FEDELESOVA, M.; ZIEGELHOFFER, A.; HUBKA, M.; Technicka spolupraca: CERNUSAKOVA, M.; HROCHOVA, L.; BRICHTOVA, A.

A study of the changes of various substrates and of enzyme activity in mitochondria of the isolated dog heart after hypothermic storage. Bratisl. lek. listy 45 no.5:265-272 15 Mr '65

1. Ustav experimentalnej chirurgie Slovenskej akademie ved (riaditel: akademik K. Siska).

ZIEGELHOFFER, A.

Use of an antimony electrode for measurement of the blood pH. Bratisl. lek. listy 42 no.4:199-202 '62.

1. Z oddelenia experimentalnej chirurgie (veduci clen korespondent CSAV K. Siska) Ustavu experimentalnej medicíny SAV, riaditel clen koresp. SAV J. Antal.

(HYDROGEN ION CONCENTRATION blood) (ANTIMONY)

HUBKA, M.; SUJANSKY, E.; SILVAY, J.; FEDELESOVA, M.; ZIEGELHOFFER, A.

Current status of the problem of artificial asystoles. Bratisl. lek. listy 43 Pt. 2 no.4:185-189 '63.

1. CSAV - Oddelenie experimentalnej chirurgie Ustavu experimentalnej medicíny SAV v Bratislave, veduci akademik CSAV K. Siska.

(HEART ARREST) (HEART SURGERY)
(HEART, MECHANICAL) (HYPOTHERMIA, INDUCED)
(POTASSIUM) (MAGNESIUM SULFATE) (NEOSTIGMINE)

HUBKA, M.; FEDELESOVA, M.; ZIEGELHOFFER, A.; SUJANSKY, E.; SILVAY, J.

Changes in glycide and energy metabolism of the myocardium during artificial asystoles under experimental conditions. Bratisl. lek. listy 43 Pt. 2 no.4:189-196 '63.

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(HEART ARREST) (HEART MECHANICAL) (MYOCARDIUM)
(ENERGY METABOLISM) (HYPOTHERMIA, INDUCED)
(CARBOHYDRATE METABOLISM) (GLUTATHIONE)
(ASPARTATE AMINOTRANSFERASE)
(ADENINE NUCLEOTIDES)

HUBKA, M.; ZIEGELHOFFER, A.; FEDELESOVA, A.; SILVAY, J.; SUJANSKY, E.

Changes in the acid-base equilibrium and concentration of cations in artificial asystoles under experimental conditions. Bratisl. lek. listy 43 Pt. 2 no.4:197-204 '63.

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(ACID-BASE EQUILIBRIUM) (HEART ARREST)
(HYPOTHERMIA, INDUCED) (OXIMETRY) (SODIUM)
(POTASSIUM) (CALCIUM) (HEART, MECHANICAL)

ZIEGELHOFFER, A.

(24)

(129)

Bratislava, Bratislavske Lekarske Listy, Vol XLII, No 4, 62
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1. "Experiences With a Percutaneous Transhepatic Cholangio-
graphy," M. KRATOCHVIL, presumably of the Research Insti-
tute for Oncology (Vyskumny ustav onkologicky), Bratisla-
va, Corresponding Member of SAV /Slovenska akademia vied,
Slovak Academy of Sciences/, V. THURZO, director (riadi-
tel); and F. BARI and I. VIDO, presumably of the Third
Clinic of Internal Medicine (III. interna klinika), Fa-
culty of Medicine (Lekarska fakulta), Comenius Universi-
ty (Univerzita Komenskeho), Bratislava, Prof. T.R. HILDER-
LAND, MD, director (veduci); pp 193-198. /English summa-
ry/

2. "Applicability of an Antimony Electrode for the Measure-
ment of Blood pH," A. ZIEGELHOFFER, of the Department of
Experimental Surgery (Oddelenie experimentalnej chirur-
gie), Corresponding Member of SAV K. SISKA, director,
of the Institute of Experimental Medicine (Ustav experi-
mentalnej mediciny), SAV /See 1/, J. ANTAL, Correspond-
ing Member of SAV, director; pp 199-202. /English summa-
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3. "Thrombendarteriectomy of the Carotid Artery, Peripheral
Arteries and Experiences With Alotransplantations," V.
CHCHVATH and R. MORAVEC, of the First Clinic of Surgery
(I. chirurgicka klinika), Faculty of Medicine (Lekarska
fakulta), Comenius University /See No 1/, Bratislava,
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4. "Some Problems of Radical Radiotherapy of Bronchial Car-
cinoma," B. KUNSTADT of the Clinic of Radiology (Radio-
logicka klinika), Faculty of Medicine (Lekarska fakulta)
, P.J. Safarik University (Univerzita P.J. Safarika)
Kosice, Docent B. KUNSTADT, MD, director; pp 212-220.
/English summary/

5. "Electrophysiological Examination of the Muscular Tonus
During Central Motoric Defects," P. PODIVINSKA of the De-
partment of Clinical Electrophysiology (Oddelenie klinic-
kej elektrofyziologie), J. CERNACEK, Corresponding Mem-
ber of SAV, director, of the Institute of Experimental
Medicine (Ustav experimentalnej mediciny), Slovak Academy
of Sciences (Slovenska akademia vied), Bratislava, J.
ANTAL, Corresponding Member of SAV, director; pp 221-
226.

1/2

SPANAR, Eugen, MUDr.; ZIEGELHOFFEROVA, M.

Anabolism of testosterone by proteins and its use in asthenia. Cas. lek. cesk. 91 no.29:861-867 18 July 52.

1. Z Endokrinologickeho liecebneho ustavu v Lubochni.

(TESTOSTERONE, therapeutic use,
asthenia, anabolism by proteins.)
(ASTHENIA, therapy,
testosterone, anabolism by proteins.)
(PROTEINS,
anabolism of testosterone in ther. of asthenia.)

SPANAR, E.; VARGA, I.; KELLEN, J.; DUBAJ, J.; ZIEGELHOFFEROVA, M.

An attempt to evaluate the chromatographic differentiation of 17-ketosteroids in pulmonary tuberculosis. Bratisl.lek.listy 35 no.6:321-336 31 Mar 55?

1. Z endokrinologickeho liecebneho ustavu v Lubochni prednosta dr. Eugen Spanar, a z plucneho oddelenia nemocnice v Ruzomberku, prednosta dr. Imrich Varga.

(URINE,
17-ketosteroids, chromatographic differentiation in pulm. tuberc.)
(TUBERCULOSIS, PULMONARY, urine in,
17-ketosteroids chromatographic differentiation)

SPANAR, E.; KELLEN, J.; DUBAJ, J.; ZIEGELHOFFEROVA, H.

Studies on pathogenesis of asthenia. Bratisl. lek. listy 34 no.4:377-389 Ap '54.

1. Z Endokrinologickeho liecebneho ustavu v Lubochni, prednosta dr. E. Spanar.
(ASTHENIA, etiology and pathogenesis,)

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A simple synthesis of multisubstituted ethanes. I. Tetra(*p*-hydroxyphenyl)ethane. K. Ziegler and W. Klemenschitz (Univ. Graz, Austria). *Monatsh.* 81, 1143-9 (1950).—Heating of 120 g. PhONa and 270 cc. $ClC:CHCl$ 4 hrs. in an autoclave at 175-80°, treatment with H_2O, and fractional distn. in vacuo yields 30 g. dichlorovinyl Ph ether (I) (Swiss 240,117; C.A. 43, 7008b), m. 85° (Hydrogenation of I in the presence of PtO_2 gives PhOBu. Treatment of I (20 g.) with HCl gas for 30 hrs. under irradiation yields after fractional distn. *in vacuo*, *trichloroethyl Ph ether* (II), bp 138-20°. Heating 2 g. I with 2 g. PhOH 4 hrs. yields 50% *1,1,2,2-tetrakis(p-hydroxyphenyl)ethane* (III), m. 280-300°. III (65%) is also obtained from II with PhOH. Methylation of III with Me_2SO_4 yields 1,1-2,2-tetrakis(*p*-methoxyphenyl)ethane (IV) (Bergmann and Fujise, C.A. 23, 942); ethylation yields the EtO compd. [Gattermann, *Ber.* 28, 2875(1895)]; acetylation gives *1,1,2,2-tetrakis(p-acetoxyphenyl)ethane* (V), m. 283°; reaction with $NaNO_2$ yields probably *1,1,2,2-tetrakis(3-nitro-4-hydroxyphenyl)ethane*, yellow rods, m. above 360°; and oxidation with CrO_3 gives (*p*-MeOC$_6$H$_4$)$_2$CO and anisic acid. III, IV, and V had *no estrogenic activity*.

Peter Bernfeld

1951

CA

Organic Chemistry - 10

Cleavages with diazonium compounds. XI. Phenolphthalein. Relationship between constitution and biologic action. H. Ziegler and H. Toppler (Univ. Graz, Austria). *Z. Naturforsch.* 7b, 122–4(1952); cf. *C.A.* 45, 10210g.—Phenolphthalein (I) and 2 mols. o-$O_2NC_6H_4N_2Cl$ reacted in 5% NaOH, with sufficient NaOH added during the reaction to maintain the alky., to yield 10% 2,4-(o-$O_2NC_6H_4N_2$)$_2$-C_6H_3OH, m. 283°; *acetate*, yellow-red needles, m. 160–70°. o-Cresolphthalein and 2.2 mols. PhN_2Cl in 4 mols. 5% NaOH gave a product yielding on recrystn. from AcOH 3,5,1,-2-(PhN_2)$_3$$C_6H_2(OH)_3$, m. 116–17°, and the AcOH filtrate contained an unknown substance, m. 237–8°. The relationship between the reactive groups of I and its pharmacol. action is discussed.

A. Dietz

CA

Syntheses and conversions of tertiary aliphatic-aromatic alcohols of the ethylene series. II. Action of sulfuric acid on methylphenylvinylcarbinol and methylbenzylvinyl carbinol. A. I. Lebedeva (A. A. Zhdanov State Univ., Leningrad). *J. Gen. Chem. U.S.S.R.* 20, 431-6(1950) (Engl. translation).—See *C.A.* 44, 7732g. R. M. S.

Cleavages with diazonium compounds. VI. Hydroxybenzylamines and their N-acyl derivatives. G. Zigeuner, E. Ziegler, F. Aspan, and R. Wiesenberger (Univ. Graz, Austria). *Monatsh.* 81, 180-7(1950); cf. *C.A.* 45, 1560h. Phenols and o-$C_6H_4(CO)_2NCH_2OH$ (ROH) or $ClCH_2CONHCH_2OH$ (R'OH) in concd. HCl form R- and R'-substituted phenols. Hydrolysis of the R' groups yields $-CH_2NH_2.HCl$ (R'') radicals and hydrolysis of 2,4-RMeC_6H_3OH (I), m. 137°, gives the 2-$HO_2CC_6H_4CONHCH_2$ (R''') analog. These aminomethyl and acylaminomethyl groups are replaced by diazonium compds. in alk. soln. from the para position of phenols and from the 1-position of naphthols. They are not split out from the ortho position if there is a p- or o-H to be replaced. Thus, o-MeC_6H_4OH and ROH give 4,2-RMeC_6H_3OH (II), m. 107°, which, coupled with p-$O_2NC_6H_4N_2Cl$ (III) gives 2,4-Me(p-$O_2NC_6H_4N_2)C_6H_3OH$, m. 201°. I is similarly prepd. from p-MeC_6H_4OH and ROH. Hydrolysis of I gives 2,4-R'''MeC_6H_3OH (IV), m. 166°. III coupled with PhN_2Cl (V) gives 2,4,6-R'''Me(PhN$_2$)C_6H_2OH, m. 168°. o-RC_6H_4OH and III give 2,4-R(p-$O_2NC_6H_4N_2)C_6H_3OH$, m. 230-1°. The following were prepd. (phenol, coupling agent, product, and m.p. of product, resp., given): 1,2-R'C_6H_4OH, V, 1,2-PhN$_2$-C_6H_4OH (VI), m. 131°; 1,2-R''C_6H_4OH, V, VI; 2,4,6-Me$_2$R'C_6H_2OH (m. 116°), V, 2,4,5-HOMe$_2C_6H_2N_2Ph$ (VII), m. 80°; 2,4,6-Me$_2$R''C_6H_2OH (m. 235°), V, VII; 2,4,6-MeR'$_2C_6H_2OH$ (m. 103-4°), III, 2,4,6-MeR'(p-$O_2NC_6H_4N_2)C_6H_2OH$, m. 216-17°; 2,4,6-MeR$_2$''C_6H_2OH (m. 224-222° (decomp.)), V, 2,4,6-MeR''(PhN$_2$)C_6H_2OH, m. 224-5°; 4,2,6-MeR$_2$'C_6H_2OH (m. 160°), V, 4,2,6-Me(PhN$_2$)-R'C_6H_2OH, m. 193.5°; 1,2,6-MeR$_2$''C_6H_2OH (m. 265°), V, 4,2,6-Me(PhN$_2$)R''C_6H_2OH, m. 202°. (1,3,5-HOMe$_2$$C_6H_2CH_2)_3N$ gives 4,3,5-HOMe$_2C_6H_2N_2Ph$, m. 95°. 2,4-Me$_2C_6H_3OH$, and HCHO. 3,5-HOMe$_2C_6H_2CH_2NH_2$. 2,4-Me$_2C_6H_3OH$, and HCHO with a few drops conc. HCl give (2,3,5-HOMe$_2C_6H_2CH_2$)$_2$NH.HCl (VIII), m. 182°; the free base of VIII gives a deep red color upon coupling with III. An alk. soln. of p-HOC$_6H_4$CH(OH)NHPh coupled with III gives a deep red color. p-(p-$O_2NC_6H_4N_2$)C_6H_4OH, m. 213°, and 2,4-(p-$O_2NC_6H_4N_2)_2C_6H_3OH$, m. 273°, were isolated from the reaction.

