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Legend to Fig. 9:
1) burnup heat flux
2) steam, %
3) very high
4) low
5) high pressure

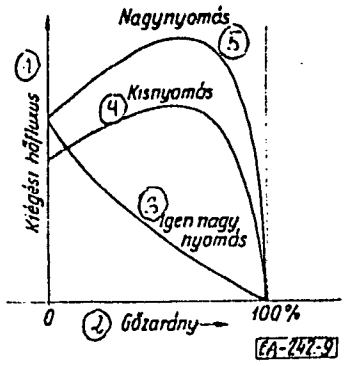

Fig. 9

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HAJNAL, Albert

New methods for measuring electric power production. Energia es atom 14 no.8/9:372-381 S '61.

1. Eromuveket Tervezo Iroda.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL, Albert, okleveles gepeszmernok

Modern guiding principles for determining the boiler feed pump characteristics. Energia es atom 16 no.4:145-158 Ap '63.

1. Eromu Tervezo Iroda.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

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HAJNAL, Albert

"Some modern trends in heat power production" by C. Seippel. Reviewed by Albert Hajnal. Energia es atom 16 no.10/11 492 O '63.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Hajnal, András. On a consistency theorem connected with the generalized continuum problem. Z. Math. Logik Grundlagen Math. 2 (1956), 131–136.

Announcement of the following remarkable result (the proof of which will appear in detail in Acta Math. Acad. Sci. Hungar.): For any members, Λ, N of a certain wide class of ordinal numbers (called "absolutely definable"), if the inequality $\exp \aleph_\Lambda \geqq \aleph_{\Lambda+N+1}$ is consistent with Gödel's axiom system Σ^*, then so is the equality $\exp \aleph_\Lambda = \aleph_{\Lambda+N+1}$, even if one assumes that $\exp \aleph_\mu = \aleph_{\mu+1}$ for every $\mu \geqq \Lambda + N$ (here $\exp \aleph_\nu$ denotes $2^{\aleph}$ [reviewer's notation]). As an immediate corollary (specialized to the case $\Lambda=0$, $N=1$): the equation $\exp \aleph_0 = \aleph_1$ is demonstrable in Σ^* if and only if the inequality $\exp \aleph_0 \neq \aleph_2$, or the inequality $\exp \aleph_0 \neq \exp \aleph_1$, is demonstrable in Σ^*. It is pointed out that the proofs are constructive, so that, e.g., from a given proof that $\exp \aleph_0 \neq \aleph_2$, one can construct a proof that $\exp \aleph_0 = \aleph_1$. The outline of the construction of the model is as follows. Let λ, ν satisfy $\exp \aleph_\lambda \geqq \aleph_\mu$, where [reviewer's notation] $\mu = \lambda + \nu + 1$. Define a one-one mapping h on ω_μ into the power set of ω_λ, and a function k on ω_μ that associates with every $\alpha < \omega_\mu$ a one-one mapping of α onto its cardinal. Define S, J, K_1, K_2 and J_1 as in Gödel's construction of Δ, but this time with respect to the class $12 \times On^2$ (instead of $9 \times On^2$). The model is that determined by $\mathfrak{W}(G)$, where G is the following function on On, Write

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Hajnal, András.

$\beta = K_1'\alpha$, $\gamma = K_2'\alpha$, and [reviewer's notation] $W_i = \mathfrak{B}(J_i)$. The definition of G on W_i $(i<9)$ is like that of F: $G'\alpha = G''\alpha$ for $\alpha \in W_0$, and $F_i(G'\beta, G'\gamma)$ for $\alpha \in W_i$ $(0<i<9)$. On the other classes its values are as follows. For $\alpha < \omega_\mu$: $G'\alpha = G'\beta \cdot O\pi$ $(\alpha \in W_9)$, $G'\beta \cdot h'G'\gamma$ $(\alpha \in W_{10})$, $G'\beta \cdot h'G'\gamma$ $(\alpha \in W_{11})$; and for $\alpha \geq \omega_\mu$: $G'\alpha = 0$ $(\alpha \in W_9)$, $G'\beta \cdot h$ $(\alpha \in W_{10})$, $G'\beta \cdot h$ $(\alpha \in W_{11})$. *L. Gillman* (Lafayette, Ind.).

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HAJNAL, ANDRAS

1-F

Hajnal, András; and Kalmár, László. An elementary combinatorial theorem with an application to axiomatic set theory. Publ. Math. Debrecen 4 (1956), 431-449.

Some knowledge of Gödel's "The consistency of the continuum hypothesis" [Princeton 1940 MR 2, 66] is desirable but not necessary. The sequence $\langle x_1, \cdots, x_n \rangle$ [illegible] is defined by induction: 1. $\langle x_1, x_2 \rangle$ is an ordered pair [illegible] $\langle x_1, x_2, \cdots, x_{n+1} \rangle$ $(n = 2, 3, \cdots)$. An elementary formula $\Phi(x_1, \cdots, x_n)$ (it is designed to replace the "definite Aussage" of Zermelo in his "Axiom der Aussonderung") is built up from propositions of the form $y \in z$ and $y = z$, where instead of y and z any set- or class-variables may stand, by means of the logical operations and quantifiers, binding set-variables only. The central problem is to prove, as substitute for Zermelo's "Axiom der Aussonderung", for each elementary formula $\Phi(x_1, \cdots, x_n)$, by means of certain axioms, the following theorem: (I) There is a class containing those and only those sequences of sets of the form $\langle x_1, \cdots, x_n \rangle$ for which $\Phi(x_1, \cdots, x_n)$ holds. In order to satisfy this requirement for each elementary formula $\Phi(x_1, \cdots, x_n)$ it is sufficient, on account of axioms A1-A3 and B1-B4

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HATVALI, ANDRAS; and KALMAR, LASZLO.

of Gödel (1) to satisfy it in the particular case when $D(x_1, \ldots, x_n)$ is either of the form $x_p \in x_q$ with $1 \leq p, q \leq n$ and $p \neq q$ or of the form $x_p \in y$ with $1 \leq p \leq n$, y being a class or a set-variable different from $x_1, \ldots, x_n$. Further [illegible] satisfaction of two conditions which are [illegible] for this summary. This requirement (1) is, in its turn, satisfied if, besides the axiom B1 of Gödel, the following two propositions are valid: For any class A there is a class B such that for any sets $x_1, \ldots, x_n$ the sequence $\langle x_1, \ldots, x_n \rangle$ is contained in B if and only if $x_p \in A$. For any class A there is a class B such that, for any sets $x_1, \ldots, x_n$ the sequence $\langle x_1, \ldots, x_n \rangle$ is contained in B if and only if $x_p, x_q \in A$. These propositions, however, cannot be used as axioms, for they represent an infinity of propositions, but they are replaceable by the axioms B5–B7 of Gödel. Therefore the axioms A1–A4 and B1–B7 of Gödel suffice to have the theorem (1) as a consequence. Actually, it turns out that the axiom B8 of Gödel is redundant.

In the proof of the last result the authors use the following "combinatorial" theorem which has also some independent significance: Given the primary operations 1. $x \to \langle y, x \rangle$, 2. $\langle x, y \rangle \to \langle y, x \rangle$ and 3. $\langle x, y, z \rangle \to \langle y, x, y \rangle$, every operation of the form $x_p \to \langle x_1, \ldots, x_n \rangle$ and

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HAJNAL, ANDRAS; and KALMAR, LASZLO.

$\langle x_p, x_q \rangle \to \langle x_1, \cdots, x_n \rangle$, $n = 1, 2, \cdots$; $p, q = 1, \cdots, n$, $p \neq q$, can be obtained as a derived operation.

The representation distinguishes itself by all the qualities of a scientific representation, e.g. by lucidity, caution, simplicity and completeness. *B. Germansky.*

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HAJNAL, A.; KALMAR, L.

HAJNAL, A.; KALMAR, L. Remarks about Goedel's system of axioms for the theory of sets, I. p. 26.

Vol. 7, no. 1/2, 1956
MATEMATIKAI LAPOK
SCIENCE
HUNGARY

So: East European Accessions, Vol. 5, No. 9, Sept. 1956

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HAJNAL, A.; KALMAR, L.

"Remarks on the Godel axiom system of the theory of sets."

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Budapest, Hungary

SO: Monthly Index of East European Accessions (ELAI) LC. Vol. 7, no. 4, April 1958

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Erdös, P.; and Hajnal, A. On the structure of set-mappings. Acta Math. Acad. Sci. Hungar. 9 (1958), 111–131.

The symbol $(m, n, t) \to p$ stands for the following proposition. Let S be a set of power m. Let f be a mapping defined on the set of all subsets of S of cardinal t, such that $f(X) \subseteq S$, $f(X) \cap X = \emptyset$, and $|f(X)| < n$. Then S has a subset S' of power p such that $f(X) \cap S' = \emptyset$ for all $X \subseteq S'$ (and $|X| = t$).

The symbol $(m, n, \omega) \to p$ stands for the corresponding proposition for a mapping defined on the set of all finite subsets of S. The negations are indicated by $\not\to$. [For background, see P. Erdös, Proc. Amer. Math. Soc. 1 (1950), 127–141; MR 12, 14; and Erdös and Fodor, Acta. Sci. Math. Szeged. 18 (1957), 243–260; MR 19, 1152.]

Typical results for the case in which m is infinite: (A) If t is infinite, then $(m, 2, t) \not\to t$. (B) If $m < \aleph_\omega$, then $(m, 2, \omega) \not\to \aleph_0$. (C) Under the generalized continuum hypothesis (g.c.h.), $(\aleph_{\alpha+k}, \aleph_\alpha, k) \to \aleph_{\alpha+1}$ for finite k. (D) Under the g.c.h. $(m, n, k) \to m$ if m is singular, $n < m$, and k is finite. (E) If m is strongly inaccessible, and if a set of this power admits a Ulam measure, then $(m, n, \omega) \to m$ for $n < m$.

