VAYSBURD, I. A.

"Analysis of Lethal Outcome in Typhoid Patients Treated With Synthomycin," by S. Ye Shapiro and I. A. Vaysburd, Stalinabad City Hospital of Infectious Diseases, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 28, No 1, Jan 57, pp 34-37

This work deals with investigation of 23 fatal cases of typhoid which had been treated with synthomycin between 1951 and 1955. Attempts were made to determine the causes of failure of antibiotic therapy. Eighteen of the cases were subjected to pathological-anatomical autopsy; the remaining cases were diagnosed before death by hemoculture or high-titer Widal reactions.

The article states that synthomycin was administered in the generally accepted dosages, i. e., a daily dose of 3 g for adults and less for children. In addition to pathogenetic and symptomatic therapy, penicillin and streptomycin were also given on the development of pneumonia. The work presents two case histories in which the administration of synthomycin was begun early and prolonged, but did not prevent death.

It is concluded on the basis of these observations that failure (fatal outcome) was determined by two factors: (1) a particularly severe course of the infection process with diffuse anatomical changes in the intestines and early affection of the central nervous and cardiovascular systems; and (2) complicating diseases, digestive collapse, helminthic diseases, and other factors which lower the immunological reactivity of the macroorganism. (U)

Sum. 1360

VAYSBURD, D.I.; MELIK-GAYKAZYAN, I.Ya.

Equation describing radiation accumulation of electron centers in alkali halide crystals. Dokl. AN SSSR 165 no.5:1029-1032 D '65. (MIRA 19:1)

1. Tomskiy politekhnicheskiy institut im. S.M.Kirova. Submitted March 29, 1965.

VAYSBYRD, I.M., inzh.

Theory of the motion of a billet on a slide. Konstr.krup.mash. no.1: 139-154 '62. (MIRA 16:2)

(Furnaces, Heating)

VAYSBURD, M.A., promyshlennyy sanitarnyy vrach

Preventing the action of alternating electromagnetic high-frequency electric fields on the human organizm. Gig. i san. 23 no.2:68 F '58. (MIRA 11:4)

1. Iz Moskovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(ELECTRICITY--SAFETY MEASURES)

VAYSBURD, M.S.; KOFMAN, V.B.; MURAKHVER, N.P.; STEPANOV, A.I.

About a book on the design and calculation of refrigerating machines and apparatus. Khol. tekh. 38 no. 1:61-62 Ja-F '61.
(MIRA 14:4)
(Refrigeration and refrigerating machinery)

Vaysburd, P. A., Ganago, O. A., and Tarnovskiy, I. Ya.

"Investigation of the Forging of Round Shapes in Open and Closed Dies", Neuchnye Doklady Vysshey Shkoly, Metallurgiya, 1958, Nr 2 11 184-191.

8(3), 24(3)

S/105/60/000/03/017/023
B007/B008

AUTHOR: Vaysburd, P. M., Engineer (Kiyev)

TITLE: Improvement of the Traction Characteristics of Alternating-current Electromagnets

PERIODICAL: Elektrichestvo, 1960, Nr 3, pp 82-83 (USSR)

ABSTRACT: It is necessary in a number of cases to vary the traction characteristics of electromagnets without changing their design. Three methods for improving the traction characteristics of alternating-current electromagnets are investigated here. Formula (1) for the total resistance of the winding of the electromagnet is written down. It follows that fundamentally two different methods are possible for reducing the total resistance of the electromagnet winding without changing its design: 1) by feeding the winding with direct-current and rectified current respectively, and 2) by connecting in series or parallel a capacitor, the capacitance of which can be determined from the condition $x_C = x_L$. x_C is the capacitance and x_L the inductance of the winding. The electromagnet traction is raised by the first method, by increasing the feeding voltage or by rectifying the feeding current. On the basis of the experiments,

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Improvement of the Traction Characteristics of Alternating-currents Electromagnets

S/105/60/000/03/017/023
B007/B008

an increase of up to 220 v of the feeding voltage of the relay RPT-100 with a rated voltage of 127 v results in a rise of traction(with a gap of 1.5 mm) by 4.6 times its amount. In the second case the experiments on the same relay resulted in an increase by 3.5 times its amount. The ferro-resonance is utilized for raising the traction of the electromagnet in the second method in which the total resistance of the winding is reduced by connecting a capacitor. Experiments on a relay RPT-100 with a rated voltage of 220 v showed that,with an identical gap, traction increased by a number more than twice its amount. The capacitance of the capacitor was 1 μF. There are 3 figures.

SUBMITTED: July 30, 1959

Card 2/2

VAYSBURD, P.M.

Simple photorelay. Avtom.i prib. no.4:89-90 O-D '62. (MIRA 16:1)

1. Opytno-konstruktorskoye byuro torgovykh avtomatov.
(Photoelectric cells)

VAYSBURD, E.M., [illegible]; TKACHENKO, V.D., inzh.

Decrease in the short-term start current of electrical systems.
Energ. i elektrotekh. prom. no.2:55-57 Apr-Je '65.
(MIRA 18:8)

VAYSBURD, P.M.; VIENGAUZ, F.G.

Transistor photorelay circuit with a thermostabilizing loop.
Priborostroenie no.2:26 F '63. (MIRA 16:5)
(Transistor circuits)

BEREZIN, A.M.; VAYSBURD, P.M.

Increasing the stability of an electronic timer. Prib. i tekh. eksp. 8 no.2:105-106 Mr-Ap '63. (MIRA 16:4)

1. Kiyevskoye opytno-konstruktorskoye byuro.
(Electronic apparatus and appliances)

BEREZIN, A.M.; VAYSBURD, P.M.

Two circuits for connecting fluorescent lamps. Energ. i elektrotekh. prom. no.3:14-16 Jl-S '62. (MIRA 18:11)

BEREZIN, A.M., inzh.; VAYSBURD, P.M., inzh.

Condenser braking of small three-phase electric motors. Energ. i elektrotekh. prom. no.4:53-54 O-D '64.

(MIRA 18:3)

VAYSBURD, P.M., inzh. (Kiyev)

Improving the pull of a.c. electromagnets. Elektrichestvo no.3:82-83 Mr '60. (MIRA 13:6)
(Electromagnets)

VAYSBURD, P.M.

Measuring torques. Izm.tekh. no.7:16 Jl'62. (MIRA 15:6)
(Torque—Measurement)

VAYSBURD, P.M., inshener.;SHAPIRSHTEYN, Ya.A., inshener.

Signaling the stoppage of power to large direct-current installations. Prom. energ. 11 no.10:6-7 O '56. (MLRA 9:11)
(Signals and signaling) (Electric relays)

24.4120
1 1310

21205
S/148/61/000/001/002/015
A161/A133

AUTHORS: Tarnovskiy, I. Ya.; Vaysburd, R. A.; Levanov, A. N.; Pozdeyev, A. A.; Ganago, O. A., and Kotel'nikov, V. P.

TITLE: Selection of suitable functions for the utilization of the Ritz method in the theory of working metal by pressure

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 1, 1961, 73 - 83

TEXT: The article deals with the application of the Ritz method (Ref. 11: W. Ritz. Ueber eine neue Methode zur Loesung gewisser Variationsprobleme der mathematischen Physik. Journ. f. d. reine und angewandte Mathematik, Bd. 135, H. 1, 1908) for the calculation of different practical problems of pressure working. Such problems consist in determining the functions of displacement components, and the searched for functions are written in a series:

$$U_k = a_1 \cdot f_1(x,y,z) + a_2 \cdot f_2(x,y,z) + \ldots + a_n f_n(x,y,z), \qquad (5)$$

where U_k is any of the coordinate axes; a_1 - are indefinite (variable)

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parameters; $f_1(x,y,z)$ - "suitable" functions reflecting qualitatively the displacements pattern and satisfying the boundary zone conditions. The problems discussed as examples are: upsetting of cylindrical billets between flat plates; a parallelepiped between flat plates; a case where the purpose is to determine the propagation of plastic deformation, with a simple axisymmetrical forging used as an example. The mathematical analysis of the individual cases ends with recommendations: 1) If the Ritz method is used, the suitable functions must be selected so as to reflect more or less completely the boundary conditions corresponding the purpose of investigation. 2) The system of suitable functions describing the deformed state in technological problems can be selected with a series of rough assumptions (uniform deformation, the hypothesis of flat sections, etc.). 3) When the propagation of displacements and deformation within the body has to be determined in detail, the suitable functions will be more complex and contain two or three variable parameters, and at the same time satisfy the boundary conditions more completely. There are 8 figures and 13 references: 12 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute)

SUBMITTED: April 30, 1960

TARNOVSKIY, I.Ya.; VAYSBURD, R.A.; YEREMEYEV, G.A.; GANAGO, O.A.

Forces in open die forging. Izv. vys. ucheb. zav.; chern. met. 7 no.1:113-122 '64. (MIRA 17:2)

1. Ural'skiy politekhnicheskiy institut.

GANAGO, O.A.; TUNEV, G.Ya.; VAYSBURD, R.A.

Rolling the blanks of bore bit shanks. Kuz.-shtam.proizv. 4 no.8: 5-6 Ag '62. (MIRA 15:8)

(Rolling (Metalwork)) (Forging)

ACCESSION NR: AP4019024 S/0182/64/000/002/0013/0019

AUTHORS: Grigor'yev, I. I.; Vaysburd, R. A.

TITLE: Comparison of methods of calculating the stamping force

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 2, 1964, 13-19

TOPIC TAGS: metal forming, metal stamping, stamping stress, stamping force, plastic deformation, stamping blank

ABSTRACT: Nine different analytical formulas for calculating the stamping force in metal stamping were compared with experimental results for the configuration shown in Fig. 1 on the Enclosure. Equations for the nine formulas are presented and their derivations and major assumptions are briefly discussed. Three of the formulas are semi-empirical, three use integration of approximate equations of equilibrium and plasticity, two use variational principles of mechanics, and one uses the method of characteristics. The results obtained with these formulas were compared with experimental results for $D_n/H_3 = 3.7 - 69.0$. It was found that two of the formulas gave significantly better results than the rest; one derived by variational methods, the other by the method of characteristics. The latter was derived by L. A. Shofman (Osnovy* rascheta protsessov shtampovki i pressovaniya.

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Mashgiz, 1961); the former was derived by I. Ya. Tarnovskiy, R. A. Vaysburd, G. A. Yeremeyev, and O. A. Ganago (no reference), and was presented for the first time in this paper as: $P = F_n p_n + F_з p_з$. For round stampings:

$$p_n = \sigma_s \left(1 + \frac{6{,}14 \frac{D_n}{H_з}}{26{,}4 + \frac{D_n}{H_з}}\right);$$

$$p_з = \sigma_s \left[1 + \frac{\mu}{3} \frac{\frac{D_n}{H_з}\left(1 - \frac{D_n^2}{D^2}\right)}{1 - \frac{D_n^2}{D^2}}\right];$$

for elongated stampings:

$$p_n = 1{,}15\sigma_s \left(1 + \frac{6{,}61 \frac{B_n}{H_з}}{21{,}8 + \frac{B_n}{H_з}}\right);$$

$$p_з = 1{,}15\sigma_s \left[1 + \frac{\mu}{2}\left(1 + \frac{B}{B_n}\right)\frac{B_n}{H_з}\right]$$

ACCESSION NR: AP4019024

(where: F_n = projected area of part, F_z = projected area of b_z dimension, D = diameter, B = width). Although these formulas compared best with experimental results, it was found that their application is influenced considerably by the choice of σ_s which is not further discussed in this paper. Orig. art. has: 1 table of formulas, 2 tables, and 2 formulas.

ASSOCIATION: none.

SUBMITTED: 00 DATE ACQ: 27Mar64 ENCL: 01

SUB CODE: ML NO REF SOV: 014 OTHER: 000

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ACCESSION NR: AP4019024

ENCLOSURE: 01

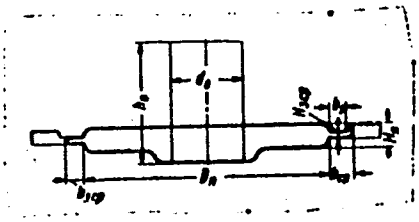

Fig. 1 Geometry of experimental stamping.

