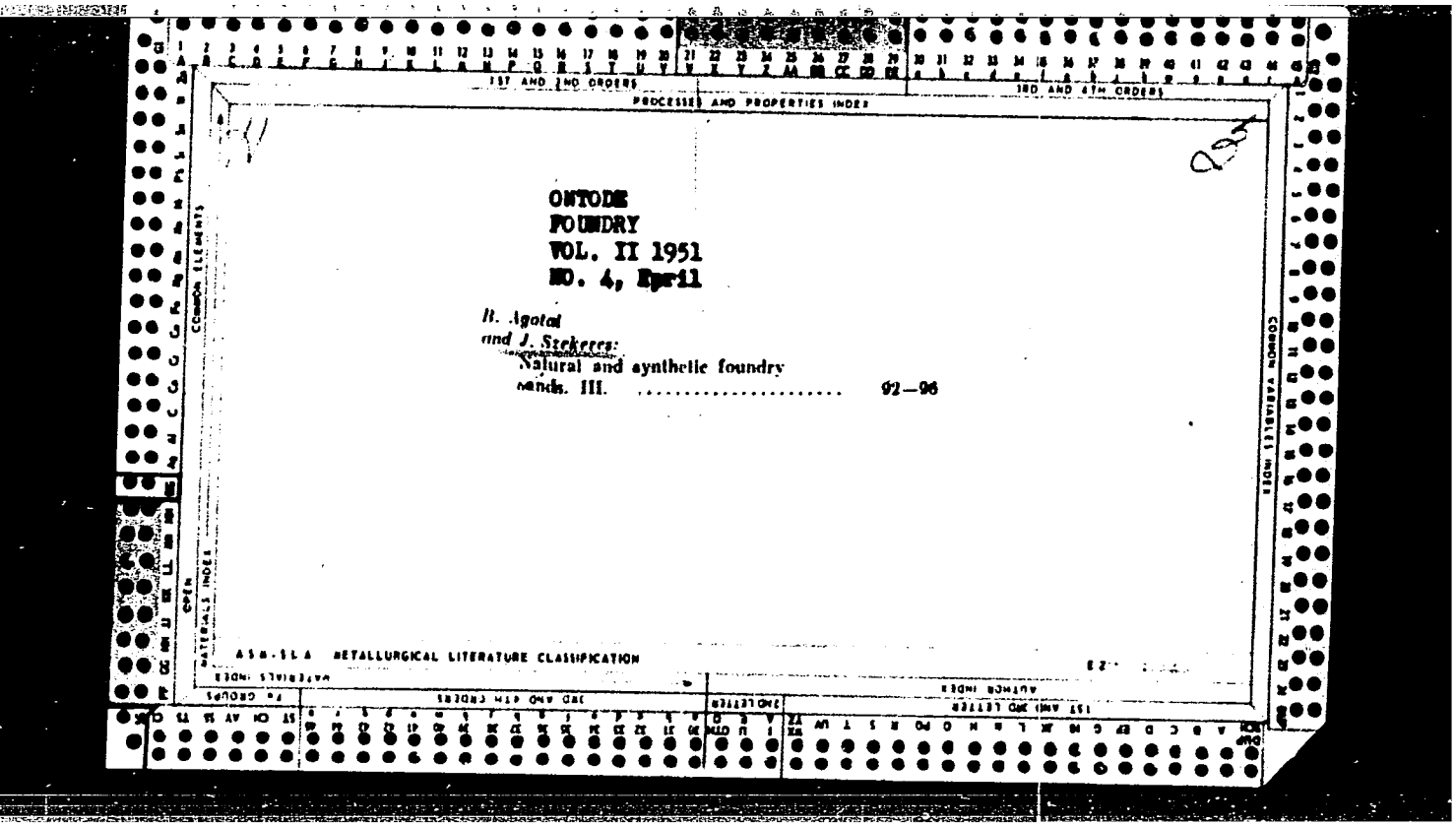


ONTODE
FOUNDRY
VOL. II 1951
NO. 4, April

B. Agotai
and J. Szekeres:
Natural and synthetic foundry
sands. III. ..... 92—96

SZEKERES, J.

Hungarian Technical Abst.
Vol. 6 No. 1
1954

621.743.422 : 661.683

70. **The technology of core binding with waterglass** — *A vízüveges magkötés technológiája* — V. Szekeres. (Foundry — *Kohászati Lapok, Öntöde* — Vol. 4, 1953, No. 3, pp. 49—56, 21 figs.)

The drying of cores and moulds entails considerable time and coal consumption. The process is therefore uneconomical. Moreover the cores are often destroyed in the process resulting in casting scrap. In order to eliminate the process of core drying a binding agent, e. g. waterglass, is required, the binding effect of which is not developed through heat. The *Petrella* waterglass-carbonic acid process and its further development by the Hungarian Iron Research Institute is described. Data on the sand and waterglass used in the process, the effect of waterglass concentration on binding are furnished. Technological experiments on the periodical vacuum and carbonic acid pressure method of treatment is given together with quality prescriptions for the materials to be used.

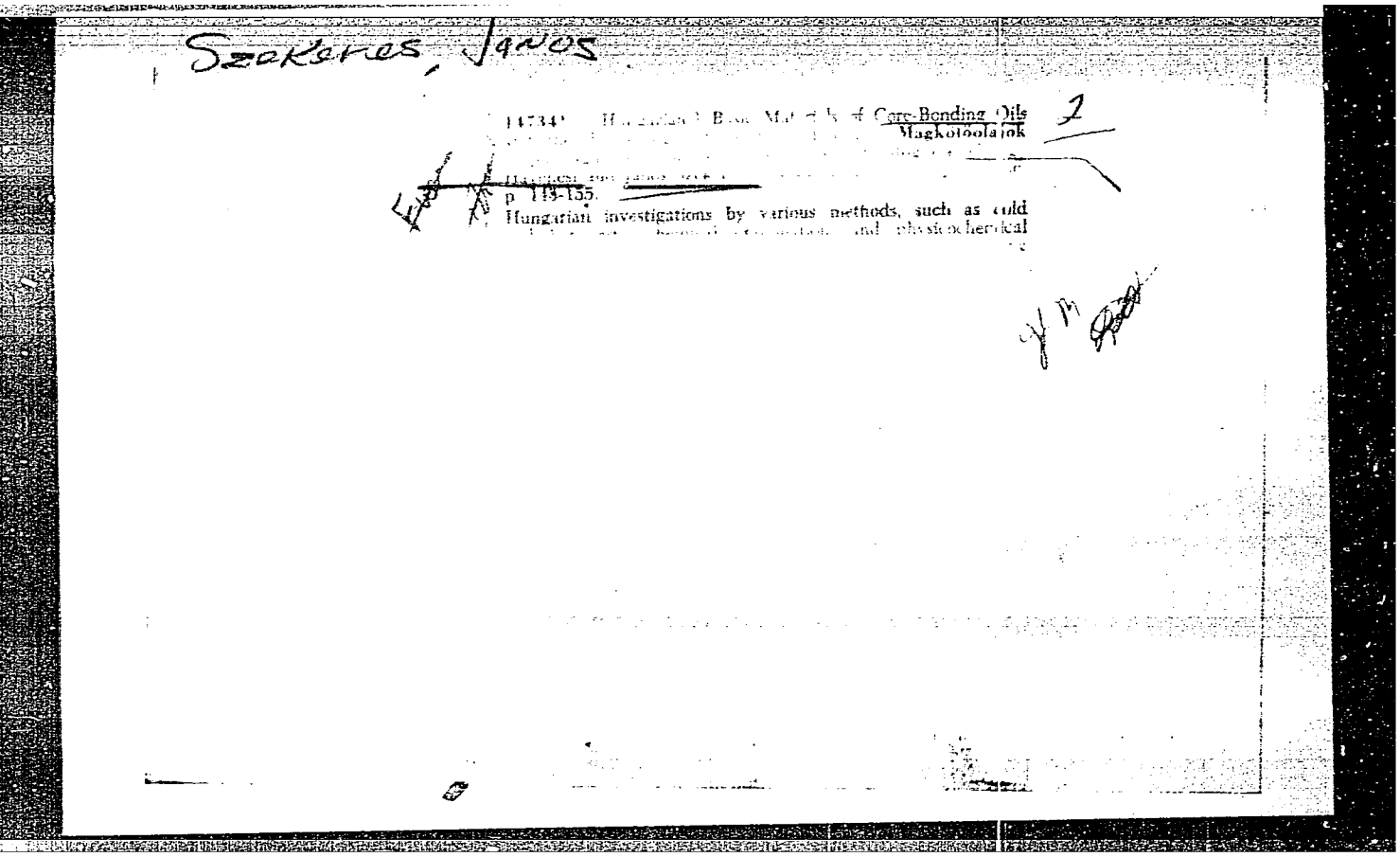
I. B.

SZEKERES, J.

HUNG.

99. **Experiments in the shell-moulding process** — *Héjformázási kísérletek* — J. Szekeres. (Foundry — *Kohászati Lapok, Öntöde* — Vol. 4, 1953, No. 7, pp. 150—154. 8 figs.)

According to experiments conducted in Hungary for the purpose of introducing the shell-moulding process condensated acidified synthetic resins with a high melting point are the most suitable. Optional composition of the sand used for moulding is as follows: 50% 0.2—0.3 mm dia, 40% 0.1—0.2 mm dia, 10% 0.06—0.1 mm dia. The sand must have a high (at least 92%) SiO_2 content. 3—4% of resin gives satisfactory results but to avoid surface faults the resin content must be raised to 8—9%. In conformity with the experiments the moulding material has a sufficiently high heat resistant quality for 7—8 minutes. The resin mixture can be applied well for precision casting due to its slight expansion and minimum shrinking. At 100° C hardening temperature a 8 mm thick crust — which in many cases is sufficient — may be attained in 1 minute.



Szakáts, János

14734 ... Core-Bonding Oils
Magkötőolajok

... p 113-155.

Hungarian investigations by various methods, such as cold ... and physicochemical

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Resins used in shell molding and properties of the resin-sand system. Gyozo Ambrus, Gyorgy Hevenesi, and János Szekeres. *Öntöde* 9, 1–5(1958).—Various shell molding resins were examd. for Young's modulus, softening point, free phenol content, "hexa" content, moisture, and hardening time. The effects of the phenol-HCHO ratio, of the above detd. properties, of the resin-sand ratio, sand quality, baking temp., and baking time on the tensile and shrinkage properties of the shell were studied. Resins contg. 40% phenol and 60% cresol were found to be suitable in every respect. L. G. Arvai

5-May

S/081/62/000/022/073/088
B166/B144

AUTHORS: Hevenesi, György, Szekeres, János

TITLE: A method of producing strengthened articles from synthetic resin and a granular material

PERIODICAL: Referativnyy zhurnal. Khimiya, no.22, 1962, 539, abstract 22P388 (Hungarian patent 148405, Sept. 30, 1961)

TEXT: In order to strengthen systems consisting of a synthetic resin and a granular material (GM) the surface of the grains is coated with an intermediate layer. This layer adheres more strongly both to the synthetic resin and to the GM than they adhere together directly. The intermediate layer (epoxy resin, organometallic compounds of resins produced from them such as metal alcoholates, intracomplex compound of Al and acetoacetic ester, metal phenolates, phenol-formaldehyde resins) is applied directly to the hot GM (MgO, Al_2O_3, SiO_2, $ZrSiO_4$) whilst being agitated in a solvent, which is afterwards removed. Example. Sand heated to ~220°C is mixed with a quantity of epoxy resin emulsion such that after

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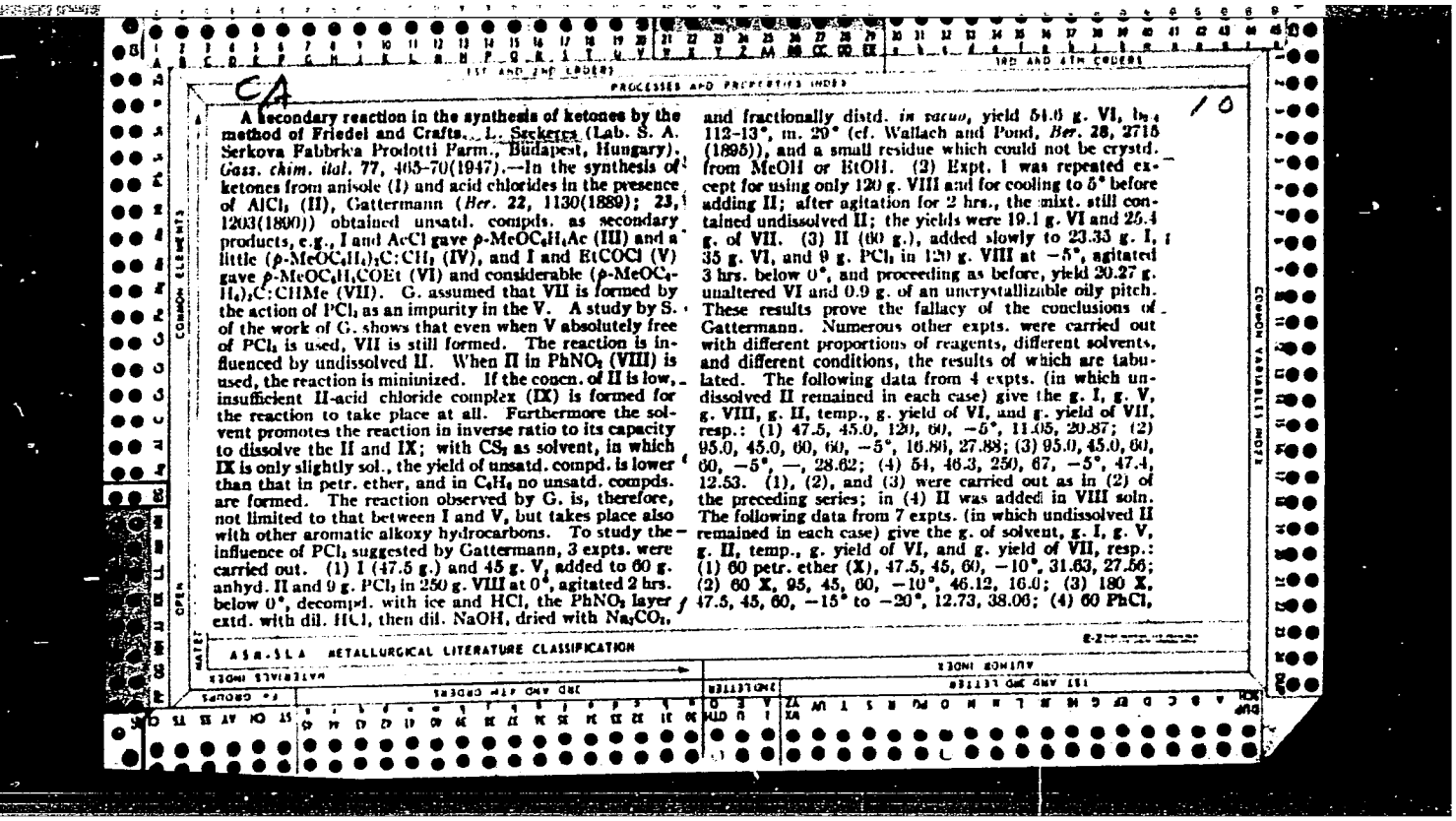
removal of the water the layer of epoxy resin coating the grains weighs ~0.1 % as much as the sand. After the resin has become uniformly distributed, novolac phenol resin amounting to 2.5 - 3 % of the weight of sand is added and is stirred for 2 - 3 min; then hexamethylenamine amounting to 10 % by weight of the phenolic resin is added whilst cooling and stirring vigorously; stirring is continued for a further 5 min. [Abstracter's note: Complete translation.]

Card 2/2

SZEKERES, Matyas (Esztergom)

Cooperation between railroad men and miners. Magy vasut 7 no.7: 3 2 Ap '63.



