MAYER, Istvan

Designing broken twill. Magy textil 14 no.10:436-445 O '62.

1. Magyar Gyapjufono- es Szovogyar.

MAYER, Istvan

Application of viscose rayon in the manufacture of carded fabrics. Magy textil 15 no.9:423-426 S '63.

MAYER, Istvan

Three-channeled model directional receiver-transmitter. Radiotechnika 13 no.3:96-98 Mr '63.

COUNTRY	:	Rumania	H-29
CATEGORY	:		
ABS. JOUR.	:	RZKhim., No. 5 1960, No.	20064
AUTHOR	:	Pop, I. N. and Mayer, I. A.	
INST.	:	Not given	
TITLE	:	On the Hardness and Elasticity of Gelatinized Polyvinyl Chloride Based Plastic Sols	
ORIG. PUB.	:	Rev Chim, 9, No 10, 557-560 (1958)	
ABSTRACT	:	The physicomechanical characteristics of pastes made up with different polyvinyl chloride/plasticizer (dioctylphthalate, dibutylphthalate, tricresylphosphate, dioctylsebacate) ratios are listed. L. Pesin	

CARD: 1/1

MAYER, I.O.

Basic specific neural processes in preschool children. Zhur. vys. nerv. deiat. 11 no.1:92-98 Ja-F '61. (MIRA 14:5)

1. Institute of Higher Nervous Activity, of the Academy of Sciences of the U.S.S.R.

(CONDITIONED RESPONSE)

MAYER, J.

(1) Prop

Fuel Abstracts
Vol. 15 No. 3
Mar. 1954
Steam Raising and
Steam Engines

2351. AUTOMATIC EXTRACTION STEAM TURBINES IN CZECHOSLOVAKIA. Nevrla, J., Michele, F. and Mayer, J. (Strojírenství, 1952, vol. 2, 11), 454-465; Engrs' Dig., Nov. 1953, vol. 14, 427-430). Descriptions of single and double automatic pass-out turbines and their governing systems from the Klement Gottwald works, Brno, are given. A system of governing pass-out turbines is indicated. (L).

MAYER, J.

Pneumatic suspension.

p. 372 (AUTOMOBIL) Vol. 1, no. 11, Nov. 1957,
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No.3,
March 1958

MAYER, J., inz.; NAPRAVNIK, Vl.

Comparison of the technical and economic advantages of 11 meter and 12 meter buses. Siln doprava 11 no.1:2-4 Ja '63.

1. Vyzkumny ustav dopravni Praha.

MAYER, JÁN

Chemical Abst.
Vol. 48
Apr. 10, 1954
Water, Sewage, and Sanitation

(3)

Colorimetric determination of manganese in waters. Eugen Hluchán and Ján Mayer (Ústav hyg., Bratislava, Czech.). *Chem. Listy* 47, 846–9(1953).—Mn, copptd. as $MnO(OH)_2$ with $Mg(OH)_2$, redissolved in H_3PO_4, and oxidized with $K_2S_2O_8$ in the presence of Ag^+ is detd. as MnO_4^- colorimetrically. Up to 10 l. H_2O is treated with NaOH to pH 12, the ppt. filtered, washed with 4% NaOH, dissolved on the filter in 10 ml. 20% H_3PO_4, and washed with H_2O to a vol. of 30 ml. The filtrate is treated with 1 ml. 0.5% Ag_2SO_4 and a few drops of 10% $Hg(NO_3)_2$, then with 0.1 g. $K_2S_2O_8$, heated 30 min. on the steam bath, cooled, and, after the addn. of a crystal of $K_2S_2O_4$, dild. with H_2O to 50 ml.

M. Hudlický

4-20-54

MAYER, J

Czechoslovakia /Chemical Technology. Chemical Products I-14
and Their Application

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31706

Author : Hluchan E., Mayer J.

Title : Colorimetric Determination of Nitrates in Water

Orig Pub: Chem. zvesti, 1956, 10, No 6, 387-395

Abstract: A method has been worked out for the determination of NO_3^- at low concentrations by means of sodium salicylate and CCl_3COOH. A direct relationship between coloration intensity and concentration of NO_3^- is observed up to 1.4 mg/liter. Interfering effect of cathions is eliminated by filtration of samples of the water through a

Card 1/2

Czechoslovakia /Chemical Technology. Chemical Products I-14
and Their Application

Water treatment. Sewage water.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31706

cathionite. The NO_2^- ions are destroyed by addition of a small amount of NaN_3 to the sample of water prior to filtration through the cathionite. I^- and Br^-, at concentrations above 0.5 mg/liter, decrease intensity of coloration.

Card 2/2

CZECHOSLOVAKIA / Chemical Technology. Chemical Products H-5 and Their Application--Water Treatment. Sewage

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8649

Author : Mayer, J., Hluchan, E.

Inst. : Not given

Title : Determination of Fluorides in Drinking Water

Orig Pub: Chem. zvesti, 1958, 12, No 3, 143-154

Abstract: Two colorimetric methods (by use of aluminone and chromasurole) and one volumetric one, by titrating with thorium nitrate, using alizarin red S as the indicator were compared. The latter was found to be best. The effect of the presence of a number of ions was checked. SO_4^{2-} was precipitated as $BaSO_4$.
--N. Vaksberg

Card 1/1

Mayer, J.

Director of the Institute of Hygiene, Bratislava.

Page 2 of 2 (4)

HLUCHAN, Eugen, inz.; MAYER, Jan, inz.

Colorimetric determination of fluorides. Chem zvesti 17 no.8: 569-574 '63.

1. Ustav hygieny, Bratislava, ulica Ceskoslovenskej armady 40.

KROH, J.; MAYER, J.

Energy transfer in the radiolysis of solid systems. Pt. 2.
Bul chim PAN 12 no. 3:163-167 '64.

1. Department of Radiation Chemistry, Technical University, Lodz.
Presented by W.Trzebiatowski.

L 35262-66 EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6024697 SOURCE CODE: CZ/0038/65/000/012/0447/0448

AUTHOR: Abel, Emil; Mayer, Jan--Maier, Ya.; Hluchan, Eugen--Glukhan', E. 42 B

ORG: Hygiene Research Institute, Bratislava (Vyskumny ustav hygieny)

TITLE: Cesium losses in the thermal treatment of samples

SOURCE: Jaderna energie, no. 12, 1965, 447-448

TOPIC TAGS: calcination, cesium compound, thermal effect, radioactivity measurement

ABSTRACT: The article reports on the investigation of cesium losses due to the calcining of some cesium compounds (chloride, nitrate and sulfate) at various temperatures. The results indicate the need to observe the proper conditions with respect to the calcining temperature and time in the thermal treatment of samples to determine cesium-137 as well as the need to determine total activity. This article was presented by M. Kyrs. Orig. art. has: 3 tables. [Based on authors' Eng. abst.] [JPRS: 34,666]

SUB CODE: 18, 20 / SUBM DATE: none / ORIG REF: 003 / SOV REF: 007
OTH REF: 002

UDC: 546.36

Card 1/1

MAYER, Jan, inz. (Bratislava, ulica Ceskoslovenskej armady 40)
HLUCHAN, Eugen, inz. (Bratislava, ulica Ceskoslovenskej armady 40)

Platinated electrode for determining the redox potential.
Chem zvesti 16 no.6:491-495 Je '62.

1. Oblastny ustav hygieny, Bratislava.

GYORGY, Istvan; SZEPESI, Karoly; MAYER, Janos; KOKAY, Lajos

Use of permanent quality activated bentonite in fine ceramics. Epitoanyag 13 no.11:425-432 N '61.

VLCEK, Miroslav, inz. arch.; MAYER, Jaroslav, inz. arch.

Passenger platforms on international airports. [illegible]
[illegible]

VLCEK, Miroslav, inz. arch.; MAYER, Jaroslav, inz. arch.

Architecture and location of airport buildings. Letecky obzor 8 no.7:194-197 Jl'64.

GRUSZECKI, Ludwik, MAYER, Jerzy.

Neurilemmoma of the stomach (Schwannoma). Polski tygod. lek. 13 no.10 359-362 10 Mar 58

1. Z oddzialu wewnetrznego I Pracowni Anatomo-Patologicznej Szpitala Marynarki Wojennej. Konsultanci: prof. St. Wszelaki i prof. W. Czarnocki

(STOMACH NEOPLASMS, case reports
schwannoma (Pol))
(NEURILEMMOMA, case reports
schwannoma of stomach (Pol))

PREC, A.; KRYSA, I.; MAYER, J.

Serum and cerebrospinal fluid transaminases (GOT and GPT) in nervous diseases. Cesk. neur. 24 no.6:380-386 N '61.

