3 solutions, for Zr:Be ratios (n) varying from ~2000:1 to ~1:7000, by passing the acid solutions of the mixtures over KU-2 packed in an 18 cm, 1.2 cm diam. column at 2 ml/min, eluting the Be with pure 2N acid and desorbing Zr with 4N acid. The metals were also separated in a 14 cm, 1.2 cm diam. column packed with KU-2 from a 2% complexone III solution, with n varying from 25:1 to 1:800, eluting Zr with the pure solvent, removing complexone III from the column with water, and desorbing Be with 3N HCl. There are 4 figures and 2 tables. ✓

ASSOCIATION: Kafedra analiticheskoy khimii (Department of Analytical Chemistry)

SUBMITTED: December 14, 1960

Card 2/2

S/189/63/000/001/007/008
D204/D307

AUTHORS: Kolosova, I. F. and Belyavskaya, T. A.

TITLE: A study of the complex formation by beryllium, by the ion-exchange method. Communication II

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 1, 1963, 52-57

TEXT: A continuation of earlier work (Vestn. Mosk. un-ta, ser. khimii, no. 5, 55, 1962). The present study was concerned with the behavior of Be in HNO_3 and HCl and was motivated by shortage of literature data. Ion-exchange resins *KY-2* and *AB-17* (2% ΔBB) (*KU-2* and *AV-17* (2% DVB)) were used, with grain size 0.1 - 0.25 mm; the acids were purified and Be^{7} was employed. The procedure was that used previously. In HNO_3 , the conditions were chosen to avoid hydrolysis and polymerization: the ionic strength $\mu = 0.5$, $[\text{H}^+] = 0.1$, $\text{Be}^{2+} = 10^{-6}$, and the temperature was maintained at $18 \pm 0.1^\circ\text{C}$. Complexes

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D204/D307

A study of the ...

BeNO_3^+ and $\text{Be}(\text{NO}_3)_2$ formed, with stability constants of respectively 0.25 ± 0.05 and 41.6 ± 2.6 . Three chloride complexes formed in HCl, at $\mu = 0.5$ $[\text{H}^+] = 0.1$ and $[\text{Cl}^-] = 0.5 - 0.01$ moles/l and a temperature of $18 \pm 0.1^\circ\text{C}$, with stability constants $\text{BeCl}^+ - 12.9 \pm 0.2$, $\text{BeCl}_2 - 2.0 \pm 0.5$, and $\text{BeCl}_3^- - 25.0 \pm 0.5$. Be is thus more susceptible to complexing in HCl solutions. The authors express their gratitude to I. N. Marov for his advice. There are 4 figures and 3 tables.

ASSOCIATION: Kafedra analiticheskoy khimii, (Department of Analytical Chemistry)

SUBMITTED: March 19, 1962

Card 2/2

BELYAVSKAYA, T.A.

Review of O.Samuelson's book "Ion exchange separations in analytical chemistry." Zhur.anal.khim. 18 no.8:1031-1032 Ag '63. (MIRA 16:12)

BELYAVSKAYA, T.A.; KOLOSOVA, I.F.

Photometric determination of beryllium with beryllon II. Zhur.anal.
khim. 19 no.9:1162-1163 '64. (MIRA 17:10)

1. Moscow State University.

BELYAVSKAYA, T.A.; KOLOSOVA, I.F.

Beryllium complex formation with glycolic, lactic, and mandelic acids. Zhur. neorg. khim. 10 no.2:441-445 F '65.

(MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet, kafedra analiticheskoy khimii. Submitted July 19, 1963.

KOLOSOVA, I.F.; BELYAVSKAYA, T.A.

Complex formation of beryllium with certain β -hydroxy acids.
Zhur.neorg.khim. 10 no.4:764-771 Ap '65. (MIRA 18:6)

1. Moskovskiy gosudarstvennyy universitet, khimicheskiy fakul'tet,
kafedra analiticheskoy khimii.

ALLMARIN, I.P.; BELYAVSKAYA, T.A.; BRYKINA, G.D.

Complex formation of Co^{2+} by means of ion exchange.
Vest. Mosk. un. Ser. 2:Khim. 20 no. 5:69-72 S-0 '65.

(MIRA 18:12)

1. Kafedra analiticheskoy khimii Moskovskogo gosudarstvennogo
universiteta. Submitted Nov. 24, 1964.

BELYAVSKAYA, T.A.; ALIMARIN, I.P.; MIKOS, E.P.

Sorption of iron (III) by ion exchangers from aqueous and aqueous-methanol solutions of hydrochloric and perchloric acids. Vest. Mosk. un. Ser. 2: Khim. 20 no.6:71-73 N-D '65.
(MIRA 19:1)

1. Kafedra analiticheskoy khimii Moskovskogo universiteta.
Submitted Feb. 22, 1965.

TRESKUNOV, K.A.; BELYAVSKAYA, TS.Z. (Kalininingrad)

Treatment of peptic ulcer with pantothenic acid. Klin.med. 38
no.8:146-148 Ag '60. (MIRA 17:11)

(PEPTIC ULCER)

(PANTOTHENIC ACID)

BRAYNINA, Kh.Z.; ROYZENBLAT, Ye.M.; BELYAVSKAYA, V.B.

Determination of microamounts of substances by their accumulation as insoluble films on electrodes and subsequent electrochemical dissolution. Zav. lab. 28 no.9:1047-1052 '62.
(MIRA 16:6)

i. Donetskij filial Vsesoyuznogo nauchno-issledovatel'skogo instituta Khimicheskikh reaktivov.
(Electrochemical analysis)

BRAYNINA, Kh.Z.; RYGAYLO, T.A.; BELYAVSKAYA, V.B.

Polarographic determination of trace quantities of silver in lead salts and thiourea. Zav.lab. 29 no.4:393-395 '63. (MIRA 16:5)

1. Donetskij filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov.
(Silver--Analysis) (Lead salt.) (Urea)

BRAYNINA, Kh.Z.; RYGAYLO, T.A.; BELYAVSKAYA, V.B.

Determination of silver in salts of alkaline and alkaline earth metals. Metod. anal. khim. reak. i prepar. no.5/6:124-128 '63.

(MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv, Donetskii filial.

BRAYNINA, Kh.Z.; BELYAVSKAYA, V.B.

Determination of the microquantities of some metals with their preliminary concentration on a graphite electrode. Metod. anal. khim. reak. i prepar. no.5/6:129-134 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobennostykh khimicheskikh veshchestv, Donetskii filial.