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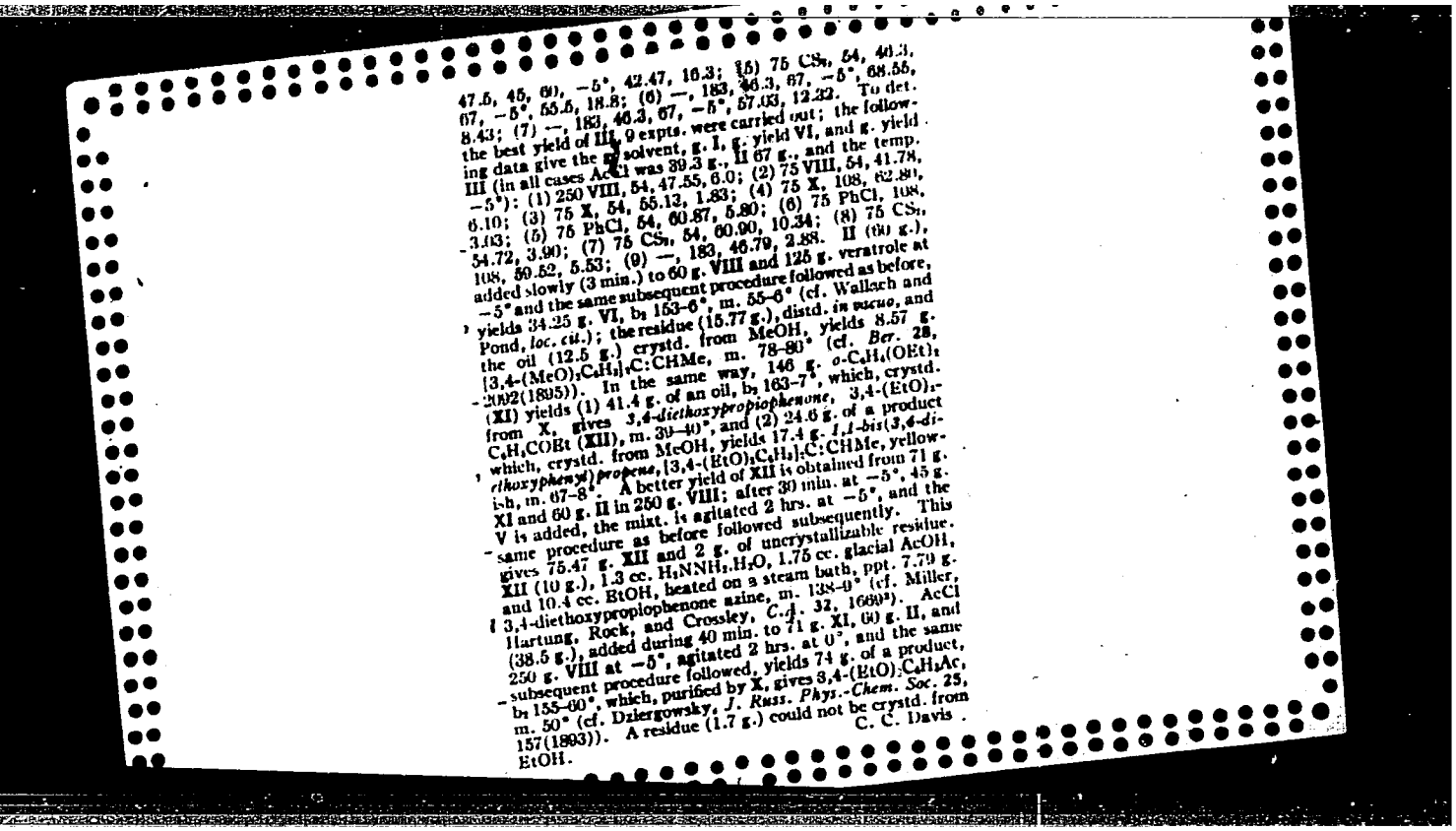
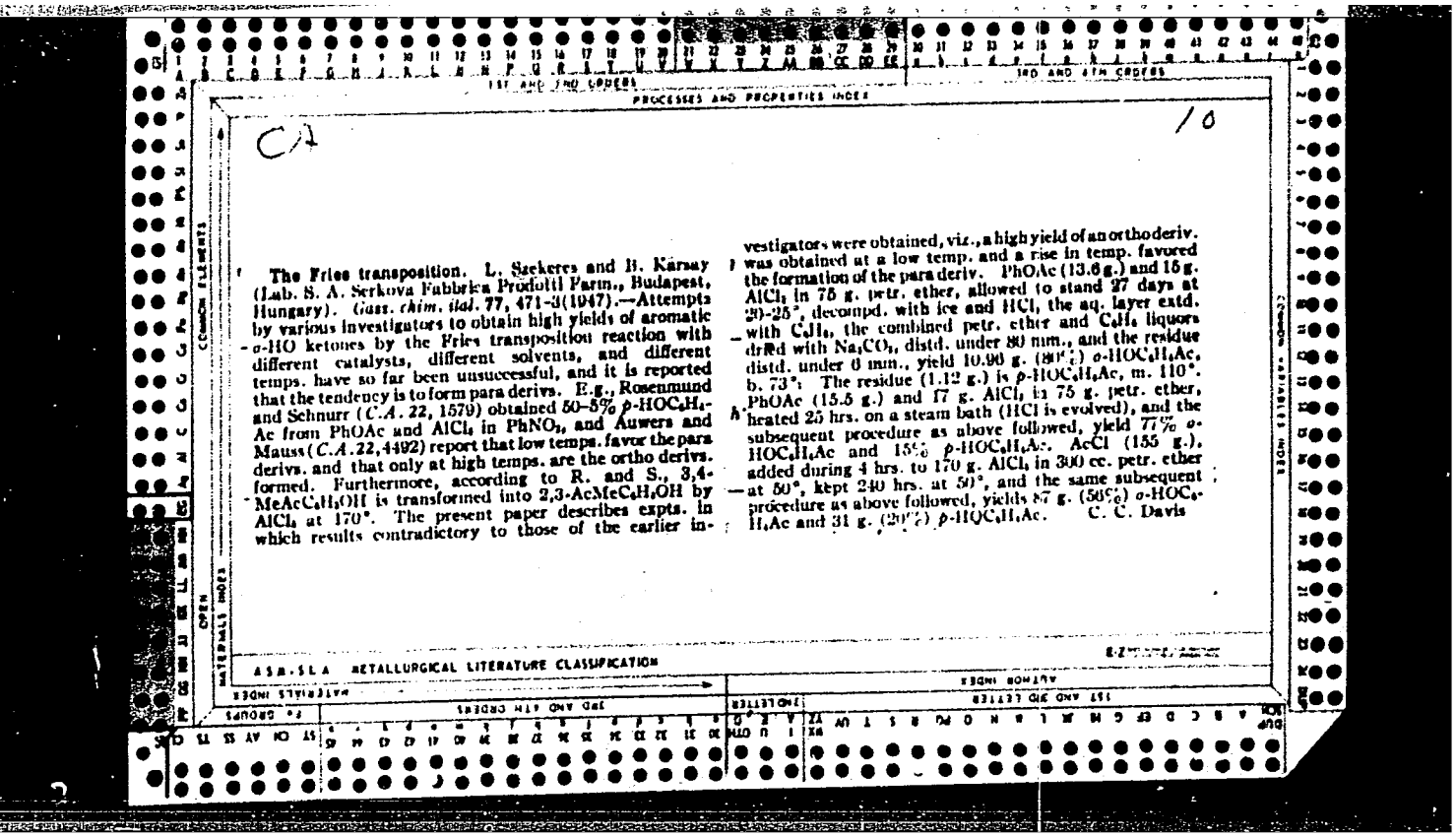
A secondary reaction in the synthesis of ketones by the method of Friedel and Crafts. L. Szekeres (Lab. S. A. Serkova Fabbrica Prodotti Farm., Budapest, Hungary). *Gazz. chim. ital.* 77, 465-70(1947).—In the synthesis of ketones from anisole (I) and acid chlorides in the presence of $AlCl_3$ (II), Gattermann (*Ber.* 22, 1130(1889); 23, 1203(1890)) obtained unsatd. compds. as secondary products, e.g., I and AcCl gave *p*-$MeOC_6H_4Ac$ (III) and a little (*p*-$MeOC_6H_4)_2C:CH_2$ (IV), and I and EtCOCl (V) gave *p*-$MeOC_6H_4COEt$ (VI) and considerable (*p*-$MeOC_6H_4)_2C:CHMe$ (VII). G. assumed that VII is formed by the action of PCl_3 as an impurity in the V. A study by S. of the work of G. shows that even when V absolutely free of PCl_3 is used, VII is still formed. The reaction is influenced by undissolved II. When II in $PhNO_2$ (VIII) is used, the reaction is minimized. If the concn. of II is low, insufficient II-acid chloride complex (IX) is formed for the reaction to take place at all. Furthermore the solvent promotes the reaction in inverse ratio to its capacity to dissolve the II and IX; with CS_2 as solvent, in which IX is only slightly sol., the yield of unsatd. compd. is lower than that in petr. ether, and in C_6H_6 no unsatd. compds. are formed. The reaction observed by G. is, therefore, not limited to that between I and V, but takes place also with other aromatic alkoxy hydrocarbons. To study the influence of PCl_3 suggested by Gattermann, 3 expts. were carried out. (1) I (47.5 g.) and 45 g. V, added to 60 g. anhyd. II and 9 g. PCl_3 in 250 g. VIII at 0°, agitated 2 hrs. below 0°, decompd. with ice and HCl, the $PhNO_2$ layer extd. with dil. HCl, then dil. NaOH, dried with Na_2CO_3, and fractionally distd. *in vacuo*, yield 54.6 g. VI, b$_{4}$ 112-13°, m. 29° (cf. Wallach and Pond, *Ber.* 28, 2715 (1895)), and a small residue which could not be crystd. from MeOH or EtOH. (2) Expt. 1 was repeated except for using only 120 g. VIII and for cooling to 5° before adding II; after agitation for 2 hrs., the mixt. still contained undissolved II; the yields were 19.1 g. VI and 25.4 g. of VII. (3) II (60 g.), added slowly to 23.35 g. I, 35 g. VI, and 9 g. PCl_3 in 120 g. VIII at −5°, agitated 3 hrs. below 0°, and proceeding as before, yield 20.27 g. unaltered VI and 0.9 g. of an uncrystallizable oily pitch. These results prove the fallacy of the conclusions of Gattermann. Numerous other expts. were carried out with different proportions of reagents, different solvents, and different conditions, the results of which are tabulated. The following data from 4 expts. (in which undissolved II remained in each case) give the g. I, g. V, g. VIII, g. II, temp., g. yield of VI, and g. yield of VII, resp.: (1) 47.5, 45.0, 120, 60, −5°, 11.05, 20.87; (2) 95.0, 45.0, 60, 60, −5°, 16.80, 27.88; (3) 95.0, 45.0, 60, 60, −5°, —, 28.62; (4) 54, 46.3, 250, 67, −5°, 47.4, 12.53. (1), (2), and (3) were carried out as in (2) of the preceding series; in (4) II was added in VIII soln. The following data from 7 expts. (in which undissolved II remained in each case) give the g. of solvent, g. I, g. V, g. II, temp., g. yield of VI, and g. yield of VII, resp.: (1) 60 petr. ether (X), 47.5, 45, 60, −10°, 31.63, 27.56; (2) 60 X, 95, 45, 60, −10°, 46.12, 16.0; (3) 180 X, 47.5, 45, 60, −15° to −20°, 12.73, 38.06; (4) 60 PhCl,



47.5, 45, 60), −5°, 42.47, 16.3; (5) 75 CS_2, 54, 40.3, 67, −5°, 55.5, 18.8; (6) —, 183, 46.3, 67, −5°, 68.55, 8.43; (7) —, 183, 40.3, 67, −5°, 57.03, 12.32. To det. the best yield of III, 9 expts. were carried out; the following data give the g. solvent, g. I, g. yield VI, and g. yield III (in all cases AcCl was 39.3 g., II 67 g., and the temp. −5°): (1) 250 VIII, 54, 47.55, 6.0; (2) 75 VIII, 54, 41.78, 6.10; (3) 75 X, 54, 55.13, 1.83; (4) 75 X, 108, 62.80, 3.03; (5) 75 PhCl, 54, 60.87, 5.80; (6) 75 PhCl, 108, 54.72, 3.90; (7) 75 CS_2, 54, 60.90, 10.34; (8) 75 CS_2, 108, 50.52, 5.53; (9) —, 183, 46.79, 2.88. II (60 g.), added slowly (3 min.) to 60 g. VIII and 125 g. veratrole at −5° and the same subsequent procedure followed as before, yields 34.25 g. VI, b_3 153–6°, m. 55–6° (cf. Wallach and Pond, *loc. cit.*); the residue (15.77 g.), distd. *in vacuo*, and the oil (12.5 g.) crystd. from MeOH, yields 8.57 g. [3,4-(MeO)$_2$C$_6$H$_3$]$_2$C:CHMe, m. 78–80° (cf. *Ber.* 28, 2002(1895)). In the same way, 146 g. *o*-C_6H_4(OEt)$_2$ (XI) yields (1) 41.4 g. of an oil, b_3 163–7°, which, crystd. from X, gives *3,4-diethoxypropiophenone*, 3,4-(EtO)$_2$-C_6H_3COEt (XII), m. 39–40°, and (2) 24.6 g. of a product which, crystd. from MeOH, yields 17.4 g. *1,1-bis(3,4-diethoxyphenyl)propene*, [3,4-(EtO)$_2$C$_6$H$_3$]$_2$C:CHMe, yellowish, m. 67–8°. A better yield of XII is obtained from 71 g. XI and 60 g. II in 250 g. VIII; after 30 min. at −5°, 45 g. V is added, the mixt. is agitated 2 hrs. at −5°, and the same procedure as before followed subsequently. This gives 75.47 g. XII and 2 g. of uncrystallizable residue. XII (10 g.), 1.3 cc. $H_2NNH_2.H_2O$, 1.75 cc. glacial AcOH, and 10.4 cc. EtOH, heated on a steam bath, ppt. 7.79 g. 3,4-diethoxypropiophenone azine, m. 138–9° (cf. Miller, Hartung, Rock, and Crossley, *C.A.* 32, 1660^3). AcCl (38.5 g.), added during 40 min. to 71 g. XI, 60 g. II, and 250 g. VIII at −5°, agitated 2 hrs. at 0°, and the same subsequent procedure followed, yields 74 g. of a product, b_3 155–60°, which, purified by X, gives 3,4-(EtO)$_2$C$_6$H$_3$Ac, m. 50° (cf. Dziergowsky, *J. Russ. Phys.-Chem. Soc.* 25, 157(1893)). A residue (1.7 g.) could not be crystd. from EtOH.

C. C. Davis



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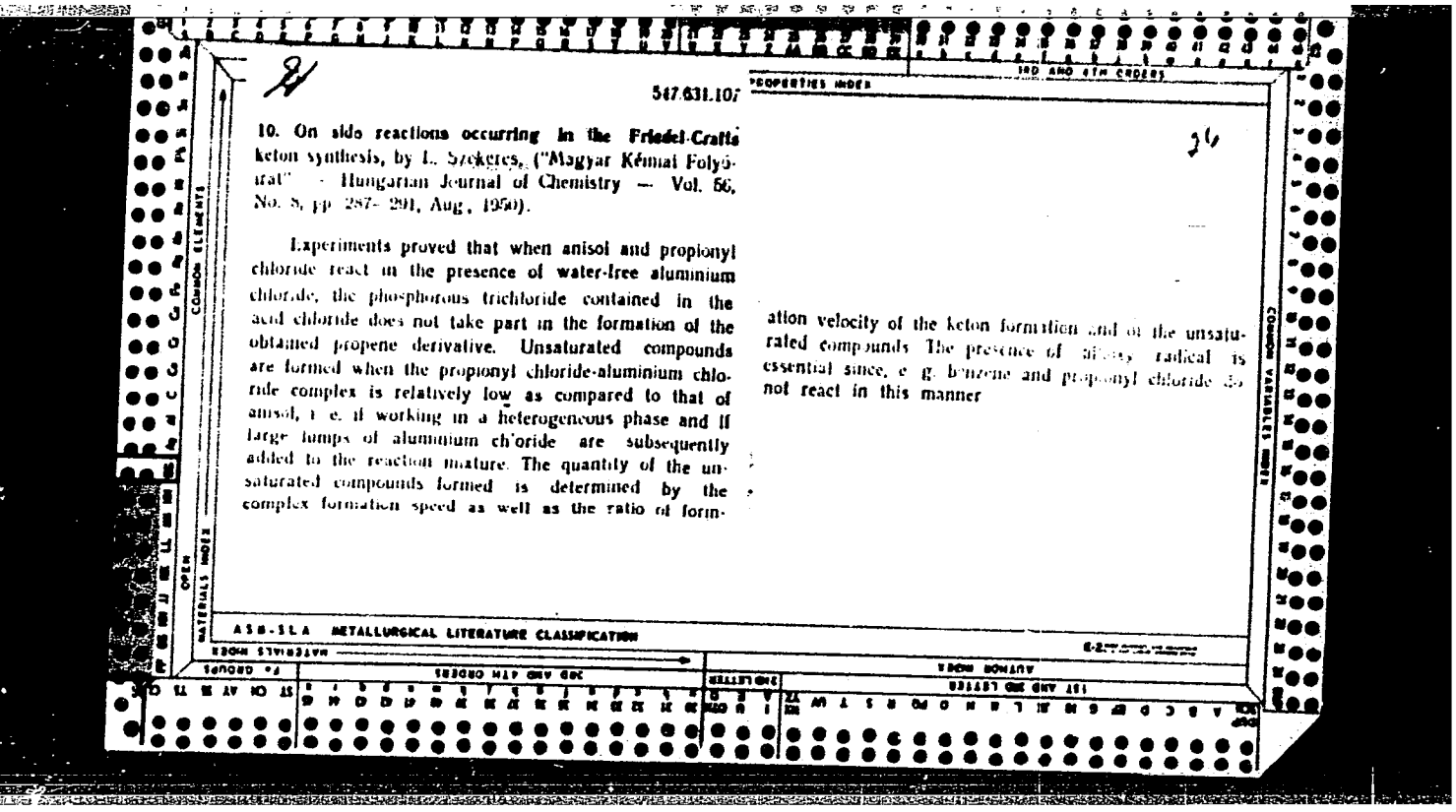
The Fries transposition. L. Szekeres and B. Karsay (Lab. S. A. Serkova Fabbrika Prodotti Farm., Budapest, Hungary). *Gazz. chim. ital.* 77, 471-3(1947).—Attempts by various investigators to obtain high yields of aromatic *o*-HO ketones by the Fries transposition reaction with different catalysts, different solvents, and different temps. have so far been unsuccessful, and it is reported that the tendency is to form para derivs. E.g., Rosenmund and Schnurr (*C.A.* 22, 1579) obtained 50–5% *p*-HOC_6H_4Ac from PhOAc and $AlCl_3$ in $PhNO_2$, and Auwers and Mauss (*C.A.* 22, 4492) report that low temps. favor the para derivs. and that only at high temps. are the ortho derivs. formed. Furthermore, according to R. and S., 3,4-$MeAcC_6H_3OH$ is transformed into 2,3-$AcMeC_6H_3OH$ by $AlCl_3$ at 170°. The present paper describes expts. in which results contradictory to those of the earlier investigators were obtained, viz., a high yield of an ortho deriv. was obtained at a low temp. and a rise in temp. favored the formation of the para deriv. PhOAc (13.6 g.) and 15 g. $AlCl_3$ in 75 g. petr. ether, allowed to stand 27 days at 20–25°, decompd. with ice and HCl, the aq. layer extd. with C_6H_6, the combined petr. ether and C_6H_6 liquors dried with Na_2CO_3, distd. under 80 mm., and the residue distd. under 6 mm., yield 10.90 g. (80%) *o*-HOC_6H_4Ac, b. 73°. The residue (1.12 g.) is *p*-HOC_6H_4Ac, m. 110°. PhOAc (15.5 g.) and 17 g. $AlCl_3$ in 75 g. petr. ether, heated 25 hrs. on a steam bath (HCl is evolved), and the subsequent procedure as above followed, yield 77% *o*-HOC_6H_4Ac and 15% *p*-HOC_6H_4Ac. AcCl (155 g.), added during 4 hrs. to 170 g. $AlCl_3$ in 300 cc. petr. ether at 50°, kept 240 hrs. at 50°, and the same subsequent procedure as above followed, yields 87 g. (56%) *o*-HOC_6H_4Ac and 31 g. (20%) *p*-HOC_6H_4Ac. C. C. Davis