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TARNOVSKIY, I.Ya.; POZDEYEV, A.A.; KOLMOGOROV, V.L.; VAYSBURD, R.A.; GUN, G.Ya.; KOTEL'NIKOV, V.P.; TARNOVSKIY, V.I.; SKOROKHODOV, A.N.

[Variational principles of mechanics in the theory of metal-working by pressure] Variatsionnye printsipy mekhaniki v teorii obrabotki metallov davleniem. Moskva, Metallurgizdat, 1963. 52 p. (MIRA 17:5)

VAYSBURD, R. A., Cand. Tech. Sci. (diss) "Investigation of Deformations and Tensions During Volume Stamping with Utilization of Variation Principles," Sverdlovsk, 1961, 16 pp (Urals Polytech. Inst.) 150 copies (KL Supp 12-61, 264).

TARNOVSKIY, I.Ya.; GANAGO, O.A.; VAYSBURD, R.A.

Calculating forces in forging. Izv. vys. ucheb. zav.; chern. met. no.2:51-61 '61. (MIRA 14:11)

1. Ural'skiy politekhnicheskiy institut.
(Forging machinery) (Deformations (Mechanics))

S/148/60/000/004/001/00[illegible]
A161/A029

AUTHORS: Tarnovskiy, I.Ya, Ganago, O.A., Vaysburd, R.A.

TITLE: Deformations and Stresses in Closed Piercing Process

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Chernaya metallurgiya, 1960, No. 4, pp. 99-108

TEXT: The "closed piercing, i.e., forcing the punch into a billet held in a shell (or die), is widely used for production of cupped parts, thick-walled containers, etc., and comes into use for cold extrusion of thin-walled aluminum, brass and steel. The process is analyzed in its three stages: the first stage when metal fills the space, the second stage in which metal is forced out from under the punch and flows upward, plastic deformation under the punch remaining at a certain depth, and the third stage, when all metal under the punch takes part in plastic deformation. The calculation of efforts necessary for the operation is of practical importance. The calculation method had been published previously (in Refs. 5,6, etc.). This article gives a practical calculation of a problem with analysis of the second and third stage of the process. A formula is derived (27) for determining the $\frac{P}{\sigma_s}$ value, i.e.,

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Deformations and Stresses in Closed Piercing Process

the pressure divided by the punch face area. For approximate practical calculations of pressure simplified formulas (28 and 29) are recommended for the second and third stage, respectively. The equation for $h_{u_2} = h_x$ (see figure) corresponding to the transfer from the second stage to the third stage is easily found from the equations (28) and (29). The following final equation is obtained:

$$\frac{h_x}{D} = 0.11 \frac{1 - \frac{D_p^2}{D^2}}{1 - 0.85 \frac{D_{u_2}}{D}}, \qquad (30)$$

There are 7 figures and 8 Soviet references.

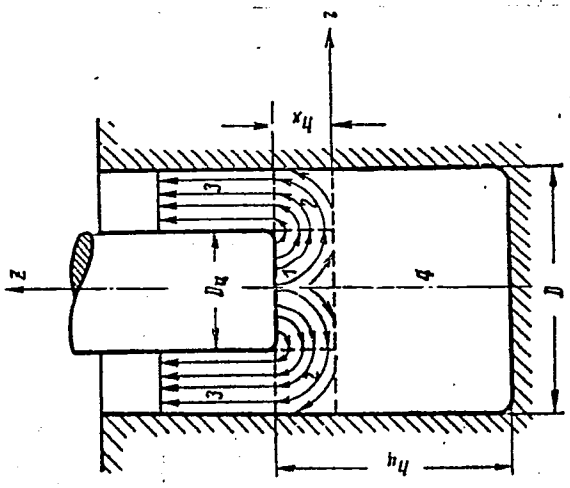
ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute)

SUBMITTED: May 25, 1959

S/148/60/000/004/001/006
A161/A029

Deformations and Stresses in Closed Piercing Process

Figure 1:



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POZDEYEV, A.A.; TARNOVSKIY, I.Ya.; VAYSBURD, R.A.; ORLOV, S.N.

Calculating forces during the extrusion of aluminum alloy rods. Izv. vys. ucheb. zav.; tsvet. met. 5 no.5:145-155 '62. (MIRA 15:10)

1. Ural'skiy politekhnicheskiy institut, kafedra obrabotki metallov davleniyem.
(Extrusion (Metals)) (Aluminum alloys)

VAYSER, I. V.

PHASE I BOOK EXPLOITATION SOV/4671

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki. Seminar po pnevmogidravlicheskoy avtomatike. 2d and 3d session

Voprosy pnevmo- i gidro- avtomatiki (Problems in Pneumatic and Hydraulic Automation) Moscow, 1960. 211 p. Errata slip inserted. 4,500 copies printed.

Resp. Ed.: M.A. Ayzerman, Doctor of Technical Sciences, Professor; Ed. of Publishing House: A.A. Tal'; Tech. Ed.: S.G. Tikhomirova.

PURPOSE: This collection of articles is intended for scientific workers, industrial designers and engineers interested in automation and telemechanics.

COVERAGE: The collection of 23 articles is a continuation of an earlier work of the Academy of Sciences USSR, on pneumatic and hydraulic automation systems, published in 1959. A wide range of problems connected with the design and operation of pneumatic and hydraulic automation equipment is described. An addition to problems based on experiments, the collection also contains discussions of new trends in the field, such as the possibility of using very low pressure for the

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operation of pneumatic devices. Some articles of this collection were written in the German Democratic Republic and in Czechoslovakia and reflect a somewhat different approach to automation problems. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

GENERAL PROBLEMS OF PNEUMATIC AND HYDRAULIC AUTOMATION DEVICES

Vavaev, I.V. Analysis of the Possibility of Low Pressure Operation of Pneumatic Automation Instruments 3

Semikova, A.I., Experimental Investigation of Characteristics of Jet Components of Pneumatic Automation Devices 11

Andreyeva, Ye.A. On the Calculation of Characteristics of the Nozzle-Baffle Pneumatic Component 17

Kohklov, V.A., On the Method of Analysis of Dynamics of Following Systems With Hydraulic Executive Mechanisms 24

Card 2/5

CHUDNOVSKIY, A.R., inzh.; VAYSER, L.D., inzh.; POLEVOY, S.N., inzh.

Plastic duplicators. Mashinostroenie no.1:10-11 Ja-F '62.
(MIRA 15:2)

1. Odesskiy zavod kholodil'nogo mashinostroyeniya.
(Plastics)

AKHMECHET, L.S.; VAYSER, L.V.; CHUDNOVSKIY, A.R.

Effect of fillers on the properties of plastic compositions used in the manufacture of technological equipment. Plast. massy no.3:37-38 '63. (MIRA 16:4)

(Plastics) (Building materials)

CHUDNOVSKIY, A. R., inzh.; VAYSER, L. V., inzh.; GRABOY, L. P., inzh.; MOROZ, V. A., inzh.

Using plastics in electroplating. Mashinostroenie no.5:71-72 S-O '62. (MIRA 16:1)

1. Odesskiy zavod kholodil'nogo mashinostroyeniya.

(Electroplating) (Plastics)

CHUDNOVSKIY, A.R., inzh.; VAYSER, L.V., inzh.; GRABYY, L.P., inzh.

Making die-casting molds of thermoplastic polymers for casting parts. Mashinostroenie no.3:79-80 My-Je '63. (MIRA 16:7)

1. Chernomorskiy sovet narodnogo khozyaystva.
(Die casting--Equipment and supplies)
(Thermoplastics)

VAYSER, L. V.

JUN 25 1963

PHASE I BOOK EXPLOITATION SOV/6209

Akhmechet, Leonid Samoylovich, Leonid Vladimirovich Vayser, and Arkadiy Romanovich Chudnovskiy.

Primeneniye plasticheskikh mass v tekhnologicheskoy osnastke (The Use of Plastics in Engineering Equipment) Moscow, Mashgiz, 1962. 155 p. 10,500 copies printed.

Reviewer: L. S. Pilipenko, Engineer; Ed.: A. I. Bykovskiy, Engineer; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed. (Southern Division, Mashgiz): V. K. Serdyuk, Engineer.

PURPOSE: This book is intended for technical personnel in machine plants engaged in the design and manufacture of engineering equipment.

COVERAGE: The book deals with the use of plastics in the manufacture of engineering equipment, such as molds, dies, fixtures, and tools. Suggestions are made on how to design, manufacture, and use the plastic

Card 1/4

equipment. The properties and application of the more common plastic compositions are described and listed in an appendix. The authors thank Z. Z. Trakhtenberg, Engineer. There are 94 references, all Soviet.

TABLE OF CONTENTS:

Foreword 3

Ch. I. Use of Plastics in the Manufacture of Engineering Equipment 4

Ch. II. Types of Plastics Used in Engineering Equipment; Components and Manufacture 7

Ch. III. Antisticking Coatings 40

Ch. IV. Methods of Manufacturing Equipment Elements From Plastics 44

L 65134-65 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5021595 UR/0286/65/000/013/0069/0069

AUTHORS: Bardenshteyn, I. B.; Gutarts, F. M.; Dymshits, E. L.; Naumov, Yu. I.; Vayser, L. V.

TITLE: A method for obtaining plastic made of lignite-furfurol resin. Class 39, No. 172484

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 69

TOPIC TAGS: plastic, resin, lignite, furfurol, uretropine, epoxy, methaphenylene diamine

ABSTRACT: This Author Certificate presents a method for obtaining plastic made of lignite-furfurol resin, a filler, and uretropine. To improve the [illegible] the composition as a hardener.

ASSOCIATION: none

SUBMITTED: 26Aug63 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 000

Card 1/1 bab

S/653/61/000/000/046/051
I042/I242

AUTHOR: Vayser, L.V.

TITLE: The use of plastics as model materials

SOURCE: Plastmassy v mashinostroyenii i priborostroyenii. Pervaya resp. nauch.-tekh. konfer. po vopr. prim. plastmass v mashinostr. i priborostr., Kiev, 1959. Kiev, Gostekhizdat, 1961, 515-519

TEXT: The metal casting of models is technologically satisfactory but expensive. Recently, the casting of plastics in simple gypsum molds has gained acceptance. The Odesskiy proyektno-konstruktorskiy tekhnologicheskiy institut (Odessa Technological Institute of Structural Design) has developed a suitable composition based on polymethylmethacrylate. Its plastic properties can be improved by adding dibutyl phthalate and, wear resistance - by adding metal

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S/653/61/000/000/046/051
I042/I242

The use of plastics as model materials

or mineral powder; a metal framework is sometimes used to insure structural strength. The construction of molds, the entire casting procedure, and the finishing of models are discussed in detail. The structural requirements for different-size models are given. An advantage of the above composition is the case with which additional parts may be attached. The technology and preparation of plastic adjusting devices is discussed. The plastic ОПКТИ (OPKTI) consisting of 50% polymethylmethacrylate and 50% dibutylphthalate is more suitable for this purpose. The advantage of OPKTI and the disadvantages of other plastics are listed.

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S/191/63/000/003/011/022
B101/B186

AUTHORS: Akhmachat, L. S., Yayser, L. V., Chudnovskiy, A. R.

TITLE: Effect of fillers on the properties of plastic compositions used for producing industrial equipment

PERIODICAL: Plasticheskiye massy, no. 3, 1963, 37-38

TEXT: Without specifically mentioning details of their own publication, the authors give a review of various filler and of their application in the West, based on publications in the "Mashinostroyeniye za rubezhom" and "Vestnik mashinostroyeniya". There are 2 tables.

Card 1/1

AKHMECHET, Leonid Samoylovich; VAYSER, Leonid Vladimirovich; CHUDNOVSKIY, Arkadiy Romanovich; PILIPENKO, L.S., inzh., retsenzent; BYKOVSKIY, A.I., inzh., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Use of plastics in technical equipment]Primenenie plasticheskikh mass v tekhnologicheskoi osnastke. Moskva, Mashgiz, 1962. 155 p. (MIRA 15:10)
(Plastics) (Machinery industry)

VAYSER M. D.