Open problems: (1) $(\aleph_\omega, 2, \omega) \to \aleph_0$? (note: $\not\to \aleph_1$). (2) $(\aleph_3, \aleph_0, 3) \to \aleph_2$? (note: $\to \aleph_1$ but $\not\to \aleph_3$). (3) $(\aleph_2, 2, 3) \to \aleph_1$? (note: $\to \aleph_0$ but $\not\to \aleph_2$).

L. Gillman (Princeton, N.J.)

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ERDOS, P. (Budapest); HAJNAL, A. (Budapest)

On a property of families of sets. Acta mat Hung 12 no.1/2:87-123 '61. (EEAI 10:9)

1. Corresponding member of the Hungarian Academy of Sciences, Budapest. (for Erdos).

(Numbers, Theory of) (Aggregates)

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HAJNAL, A. (Budapest)

On a consistency theorem connected with the generalized continuum problem. Acta mat Hung 12 no.3/4:321-376 '61.

1. Presented by Laszlo Kalmar.

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HAJNAL, A. (Budapest)

Proof of a conjecture of S. Ruziewicz. Fund mat 50 no.2:123-128 '61.

(Sets, Theory of)

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CZIPSZER, J.; ERDOS, P.; HAJNAL, A.

Some external problems of infinite graphs. Mat kut kozl MTA 7 series A no.3:441-457 '62.

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ERDÖS, P.; HAJNAL, A. (Budapest)

On a classification of denumerable order types and an application to the partition calculus. Fund mat 51 no.2:117-129 '62.

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HAJNAL, A. (Budapest)

Remarks on the theorem of W.P. Hanf. Fund math 54 no. 1:109-113 '64.

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CORRADI,K.; HAJNAL,A.

On the maximal number of independent circuits in a graph. Acta mat Hung 14 no.3/4:423-439 '63.

1. Mathematical Institute, Eotvos Lorand University, Budapest. Presented by G.Hajos.

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HAJNAL, Albert

"Management modernization and economy in heat power plants due to automation" by W.T. Hess, W.L. Chadwick. Energia es atom 16 no.10/11 487 O '63.

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HAJNAL, Andras, a matematikai tudomanyok doktora, tudomanyos munkatars

Contribution to some questions discussed at the conference on the applications of mathematics. Magy tud 70 no.6/7:432-434 Je-Jl '63.

1. Eotvos Lorand Tudomanyegyetem.

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[illegible], Jozo

Railroad capacity for stone transportation should be increased for the benefit of the construction industry. Kozleked Kozl 20 no. 15:199-200 29 Mr '64.

1. No.21 State Construction Industry Enterprise.

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TENYI, Jeno, dr.; BUDA, Jozsef, dr.; HAJNAL, Jozsef, dr.

Examination of the number of hospitalizations at the University Clinics in Pecs, Hungary. Nepegeszsegugy 44 no.7:201-204 Jl '63.

1. Kozlemeny a Pecsi Orvostudomanyi Egyetem Kozegeszsegtani Intezetenek Egeszsegugyi Szervezestani Csoportjatol.
(HOSPITALIZATION) (STATISTICS)

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TENYI, Jeno, dr. ; BUDA, Jozsef, dr.; HAJNAL, Jozef, dr.

Data on the attendance of the outpatient departments of the university clinics in Pecs. Nepegeszsegugy 45 no.1:121-124 Apr'64

1. Kozlemeny a Pecsi Orvostudomanyi Egyetem Kozegeszsegtani Intezetenek egeszsegugyi szervezes tanszeki csoportjatol.

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HAJNAL, L.

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HAJNAL, L. Examination of ancient flax linen. p. 4.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5, May 1959, Unclass.

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HAJNAL, L.

"Mechanized separation of dead rocks." p. 177.

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Uncla.

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HAJNAL, Lajos, okleveles mernok, techn. fomernok

Questions of technology and quality in Hungarian gravel mining.
Melyepitestud szemle 14 no.8/9:393-397 Ag-S '64.

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HAJNAL, Lajos

Granulometric and quality questions of pebble washing and classification in Hungary. Epitoanyag 15 no.6:209-215 Je '63.

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ERDELY, Imre; HAJNAL, Lajos; FERENCZY, Pal, fomernok; TAMAS, Ferenc, dr.; SVEHLA, Gyula, dr.; TRAGER, Tamas; BERNOLAK, Bela; ZEOLD, Istvan; KAKASY, Gyula; SAJO, Istvan, dr.

Society life. Epitoanyag 16 no. 2:66 F '64. Epitoanyag 16 no. 2:66 F '64.

1. "Epitoanyag" szerkeszto bizottsagi tagja (for Erdely and Tamas).

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ERNST, E.; NIEDETZKY, A.; HAJNAL, M.

Energy storage in reversible arrest of the heart by KCl. Acta physiol. hung 16 no.2 71-76 1959

1. Biophysikalisches Institut der Medizinischen Universität, Pecs.
(HEART ARREST, exper.)
(CHLORIDES, pharmacol.)

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ERNST, E.; HAJNAL, M.

Distribution and form of potassium in the muscle. Acta physiol. hung. 16 no.2:77-86 1959

1. Biophysikalisches Institut der Medizinischen Universität, Pecs.
(MUSCLE, chemistry)
(POTASSIUM, chemistry)

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HAJNAL, Sandorne

Problems relating to the manufacture of the uppers. Bor cipo 14 no.3:87-88 My'64.

1. Clothing Model Designing Enterprise.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL T. Kozlemeny Budapest Fovaros III. ker. Tudobeteggondozo Intezetebol. A tuberkulin pozitiv gyermekekkel kapesolatos gockutatas tanulsagai Budapest Fovaros III. keruleteben Case-finding by following up Mantoux-positive children in a district of Budapest Orvosi Hetilap, Budapest 1950, 91/5 (134-140)

In connection with BCG vaccination 430children were referred to the clinic from day nurseries, factory nurseries and kindergartens. At the time of publication, the investigation had been completed in 199 cases. The infecting source was detected in 106 cases (53.3%); of these 106 cases the infecting source lay in 97 (91.5%) in the family and domicilary history alone; in 9 cases (8.5%) a previously unknown and unsuspected infectious case was found. In 16 cases more than one infecting source was found and some of the infectious cases 79 (7015%) were alive while 33 (29.4%) were dead. In 56.9% of all cases the infecting source was intradomiciliary (neighbour, friend, school, kindergarten, relations). A review of the housing conditions in the case of these 199 children showed that 128 (64.3%) lived in a one-room flat, 30 (15.1%) in a two-room flat, 4 (2%) in a three-room flat, 2 (1%) in 'emergency accommodation' while in 35 (17.6%) the conditions were not acertainable.

Kellerman - Colchester (XV,4,7)

SO: Medical Microbiology & Hyginene Section IV, Vol. 3, No. 7-12

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

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HAJNAL, T.

Significance of sputum examinations in the epidemiology of tuberculosis; epidemiological data from the III. district of Budapest. Orv. hetil. 93 no. 50:1418-1424 14 Dec 1952. (CLML 24:1)

1. Doctor. 2. Third District Tuberculosis Center (Director -- Dr. Antal Szakkay; Head Physician -- Dr. Tibor Hajnal), Budapest.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL, T.; NAGY, A.

Role of a small child as a diagnostic test object in the differential diagnostic test object in the differential diagnosis of acute pulmonary conditions. Orv. hetil. 94 no.25:694 21 June 1953. (CIML 25:1)

1. Doctors. 2. Third District Metropolitan Tuberculosis Center (Director -- Dr. Antal Szakkay, Head Physician -- Dr. Tibor Hajnal).

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HAJNAL, I.

Significance of maintaining an epidemiological map at district tuberculosis institutes. p. 55. (Nepegeszsegugy, Budapest, Vol 36, no. 2, Feb. 1955.)
SO: Monthly list of East European Accessions (EEAL), LC Vol 4, no. 6, June 1955 Uncl

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HAJNAL, Tibor, dr.; FERENCZI, Gyorgy, dr.

Epidemiological significance of antituberculotic agents.
Tuberk. kerdesei 9 no.2:63-66 Apr 56.

1. A Budapesti III. ker. TBC Gondozo Intezetenek (kozponti igazgato: Szakkay, Antal dr., vezetoorvos: Hajnal, Tibor dr.) es az Orszagos Karanyi TBC intezet Mikrobiologiai osztalyanak (igazgato: Dessauer, Pal dr., osztalyvezeto: Kertay, Nandor dr.) kozlemenye.
(TUBERCULOSIS, PULMONARY, epidemiol.
eff. of antituberculotic drugs (Hun))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL, Tibor, Dr.

Accomplishments of the tuberculosis dispensary of the third district in the capitol city in 1954. Tuberkulozis 10 no.3-4:59-63 Mar-Apr 57.

1. A budapesti fovarosi II., ker TBC Gondozo Intezet (vezeto foorvos Hajnal Tibor dr., Kozponti igazato: Szakkay Antal dr) kozlemenye.
(TUBERCULOSIS, PULMONARY, prev. & control
in Hungary, activities & accomplishments of a tuberc. dispensary in Budapest (Hun))

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL T.

EXCERPTA MEDICA Sec 17 Vol 5/5 Public Health May 59

1445. THE EPIDEMIOLOGICAL SIGNIFICANCE OF UNKNOWN SOURCES OF INFECTION AND THE RATIONAL WAY OF THEIR DETECTION - Az ismeretlen fertözöforrás járványtani jelentösége és feltárásának racionalis módja - Hajnal T. Budapesti III. ker. TBC. Gondozóint. Budapest - TUBERK.KERD. (Budapest) 1957, 10/12 (233-238)

As long as serial examination of the total population is impossible examination of contact persons is recommended as the most rational system for the detection of sources of infection.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL, Tibor, Dr.