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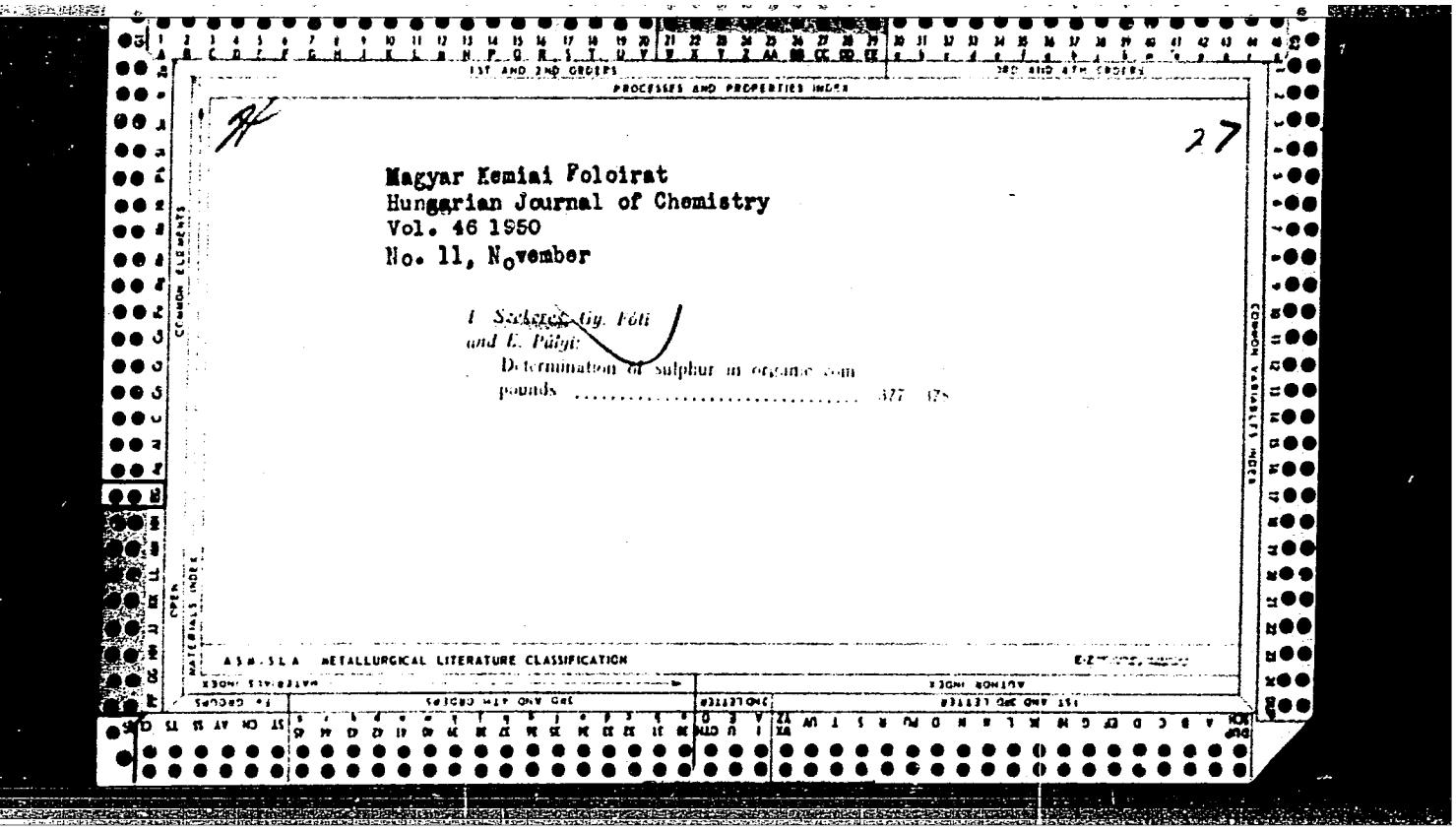
10. On side reactions occurring in the Friedel-Crafts keton synthesis, by L. Szekeres, ("Magyar Kémai Folyóirat" - Hungarian Journal of Chemistry — Vol. 56, No. 8, pp 287- 291, Aug, 1950).

Experiments proved that when anisol and propionyl chloride react in the presence of water-free aluminium chloride, the phosphorous trichloride contained in the acid chloride does not take part in the formation of the obtained propene derivative. Unsaturated compounds are formed when the propionyl chloride-aluminium chloride complex is relatively low as compared to that of anisol, i e. if working in a heterogeneous phase and if large lumps of aluminium chloride are subsequently added to the reaction mature. The quantity of the unsaturated compounds formed is determined by the complex formation speed as well as the ratio of formation velocity of the keton formation and of the unsaturated compounds The presence of [illegible] radical is essential since, e g. benzene and propionyl chloride do not react in this manner



Magyar Kemiai Foloirat
Hungarian Journal of Chemistry
Vol. 46 1950
No. 11, November

I. Szekeres Gy. Föti
and E. Pályi:
Determination of sulphur in organic com
pounds 377 478

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3,4-Bis(*p*-hydroxyphenyl)hexane derivatives containing nitrogen. László Szekeres (Univ. Szeged, Hung.). *Magyar Kém. Folyóirat* 56, 114–21(1950).—Nitration of *meso*- or *dl*-hexestrol Me ether, reduction of the nitro compds. produced, and acetylation of the amines was a method for producing inactive and *dl*-3,4-*bis*(*p*-*methoxy*-*m*-*acetamidophenyl*)*hexane* (I). The selective reduction of *m*-3,4-(O$_2$N-(MeO)C$_6$H$_3$COEt yielded 3,4-H$_2$N(MeO)C$_6$H$_3$COEt (Ia). The Ac deriv. of Ia was converted to the ketazine and hydrogenated. The resulting N$_2$H$_4$ deriv. was easily oxidized to the azo compd., which on thermal decompn. gave the *meso*- and *dl*-forms of I. This synthesis also confirms the position of the nitro groups introduced on treatment with HNO$_3$ and the stereochem. relations. The following compds. were prepd.: *dl*-3,4-*Bis*-*p*-(4-*hydroxy*-3-*nitrophenyl*)*hexane* (II), was obtained in 3.6-g. yield by dissolving 5 g. *dl*-[Et(*p*-HOC$_6$H$_3$)CH]$_2$, m. 125–6°, in 100 ml. warm C$_6$H$_6$, cooling to 15°, adding with continuous stirring 5 ml. water and 5 ml. HNO$_3$ (sp. gr. 1.4) over a period of 45 min., stirring 1 hr., removing the free HNO$_3$ by shaking 4 times with 100 ml. water, drying the C$_6$H$_6$ soln. with Na$_2$SO$_4$, removing the C$_6$H$_6$ by distn., treating the residue with 25 ml. EtOH, allowing to stand 24 hrs., filtering by suction, washing 3 times with 5-ml. portions of EtOH, and drying at 50°. When this product, m. 110–27°, was crystd. from EtOH and the mother liquors evapd., 3.6 g. of the *dl*-II, m. 113–15°, was obtained. Further crystn. of *dl*-II from EtOAc gave 3.7% *meso*-II, m. 220–8°. *dl*-3,4-*Bis*(4-*methoxy*-3-*nitrophenyl*)*hexane* in the *nitrolic acid ester form* (III), m. 104–6.5°, was obtained in 1.2-g. yield by treating 5 g. II and 3 g. KOH in 40 ml. abs. MeOH at 0° with 5 ml. Me$_2$SO$_4$ in 10 ml. abs. MeOH, boiling 1 hr., cooling, filtering, evapg. the MeOH fraction, crystg. the residue from 25 ml. MeOH, evapg. the mother liquors, dissolving the residue in 30 ml. C$_6$H$_6$, shaking twice with 50-ml. portions of 0.25 *N* KOH, drying over Na$_2$SO$_4$, evapg., and crystg. from EtOH. *dl*-3,4-*Bis*(4-*methoxy*-3-*nitrophenyl*)*hexane* in the *nitro ether form* (IV), m. 107–9°, was obtained in 87% yield by dissolving 10 g. *dl*-[Et(*p*-MeOC$_6$H$_3$)CH]$_2$ in 15 ml. warm glacial AcOH, cooling to 20°, shaking several min. with 10 ml. HNO$_3$ (sp. gr. 1.4), adding ice water, kneading the mass 6 times with 150 ml. water then with 25 ml. C$_6$H$_6$, filtering by suction, washing with C$_6$H$_6$, and crystg. 6 times from abs. EtOH. *dl*-3,4-*Bis*(4-*methoxy*-3-*aminophenyl*)*hexane* (V), m. 113–15° (from EtOH), was obtained in 3.1-g. yield by hydrogenating a suspension of 5.8 g. IV in 200 ml. EtOH with 0.5 g. Pd-on-active C. *dl*-3,4-*Bis*(4-*methoxy*-3-*acetamidophenyl*)*hexane* (VI), m. 152–3°, was obtained in 94.7% yield by dissolving 5 g. V in 30 ml. hot C$_6$H$_6$, cooling to 20°, carefully adding 3.5 ml. Ac$_2$O in 10 ml. C$_6$H$_6$, boiling 1 hr., removing the solvent by distn., dissolving the residue in EtOH, and pptg. with ether. 4-*Methoxy*-3-*acetamidobenzoic acid* (VII), m. 264–8°, was obtained in 0.18-g. yield by boiling 2 g. VI, 8.7 g. KMnO$_4$, and 7 g. MgSO$_4$·7 H$_2$O in 200 ml. water until the violet color disappeared, adding 4.8 g. NaHCO$_3$, boiling 4–5 min., filtering, boiling the residue in 300 ml. hot water, filtering, evapg. the combined filtrates at pH 9.0 to 25 ml., adding HCl to pH 2.0, filtering, drying the ppt., and crystg. from MeOH. *meso*-3,4-*Bis*(4-*hydroxy*-3-*nitrophenyl*)*hexane* (VIII), m. 226–8°, was obtained in 3.8-g. yield by dissolving 5 g. *meso*-hexestrol in 200 ml. C$_6$H$_6$ at 60°, cooling to 15°, adding with stirring over a period of 30 mins. 5 ml. water and 4 ml. HNO$_3$ (sp. gr. 1.42), stirring 1 hr. at 15°, adding 100 ml. water, filtering, washing with water, EtOH and C$_6$H$_6$, drying, and crystg. from AcOEt. *meso*-3,4-*Bis*(4-*hydroxy*-3-*aminophenyl*)*hexane* (IX), m. 255–6)° (decompn.), was obtained in 3.6-g. yield, by hydrogenating 5 g. *meso*-I, m. 226–8°, suspended in 150 ml. 99% EtOH in the presence of hydrated Pd catalyst and 1 ml. 6.0 *N* HCl in abs. EtOH, filtering, removing the solvent by distn., dissolving the residue in water, neutralizing with 2.0 *N* NaOH, filtering, washing with water, and drying in vacuo. The *formyl deriv.*, m. 193° (decompn.), of IX was obtained in 0.55-g. yield by adding 20 ml. hot 99% HCO$_2$H,

(over)

which with AcOH-H_2SO_4 gave 100% *3,3-di-p-tolyl-5-methylisatin*, m. 201° (from EtOH). *α,α*-Di-*p*-tolylglycolanilide brominated in AcOH gave *p-bromo-α,α-di-p-tolylglycolanilide*, m. 151° (from EtOH), which with AcOH-H_2SO_4 gave 100% *3,3-di-p-tolyl-5-bromoisatin*, m. 235° (from EtOH). Similar treatment of *α,α*-di-*p*-tolylglycolanilide gave 100% *3,3-di-p-tolyloxindole*, m. 200–1°, identical with a specimen prepd. from isatin and PhMe with H_2SO_4. *N*-1-Naphthyl-*α,α*-di-*p*-tolylglycolamide with AcOH-H_2SO_4 gave 100% *3,3-di-p-tolyl-6,7-benzoxindole*, m. 220° (from C_6H_6); the *N*-2-naphthyl isomer gave 96.4% *3,3-di-p-tolyl-4,5-benzoxindole*, softening at 161°, m. 246.5° (from C_6H_6), which contains some C_6H_6, removed at 170–90°. The condensation proceeds rapidly even at 10–20°, requiring about 1 min. at 50°. Generally introduction of alkyl groups into the aryl group radical lowers the optimum amt. of H_2SO_4 for the condensation. Substituents ortho or para to the NHAcyl group do not affect the rate of condensation; a *m*-MeO group accelerates the reaction. Replacement of the Ph radicals on the carbinol C by tolyl groups slows the reaction by a factor of 15–20. *N*-Arylamides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. VIII. **Intramolecular condensation of aryl amides of *m,m*-ditolylglycolic acid.** P. A. Petyunin and I. S. Berdinskii. *Ibid.* 2016–18.—Et oxanilate (3.86 g.) and RMgBr from 17 g. *m*-BrC$_6$H$_4$Me and 2.4 g. Mg gave 66% *α,α-di-m-tolylglycolanilide*, m. 138.5–9.5° (from dil. EtOH). This (1.5 g.) in 15 ml. AcOH treated with concd. H_2SO_4 until brown color ceased forming, gave 100% *3,3-di-m-tolyloxindole* (*m*-toluisatin), m. 188.5° (from dil. AcOH). Et *p*-ethoxyoxanilate (4 g.) with *m*-MeC$_6$H$_4$MgBr (from 13 g. RBr) gave 80.6% *α,α-di-m-tolyl-p-glycolophenetidide*, m. 142°, which with AcOH-H_2SO_4 gave 90% *3,3-di-m-tolyl-5-ethoxyoxindole*, m. 220° (from EtOH). Similarly Et *o*-methoxyoxanilate with *m*-MeC$_6$H$_4$MgBr gave *α,α-di-m-tolyl-o-glycolanisidide*, m. 165°, which gave 90.4% *3,3-di-m-tolyl-7-methoxyoxindole*, m. 213° (from AcOH), while Et *N*-2-naphthyloxamate and *m*-MeC$_6$H$_4$MgBr gave 76.2% *N-2-naphthyl-α,α-di-m-amide*, m. 178–9° (from AcOH), which gave 94.7% *3,3-di-m-tolyl-4,5-benzoxindole*, m. 179° (from EtOH). IX. **Intramolecular condensation of aryl amides of *o,o*-ditolylglycolic acid.** *Ibid.* 2019–22.—PhNHCOCO$_2$Et and *o*-MeC$_6$H$_4$MgI gave 73.3% *α,α-di-o-tolylglycolanilide* (I), m. 133° (from EtOH). Similarly *p*-MeOC$_6$H$_4$NHCOCO$_2$Et gave 93.6% *α,α-di-o-tolyl-p-glycolotoluidide* (II), m. 138.5° (from EtOH), while *p*-EtOC$_6$H$_4$NHCOCO$_2$Et gave 76.3% *α,α-di-o-tolyl-p-glycolophenetidide* (III), m. 151.5° (from EtOH), and 2-C$_{10}$H$_7$NHCOCO$_2$Et gave 89.5% *N-2-naphthyl-α,α-di-o-tolylglycolamide* (IV), m. 137–8° (from AcOH). I with AcOH-H_2SO_4 gave 95.7% *3,3-di-o-tolyloxindole* (*o*-toluisatin), m. 106° (from AcOH), while II gave 96.8% *5-Me homolog*, m. 216–7° (from AcOH), and III gave 91.5% *5-EtO analog*, m. 125° (from CH_2Cl_2), and IV gave 92.6% *3,3-di-o-tolyl-4,5-benzoxindole*, m. 300° (from AcOH). 1-C$_{10}$H$_7$NHCOCO$_2$Et (0.8 g.) treated with RMgX from 24.5 g. *o*-MeC$_6$H$_4$I gave a product which, treated with 35 ml. AcOH, followed by concd. H_2SO_4, gave 7.5 g. (73.5%) *3,3-di-o-tolyl-6,7-benzoxindole*, m. 254° (from AcOH).