1. Neurologicke oddeleni a klinicka laborator vojenske nemocnice v Ruzomberku.

(TRANSAMINASES metabolism) (NEUROLOGY)
(CEREBROSPINAL FLUID metabolism)

MAYER, J.

SOSOVEC, V.

Czechoslovakia

Pulmonary Diseases Section, Military Hospital (Plucne oddelenie Vojenskej nemocnice v Ruzomberku), Ruzomberg; Director: S. CYPRICH, MD.

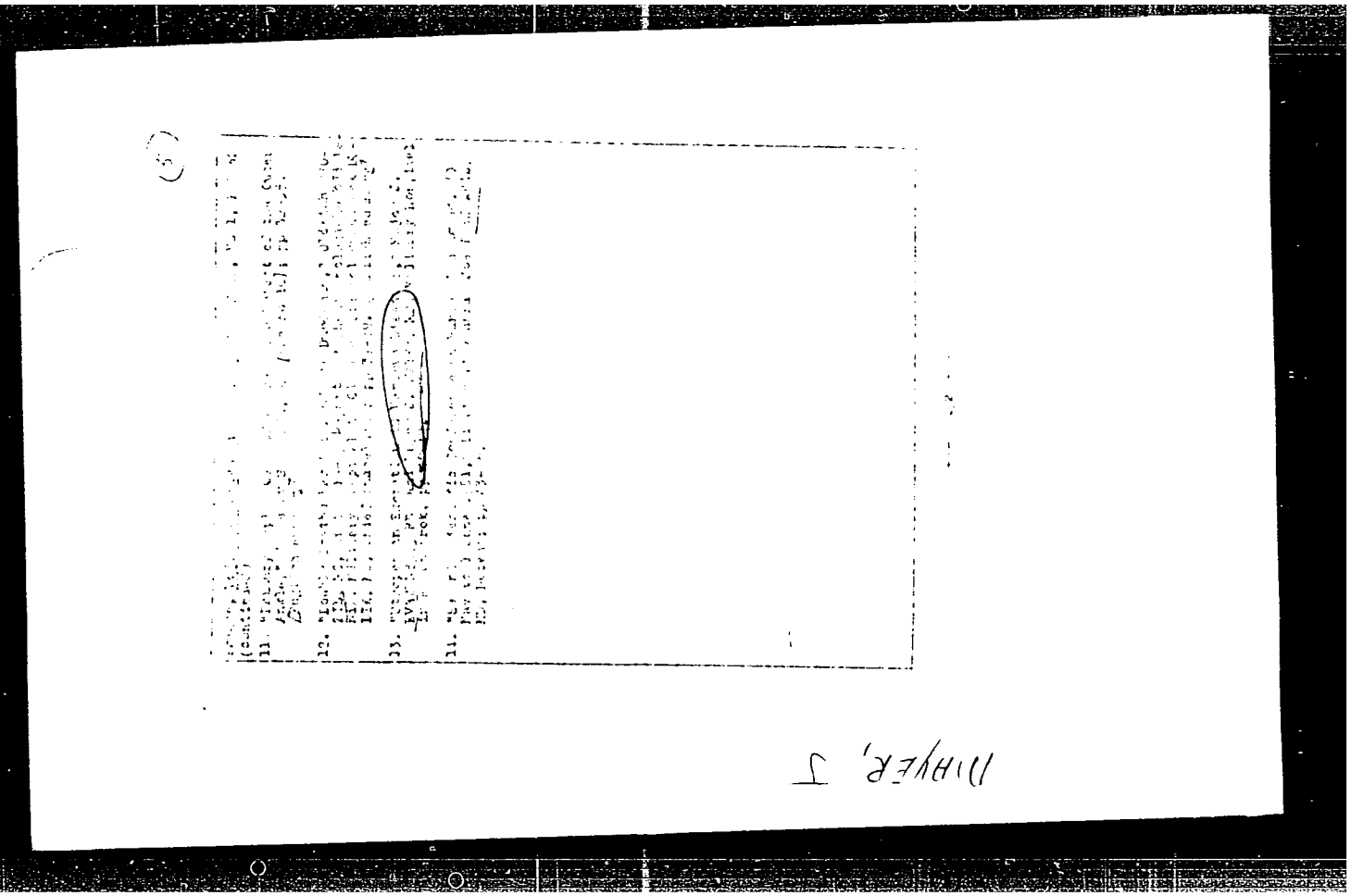
Prague, Rozhledy v tuberkulose a v nemocech plicnich, No 8, Sep 62, pp 578-585.

"Serum Transaminases(SGOT and SGPT) in Recent Forms of Pulmonary Tuberculosis".

Co-author:

MAYER, J., Pulmonary Diseases Section, Military Hospital, Ruzomberg.

(2)



MAYER, J.

1

CZECHOSLOVAKIA

SOSOVEC, V; MAYER, J.

Pulmonary Ward of the Military Hospital (Plucne oddelenie Vojenskej nemocnice), Ruzomberk - (for all)

Prague, Rozhledy v tuberkulose, No 3, 1963, pp 162-165

"Total Serum Proteins in Recent Cavitary Tuberculosis."

MAYER, J.; MACUCH, P.; HECKO, I.

Comprehensive analysis of the hygienic standard of the living environment near the atomic power plant as a basis for a report on hygienic conditions. Cesk. hyg. 8 no.5:249-253 Je '63.

1. Ustav hygieny, Bratislava.
(AIR POLLUTION, RADIOACTIVE) (RADIATION PROTECTION)
(ANTHROPOMETRY) (HEMATOPOIETIC SYSTEM)
(ABNORMALITIES) (REPRODUCTION)
(RADIATION GENETICS)

CZECHOSLOVAKIA

SOSOVEC, V; MAYER, J.

1. Internal Medicine Ward of the Military Hospital (Vnutorne oddelenie Vojenskej nemocnice), Kosici;
2. Pulmonary Disease Ward of the Military Hospital (Plucne oddelenie Vojenskej nemocnice), Ruzomberk;
3. Central Laboratory of the Military Hospital (Ustredne laboratorium Vojenskej nemocnice), Ruzmoberk

Prague, Rozhledy v tuberkulose, No 10, 1963, pp 5 668-674

"The Electrophoretic Pattern of Serum Proteins in Recent Cavitary Forms of Pulmonary Tuberculosis."

SUPNIEWSKI, J.; MAYER, J.; KAMINSKI, S.

Synthetic D,L-tryptophan. Acta biochim. polon. 2 no.3: 249-257 1955.

1. Z Zakladu Farmakologii AM w Krakowie i z Instytutu Farmaceutycznego, Oddzial w Krakowie, Kierownik prof. dr. J. Supniewski.
(TRYPTOPHAN, preparation of, D,L-tryptophan. (Pol))

POLAND / Chemical Technology. Chemical Products and Their Application. Pharmaceuticals. Vitamines. Antibiotics. H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 43380.

Author : Supniewski J., Mayer J., Kaminski S.
Inst : Not given.
Title : Synthetic D, L - Tryptophane.

Orig Pub: Acta biochim, polon., 1955, 2, No 4, 1-4.

Abstract: Powdered indole is dissolved in a mixture of 33.6% dimethylamine solution, glacial CH_3COOH (I) and 36% formalin. By the action of NaOH gramine is then separated, which upon boiling in toluene in the presence of powdered NaOH and ethyl ester of the acetamidomalonic acid, causes splitting of the dimethylamine and formation of the diethyl ester of the indole-β-methylacetamidomalonic acid. The ester is

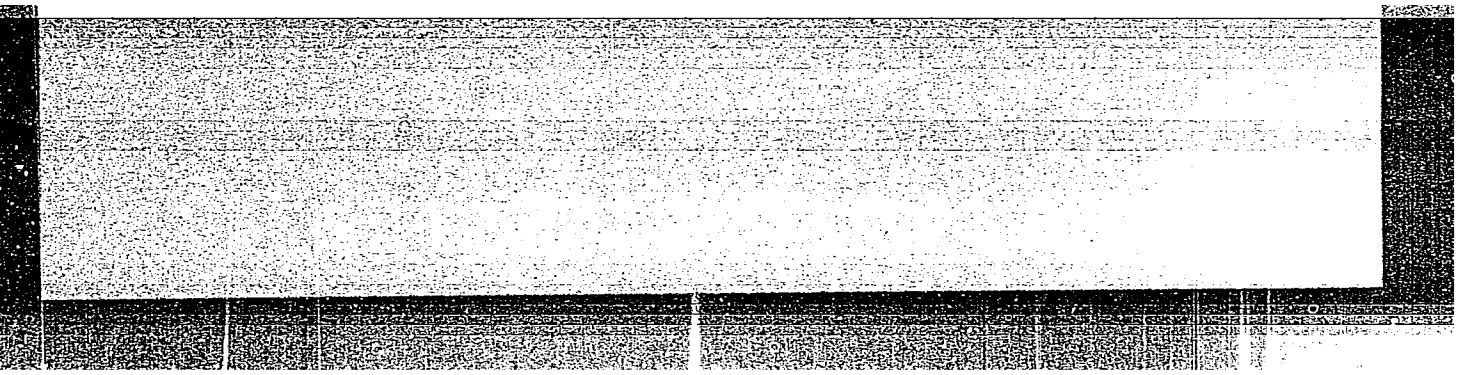
Card 1/3

POLAND / Chemical Technology. Chemical Products and Their Application. Pharmaceuticals. Vitamines. Antibiotics. H

Abs Jour: Ref Zhur-Khimiya, No 12, 1959, 43380.