Scientific research work in institutions for tuberculosis care.
Tuberkulozis 11 no.3-5:84-87 Mar-May 58.

1. A Budapesti fovarosi III. ker. TBC. Gondozo Intezet (kozponti igazgato: Szakkay Antal dr., vezeto foorvos: Hajnal Tibor dr.) kozlemenye.

(TUBERCULOSIS
med. research in outpatient tuberc. clinics in Hungary (Hun))
(OUTPATIENT SERVICES
tuberc. clinics in Hungary. med. research in (Hun))
(RESEARCH
med., in tuberc. outpatient clinics in Hungary (Hun))

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KERTAY, Nandor; FERENCZI, Gyorgy; HAJNAL, Tibor; FODOR, Tamas

Resistance studies with the tuberculosis bacteria of new patients in Budapest. Tuberkulozis 12 no.2:40-43 Feb 59.

1. Az Orszagos Koranyi Tbc. Intezet (Igazgato-foorvos: Boszormenyi Miklos dr. Kandidatus, tumomanyos vezeto: Foldes Istvan dr. kandidatus) mikrobiologiai osztalyanak (osztalyvezeto: Kertay Nandor dr. kandidatus) es a Budapesti Tbc. Gondozointezetek (igazgato: Szakkay Antal dr.) munkakozossegenek kozlemenye.

(MYCOBACTERIUM TUBERCULOSIS, eff. of drugs on antituberculotic drugs, isolation of resistant strains from new patients (Hun))

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNAL, Tibor, Dr.

Quantitative data for the evaluation of searching activities in tuberculosis clinics. Tuberkulozis 12 no.7:164-165 July 59

1. A Budapesti fovarosi III. ker. TBC-s Gondozo Intezet (kozponti igazgato: Szakkay Antal dr. vezeto-foorvos: Hajnal Tibor dr.) kozlemenye. (TUBERCULOSIS, statist.)

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HUNGARY

NIEDETZKY, Antal, HAJNAL-PAPP, Maria; Medical University of Pecs, Biophysical Institute (Pecsi Orvostudomanyi Egyetem, Biofizikai Intezet).

"The Effect of Radioactive Radiation on Cardiac Activity."

Budapest, Acta Physiologica Academiae Scientiarum Hungaricae, Vol XXIII, No 4, 1963, pages 315-321.

Abstract: [English article, authors' English summary modified] The effect of radioactive radiation on cardiac activity still presents an unsolved problem. Experimental results described in a previous paper and in this article indicate that such effects should be taken into consideration. The results also suggest that some trace elements play a role in the effect. In these experiments the effect of β-radiation was dealt with but it is likely that contaminants emitting α-rays may also have been involved. The problem can not be considered solved because earlier results could not, thus far, be reproduced. Other factors may also play a role and these should be examined in future experiments. The decisive role in the effect is thought to be played by radiation. 3 Eastern European, 4 Western references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

VAJDA, Zoltan; HAJNI, Istvan

Remark about the article by H.L. entitled "Automatic battery charger," published in "Radiotechnika," no.2, 1963. Radiotechnika 13 no.6:233 Je '63.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

VAJDA, Zoltan; HAJNI, Istvan

Supersonic frequency distortion meter. Radiotechnika 13 no.9: 322-324 S '63.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNI, Istvan

Homemade studio quality magnetophone. Radiotechnika 13 no.10: 368-369 O '63.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNI, Istvan

Homemade magnetophone with the quality of a studio magnetophone. Radiotechnika 13 no.11:428-430 N '63.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

FETTER, Vojtech; HAJNIS, Karel

Basic body dimensions of adults of the 2nd Spartakiade. Acta univ. carol. [med.] 8 no.1:13-31 '62.

1. Katedra antropologie prirodovedecke fakulty University Karlovy v Praze.

(ANTHROPOMETRY) (SPORTS)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNIS, Karel

Examination of the methods of calculating the skull capacity from linear dimensions. Cs morfologie 10 no.2:220-233 '62.

1. Antropologicky ustav Karlovy university, Praha.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK, F.

Psychosis with myxedema, case report. Neuropsihijatrija 3 no.3-4:264-267 1955.

1. Dept. of Neurology and Psychiatry, Faculty of Medicine, Zagreb.

(PSYCHOSES, compl.
myxedema, ther., thyroid gland extract. (Ser))
(MYXEDEMA, compl.
psychoses, ther., thyroid gland extract. (Ser))
(THYROID GLAND,
extract, ther. of psychoses with myxedema. (Ser))
(TISSUE EXTRACTS, therapeutic use,
thyroid extracts in myxedema with psychoses. (Ser))

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK, Franjo, Dr.

Electroencephalography and its possibilities in the diagnosis of neurologic diseases. Lijec. vjes. 77 no.5-7:286-299 May-July 55.

1. Iz Neurolosko-psihijatrijske klinike Medicinskog fakulteta u Zagrebu. From Neurological Dept. University of Zagreb.

(ELECTROENCEPHALOGRAPHY, in various dis.
epilepsy & brain cancer, technic & methods (Ser))
(EPILEPSY, diag.
EEG, technic & methods (Ser))
(BRAIN, neoplasms
diag., EEG, technic & methods (Ser))

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK,F.; GRAUER,H.; SARWER-FONER,G.J.

Review of new drugs used in psychiatry. Neuropsihijatrija 7 no.3:196-210 '59.

1. Iz psihijatrijskog odjela Queen Mary Veterans Hospital, Montreal, Kanada, sef: T.E. Dancey.
(TRANQUILIZING AGENTS)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

ZESKOV, P.; HAJNSEK, F.

Abdominal epilepsy. Neuropsihijatrija 8 no.4:317-324 '60.

1. Iz Klinike za djecje bolesti (Predstojnik: Prof. dr. N. Skrivaneli) i Neurolosko-psihijatrijske klinike Med. fakulteta u Zagrebu (Predstojnik: Prof. dr. R. Lopasic)

(EPILEPSY diag) (ABDOMEN ACUTE diag)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK, F.; BOHACEK, N.

Our experience with therapy of some refractory forms of epilepsy with Ospolot. Neuropsihijatrija 9 no.4:316-324 '61.

1. Iz Neurolosko-psihijatrijske klinike Medicinskog fakulteta u Zagrebu (Predstojnik: Prof. dr R. Lopasic)

(EPILEPSY ther)
(HETEROCYCLIC COMPOUNDS ther)
(MUSCLE RELAXANTS ther)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK, Franjo, dr.

Current status of the treatment of epilepsy. Lijecn. vjesn. 83 no.8:801-806 '61.

1. Iz Neurolosko-psihijatrijske klinike Medicinskog fakulteta u Zagrebu.

(EPILEPSY ther)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK,F.; ZESKOV,P.; HRCKO,N.

Electroencephalographic changes in hydrocephalus of non-neoplastic origin. Neuropsihijatrija 11 no.1:39-47 '63

1. Iz Neurolosko-psihijatrijske klinike (predstojnik:prof.dr. R.Lopasic) i Klinike za djecje bolesti Med. fakulteta u Zagrebu (predstojnik: prof.dr.P.Erak).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJNSEK, Franjo, dr.

Nocturnal non-convulsive epileptic seizures. (Clinical and electroencephalographic studies. Lijecn. vjesn. 86 no.10: 1175-1194 O '64.

1. Iz Neuropsihijatrijske klinike Medicinskog fakulteta u Zagrebu.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

PAFLOVA-CHALUPOVA, E.; HAJNY, J.

Result of local application of antibiotics on secondary flora in empyemas due to mixed infection. Bratisl. lek. listy 34 no.1: 29-34 Ja '54.

1. Z II Interneho addelenia (prim. dr. P. Michler) a z laboratorneho oddelenia (prim. dr. V.P.Kurti) liecebne pre tbc, Vysne Hagy)
(ANTIBIOTICS, therapeutic use,
*empyema, pleural, eff. of local admin. on secondary flora)
(EMPYEMA, PLEURAL, therapy,
*antibiotics, eff. of local admin. on secondary flora)

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

S/123/62/000/008/012/016
A004/A101

AUTHORS: Wrzosek, P., Michalik, N., Hajok, G.

TITLE: Method of producing ceramics for cutting-tool bits and other parts

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 8, 1962, 14, abstract 8B93 P (Zakłady Mechaniczne w Łabędach. Pol'sk. pat. kl. 40 b, 2, no. 44249, 5.04.61)

TEXT: The method of producing ceramics for tool bits consists in that aluminum oxide powder is mixed with water, binders are added in the form of nitrates of silver, magnesium, cobalt, copper and others dissolved in water, and also molybdic and tungstic acid dissolved in ammonia, and silicic acid in the form of ordinary or colloidal solutions prepared in water or in other liquids in quantities up to 50% of the dry aluminum oxide powder weight. The solution obtained is dried while it is continuously stirred to ensure the crystallization of the finest particles of the binding additives. To precipitate the metal and the silicon carbides, the obtained product is roasted at 300 - 1,500°C. For final drying of the product and removal of the chemically bound water and gases (e.g. NO_2, SO_2, SO_3, Cl_2) it is, after a preliminary grinding and screening,

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A004/A101

Method of producing ceramics ...

crushed at 5 - 50 ton/cm^2 pressure and then roasted in a shielded atmosphere, while the temperature is gradually increased.