G. M. Kosolapoff

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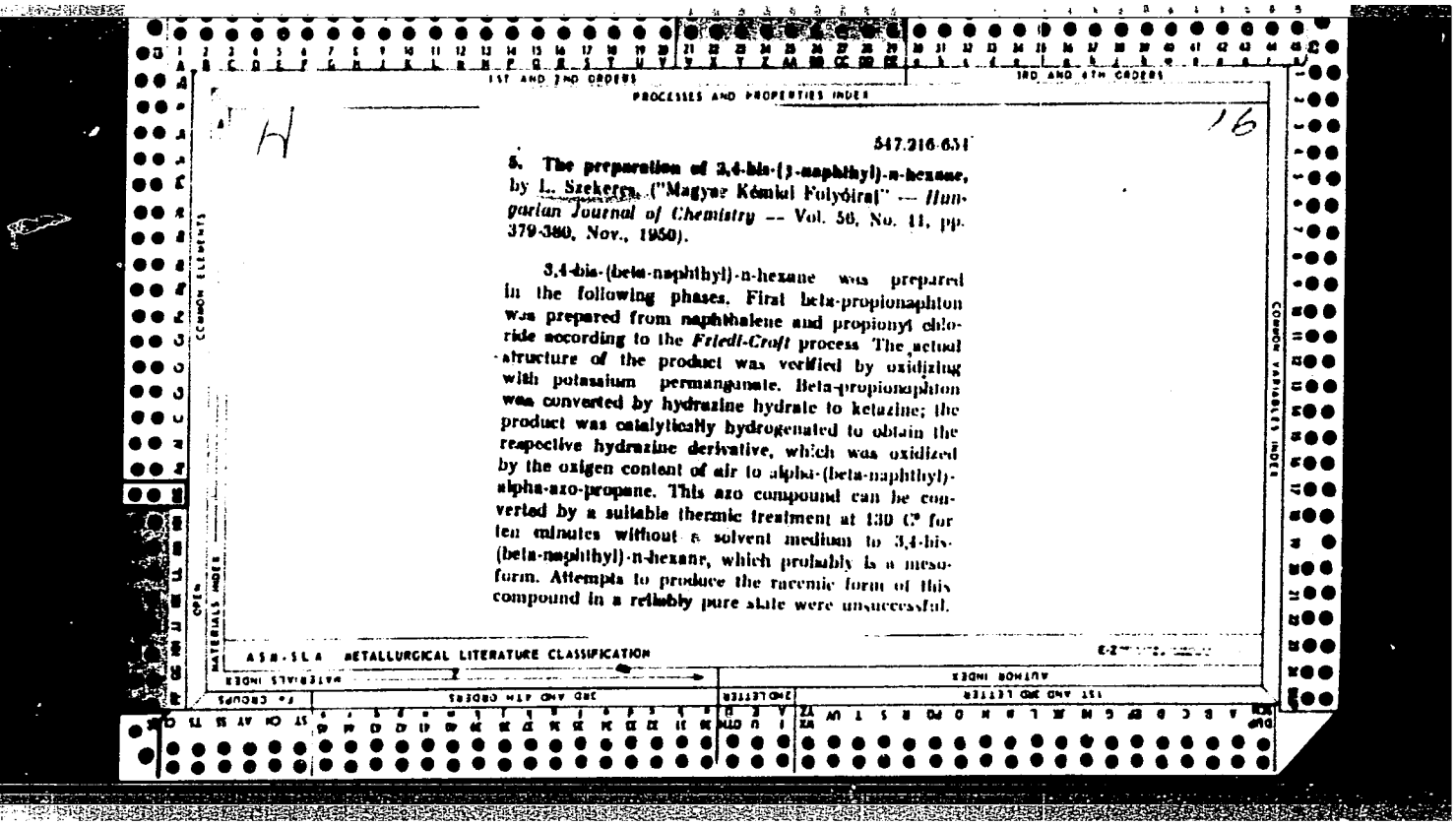
On side reactions occurring in Friedel-Crafts ketone syntheses. László Szekeres (Servita Gyógyszergyár, Budapest). *Magyar Kém. Folyóirat* **50**, 287–91 (1950).—Gattermann and co-workers found [*Ber.* **23**, 1203(1890)] that in the reaction of PhOMe and EtCOCl (I) in the presence of anhyd. $AlCl_3$, $(p\text{-}MeOC_6H_4)_2C{:}CHMe$ (II) was formed in addn. to $p\text{-}MeOC_6H_4C(:O)Et$ (III). They believed that II was formed from III and PhOMe as a result of the presence of PCl_5 in the I as an impurity acting as a dehydrating agent. Various expts. showed that PCl_5 has no role in the formation of II. Unsatd. compds. are produced when the I-$AlCl_3$ complex concn. is relatively low in relation to that of PhOMe, i.e., in a heterogeneous system with large pieces of $AlCl_3$ subsequently added to the reaction mixt. From theoretical considerations, the amt. of unsatd compds. produced depends on the velocity of formation of the complex as well as on the ratio of the velocity of formation of the ketone to that of the unsatd. compd., which is different in various solvents. The amt. of unsatd. compds. produced may exceed the amt. of III. This reaction is valid not only for the system PhOMe-I, but also for mono- and dialkoxybenzene derivs. with I or AcCl. The presence of one or more alkoxy radicals is, however, essential, since C_6H_6 and I showed no such reaction. The diphenylethylene deriv. was obtained in the best yield with PhOMe and I. The best explanation for the formation of propene derivs. is that the acid chloride-$AlCl_3$ complex cannot be formed in the necessary amt. (due to lack of dissolved $AlCl_3$), and thus only 1 mol. acid chloride reacts with 2 mol. PhOMe with removal of 1 mol. H_2O followed by loss of 1 mol. HCl. II, m. 100–1°, was obtained in 9.72-g. yield by cooling 54 g. PhOMe and 46.5 g. I to −5°, adding 67 g. $AlCl_3$ in 250 g. $PhNO_2$, stirring 3 hrs., and pouring onto ice acidified by HCl. The $PhNO_2$ phase was shaken with dil. HCl and then with dil. alkali, dried with anhyd. Na_2CO_3, fractionally distd. at 1–2 mm., and the residue recrystd. from EtOH. II was also obtained by treating 46.3 g. I with 67 g. $AlCl_3$ in 183 g. PhOMe. $(p\text{-}MeOC_6H_4)_2C{:}CH_2$ (IV), m. 142–3° (from MeOH). $(3,4\text{-}(MeO)_2C_6H_3)_2C{:}CHMe$, m. 78–80° (from MeOH), $(3,4\text{-}(EtO)_2C_6H_3)_2C{:}CHMe$ (V), m. 39–40° (from MeOH then from petr. ether), were similarly prepd. The azine of V was identical to that described by Miller, *et al.* (*C.A.* **32**, 1060⁹). In a heterogeneous system II was obtained in yields of 17.50–24.47 g. by stirring 2–3 hrs. the $PhNO_2$ soln. of 47.5–95.0 g. PhOMe with 45.0 g. I. With petr. ether as the solvent in place of $PhNO_2$, the yields were 12.33–26.5 g. The highest yields were obtained at 25–30° with $PhNO_2$ and at 18–20° with petr. ether. With PhCl, CS_2, or PhOMe as the solvent, the yields at −5° were 12.63, 14.78 and 5.0 g., resp.

István Finály

C. A. 7

Determination of sulfur in organic compounds. László Szekeres, György Fóti, and Erzsébet Pályi (Magyar Vegyiművek, Budapest). *Magyar Kém. Folyóirat* 56, 377–8 (1950).—Measure a sample contg. 0.015–0.025 g. S, 2.0 g. $K_2Cr_2O_7$, and 15 ml. of concd. HNO_3 into a Kjeldahl flask, evap. with a small gas flame to a sirupy consistency, add 15 ml. more of HNO_3, evap. again to a sirupy consistency, add 10 ml. of concd. HCl, evap. to a sirupy consistency, and repeat this procedure 3 times until no nitrous fumes appear. For a complete reduction of CrO_4^{--} add 10 ml. HCO_2H, evap. to a sirupy consistency, wash the sirup with 10 portions of 10 ml. hot water into a beaker, ppt. sulfates as usual with $BaCl_2$ soln., filter, wash with 10% AcOH, ignite in a porcelain crucible, and weigh the $BaSO_4$. In the evapn. of the original acid mixt. care must be taken not to dry the mass completely. 20 references. István Finály



PROCESSES AND PROPERTIES INDEX

547.216-631

8. The preparation of 3,4-bis-(β-naphthyl)-n-hexane, by L. Szekeres. ("Magyar Kémiai Folyóirat" — *Hungarian Journal of Chemistry* — Vol. 56, No. 11, pp. 379-380, Nov., 1950).

3,4-bis-(beta-naphthyl)-n-hexane was prepared in the following phases. First beta-propionaphton was prepared from naphthalene and propionyl chloride according to the *Friedl-Craft* process. The actual structure of the product was verified by oxidizing with potassium permanganate. Beta-propionaphton was converted by hydrazine hydrate to ketazine; the product was catalytically hydrogenated to obtain the respective hydrazine derivative, which was oxidized by the oxigen content of air to alpha-(beta-naphthyl)-alpha-azo-propane. This azo compound can be converted by a suitable thermic treatment at 130 C° for ten minutes without a solvent medium to 3,4-bis-(beta-naphthyl)-n-hexane, which probably is a meso-form. Attempts to produce the racemic form of this compound in a reliably pure state were unsuccessful.

SZEKERES, LASZLO

Anomalous nitration of *p*-methoxypropiophenone. László Szekeres and Gábor Fodor (Univ. Szeged). *Acta Chim. Acad. Sci. Hung.* 1, 391–4(1951)(in English).—Dropwise addn. in 100 min. of 100 g. *p*-$MeOC_6H_4COEt$ (I) to 600 g. HNO_3 (d. 1.5) below 1°, stirring 15 min., and pouring on ice gave an oil which crystd. to give 75 g. crude *2,4-dinitroanisole* (II), m. about 60°; 1 recrystn. from MeOH and 1 from C_6H_6 gave 20–5 g. yellow needles, m. 95–7°. II with $Na_2Cr_2O_7$ and H_2SO_4 gave *2,4-dinitrophenol*, m. 114–16°. II hydrogenated over Pd-C in MeOH contg. HCl absorbed 102% H (calcd. for reduction of 2 nitro groups). II (8.8 g.) in 24 ml. hot AcOH added to 20.8 g. Sn dissolved by heating in 108 ml. concd. HCl and 24 ml. H_2O, the mixt. heated 1 hr. at 100°, cooled, made alk., extd. 6 times with C_6H_6, and the exts. evapd., gave 5.3 g. black oil, which crystd. from MeOH to 1.2 g. *2-amino-4-nitroanisole* (III), orange crystals, m. 115–17°; acetylated by Ac_2O at room temp. to the *N-Ac deriv.*, m. 178°. II (20 g.) in 100 ml. EtOH treated dropwise at 100° with 5 ml. $N_2H_4.H_2O$ and 8 ml. AcOH in 50 ml. EtOH and heated 30 min. more, gave 19.2 g. $2,4\text{-}(O_2N)_2C_6H_3NHNH_2$, m. 198–9° (from C_6H_6); $2,4\text{-}(O_2N)_2C_6H_3NHN{:}CMe_2$, m. 126–8°. Nitration of I as above at −5° gave almost entirely $3,4\text{-}O_2N(MeO)C_6H_3COEt$ (IV). The mechanism of conversion of I to II is believed to involve nitration of I to IV, oxidation to $3,4\text{-}(O_2N)(MeO)C_6H_3CO_2H$, decarboxylation to $o\text{-}MeOC_6H_4NO_2$, and nitration to II.

Richard I. Akawie

SZEKERES, L., JONITOVITS, A.,

"Simple equipment for dilution" p. 300
(KISERLETES ORVOSTUDOMANY, Vol. 4, No. 4. Aug 1952, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 7, July 1953, Uncl.

SZEKERES L

USSR.

Condensation of *meso*-halo-1,3-dioxo compounds with urea. L. Szekeres and G. Fodor. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1951, 887-93 (Engl. translation).—See *C.A.* 49, 2422i. H. L. H.

SZEKERES, L.

USSR

Condensation of *meso*-halo-1,3-dioxo compounds with urea. L. Szekeres and G. Fodor (Inst. Org. Chem., Univ. Szeged, Hung.). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 996–1002.—Refluxing 12 g. $BzCHBrCHO$ in 250 ml. Me_2CO and 8 g. $CO(NH_2)_2$ 40 min.; followed by concen. and dilu. with H_2O gave 8.3 g. *2-amino-5-benzoyloxazole* (I), m. 180–202° (from EtOH), sol. in dil. HCl and warm 2*N* NaOH; purified by addn. of NH_4OH to its soln. in HCl, it m. 208–10°; evapn. with 20% HCl gave the *HCl salt*, m. 198–200° (from EtOH), while refluxing 1 hr. with Ac_2O gave the *N-Ac deriv.* (Ia), m. 189–91°. The latter treated with hot alc. KOH gave on cooling a ppt. of the K enolate, which with dil. HCl gave the original Ia. Hydrogenation of I over C-Pd in EtOH gave a *compd.* $C_{18}H_{18}N_2O_4$, m. 146–8° (from EtOAc), also formed on similar hydrogenation of $BzCOCH_2NHCONHAc$ (Ib), and unchanged after prolonged boiling with 20% HCl or 20% KOH; it was either *2-amino-5-benzyloxazolidine* or $Ph(CH_2)_2NHCONH_2$. I dissolved in warm 5% NaOH, then cooled, gave the yellow *Na enolate of 1-phenyl-3-ureido-1,3-propanedione* (II). A filtered hot soln. of 1.5 g. I in 25 ml. 2*N* KOH gave with 15 ml. conc. HCl 1.5 g. yellow ppt., decomp. 250°, yielding after purification with AcOH 0.7 g. pure *2,5-dioxo-6-phenylpyrimidine*, decomp. 320°, which, refluxed 2 hrs. in Ac_2O, then dild., gave the *di-Ac deriv.*, m. 83–4° (from dil. Me_2CO). $PhCH_2Cl$ (2 ml.) in dry xylene and 1.5 g. powd. II boiled 8 hrs., and the solid filtered, and washed with C_6H_6, and extd. with boiling H_2O yielded 1 g. crude (0.3 g. pure) *2,5-dioxo-6-phenylpyrimidine* (III), while the mother liquor gave 0.35 g. *monobenzyl ether*, m. 198–200°, insol. in HCl, sol. in alkalies, thus indicating ready enolization of the oxo group. The ether refluxed 5 hrs. with AcOH-HBr gave the original III. Ia in warm EtOH treated with conc. aq. KOH, and the soln. dild. with much H_2O and acidified with conc. HCl, yielded after several hrs. Ib, decomp. 230° (from MeOH); with o-$C_6H_4(NH_2)_2$ it gave *2-phenyl-3-(acetylureidomethyl)-quinoxaline*, m. 268–70°. Ib with HIO_4 in aq. dioxane gave *hydantoin*, m. 218–21°, and BzOH. Cf. *C.A.* **48**, 12081*f*.

G. M. Kosolapoff

SZEKERES, L.

Hungarian Technical Abst.
Vol. 6 No. 1
1954

12. The chemistry of benzene sulfinic acids — *Adatok a benzolszulfinsav kémiájához* — L. Szekeres and F. Dutka. (Journal of the Hungarian Chemical Society — *Magyar Kémikusok Lapja* — Vol. 8, 1953, No. 3, pp. 92–93. 4 tabs.)

The authors established that the redox potential values of the benzene sulfonic-benzene sulfinic ion system and of the iodine-iodide ion system are very close to each other. Statements in literature also verify that benzene sulfinic acid can be oxidized with iodine at 95° C. Bromine oxidizes benzene sulfinic acid quantitatively into benzene sulfonic acid and this reaction was found suitable at the same time for the determination of benzene sulfinic acid. It was established, moreover, that the sodium salt of benzene sulfinic acid is stable on air, however, oxidation and disproportionation occur in an acid solution. It was proven that not only bromine solutions but bromic acid, potassium permanganate and potassium carbonate solutions can also be measured volumetrically directly with a solution of the sodium salt of benzene sulfinic acid in acid media.

SZEKERES, L.

6

Condensation of *meso*-halo 1,3-dioxo compounds with urea. László Szekeres and Gábor Fodor (Univ. Szeged, Hung.). *Magyar Kém. Folyóirat* 59, 193–7 (1953).—The product (I), $C_{16}H_{12}O_2N_2$, m. 208–10°, obtained by condensation of BzCHBrCHO with urea was not identical with 4-benzoylimidazolin-2-one prepd. by another method, but an isomer. The addn. of 1 mole NaOH to I gave 2-amino-5-benzoyloxazole Na enolate, which was converted by HCl into 2,5-dihydroxy-6-phenylpyrimidine. The Ac deriv. of I with alkalies yielded the enolate which on acidifying gave $BzCOCH_2NHCONHAc$, which with *o*-$C_6H_4(NH_2)_2$ yielded a quinoxaline deriv. The oxidation of the diketone with HIO, yielded hydantoin, besides BzOH. These reactions proved that I is 2-amino-5-benzoyloxazole, indicating that Br was cleaved as an anion during condensation. István Finály

SZEKERES, L.

