MAJDER, Albert, Beograd

Certain current problems in our therapy of pulmonary tuberculosis.
Tuberkuloza, Beogr. 11 no.2:237-241 '59.
(TUBERCULOSIS PULMONARY ther.)

MAJDER, Albert

An interesting case of pseudo-cavity of the lung. Tuberkuloza, Beogr. 11 no.3:368-370 '59.

1. Institut za tuberkulozu, Golnik, direktor: prim. dr T. Furlan.
(TUBERCULOSIS PULMONARY pathol.)

MAJDER,Albert

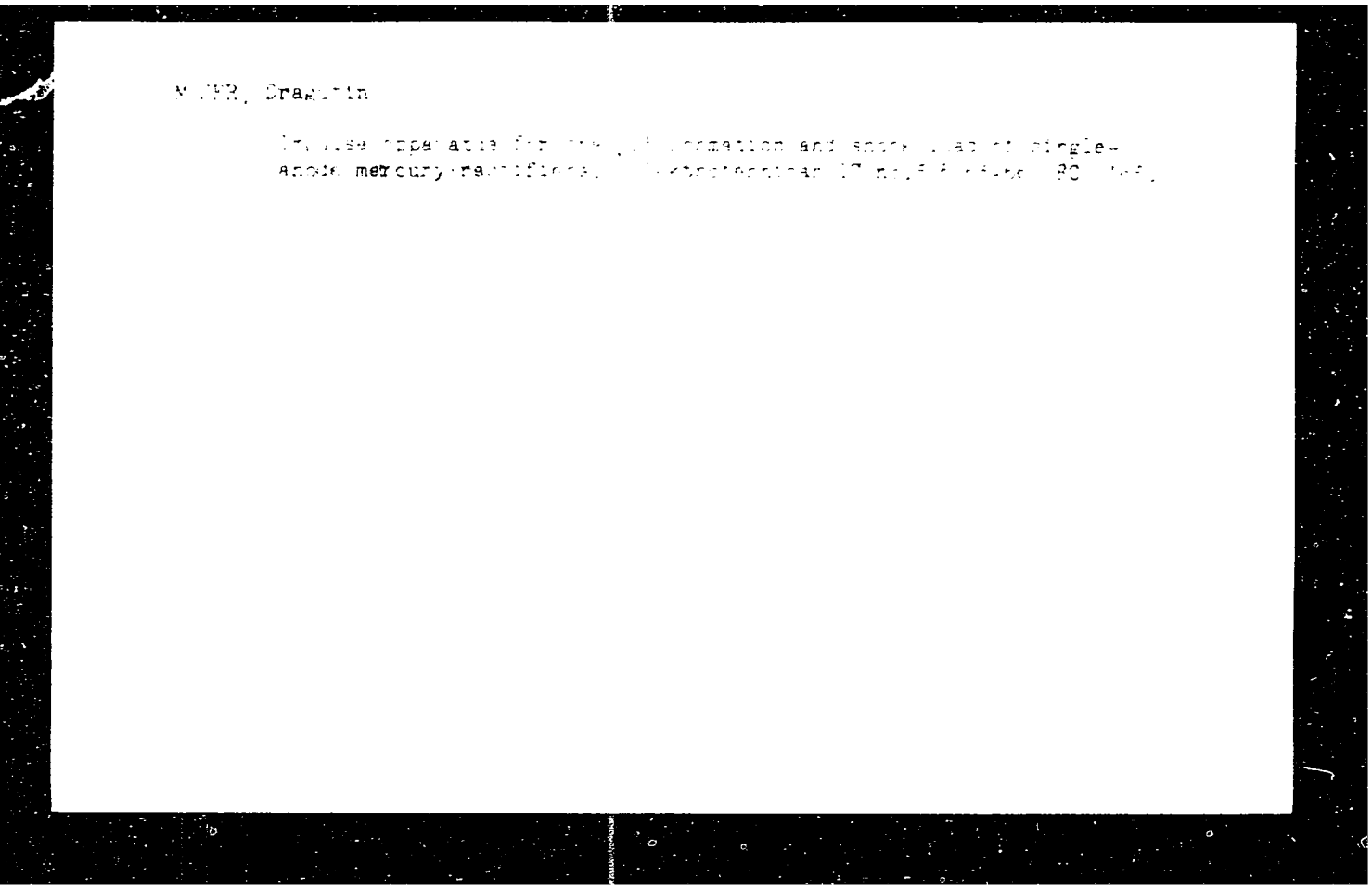
Cough as an important clinical symptom in clinical practice.
Tuberkuloza,Beogr. 11 no.3:393-403 '59.

1. Institut za tuberkulozu,Golnik, direktor: prim. dr T. Furlan.
(COUGH diag.)

POPOVIC-DANI, Ivo; MAJDER, Albert; LJUBINOVIC, Aleksander

Our experience with pulmonary echinococcosis. Tuberkuloza no.1: 72-74 '62.

1. Hirursko odeljenje bolnice "Dr Dragisa Misovic", Beograd, (naczelnik: prof. dr I. Popovic-Dani).
(ECHINOCOCCOSIS PULMONARY) (PNEUMONECTOMY)



MAJDIK, Ferenc, [illegible] Gyula

Data on the chemistry of alkoxide compounds. Pt. [illegible]. Magy kem folyoir 70 no.[illegible]-79 S [illegible].

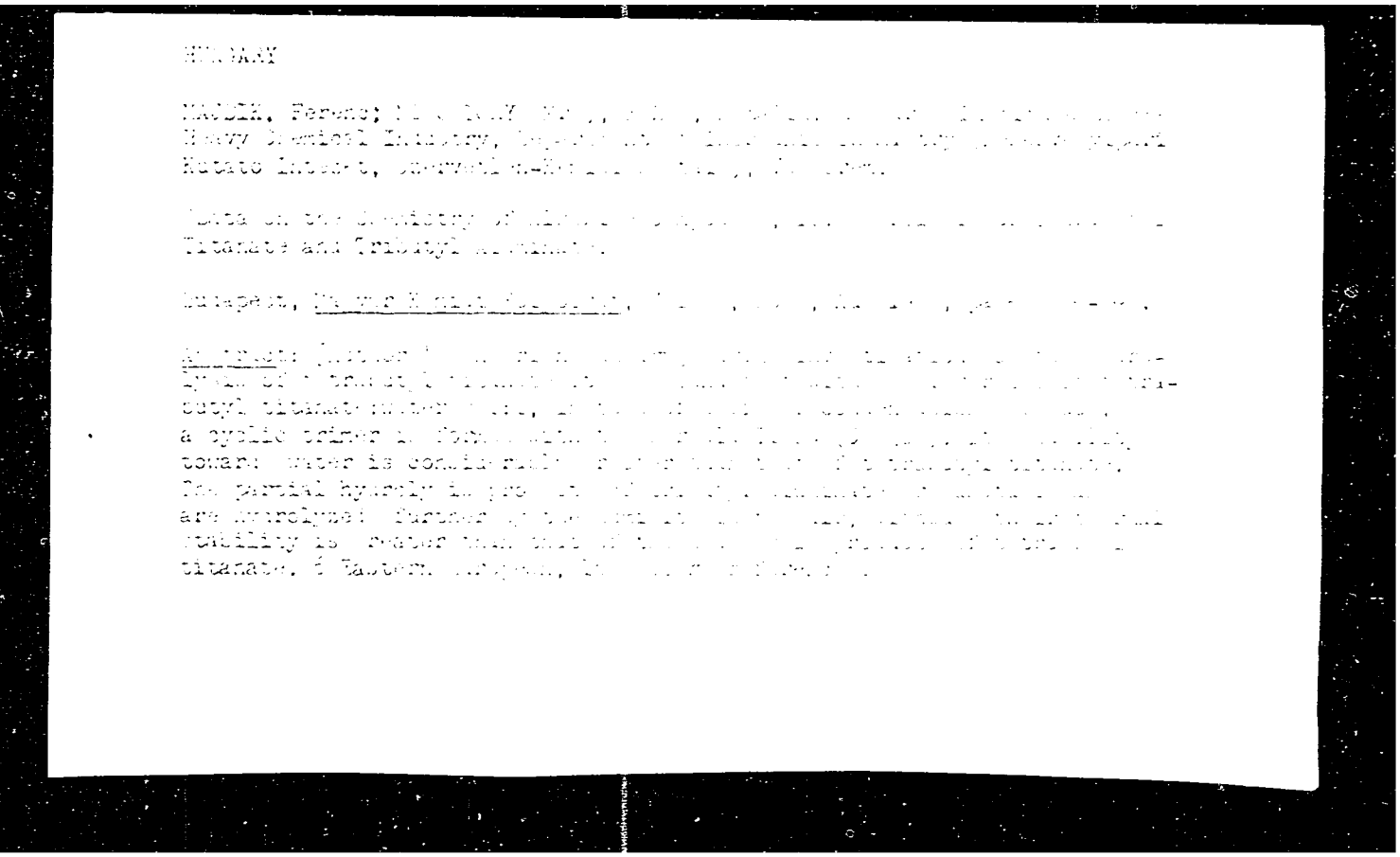
Research Institute of the Heavy Chemical Industry, Veszprem.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001031410016-4"

MAJDIK, Ferenc

Inorganic polymers. Magy kem lap 16 no.5:215-225 My '61.

1. Nehezvegyipari Kutato Intezet.



MAJDIK, Ferenc; MONOSTORYNE Felso, Katalin

Data on the chemistry of alkoxides. Pt. 3. Magy kem folyoir 70 no. 2:64-66 F '64.

1. Nehezvegyipari Kutato Intezet, Veszprem.

MAJDIK, Ferenc

The Research Institute of Heavy Chemical Industry is fifteen years old. Magy kem lap 17 n.10 11:516 Oct [illegible]

1. Research Institute of Heavy Chemical Industry, Veszprem.

ONDREJICKA, M.; KADLEC,O.; MIKO, M.; MAJEK, S.; BRHLIKOVA, R. Technicka spoluprace: HLUBINA, S.; JASLOVSKA, D.

Disorders of water-mineral metabolism in liver diseases. Bratisl. lek. listy 2 no.1:3-15 '64

1. Laboratorium pre vyskum pohybu vody a elektrolytov v organizme Lek. fak. Univerzity Komenskeho v Bratislave (veduci: prof. MUDr, M.Ondrejiska) a Infekcne oddelenie MUNZ [Mestsky ustav narodniho zdravi] na Krasnej Horke v Bratislave (veduci: MUDr, S. Majek).

GWIAZDOWSKI, Bohdan; MAJENKA, Irena

A measurement method for the distribution of isodoses in teletherapy. Nowotwory 13 no.4:367-372 O-D'63.

1. Z Zakladu Fizyki Instytutu Onkologii im. Marii Sklodowskiej-Curie w Warszawie. Kierownik: mgr. inz. J.Malesa; dyrektor: prof. dr.med. W.Jasinski.

*

GWIAZDOWSKI, Bohdan; MAJENKA, Irena, DWORAKOWSKI, Marian; MACKIEWICZ, Henryk.

Physical aspects of cuneiform filters for the cobalt-60 teletherapy apparatus. Nowotwory 13 no.4:359-365 O-D'63.

1. Z Zakladu Fizyki Instytutu Onkologii im. Marii Sklodowskiej-Curie w Warszawie. Kierownik: mgr. inz. J.Malesa; dyrektor: prof.dr.med. W.Jasinski.

HUNGARY/Forestry - Biology and Typology of the Forest. K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67988

Author : Major, Antal
Inst : -
Title : Natural Reproduction of Pine Plantations in the Foothills of the Bakony Forest Ridge.

Orig Pub : Az Erdo, 1956, 5, No 4, 132-140.

Abstract : The plantations in the lower part of Badony Forest (Hungary) fall into the following four typological groups: 1) pines with seed beds [kurtinani] (5-10 meters in height) on dry grey soils on limestone beds and mixed with juniper. Here the pines reproduce themselves satisfactorily. 2) Plantations on thin brown forest soils with sandy hillocks; these trees reach heights of 19-20 meters, and the groves are the most healthy of all. 3) Habitats with leached brown forest soils, the most common tree here being the nutgall oak.