A. Mazurkevich

[Abstracter's note: Complete translation)

Card 2/2

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJOS, A

Chloramphenicol series. I. A new synthesis of chloramphenicol. János Kollenitsch, A. Hajós, V. Gábor, and M. Kraus (Research Inst. Pharm. Ind., Budapest). *Acta Chim. Acad. Sci. Hung.* 3, 13-32(1954)(in German)(English summary).—A new method is reported for the PbO-catalyzed addn. of alkyl hypobromites to a double bond. To a suspension of 12 g. PbO in 100 ml. MeOH is added, alternately and in small portions, 5.2 ml. Br and a soln. of 14.8 g. $PhCH:CHCO_2H$ in 250 ml. MeOH, the mixt. cooled, stirred 1.5 hrs., and filtered. Removal of Pb salts with H_2S and concn. in vacuum gives 24.9 g. *erythro-2-bromo-3-phenyl-3-methoxypropionic acid* (I), m. 179-82°. A suspension of 24 g. PbO in 200 ml. MeOH treated similarly with 10.4 ml. Br and with a soln. of 32.4 g. $PhCH:CHCO_2Me$ gives, after removal of Pb salts and vacuum concn., 41 g. *Me erythro-2-bromo-3-phenyl-3-methoxypropionate* (II), m. 74-6°. Heating 82 g. *threo*-$MeOCHPhCHBrCO_2H$ in a sealed tube at 80° for 12 hrs. with 800 ml. concd. NH_4OH gives 42.18 g. *threo-2-amino-3-phenyl-3-methoxypropionic acid* (III), m. 228-30° (from alc.). Heating 29 g. I with 170 ml. concd. NH_4OH for 18 hrs. at 80° in a sealed tube gives 17.45 g. *erythro-2-amino-3-phenyl-3-methoxypropionic acid* (IV), m. 248-50° (from alc.). Heating 78.5 g. IV with 78.5 g. *o*-$C_6H_4(CO_2H)_2$ 15 min. at 160° gives 78 g. *erythro-2-phthalimido-3-phenyl-3-methoxypropionic acid* (V), m. 200-3° (from alc.). Heating 78 g. V with 70 g. PCl_5 in 800 ml. abs. C_6H_6 gives 73.9 g. *erythro-2-phthalimido-3-phenyl-3-methoxypropionyl chloride* (VI), m. 195-6° (decompn.). Heating 5 g. VI with 5 ml. abs. pyridine and MeSH (from 20 g. $MeSC(:NH)NH_2$ and 30 ml. 5*N* NaOH) in a sealed tube gives 2.58 g. *erythro-2-phthalimido-3-phenyl-3-methoxypropionic acid methylthiol ester* (VII), m. 147-50° (from alc.). Heating a soln. of 0.45 g. VII in 50 ml. abs. alc. with 4 g. Raney Ni under N gives 0.08 g. product, $C_{18}H_{19}O_4N$ (VIII), m. 165-70° (from alc.). To a suspension of 19.45 g. Pd-$BaSO_4$ in 400 ml. xylene is added 23.9 g. VI and 0.08 g. NH_2CSNH_2 and the mixt. treated with H at 150°, giving *erythro-2-phthalimido-3-phenyl-3-methoxypropionaldehyde* (IX), m. 140-12°; *p-nitrophenylhydrazone* (X), m. 202-4°. A soln. of 23 g. IX in 250 ml. iso-PrOH heated with 13.1 g. $Al(iso\text{-}PrO)_3$ gives 20.18 g. *erythro-1-phenyl-1-methoxy-2-phthalimido-3-hydroxypropane* (XI), white crystals, m. 104-8° (from Et_2O). A soln. of 5 g. XI in 20 ml. abs. alc. treated with 30 cc. *N* alc. soln. $N_2H_4.H_2O$ gives 2.9 g. *erythro-1-phenyl-2-methoxy-3-amino-3-hydroxypropane* (XII), green oil; *p-nitrobenzoate* (vide *infra*), m. 163-4°. Refluxing 3.35 g. IV with 80 ml. abs. alc. gives 4 g. *Et erythro-2-amino-3-phenyl-3-methoxypropionate-HCl* (XIII), m. 168° (decompn.). A soln. of 2.03 g. XIII in 7 ml. MeOH treated with a soln. of 0.25 g. Na in 5 ml. MeOH gives 2.31 g. *Et erythro-2-amino-3-phenyl-3-methoxypropionate* (XIV), as an oil. A soln. of 0.3 g. XIV in 100 ml. dry Et_2O treated with 1.57 g. $LiAlH_4$ in 57 ml. dry Et_2O gives 0.85 g. *erythro-1-phenyl-1-methoxy-2-amino-3-hydroxypropane* (XV) as an oil. A soln. of 0.2 g. XV in 10 ml. H_2O treated with 0.22 g. *p*-$O_2NC_6H_4COCl$ in 10 ml. dry Et_2O and 4 ml. *N* NaOH gives 0.13 g. product which recrystd. from 60% alc. gives 0.09 g. *N-p-nitrobenzoyl deriv.* of XV, m. 163-4°. Heating 0.84 g. XV with 5 ml. 50% HBr gives 1.13 g. of oil *threo-1-phenyl-2-amino-1,3-dihydroxypropane* (XVI). A soln. of 0.2 g. of XVI in 6 ml. H_2O treated with a soln. of 0.11 g. *p*-$O_2NC_6H_4COCl$ in 10 ml. Et_2O and with 4 ml. *N* NaOH gives 0.03 g. *N-p-nitrobenzoyl deriv.* of XVI, m. and mixed m.p. 104° (from abs. alc.). A soln. of 11.3 g. XI in 20 ml. abs. pyridine treated with H

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ml. Ac_2O gives 12.6 g. (100%) XI *acetate* (XVII), m. 107–10°. Treatment of 32.5 ml. concd. HNO_3 (decolorized with NH_2SO_3H) with 12.91 g. XVII, added in small portions, gives 5.19 g. *erythro-1-p-nitrophenyl-1-methoxy-2-phthalimido-3-acetoxypropane* (XVIII), m. 143–4° (from abs. alc.). Heating 1.4 g. XVIII 12 hrs. with 28 ml. 5*N* HCl gives 0.64 g. *erythro-1-p-nitrophenyl-1-methoxy-2-amino-3-hydroxypropane* (XIX), rose-red crystals, m. 110° (from C_6H_6). Treatment of 0.2 g. XIX with 2 ml. 56% HBr and 5 ml. H_2O followed by extn. with EtOAc and treatment of the ext. with 1 ml. Ac_2O and 1 ml. pyridine gives 0.14 g. *erythro-1-p-nitrophenyl-2-acetamido-1,3-dihydroxypropane diacetate* (XX), m. and mixed m.p. 154–8° (from Et_2O). Refluxing 1200 ml. of satd. alc. HCl with 47.87 g. III and continued addn. of HCl gas gives 40.25 g. *Et threo-2-amino-3-phenyl-3-methoxypropionate-HCl* (XXI), m. 183–4°. A soln. of 40.25 g. XXI in 150 ml. abs. MeOH treated with a soln. of 3.56 g. Na in 80 ml. MeOH gives 32 g. *Et threo-2-amino-3-phenyl-3-methoxypropionate* (XXII). A soln. of 32 g. XXII in 100 cc. abs. Et_2O treated with 8 g. $LiAlH_4$ in 300 ml. abs. Et_2O gives 25.76 g. *threo-1-phenyl-1-methoxy-2-amino-3-hydroxypropane* (XXIII) as an oil; *N-p-nitrobenzoyl deriv.*, m. 170–81°. Treatment of 0.08 g. XXIII with 0.8 ml. 50% aq. HBr followed by 0.03 g. *p*-$O_2NC_6H_4COCl$ gives 0.02 g. "*threo-1-phenyl-2-amino-1,3-dihydroxypropane bis-p-nitrobenzoate*" (XXIV), m. and mixed m.p. 186–8°. A soln. of 19.39 g. XXIII in 35 ml. abs. pyridine treated with 90 ml. Ac_2O gives 23.88 g. *threo-1-phenyl-1-methoxy-2-acetamido-3-acetoxypropane* (XXV), m. 122–3°. To a mixt. of 4.3 ml. concd. HNO_3 and 40 ml. concd. H_2SO_4 at −10 is added a soln. of 23.38 g. XXV in 75 ml. $CHCl_3$, giving 30.59 g. of oil which heated 2 hrs. with 250 ml. 5% HCl, extd. with $CHCl_3$, the solvent removed, and the residue treated with 10.1 g. KOH gives 17.03 g. *benzoic acid salt of threo-1-p-nitrophenyl-1-methoxy-2-amino-3-hydroxypropane* (XXVI), m. 94–7° (from abs. alc.). Treating 12.5 g. XXVI with 75 ml. *N* NaOH gives 6.02 g. of the free base (XXVII), m. 82–4° (from H_2O). Heating 0.52 g. XXVII with 5.2 ml. 54% HBr gives, on addn. of 10*N* NaOH, a good yield of *threo-1-p-nitrophenyl-2-amino-1,3-dihydroxypropane* (XXVIII), m. and mixed m.p. 141–2°. Heating 2.03 g. XII with 11 ml. 54% HBr and heating the resulting hydrobromide with 60 ml. H_2O gives 1.12 g. of the demethylated base. A soln. of 0.08 g. of this base in 3 ml. abs. alc. treated with 0.46 g. BzOH gives 0.35 g. of mixed salts. Recrystn. of 0.3 g. of this product from 10 ml. abs. alc. gives 0.09 g. of XVI *benzoic acid salt*, m. 159–61°, and 0.14 g. of *erythro-1-phenyl-2-amino-1,3-dihydroxypropane* (XXIX) *benzoic acid salt*, m. 206–8°. Heating XXVIII or *erythro-1-p-nitrophenyl-2-amino-1,3-dihydroxypropane* (XXX) with HBr produces no change in configuration. Heating 0.5 g. XXIX.HCl with 5 ml. concd. HCl in a sealed tube at 100° gives 0.37 g. of oil which, dissolved in 1 ml. abs. alc. and treated with 0.27 g. BzOH, gives 0.39 g. of XVI benzoic acid salt, m. 162–3°. Heating XVI with HBr produces no change in configuration. A soln. of 1.4 g. *threo-1-phenyl-1-hydroxy-2-acetamido-3-acetoxypropane* (XXXI) in 70 ml. dry Me_2CO treated with 14 g. Ag_2O and 14 ml. MeI gives, when the process is repeated, 0.35 g. XXV, m. 118–20°, $b_{1.4}$ 140–50°. Boiling 4.52 g. XXVII with 7.52 g. n-$[CH(OBz)CO_2H]_2$ in 20 ml. abs. alc. gives, on fractional crystn. from abs. alc. 2.4 g. *L(+)-threo-1-p-nitrophenyl-1-methoxy-2-amino-3-hydroxypropane dibenzoyl-D-tartrate*, $C_{28}H_{28}N_2O_{10}$ (XXXII), m. 194–6°, soln. −44° (1% soln. in 50% alc.). A soln. of 2.25 g. XXXII