Abstract: saponified with a boiling NaOH solution and is then acidified with a dilute solution of HCl acid. After cooling the free indole-β-methylacetamidomalonic acid is formed. In boiling with water the free acid tends to split CO_2 and to form a precipitate, in the saponification of which (with hot NaOH solution, followed by a treatment with I, washing with absolute alcohol, and drying in vacuum) tryptophane is crystallized out. The yield constitutes 79%. Ethylmalonate in I with nitrates forms the diethyl ester of isonitrosomalonic acid, which is then reduced in absolute alcohol and with presence of Ni catalyst conducted at a pressure of 20-30 atm

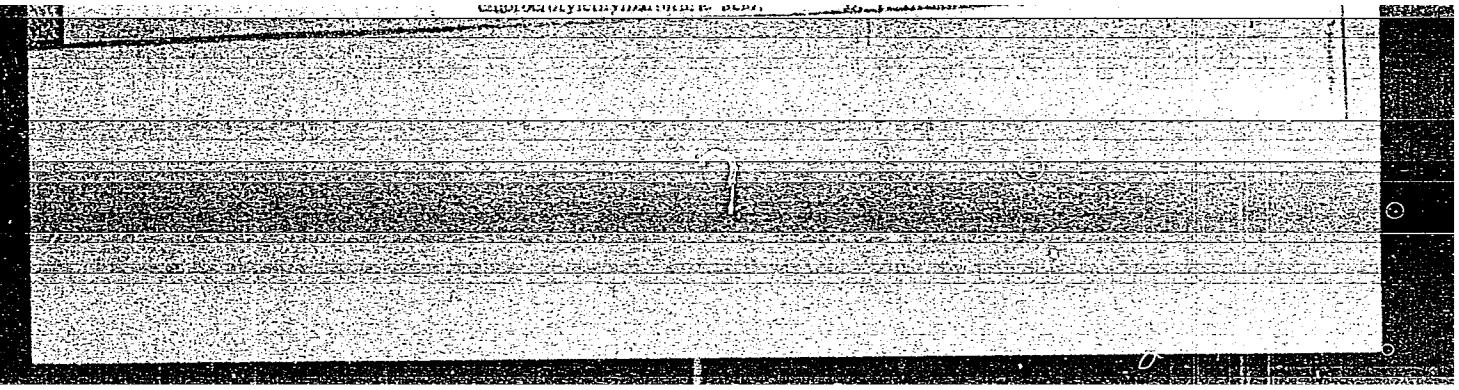
Card 2/3



APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001033020018-3"

3

Substituted barbituric acids and their derivatives. Josef Čtvrtník, Jiří Mayer, and Oldřich Němeček. Czech, 86,058, Dec. 15, 1958. Introducing into the mol. of barbituric, malonic, cyanoacetic acid or their derivs. 1 or more haloalkenyl groups and reducing the resulting compd. gives the title compds. in good yields. Dissolving Et-γ-chlorocrotylbarbituric acid, obtained by the condensation of $CH_3ClCH:CClMe$ with $EtCH(CO_2Et)_2$ and subsequent condensation with $CO(NH_2)_2$ in an equiv. amt. of *N* NaOH, and



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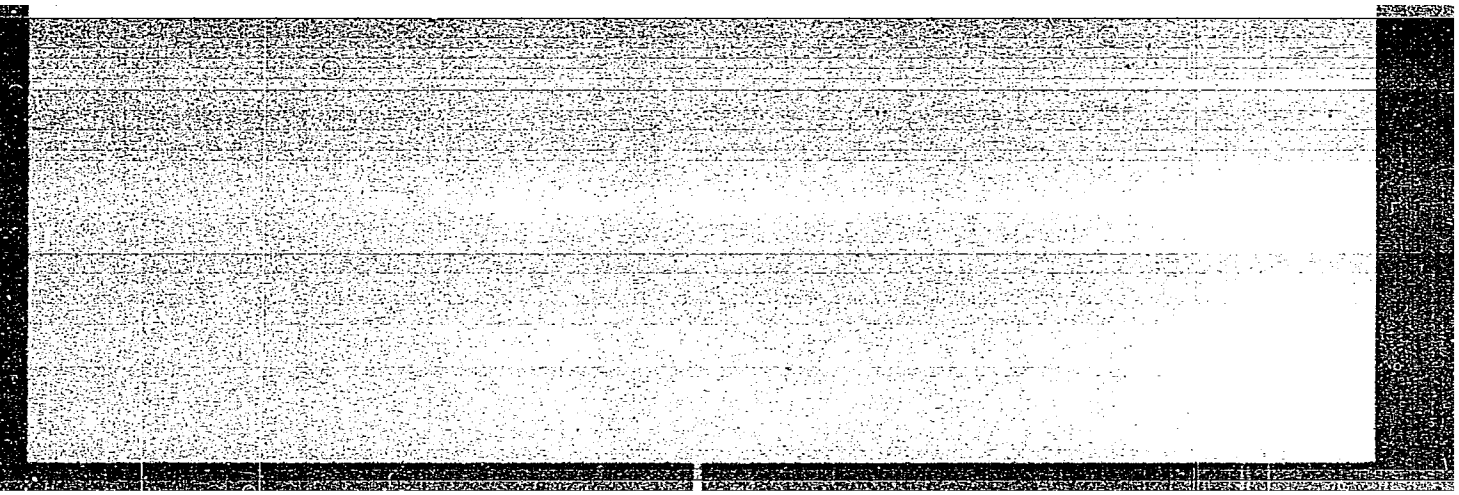


APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001033020018-3"

MAYER J

CZECHOSLOVAKIA / Organic Chemistry. Synthesis C-2

Abs Jour: Ref Zhur-Khimiya, No 3, 8338.

Author : Ctvrtnik, Josef., Mayer, Jiri., Nemecek, Oldrich., Horakova, Zdena.
Inst : Not given.
Title : New Derivatives of 1,2-Diphenyl-3,5-Diketo-Pyrazolidine.

Orig Pub: Ceskosl. farmac., 1958, 7, No 6, 303-304.

Abstract: Gamma-chlorocrotyl-malonic ester (I) condensed with hydrazo-benzene (II) to 1,2-diphenyl-4-(gamma-chlorocrotyl)-3,5-diketo-pyrazolidine (III), which was also prepared by alkylation of 1,2-diphenyl-3,5-diketo-pyrazolidine with 1,3-dichlorobutene-2 in aqueous alcoholic solution of NaOH. Treatment with H_2SO_4 converts III to 1,2-diphenyl-4-(gamma-ketobutyl)-pyrazolid-

Card 1/2

CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8538.

Abstract: ine-dione-3,5 (IV), the Na-salt of which is readily soluble in water. To a solution of 2 g Na in 40 ml alcohol are added 21.5 g I and 16 g II, the mixture is heated, driving off the alcohol, 50 ml water are added, and the batch is acidified to get III, yield 20 g, MP 167-168° (corrected; from acetone). To 10 g III in 150 ml CCl_4 are added dropwise 20 ml concentrated H_2SO_4, stirred for about 2 hours, the acid layer is mixed with 1 liter of ice water, and IV is separated, yield 8.6 g, MP 120° (corrected; from alcohol); semi-carbazone, MP 172°. -- D. Vitkovskiy.

Card 2/2

LENFELD, J.;KROUTIL, M.;BOCEK, M.;CTVRTNIK, J.;MAYER, J.

Toxicity and anti-inflammatory effects of chlorocrotylpyrazolidine. Cesk. fysiol. 9 no.1:87-88 Ja 60.

1. Farmakologicky a histologicky ustav lek. fak. PU a Farmakon, n.p., Olomouc.

(PHENYLBUTAZONE, rel. cpds.)

KROUTIL, M.; LENFELD, J.; CTVRTNIK, J.; MAYER, J.