USSR/Medicine - Naval Mar 1947
Medicine - Veneral diseases

"The Question of Aetiology of Salvarsan Icterus According to the Data of a Base Polyclinic of the Red Banner Caspian Fleet," M. D. Vayser, 5 pp

"Vestnik Venerologii i Dermatologii" No 3

Discussion of data leading to the conclusions that cases of icterus (jaundice) from syphilis treatment became more frequent after mapharsen was used. During the war there was a large number of liver complaints in the fleet traceable to syphilis treatment.

10T81

VAYSER, M. D.

Gonorrhea

Treatment of a cute gonorrhea in men with sulfanilamide prepara ions and penicillin. Vest. ven. i derm., No. 3, 1952.

Monthly List of Russian Accessions, Librar of Congress October 1952 UNCLASSIFIED

USSR/Chemistry - Cyclohexenes Aug 49
Oxidation

"Kinetics and Mechanism of the Slow Oxidation of Cyclohexene," V. L. Vayser, Moscow Petroleum Inst imeni I. M. Gubkin, 4 pp

"Dok Ak Nauk SSSR" Vol LXVII, No 5

Gives time-rate of change of absorption oxygen O_2 in the form: $dx/dt = k_1x(1+k_2x)$ where the k's are determined after integration. From this formula and the following: $2.3 \log (k.1k_2) = (E/R)(T_2^{-1})$ the energy of activation is found: E = 25,000 k/cal (approx). Submitted by Acad A. V. Topchiyev 20 Jun 49.

66/49T26

CA

Preparation of cyclohexene peroxide and determination of the peroxide number of unsaturated hydrocarbons — V. L. Yalber. *Doklady Akad. Nauk S.S.S.R.* 68, 519-21(1949). Cyclohexene (100 ml.) was allowed to absorb atm. O until 25-30 ml. O was taken up, after which it was subjected to bubbling with O at 65° for 3 days, when 21% conversion occurred; fractionation yielded 90% *cyclohexene peroxide*, b$_{13}$ 48°, d$_4^{20}$ 1.0658, n_D^{20} 1.4900, which can be stored only in the dark in quartz vessels; on warming or on long exposure to the atm. it yields cyclohexenone. A *new method* was developed *for* the *detn.* of the *peroxide no.* of unsatd. compds. To pure cyclohexene is added a known amt. of 1,2,3,4-tetrahydronaphthalene peroxide, and the mixt., after 1 hr. with 70% AcOH and excess of 10% KI, is titrated back with 0.05 *N* $Na_2S_2O_3$ and the peroxide no. is calcd. as usual. The result obtained in this manner is adjusted by a correction factor which allows for variations in the concn. of iodine and of the peroxide. These correction factors were found experimentally from known mixts. and are given graphically. If the peroxide no. is calcd. in ml. O per 100 g., the correction factors range as follows: 1.19 for peroxide no. 21, 1.22 for 95, 1.3 for 268, 1.33 for 407, 1.37 for 500. The use of these correction factors gives results well within the exptl. error. G. M. K.

CA

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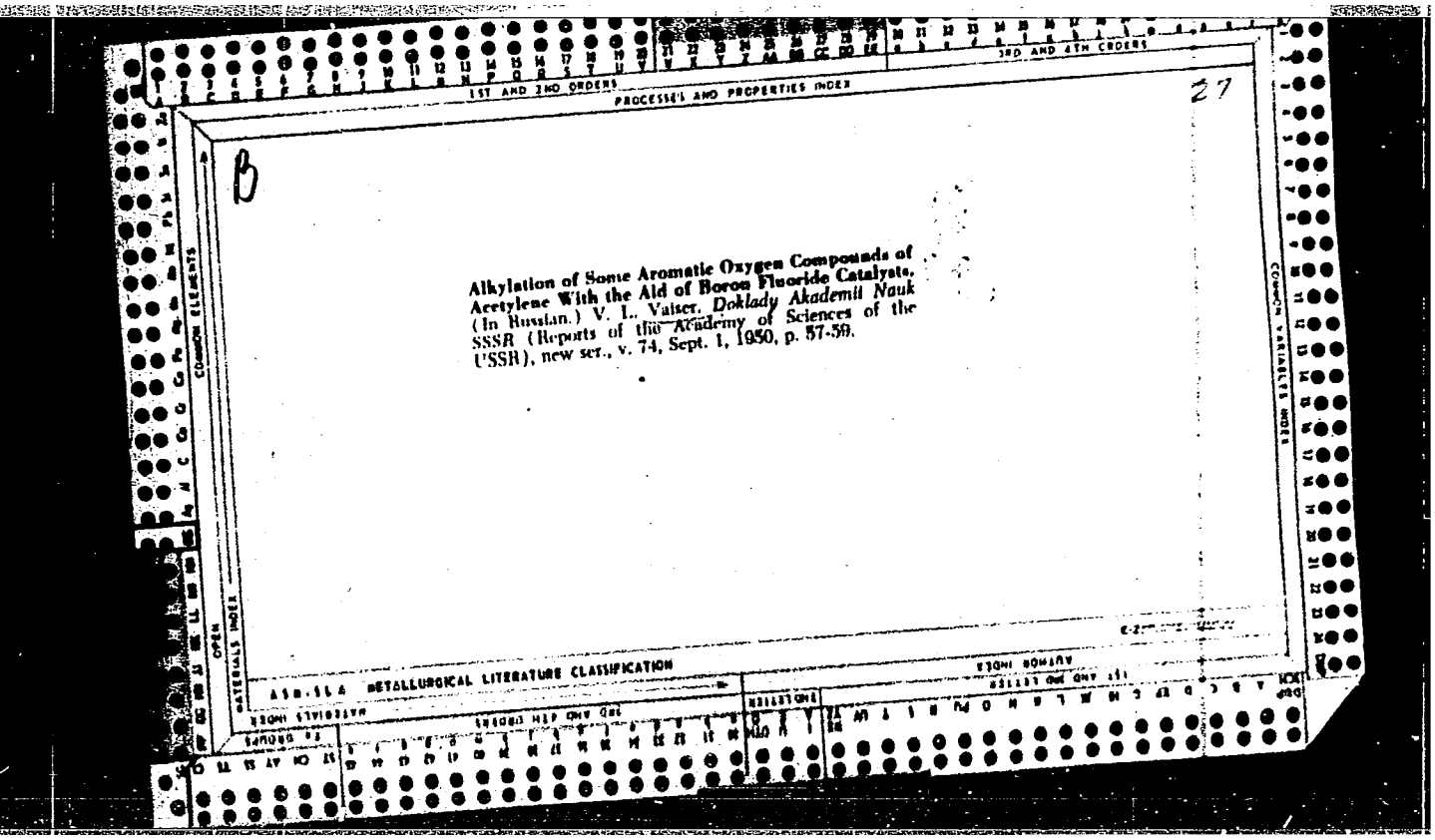
Alkylation of some aromatic hydrocarbons with acetylene with the aid of a catalyst based on boron fluoride N. I. Yalser. *Doklady Akad. Nauk S.S.S.R.* 70, 621-4 (1950).—Alkylation of aromatic hydrocarbons was performed with C_2H_2 and a H_3PO_4-BF_3 catalyst, which was prepd. by evapn. of 80°, H_3PO_4 by heating in vacuo until d_4^{20} 1.8880 was reached and the product satd. with BF_3. C_2H_2 was generated by H_2O treatment of CaC_2, washed with H_2SO_4, dried, and used in a stirred reactor by being passed into a bottom opening in the latter. The charge used was 20 ml. of H_3PO_4 satd. with BF_3, 1 g. HgO, and 100 ml. hydrocarbon, with a 1 l./hr. C_2H_2 absorption rate at 30-40°, which is attained spontaneously in the early stages. With C_6H_6, after the uptake of 12 l. C_2H_2, the filtered and washed product gave small amts. of materials b. 240-60° and above 280°, as well as the main product (40 ml.), b. 268-75°, identified as $PhCHMe_2$. H_2SO_4 instead of H_3PO_4-BF_3 gave but 3 g. $PhCHMe_2$. Similar reaction of PhMe with H_3PO_4-BF_3 and HgO catalysts gave as the main product 30 ml. ditolylethane, b. 280-305°, d_4^{20} 0.9878, n_D^{20} 1.5617 (40%, yield based on utilized MePh); a H_2SO_4 catalyst gave but 25 ml. alkylate contg. only 15 ml. ditolylethane. Xylene (isomer unstated) gave 32 ml. alkylate contg. 14 g. major product, b. 305-25°, identified as dixylylethane; a H_2SO_4 catalyst gave but 26 ml. catalyzate, contg. 3 ml. dixylylethane.

G. M. Kosolapoff



VAYSER, V.L., kandidat tekhnicheskikh nauk, dotsent.

Kinetics and mechanism of slow oxidation of cyclohexene. Trudy MMI no.11:221-244 '51. (MLRA 10:3)
(Cyclohexene)

VAYSER, V.L.

USSR/Chemistry - Alkylation 1 May 52

"Alkylation of Isopropyl Benzene With Acetylene With the Aid of $H_3PO_4.BF_3$ and HgO Catalyst," V. L. Vayser, A. M. Polikarpova

"Dok Ak Nauk SSSR" Vol LXXXIV, No 1, pp 71, 72

Two moles of isopropyl benzene combine with a mole of acetylene by addn to form ethylidenediisopropyl benzene. The reaction was studied by varying the time and quantity of catalyst ($H_3PO_4.BF_3$ and HgO). Optimum yield (20-23%) was achieved by using 10 ml of catalyst per 100 ml of isopropyl benzene at 60 - 70° for 3.5 hrs. Presented by Acad A. V. Topchiyev 4 Mar 52.

224T4

VAYSER, V.L.

USSR/Chemistry - Alkylation 1 Jul 52

"Alkylation of Ethyl Benzene With Acetylene," V. L. Vayser, A. M. Polikarpova

"Dok Ak Nauk SSSR" Vol LXXXV, No 1, pp 85, 86

Expt has shown that 2 mols of ethyl benzene add on to one mol of acetylene. Presented by Acad A. V. Topchiyev 28 Apr 52.