BRAYNINA, Kh.Z.; KIVA, N.K.; BELYAVSKAYA, V.B.

Particular features of the behavior of thin layers of substances
on an indifferent electrode. Elektrokhimiia 1 no.3:311-315 Mr
'65. (MIRA 18:12)

1. Donetskii filial Vsesoyuznogo nauchno-issledovatel'skego
instituta khimicheskikh reaktivov i osobo chistykh veshchestv.

L 53919-65 ENG(i)/ENP(e)/ENT(m)/EPF(c)/ENP(i)/ENG(m)/T/EPR/ENP(t)/ENP(b)
Pr-4/Ps-4 IJP(c) RWH/JD/KW/WH

ACCESSION NR: AP5011422

UR/0073/65/031/004/0398/0402

33
32
B

AUTHOR: Braynina, Kh. Z., Belyavskaya, V. B.

TITLE: Reproducibility and accuracy of the polarographic determination of trace amounts of metals with their preliminary concentration on a graphite electrode

SOURCE: Ukrainsky khimicheskly zhurnal, v. 31, no. 4, 1965, 398-402

TOPIC TAGS: metal microanalysis, polarography, graphite electrode, metal concentration, lead determination, copper determination

²⁷ ABSTRACT: ²⁷ The article is devoted to the study of the behavior of various kinds of graphite electrodes and aims at the selection of the optimum conditions for obtaining stable results during the concentration of trace metals. A comparative evaluation of various solid electrodes in the polarographic analysis of trace amounts of lead and copper was carried out. With lead as an example, it was shown that a graphite electrode can be used as the working electrode in polarographic analysis involving a preliminary concentration of the metal in the form of a deposit on the graphite electrode and the recording of the electrodisolution currents. The proposed method, which is highly reproducible, is applicable to the determination of trace amounts of metals in compounds that are more electronegative than the impurity being determined. The error of the determination does not exceed 12% in the

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L 53919-65

ACCESSION NR: AP5011422

analysis of solutions containing 10^{-7} mole of the impurity being analyzed per liter. Orig. art. has: 6 figures, 5 formulas and 1 table.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i ozobo chistykh khimicheskikh veshchestv, Donetskly filial (All-Union Scientific Research Institute of Chemical Reagents and High-Purity Substances, Donetsk Branch)

SUBMITTED: 10Nov63

ENCL: 00

SUB CODE: GC, OF

NO REF SOV: 006

OTHER: 005

Doc
Card 2/8

BRAYNINA, Kh.Z.; BELYAVSKAYA, V.B.

Continuous polarographic determination of heavy metals in electrolytes. Zav.lab. 31 no.10:1172-1175 '65.

(MIRA 19:1)

1. Donetskii filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistykh veshchestv.

VENDT, V.P.; BELYAVSKAYA, V.V.; TRAYDUK, Z.M.

Determining ergosterol in nonirradiated and irradiated
yeasts. Vit. res. i ikh isp. no.6:204-211 '63.
(MIRA 17:1)

1. Institut biokhimii AN UkrSSR, Kiyev.

BELYAVSKAYA, Ye. A.

AKOPOV, I.E.; BELYAVSKAYA, Ye.A.

Effect of Lagohylus preparations on blood fibrinogen and fibrin.
Biol. eksp. biol. i med. 38 no.7:49-54 J1 '54. (MIRA 7:8)

1. Iz kafedry farmakologii (sav. dotsent I.E.Akopov) Samarkandskogo meditsinskogo instituta imeni I.P.Pavlova.

**(BLOOD COAGULATION, effect of drugs on,
Lagohylus extracts)**

(PLANTS,

Lagohylus, eff. of extracts on blood coagulation)

AKOPOV, I.E.; BELYAVSKAYA, Ye.A.; KLENOVA, S.I.

Capsella bursa pastoris as a blood coagulation. Farm.i toks. 18
no.1:45-48 Ja-F '55. (MLRA 8:7)

1. Kafedra farmakologii (zav. dotsent I.E.Akopov) Samarkandskogo
meditsinskogo instituta imeni I.P.Pavlova.

(PLANTS,

Capsella bursa pastoris, eff. on blood coagulation)
(BLOOD COAGULATION, effects of drugs on,
Capsella bursa pastoris)

ASLIDDINOV, F.A.; BELYAVSKAYA, Ye.A.

Effect of lagochilin ester on conditioned food reflexes. Med. zhur.
Uzb. no.7:56-57 J1 '61. (MIRA 15:1)

1. Iz kafedry farmakologii (zav. - prof. I.E.Akopov) i kafedry
normal'noy fiziologii (zav. - dotsent Ye.A.Belyavskaya) Samarkandskogo
gosudarstvennogo meditsinskogo instituta.
(LAGOCHILIN) (REFLEXES)

BELYAVSKAYA, Ye.A., dotsent; RAKHIMOVA, M.K., dotsent.

Effect of a resolving dose of antigens on the higher nervous activity of dogs. Nauch. trudy SamMI 21:155-161 '62.

(MIRA 17:5)

1. Iz kafedry normal'noy fiziologii Samarkandskogo meditsinskogo instituta imeni Pavlova.

SMIRNOV, A.I.; BELEYAKAYA, Ye.A.; KOVALEVA, T.N.

Effect of a prolonged stimulation of the peripheral segment of the vagus nerve on the heart asphyxia. *Biul. eksp. biol. i med.* 59 no.6:28-32 Je '65. (MIRA 18:6)

1. Fiziologicheskaya gruppa (nauchnyy rukovoditel' - chlen-korrespondent ANM SSSR prof. A.I. Smirnov) ANM SSSR, Moskva.

SMIRNOV, A.I.; RAYEVSKIY, V.S.; BELYAVSKAYA, Ye.A.; KOVALEVA, T.N.

Effect of the resistance to respiration on the functional state of the respiration center in dogs in a chronic experiment. Biul. eksp. biol. i med. 60 no.8:14-17 Ag '65. (MIRA 18:9)

1. Fiziologicheskaya gruppa (nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.I. Smirnov) AMN SSSR, Moskva.

SKVARCHENKO, V.R.; LEVINA, R.Ya.; BELYAVSKAYA, Ye.M.