Anti-inflammatory activity of new trasentin derivatives. Cesk. fysiol. 9 no.3:294-295 My '60.

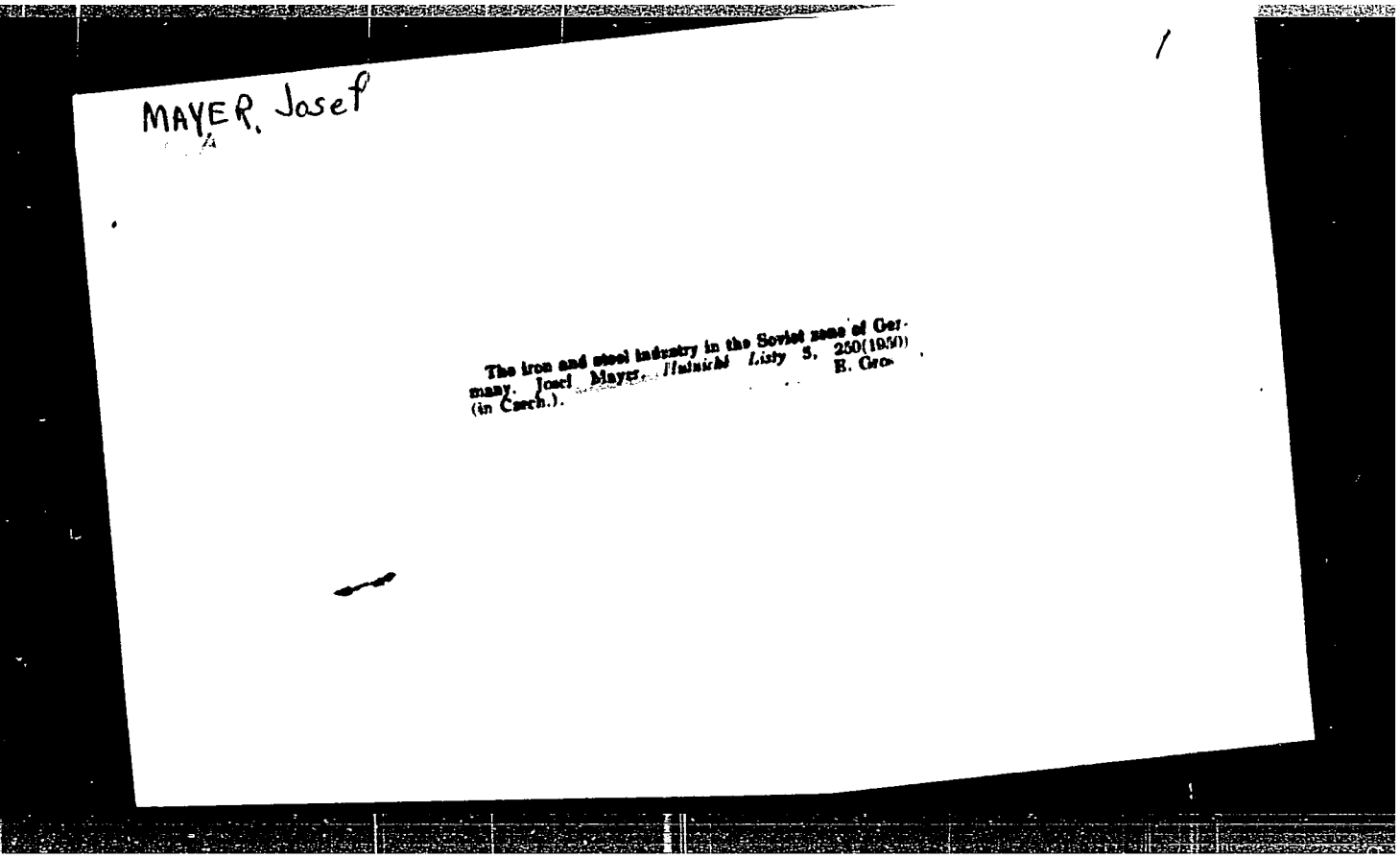
1. Katedra farmakologie lek. fak. PU a Farmakon n.p., Olomouc.
(PARASYMPATHOLYTICS pharmacol)
(INFLAMMATION exper)

NAPRAVNIK, Vladimir; MAYER, Jiri, inz.

Dimensions, arrangement, and capacity of autobuses from the viewpoint of economical operation. Automobil Cs 6 no.5:141-143 My '62.

MAYER, Jiri, inz.; NAPRAVNIK, Vladimir

Prospect for using mathematical methods and automatic computers in automobile transportation. Doprava no.3:202-208 '63.



MAYER, Josef

The iron and steel industry in the Soviet zone of Germany. Josef Mayer. *Hutnické Listy* 5, 250(1950). R. Grossmann (in Czech.).

MAYER, JOSEF.

Valcirska abeceda; zakladni prirucka pro valcirske ucne a nove zamestnance ve valcovnach. Upravil Josef Mayer za spoluprace s Jirim Fridmanem a Aloisem Bartosem, s pouzitim sovetskych i nasich pramenu. [Vyd. 1.] Praha, Prace; vydavatelstvo R ROH, 1952. 151 p. Technicke prirucky Prace, sv. 147) [The A B C of rolling; a basic manual for rolling apprentices and new employees in rolling mills. illus.]

SO: Monthly List of East European Accessions, Vol.3, No.3, Library of Congress, March 1954, Uncl.

MAYER, Jozef

POLAND

KRON, Jerzy, prof., dr.; MOGUS, Wlodzimierz, mgr.; MAYER, Jozef, mgr.

Department of Radiation Chemistry, Politechnika, (Katedra Chemii Radiacyjnej Politechniki), Lodz - (for all).

Warsaw, Chemia analityczna, No 4, July-August 1965, pp 635-640.

"Characteristics of two-flame ionization detector and an example of its application in radiation chemistry."

MAYER, K.

"Work competition of clinker-baking brigades." p. 168. (Epitoanyag, Vol. 5, no. 5, May 53, Budapest)

SO: Monthly List of East European Accessions, Vol 3 No 2 Library of Congress Feb 54 Uncl

MAYER, K

MAYER K.

Naturheilverfahren. [Naturopathic methods of treatment] Prakt. Arzt 4:40 15 Sept 50 p. 473-7.

1. NAI
CIML Vol. 20, No. 2 Feb 1951

MAYER, K.

Measurement of viscosity, specific gravity and pressure in peat baths used in rehabilitation. Acta chir.orthop.traum. cech. 18 no.5-7 1951. (CLML 21:1)

1. Of the Second Orthopedic and Children's Surgery Clinic of Charles University, Prague (Head--Prof.O.Hnevkovsky,M.D.) and of the Institute of Balneology of the State Faculty Hospital in Prague (Head--Prof.F.Lenoch,M.D.).

MAYER, K.

Orthopedic rehabilitation of pediatric orthopedic patients during vacations. Acta chir. orthop. traum. cech. 20 no.9-10:233-236 1953. (CIML 25:5)

1. Of the First Pediatric Orthopedic Clinic (Head--Prof. O. Hnevkovsky, M. D.), Prague.

PROCHAZKA, Jos., Dr.; JIRSA, M., Dr.; LETOSNIK, V., Dr.; MAYER, K., Dr.; BRAUN, A., dr., Path. cast zpracoval.

Studies on the problem of generalized periostoses; hyperostosis generalisata with Uehlinger's pachydermia. Acta chir. orthop. traum. cech. 23 no.6:302-310 Nov 56.

1. I. interni klinika SFN v Praze, predn. prof. Dr. M. Netousek--II. klinika pro orthopedickou a detskou chirurgii v Praze, predn. prof. Dr. O. Hnevkovsky--I. patologicko-anatomicky ustav KU v Praze. J. P., Praha 10. Zahradni mesto, cp. 1325.

(OSTEOARTHROPATHY, HYPERTROPHIC PULMONARY, complications, Uenlinger's pachydermia (Cz))

(SKIN DISEASES, complications, Uehlinger's pachydermia in hypertrophic pulm. osteoarthropathy (Cz))

MAYER, Karel

A contribution to kineziology of walking and swimming; space orientation in conditions of increasing difficulty. Acta chir. orthop.traum.cech. 28 no.3:261-267 Je '61.

1. II.klinika pro ortop. a detskou chirurgii v Praze, prednosta prof. dr. O. Hnevkovsky.

(SPACE PERCEPTION) (WALKING) (SWIMMING)

MAYER, Karel; HAICL, Zdenek

Congenital spinal abnormalities and their clinical significance.
Cesk. pediat. 17 no.5/6:514-517 Je '62.

1. Katedra detske chirurgie a ortopedie fakulty detskeho lekarstvi University Karlovy v Praze, vedouci prof. MUDr. O. Hnevkovsky.