224T9

Chem Abs V 48
1-25-54
Organic Chemistry

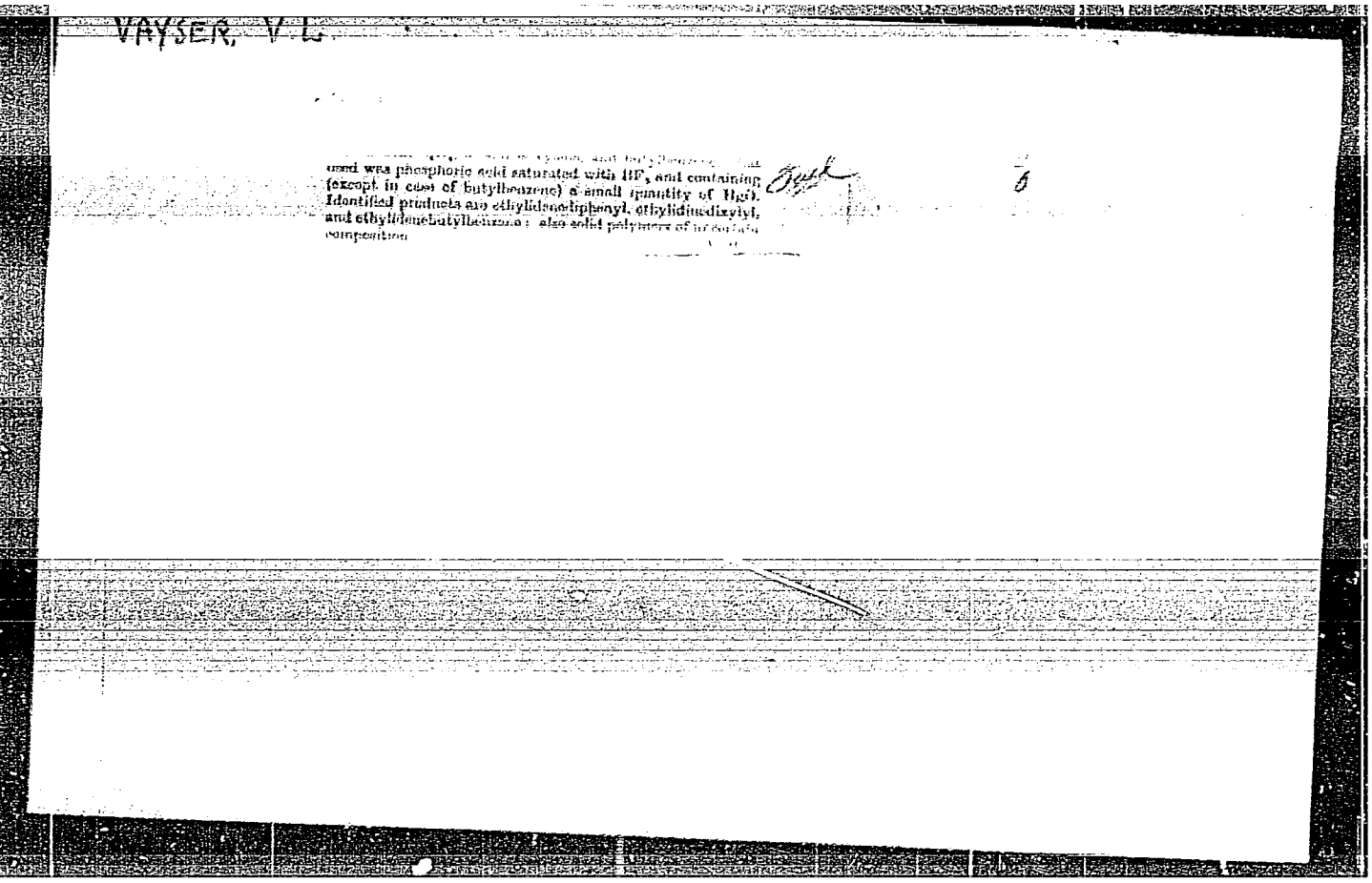
10 Chem (2)

Alkylation of toluene and diisopropylbenzene by means of acetylene. V. T. Valser (I. M. Gubkin Petroleum Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 87, 593–6 (1952).—C_2H_2 was passed into a soln. of 86–344 g. MePh contg. 5–40 ml. H_3PO_4 satd. with BF_3; after usual washing the products were distd. Increasing H_3PO_4-BF_3 catalyst from 5 to 20 ml. per 100 ml. MePh increases the yield of the alkylate by only 3–7%; varying the reaction time from 4–10 hrs. does not affect the yield; a temp. of 60–70° appears to give best results, as lowering the temp. lowers the yield.

The highest yield of alkylate, based on MePh consumed, was 59–60%, when 5 ml. catalyst was used with 86 g. MePh in a 4–10 hr. reaction. In all cases 1 g. HgO was added to the H_3PO_4-BF_3 catalyst. The alkylate consisted of $MeCH(C_6H_4Me\text{-}p)_2$, b_{760} 296–9°, b_3 150–2°. Similarly treated iso-$Pr_2C_6H_4$ (com. material) gave the best yield of alkylate (52%) when 10 ml. catalyst was employed per 100 ml. iso-$Pr_2C_6H_4$, and the reaction was run 2 hrs. at 65–70°; higher or lower temps., especially the former, reduce the yields. The product, b_4 193–208°, was sepd. into fractions from which some [3,5-(iso-Pr)$_2$C$_6$H$_3$]$_2$CHMe was isolated, this b_4 203–8°. It is given the sym. distribution of the substituent radicals, without expt. support for this, however. The rest of the products are unidentified. The product, b_4 203–8°, n_D^{20} 1.5398, was identified by mol. wt. detn. and analysis.

G. M. Kosolapoff

5-21-54 mlf



VAYSER, V. G.

used was phosphoric acid saturated with HF, and containing (except in case of butylbenzene) a small quantity of H_2O. Identified products are ethylidenediphenyl, ethylidinediaxyl, and ethylidenebutylbenzene; also solid polymers of [illegible] composition

VAYSER, V. L.

USSR/Chemistry - Alkylation

Card 1/1 : Pub. 22 - 26/46

Authors : Vayser, V. L., and Polikarpova, A. M.

Title : Acetylene alkylation of phenol in an alcohol solution

Periodical : Dok. AN SSSR 97/4, 671-673, Aug 1, 1954

Abstract : Experimental data are presented on acetylene alkylation of phenol in an alcohol solution. It was established that the number of first fractionation and polymer products obtained depends upon the catalyst concentration, reaction temperature, rate of acetylene flow and time of reaction. The two stages of alkylation reaction, are described. One USSR reference (1950). Tables.

Institution : The I. M. Gubkin Petroleum Institute, Moscow

Presented by: Academician A. V. Topchiev, April 16, 1954

VAYSER, V. L.

The reaction of phenol with acetylene in the presence of acid catalysts. V. D. Ryabov and V. L. Vayser. *Sb. nauch. Tekh. Konferentsii. Nauch. Studencheskikh. Obshchestvom* [illegible] Moskov. Inst. Tonkoi Khim. Tekhnol. [illegible]

[illegible] in H_2O or alc. media in the presence of H_3PO_4-BF_3 + HgO (I), H_2O-BF_3 + HgO (II), Et_2O-BF_3 + HgO (III), and H_2SO_4 + HgO (IV). $MeCH(C_6H_4OH\text{-}p)_2$ (V) is obtained [illegible] yields (in H_2O) I, 40%; II, [illegible]

[illegible] media V [illegible] catalyst, [illegible] yield [illegible]

VAYSER, V. L.

USSR/Chemistry - Catalytic reaction

Card 1/2 Pub. 22 - 20/52

Authors : Vayser, V. L., and Ryabov, V. D.

Title : The mechanism of alkylation reaction of phenol with acetylene in the presence of $H_3PO_4 \cdot BF_3$ and H_2O catalysts

Periodical : Dok. AN SSSR 100/2, 271-274, Jan 11, 1955

Abstract : Experiments were conducted to determine the mechanism of phenol alkylation with acetylene in an aqueous acid solution of an $H_3PO_4 \cdot BF_3$ and H_2O catalyst. It was found that $H_3PO_4 \cdot BF_3$ loses none of its activity and in spite of the fact that the molar water/catalyst ration was only 12 the yield of the reaction product - 4,4'-dioxydiphenylethane - was approximately 40% of the oretical.

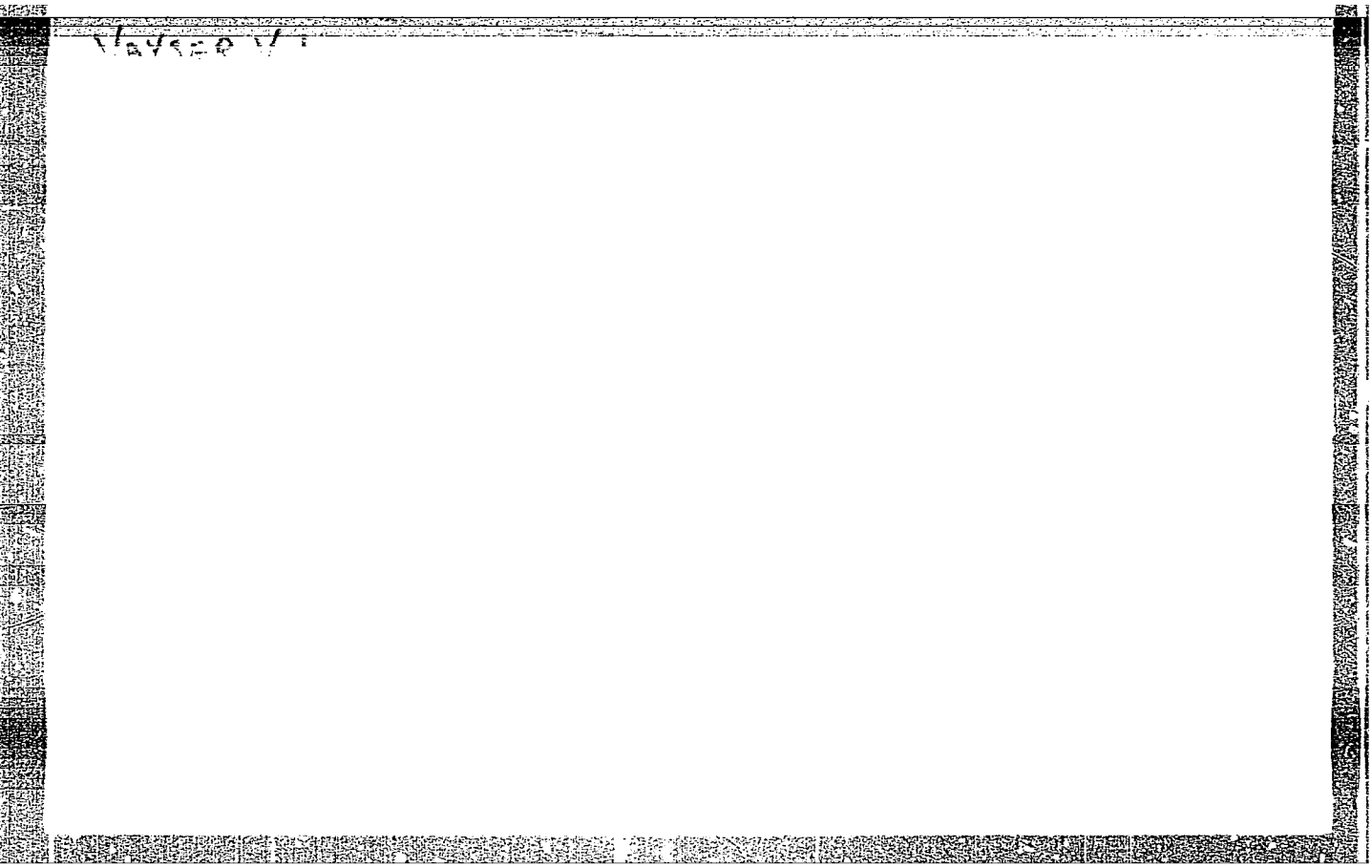
Institution : .....