Card 1/2

HUNGARY/Forestry - Biology and Typology of the Forest. K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67988

Pine groves in these regions are 20-30 meters in height but are not very resistant to harmful environmental effects; they reproduce well, especially if assisted. 4) Habitats with more humus-rich soils; the principal forest type is the hornbeam-oak in which pine underbrush is choked out by the deciduous species. It is pointed out that pine seeds from this region are particularly suitable for afforesting sandy areas. -- B. Sirad'yi

Card 2/2

HUNGARY / Forest Science. Forest Cultures. K-4

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77532

Author : Major, Antal
Inst : Not given
Title : New Plantations for Cellulose

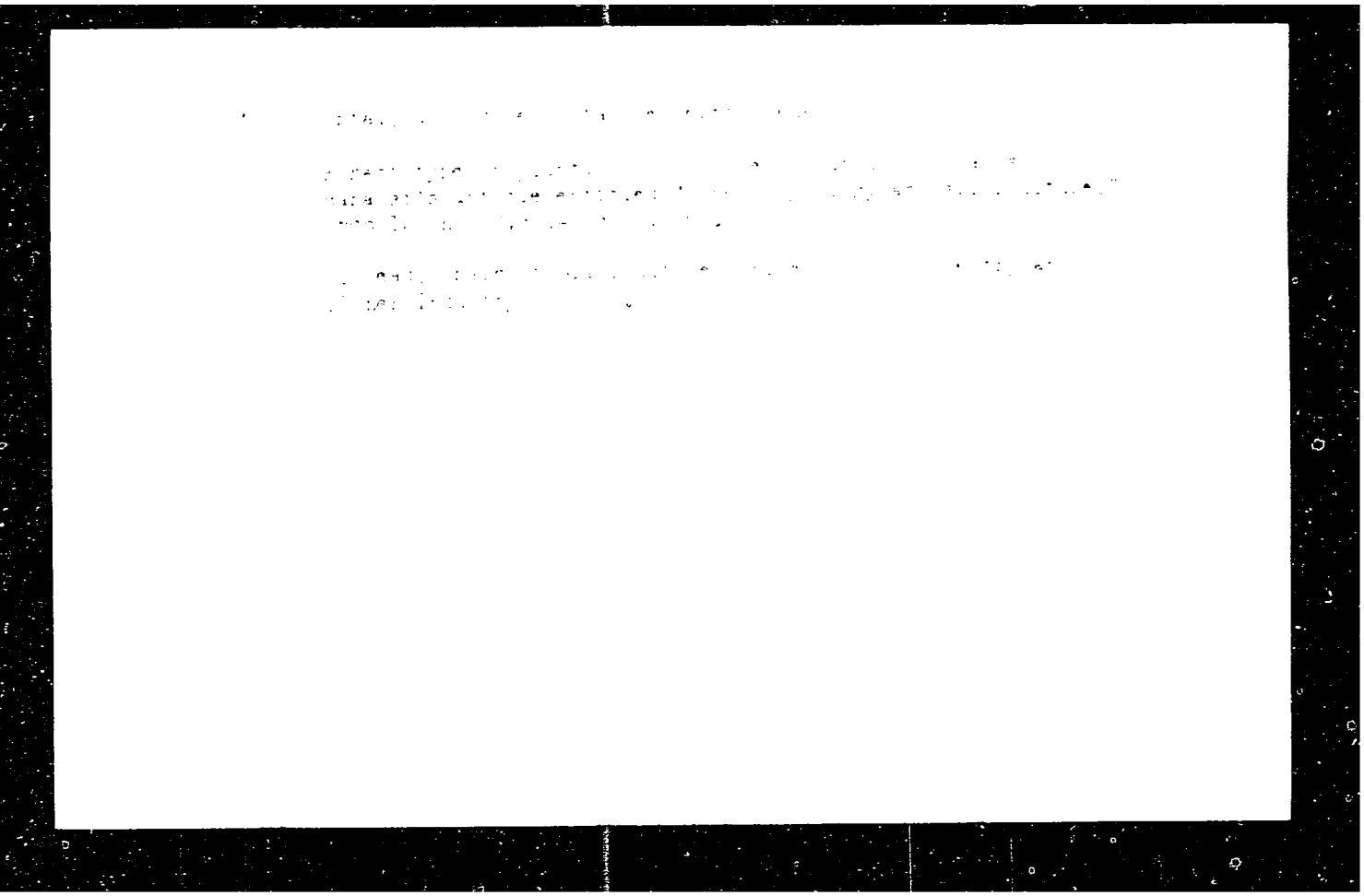
Orig Pub : Erdo, 1957, 6, No 5, 173-180

Abstract : The creation of experimental willow plantations in the region of Lake Balaton in Hungary, in which 70 local as well as foreign types are utilized, is reported on. Depending on the form of growth, plantings are subdivided into ligneous, high-shrub, low-shurb, and dwarf. The most suitable for extraction of cellulose material proved to be the high-shrub plantations. The greatest yield of substance was given by the ligneous forms Salis alba; S. alba fragilis, S. alba bitellina, S. alba coccinlana and some others, high-shrub forms S. viminalis, S. viminalis f. regale and

Card 1/2

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77532

others, as well as low-shrub forms S. triandra and S. cordata americana. Bib. 12 titles. -- S. M. Stoyko.

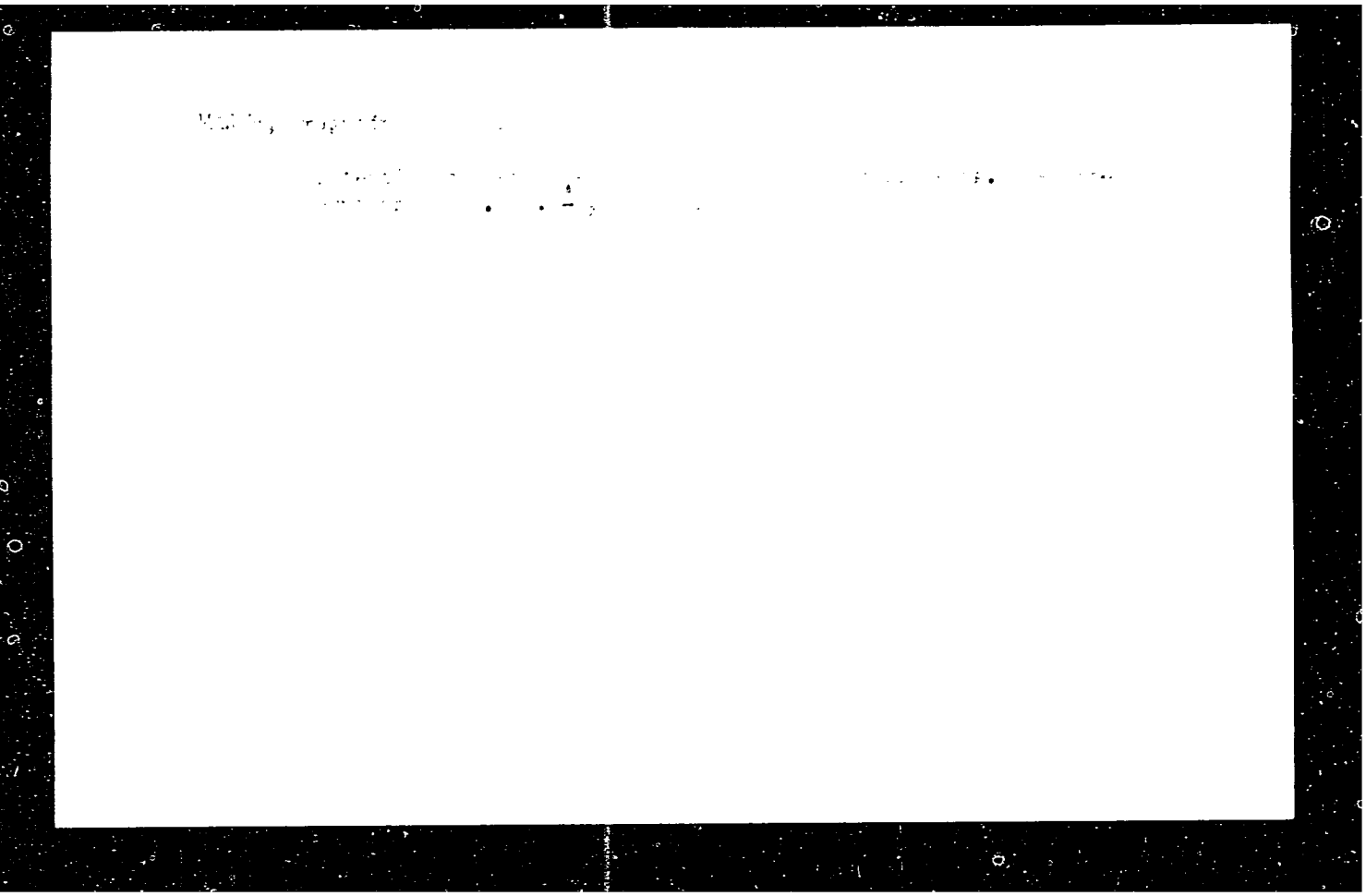


APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001031410016-4"

MAJER, D.

Short-wave receiver for amateurs, p. [illegible]
(tehnička knjiga) Zagreb. Vol. 10, no. [illegible], 1956

[illegible]: East Europe Accession List: EAL),
Library of Congress, Vol. 5, no. 11, Nov. 1956



LUTOWIECKI, Jerzy; MAJER, E.; SZUSZKIEWICZ, M.

Behavior of estrogens in cases of chronic lupus erythematosus.
Przegl. derm. 48 no.8/10:81-87 '61.

1. Z Kliniki Dermatologicznej A.M. w Lodzi Kierownik: Prof. dr. J. Lutowiecki.

(LUPUS ERYTHEMATOSUS physiol)
(VAGINAL SMEARS) (ESTROGENS chem)

PECH, Z.; MAJER, E.; CSUHAJOVA, L.

Fatal abdominal injuries following traffic accidents. Acta chir. orthop. traum. cech. 30 no.3 203-208 Je '63.

1. Ustav pro soudni lekarstvi fakulty vseobecneho lekarstvi KU v Praze, prednosta doc. dr. J. Tesar, CSc.
(ABDOMINAL INJURIES) (ACCIDENTS, TRAFFIC)
(STATISTICS) (FIRST AID)
(ALCOHOLIC BEVERAGES)
(BLOOD CHEMICAL ANALYSIS)

CA MAJER, F.

Analytical Chemistry

Polarographic analysis of benzoic acid and of phthalic anhydride. B. C. Šimek, F. Majer, and C. Šebor (Czech Minerals Research Inst., Prague). *Sborník Mezinárod. Polarog. Sjezdu Praze, 1d. Congr.* 1951, Pt. I, Prac. 695-6 (in Russian), 697-8(in English).—The impurity of phthalic acid present in benzoic acid is detd. polarographically at pH 1.1. Impurities of maleic anhydride and α-naphthoquinone in phthalic acid anhydride are detd. polarographically, the former in acid, the latter in alk. soln.

Otto H. Muller

PHASE I BOOK EXPLOITATION SOV/5799

Unksov, Ye.P., Doctor of Technical Sciences, Professor, Ed.

Sovremennoye sostoyaniye kuznechno-shtampovochnogo proizvodstva (Present State of the Pressworking of Metals) [Moscow] Mashgiz, 1961. 454 p. 5000 copies printed.

Ed. of Publishing House: A.I. Girsha; Tech. Ed.: B.I. Model'; Managing Ed. for Literature on the Hot Working of Metals: S.Ya. Golovin, Engineer.

Title: Kuznechno-shtampovochnoye proizvodstvo v SSSR (The Pressworking of Metals in the USSR) by: A.V. Altykis, D.I. Romanovskiy, V.F. Volkovitskiy, I.I. Girsh (deceased), L.D. Gol'man, S.P. Granovskiy, N.S. Dobrinskiy, A.I. Zimin, S. L. Zlotnikov, A.I. Kazalovskiy, P.V. Lobachev, V.N. Martynov, Ye.N. Moshnin, G.A. Navrotskiy, Ya.M. Okhrimenko, G.N. Rovinskiy, Ye.A. Stepka, Yu.L. Rozhdestvenskiy, N.V. Tikhomirov, Ye.P. Unksov, V.F. Shcheglov, and L.A. Shofman; Eds: Ye.P. Unksov, Doctor of Technical Sciences, Professor, and B.V. Rozanov.

Title: Kuznechno-shtampovochnoye proizvodstvo v ChSSR (The Pressworking of Metals in the Czechoslovak SR) by: S. Burda, F. Hrazdil, F. Drastík, F. Zlatohlávek

Card 1/8

Present State of the (Cont.) SOV/5799

Z. Kajval, V. Kraus, F. [illegible], F. Majer, K. [illegible], J. Novák, J. [illegible], K. Paul, B. Sommer, M. Honz, J. [illegible], V. Šindelár, and J. [illegible]; [illegible]: A. Nejepsa and M. Vlk.