(SPINE abnorm)

MAYER, K.

Pathogenesis of idiopathic scoliosis. Experimental studies and statistics. Acta chir. orthop. trauma. Cech. 29 no.1:101-102 F '62.

1. II klinika pro ortopedickou a detskou chirurgii Karlovy university v Praze, prednosta prof. MUDr. Otakar Hnevkovsky.

(SCOLIOSIS exper)

RUMANIA/Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20335.

Author : Part I [a]: D. Belan; Part I [b]: D. Belan, L. Mayer.
Inst : Not given.
Title : The Leading Methods of Obtaining Early and Increased Vegetable Yields. I. The Selection, Vernalization and Stimulation of Seed Germination. (Belan). Obtaining High Quality Sprouts. (Belan, Mayer). (Peredovyye metody polucheniya rannykh i povyshennykh urozhayev ovoshchey. I. Otbor, yarovizatsiya i stimulyatsiya prorastaniya semyan. Belan. Polucheniye vysokokachestvennoy rassady. Belan, Mayer)

Orig Pub: Gradina, via şi livada, 1957, 6, No 2, 8-14.

Abstract: At the testing station for vegetable raising at Tsigeneshti

Card : 1/2

RUMANIA/Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20335.

(in the province of Bucharest) when pepper and tomato seeds were vernalized for 15 days at 8-12° in temperature, the yield of the former increased by 82 centners per hectare (by 30.4%) and of the latter by 172 centners per hectare (by 84%). The vernalization of vegetable culture seeds made it possible to obtain an earlier harvest, to raise the vegetable weight and dry matter in them. These results were gotten by processing tomato seeds with KBr (3 grams per liter of water for 6 hours). Cultivating the sprouts in feeding pots increased the tomato yield by 42.9%, the pepper by 50%, early cabbage by 52.4%, and cucumbers by 35.4%. Several mixtures are recommended for preparing the nutrient pots.

Card : 2/2

MAYER, L.

Designing and constructing a midget water power plant. p. 294.
(Villamossag Vol. 4, No. 10/12, Oct./Dec. 1956)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9 Sept. 1957, Uncl.

MAYER, L.

SCIENCE

Periodicals: REVISTA DE CHIMIE. Vol. 9, no. 10, Oct. 1958

MAYER, L. The hardness and elasticity of jellied plastsols on the base of polyvinyl chloride. p. 557

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2, February 1959, Unclass.

ANDO, Jeno; MATEFFY, Sandor; VEN, Mihaly; SEVESTYEN, Endre; FELKAI, Aurel; GERVAI, Zoltan; MAYER, Laszlo; GREGOR, Alder; RASCHOVSKY, Lajos

Remarks on the article "The most important problems of technical development of electric installations in industrial plants and tasks for the manufacturing industry related to this. Villamossag 9 no.1/3:42-46 Ja-Mr '61.

1. A Villamos Eloszerelo Vallalat fomernoke (for Ando). 2. A Koho-es Gepipari Miniszterium Tervezo Irodai villamos tervezesi osztalyenak vezetoja (for Mateffy). 3. A Villamos Allomasszerlo Vallalat formernoke (for Ven and Felkai). 4. Vegimuveket Tervezo Vallalat (for Sevestyen). 5. Konnyuipari Tervezo Iroda (for Gervai). 6. E.M. Tipustervezo Intezet (for Gregor). 7. E.M. Ipari es Mezogazdasagi Tervezo Vallalat (for Raschovsky).

MAYER, Laszlo; SZEKELY, Andras

Development in the gluing technology of the clothing industry; excerpts from an article. Musz elet 17 no.26:13 20 D '62.

MAYER, L.

"Automatic machinery in today's industry." p. 532. (Termeszet es Technika, Vol. 112, no. 9, Sept 53, Budapest)

SO: Monthly List of East European Accessions, Vol 3 No 2 Library of Congress Feb 54 Uncl

MAYER, I.

POSSIBILITIES IN THE FIELD OF ATOMIC MATTERS IS HUNGARY.

p 12 (MUSZAKI VILET) BUDAPEST, HUNGARY VOL. 12 NO 6 AUG 1957

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (AEEI) VOL. 6 NO 11 NOVEMBER 1957

MAYER, Laszlo; FEKETE, Zoltan, Dr.

Investigation of the economic advantages of the automation of tube manufacturing. Villamossag 9 no.6:169-172 Je '61.

MAYER, Laszlo

Utilization of polyurethan foam in the clothing indsutry. Magy textil 15 no.7:311 Jl '63.

MAYER, Laszlo

Principles of the operation of the controllable silicon cell.
Elektrotechnika 57 no. 6:243 Je '64.

MAYER, M., Inz.; STEIN, A., inz.; JELSINA, M., inz.

New elements of control desks of relay safety equipment. Zel dor tech 10 no. 3:75-79,89. '62

HORAK, O.;DOBERSKA, M.;MAYER, M.

Survey of surgical intervention on the spleen and their results at the First Surgical Clinic, 1939-1951. Rozhl. chir., 31 no. 6-8: 144-155 1952. (CIML 23:3)

1. Of the First Surgical Clinic (Head--Prof. Arnold Jirasek, M. D.) of Charles University, Prague.

BALAS, V.;JUNGER, L.;MAYER, M.;PASTOROVA, J.

Visnevsky's therapeutic method with novocaine blockade and oleo-balsamic emulsion; experiences in therapy of inflammatory diseases. Cas. lek. cesk. 92 no.27:743-755 3 July 1953. (CIML 25:1)

1. Of the First Surgical Clinic (Head--Prof. A. Jirasek, M.D.) of Charles University, Prague.

MAYER, M.

SCIENCE

Periodicals: STUDII SI CERCETARI DE FIZICA. Vol. 6, no. 2, Apr./June 1955

MAYER, M. Experimental study of the nuclear active component of cosmic radiation at energies of 25 GeV. Note 1. Measurements on electron-nuclear showers with 10 GeV. p. 229

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

MAYER, Maria (Goeppert); KOLESNIKOV, N.N. [translator]; IVANENKO, D.D., red.

[Elementary theory of nuclear shell structure] Elementarnaia teoriia iadernykh obolochek. Moskva, Izd-vo inostr.lit-ry, 1958. 318 p. (MIRA 13:8)
(Nuclear shell theory)

4E3c
4E3d

19 19

Nature of showers generated in lead by the penetrating component of cosmic rays. S. Alper, E. Balea, E. Friedlander, and M. Mayer. *Acad. rep. populare Romîne, Inst. fiz. at. şi Inst. fiz., Studii cercetări fiz.* 9, 175-80(1958).—A large no. of hodoscope records have been analyzed in order to obtain comparative information on the multiplicity and the angular distribution of the soft component of δ-showers and mixed nuclear showers. The recording of δ-showers at angles >40° is very improbable. Because of the markedly wider angular spread of the mixed nuclear showers an effective discrimination might be provided against δ-showers in devices applied for the study of high-energy nuclear interactions. A. Berlin

8

CG
1/1

21(2) RUM/2-59-10-23/39

AUTHOR: Mayer, M., Candidate of Physical and Mathematical Sciences

TITLE: The Structure of the Atom Nucleus

PERIODICAL: Ştiinţă şi tehnică, 1959, Nr 10, pp 31-33 (RUM)

ABSTRACT: The article is preceded by an introductory note praising the achievements of the Soviet Union in the field of science, like the "first atomic power plant of the world", the first nuclear powered icebreaker, the synchrophasotron of Dubna. The article is a condensed and elementary presentation of the development and present state of the nuclear theory. The theoretical difficulties encountered in studying the N^{14} spin have led to the discovery of the neutrons, the author writes. In 1932, Heisenberg and Ivanenko formulated the hypothesis that the neutrons and the protons are building elements of the nucleus. The new theory gave an adequate explanation of the isotopes. In continuing, the author explains the nuclear forces and points out to the fact that they differ from the

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electric forces. A good explanation of the nuclear forces was obtained by Yukava's pi-meson theory. Then the author shows that there are several nuclear models but none of them is suitable to explain all nuclear phenomena. Recently, in 1952-1954, a unified model has been successfully established. In the final part of the article the author points out that the structure of the nuclei and of the other elementary particles is being studied, chiefly by bombarding with high-energy particles. In this respect, he emphasizes the importance of the synchrophasotron of Dubna, USSR. There are 8 figures. ✓

H/008/62/000/006/001/003
D286/D308

AUTHORS: Erdösi, Nándor, and Mayer, Mátyás

TITLE: Tensometry and its application to heat engines

PERIODICAL: Energia és atomtechnika, no. 6, 1962, 244 - 250

TEXT: Investigation of operating conditions and modernization of machines requires an accurate measurement of deformations and stresses in components due to internal forces, and due to changes in temperature. In the first part the electric strain gauge is considered in conjunction with a Wheatstone bridge. After discussing the general theory of the strain gauge, the effect of size and nominal resistance and the use of a high frequency bridge instead of a d.c. one is considered. The calibration is described and the two support beam method is suggested as the most suitable. The characteristics including directional properties are analyzed. The effect of temperature changes and methods of compensation are described. The second part deals with the applications of the strain gauge. One major research topic of 'Höki' is to investigate the economy and operational safety of the principal parts of the heat engine (boiler, main steam

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line, steam turbine) under dynamic conditions. These investigations have shown that the starting of the principal parts is safer and can be more economical than suggested by the manufacturers. Theoretical formulas for the maximum thermal stress in thick cylinders are given and the method of using the strain gauge for practical measurements is discussed in detail. The measurements were performed using strain gauges of American origin, marketed by Hottinger, West Germany. The initial measurements suggest that they are of great value, and are to be continued. So far only BBC turbine factory, Mannheim, conducted similar experiments. The initial results agree with those of BBC. There are 12 figures.