VII. Mechanism for the action of phenolic purgatives. E. Ziegler, G. Zigeuner, and F. Zeisler. *Scientia Pharm.* 17, 37-42(1949).—Bis(p-hydroxyphenyl)methanes are cleaved by diazonium salts, their di-Me ethers do not react, and the mono-Me ethers of some couple in the normal manner. There is a correlation between tendency to be cleaved and purgative activity in this series. From 3,3-bis(p-hydroxyphenyl)-2-indolinone is obtained 4-(p-

$O_2NC_6H_4N_2C_6H_3OH$, m. 213–14°, or 2,4-(p-$O_2NC_6H_4N_2$)C_6H_3OH (I), m. 278°. [3,5,4-$Me_2H_2NC_6H_2$]$_2CH_2$ yields 2,6,4-Me_2(p-$O_2NC_6H_4N_2$)$C_6H_2NH_2$, m. 175.5°. The compd. described by Braun (*C.A.* **23**, 4087) is presumably 1,3-bis(p-hydroxyphenyl)-1,3-dimethylcyclobutane since it cleaves, forming I. The compd. which Meyer, *et al.* (*C.* **8**, 2878), obtained from [2,4-$(O_2N)_2C_6H_3N_2$]$_2S$O, m. 316–17° and analyzes for $C_{12}H_8O_6N_4$. The following compds. are also reported: 4,2,6-Me(o-$MeOC_6H_4CH_2$)$_2C_6H_2ONa$, decomp. 299–300°, from p-cresol, p-$MeOC_6H_4CH_2Cl$, and Na in C_6H_6. Di-Me ether, m. 81.5–82°, and mono-Me ether, m. 87–8°, of [3,5,4-Me_2(HO)C_6H_2]$_2CH_2$. 4-(p-$MeOC_6H_4CH_2$)C_6H_3OH, m. 83–4°; p-$NO_2C_6H_4N_2$ deriv., m. 149–50°. 4-Methoxy-2'-hydroxy-3'-(p-nitrophenylazo)-5'-methyldiphenylmethane, m. 169.5°. VIII. **o-Cresolphthalein.** E. Ziegler and G. Zigeuner. *Ibid.* 113–17.—p-$MeC_6H_4N_2Cl$ and o-cresolphthalein (I) in 10% NaOH form 2-[3,4-Me(HO)C_6H_3CO]$C_6H_4CO_2H$ (II), m. 223°, 6,2,4-Me(p-$MeC_6H_4N_2$)$_2C_6H_2OH$ (III), m. 165° (acetate, m. 147°), and mono-p-tolylazo-o-cresolphthalein (IV), m. 273°. p-$O_2NC_6H_4N_2Cl$ (V) (2.5 mols.) and I in 3% NaOH form only the analog of IV, m. 237°. In 10% NaOH, 4 mols. of V cleave I completely to II and the analog of III, m. 265–7°.

John Howe Scott

CA

Cleavages with diazonium compounds. IX. Phenol sulfur compounds. R. Ziegler, G. Zigeuner, K. Wiesenberger, and A. Kainfiller (Univ. Graz). *Monatsh.* 82, 238-44(1951); cf. *C.A.* 45, 6170a.—Compds. of the types $(p\text{-HOC}_6H_4)_2CH_2$, $(p\text{-HOC}_6H_4)_2CHOH$ (I), and $p\text{-HOC}_6H_4CH(OH)Ph$ are cleaved by diazonium salts in alk. soln.; $p\text{-HOC}_6H_4CH_2Ph$ and $(p\text{-HOC}_6H_4)_2CO$ (II) are not. Compds. of the type $(p\text{-HOC}_6H_4)_2S$ resemble I in being cleaved by $(p\text{-O}_2NC_6H_4N_2)_2SO_2$ (III), but the related sulfones and sulfoxides can not differ as much from II as is often assumed because, like II, they can not be cleaved. $o\text{-MeC}_6H_4OH$ and $SOCl_2$ form $[3,4\text{-Me(HO)C}_6H_3]_2SCl$, decomp. 231°, which also can not be cleaved. $(p\text{-HOC}_6H_4)_2S$ and III give 2,4-$(p\text{-O}_2NC_6H_4N_2)_2C_6H_2OH$, m. 278°. $[3,4\text{-Me(HO)C}_6H_3]_2S$ (IV) and III form 6,2,4-$Me(p\text{-O}_2NC_6H_4N_2)_2C_6H_2OH$, m. 261-6°. Oxidation of IV with 30% H_2O_2 in HOAc forms the sulfoxide, m. 177.5°. In an attempt to prep. 2-hydroxybenzyl mercaptan, 3,4,5,2-BrMe(HO)C_6HCH_2Br was treated with KS_2COEt in Me_2CO, forming the ethyl xanthogenate (V), m. 87.5°. Hydrolysis of V with alc. NaOH formed (3,4,5,2-BrMe(HO)C_6H_2)$_2S$ (VI), m. 94.5°. Similarly 3,2,5,4-$BrMe_2(HO)C_6HCH_2Br$ (VII) formed the p-analogs of V and VI (VIII), m. 60° and 154°, resp. VII and NaSH in aq. Me_2CO formed VIII. 5,2,3-Me(HO)-$(PhN_2)C_6H_2CH_2Cl$ (IX) likewise gave the analogs of V and VI, m. 56° and 175°, resp. However IX differs from VII in forming with NaSH the benzyl mercaptan, m. 164°. 2,5,4-$(ClCH_2)_2MeC_6H_2OH$ treated similarly formed the 2,5-$(EtOCS_2)_2$ compd., m. 57.5°, which on hydrolysis formed 2,2,5-HSCH$_2$(HO)$MeC_6H_2CH_2$[SCH$_2$(HO)$MeC_6H_2CH_2$]$_2$S-$CH_2C_6H_2Me(OH)CH_2SH$-5,2,3, m. 157°. These thio ethers are cleaved by diazonium salts. Structure of

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phenolphthalein in alkaline medium. K. Ziegler, H. Toppler, and M. Sotoska. *Scientia Pharm.* 19, 31-33 (1951).—PhN_2Cl (X) and phenolphthalein (XI) (2 mols.:1) do not react in 4 soln. contg. 10 mols. of NaOH. In one contg. 12 moles, they form 10% $p\text{-PhN}_2C_6H_4OH$ (XII), m. 152°, 6% $2\text{-}(p\text{-HOC}_6H_4CO)C_6H_4CO_2H$ (XIII), m. 210-12°, and 25% $o\text{-}C_6H_4CO.O.C(C_6H_4OH)N_2Ph\text{-}4,3]_2$ (XIV); in one contg. 8 mols., 17% XII, 17% XIII, and 45% XIV; in one contg. 3 or 4 mols., 90-100% XIV; in one contg. 2 mols. if carefully buffered, 70% 2,4-$(PhN_2)_2C_6H_2OH$, m. 133-3°. XIV, m. 242-3°, was shown to be the syn. compd. by reaction with H_2NOH in KOH soln., forming the 3-hydroxyisoindolinone (XV), m. 186-8°, and cleavage with alc. H_2SO_4 to (4,3-HO$(PhN_2)C_6H_2NH_4)_2.H_2SO_4$, m. 178° (free base (XVI), m. 135-6°, and 2-(4,3-HO$(PhN_2)C_6H_2CO)C_6H_4CO_2H$ (XVII), m. 185°. Similar treatment of dinitrophenolphthalein showed that it also is syn. The analogs of XV, XVI, and XVII m. 208.5-7°, 129°, and 190° (Et ester, m. 111-13°), resp. Use of a 1:1 ratio of X and XI did not form a monosubstituted XI similar to XIV. These results are interpreted as meaning that the colored form of XI can not have a permanently fixed quinonoid ring in its formula. Z. favors the usual resonance formulation involving both rings as partially quinonoid and an intermediate carbonium ion. The two colorless forms present in dil. and concd. alkali are of type I or closely resemble it and so undergo cleavage. For them the customary lactone and triphenylcarbinol structures are adopted. The failure of X and XI to react in very concd. alkali is not clearly understood since III is able to react under these conditions and PhOH and X couple under these conditions also. I. H. Scott

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Cleavages with the help of diazonium compounds. IV. Hydroxybenzophenones. O. Zigeuner and K. Ziegler (Univ., Graz, Austria). *Monatsh.* 80, 331-63(1949); *Oesterr. Akad. Wiss., Math.-Naturw. Klasse, Sitz.-ber.* Abt. IIb, 158, 359-63(1949); cf. *C.A.* 44, 1464e.—Like *o*-(*p*-HOC$_6$H$_4$CO)C$_6$H$_4$CO$_2$H, *p*-HOC$_6$H$_4$COPh fails to couple with diazonium compds. (*p*-O$_2$NC$_6$H$_4$N$_2$Cl (I), 2,4-(O$_2$N)$_2$C$_6$H$_3$N$_2$Cl). (*p*-HOC$_6$H$_4$)$_2$CO (II) is likewise inert. *p*-HOC$_6$H$_4$CH(OH)Ph in NaOH with I is cleaved into *4-hydroxy-4'-nitroazobenzene*, m. 213° (from PhMe or PhNO$_2$), and BzH (2,4-dinitrophenylhydrazone, m. 235°). *p*-Benzylphenol with I gives *2-(p-nitrophenylazo)-4-benzylphenol*, Cu-colored crystals from AcOH, m. 172-3°. The oxime of II, m. 266-7° (decompn.) [cf. Spiegler, *Monatsh.* 5, 199(1884)], on coupling with *p*-NO$_2$C$_6$H$_4$NH$_2$ (?; no doubt misprint for I) gives a dark brown, cryst. *compd.*, m. 244-5° (no analysis given), assumed to be a diazoxime (*C.A.* 1, 2250[1]). (*o*-HOC$_6$H$_4$)$_2$CO with I couples normally to *2,2'-dihydroxy-5,5'-bis(p-nitrophenylazo)benzophenone*, orange needles from PhNO$_2$, m. 260°. 4,5,2-Me$_2$(HO)C$_6$H$_2$CH$_2$OH, *m*-O$_2$NC$_6$H$_4$SO$_3$Na, and 10% aq. NaOH, boiled for 1 hr., give 4,5,2-Me$_2$(HO)C$_6$H$_2$CHO, m. 70° (cf. Gattermann, *C.A.* 2, 820), which does not react with I. 5,2,3-Me(HO)-(HOCH$_2$)C$_6$H$_2$CHO [2,4-dinitrophenylhydrazone, m. 210-40° (decompn.)] is likewise inert to I. V. *o*-Cresolphthalein. K. Ziegler and O. Zigeuner. *Monatsh.* 80, 313-14 (1949).—The reaction of *o*-cresolphthalein (I) in alk. soln. with *p*-MeC$_6$H$_4$N$_2$Cl has been formulated by Leandri (*C.A.* 42, 6246) as giving a mono- and a bis(*p*-tolylazo) deriv. of I, m. 273° and 166°, resp. In contrast, phenolphthalein has been found by Z. and Z. (*C.A.* 44, 1464a) to be cleaved with diazonium compds. into azophenols and 2-(*p*-HOC$_6$H$_4$CO)-CO$_2$H (II). It has now been found that I too is cleaved to the extent of 25% into II, and that L.'s compd., m. 160°, is 4,6(or 3,5)-bis(*p*-tolylazo)-*o*-cresol (acetate, m. 147°). No expt. details are given.

U. Weiss

CA

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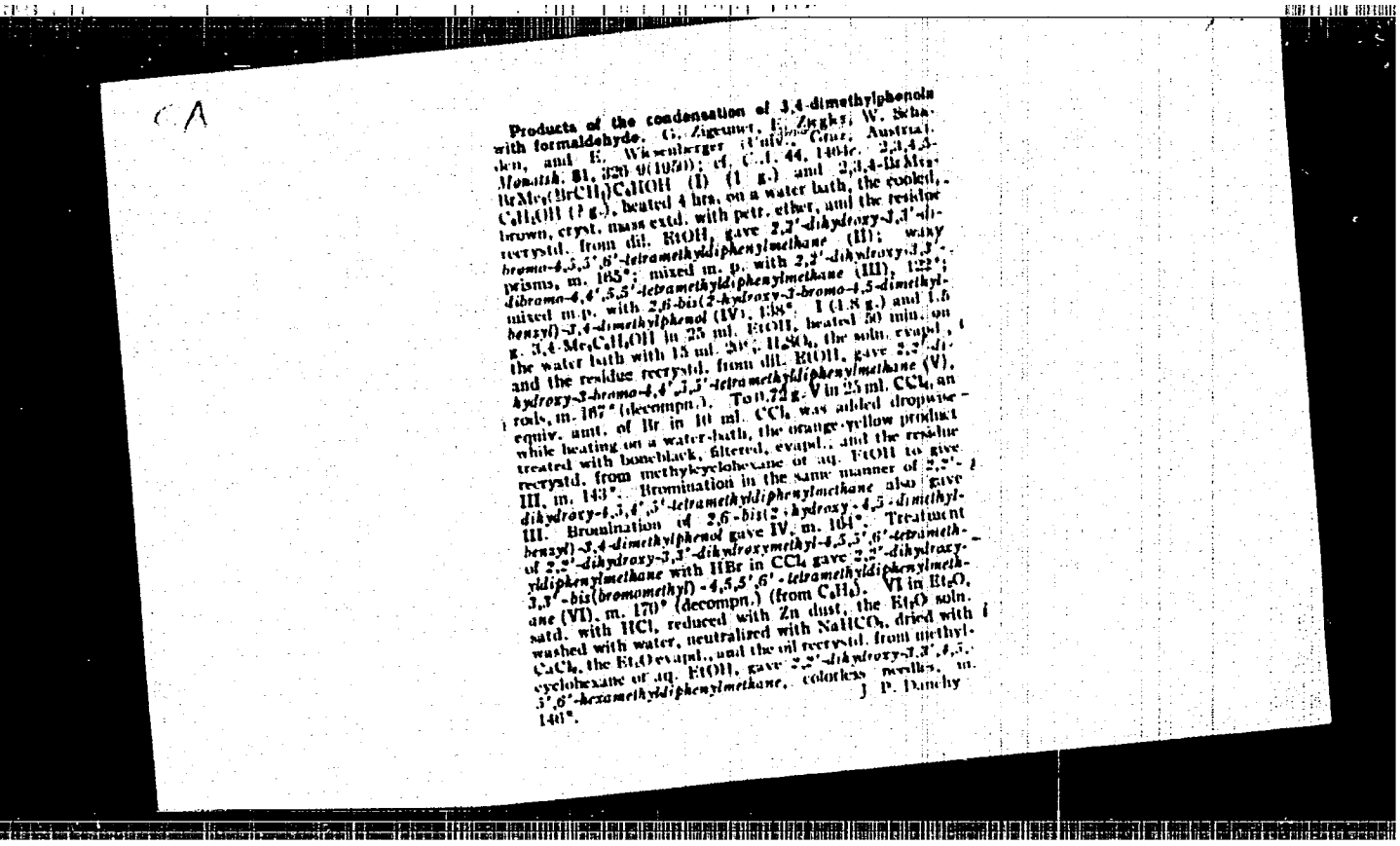
2,5-Dimercapto-1,3,4-thiadiazole. R. Ziegler and N. Kreisel (Univ. Graz, Austria). *Monatsh.* 81, 518-9 (1950).—The possibility that 2,5-dimercapto-1,3,4-thiadiazole (I) might form a resin with HCHO was investigated. I (8 g.) [*Ber.* 27, 2518(1894)] in 16 cc. 10% NaOH treated with 3.6 g. of 37% HCHO, the mixt. warmed 2 hrs. at 50°, and acidified gives 90% *2,5-bis(hydroxymethylmercapto)-1,3,4-thiodiazole* (II), needles, m. 122° (from PhCl or H_2O), which by the Schotten-Baumen method is converted to I *dibenzoate*, m. 185°, and HCHO. II (1 g.) boiled with 3 cc. $PhNH_2$ forms *2-mercapto-5-(p-aminobenzylmercapto)-1,3,4-thiadiazole* (III), m. 220°; benzoylation of III gives I dibenzoate. Diazotized III couples with PhOH and 2-$HOC_{10}H_7$ to deep *red dyes*. II shows no signs of resinifying.