PURPOSE: This book is intended for engineers and scientific personnel concerned with the pressworking of metals.

COVERAGE: Published jointly by [illegible] and SNTL, the book discusses the present state of the pressworking of metals in the USSR and the Czechoslovak Socialist Republic. Chapters were written by both Soviet and Czechoslovak writers. No personalities are mentioned. There are 129 references: 98 Soviet, 16 English, 8 German, 5 Czech, and 2 French.

TABLE OF CONTENTS:

PRESSWORKING IN THE USSR

Ch. I. The Characteristics of Forging Shops in USSR Plants [A.I. Zimin and Ye.P. Unksov] 5

Ch. II. Methods of Calculating the Pressure for Forging in the Pressworking

Card 2/8

Present State of the (Cont.) SOV/5799

of Metals [Ye.P. Unksov]

Ch. III. Die Forging on Forging Pres...s [V.F. Volkovitskiy] 22

Ch. IV. Die Forging on Horizontal Up...ters [I.I. Girsh, deceased] 31

Ch. V. Die Forging on Drop Ha...rs and [F...r-Screw] Percussion Presses [Ya. M. Okarimenko and V.F. ...] 41

Ch. VI. The Making of Forgings and Sha...d Blanks in Forging Rolls [V.N. Martynov] 59

Ch. VII. Die-Sizing in Squeeze-Forming Presses [V.F. Volkovitskiy] 77

Ch. VIII. Rolling-Out Annular Blanks [Yu.L. Rozhdestvenskiy] 82

Ch. IX. The Manufacture of Metal Hardware on Pressworking Automatics [G.A. Navrotskiy] 93

Card 3/8

Present State of the (Cont.) SOV/5799

Ch. X. Bending and Straightening of [illegible], [illegible], and Tubes [Ye.N. Moshnin] [illegible]

Ch. XI. Stamping From Sheets and [illegible] [illegible] and G.N. Rovin[illegible]] 11[illegible]

Ch. XII. Automatic Press-forging [illegible] [illegible] Zlotnikov] [illegible]

Ch. XIII. The [illegible] of [illegible] and Sections in Press[illegible] [P.V. [illegible]] 1[illegible]

Ch. XIV. The Production of [illegible] Parts by Helical Cross Rolling [S.P. [illegible] and Ye. A. Stoshk] 175

Ch. XV. Metal Extrusion on Hydraulic Presses [A.I. Kogalovskiy and L.A. Shofman] 183

Ch. XVI. Parts Forging From Light-[illegible] Alloys on Large Hydraulic Presses [L.D. Gol'[illegible] and L.A. S[illegible]] 201

Card 4/8

Ch. XVII. [illegible] Production of [illegible] and Tires] by Forging With [illegible] [A.V. [illegible] and L.D. Gol'[illegible] — [illegible]

Ch. XVIII. Forging and [illegible] [Ye.N. [illegible]] — [illegible]

Ch. XIX. [illegible] Process [N.S. Dobrinskiy and [illegible]] — [illegible]

Ch. XX. Drop-Hammer and [illegible]-Press Forging [D.I. [illegible] and V.F. Shcheglov] — [illegible]

Bibliography — 225

[illegible] IN THE [illegible]

Ch. I. The Development of [illegible] Processes in the Czechoslovakian Socialist [illegible] [F. [illegible], Railroad Engineering Institute, [illegible]] — [illegible]

Card 5/8

Ch. II. Making Large For[illegible] [[illegible]], [illegible] Metallurgical Plant imeni Klement Gottwald, [illegible]] 272

Ch. III. The Forging of [illegible] for [illegible] [J. Novák, Metallurgical Plant [illegible], [illegible]] 279

Ch. IV. The Forging of [illegible] [[illegible], K. Paul, and M. Hona, Metallurgical Plant [illegible], Pl[illegible]] 314

Ch. V. Techniques Used in For[illegible] [[illegible], Vítkovice Metallurgical Plant imeni Klement Gottwald, Ostrava] 335

Ch. VI. The Forging of [illegible] [J. [illegible], Vítkovice Metallurgical Plant imeni Klement Gottwald, Ostrava] 345

Ch. VII. The Forging of Large [illegible] Rings for the Runners of Mixed-Flow Turbines [[illegible], Vítkovice Metallurgical Plant imeni Klement Gottwald, Ostrava] 348

Ch. VIII. Scientific Research Work in the Field of Cold Impact Forging of Metals [F. Hrášil, Plant imeni Šmeral, Brno] 355

Ch. IX. Experience in the Cold Impact Forging of Nonferrous Metals [K. Marvan and J. C. hal, Pl t T sla, National Enterprise, Hloubětín, and V. Šindel'á, Scientific Research Institute of Vacuum Electrical Engineering, Prague] 381

Ch. X. The Manufacturing Process and Organization in the Stamping of Bodies at the Automobile Plant National Enterprise (AZNP) Mladá Boleslav" [Z. Kejval, AZNP, Mladá Boleslav] 397

Ch. XI. The Mechanization of Obsolete Enterprises as a Means of Increasing Labor Productivity [B.Sc er, Vítkovice Metallurgical Plant imeni Klement Gottwald, Ostrava] 410

Ch. XII. The Initial Pressworking of FeAl Alloys and Large FeCrAl Castings [F. Majer and J. Šolc, Scientific Research Institute of Iron, Prague].

Z/034/62/000/004/004/005
E073/E335

16 1150

AUTHOR: Majer, F.

TITLE: Application of austenitic steels with nitrogen for temperatures between -40 and -180 °C

PERIODICAL: Hutnické listy, no. 4, 1962, 295

TEXT: The properties of two commercial heats of CrMnNiN steel, produced by VZKG in an arc furnace, and of one heat of a steel produced in an open-hearth furnace of SONP, were tested in the temperature range +20 to -195 °C. It was found that after heat-treatment (1 050 °C/30 min/air) all the heats had fully satisfactory notch impact strength, even at -195 °C; all the steels investigated had a yield point at +20 °C, of almost 40 kg/mm^2, i.e. a value considerably higher than that of the steel CSN 17246, which was hitherto used for low temperatures. The structure of CrMnNiN steels is fully stable, even at very low temperatures, provided they are not subjected simultaneously to high degrees of deformation. The obtained

Card 1/2

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E073/E335

Application of ....

test results indicate that CrMnNiN steels can substitute completely the steel CSN 17246 (AKVS) which was hitherto used in Czechoslovakia for low-temperature applications.
Research report of Výzkumný ústav hutnictvi železa (Iron and Steel Research Institute).
[Abstracter's note: this is a complete translation.]

Card 2/2

MAŠEK, I.

"Sputnik I, Sputnik II, and the American satellites Vanguard, and Explorer."

p. 81 (Sdelovaci Technika, Vol. 6, No. 3, March 1958, Praha, Czechoslovakia,

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 9, September 1958.

Majer, J.

Protecting large synchronous machines. p.213. ELEKTROTECHNICKY OBZOR. (Ministerstvo strojirenstvi a Ministerstvo paliv a energetiky) Praha. Vol. 45, no. 4, Apr. 1956

Source: EEAL LC Vol. 5, No. 10 Oct. 1956

MAJER, J.

Laws governing models of electric machines. p. 291.

(Elektrotechnicky Obzor. Vol. 46, no. 6, June, 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

MAJER, J.

3

621.3.012.8

21. CONNECTION BETWEEN SIMILARITY LAWS OF ELECTROMAGNETIC MODELS AND THOSE OF EQUIVALENT CIRCUITS. A.Veverka and J.Majer. Elektrotech. Obzor, Vol. 47, No. 7, 346-8 (1958). In Czech.

Similarity laws of equivalent circuits are derived first with the help of dimensional analysis and then from the similarity laws of electromagnetic models. The latter derivation is carried out by analysis of an idealized coil. N.Klein

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:Hasek, ., engerova. A., Majer, J., Mater

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No abstract

1/1

VANEK, Z.; PUZA, M.; MAJER, J.; DOLEZILOVA, Libuse

Incorporation of acetic acid into erythromycin. Folia microbiol 6 no.6:386-391 '61.

1. Department of Microbiology, Institute of Biology, Czechoslovak Academy of Sciences, Prague 6.

(ERYTHROMYCIN chem) (ACETATES chem)

VANEK, Z.; PUZA, M.; MAJER, J.; DOLEZILOVA, Libuse

Contribution to the biosynthesis of erythromycin in the presence of propionic acid-1-^{14}C. Folia microbiol 6 no.6:408-410 '61.

1. Department of Microbiology, Institute of Biology, Czechoslovak Academy of Sciences, Prague 6.

(ERYTHROMYCIN metab) (PROPIONATES metab)

[illegible]

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: not given

Affiliation: not given

Source: Prague, Sbornik Ceskoslovenske Spolecnosti Zemepisne, Vol [illegible], No [illegible], [illegible], pp [illegible].

Data: "Geomorphology of the Valleys of Small Tributaries to the Vltava North of Prague."

Authors: KUNC, Karel
MAJER, Jan

GPO 981643

MAJER, Jan; PURAS, Pavel, inz.

Usefulness of siding operations. Zel dop tech 10 no.4:122 '62.

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Inorganic Substances. E.

Abs Jour : Ref Zhur - Khimiya, No. 9, 1958, 30486

Author : Majer, J. and Tomasch, E.
Inst : -
Title : The Potentiometric Determination of Iodide and Iodine in Iodine-Iodide Solutions.

Orig Pub : Ceskoslov Farmacol, 6, No. 7, 380-383 (1957) (in Slovak with summaries in German, English, and Russian)

Abstract : Three different methods for the determination of I and I- when present together in solution are described; each of the methods makes use of a different titrating solution. In the permanganometric method which is applicable only in the absence of organic substances, the solution to be analyzed containing 0.02 gm-equiv of I and I- each is mixed with 25 ml 3 N H_2SO_4 and 30 ml glacial CH_3COOH; the solution is diluted with water to 100 ml

Card 1/3

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Inorganic E.
Substances.

Abs Jour : Ref Zhur - Khimiya, No 9, 1959, 28488

and an aliquot portion is titrated potentiometrically with 0.02 N $KMnO_4$. When the first jump in potential is reached, 10 ml of 0.5 N KCN or 10 ml acetone are added to the above solution and the titration with 0.02 N $KMnO_4$ is continued until the second jump in potential is reached. The addition of CH_3COCH to the solution to be titrated is intended to prevent the volatilization of the I_2. The authors reject the possibility of the formation of I^+ during the titration and are of the opinion the I_2 reacts with KCN to form ICN and I^-; when acetone is used, CH_3COCH_2I, I^-, and H^+ are assumed to be formed. 1 (m-equiv of $KMnO_4$ is equivalent to 2 (m-equiv I^-. In the iodometric method the solution to be analyzed is mixed with 25 ml 5 N H_2SO_4 and 50 ml glacial CH_3COH and the resulting solution is diluted to 100 ml; an aliquot portion is then titrated with a 0.05 N solution.