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JANOS ADLIONITCH

in 20 ml. H_2O treated with 5 ml. 2*N* NaOH gives 0.78 g. L(+)-*threo-1-p-nitrophenyl-1-methoxy-2-amino-3-hydroxypropane* (XXXIII), m. 99° (from C_6H_6), $[\alpha]_D$ 68 (1% soln. in *N* HCl). In a similar manner D(−)-*threo-1-p-nitrophenyl-1-methoxy-2-amino-3-hydroxypropane* (XXXIV) is prepd., m. 105–7° (from C_6H_6 and H_2O), $[\alpha]_D$ −74° (1% soln. *N* HCl). Heating 0.49 g. XXXIV with 5 ml. 53.8% HBr for 1 hr. followed by addn. of 10 ml. H_2O and further heating under N gives 0.06 g. D(−)-*threo-1-p-nitrophenyl-2-amino-1,3-dihydroxypropane* (XXXV), m. and mixed m.p. 164–5° $[\alpha]_D$ −29° (2% soln., *N* HCl). Heating 0.6 g. XXXIII with 6 ml. 50% HBr followed by addn. of 12 ml. H_2O and further heating under N gives 0.07 g. L(+)-*threo-1-p-nitrophenyl-2-amino-1,3-dihydroxypropane* (XXXVI), m. and mixed m.p. 163–5° (from H_2O), $[\alpha]_D$ 29° (2% soln., *N* HCl). Heating a soln. of 2.12 g. XXXV in 10 ml. abs. dioxane with 1.36 ml. $Cl_3CCOCHCl_2$ gives good yield of chloramphenicol, m. and mixed m.p. 151–2°, $[\alpha]_D$ 19° (4.9% soln., alc.).

Henry B. Hastie

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C4 New syntheses of chloramphenicol and its stereochemical relationships. L. Kollonitsch, A. Haiós, V. Gábor, and M. Kraut (Forschungsinst. pharm. Ind., Budapest). *Experientia* 10, 458–9(1954)(in German); cf. preceding abstr.—The *threo* form of β-phenylserinol 3-Me ether (I) (*N*-*p*-nitrobenzoyl deriv., m. 179–81°) was obtained by $LiAlH_4$ reduction of the Et ester of the diastereoisomer of β-phenylserine Me ether (II) with the lower m.p. and by reduction of the phthalyl deriv. of II to 3-phenyl-3-methoxy-2-phthalimidopropionaldehyde, followed by reduction with $(iso\text{-}PrO)_3Al$ and dephthalation with N_2H_4. From the *O*,*N*-di-Ac deriv. of I was derived β-*p*-nitrophenylserinol 3-Me ether (III), m. 82–4°, which was demethylated to *threo*-1-(*p*-nitrophenyl)-2-amino-1,3-dihydroxypropane (IV). Treatment of III with tartaric acid or dibenzoyltartaric acid produced the optical antipodes. The *l*-isomer of III, m. 105–7°, $[\alpha]_D$ −74° (1% in *N* HCl), was converted by demethylation to a compd. (V) apparently identical with the hydrolyzate of natural chloramphenicol (VI). Treatment of V with $CHCl_2COCCl_3$ gave a good yield of VI. The diastereoisomer of II with the higher m.p. was similarly reduced to obtain *erythro*-β-phenylserinol 3-Me ether (VII) (*N*-*p*-nitrobenzoyl deriv., m. 163–4°), which was converted to *erythro*-β-*p*-nitrophenylserinol 3-Me ether, m. 110–11°. Demethylation of VII with aq. HBr resulted primarily in *erythro*-β-phenylserinol (VIII), with some *threo*-β-phenylserinol (IX). It was found that the conversion of VIII to IX could be effected under the conditions [illegible] methylation; however IX, *erythro*-β-*p*-nitrophenyl[illegible] *threo*-β-*p*-nitrophenylserinol (X) remained unchang[illegible] these conditions. *trans*-Cinnamyl ide. Me ether was t[illegible] in EtOH with Br in the presence of P_2O_5, yielding 1-p[illegible] bromo-1,3-dimethoxypropane (XI), which was conve[illegible] ammonolysis to β-phenylserinol di-Me ether (XII) (*N*-p[illegible] benzoyl deriv., m. 129–30°). The *N*-Ac deriv. (XIII) was identical with the compd. obtained from the *N*-Ac[illegible] of *threo*-β-phenylserinol by methylation with MeI and oxide. XIII was nitrated, deacetylated, and deme[illegible] to give X. From the results it is evident that ammon[illegible] of β-phenyl-3-methoxy-2-bromopropionic acid (XIV) [illegible] gives diastereoisomeric amino derivs. although XI a[illegible] probably have the same configuration. It is suggested that this apparent contradiction can be explained by the "neighboring group effect." D. S. Fatner

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HAJÓS, A.

HUNG 5

Racemization of L-(+)-*threo*-2-amino-1-*p*-nitrophenylpropane-1,3-diol. J. Kollonitsch, A. Hajós, and V. Gábor (Research Inst. Pharm. Ind., Budapest). *Chemistry & Industry* 1955, 38-40.—L-(+)-*threo*-*p*-$O_2NC_6H_4CH(OH)CH(NH_2)CH_2OH$ with AcCl gives *p*-$O_2NC_6H_4CHAcCH(NH_2Cl)CH_2OAc$, m. 104-6° (decompn.), $[\alpha]_D$ 18° (*c* 2%, water). Na_2CO_3 rearranges it to *p*-$O_2NC_6H_4CH(OH)CH(NHAc)CH_2OAc$ (I) in 80% yield in 2 steps. I is dimorphic: m. 102-4° from water, 132-5° from alc.-light petr. The lower-melting form is converted into the higher-melting form by warming on the water bath. Both forms can be used in the next step. I with CrO_3 in Me_2CO gives D-(+)-*p*-$O_2NC_6H_4COCH(NHAc)CH_2OAc$ (II), m. 147-8°, $[\alpha]_D$ 21° (*c* 3%, $CHCl_3$), yield 70%. *p*-$O_2NC_6H_4CO_2H$ is the by-product. Attempts to racemize II were unsuccessful. In C_5H_5N or AcOH-AcONa, AcOH splits off and *p*-$O_2NC_6H_4COC(NHAc):CH_2$ (III) is formed, m. 125-6°. On

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Meerwein reduction of II there is no racemization but the ester is hydrolyzed and gives the active *erythro*-monoacetate. I can be hydrolyzed with 5*N* HCl to D-(−)-*p*-NO_2-$C_6H_4COCH(NH_3Cl)CH_2OH$ (IV), m. 203–4° (decompn.), $[\alpha]_D$ −60° (*c* 2%, *N* HCl). *p*-$O_2NC_6H_4CO_2Ac$ (V) is formed as a by-product in 10% yield, m. 99–2°. V can be prepd. from III and IV with concd. HCl. IV must not be isolated but is acetylated *in situ* with Ac_2O-AcONa giving D,-(−)-*p*-$O_2NC_6H_4COCH(NHAc)CH_2OH$ (VI), m. 150–1°, $[\alpha]_D$ −30° (*c* 2%, EtOH). VI racemizes in C_5H_5N at room temp. in 60–70% yield, the by-product being III. VI yields DL-*threo*-*p*-$O_2NC_6H_4CH(OH)CH(NHAc)CH_2OH$ by Meerwein reduction in 39% yield. The configuration of the compds. with 2 asym. C atoms is referred to the C atom bearing the OH group (g); the configuration of the compds. with 1 asym. C atom is referred to the C atom bearing the NH group (s).

W. M. Potts

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Hajos, A.

6000

18. Studies on chloramphenicol. II. Synthesis of 1-phenyl-3-aminopropane-1,2-diol derivatives. (In German) J. Kollonitsch, A. Hajos, M. Kraut, V. Gábor. *Acta Chimica Academiae Scientiarum Hungaricae.* Vol. 6, 1955, No. 3—4, pp. 381—395, 2 figs.

Chem

The attempted synthesis of chloramphenicol starting from cinnamic alcohol and its derivatives led to the isomeric 1-*p*-nitrophenyl-3-dichloroacetamidopropane-1,2-diol compound instead. To obtain the suitable bromomethylates the dibromo derivatives of *p*-nitro-cinnamic alcohol and its trityl ether were prepared as the first stage however upon treatment with sodium methoxide these compounds yielded unsaturated bromine derivatives instead of the desired compounds. Therefore a new method was elaborated which essentially consists in the addition of the elements of methyl hypobromite to the reaction mixture in the presence of yellow lead oxide. Ammonolysis of the trityl derivatives of the bromomethylates obtained in this way yielded only the corresponding enol-ethers. The 3-phthalimido derivatives were produced by fusing the bromo-methylate derivatives containing a free hydroxyl group with phthalimide potassium. Similar results were attained by treating the acyl derivatives in the same way. The compound 1-*p*-nitrophenyl-3-amino-propane-1,2-diol was prepared by way of demethylation of the corresponding deacylated compound. The structure of this aminopropane-diol derivative was proved by the periodate oxidation of its N-*p*-nitrobenzoate derivative. The chloramphenicol isomeride obtained by the dichloroacetylation of the 1-*p*-nitrophenyl-3-aminopropane-1,2-diol compound showed no bacteriostatic activity.

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HAJOS, A.