David Todd



CA

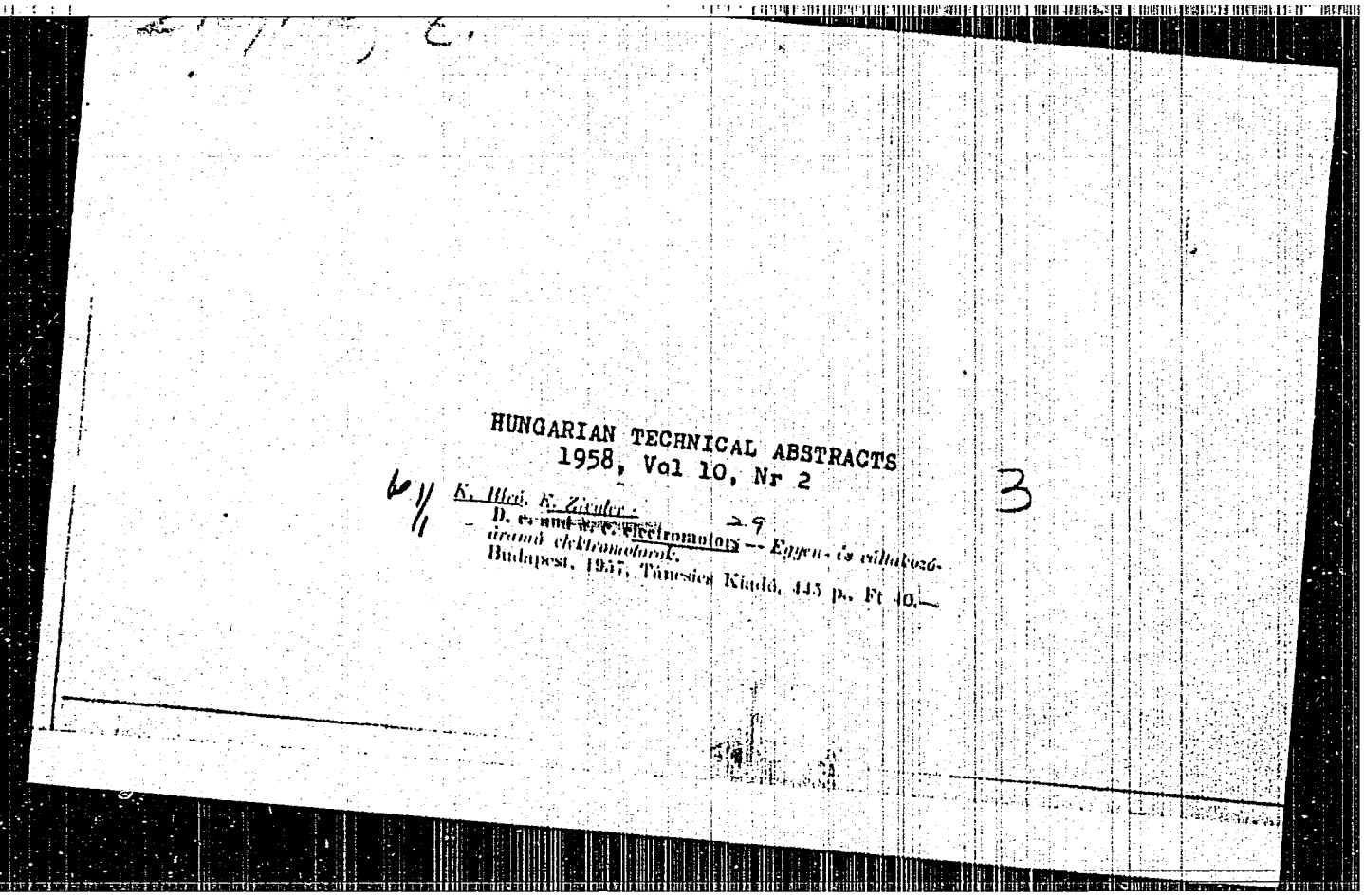
Products of the condensation of 3,4-dimethylphenols with formaldehyde. G. Zigeuner, E. Zeggel, W. Schaden, and E. Wiesenberger (Univ. Graz, Austria). *Monatsh.* **81**, 339-9(1950); cf. *C.A.* **44**, 1406c. 2,3,4,5-$Me_4C_6H(BrCH_2)CaHOH$ (I) (1 g.) and 2,3,4-$Me_3(BrCH_2)C_6H_2OH$ (1 g.), heated 4 hrs. on a water bath, the cooled, brown, cryst. mass extd. with petr. ether, and the residue recrystd. from dil. EtOH, gave *2,2'-dihydroxy-3,3'-dibromo-4,5,5',6'-tetramethyldiphenylmethane* (II); waxy prisms, m. 185°; mixed m. p. with *2,2'-dihydroxy-3,3'-dibromo-4,4',5,5'-tetramethyldiphenylmethane* (III), 122°; mixed m.p. with *2,6-bis(2-hydroxy-3-bromo-4,5-dimethylbenzyl)-3,4-dimethylphenol* (IV), 138°. I (1.8 g.) and 1.6 g. 3,4-$Me_2C_6H_3OH$ in 25 ml. EtOH, heated 50 min. on the water bath with 15 ml. 30% H_2SO_4, the soln. evapd., and the residue recrystd. from dil. EtOH, gave *2,2'-dihydroxy-3-bromo-4,4',5,5'-tetramethyldiphenylmethane* (V), rods, m. 167° (decompn.). To 0.72 g. V in 25 ml. CCl_4, an equiv. amt. of Br in 10 ml. CCl_4 was added dropwise while heating on a water-bath, the orange-yellow product treated with boneblack, filtered, evapd., and the residue recrystd. from methylcyclohexane or aq. EtOH to give III, m. 143°. Bromination in the same manner of *2,2'-dihydroxy-3,3',4',5'-tetramethyldiphenylmethane* also gave III. Bromination of *2,6-bis(2-hydroxy-4,5-dimethylbenzyl)-3,4-dimethylphenol* gave IV, m. 164°. Treatment of *2,2'-dihydroxy-3,3'-dihydroxymethyl-4,5,5',6'-tetramethyldiphenylmethane* with HBr in CCl_4 gave *2,2'-dihydroxy-3,3'-bis(bromomethyl)-4,5,5',6'-tetramethyldiphenylmethane* (VI), m. 170° (decompn.) (from C_6H_6). VI in Et_2O, satd. with HCl, reduced with Zn dust, the Et_2O soln. washed with water, neutralized with $NaHCO_3$, dried with $CaCl_2$, the Et_2O evapd., and the oil recrystd. from methylcyclohexane or aq. EtOH, gave *2,2'-dihydroxy-3,3',4,5,5',6'-hexamethyldiphenylmethane*, colorless needles, m. 140°.

J. P. Dinchy

CA

3

An electron-transfer effect in 4,4'-dihydroxybenzophenone. R. Schaumstein, E. Ziegler, and W. Bernilt (Univ. Graz, Austria). *Monatsh.* 83, 95-9(1952); cf. C.A. 44, 1463f, 1929g, 1930d, 1931h.—The ultraviolet absorption spectra are given of PhAc (I), PhCH(OH)COPh (II), PhC(RYOH)COPh (III), BzPh (IV), (4-HOC$_6$H$_4$)$_2$CO (V) in EtOH-HCl of pH 2(a); and V in EtOH-NaOH of pH 13(b). For all the compds., the CO max. is at about 3000 mm.; it disappears on conversion to the oximes. I, II, III, and IV have an intense max. at 3500 A. and a more intense max. at about 4000 A. characteristic of the aromatic ring. The OH in Va effect the merging of the CO max. and the longer-wave of the 2 aromatic max. into a single band of rather great width and intensity at 3360 A. (a max. at about 4000 A. is absent). The effect of pH on the dissocn. of the phenolic OH groups is shown by the curves for Va and Vb. The phenolate ion in Vb has an inflection in the 3400-A. region; Vb also has the 2nd aromatic max. at 4000 A. The *p*-OH groups induce conjugation between CO and an aromatic ring through intramol. π-electron transfers resulting in a resonating system. Herman Skolnik



HUNGARIAN TECHNICAL ABSTRACTS
1958, Vol 10, Nr 2

3

6 1/1 K. Illei, F. Zsuffer.

D. c. and A. C. Electromotors — *Egyen- és váltakozóáramú elektromotorok.*
Budapest, 1957, Tánesics Kiadó, 445 p., Ft 40.—

DORIN, Pavel, allamdijas, a muszaki tudomanyok doktora, egyetemi tanar; ZIEGLER, Karoly, gepeszmernok [translator]

New methods for determination of the characteristics of reaction turbines. Hidrologiai kozlony 38 no.2:102-109 Ap'58.

1. Bukaresti Muegyetem (for Dorin). 2. Vizugyi Tervezo Iroda (for Ziegler).

ZIEGLER, Karoly, dr.

"A new pumping installation for increasing the value of reserve energies" by M. Wenger. Reviewed by Karoly Ziegler. Energia es atom 16 no.10/11 468 O '63.

1. Vizugyi Tervezo Iroda.

ZIEGLER, K.

Alkali metals; achievements and prospective possibilities in industrial chemistry. Tehnika Jug 18 no.10:Supplement: Hemindustrija 17 no.10:1929 0'63.

ILLEI, Vilmos; KOVATS, D.Geza; MATRAI, Istvan; ZIEGLER, Karoly; RASONYI, Gyozo

Efficiency of production and utilization of water power. Energia es atom 14 no.4/5:190-195 My '61.

1. Vizugyi Tervezo Iroda. 2. "Energia es Atomtechnika" szerkeszto bizottsagi tagja (for Illei).

ZIEGLER, Karoly, dr., okleveles gepeszmernok, a muszaki tudomanyok kandidatusa

Loss reduction at pumping stations by means of back-pressure closing devices with forced opening. Vizugyi kozl no.3:460-463 '62.

1. Vizugyi Tervezo Iroda gepeszeti osztalyanak vezetoje.

PAPP, Ferenc, dr.; BOZSONY, Denes; PICHLER, Janos; ZIEGLER, Karoly; ERODY, Bela; DEGEN, Imre; HETENYI, Endre; NEMETH, Endre, dr.h.c., a muszaki tudomanyok doktora, muegyetemi tanar.

An account of the annual meeting of the Hungarian Hydrological Society arranged on February 24, 1961. Hidrologiai kozlony 41 no.4: 356-360 Ag'61

1. Magyar Hidrologiai Tarsasag elnoke; "Hidrologiai Kozlony" szerkeszto bizottsagi elnoke (for Papp). 2. Magyar Hidrologiai Tarsasag fotitkara; "Hidrologiai Kozlony" szerkeszto bizottsagi tagja (for Bozsony). 3. Orszagos Mezogazdasagi Minosegvizsgalo Intezet (for Erody). 4. Orszagos vizugyi foigazgato (for Degen). 5. Magyar Tudomanyos Akademia Vizgazdalkodasi es Hidrologiai Foosztalya; Epitoipari es Kozlekedesi Muszaki Egyetem I.Vizepitestani Tanszeke, Budapest (for Nemeth).

ZIEGLER, Karoly

"Water power plants" by Dr. Emil Mosonyi. Reviewed by Karoly Ziegler. Energia es atom 13 no.1/2:65 Ja-F '60.

ZIEGLER, Karoly, okleveles mernok

International water resources management and Hungary's agreements on water right. Vizugyi kozl no.4:411-419 '61.

1. Nyugalmazott orszagos vizugyi foigazgatohelyettes.

CSAJAGHY, Gabor; BOZSONY, Denes; PICHLER, Janos; KASSAI, Ferenc; GYORGY, Istvan; SZABO, Pal Zoltan; DEVENY, Istvan (Szeged); KIRALY, Lajos (Miskolc); ZIEGLER, Karoly; PAPP, Szilard; SCHMIDT, Eligius Robert; GALLI, Laszlo; VAJDA, Jozsef; RONAI, Andras; ILLES, Gyorgy; OLLOS, Geza; FINALY, Lajos; MOSONYI, Emil; PAPP, Ferenc

Minutes of the December 19, 1958 general meeting arranged by the Hungarian Hydrological Society, Hidrologiai kozlony 39 no.5:394, 401-404 O '59.

1."Hidrologiai Kozlony" szerkeszto bizottsagi tagja (for Csajaghy, Gyorgy, Szilard Papp, Ferenc Papp, Schmidt and Galli). 2. Orszagos Vizugyi Foigazgatosag (for Ziegler).

ZIEGLER, K., Jr.

Automatization of hydraulic machinery and hydraulic devices. p. 406.
GEP, Budapest, Vol. 6, no. 8/9, Aug./Sept. 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

MADAS, Andras, dr.; STELCZER, Karoly; OROSZLANY, Istvan, dr., tanszekvezeto docens; MATRAI, Istvan, fomernok; MANTUANO, Jozsef; KARASZI, Kalman; ZIEGLER, Karoly; BARNA, Aladar

Remarks about the lecture by Dr.Edo Kertai entitled "Water resources development in Hungary." Hidrologiai kozlony 43 no.2:95-98 Ap '63.