Aromatic hydrocarbons, Part 16: Aromatization of halogen-substituted tetrahydrophthalic acids (adducts of the diene synthesis) under the action of phosphorus pentoxide. Zhur. ob. khim. 30 no.11: 3535-3541 N'60. (MIRA 13:11)

(Cyclohexenedicarboxylic acid) (Aromatization)
(Phosphorus oxide)

89733

5-3700

1164 2209 1274

S/020/61/136/003/019/027
B016/B052AUTHORS: Shchegoleva, T. A. and Belyavskaya, Ye. M.TITLE: Organoboron Compounds. Synthesis and Some Properties of
Tri-(ethyl-mercapto)-diboranePERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 3,
pp. 638-641

TEXT: The authors report on the reaction of diborane and ethyl mercaptan in ethereal solutions at room temperature. They obtained a 60-70% yield of tri-(ethyl-mercapto)-diborane $C_2H_5SBH_2BH(SC_2H_5)_2$ (I) independently of the quantitative proportion of reagents. (I) is a liquid which can be distilled in vacuum without decomposition, and does not dissociate in solutions. The substitution of the remaining three hydrogen atoms by ethyl mercapto groups is only of advantage between 110 and 150°C; in this case triethylthioborate $B(SC_2H_5)_3$ (II) is formed in good yields. Ethyl amine complexes of di-(ethyl-mercapto)-borane $(C_2H_5S)_2BH \cdot NH_2C_2H_5$ (III) and ethyl-mercapto-

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Organoboron Compounds. Synthesis and Some
Properties of Tri-(ethyl-mercapto)-diborane

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borane $C_2H_5SBH_2 \cdot NH_2C_2H_5$ (IV) are formed first by the action of ethylamine on (I). Then ethyl-amino-ethyl-mercapto-borane (V) forms from (III) by separation of mercaptan, and is then condensed into N-triethyl borazole (VI) (see insert scheme). Ethyl mercaptan is also separated by (IV) which is converted into ethyl-amino-borane (VII). The latter is isolated from the reaction mixture especially in the form of a trimer (VIII). As regards its chemical properties, (VIII) is like the trimer of methyl-amino-borane (Ref. 2). However, there also exists a dimer (IX) of (VII) which together with (VIII) is contained in a liquid fraction with a boiling point of 85-90°/2 mm Hg. When left standing, (IX) is converted into (VIII). (IX) differs from (VIII) as to its chemical properties: when heated, both are converted into N-triethyl-borazole (VI), in (IX), however, only at lower temperatures (partly already when distilled in vacuum), while in (VIII) no hydrogen is generated below 140 - 150°C; at 180°C it is completely transformed. The behavior of (I) in propylene is like that of di(n-butyl-mercapto)-diborane in ethereal solutions (Ref. 1): the one half of its molecule which is more intensively hydrogenated accumulates on

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Organoboron Compounds. Synthesis and Some
Properties of Tri-(ethyl-mercapto)-diborane

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propylene already at room temperature. Thus di-n-propyl-thioboric acid ethyl ester $(C_3H_7)_2BSC_2H_5$ forms. The other half of the molecule is dimerized into tetra-(ethyl-mercapto)-diborane $(C_2H_5S)_2BHBH(SC_2H_5)_2$ (XI).

At room temperature (I) does not react with ethylene or octene. By boiling (I) in ethereal solutions with octane, the authors obtained an ester mixture of di-n-octyl-thioboric acid $(C_8H_{17})_2BSC_2H_5$ (XII) and n-octyl-thioboric acid $C_8H_{17}B(SC_2H_5)_2$ (XIII). This accumulation is accompanied by a symmetrization leading to the formation of (II) and tri-n-octylboron. There are 5 references: 2 Soviet and 2 US.

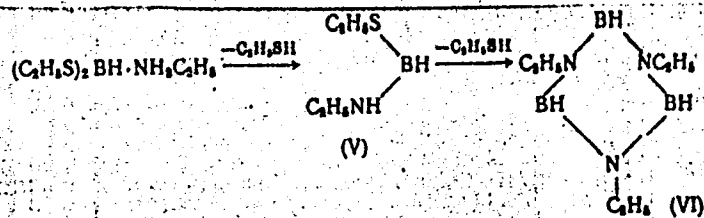
ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

PRESENTED: July 7, 1960, by B. A. Kazanskiy, Academician

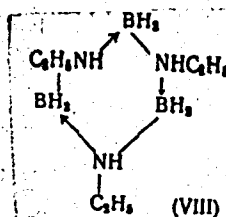
SUBMITTED: July 4, 1960

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B016/B052



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MELIK-PASHAYEV, V.S.; KOCHETOV, M.N.; KUZNETSOV, A.V.; DOLINA, L.P.;
Prinimali uchastiye: BELYAVSKIY, A.A.; LISUNOV, V.R.;
NEYMAN, V.Ye.; CHERNOGLAZOVA, T.Ya.; MAMUNA, V.N.; ZHDANOV,
M.A., prof., red.; PERSHINA, Ye.G., ved. red.; YAKOVLEVA,
Z.I., tekhn. red.

[Method for determining the parameters of oil and gas pools
for appraising reserves by the volumetric method in fields
of the platform type] Metodika opredelenia parametrov za-
lezhei nefi i gaza dlia podscheta zapasov ob"emnym meto-
dom na mestorozhdeniakh platformnogo tipa. [By] V.S.
Melik-Pashaev, i dr. Moskva, Gostoptekhisdat, 1963. 269 p.
(MIRA 16:8)

(Petroleum reservoir engineering)

MEN'SHIKOV, Stanislav Mikhaylovich; BELYAVSKIY, A., red.; SOLOV'YEVA, L.,
ml. red.

[Millionaires and managers; the modern structure of the financial oligarchy in the U.S.A.] Millionery i menedzhery; sovremennaya struktura finansovoi oligarkhii SShA. Moskva, Mysl', 1965. 454 p. (MIRA 18:5)

BELYAVSKIY, A.B.

Chem abs V48
1-25-54
Organic Chemistry

Chem
③

Ethyl orthotitanate, O. V. Nociu and A. B. Belyavskii.
Akad. Nauk S.S.R., Izv. Org. Khim., Sintezy Org. Soedinenii, Sbornik 2, 164-5 (1952); cf. C.A. 44, 8854i.
To 600 ml. abs. EtOH is gradually added with cooling and stirring 142 g. $TiCl_4$, after which the mixt. is satd. with dry- NH_3 with ice cooling until 51 g. gain is reached. The mass is rapidly filtered concd. *in vacuo*, refiltered, and distd. yielding 67-70% (EtO) $_2$ Ti , b₁ 130-2°, b₂ 230-7°. All operations must be done with complete exclusion of moisture.

G. M. Kosolapoff

MF
7-28-54

Belyavskiy, A.B.