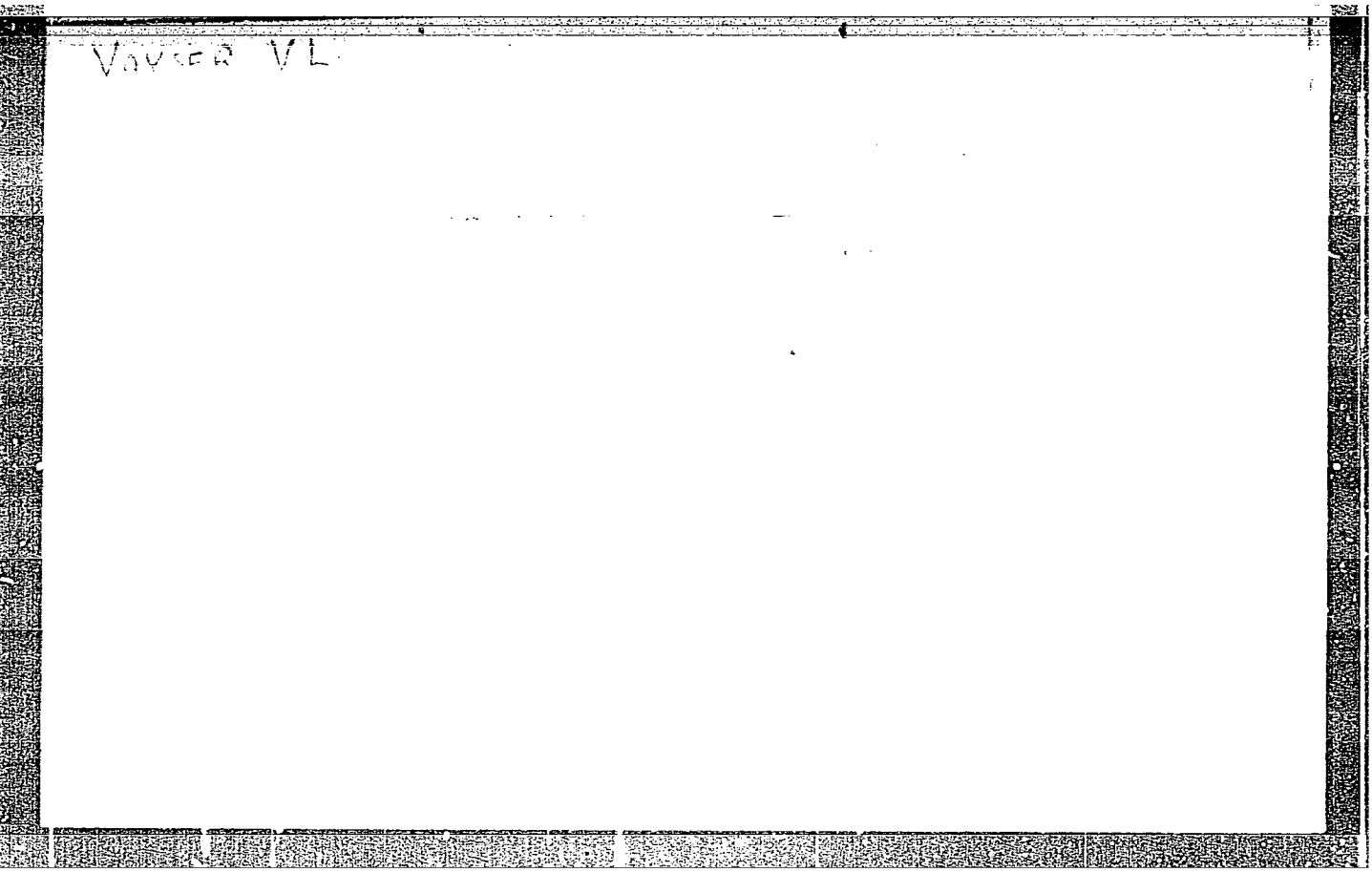
Presented by: Academician A. V. Topchiev, July 7, 1954

Periodical : Dok. AN SSSR 100/2, 271-274, Jan 11, 1955

Card 2/2 Pub. 22 - 20/52

Abstract : The structure of the reaction product was determined by oxidation of its dimethyl ether. The role of water in the reaction is explained. Thirteen references: 2 USA; 2 German; 1 English and 8 USSR (1881-1953). Drawing





Vayser, V. L.

USSR/ Chemistry

Card 1/2 Pub. 22 - 26/54

Authors : Vayser, V. L.; Ryabov, V. D.; Sokolina, S. Sh.

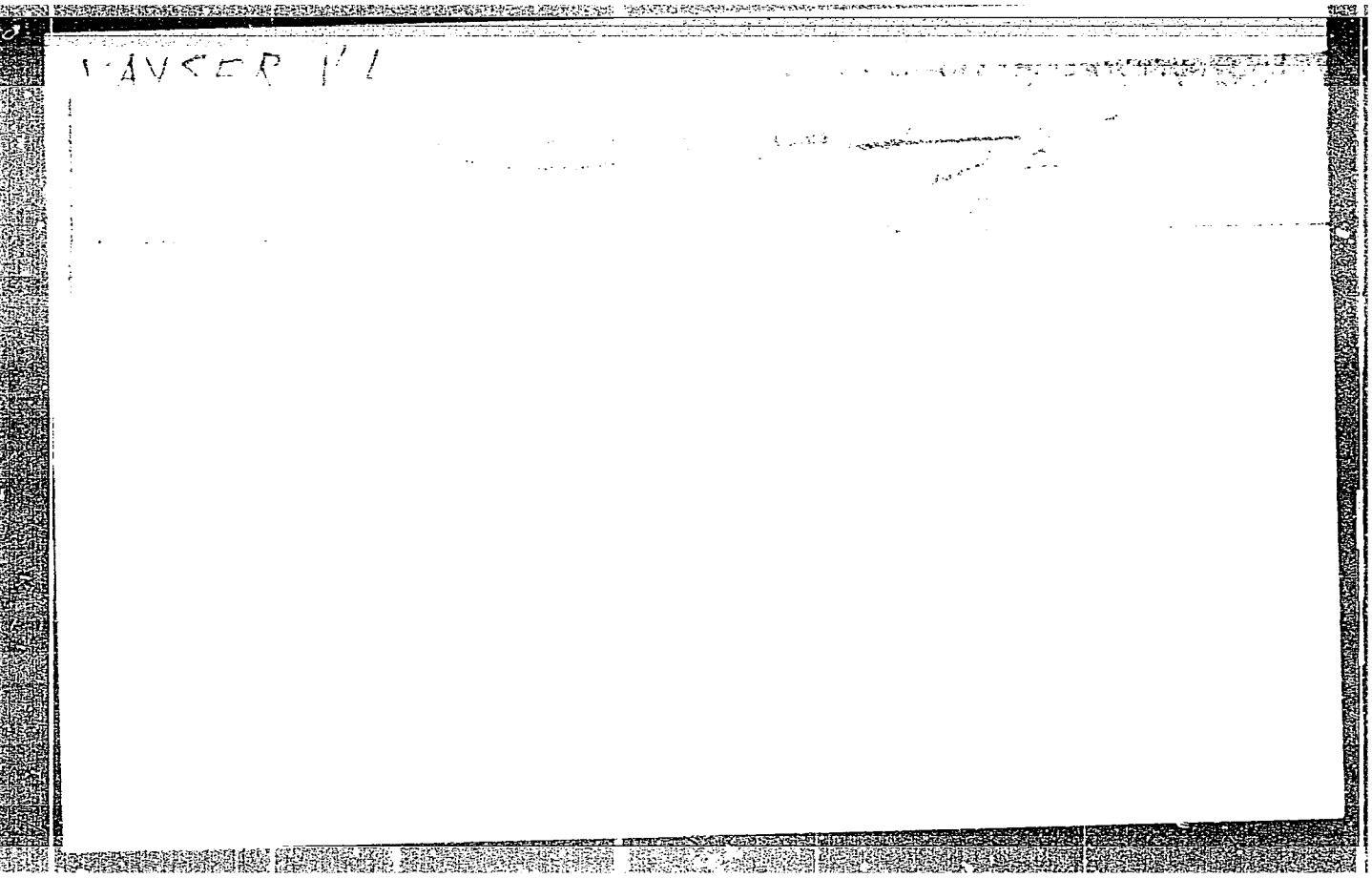
Title : Derivation of p-methylstyrene from asymmetrical p,p-ditolylethane

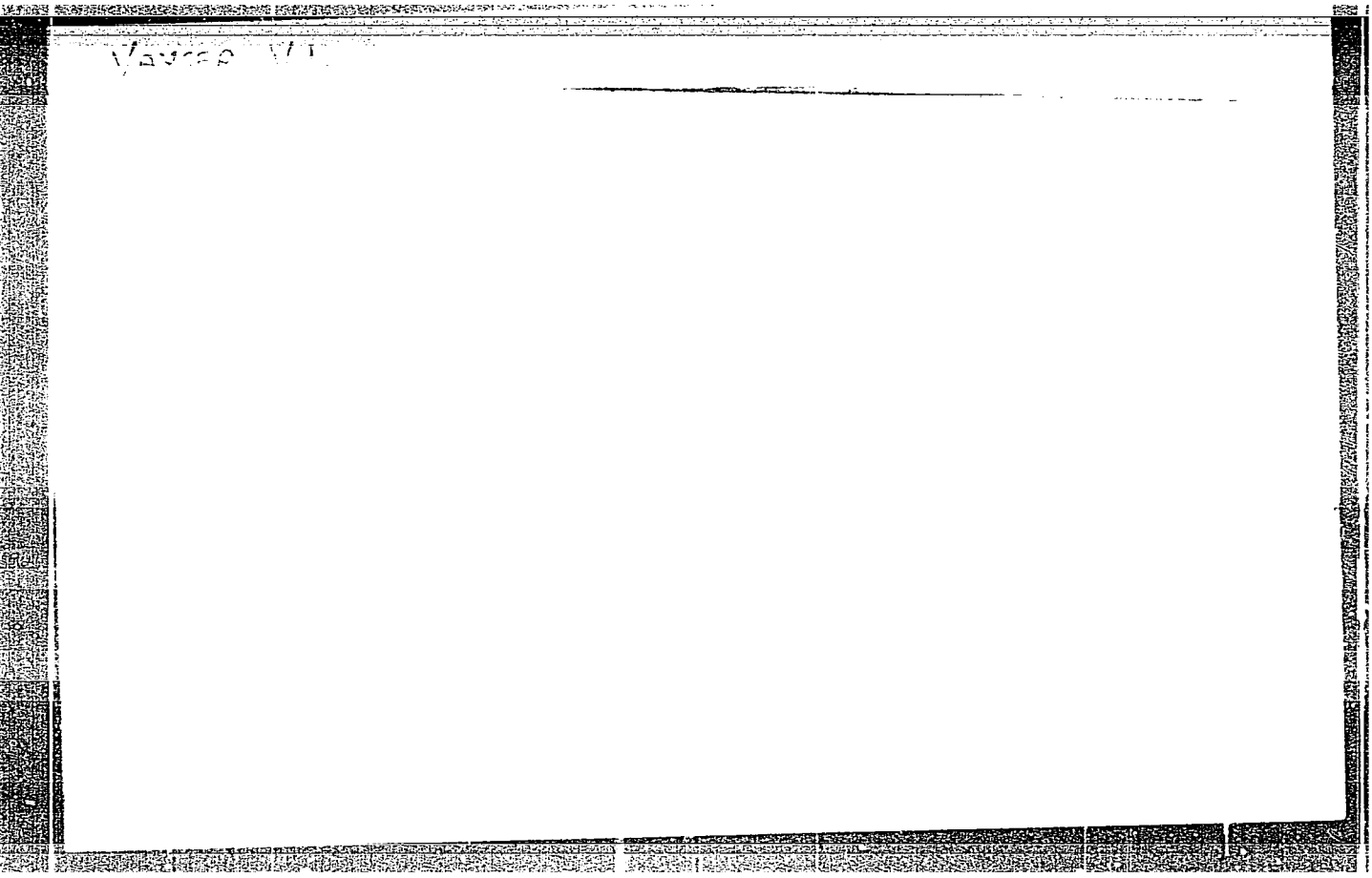
Periodical : Dok. AN SSSR 106/2, 271-274, Jan 11, 1956