1. Orszagos Tervhivatal Mezogazdasagi Foosztalyanak vezetoje (for Madas). 2. Vizgazdalkodasi Tudomanyos Kutato Intezet igazgatoja (for Stelczer). 3. Godollei Agrartudomanyi Egyetem; "Hidrologiai Kozlony" szerkeszto bizottsagi tagja (for Oroszlany). 4. Vizugyi Terveze Vallalat (for Matrai). 5. Melyepitesi Terveze Vallalat osztalyvezetoje (for Mantuano). 6. Kozepdunantuli Vizugyi Igazgatosag igazgatoja (for Karaszi). 7. "Hidrologiai Kozlony" szerkeszto bizottsagi tagja (for Ziegler).

ZIEGLER, K. ; Veterinary Research Institute, Department of Parasitology (Vyzkumny Ustav Veterinarniho Lekarstvi , Odd. Parasitologie), Brno - Medlanky.

"Vaccination of Chickens Against Syngamosis."

Prague, Veterinarni Medicina, Vol 11, No 9, Sep 66, pp 569-578

Abstract [Author's English summary modified]: The larvae of Syngamus trachea must receive an irradiation of 8000 r to destroy their ability to penetrate into the trachea and develop there. Experiments were conducted within the range of 4 to 30 x 10^3 r; best results were obtained with a vaccine that received an irradiation of 20000 r; this vaccine produced immunity for 30 days following vaccination. 3 Figures, 3 Tables, 3 Western, 1 Czech, 1 Russian reference. (Manuscript received 30 Dec 65).

1/1

S/282/63/000/002/005/005
A059/A126

AUTHORS: Ziegler, Ladislav, Medek, Vlastimír, Jelínek, Tomáš

TITLE: Agitator for epoxy resin compounds

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, 47. Khimicheskoye i kholodil'noye mashinostroyeniye, no. 2, 1963, 63, abstract 2.47.379 P (Czech. pat. 39 a, 19/07, no. 100806, September 15, 1961)

TEXT: An agitator is described consisting of two drums which are disposed one over the other: a vertical and a horizontal one equipped with thermostats to maintain the given temperatures. After the epoxy resin has been agitated with the filler in the stationary drum with rotating shovels, the mixture obtained is fed to the horizontal rotating drum with bevel bottoms. After a hardener has been added to the mixture, the horizontal drum is hermetically sealed and air is evacuated from its internal cavity through the channels of the driving shaft. After the required evacuation has been reached, the valve in the vacuum line is closed and the horizontal drum rotated. The components are mixed with the aid of a stationary perforated mixer and a scraper kept in the

Card 1/2

Agitator for epoxy resin compounds.

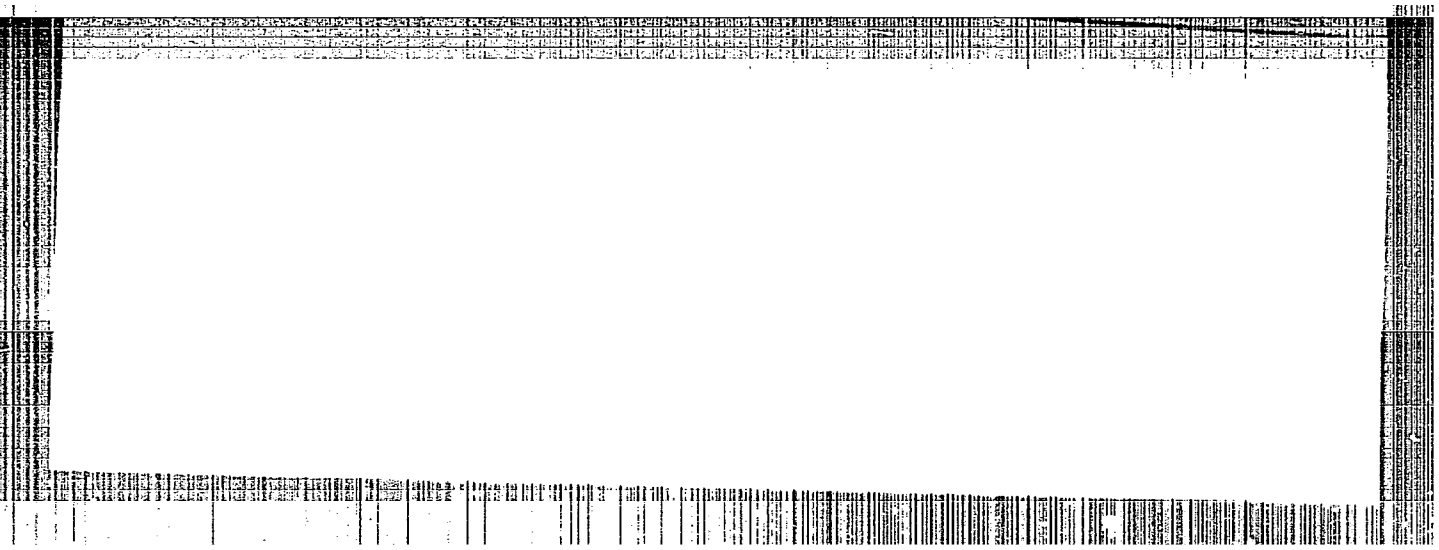
S/282/63/000/002/005/005
A059/A126

vertical position in the drum with a counterweight. The technique indicated permits to obtain a homogeneous mixture without any bubbles within a short time. There are 2 figures.

K. Onosovskiy

[Abstracter's note: Complete translation]

Card 2/2



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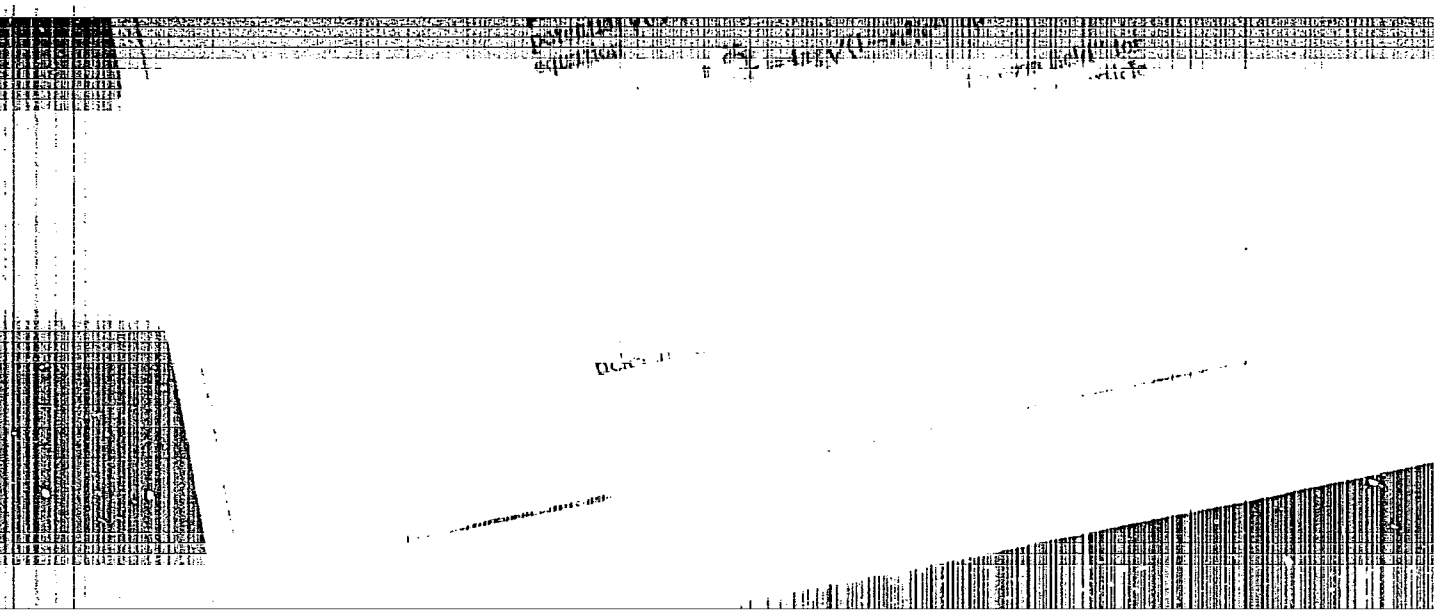

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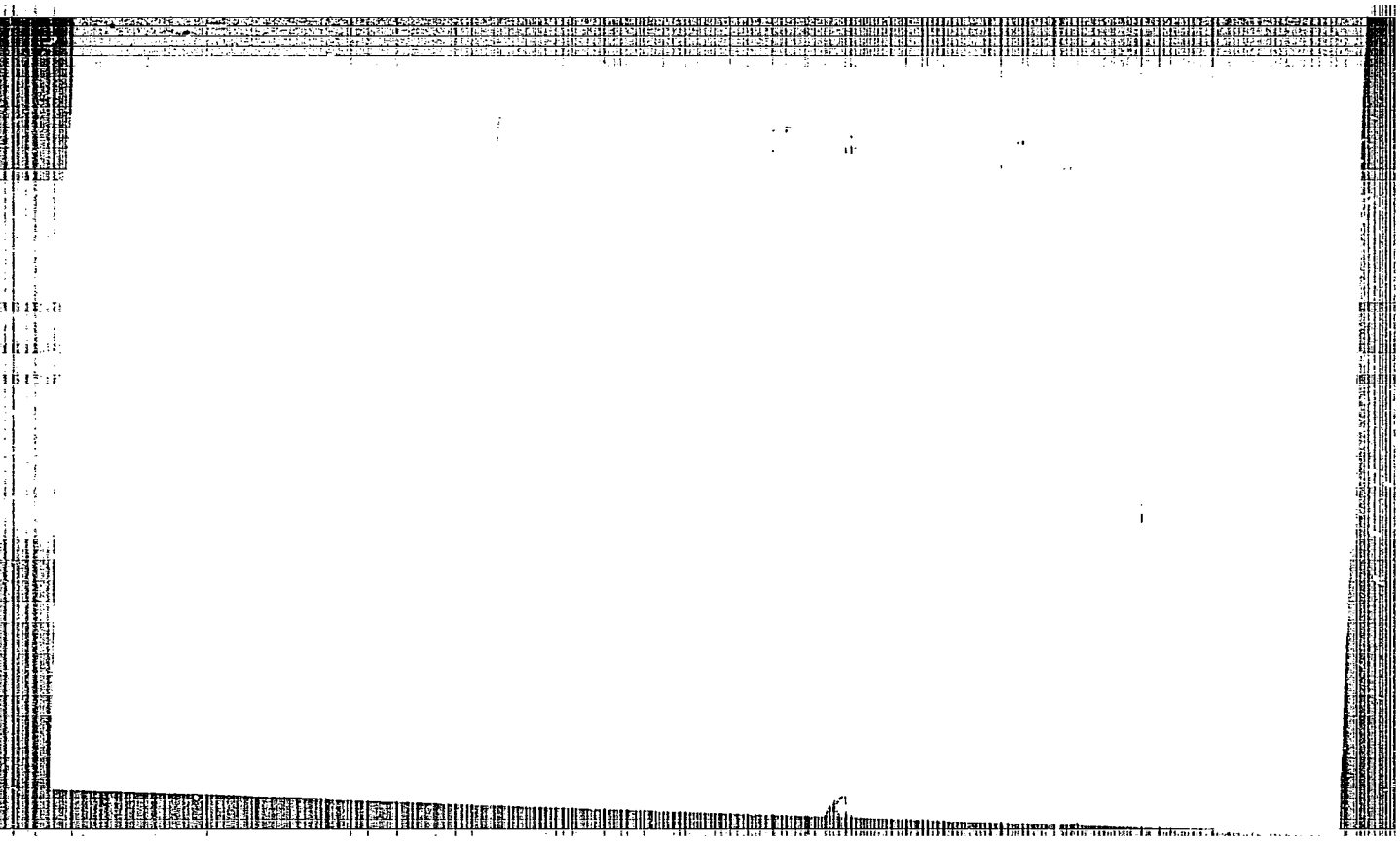

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Ziegler, M.A.

HUNGARY/Theoretical Physics - Classical Electrodynamics. Classical Field Theory. B-3

Abs Jour : Ref Zhur - Fizika, No 4, 1958, No 7570

Author : Marx, G., Ziegler, M.A.
Inst : *R. Eotvos University** Central Research Institute of Physics; Budapest, Hungary.
Title : Relativistic Two-Body Problem in the Classical Theory of Meson Field

Orig Pub : Acta phys. Acad. sci. hung., 1957, 7, No 1, 125-133

Abstract : The authors consider the motion of two particles of equal mass, interacting with each other through a classical scalar meson field. In this examination a count is taken of the delay. The solution of the equations of motion is obtained by numerical integration. At small distances, the absolute value of the meson potential reaches the values of the rest energy of the particle mc^2, i.e., the acceleration at this point reverses its sign and "relativistic repulsion" takes place. It is noted that analogous results were obtained in the work by Kunin and taksar, Verlet, Marx & Samossy, who have considered the motion of a single particle in a potential field of a particle at rest.

Card : 1/1

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11140

one assumes the value $r_0 = 1.2 \times 10^{-13}$ cm, corresponding to the experimental data on the scattering of electrons, it becomes necessary to assume that the volume occupied by the protons in the nucleus is less than the volume occupied by the neutrons. With this, there appears in the semi-empirical formula for the binding energy a term $a_4(A - 2Z)$, which takes into account the difference in the mean kinetic energy of the neutrons and protons, and one also obtains

$$\Delta E = -2a_4 + a_5 A^{2/3}.$$ When $r_0 = 1.2 \times 10^{-13}$ cm and the experimentally-determined value of E is used, the value obtained for a_4 is 0.64 Mev.

HUNGARY/Nuclear Physics C-4

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11140

The resultant semi-empirical formula

$$E = -15.6A + 17.1A^{2/3} + 21.2\frac{(A-2Z)^2}{A} +$$

$$+0.6(A-2Z) + 0.72Z^2A^{-1/3} + \delta$$

is in agreement with the experimental data over the entire interval of variation of A.

Card 3/3

Ziegler, M.A.

3

7270 Calculation of neutron-nucleus [illegible] by means of the eigenfunctions of the Yukawa potential. M. A. Ziegler. Note in *Acta phys. Hungar.* 4, No. 3, 295 [illegible]

If a strong spin-orbit force is used in the nuclear equation, pairing energies (which depend on the nuclear eigenfunctions) are obtained such that in orbits of the same azimuthal quantum number, that of higher angular momentum has the higher pairing energy.

G. E. Brown

ZIEGLER, R., Dipl. Ing.

Influence of C, Si, Mn, P, and S on some properties of lamellar graphite cast iron. Slevarenstvi 11 no.8/9:308-315 Ag '63.

1. Giesserei-Institut, Leoben Austria.

ZIEGLER, V.