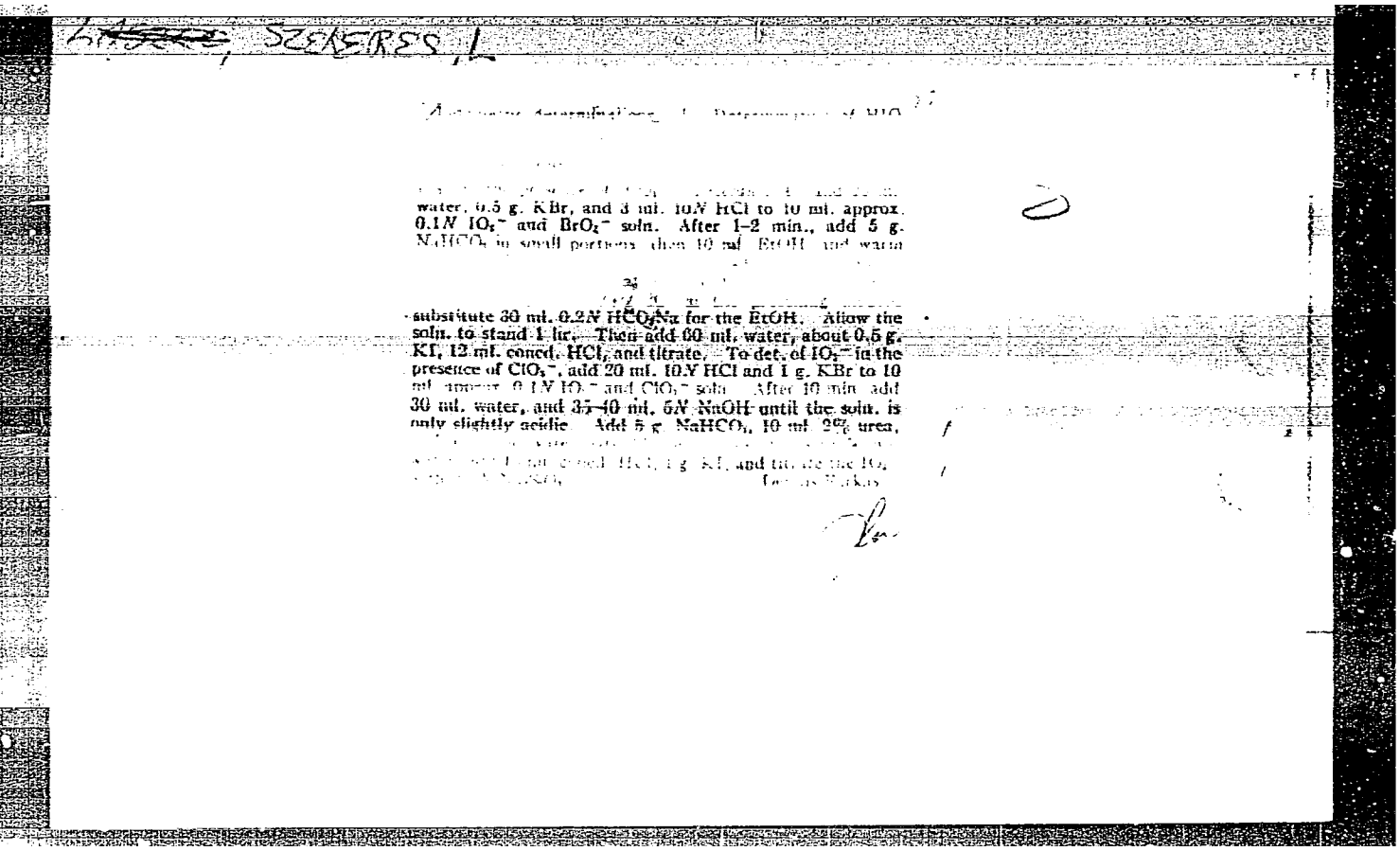
3

Preparation of thiolcarbamic S-phenacyl ester. László Szekeres (Univ, Szeged, Hungary). *Magyar Kém. Folyoir.* 59, 228 9(1953).—$PhCOCH_2SCN$ (I), m. 75–6°, was obtained in 2.7 g. yield by boiling 2.2 g. KSCN and 4 g. $PhCOCH_2Br$ in 50 ml. EtOH. $H_2NCOSCH_2COPh$ (II), m. 65–7°, obtained by slowly introducing gaseous HCl for 12 hrs. into a suspension of 20 g. I in 100 ml. abs. dioxane, allowing the mixt. to stand 6 days, pouring into 1000 ml. water, allowing to stand several hrs., washing with water, drying at 40°, and recrystg. from petr. ether. II proved stable; it could be decompd. into 2-hydroxy-4-phenylthiazole only by energetic treatment. István Pinály

SZEKERES, LASZLO

Nitration of substituted phenylalkyl ketones. László Szekeres (Tudományegyetem Szerves Kém. Intézete, Szeged, Hung.). *Magyar Kém. Folyóirat* 60, 33-6(1954).—4-Hydroxy-3,5-dinitroacetophenone (I), m. 106°, was prepd. by adding 12 g. *p*-hydroxyacetophenone at −5° to 100 ml. HNO_3 (*d.* 1.52), stirring 0.5 hr., pouring over crushed ice, filtering, washing, and drying at 50°. I (1 g.) refluxed 1.5 hrs. with 5 ml. Ac_2O, poured over ice, filtered, and recrystd. from MeOH yielded 4-acetoxy-3,5-dinitroacetophenone (II), m. 112-14°. II (3 g.) boiled with 23 ml. MeOH and 6 ml. 2*N* NaOH gave 4-hydroxy-3,5-dinitroacetophenone Na salt. Adding 12.2 g. II to 100 ml. EtOH contg. 1 g. 20% Pd-C and 15 ml. 2% alc. HCl, hydrogenating 825 min. (6850 ml. H gas absorbed), washing, vacuum-drying, adding $NaHCO_3$ until alk., drying, and recrystg. from EtOH gave 1-(4-benzoyloxy-3,5-dibenzamidophenyl)-1-ethanol (III), m. 198-200°. Heating 2.4 g. III on an H_2O bath 1 hr. with 10 ml. *N* NaOH, acidifying, filtering, and recrystg. from 140 ml. EtOH yielded 1-(4-hydroxy-3,5-dibenzamidophenyl)-1-ethanol (IV), m. 245-8°. IV (0.5 g.) dissolved in 15 ml. EtOH, 0.1 g. KOH added, the mixt. cooled, 25 ml. ether added, filtered, washed, suspended in 1 ml. benzyl chloride, boiled 5 hrs., filtered, washed, dried, and recrystd. from EtOH yielded 1-(4-benzyloxy-3,5-dibenzamidophenyl)-1-ethanol (V), m. 195-7°. V (0.1 g.) dissolved in 5 ml. dioxane, 1 ml. 2*N* NaOH added, iodine-KI soln. added until the mixt. was dark, heated at 60°, dild. with H_2O, the CHI_3 filtered off, the filtrate acidified with 2*N* H_2SO_4, reduced with Na sulfite, filtered, washed, and dried yielded 4-benzyloxy-3,5-dibenzamidooxalic acid.

L. G. Atvai



water, 0.5 g. KBr, and 3 ml. 10*N* HCl to 10 ml. approx. 0.1*N* IO_3^- and BrO_3^- soln. After 1–2 min., add 5 g. $NaHCO_3$ in small portions, then 10 ml. EtOH, and warm

substitute 30 ml. 0.2*N* HCO_2Na for the EtOH. Allow the soln. to stand 1 hr. Then add 60 ml. water, about 0.5 g. KI, 12 ml. concd. HCl, and titrate. To det. of IO_3^- in the presence of ClO_3^-, add 20 ml. 10*N* HCl and 1 g. KBr to 10 ml. aliquot 0.1*N* IO_3^- and ClO_3^- soln. After 10 min. add 30 ml. water, and 35–40 ml. 5*N* NaOH until the soln. is only slightly acidic. Add 5 g. $NaHCO_3$, 10 ml. 2% urea,

concd. HCl, 1 g. KI, and titrate the IO_3^-

Szekeres, L.

27

Volumetric determination of sulfate ions. László Szekeres and Erzsébet Bakács (Agrártudományi Egyetem Általános Kém. Tanszék, Budapest). *Magyar Kém. Folyóirat* 61, 298–300 (1955).—The SO_4 content of alkali sulfate solns. was detd. Dissolve the alkali sulfate contg. approx. 0.05 g. SO_4^{--} in 3–5 ml. water, then add a known excess of 0.1*N* Na_2CO_3 soln., 2 drops phenolphthalein soln., and 10–20 drops ether. Then add sufficient EtOH to give a 25–30% concn. Titrate the soln. with 0.1*N* $BaCl_2$ soln. to the disappearance of the red color. A blank detn. was carried out with an identical quantity of Na_2CO_3 soln. This method overcomes the difficulty in the observation of the end point when titrating the SO_4^{--} directly with $BaCl_2$ soln. and with phenolphthalein as indicator. L. G. Arvai

4

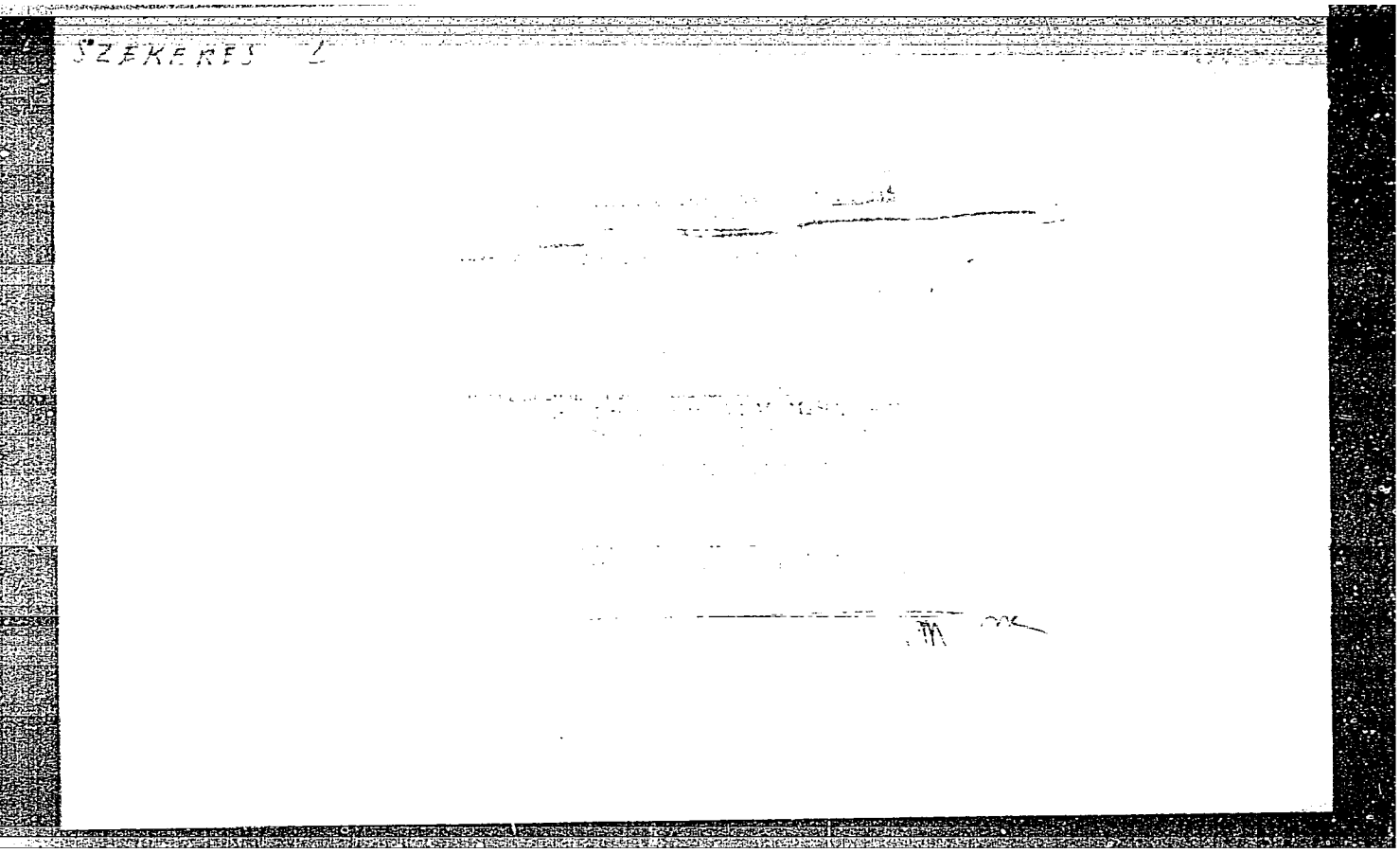
SZEKERES, LÁSZLÓ

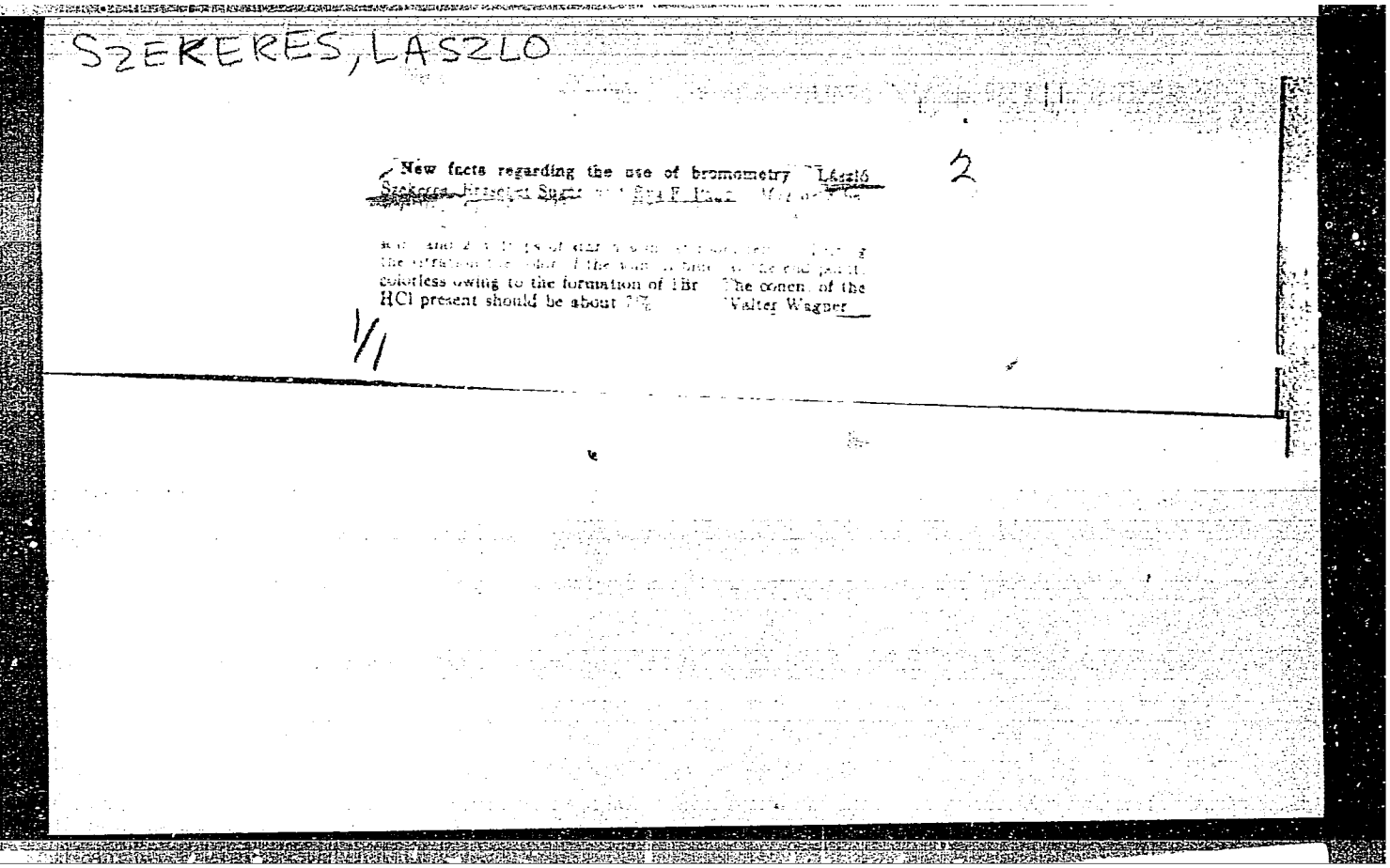
Volumetric determination of ammonia with arsenious

Szekeres, László

9

Fast titrimetric method for the determination of sulfate ions. / Erzsébet Bakács and László Szekeres (Agrártudományi Egyetem, Budapest). *Magyar Kém. Folyóirat* 62, 135–9(1956).—SO_4^{--} can be detd. in the presence of Zn^{++}, Al^{+++}, Sn^{++}, Sb^{+++}, and Bi^{+++} in the following manner: The substance is dissolved in a little water and the hydroxides are pptd. with NaOH in the presence of phenolphthalein indicator. A rose color indicates this point. Now add enough alc. so that the concn. is 30%, add 0.1 *M* Na_2CO_3 soln. in an approx. equiv. amt. to the SO_4^{--}. Titrate the sum of the SO_4^{--} plus CO_3^{--} (in the presence of phenolphthalein) with standard $BaCl_2$ soln. If the soln. to be analyzed contains Cd^{++} then add Na_2CO_3 soln. until it is permanently rose colored. Mn^{++} is sepd. with boiling hot Na_2CO_3 soln. Otherwise, titrate as before, i.e. in the presence of CO_3^{--} approx. equiv. to SO_4^{--} and alc. (phenolphthalein as indicator) with $BaCl_2$. The method can be used for routine purposes. Walter Wagner





SZEKERES, LASZLO

New facts regarding the use of bromometry László Szekeres [illegible]

2

[illegible] the [illegible] colorless owing to the formation of IBr. The concn. of the HCl present should be about [illegible]% Walter Wagner

1/1

Szekeres Laszlo

E-2

HUNGARY/Analytical Chemistry - Analysis of Inorg nic Substances.

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24 53

Author : Szekeres Laszlo
Inst :
Title : Iodometry. III. Determination of Iod te and Periodate in Presence of Each Other.

Orig Pub : Magyar kem. folyoirat, 1957, 63, No 10, 273-275

Abstract : Description of a method of determination of IO_3^- and OI in presence of each other, which is based on selective reduction of OI with hydrogen peroxide in the presence of IO_3^-. An aliquot portion of the solution being analyzed (about 10 ml) is made alkaline by addition of 1-2 g $NaHCO_3$; 15 ml of 3% H_2O_2 are added, the mixture is heated for 10-15 minutes on a water bath, cooled, diluted with water to a definite volume and the total amount of IO_3^- is determined iodometrically

Card 1/2

3

SEKERISH

HUNGARY/Analytical Chemistry. Ceneral Problems. E

Abs Jour: Ref. Zhur.-Khimiya, No 12, 1958, 39293.

Author : Sekeresh, Molnar, Nad,
Inst : Not given.
Title : A Hydrazinometric Titration. Preliminary Communication.

Orig Pub: Magyar Kem. folyoirat, 1957, 63, No 10, 294-295.

Abstract: In the determination of oxidizing agents by the titration of the solution of $N_2H_4.H_2SO_4$, the end point can be established (in addition to the potentiometric method) more easily by the aid of the Iodine-Starch indicator (one drop of the alk. iodine soln. plus one ml of the starch solution). An example is the determination of bromate in the presence of Br^- ions. During the titration, the solution is colorless because IBr does not react with starch.

Card : 1/1

2

SEKERESH

HUNGARY / Analytical Chemistry. Analysis of Inorganic Compounds. E

Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 53407.