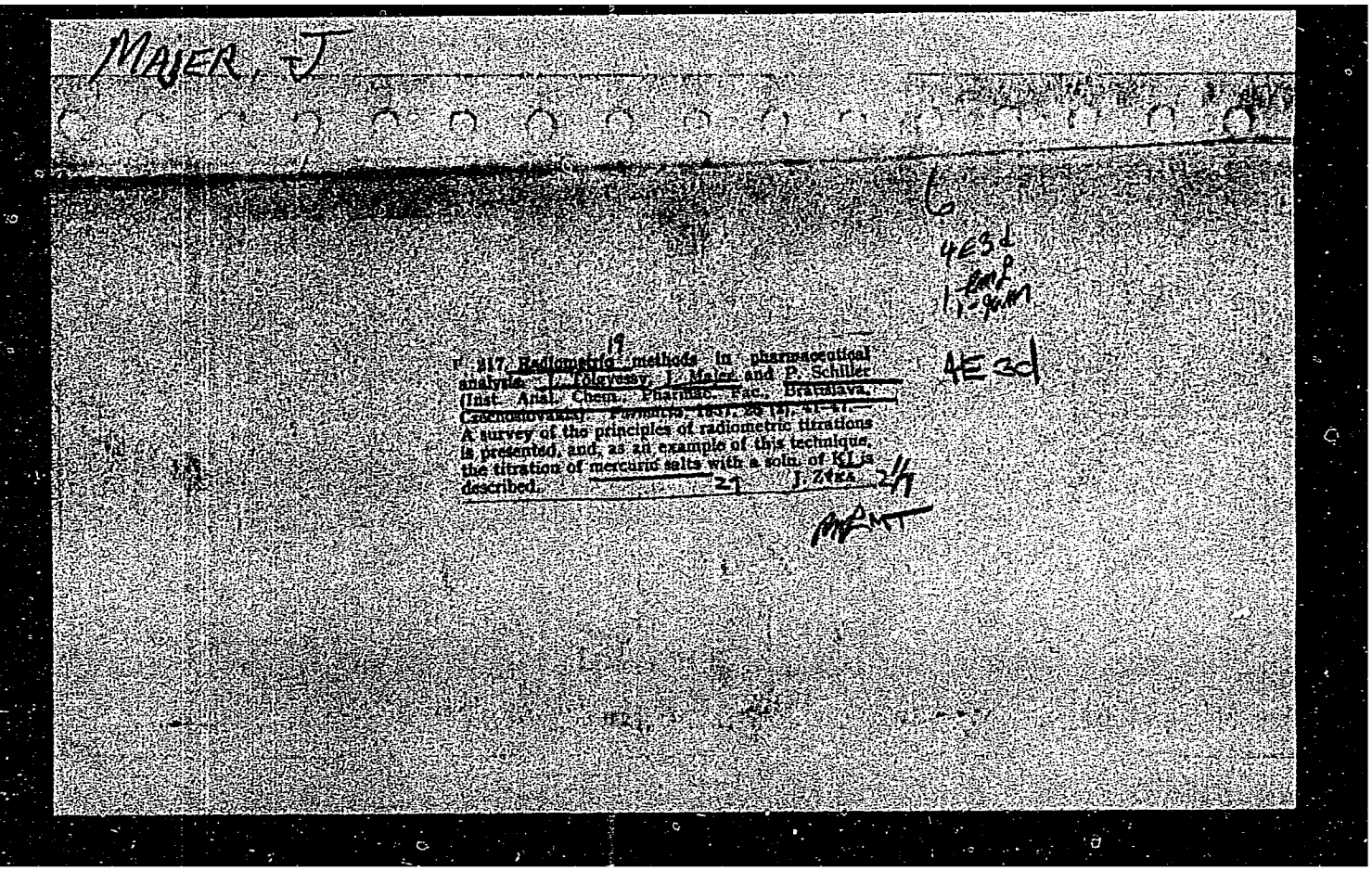
Card 2/3

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Inorganic Substances. E.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 28486

of KIO_3; on the attainment of the first equivalent point 20 ml of 25% HCl are added and the titration is continued until the second equivalent point is reached. The HCl combines with the I_2 forming ICl and I^-. 1 gm-equiv of KIO_3 is equivalent to 2.5 gm-equiv I^-. In the argentometric method the solution to be analyzed is mixed with 50 ml C_2H_5OH (to prevent the volatilization of I_2), 25 ml 9 N H_2SO_4, and 10 gms $(NH_4)_2SO_4$; the resulting solution is diluted with water to 200 ml and an aliquot portion is titrated with a 0.05 N solution of $AgNO_3$. When the first equivalent point is reached 10 ml of acetone are added to the solution and the titration is continued until the second equivalent point is reached.

Card 3/3



SCHILLER, P.; MAJER, J.

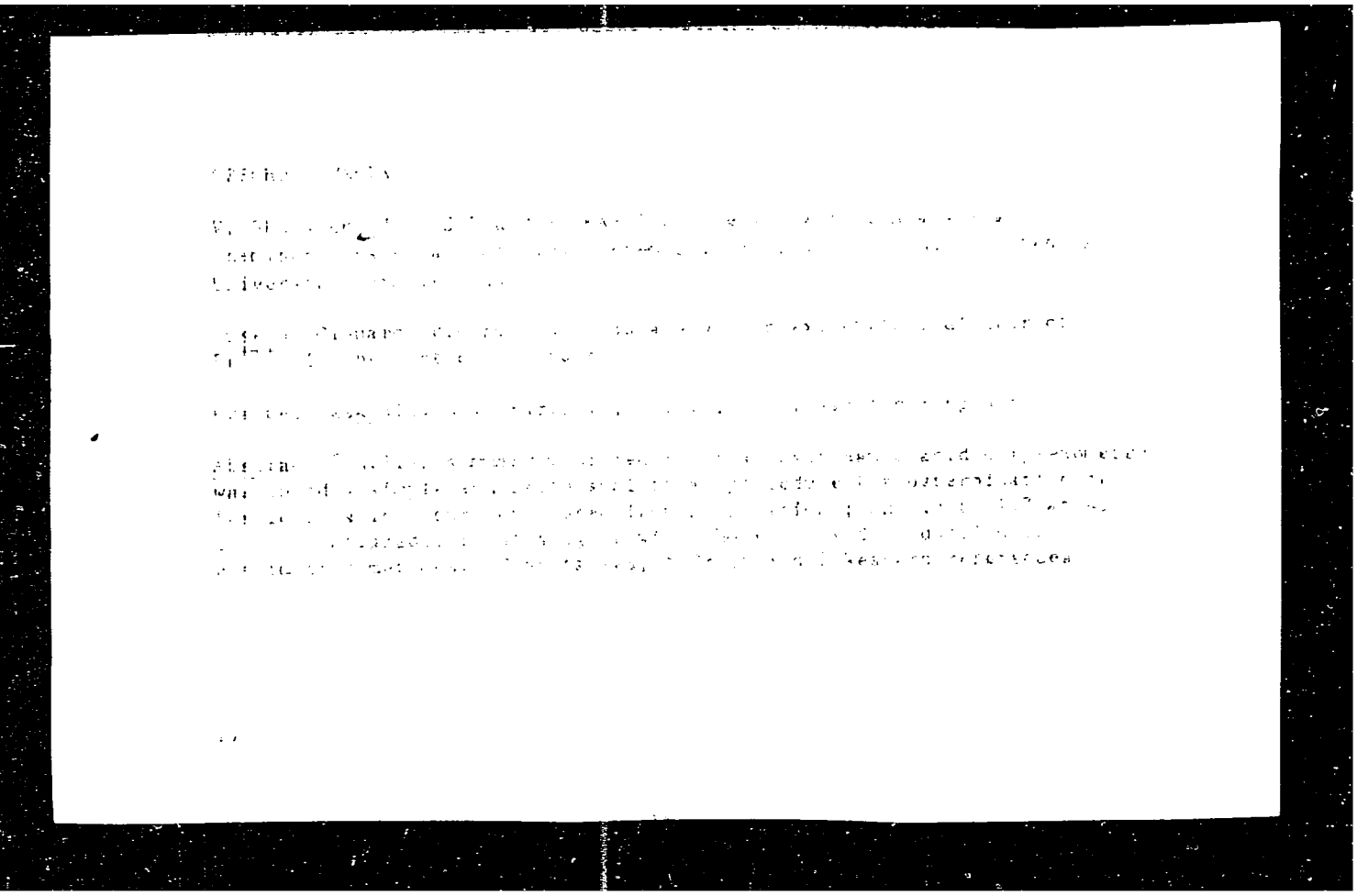
Analytical methods based on the picture of absorption of radioactive radiations. I. Analytical use of beta rays interacting with matter. Cesk. farm. 10,6:286-291 Jl '62.

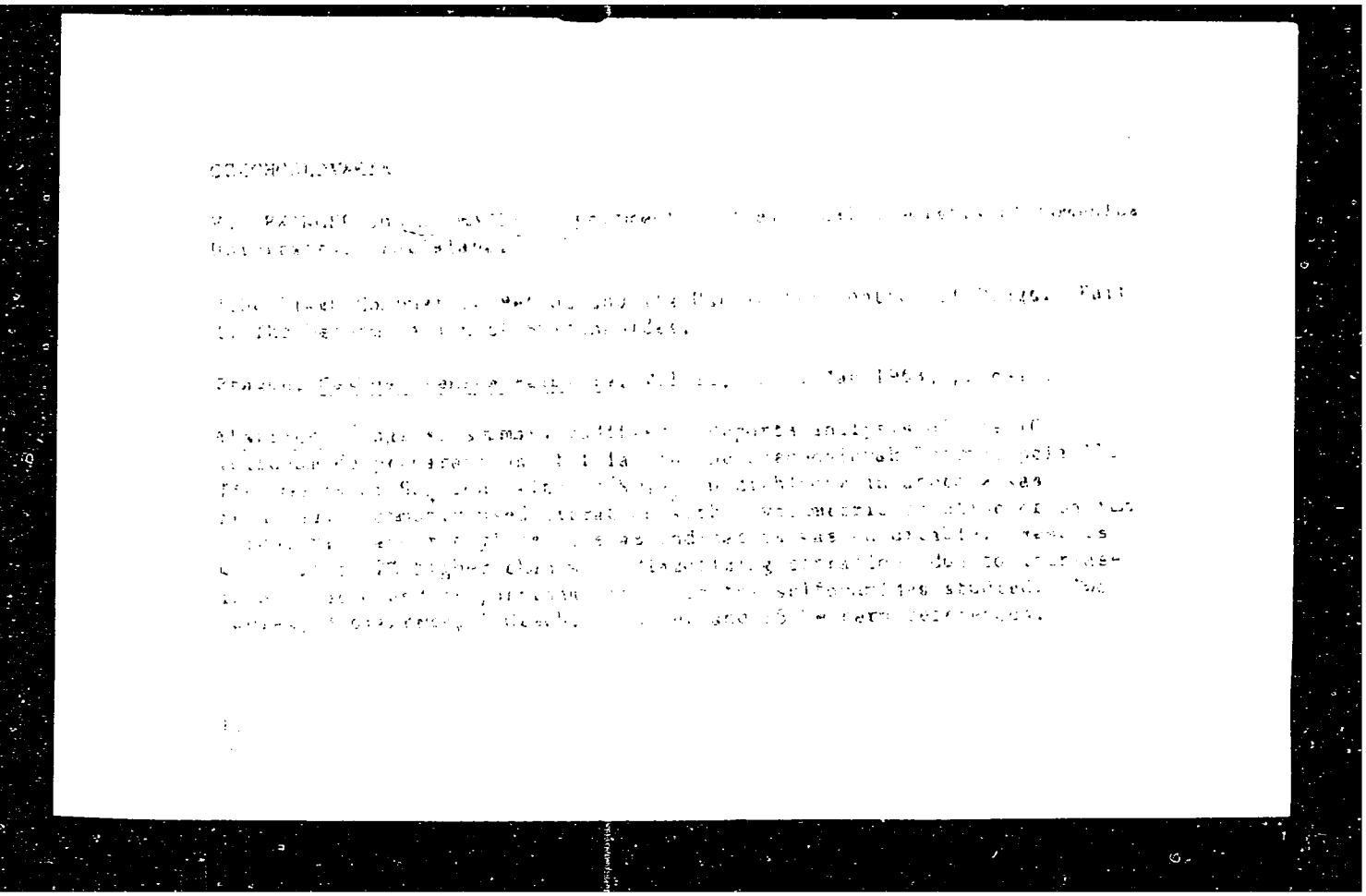
1. Radioizotopove oddelenie katedry analytickej chemie farmaceutickej fakulty Univerzity Komenskeho, Bratislava.
(CHEMISTRY ANALYTICAL) (RADIATION)

MAJER, Jaroslav, doc., PhMr., C.Sc.; SPRINGER, Vladimir, promovany farmaceut

Cinnamohydroxamic acid, a new complexometric indicator of ferric ions. Chem. zvesti 16 no.8:633-642 Ag '62.

1. Katedra analytickej chemie, Farmaceuticka fakulta University Komenskeho, Bratislava, ulica Odbojarov.





MAJER, Jaroslav, doc., PhMr., CSc.; DVORAKOVA, Edita, promovana farmaceutka

New complexons. Pt.1. Chem zvesti 17 no.6:402-410 '63.

1. Katedra analytickej chemie, Farmaceuticka fakulta University Komenskeho, Bratislava, ul. Odbojarov.

SPRINGER, V.; MAJER, J.

The flask combustion method in the control of drugs. II. Determination of total sulfur in ichthammol and some of its galenical preparations. Cesk. farm. 13 no.1:6-9 Ja'64.

1. Katedra analytickej chemie Farmaceutickej fakulty UK, Bratislava.

JOMBIK, Jozef; MAJER, Jaroslav; SCHILLER, Pavel

Radiometric determination of ash content in drugs.
Jaderna energie 10 no. 2:51-52 F '64.