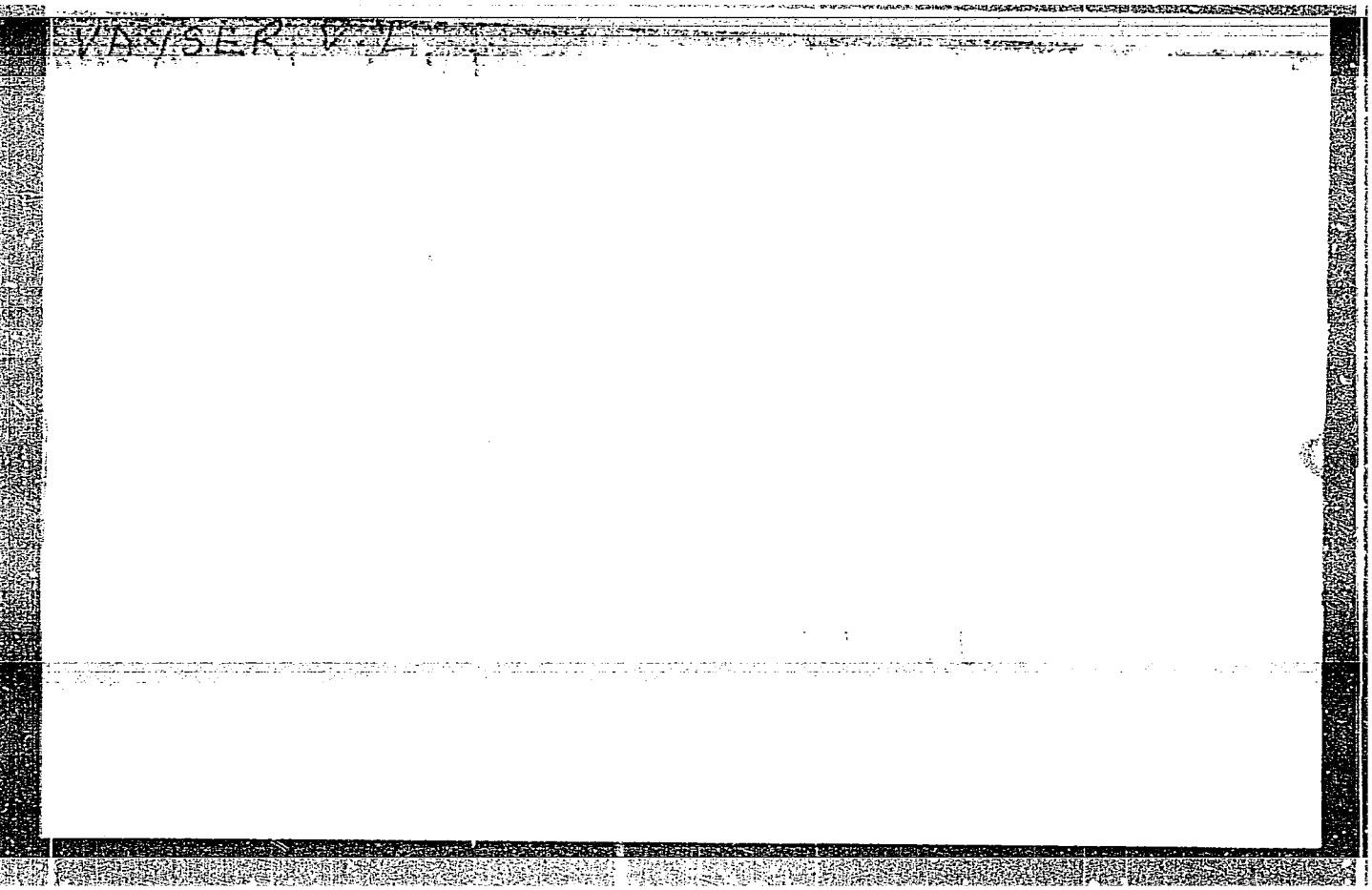
Abstract : Experiments were conducted for the purpose of obtaining p-methylstyrene from asymmetrical p,p-ditolylethane and to investigate some catalysts under conditions of cracking. The basic constants (boiling point, density and viscosity) of p,p-ditolylethane, after several vacuum distillations, were established. The results obtained during the application of a synthetic aluminum silicate catalyst (Al_2O_3 : SiC_2 = 1 : 1) are listed. The effect of temperature on the cracking characteristics is analyzed. Seven references: 2 USSR, 1 Germ., 3 USA and 1 Canad. (1923-1954). Table; graphs; drawing.

Institution : Moscow Petroleum Institute im. I. M. Gubkin

Presented by: Academician A. V. Topchiyev, July 11, 1955







AUTHOR	VAYSER V.L.,	20-1-21/54
TITLE	Alkylation of α- and β-Naphtols with Acetylene. (Alkilirovaniye atsetilenom α-i β-naftolov -Russian)	
PERIODICAL	Doklady Akad.Nauk SSSR,1957, Vol 115, Nr 1,pp 91 - 93 (U.S.S.R.)	

ABSTRACT The alkylation was carried out in a reactor with a solution of naphtol in 50 ml ethyl or butyl alcohol and a catalyst $H_3PO_4 \cdot BF_3$ + 1g mercury oxide. Acetylene was supplied from a steel flask with controllable speed. The tests no.1,2,17 yielded 41-42% alkylate.These as well as the tests no.4,8,5,9 show that they may be reproduced independently of the application of ethyl or butyl alcohol as solvents. The optimum yield of alkylate was 68% at an 18 % concentration of the catalyst and a temperature of 65-70°C.The optimum temperature was 75-80°C at a 14% concentration of the catalyst.Increasing the speed of the passage of acetylene from 2 1/hr reduces the yield of the alkylate only by 16%. The alkylate is difficult to solve in benzene, but easily soluble in acetone,acetic acid,ether and chloroform: in carbon tetravhloride and n_heptane it is soluble on heating; it is neither soluble in alkali nor in a weak acid. The alkylate is identified as ethylidene-di-β-naphtol-oxide and its formation schematically demonstrated. This heterocyclic compound may be considered as a derivative of the xanthene 9-methyl-1,2,7,8-dibenzoxanthene (structural formula given) or of the pyran 4-methyl-/di-naphto2"1":2,3; 1'2':5,6/-pyran (structure given).Such a compound was produced by Claisen from condensation of β-naphtol and paraldehyde in the presence of HCl. From the oxidation of the alkylate crystals with a

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melting point of 194°C were obtained.This reaction proceeds in a manner that the radical is oxidized into a carbonyl group and a corresponding ketone (structural formulae given), is developed,namely $C_{21}H_{12}O_2$ i.e. dinaphtho-γ-pyrone. Wentzke and Nieuwland did not succeed in isolating such crystal from the solution obtained. With α-and ß-naphthols they obtained a certain amount of crystals with a melting point of 173°C.According to them acetal develops from ß-naphthol,whereas ethylidene dinaphthol oxide develops from α-naphthol.They did,however,not give a sufficient explanation for this.The alkylation of α-naphtol was carried out by the author under the same conditions as that of ß-naphthol.The alkylate is neither soluble in benzene nor in camphor which renders the determination of its molecular weight difficult.
(2 illustrations, 1 table,3 Slavic references)

ASSOCIATION Moskovskiy neftyanoy institut im. I. M. Gubkina
PRESENTED BY TOPCHIYEV A.V.,Member of the Academy, March 15, 1957
SUBMITTED 16.6.1956
AVAILABLE Library of Congress.
Card 2/2

AUTHORS: Ryabov, V. D., Vayser, V. L.

20-118-5-32/59

TITLE: Catalytic Cracking of Some Asymmetric Diarylethanes (Kataliticheskiy kreking nekotorykh nesimmetrichnykh diariletanov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 964-966 (USSR)

ABSTRACT: This cracking makes it possible to produce vinyl-aromatic compounds with a high yield, this method being superior to other methods. It consists of two stages: a) the synthesis of diarylethanes, and b) their cracking by way of aluminum silicate catalysts. Besides the aromatic compound and acetylene no other reagents are needed. In previous publications the authors investigated the catalytic cracking of 1,1-(4,4'-dimethyl)diphenylethane and of 1,1-(4,4'-di--isopropyl)diphenylethane (references 1,2). The present paper shows the results of this reaction of further asymmetric diarylethanes. The following compounds with their constants, yields and methods of production are treated here: 1,1-(4,4'--diethyl)-diphenylethane. It was produced from the alkylation

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reaction of ethylbenzene by acetylene and had a melting point of 164 - 167°C/1o mm after a double distillation. The 133 - 134°C/748 mm fraction consisted of ethylbenzene. The 93 - 95°C/38 mm fraction was 4-ethylstyrene with 12,5% diethylbenzene. For the perfect identification of the first substance its dibromide was produced as white acicular crystals with a melting point of 65,5°C. 1,1(3,3; 4,4'--tetraphenyl)diphenylethane (ethylidene-di-o-xylene) was produced by the alkylation of o-xylene with acetylene. The cracking took place at 55o°C. The 55-55,5°C/36 mm fraction was o-xylene, the 94-1o4°C/36 mm fraction was a mixture of vinyl xylene and ethyl xylene, the 1o5-1o6°C/36 mm fraction was 3,4-dimethylstyrene.
1,1-di-(2-naphtyl)ethane (ethylene-dinaphtyl) was produced by alkylation of naphtalene with acetylene in a solution of carbon tetrachloride. It is a highly viscous transparent substance, fluorescent green, boiling point 236-238°C at 3 mm. The cracking temperature was 55o°C. For the identification of the β-vinylnaphtalene the filtrate was brominated at -2o°C after crystallization. White acicular crystals with a melting point of 86-86,5°C were obtained. Thus the chemism of the cracking of the respective diarylethanes is analogous to that

Catalytic Cracking of Some Asymmetric Diarylethanes 20-118-5-32/59

which had been found in previous publications by the authors (references 1,2). There are 7 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy neftyanoy institut im. I. M. Gubkina (Moscow Institute for Petroleum imeni I. M. Gubkin)

PRESENTED: October 8, 1957, by A. V. Topchiyev, Member, Academy of Sciences, USSR

SUBMITTED: October 8, 1957

Card 3/3

20-118-6-22/43

AUTHORS: Vayser, V. L. , Ryabov, V. D.

TITLE: Alkylation of Naphthalene, β-Methyl-Naphthalene and Tetraline With Acetylene (Alkilirovaniye naftalina, β-metilnaftalina i tetralina atsetilenom)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol.118, Nr 6, pp.1128-1130 (USSR)

ABSTRACT: The authors who occupied themselves with naphthalene-alkylation (references 1, 2) were of opinion that this could not be achieved because the naphthalene-molecule consists of 2 cycles of different character, viz. of an aromatic and an alicyclic one. The authors of the present report, on the other hand, maintain that naphthalene has simply one stable molecule (rule by Fris). After various tests they were in a position to state that the solvent plays a decisive part, here. With alcohol the alkylation (catalyst H_3PO_4-BF_3) could not be effected, but it was achieved with chloroform and carbon tetrachloride. Alkylation of naphthalene. The conditions of reaction, together with the test results, (table 1) are

Alkylation of Naphthalene, β-Methyl-Naphthalene and Tetraline With Acetylene

given in a kind of experimental part. The maximum experimental temperature was 50 to 55°C, the concentration of the catalyst 16 %. Molar ratio naphthalene: acetylene ~ 1,0. The alkylate forms at room-temperature a scarcely yellow transparent solidified mass, which is soluble in benzene, chloroform and ether. The alkylate could not be oxidized. The confirmation of the structure $C_{22}H_{18}$ (ethylidene-dinaphthyl) was achieved by means of its cracking. β-vinyl-naphthalene was isolated from the products of the latter. α-vinyl-naphthalene was not proved. Alkylation of β-methyl-naphthalene. The results given in table 2 were achieved under equal conditions. The product is ethylidene-di-β-methyl-naphthalene. It is a thick, green, viscous liquid which is soluble in benzene, chloroform, carbon-tetrachloride and n-heptane; insoluble in alcohol. Alkylation of tetraline. Temperature of reaction: 60 - 65°C. The test results are given in table 3. The alkylate boils at 214 to 216°/5 mm. The product is ethylidene-di-tetraline $C_{22}H_{26}$. The alkylate is similar to the previous one, but pale yellow. There are 3 tables, and 6 references, 3 of which are Soviet.

Card 2/3

AUTHORS: Vayser, V. L., Ryabov, V. D

TITLE: Alkylation of Phenol by Acetylene Under Elevated Pressure (Alkilirovaniye fenola atsetilenom pri povyshennom davlenii)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 4, pp. 648 - 651 (USSR)

ABSTRACT: This reaction was for the first time investigated by the authors at atmospheric pressure (Refs 1 - 5). Water and ethanol were used as solvents for phenol (Ref 2). In the water medium which guarantees a more selective process of the reaction, phenol reacts with acetylene by a formation of acetaldehyde. The yield of 1,1,-(4,4'-dioxy-)-diphenyl ethane does not exceed 50% of the stoichiometrically computed amount. In order to clarify the influence of pressure and to find the optimal conditions of alkylation under pressure experiments were carried out in a rotating autoclave. By application of pressure the concentration of acetylene in the gas phase may be increased by the manyfold. A great disadvantage of the rotating autoclave is that it is not possible to maintain the pressure on the same level. An un-

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dangerous reaction can be brought about without a particular solvent for acetylene (nitrogen); vapors of the reaction mixture served for this purpose. The authors applied the mentioned method with full success. The autoclace (250 cm^3 capacity), made of stainless steel was loaded with a mixture of phenol, solvent, a catalyst H_3PO_4, BF_3 and HgO. Before loading the autoclave air was removed by blowing through acetylene. Then acetylene was pumped in until 20 atmospheres of excess pressure were reached. Figure 1A and table 1 show the de pendence of absorption velocity of acetylene on the temperature. The higher the temperature the lower will be the pressure corresponding to a minimum velocity of absorption. The optimal conditions of reaction are 110 - 120° and 20 - 16 atmospheres of excess pressure. Table 2 shows the dependence of the yield of 1,1-(4,4-dioxy) diphenyl ethane on the amount of the catalyst. The yield decreases only inconsiderably with a reduction of the amount of the catalyst. Figure 1 B shows the dependence of the absorption velocity of acetylene on the amount of the catalyst. The mentioned velocities

are about the same in all cases. Table 3 shows that a catalyst used once has about only half the activity of a fresh one. An addition of mercury restores its activity. There are 1 figure, 3 tables, and 7 references, 7 of which are Soviet.