Author : Bakach-Polgar, Sekeresh.
Inst : Not given.
Title : The Determination of Hydroxides of Basic Metals in the Presence of Carbonates.

Orig Pub: Magyar kem. folyoerat, 1957, 63, No 11, 325-326.

Abstract: The effect of foreign ions was studied in regard to the accuracy in determining hydroxides of basic metals (HBM) in the presence of carbonates. The latter were precipitated with $BaCl_2$ and the HBM titrated with a $ZnCl_2$ solution to the

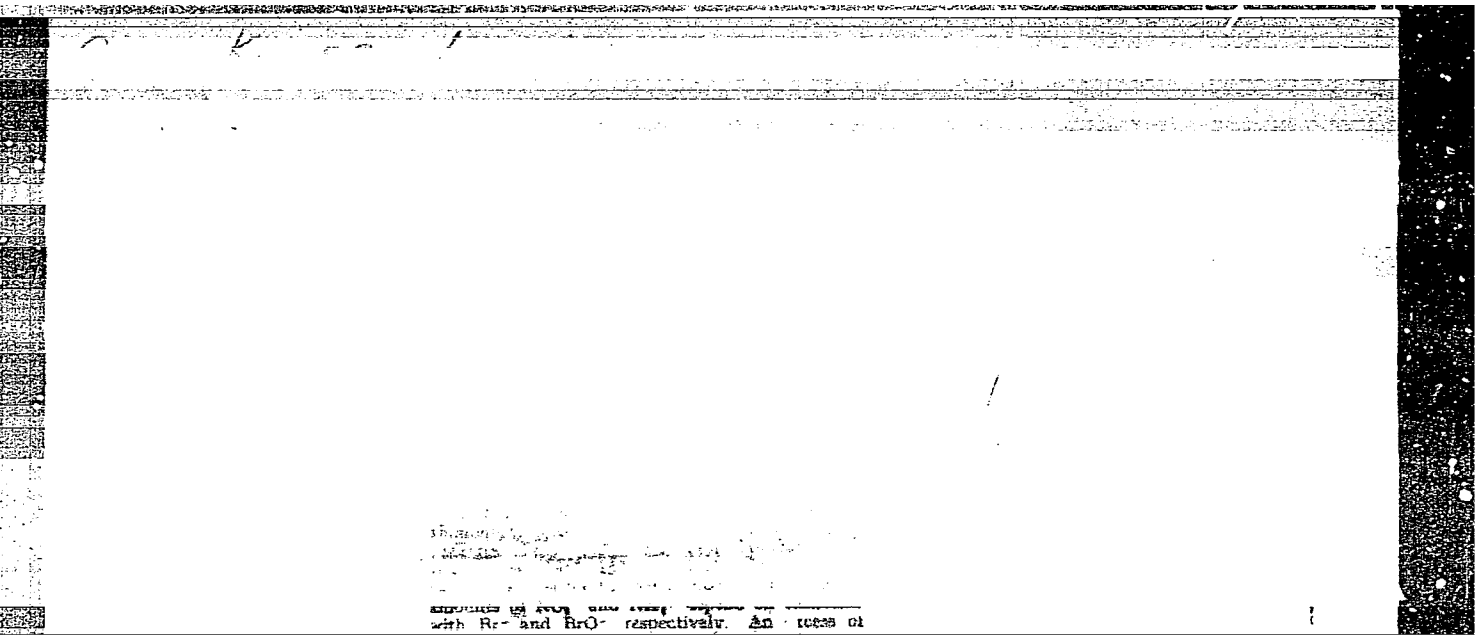
Card 1/2

HUNGARY / Analytical Chemistry. Analysis of Inorganic Compounds. E

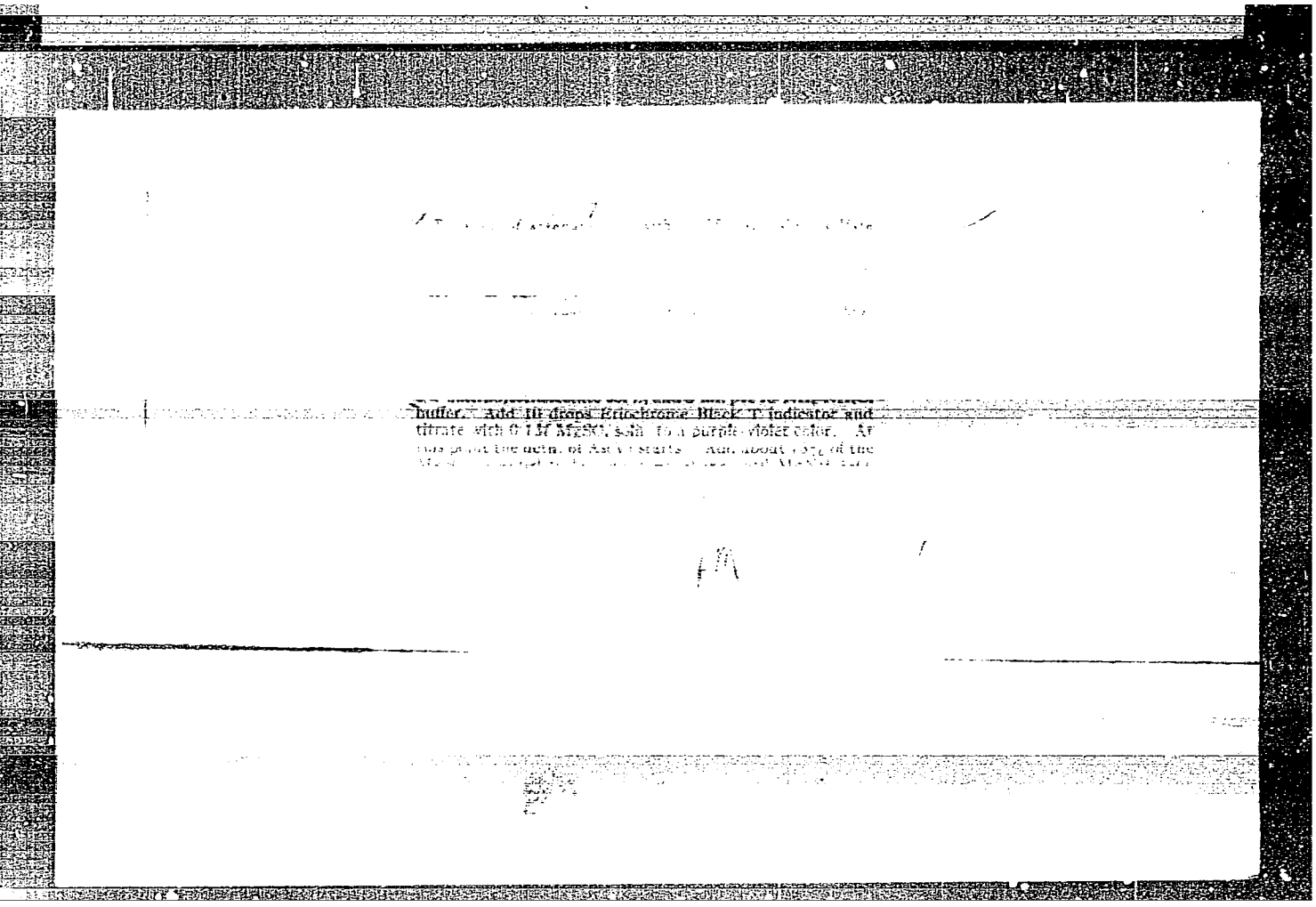
Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 53407.

Abstract: phenolphtalein end point. (RZhKhim., 1957, 69125) It was established that a determination of HBM is not feasible in the presence of F^-, $B_4O_7^{2-}$ and PO_4^{3-}. The ions Cl^-, Br^-, I^-, ClO_3^-, BrO_3^-, IO_3^-, SO_4^{2-}, CrO_4^{2-}, $S_2O_3^{2-}$, SO_3^{2-}, NO_2^-, NO_3^- and CH_3COO^- do not interfere. It was pointed out that the $ZnCl_2$ solution should be added dropwise and near the titration end slowly due to the gradual desorption of the OH^- ions from the precipitate.

Card 2/2



with Re^- and ReO^- respectively. An excess of



buffer. Add 10 drops Eriochrome Black T indicator and titrate with 0.1M MgSO4 soln. to a purple-violet color. At

Szekeres, L.

2

22. **Investigations on Iodometry.** L. Szekeres. *A Magyar Tudományos Akadémia Kémiai Tudományok Osztályának Közleményei.* Vol. 9, 1958, No. 4, pp. 393—400, 1 fig.

Winkler's method of determining iodide ions was completed by utilizing the possibility that hypobromite and hypochlorite ions can be selectively reduced in the presence of iodide and iodate by means of hydrogen peroxide, sodium formate, sodium oxalate, urea and ethanol. The following method has been evolved for the determination of bromide ions: a known quantity of $HBrO_3$ is reduced by the bromide ions and the free bromine formed is reduced by hydrogen peroxide, sodium oxalate or sodium formate in the presence of $NaHCO_3$, then the excess potassium bromate is titrated iodometrically. Another procedure makes possible the determination of periodate, iodate and bromate ions in the presence of one another in three parallel samples; the method is based on the properties of HIO_4. Free bromine can be directly titrated by means of arsenious acid in the presence of hydrochloric acid using potassium iodide-starch indicator. In this way strong oxidizing agents furthermore formaldehyde, formic acid, ammonia, nitrous acid and many other compounds can be determined.

RB
111

COUNTRY : Hungary E-2
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. 86213

AUTHOR : Szekeres, L.; Kardos, E.
INST. :
TITLE : Iodometry. VI. Determination of Iodide in the Presence of Bromide and Chloride.

ORIG. PUB. : Magyar kem. lapja, 1958, 13, No 10-12, 447

ABSTRACT : A method has been worked out, according to which I^- is oxidized to IO_3^- with hypobromite (obtained by adding a solution of Br_2 in 0.1 N KBr containing 3-5 g $NaHCO_3$), excess hypobromite is reduced with ethanol (5-15 ml) at water-bath temperature; after cooling acidified with HCl-solution, added KI, and liberated I_2 titrated with 0.02 or 0.1 N solution of $Na_2S_2O_3$. Communication V see RZhKhim, 1959, No 19, 67702. -- I. Krishtofori.

CARD:

LASZLO SZEKERES

37

Determination of alkali carbonates and bicarbonates in the presence of each other (when both are of about equal concentration). Erzsébet Bakács and László Szekeres (Állatorvostudományi Főiskola Kém. Intézete, Budapest, Hungary). *Magyar Kém. Lapja* 13, 418-9(1958); cf. *C.A.* 51, 16204c.—Dissolve the material contg. about 0.04 g. of bicarbonate ions in boiled and cooled distd. water. Add 15 ml. 0.1*N* NaOH, followed by 0.1*M* $BaCl_2$, sufficient that after pptg. the carbonate ions the soln. contains about 0.2–25 g. $BaCl_2$. Shake the soln. well and allow to stand covered. The excess NaOH is titrated with 0.1*N* $ZnCl_2$ until the phenolphthalein indicator used turns colorless. Results agree within 0.4–1.0% of calcd. P. Fargeo

Distr: 4E2c

HUNGARY/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 2, 1959, 4342

Author : Szekeres, L.
Inst :
Title : The Volumetric Determination of Bromide Ions.

Orgi Pub : Magyar Kem Folyoirat, 64, No 5, 163-165 (1958) (in Hungarian with a French summary)

Abstract : A new method has been developed for the determination of Br^-, based on the oxidation of Br^- by excess BrO_3^- followed by the iodometric determination of the excess BrO_3^-. A 0.02-0.1 N solution of Br^- is treated with 25 ml of 2 N H_2SO_4 and 15 ml 0.1 N $KBrO_3$, the solution is allowed to stand for 15 min, 10 ml of 5 N NaOH and 10 ml of 0.2 N HCOONa are added, the solution is heated over a water bath for 15 min (during which time the OBr^- which is formed initially is reduced to Br^-), cooled, 20 ml of 2% KI are added together with 15 ml conc H_2SO_4, and the solution

Card 1/2

HUNGARY/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 2, 1959, 4342

is titrated with 0.05-0.1 N $Na_2S_2O_3$. The method described can be used in the presence of a large excess of Cl^-; the presence of I^- interferes with the determination. -- I. Krishtofori

Card 2/2

SZEKERES, L.

SCIENCE

PERIODICALS: ~~ACTA ZOOLOGICA. VOL. 64, No. 7/8 July/Aug. 1958~~
MAGYAR KEMIAI FOLYOIRAT, Vol. 64, no. 7/8, July/Aug. 1958

Szekeres, L. Review of newer titrometric methods by precipatation. p. 232

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

HUNGARY / Analytical Chemistry--Analysis of inorganic substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49261

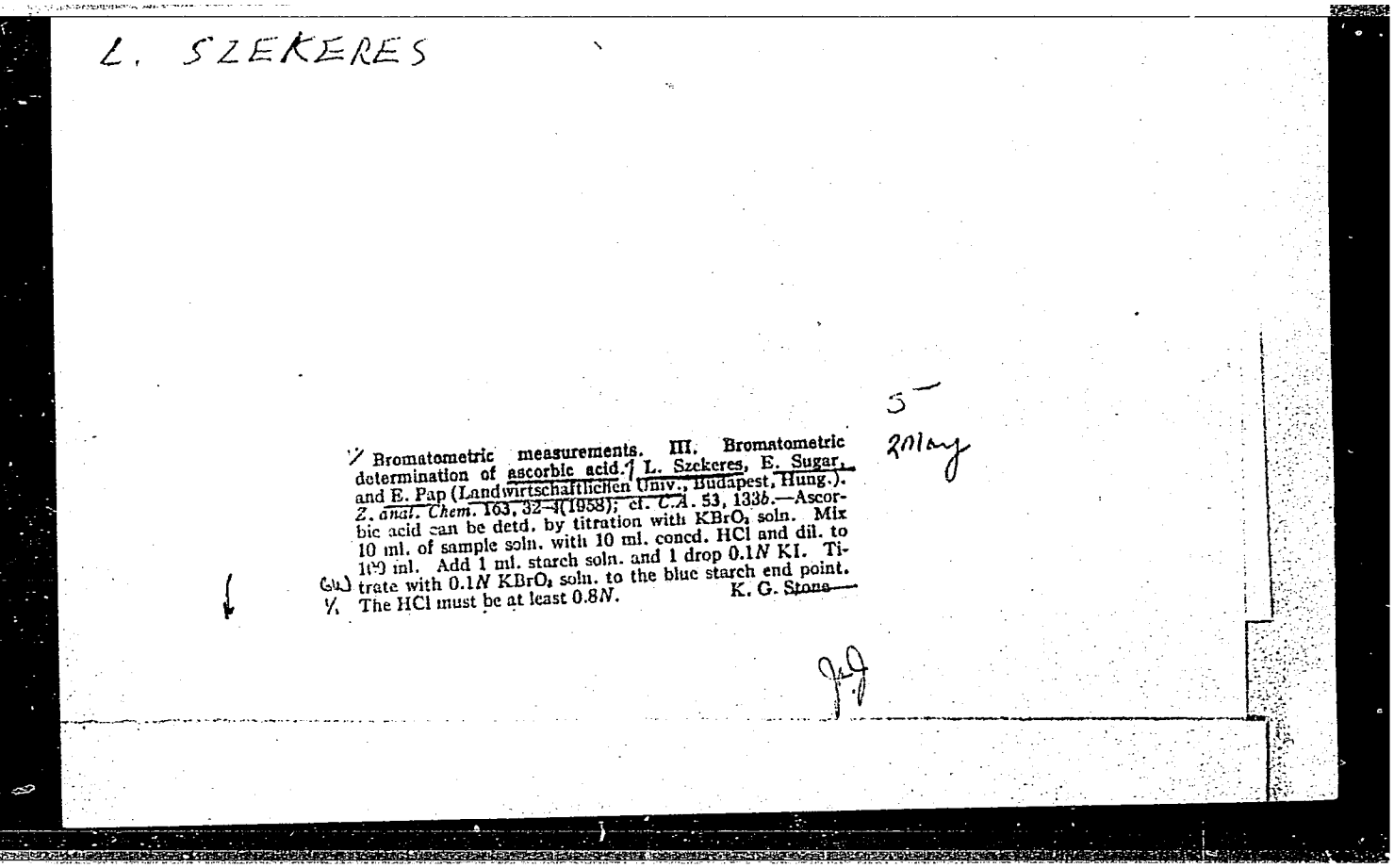
Author : Szokeros, L.
Inst : Not given
Titlo : The Determination of Some Sulfur Compounds in Mixtures

Orig Pub : Magyar Kem Folyoirat, 64, No 9, 357 (1958)

Abstract : The author reports on the possibility of determining S^{2-}, S_x^{2-}, $S_2O_3^{2-}$, and SO_3^{2-} in mixtures by using 4 portions of unknown solution. The analysis is based on the fact that the first three of the above ions react with unequal amounts of I_2 and Br_2 and are oxidized to products of different composition. When an unknown solution containing the above ions is boiled, S from H_2S and H_2SO_3 is removed as SO_2; S from H_2S_x and $H_2S_2O_3$ can be determined in the solution obtained by oxidation

Card 1/2

E-27



L. SZEKERES

Bromatometric measurements. III. Bromatometric determination of ascorbic acid. L. Szekeres, E. Sugar, and E. Pap (Landwirtschaftlichen Univ., Budapest, Hung.). *Z. anal. Chem.* 163, 32–3(1958); cf. *C.A.* 53, 1338*b*.—Ascorbic acid can be detd. by titration with $KBrO_3$ soln. Mix 10 ml. of sample soln. with 10 ml. concd. HCl and dil. to 100 ml. Add 1 ml. starch soln. and 1 drop 0.1*N* KI. Titrate with 0.1*N* $KBrO_3$ soln. to the blue starch end point. The HCl must be at least 0.8*N*. K. G. Stone

5
2 May

SZEKERES, L.