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Chloramphenicol. III. Racemisation of L-(+)-*threo*-2-amino-1-*p*-nitrophenylpropane-1 : 3-diol. J. Rollonitsch and A. Hajós (*Acta chim. hung.*, 1955, 8, 271—282).—A full description of the six-stage procedure for the racemisation of L-(+)-*threo*-2-amino-1-*p*-nitrophenylpropane-1 : 3-diol (I), the valueless by-product of the resolution of DL-*threo*-2-amino-1-*p*-nitrophenylpropane-1 : 3-diol, the racemic base of chloramphenicol. Treatment of I with AcCl and rearrangement of the resulting diacetate hydrochloride by Na_2CO_3 yields the *N*-acetyl 3-acetate (m.p. 102—104° from water, 132—135° from EtOH–light petroleum). Either dimorph of this is then oxidised with CrO_3 in acetone solution to D-(+)-2-acetamido-3-acetoxy-1-*p*-nitrophenylpropan-1-one (II), m.p. 147—148°, which is then hydrolysed with 5N-HCl to the amino-ketone hydrochloride, m.p. 204° (decomp.). This is acetylated *in situ* with NaOAc and Ac_2O to yield D-(−)-2-acetamido-3-hydroxy-1-*p*-nitrophenylpropan-1-one, m.p. 150—151°, which can be racemised easily in C_5H_5N solution at 20°. This ketone reduced by the Meerwein method yields DL-*threo*-2-acetamido-1-*p*-nitrophenylpropane-1 : 3-diol (30% yield), from which the DL form of I is obtained easily. On Meerwein reduction of II there is no racemization, only the optically active *erythro*-compound being formed. The reaction mechanisms are discussed. (Cf. J.A.C. Abstr., 1955, i, 775).

W. J. BAKER.

Chem

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HAJÓS, A.

Chloramphenicol. IV. New synthesis of chloramphenicol. V. Gábor, J. Kollonitsch and A. Hajós (*Acta chim. hung.*, 1956, 10, 239—244).—*trans*-Cinnamic alcohol methyl ether is treated in methanol with PhO_2 and Br to give *erythro*-2-bromo-1 : 3-dimethoxy-1-phenylpropane. Ammonolysis gives *threo*-2-amino-1 : 3-dimethoxy-1-phenylpropane, whose structure is confirmed by its identity with the product obtained by methylating the corresponding dihydroxy compound. Acetylation, nitration and deacetylation give the *p*-nitro derivative, which can be resolved into optical isomers with dibenzoyltartaric acid. Demethylation of the base with HBr gives *threo*-2-amino-1 : 3-dihydroxy-1-*p*-nitrophenylpropane which can be dichloroacetylated with Et 1 : 1-dichloro- or 1 : 1 : 3 : 3-tetrachloro-acetoacetate to give chloramphenicol.

A. B. DENSHAM.

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Hajos, A

New methods for the synthesis of peptides. J. Kollonitsch, V. Gábor, and A. Hajós (Research Inst. Pharmaceutical Ind., Rottenbiller, Budapest). *Nature* 177, 841-2 (1956).—The PhCS (I) group is used for the protection of the amino groups of amino acids. I is then split off from the *N*-PhCS peptide derivs. by oxidative methods. Oxidation is carried out with 2.5 moles H_2O_2H at −5° in AcOH-C_6H_6, C_4H_8-tetrahydrofuran, dioxane, or dioxane contg preferably 2% water. The products of oxidation probably represent a type of mixed anhydrides of carbamic acids with sulfinic acids hitherto unknown. With water this type of compd. disintegrates immediately with the evolution of CO_2, and the corresponding peptides or amino acids are isolated in excellent yield by absorption on a Dowex 50 cation-exchange resin and elution with dil. NH_3. Peptides were also prepd. using MeCS amino acids. With *PhCH*$_2$-*CSCl* however, the amino acids and peptides were smoothly acylated. The syntheses of a no. of peptides is discussed.

M. W. Smith

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~~KHAYOSH~~
HAJOS

HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54115

Author : Kollonich, Khayosh

Inst : Academy Kem.

Title : Investigation of the Synthesis of Chloramphenicol. III. Racemization of L_g-(+)-threo-1-paranitrophenyl-2-amino--1,3-dihydroxypropane.

Orig Pub : Magyar tud. akad. kem. tud. oszt. kozl., 1957, 8, No 2-3, 233-239

Abstract : L_g-threo-p-nitrophenyl-2-amino-1,3-dihydroxypropane (d-base of I) was formed as the side product from the splitting of DL-threo-1-p-nitrophenyl-2-amino-1,3-dihydroxypropane. This product can be used, after

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54115

racemization, to prepare chloramphenicol (see, R. Zh. Khim., 1955, 37422). The substance decomposed with the evolution of ammonia when racemization of I was attempted (a) with basic alcoholates and sodamide similiar to the racemization of ephedrine, or, (b) with basic alcoholates in the presence of catalysts (ketones), similiar to the racemization of quinine. All subsequent experiments were carried out with a preliminary destruction of one of the asymetric centers by oxidizing the secondary hydroxyl group to a keto group. The action of CH_3COOCl upon 10.6 grams of I produced 15.5 grams of L_g-(+)-threo-1-p-nitrophenyl-1,3-diacetohydroxy-2-aminopropane hydrochloride, (II), m. p. 195-196°C. (decomp.), $[\alpha]_D$ + 18°(c 2, water). The rearrangement of 14.75 grams of II in the presence of sodium bicarbonate produced 12.4 grams of L_g-(-)-threo-1-p-nitrophenyl-1-

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Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54115

Meerwein's technique), racemization also occured with the formation of 1.4 grams of threo-1-p-nitrophenyl-2--acetamido-1,3-dihydroxypropane, m. p. 164-166°C. (from ethyl acetate). The reaction of 5 grams of I with C_6H_5COCl gave 4.1 grams of L_g-(+)-threo-1-p-nitrophenyl-1-hydroxy-2-benzamido-3-benzohydroxypropane (IIIa), m. p. 175-176°C., $[\alpha]_D$ +24° (c 2; chloroform). The reaction of 12.6 grams of IIIa with $Na_2Cr_2O_7$ gave 10.2 grams of crude Ds-(+)-1-p-nitrophenyl-2-benzamido--3-benzohydroxypropanone-1 (IVa).
The purified product (4.76 grams) melted at 142-143°C. (from alcohol), $[\alpha]_D$ +16° (c 2; chloroform). When an attempt was made to racemize o.5 grams of IV with sodium acetate in glacial acetic acid, only 0.28 grams of an optically inactive product (m. p. 141-142°C. (from alcohol)), was obtained instead of the racemic compound.

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54115

Upon treatment with sodium acetate in methanol, 0.42 grams of IVa produced 0.22 grams of a product melting at 139-141°C. (from alcohol); 0.5 grams of IVa in pyridine gave 0.28 grams of a product melting at 138-140°C. They were both indentical with the 1-p-nitrophenyl-2-benzamidopropen-2-on-1. The same product (0.34 grams) was obtained when 0.5 grams of 1-p-nitrophenyl-2-benzamido-3-hydroxypropanone-1 was treated with a mixture of pyridine and acetic anhydride, m. p. 138-140°C. (from alcohol). Similiarly, 0.37 grams of product was obtained from 0.6 grams of IV in pyridine, and 0.51 grams of 1-p-nitrophenyl-2-acetamidopropene-2--on-1 was formed when 1 gram of IV was reacted with sodium acetate in glacial acetic acid, m. p. 120-123°C. and 124-126°C. (both from alcohol).

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54115

Upon reducing six grams of IV, according to Meerwein's technique, 4.5 grams of oily crystals were obtained, and after a purification - 1.5 grams of D_g-(+)-erythro--1-p-nitrophenyl-2-acetamido-1,3-dihydroxypropan (VIII), was obtained, m. p. 190-192°C. (from alcohol), $[\alpha]_D$ +9°(c 1; dioxane). In a similiar way, one gram of IVa formed 0.26 grams of D_g-(+)-erythro-1-p-nitrophenyl-2-benzamido-3-benzohydroxy-1-hydroxypropane, m. p. 188-189°C. (from alcohol), $[\alpha]_D$ +38°(c 1; pyridine). The treatment of one gram of VIII with $SOCl_2$ produced 0.4 grams of the d-base of starting material I, m. p. 162-163°C., $[\alpha]_D$ +28°(c 1; HCl).
Communication II, see Ref. Zh. Khim., 1957, 63650.

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HAJOS

HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54116

Author : Gabor, Kollonich, Khayosh

Inst : Academy Kem.

Title : A Study of the Preparation of Chloramphenicol. IV. A New Synthesis of Chloramphenicol.

Orig Pub : Magyar tud. akad. Kem. tud. oszt. kozl., 1957, 8, No 2-3, 241-245

Abstract : The reaction of 1-phenyl-1-methoxy-2-halogen-3-hydroxypropane or its acyl derivatives with ammonia or potassium phthalimide (see R. Zh. Khim. 1957, 63650), leads to the formation of derivatives of 1-phenyl-1-methoxy--2-hydroxy-3-aminopropane (probably through 2-3 eposides) When the hydroxyl group in the 3-position is protected

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54116

by esterification with a trityl group, dehydrohalogenation instead of ammonolysis takes place, and the derivatives of 1-phenyl-1-methoxy-3-trityl hydroxy--1,2-propene are formed. In the synthesis described below, the hydroxyl group was protected with a CH_3 group. The ethers of cinnamic alcohol were used as starting materials. 108 grams of bromine was added over a period of two hours to 100 grams of $C_6H_5CH{=}CHCH_2OCH_3$ in 800 mo of methanol containing 81 grams of PbO. After removing Pb^{2+} with hydrogen sulfide, 132.5 grams of erythro-1-phenyl-2-bromo-1,3-dimethoxypropane was obtained, m. p. 122-124°C./3 mm. A mixture of 40 grams of this product in 80 ml of absolute alcohol plus 60 ml of liquid ammonia and a few crystals of potassium iodide were heated in a bomb for 35 hours

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54116

at 180-190°C. The residue obtained after evaporation was acidified and extracted with chloroform. Thus, threo-1-phenyl-2-amino-1,3-dimethoxypropane (I) was obtained, b. p. 109-110°C./3 mm.; N-p-nitrobenzoate, m. p. 129-130°C. Five grams of (I) was dissolved in 10 ml of acetic anhydride and was evaporated. The residue was heated for 1.5 hours at 50°C. The remainder was vacuum dried followed by boiling in ethyl acetate. Thus, 3.12 grams of crude there-1-phenyl-2-acetamino-1, 3-dimethoxypropane (Ia) was obtained, m. p. 97-98°C. (from ethyl acetate). To confirm the threo-configuration by some other method, the threo-1-phenyl-2-acetamino-1,3-dihydroxypropane was repeatedly methylated with methyl iodide in the presence of Ag_2O. The product obtained, m. p. 90-92°C, (from ether), did not produce a melting point depression when mixed with Ia.