ASSOCIATION: Moskovskiy neftyanoy institut im. I.M.Gubkina (Moscow, Petroleum Institute imeni I.M.Gubkin)

PRESENTED: March 22, 1958, by A.V.Topchiyev, Member, Academy of Sciences, USSR

SUBMITTED: March 20, 1958

SOV/20-122-3-24/57

AUTHORS: Topchiyev, A. V., Member, Academy of Sciences, USSR; Vayser, Y.L.

TITLE: Hydrogenation of Some Unsymmetrical Diaryl Ethanes (Gidrogenizatsiya nekotorykh nesimmetrichnykh diariletanov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 409-411 (USSR)

ABSTRACT: By the alkylation of toluene, isopropyl benzene, diisopropyl benzene, phenol, cresol, β-naphthol by means of acetylene and the catalyst $H_3PO_4.BF_3$ individual compounds - diaryl ethanes with a common formula Ar-CH(CH$_3$)-Ar or HO-Ar-CH(CH$_3$)-Ar-OH i. e. oxy-diaryl ethanes were produced.

The authors carried out the hydrogenation of these compounds in an apparatus by Musayev-Gal'pern with an industrial catalyst Ni on kieselguhr at increased pressure and temperature. Furthermore the hydrogenations of 1) ethylidene ditolyl, 2) ethylidene-diisopropyl benzene, 3) ethylidene-di-diisopropyl benzene, 4) phenol-alkylate, 5) ethylidene-di-o-cresol, and 6) β-naphthol

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Hydrogenation of Some Unsymmetrical Diaryl Ethanes

alkylate are discussed in detail. The constants of the produced compounds are mentioned. The hydro-compounds produced for the first time by this method may serve as basis for a detailed theoretical and practical investigation of the hydrogenation reaction of diaryl ethanes. There are 5 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy neftyanoy institut im. I. M. Gubkina (Moscow Petroleum Institute imeni I. M. Gubkin)

SUBMITTED: May 29, 1958

MAYSUR, V.I., Doc Chem Sci --, "Alkylation of cert in organic compounds with acetylene in the presence of $H_3PO_4BF_3$ catalyzer." Mos, Publishing House of the Acad Sci USSR, 1959. 24 pp (Inst of Petroleum Chemical Synthesis of the Acad Sci USSR), 175 copies List of author's works, pp 23-24 (25 titles) (KL, 27-59, 118)

VAYSBEYN, S.G. (Moskva)

Comatose states. Med.sestra 18 no.7:17-22 Jl '59. (MIRA 12:10)

(COMA)

SOV/20-125-3-22/63

5(3)

AUTHORS: Vayser, V. L., Ryabov, V. D.

TITLE: Alkylation of 1,1-($4_1 4^1$-Dioxy)-Diphenyl Ethane by Isobutylene (Alkilirovaniye 1,1-($4_1 4^1$-dioksi)-difeniletana izobutilenom)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3, pp 547-548 (USSR)

ABSTRACT: The process mentioned in the title has been thoroughly investigated for mononuclear phenols. The alkylation of binuclear phenols is, however, not described. The authors point out again the production method and the properties of the phenol mentioned in the title (empirical formula $C_{14}H_{14}O_2$). The temperature of the reaction in question usually amounts to 60-90° (Ref 3) at which the phenol is melted and no solvent necessary. However, the reaction should be carried out at approximately 130° without solvent, in which case $C_{14}H_{14}O_2$ could be decomposed in acid medium. Therefore the authors chose 15-20° and used thioether as solvent. Isobutylene was obtained by means of dehydration of isobutyl alcohol over aluminum oxide

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SOV/20-125-3-22/63

Alkylation of 1,1-($4_1 4^1$-Dioxy)-Diphenyl Ethane by Isobutylene

at 360°. The details of the reaction process are described. Table 1 shows the results of the initial experiments. The fraction 216-219°/5 mm is a solid yellowish substance which is well soluble in paraffin-, naphthene- and aromatic hydrocarbons. The substance obtained was analytically identified as 1,1-($4_1 4^1$-dioxy-$5_1 5^1$-di-tert.butyl)-diphenyl ethane (structural scheme given). The optimum reaction conditions: concentration of the catalysts 15 percentages by weight, temperature 18-20°, molar ratio isobutylene : dioxy diphenyl ethane = 4th supply velocity of the first 2-3 l/hour were determined by the second experimental series (Table 2). There are 2 tables and 3 Soviet references.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promyshlennosti im. I. M. Gubkina (Institute of Petroleum-chemical and Gas Industry imeni I. M. Gubkin)

PRESENTED: October 24, 1958, by A. V. Topchiyev, Academician

SUBMITTED: October 24, 1958

Card 2/2

5 (3)
AUTHORS: Vayser, V. L., Ryabov, V. D., Ostroumova, A. K.

SOV/20-125-4-29/74

TITLE: Catalytic Condensation of 9-Methyl-(1,2), (7,8)-Dibenzoxanthene With Ammonia (Kataliticheskaya kondensatsiya 9-metil-(1,2), (7,8)-dibenzoksantena s ammiakom)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 799-800 (USSR)

ABSTRACT: The authors obtained the substance mentioned in the title (I) by alkylation of β-naphthol with acetylene in an alcoholic solution in the presence of the catalyst $H_3PO_4 \cdot BF_3$ and one gram mercury oxide (Ref 1) (see scheme I). Compound I forms white crystals with a melting temperature of 173° and a boiling point of 268-269/8 mm, which are well soluble in acetone, acetic acid and ether and soluble on heating in n-heptane and benzene. The interaction between I and ammonia is explained by means of a scheme (Ref 2). A derivative of acridine 9-methyl--(1,2), (7,8)-dibenzo-9,10-dihydroacridine is to be expected as a result. The authors carried out this reaction on a device (Fig 1). Many experiments were necessary for determining the

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Catalytic Condensation of 9-Methyl-(1,2), (7,8)-Di- SOV/20-125-4-29/74
benzoxanthene With Ammonia

optimal conditions: temperature of 470°, at which on the one hand no unreacted product (as e. g. at 350-400°) is obtained and on the other hand, however, (I), a not decomposed product (as at 500°). The volume rate of the added benzene solution of (I) amounts to 0.4/hour. The reaction proceeds under milder conditions and yields better results if in 1 or 2 experiments an already used catalyst is taken. In the case of distilling the reaction products in most cases two fractions are obtained. A. 90 - 140°/2 mm which solidifies to a white crystalline mass and B. 240 - 290°/2 mm which becomes a yellow crystalline mass. After a careful fractionation and re-crystallization white crystals with a melting point of 112° and a boiling point of 131-132°/2 mm were produced from fraction A. The authors identified them as β-naphthylamine. By similar operations light-yellow crystals were obtained from fraction B with a melting point of 213° and a boiling point of 251-253°/2 mm. These crystals were identified as 9-methyl-(1,2), (7,8)-dibenzo--(9,10)-dihydroacridine $C_{22}H_{17}N$. The authors were the first to obtain this substance. There are 1 figure and 1 Soviet reference.

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S/020/60/132/02/29/067
B011/B002

5.3400

AUTHORS: Vayser, V. L., Ryabov, V. D., Piryatinskiy, B. M.

TITLE: The Production of Vinyl Phenols by the Catalytic Cracking of Some Dioxydiarylalkanes

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 349-352

TEXT: The synthesis of a number of vinyl phenols hitherto has not been put into practice or has been little known. Data on this subject are contradictory. In their paper the authors suggested catalytic cracking of dioxydiarylalkanes in the presence of an aluminum silicate catalyst as a new method of producing vinyl phenols. For this purpose they used a continuously working apparatus (Fig. 1). The following substances were used for cracking at 550°: 1,1-(4',4"-dioxy)-diphenylethane (1), 1,1-(4',4"-dioxy-5',5"-dimethyl)-diphenylethane (2) and 2,2-(4',4"-dioxy)-diphenylpropane (3). The authors give the methods for the production of all three substances. The solvents used for cracking dioxydiphenylethane were acetone, sulfuric ether, phenol, and acetic acid mixed with benzene. The best results were obtained by using the aluminum silicate catalyst with 50% of Al_2O_3 and ether, or a mixture of acetic acid and benzene. On distillation of

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The Production of Vinyl Phenols by the Catalytic Cracking of Some Dioxydiarylalkanes

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the catalysates almost always three fractions developed: I. phenol; II. phenol mixed with ethyl phenol and p-vinyl phenol; III. p-vinyl phenol with slight admixtures of ethyl phenol. Under the condition of selective cracking and of a high concentration of p-vinyl phenol, p-vinyl phenol crystallized from fraction III. in the form of palish green lamina. The yield in fraction III. and the conversion of dioxydiphenylethane into light products increased with a higher volume velocity of the dioxydiphenylethane solution. The authors describe some of the most successful experiments. After several processes of recrystallization of benzene, p-vinyl phenol crystals with a melting point of 71.5°-72° were obtained. Crude crystals dissolved easily in benzene, alcohol, and ether, and not so well in water. After left standing in the vacuum exsiccator, for a short time, the solubility was reduced due to polymerization. The crystals dissolved in lye turned the solution brown. An admixture of p-vinyl phenol to concentrated H_2SO_4 gave it a vividly red color. An admixture of a ferric chloride solution to the aqueous solution of p-vinyl phenol gave it a brownish green color. In the dark, p-vinyl phenol rapidly polymerizes into an indissoluble white resin. In a protective gas however, it keeps up to 50 hours and more. On cracking dioxydimethylethane (ethylidene-di-o-cresol) in acetic acid benzene, the following substances were obtained: o-cresol, 4-ethyl-o-cresol, and 4-vinyl-o-

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cresol. The latter is a white, crystalline substance with a melting point of 73°-74°. It is soluble in ordinary solvents, and under the action of air transforms into a sticky resin from which after treatment with benzene the polymer of 4-vinyl-o-cresol precipitates in the form of an indissoluble white powder. Dioxydiphenylpropane (diphenylolpropane) was obtained from a commercial product supplied by GIPI-4 (Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut-4, State Design and Planning Scientific Research Institute-4) by distillation and recrystallization. Cracking was the same as above, but was conducted in acetone-benzene. White, scale-like crystals of p-isopropenyl phenol with a melting point of 80.5° was obtained from the catalysate. Exposed to air they transformed into a red resin difficultly soluble in organic solvents. There are 1 figure and 7 references, 2 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promyshlennosti im. I. M. Gubkina (Institute of Petroleum-chemical and Gas Industry imeni I. M. Gubkin)

PRESENTED: November 5, 1959, by A. V. Topchiyev, Academician

SUBMITTED: November 5, 1959

VAYSENBERG, A. O.

Doc Phys-Math Sci, Diss -- "Experimental investigation of the properties of μ-mesons". Dubna, 1961. 9 pp, 21 cm (Joint Inst of Nuclear Research, High Energy Lab), 160 copies, Not for sale (KL, No 9, 1961, p 174, No 24238). /61-53045/

TARNOVSKIY, I.Ya.; VAYSBURD, K.A.

Selecting appropriate functions in applying the Ritz Method to the press-working of metals theory. Izv. vys. ucheb. zav.; chern. met. no. 1:73-83 '61. (MIRA 14:1)

1. Ural'skiy politekhnicheskiy institut.
(Metalwork) (Deformations (Mechanics))

15.8112
15.8121

25050
S/064/61/000/007/002/005
B124/B206

AUTHORS: Vayser, V. L., Ryabov, V. D., Bolotin, B. M.