Distr: 4E3d

Bromatometric measurements. II. Determination of hydrazine with potassium bromate solution. L. Szekeres, E. Sugar, and E. Pap. (Landwirtschaftlichen Univ., Budapest, Hung.). *Z. anal. Chem.* 161, 38-40(1958); cf. *C.A.* 52, 9859h.—In *N* HCl NH_2NH_2 can be detd. by direct titration with 0.1*N* $KBrO_3$ soln. to the disappearance of starch-I color. K. G. Stone

Determination of iodate and periodate together. L. Szekeres, M. Rady, and E. Kardos (Landwirtschaftlichen Univ., Budapest). *Z. anal. Chem.* 162, 430–1(1958).—In the previously described method (*C.A.* 52, 13538i), the EtOH can be replaced with $(NH_2)_2CO$. K. G. Stone

Szekeres, L.

27

Arsenometric determination of hexacyanoferrate(II) ion. L. Szekeres and M. Zergenyi-Balásfalvy (Landwirtschaftliche Univ., Budapest, Hung.). *Z. Anal. Chem.* 163, 359–61(1958); cf. following abstr.—To det. $Fe(CN)_6^{4-}$ in soln., add excess 0.1*N* $KBrO_3$–KBr soln. and HCl, wait a few min., add 1–2 drops 0.1*N* alk. I soln. and starch indicator, and titrate with 0.1*N* As_2O_3 soln. to the appearance of a blue color. Results compare well with I and $KMnO_4$ oxidation.

K. G. Stone

4

E-2

17535

COUNTRY : Hungary
CATEGORY :
ABS. JOUR. : RZKhim., No. 5 1960, No.

AUTHOR : Szekeres, L. and Rady, M.
INST. : Not given
TITLE : Iodometry. VII. The Determination of Iodide in the Presence of Arsenate.

ORIG. PUB. : Magyar Kem Lapja, 14, No 6, 249-250 (1959)

ABSTRACT : The authors have established that in 0.5-0.8 N H_2SO_4 I^- reacts only with IO_3^- and the AsO_4^{3-} remains unchanged. A method for the determination of I^- in the presence of AsO_4^{3-} has been developed on the basis of this observation. The I^- is subjected to an initial oxidation with hypobromite (a solution of Br_2 containing KBr and $NaHCO_3$), the excess oxidizer is reduced with ethanol or with H_2O_2 (urea, sodium formate, or sodium oxalate are also suitable as reducing agents), the solution

CARD: 1/2

SZEKERES, L.

E

HUNGARY/Analytical Chemistry - Inorganic Analysis.

Abs Jour : Ref Zhur Khimiya, No 20, 1959, 71222

Author : Bakacs - Polgar, E., Szekeres, L.

Inst : -

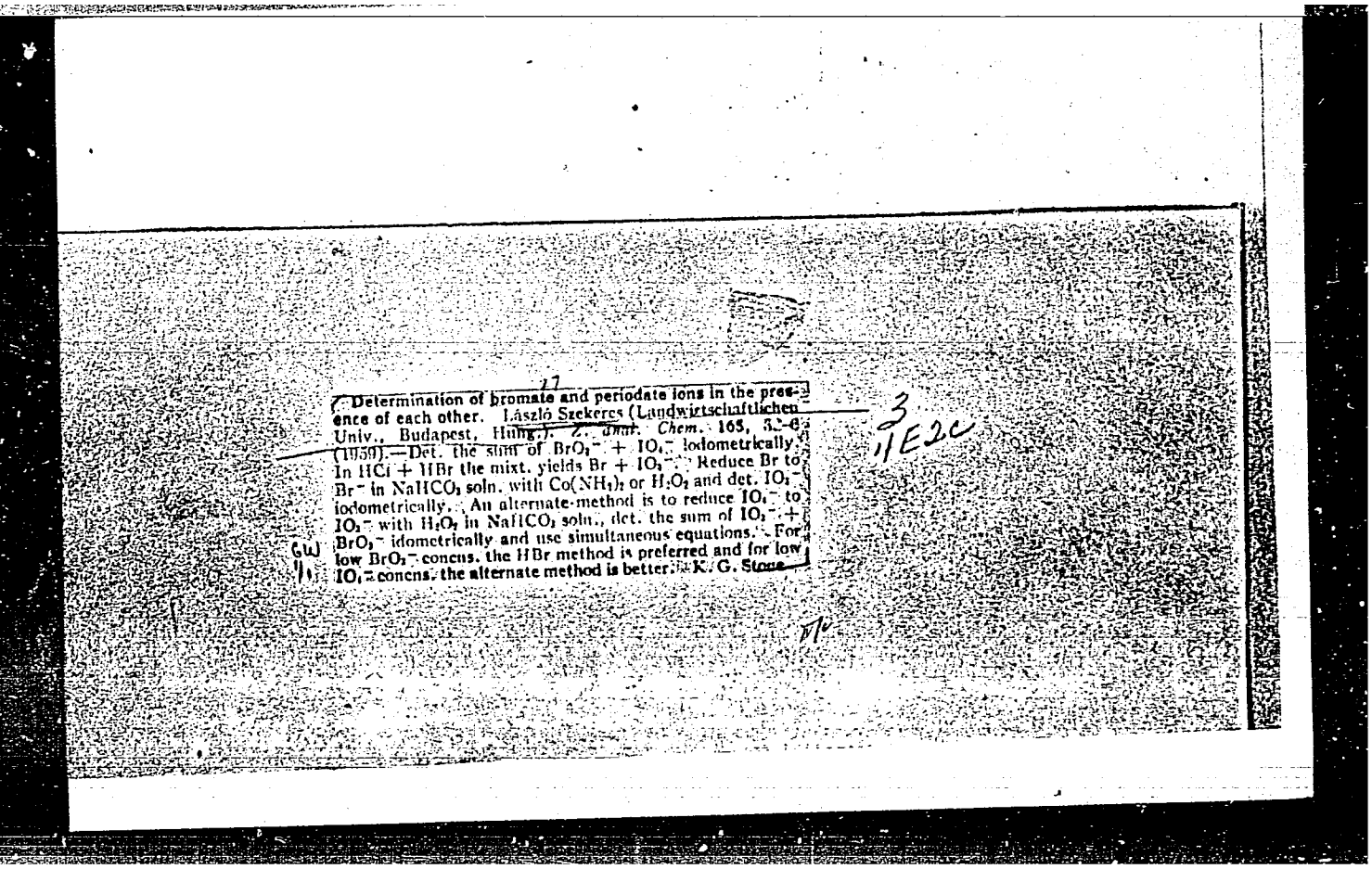
Title : The Determination of Alkali Metals' Bicarbonates and Carbonates in Mixtures

Orig Pub : Pharmaz. Zentralhalle, 1959, 98, No 1, 3-5; Magyar ken, lapja, 1958, 13, No 10-12, 448-449

Abstract : To determine bicarbonates and carbonates of alkali metals the analyzed mixture, containing ~ 0.04 g HCO_3^-, is dissolved in 3-5 ml of freshly boiled and cooled water, 15 ml 0.1 N NaOH (to convert HCO_3^- to CO_3^-) and an excess of 0.1 M $BaCl_2$ solution (consisting of 0.25 g $BaCl_2$) are added, the mixture is agitated and allowed to stand for 3-5 minutes, a few drops of alcoholic phenothalein solution are added and the excess NaOH is titrated with 0.1 N $ZnCl_2$

Card 1/2

- 2 -



Determination of bromate and periodate ions in the presence of each other. László Szekeres (Landwirtschaftlichen Univ., Budapest, Hung.). *Z. anal. Chem.* 165, 32-6 (1959).—Det. the sum of BrO_3^- + IO_4^- iodometrically. In HCl + HBr the mixt. yields Br + IO_3^-. Reduce Br to Br^- in $NaHCO_3$ soln. with $Co(NH_3)_3$ or H_2O_2 and det. IO_4^- iodometrically. An alternate method is to reduce IO_4^- to IO_3^- with H_2O_2 in $NaHCO_3$ soln., det. the sum of IO_3^- + BrO_3^- idometrically and use simultaneous equations. For low BrO_3^- concns. the HBr method is preferred and for low IO_4^- concns. the alternate method is better. K. G. Stone

BAKACSNE **POLGAR**, Erzsebet; SZEKERES, Laszlo

Determination of phosphate and sulfate ions in the presence of metal impurities with special regard to fertilizers. Magy kem lap 15 no.10:460-462 '60.

1. Allatorvostudomanyi Foiskola Kemiai Intezete es Agrartudomanyi Egyetem Kemiai Intezete.

PAPP, Eva; SZEKERES, Laszlo

Data on bromatometric measurements. VI. Bromatometric determination of potassium chlorate and bromate, as well as phenol and salicylic acid. Magy kem lap [illegible] no.9:424-425 S '62.

16

SZEKERES, Laszlo; SUGAR, Erzsebet

Data on the determination of hydrogen sulfide (pyrosulfide)-, thiosulfate and tetrathionate-ions in presence of each other. Magy kem lap 16 no.9:434-435 S '61.

1. Agrartudomanyi Egyetem Kemiai Intezet.

SZEKERES, Laszlo, dr.

About alcohols. Elet tud 18 no.12:363-366 24 Mr '63.

SZEKERES, Laszlo, dr.; KEGL, Laszlo, dr.

Soil research. Elet tud 18 no.45:1432-1434 10 N '63.

SZEKERES, Laszlo; KARDOS, Etelka

Data on the examination of arsenate-containing plant protectives. Magy kem lap 18 no.12:617-619 D '63.

1. Allatorvostudomanyi Egyetem Kemiai Intezete.

C.A.

114

The toxic effect of penicillin on heart muscles. József Frankl and László Szekeres (Univ., Pécs, Hung.). *Magyar Belorvosi Arch.* 2, 252–4(1949).—Isolated frog heart was not affected by 10^4 units of penicillin (I)/ml.; 12,550 units stopped heart activity in 2–3 mins.; 25,000 units caused instantaneous standstill. This effect was reversible. I had no effect when administered simultaneously with 0.1% gelatin. Gelatin reinstated the heart activity stopped by I. The inhibiting effect of I was observed also on the heart treated with atropine. The toxic effect of I is due to its K content (10–5 mg. K/120 mg. I). The antitoxic effect of gelatin is caused by its Ca content (about 40–50 mg. %).
István Pinály

C. A.

11A

The change of permeability connected with the action of heart musculature. Miklós Arató and László Szekeres (Univ., Pécs, Hungary). *Kísérletes Orvostudomány* 2, 192-200(1950).—The penetration of methyl violet into the heart musculature was examd. on Straub's heart prepns. of *Rana esculenta*, stimulated electric ally to various degrees. The dye absorption of noncontracting heart was low. Hearts showing contractions at a low rate (6/min.) absorbed 33% of the dye in the first 4 min.; then absorption quickly increased and they took up in 10 min. as much dye as hearts contracting at the rate of 25–40/min. In the latter case 80% of the dye uptake occurred in the first 4 min. These results affirm that the permeability of the cellular membrane of the heart muscle increases parallel to the contraction rate, until a max. is reached. No further increase could be attained by performing more vigorous stimulations causing higher contraction rates. István Finály

C.A.

Relation between digitalis effect and frequency of heart contractions Miklos Arato and Laszlo Szekeres (Univ Pécs, Hung.). *Kisérletes Orvostudomány* 2, 265-70(1950).) The heart of *Rana esculenta*, prepd. according to Straub, was stimulated with rhythmic elec. shocks of 15, 25, and 50 per min. The glycoside of *Digitalis lanata* in a 1:40,000 dilu. caused asystole in 6 min. either in the spontaneously working heart or in heart stimulated at 25/min. frequency. Systolic stop did not occur in 30 min. at 15/min. frequency. The contraction of heart muscle at a certain frequency is therefore required for obtaining digitalis toxic effects.

István Finály

C.A.

11H

Combined effect of digitalis and penicillin. László Szeke- a... ...rs, József Frankl, and Lenke Rudas (Inst. Pharm., Pécs, Hung.). *Magyar Belorvosi Arch.* 3, 57-60(1950).—A daily injection of 10^4 units of penicillin (I) was given for 5 days, then digitalis (II) was applied in a dilu. of 1:40,000 to the isolated heart of *Rana esculenta* of 60–80 g. wt., stimulated with elec. induction shocks at the rate of 25/min. The systolic standstill took 3 times as long as with untreated hearts. The same effect was observed when I was applied in the cannula of the isolated frog heart 10–15 min. before administering II. The simultaneous administering of I and II had no effect on the time required to stop the function of the heart. I seems to have no influence on II effect but it probably affects the permeability of heart-muscle cells. This was confirmed when frog hearts, treated with I and stimulated with identical frequencies, absorbed less methyl violet than untreated controls. The K content of I preps. did not influence their effect. István Finály

SZEKERES, L. 1951

(Pharmacol. Inst. U. of Pecs.)

"Vagal Action of the Cardiac Glucosides."

Acta Physiol. (Budapest), 1951, 2/1 suppl (22-23)
No abst. in Exc. Med.

SZEKERES, L. 1951

(Pharmacol. Inst. U. of Pecs.)

"Myocardial Activity and Permeability Changes."

(acta physiologica, Budapest, 1951 2/1 suppl. (23-24)
no abst. in Exc. Med.

SZEKERES, L.; ARATO, M.; KOVACSICS, J.

Vagus effects of cardiac glycosides. Kiserletes orvostud. 3 no.2:85-95 1951. (CLML 21:1)

1. Pharmaceutic Institute, Pecs University.

SZEKERES, L.; MEHES, G.

Effect of folic acid on experimental anemia. Kiserlates Orvostud. 3 no. 5:357-362 1951. (CLML 21:3)

1. Doctors. 2. Institute of Pharmaceutics, Pecs Medical University.

?

SZEKERES,L

Szekeres, L.; Mehes, Gy.; Kovacsics, J.

"Cardiac Disturbances Caused by Caffeine." p. 58 (Acta Physiologica. Supplement to v. 4, 1953, Budapest)

SO: Monthly List of East European Accessions. Vol 3 No 6 Library of Congress, Jun 54, Uncl.

SZEKERES L., FALLER J., VARGA F.

Pharm. Inst., Med. Univ., Pécs. *Wirkung von O_2 -Mangel und CO_2 auf die Kontraktilität und Reizbildung einzelner Herzteile. Effects of oxygen lack andcarbon dioxide on the contractility and impulse formation in individual regions of the heart ACTA. PHYSIOL. ACAD. SCIENT. HUNG. (Budapest) 1954, 5/suppl. (60-61)

SO: EXERPTA MEDICA, Section II Vol. 7 No. 11

SZEKERES, L.; FALLER, J.; TOROK, T.

Energy-rich phosphorus compounds of the heart muscle during hypothermia. Acta physiol. hung. Suppl. no.6:99-100 1954.

1. Pharmakologisches Institut der Medizinischen Universitat, Pecs.
(ADENYLPYROPHOSPHATE, metab.
myocardium, eff. of hypothermia in rats)
(BODY TEMPERATURE
hypothermia, exper., eff. on ATP & phosphocreatine metab. in rat myocardium)
(COENZYMES
phosphocratine, metab. in rat myocardium, eff. of hypothermia)
(MYOCARDIUM, metab.
ATP & phosphocreatine, eff. of hypothermia in rats)

SZEKERES, L.

The effect of hypoxia on vagus and acetylcholine sensitivity of mammalian heart. Acta physiol. hung. 6 no.1:109-112 1954.

1. Pharmakologisches Institut der Medizinischen Universitat, Pecs.
(ANOXIA, exper.
eff. on vagus & acetylcholine sensitivity of isolated cat heart)
(HEART, physiol.
acetylcholine & vagus sensitivity, eff. of hypoxia in dogs & cats)
(ACETYLCHOLINE, physiol.
heart sensitivity, eff. of exper. hypoxia in dogs & cats)
(NERVES, VAGUS, physiol.
heart sensitivity, eff. of exper. hypoxia in dog & cat)

SZEKERES, L.

MEHES, G.; SZEKERES, L.; KOVACSICS, J.; VARGA, F.

Heart injury caused by caffeine after single and chronic administration. Acta physiol. hung. 6 no.1:113-121 1954.

1. Pharmakologisches Institut der Medizinischen Universitat, Pacs.
(HEART, eff. of drugs on
caffeine, eff. of single massive dose & prolonged small dose in guinea pigs)
(CAFFEINE, tox.
heart inj. in guinea pigs, eff. of single massive dose & prolonged small dose)

SZEKERES, L.;KOVACSICS, J.; VARGA, F.

Production of experimental myocarditis with streptococcal toxin or with β-hemolytic streptococci. Acta med.hung. 7 no.1-2: 115-122 1955.

1. Pharmakologisches Institut der Medizinischen Universitat, Pecs.

(MYOCARDITIS, experimental,
prod. with streptoc. toxin & with β-hemolytic streptoc.)
(STREPTOCOCCUS,
toxin, prod. of myocarditis)

(STREPTOCOCCUS,
β-hemolytic, prod. of myocarditis)

SZEKERES, Laszlo.

Vagus effect of cardiac glycosides in mammals. Kiserletes orvostud. 7 no.3:305-313 May 55.

1. Pecsi Orvostudomanyi Egyetem Gyogyszertani Intezete.
(CARDIAC GLYCOSIDES, effects,
in situ & in vitro)

SZEKERES LASZLO; BANHIDI FERENC; LENARD GERGELY; SOTI JENO

Effect of caffein on the metabolism of normal and hypoxic heart muscles. Kiserletes orvostud. 10 no.2-3:128-133 Apr-June 58.

1. Pecsi Orvostudomanyi Egyetem Gyogyszertani Intezete.
(HEART, eff. of drugs on
caffein on metab. of normal & anoxic myocardium (Hun))
(CAFFEIN, eff.
on metab. of normal & anoxic myocardium (Hun))

SZEKERES, Laszlo; SZIKRA, Andras

Simple equipment for the artificial respiration of small animals.
Kiserletes orvostud. 10 no.2-3:316-317 Apr-June 58.