ASSOCIATION: Hőtechnikai kutató intézet (Research Laboratory for Heat Technology)

AL'DEKOP, Yu.A.; MAYER, M.A.

Study of the chain decarboxylation of mercuric acetate by peroxides.
Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.37-49 '60. (MIRA 13:10)
(Mercury acetates) (Carboxyl group)

MAYER, M.E.

RUMANIA/Theoretical Physics - Quantum Mechanics. B-4

Abs Jour : Ref Zhur - Fizika, No 4, 1957, 8418

Author : Mayer, M.E.
Inst :
Title : Variational Methods in the Theory of Collisions.

Orig Pub : Studii si cercetari fiz., 1956, 7, No 1, 201-222.

Abstract : Survey article, Bibliography, 24 titles.

Card 1/1

Mayer, Meinhard Edwin

Rumania/Theoretical Physics - Quantum Field Theory

B-6

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33784

Author : Mayer, Meinhard Edwin

Institution : None

Title : Mass Operator for Fields with Zero Spin

Original Periodical : Ser. stiint. natur, 1956, No 9, 51-58, Rumanian; resumes in Russian and French

Abstract : The interaction between 2 real scalar fields with scalar coupling is examined on the basis of the general variational Schwinger principle in the presence of external sources. An integral-differential equation is obtained for the Green propagation function $\Delta_F(x,x')$ analogously to the well-known Dyson-Schwinger equation.

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MAYER, M. E.

JANOSSY, L.

21(1) PHASE I BOOK EXPLOITATION HUN/1911

International Conference on Cosmic Radiation. Budapest, 1956.

International Conference on Cosmic Radiation Organized by the Hungarian Academy of Sciences. Budapest, 1957. 187 p. 800 copies printed.

Sponsoring Agency: Magyar Tudomanyos Akademia

Eds.: E. Fenyves, and A. Somogyi

PURPOSE: This report is intended for geophysicists concerned with cosmic radiation.

COVERAGE: This report contains the papers read at the six plenary sessions of the conference. Some of the problems dealt with include nuclear emulsions, extensive air showers and the program of cosmic ray measurements planned for the International Geophysical Year. Most of the reports are followed by references. Soviet scientists in the field of cosmic radiation who attended the conference are: E.L. Andronikashvili, N.A. Dobrotin, I.I. Gurevich, S.I. Nikolskiy and S.N. Vernov. The articles are written in English, German and Russian without parallel translations.

Card 1/6

International Conference (Cont.) HUN/1911

FIFTH SESSION

Card 5/6

MAYER, M.F.; SHIRKOV, D.V.

Thirring's two-dimensional model. Dokl. AN SSSR 122 no.1:45-47 S '58.
(MIRA 11:10)

1.Ob"yedinennyy institut yadernykh issledovaniy i Matematicheskiy institut imeni V.A. Steklova AN SSSR. Predstavleno akademikom N.N. Bogolyubovym.
(Mathematical physics)

24.6610

S/058/62/000/003/023/09
A061/A101

AUTHOR: Mayer, M. E.

TITLE: Compound models for elementary particles

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1962, 43, abstract 3A383 ("An. Univ. 'C. I. Parhon', Ser. ştiinţ. natur.", 1960, v. 9, no. 25, 249 - 252, Rumanian; Russian, English summaries)

TEXT: Some consequences of compound models for elementary particles, developed on the basis of four and six fundamental fields, are examined.

[Abstracter's note: Complete translation]

JB

Card 1/1

MAYER, N.A.

USSR/ Chemistry - Physical chemistry

Card 1/1 ; Pub. 22 - 28/49

Authors : Razuvaev, G. A.; Ol'dekop, Yu. A.; and Mayer, N. A.

Title : Decomposition of mercuric salts of organic acids initiated by free radicals

Periodical : Dok. AN SSSR 98/4, 613-616, Oct. 1, 1954

Abstract : The reaction of acetyl peroxide with Hg was investigated to determine the decomposition characteristics of mercuric salts of organic acids when promoted by free radicals. It was found that the above peroxide reaction can be used as a suitable method for the synthesis of methyl-mercury compounds and alkyl-mercury derivatives. Six references: 5-USA and 1-USSR (1921-1953). Graphs.

Institution : ...

Presented by: Academician N. N. Semenov, May 22, 1954

Gorki St Univ

MAYER, N. A., Cand Chem Sci - (diss) "Initiatory decarboxylation of mercuric salts of organic acids." Minsk, 1960. 13 pp; (Belorusskiy State Univ im V. I. Lenin); 180 copies; price not given; (KL, 19-60, 130)

5.3700

77400
SOV/79-30-1-61/78

AUTHORS: Ol'dekop, Yu. A., Mayer, N. A.

TITLE: Reaction of Mercury Acetate With 1,1-Cyclohexylidene Diperacetate and Benzoyl Peroxide

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 275-282 (USSR)

ABSTRACT: This is a continuation of the authors' previous study (ZhOKh, 30, 299, 1959; and others) of the reaction of mercury acetate with 1,1-cyclohexylidene diperacetate (I) and benzoyl peroxide (II). The present article deals with the effect of the temperature, initiators, and the madia on the chain reaction of mercury acetate free-radical decomposition. The following experiments were conducted. Reaction of mercury acetate with (I) in acetic acid at 80±0.5° (for 5 hours) and at 97-98° (for 2 hours). Reaction of mercury acetate with (I) in benzene and in a mixture of benzene and acetic acid at 80°. Reaction of mercury acetate with (II) in acetic acid at 80° ± 0.5°

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Reaction of Mercury Acetate With 1,1-Cyclohexylidene Diperacetate and Benzoyl Peroxide

and 97-98°. Reaction of mercury acetate with (II) in benzene and in a mixture of benzene and acetic acid at 80°. The results are given in Tables 1 and 2.

Table 1. Reaction of 0.03 M mercury acetate solution with 1,1-cyclohexylidene diperacetate (I).

Nr	Taken For the reaction			Temperature	Yields						Reaction rate $\frac{\Delta V_2}{\Delta t}$ (ml/min)	
	I (in moles)	acetic acid (in ml)	Benzene (in ml)		CH_3HgX (based on Hg)	$Hg(OCOCH_3)_2$ (in % of current Hg)	$Hg_2(OCOCH_3)_2$ (in % of current Hg)	CO_2 (in moles)	CH_4 (in moles)	C_2H_6 (in moles)	Total gas volume	For alkanes
1	0.005	100	—	80°	38.0	57.3	3.21	0.0074	0.0004	0.00013	1.85	—
2	0.005	100	—	80	30.2	60.5	3.21	0.0071	0.0004	0.00012	—	—
3	0.01	100	—	80	95.4	0	1.16	0.027	0.0019	0.00014	11.0	—
4	0.01	100	—	80	94.3	0	1.29	0.028	0.0045	0.00014	—	—
5	0.005	100	—	97—98	94.3	0	1.93	0.0258	0.0031	0.0009	—	21.0
6	0.01	100	—	97—98	98.1	0	0	0.0404	0.0078	0.0010	—	43.0
7	0.01	—	100	80				0.0330	0.0022	0.00024	7.0	—
8	0.01	—	100	80				0.0374	0.0020	0.00025	—	~7
9	0.01	—	100	80	75.0	14.6	7.7				—	—
10	0.01	1.0	100	80	86.5	7.91	3.85	0.0357	0.0019	0.00018	—	—
11	0.01	10.0	100	80	93.3	0	0	0.0342	0.0017	0.00024	11.55	—
12	0.01	10.0	100	80	96.5	0	0	0.0377	0.0021	0.00025	—	~7

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Reaction of Mercury Acetate With 1,1-Cyclohexylidene Diperacetate and Benzoyl Peroxide

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Table 2. Reaction of 0.03 M mercury acetate solution with benzoyl peroxide (II).