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54116

Two grams of Ia is added to a mixture of 60 ml of fuming nitric acid plus 3.4 mo of acetic anhydride, at -2 °C. to +2°C., and after 15 minutes, the contents are poured on ice (plus $NaHCO_3$), and extracted with chloroform. 2.02 grams of threo-1-p-nitrophenyl-2-amino--1,3-dimethoxypropane (IIa), was obtained, m. p. 129-130°C. (from alcohol). The deacylation of 5.1 grams of IIa (50 ml of 5 N HCl) produced 3.9 grams of threo-1-p-nitrophenyl-2-amino-1,3-dimethoxypropane (II). Demethylation (with 50% HBr) of II produced threo-1-p--nitrophenyl-2-amino-1,3-dihydroxypropane. When 3.9 grams of II is heated with 6.1 grams of dibenzoyl-d--tarteric acid in 150 ml of absolute alcohol, the dibenzoyl-d-tartrate of optically pure L-(+)-threo-1--p-nitrophenyl-2-amino-1,3-dimethoxypropane is obtained, m. p. 194-195°C., $[\alpha]_D$ -60°(c 1, 30% alcohol).

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HUNGARY/Organic Chemistry - Natural Compounds and Their Synthetic Analogs. G.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54116

Similiarly, the D-(-)-threo-isomer is obtained with dibenzoyl- -tarteric acid. Upon saponification with 50% HBr, both compounds are converted to D-(-) or L-(+)-1-(p-nitrophenyl)-2-amino-1,3-dihydroxypropane (III) respectively. Chloroamphenicol was formed from the acylation of III with 1,1-dichloro- or 1,1,3,3-tetrachloroacetoacetic ester (after boiling in dioxane for 2.5 hours), m. p. 150°C.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Country : Hungary G-3
Category :

Abs. Jour : 45967

Author : Hajos, A. and Kollonitsch, J.
Institut. : Hungarian Academy of Sciences
Title : Investigations in the Field of Chloramphenicol. V. O-Threo-β-p-nitrophenylserine

Orig Pub. : Magyar Tud Akad Kem Tud Oszt Koezl, 10, No 2, 157-162 (1958)
Abstract : See RZhKhim, No 5, 1959, 15545.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HAJOS, A.; KOLLONITSCH, J.

Synthetic examinations in connection with chloramphenicol. VI. Side reaction at the Meerwein reduction of 1-p-nitrophenyl-2-acetamido-3-oxypropanone-1. p. 403.

Magyar Tudomanyos Akademia. Kemiai Tudomanyok Osztalya. KOZLEMENYEI. Budapest, Hungary, Vol. 10, No. 4, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
UNCL

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR : Hajos, A. and Kollonitsch, J.
INST. : Hungarian Academy of Sciences
TITLE : Chloramphenicol Studies. VII. Reverse Aldol Condensation of Esters of Threo-β-p-nitrophenylserines

ORIG. PUB. : Magyar Tud Akad Kem Tud Oszt Koezl, 10, No 4, 459-466 (1958): Acta Chim Acad Sci Hung, 17,*

ABSTRACT : The authors have shown that the optically active methyl ester (ME) of threo-β-p-nitrophenylserine (I) rearranges in aqueous alcohol to give the ME of racemic DL-erythro- and DL-threo-N-p-nitrobenzal-β-p-nitrophenyl-serene and glycine. The course of the reaction leads the authors to conclude that an initial reverse aldol condensation is followed by the recombination of the products. A simple procedure for the preparation (in good yields) of optically

CARD: 1/16 * No 4, 449-462 (1958)

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary G-3
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : active I is also given. 380 gms DL-threo-β-p-nitrophenylserene and 1500 ml of 30% methanolic HCl are mixed for 10 min and refluxed for 2 hrs at 80°; after 24 hrs, 377 gms of the hydrochloride of DL-I, mp 198-200°, are obtained. Purification of 410 gms of the product obtained in 2500 ml water at 50° with active charcoal and by the addition of 122 ml of conc NH_4OH + 400 ml water at 10° gives a precipitate of 322.1 gms DL-I, mp 140-141° (decomp). 332 gms DL-I are

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary

SUBJECT :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : added to a solution of 208 gms tartaric acid in 1660 ml CH_3OH at 50°, and the solution is heated for 1 hr; the crystals forming at 30° (256.5 gms) were found to be the D-tartrate of L_S(-)-I (II), mp 163-165° (decomp), [α]D -5° (c = 2; water). The mother liquor from the last step gives 165 gms of the tartrate of D_S(+)-I (III), mp 149-150° (from water), [α]D^S +25° (c = 2; water). When a solution of 256.6 gms II (or III) in 1500 ml water (60°) is treated with

CARD: 3/16

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary G-3
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : 735 ml 10% Na_2CO_3 solution with cooling from 35 to 15-20°, the products are 142.6 gms L_s(-)-I (from II), mp 134-135° (decomp), [α]D -25° (c = 2: dioxane), and D_s(-)-I (from III), mp 132-133° (decomp), [α]D -26° (c = 2; dioxane) and +22° (c = 2; 1 N HCl). 100 gms of optically active I are added to a mixture of 150 ml alcohol and 150 ml water at 30° (5 min, vivorous shaking) the mixture is stirred some more (35°, 5 min), and 50 ml 50% H_2SO_4 are added with cooling (ice):

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary G-5
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75086

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : following the addition of 500 ml ice water and stirring for 1 hr at 10°, 54.82 gms of crystals are obtained at 40°, mp 97-117°; the mother liquor on addition of 25 ml conc NH_4OH gives 23 gms of racemic I, mp 125-128° (decomp). The initial crop of crystals on dissolution in 100 ml water and treatment with 2.5 ml conc H_2SO_4 followed by steam distillation gives 26 gms $NO_2C_6H_4CHO$; acidification of the residue from the distillation to pH 6 gives 9.5 gms erythro-β-p-nitrophenylser-

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary G-3

CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : ine, mp 180-181° (decomp). A solution of 200 gms L- or D-I in 600 ml CH_3OH + 300 ml water is stirred for 5 hrs at 30°; 125.6 gms of crystals of optically inactive ME of N-p-nitrobenzal-DL-erythro-β-p-nitrophenylserine (IV), mp 160-161° (from chloroform-ether), are obtained. Addition of 40 ml conc HCl to the mother liquor from the separation of IV followed by distillation of the CH_3OH at pH 5 (vacuum, 40°) after addition of 15 ml conc NH_4OH gives resinous prod-

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : [illegible]

CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : ucts: distillation at pH 8 (15 additional ml NH_4OH) gives 5.46 gms racemic I, mp 120-124° (decomp). The base IV has also been prepared (24.15 gms) by the addition of 10.72 gms of the ME of glycene to a solution of 36.5 gms of p-$NO_2C_6H_4CHO$ in 100 ml CH_3OH. A solution of 9 gms L (+)-I in 450 ml $CHCl_3$ is treated with vigorous shaking with 5.5 gms p-$NO_2C_6H_4CHO$ and 4.5 gms Na_2SO_4; after standing for 3 days, filtering, and distillation of the $CHCl_3$ under vacuum, 8.86 gms

CARD: 7/16 141

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

G-3

COUNTRY : Hungary
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : p-nitrobenzal-L$_5$-(-)-I are obtained, mp 125-127° (from ether, chloroform), [α]$_D$ 10 -61° (c = 2; chloroform). 3 gms IV are refluxed 2 hrs with 40 ml 20% HCl in CH_3OH; on cooling, 2.66 gms of the hydrochloride of the ME of DL-erythro-β-p-nitrophenylserine (V) are obtained, mp 207-208° (from water); refluxing of the residue obtained by evaporating to dryness the mother liquor in 10 ml 2N HCl (1 hr) gives 2.01 gms p-NO_2-C_6H_4CHO; the use of alcoholic HCl under similar

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary

CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : conditions gives the corresponding ethyl ester, mp 200-202° (decomp). Refluxing of 1 gm of the latter product with 5 ml $(CH_3CO)_2O$ at 140° for 1 hr gives 0.97 gm N-O-diacetyl derivative, mp 139-141° (from alc). A suspension of 3.66 gms V in 100 ml water is treated at 10° with 5 ml $(CH_3CO)_2O$ and 50 ml 10% $NaHCO_3$ (15 min, vigorous stirring): after 30 min, 3.25 gms of the ME of N- acetyl-DL-erythro- β -p-nitrophenylserine (VI) are obtained, mp 178-179° (from alc). 1 gm VI