USSR/Organic Chemistry - Theoretical and General Questions on Organic Chemistry E-1

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228

Author : Nesmeyanov, A.N., Freydlina, R.Kh., Zakharkin, L.I.,
Belyavskiy, A.B.

Title : Action of Nucleophilic Substances on Compounds of the
Structure $\text{CCl} - \text{CH} = \text{CRR}'$.

Orig Pub : Zh. obshchey khimii, 1956, 26, No 4, 1070-1082

Abstract : By dehydrobromination of 1,1,1-trichloro-3-bromobutane (I), 1,1,1-trichloro-3-bromo-3-phenylpropane (II), 1,1,1-trichloro-3-bromo-3-methylbutane (III) and 1,1,1-trichloro-3-bromo-4,4-dimethylbutane (IV) (synthesized by addition of CBrCl_3 to the corresponding olefins) were prepared, respectively: 1,1,1-trichlorobutene-2 (V), 1,1,1-trichloro-3-phenylpropene-2 (VI), 1,1,1-trichloro-3-methylbutene-2 (VII) and 1,1,1-trichloro-4,4-dimethylpentene-2 (VIII). Structure of VI was confirmed by

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which is attributed to spatial hindrances. In an alcoholic medium $(C_2H_5)_2NH$ reacts with V and VI to form mixtures of alkoxy- and amino- derivatives, while with VII and VIII only alkoxy-derivatives are formed. With $(C_2H_5)_2NH$ alone, without alcohol, V and VI form amino-derivatives, while VII does not react even at 110° . On action of NH_3 and piperidine (XL), in an alcoholic medium, VII forms a small amount of amino-derivatives. The same course of the reaction has been ascertained on interaction of V, VI and VII with Na_2S in alcoholic medium: V and VI form mixtures of O- and S-derivatives, while VII yields only C-derivatives. The authors draw the conclusion that the reactivity of the investigated compounds depends to a large extent upon the nature of the substituents at the center of action of the NP. With decrease of the electrophilic nature (EP) of the compound under

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on interaction of III with alcoholic KOH there is formed, in addition to VII, 1,1-dichloro-3-methyl-butadiene-1,3 (XV). Action of excess alkali in III or on 1,1,1,3-tetrachloro-3-methylbutane (XVI), in CH_3OH or $\text{C}_2\text{H}_5\text{OH}$, gives 1,1-dichloro-3-methoxy- (XVII) or 1,1-dichloro-3-ethoxy-3-methylbutene-1 (XVIII). On heating XVIII is converted to XV. VII also forms XV on boiling and in CH_3COOH at 100° . On action of HCl (gaseous) XV and XVII form X, which is readily reconverted to XV (alcoholic alkali). It is shown that on interaction of VII with alcoholic alkali, $(\text{C}_2\text{H}_5)_2\text{NH}$ or XI, there is formed an admixture of XV. The assumption is made that XV can be formed by isomerization of VII to X and subsequent splitting off of HCl or as a result of direct action of

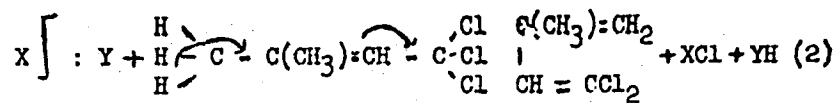
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on Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228



the NP-reagent on σ , π , σ -conjugated system (see scheme 2). High yield of XV from X and its low yield from VII are indicative of the fact that VII reacts with NP-reagents in accordance with scheme (1) without any isomerization. Noted is the similarity in behavior of the Cl_3C -group of VI and of $\text{C}_6\text{H}_5\text{CCl}_3$ (hydrolysis by 90% CH_3COOH , disproportionation with formation of ClCH_2COCl on heating with ClCH_2COOH). There is proposed a new scheme (cf., Kharasch, J. Amer. Chem. Soc., 1947, 67, 1100, 1105), of alkaline hydrolysis of the products of addition of CBrCl_3 to olefins:

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228

alcohol. medium
III VII $\xrightarrow{\hspace{2cm}}$ $\text{CCl}_2 = \text{CHC}(\text{CH}_3)(\text{OC}_2\text{H}_5)\text{CH}_3 \rightarrow$

$\text{HOOCCH C}(\text{CH}_3)_2$. From 44 g I in 50 ml absolute alcohol HBr is split off by means of 11.2 g KOH in 50 ml alcohol (0°, 6 hours) to get V, yield 51%, BP 57-57.5°/49 mm, n^{20}_D 1.4810, d^{20}_4 1.2972. 4.7 g V ozonized (CHCl_3 , 6% ozone, 4 hours) to the chloral, yield 50%, identified as dinitrophenyl hydrazone. By interaction of 50 g $\text{Cl}_2\text{C} = \text{CH-CHO}$ with equimolecular amount of CH_3MgI (2 hours) is obtained 1,1-dichloro-3-hydroxybutene-1 (XIX). yield 60%, BP 72°/10 mm, n^{20}_D 1.4792, d 1.3026. By action of Br_2 on IX is formed dibromo-trichlor butane, BP 87°/1 mm, n^{20}_D 1.5590, d^{20}_4 2.0466. Ozonolysis of IX yields COCl_2 , identified as diphenylurea, MP 232-233°. 205 g II and 275 g $(\text{C}_2\text{H}_5)_3\text{N}$ boiled 8 hours to give VI, yield

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228

64%, BP 91-92°/1 mm, n_D^{20} 1.5710, d_4^{20} 1.3217. On dehydrobromination with alkali in C_2H_5OH VI reacts with alcohol. 153 g III in 50 ml alcohol treated with 45 g KOH in 180 g alcohol (0°) to get XV, yield 3.5 g, BP 30-31°/8 mm, n_D^{20} 1.5027, and VII, yield 60.5%, BP 45-46°/8 mm, n_D^{20} 1.4822, d_4^{20} 1.2497. From 63 g XVI and 47 g KOH in 150 ml CH_3OH (15-20°, 1 day) are obtained XV, yield 5.1 g, and XVII, yield 71%, BP 51-52°/10 mm, n_D^{20} 1.4628, d_4^{20} 1.1418. In the same manner from 50 g XVI, 35 g KOH and 100 ml C_2H_5OH are obtained 12 g XV and XVIII, yield 14 g, BP 72-73°/24 mm, n_D^{20} 1.4616, d_4^{20} 1.1101. 17 g XVII and C_2H_5ONa (from 6 g Na) in 80 ml absolute alcohol boiled 10 hours, added 8 g KOH in 10 ml water and boiled 6 hours, to get $(CH_3)_2C=CHOOH$, yield 4.2 g, MP 69-70° (from water). Into 39.5 g XVII HCl (gas) is passed for 2.5 hours, stratified liquid is poured into HCl, bottom layer is separated,