1. Radioizotopove oddelenie Farmaceutickej fakulty Univerzity Komenskeho, Bratislava.

JOMBIK, J.; MAJER, J.; SCHILLER, I.

Analytical methods based on [illegible] and absorption of radioactive radiation. II. [illegible] determination of ash in plant drugs. Cesk. farm. 14 no. 5 [illegible] Je '64.

1. Katedra analytickej chemie farmaceutickej fakulty UK, [University Komenskeho], Bratislava.

L 1609-66 EPF(c)/EWP(j)/T/EWA(c) RM

ACCESSION NR: AP5024487 CZ/0043/64/000/011/0813/0822

AUTHOR: Springer, V.(Shpringer,V.)(Graduate pharmacist)(Bratislava); Majer, J. (Mayer, Ya.)(Docent, Pharmacist, Candidate of sciences)(Bratislava)

TITLE: Spectrophotometric investigation of the formation of chelates of the meso- and racemic forms of 2,3-diaminobutane with copper ions

SOURCE: Chemicke zvesti, no. 11, 1964, 813-822

TOPIC TAGS: spectrophotometric analysis, isomer, butane, amine, chelate compound, chemical absorption, absorption spectrum, copper, ion

ABSTRACT: Description of experimental results of a spectrophotometric investigation of the formation of the space isomers of 2,3-diaminobutane is presented. The composition of the chelates, their formation as a function of the pH, and the absorption spectra in the visible and ultraviolet region are discussed. The chelates of the Cu++ ion are violet in color; they have similar absorption spectra, absorption maxima, and absorption coefficients. Orig. art.has: 3 formulas, 8 graphs, 2 tables.

Card 1/2

L 1609-66
ACCESSION NR: AP5024487

3

ASSOCIATION: Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho, Bratislava (Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University)

SUBMITTED: 29Sep63 44,15 ENCL: 00 SUB CODE: OC, GC

NR REF SOV: 000 OTHER: 016 JPRS

Card 2/2 dg

MAYER, J.

Identification of terminal groups of degraded polyoxymethylene.
Coll Cz Chem 29 no.12:3171-3173 D '64.

1. Research Institute of Macromolecular Chemistry, Brno.

MAJER, Jaroslav, doc. PhMr., C.Sc.; NOVAK, Vladimir, inz.; SVICEKOVA, Maria, prom. farm.

New complexons. Pt. 2. Chem zvesti 8 no.7:481-492 '54.

1. Chair of Analytic Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava, ul. Odbojarov 12.

L 1637-66

ACCESSION NR: AP5024272 CZ/0043/64/000/008/0584/0596

AUTHOR: Jokl, V. (Yokl, V.)(Doctor of natural sciences, Pharmacist, Candidate of sciences)(Bratislava); Majer, J. (Mayer, Ya.)(Docent, Doctor of natural sciences, Candidate of sciences)(Bratislava); Mazacova, M. (Mazachova, M.)(Graduate pharmacist,) (Bratislava)

TITLE: Study of complex compounds in solutions by means of electrophoresis on paper (III). Chelation by alcoholic hydroxyl

SOURCE: Chemicke zvesti, no. 8, 1964, 584-596

TOPIC TAGS: chelaton, glycine, chelate compound, electrophoresis, solution property

ABSTRACT: The curves of the electrophoretic mobility of glycine complexes were determined by measurements; N,N-bishydroxy ethyl-glycine, imino-di-acetic acid, and N-hydroxy-ethyl imino di-acetic acid, with a number of di- and tri- valent central ions were studied. On this basis the probable structure and approximate constants of the stability of the complexes were determined. Substitution by hydroxy-ethyl group is discussed, and the character of the chelates prepared in this manner is described. Orig. art. has: 4 formulas, 6 graphs, 2 tables.

Card 1/2

L 1637-66

ACCESSION NR: AP5024272

ASSOCIATION: Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho, Bratislava (Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University)

SUBMITTED: 05Mar64 ENCL: 00 SUB CODE: GC, GC

NR REF SOV: 000 OTHER: 021 JPRS

Card 2/2

L 33688-66 EWP(j) RM

ACC NR: AP6024204 SOURCE CODE: CZ/0043/65/000/011/0817/0825

AUTHOR: Novak, Vladimir (Engineer; Bratislava); Majer, Jaroslav--Majer, Ya. (Docent; Pharmacist; Candidate of sciences; Bratislava); Svicekova, Maria--Svichekova, M. (Graduate pharmacist; Bratislava) 24 B

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty University Komenskeho)

TITLE: New complexans (III) Polarographic determination of stability constants of the complexes of meso-2,3-diaminobutane-N,N,N',N'-tetraacetic acid with lanthanum compounds. [This paper was presented at the Symposium on the Structure and Quality of Coordination Compounds, held in Bratislava from 2 to 4 September 1964.]

SOURCE: Chemicke zvesti, no. 11, 1965, 817-825

TOPIC TAGS: stability constant, polarography, complex compound, exchange reaction, lanthanum compound

ABSTRACT: The stability constants were determined by polarographic measurements at 20°C in a medium of patassium nitrate. The La was trivalent and the cations used for exchange equilibrium determinations were Cd, Pb, Cu and Eu. La was in the form of 0.01M solution of $La(NO_3)_3$. Impurities contained usually in La strongly the results. Orig. art. has: 5 figures and 3 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 01Mar65 / ORIG REF: 007 / OTH REF: 001

Card 1/1 PB

0925 1855

L 10827-66

ACC NR: AP6004439 SOURCE CODE: CZ/0043/65/000/004/0249/0258

AUTHOR: Jokl, Vladimir--Yokl, V. (Doctor; Doctor of natural sciences; Pharmacist; Candidate of sciences); Majer, Jaroslav--Mayer, Ya. (Doctor; Pharmacist; Candidate of sciences)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: Study of complex compounds in solution by means of paper electrophoresis. IV. Complexes if 1,3-diaminopropanol (2)-N,N,N',N'-tetraacetic acid

SOURCE: Chemicke zvesti, 19 no. 4, 1965, 249-258

TOPIC TAGS: intermolecular complex, coordination chemistry, organic nitrogen compound, acetic acid, hydroxyl group, electrophoresis, paper chromatography

ABSTRACT: 1,3-Diaminopropanol(2)-tetraacetic acid (DPTA) is found generally as a six-donor chelate-forming agent, and its complexes are formed similarly to those of ethylenediaminetetraacetic acid (EDTA) by first forming mononuclear chelates having a 1:1 metal to agent ratio: the alcohol group of DPTA does not take part in the chelate formation. The Pb chelate Pb_2A^- is stable at pH > 4; during its formation a proton of the hydroxyl group is released and DPTA behaves as a 7-donor agent. FeA^- also probably releases a hydroxyl group above pH 4. Chelates of DPTA are less stable than those of EDTA: Mg chelate is very unstable. The authors thank Prof.-Engr. S. Stankoviansky for the encouraging discussions concerning this work. Orig. art. has: 2 figures, 5 formulas, and 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 25May64 / ORIG REF: 007 / OTH REF: 011

Card 1/1

L 10826-66
ACC NR: AP6004442 SOURCE CODE: CZ/0043/65/000/004/0281/0286

AUTHOR: Jokl, Vladimir--Yokl, V. (Doctor; Doctor of natural sciences; Pharmacist; Candidate of sciences); Majer, Jaroslav--Mayer, Ya. (Doctor; Candidate of sciences; Pharmacist)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: Study of complex compounds in solution by means of paper electrophoresis (V.). Complexes of stereoisomeric 2,3-diaminobutane-N,N,N',N'-tetraacetic acids

SOURCE: Chemicke zvesti, 19 no. 4, 1965, 281-286

TOPIC TAGS: intermolecular complex, electrophoresis, paper chromatography, organic nitrogen compound, butane, acetic acid, stereochemistry

ABSTRACT: The evaluation of electrophoretic mobility of complexes of meso- and rac- acids with some di- and trivalent central ions allowed to determine the formation and stability of these complexes. The complexes are similar to those of ethylenediaminotetraacetic acid; the m- forms have the same stability, the r- have a very high stability similar to that of the complexes of 1,2-diaminocyclohexanetetraacetic acid. The difference in stability is due to the effect of the steric arrangement. The authors thank Viera Gregorova for part of the work (r-DBTA), which was done within the framework of work toward a degree. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 16Jul64 / ORIG REF: 009 / OTH REF: 006
SOV REF: 001
Card 1/1

L 36039-66 EWP(j) RM
ACC NR: AP6027368 SOURCE CODE: CZ/0043/66/000/004/0233/0241

AUTHOR: Dvorakova, Edita--Dvorzhakova, E. (Graduate pharmacist; Bratislava); Major, Jaroslav--Mayor, Ya. (Docent; Pharmacist; Candidate of sciences; Bratislava)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: New complexans. (IV). Potentiometric investigation of complexes of meso- and racemic acids: 2,3-diaminobutane-N,N,N',N'-tetraacetic acid with some divalent cations

SOURCE: Chemicke zvesti, no. 4, 1966, 233-241

TOPIC TAGS: cation, acetic acid, chemical stability, chelate compound, amine, ion neutralization, ion concentration, polarographic analysis

ABSTRACT: Potentiometric determination of pH was used to find the stability constants of chelates of stereoisomeric complexans of meso- and racemic 2,3-diaminobutane-N,N,N',N'-tetraacetic acids with cations Cu++, Cd++, Zn++, Mn++, and Fe++. Schwarzenbach's method of exchange equilibria with 2,2',2''-trisaminotriethylamine was used. The stability constants of complexes with Fe++ and Mn++ ions were determined from the pH values of the neutralization curve of the acid with the equimolecular concentration of the metal ion. The values of the constants were compared to those obtained polarographically. Orig. art. has: 2 figures, 11 formulas, and 4 tables. [JPRS: 36,463]

SUB CODE: 07 / SUBM DATE: 20May65 / ORIG REF: 004 / OTH REF: 006

Card 1/1

L 36040-66 EWP(j) RM

ACC NR: AP6027370 SOURCE CODE: CZ/0043/66/000/004/0252/0260

AUTHOR: Novak, Vladimir (Engineer; Bratislava); Svicekova, Maria—Svichekova, M. (Graduate pharmacist; Bratislava); Majer, Jaroslav—Mayer, Ya. (Docent; Pharmacist; Candidate of sciences; Bratislava)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: New complexans (VI). Stability constants of racemic-2,3-diamino-butano-N,N,N',N'-tetraacetic acid with lanthanides determined by the polarographic method of exchange equilibrium systems

SOURCE: Chemicke zvesti, no. 4, 1966, 252-260

TOPIC TAGS: stability constant, acetic acid, lanthanum, polarographic analysis, chemical equilibrium

ABSTRACT: The polarographic investigation of the exchange equilibrium systems was used for the determination of the values of the logarithms of the stability constants of normal complexes of the racemic-2,3-diaminobutane-N,N,N',N'-tetraacetic acid with La. The stability constants are expressed as a discontinuous function of the atomic number of La forming the central ion of the comples. Orig. art. has: 5 figures and 3 tables. [JPRS: 36,464]

SUB CODE: 07 / SUBM DATE: 10Apr65 / ORIG REF: 006 / OTH REF: 001

Card 1/1 mlp

L 00665-67 EWP(j) RM

ACC NR: AP6027369 SOURCE CODE: CZ/0043/66/000/004/0242/0251

AUTHOR: Majer, Jaroslav--Mayer, Ya. (Docent; Pharmacist; Candidate of sciences; Bratislava); Kotoucek, Milan--Kotouchek, M. (Graduate pharmacist; Bratislava); Dvorakova, Edita--Dvorzhakova, E. (Graduate pharmacist; Bratislava)

ORG: Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University, Bratislava (Katedra analytickej chemie Farmaceutickej fakulty Univerzity Komenskeho)

TITLE: New complexans (V). Complexes of ethylenediamino-N,N'-dipropionic-alpha, alpha' acid, and of ethylenediamino-N,N'-dipropionic-alpha, alpha'-N,N'-diacetic acid with the cations of alkali earths, and with some other divalent cations

SOURCE: Chemicke zvesti, no. 4, 1966, 242-251

TOPIC TAGS: cation, alkali earth mineral, amino acid, acetic acid, dissociation constant, stability constant, intermolecular complex

ABSTRACT: Schwarzenbach's method was used for potentiometric investigation of the dissociation constant of the two acids mentioned above, and of the complexes of these acids with divalent cations of Mg, Ca, Sr, Ba, Cu, Cd, Zn, Pb, Mn, and Fe. The dissociation and stability constants found are compared to those of ethylene-diamino-N,N'-diacetic acid, and of ethylene-diamino-N,N,N',N'-tetra-acetic acid. Orig. art. has: 2 figures, 10 formulas, and 6 tables. [JPRS: 36,464]

SUB CODE: 07 / SUBM DATE: 20May65 / ORIG REF: 003 / OTH REF: 004

Card 1/1 vlr

0911 0496

MAJER, Jiri

Purity of Vah River water. El tech obzor 50 no.10:604 O '61.