ZIEGLER, V. Gyorgy Gerle's Beruhazasok gazdasagimuszaki tervezese (Economic-Technical Planning of Investments); a book review. p. 30.

No. 24, Dec. 1955.
MUSZAKI ELET.
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

ZIEGLER, V.

"The Words Nyomas, Szivas, Vakuum, Huzat", P. 142, (SZAMVANYOSIPAR, Vol. 5, No. 9, September 1953, Budapest, Hungary)

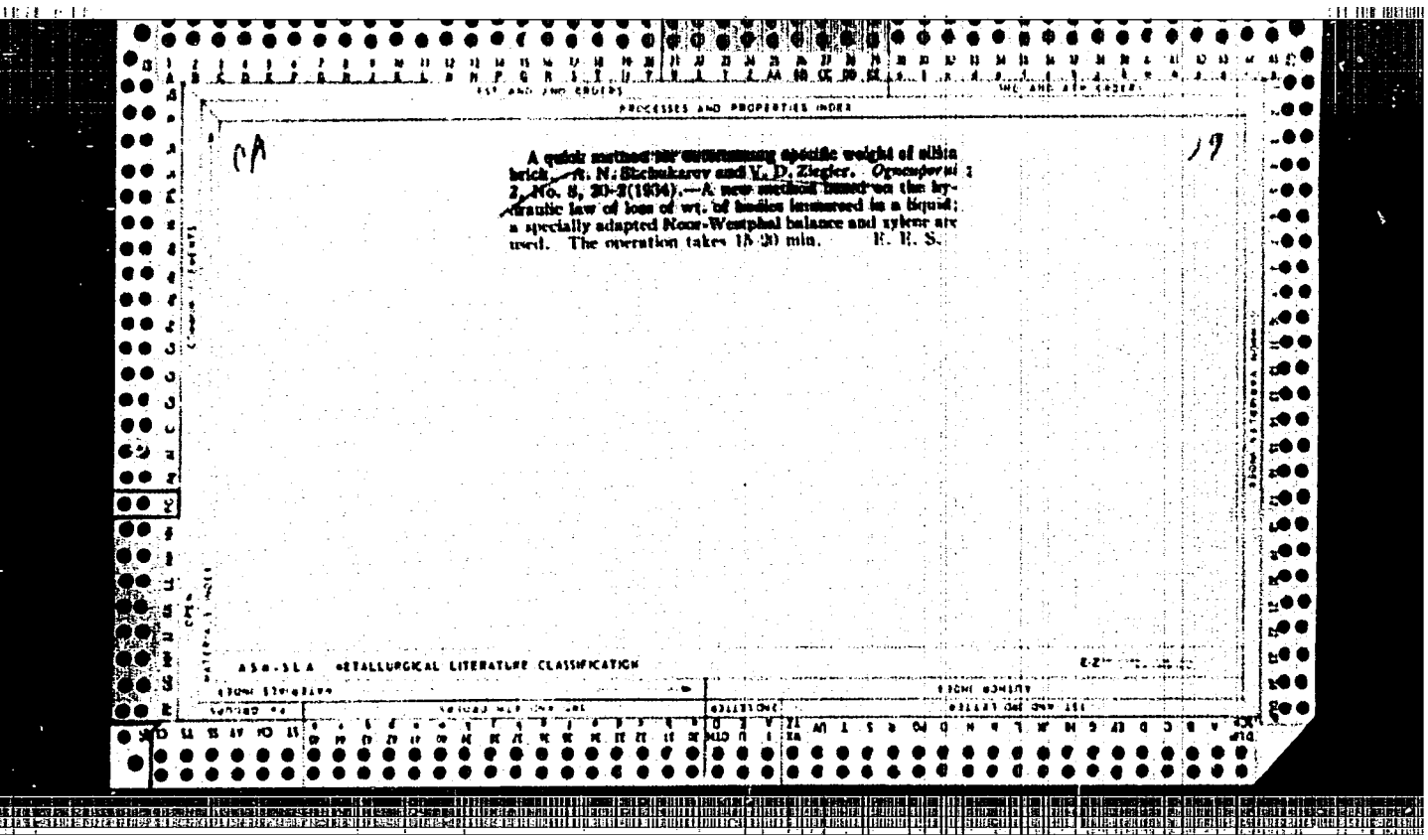
SO: Monthly List of East European Accessions (EEAI), LC, Vol. 4, No. 3, March 1955, Uncl.

VIEWEG, Reiner; ZIEGLER, Vilmos [translator]

[redacted]

Processing hydrochloric acid waste. Magy kem lap 18 no.2/3: 85-89 F-Mr '63.

1. VEB KIR CHemie, Leipzig (for Vieweg). 2. Vegyimuveket Tervezo Vallalat (for Ziegler).



PROCESSES AND PROPERTIES INDEX

CA

19

A quick method for determining specific weight of silica brick. A. N. Sklenkarev and V. D. Ziegler. *Ogneupory* 2, No. 8, 20-2(1934).—A new method based on the hydraulic law of loss of wt. of bodies immersed in a liquid; a specially adapted Mohr-Westphal balance and xylene are used. The operation takes 15-20 min. R. R. S.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

JANOSSY, Lajos; ZIEGLER-NARAY, Maria

The hydromechanical model of wave mechanics. Pt. 2. Acta phys Hung 16 no. 4:345-353 '64.

1. Central Research Institute of Physics, Budapest. 2. Editorial board member, "Acta Physica Academiae Scientiarum Hungaricae" (for Janossy).

FEDELESOVA, M.; ZIEGLHOFFER, A.

Study of changes in adenosine triphosphoric -, adenosine diphosphoric- and adenosine monophosphoric acids in the blood during restricted blood circulation. Bratisl. lek. listy 2 no.11:648-654 '63.

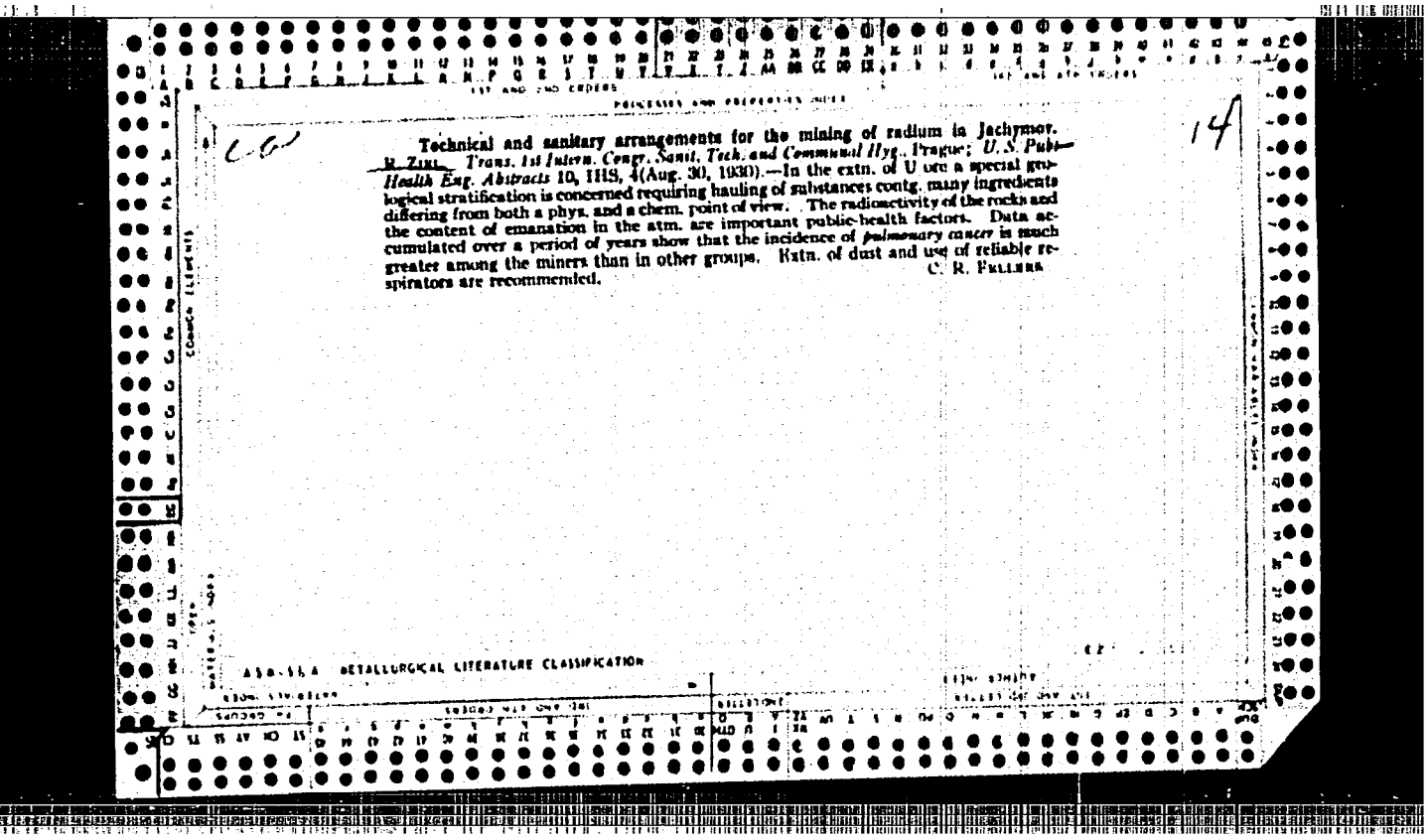
1. Oddelenie experimentalnej chirurgie Ustavu experimentalnej mediciny SAV; vedouci: akademik K.Siska.

ZIEL.

Summer camps. p. 3.
Vol 6, no. 14, June 1953. ROLNIK SPOLDZIELCA. Warsaw, Poland

Vol 8, no. 35, Aug. 1955

So: Eastern European Accession. Vol 5, no. 4, April 1956



Technical and sanitary arrangements for the mining of radium in Jachymov. R. Zika. *Trans. 1st Intern. Congr. Sanit. Tech. and Communal Hyg., Prague; U.S. Public Health Eng. Abstracts* 10, 1113, 4(Aug. 30, 1930).—In the extn. of U ore a special geological stratification is concerned requiring hauling of substances contg. many ingredients differing from both a phys. and a chem. point of view. The radioactivity of the rocks and the content of emanation in the atm. are important public-health factors. Data accumulated over a period of years show that the incidence of *pulmonary cancer* is much greater among the miners than in other groups. Extn. of dust and use of reliable respirators are recommended.

C. R. Fullers

JAWORSKI, Marian; ZIELASKO, Antoni; GASIOR, Krystyna

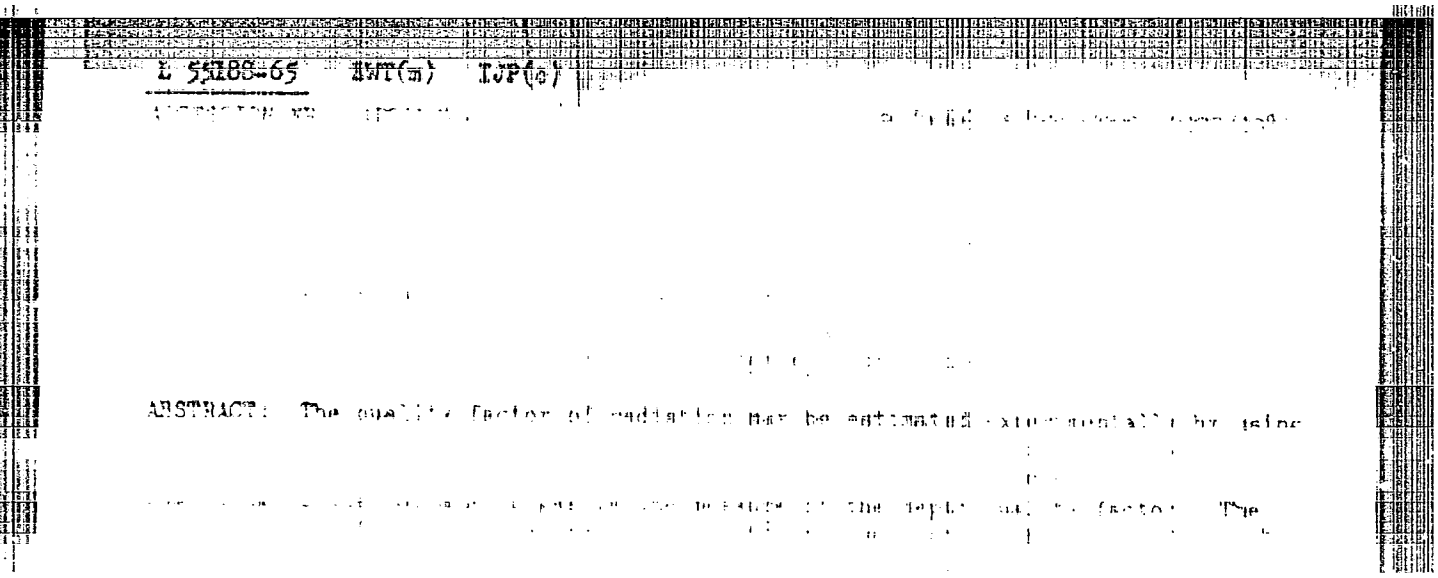
Colorometric determination of ethylene oxide. Chem anal 6 no.6:1005-1012 '61.

1. Institute of Organic Synthesis, Blachownia Slaska.

ZIELASKOWSKI.

"People's councils mobilize peasants for Road Deeds!" p. 10, (DROGWICTWO Vol. 10, No. 1, Jan. 1955. Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL). LC. Vol. 4, No. 4, April 1955. Uncl.



L 5288-65 EWT(m) IJP(c)

ABSTRACT: The quality factor of radiation may be estimated [illegible]

SUBMITTED: 30Apr64 ENCL: 00 SUB CODE: NP

L 33011-66
ACC NR: AP6024170 SOURCE CODE: PO/0046/65/010/012/0791/0806

AUTHOR: Czerniewski, Michal--Chernovski, M.; Panta, Przemyslaw--Pan'ta, P.; Zielczynski, Mieczyslaw--Zel'chin'ski, M.; Zak, Wieslaw--Zhak, V.; Zarnowiecki, Krzysztof--Zharnovetski, K.