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and therefrom is obtained X, yield 30.1 g, BP 58-58.5°/15 mm, n_{D}^{20} 1.4847, d_{4}^{20} 1.2527. X is also obtained by passing HCl (gas) (-5 to -7°, 3 hours) into 14 g XV in presence of 1 g ZnCl₂, yield 52%, BP 64°/25 mm. From 26 g 4,4-dimethylbutene-1, 60 g CBrCl₃ and 1 g of dinitrile of azo-bis-isobutyric acid (autoclave, 100-105°, 6 hours) is obtained IV, yield 38 g, BP 90°/5 mm, n_{D}^{20} 1.5030, d_{4}^{20} 1.4792. From 0.11 mole IV and 0.33 mole (C₂H₅)₂NH (~ 100°, 18 hours) is synthesized VIII, yield 70%, BP 64-65°/10 mm, n_{D}^{20} 1.4725, d_{4}^{20} 1.1403. Ozonation of VIII yields the chloral. From 35.6 g V and CH₃ONa (from 4.98 g Na in 50 ml CH₃CH) is obtained (~ 100°, 2.5 hours) 1,1-dichloro-3-methoxybutene-1 (XX), yield 50%, BP 64°/57 mm, n_{D}^{20} 1.4580, d_{4}^{20} 1.1722. 15.9 g V and 18.3 g (C₂H₅)₂NH (boiled 8 hours) form 1,1-dichloro-3-diethylamino-butene-1 (XXI), yield 50%,

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228

BP 79.5-80°/14 mm, n_{D}^{20} 1.4690, d_{4}^{20} 1.0470; hydrochloride, MP 167.5°. Same amounts of V and $(C_2H_5)_2NH$ heated in 40 ml CH_3OH , which gives 30% XXI and XX, n_{D}^{20} BP 40-41°/15 mm. From 32 g V, 32.8 g CH_3COONa and 0.5 g KI, in 50 g CH_3COOH ($\sim 100^\circ$, 18 hours) is obtained 1,1-dichloro-3-acetoxybutene-1 (XXII), yield 59%, BP 83-84°/26 mm, n_{D}^{20} 1.4590, d_{4}^{20} 1.2234. Structure of XXII is established by converting it by the action of alcohol into XIX, BP 63°/6 mm (in the paper: 1,1-dichloro-3-hydroxybutene-2). Heating of 30 g V and 29 g $Na_2S \cdot 9H_2O$ in 80 ml alcohol and 10 ml water ($\sim 100^\circ$, 6 hours) gives bis-(1,1-dichloro-3-methylpropene-1-yl)-sulfide, yield 40%, BP 104°/5 mm, n_{D}^{20} 1.5345, d_{4}^{20} 1.3156, and 1,1-dichloro-3-ethoxybutene-1. From 24.4 g V and sodium malonate ester (from 4.6 g Na and 32 g malonic ester in 80 ml absolute alcohol) is obtained (boiling 3 hours) the ethyl ester of 5,5-dichloro-

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4228

-3-methyl-2-carbethoxypentene-4-ic acid (XXIII), yield 70%, BP 107°/1 mm, n_{D}^{20} 1.4605, d_{4}^{20} 1.1829. 20.7 g XXIII are hydrolyzed (by boiling with HCl and CH_3COCH_3) and decarboxylated to 5,5-dichloro-3-methylpentene-4-ic acid, yield 85.7%, BP 102°/1 mm, n_{D}^{20} 1.4800, d_{4}^{20} 1.2739. By interaction of 10 g V, 1.2 g $AlCl_3$ and 25 ml C_6H_6 (stirred 30 minutes) is obtained XII, yield 70%, BP 73-74°/1.5 mm, n_{D}^{20} 1.5423, d_{4}^{20} 1.1702. On action of Cl_2 XII forms 1,1,1,2-tetrachloro-3-phenylbutane, BP 107-108°/1.5 mm, n_{D}^{20} 1.5568, d_{4}^{20} 1.3634. From 36 g IX and 36.5 g $(C_2H_5)_2NH$ ($\sim 100^\circ$, 16 hours) are obtained XXI, yield 13.8 g, BP 84-87°/21 mm, and 20.6 g IX. Interaction of 15 g VI and 5.5 g KOH in 25 ml absolute C_2H_5OH (15-20°, 16 hours) gives 1,1-dichloro-3-ethoxy-3-phenylpropene-1 (XXIV), yield 87%, BP 90-91°/1 mm, n_{D}^{20} 1.5308, d_{4}^{20} 1.1822. From 11 g VI and 12 g

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$(C_2H_5)_2NH$ in 25 ml absolute C_2H_5CH (heating 8 hours)
are obtained YXIV, yield 4.5 g, and
1,1-dichloro-3-diethylamino-3-phenylpropene-1, yield
4.8 g, BP 98-99°/1 mm, n_D^{20} 1.5335, d_4^{20} 1.1116; hydro-
chloride MP 149-150° (from alcohol-petroleum ether).
From 11 g VI, 3 g $AlCl_3$ and 20 ml C_6H_6 is synthesized
XIII, yield 76%, BP 142-143°/1 mm, n_D^{20} 1.5951, d_4^{20}
1.2180. By interaction of 17 g VII and 8.5 g KOH in 40
ml CH_3OH (15-20°, 16 hours) are obtained a small amount
of XV and XVII, yield 82%, BP 47-48°/7 mm. Interaction
of 10 g VII and 16 g $(C_2H_5)_2NH$ in 30 ml CH_3OH (heated
10 hours) gives XV and XVII, yield 77%. BP
57-58°/14 mm. From 10 g VII and 5 g NH_3 in 40 ml absolu-
te alcohol (in ampoule, 90-95°, 4 hours) is obtained
XVIII, with a yield of 6 g, and 1,1-dichloro-3-amino-3-
methylbutene-1, yield 0.9 g, BP 64-65°/12 mm, n_D^{20}