1. Ceskomoravska-Kolben-Danek Blansko, n.p.

(Water)

MAJER, JOSEF

CZECHOSLOVAKIA/Chemistry of High Molecular Substances. I

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 23685

Author : Josef Majer
Inst : -
Title : Viscoelastic Properties of Polybenzylmetacrylate and Polymethylmetacrylate in Transition Region.

Orig Pub : Chem. prumysl, 1957, 7, No 7, 433-437

Abstract : The creeping curves of polybenzylmetacrylate and polymethylmetacrylate in the transition region were plotted. The border moduli were computed by the method of temperature-time superposition developed by Tobol'skiy. The characteristic lag time and the discrimination temperature agreeing with the vitrification temperature were determined. The presented equation of state is satisfied in the range of presented discrimination temperatures $1.5 > T_d > 0.95$.

Card 1/1

Majer J.

CZECHOSLOVAKIA/Atomic and Molecular Physics - Physics of Polymers B-9

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 10517

Author : Majer Josef
Inst : Higher Institute for Macromolecular Chemistry, Brno, Czechoslovakia
Title : Viscoelastic Properties of Polybenzylmetacrylate and Polymethylmetacrylate in the Transition Region

Orig Pub : Chem. prumysl., 1957, 7, No 8, 433-437

Abstract : The author has investigated the viscoelastic properties of polybenzylmetacrylate and polymethylmetacrylate, containing 5% dibutylphthalate, in the transition region (using creep curves measured by means of a cosistometer. The limiting moduli were calculated with the aid of the principle of temperature-time superposition of Tobol'skiy. The characteristic delay times and the differentiation temperatures, which are in good agreement with the vitrification temperatures, were calculated for both polymers. The given equation of state is fulfilled in the region $0.95 < T_r < 1.05$ (T_r is the reduced differentiation temperature). The use of principle

Card : 1/2

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 10517

of superposition makes it possible to study the behavior of amorphous polymers in experimental time intervals that are difficult to attain. This principle cannot be applied to crystalline polymers, since their internal structure depends on the temperature. The equations of state need a critical review, since they were obtained empirically and their correctness has been confirmed so far only for several polymers and copolymers.

CZECHOSLOVAKIA/Chemistry of High-Molecular Substances I

Abs Jour: Ref Zhur-Khim., No 13, 1958, 45489.

Author : Majer Josef, Peroutka Oldrich.
Inst :
Title : Titration of N-Methoxymethylpolycaprolactam by the Precipitation Method.

Orig Pub: Chem. prumysl, 1957, 7, No 11, 617-619.

Abstract: The volumes of acetone or water, which cause incipient turbidity of aqueous alcoholic solutions of N-methoxymethylpolycaprolactam are linearly correlated with the degree of N-methoxymethyl substitution (I) of the polymer and depend only slightly upon its concentration in the solution.

Card : 1/2

CZECHOSLOVAKIA/Chemistry of High-Molecular Substances. I.

Abs Jour: Ref Zhur-Khim., No 13, 1958, 45489.

which can be utilized for a rapid determination of I in 6-caprolactam.

Card : 2/2

MAJER T.

CZECHOSLOVAKIA/Optics - Physical Optics K-5

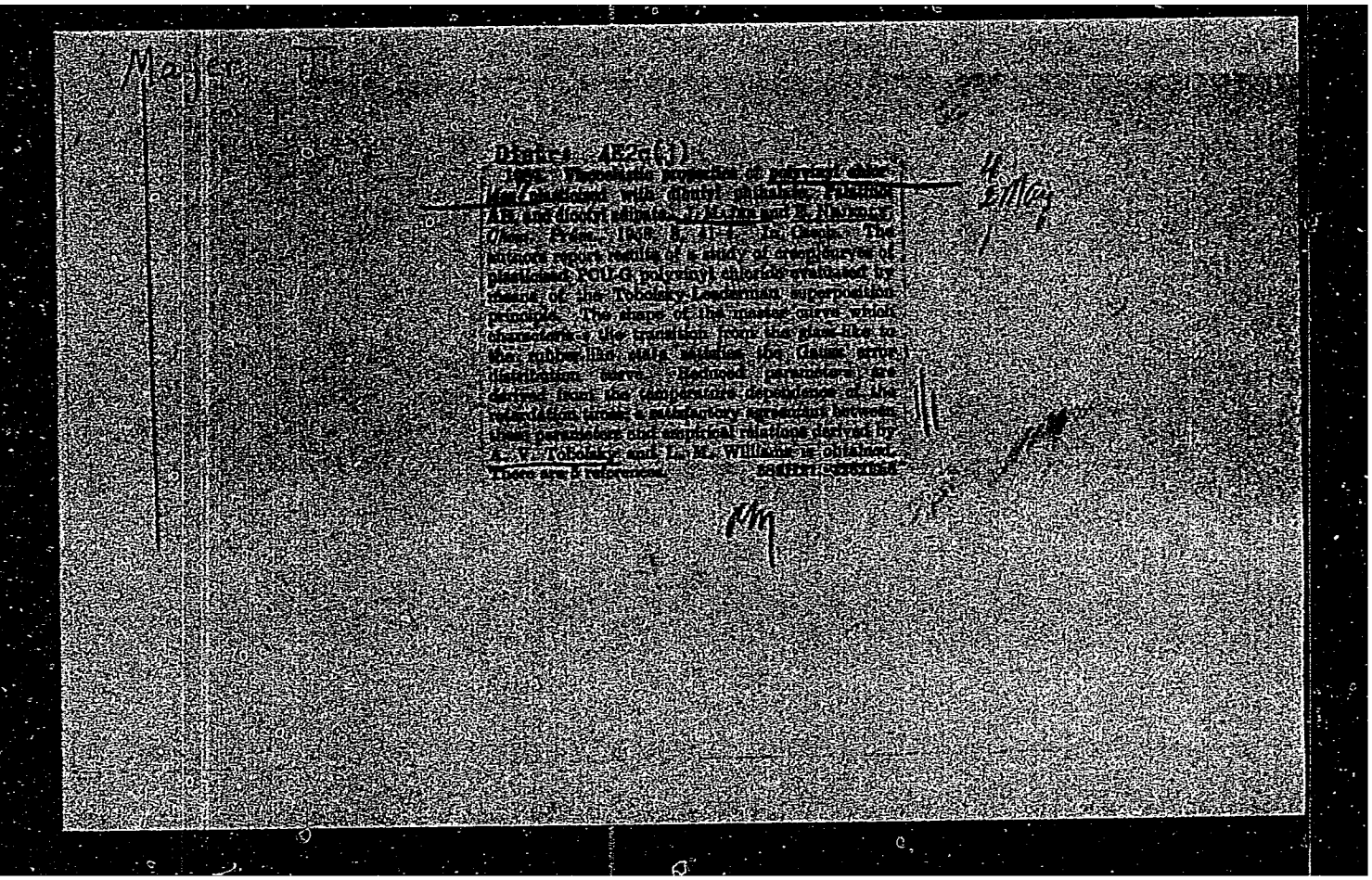
Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 6937

Author : Kvorak J., Majer J.
Inst : Not Given
Title : Time Dependent Birefringence of Macromolecular Substances

Orig Pub : Sb. chekhosl. khim. rabot, 1957, 22, No 2, 379-389

Abstract : See Referat Zhur Fizika, 1957, 21103

Card : 1/1



MAJER, JOSEF

Distr: 4E2c(j)/4E3d

1 7

✓ Block polymerization of diallyl phthalate. Josef Majer (Výzk. Ústav makromol. chem., Brno, Czech.). Chem. průmysl 8, 255–7(1958).—The block polymerization of diallyl phthalate was investigated dilatometrically and refractometrically. The square of the over-all rate of polymerization is proportional to the concn. of the initiator. The energy of activa'n is 27.7 ± 0.9 kcal./mole, and corresponds to the values obtained during the block polymerization of monofunctional monomers. The gel point, which is expressed as percentage of monomer conversion to polymer, is a linear function of the reaction rate, and is affected by the concn. of the initiator. On increasing concn. of the initiator there is a shift in the gel point to correspondingly higher conversions. From C.A. 1958, 12707.

Edgar Hammond

4E 3E

5
1-GW(MR)
1-JAS(JK)
2

CZECHOSLOVAKIA / High Molecular Chemistry. I

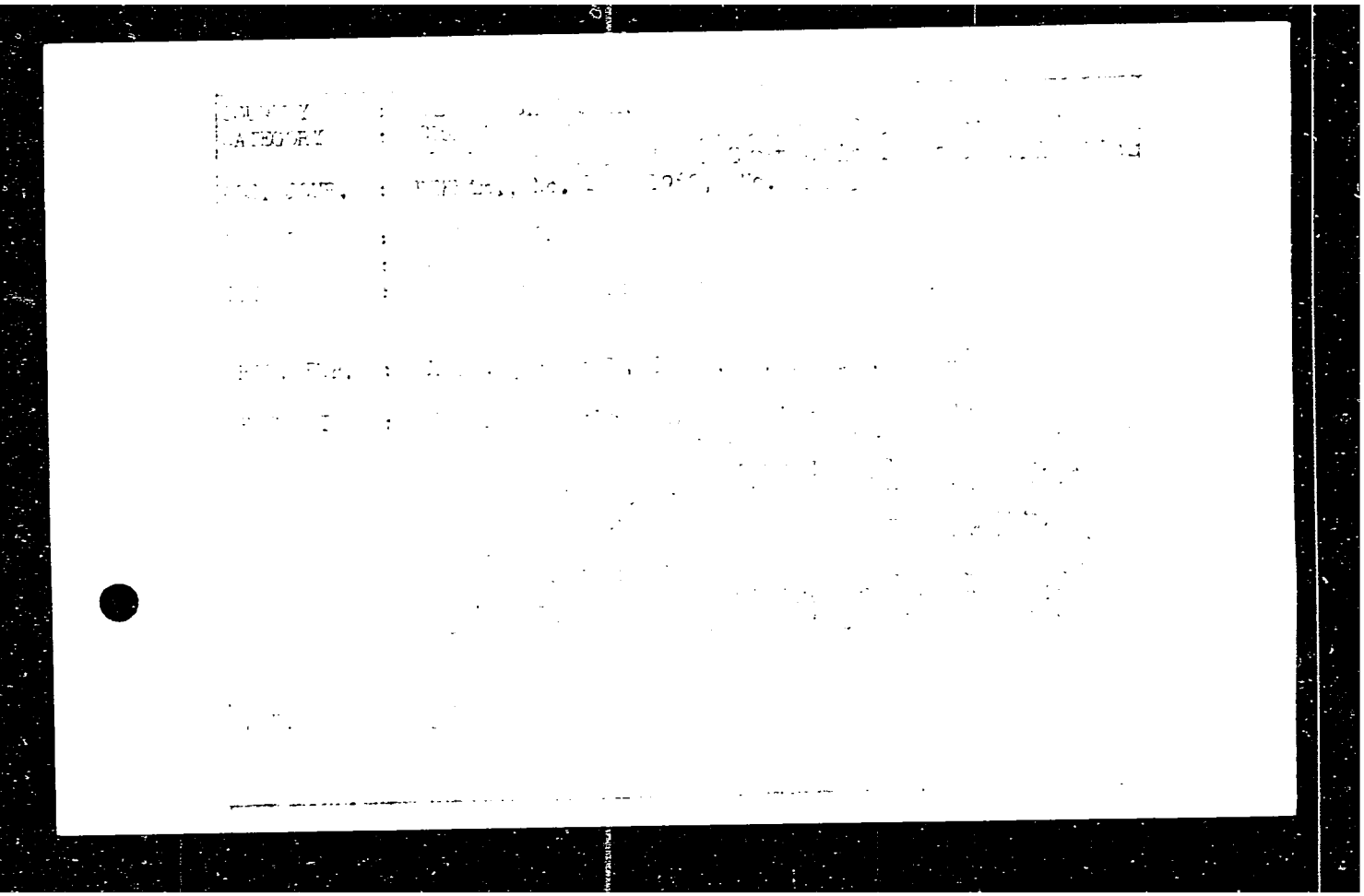
Abs Jour : Ref Zhur - Khimiya, No 5, 1959, No. 12035