Nr	Taken for reaction			Temperature	Yields									Rate of total gas evolution $\frac{\Delta V_0}{\Delta \tau}$ (in ml/min)
	II (in mole)	acetic acid (in ml)	Benzene (in ml)		CH_3HgX (in %, based on Hg)	C_6H_5HgX (in %, based on Hg)	$Hg(OCOCH_3)_2$ (in % of amount taken)	$Hg_2(OCOCH_3)_2$ (in % based on Hg)	$C_6H_5-C_6H_5$ (in g)	C_6H_5COOH (in g)	CO_2 (in moles)	CH_4 (in moles)	C_2H_6 (in moles)	
13	0.005	100	—	80°	82.0	2.24	0	14.15	0.02	0.01	0.0213	0.0019	0.00017	5.24
14	0.01	100	—	80	83.8	5.86	0	6.3	0.06	0.09	0.0295	0.0036	0.00019	11.4
15	0.005	100	—	97—98	95.5	3.09	0	0.65	0.02	0.02	0.0302	0.0038	0.00015	42.5
16	0.01	100	—	97—98	91.2	6.6	0	0	0.03	0.05	0.0368	0.0057	0.00016	63.4
17	0.035	100	—	97—98	39.1	60.15	0	0	0.25	0.20	0.067	0.0154	0.00064	—
18	0.005	0	100	80	40.3	7.03	34.4	15.4	0.15	0.03	0.0194	0.0011	0.00007	—
19	0.005	10	100	80	64.7	9.15	0	25.7	0.14	0.03	0.0225	0.0007	0.00015	—
20	0.01	0	100	80	70.0	11.7	0	17.33	0.21	0.30	0.0396	0.0029	0.00008	—

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Reaction of Mercury Acetate With 1,1-Cyclohexylidene Diperacetate and Benzoyl Peroxide

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The following conclusions are made: increasing the amount of the initiators, raising the temperature, and addition of acetic acid have a positive effect on the process of mercury acetate decomposition; in all experiments the evolved gas is composed of CO_2, CH_4, and C_2H_6. There are 2 tables; 2 figures; and 6 references, 1 U.S., 1 U.K., 1 German, 3 Soviet. The U.S. and U.K. references are: W. Cooper, J. Chem. Soc., 1951, 1340; C. D. Wagner, R. H. Smith, E. D. Peters, Ind. Eng. Chem., Anal. Ed., 19, 976 (1947).

ASSOCIATION: Institute of Chemistry of Academy of Sciences Belorussian SSR (Institut khimii Akademii nauk Belorusskoy SSR)

SUBMITTED: December 17, 1958

Card 4/4

5.3400,5.3700,5.4300

77404
SOV/79-30-1-65/78

AUTHORS: Ol'Dekop, Yu. A., Mayer, N. A.

TITLE: Reactions of Acetyl Peroxide With Mercuric Acetate and With Some Mercuric Salts of Inorganic Acids

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 299-302 (USSR)

ABSTRACT: In this work the authors continue the study of reaction between mercuric acetate and acetyl peroxide (study of reactions between mercuric acetate and acetyl, benzoyl, m-nitrobenzoyl, and some other peroxides was started earlier [Razuvayev, G. A., Ol'dekop, Yu. A., Mayer, N. A., Doklady Akad. nauk SSSR, 98, 613 (1954); Razuvayev, G. A., Ol'dekop, Yu. A., Mayer, N. A., Zhur. obshchey khim., 25, 697 (1955); Razuvayev, G. A., Ol'dekop, Yu. A., Papers on Chemistry and Chemical Technology (Trudy po khimii i khimicheskoy tekhnologii), 1st issue, Gor'kiy, 178 (1958)]) to obtain new data on the mechanism of the reaction. A 15-16% solution of acetyl peroxide in acetic acid was prepared by the

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method described earlier (Razuvayev, G. A., et al., Zhur. obshchey khim., 25, 697 (1955)) and analyzed iodometrically (Smit. W. S., Rec. trav. chim., 49, 675 (1930)). The reaction was conducted at 97-98° in a 250-ml 3-neck round-bottom flask provided with a dropping funnel, a reflux condenser, and a stirrer. A coil trap, cooled with a mixture of dry ice and acetone, and three absorption tubes filled with KOH (for quantitative absorption of CO_2) were attached to the upper end of the condenser. The reaction products were: methylmercury acetate $CH_3HgDCOCN_3$, (collected as precipitate and converted into CH_3HgI with KI), CO_2 (weighed in the absorption tubes), CH_4, and C_2H_6 (the latter two collected in gas burettes and analyzed with VTI-2 and Kh-1M gas analyzers). The rate of evolution of hydrocarbons (CH_4 + C_2H_6) for various initial quantities of acetyl peroxide is illustrated in Fig. 1.

Reactions of Acetyl Peroxide With Mercuric Acetate and With Some Mercuric Salts of Inorganic Acids

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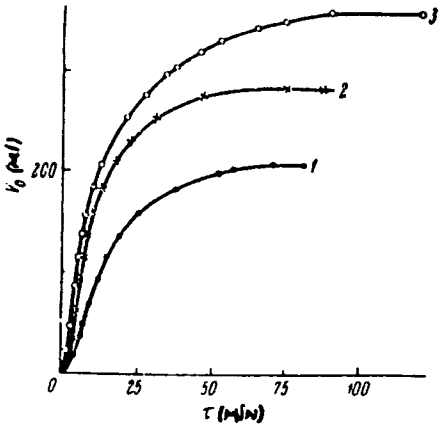

Fig. 1. Effect of intial quantity of acetyl peroxide upon rate of formation of saturated hydrocarbons. Acetyl peroxide: (1) 0.005, (2) 0.0075, (3) 0.01 moles.

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Reactions of Acetyl Peroxide With Mercuric Acetate and With Some Mercuric Salts of Inorganic Acids

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Reaction rate ($\frac{\Delta V_o}{\nabla \tau}$) expressed by the volume of CH_4 + + C_2H_6 is related to the peroxide quantities used in the ratio 1.0: 1.5: 2.0); it is increased by factors of 1.0 : 2.4 : 2.7, similarly to the rate increases obtained earlier (in the works cited above) for the total gas volumes (CO_2 + CH_4 + C_2H_6). The increase in volume of hydrocarbons is due to methane; the yield of ethane is not affected by the peroxide (at 0.005 moles peroxide, yields of ethane and methane are identical). The authors have also studied reactions of acetyl peroxide with mercuric sulfate, chloride, and iodide, and with mercurous sulfate and chloride. All reactions were conducted at 97-98° for 6 hr. CH_3HgI, obtained by addition of KI, was weighed (CH_3HgI was tested in all experiments by taking a mixed melting point with chemically pure CH_3HgI).

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[illegible] Reaction With Mercuric [illegible] Salts of Inorganic Acids

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SOV/79-30-1-65/78

Small quantities of CH_3HgI (from 0.83% yield, calculated on basis of the peroxide, for Hg_2Cl_2, to 9.8% for HgI_2) were obtained in all reactions except with [illegible]. There is 1 table; and 4 references, 3 Soviet, [illegible].

Author: Institute of Chemistry, Academy of Sciences, Belorussian SSR (Institut khimii Akademii nauk Belorusskoy SSR)

Publication: [illegible]

Card [illegible]

5.3700, 5.3400

77405
SOV/79-30-1-66/78

AUTHORS: Ol'dekop, Yu. S., Mayer, N. A.