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1.4785, d_4^{20} 1.1488. On heating (4 hours) 8.7 g VII and 16 g XI in 40 ml absolute C_2H_5OH there are formed a small amount of XV, 5 g XVIII, BP 61-62°/16 mm, and 1,1-dichloro-3-piperidino-3-methylbutene-1 with a yield of 0.6 g; hydrochloride. MP 248-249° (from alcohol). From 8.7 g VII and C_6H_5SNa (from 8 g C_6H_5SH) in 30 ml absolute alcohol (heating 4 hours) is obtained XVIII, yield 6 g, and 1,1-dichloro-3,3-dimethylpropene-1-yl phenylsulfide, yield 2.1 g, BP 102-103°/1.5 mm, n_D^{20} 1.5705, d_4^{20} 1.1988. On interaction of VII with Na_2S in CH_3OH only XVII is formed. Interaction of 16 g VII, 60 ml C_6H_6 and 1.5 g $AlCl_3$ gives XIV, yield 11 g, BP 80-81°/1 mm, n_D^{20} 1.5411, d_4^{20} 1.1540. 8.4 g XIV are oxidized with 12.5 g $KMnO_4$ and 6.2 g KOH in 280 ml water (90°, 10 hours) to α , α -dimethyl-phenyl acetic acid, yield 4.9 g, MP 76-77° (from

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5(3)

AUTHORS: Nesmeyanov, A. N., Academician, SOV/20-122-5-20/56
Freydlina, R. Kh., Corresponding Member, Academy of
Sciences, USSR, Belyavskiy, A. B.

TITLE: Telomerization of Ethylene With ~~Tetrachlorethylene~~
(Telomerizatsiya etilena s tetrakhloretilenom)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5,
pp 821 - 824 (USSR)

ABSTRACT: Non-polymerizable chlorine olefins cannot undergo
any polymerization, but they can enter a telomerization
reaction with olefins. In this reaction the chlorine
olefins serve as carriers of the chain of reaction
and supply the final groups for the telomer molecules.
Among the reactions of this kind the ones mentioned
in the title are of interest as means of synthesis
of tetrachloralkenes capable of reaction that
contain an even number of carbon atoms in the molecule
(Scheme (1)). It can be assumed that tetrachloralkenes
produced in this manner will make possible the synthesis
of various polyfunctional compounds of the even series

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Telomerization of Ethylene With Tetrachlorethylene

SOV/20-122-5-20/56

(Ref 1). The reaction mentioned in the title must lead to the synthesis in one single stage of compounds containing a trichlorvinyl group (Patent in reference 2). In the reaction performed in the presence of benzoyl peroxide at 115° and 95 atmospheres only tetrachlorohexene boiling in a wide range was isolated. For this the authors used a pressure of between 50 and 200 atmospheres with and without water. Benzoyl peroxide, tertiary butyl peroxide, bis-iso-butyric acid azo-dinitrile and azo-amino-benzene were tested as initiators. In the presence of water a high conversion of tetrachlorethylene was obtained in all cases. Peroxides were the best initiators among the ones tested. Research showed that tetrachlorethylene is a carrier of the chain of reaction which is less capable of reaction as, for instance, carbon tetrachloride and chloroform. Thus, with the first substance a conversion of only 20% was obtained and only in case of repeated addition of the initiator during reaction. In case of an increase of pressure the content of higher tetrachloralkenes in the mixture

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Telomerization of Ethylene With Tetrachlorethylene

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of reaction products increases which indicates an inertness of tetrachlorethylene. By fractioning the mixture the lower $\alpha, \alpha, \beta, \omega$ -tetrachloralkenes ($n=1.2$) could easily be isolated in their individual shapes. Higher fractions contain by-products of the reaction which could not easily be separated. Still it was possible to obtain tetrachloralkenes with 4, 6 and 8 carbon atoms in the molecule and to study some of these chemical transformations. There are 3 references, 2 of which are Soviet.

SUBMITTED: July 5, 1958

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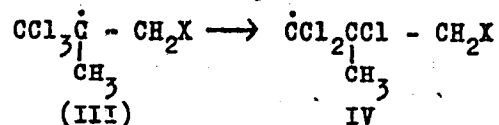
5 (3)

AUTHORS: Nesmeyanov, A. N., Freydlina, R. Kh., SOV/62-59-6-12/36
 Belyavskiy, A. B.

TITLE: Hetero- and Homolytical Rearrangements in the Chemical Transformation of 1,1,1-Trichloro-2-methylpropene (Getero- i gomoliticheskiye peregruppirovki pri khimicheskikh prevrashcheniyakh 1,1,1-trikhlor-2-metilpropena)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1028 - 1033 (USSR)

ABSTRACT: The addition of HBr to 1,1,1-trichloro-2-methylpropene in the presence of benzoyl peroxide was investigated. Two isomers are formed at the homolytical affiliation:

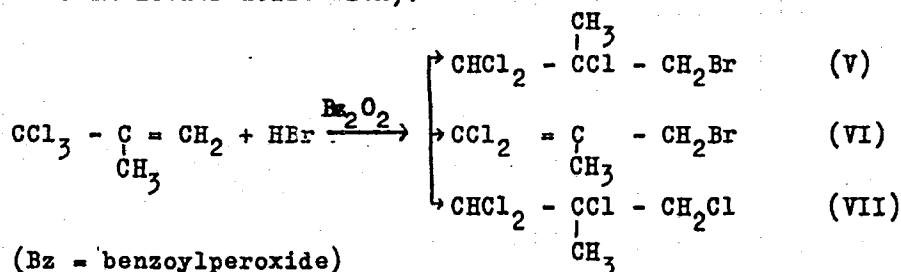


In the case of the electrophilic affiliation in an acetic acid medium an affiliation must have occurred because of the strongly inducing effect of the CCl_3 -group though this is in contra-

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Hetero- and Homolytical Rearrangements in the Chemical Transformation of 1,1,1-Trichloro-2-methylpropene SOV/62-59-6-12/36

diction to Markovnikov's rule. When heated, the affiliation yielded the following products (the formation scheme is still more in detail dealt with):



The substances produced were identified by determining their melting point. 1,1,1-Trichloro-2-methylpropene reacts with benzene, toluene, and nucleophilic reagents with an allyl rearrangement. In the experimental part the different reactions are described in detail. There are 6 references, 5 of which are Soviet.

Card 2/3

Hetero- and Homolytical Rearrangements in the Chemical SOV/62-59-6-12/36
Transformation of 1,1,1-Trichloro-2-methylpropene

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental Organic Compounds of the Academy of
Sciences, USSR)

SUBMITTED: September 30, 1957

Card 3/3

5(3)

AUTHORS:

Freydlina, R. Kh., Corresponding
Member of the Academy of Sciences, USSR,
Belyavskiy, A. B.