TITLE: Synthesis of polycarbonates and epoxy resins on the basis of 1, 1-(4, 4-dioxy)-diphenyl ethane

PERIODICAL: Khimicheskaya promyshlennost', no. 7, 1961, 24 - 25

TEXT: For the manufacture of epoxy resins, polycarbonates etc., the authors propose, instead of diphenylol propane, another diphenol, i. e., 1,1-(4,4-dihydroxy)-diphenyl ethane (D), which had already been produced in good yield in 1904 by condensation of phenol with acetaldehyde. In previous papers (Ref. 2: DAN SSSR, 97, No. 4 (1954); Ref. 3: DAN SSSR, 103, No. 5 (1955); Ref. 4: Sbornik trudov 9-y nauchno-tekhnicheskoy konferentsii Moskovsk, neft. inst. 1954) the authors described the synthesis of this compound by condensation of phenol with acetylene in aqueous or alcoholic solution in the presence of an acid catalyst: $2C_6H_5OH + HC{\equiv}CH \longrightarrow HO\text{-}C_6H_4\text{-}CH(CH_3)\text{-}C_6H_4\text{-}OH$. In aqueous solution this reaction proceeds over acetaldehyde (Ref. 5: V. L. Vayser, V. D. Ryabov, DAN SSSR, 100, No. 2 (1955)). A number of cationites and aluminum silicates are being

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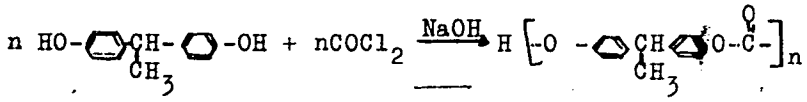
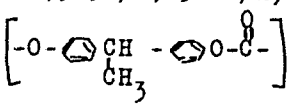
Synthesis of polycarbonates...

investigated as catalysts for this reaction. It was the author's aim to find out whether the dihydroxy-diphenyl ethane obtained from acetylene and phenol can be used for the synthesis of polycarbonates and an epoxy resin. The polycarbonates were synthetized by condensation of D with phosgene:



direct phosgenization in the presence of NaOH or pyridine, or phosgenization at the interface of two phases. D, twice recrystallized from benzene, with a melting point of 123°C, was used for the experiments. Direct phosgenization was carried out in a three-necked flask with a mercury seal, mixer and reflux condenser. An alkaline solution of D, methylene chloride, and a catalyst were added into the flask, and phosgene was passed through. After termination of the reaction, the reaction mass is mixed for another hour, methylene chloride is removed by steam distillation, the polycarbonate obtained is rinsed with hot water up to neutral reaction, and dried at 80°C. The experimental results are given in Table 1, which shows that the mean molecular weight and the melting point of the polycarbonate rise with decreasing reaction temperature. Phosgenization in the presence of pyridine was carried out as follows: 11 g of D, dissolved in methylene

Synthesis of polycarbonates...

chloride, and 24 g of pyridine were treated with phosgene for one hour at 20-35°C, nitrogen was blown through after termination of the reaction, pyridine hydrochloride was decomposed by aqueous lye, the polycarbonate obtained was treated with steam and rinsed with hot water up to neutral reaction. A total of 8 g of polycarbonate with a molecular weight of 4100 was obtained from 11 g of D. No positive results were obtained by phosgenization at the interface of the phosgene solution in chloro benzene and the basic solution of D. For polycarbonates obtained by direct phosgenization in the presence of NaOH, melting point, molecular weight (viscosimetric) and hydroxyl number were determined; they were submitted to elementary analysis and fractionated. The hydroxyl number of the polycarbonates was determined by acetylating with acetic anhydride in the presence of pyridine and titration of the acetic acid formed with 0.5 N aqueous alkali against phenol phthalein; the hydroxyl content amounted to 3.26%. The results of the elementary analysis (73.76%C, 5.16%H; and 73.98%C, 5.86%H) are very close to those calculated from the formula  (75% C and 5% H). The polycarbonates were fractionally precipitated by methanol from

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Synthesis of polycarbonates...

a 1.5% solution in methylene chloride, two fractions with molecular weights of 29500 and 43600 being obtained. The ЭА-1 (EA-1) epoxy resin was also synthetized from D, with the same polycondensation degree as the Э-40 (E-40) resin produced from diphenylol propane, and the properties of the two resins were compared. For the resin obtained, the molecular weight was determined according to Rast to be 455, the epoxy number to be 19.8%, and the droplet-forming temperature according to Ubbelohde to be +32°C. Comparative tests of varnish coatings obtained from the EA-1 and E-40 resins were made at the institut ГИПИ-4 (Institute GIPI-4); the results are given in Table 2. There are 2 tables and 5 Soviet-bloc references.

Card 4/6

VAYSBURD, I.A.; AKSENOVA, R.V.

Strongyloidosis in Tajikistan. Zdrav. Tadzh. 8 no.1:49-50 '61.
(MIRA 14:3)

1. Iz kafedry infektsionnykh bolezney (zav. - dotsent D.M.Khashimov) Stalinabadskogo meditstituta imeni Abuali ibni Sino.
(TAJIKISTAN—STRONGYLOIDIASIS)

24016
S/080/61/034/006/019/020
D247/D305

5.3400

AUTHORS: Vayser, V.L., Ryabov, V.D., and, Piryatinskiy, B.M.

TITLE: The condensation of acetylene and phenol in the presence of cation exchange resin KU-2

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 6, 1961, 1380 - 1381

TEXT: The aim was to discover more effective methods of synthesizing 4.4'dioxydiphenylethane (diphenol) using catalysts containing a mercury salt. Cationite KU-2 was chosen. Diphenol which is of great use in the synthesis of high molecular compounds is formed from the condensation of acetylene and phenol in aqueous and alcoholic solution in the presence of various acidic catalysts and mercuric oxide. The best catalyst was $H_3PO_4 \cdot BF_3$. Commercial cationite was treated with hydrochloric acid, washed with water, treated with an alcoholic solution of mercury salt, and dried. 1-2 % by weight of mercury salt was adsorbed on the surface of the

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The condensation of ...

catalyst. The experiments were carried out in a three-necked flask provided with a stirring rod, a reflux condenser, mercury seal and glass funnel for the addition of acetylene. Cationite (12 g), phenol (30 g) were placed in the flask and, at a temperature of 130°, acetylene was run in for 4 hours at the rate of 5 liters an hour. When the reaction was over the flask contents were vacuum-filtered to separate the catalyst, the latter washed with a small quantity of phenol and used again. The reaction products were distilled under pressure, the fraction of 4.4'dioxydiphenylethane collected at 210-220° and 8 mm Hg. A series of tests was done to study the variation in catalyst activity with time. Acetylene and phenol were condensed also in aqueous solution at 90°, other conditions remaining constant. 4.4'dioxydiphenylethane was obtained and it was shown that in this case acetaldehyde was formed at an intermediate stage. The advantages of KU-2, activated by mercury salts, as a catalyst in this reaction, are as follows: It avoids neutralization of the reaction product, it is active for a long time and easily separable, though the yield of diphenol is considerably lower than

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when using $H_3PO_4 \cdot BF_3$. Conclusions: Acetylene condenses with phenol in the presence of cationite KU-2, activated by mercury salts, at 90-130° forming 4.4'dioxydiphenylethane (yield 26 %); the catalyst is active for more than 30 hours, its activity rising to a constant level; in the presence of water, acetaldehyde is an intermediate product. There are 1 figure and 3 Soviet-bloc references.

SUBMITTED: April 16, 1960

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The condensation of ...

when using $H_3PO_4 \cdot BF_3$. Conclusions: Acetylene condenses with phenol in the presence of cationite KU-2, activated by mercury salts, at 90-130° forming 4.4'dioxydiphenylethane (yield 26 %); the catalyst is active for more than 30 hours, its activity rising to a constant level; in the presence of water, acetaldehyde is an intermediate product. There are 1 figure and 3 Soviet-bloc references.

SUBMITTED: April 16, 1960

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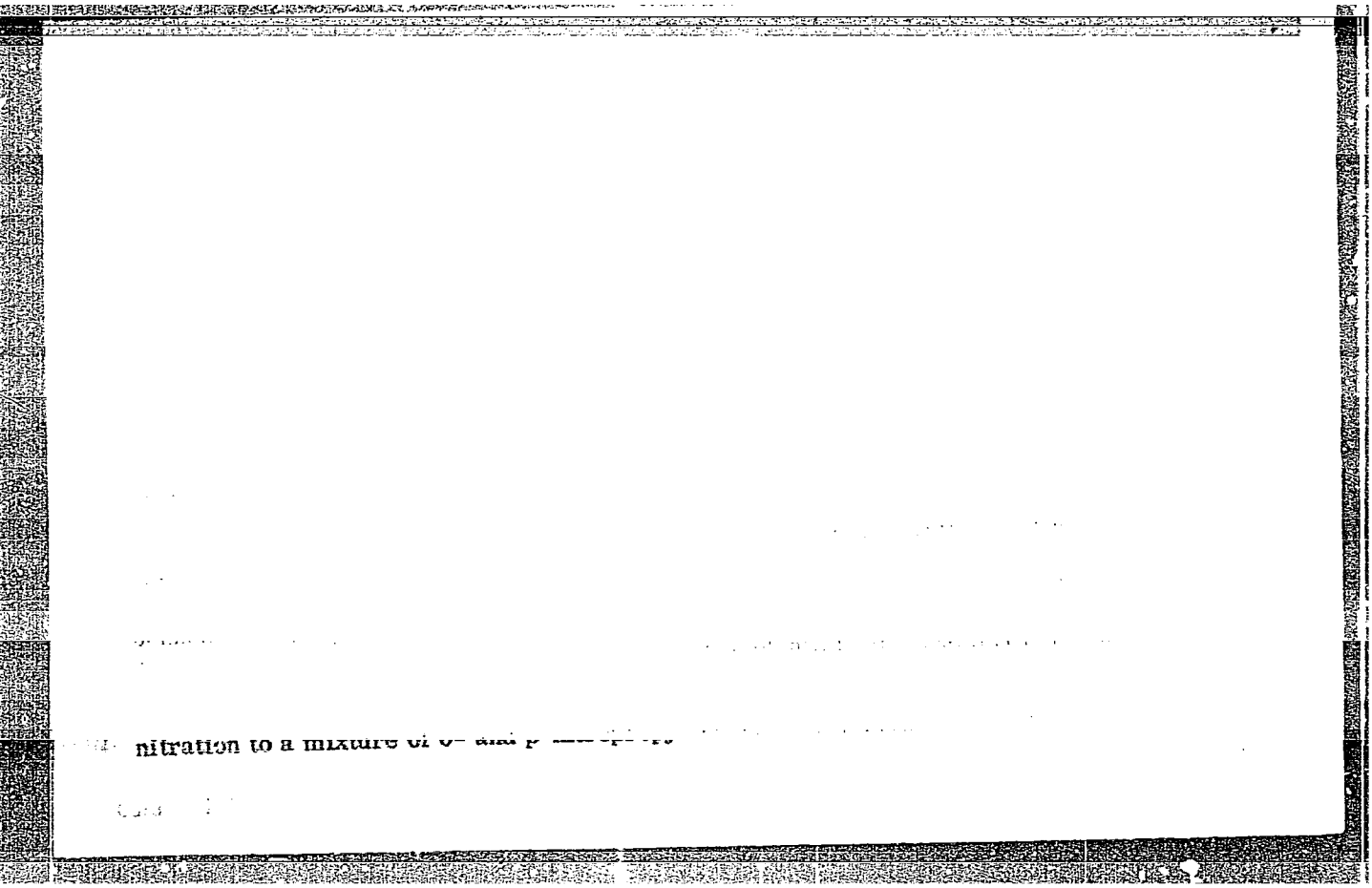

nitration to a mixture of o- and p-

L 33537-66

ACCESSION NR: AT5006928

the presence of iron powder at approximately 30C in the dark to retard bromination of

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