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary G-3
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : is stirred with 3 ml $SOCl_2$ (30 min, 0°) and 6 ml 3% $NaHCO_3$ are added dropwise; after standing for 30 min at 0°, the solution is treated with an additional 25 ml 10% $NaHCO_3$ to pH 9; 0.95 gms N-acetyl-DL-I (VII) is obtained, mp 197-198°. 9.7 gms IV are added to 30 ml $SOCl_2$ at 0°; the solution freezes at first and on addition of 30 ml ether gives 6.39 gms of the HE of N-p-nitrobenzal-α-amino-β-p-nitrophenyl-β-chloropropionic acid, mp 170-173° (decomp). A

CARD: 10/16

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

CATEGORY : Hungary G-3

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : mixture of 2 gms V, 20 ml water, and 1 ml 10 N NaOH is shaken at 0° (10 min); following the addition of 0.8 ml glacial CH_3COOH (to pH 6), 1.17 gms of DL-erythro-β-p-nitrophenylserine is obtained, mp 175-177° (decomp). Heating 2 gms VII with 20 ml 5 N HCl (4.5 hrs) over a water bath at pH 6 (10 ml 10 N NaOH) gives 1.43 gms DL-threo-β-p-nitrophenylserine, mp 187-188° (decomp). The same product is obtained by stirring 2 gms DL-I (30 min) with 15 ml 1 N NaOH, followed by

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary
CATEGORY : G-3

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : neutralization with 0.6 ml glacial CH_3COOH; mp 179-180° (decomp). 2 gms of the ME L (+)-β-p-nitrophenylserine are stirred with 15 ml 1 N NaOH (30 min, 20°): neutralization with 0.6 ml glacial CH_3COOH gives 1.4 gm L (-)-threo-β-p-nitrophenylserine (VIII), mp 204-206° (decomp), [α]D -38° (c = 2: 1 N HCl). The same product is obtained (19.16 gms) by the hydrolysis of 25 gms L (+)-I in 100 ml 5 N HCl by refluxing for 6 hrs followed by neutralization with 10 N

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary

CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : NaOH to pH 4; mp 203-205° (decomp), [α]D -58° (c = 1.1: 1 N HCl). A solution of 50 gms L_s(+)-I in 80 ml CH_3COOH is treated dropwise with 25 ml $(CH_3CO)_2O$: after 30 min, 46.9 gms of N-acetyl-L_s(+)-1 are obtained, mp 172-173°, [α]D +22° (c = 1; CH_3OH). A solution of 10 gms VIII in 15 ml pyridine on standing after addition of $(CH_3CO)_2O$ gives 7.6 gms 2-methyl-4-p-nitrobenzal-Δ^2-oxazolinone-5, mp 186-187° (from $CHCl_3$). A solution of 4 gms VIII in 25 ml 1 N NaOH on

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

G-3

COUNTRY : Hungary
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : soaking with 4 ml $(CH_3CO)_2O$ (20°, 20 min) gives 2.73 gms N-acetyl-L-(+)-threo-β-p-nitrophenylserine, mp 188-190°s(decomp), $[\alpha]_D$ +42° (c = 2; 0.1 N NaOH). A suspension of 2 gms V in 50 ml water on treatment with 0.8 gm $NaHCO_3$ (2 hrs, 20°) gives the ME of BL-erythro-β-p-nitrophenylserine, yield 1.16 gms, mp 115-116° (decomp; from alc and petroleum ether). refluxing 1 gm DL-threo-β-p-nitrophenylserine with 5 ml 48% HBr (1 hr) in the cold gives the hydrobromide

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : Hungary

CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :

INST. :

TITLE :

ORIG. PUB. :

ABSTRACT : derivative, yield 1.02 gm, mp 194-196° (decomp). The addition of 0.9 gm of the ME of DL-erythro-β-p-nitrophenylserine to a solution of 0.56 gms D-tartaric acid in 4.5 ml CH_3OH at 60° gives the racemic tartrate, yield 1.14 gm, mp 144-145°, $[\alpha]_D$ +10° (c = 2; water). The same starting material with a solution of 6.2 gms D-tartaric acid in 100 ml CH_3OH (2 hrs, 60°) gives a Schiff base, mp 163-164°. Paper chromatography using a mixture of N-butanol-acetone-conc NH_4OH-water

CARD: 15/16

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

COUNTRY : hungary
CATEGORY : G-3

ABS. JOUR. : RZKhim., No. 21 1959, No. 75066

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : (3 : 1 : 6) led to the separation of erythro- from threo-β-p-nitrophenylserine; R_f for the former is 0.410 and for the latter, 0.515. It is of interest to note that the effectiveness of mixtures of phenol-water and butanol-CH_3COOH-water in the separation of ordinary amino acids was not found to hold true for the studies described above. For Communication VI see RZhKhim, 1959, No 8, 27628; No 15, 53566.

S. Rozenfel'd

SA:D: 16/16

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Hajos, A.; Hollonitsch, J.

Synthetic examinations in connection with chloramphenicol. VII. Retrograde aldol condensation in the treo-B-p-nitrophenylserine-ester series. p. 445.

Magyar Tudomanyos Akademis . Kemiai Tudoma nyok Osztalya. KOZLEMENYEI. Budapest, Hungary, Vol. 10, No. 4, 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959

Uncl.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

G

Country : HUNGARY
Category : Organic Chemistry. Natural Substances and Their Synthetic Analogs
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15545

Author : Hajos, A.; Kollonitsch, J.
Institut. : ~~Hungarian~~ AS
Title : Investigations Concerning Chloramphenicol. V. On Threo-β-p-Nitrophenylserine

Orig Pub. : Acta chim. Acad. scient. hung., 1958, 15, No 2, 175-181

Abstract : A transformation of N-acetyl-threo-β-p-nitrophenylserine (I) into Dg-(—)-threo-1-p-nitrophenyl-2-aminopropanediol-1,3 (II), which is the basis corresponding to chloramphenicol (III), was accomplished. By means of brucine (IV), I is cleaved into optical antipodes and L_s-I is converted into ethyl ether (EE) of L_s-I (L_s-V), the latter is reduced to II by $NaBH_4$. II is obtained from L_s-I also through L_s-(±)-threo-β-p-nitrophenylserine (L_s-VI)

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

G

Category :
Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15545

Author :
Institut. :
Title :

Orig Pub. :

Abstract cont'd. : and EE of L_s-VI (VII). I is synthesized from EE of threo-β-phenylserine (VIII) by acetylation to O-acetyl derivative (IX), which after nitration is rearranged in an alkaline medium in V and is then oxidized to I. Another method of synthesizing I consists in the transformation of VIII into O,N-diacetyl derivative (X), nitration of X to EE of O,N-diacetyl-threo-β-p-nitrophenylserine (XI), saponification of the latter to VI and acetylation of VI

Card: 2/11

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Category :

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15545

Author :
Institut. :
Title :

Orig Pub. :

Abstract : of XI (8 hours with 2 n. HCl at about 100°), VI is obtained, with yield of 62%, m.p. 184-185° (decomposition). A solution of 0.38 g. of VI in 1.9 ml. of 1 n. NaOH is agitated for 15 minutes at about 0° with 0.38 ml. of $(CH_3CO)_2O$; by acidification with HCl, I is precipitated, with yield of 66.5%. 8.48 g. of I and 12.4 g. of anhydrous IV are dissolved in 216 ml. of boiling CH_3OH; after chilling, brucine salt of L_s-I is precipitated, with yield of 87.5%, m.p.

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Country : G
Category :

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15545

Author :
Institut. :
Title :

Orig Pub. :

Abstract cont'd. : 235-236° (decomposition), [α]D +6° (c 1; 80% CH_3OH); from the mother liquor, the salt of D_g-I is separated out, with yield of 76%, m.p. 126-127° (decomposition; from aqueous CH_3OH), [α]D +26° (c 1; 80% CH_3OH). By mixing with 0.5 NaOH at about 20°, the salts are transformed, respectively, into L_s-I, with yield of 84%, m.p. 191-192° (decomposition), [α]D +43° (c 2; 0.1 n. NaOH) and D_g-I, m.p. 190-191° (decomposition), [α]D -43° (c 2; o.1 n. NaOH). 1 g. of

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Country : G
Category :

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15545

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

HUNGARY / Organic Chemistry--Natural compounds and their synthetic analogs G-3

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27628

Abstract: fluxed with 400 ml alc + 50 ml conc HCl, the solution is evaporated, extracted with 300 ml 1 N HCl, neutralized to pH 6, and extracted with 200 ml portions of ether; the residue yields 11.5 gms V, mp 170-171° (from alc). 1.56 gm VI and 3 gms II in 50 ml abs iso-C_3H_7OH (3.5 hrs, 95°) gives 0.57 gm V. The hydrogenation of 2.3 gms V in 80 ml abs alc with 0.5 gm Pd/C gives 2,4-dimethyl-5-(p-aminophenyl)-oxazole (yield 1.85 gm, mp 107-108°). The action of H_3PO_2 + $NaNO_2$ on the latter product converts it to 2,4-dimethyl-5-phenyloxazole. The reaction of 1 gm I with 2.4 gms $(C_6H_5)_3$ CCl in pyridine (4 days, 20°) gives 1-(p-nitrophenyl)-2-acetamido-3-

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HUNGARY / Organic Chemistry--Natural compounds and their synthetic analogs G-3

Abs Jour: Ref Zhur-Khimiya, No 8, 1959, 27628

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617820007-0

Abstract: (triphenylmethyloxy)-1-propanone, yield 82%, mp 205-206°; the reaction with II gives erythro-1-(p-nitrophenyl)-2-acetamido-3-(triphenylmethyloxy)-1-propanol, yield 90%, mp 203°; the following products have been obtained from the latter: (a) refluxing for 2 hrs with 5% HCl gives erythro-1-(p-nitrophenyl)-2-amino-1,3-propanediol, yield 58.5%; (b) treatment with $SOCl_2$ followed by hydrolysis of the oxazoline formed gives threo-1-(p-nitrophenyl)-2-amino-1,3-propanediol, yield 65%. For Communication V see RZhKhim, 1959, 15545. -- L. Shakhnovskiy

Card 4/4