ORG: Reactor Exploitation Department, Institute of Nuclear Research, Warsaw; Health Physics Department, Institute of Nuclear Research, Warsaw

TITLE: Bone tissue sterilization using reactor fuel gamma radiation

SOURCE: Nukleonika, v. 10, no. 12, 1965, 791-806

TOPIC TAGS: bone, nuclear fuel, gamma radiation, radiation biologic effect, radiotherapy

ABSTRACT: An absolute ionization method of measurements of doses absorbed in bone tissue, and additional methods were developed. Measurements of spatial dose distribution in grafts were performed. From the detailed analysis it follows that each point of the graft absorbs in sterilization a dose of 3.3 Krad, with an accuracy of 20%. In the two years of its application the sterilization method developed has proved satisfactory. This was evidenced in sterilization of more than one hundred lyophilized human bone grafts successfully used for therapeutical purposes. The authors thank Professor K. Ostrowski for his suggestion to use the facilities of the EWA [illegible] and also for his valuable comments. The authors also thank Mr. J. Aleksandrowicz for over-all assistance in the project, Docent Z. Zagorski for discussion on the subject of chemical dosimeters and Mr. T. Berens for designing the containers, and general help. Orig. art. has: 12 figures and 14 formulas.

[Orig. art. in Eng.] / [NA]
SUB CODE: 06,18 / SUBM DATE: 14Oct65 / ORIG REF: 003 / SOV REF: 001 / OTH REF: 027

Card 1/1 pc

39030
P/046/62/007/003/004/008
D256/D308

27.2400

AUTHOR: Zielczyński, Mieczysław

TITLE: Use of columnar ion recombination for determining the relative biological effectiveness of radiation

PERIODICAL: Nukleonika, v. 7, no. 3, 1962, 175-182

TEXT: A method of specific ionization measurements is proposed using a tissue-equivalent chamber with maintained conditions of columnar ion recombination; the specific ionization can then be measured directly in terms of the number of ions that recombine in the chamber. It is shown that if the conditions of recombination in the chamber are maintained in such a way that the efficiency of the ion collection is a linear function of the relative biological effectiveness (RBE), then the determined mean value of the specific ionization will correspond to the RBE of the radiation, independently of the composition and the character of the radiation. The method is suitable for RBE measurements and monitoring of compound radiations of an unknown composition, e.g. in conjunction with operation

Card 1/2

39030
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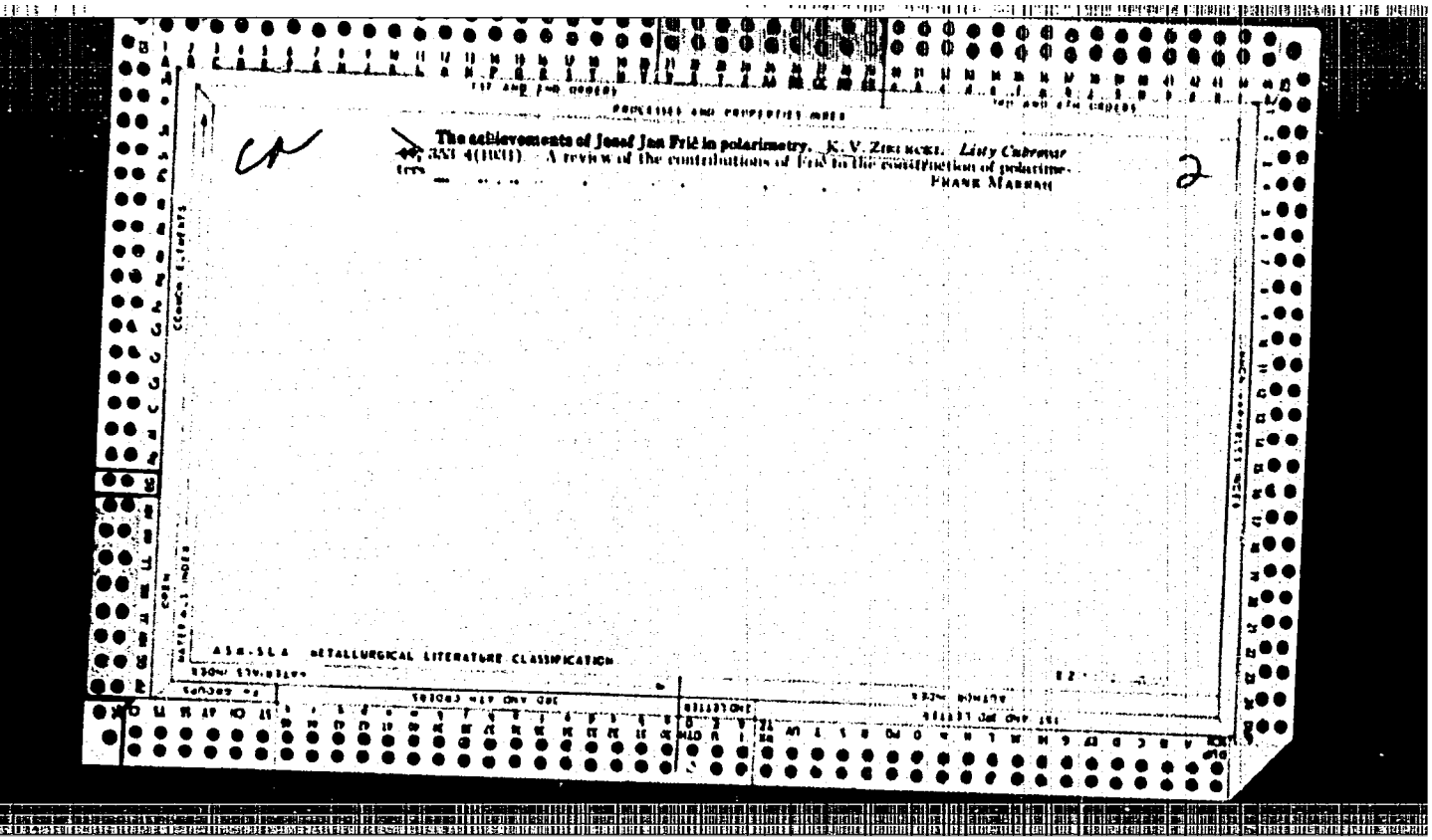
D256/D308

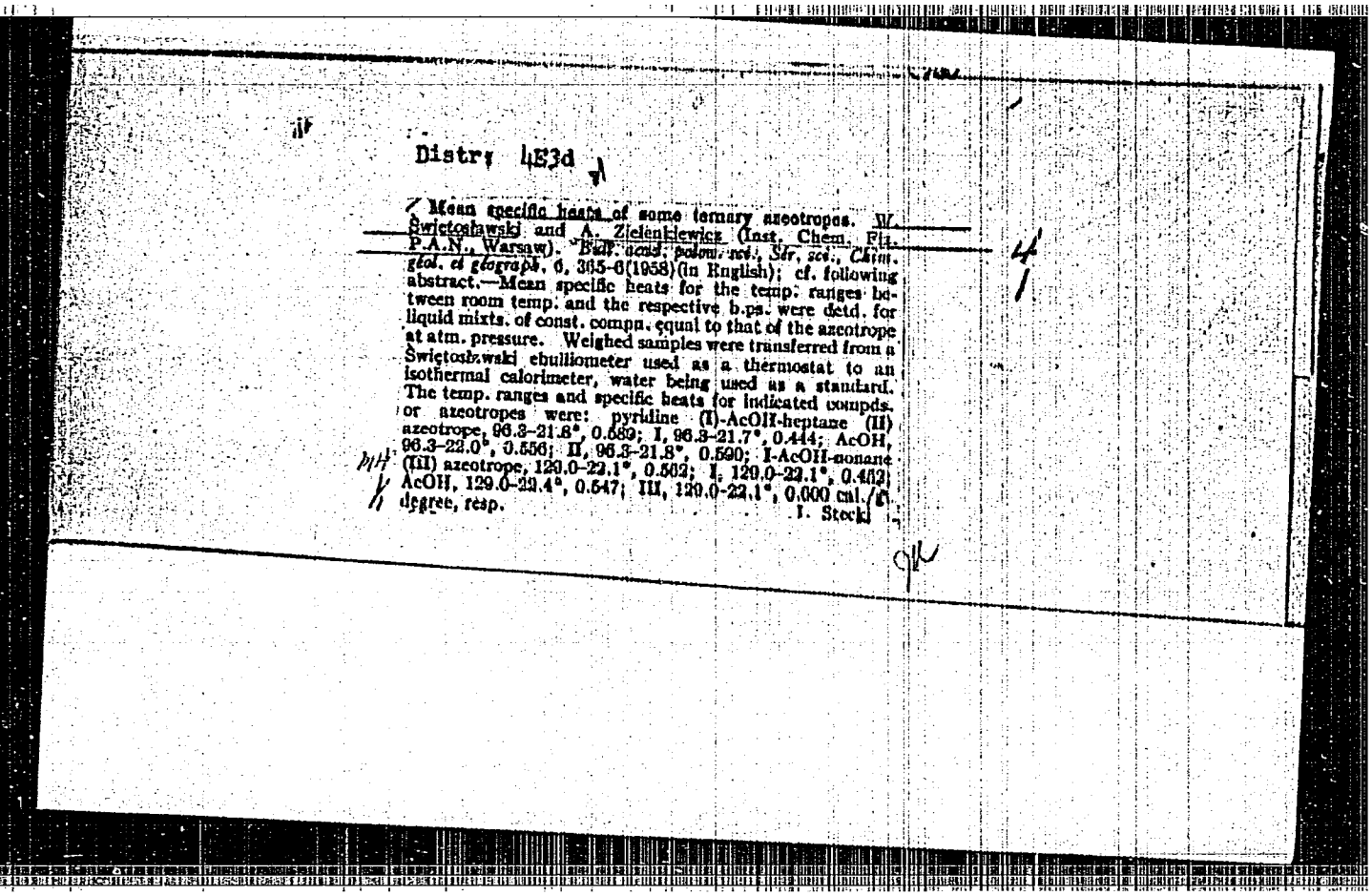
Use of columnar ion ...

of particle accelerators. There are 3 figures. The most important English-language reference reads as follows: H.H. Rossi, Rad. Res., 10, no. 5, 522 (1959).

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy Moskva (Joint Institute of Nuclear Research, Moscow)

Card 2/2





Distr: 4E3d

Mean specific heats of some ternary azeotropes. W. Świętosławski and A. Zielenkiewicz (Inst. Chem. Fiz. P.A.N., Warsaw). *Bull. acad. polon. sci., Sér. sci., Chim., géol. et géograph.*, 6, 365-6(1958)(In English); cf. following abstract.—Mean specific heats for the temp. ranges between room temp. and the respective b.ps. were detd. for liquid mixts. of const. compn. equal to that of the azeotrope at atm. pressure. Weighed samples were transferred from a Święstosławski ebulliometer used as a thermostat to an isothermal calorimeter, water being used as a standard. The temp. ranges and specific heats for indicated compds. or azeotropes were: pyridine (I)-AcOH-heptane (II) azeotrope, 96.3–21.8°, 0.589; I, 96.3–21.7°, 0.444; AcOH, 96.3–22.0°, 0.556; II, 96.3–21.8°, 0.590; I-AcOH-nonane (III) azeotrope, 120.0–22.1°, 0.502; I, 120.0–22.1°, 0.462; AcOH, 129.0–22.4°, 0.547; III, 120.0–22.1°, 0.600 cal./g. degree, resp.

I. Stockl

Country : Poland
Category : Physical Chemistry - Thermodynamics. Thermochemistry. Equilibria. Physicochemical Analysis. Phase Transitions.
Abs. Jour : RZhKhim., No 13, 1959 45053
Author : Swietoslawski, W. and Zielenkiewicz, A.
Institut. : Not given
Title : Heats of Evaporation in Homologous Series of Binary Azeotropes
Orig Pub. : Roczniki Chem, 32, No 4, 913-922 (1958)

Abstract : The authors have measured the heat of evaporation of binary positive azeotropes (A_1H_1) formed by: (1) aromatic hydrocarbons (benzene, toluene, p-xylene), acting as the azeotropic agent A, and homologous series of primary aliphatic alcohols (H_1) (methyl, ethyl, n-propyl, isopropyl, isobutyl, n-butyl, isoamyl, and n-hexyl alcohols) and (2) pyridine (A_2) with hydrocarbons (H_1) (heptane, n-octane, and n-nonane). The measurements were made at the bo of the respective azeotropes, using a method described earlier (RZhKhim., 1958, No 16, 55592). When the heat of evaporation of the azeotropic agent A is higher than that of the series

Card: 1/2

Country : Poland B-
Category :

Abs. Jour : 45055

Author : Swietoslawski, W. and Zielenkiewicz, A.
Institut. : Not given
Title : Average Specific Heat Capacities of Positive Binary Azeotropes

Orig Pub. : Roczniki Chem, 32, No 4, 923-928 (1958)

Abstract : The authors have measured the average specific heat capacities ($\overline{C}_c$) of the following positive binary azeotropes: toluene-isopropyl alcohol, toluene-isobutyl alcohol, p-xylene-isobutyl alcohol, p-xylene-isobutyl alcohol [sic], p-xylene-isoamyl alc and o-xylene-isoamyl alc. The measurements were made over a temperature range extending from the bp of the respective azeotropes to a temperature of about 21°. The $\overline{C}_c$ of the pure components were also measured. It has been observed, in agreement with previously published work (R. Kremann, Die Eigenschaften der binaeren Fluessigkeitsgemische,

Card: 1/2

CZARNOTA, J.; BARANOWSKI, B.; ZIELENKIEWICZ, W.

Characteristics of heat exchange in a differential microcalorimeter. Bul chim PAN 12 no.8:561-565 '64.

1. Institute of Physical Chemistry of the Polish Academy of Sciences, Warsaw. Submitted June 11, 1964.

L 05302-67
ACC NR: AP7000225 (N) SOURCE CODE: PO/0099/66/040/002/0323/0326

MACZYNSKI, A., ZIELENKIEWICZ, A. and ZIELENKIEWICZ, W., of the Institute of Physical Chemistry, Polish Academy of Sciences (Instytut Chemii Fizycznej Polskiej Akademii Nauk) Warsaw.

"Ebulliometric Thermostat"

Warsaw, Roczniki Chemii, Vol 40, No 2, 1966, pp 323 - 326

Abstract (Authors' English summary): A thermostat was constructed which allows to maintain the temperature constant of within ±0.002°C over extended periods of time. Orig. art. has: 2 figures and 2 tables. [JPRS: 36,002]

TOPIC TAGS: thermostat, laboratory instrument

SUB CODE: 13 / SUBM DATE: 20 Aug 65 / OTH REF: 003

KH
Card 1/1

POLAND/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64359.