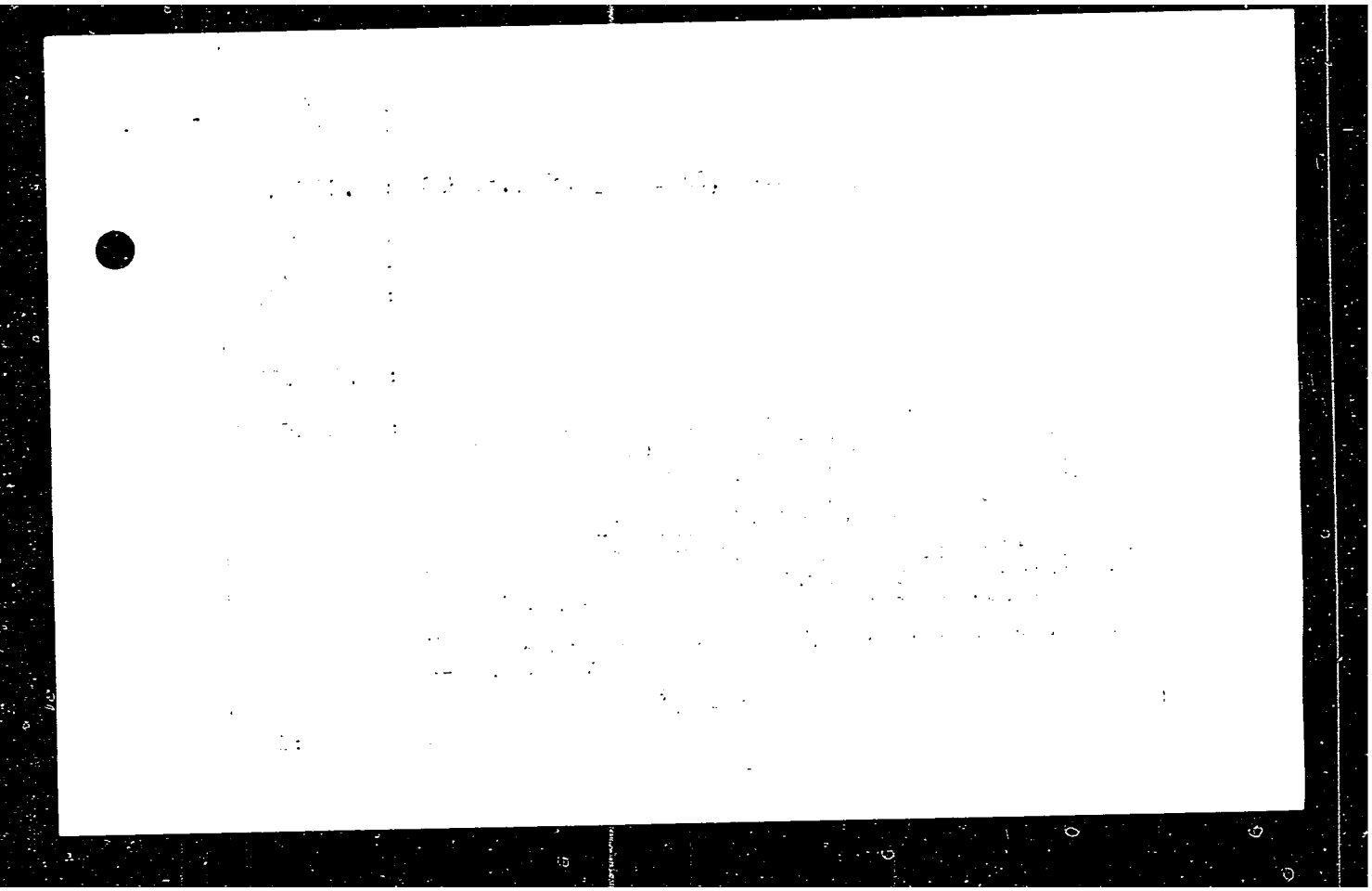
Author : Majer, J.
Inst : Not given
Title : Polymerization of Benzylmetacrylate in a Block

Orig Pub : Chem. prumysl, 1953, 3, No 6, 324-327

Abstract : The rate of polymerization of benzylmetacrylate is proportional to the square root of concentration of benzoyl peroxide. The energy of activation is equivalent to 18.3 kcal/mol. Salts of Pb and O_2 inhibit polymerization. -- Kh. Bogdasar'yan

Card 1/1





APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001031410016-4"

MAJER Josef

Distr: 4E2c(j)7

Bulk polymerization of benzyl methacrylate. Josef Majer (Výzk. ústav makromol. chemie, Brno, Czech.). *Chem. průmysl* 8(33), 324–7(1958)(English summary).—The effects of initiator (benzoyl peroxide) concn. (I), abs. temp. (II), and impurities upon the polymerization were studied. The rate is proportional to the square root of I, and the logarithm of the rate is a linear function of the reciprocal II. Pb and O functioned as inhibitors. The dependence of viscosity of the polymer upon the temp. was shown graphically. Acetyl benzoyl peroxide required lower polymerization temp. and was recommended as a more suitable catalyst. Alexei B. Bofkovec

4
2 May
1

"A. K., J.

"Influence of temperature on the viscosity of molten polyethylene."

CHEMICKY PRUMYSL, Praha, Czechoslovakia, Vol. 9, No. 4, April 1959.

Monthly List of East European Accessions (EAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

MAJER, J.

3

2 J-J (NB)

4E2c (j)

✓ **Relation between the viscosity of the solution and of the melt of polyethylene.** Josef Majer (VÚMCH, Brno, Czech.). *Chem. průmysl* 9, 494-7(1959).—The flow index (FI) and the logarithmic viscosity no. ([η]) of high-pressure polyethylene (I) and low-pressure polyethylene (II) were estd., FI being measured at 190° and [η] being estd. in xylene and Tetralin at 110-50°. The linear relation, log FI = *f*(log [η]), has a slope of −6.0 for II, whereas for I this relation is not valid; with increasing mol. wt. the melt viscosity of I increases more rapidly than that of II, and therefore the processing of high mol. wt. II is better than of I with the same mol. wt. 53 references. J. Šebenda

CFK 1/1

CZECHOSLOVAKIA/Atomic and Molecular Physics - Physics of Polymers. D-

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5945

Author : Majer Josef

Inst : Research Institute for Macromolecular Chemistry, Brno, Czechoslovakia

Title : Effect of Temperature on Viscosity of Molten Polyethylene

Orig Pub : Chem. prumysl, 1959, 9, No 4, 219-22?

Abstract : Using an extrusion plastomer, the author measured the activation energy E_a of the flow of polyethylene (I) at a constant value of the shear stress τ = 3.14 x 10^5 dyne/cm^2. The value of E_a amount to 6.8 kcal/mole for I of low pressure (Ziegler type and 11.4 kcal/mole for I of high pressure, and these values do not change in the investigated range of the yield factor in specimens with identical prior history. Different values of E_a of

Card 1/2

CZECHOSLOVAKIA/Atomic and Molecular Physics - Physics of Polymers. D-

Abs Jour : Ref Zhur Fizika, No 3, 19[illegible], 59[illegible]

polyethylenes prepared by different ways, are apparently due to the influence of branching.

Card 2/3

MAJER, J.

Distr: 4E2c(j)

Kinetics of the crystallization process of low-pressure polyethylene. J. Majer, J. Belusa, and J. Lanikova (Macromolecular Research Institute, Brno, Czechoslovakia). *Kunststoff-Rundschau* 7, 39–44(1960).—On analyzing the crystn. isothermal curve of low-pressure polyethylene according to the procedure of Avrami (*CA* 35, 3137^{8}) and Morgan (*CA* 48, 13270*b*), the authors found that the crystn. is dependent on 2 competitive processes: formation of the nuclei and growth of the spherolites. The melting conditions were 8 min. at 180° and the crystn. temperature range 120–7.0°. The value of the velocity constant k_0 changes in the range order of 1×10^{-3} to 1×10^{-16}. At temps. below 120° the primary crystn. cannot be followed any more by the dilatometric method. The comparison of several theoretical relations has shown the equivalence of vol. and wt. portions of the cryst. phase; the Mandelkern equation, however, gives lower values for k_0. According to the Kantorowitz criterion, in low-pressure polyethylene an apparent induction period is probably involved and must not be excluded in computing the k_0 and n values. The activation energy computed from the temp. dependence of time parameter is of the same order, however higher than in high-pressure polyethylene. Only the right-side portion of the curve from the max. of total crystn. velocity was studied.

L. A. Helwich

5

1 - Dept (NIS)

MAJER, J.

Distr: 4E2c(j)

Secondary crystallization of the Ziegler-type polyethylene. J. Majer (Výzkumný ústav makromol. chem., Brno, Czech.). *Collection Czechoslov. Chem. Communs.* 25, 2454-6(1960)(in German).—The secondary crystn. of low-pressure polyethylene according to Ziegler was measured dilatometrically in the temp. range from 60 up to 124°. The isotherms are expressed by the relation $(v_r/v_\infty)_r = A - B \log \tau$, where v_r is sp. vol. at time τ and v_∞ is sp. vol. of the amorphous phase, and from the temp. dependence the activation energy of the segment diffusion was calcd. (10.6 kcal./mol. of the kinetic unit) and compared with other types of polyethylene. E. Erdős

7

3
JAJ (WB)
1

[illegible]
3166/3144

AUTHORS: [illegible]

TITLE: Determining the degree of branching of polyethylene by the [illegible]ler - Kovacs method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 196[illegible], 7[illegible], abstract 10Л16 (Collect. Czechosl. Chem. Communs, v. [illegible], no. 11, 1960, [illegible]751-[illegible]756)

TEXT: It is shown that the [illegible]bler - Kovacs dilatometric method of determining the degree of branching of Ziegler-type polyethylene can be applied in practice. The simplifications suggested make it possible to cut out the inaccuracies which attend mainly the graphic processing of the experimental data. The data from this method agree well with the results of investigations by infrared spectroscopy. The maximum relative error of the method is [illegible] ± 5%. It can be applied to polyethylene with a degree of branching of up to 0.015. [Abstracter's note: Complete translation.]

Card 1/1

9411

15 8500 2209

Z/000/61/000/002/005/008
E112/E453

AUTHOR: Majer, Josef

TITLE: Mechanical Properties of Ethylene-Propylene Copolymers

PERIODICAL: Chemický průmysl, 1961, No.2, pp.97-101

TEXT: Low-pressure polyethylene is too rigid and crystalline for many applications (wrapping materials). High-pressure polyethylene is less crystalline because of higher degree of total chain branching. Several authors have proposed to produce the same branching effect by copolymerisation of ethylene and propylene. Two copolymerisation methods are suggested alternating and random polymerisation. Difficulties with random polymerisation are discussed. The use of Zieglers catalyst produces a mixture of homo and copolymers. Natta (J Polymer Sci 34, 21, 1959, Ref.1) suggests the use of a homogeneous catalyst system. Copolymerisation is nonazeotropic and the copolymers contain more ethylene units than present in the original charge mixture. Difficulties can be overcome by using flow polymerisation with a high flow-rate. Copolymers of ethylene and propylene were studied primarily from the structural point of view and there are only few references in the literature about their mechanical

Card 1/4

89411

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E112/E453

Mechanical Properties of ...

properties The present paper sets out to provide additional information in that field. A study of densities, rigidity stress-strain properties in tension, upper yield stress tensile strength and ultimate elongation of a wide range of ethylene-propylene copolymers is submitted. Comparative values for polyethylene and polypropylene are also included The effect of increased proportions of propylene on the mechanical properties of the polymer was followed with the view to prepare a material with similar characteristics to that of high-pressure polyethylene. The copolymers were polymerised under conditions described in a previous Czechoslovak paper (Vilím, Chemický průmysl 9/34 101 1959 Ref 3) using $TiCl_4$ + $Al(C_2H_5)_3$ as catalyst and n-heptane, cyclohexane or Nogazine 1 (hydrogenated) as reaction medium. The polymers studied covered a wide range of densities allowing to reinvestigate the correlations between the two basic parameters (density average number molecular weight) and mechanical properties, as expressed by Sperati et al (J.Am.Chem.Soc. 75 6127 1953 Ref.7). The following constants were determined. 1. Intrinsic viscosity (in tetraline) 2 Density (pyknometer, hexyl alcohol or by flotation) 3 Stiffness (Tinius-