TITLE: Photochemical Reactions of Mercurous and Mercuric Acetate and Mercuric Propionate

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 303-307 (USSR)

ABSTRACT: Photochemical decarboxylation of mercuric acetate in benzene, acetic acid, and their mixtures; of mercurous acetate in acetic acid; and of mercuric propionate in benzene and acetic acid was investigated in this work. Experiments were conducted in a quartz flask provided with a reflux condenser and a bubbler. A PRK-4 mercury-arc lamp was sealed horizontally into the flask at such a level as to be immersed into the reaction mixture (0.03 moles of salt in 150 ml solvent). The evolved gases were collected in a gas burette, connected with the reflux condenser, and analyzed on VTI-2 and Kh-1M

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gas analyzers. After cooling of the reaction mass, the solid products were washed with benzene or acetic acid and analyzed. The product analysis has shown that: (1) Photochemical decomposition of mercuric acetate and propionate in benzene results in formation of mercurous salts and compounds of the type RHgOCOR (where R = CH_3 or C_2H_5), their respective yields being 60-68, and 30-34%. Both salts are stable to irradiation in benzene. (2) Addition of acetic acid speeds up photodecomposition of $(RCOO)_2Hg$ with increasing yield of RHgOCOR and a decrease in yield of RCOOHg; some metallic mercury is also formed. (3) After irradiation of mercuric and mercurous acetate in acetic acid and mercuric propionate in propionic acid, metallic mercury and compounds of the type RHgOCOR (in 60-68% yield) were obtained. The latter are decomposed upon prolonged irradiation with formation of metallic mercury. (4) The gaseous products were: methane, ethane, CO_2,

and CO from Hg(I) and Hg(II) acetates; ethane, ethylene, butane, CO_2, and CO from Hg(II) propionate. (5) On the basis of these results, the following scheme was proposed for the decarboxylation of mercuric salts:

$$RCOOHgOCOR \xrightarrow{h\nu} RCOO\cdot + \cdot HgOCOR \quad (R = CH_3 \text{ or } C_2H_5) \qquad (1)$$

$$RCOO\cdot \longrightarrow R\cdot + CO_2 \qquad (2)$$

$$R\cdot + \cdot HgOCOR \longrightarrow RHgOCOR \qquad (3)$$

$$R\cdot + RCOOHgOCOR \longrightarrow RHgOCOR + RCOO\cdot \qquad (4)$$

$$R\cdot + R'H \longrightarrow RH + R'\cdot \qquad (5)$$

R'H is hydrogen-containing compound

$$2R\cdot \begin{cases} \longrightarrow R{-}R & (6) \\ \longrightarrow R_{+H} + R_{-H} \quad (\text{for } R = C_2H_5) & (7) \end{cases}$$

$$2\cdot HgOCOR \longrightarrow Hg_2(OCOR)_2 \qquad (8)$$

$$Hg_2(OCOR)_2 \xrightarrow{h\nu} Hg + Hg(OCOR)_2 \qquad (9)$$

Thus, alkylmercuric salts (RHgOCOR) can be conveniently synthesized by photochemical decarboxylation of mercuric salts of aliphatic acids.

$$RCOO\cdot \rightarrow RCO\cdot + {}^1/_2O_2 \quad (10)$$

$$RCO\cdot \rightarrow R\cdot + CO \quad (11)$$

There is 1 table; and 7 references, 6 Soviet, 1 German.

ASSOCIATION: Institute of Physical Organic Chemistry, Academy of Sciences, Belorussian SSR (Institut fiziko-organicheskoy khimii Akademii nauk Belorusskoy SSR)

SUBMITTED: January 14, 1959

5.3400

77904
SOV/79-30-2-55/78

AUTHORS: Ol'dekop, Yu. A., Mayer, N. A.

TITLE: Decarboxylation of Mercuric Propionate With Peroxides

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 619-623 (USSR)

ABSTRACT: The decarboxylation of mercuric propionate and acetate on UV irradiation and the decarboxylation of mercuric acetate with various peroxides were reported previously by the authors (this j., 1960, our abstracts 77400; 77404; 77405). The present study investigates the mechanism of the decarboxylation of mercuric propionate in reaction with propionyl peroxide, benzoyl peroxide, and hydrogen peroxide. Mercuric propionate and propionyl peroxide (in 1:2 molar ratio) in propionic acid were heated at 97-98° C for 3.5 hr. After distillation of ethyl propionate and propionic acid, the residue was dissolved in water and treated with KCl to give ethylmercury chloride in 61.5%

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yield. The mother liquor treated with KI excess gave ethylmercury iodide in 27.3% yield; the total yield of C_2H_5HgX compounds was 88.8%. The reaction gases contained CO_2, CO, C_2H_6, C_4H_{10}, and traces of C_2H_4. The same reagents as above, but in a 1:1 molar ratio, gave ethylmercury compounds in 65% yield, mercurous propionate in 18.2% yield, and 13.4% unreacted starting mercuric propionate. Mercuric propionate and benzoyl peroxide (in a molar ratio 3:1) in propionic acid, were heated for 4 hr at 97-98° C. On filtering, 20.1% mercurous propionate was separated; the filtrate, after distillation of the solvent, dissolution of the residue in ether, extraction with water, and treating the water extract with KI, gave ethylmercury iodide in 54.2% yield. The solvent was evaporated from the ether solution, the residue mixed with KCl, and steam passed through the mixture. The reaction gave phenyl-

 mercury chloride in 16% yield (24% based on benzoyl

peroxide), and also a small amount of m-dinitrobenzene. The reaction gases composition was qualitatively identical with that of the preceding reaction. Mercuric propionate with benzoyl peroxide (in molar ratio 3:1) in benzene on heating at 80° C for 8 hr gave on similar treatment 10% mercurous propionate, 50% phenylmercury chloride (75% based on benzoyl peroxide), 14.35% ethylmercury chloride, 24.4% ethylmercury iodide, and a small amount of benzoic acid. Considering the products obtained, the decarboxylation mechanism of mercuric propionate can be explained by reactions (1)-(10).

Decarboxylation of Mercuric Propionate With Peroxides

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$$(RCO_2)_2 \longrightarrow 2RCO_2\cdot; \quad \underset{(R = C_2H_5}{RCO_2\cdot} \longrightarrow \underset{C_2H_5)}{R\cdot} + CO_2 \qquad (1)$$

$$C_2H_5COOHgOCOC_2H_5 + R\cdot \longrightarrow RHgOCOC_2H_5 + C_2H_5CO_2\cdot \quad \text{(INITIATION)} \qquad (2)$$

$$C_2H_5CO_2\cdot \longrightarrow C_2H_5\cdot + CO_2 \qquad (3)$$

$$Hg(OCOC_2H_5)_2 + C_2H_5\cdot \xrightarrow{\text{MAIN DIRECTION}} C_2H_5HgOCOC_2H_5 + C_2H_5CO_2\cdot \quad \text{(PROPAGATION)} \qquad (4)$$

$$Hg(OCOC_2H_5)_2 + C_2H_5\cdot \xrightarrow{\text{SECONDARY DIRECTION}} C_2H_5COOC_2H_5 + \cdot HgOCOC_2H_5 \quad \text{(TERMINATION)} \qquad (5)$$

$$2\cdot HgOCOC_2H_5 \longrightarrow Hg_2(OCOC_2H_5)_2 \qquad (6)$$

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$$C_2H_5\cdot + Hg_2(OCOC_2H_5)_2 \rightarrow C_2H_5HgOCOC_2H_5 + \cdot HgOCOC_2H_5 \quad (7)$$

$$C_2H_5\cdot + R'H \rightarrow C_2H_6 + R'\cdot \quad (8)$$

(R'H — HYDROGEN-CONTAINING COMPOUND)

$$2C_2H_5\cdot \rightarrow C_4H_{10} \text{ (DIMERIZATION)} \quad (9)$$

$$2C_2H_5\cdot \rightarrow C_2H_6 + C_2H_4 \text{ (DISPROPORTIONATION)} \quad (10)$$

The steam distillate, after filtration and separation of biphenyl, gave 1.21% ethylmercury iodide. Total yield of ethylmercury iodide was 55.41%. A convenient synthesis of ethylmercury salts is the reaction of mercuric propionate with 42% hydrogen peroxide in a mixture of propionic acid and propionic anhydride. On heating at 97-98° for 2 hr, the reaction gave 2.16% metallic Hg, 79% ethylmercury chloride, and 6.35% ethylmercury iodide (see method used in the decarboxylation of mercuric propionate with propionyl peroxide in

propionic acid). Total yield of ethylmercury salts was 76.35%. The reaction gave also mercurous propionate in 1.95% yield, and 16.6% unreacted starting salt. The presence of dimethylsuccinic acid was detected, and its formation can be explained by reactions (11) and (12)

$$C_2H_5\cdot + CH_3CH_2COOH \rightarrow C_2H_6 + CH_3\dot{C}HCOOH \quad (11)$$

$$2CH_3\dot{C}HCOOH \rightarrow \begin{matrix} CH_3CHCOOH \\ | \\ CH_3CHCOOH \end{matrix} \quad (12)$$

There are 10 references, 2 U.S., 1 U.K., 1 Dutch, 2 German, 4 Soviet. The U.S. and U.K. references are: F. E. Blacet, W. E. Bell, Discus. Farad. Soc., 14, 70 (1953); J. N. Pitts, Jr., R. S. Tolberg, F. W. Martin, J. Am. Chem. Soc., 76, 2843 (1954); C. D. Wagner, R. H. Smith, E. D. Peters, Ind. Eng. Ch., Anal Ed., 19, 976 (1947).

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