Author : Malinowski Stanislaw, Basinski Stanislaw, Olszewska Maria, Zieleniewska Hanna.
Inst :
Title : Investigations into Aldol Reactions in the Gaseous Phase. III.

Orig Pub: Roczn. chem., 1957, 31, No 1, 123-129.

Abstract: By passing the mixed vapors of equimolar columns of formaldehyde and propione, n-butyric or n-valeric aldehydes at temperatures of 250-325° over silica gel saturated with liquid glass consisting of Na_2O : 3.18 SiO_2 to the concentration of 7%, the corresponding alpha-methyl (I), alpha-ethyl (II) and alpha-(n propyl)-acroleins (III) are produced. The reactions are carried

Card : 1/2

4

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002065110010-5"

POLAND/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64359.

on as described earlier (see RZhKhim, 1958, 1204). The yields of I-III depend on temperature, volume of catalyst and the nature of the original aldehydes. Under optimum conditions (275°, 40-45 g. of aldehyde per 1 g. of catalyst per hour), yields were: 45.5% for (I), 49.2% for (II), 59% for (III). I -III are characterized as semicarbazones and 2,4 dinitrophenylhydrazones.

Card : 2/2

ZIELENIEWSKI, B.

The influence of spacing on the yield of sugar beets.

p. 57. (GAZETA CUKROWNICZA.) (Warszawa, Poland) Vol. 60. No. 2, Feb. 1958

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

ZIELENIEWSKI, B.

TECHNOLOGY

Periodicals: GAZETA CUKROWNICZA. Vol. 60, no. 10, Oct 1958

ZIELENIEWSKI, B. Manuring sugar beets. p. 329.

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

ZIELENIEWSKI, B.

Mikronawozy. Warszawa, Panstwowe Wydawn. Rolnicze i Lense, 1950. 39 p. (Fertilizers containing trace elements)

DA Not in DLC

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

KOTARBINSKI, Tadeusz; ZIELENIEWSKI, Jan

Labor productivity; some theoretical remarks. Review Pol Academy 5 no.1:1-17 Ja-Mr '60. (EEAI 10:3)
(Labor pruductivity)

PAWLIKOWSKI, Tadeusz; ZIELENIEWSKI, Jerzy

From studies on regeneration in the Endocrinology Institute of the School of Medicine in Lodz. Zesz probl nauki pol no.18:72-76 pt.2 '59.

POLAND/General Biology - General Histology. B.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 94597

Author : Ber, Artur; Hochlinger, Helena; Zieleniewski, Jerzy
Inst : -
Title : Investigation of Melanophore Reaction. I. Influence of Water Extracts of Postfermentative Penicillium Mycelium Chrysogenum Q-176 on the (Content of) Pigment in Tadpoles Xenopus laevis Daudin.

Orig Pub : Endokrynol. polska, 1956, 7, 188-194.

Abstract : The development of melanophores was shown in tadpoles treated with an extract of Penicillium. The authors exclude the possibility of the presence of melanophore hormone in the mycelium. -- From the authors' resume.

Card 1/1

BER, Artur; ZIELENIEWSKI, Jerzy

Effect of prolonged starvation on limb regeneration in the frog. Xenopus laevis. Pat.Polska 9 no.1:35-38 Jan-Mar '58.

1. Z Zakladu Endokrynologii A.M. w Lodzi Kierownik: prof. dr A. Ber Adres autora: Lodz, ul. 22 Lipca 29/7.

(STARVATION, eff.
on limb regen. in frog (Pol))
(REGENERATION,
eff. of starvation on limb regen. in frog (Pol))

KOTARBINSKI, T., prof.; ZIELENIEWSKI, J. doc.dr.

Labor productivity. Przegl techn 81 no.6:5-7 F '60.

ZIELENIEWSKI, Jan, dr. (Warszawa)

Joseph Kunert's Transactions in maritime commerce; a book review.
Tech gosp morska 11 no.7/8:229-230 Jl-Ag '61.

ZIELENIEWSKI, Jerzy; MUSIALOWA, Maria

Behavior of some morphological elements of the blood during adrenal regeneration in Sprague-Dawley rats. Endokr. Pol. 16 no.4:425-430 Jl-Ag '65.

1. Katedra i Zaklad Endokrynologii AM w Lodzi (Kierownik: prof. dr. T. Pawlikowski).

PAWLIKOWSKI, Tadeusz prof. dr.; ZIELENIEWSKI, Jerzy

Influence of ACTH and cortisol on the adrenal regeneration in Sprague-Dawley rats. Endokr. Pol. 15 no.6:629-636 '64.

1. Zaklad Endokrynologii Akademii Medycznej w Lodzi (Kierownik: prof. dr. T. Pawlikowski).

MIKOLAJCZYK, Henryk; ZIELENIEWSKI, Jerzy

Effect of STH, TSH, ACTH, FSH, DOCA, cortisone and high-carbohydrate and high-protein diets on the urinary excretion of acid mucopolysaccharides and 17-ketosteroids in 2 normal males. Endokr. Pol. 14 no.6:581-586 N-D '63.

1. Zaklad Endokrynologii Akademii Medycznej w Lodzi (Kierownik: Prof. dr T. Pawlikowski).

EXCERPTA MEDICA Sec.3 Vol.11/8 Endocrinology Aug 57

1494. BER A. and ZIELENIEWSKI J. Zakl. Endokrynol. AM, Lódź. *Badania nad elektrotyrografią. Doniesienie 2. Badania chorych z prawisłową przemianą materii. Electrothyrography. 2. Investigations in patients with normal BMR. ENDOKR. POL. 1956, 7/1956 (259-262) Graphs 3

Examining patients with a small goitre and compensated thyroid function by the method of unipolar leads from both lobes of the thyroid gland, it was observed that besides the functional currents of heart and muscles, deviations of an indeterminate origin are present, probably dependent on the thyroid function. (III, 6)

T

POLAND/Human and Animal Physiology (Normal and Pathological).
Internal Secretion. Thyroid Gland.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79755.

Author : Ber, Artur; Zieleniewski, Jerzy.
Inst :
Title : Electrothyreographic Investigations. II. Investigation of Patients with Unimpaired Metabolism of Substances.

Orig Pub: Endokrynol. polska, 1956, 7, 259-262.

Abstract: No abstract.

Card : 1/1

ZIELENIEWSKI, Jerzy

A simplified method for breeding Xenopus laevis. Endokr. Pol. 15 no.2:227-228 Mr-Ap '64.

1. Zaklad Endokrynologii Akademii Medycznej w Lodzi (Kierownik: prof. dr. T. Pawlikowski).

ZIELENIEWSKI, R.

POL.

621.791.92.003 : 621.914.3

3132

Józefik A., Zieleniewski R. Technical and Economic Indices for Production and Use of Tipped Cutting Tools.

„Wskaźniki techniczne i ekonomiczne produkcji i użytkowania narzędzi napawanych". Przegląd Mechaniczny. No. 6, 1953, pp. 276—276, 5 figs.

On the basis of data obtained from experiments carried out by the Welding Institute over the production of cutting tools and — from the Machine Tool and Machining Institute — of research carried out over the performance of tipped tools, the authors have computed technical and economic indices for the production and utilisation of plain milling cutters. These indices are an aid to comparing tipped milling cutters arc-welded by means of ESW-18 electrodes with solid SW-8 high-speed steel milling cutters. A method is suggested for computing and classifying these indices. In summing up the details of this problem, the authors conclude that the mastering of the tipping process will materially contribute towards increasing the performance of tipped tools.

ZIELENIEWSKI, Ryszard, dr; KOZAKIEWICZ, Krystyna, mgr

Experiments concerning air injection in burners. Gaz woda techn sanit 37 no.12:401-402 D '63.

1. Central Gas Engineering Laboratory, Krakow Branch.

ZIELENIEWSKI, Ryszard, mgr; KOZAKIEWICZ, Krystyna, mgr

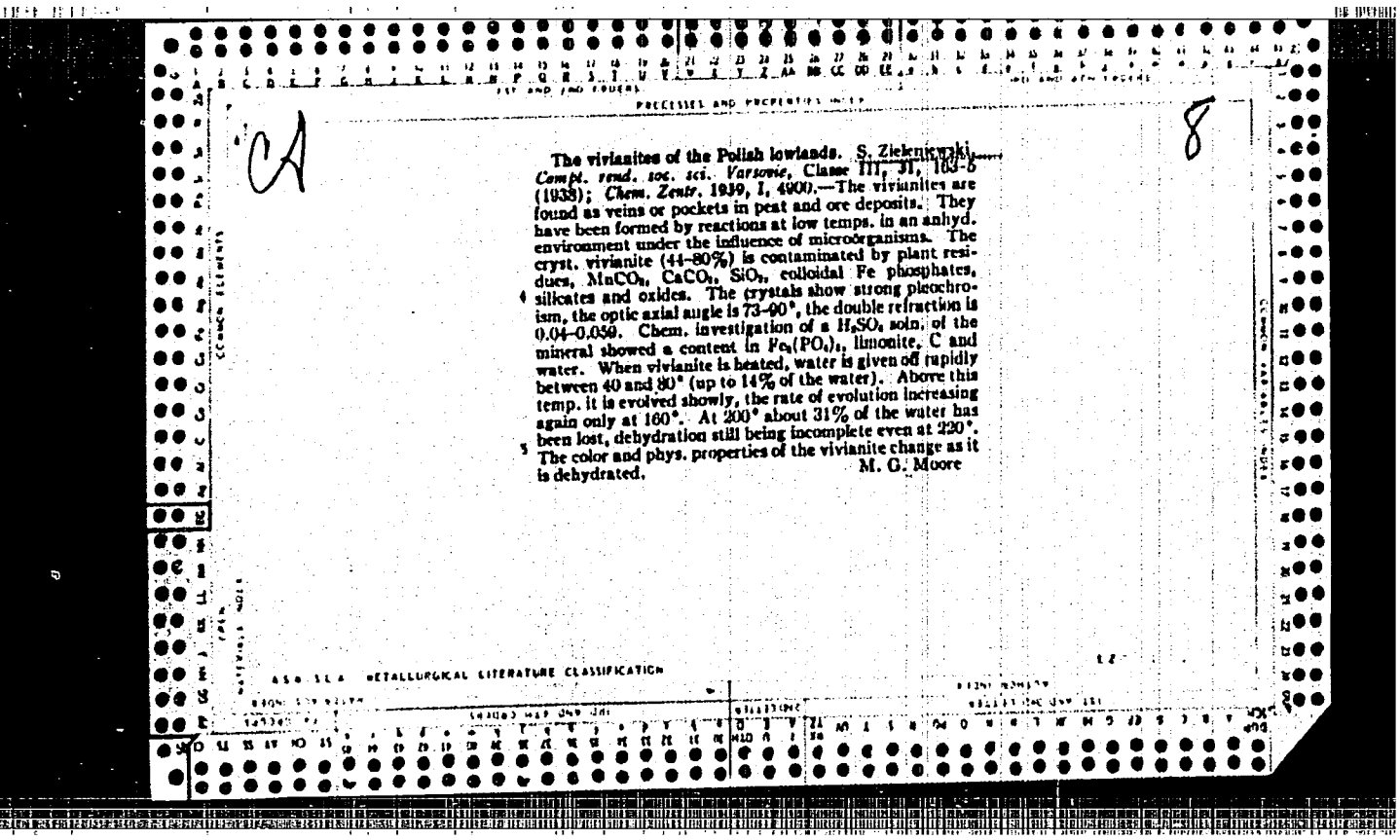
CO content in flue gases as an indicator of incomplete combustion. Gaz woda techn sanit 37 no.8:249-250 Ag '63.

1. Central Gas Engineering Laboratory, Krakow Branch.

ZIELENEWSKI, Ryszard, dr.

Combustion rate of gas mixtures. Gaz woda techn sanit 38 no.4:129-134 Ap '64

1. Central Gas Engineering Laboratory, Krakow Branch.



CA

8

The vivianites of the Polish lowlands. S. Zieknicwski. *Compt. rend. soc. sci. Varsovie*, Classe III, 31, 183-5 (1938); *Chem. Zentr.* 1939, I, 4900.—The vivianites are found as veins or pockets in peat and ore deposits. They have been formed by reactions at low temps. in an anhyd. environment under the influence of microörganisms. The cryst. vivianite (44–80%) is contaminated by plant residues, $MnCO_3$, $CaCO_3$, SiO_2, colloidal Fe phosphates, silicates and oxides. The crystals show strong pleochroism, the optic axial angle is 73–90°, the double refraction is 0.04–0.059. Chem. investigation of a H_2SO_4 soln. of the mineral showed a content in $Fe_3(PO_4)_2$, limonite, C and water. When vivianite is heated, water is given off rapidly between 40 and 80° (up to 14% of the water). Above this temp. it is evolved slowly, the rate of evolution increasing again only at 160°. At 200° about 31% of the water has been lost, dehydration still being incomplete even at 220°. The color and phys. properties of the vivianite change as it is dehydrated.

M. G. Moore

ASM METALLURGICAL LITERATURE CLASSIFICATION

ZIELENKIEWICZ, A.

Enthalpy of evaporation of heteroazeotropes. Bul chim PAN 12 no.7:487-490 '64.

1. Institute of Physical Chemistry of the Polish Academy of Sciences, Warsaw. Submitted April 30, 1964.

D-

POLAND/Atomic and Molecular Physics - High Pressure Physics.

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5683

of calorimeter is that to measure the thermal effect it is not necessary to know the specific heat of the investigated object. In the LFC use is made of automatic devices for measuring V accurate to ± 0.1%, and for measuring $\Delta t = t_2 - t_1$ with a maximum error of ± 0.001° C. The LFC is placed in a water thermostatic bath, surrounded by an air thermostatic bath. Constant temperature is maintained in the thermostatic bath, accurate to ± 0.001° C. The LFC makes it possible to determine the thermal effects on the order of 1 cal/hr under the condition that the rate of flow of the liquid is 500 ml/hr. The LFC is calibrated by means of an electric heater made of manganin. -- T.V. Zakharova

Card 2/2

B-8

POLAND / Physical Chemistry--Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 37827

Author : Swietoslawski, W.; and Zielenkiewicz, A.
Inst : Polish Academy of Sciences
Title : Mean Specific Heats of Some Ternary Azeotropes.