Card 2/4

89411

Mechanical Properties of .. Z/009/61/000/002/005/007
E119/E433

Olsen), 4 Tensile strength properties (upper yield stress and ultimate elongation ASTM-D 412-51T). Although interpretation of the effect of molecular structure on some of the properties of polyethylene requires a three parameter system (average number molecular weight, short and long-chain branching). Other mechanical properties of the solid polymer are substantially unaffected by long chain branching. Quantitative correlation can therefore be simplified by using a plane projection as adopted by the author for the interpretation of the mechanical properties of ethylene-propylene copolymers. The mechanical properties were considered as functions of two variables namely average number molecular weight and crystallinity. The correlation between density, crystallinity and stiffness were demonstrated for high pressure polyethylene by Sperati and the author has applied it in the present paper also for low-pressure polyethylene and the ethylene-propylene copolymers. It is demonstrated that stiffness shows a linear increase with increase in crystallinity, the latter being a function of chain branching. Change of density for copolymers with increasing proportions of propylene is illustrated graphically and compared to high-pressure polyethylene. It is
Card 3/4

89411

Mechanical Properties of . /C09/61/000/002/005/008
E112/E453

shown that a copolymer with 10 to 15% and 80% propylene content respectively corresponds in its stiffness characteristics to high-pressure polyethylene similarly to stiffness upper yield stress of high-pressure polyethylene and polypropylene is also correlated to crystallinity. The author has established an identical relationship for the ethylene-propylene copolymers. The value for upper yield stress decreases with increased propylene content reaching a minimum with equimolar participation of both components (ethylene and propylene respectively). Tensile strength was also found to increase with density. The tensile strength of high pressure polyethylene (100 to 140 kg/ m^2) is displayed by a copolymer containing 11 to 22% and 78 to 9[illegible] propylene respectively. No clear cut correlation was however established for the copolymers and the basic parameters with respect to extensibility. The latter decreased slightly as the proportion of propylene in the copolymer increased. There are 11 figures and 28 references: 2 Czech and 26 non-Czech.

ASSOCIATION: Výzkumný ústav makromolekulární chemie, Brno (Research Institute [illegible])

SUBMITTED: February 27 1961

Card 1/3

Z/009/61/000/009/002/003
E 112/E435

AUTHOR: Majer, Josef

TITLE: Thermal properties of polyethylene and ethylene-propylene copolymers

PERIODICAL Chemický průmysl, No.9, 1961, pp.489-493

TEXT. In a previous paper (Ref.21: Chemický průmysl, Vol.11, 1961, pp97-101) the author has correlated mechanical properties and structure (chain-branching) of polyethylenes and ethylene-propylene copolymers. The present study correlates structure and melt characteristics of the following:
1. Commercial, high-pressure polyethylene.
2. Experimental samples of Zieglers' polyethylene.
3. Ethylene-propylene copolymer.
The products are defined by the logarithms of viscosity (η), density h_4^{25} and ash content and the following melt characteristics were established
1. Optical melting point, i.e. temperature at which crystallinity disappeared between crossed Nicols on a hot stage microscope.
2. Vicat temperature, i.e. temperature required to give 1 mm penetration with a 1 mm^2 needle under a 1 kg load, while
Card 1/5

Z/009/61/000/009/002/003
E113/E435

Thermal properties of poly-

temperature is increasing 0.83°C/min
3 Temperature of softening, determined on a Hoeppler consistometer, under a load of 2 kg/cm^2, while temperature is increased at a rate of 0.6°C/min.
Results are presented in the form of graphs:
a) Melting points vs density. This function is characterized by a considerable scatter of points. The graph indicates, nevertheless, that the melting point of low-pressure polyethylene decreases with decreasing density. A similar functionality is shown by ethylene-propylene copolymers with low propylene content. Increased propylene proportions give rise to anomalies. The higher thermal stability of the propylene chain will be apparent in copolymers where the propylene concentration exceeds equimolar ratios. The melting point rises and approaches the values of pure polypropylene
b) Melting points vs inverse function of the logarithm of viscosity (η). The author has established that this function can be defined by the expression

$$\text{melting point} = -7/\{\eta\} + 136\ (\pm 6)$$

Card 2/5

Thermal properties of poly- . . .

It seems that the negative gradient of this linear function is the greater the higher the degree of cross-linking.
c) Melting point vs. propylene content in ethylene-propylene copolymer. The melting points show first a decrease with increased proportions of propylene, until a minimum is reached at approximately 120°C. The curve then rises with increasing propylene content until a maximum is reached at 160 to 165°C (melting point of pure polypropylene).
d) Vicat temperature vs. density. This function showed considerable scatter of points. The values found by the author were a few degrees higher than literature data.
e) Vicat temperature vs. inverse function of logs of viscosity. The thermal stability increases as the molecular weight, and consequently the viscosity of the amorphous phase, increases.
f) Vicat temperature vs. propylene content in ethylene-propylene copolymers. The introduction of polypropylene into the polyethylene chain causes not only a reduction of crystallinity but also a decrease of molecular weight. Even small additions of propylene will cause a distinct reduction of thermal stability

Thermal properties of poly- . .

according to Vicat s test Comparisons with high-pressure polyethylene have shown that the corresponding copolymers should have the following composition 9 to 12% by weight of propylene and 91 - 88% ethylene, this being also in agreement with the previously established mechanical properties.
g) Temperature of softening vs. density. Correlations are similar to Vicat temperature. A similar relationship to the graphs for Vicat temperatures is also shown when temperatures of softening are plotted against inverse functions of logs of viscosity or propylene content of ethylene-propylene copolymers. (Vicat s test and softening temperature test differ only as to applied load.) General conclusions from the different tests are that the graphs correlating density and thermal properties show a great scatter of points which cannot be accounted for by variations in methods of preparation of the samples or by experimental errors. According to the author, it is doubtful whether the relationship between density and melt characteristics can be expressed by a common function for the different types of polyethylene since these differ as regards the number and character of short cross-chains which not only lower crystallinity

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Thermal properties of poly- . . .

but also change the structure of the basic crystalline lattice, thus affecting thermal cohesion. There are 9 figures and 24 references: 2 Soviet-bloc and 22 non-Soviet-bloc. The four most recent references to English language publications read as follows: Ref. 9: Willbourn A.H. J.Polymer Sci. 34, 569 (1959), Ref.13: Goppel J.M. Brit. Plastics 32, 207 (1959); Ref.15: Natta G. J. Polymer Sci. 34, 531 (1959); Ref.19: Harban A.A. et al. J Polymer Sci. 41, 157 (1959).

ASSOCIATION: Výzkumný ústav makromolekulární chemie, Brno
(Research Institute of Macromolecular Chemistry, Brno)

SUBMITTED: July 24 1960

S/081/62/000/009/073/075
B171/B144

AUTHOR: Mayer, J.

TITLE: Determination of the degree of crystallinity in polypropylene by means of infrared spectroscopy

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 698, abstract 9R27 (Collect. Czechosl. Chem. Communs., v. 26, no. 7, 1961, 1756-1762)

TEXT: It has been established that the most sensitive "crystalline" bands (BD) are the BD at 842, 998 and 809 cm^{-1} and the most sensitive "amorphous" BD is the absorption at 1156 cm^{-1}. These BD make it possible to determine the degree of crystallinity in polypropylene samples. The "fixed" BD at 973 and 1257 cm^{-1} may be used as internal reference standards. The experimental error of crystallinity as determined by this method is ± 7%. [Abstracter's note: Complete translation.]

Card 1/1

STEJNY, Jaromir; MAJER, Josef

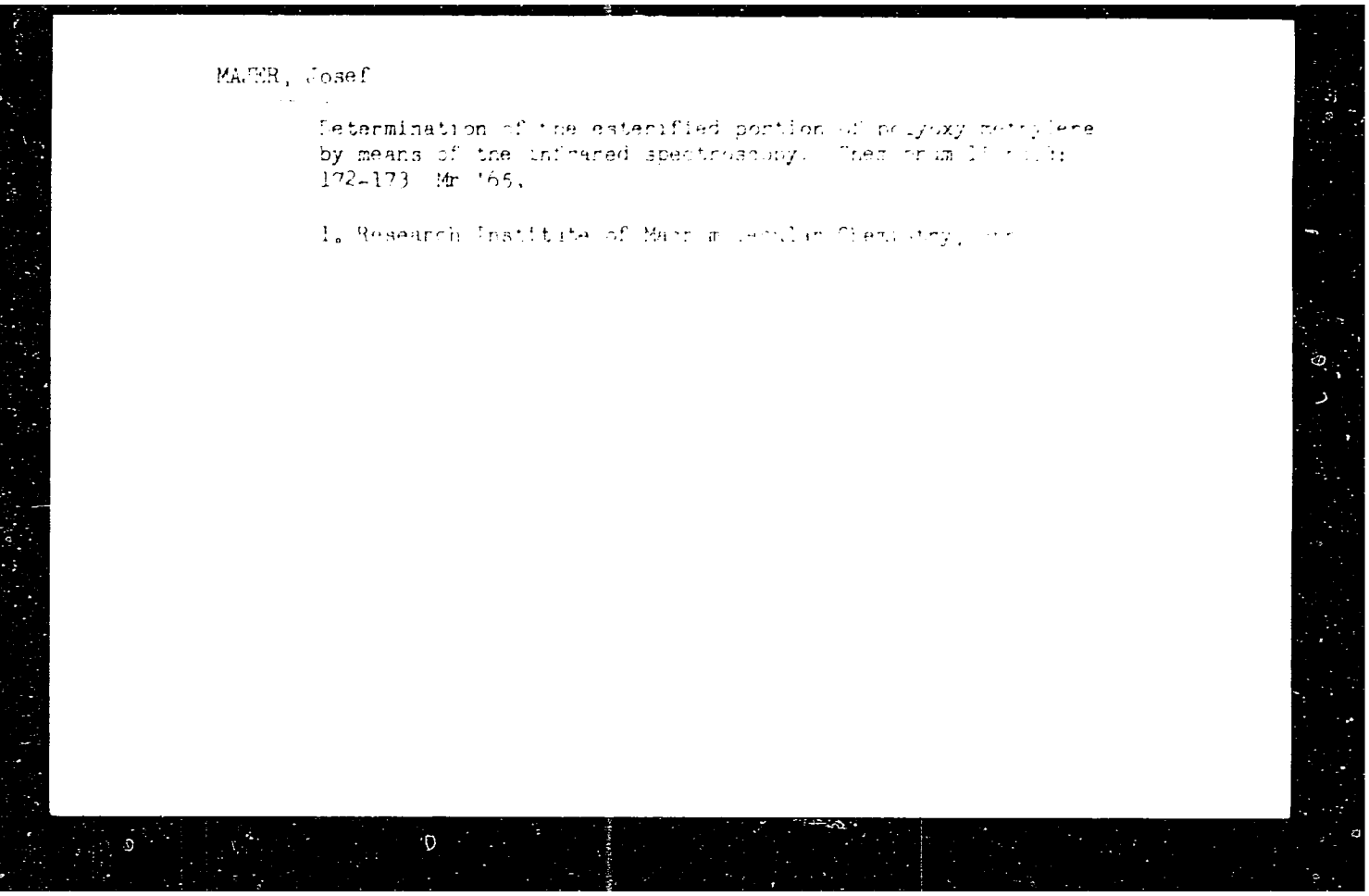
Properties of polyformaldehyde and its use. Chem prum 12 no.1:53-56 Ja '62.

1. Vyzkumny ustav makromolekularni chemie, Brno.

MAYER, Joseph

Viscosity measurement of the solutions of [illegible] polyformaldehyde samples. Chem prum 15 [illegible] '65.

1. Research Institute of [illegible]



MAYER, Josef

Determination of the esterified portion of polyoxy methylene by means of the infrared spectroscopy. Chem prum 15 no.3: 172-173 Mr '65.

1. Research Institute of Macromolecular Chemistry, [illegible]

MAJER, Josef

Quantitative analysis of [illegible] systems by means of infrared spectroscopy. [illegible]

1. Research Institute of [illegible] Chemistry, Brno.
Submitted January 16, 1958.

CZECHOSLOVAKIA

SPRINGER, V; HALICEK, R; MAJER, J

Institute of Analytical Chemistry, Pharmaceutical Faculty, Komenska University, Bratislava - (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 2, February 1967, pp 774-786

"Contribution to investigation of the structure of complexes of N,N-di(hydroxyethyl) glycine with Cu^{2+}, Ni^{2+} and Co^{2+}"