SOV/20-127-5-26/58

TITLE:

Telomerization of Ethylene With Carbon Tetrachloride,
Chloroform, and Ethyl Trichloroacetate in the Presence
of Iron Pentacarbonyl

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 5, pp 1027-1028
(USSR)

ABSTRACT:

As was proved by the authors (together with A. N. Nesmeyanov and Ye. Ts. Chukovskaya, Ref 1) iron pentacarbonyl initiates the addition reaction of the silanes to olefins. By basing the investigation on the homolytic character of this reaction the authors wanted to prove this property of $Fe(CO)_5$ in the reaction mentioned in the title. It was found that this reaction takes place smoothly at 100 - 130° and under a pressure of 150 - 200 atm. In the case of CCl_4 $\alpha, \alpha, \alpha, \omega$ -tetrachloro alkanes and in the case of chloroform α, α, α -trichloro alkanes are formed. The reaction of the polychloromethanes and the yields in the individual telomer homologues are similar under similar conditions, utilization of $Fe(CO)_5$, and of benzoyl

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Telomerization of Ethylene With Carbon Tetrachloride, SOV/20-127-5-26/58
Chloroform, and Ethyl Trichloroacetate in the Presence
of Iron Pentacarbonyl

peroxide as initiator. In one of the patents the telomerization reaction of ethylene with trichloroacetic acid ethyl ester in the presence of benzoyl peroxide is mentioned. However, several data are lacking in this patent. The latter reaction takes place smoothly in the presence of $\text{Fe}(\text{CO})_5$. It may be recommended as a preparative production method of α, α, ω -trichloro carboxyl acids with an even number of carbon atoms in the molecule. In the reaction between ethylene and some other compounds a trichloro- or dichloromethyl group and a mobile hydrogen atom no positive results could be obtained. There are 2 Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy (Institute of Elemental-Organic Compounds)

SUBMITTED: April 2, 1959

Card 2/2

FREYDLINA, R.Kh.; BELYAVSKIY, A.B.

Telomerization of ethylene and carbon tetrachloride or
chloroform in the presence of chromium, molybdenum, and tungsten
carbonyls. Izv. AN SSSR. Otd. khim. nauk no. 1:177-178 Ja '61.
(MIRA 14:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ethylene) (Carbon tetrachloride) (Carbonyls)

BELYAVSKIY, A.B.; FREYDLINA, R.Kh.

Reactions of ethylene with trichloroethylene and tetrachloroethylene.
Izv. AN SSSR. Otd. khim. nauk no. 5: 838-842 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ethylene)

BELYAVSKIY, A.B.; KOST, V.N.

Interaction of ethylene with trihalomethanes containing chlorine
and bromine. Izv.AN SSSR.Ser.khim. no.8:1514-1516 Ag '63.
(MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Ethylene) (Methane)

BELYAVSKIY, A.B.

2

L 41150-65 EWG(j)/EPA(a)-2/DMT(m)/EPF(e)/EPR/EMP(j)/T/EAA(h)/EAA(1) Po-4/
Pr-4/Pe-4/Pt-10/Peb RPL WW/GS/RM
ACCESSION NR: AT5002110

8/0000/64/000/000/0042/0045

56
49
BTI

AUTHOR: Freydlina, R.Kh.; Kolesnikov, G.S.; Slonimskiy, G.L.; Suprun, A.P.;
Soboleva, T.A.; Bolyavskiy, A.B.; Yershova, V.A.

TITLE: New chlorinated monomers for the synthesis of noncombustible polymers

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov
(The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 42-45

TOPIC TAGS: fire resistant polymer, polymer mechanical property, chlorinated polymer,
chloroalkene polymerization, telomerization, dehydrohalogenation, radiation polymeriza-
tion

ABSTRACT: 3,3,3-Trichloropropene and 1,1,2-trichloro-1,3-butadiene, which have been
described in previously published studies, were prepared by a two-step reaction and their
homo- and copolymerization was studied in an effort to obtain noncombustible polymers.
3,3,3-Trichloropropene was synthesized via 1,1,1,3-tetrachloropropane by telomerization
of ethylene with carbon tetrachloride (J. Am. Chem. Soc. 70, 2529 (1948) and dehydro-
halogenation of 1,1,1,3-tetrachloropropane with KOH in ethylcellosolve solution to give a
53% yield of 3,3,3-trichloropropene and 1,1,3-trichloropropene as a by-product. The latter

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ACCESSION NO: AT5992110

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was also formed by isomerization during the block polymerization of 3,3,3-trichloropropene with benzoyl peroxide, and isomerization decreased the yield of solid polymer from 6.1% at 7°C to 0.2% at 100°C. A viscous, low-molecular, liquid polymer was also formed. Solid polymer was also formed in 37.3% yield in 160 hours under irradiation, and fractionated into soluble polymer and a fraction which was soluble only in tetrahydrofuran or hot benzene. Copolymers, which are not described, were formed with methyl methacrylate, styrene, vinyl acetate, and acrylonitrile. By a similar technique, 1,1,2-trichloro-1,3-butadiene was prepared via 1,1,2,4-tetrachloro-1-butene, formed in 20% yield with by-products by telomerization of ethylene with tetrachloroethylene, and by dehydrohalogenation. The copolymerization of 1,1,2-trichloro-1,3-butadiene has been described in published papers, and its homopolymerization under undefined optimal conditions yielded 99.9% block polymer (110,000 molecular weight), or 95.2% yields in emulsion polymerization with polymers of 3,600,000 molecular weight. The monomer was shown to have markedly higher activity than styrene, and the polymers showed good solubility, resistance to cold inorganic acids, high tensile strength, and adhesion to various materials. "The authors thank B. L. Tactin for carrying out the irradiation-polymerization tests." Orig. art. has: 1 table and 4 formulas.

Cord 2/32

RUSINOV, L.A., BELYAVSKIY, A.K.

Stabilization of the luminous flux of SVDSb-250 mercury lamps.
Trudy LTI no.58;23-28 '59. (MIRA 13:7)

1. Leningradsky tekhnologicheskii institut im. Lensoveta.
(Electric lighting, Mercury vapor)

BELYAVSKIY, A.; SHCHERBINA, A. (Kasli, Chelyabinskoy obl.)

Device for locating short-circuited turns in coils. Radio no.8:
19 Ag '60. (MIRA 13:9)

(Electric coils)

BELYAVSKIY, A. M.

USSR/Metals - Cast Iron, Casting, Methods Mar 52

"Permanent Mold Casting of Large Cast-Iron Machine Parts," A. M. Belyavskiy, M. Ya. Korniyushin, Engineers

"Litey Proizvod" No 3, pp 30, 31

Discusses possibility of using cast iron inoculated with ferrosilicon for making permanent molds. Endurance of such molds increases 2-4 times if their cavity surface is used as cast, only parting surface being machined. Two coats of mold wash are used to prevent chilling and acicular crystal

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of castings. Describes procedure for casting 1,200-kg cylinder of die press. Mold weighing 2,500 kg withstands 120-200 castings.