1. Pecsi Orvostudomanyi Egyetem Gyogyszertani Intezete.
(LABORATORY ANIMALS
equipment for artif. resp. of small laboratory animals
(Hun))
(RESPIRATORS
same)

1769. CHANGES IN FIBRILLATION THRESHOLD OF ATRIAL AND VENTRICULAR MUSCLE OF THE ISOLATED MAMMALIAN HEART AFTER REFRIGERATION AND DRUG ACTION - Veränderung der Fibrillationsschwelle der Vorhof- und Kammermuskulatur des isolierten Säugetierherzens nach Unterkühlung und medikamentöser Beeinflussung - Szekeres L. and Lénárd G. Pharmakol. Inst., Med. Univ., Pécs - ACTA PHYSIOL. ACAD. SCI. HUNG. 1958, 14/suppl. (23)

1883. **Effect of caffeine on the metabolism of normal and hypoxic heart muscle** SZEKERES L., BANHIDY G., LENARD G. and SOITH J. Inst. of Pharmacol., Med. Univ., Pécs *Acta physiol. Acad. sci. hung.* 1958, 14/2 (195—200) Tables 4

Caffeine reduces respiration in the heart of both normal and hypoxic animals. The improvement of oxygen consumption in the functioning heart is probably due to the greater blood supply to the heart. Caffeine has no appreciable effect on anaerobic glycolysis and carbohydrate metabolism. In the hypoxic heart caffeine inhibits the increased breakdown of ATP and glycogen. It is this protective effect of caffeine that is supposed to involve a reduction in the oxygen demand of heart muscle.

Vuurmans – Amsterdam (II, 18)

1398. PHARMACOLOGICAL ACTIONS ON CONDUCTION OF IMPULSES IN THE HYPOXIC HEART - Wirkung von Pharmaka auf die Erregungsleitung am hypoxischen Herzen - Szekeres L. Pharmakol. Inst., Med. Univ., Pécs - NAUNYN-SCHMIEDEBERG'S ARCH. EXP. PATH. PHARMAK. 1958, 233/4 (338-342) Tables 5

The duration of PQ interval in anaesthetized, vagotomized hypoxic dogs is prolonged, and strophanthin, ACh and glyceryl trinitrate further delay the AV conduction. After adrenaline a shortening of PQ was observed. Changes of PQRS were less marked.

Trčka - Prague (II, 18)

2989. **Effects of drugs on contractility of heart muscles in hypoxia** Einfluss von Arzneimitteln auf die Kontraktilität des Herzmuskels in Hypoxie. SZEKERES L. Pharmakol. Inst., Med. Univ., Pécs *Naunyn-Schmiedeberg's Arch. exp. Path. Pharmak.* 1958, 233/4 (348-354) Tables 5 Illus. 1

The diminished power of contraction of the dog heart in situ during hypoxia is not corrected by strophanthin or adrenaline. The negative inotropic effects of ACh and glyceryl trinitrate are enhanced by hypoxia. Fruhmann – Munich (II, 18)

SZEKERES, L.; LICHNER, G.

Comparative study on the metabolism of the right and left heart ventricles. Acta physiol. acad. sci. hung. 21 no.3:243-247 '62.

1. Institute of Pharmacology, Medical University, Pecs.
(MYOCARDIUM) (CARBOHYDRATE METABOLISM)

HUNGARY

PAPP, J., and SZEKERES, L., of the Institute of Pharmacology, Medical Univerqity, Pecs [Original version not given].

"Regulation of the Fibrillatory Tendency of the Heart in Hypoxia"

Budapest, Acta Physiologica Academiae Scientiarum Hungaricae, Supplement to Vol 22, 1963; p 11.

Abstract [Authors' English summary, modified]: The correlation between arterial hypoxia and the tendency to atrial and ventricular fibrillation has been studied following total or partial elimination of the nervous control of cardiac activity. It was found that a hypoxia of the central nervous system is responsible in the first place for the increase in the tendency to fibrillation in hypoxia, through stimuli reaching the heart by vagal mediation. In chronic hypoxia the tendency to fibrillation is decreased, presumably as a result of an exhaustion of nervous centers.

L 14863-66 EWT(1)/FS(v)-3 SCTB DD

ACC NR: AT6007414 SOURCE CODE: HU/2505/65/026/00X/0031/0032

34
32

AUTHOR: Papp, G.; Szekeres, L.

ORG: Institute of Pharmacology, Medical University of Pecs (Pecsi Orvostudomanyi Egyetem, Gyogyszertani Intezet) B+1

TITLE: Relief of coronary spasm in unesthetized rabbits [This paper was presented at the 29th Meeting of the Hungarian Physiological Society held in Szeged from 2 to 4 July 1964]

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26,

TOPIC TAGS: rabbit, circulatory system, EKG, drug effect, hypoxia, animal physiology

ABSTRACT:
ECG changes were induced by i.v. injection of pituitrin in order to test the ability of drugs to relieve coronary spasms so induced, and also to obtain information concerning myocardial blood flow and oxygenation in unesthetized animals. It was found that previous or simultaneous treatment with nearly toxic doses of classical coronary dilators had only a moderate influence on the ECG changes. In

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L 14863-66

ACC NR: AT6007414

contrast, in the phase of lasting T elevation caused by pituitrin, even low doses of the coronary dilators diminished the ECG changes appreciably. After the acute vasodilator action had ceased, the T wave rose again since the action of pituitrin persisted longer. For the purpose of studying the effectiveness of drugs in the relief of coronary spasms, the "suspending procedure" seems to be the most sensitive while the methods of "acute prevention" and "simultaneous administration" are less efficient. On the basis of the evidence obtained, the correlations between the ECG changes caused by pituitrin, myocardial hypoxia and ischemia have been discussed. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 2/2

L 14860-66 EWT(m) RM

ACC NR: AT6007417 SOURCE CODE: HU/2505/65/026/00X/0033/0033

AUTHOR: Szekeres, L.; Papp, G.

ORG: Institute of Pharmacology, Medical University of Pecs (Pecsi Orvostudomanyi Egyetem, Gyogyszertani Intezet)

TITLE: Mode of action of antiarrhythmic drugs [This paper was presented at the 29th Meeting of the Hungarian Physiological Society held in Szeged from 2 to 4 July 1964]

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, Supplement, 1965, 33

TOPIC TAGS: drug effect, pharmacology, rabbit, circulatory system, cat, animal physiology

ABSTRACT:
In the course of earlier studies the effect of 5 arrhythmic drugs of different chemical structures was studied on the isolated heart of rabbits. In the present experiments, the action of these drugs (quinidine, procaine, papaverine, dibenamine and procaine amide) on the refractory period, excitability and conduction on

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L 14860-66

ACC NR: AT6007417

the machine-driven heart of anesthetized cats was determined, in situ. The action of the drugs on the atrial and ventricular fibrillation thresholds was estimated simultaneously. The most noteworthy observation was that, in doses similar to the therapeutic ones, these drugs had no influence on the total refractory period and had only a slight influence on the absolute refractory period although the atrial and ventricular fibrillation thresholds were significantly, and the diastolic threshold was considerably elevated by them. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 2/2

L 43021-66

ACC NR: AT6031831 SOURCE CODE: HU/2505/65/026/003/0277/0286

AUTHOR: Szekeres, Laszlo--Sekeresh, L.; Papp, Gyula--Papp, D.

ORG: Institute of Pharmacology, Medical University of Pecs, Pecs (Pecsi Orvostudomanyi Egyetem, Gyogyszertani Intezet)

TITLE: Effect of vagal stimulation and acetylcholine on the susceptibility to fibrillation of the mammalian heart at different body temperatures

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, no. 3, 1965, 277-286

TOPIC TAGS: cardiovascular system, hypothermia, cat, pharmacology

ABSTRACT: The effect of stimulation of the right peripheral vagal stump as well as that of acetylcholine injection or infusion on the fibrillation threshold of the auricles and ventricles has been studied in anesthetized cats as well as in the isolated Langendorff heart of cats, at different body and perfusion fluid temperatures. The lowering of fibrillation thresholds by vagal stimulation or acetylcholine was more pronounced at lower body temperatures, i.e. hypothermia increased the sensitivity of the myocardium to vagal influence. In addition, arrhythmia and ventricular fibrillation upon vagal stimulation, acethylcholine infusion or injection appeared more frequently at lower than at normal body temperatures. These are only valid for the arrhythmogenic and fibrillatory vagal effects since the intensity of the negative chronotropic action of vagal stimulation and of acetylcholine injections is definitely diminished by hypothermia. The possible interpretations of this discrepancy and the mechanism of the enhanced fibrillatory effect of acetylcholine and vagal stimulation in hypothermia are discussed. Orig. art. has: 2 figures and 5 tables. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUBM DATE: 20Dec63 / ORIG REF: 001 / OTH REF: 024

Card 1/1 MLP

0919 0581

L 05720-67 RO

ACC NR: AT6031832 SOURCE CODE: HU/2505/65/026/003/0287/0295

AUTHOR: Szekeres, Laszlo--Sekeresh, L.; Hideg, Kalman--Khideg, K.; Hankovszky, Olga H.--Khankovski, O. Kh.; Papp, Gyula--Papp, D.

ORG: Institute of Pharmacology, Medical University of Pecs, Pecs (Pecsi Orvostudomanyi Egyetem, Gyogyszertani Intezet)

TITLE: N-(omega-aminoalkyl)-phthalimide derivatives, a new group of compounds with antifibrillatory action

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, no. 3, 1965, 287-295

TOPIC TAGS: organic imide compound, nonmetallic organic derivative, tertiary amine, alkyl group, pharmacology, toxicology, circulatory drug

ABSTRACT: Using the procaine amide structure as a starting point, a new group of drugs, the alkylamine substituted phthalimide derivatives, have been developed which possess antifibrillatory activity. With the phthalimide radical left unchanged, the effect of modifications in the tertiary amine group and in the length of the alkyl chain on the antifibrillatory activity of these derivatives has been studied. A substitution of diethylamine, dimethylamine or a morpholine group in the tertiary amine had no effect, while substitution by a piperidine group resulted in a marked antifibrillatory

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ACC NR: AT6031832

activity which increased with the length of the alkyl chain. The toxicity and hypotensive effect increased as well. Substitution of a piperazine ring also markedly increased the antifibrillatory activity and toxicity. The N-methylpiperidine compound with four alkyl groups in the chain proved to be 1.7 times more potent in auricular and 2.5 times more potent in ventricular fibrillation than quinidine and its toxicity was only 1.6 times higher. Orig. art. has: 4 figures and 1 table. [Orig. art. in Eng.] [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 20Dec63 / ORIG REF: 001 / OTH REF: 013

Card 2/2

0919 0586

SZEKERES, V.

LISSAK, K.; SZEKERES, V.

Histamine content in various neural elements. Magy. belorv. arch 3 no.3:137-138 1950. (CLML 25:5)

1. Doctor for Lissak. 2. Institute of Physiology (Director -- Prof. Dr. Kalman Lissak), Pecs University.

SZEKERKA, P.; KALDOR, N.

SZEKERKA, P.; KALDOR, N.
Ultrasonic testing of the quality of glued wood. p. 304

Vol. 5, No. 11, Nov. 1955 Budapest, Hungary FAIPAR

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5 No. 3, March, 1956

SZEKERKE, M.

SARY, P.; SZEKERKE, M.

Histidine determination in human serum and urine, with special to essential hypertension. Zschr. inn. Med. 36 no.3:103-7 Mar. 55.
(CLML 28:2)

1. Of the Second Medical Clinic (Director--Prof.E.Haynal,M.D.) of the Institute of Organic Chemistry (Director--Gyozo Bruckner, M.D.) of Eotvos Lorant University of Budapest.

SZEKERKE, M.

2728. Synthesis of α, γ-poly-L-glutamic acid. V. Bruckner, M. Szekerke, and J. Kovács *Naturwissenschaften*, 1955, 42, 179 (Inst. Org. Chem., Univ., Budapest).—γ-L-Glutamyl-L-glutamic acid α, γ'-dimethylester was polymerised to a polyester which on saponification and pptn. of the Cu salt yielded α, γ-polyglutamic acid as a flocculer, white substance. Hydrolysis with HCl produced glutamic acid. The ninhydrin reaction on paper was faintly positive, the biuret colour bluish violet. (German) P. G. STANLEY.

(2)

SZEKERKE, Maria

An account of my study trip to England. Kem tud kozl MTA 22 no.2: 287-288 '64.

1. Chair of Organic Chemistry, Lorand Eotvos University, Budapest, and Research Group of Polypeptide Chemistry, Hungarian Academy of Sciences, Budapest.

L 01053-66
ACCESSION NR: AT5022335 HU/2502/64/041/003/0337/0340

5
B4-1

AUTHOR: Szekerke, Maria (Sekerke, M.)(Budapest)

TITLE: Synthesis of Di- and oligopeptides from beta-chloroalanine

SOURCE: Academiae scientiarum hungaricae. Acta chimica, v. 41, no. 3, 1964, 337-340

TOPIC TAGS: chlorinated organic compound, organic synthetic process, ester

Abstract: [German article; author's English summary, modified] DL-β-chloroalanine benzylester hydrochloride was converted with DL-carbobenzoxy-β-chloroalanine by the carbodiimide method into the protected dipeptide derivative of N-carbobenzoxy-DL-β-chloroalanyl-DL-β-chloroalanine benzylester. The hydrogenolysis of the derivative gave (±)-β-chloroalanyl-β-chloroalanine. The poly-DL-, D-, and Lβ-chloroalanine derivatives were prepared by the polymerization of Leuchs anhydrides of corresponding configuration initated by ammonia. Orig. art. has 2 formulas.

ASSOCIATION: Institut fur Organische Chemie der L. Eotvos Universitat, Budapest (Institute of Organic Chemistry, L. Eotvos University)

SUBMITTED: 22May64 ENCL: 00 SUB CODE: OC, GC
NO REF SOV: 000 OTHER: 007 JPRS
Card 1/1 mlr

FOCHER, Laszlo, dr.; SZEKESSY, Vilma, dr.

Epilepsy following Di-Per-Te vaccination in monozygotic twins. Orv. hetil. 105 no.43:2045-2048 O 25 '64.

1. Fovarosi Tanacs Heim Pal Gyermekkorhaz, Idegosztaly (vezeto: Focher Tamas dr.)

L 47527-66

ACC NR: AT6035009 SOURCE CODE: HU/2502/66/047/002/0231/0238

AUTHOR: Szekerke, Maria--Sekerke, M. (Doctor) Kajtar, Maria T.--Kaytar, M. T. and Bruckner, Viktor--Brukner, V. (Professor, Doctor) of the Institute for Organic Chemistry at L. Eotvos University in Budapest.

"Synthetic Cyclic N-Lost Derivatives from β-Substituted Serines, Cysteine, and Lysine"

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BH

Budapest, Acta Chimica Academiae Scientiarum Hungaricae, Vol 47, No 2, 1966, pp 231-238.

Abstract: [German article; authors' English summary modified] To study the effect of the carrier molecule on the biological activity of the same cytotoxic group, DL-β-serine esters of threo and erythro configuration, DL-threo-β-hydroxyglutamine acid diethylester, L-cysteine ethylester, and DL-lysine ethylester were converted into cyclic N-lost derivatives with the aid of N,N-bis-(β-chloroethyl)-phosphoric acid amide dichloride. The compounds are now being tested for pathological behavior at Chester Beatty Research Institute, Institute of Cancer Research; Royal Cancer Hospital, in London.

Mrs. G. Nemeth gave technical assistance with the experimental work. Mr. F. Ruff performed the IR spectrum at this institute. Mrs. H. M.-Schweiger, Mrs. S. Kutassy, and Mrs. J. Kajter carried out the microanalysis in the microanalysis laboratory of this institute. [JPRS: 36,002]

TOPIC TAGS: amino acid, nonmetallic organic derivative, ester

SUB CODE: 07,06 / SUBM DATE: 19 Oct 65 / ORIG REF: 001 / OTH REF: 011

Card 1/1 vlr

0921 1522

SZEKESSY, V.

New species of Strepsiptera in Hungary. In German. p. 279. Vol. 6, 1955
MAGYAR NEMZETI MUZEUM TERMESZETTUDOMANYI MUSEUM EVKONYVE. ANNALES HISTORICO-
NATURALES MASEI NATIONALIS HUNGARICI. Budapest, Hungary.

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

SZEKESSY, V.

On the hundredth birthday of Lajos Biro, Hungarian explorer of New Guinea.
In German. p.7.
(Magyar Nemzeti Muzeum Termeszettudomanyi Muzeum evkonyve, Vol. 7, 1956,
Budapest, Hungary)

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

SZEKESSY, V.

An account of the nucleic acid conference, the plans of the Biochemical Department, and the demonstration of instruments.

p. 187 (Magyar Kemikusok Lapja. Vol. 12, no. 5/6, May/June 1957, Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

SZEKESSY, VILMOS

SCIENCE

SZEKESSY, VILMOS. Homokfutrinkak. Cicindelidae. Budapest, Akademiai Kiado, 1958. 25p. (Magyarorszag allatvilaga. Fauna Hungariae. Coleoptera I, 6.kot., 2. fuzet) [Sand beetles. illus.]

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

SZEKESSY, Vilmos, a biologiai tudomanyok doktora

The fauna research symposium and its lessons. Magy tud 68 no.11: 695-696 N '61.

1. Foigazgato, Termeszettudomanyi Muzeum, Budapest.

(Zoology) (Hungarian Academy of Sciences)

SZEKESSY, Vilmos, Dr.

The Museum of Natural Sciences and its activities. Term tud kozl 6 no.2:71-73 F '62.

1. Foigazgato, Termeszettudomanyi Muzeum, Budapest

SZEKESSY, Vilmos, dr.

Trials of insects once and today. Term tud kozl 6 no.8:344-346 Ag '62.

1. Termeszettudomanyi Muzeum foigazgatoja, Budapest.