Orig Pub : Bull Acad Polon Sci, Ser Sci Chim, Geol et Geograph, 6, No. 6, 365-366, XXIX (1958) (in English with a Russian summary)

Abstract : The authors have determined the specific heats of the starting components and of the following two mixtures: (I) 10.6 wt% pyridine, 3.4% acetic acid, and 86.0% n-heptane, and (2) 29.3% pyridine, 20.9% acetic acid, and 49.8% n-nonane, corresponding in composition to the positive-negative

Card 1/2

POLAND / Physical Chemistry--Thermodynamics. Thermochemistry. Equilibrium. Physico- B-8

POLAND / Physical Chemistry--Thermodynamics. B-8
Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 37826

o-xylene-isoamyl alcohol; the mean specific heats of the pure components were also measured. The measurements were made at 20° intervals up to the bp of the azeotrope (at P = 1 atm) with an error of ± 0.3%, using the mixing method. A description of the modified Swietoslawski ebulliometer used in the heating of the specimens investigated is given. The specific heat values calculated by the additivity rule were found to be smaller than the experimental values (the difference, in cal per gm per deg, varied within the limits of +0.017 to +0.058 for the various mixtures). The formation of binary positive azeotropes is related to an increase in the

Card 2/3

POLAND / Physical Chemistry--Thermodynamics. B-8
Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 37826

average specific heat, in agreement with earlier published observations (A. K. Zhdanov, Zhur obshchui Khim, 11, 471 (1941)). -- S. Byk

Card 3/3

ACC NR: AP6018255

(3) $H_{C_9H_{12}} = 13.25 - 8.349 \times 10^{-3} T$ (at 390.7-437.4°K)

These formulas enable one to calculate the enthalpy of vaporization within the indicated temperature intervals with an accuracy equal to that of the calorimetric measurement. The specific heat values used in the calculation of the enthalpy were determined experimentally with an accuracy of ± 0.2%. Orig. art. has: 4 figures, 3 tables, and 3 formulas.

SUB CODE: 07/ SUBM DATE: 03Jun65/ ORIG REF: 013/ OTH REF: 003

Card 2/2 egh

SWIETOSLAWSKI, W.; ZIELENKIEWICZ, A.

Evaporation enthalpies and entropies of several series of azeotropes. Bul Ac Pol chim 6 no.2:111-114 '58. (EEAI 9:6)

1. Institute of Physical Chemistry, Polish Academy of Sciences. Presented by W.Swietoslawski.
(Azeotropes)

SWIETOSLAWSKI,W.; ZIELENKIEWICZ,A.

Mean specific heat of some ternary azeotropes. Bul Ac Pol chim. 6 no.6:367-369 '58. (EEAI 9:6)

1. Institute of Physical Chemistry, Polish Academy of Sciences. Presented by W.Swietoslawski.
(Azeotropes) (Specific heat)

HANNA ZIELENKIEWICZ

Distr: 4E2c(j)/4E3d

7

Vaporization enthalpy of a homologous series of binary azeotropes. Wojciech Świętosławski and Anna Zielenkiewicz (Univ. Warsaw). *Rocniki Chem.* 32, 913-23 (1958) (English summary).—The vaporization enthalpy of binary hos. azeotropes (A_i, H_j) composed of aromatic hydrocarbons as azeotropic agents A (benzene, toluene, *p*-xylene) with primary aliphatic alcs. as series of homologs (H_j) and of pyridine with *n*-paraffinic hydrocarbons were detd. If the vaporization enthalpy of A_i is higher than those of H_j, the gram-vaporization enthalpies of azeotropes increase with the normal b.p. of H_j, whereas if that of A_i is lower than those of H_j, a reverse phenomenon takes place. The heat of mixing at the b.p. of the azeotrope increases with rising b.p. of the homolog. The curves of mol. vaporization entropies of the azeotropes plotted vs. their compn. show a max., the position of which depends on the vaporization entropy of A_i. A. Kregiewski

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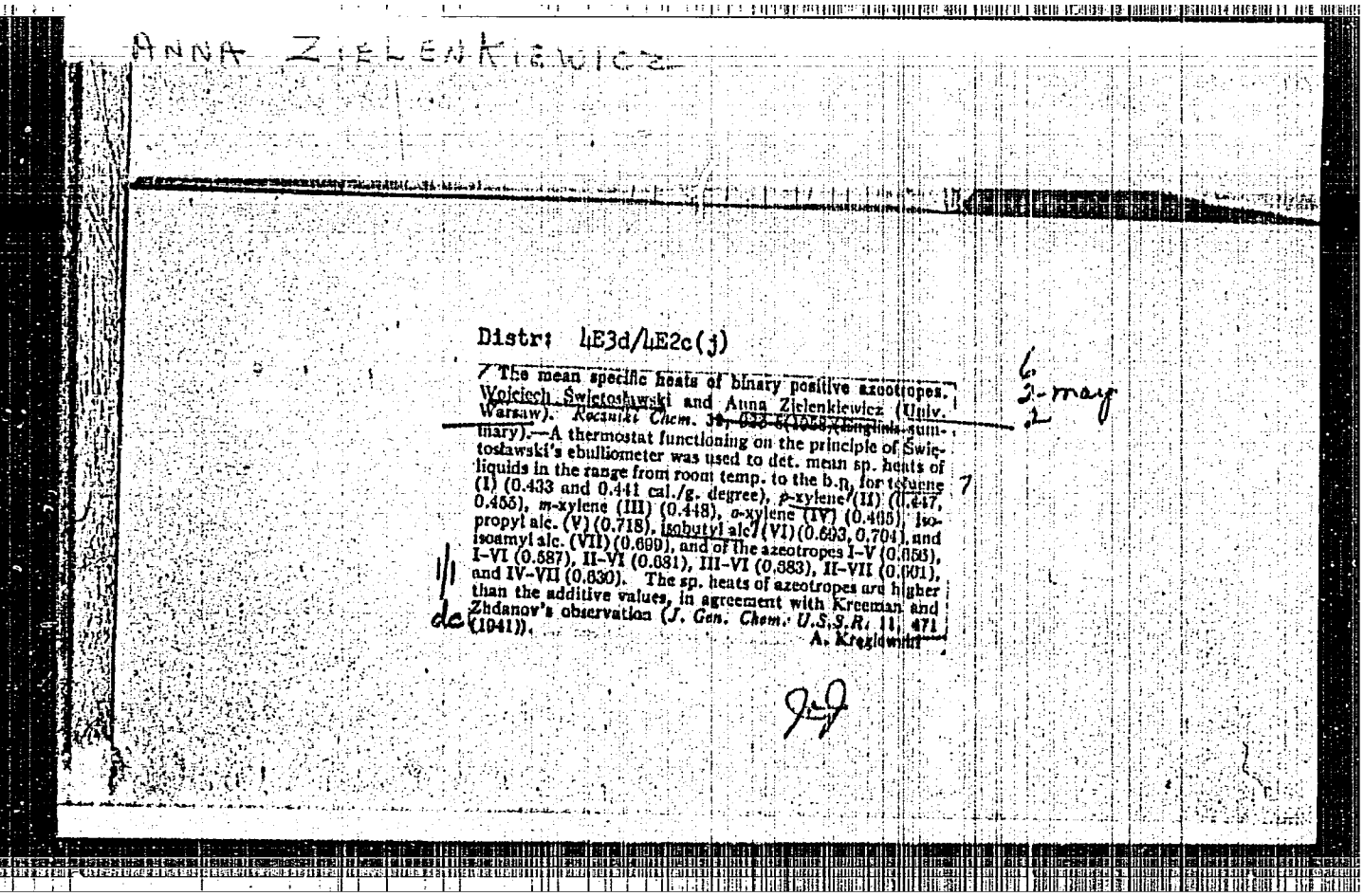

ANNA ZIELENKIEWICZ

Distr: 4E3d/4E2c(j)

The mean specific heats of binary positive azeotropes. Wojciech Świętosławski and Anna Zielenkiewicz (Univ. Warsaw). *Rocznik Chem.* 19, 433-6(1939)(English summary).—A thermostat functioning on the principle of Święstosławski's ebulliometer was used to det. mean sp. heats of liquids in the range from room temp. to the b.p. for toluene (I) (0.433 and 0.441 cal./g. degree), *p*-xylene (II) (0.447, 0.455), *m*-xylene (III) (0.448), *o*-xylene (IV) (0.465), isopropyl alc. (V) (0.718), isobutyl alc. (VI) (0.693, 0.704), and isoamyl alc. (VII) (0.699), and of the azeotropes I–V (0.553), I–VI (0.587), II–VI (0.581), III–VI (0.583), II–VII (0.601), and IV–VII (0.630). The sp. heats of azeotropes are higher than the additive values, in agreement with Kreeman and Zhdanov's observation (*J. Gen. Chem. U.S.S.R.* 11, 471 (1941)).

A. Krzyżanski

ZIELENIEWSKI, Ryszard, mgr.

Research on the improvement of gas burning and utilization.
Gaz woda tech sanit 36 no.5:182-185 My '62.

1. Centralne Laboratorium Gazownictwa, Oddzial Krakow.

ZIELENKIEWICZ, W.

Efforts to save wood. p. 23.

(BUDOWNICTWO WIEJSKIE. Vol. 9, No. 5, May 1957. Warszawa, Poland)

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

POLAND/Atomic and Molecular Physics - High Pressure Physics. D-

Abs Jour : Ref Zhur Fizika, No 3, 1960, 5681

Author : Sivietoslawski, W., Zielenkiewicz, W.

Inst : Institute of Chemical Physics, Polish Academy of Sciences

Title : Thermostats Used with the Labyrinth Flow Calorimeter

Orig Pub : Bull. Acad. polon. sci. Ser. sci. chem., geol. et geogr., 1959, 7, No 2, 107-110

Abstract : Description of a thermostat for a labyrinth-flow calorimeter (Abstract 5683). The thermostat contains 400 liters of water. To stir such an amount of water, four propeller stirrers are used. In addition to the automatic apparatus for the control of the temperature, the thermostat contains also a Beckman ultrathermometer for detecting very small water temperature fluctuations. The changes in temperature in the thermostat did not exceed $\pm$ 0.001° C in 14 days.

-- T.V. Zakharova

Card 1/1

COUNTRY : POLAND
CATEGORY : Laboratory Equipment. Apparatus, Their I...
Construction and Application

ABS. JOUR. : RZKhim., No. 1 1960, No. 987

AUTHOR : Swietoslawski, W.; Zielenkiewicz, W.
INST. : Polish AS
TITLE : On a New Labyrinth Flow Calorimeter

ORIG. PUB. : Bull. Acad. polon. sci. Ser. sci. chim., geol. et geogr., 1959, 7, No 2, 101-105

ABSTRACT : A flow calorimeter, in which water washing the reaction vessel (volume 45 ml) passes through a jacket in the form of a labyrinth, has been constructed. The difference of the temperatures of flow water at the inlet and outlet of the labyrinth is measured correct to ±0.001° by means of a battery consisting of 25 copper-constantan thermocouples. To measure the volume of the flowing water, a special apparatus was

CARD: 1/2 F-11

RZKhim., No. 1

TITLE : 1960

987

ORIG. PUB. :

ABSTRACT cont'd : constructed which permits the measurement of this value correct to ±0.1%. The calorimeter is located in a 700-liter* thermostat whose temperature is maintained constant, correct to ±0.001°, by means of a mercury-toluene thermoregulator. The water thermostat is located inside an air thermostat. The calorimeter permits the measurement of small thermal effects of protracted processes of the order of 1 cal/hour.-- A. Vorob'yev

*water

CARD: 2/2

SWIETOSLAWSKI, W.; ZIELENKIEWICZ, W.

SWIETOSLAWSKI, W.; ZIELENKIEWICZ, W.

Thermostats used with the labirynth flow calorimeter. Bul Ac Pol chim 7 no.2:107-110 '59. (EEAI 9:7)
(Calorimeters and calorimetry)
(Thermostat)

COUNTRY : POLAND F
CATEGORY : Laboratory Equipment. Apparatus, Their Theory, Construction and Application
ABS. JOUR. : RZKhim., No. 1 1960, No. 988

AUTHOR : Swietoslawski, W.; Zielenkiewicz, W.
INST. : Polish AS
TITLE : Thermostats Used with the Labyrinth Flow Calorimeter

ORIG. PUB. : Bull. Acad. polon. sci. Ser. sci. chim., geol. et geogr., 1959, 7, No 2, 107-110
ABSTRACT : A description of the thermostats used in working with the labyrinth flow calorimeter (see abstr. 987) is given. The calorimeter is located in a water thermostat whose temperature is maintained constant, correct to $\pm 0.001^{\circ}$, by means of a mercury-toluene thermoregulator and electronic relay. Diagrams of the electronic relay and of the voltage stabilizer /stabilivolt/ of the power supply of the electronic lamps are given.

CARD: 1/2

ZIELENIEWSKI, Jan

Training conference in praxiology, Jablonna near Warsaw November 6-11, 1962. Nauka polska 11 no.2:114-116 Mr-Ap '63.

1. Pracownia Ogolnych Problemow Organizacji Pracy, Polska Akademia Nauk, Warszawa.

ZIELENIEWSKI, Jan, Assistant professor

The Research Centre for General Theory of Organization. Review Pol Academy 6 no.1:49-52 Ja-Mr '61.

1. Polish Academy of Sciences, Research Center for General Theory of Organization, Warsaw, Palac Kultury; nauki.

(Polish Academy of Sciences) (Poland--Research)
(Poland--Organization)

ZIELENIEWSKI, Jerzy

Effect of adrenal regeneration on ovarian function in white rats. Endokr.pol. 14 no.5:467-471 '63.

1. Zaklad Endokrynologii Akademii Medycznej w Lodzi. Kierownik: prof. df T. Pawlikowski.

ZISLENIEWSKI, R. ;KOZAKIEWICZ, K.

Thermostatic safety devices for gas-buring apparatus. p. 104.

GAX, WODA I TECHNIKA SANITARNA. (Stowarzyszenie Naukowo-Techniczne Inzynierow i Techników Sanitarnych, Orgrzewnictwa i Gaxownictwa) Warszawa, Poland. Vol. 33, no. 3, March 1959.

Monthly List of East European Accessions EEAI LC, Vol. 8, no. 7, July 1959.

Uncl.

ZIELENIEWSKI, R.

Adaptation of laboratory burners to the combustion of liquid and natural gas. p. 153

GAZ, WODA I TECHNIKA SANITARNA. (Stowarzyszenie Naukowo-Techniczne Inzynierow i Technikow Sanitarnych, Orgrzewnictwa i Gazownictwa) Warszawa, Poland. Vol. 33, No. 3, March 1959.

Monthly List of East European Accession' (EEAI) LC, Vol. 8, no. 7, July 1959

Uncl.