212P96

LISICHKINA, S.M., obshchiy red.; TOMASHPOL'SKIY, L.M., obshchiy red.;
CHUTKERASHVILI, Ye.V., obshchiy red.; KARYAGIN, I.D., red.;
KIR'YANOVA, Z.V., red.; MATVEYEV, P.V., red.; MOTORIN, A.I., red.;
POPOV, I.V., red.; POPOV, N.N., red.; PROSKURYAKOV, A.V., red.;
SOKOLOV, Yu.S., red.; STUPOV, I.D., red.; BELYAVSKIY, A.M., red.;
GRAZHUL', V.S., red.; DANILOV, N.N., red.; RAKHMANINOV, G.F., red.;
SHEVCHENKO, G.A., tekhn.red.

[Development of the national economy of the German Democratic
Republic] Razvitie narodnogo khoziaistva Germanskoi Demokrati-
cheskoi Respubliki. Moskva, Proizvodstvenno-izdatel'skii kombi-
nat VINITI, 1959. 906 p. (MIRA 13:4)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii.
(Germany, East--Economic conditions)

BELYAVSKIY, A.V.

BELYAVSKIY, A.V.; KALASHNIKOVA, V.S., red.; VESKOVA, Ye.I., tekhn.red.;
BOGOD, A.I., tekhn.red.

[Villages change in appearance; construction of work buildings and housing on collective farms] Sela meniaiat oblik; iz opyta proizvodstvennogo i zhilishchno-bytovogo stroitel'stva v kolkhozakh.
Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 244 p. (MIRA 11:2)
(Farm buildings)

Belyavskiy, A.V.

BELYAVSKIY, A.V.; BANNIKOV, N.A., red.; FREYDMAN, S.M., red.; SOKOLOVA, N.N.,
tekh.n.red.

[Heroes of socialist fields] Geroi sotsialisticheskikh polei
(1917-1957). [Moskva] Gos.izd-vo sel'khoz.lit-ry, 1957. 630 p.
(Agriculture)

BELYAVSKIY, A.Ya.

Conditions for the formation and balance of underground water
in terraced sands in the southern part of the Ukrainian S.S.R.
Nauk.zap.Kiev.un. 9 no.10:131-138 '50. (MLRA 9:10)

(Teyurupinsk District--Water, Underground)

~~BELIYAVSKIY, Boris Sergeevich~~; LANOVSKAYA, M.R., redaktor izdatel'stva;
MIEHAYLOVA, V.V., tekhnicheskii redaktor

[Machinist in a gas pumping station] Mashinist gazopovysitel'noi
stantsii. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po cherno i
tsvetnoi metallurgii, 1957. 216 p. (MIRA 10:11)
(Gas distribution)

BELYAVSKIY, B.S., inzh.

Purification of blast furnace gas. Stal' 21 no.12:1142-1144 D '61.
(MIRA 14:14)

1. Zavod "Sovstal".
(Blast furnaces)
(Gases--Purification)

BELYAVSKIY; F.I:

Treatment of pneumonia in infants with subcutaneous injection
of oxygen. Med.zhur.Uzb. no.5:63 My '58. (MIRA 13:6)

1. Iz Respublikanskoy ob'yedinennoy bol'nitsy Kara-Kalpakskoy
ASSR (glavnyy vrach - S.B. Benzhanov).
(PNEUMONIA) (OXYGEN--THERAPEUTIC USE)

BATMANOV, G. (Tambov); PARFENOV, V. (Kishinev); BELYAVSKIY, G. (Gor'kovskaya obl.); BURTSEY, A. (Belovo, Kemerovskoy obl.)

Repaired by amateurs. Radio no.3:32-33 Mr'64 (MIRA 17:7)

BOYTSOV, Vasilii Vasil'yevich; prof.; GRIGOR'YEV, Vasilii Prokhorovich;
RAZUMIKHIN, Mikhail Ivanovich; SELEZNEVA, Anna Andreyevna;
SHEKUNOV, Yevgraf Porfir'yevich [deceased]; BELYAVSKIY, G.A.,
inzh., retsenzent; BRODYANSKIY, Yu.M., inzh., red.; SUVOROVA,
I.A., izdat.red.; PUKHLIKOVA, N.A., tekhn.red.

[Assembling and mounting work] Sborochnye i montashnye raboty.
Pod obshchei red. V.V.Boitsova. Moskva, Gos.izd-vo obor.pro-
myshl., 1959. 476 p. (MIRA 13:5)
(Airplanes--Design and construction)

BELIAVSKIY, G.N.; RYBIN, P.I.; SEREBRENNIKOV, S.S., redaktor; BEKKER,
O.G., tekhnicheskii redaktor

[Lining steel smelting furnaces] Kladka staleplavil'nykh pechai.
Izd. 2-e, ispr. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry
po cherno i tsvetnoi metallurgii, 1953. 322 p. (MLRA 7:10)
(Smelting furnaces)

BELYAVSKIY, I.M.

Medical attendance for the rural population improves. Zdrav. Bel.
7 no.10:15-16 0 '61. (MIRA 14:11)

1. Glavnyy vrach Kirovskogo rayona Mogilevskoy oblasti.
(PUBLIC HEALTH, RURAL)

PROCESSING AND PROPERTIES INDEX

18

CA

Lime paste from calcium carbide waste. I. Yu. Belovskii. *Khimiya* 1939, No. 4, 45.—Waste from acetylene generators, contg. up to 70% of CaO, gives in 28 days a strength exceeding that of usual lime-sand mortar (1:3 ratio). It contains no acetylene or H₂S. NH₃ and very small amounts of PH₃ are present. E. B. Stefanowaky

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS	SECTION	ALPHABETIC	ALPHABETIC
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

BELYAVSKIY, I.Yu., inzhener; CHEPYZHEV, B.F., inzhener.

Using silica gel to conserve steam boilers. Zhel.der.transp.37 no.4:
82-83 Ap '56. (Locomotive boilers) (MIRA 9:7)

MART'YANOV, M.M.; BELYAVSKIY, I. Yu.; CHEPYZHEV, B.F.

Increase the role of chemico-technical laboratories of the
railroad system. Zhel.dor.transp. 37 no.6:24-28 Je '56.(MLRA 9:8)
(Railroad research)